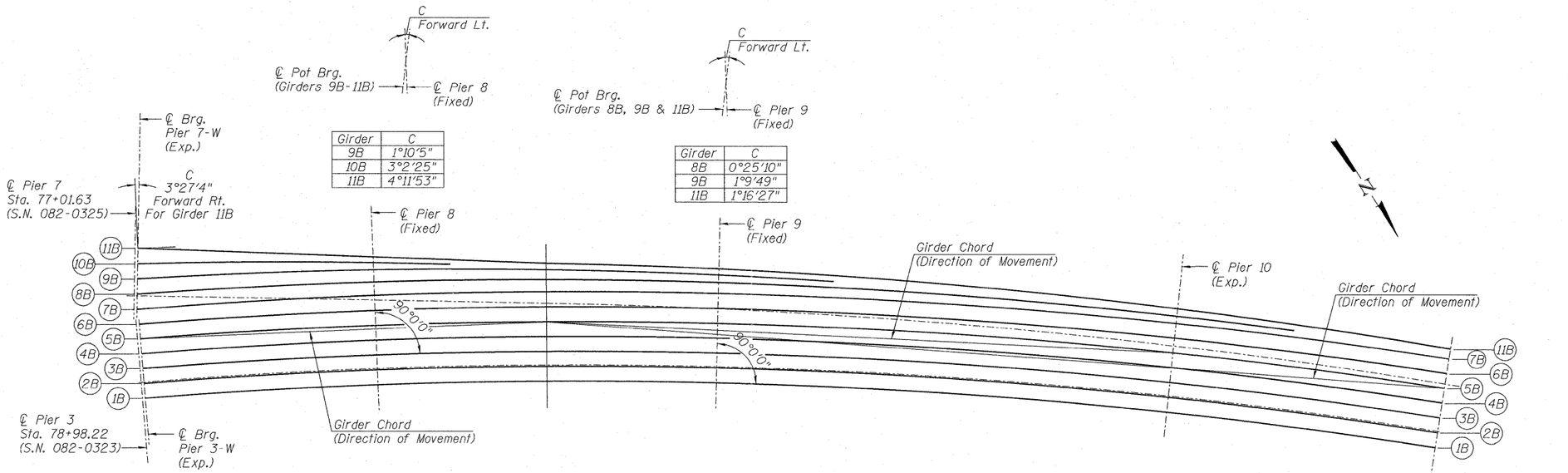
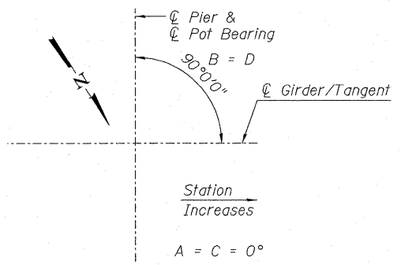


Girder	C
9B	1°10'5"
10B	3°2'25"
11B	4°11'53"

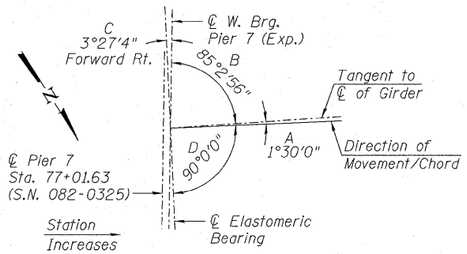
Girder	C
8B	0°25'10"
9B	1°9'49"
11B	1°16'27"

BEARING LAYOUT - S.N. 082-0325 - UNIT 3

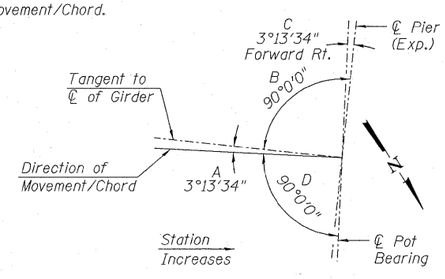
Notes:
A = Angle between Tangent to Girder and Direction of Movement.
B = Angle between Tangent to Girder and ℄ of Pier or Abutment.
C = Setting angle between ℄ of Bearing Base Plate and ℄ of Pier or Abutment.
D = Set Bearing Base Plates at right angles to the Direction of Movement/Chord.



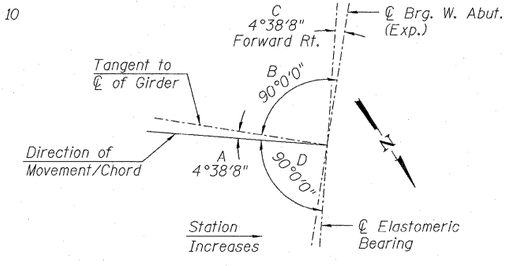
PIER 8, GIRDERS 1B-8B
PIER 9, GIRDERS 1B-7B



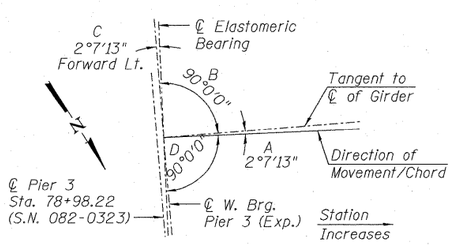
PIER 7 (S.N. 082-0325)
GIRDERS 7B-9B



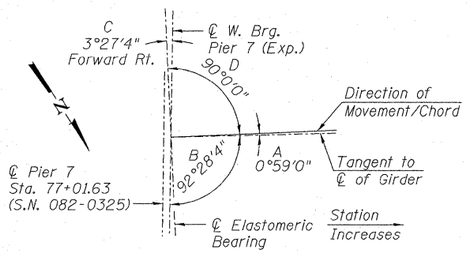
PIER 10
GIRDERS 1B-7B



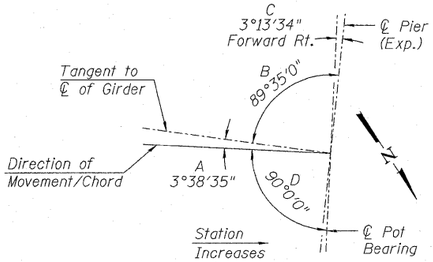
W. ABUT.
GIRDERS 1B-7B



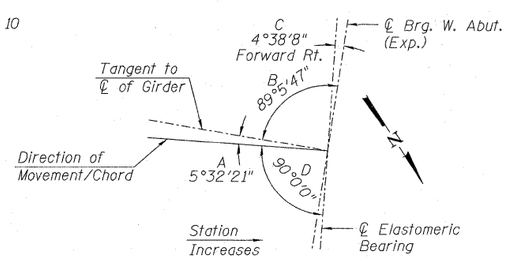
PIER 3 (S.N. 082-0323)
GIRDERS 1B-6B



PIER 7 (S.N. 082-0325)
GIRDER 10B



PIER 10
GIRDERS 8B & 11B



W. ABUT.
GIRDER 11B

BEARING ORIENTATION - S.N. 082-0325 - UNIT 3

P:\P60846891\900_CAD\901_Drawings\76C90_Master_Consolidated\Structural\082-0323\Sheet\S086_082-0323_0325_76C75_Bearing-Unit3.dgn

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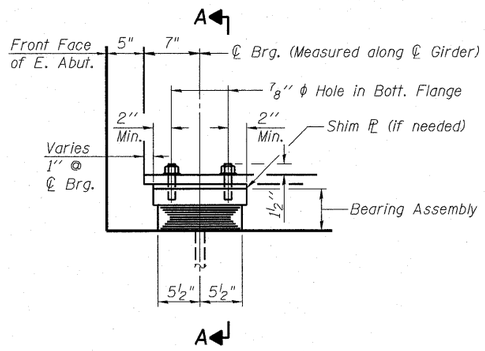
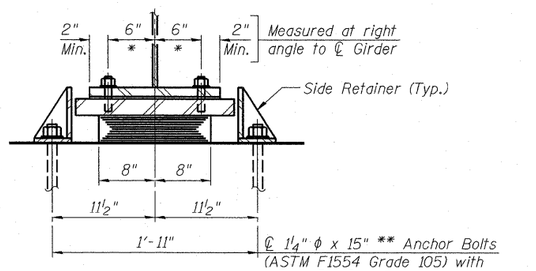
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING LAYOUT & ORIENTATION – S.N. 082–0325 UNIT 3
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-86 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	201
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



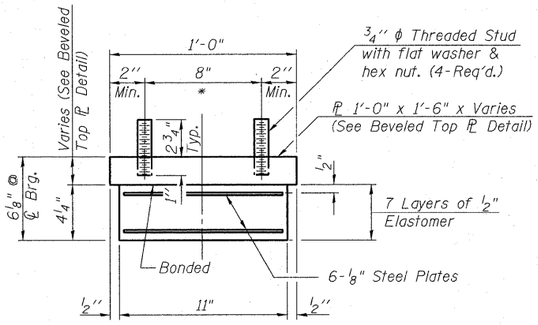
ELEVATION AT E. ABUT. (S.N. 082-0323)



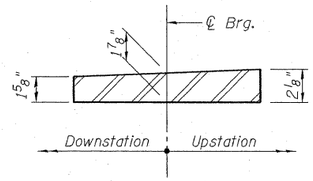
SECTION A-A

**Length shown is minimum required embedment length.

TYPE I ELASTOMERIC EXP. BRG.

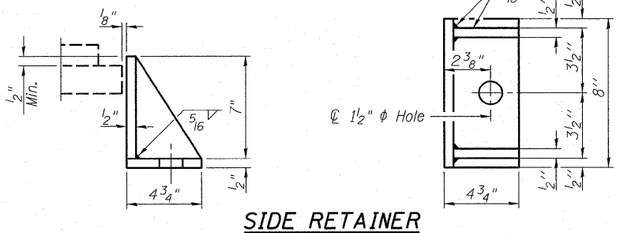


BEARING ASSEMBLY



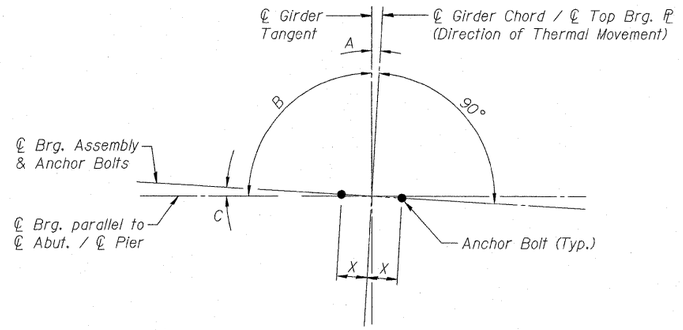
BEVELED TOP ℙ DETAIL

Note:
Shim ℙ's shall not be placed under Bearing Assembly.



SIDE RETAINER

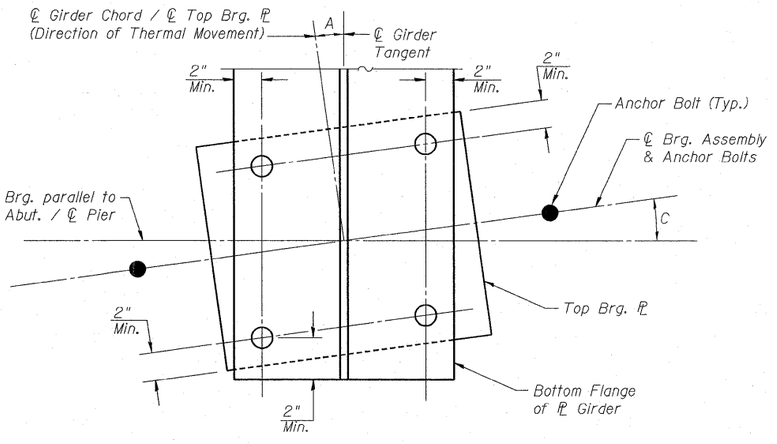
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



ANCHOR BOLT LAYOUT

Structure	Location	X	A	B	C
S.N. 082-0323	E. Abut.	11½"	0°34'40"	90°0'0"	0°34'40"
	Pier 3-E	12½"	3°32'27"	90°0'0"	3°32'27"
	Pier 3-W	12½"	2°7'13"	90°0'0"	2°7'13" (1B-6B)
S.N. 082-0325	E. Abut.	11½"	2°58'30"	90°0'0"	2°58'30"
	Pier 7-E	11½"	0°	90°0'0"	0°
	Pier 7-W	12½"	1°30'0" (7B-9B) 0°59'0" (10B) 4°31'51" (11B)	85°2'56" 92°28'4" 86°32'55"	3°27'4" (7B-9B) 3°27'4" (10B) 3°27'4" (11B)
	W. Abut.	12½"	4°38'8 (1B-7B) 5°32'21" (11B)	90°0'0" 89°5'47"	4°38'8" (1B-7B) 4°38'8" (11B)

*Layout of threaded studs on Top Brg. ℙ shall accomodate angle "A". Maintain 2" min. from ℄ studs to edges of flange & Top Brg. ℙ. Applicable to both Elastomeric Bearing Assembly Types I & III.



THREADED STUD LAYOUT

Top Flange not shown for clarity.

Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

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

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

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

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

See Sheets S-83 thru S-86 for bearing layout & orientation.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6
Anchor Bolts 1¼"	Each	12

AECOM

USER NAME = BhattA	DESIGNED - CLS	REVISED -	
	DRAWN - GF	REVISED -	
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ELASTOMERIC BEARING DETAILS I
I-70W OVER I-55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-87 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	202
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GIRDER END DIMENSION TABLE

Structure	Location	X	Y	Z
S.N. 082-0323	Pier 3-E	1'-6"	9¼"	8¾"
	Pier 3-W	1'-6"	9¼"	8¾"
S.N. 082-0325	E. Abut.	1'-9"	1'-1⅛"	7⅞"
	Pier 7-E	1'-6"	9¾"	8¼"
	Pier 7-W	1'-6"	9¼"	8¾"
	W. Abut.	1'-9"	11½"	9½"

Dimensions given for normal temp. of 50°F. Adjust X & Y for actual temp. using "Setting Anchor Bolts at Exp. Brg."

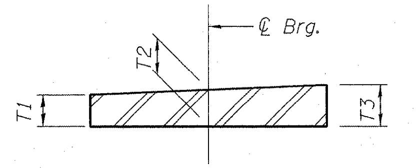
SHIM ℙ TABLE

Structure	Location	Girder	Thickness
S.N. 082-0323	Pier 3-W	1B	⅛"
		2B	⅜"
		3B	½"
		4B	⅝"
		5B	13/16"
		6B	13/16"

All Shim ℙ's are 1'-1" x 2'-5¾" (Typ.).

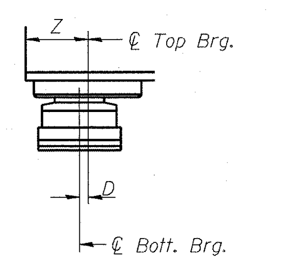
BEVELED TOP ℙ TABLE

Structure	Location	T1	T2	T3	Wt	Lt
S.N. 082-0323	Pier 3-E	1⅝"	1⅝"	1⅝"	1'-3½"	1'-8"
	Pier 3-W	1⅝"	1⅝"	1⅝"	1'-3½"	1'-8"
S.N. 082-0325	E. Abut.	1½"	1⅞"	2¼"	1'-1¾"	1'-6"
	Pier 7-E	1½"	1½"	1½"	1'-2½"	1'-6"
	Pier 7-W	1⅝"	1⅝"	1⅝"	1'-3½"	1'-8"
	W. Abut.	2"	1 13/16"	1⅝"	1'-5"	1'-8"

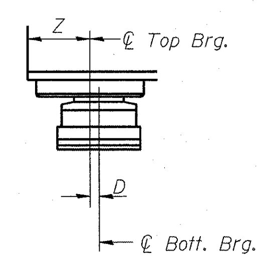


BEVELED TOP ℙ DETAIL

See Beveled Top ℙ Table for thicknesses.



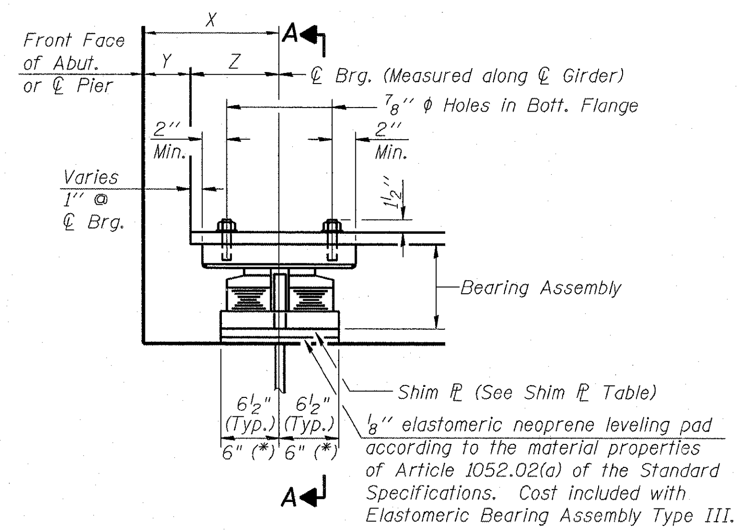
BELOW 50° F.
(Move bottom brg. away from P.Z.T.M.)



ABOVE 50° F.
(Move bottom brg. toward P.Z.T.M.)

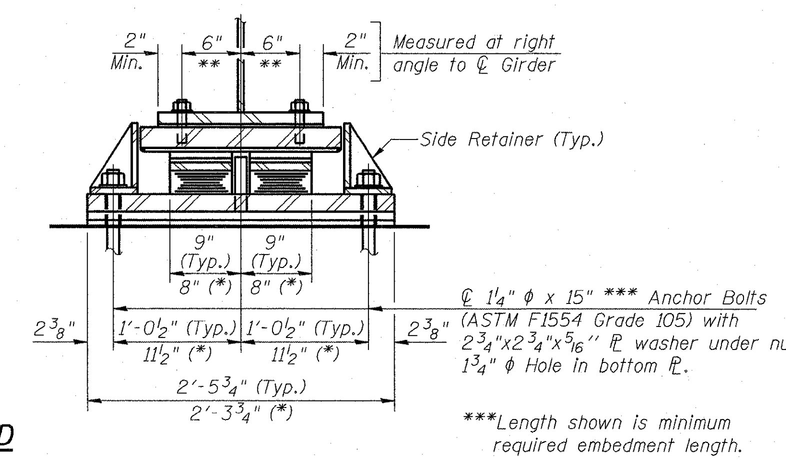
SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F. Point of Zero Thermal Movement (P.Z.T.M.) located at fixed brg. for S.N. 082-0323 and Units 1&2 of S.N. 082-0325. P.Z.T.M. located at midspan of Span 9 for Unit 3 of S.N. 082-0325.



ELEVATION AT PIER 3-E & PIER 3-W (S.N. 082-0323) AND E. ABUT., PIER 7-E, PIER 7-W, & W. ABUT. (S.N. 082-0325)

*E. Abut. & Pier 7-E (S.N. 082-0325)

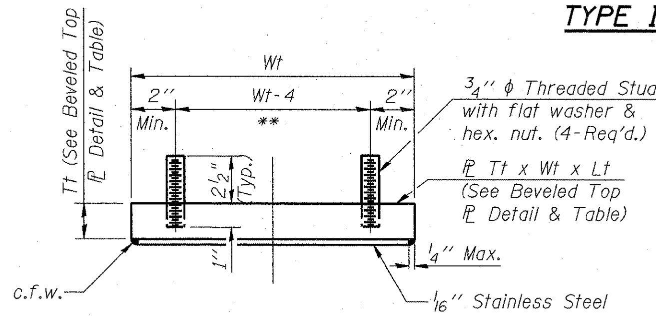


SECTION A-A

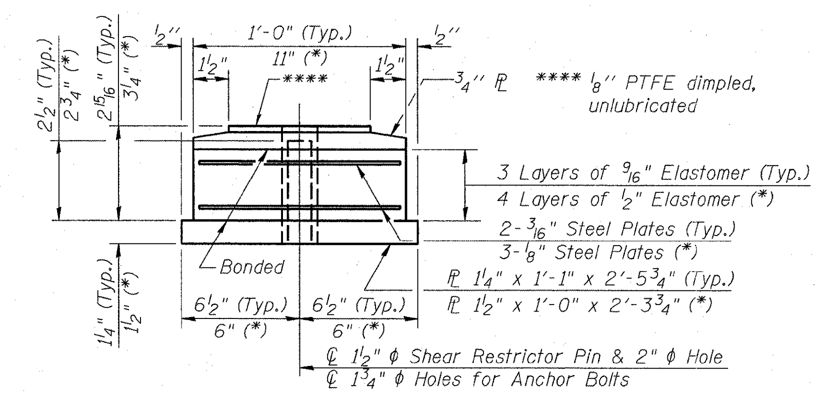
*E. Abut. & Pier 7-E (S.N. 082-0325)

**See "Threaded Stud Layout" on Sheet S-87 for actual location of threaded studs.

TYPE III ELASTOMERIC EXP. BRG.

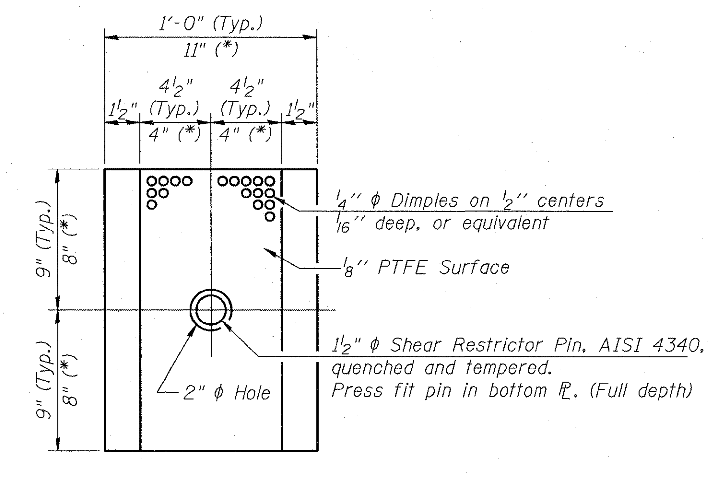


TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY

*E. Abut. & Pier 7-E (S.N. 082-0325)



PLAN-PTFE ELASTOMERIC BRG.

*E. Abut. & Pier 7-E (S.N. 082-0325)

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

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

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

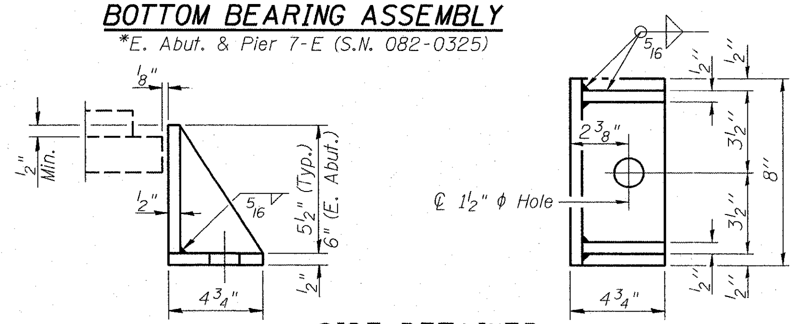
The ⅛" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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

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

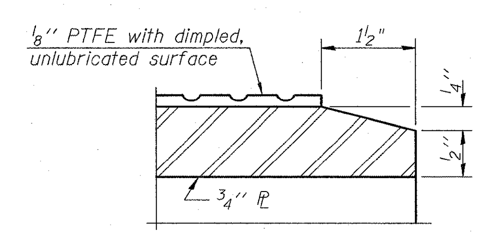
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

See Sheets S-83 thru S-86 for bearing layout & orientation.



SIDE RETAINER

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



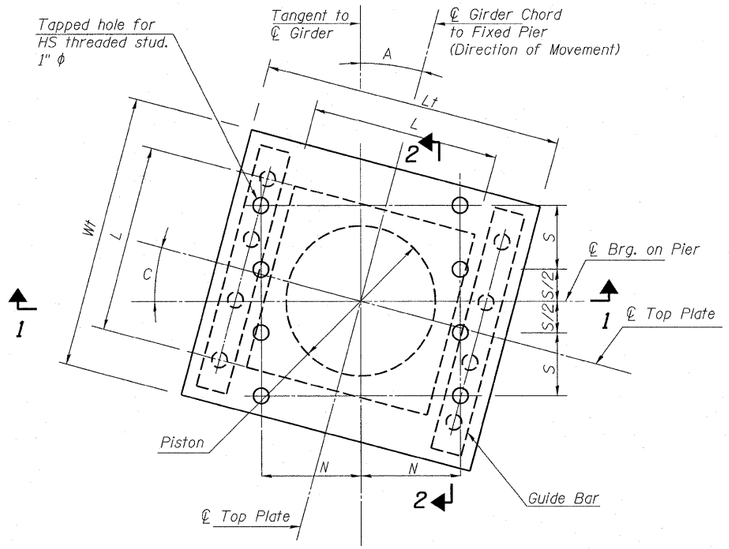
SECTION THRU PTFE

QUANTITY TABLE

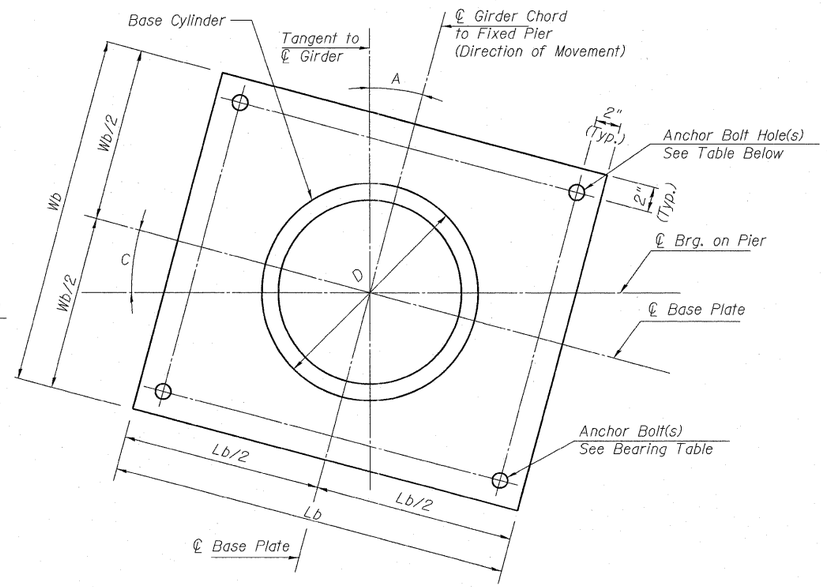
Structure	Location	Qnty.
S.N. 082-0323	Pier 3-E	6
	Pier 3-W	6
S.N. 082-0325	E. Abut.	6
	Pier 7-E	6
	Pier 7-W	5
	W. Abut.	8

BILL OF MATERIAL

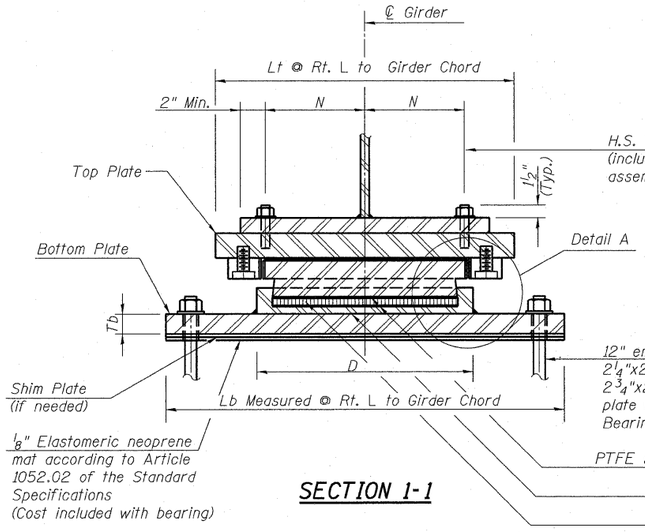
Item	Unit	Total
Elastomeric Bearing Assembly Type III	Each	37
Anchor Bolts 1¼"	Each	74



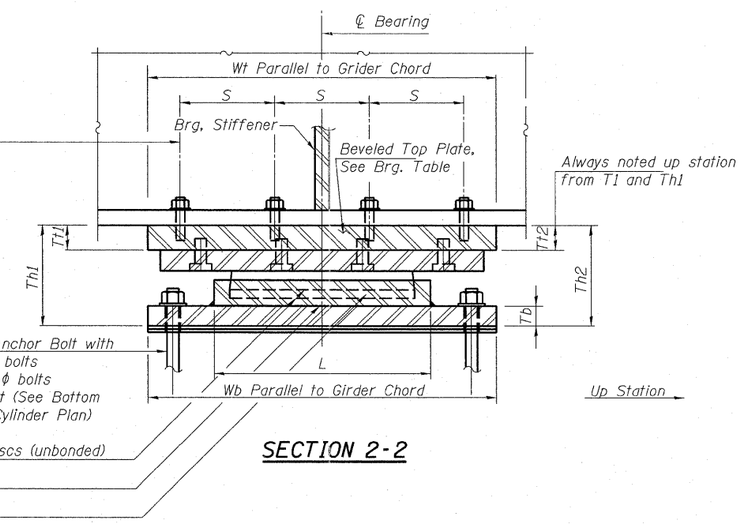
TOP BEARING ℄ AND PISTON PLAN



BOTTOM BEARING ℄ AND BASE CYLINDER PLAN



SECTION 1-1



SECTION 2-2

Notes:

The Structural Steel for the top & bottom bearing plates shall be AASHTO M270 Grade 50.

For anchor bolt type and details see Bearing Dimensions Table.

Top & bottom plates, threaded studs, washers & shim plates are included in the cost of the Bearings.

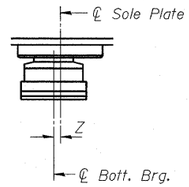
Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.

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

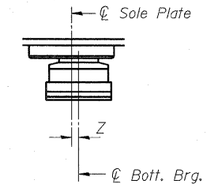
The ⅛" PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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

Work this sheet with sheet S-90.



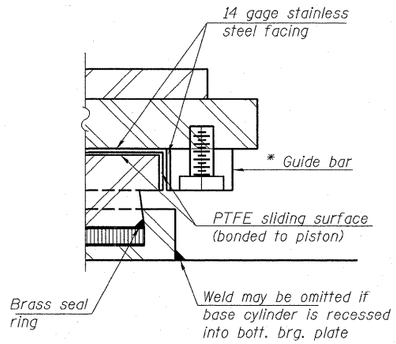
BELOW 50° F.
(Move bott. brg. away from fixed brg.)



ABOVE 50° F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

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



DETAIL 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.*

BASE PLATE HOLE TABLE

Anchor Bolt ϕ	Max. Hole ϕ
1¼"	1¾"
1"	1½"

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AECOM

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	DRAWN - BRD	REVISED -	
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PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION POT BEARING DETAILS I
I-70W OVER I-55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-89 OF S-138 SHEETS | STA. | TO STA.

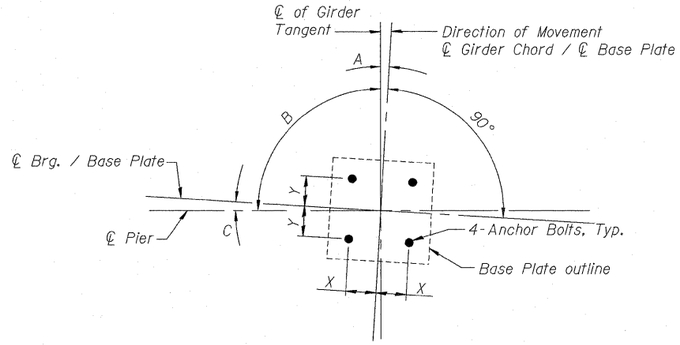
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	204
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

GUIDED EXPANSION BEARING DIMENSIONS TABLE

Brg. Location	Vertical Design Load (kips)	Lateral Design Load (kips)	Total Required Movement (inches)	Bottom Bearing Plate Tb in.	Lb in.	Wb in.	Top Bearing Plate Top Plate Tt1 in.	Tt2 in.	Lt in.	Wt in.	N in.	S in.	Th1 in.	Th2 in.	L in.	D in.	Anchor Bolt ϕ in.	Anchor Bolt Specification Grade
S.N. 082-0323																		
Pier 2	550	81	2 1/2	1 7/8	36	25	2 3/8	3 1/8	26	22	8	5	11 5/8	12 3/8	18	19 3/4	1	F1554, Gr. 55
S.N. 082-0325																		
Unit 1, Pier 1	400	93	2 1/2	1 3/4	37	29	2	3 1/8	27	23	6	5	10 5/8	11 3/4	19	17 1/8	1 1/4	A307, Gr. C
Unit 1, Pier 3	250	47	2 1/2	1 1/2	30	21	1 1/2	2 1/4	20	15	8	3	8 1/2	9 1/4	12	12 1/8	1	A307, Gr. C
Unit 2, Pier 3	200	47	4 3/4	1 1/2	29	20	1 1/2	2 3/8	19	17	6	4	8	8 7/8	11	11 3/4	1	A307, Gr. C
Unit 2, Pier 4	550	112	2 3/4	1 5/8	35	28	2 1/2	3 1/2	25	20	8	5	11 1/2	12 1/2	17	19 3/4	1 1/4	F1554, Gr. 55
Unit 2, Pier 6	500	113	2 1/2	1 5/8	34	27	2 3/8	2 5/8	24	19	6	5	11	11 1/4	16	19 3/8	1 1/4	F1554, Gr. 55
Unit 3, Pier 10	650	85	4	1 5/8	39	31	3 1/4	2 5/8	29	25	10	6	13 1/8	12 1/2	21	22 5/8	1	F1554, Gr. 55

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotation Bearings, Guided Expansion 200K.	Each	6
High Load Multi-Rotation Bearings, Guided Expansion 250K.	Each	6
High Load Multi-Rotation Bearings, Guided Expansion 400K.	Each	6
High Load Multi-Rotation Bearings, Guided Expansion 500K.	Each	6
High Load Multi-Rotation Bearings, Guided Expansion 550K.	Each	12
High Load Multi-Rotation Bearings, Guided Expansion 650K.	Each	9
Anchor Bolts, 1 1/4"	Each	72
Anchor Bolts, 1"	Each	108



ANCHOR BOLT LOCATION DETAIL.

Structure	Location	X	Y	A	B	C
S.N. 082-0323	Pier 2	1'-4"	0'-10 1/2"	2°0'32"	90°0'0"	2°0'32"
S.N. 082-0325	Pier 1	1'-4 1/2"	1'-0 1/2"	3°52'57"	90°0'0"	3°52'57"
	Pier 3 Unit 1	1'-1"	0'-8 1/2"	3°41'46"	90°0'0"	3°41'46"
	Pier 3 Unit 2	1'-0 1/2"	0'-8"	6°40'45"	90°0'0"	6°40'45"
	Pier 4	1'-3 1/2"	1'-0"	2°9'27"	90°0'0"	2°9'27"
	Pier 6	1'-3"	0'-11 1/2"	0°	90°0'0"	0°
	Pier 10	1'-5 1/2"	1'-1 1/2"	3°13'34" (1B-7B) 3°38'35" (8B, 11B)	90°0'0" (1B-7B) 89°35'0" (8B, 11B)	3°13'34" (1B-7B) 3°13'34" (8B, 11B)

Notes:

Work this sheet with sheet S-89.

See Sheets S-83 thru S-86 for bearing layout & orientation.

P:\P60046691\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S090_082-0323_0325_76C75_POT_E2.dgn

AECOM

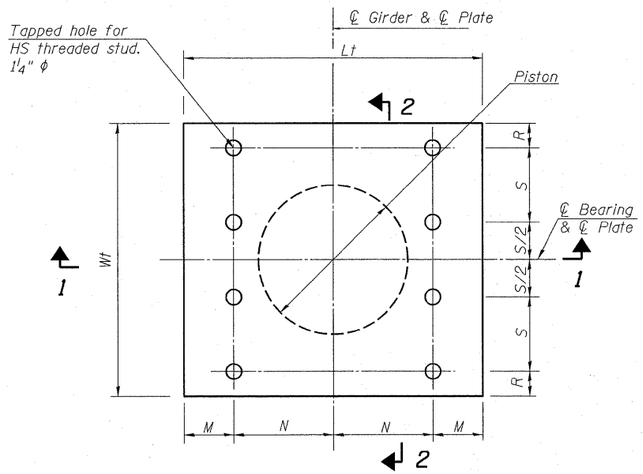
USER NAME = BhattA	DESIGNED - LLV	REVISED -	
	DRAWN - BRD	REVISED -	
PLOT SCALE = 0.2 '/ in.	CHECKED - PJL	REVISED -	
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

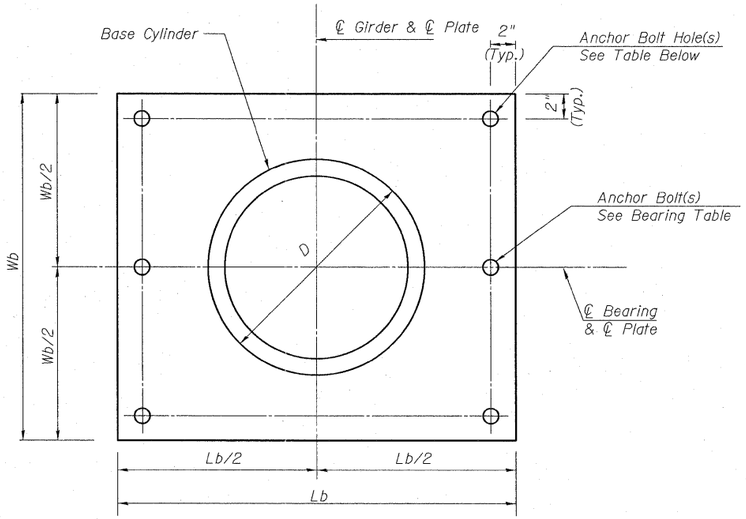
EXPANSION POT BEARING DETAILS II
I-70W OVER I-55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-90 OF S-138 SHEETS | STA. | TO STA.

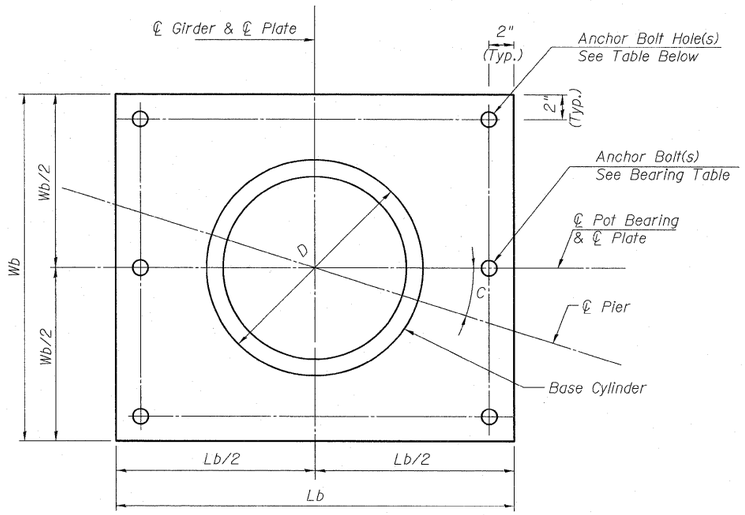
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	205
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



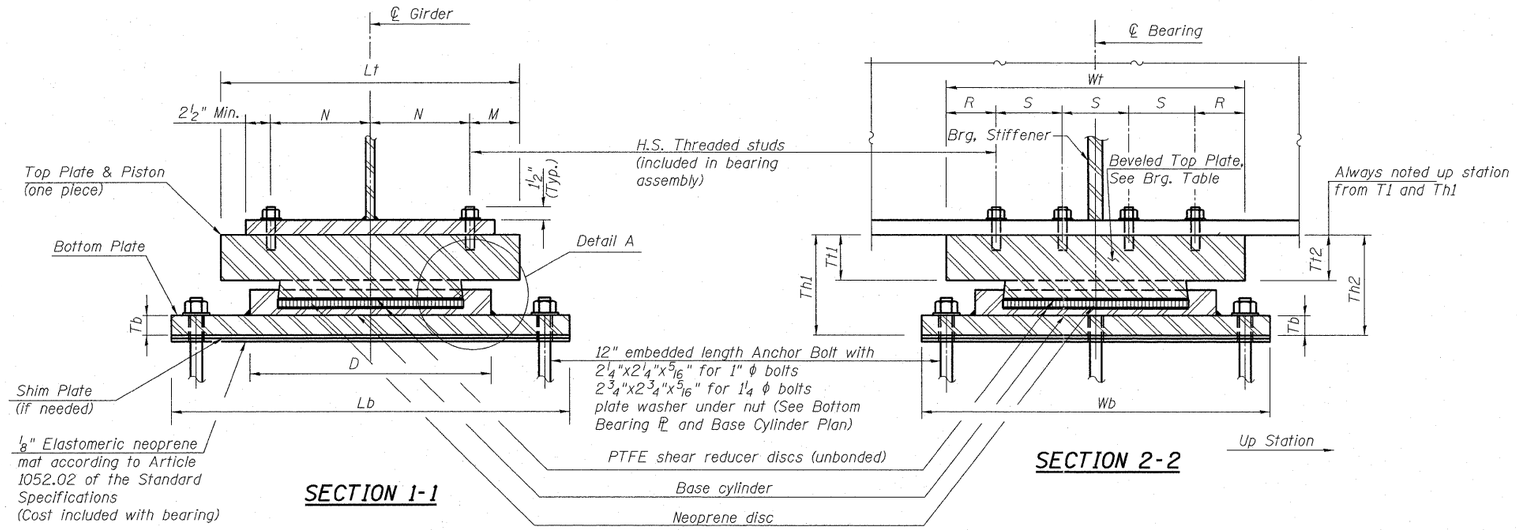
TOP BEARING ℄ AND
PISTON PLAN



BOTTOM BEARING ℄ AND
BASE CYLINDER PLAN
@ 90° PIERS

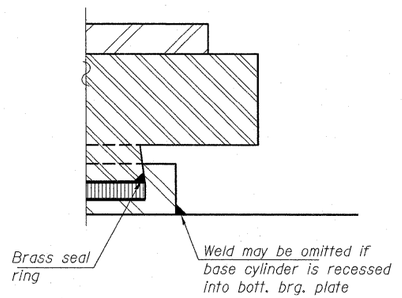


BOTTOM BEARING ℄ AND
BASE CYLINDER PLAN
PIERS 8 & 9



SECTION 1-1

SECTION 2-2



DETAIL A

BASE PLATE HOLE TABLE

Anchor Bolt ϕ	Max. Hole ϕ
1¼"	1¾"
1"	1½"

Notes:
The Structural Steel for the top & bottom bearing plates shall be AASHTO M270 Grade 50.
For anchor bolt type and details see Bearing Dimensions Table.
Top & bottom plates, threaded studs, washers & shim plates are included in the cost of the Bearings.
Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
Work this sheet with sheet S-92.

P:\P62046891\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S0911_082-0323_0325_76C75_POT_F1.dgn

AECOM

USER NAME = BhattA	DESIGNED - LLV	REVISED -
	DRAWN - BRD	REVISED -
PLOT SCALE = 0.2 '/ in.	CHECKED - PJL	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIXED POT BEARING DETAILS I
I-70W OVER I-55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-91 OF S-138 SHEETS | STA. | TO STA.

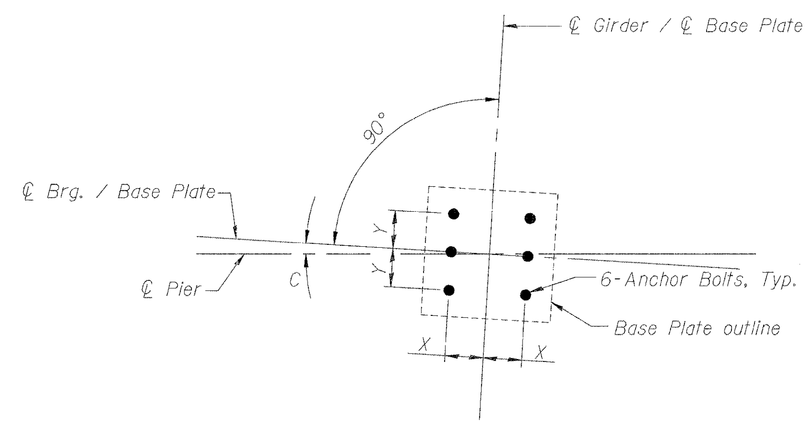
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	206
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FIXED BEARING DIMENSIONS TABLE

Brg. Location	Vertical Design Load (kips)	Lateral Design Load (kips)	Bottom Bearing Plate Tb in.	Bottom Bearing Plate Lb in.	Bottom Bearing Plate Wb in.	Top Bearing Plate: Top Plate Tt1 in.	Top Bearing Plate: Top Plate Tt2 in.	Top Bearing Plate Lt in.	Top Bearing Plate Wt in.	Top Bearing Plate M in.	Top Bearing Plate N in.	Top Bearing Plate R in.	Top Bearing Plate S in.	Th1 in.	Th2 in.	D in.	Anchor Bolt ϕ in.	Anchor Bolt Specification Grade
S.N. 082-0323																		
Pier 1	550	110	1 1/8	28	28	2 3/8	3 1/8	18	18	3 1/2	5 1/2	3	4	7 1/4	8	19 3/4	1	F1554, Gr. 55
S.N. 082-0325																		
Unit 1, Pier 2	500	186	1	28	28	2 1/4	3 1/4	18	18	2	7	3	4	6 7/8	7 7/8	19 3/8	1 1/4	F1554, Gr. 55
Unit 2, Pier 5	600	166	1	29	29	2 1/2	3 1/4	18	18	2	7	3	4	7 1/2	8 1/4	21 3/8	1 1/4	F1554, Gr. 55
Unit 3, Pier 8	500	90	1	27	27	2 1/4	2 1/8	17	17	3	5 1/2	2 1/2	4	7	6 7/8	19 3/8	1	A307, Gr. C
Unit 3, Pier 9	650	153	1	30	30	3	2 1/2	20	20	2 1/2	7 1/2	2 1/2	5	8 1/8	7 5/8	22 5/8	1 1/4	A307. Gr. C

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotation Bearings, Fixed 500K	Each	17
High Load Multi-Rotation Bearings, Fixed 550K	Each	6
High Load Multi-Rotation Bearings, Fixed 600K	Each	6
High Load Multi-Rotation Bearings, Fixed 650K	Each	10
Anchor Bolts, 1 1/4"	Each	132
Anchor Bolts, 1"	Each	102



ANCHOR BOLT LOCATION DETAIL,

Structure	Location	X	Y	C
S.N. 082-0323	Pier 1	1'-0"	1'-0"	0°
S.N. 082-0325	Pier 2	1'-0'	1'-0'	0°
	Pier 5	1'-0 1/2"	1'-0 1/2"	0°
	Pier 8	0'-11 1/2"	0'-11 1/2"	0° (1B-8B) 1°10'5" (9B) 3°2'25" (10B) 4°11'53" (11B)
	Pier 9	1'-1"	1'-1"	0° (1B-7B) 0°25'10" (8B) 1°9'49" (9B) 1°16'27" (11B)

Notes:

Work this sheet with sheet S-91.

See Sheets S-83 thru S-86 for bearing layout & orientation.

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AECOM

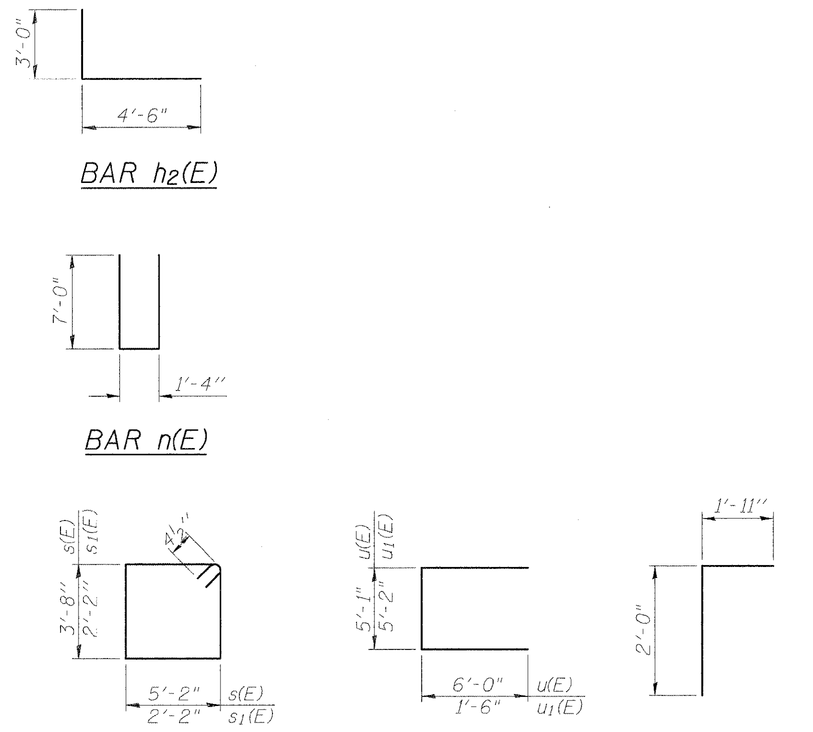
USER NAME = BhattA	DESIGNED - LLV	REVISED -	
	DRAWN - BRD	REVISED -	
PLOT SCALE = 0:1 ':" / in.	CHECKED - PJL	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FIXED POT BEARING DETAILS II
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-92 OF S-138 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	207
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



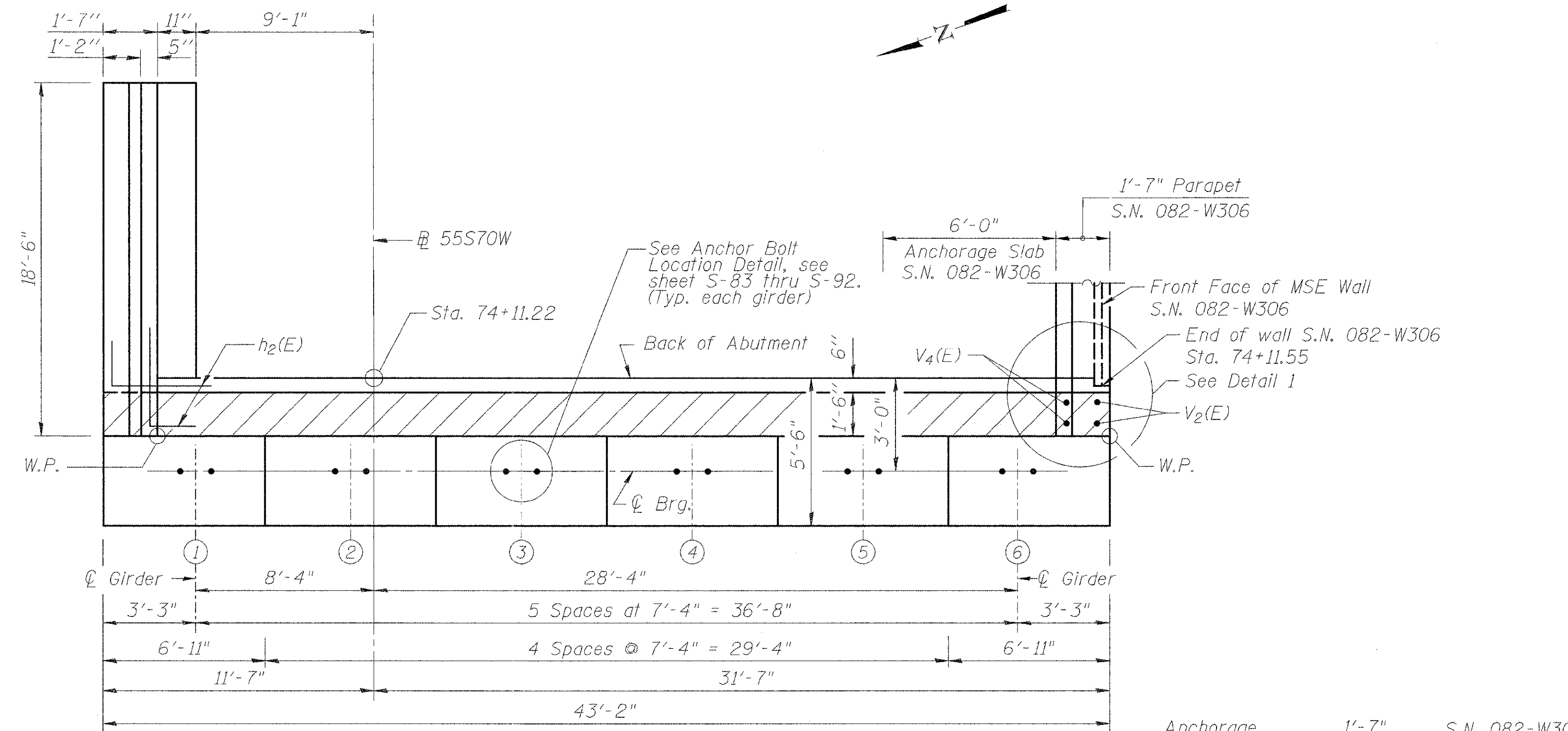
BAR $h_2(E)$

BAR n(E)

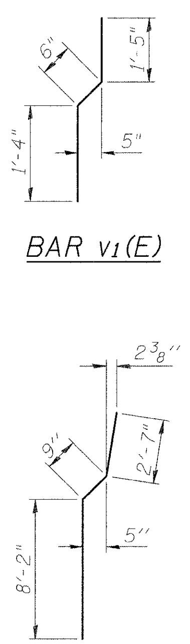
BARS s(E) & $s_1(E)$

BAR u(E) & $u_1(E)$

BAR v(E)

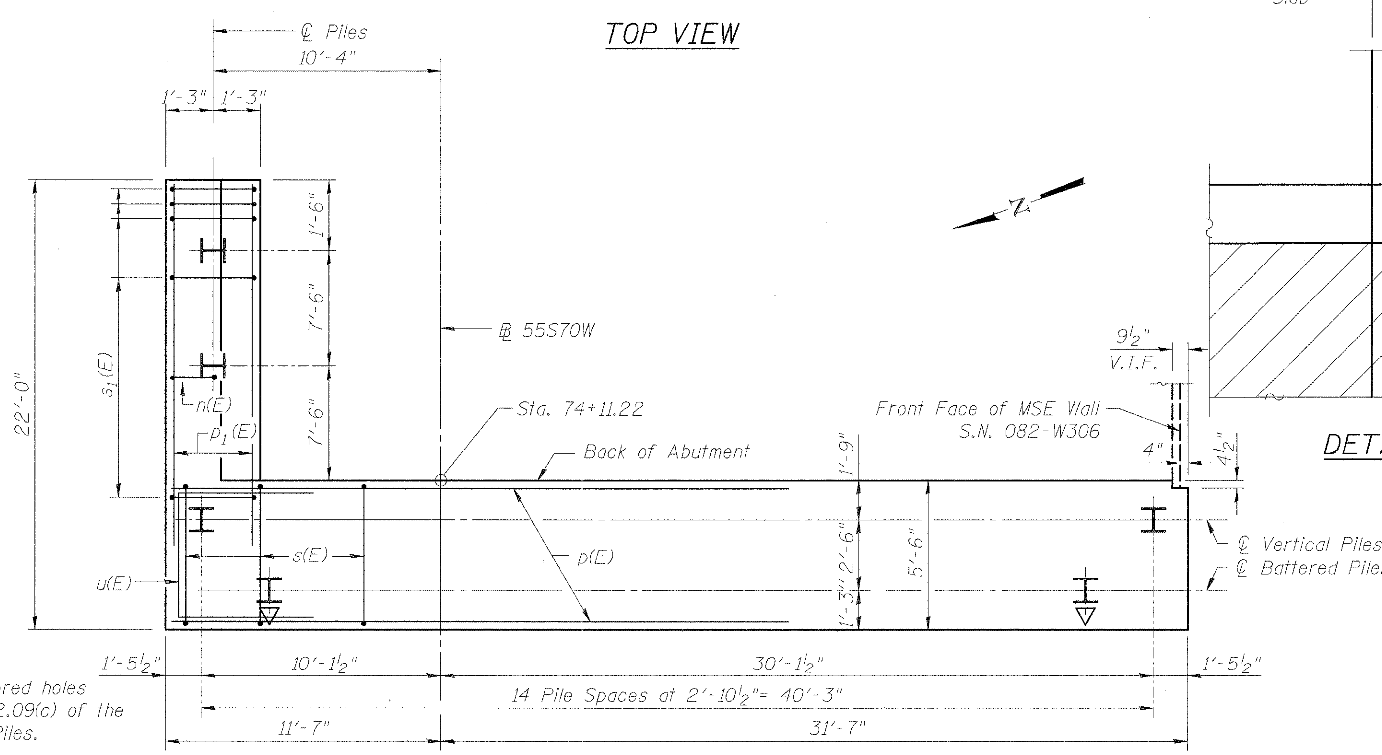


TOP VIEW

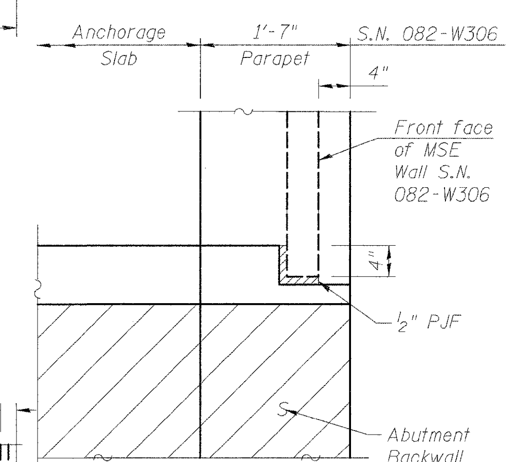


BAR $v_1(E)$

BAR $v_4(E)$



PLAN-PILE CAP



DETAIL 1

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 500 kips
Factored Resistance Available: 250 kips
Est. Length: 148 ft
No. Production Piles: 17

Note:
Piles shall be driven through 2'-0" diameter precored holes extending to Elev. 383.00 according to Article 512.09(c) of the Standard Specifications. Cost included in Driving Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	14	#5	41'- 7"	———
h1(E)	5	#6	41'- 7"	———
h2(E)	16	#5	7'- 6"	┌──
h3(E)	24	#4	18'- 2"	———
n(E)	20	#6	15'- 4"	┌─┐
p(E)	11	#9	42'- 10"	———
p1(E)	6	#7	21'- 9"	———
p2(E)	4	#6	28'- 7"	———
p3(E)	4	#6	13'- 11"	———
s(E)	60	#4	18'- 5"	☐
s1(E)	18	#4	9'- 5"	☐
u(E)	10	#6	17'- 1"	┌─┐
u1(E)	44	#4	8'- 2"	┌─┐
v(E)	42	#5	3'- 11"	┌──
v1(E)	42	#5	3'- 3"	─╲_
v2(E)	22	#6	11'- 2"	———
v4(E)	22	#6	11'- 6"	─╲_
v5(E)	42	#5	10'- 7"	———
v6(E)	42	#5	9'- 3"	———

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	243.5
Concrete Structures	Cu. Yd.	77.3
Concrete Encasement	Cu. Yd.	8.2
Reinforcement Bars, Epoxy Coated	Pound	7,210
Bar Splicers	Each	44
Furnishing Steel Piles, HP14x89	Foot	2516
Driving Piles	Foot	2516
Pile Shoes	Each	17
Concrete Sealer	Sq Ft	630
Porous Granular Embankment (Special)	Cu. Yd.	137.6
Geocomposite Wall Drain	Sq. Yd.	51
Pipe Underdrains for Structures 4"	Foot	48
Conduit Embedded in Structure, 2"Dia., PVC	Foot	13

Notes:

1. Concrete Sealer shall be applied to abutment backwalls, bearing seats and expose faces of abutment cap.
2. For details of piles and concrete encasement, see sheet S-122
3. For details of bar splicers, see sheet S-123.
4. For retaining wall S.N. 082-W306 see Sheet 254 thru. 271.

AECOM

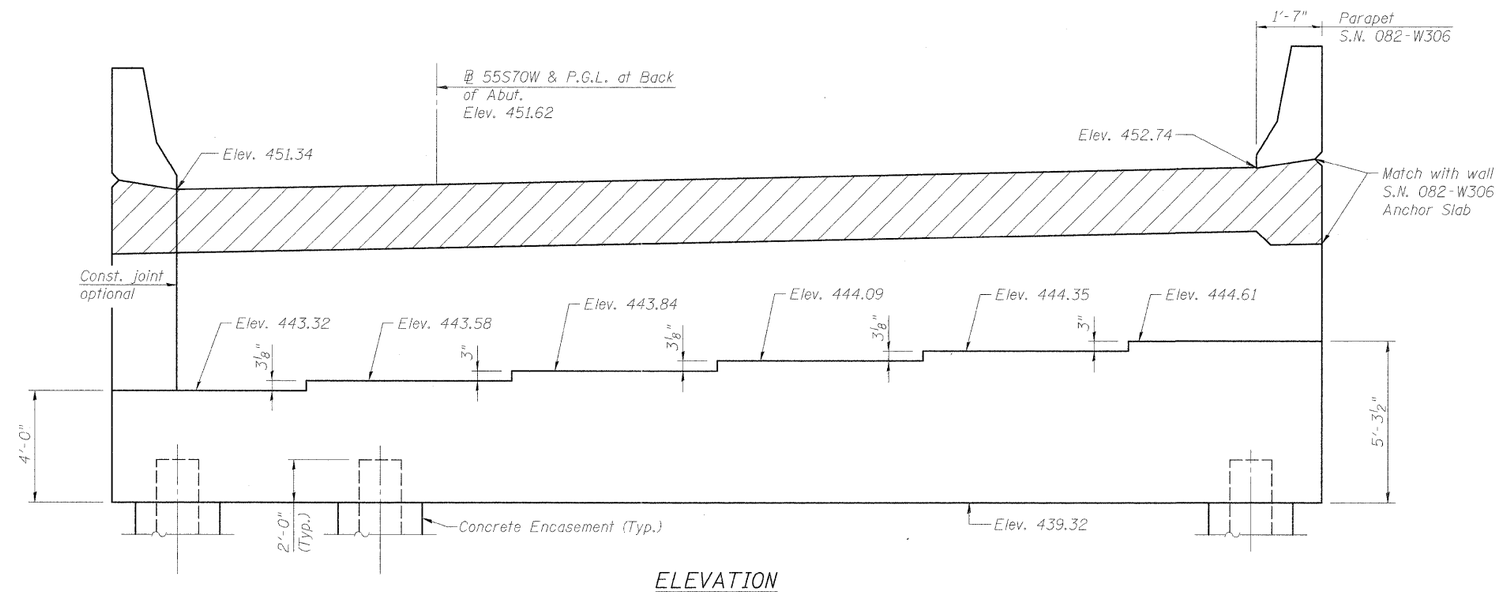
USER NAME = BhattA	DESIGNED - DEV	REVISED -	
	DRAWN - GF	REVISED -	
PLOT SCALE = 0.1 ' / in.	CHECKED - ATB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT PLANS – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS

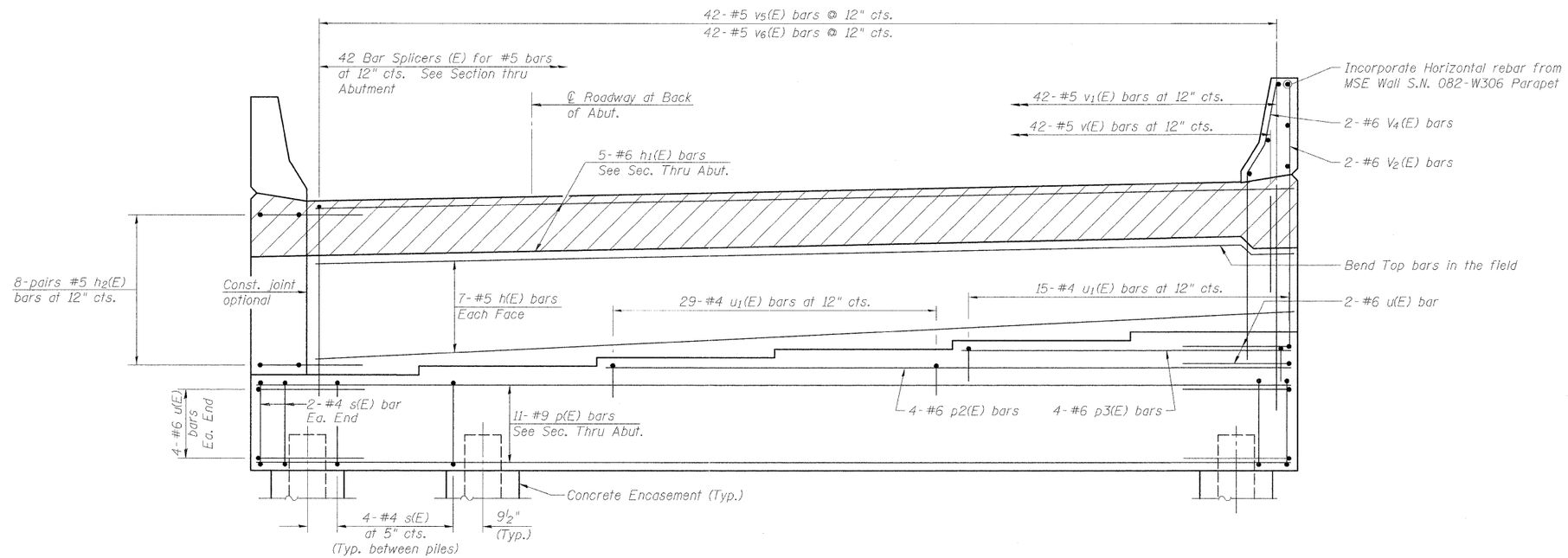
SCALE: NONE | SHEET NO. S-93 OF S-138 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	208
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



ELEVATION

(Looking East Showing Dimensions)



ELEVATION

(Looking East Showing Reinforcements)

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AECOM

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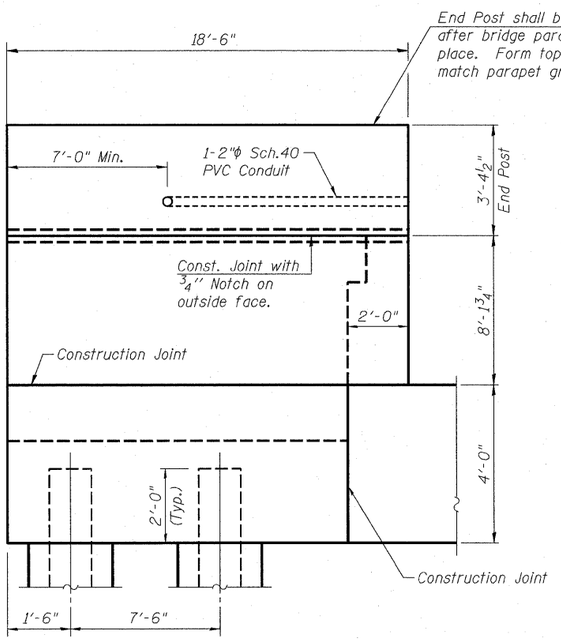
	DRAWN - GF	REVISED -
PLOT SCALE = 81 '1' / in.	CHECKED - ATB	REVISED -
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

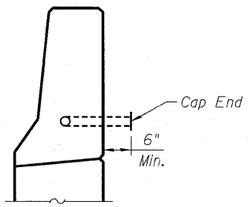
EAST ABUTMENT ELEVATIONS – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-94 OF S-138 SHEETS | STA. | TO STA.

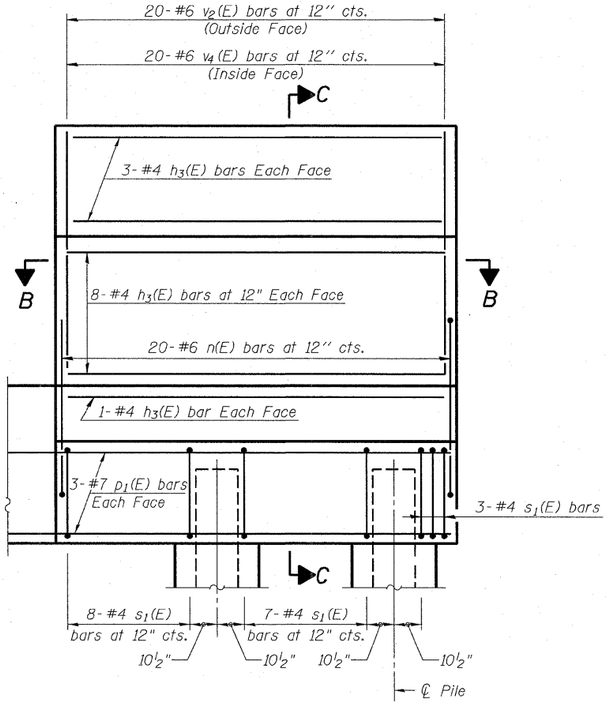
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	209
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



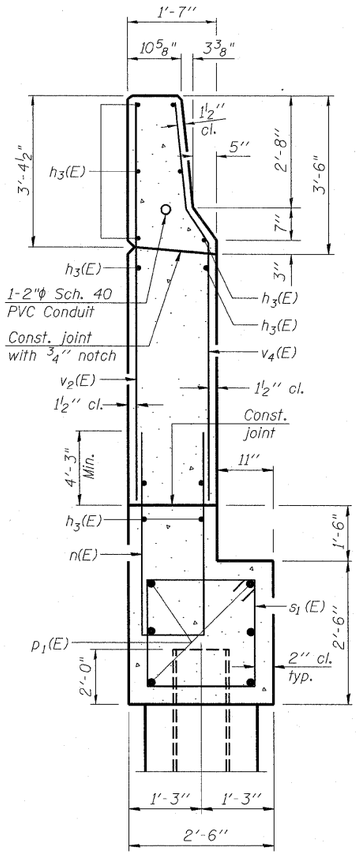
WING WALL ELEVATION
Showing Dimensions
(Facing South)



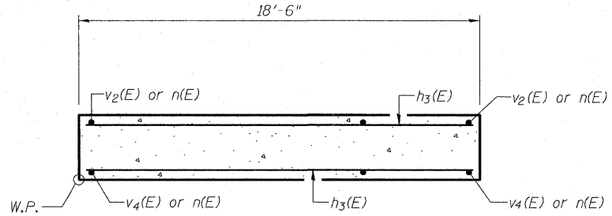
VIEW A-A



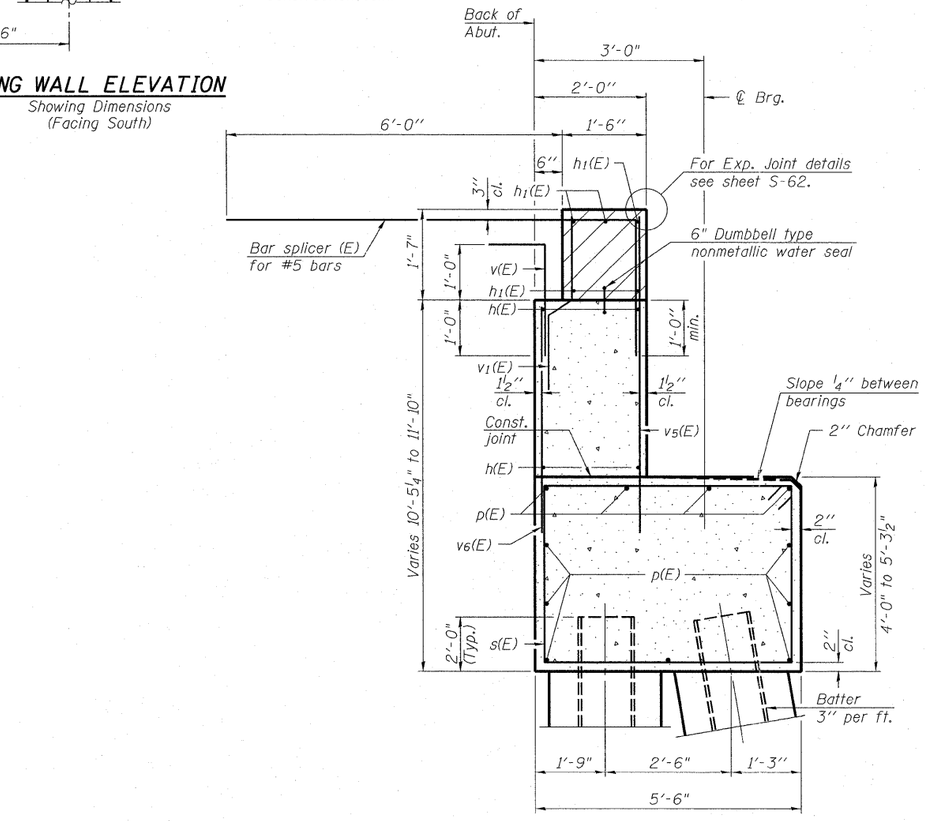
WING WALL ELEVATION
Showing Reinforcement
(Facing North)



SECTION C-C



SECTION B-B



SEC. THRU ABUT.

NOTES:

1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Pour steps monolithically with cap.
4. For details of Bar Splicers, see sheet S-123.
5. For details of piles and Concrete Encasement, see sheet S-122.
6. See Electrical plans for Conduit termination details.

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AECOM

USER NAME = BhattA	DESIGNED - DEV	REVISED -
	DRAWN - GF	REVISED -
PLOT SCALE = Ø:2 '1' / in.	CHECKED - ATB	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

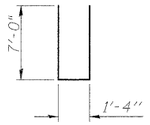
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS

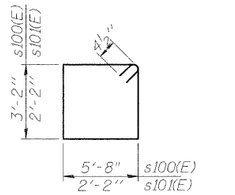
SCALE: NONE | SHEET NO. S-95 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	210
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

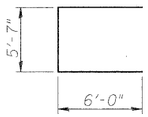
BAR h102(E)



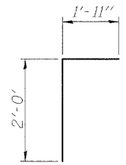
BAR n100(E)



BARS s100(E) & s101(E)



BAR u100(E)



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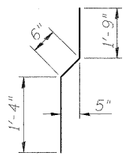
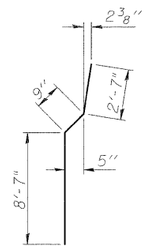
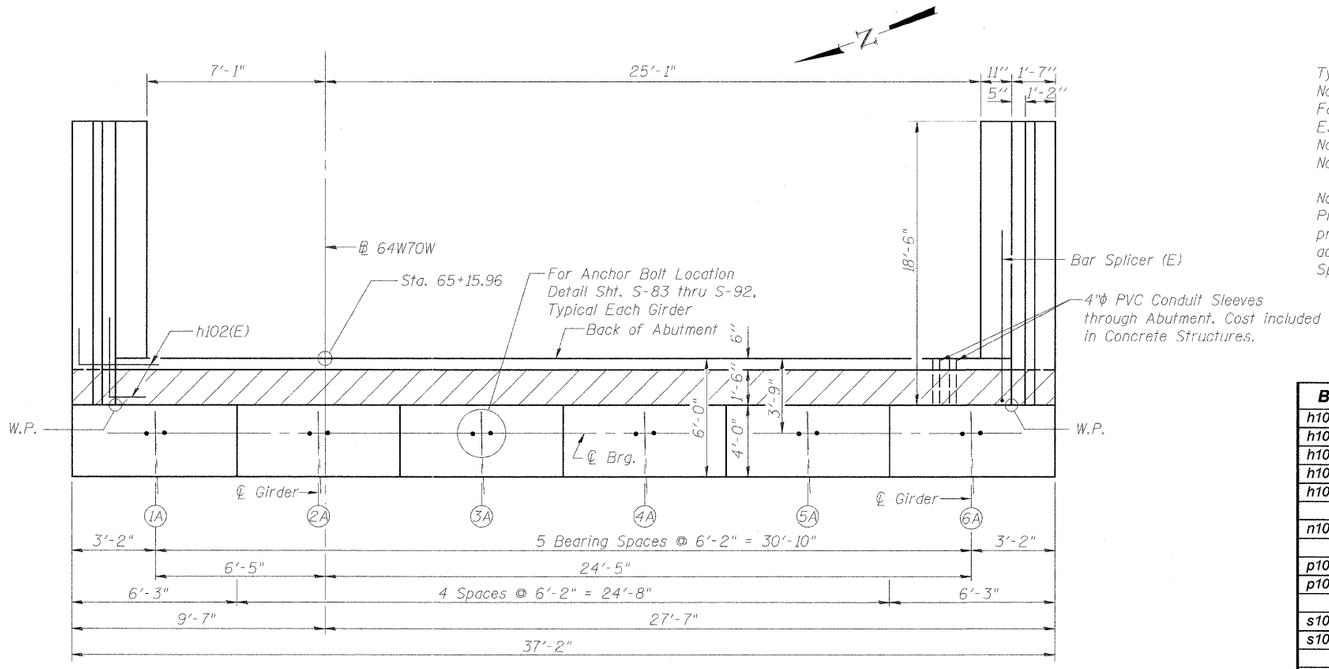


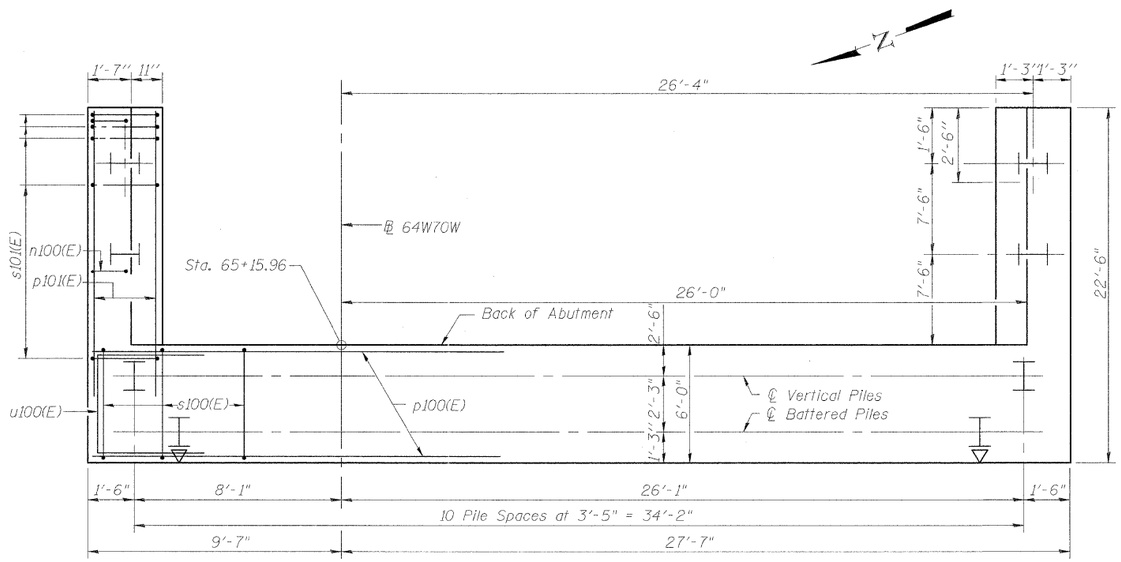
BAR v101(E)



BAR v104(E)



TOP VIEW



PLAN-PILE CAP

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 500 kips
Factored Resistance Available: 250 kips
Est. Length: 97'
No. Production Piles: 14
No. Test Piles: 1

Note:
Piles shall be driven through 2'-0" diameter precored holes extending to elevation 395.0 according to Article 512.09C of the Standard Specifications. Cost included in Driving Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h100(E)	14	#5	33'- 8"	
h101(E)	5	#6	33'- 8"	
h102(E)	36	#5	7'- 6"	
h103(E)	52	#4	18'- 2"	
h105(E)	16	#5	1'- 6"	
n100(E)	40	#6	15'- 4"	
p100(E)	11	#10	36'- 10"	
p101(E)	12	#7	21'- 9"	
s100(E)	44	#4	18'- 5"	
s101(E)	36	#4	9'- 5"	
u100(E)	8	#6	17'- 7"	
v100(E)	35	#5	3'- 11"	
v101(E)	35	#4	3'- 7"	
v102(E)	40	#6	11'- 6"	
v104(E)	40	#6	11'- 11"	
v105(E)	35	#5	10'- 5"	
v106(E)	35	#5	8'- 11"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	293.4
Concrete Structures	Cu. Yd.	79.4
Reinforcement Bars, Epoxy Coated	Pound	8,200
Furnishing Steel Piles, HP14x89	Foot	1358
Driving Piles	Foot	1358
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	15
Concrete Sealer	Sq. Ft.	584
Porous Granular Embankment (Special)	Cu. Yd.	98.0
Geocomposite Wall Drain	Sq. Yd.	39
Pipe Underdrains for Structures 4"	Foot	42
Concrete Encasement	Cu. Yd.	6.0

Concrete Sealer shall be applied to abutment backwalls, bearing seats and expose faces of abutment cap.

For details and quantity of Bar Splicers, see sheet S-123 of S-138.

For details of piles and Concrete Encasement, see sheet S-122 of S-138.

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AECOM

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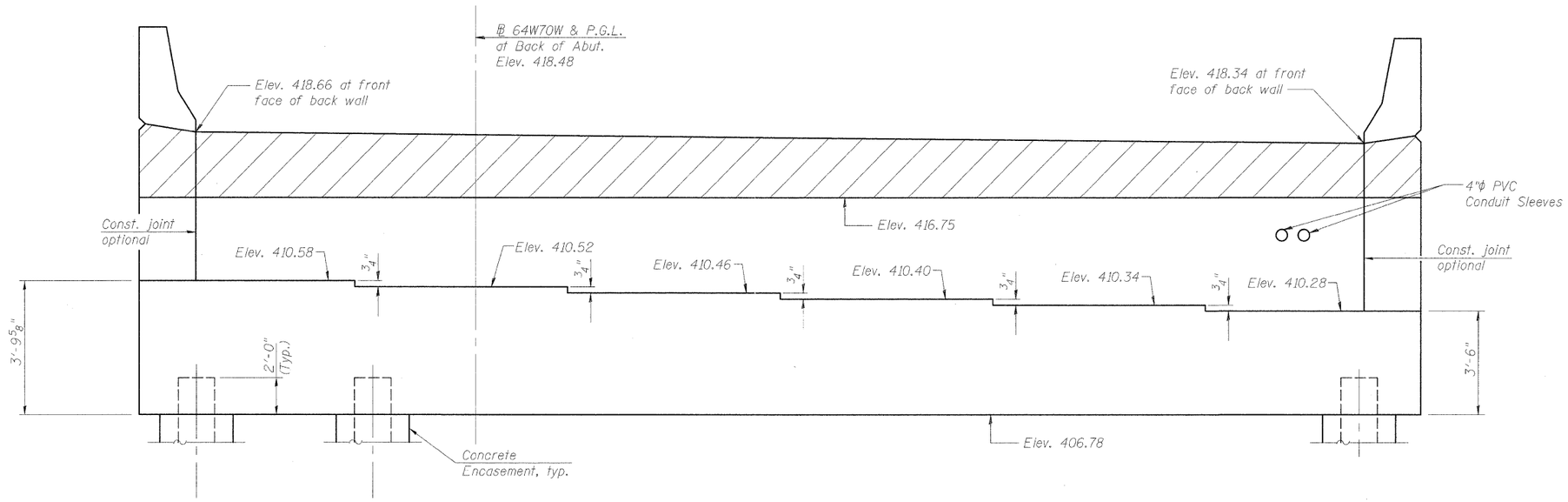
	DRAWN - BRD	REVISED -	
PLOT SCALE = 0.083333 ' / in.	CHECKED - ATB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT PLANS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

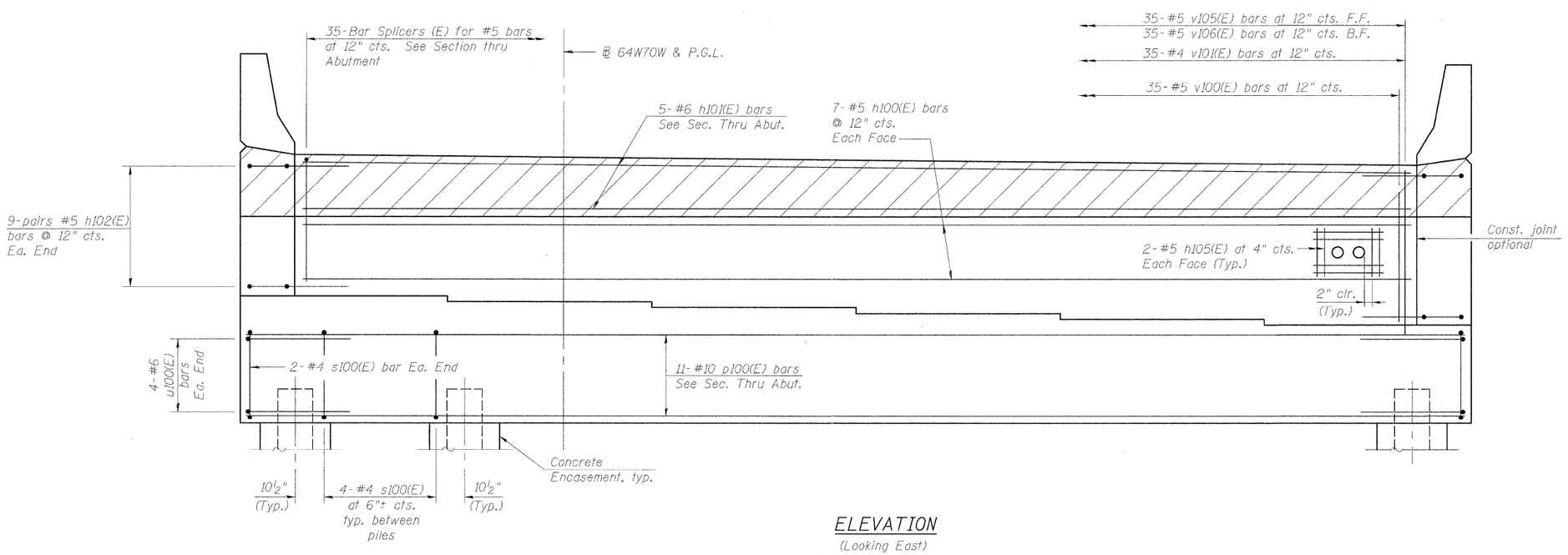
SCALE: NONE | SHEET NO. S-96 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	211
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



ELEVATION

(Looking East)
Showing Dimensions



ELEVATION

(Looking East)
Showing Reinforcement

P:\P68084568R\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S097_082-0323_0325_76C75_EastAbut2.dgn

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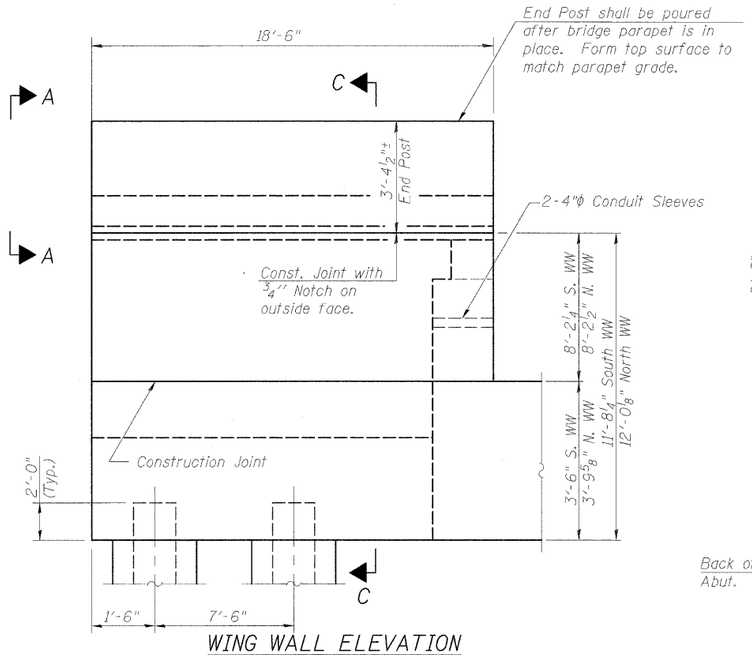
	PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

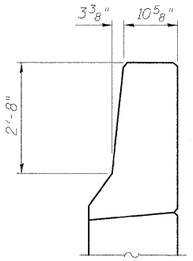
EAST ABUTMENT ELEVATIONS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-97 OF S-138 SHEETS | STA. | TO STA.

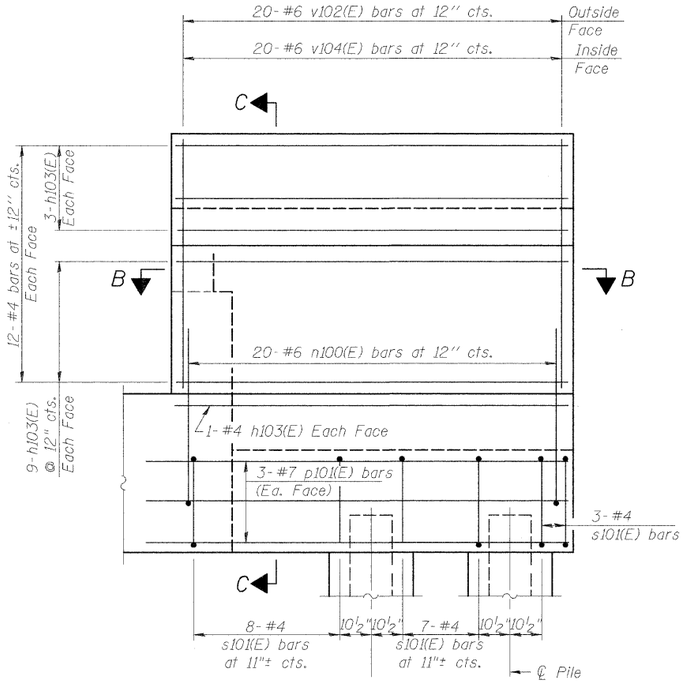
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	212
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



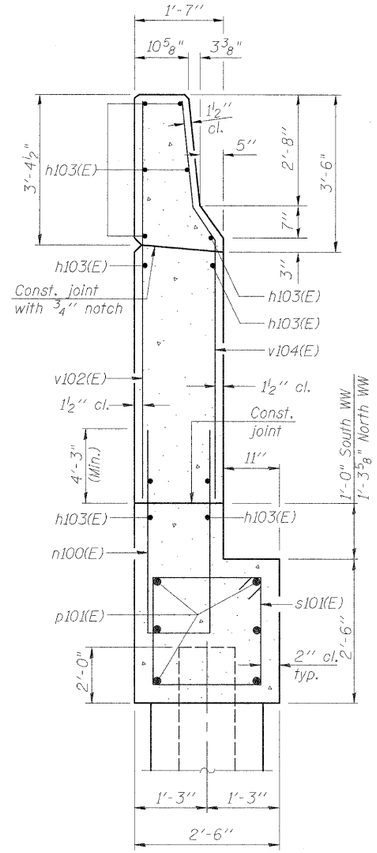
WING WALL ELEVATION
Showing Dimensions



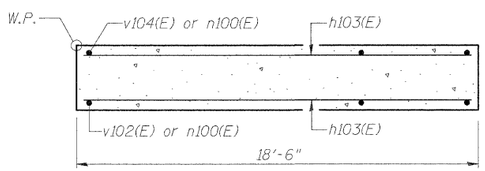
VIEW A-A



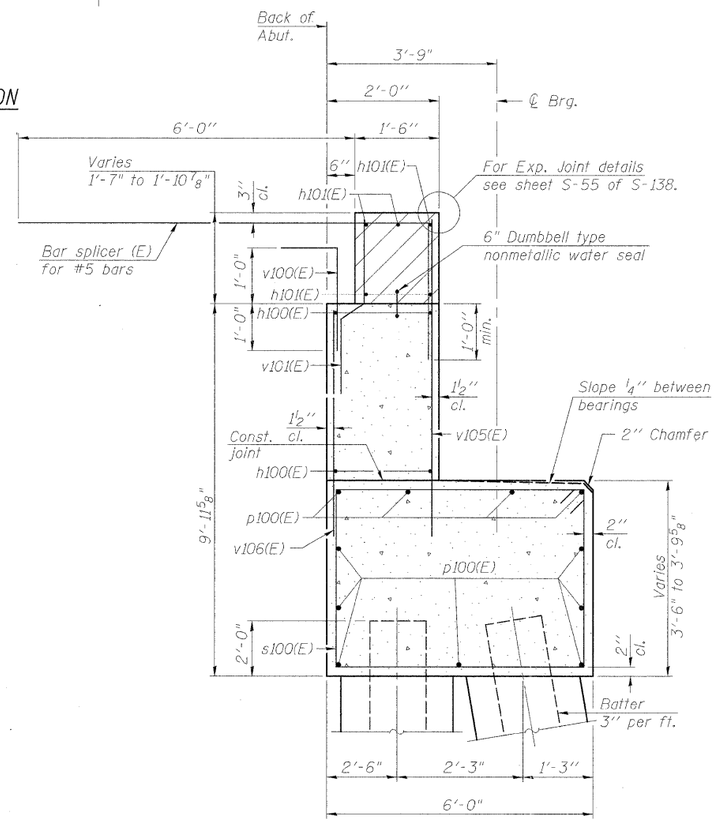
WING WALL ELEVATION
Showing Reinforcement



SECTION C-C



SECTION B-B



SEC. THRU ABUT.

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Quantity of concrete in end post included with Concrete Superstructure on sheet S-44 of S-138.
For Concrete Encasement details, see sheet S-122 of S-138.
See Electrical Plans for conduit termination details through Abutment.

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		DRAWN - BRD	REVISED -
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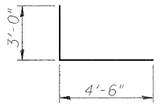
	PLOT DATE = $DATE$	DATE - 04-26-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

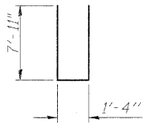
EAST ABUTMENT DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-98 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	213
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



BAR h202(E)



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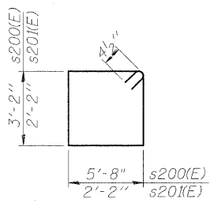
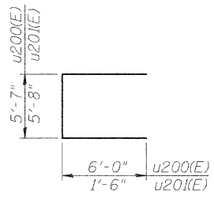
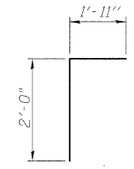


BARS s200(E) & s201(E)



BAR u200(E) & u201(E)



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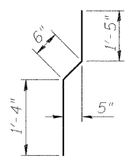

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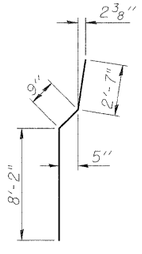


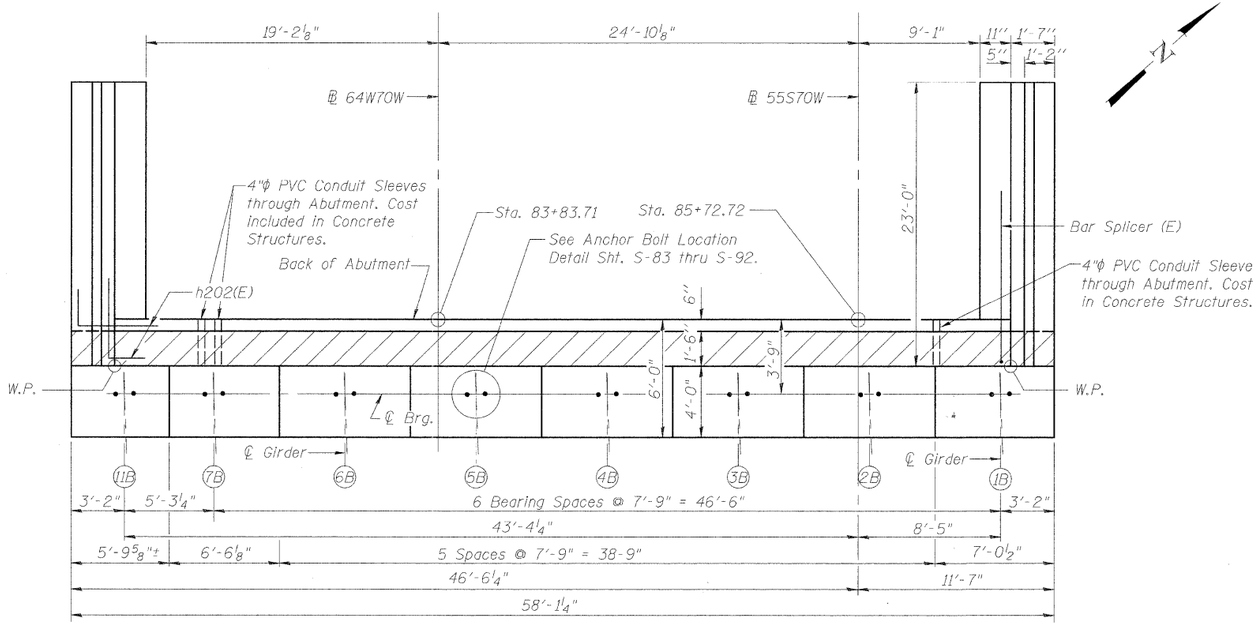
BAR v204(E)

Concrete Sealer shall be applied to abutment backwalls, bearing seats and expose faces of abutment cap.

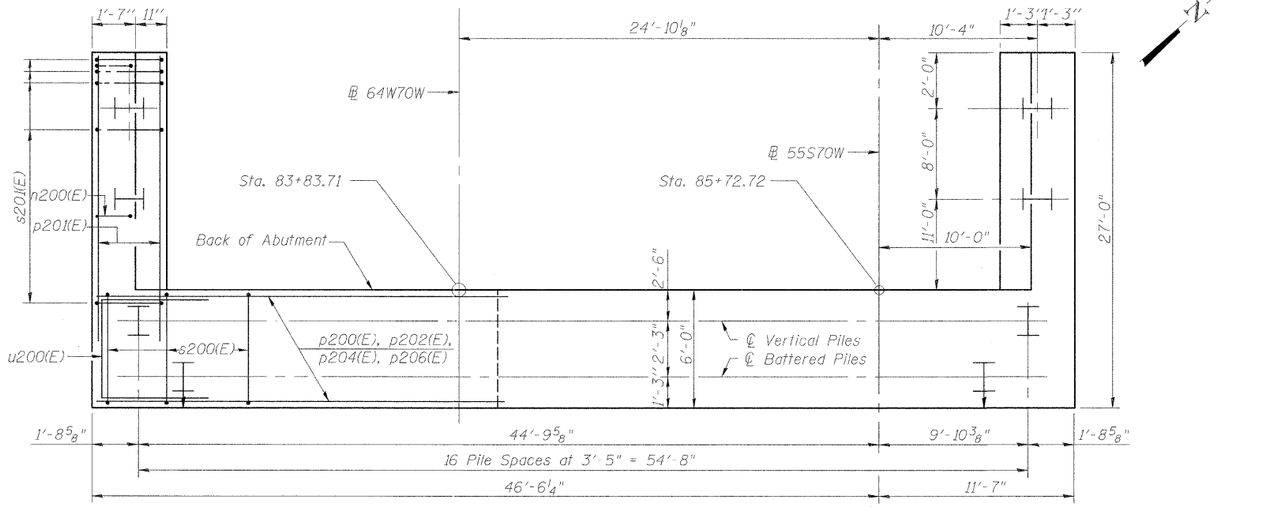
For details and quantity of Bar Splicers, see sheet S-123 of S-138.

For details of piles and Concrete Encasement, see sheet S-122 of S-138.

All dimensions are radial. Wingwall shall be constructed along horizontal curve.



TOP VIEW



PLAN-PILE CAP

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 500 kips
Factored Resistance Available: 250 kips
Est. Length: 141'
No. Production Piles: 21

Note:
Piles shall be driven through 2'-0" diameter precored holes extending to elevation 405.0 according to Article 512.09C of the Standard Specifications. Cost included in Driving Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h200(E)	14	#5	54'- 7"	
h201(E)	5	#6	54'- 7"	
h202(E)	36	#5	7'- 6"	
h203(E)	52	#4	22'- 8"	
h205(E)	32	#5	1'- 6"	
n200(E)	48	#6	17'- 2"	
p200(E)	3	#10	30'- 6"	
p201(E)	12	#7	26'- 6"	
p202(E)	3	#10	33'- 9"	
p203(E)	4	#6	12'- 0"	
p204(E)	4	#10	27'- 5"	
p205(E)	4	#6	19'- 2"	
p206(E)	4	#10	40'- 6"	
p207(E)	4	#10	57'- 9"	
s200(E)	68	#4	18'- 5"	
s201(E)	54	#4	9'- 5"	
u200(E)	8	#6	17'- 7"	
u201(E)	33	#4	8'- 8"	
v200(E)	55	#5	3'- 11"	
v201(E)	55	#4	3'- 3"	
v202(E)	48	#6	11'- 2"	
v204(E)	48	#6	11'- 6"	
v205(E)	55	#5	10'- 4"	
v206(E)	55	#5	9'- 0"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	454.8
Concrete Structures	Cu. Yd.	112.9
Reinforcement Bars, Epoxy Coated	Pound	12,060
Furnishing Steel Piles, HP14x89	Foot	2961
Driving Piles	Foot	2961
Pile Shoes	Each	21
Concrete Sealer	Sq Ft	930
Porous Granular Embankment (Special)	Cu. Yd.	183.6
Geocomposite Wall Drain	Sq. Yd.	69
Pipe Underdrains for Structures 4"	Foot	63
Conduit Embedded in Structure, 2" Dia., PVC	Foot	17
Concrete Encasement	Cu. Yd.	9.3

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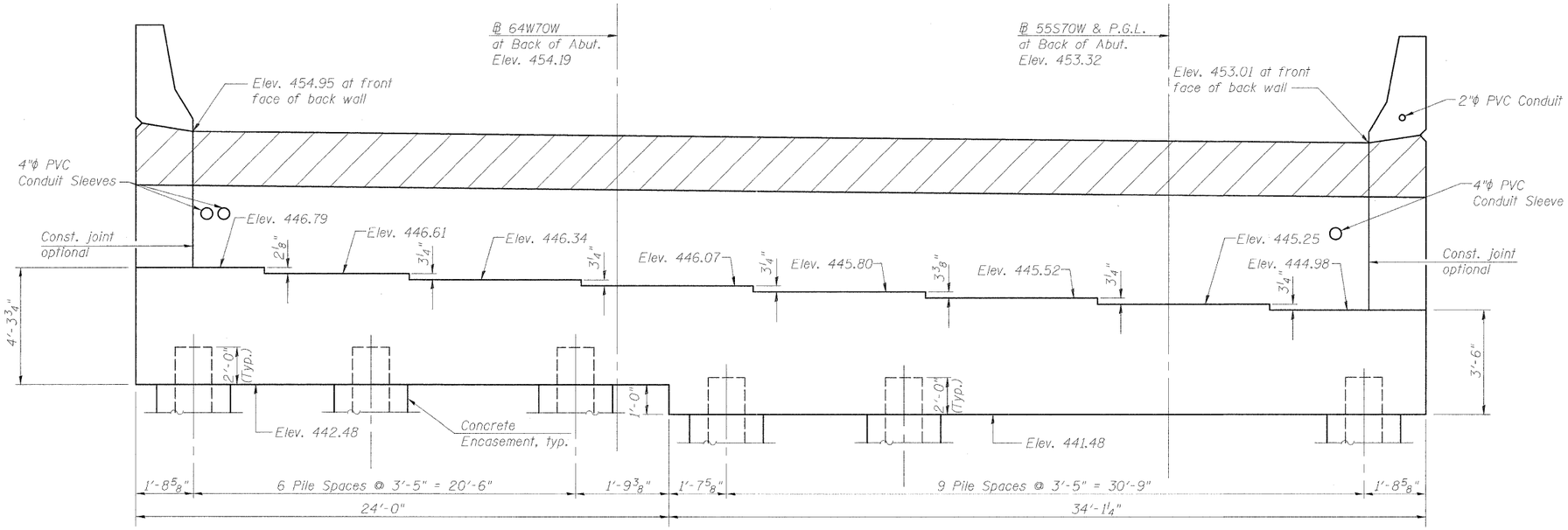
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

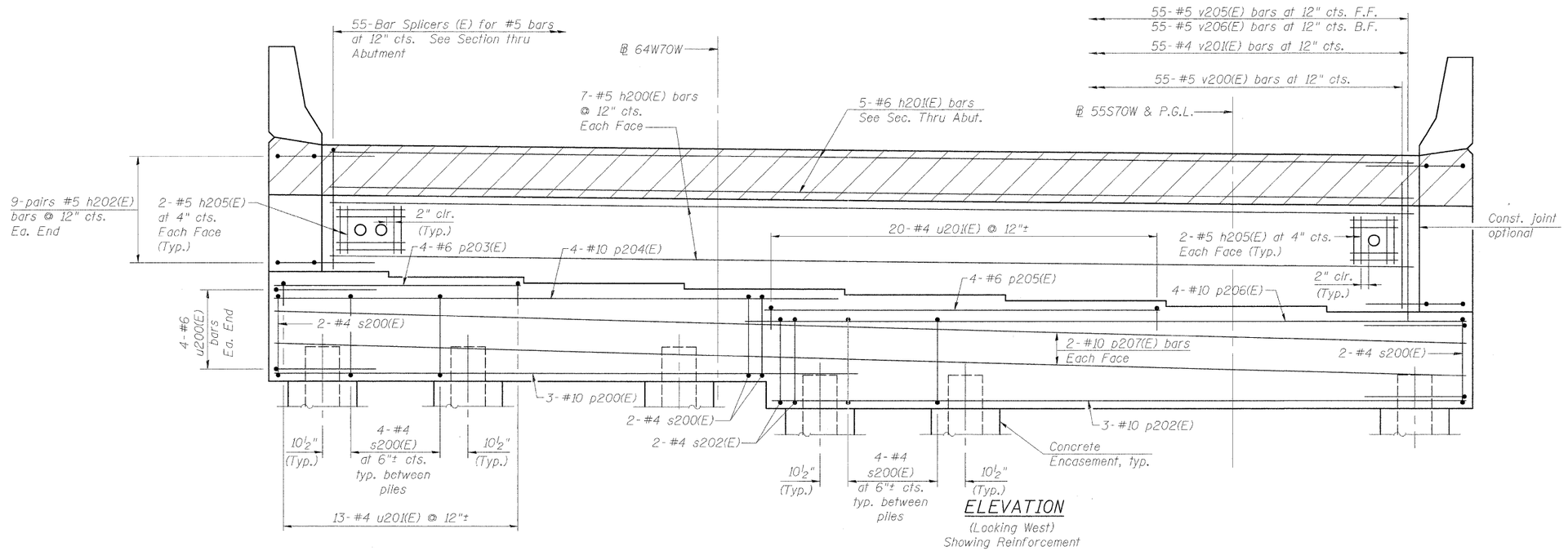
WEST ABUTMENT PLANS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-99 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	214
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



ELEVATION

(Looking West)
Showing Dimensions



ELEVATION

(Looking West)
Showing Reinforcement

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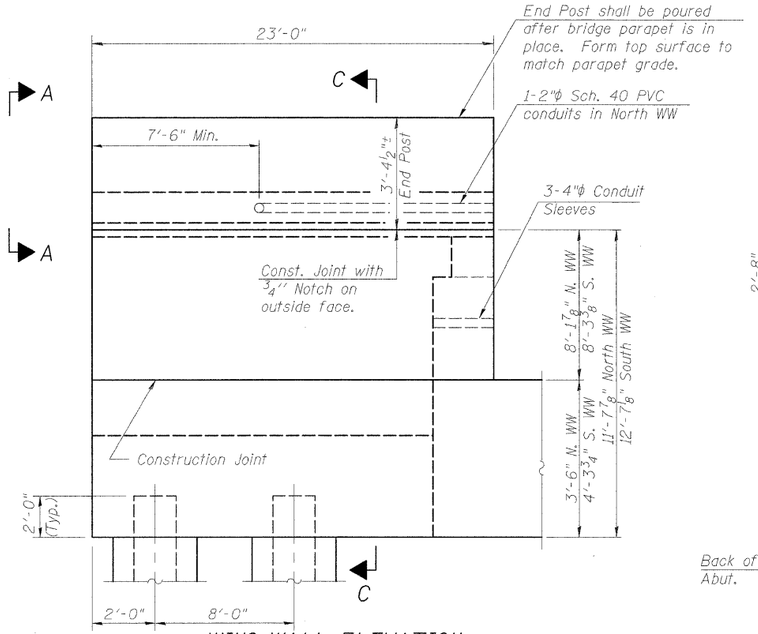
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

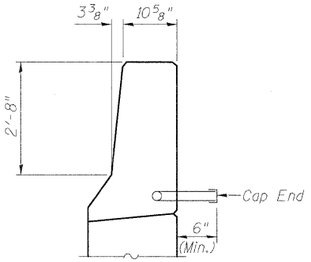
WEST ABUTMENT ELEVATIONS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-100 OF S-138 SHEETS | STA. | TO STA.

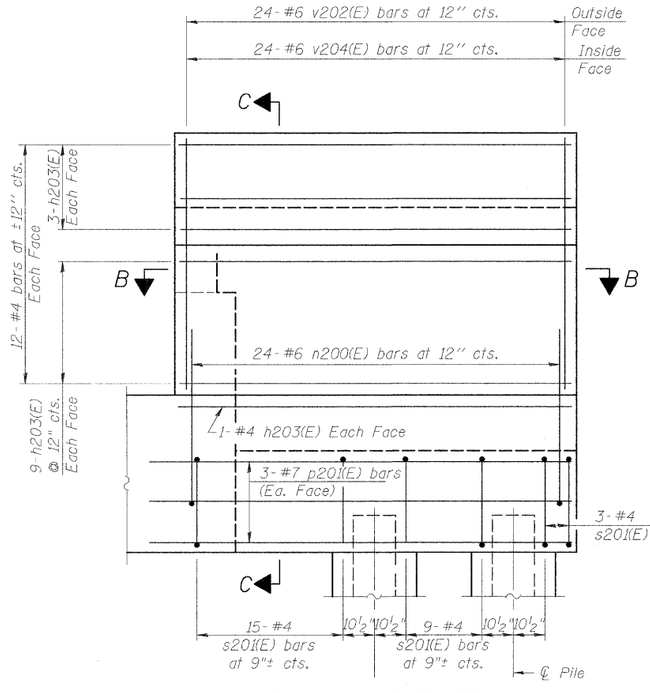
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	215
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



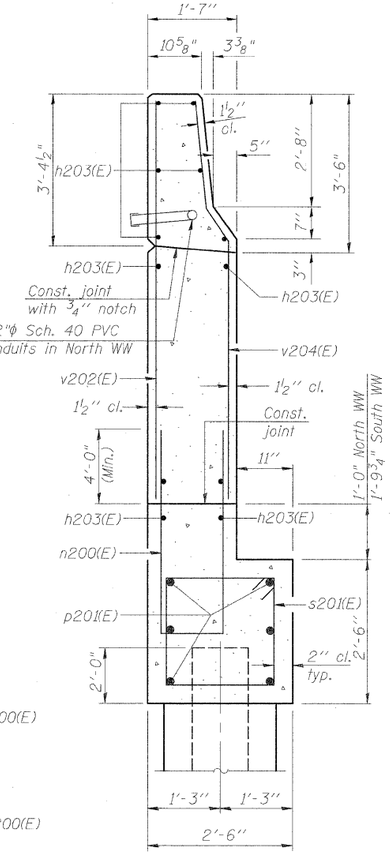
WING WALL ELEVATION
Showing Dimensions

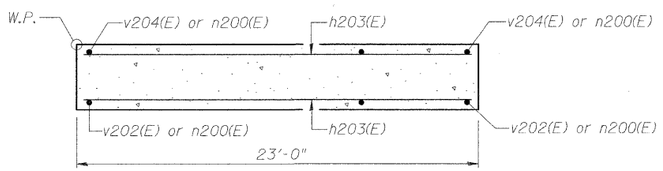


VIEW A-A



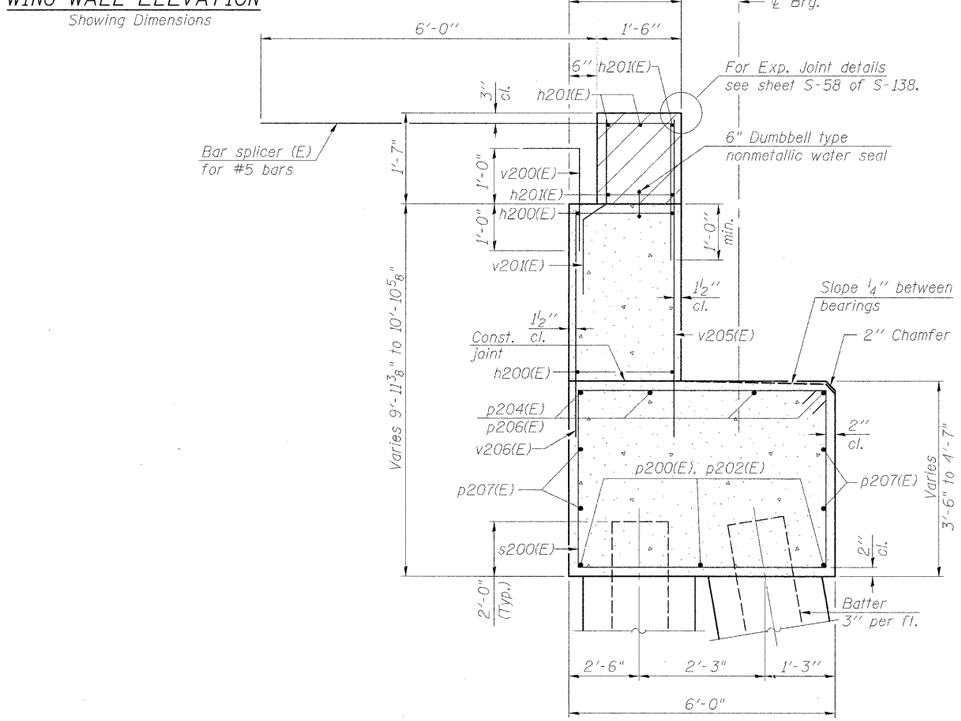
WING WALL ELEVATION
Showing Reinforcement





SECTION B-B

SECTION C-C



SEC. THRU ABUT.

Notes:
Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
Quantity of concrete in end post included with Concrete Superstructure on sheet S-44 of S-138.
For Concrete Encasement details, see sheet S-122 of S-138.
See Electrical Plans for conduit termination details through Abutment.

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AECOM

USER NAME = BhattA	DESIGNED - DDB	REVISED -	
	DRAWN - BRD	REVISED -	
PLOT SCALE = @1 '1' / in.	CHECKED - ATB	REVISED -	
PLOT DATE = $DATE$	DATE - 04-26-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-101 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	216
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

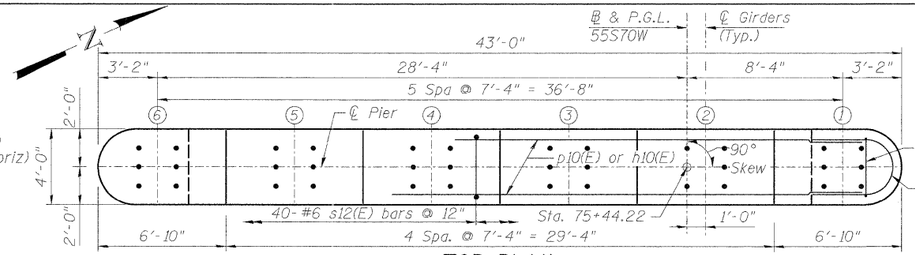
NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp10(E) spiral, each column
   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & crashwall. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. The s12(E) cross-tie bars shall be placed so that orientation of 180° hook of two successive cross ties alternate end to end. A single layer of bars shall be provided across top mat of footing reinforcement. Space bars as follows:
   9-#6 s12(E) @ 6" (vert) x 47 @ 8" (horiz)
   16-#6 s12(E) @ 9" (vert) x 24 @ 1'-4" (horiz)
7. For anchor bolt details, see Sheets S-83 thru S-92.

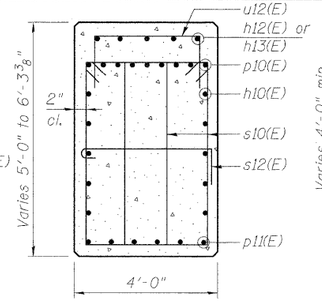
* Splicing of reinforcement will not be allowed in this region.

** Length is height of spiral.

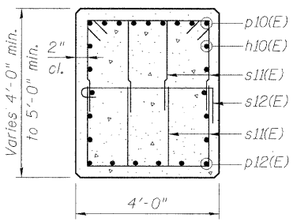
*** 13-u12(E) bars match w/ h12(E) bars
27-u12(E) bars match w/ h13(E) bars
Adjust bars in field to avoid conflict with stirrups.



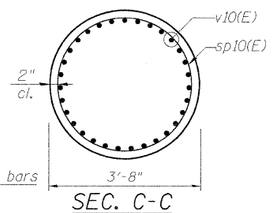
TOP PLAN



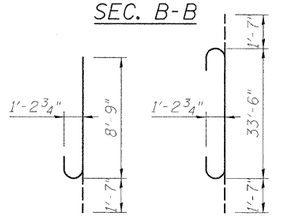
SEC. A-A



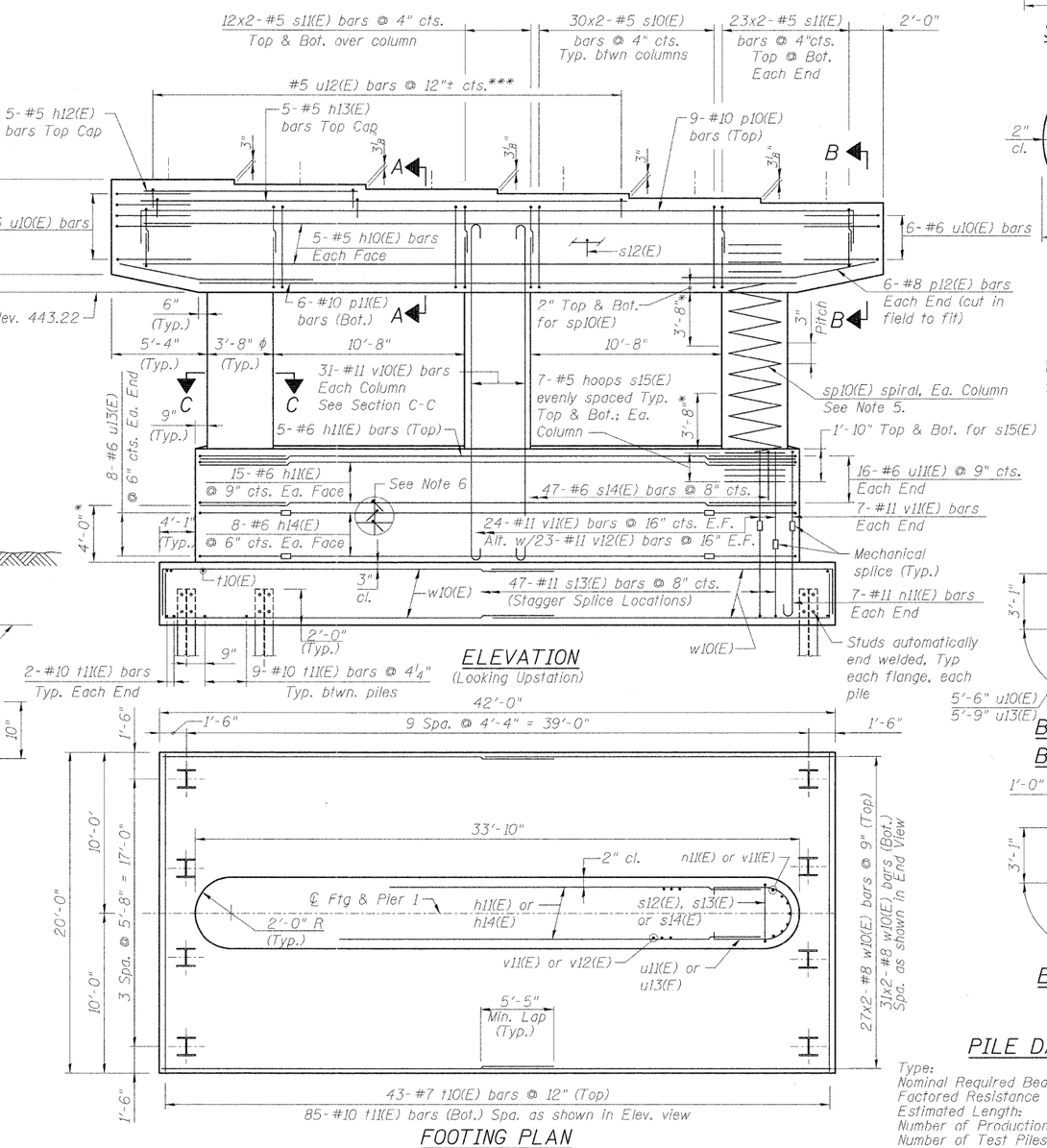
SEC. B-B



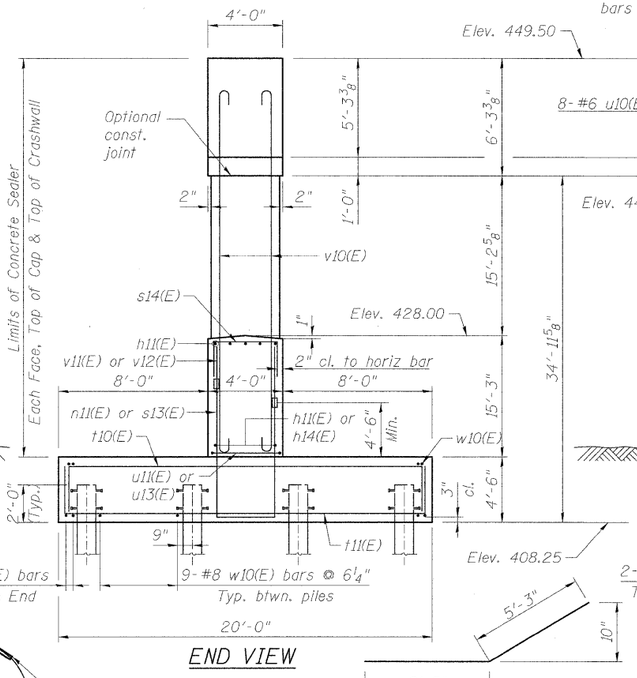
SEC. C-C



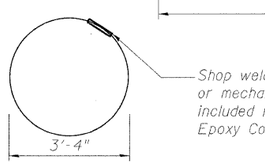
BAR n11(E) BAR v10(E)



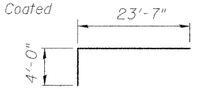
ELEVATION
(Looking Upstation)



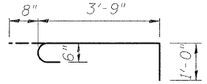
END VIEW



BAR s15(E)



BAR w10(E)



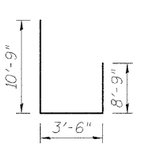
BAR s12(E)

BAR p12(E)

A & B DIMENSIONS

Bar	A	B
p10(E)	39'-0"	1'-10"
s11(E)	2'-8"	3'-8"
s14(E)	3'-6"	3'-0"
u12(E)	3'-8"	1'-0"
t10(E)	19'-8"	3'-10"
t11(E)	19'-8"	3'-10"

BARS p10(E), s11(E), s14(E), u12(E), t10(E), t11(E)

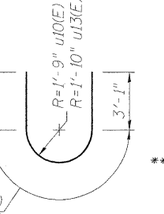


BAR s13(E)

TOP OF SEAT ELEVATION

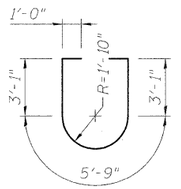
Beam No.	Seat Elev.
1	448.22
2	448.48
3	448.73
4	448.99
5	449.25
6	449.50

FOOTING PLAN



BAR s10(E)

BAR u10(E)
BAR u13(E)



BAR u11(E)

PILE DATA

Type: HP14x89
Nominal Required Bearing: 500 kips
Factored Resistance Available: 250 kips
Estimated Length: 104 ft.
Number of Production Piles: 39
Number of Test Piles: 1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h10(E)	10	#5	38'- 8"	
h11(E)	35	#6	29'- 4"	
h12(E)	5	#5	12'- 0"	
h13(E)	5	#5	26'- 8"	
h14(E)	16	#6	23'- 8"	
n11(E)	14	#11	10'- 4"	
p10(E)	9	#10	42'- 8"	
p11(E)	6	#10	33'- 0"	
p12(E)	12	#8	13'- 11"	
s10(E)	120	#5	15'- 7"	
s11(E)	232	#5	10'- 0"	
s12(E)	847	#6	5'- 5"	
s13(E)	47	#11	23'- 0"	
s14(E)	47	#6	9'- 6"	
s15(E)	42	#5	10'- 5 5/8"	
** sp10(E)	3	#5	15'- 7"	
t10(E)	43	#7	27'- 4"	
t11(E)	85	#10	27'- 4"	
u10(E)	14	#6	11'- 8"	
u11(E)	32	#6	13'- 11"	
u12(E)	40	#5	5'- 8"	
u13(E)	16	#6	11'- 11"	
v10(E)	93	#11	36'- 8"	
v11(E)	62	#11	10'- 6"	
v12(E)	46	#11	8'- 6"	
w10(E)	116	#8	27'- 7"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	223.7
Concrete Structures	Cu. Yd.	266.6
Reinforcement Bars, Epoxy Coated	Pound	72,650
Furnishing Steel Piles, HP14x89	Foot	4056
Driving Piles	Foot	4056
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	40
Concrete Sealer	Sq Ft	2547
Mechanical Splicers	Each	140

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AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 01 '/ in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-102 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	217
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

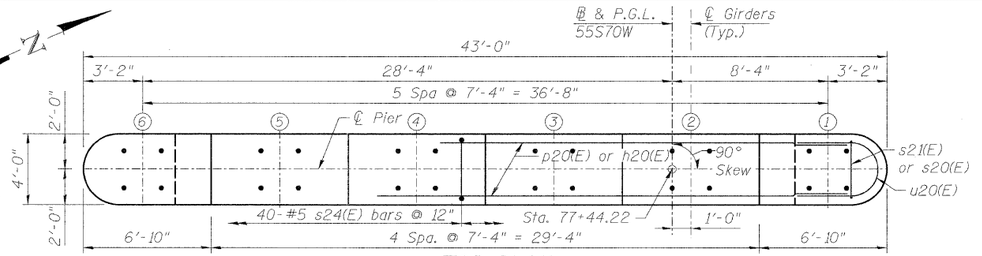
NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp20(E) spiral, each column
   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. For anchor bolt details, see Sheets S-83 thru S-92.

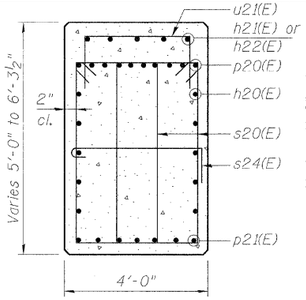
* Splicing of reinforcement will not be allowed in this region.

** Length is height of spiral.

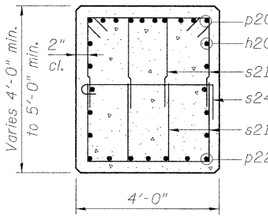
*** 13-u21(E) bars match w/ h21(E) bars
27-u21(E) bars match w/ h22(E) bars
Adjust bars in field to avoid conflict with stirrups.



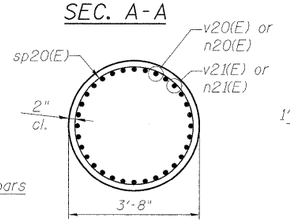
TOP PLAN



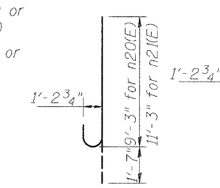
SEC. A-A



SEC. B-B

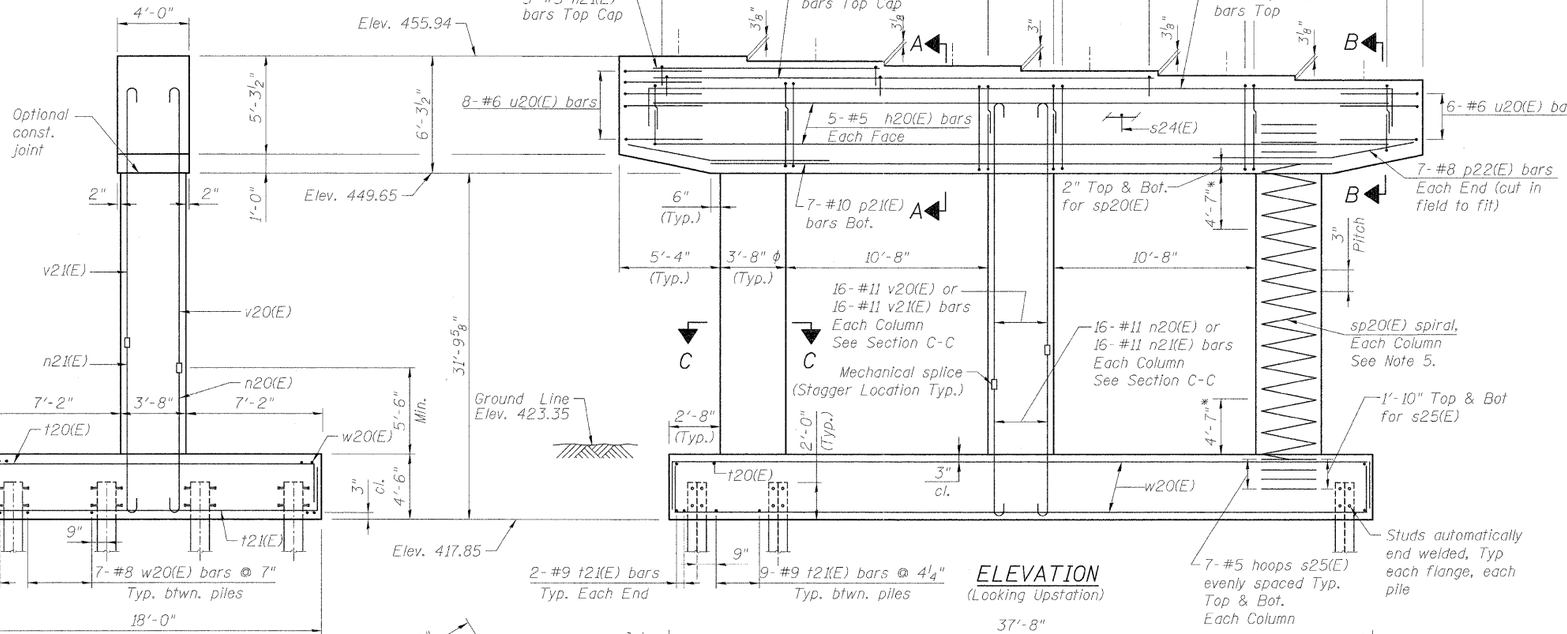


SEC. C-C



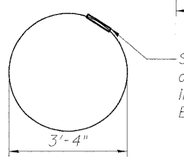
BAR n20(E) & n21(E)

BAR v20(E) & v21(E)

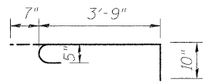


END VIEW

ELEVATION (Looking Upstation)



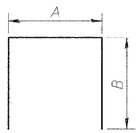
BAR s25(E)



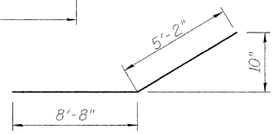
BAR s24(E)

A & B DIMENSIONS

Bar	A	B
p20(E)	39'-0"	2'-0"
s21(E)	2'-8"	3'-8"
u21(E)	3'-8"	1'-0"
w20(E)	37'-4"	4'-0"
t20(E)	17'-8"	3'-10"
t21(E)	17'-8"	3'-10"



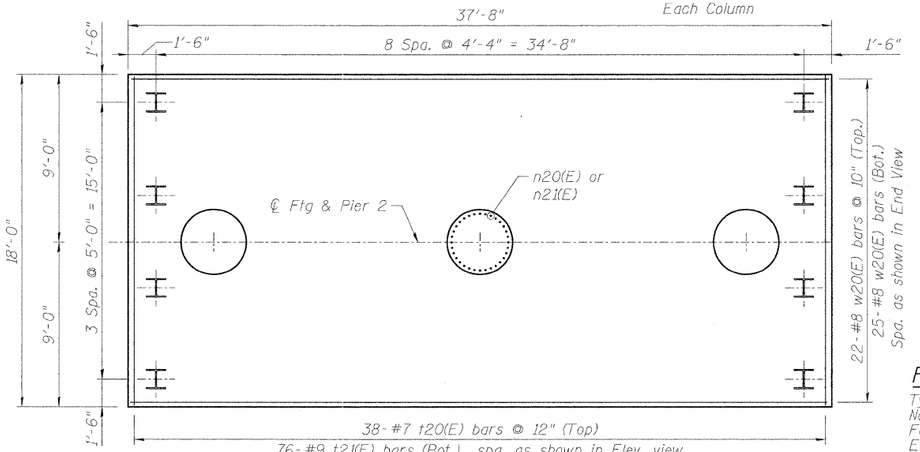
BARS p20(E), s21(E), u21(E), w20(E), t20(E), t21(E)



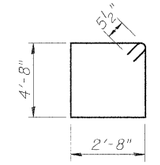
BAR p22(E)

TOP OF SEAT ELEVATION

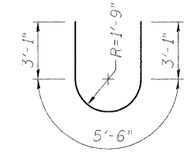
Beam No.	Seat Elev.
1	454.65
2	454.91
3	455.17
4	455.42
5	455.68
6	455.94



FOOTING PLAN



BAR s20(E)



BAR u20(E)

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	110 ft.
Number of Production Piles:	35
Number of Test Piles:	1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h20(E)	10	#5	38'-8"	——
h21(E)	5	#5	12'-0"	——
h22(E)	5	#5	26'-8"	——
n20(E)	48	#11	10'-10"	⊂—⊃
n21(E)	48	#11	12'-10"	⊂—⊃
p20(E)	10	#11	43'-0"	⊓
p21(E)	7	#10	33'-0"	——
p22(E)	14	#8	13'-10"	⟋
s20(E)	120	#5	15'-7"	⊓
s21(E)	236	#5	10'-0"	⊓
s24(E)	40	#5	5'-2"	⊂—⊃
s25(E)	42	#5	10'-5 5/8"	○
** sp20(E)	3	#5	27'-8"	∿∿
t20(E)	38	#7	25'-4"	⊓
t21(E)	76	#9	25'-4"	⊓
u20(E)	14	#6	11'-8"	⊃
u21(E)	40	#5	5'-8"	⊓
v20(E)	48	#11	26'-11"	⊂—⊃
v21(E)	48	#11	24'-11"	⊂—⊃
w20(E)	47	#8	45'-4"	⊓

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	186.7
Concrete Structures	Cu. Yd.	179.3
Reinforcement Bars, Epoxy Coated	Pound	47,050
Furnishing Steel Piles, HP14x89	Foot	3850
Driving Piles	Foot	3850
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	36
Mechanical Splicers	Each	96

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AECOM

USER NAME = BhatsA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = @1 '1' / in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 – S.N. 082-0323
I-70W OVER I-55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-103 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	218
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES:

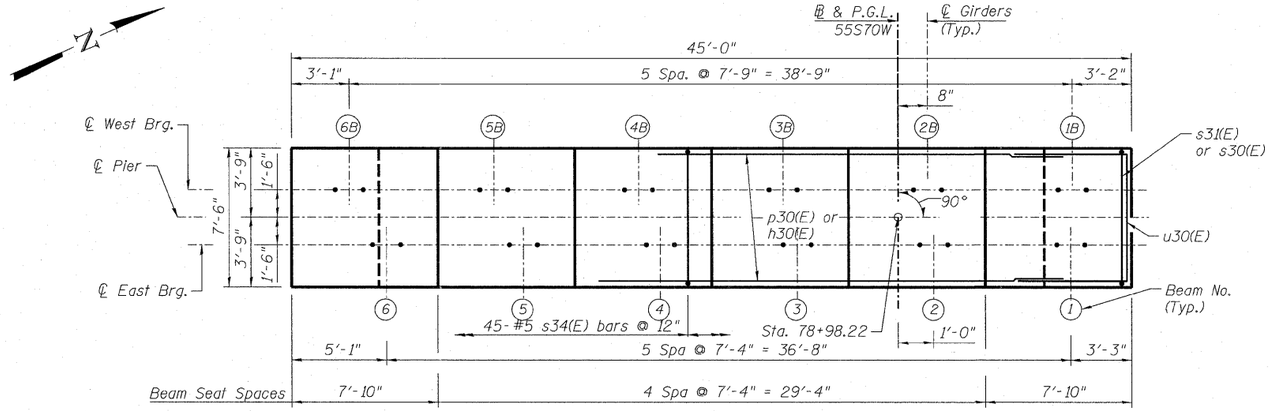
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp30(E) spiral, each column

   1) Provide 1½" extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.

   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½" extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.

6. For Anchor Bolt Details, see Sheet No. S-83 thru. S-92.
7. For Girder 1B thru. 6B shim plate details, see Sheet No. S-88.
8. For Sections A-A, B-B & C-C, see Sheet No. S-105.

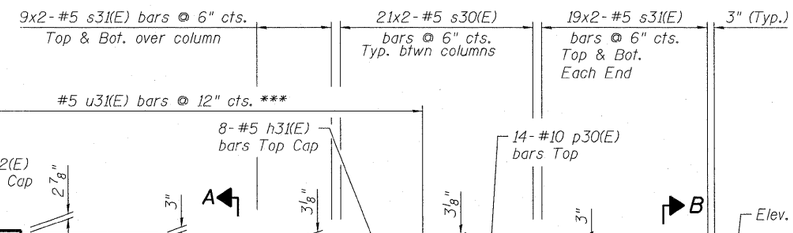
***16-u31(E) bars match w/ h32(E) bars
30-u31(E) bars match w/ h31(E) bars
Adjust u31(E) bars in the Field to avoid conflict with Stirrups.



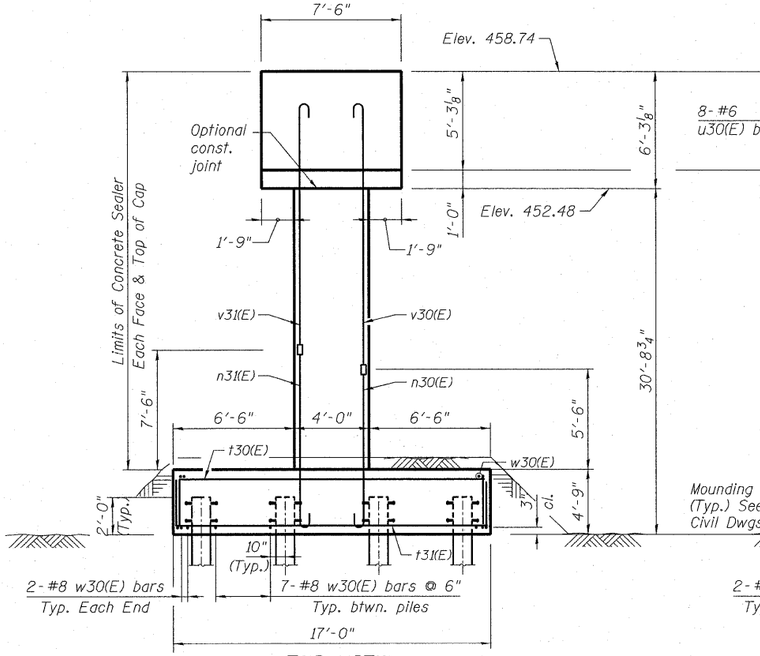
TOP OF SEAT ELEVATION

Beam No.	Seat Elev.
1 & 1B	457.48
2 & 2B	457.73
3 & 3B	457.99
4 & 4B	458.25
5 & 5B	458.50
6 & 6B	458.74

TOP PLAN



ELEVATION
(Looking Upstation)



END VIEW

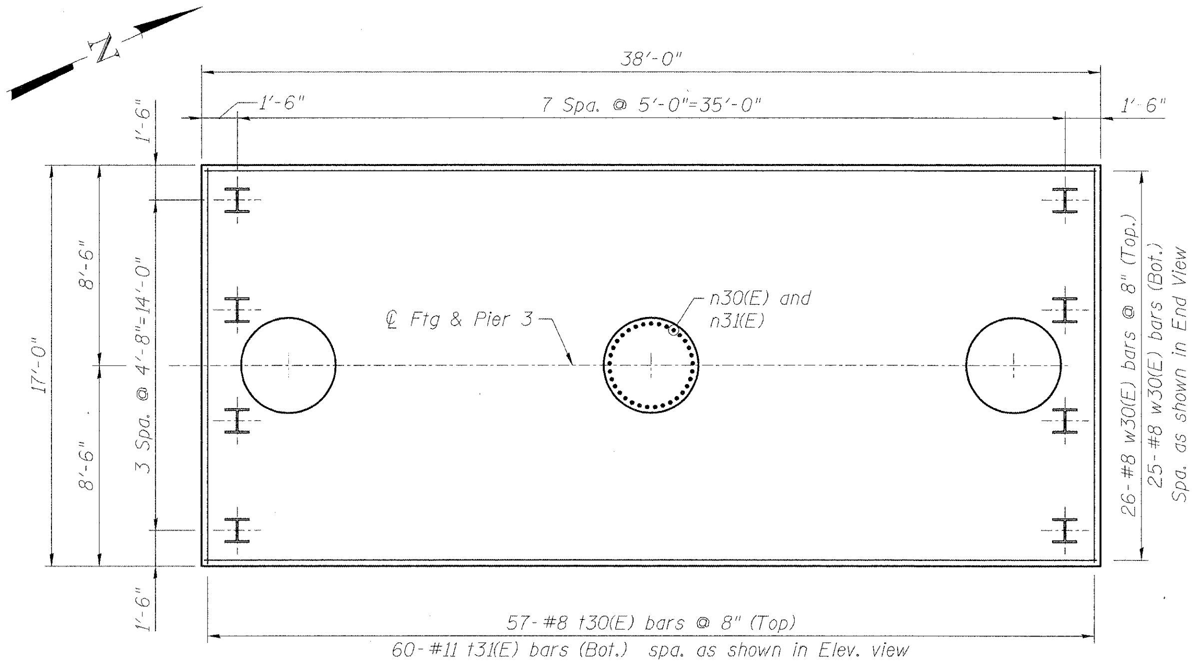
AECOM	USER NAME = BhattA	DESIGNED - ATB	REVISED -
		DRAWN - PMM	REVISED -
	PLOT SCALE = @2 'i' / in.	CHECKED - ATB	REVISED -
	PLOT DATE = @DATE@	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

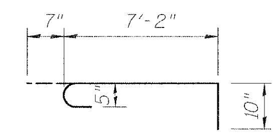
PIER 3 – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-104 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	219
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

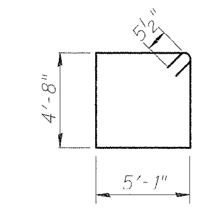
P:\PE\2046691\900_CAD\101_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheets\S104_082-0323_76C75_Pier3.dgn



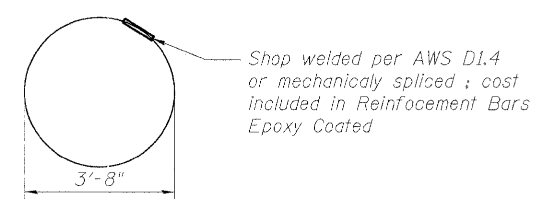
FOOTING PLAN



BAR s34(E)



BAR s30(E)



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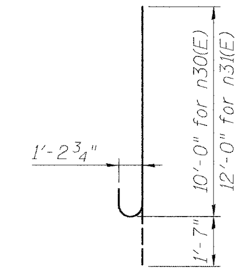
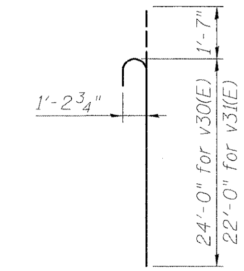
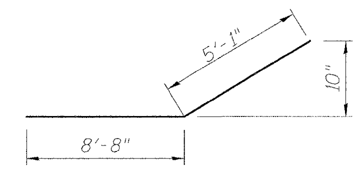


BAR n30(E) & n31(E)

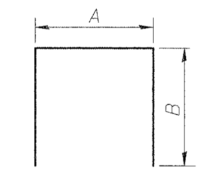


BAR v30(E) & v31(E)



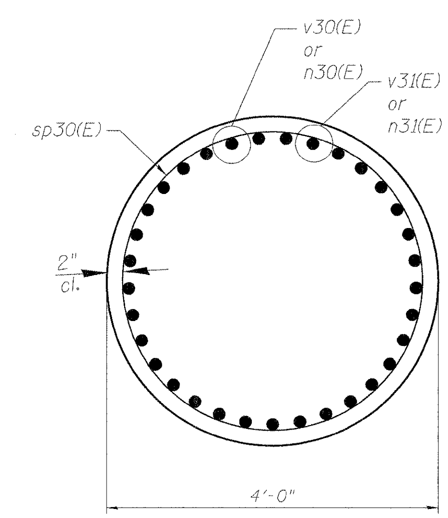
BAR p32(E)

A & B DIMENSIONS



Bar	A	B
p30(E)	44'-8"	2'-0"
s31(E)	5'-1"	3'-8"
t30(E)	16'-8"	3'-8"
t31(E)	16'-8"	3'-8"
u30(E)	7'-0"	3'-1"
u31(E)	7'-2"	1'-0"
w30(E)	37'-8"	4'-0"

BARS p30(E), s31(E), t30(E), t31(E) u30(E), u31(E), & w30(E)



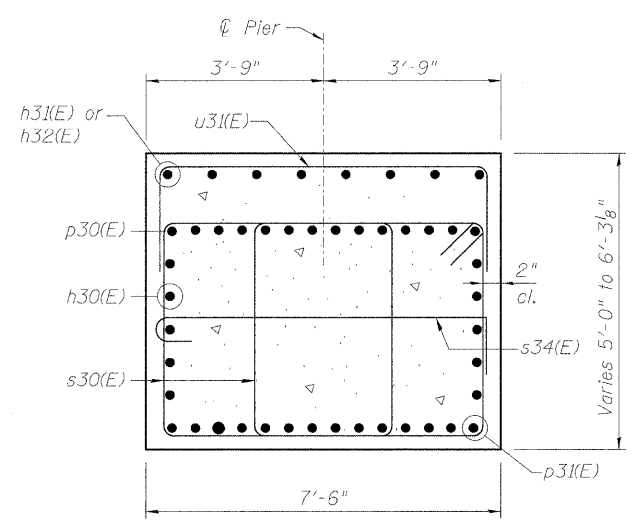
SEC. C-C

BILL OF MATERIAL

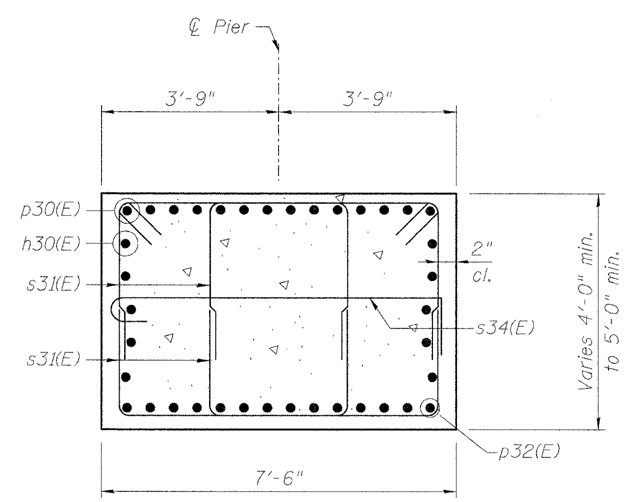
Bar	No.	Size	Length	Shape
h30(E)	10	#5	44'-8"	
h31(E)	8	#5	29'-6"	
h32(E)	8	#5	14'-10"	
n30(E)	51	#11	11'-7"	
n31(E)	51	#11	13'-7"	
p30(E)	14	#10	48'-8"	
p31(E)	14	#10	35'-8"	
p32(E)	28	#8	13'-9"	
s30(E)	84	#5	20'-5"	
s31(E)	188	#5	12'-5"	
s34(E)	45	#5	8'-7"	
s35(E)	48	#5	11'-6"	
** sp30(E)	3	#5	26'-4"	
t30(E)	57	#8	24'-0"	
t31(E)	60	#11	24'-0"	
u30(E)	14	#6	13'-2"	
u31(E)	46	#5	9'-2"	
v30(E)	51	#11	25'-7"	
v31(E)	51	#11	23'-7"	
w30(E)	51	#8	45'-8"	

Item	Unit	Quantity
Concrete Structures	Cu. Yd.	219.1
Reinforcement Bars, Epoxy Coated	Pound	54,330
Furnishing Steel Piles HP14x89	Foot	3472
Driving Piles	Foot	3472
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	32
Concrete Sealer	Sq Ft	2199
Mechanical Splicers	Each	102

** Length is height of spiral



SEC. A-A



SEC. B-B

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	112 ft.
Number of Production Piles:	31
Number of Test Piles:	1

AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -	
	DRAWN - PMM	REVISED -	
PLOT SCALE = 0.1 ':' / in.	CHECKED - ATB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 DETAILS S.N. 082-0323
I-70W OVER I-55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-105 OF S-138 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	220
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

P:\60046689\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheets\S105_082-0323_76C75_Pier3B.dgn

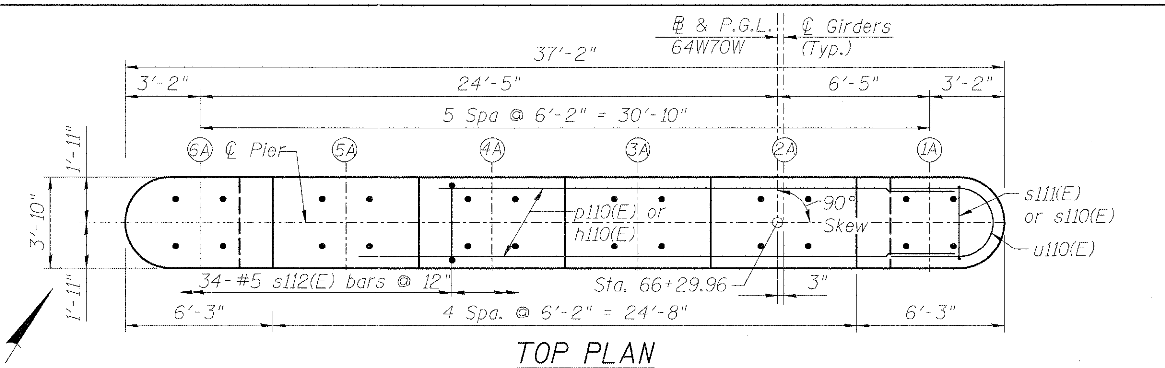
NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp110(E) spiral, each column
   1) Provide 1½ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & crashwall. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. The s112(E) cross-tie bars shall be placed so that orientation of 180° hook of two successive cross-ties alternate end to end. A single layer of bars shall be provided across top mat of footing reinforcement. Space bars as follows:
   9-#5 s112(E) @ 6" (vert) x 53 @ 6" (horiz)
   9-#5 s112(E) @ 9" (vert) x 27 @ 1'-0" (horiz)
7. For anchor bolt details, see Sheets S-83 thru S-92.

* Splicing of reinforcement will not be allowed in this region.

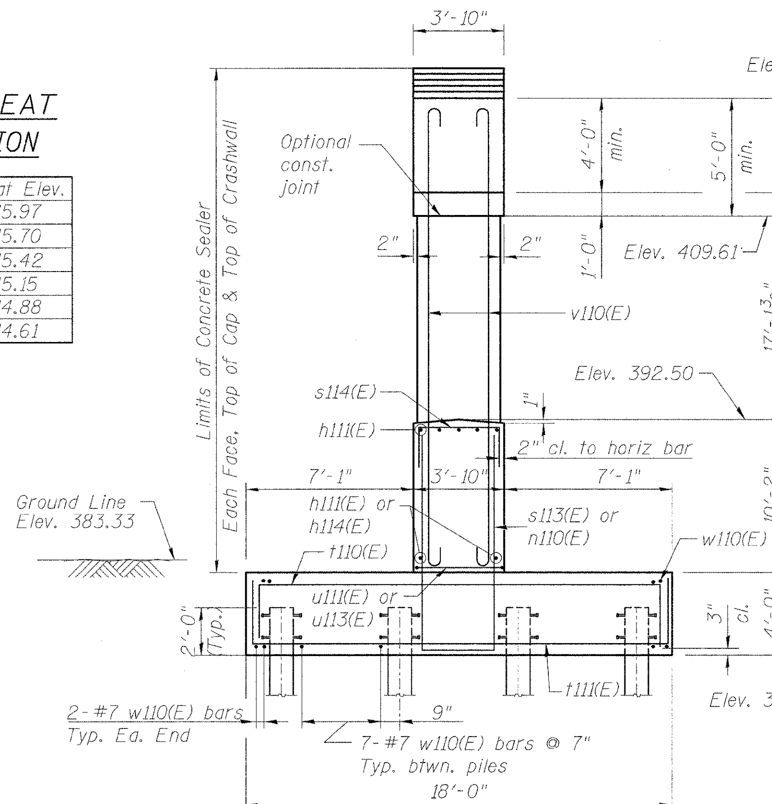
** Length is height of spiral.

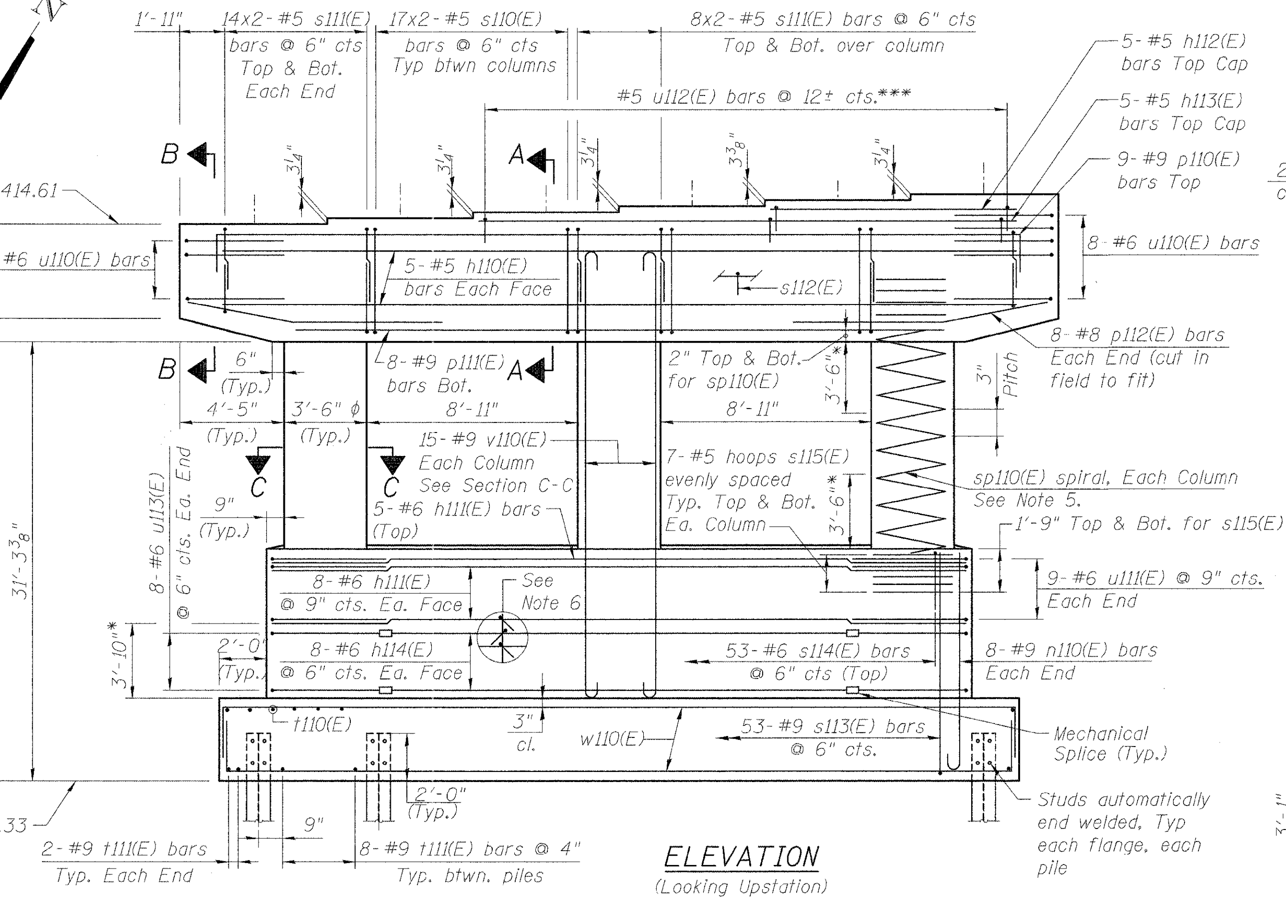
*** 11-u112(E) bars match w/ h112(E) bars
24-u112(E) bars match w/ h113(E) bars
Adjust bars in field to avoid conflict with stirrups.

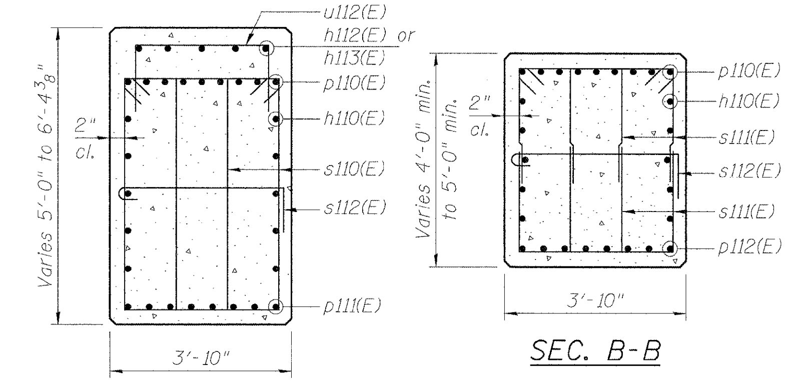


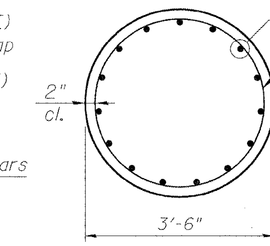
TOP OF SEAT ELEVATION

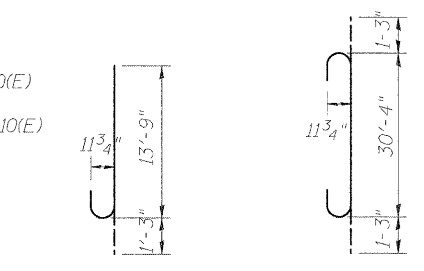
Beam No.	Seat Elev.
1A	415.97
2A	415.70
3A	415.42
4A	415.15
5A	414.88
6A	414.61

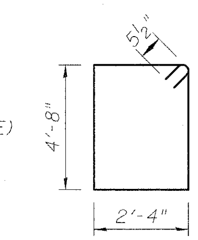


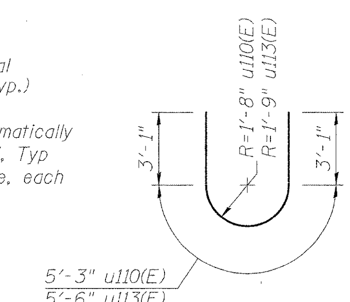


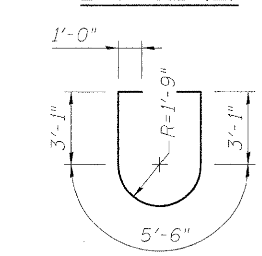


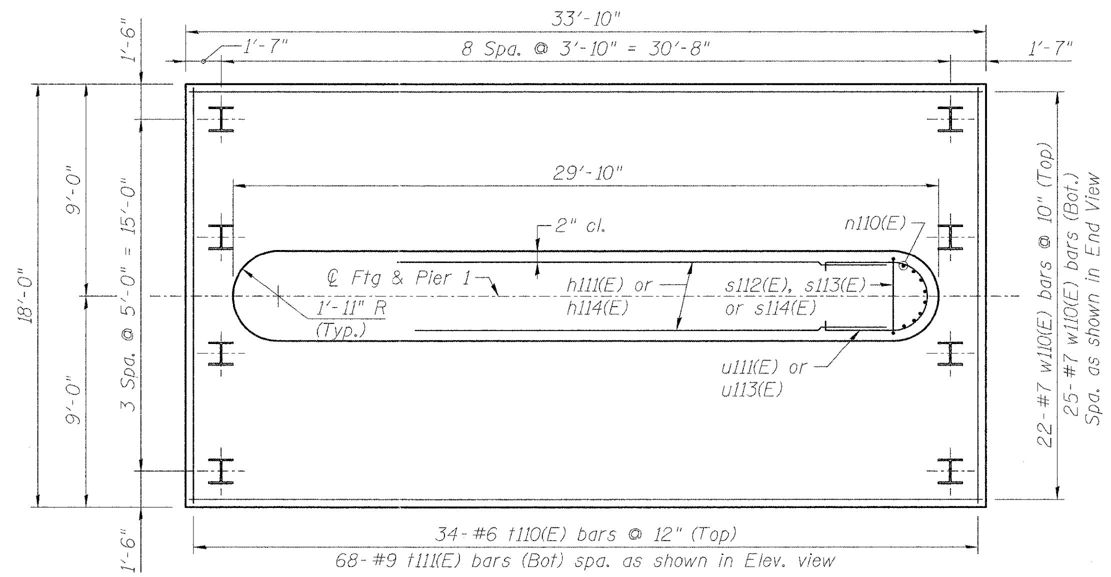


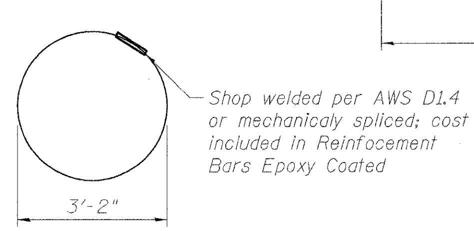






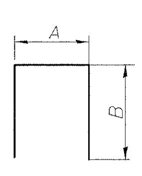






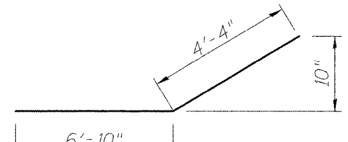
BAR s115(E)

A & B DIMENSIONS

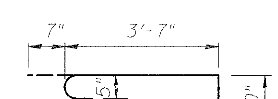


Bar	A	B
p110(E)	33'-4"	1'-7"
s111(E)	2'-4"	3'-8"
s113(E)	3'-4"	13'-9"
s114(E)	3'-4"	3'-0"
u112(E)	3'-6"	1'-0"
w110(E)	33'-6"	3'-6"
t110(E)	17'-8"	3'-4"
t111(E)	17'-8"	3'-4"

BARS p110(E), s111(E), s113(E), s114(E), u112(E), w110(E), t110(E), t111(E)



BAR p112(E)



BAR s112(E)

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	81 ft.
Number of Production Piles:	36
Number of Test Piles:	0

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h110(E)	10	#5	33'- 0"	
h111(E)	21	#6	25'- 8"	
h112(E)	5	#5	10'- 4"	
h113(E)	5	#5	22'- 8"	
h114(E)	16	#6	19'- 10"	
n110(E)	16	#9	15'- 0"	
p110(E)	9	#9	36'- 6"	
p111(E)	8	#9	29'- 0"	
p112(E)	16	#8	11'- 2"	
s110(E)	68	#5	14'- 11"	
s111(E)	144	#5	9'- 8"	
s112(E)	754	#5	5'- 0"	
s113(E)	53	#9	30'- 10"	
s114(E)	53	#6	9'- 4"	
s115(E)	42	#5	9'- 11 3/8"	
** sp110(E)	3	#5	17'- 6"	
t110(E)	34	#6	24'- 3"	
t111(E)	68	#9	24'- 3"	
u110(E)	14	#6	11'- 5"	
u111(E)	18	#6	13'- 8"	
u112(E)	35	#5	5'- 6"	
u113(E)	16	#6	11'- 8"	
v110(E)	45	#9	32'- 10"	
w110(E)	47	#7	40'- 6"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	154.1
Concrete Structures	Cu. Yd.	179.9
Reinforcement Bars, Epoxy Coated	Pound	37,210
Furnishing Steel Piles, HP14x89	Foot	2916
Driving Piles	Foot	2916
Pile Shoes	Each	36
Concrete Sealer	Sq Ft	1919
Mechanical Splicers	Each	32

AECOM	USER NAME = BhattA	DESIGNED - EJO	REVISED -
		DRAWN - JHR	REVISED -
	PLOT SCALE = 0.1 ':' / in.	CHECKED - DB	REVISED -
	PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-106 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	221
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

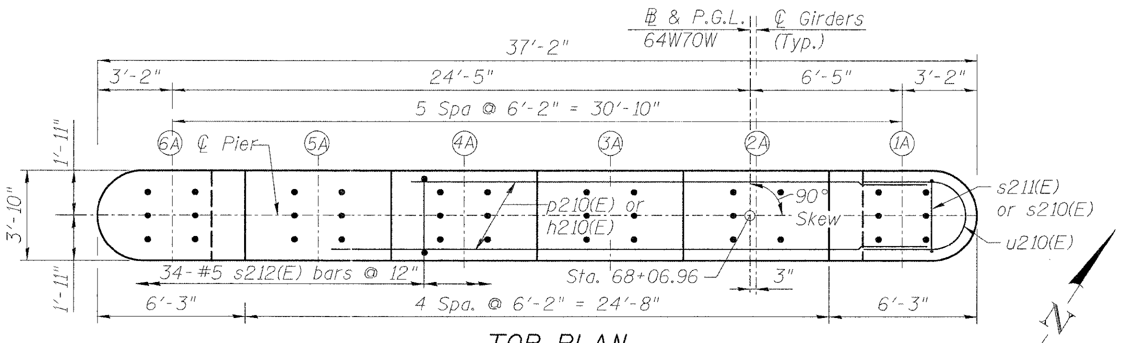
NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp210(E) spiral, each column
   1) Provide 1½ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & crashwall. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. The s212(E) cross-tie bars shall be placed so that orientation of 180° hook of two successive cross-ties alternate end to end. A single layer of bars shall be provided across top mat of footing reinforcement. Space bars as follows:
   9-#5 s212(E) @ 6" (vert) x 46 @ 7" (horiz)
   7-#5 s212(E) @ 9" (vert) x 24 @ 1'-2" (horiz)
7. For anchor bolt details, see Sheets S-83 thru S-92.

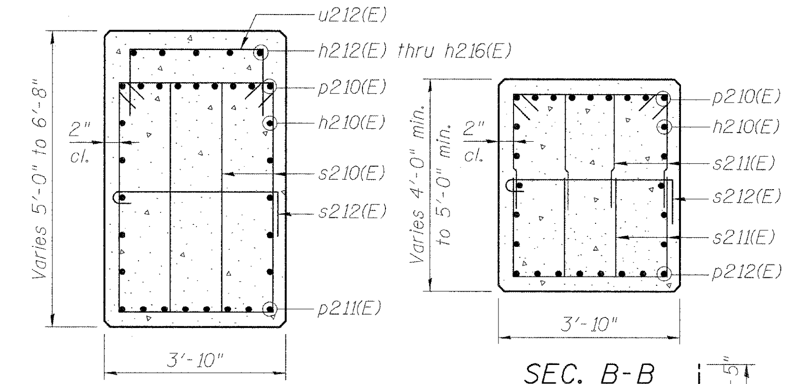
* Splicing of reinforcement will not be allowed in this region.

** Length is height of spiral.

*** 30-u212(E) bars match w/ h212(E) bars
8-u212(E) bars match w/ h213(E) bars
18-u212(E) bars match w/ h214(E) bars
8-u212(E) bars match w/ h215(E) bars
5-u212(E) bars match w/ h216(E) bars
Adjust bars in field to avoid conflict with stirrups.

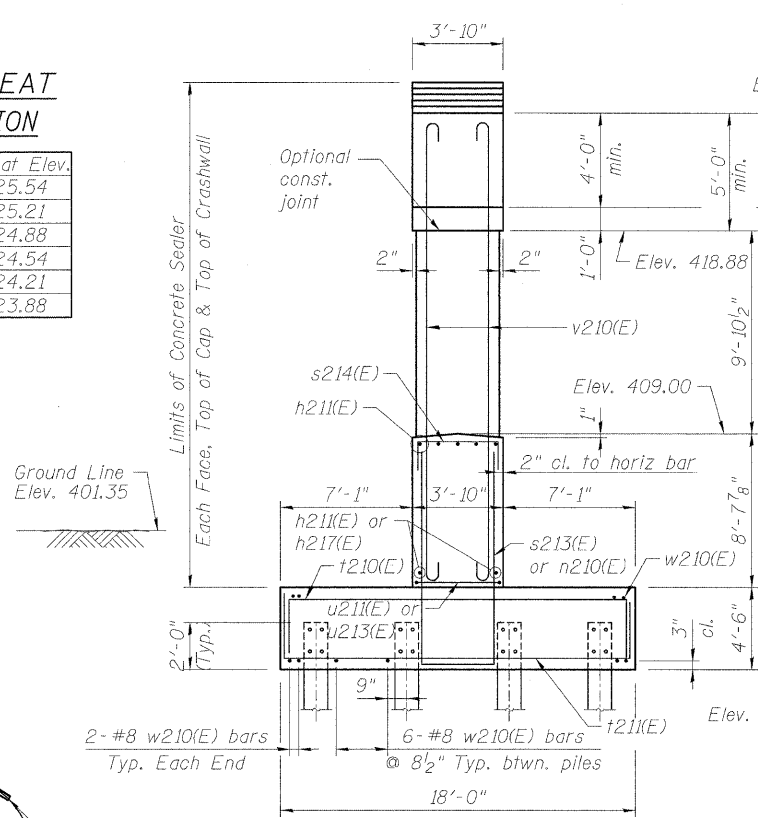


TOP PLAN

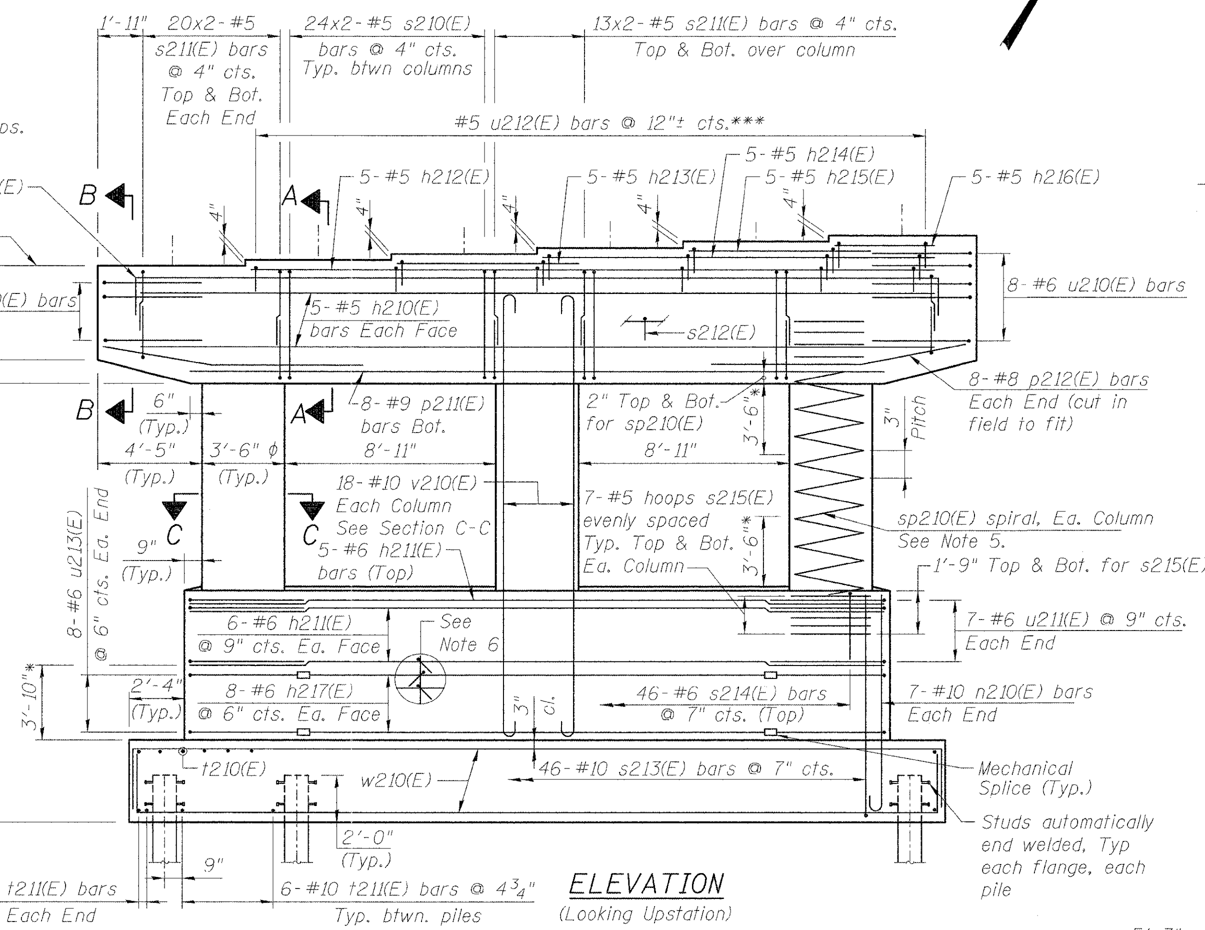


TOP OF SEAT ELEVATION

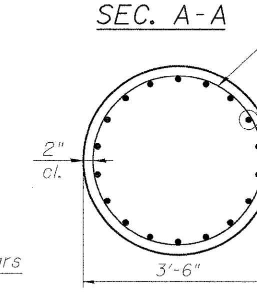
Beam No.	Seat Elev.
1A	425.54
2A	425.21
3A	424.88
4A	424.54
5A	424.21
6A	423.88



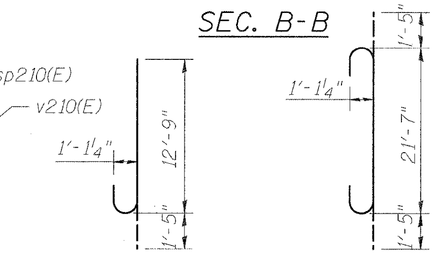
END VIEW

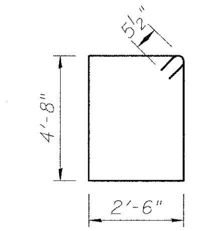


ELEVATION
(Looking Upstation)

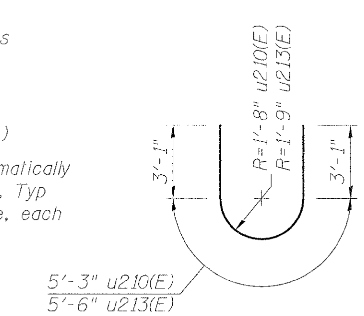


SEC. C-C

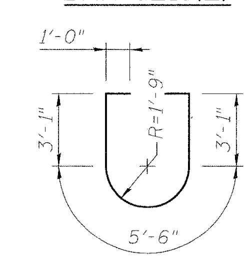




BAR s210(E)



BAR u210(E)
BAR u213(E)

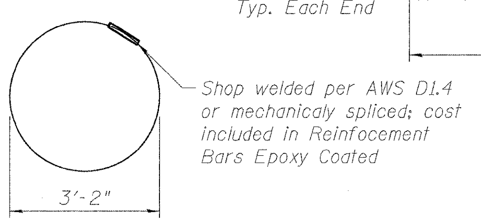


BAR u211(E)

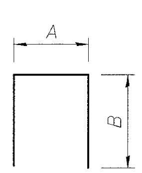
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h210(E)	10	#5	33'-0"	——
h211(E)	17	#6	25'-8"	——
h212(E)	5	#5	28'-10"	——
h213(E)	5	#5	7'-9"	——
h214(E)	5	#5	16'-4"	——
h215(E)	5	#5	7'-9"	——
h216(E)	5	#5	4'-2"	——
h217(E)	16	#6	19'-10"	——
n210(E)	14	#10	14'-2"	
p210(E)	9	#10	37'-0"	
p211(E)	8	#9	29'-0"	——
p212(E)	16	#8	11'-2"	
s210(E)	96	#5	15'-3"	
s211(E)	212	#5	9'-10"	
s212(E)	616	#5	5'-0"	
s213(E)	46	#10	28'-10"	
s214(E)	46	#6	9'-4"	
s215(E)	42	#5	9'-11 3/8"	○
** sp210(E)	3	#5	10'-3"	
t210(E)	35	#7	25'-4"	
t211(E)	58	#10	25'-4"	
u210(E)	14	#6	11'-5"	U
u211(E)	14	#6	13'-8"	U
u212(E)	69	#5	5'-6"	
u213(E)	16	#6	11'-8"	
v210(E)	54	#10	24'-5"	
w210(E)	42	#8	42'-2"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	172.5
Concrete Structures	Cu. Yd.	179.2
Reinforcement Bars, Epoxy Coated	Pound	40,090
Furnishing Steel Piles, HP14x89	Foot	4212
Driving Piles	Foot	4212
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	40
Concrete Sealer	Sq Ft	1597
Mechanical Splicers	Each	32



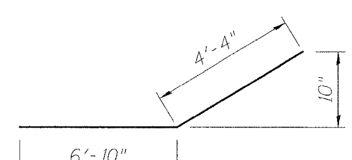
BAR s215(E)



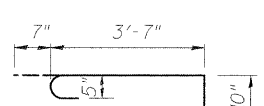
A & B DIMENSIONS

Bar	A	B
p210(E)	33'-4"	1'-10"
s211(E)	2'-6"	3'-8"
s213(E)	3'-4"	12'-9"
s214(E)	3'-4"	3'-0"
u212(E)	3'-6"	1'-0"
w210(E)	34'-2"	4'-0"
t210(E)	17'-8"	3'-10"
t211(E)	17'-8"	3'-10"

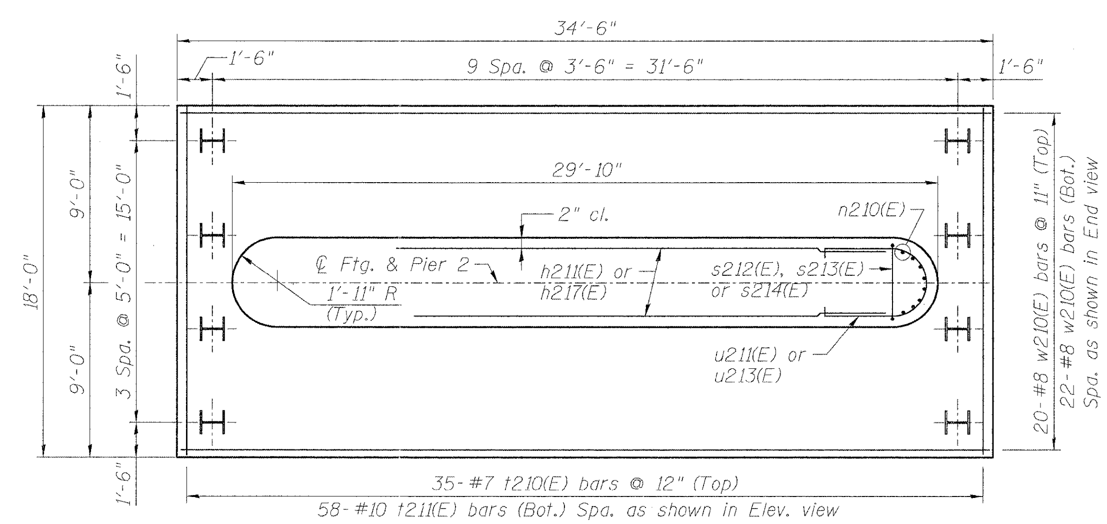
BARS p210(E), s211(E), s213(E), s214(E), u212(E), w210(E), t210(E), t211(E)



BAR p212(E)



BAR s212(E)



FOOTING PLAN

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	108 ft.
Number of Production Piles:	39
Number of Test Piles:	1

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - GF	REVISED -	
PLOT SCALE = 0.1 ' / in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-107 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	222
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		

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

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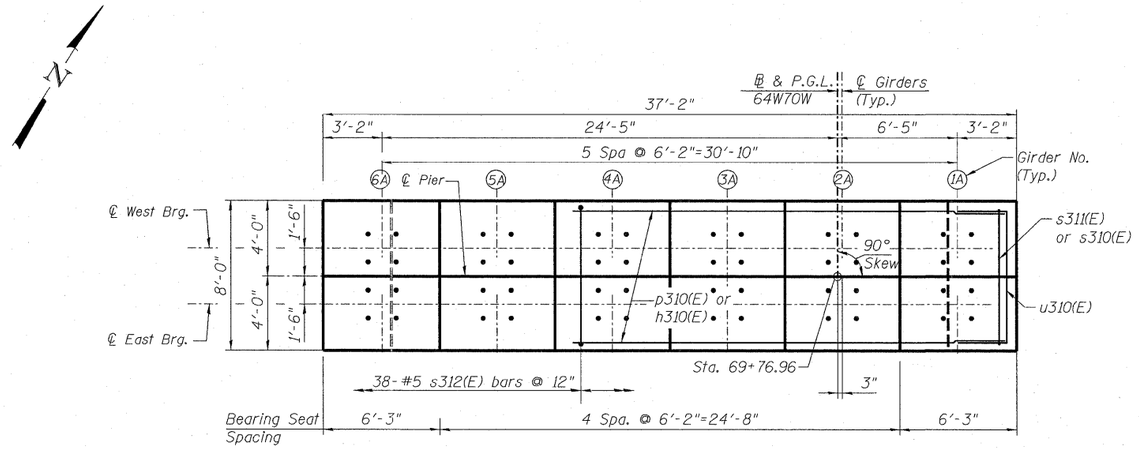
NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see Sheet No. S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp310(E) spiral, each column
   1) Provide 1½" extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.

   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½" extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. For Anchor Bolt Details, see Sheet No. S-83 thru S-92.
7. For Sections A-A, B-B & C-C, see Sheet No. S-109.

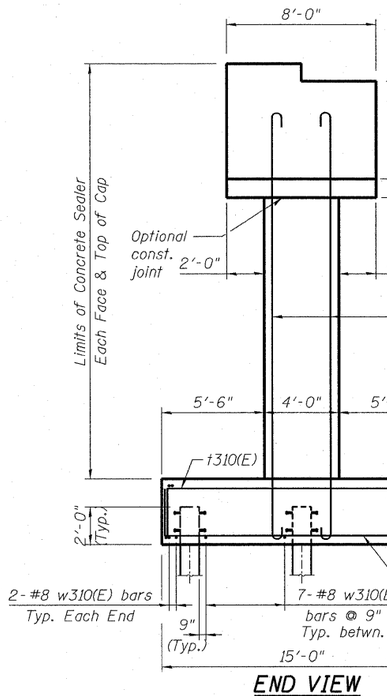
*** 31-u311(E) bars match w/h314(E) bars for East & West Brg. Seat
10-u311(E) bars match w/h312(E) bars for East & West Brg. Seat
19-u311(E) bars match w/h313(E) bars for East & West Brg. Seat
6-u311(E) bars match w/h311(E) bars for East & West Brg. Seat
Adjust u311(E) bars in field to avoid conflict with stirrups.



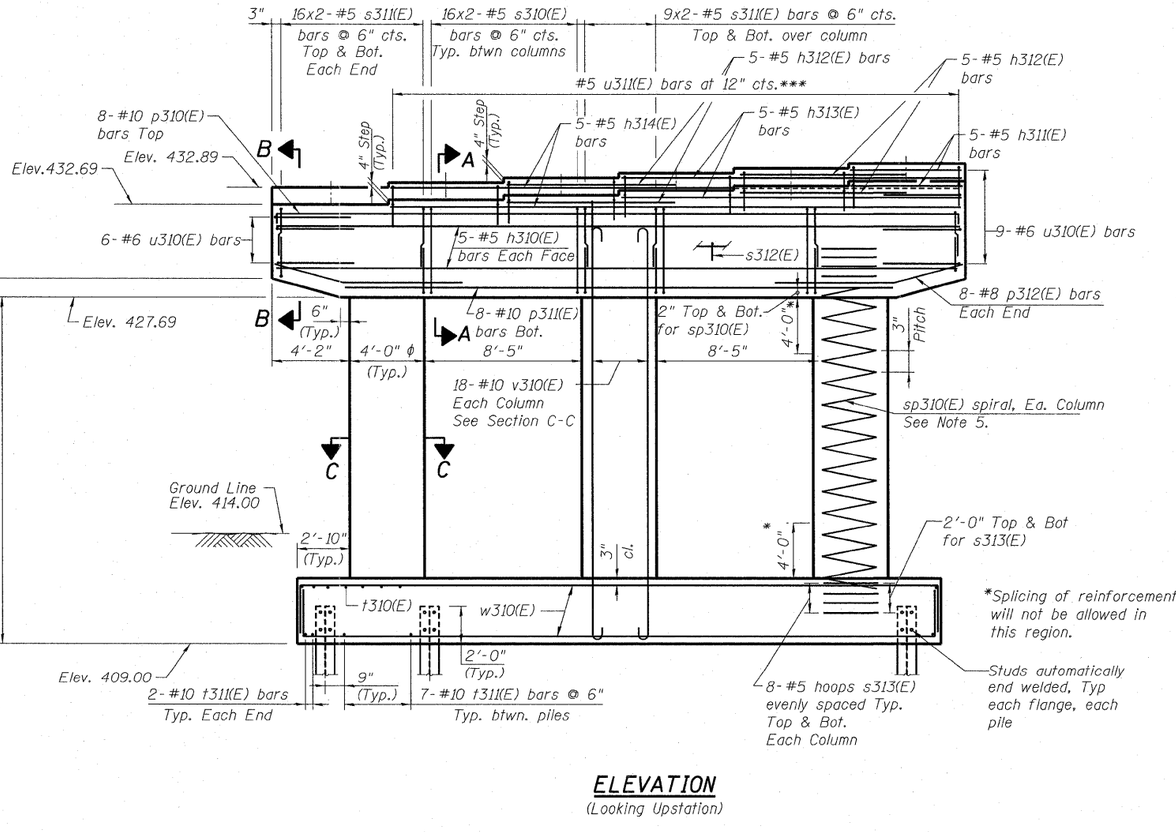
TOP PLAN

TOP OF SEAT ELEVATION

Beam No.	℄ East Brg.	℄ West Brg.
1A	434.35	434.55
2A	434.02	434.22
3A	433.69	433.89
4A	433.35	433.55
5A	433.02	433.22
6A	432.69	432.89



END VIEW



ELEVATION
(Looking Upstation)

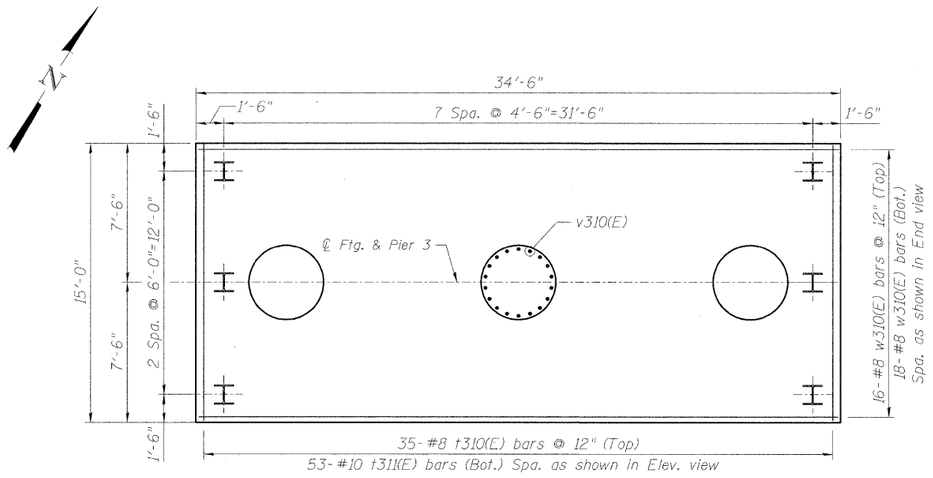
P:\P60406091\900_CAD\901_Drawings\76C002_Master_Consolidated\Structural\082-0323\Sheets\S108_082-0325_76C75_Pier3.dgn

AECOM	USER NAME = BhattA	DESIGNED - ATB	REVISED -
		DRAWN - PMM	REVISED -
	PLOT SCALE = Ø:2 '1' / in.	CHECKED - ATB	REVISED -
	PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

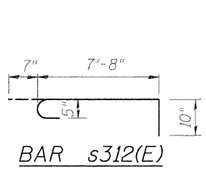
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-108 OF S-138 SHEETS | STA. | TO STA.

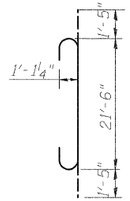
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	223
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FOOTING PLAN

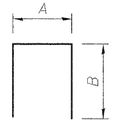


BAR s312(E)



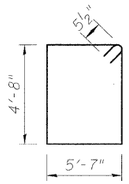
BAR v310(E)

A & B DIMENSIONS

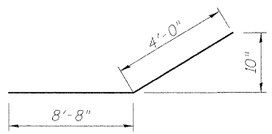


Bar	A	B
p310(E)	36'-10"	2'-0"
s311(E)	5'-7"	3'-8"
t310(E)	14'-8"	3'-4"
t311(E)	14'-8"	3'-4"
u310(E)	7'-6"	3'-1"
u311(E)	3'-8"	1'-0"
w310(E)	34'-2"	3'-6"

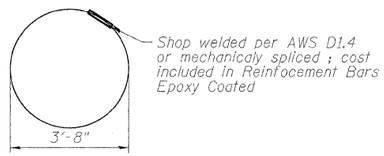
BARS p310(E), s311(E), t310(E), t311(E), u310(E), u311(E), & w310(E)



BAR s310(E)



BAR p312(E)

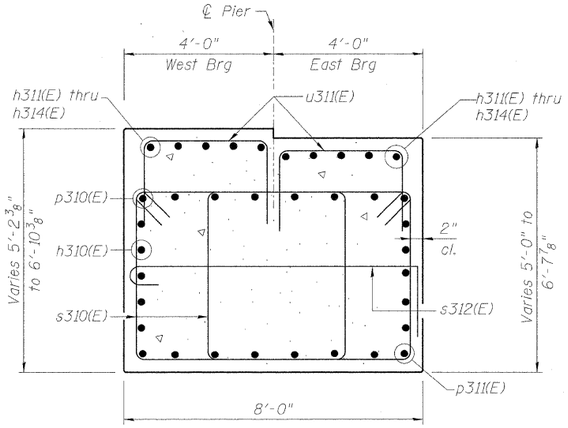


BAR s313(E)

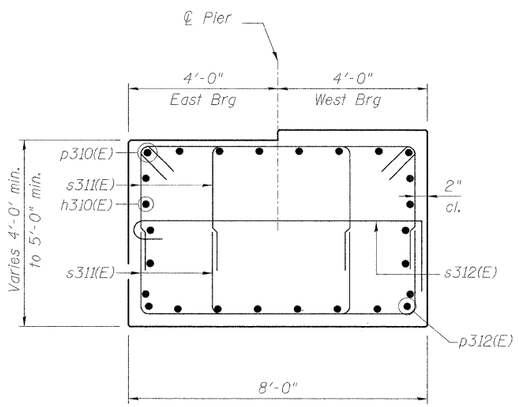
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h310(E)	10	#5	36'- 10"	———
h311(E)	10	#5	5'- 10"	———
h312(E)	20	#5	9'- 6"	———
h313(E)	10	#5	18'- 2"	———
h314(E)	10	#5	30'- 6"	———
p310(E)	8	#10	40'- 10"	⊓
p311(E)	8	#10	29'- 9"	———
p312(E)	16	#8	12'- 8"	⌐
s310(E)	64	#5	21'- 5"	⌐
s311(E)	164	#5	12'- 11"	⊓
s312(E)	38	#5	9'- 1"	⊂⊐
s313(E)	48	#5	11'- 6"	○
** sp310(E)	3	#5	15'- 1"	∿∿
t310(E)	35	#8	21'- 4"	⊓
t311(E)	53	#10	21'- 4"	⊓
u310(E)	15	#6	13'- 8"	⊓
u311(E)	152	#5	5'- 8"	⊓
v310(E)	54	#10	24'- 4"	⊂⊐
w310(E)	34	#8	41'- 2"	⊓

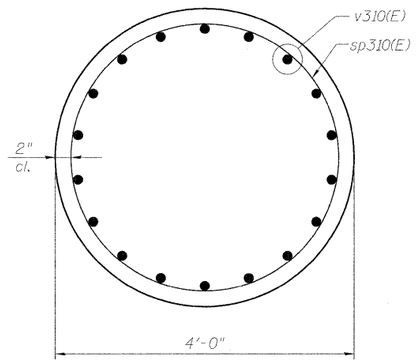
Item	Unit	Quantity
Structure Excavation	Cu. Yd.	108.4
Concrete Structures	Cu. Yd.	161.6
Reinforcement Bars, Epoxy Coated	Pound	28,330
Furnishing Steel Piles, HP14x89	Foot	2484
Driving Piles	Foot	2484
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	24
Concrete Sealer	Sq Ft	1544



SEC. A-A



SEC. B-B



SEC. C-C

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	108 ft.
Number of Production Piles:	23
Number of Test Piles:	1

** Length is height of spiral.

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -	
	DRAWN - PMM	REVISED -	
PLOT SCALE = 01 '/ in.	CHECKED - ATB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-109 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	224
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp410(E) spiral, each column
   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & crashwall. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. For anchor bolt details, see Sheets S-83 thru S-92.
7. The s412(E) cross-tie bars shall be placed so that orientation of 180° hook of two successive cross-ties alternate end to end. A single layer of bars shall be provided across top mat of footing reinforcement. Space bars as follows:
   9-#5 s412(E) @ 6" (vert) x 72 @ 5" (horiz)
   9-#5 s412(E) @ 9" (vert) x 37 @ 10" (horiz)

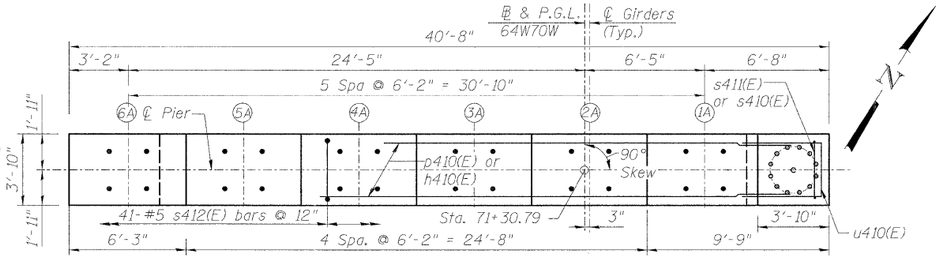
* Splicing of reinforcement will not be allowed in this region.

** Length is height of spiral.

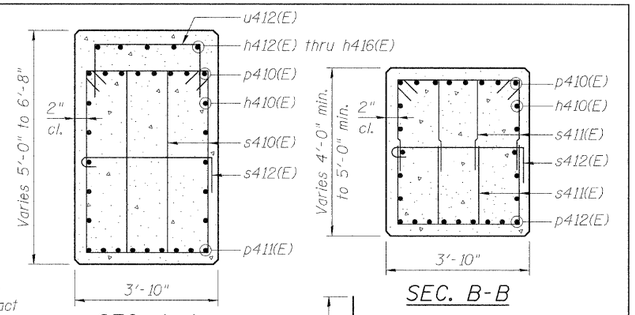
*** 10-u412(E) bars match w/ h416(E) bars
8-u412(E) bars match w/ h415(E) bars
22-u412(E) bars match w/ h414(E) bars
8-u412(E) bars match w/ h413(E) bars
34-u412(E) bars match w/ h412(E) bars
Adjust bars in field to avoid conflict with stirrups.

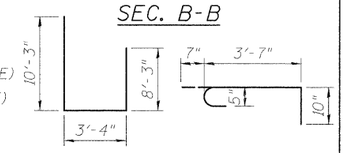
TOP OF SEAT ELEVATION

Beam No.	Seat Elev.
1A	442.01
2A	441.67
3A	441.34
4A	441.01
5A	440.68
6A	440.34

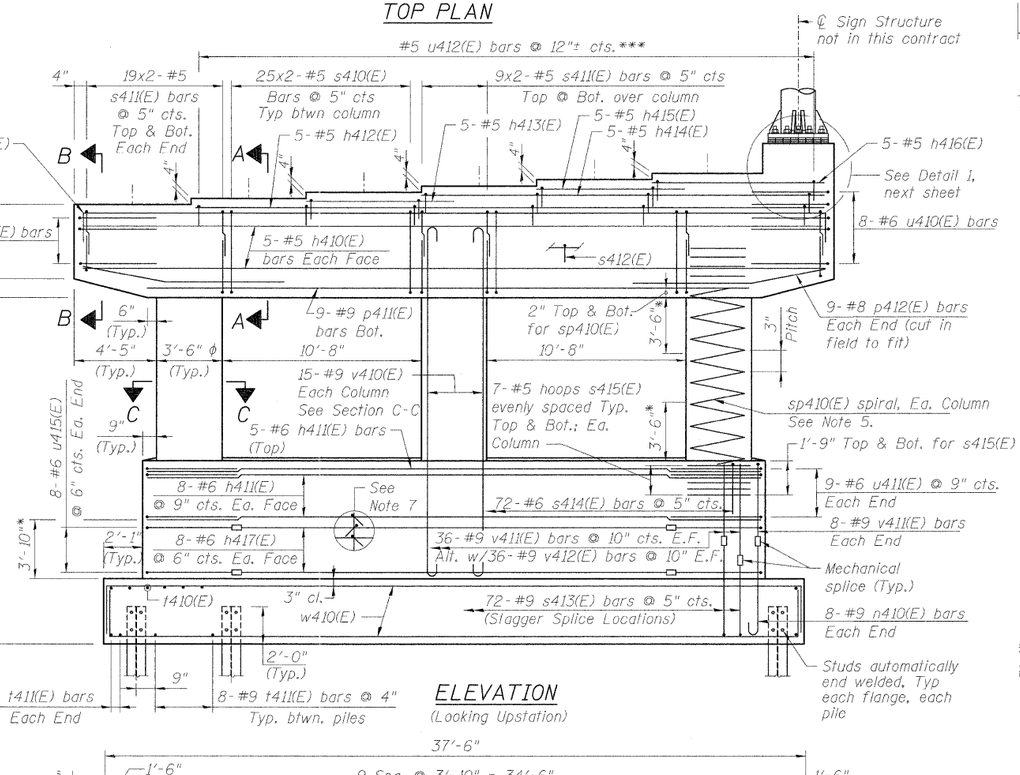


TOP PLAN

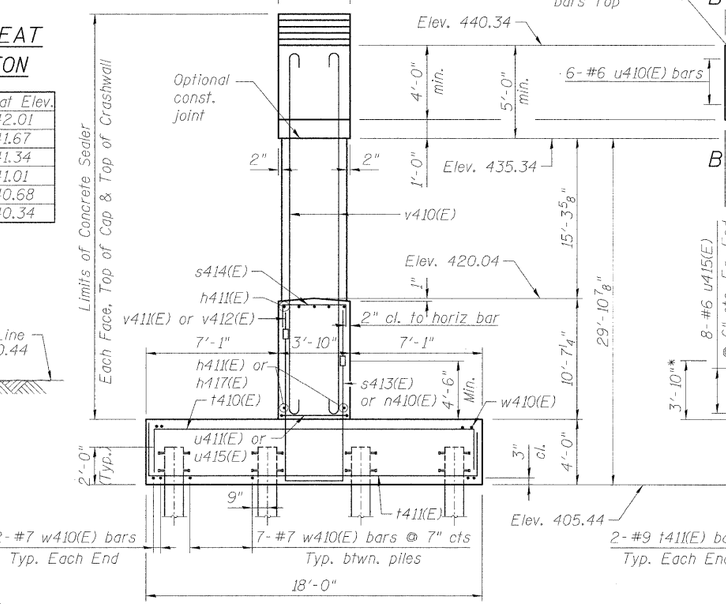




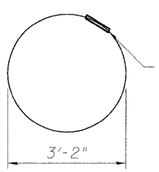
BAR s413(E) BAR s412(E)



ELEVATION (Looking Upstation)



END VIEW

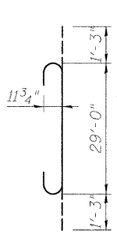


BAR s415(E)

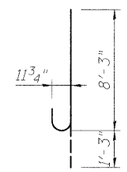
A & B DIMENSIONS

Bar	A	B
p410(E)	40'-4"	1'-10"
s411(E)	2'-5"	3'-8"
s414(E)	3'-4"	3'-0"
u410(E)	3'-4"	3'-1"
u412(E)	3'-6"	1'-0"
w410(E)	37'-2"	3'-6"
t410(E)	17'-8"	3'-4"
t411(E)	17'-8"	3'-4"

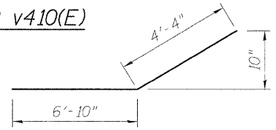
BARS p410(E), s411(E), s414(E), u410(E), u412(E), w410(E), t410(E), t411(E)



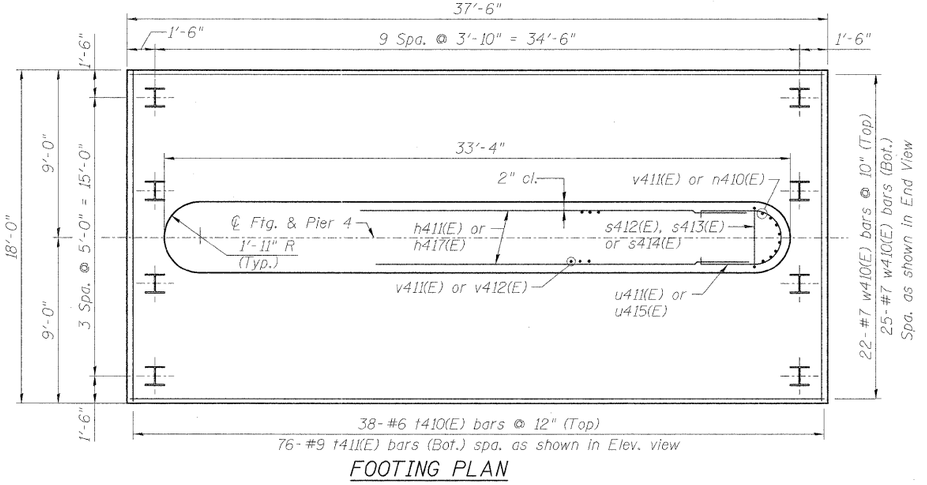
BAR v410(E)



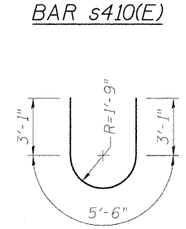
BAR n410(E)



BAR p412(E)



FOOTING PLAN



BAR s410(E) BAR u415(E) BAR u411(E)

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	108 ft.
Number of Production Piles:	39
Number of Test Piles:	1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h410(E)	10	#5	40'- 4"	
h411(E)	21	#6	29'- 2"	
h412(E)	5	#5	34'- 1"	
h413(E)	5	#5	7'- 9"	
h414(E)	5	#5	21'- 9"	
h415(E)	5	#5	7'- 9"	
h416(E)	5	#5	9'- 5"	
h417(E)	16	#6	23'- 4"	
n410(E)	16	#9	9'- 6"	
p410(E)	8	#10	44'- 0"	
p411(E)	9	#9	32'- 6"	
p412(E)	18	#8	11'- 2"	
s410(E)	100	#5	15'- 1"	
s411(E)	188	#5	9'- 9"	
s412(E)	1022	#5	5'- 0"	
s413(E)	72	#9	21'- 10"	
s414(E)	72	#6	9'- 4"	
s415(E)	42	#5	9'- 11 3/8"	
sp410(E)	3	#5	15'- 8"	
t410(E)	38	#6	24'- 4"	
t411(E)	76	#9	24'- 4"	
u410(E)	14	#6	9'- 6"	
u411(E)	18	#6	13'- 8"	
u412(E)	82	#5	5'- 6"	
u413(E)	12	#9	18'- 6"	
u414(E)	8	#6	10'- 6"	
u415(E)	16	#6	11'- 8"	
v410(E)	45	#9	31'- 6"	
v411(E)	88	#9	5'- 11"	
v412(E)	72	#9	3'- 11"	
w410(E)	47	#7	44'- 2"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	169.1
Concrete Structures	Cu. Yd.	200.4
Reinforcement Bars, Epoxy Coated	Pound	45,110
Furnishing Steel Piles, HP14x89	Foot	4212
Driving Piles	Foot	4212
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	40
Concrete Sealer	Sq Ft	2096
Mechanical Splicers	Each	192

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AECOM

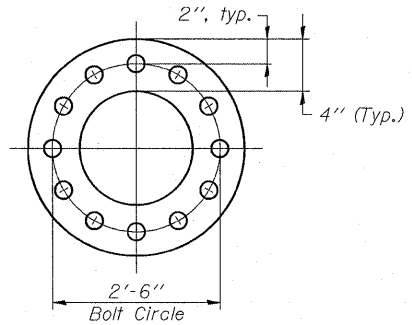
USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - MJK	REVISED -	
PLOT SCALE = @1'1" / in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

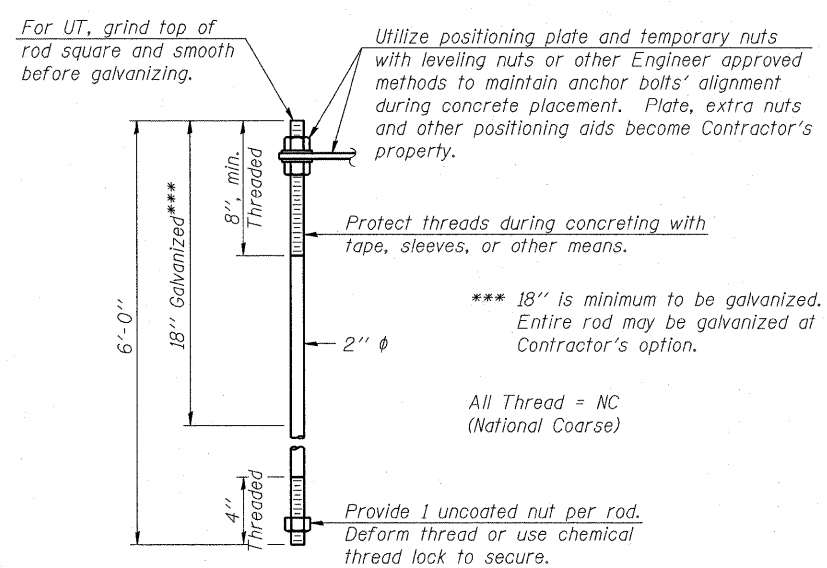
PIER 4 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-110 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	225
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



SUGGESTED POSITIONING PLATE

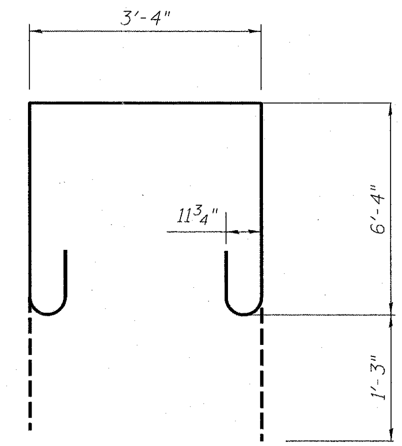


ANCHOR ROD DETAIL

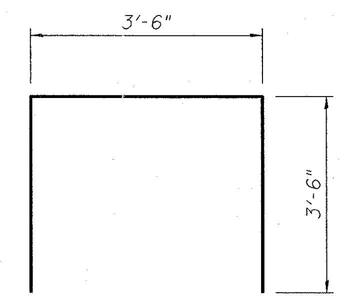
Anchor rods shall conform to AASHTO M314 Grade 105 and meet Charpy V-Notch (CVN) energy of 15 lb.-ft. at 10° F. before galvanizing. Galvanize the upper 18" (minimum***) and associated M291, Grade A, C or DH heavy hex nuts and hardened washers per AASHTO M232. No welding shall be permitted on rods. Provide an unfinished nut at bottom, a hexagon locknut and washer above base plate and a leveling nut and washer below base plate. Nuts shall each be tightened with 200 lb.-ft. minimum torque against base plate. Before or after threading, but before galvanizing, each anchor rod shall be ultrasonically tested (UT) by a Level II or III inspector, qualified in accord with ANSI guidelines, using a straight beam, ½" ϕ 3.5 mhz. transducer, to insure no rejectable flaws exist in the upper 18" (tension criteria).

NOTES:

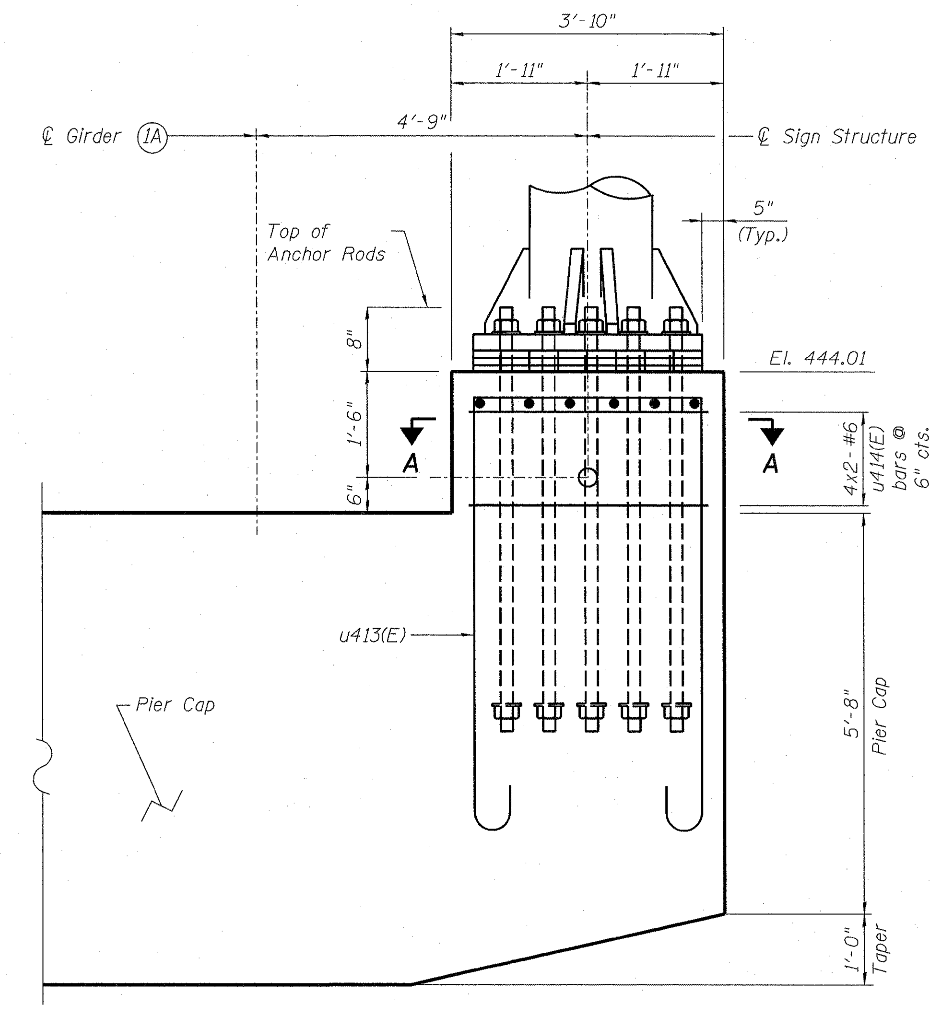
1. Work this sheet with sheet S-110.
2. Place pedestal reinforcement to miss anchor rods.
3. Anchor rods are incidental to Concrete Structures pay item.



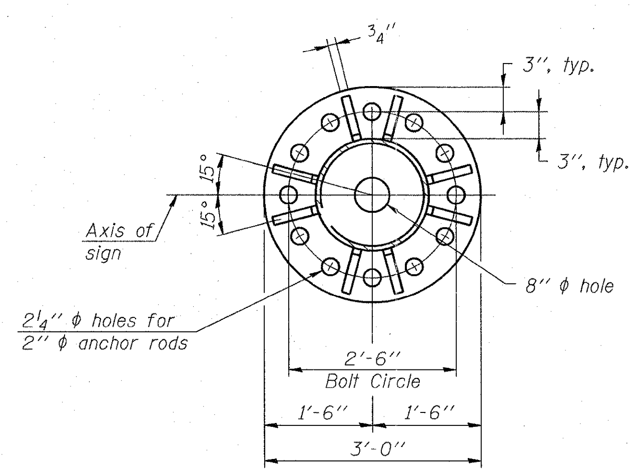
BAR u413(E)



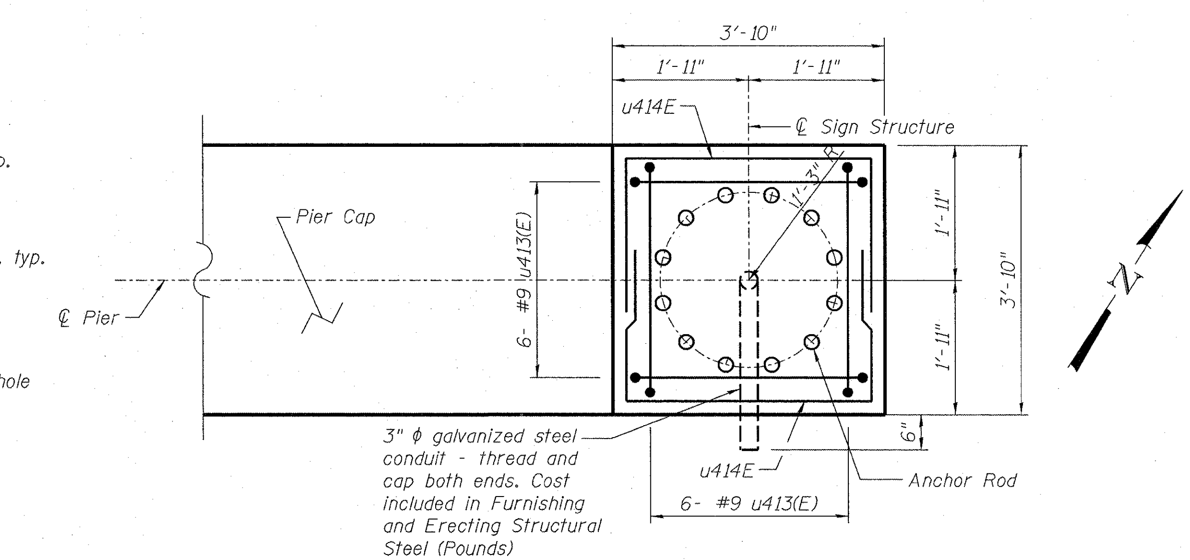
BAR u414(E)



DETAIL 1



BASE PLATE



SECTION A-A

AECOM	USER NAME = BhattA	DESIGNED - EJO	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 4 DETAILS - S.N. 082-0325 I-70W OVER I-55, CSX & KCS RAILROADS
		DRAWN - JHR	REVISED -		
	PLOT SCALE = 8x2 'i' / in.	CHECKED -	REVISED -		
	PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -		SCALE: NONE | SHEET NO. S-111 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	226
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

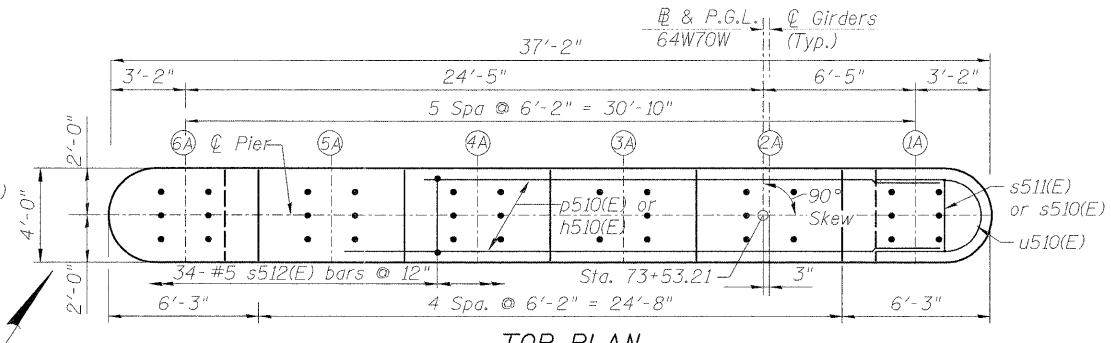
P:\PE00466B9\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S111_082-0325_76C75_Pier4A.dgn

NOTES:

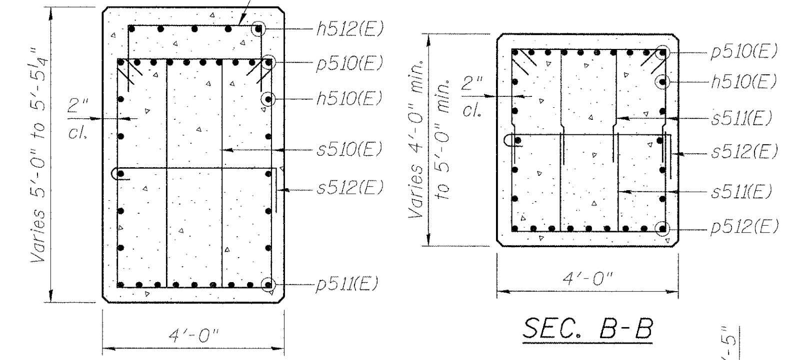
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp510(E) spiral, each column
   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & crashwall. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. The s512(E) cross-tie bars shall be placed so that orientation of 180° hook of two successive cross-ties alternate end to end. A single layer of bars shall be provided across top mat of footing reinforcement. Space bars as follows:
   9-#5 s512(E) @ 6" (vert) x 47 @ 7" (horiz)
   7-#5 s512(E) @ 9" (vert) x 24 @ 1'-2" (horiz)
7. For anchor bolt details, see Sheets S-83 thru S-92.

* Splicing of reinforcement will not be allowed in this region.

** Length is height of spiral.

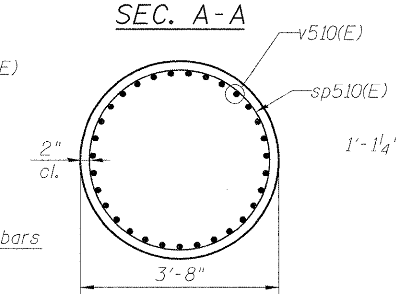


TOP PLAN

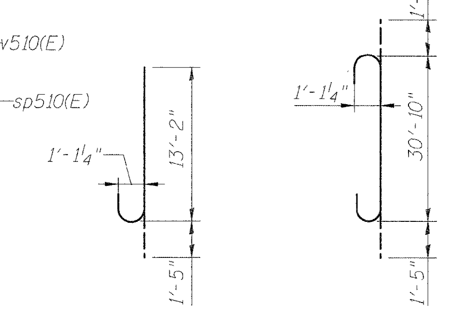


SEC. A-A

SEC. B-B



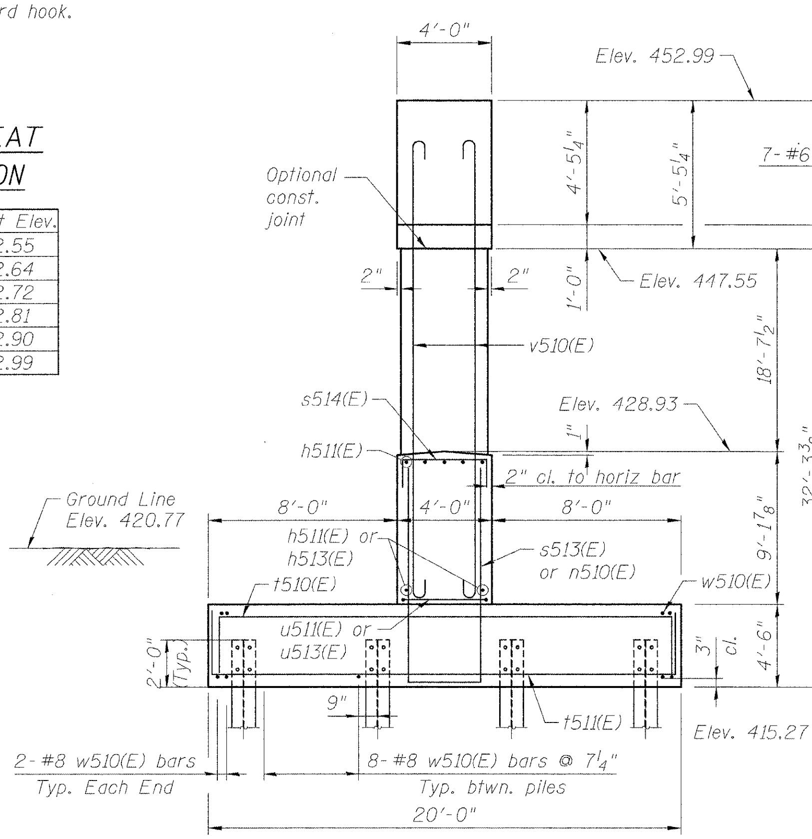
SEC. C-C



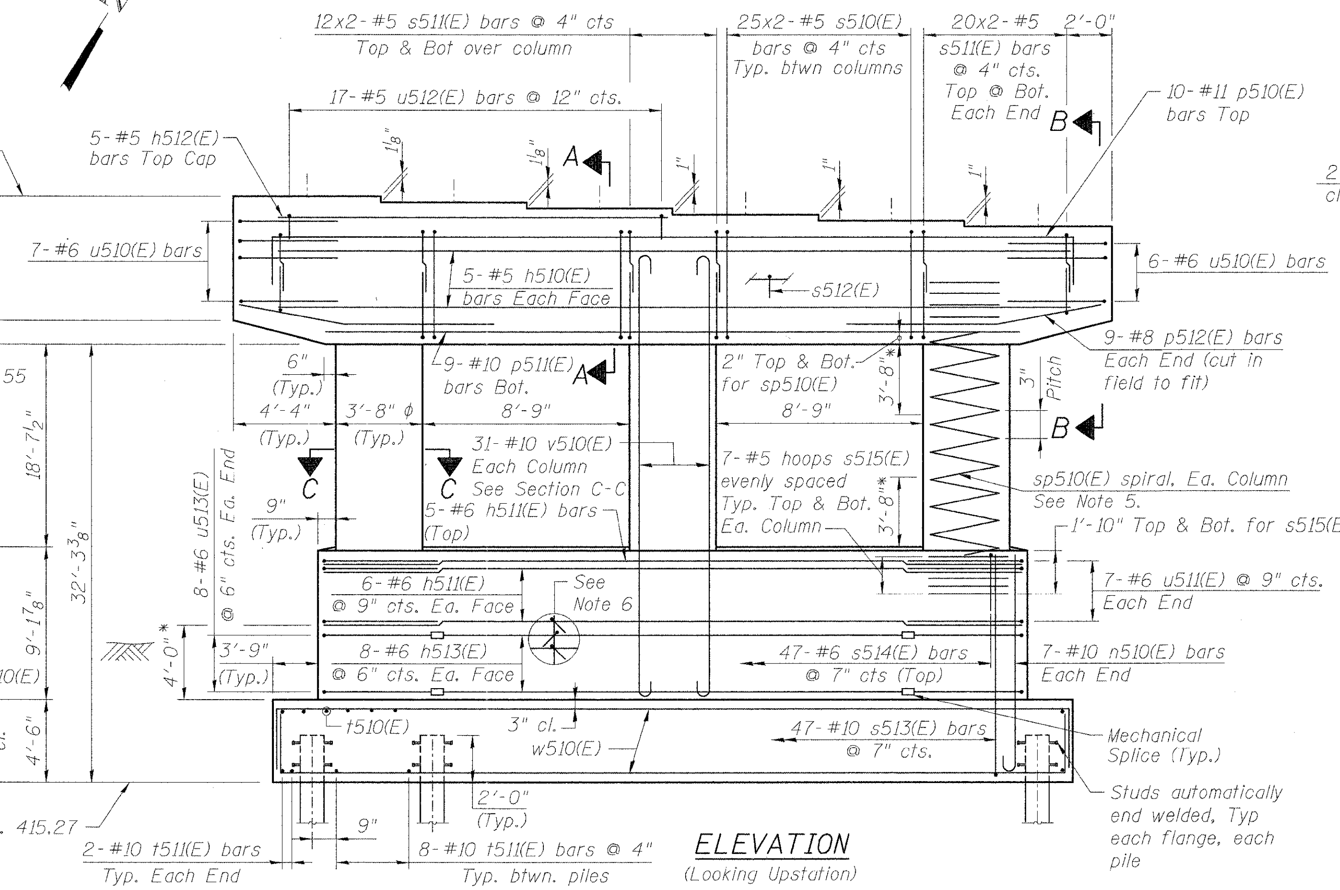
BAR n510(E) BAR v510(E)

TOP OF SEAT ELEVATION

Beam No.	Seat Elev.
1A	452.55
2A	452.64
3A	452.72
4A	452.81
5A	452.90
6A	452.99

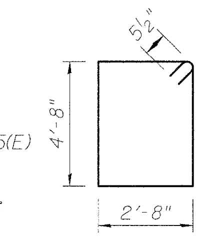


END VIEW

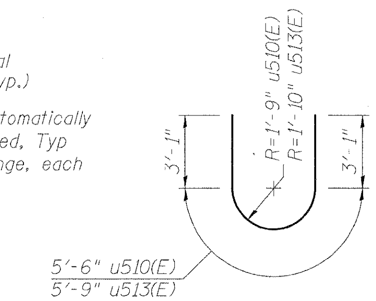


ELEVATION

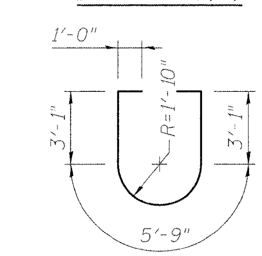
(Looking Upstation)



BAR s510(E)

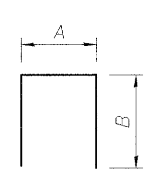


BAR u510(E) BAR u513(E)



BAR u511(E)

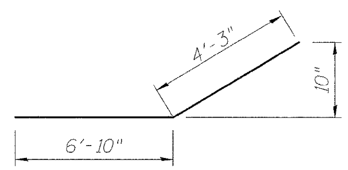
BAR s515(E)



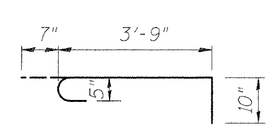
A & B DIMENSIONS

Bar	A	B
p510(E)	33'-2"	2'-0"
s511(E)	2'-8"	3'-8"
s513(E)	3'-6"	13'-2"
s514(E)	3'-6"	3'-0"
u512(E)	3'-8"	1'-0"
w510(E)	37'-2"	4'-0"
t510(E)	19'-8"	3'-10"
t511(E)	19'-8"	3'-10"

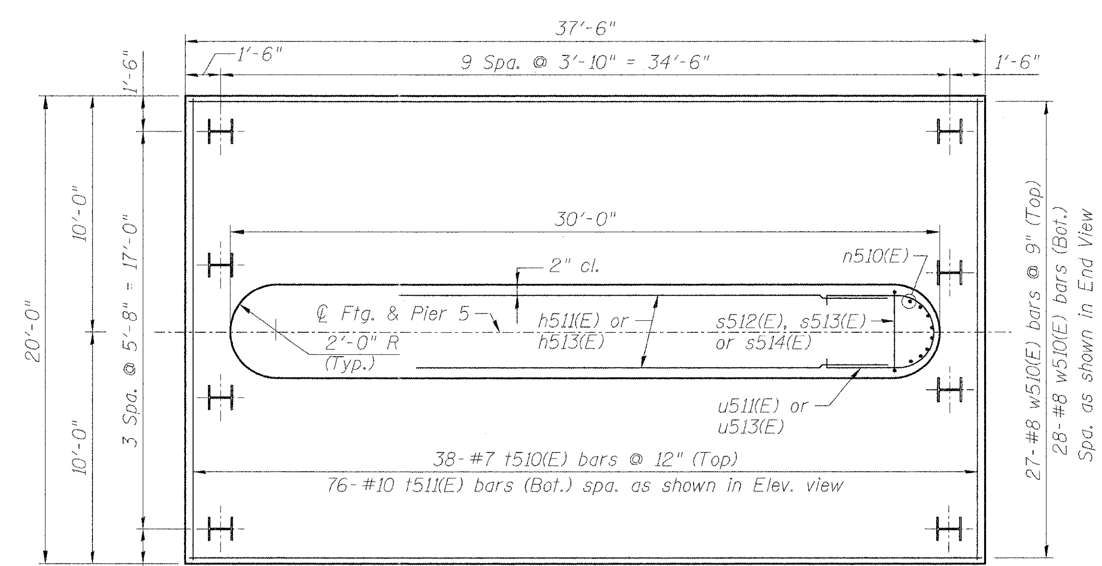
BARS p510(E), s511(E), s513(E), s514(E), u512(E), w510(E), t510(E), t511(E)



BAR p512(E)



BAR s512(E)



FOOTING PLAN

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	112 ft.
Number of Production Piles:	39
Number of Test Piles:	1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h510(E)	10	#5	32'- 10"	straight
h511(E)	17	#6	25'- 8"	straight
h512(E)	5	#5	16'- 5"	straight
h513(E)	16	#6	19'- 10"	straight
n510(E)	14	#10	14'- 7"	hooked
p510(E)	10	#11	37'- 2"	bent
p511(E)	9	#10	29'- 2"	straight
p512(E)	18	#8	11'- 1"	bent
s510(E)	100	#5	15'- 7"	closed
s511(E)	208	#5	10'- 0"	bent
s512(E)	625	#5	5'- 2"	hooked
s513(E)	47	#10	29'- 10"	bent
s514(E)	47	#6	9'- 6"	bent
s515(E)	42	#5	10'- 5 5/8"	circular
** sp510(E)	3	#5	19'- 0"	spiral
t510(E)	38	#7	27'- 4"	bent
t511(E)	76	#10	27'- 4"	bent
u510(E)	13	#6	11'- 8"	U
u511(E)	14	#6	13'- 11"	U
u512(E)	17	#5	5'- 8"	bent
u513(E)	16	#6	11'- 11"	U
v510(E)	93	#10	33'- 8"	hooked
w510(E)	55	#8	45'- 2"	bent

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	202.9
Concrete Structures	Cu. Yd.	214.2
Reinforcement Bars, Epoxy Coated	Pound	54,970
Furnishing Steel Piles, HP14x89	Foot	4368
Driving Piles	Foot	4368
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	40
Mechanical Splicers	Each	32

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 0:1 ':' / in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 5 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-112 OF S-138 SHEETS | STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	227
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

NOTES:

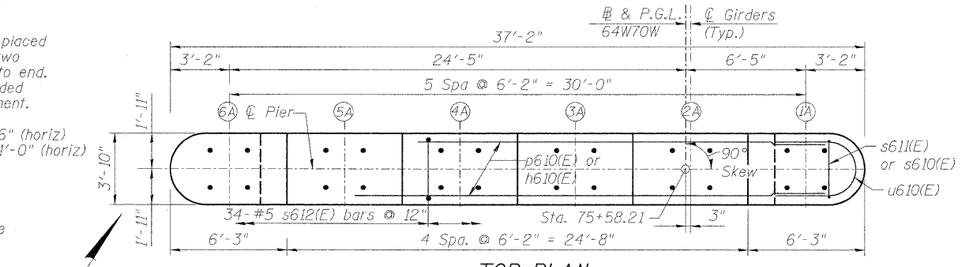
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp610(E) spiral, each column
   1) Provide 1½ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & crashwall. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. The s612(E) cross-tie bars shall be placed so that orientation of 180° hook of two successive cross-ties alternate end to end. A single layer of bars shall be provided across top mat of footing reinforcement. Space bars as follows:
   9-#5 s612(E) @ 6" (vert) x 53 @ 6" (horiz)
   8-#5 s612(E) @ 9" (vert) x 27 @ 1'-0" (horiz)
7. For anchor bolt details, see Sheets S-83 thru S-92.

* Splicing of reinforcement will not be allowed in this region.

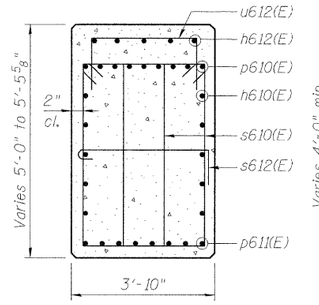
** Length is height of spiral.

TOP OF SEAT ELEVATION

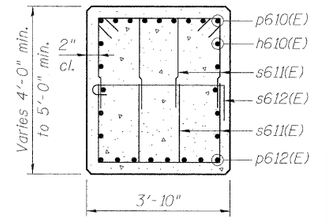
Beam No.	Seat Elev.
1A	457.36
2A	457.46
3A	457.55
4A	457.64
5A	457.73
6A	457.83



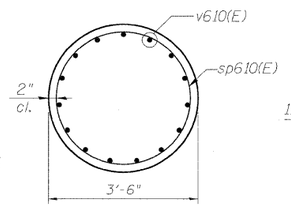
TOP PLAN



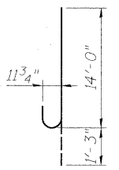
SEC. A-A



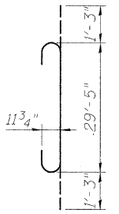
SEC. B-B



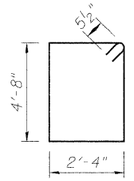
SEC. C-C



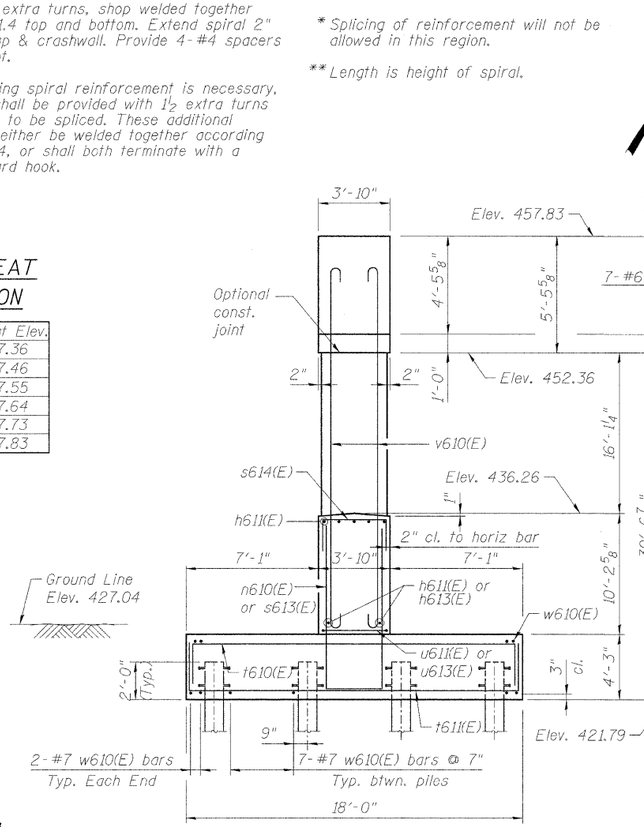
BAR n610(E)



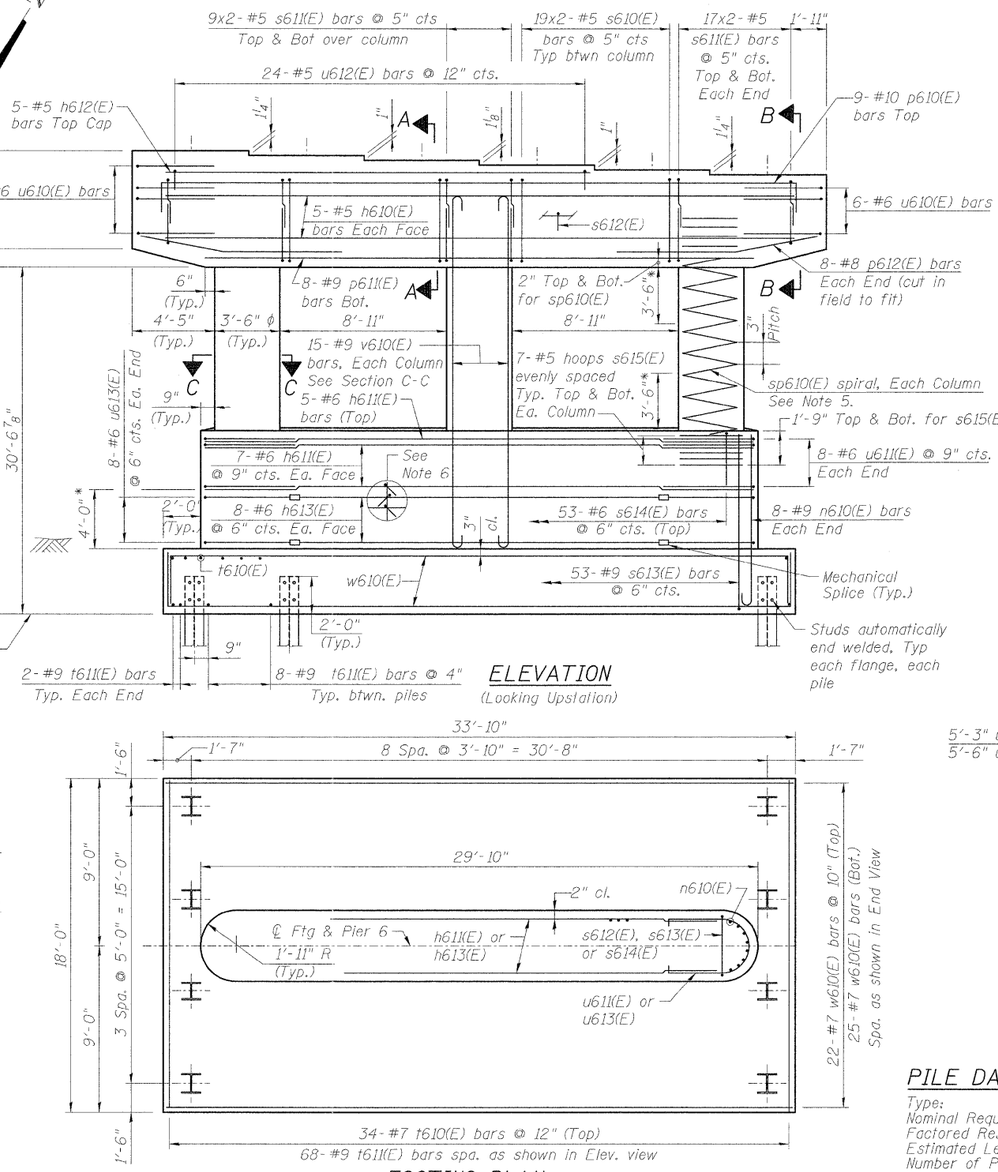
BAR v610(E)



BAR s610(E)

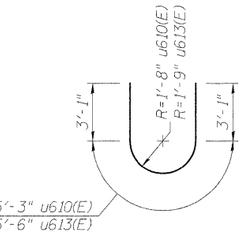


END VIEW

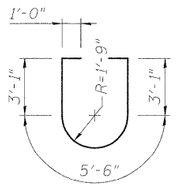


ELEVATION

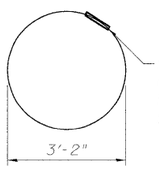
(Looking Upstation)



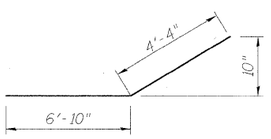
BAR u610(E)
BAR u613(E)



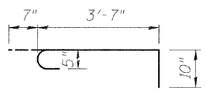
BAR u611(E)



BAR s615(E)



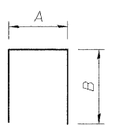
BAR p612(E)



BAR s612(E)

A & B DIMENSIONS

Bar	A	B
p610(E)	33'-4"	1'-10"
s611(E)	2'-4"	3'-8"
s613(E)	3'-4"	14'-0"
s614(E)	3'-4"	3'-0"
u612(E)	3'-6"	1'-0"
w610(E)	33'-6"	3'-9"
t610(E)	17'-8"	3'-7"
t611(E)	17'-8"	3'-7"



BARS p610(E), s611(E), s613(E), s614(E), u612(E), w610(E) t610(E), t611(E)

FOOTING PLAN

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	112 ft.
Number of Production Piles:	35
Number of Test Piles:	1

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h610(E)	10	#5	33'- 0"	
h611(E)	19	#6	25'- 8"	
h612(E)	5	#5	22'- 8"	
h613(E)	16	#6	19'- 10"	
n610(E)	16	#9	15'- 3"	
p610(E)	9	#10	37'- 0"	
p611(E)	8	#9	29'- 0"	
p612(E)	16	#8	11'- 2"	
s610(E)	76	#5	14'- 11"	
s611(E)	172	#5	9'- 8"	
s612(E)	727	#5	5'- 0"	
s613(E)	53	#9	31'- 4"	
s614(E)	53	#6	9'- 4"	
s615(E)	42	#5	9'- 11 3/8"	
sp610(E)	3	#5	16'- 6"	**
t610(E)	34	#7	24'- 10"	
t611(E)	68	#9	24'- 10"	
u610(E)	13	#6	11'- 5"	
u611(E)	16	#6	13'- 8"	
u612(E)	24	#5	5'- 6"	
u613(E)	16	#6	11'- 8"	
v610(E)	45	#9	31'- 11"	
w610(E)	47	#7	41'- 0"	

Item	Unit	Quantity
Structure Excavation	Cu. Yd.	161.8
Concrete Structures	Cu. Yd.	181.9
Reinforcement Bars, Epoxy Coated	Pound	38,050
Furnishing Steel Piles, HP14x89	Foot	3920
Driving Piles	Foot	3920
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	36
Mechanical Splicers	Each	32

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = @1 '/ in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 6 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-113 OF S-138 SHEETS | STA. | TO STA.

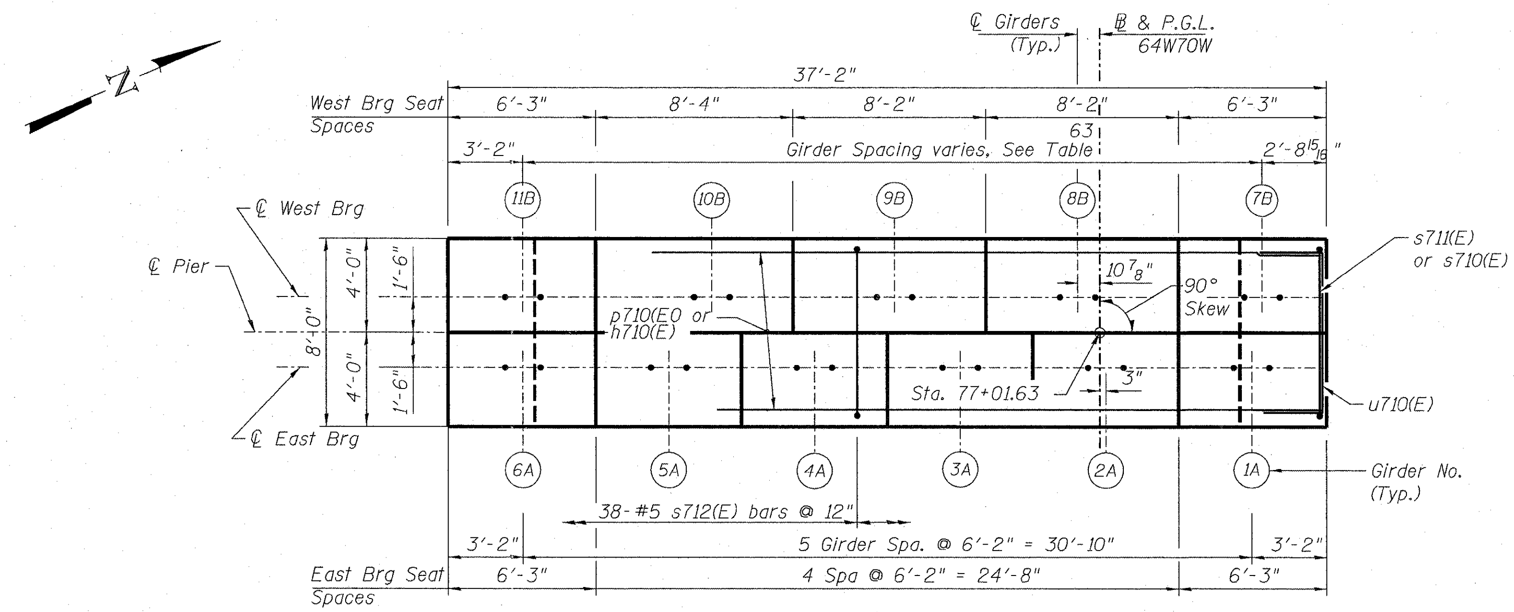
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	228
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

P:\PROJECTS\60245691\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S113_082-0325_76C75_Pier6.dgn

NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see Sheet No. S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp710(E) spiral, each column
   1) Provide 1½ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.

   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with 1½ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. For Anchor Bolt Details, see Sheet No. S-83 thru S-92.
7. For Sections A-A, B-B & C-C, see Sheet No. S-115.



TOP PLAN

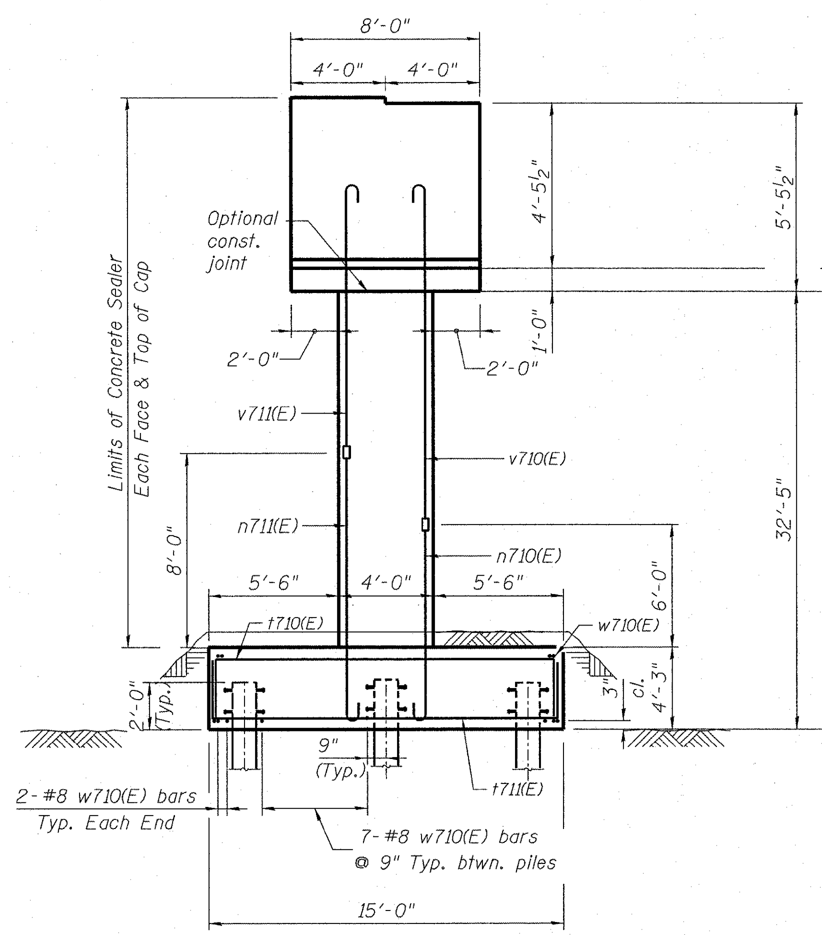
UNIT 3 GIRDER SPACING @ ℄ WEST BEARINGS

Bay	Spacing
7B-8B	7'-9 5/16"
8B-9B	7'-9 1/8"
9B-10B	7'-8 11/16"
10B-11B	7'-11 15/16"

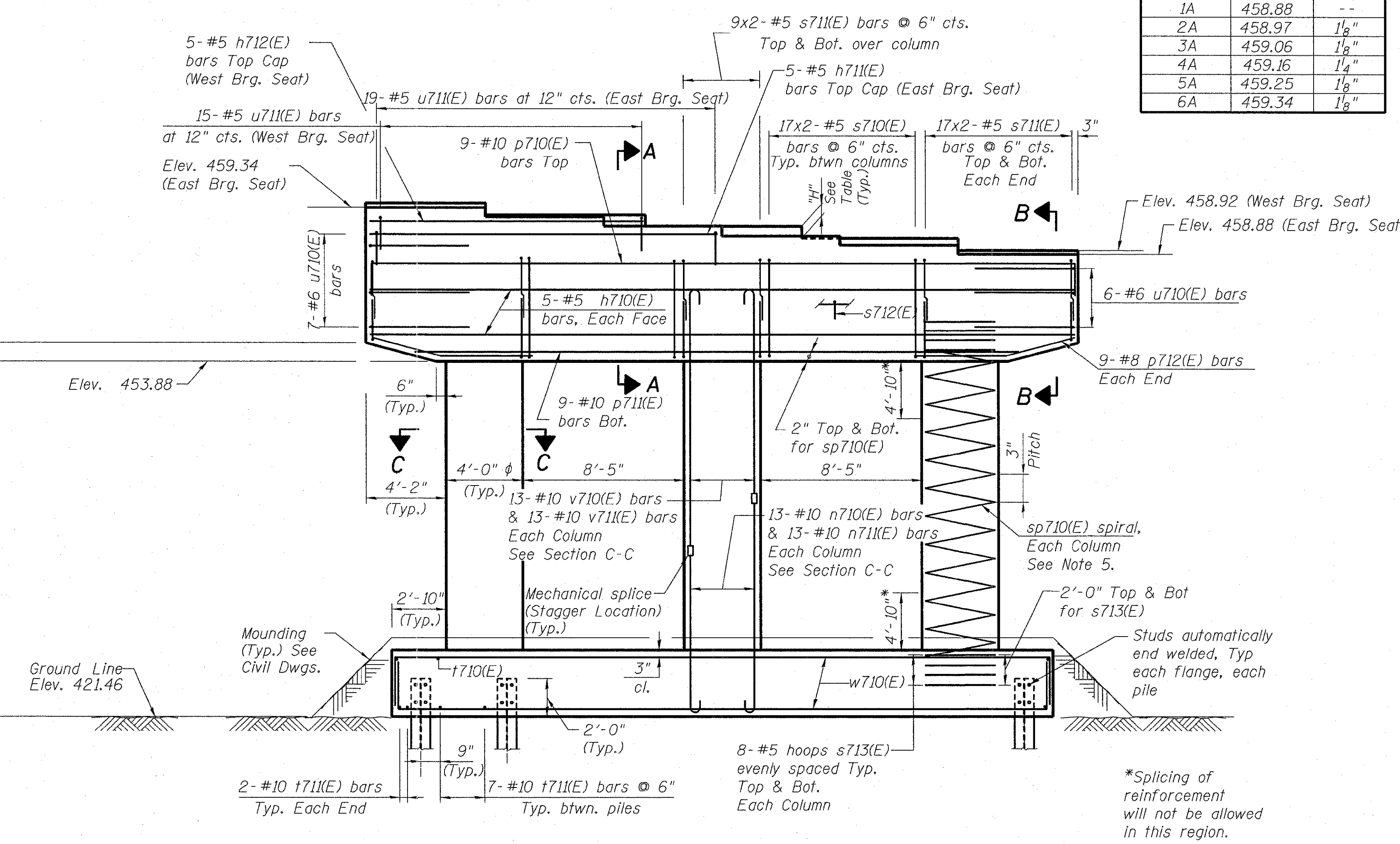
TOP OF SEAT ELEVATION

East Bearing Seat		
Beam No.	Seat Elev.	Step "H"
1A	458.88	--
2A	458.97	1 1/8"
3A	459.06	1 1/8"
4A	459.16	1 1/4"
5A	459.25	1 1/8"
6A	459.34	1 1/8"

West Bearing Seat		
Beam No.	Seat Elev.	Step "H"
7B	458.92	--
8B	459.04	1 3/8"
9B	459.16	1 3/8"
10B	459.27	1 3/8"
11B	459.39	1 3/8"



END VIEW



ELEVATION

(Looking Upstation)

P:\P60246689\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S114_082-0325_76C75_Pier7.dgn

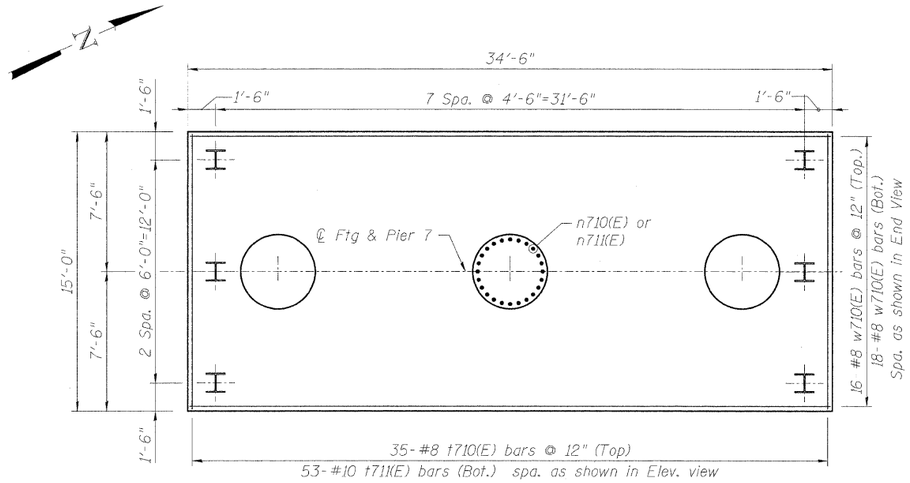
AECOM	USER NAME = BhattA	DESIGNED - ATB	REVISED -
		DRAWN - PMM	REVISED -
	PLOT SCALE = 0:2 'i' / in.	CHECKED - ATB	REVISED -
	PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

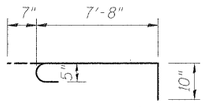
PIER 7 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-114 OF S-138 SHEETS | STA. | TO STA.

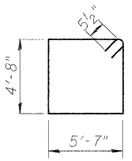
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	229
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			



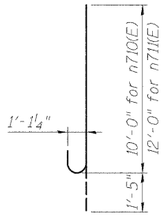
FOOTING PLAN



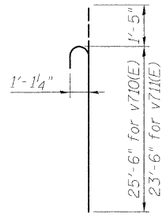
BAR s712(E)



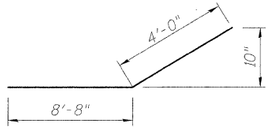
BAR s710(E)



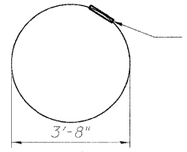
BAR n710(E) & n711(E)



BAR v710(E) & v711(E)



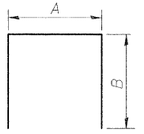
BAR p712(E)



Shop welded per AWS D1.4 or mechanicaly spliced ; cost included in Reinfocement Bars Epoxy Coated

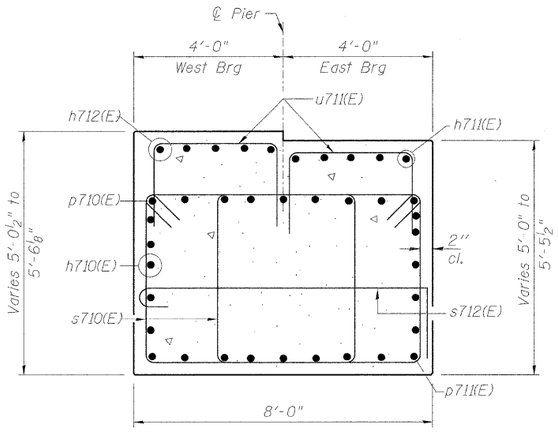
BAR s713(E)

A & B DIMENSIONS

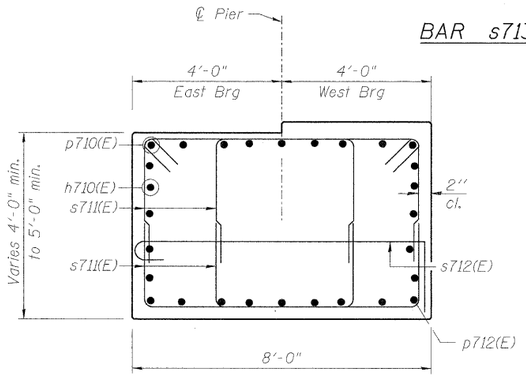


Bar	A	B
p710(E)	36'-10"	2'-0"
s711(E)	5'-7"	3'-8"
t710(E)	14'-8"	3'-6"
t711(E)	14'-8"	3'-6"
u710(E)	7'-6"	3'-1"
u711(E)	3'-8"	1'-0"
w710(E)	34'-2"	3'-6"

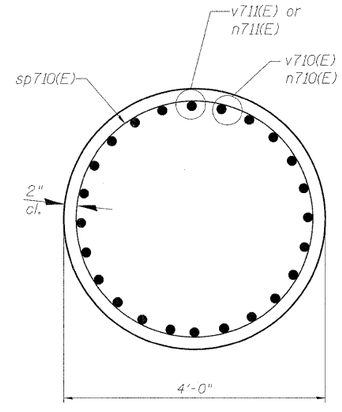
BARS p710(E), s711(E), t710(E), t711(E) u710(E), u711(E), & w710(E)



SEC. A-A



SEC. B-B



SEC. C-C

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h710(E)	10	#5	36'- 10"	——
h711(E)	5	#5	18'- 3"	——
h712(E)	5	#5	14'- 3"	——
n710(E)	39	#10	11'- 5"	C——
n711(E)	39	#10	13'- 5"	C——
p710(E)	9	#10	40'- 10"	
p711(E)	9	#10	29'- 9"	——
p712(E)	18	#8	12'- 8"	
s710(E)	68	#5	21'- 5"	
s711(E)	172	#5	12'- 11"	
s712(E)	38	#5	9'- 1"	
s713(E)	48	#5	11'- 6"	○
** sp710(E)	3	#5	28'- 6"	∿∿
t710(E)	35	#8	21'- 8"	
t711(E)	53	#10	21'- 8"	
u710(E)	13	#6	13'- 8"	
u711(E)	34	#5	5'- 8"	
v710(E)	39	#10	26'- 11"	C——
v711(E)	39	#10	24'- 11"	C——
w710(E)	34	#8	41'- 2"	

Item	Unit	Quantity
Concrete Structures	Cu. Yd.	178.9
Reinforcement Bars, Epoxy Coated	Pound	36,820
Furnishing Steel Piles, HP14x89	Foot	2576
Driving Piles	Foot	2576
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	24
Concrete Sealer	Sq Ft	2927
Mechanical Splicers	Each	78

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	112 ft.
Number of Production Piles:	23
Number of Test Piles:	1

** Length is height of spiral.

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -	
	DRAWN - PMM	REVISED -	
PLOT SCALE = @1'/ in.	CHECKED - ATB	REVISED -	
PLOT DATE = @DATE@	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 7 DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-115 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	230
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

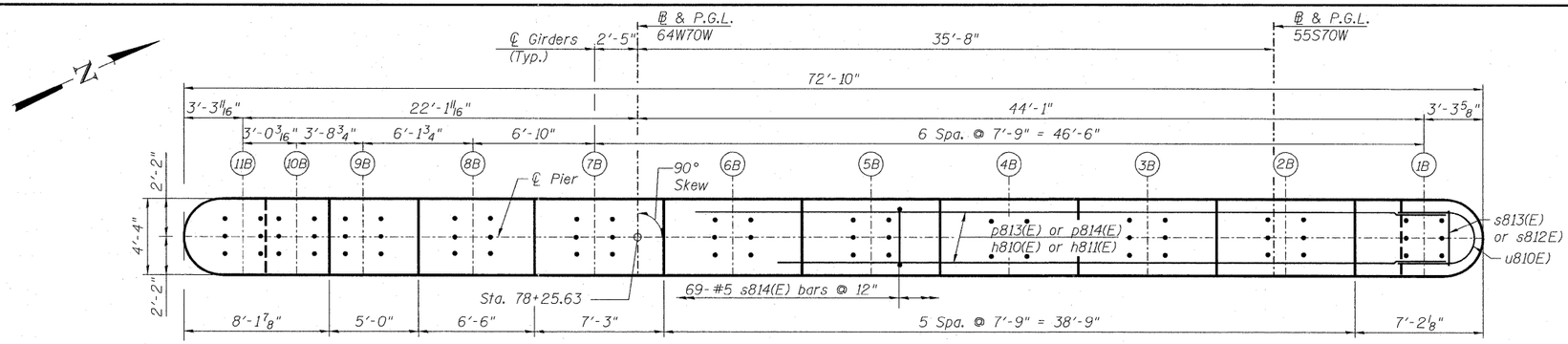
NOTES:

1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp810(E) spiral, each column

   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.

   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.

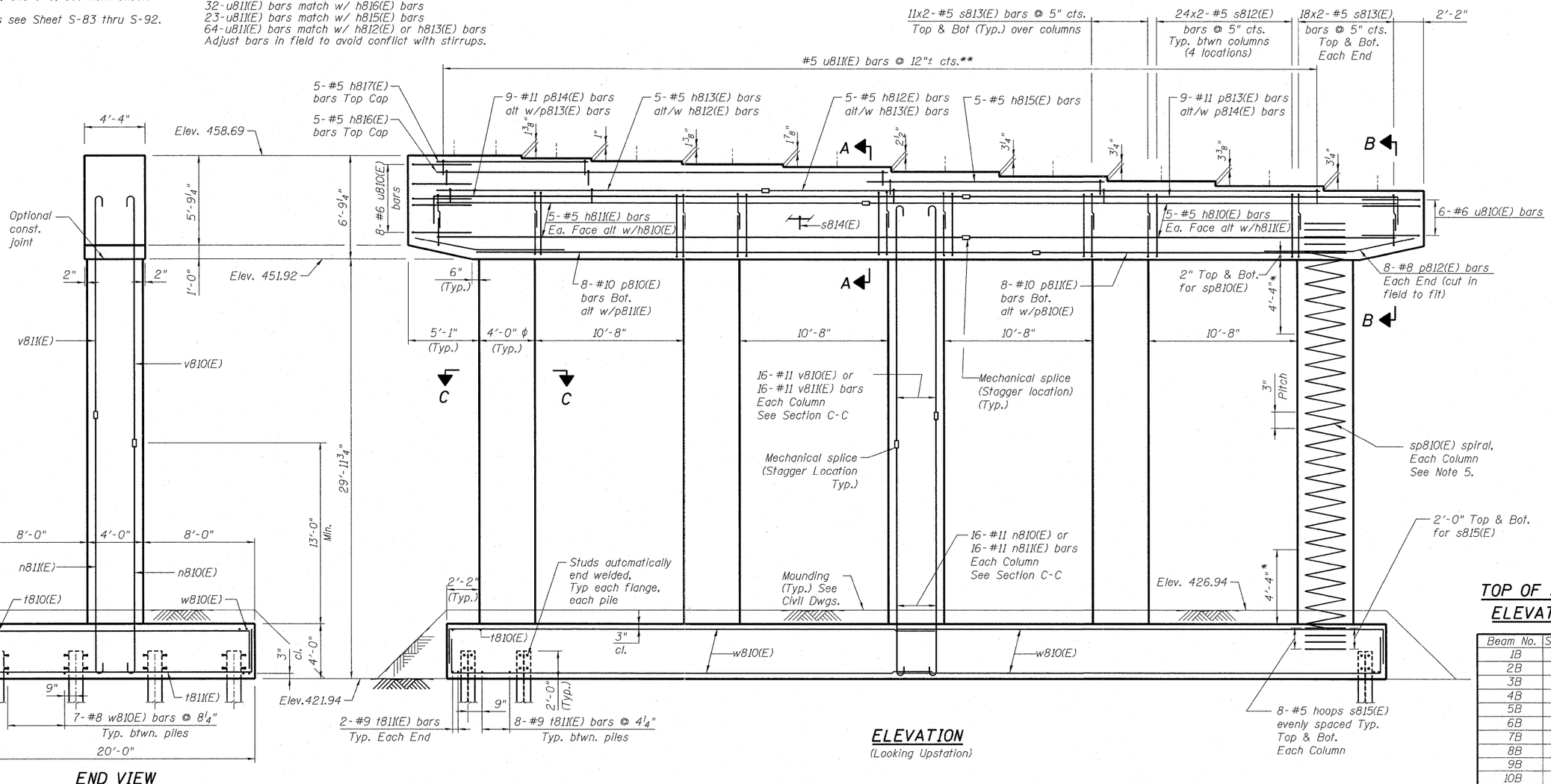
6. For section A-A, B-B, and C-C, see next sheet.
7. For anchor bolt details see Sheet S-83 thru S-92.



TOP PLAN

* Splicing of reinforcement will not be allowed in this region.

** 11-u811(E) bars match w/ h817(E) bars
32-u811(E) bars match w/ h816(E) bars
23-u811(E) bars match w/ h815(E) bars
64-u811(E) bars match w/ h812(E) or h813(E) bars
Adjust bars in field to avoid conflict with stirrups.



END VIEW

ELEVATION
(Looking Upstation)

TOP OF SEAT ELEVATION

Beam No.	Seat Elev.
1B	456.92
2B	457.19
3B	457.47
4B	457.74
5B	458.01
6B	458.22
7B	458.38
8B	458.49
9B	458.58
10B	458.64
11B	458.69

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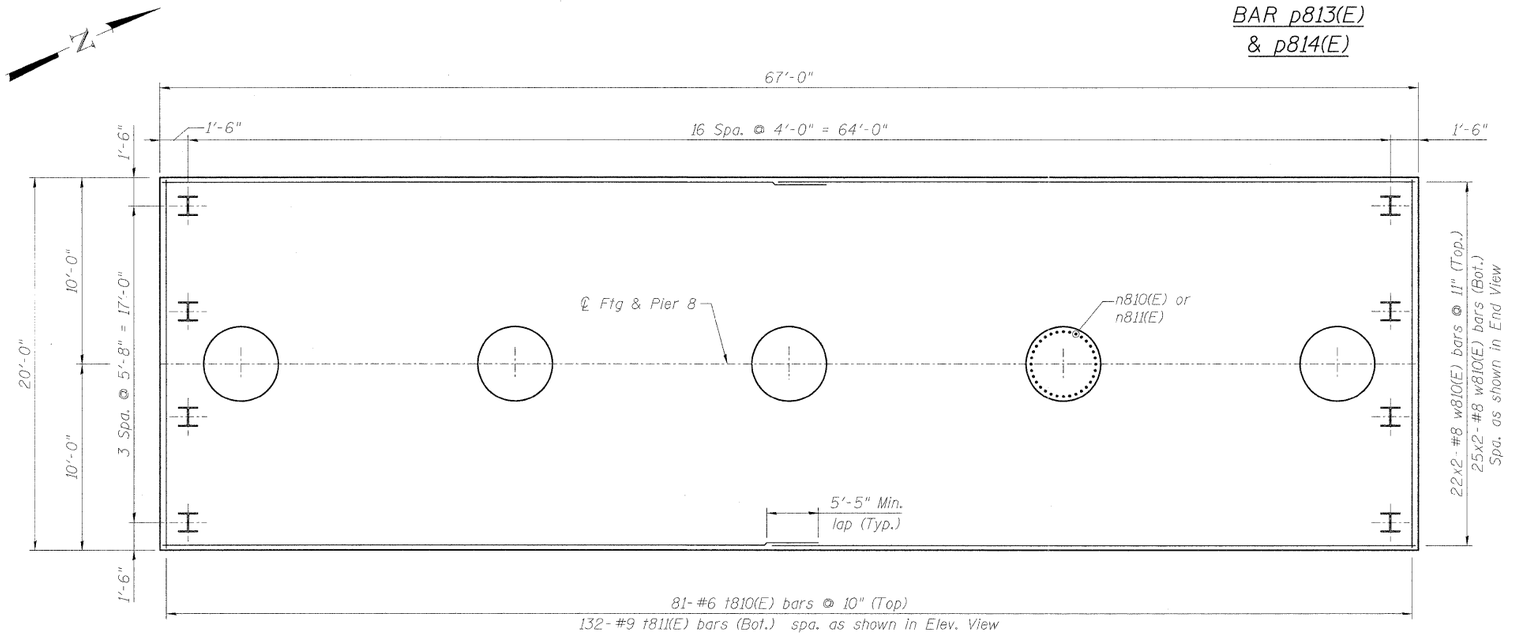
AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 0:2 '1' / in.	CHECKED -	REVISED -	
PLOT DATE = @DATE@	DATE - 03/18/2011	REVISED -	

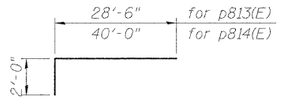
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 8 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-116 OF S-138 SHEETS | STA. | TO STA.

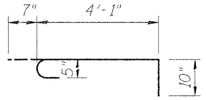
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	231
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



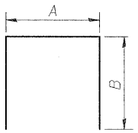
FOOTING PLAN



BAR p813(E) & p814(E)



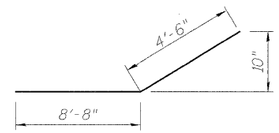
BAR s814(E)



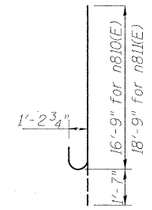
BARS s813(E), u811(E) t810(E), t811(E)

A & B DIMENSIONS

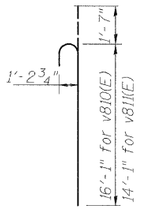
Bar	A	B
s813(E)	2'-9"	3'-8"
u811(E)	4'-0"	1'-0"
t810(E)	19'-8"	3'-4"
t811(E)	19'-8"	3'-4"



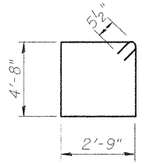
BAR p812(E)



BAR n810(E) & n811(E)



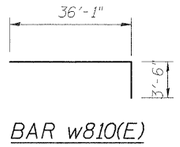
BAR v810(E) & v811(E)



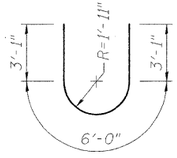
BAR s812(E)

BILL OF MATERIAL

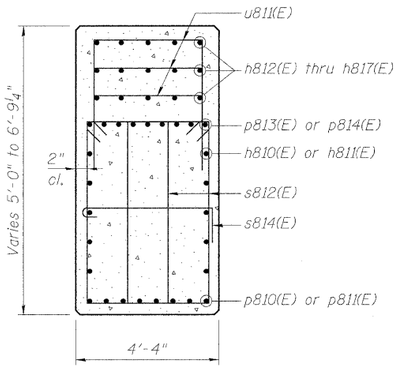
Bar	No.	Size	Length	Shape
h810(E)	10	#5	28'- 2"	———
h811(E)	10	#5	40'- 0"	———
h812(E)	5	#5	40'- 0"	———
h813(E)	5	#5	23'- 4"	———
h815(E)	5	#5	23'- 3"	———
h816(E)	5	#5	32'- 3"	———
h817(E)	5	#5	10'- 9"	———
n810(E)	80	#11	18'- 4"	⊂——
n811(E)	80	#11	20'- 4"	⊂——
p810(E)	8	#10	23'- 4"	———
p811(E)	8	#10	40'- 0"	———
p812(E)	16	#8	13'- 2"	——/
p813(E)	9	#11	30'- 6"	⌐——
p814(E)	9	#11	42'- 0"	⌐——
s812(E)	192	#5	15'- 9"	⌐—/
s813(E)	276	#5	10'- 1"	⌐—¬
s814(E)	69	#5	5'- 6"	⊂—¬
s815(E)	80	#5	11'- 6 1/4"	○
** sp810(E)	5	#5	26'- 4"	∿∿
t810(E)	81	#6	26'- 4"	⌐—¬
t811(E)	132	#9	26'- 4"	⌐—¬
u810(E)	14	#6	12'- 2"	U
u811(E)	130	#5	6'- 0"	⌐—¬
v810(E)	80	#11	17'- 8"	⊂——
v811(E)	80	#11	15'- 8"	⊂——
w810(E)	94	#8	39'- 7"	⌐——



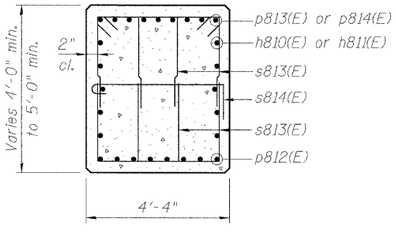
BAR w810(E)



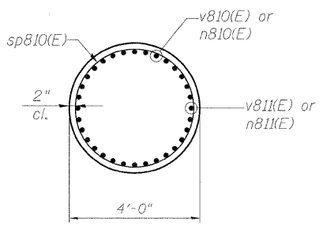
BAR u810(E)



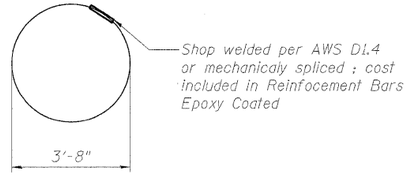
SEC. A-A



SEC. B-B



SEC. C-C



BAR s815(E)

** Length is height of spiral

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	112 ft.
Number of Production Piles:	67
Number of Test Piles:	1

Item	Unit	Quantity
Concrete Structures	Cu. Yd.	327.0
Reinforcement Bars, Epoxy Coated	Pound	77,970
Furnishing Steel Piles, HP14x89	Foot	7504
Driving Piles	Foot	7504
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	68
Mechanical Splicers	Each	192

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = @1 '/ in.	CHECKED - DB	REVISED -	
PLOT DATE = @DATE$	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 8 DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-117 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	232
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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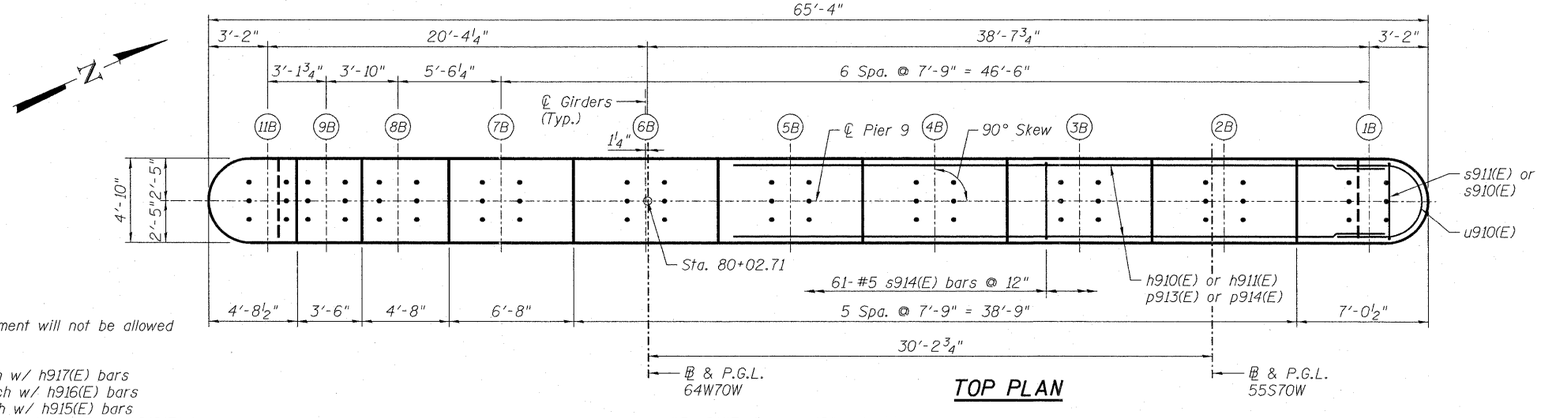
NOTES:

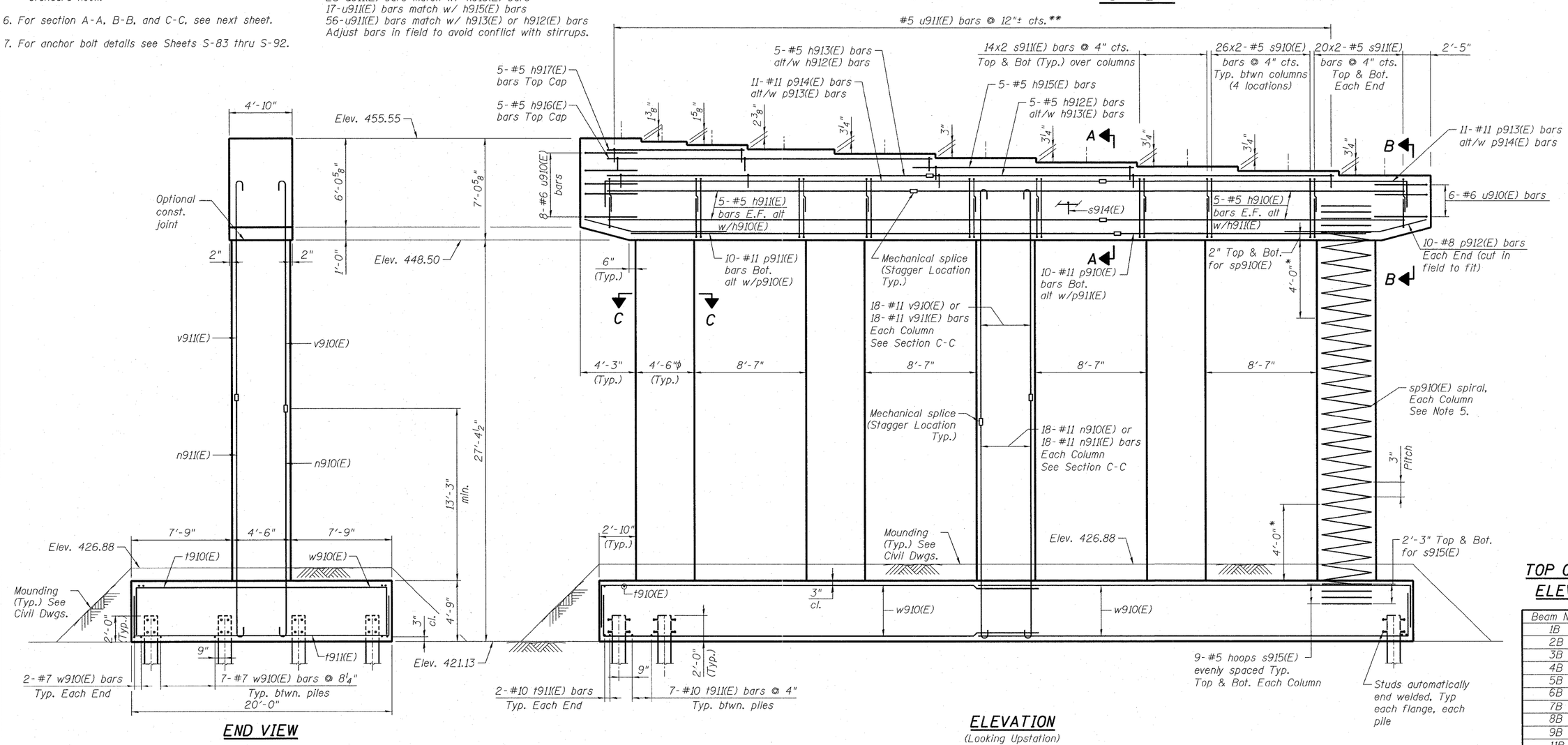
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp910(E) spiral, each column
   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. For section A-A, B-B, and C-C, see next sheet.
7. For anchor bolt details see Sheets S-83 thru S-92.

* Splicing of reinforcement will not be allowed in this region.

** 11-u911(E) bars match w/ h917(E) bars
25-u911(E) bars match w/ h916(E) bars
17-u911(E) bars match w/ h915(E) bars
56-u911(E) bars match w/ h913(E) or h912(E) bars
Adjust bars in field to avoid conflict with stirrups.



TOP PLAN



END VIEW

ELEVATION

(Looking Upstation)

TOP OF SEAT ELEVATION

Beam No.	Seat Elev.
1B	453.50
2B	453.77
3B	454.04
4B	454.31
5B	454.58
6B	454.83
7B	455.10
8B	455.30
9B	455.44
11B	455.55

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -
	DRAWN - MRK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = 8DATE8	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 9 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-118 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	233
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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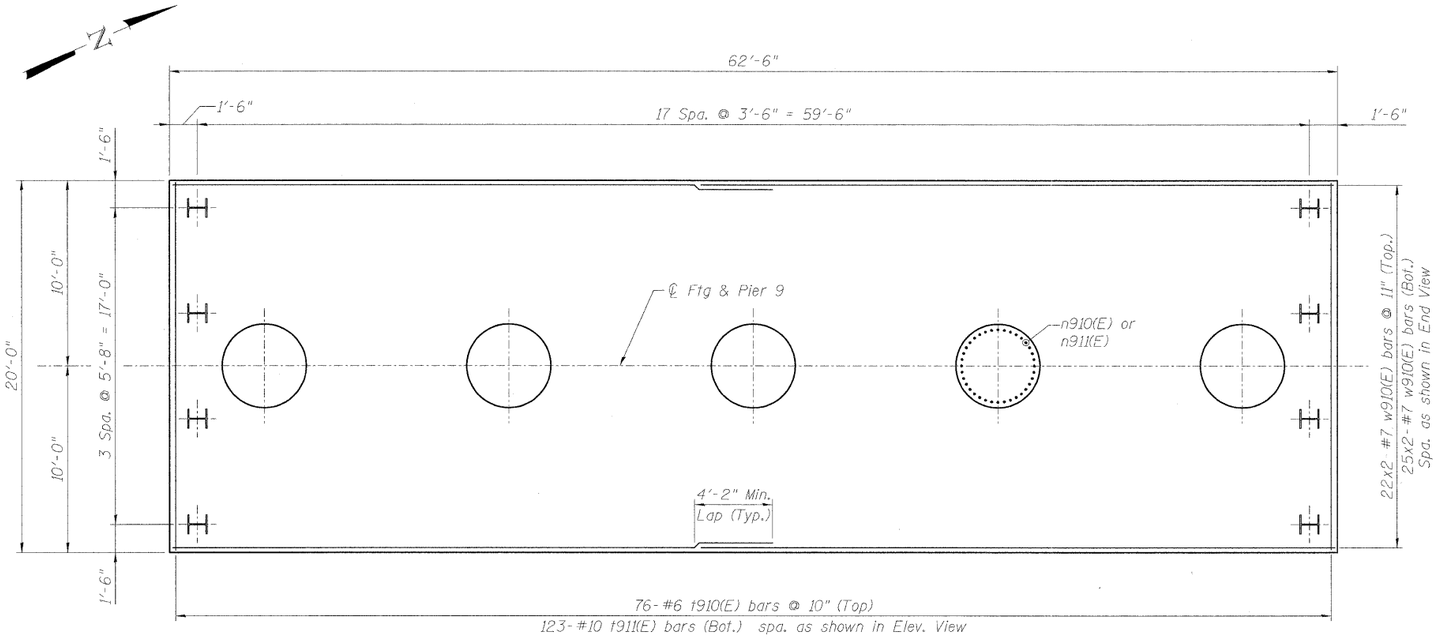
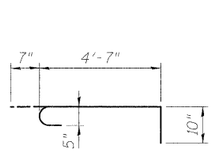
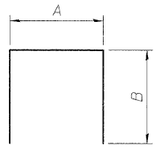


FOOTING PLAN



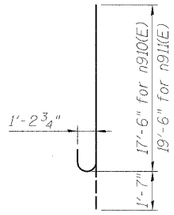
BAR s914(E)



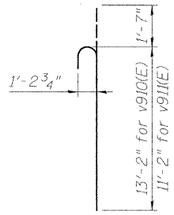
BARS s911(E), u911(E) t910(E), t911(E)

A & B DIMENSIONS

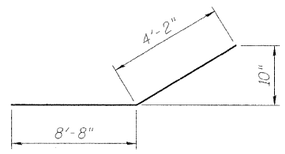
Bar	A	B
s911(E)	2'-10"	3'-8"
u911(E)	4'-6"	1'-0"
t910(E)	19'-8"	4'-1"
t911(E)	19'-8"	4'-1"



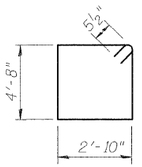
BAR n910(E) & n911(E)



BAR v910(E) & v911(E)



BAR p912(E)



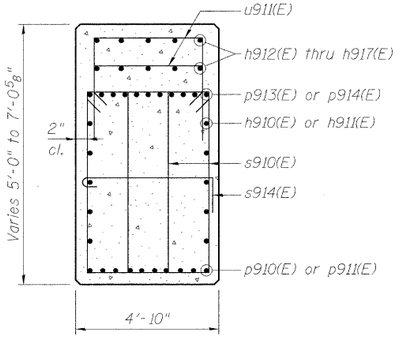
BAR s910(E)

BILL OF MATERIAL

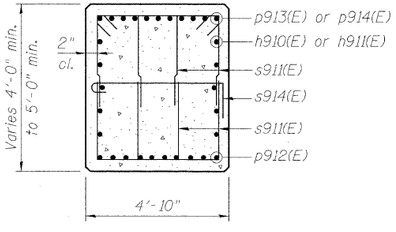
Bar	No.	Size	Length	Shape
h910(E)	10	#5	20'- 2"	———
h911(E)	10	#5	40'- 0"	———
h912(E)	5	#5	40'- 0"	———
h913(E)	5	#5	15'- 6"	———
h915(E)	5	#5	17'- 3"	———
h916(E)	5	#5	24'- 8"	———
h917(E)	5	#5	10'- 3"	———
n910(E)	90	#11	19'- 1"	⊂———
n911(E)	90	#11	21'- 1"	⊂———
p910(E)	10	#11	17'- 6"	———
p911(E)	10	#11	40'- 0"	———
p912(E)	20	#8	12'- 10"	——/
p913(E)	11	#11	22'- 6"	⌐——
p914(E)	11	#11	42'- 0"	⌐——
s910(E)	208	#5	15'- 11"	⌐—↗
s911(E)	328	#5	10'- 2"	⌐—⌐
s914(E)	61	#5	6'- 0"	⊂——⊂
s915(E)	90	#5	13'- 1"	○
sp910(E)	5	#5	23'- 0"	∿∿
t910(E)	76	#6	27'- 10"	⌐—⌐
t911(E)	123	#10	27'- 10"	⌐—⌐
u910(E)	14	#6	13'- 0"	∪
u911(E)	109	#5	6'- 6"	⌐—⌐
v910(E)	90	#11	14'- 9"	⊂———
v911(E)	90	#11	12'- 9"	⊂———
w910(E)	94	#7	37'- 5"	⌐——

** Length is Height of Spiral.

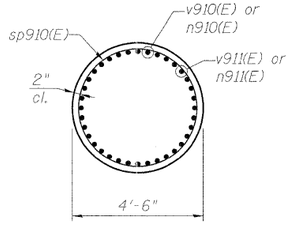
Item	Unit	Quantity
Concrete Structures	Cu. Yd.	358.4
Reinforcement Bars, Epoxy Coated	Pound	81,990
Furnishing Steel Piles, HP14x89	Foot	7952
Driving Piles	Foot	7952
Test Pile Steel HP14x89	Each	1
Pile Shoes	Each	72
Mechanical Splicers	Each	216



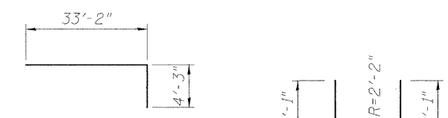
SEC. A-A



SEC. B-B

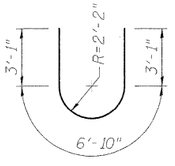


SEC. C-C

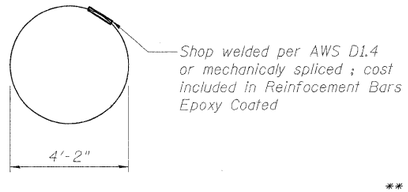


BAR p913(E) & p914(E)

BAR w910(E)



BAR u910(E)



BAR s915(E)

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	112 ft.
Number of Production Piles:	71
Number of Test Piles:	1

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AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - MRK	REVISED -	
PLOT SCALE = @1 '' / in.	CHECKED - DB	REVISED -	
PLOT DATE = @DATE@	DATE - 05-02-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 9 DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-119 OF S-138 SHEETS | STA. | TO STA.

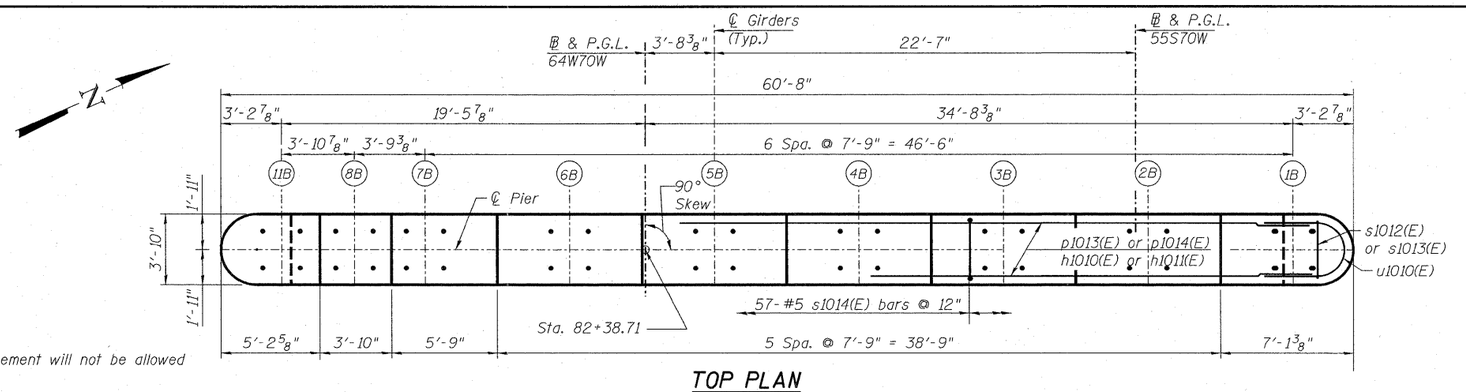
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	234
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES:

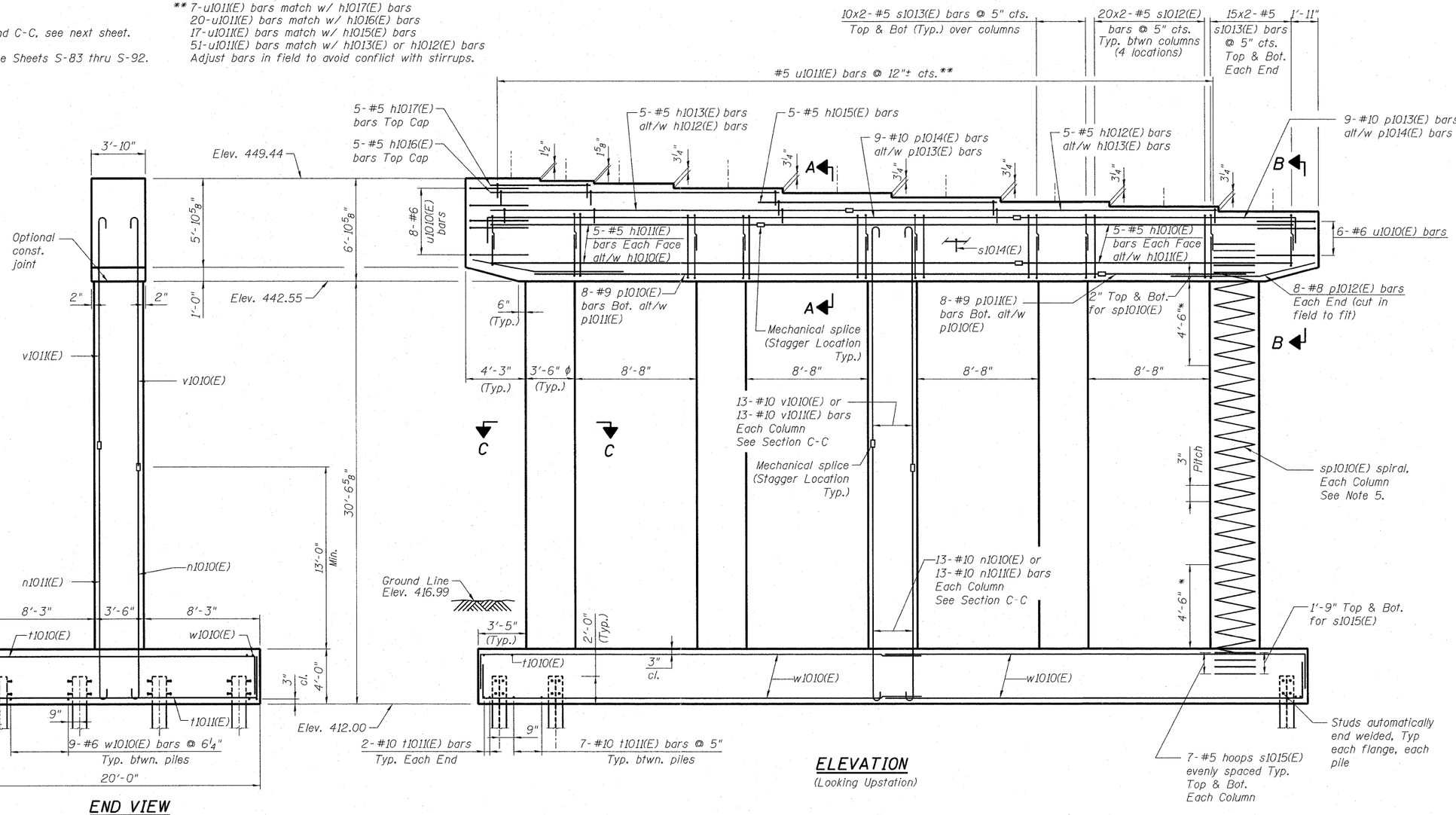
1. Space reinforcement in cap to miss anchor bolts.
2. Pour steps monolithically with cap.
3. For details of piles, see sheet S-122.
4. Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
5. #5 sp1010(E) spiral, each column
   1) Provide $1\frac{1}{2}$ extra turns, shop welded together per AWS D1.4 top and bottom. Extend spiral 2" into pier cap & footing. Provide 4-#4 spacers or equivalent.
   2) When splicing spiral reinforcement is necessary, the spiral shall be provided with $1\frac{1}{2}$ extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook.
6. For section A-A, B-B, and C-C, see next sheet.
7. For anchor bolt details see Sheets S-83 thru S-92.

* Splicing of reinforcement will not be allowed in this region.

** 7-u1011(E) bars match w/ h1017(E) bars
20-u1011(E) bars match w/ h1016(E) bars
17-u1011(E) bars match w/ h1015(E) bars
51-u1011(E) bars match w/ h1013(E) or h1012(E) bars
Adjust bars in field to avoid conflict with stirrups.



TOP PLAN



END VIEW

ELEVATION
(Looking Upstation)

TOP OF SEAT ELEVATION

Beam No.	Seat Elev.
1B	447.55
2B	447.82
3B	448.09
4B	448.36
5B	448.63
6B	448.90
7B	449.17
8B	449.31
11B	449.44

AECOM

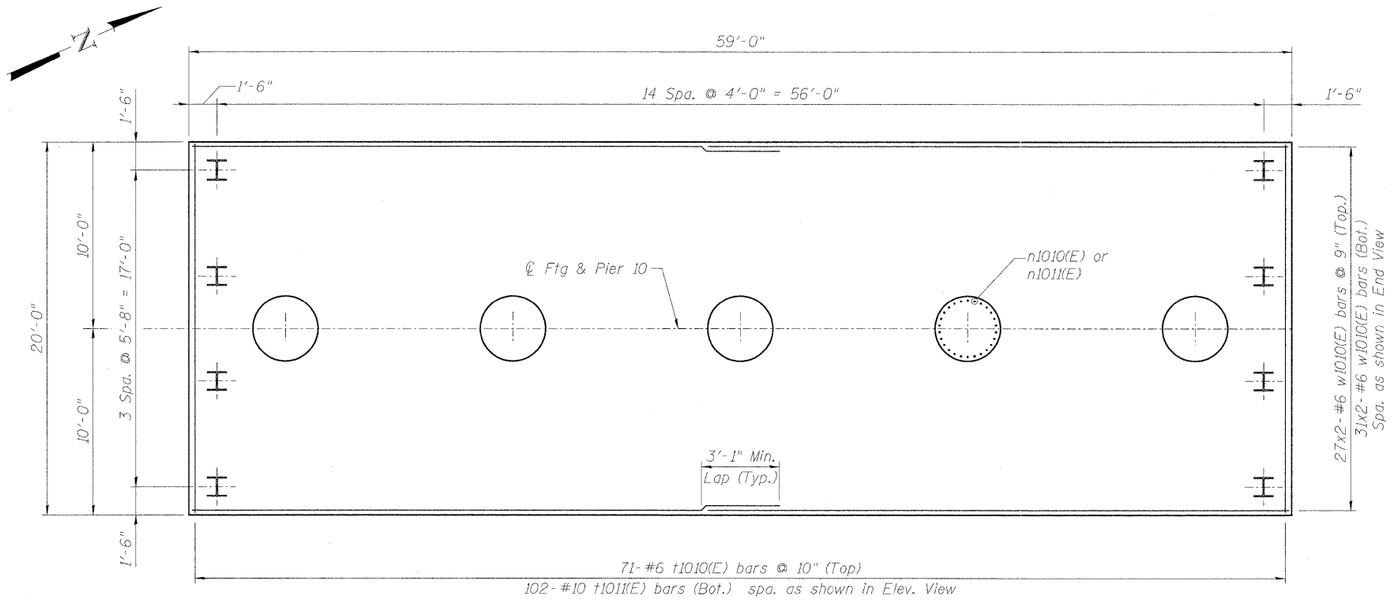
USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = Ø:2 '1' / in.	CHECKED -	REVISED -	
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

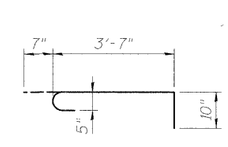
PIER 10 – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-120 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	235
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

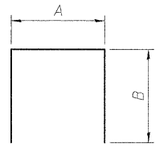
P:\P60804669\%02_CAD\%01_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S128_082-0325_76C75_Pier10A.dgn



FOOTING PLAN



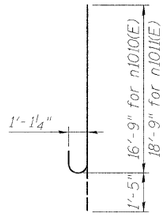
BAR s1014(E)



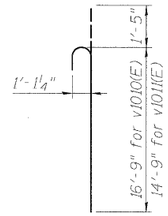
A & B DIMENSIONS

Bar	A	B
s1013(E)	2'-6"	3'-8"
u1011(E)	3'-6"	1'-0"
t1010(E)	19'-8"	3'-4"
t1011(E)	19'-8"	3'-4"

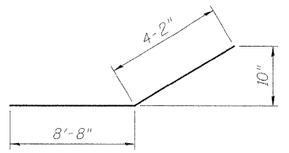
BARS s1013(E), u1011(E), t1010(E), t1011(E)



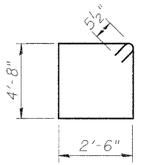
BAR n1010(E) & n1011(E)



BAR v1010(E) & v1011(E)



BAR p1012(E)

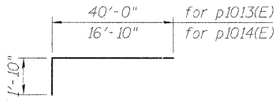


BAR s1012(E)

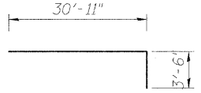
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1010(E)	10	#5	40'- 0"	———
h1011(E)	10	#5	16'- 6"	———
h1012(E)	5	#5	40'- 0"	———
h1013(E)	5	#5	11'- 5"	———
h1015(E)	5	#5	17'- 3"	———
h1016(E)	5	#5	20'- 5"	———
h1017(E)	5	#5	6'- 11"	———
n1010(E)	65	#10	18'- 2"	⊂——
n1011(E)	65	#10	20'- 2"	⊂——
p1010(E)	8	#9	40'- 0"	———
p1011(E)	8	#9	12'- 10"	———
p1012(E)	16	#8	12'- 10"	——/
p1013(E)	9	#10	41'- 10"	⌐——
p1014(E)	9	#10	18'- 8"	⌐——
s1012(E)	160	#5	15'- 3"	⌐—⌐
s1013(E)	240	#5	9'- 10"	⌐—⌐
s1014(E)	57	#5	5'- 0"	⊂—⊃
s1015(E)	70	#5	9'- 11 3/8"	○
** sp1010(E)	5	#5	26'- 11"	∧∧∧
t1010(E)	71	#6	26'- 4"	⌐—⌐
t1011(E)	102	#10	26'- 4"	⌐—⌐
u1010(E)	14	#6	11'- 5"	∪
u1011(E)	95	#5	5'- 6"	⌐—⌐
v1010(E)	65	#10	18'- 2"	⊂——
v1011(E)	65	#10	16'- 2"	⊂——
w1010(E)	116	#6	34'- 5"	⌐——

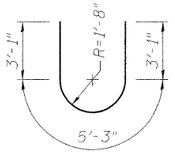
Item	Unit	Quantity
Structure Excavation	Cu. Yd.	279.4
Concrete Structures	Cu. Yd.	273.5
Reinforcement Bars, Epoxy Coated	Pound	54,700
Furnishing Steel Piles, HP14x89	Foot	6780
Driving Piles	Foot	6780
Pile Shoes	Each	60
Mechanical Splicers	Each	162



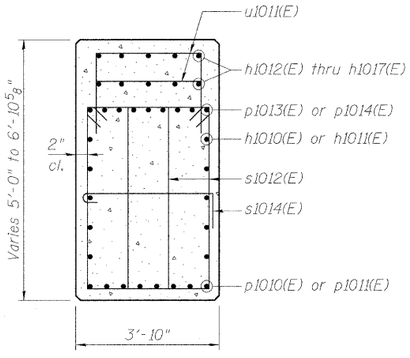
BAR p1013(E) & p1014(E)



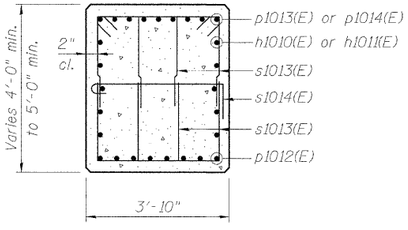
BAR w1010(E)



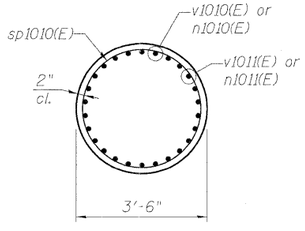
BAR u1010(E)



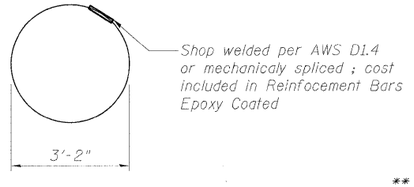
SEC. A-A



SEC. B-B



SEC. C-C



BAR s1015(E)

** Length is Height of Spiral.

PILE DATA

Type:	HP14x89
Nominal Required Bearing:	500 kips
Factored Resistance Available:	250 kips
Estimated Length:	113 ft.
Number of Production Piles:	60
Number of Test Piles:	0

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 0:1 '1' / in.	CHECKED - DB	REVISED -	
PLOT DATE = $DATE$	DATE - 05-02-11	REVISED -	

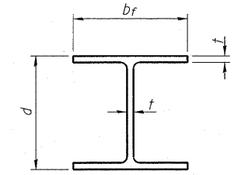
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 10 DETAILS – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-121 OF S-138 SHEETS | STA. | TO STA.

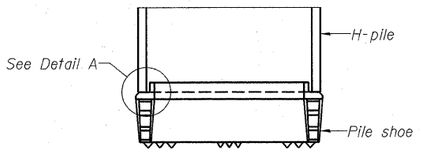
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	236
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

P:\P68046681\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S121_082-0325_76C75_Pier10B.dgn

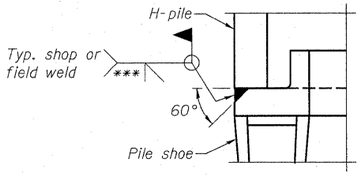


STEEL PILE TABLE

Designation	Depth d	Flange width b_f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	11/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

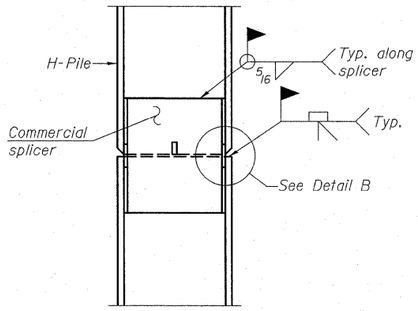


ELEVATION

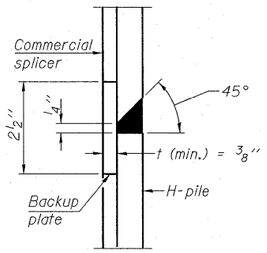


DETAIL A

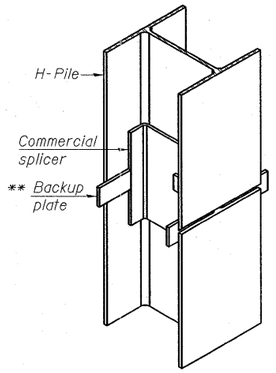
H-PILE SHOE ATTACHMENT



ELEVATION

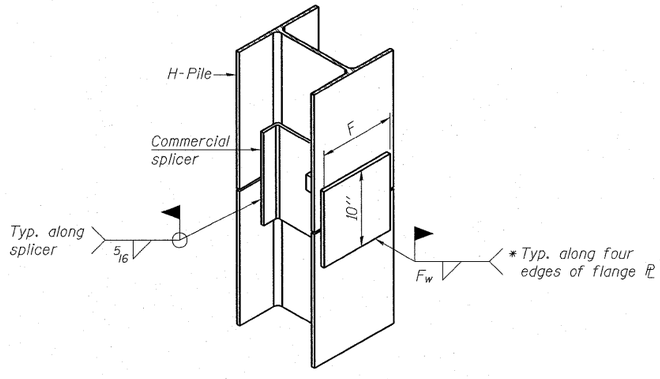


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



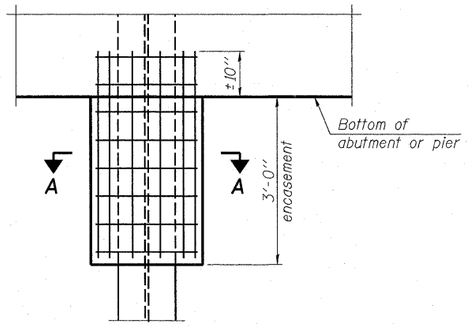
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

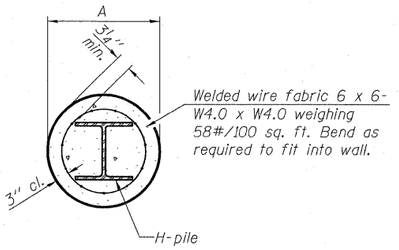
* Interrupt welds 1/4" from end of web and/or each flange.

** Remove portions of backup plates that extend outside the flanges.

*** Weld size per pile shoe manufacturer (5/16" min.).



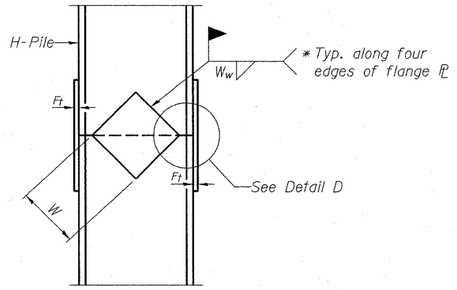
ELEVATION



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

SECTION A-A

PILE ENCASEMENT



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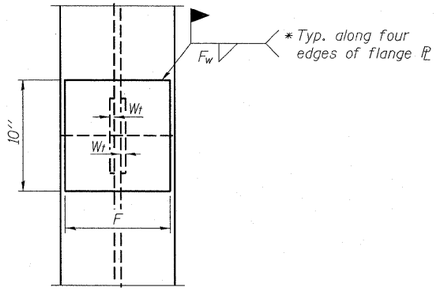
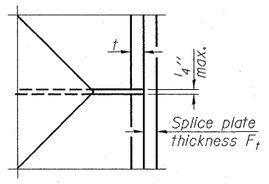
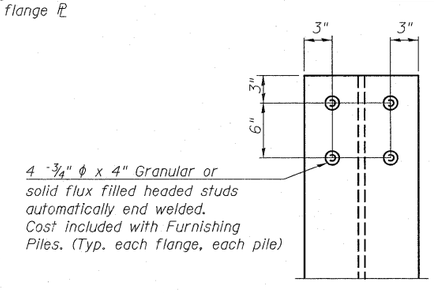


END VIEW



DETAIL D

Designation	F	F_t	F_w	W	W_t	W_w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"



STUD DETAIL

WELDED PLATE FIELD SPLICE

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

P:\P60246089\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\082-0323\Sheet\S122_082-0323_76C75_PileDet.dgn

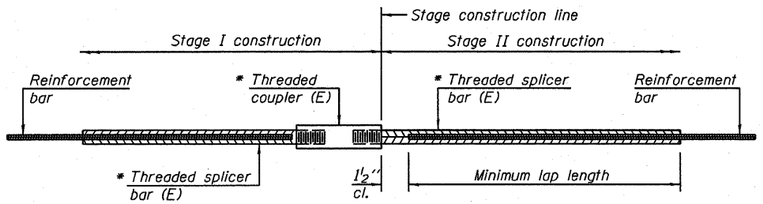
AECOM	USER NAME = BhattA	DESIGNED - EJO	REVISED -
		DRAWN - JHR	REVISED -
	PLOT SCALE = 0.2 '1' / in.	CHECKED -	REVISED -
	PLOT DATE = *DATE*	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE DETAILS
I-70W OVER I-55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-122 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	237
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

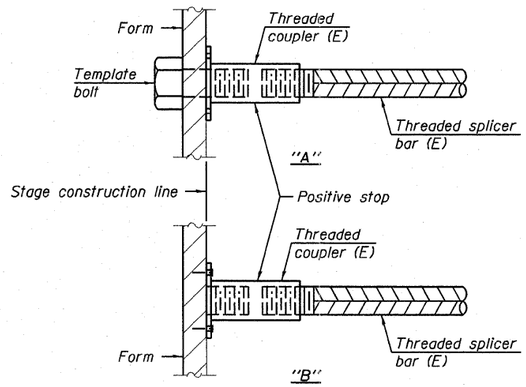
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

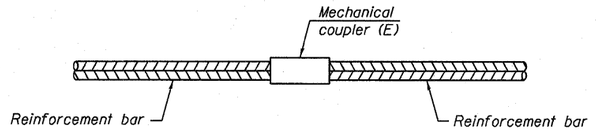
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length



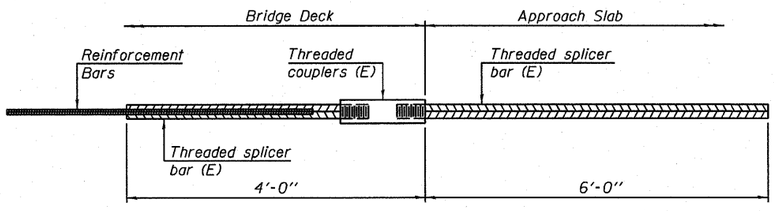
INSTALLATION AND SETTING METHODS

"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.



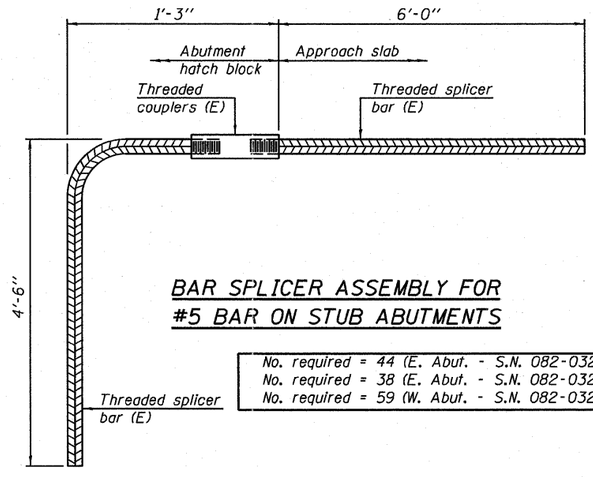
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required
Pier 1 (SN 082-0323)	#6	32
Pier 1 (SN 082-0323)	#11	108
Pier 2 (SN 082-0323)	#11	96
Pier 3 (SN 082-0323)	#11	99
Pier 1 (SN 082-0325)	#6	32
Pier 2 (SN 082-0325)	#6	32
Pier 4 (SN 082-0325)	#6	32
Pier 4 (SN 082-0325)	#9	160
Pier 5 (SN 082-0325)	#6	32
Pier 6 (SN 082-0325)	#6	32
Pier 7 (SN 082-0325)	#10	78
Pier 8 (SN 082-0325)	#5	15
Pier 8 (SN 082-0325)	#10	8
Pier 8 (SN 082-0325)	#11	169
Pier 9 (SN 082-0325)	#5	15
Pier 9 (SN 082-0325)	#11	201
Pier 10 (SN 082-0325)	#5	15
Pier 10 (SN 082-0325)	#9	8
Pier 10 (SN 082-0325)	#10	139



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 = 44 (E. Abut. - S.N. 082-0323)
No. required = 38 (E. Abut. - S.N. 082-0325)
No. required = 59 (W. Abut. - S.N. 082-0325)

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 special provision for Mechanical Splicers.

See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BSD-1 7-1-10

AECOM

USER NAME = BhattA	DESIGNED - EJO	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 0:2 '1" / in.	CHECKED -	REVISED -	
PLOT DATE = @DATE@	DATE - 03/18/2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
I-70W OVER I-55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-123 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	238
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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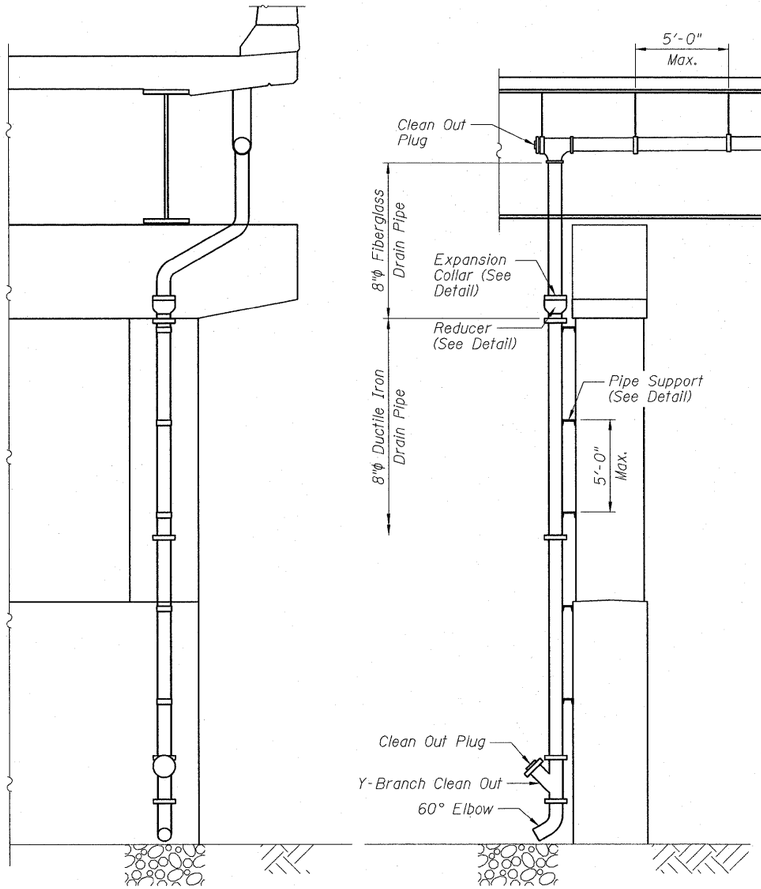
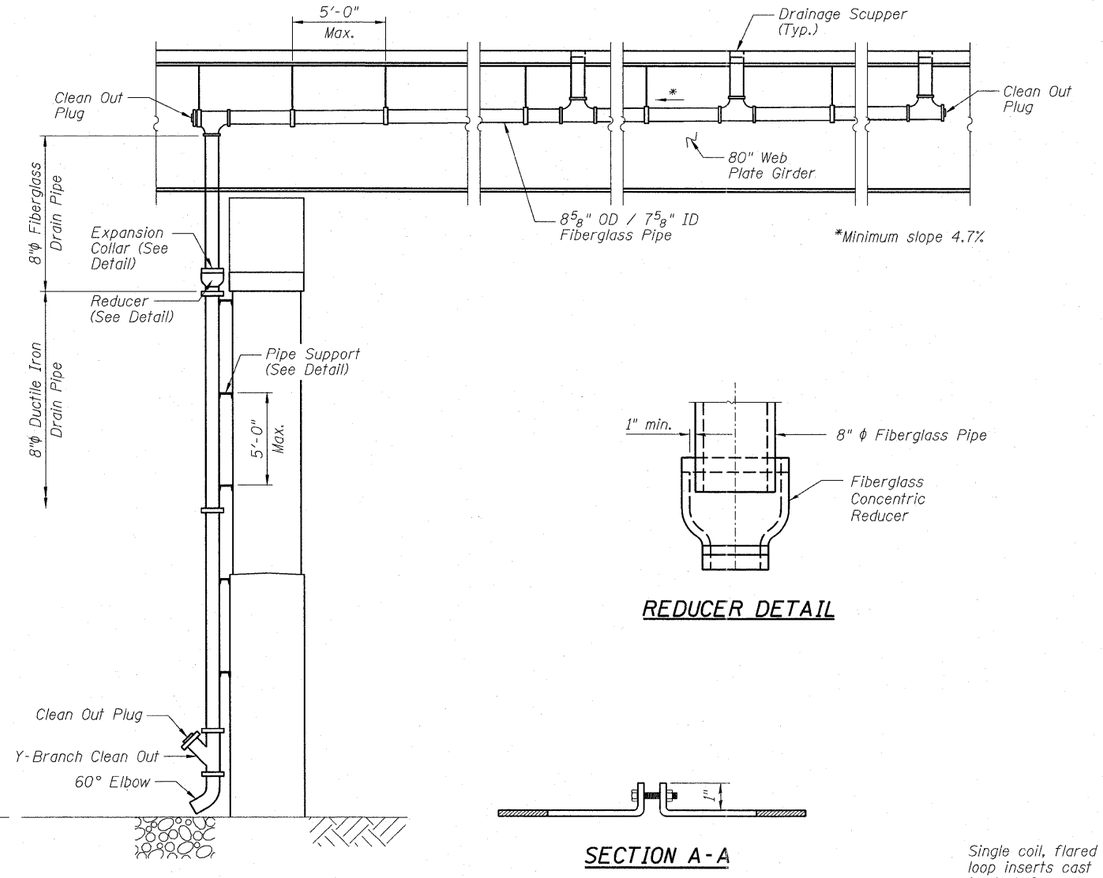
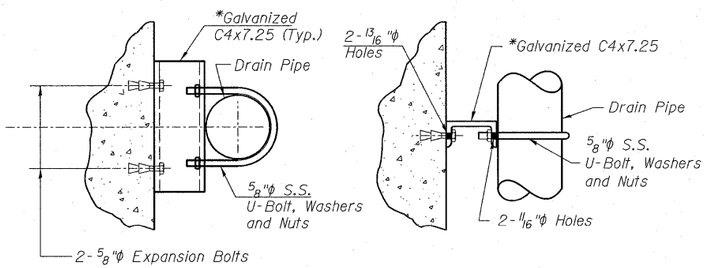


ELEVATION VIEW
(Looking West)



END VIEW
(Looking South)

DRAINAGE SYSTEM
© Pier 1 S.N. 082-0323
© Pier 5 S.N. 082-0325



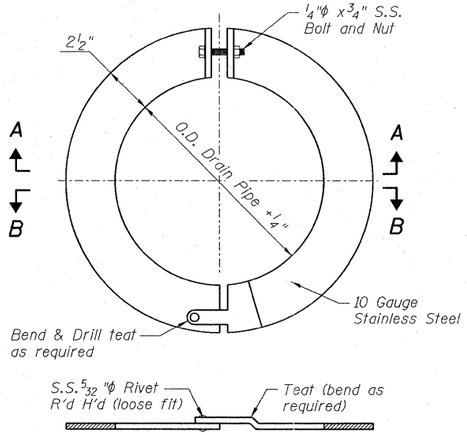
PLAN

ELEVATION

PIPE SUPPORT DETAIL
*Provide curved C6x8.2 to fit Round Pier Columns where needed

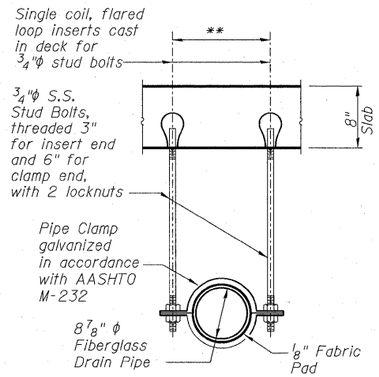
REDUCER DETAIL

SECTION A-A



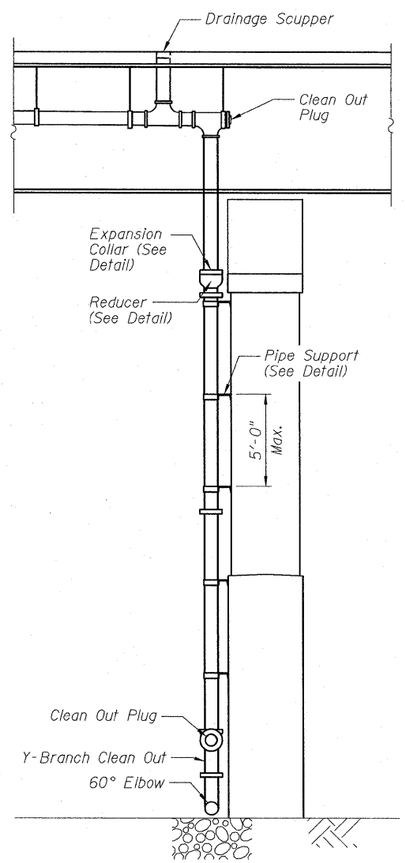
SECTION B-B

DETAIL OF EXPANSION COLLAR



PIPE SUPPORT DETAIL
** Dimension as required by Pipe Clamp

NOTE:
1. S.S. denotes Stainless Steel.



END VIEW
(Looking South)

DRAINAGE SYSTEM
© Pier 10 S.N. 082-0325

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage System	L. Sum	1

D8TRI-08203323-08203325-76C75-SI24-DrainageSystem.dgn

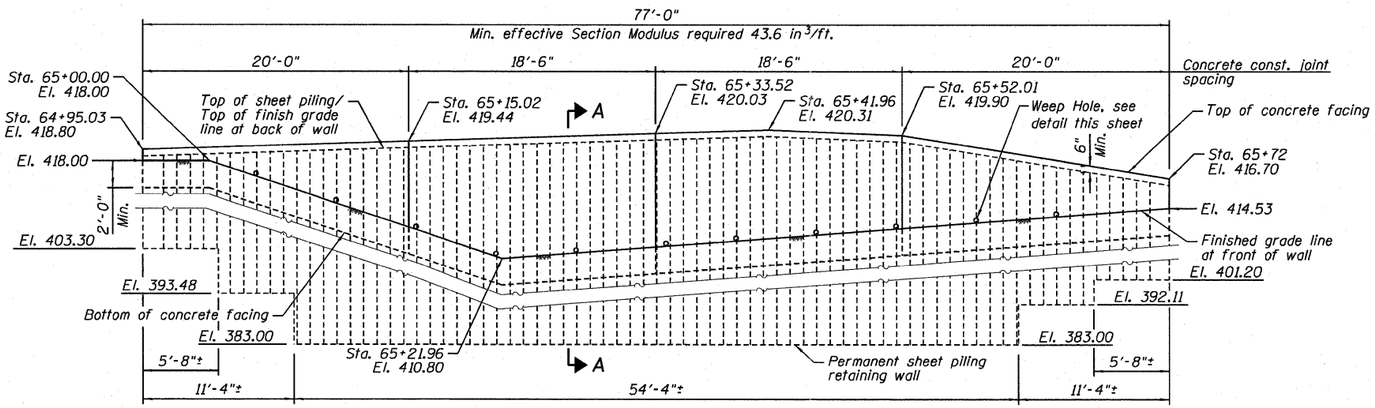
AECOM | ZROKA Engineering

USER NAME = kritzm	DESIGNED - JLA	REVISED -	
	DRAWN - DAZ	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - SAW	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

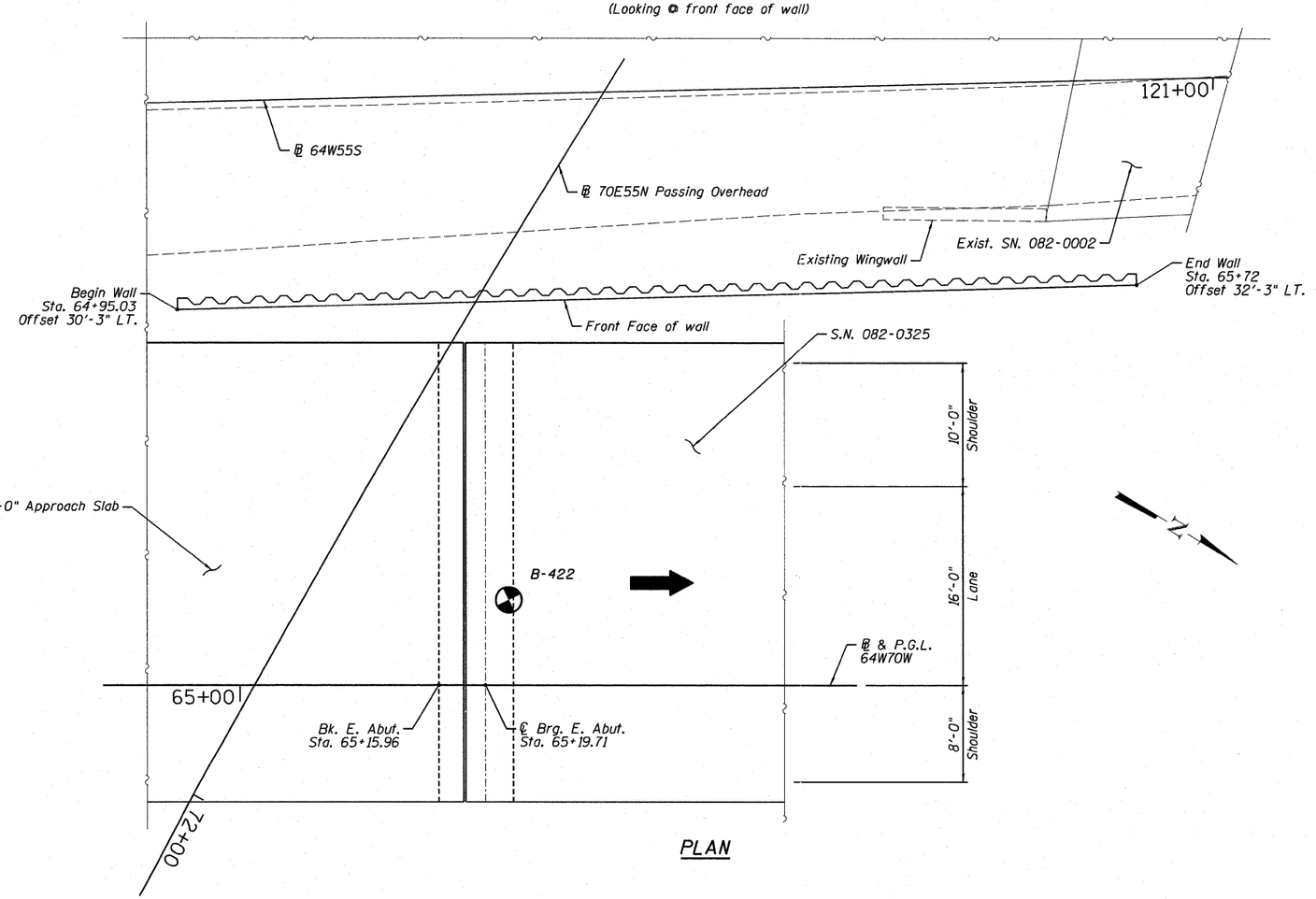
DRAINAGE SYSTEM DETAILS
I-70W OVER I-55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-124 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	239
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



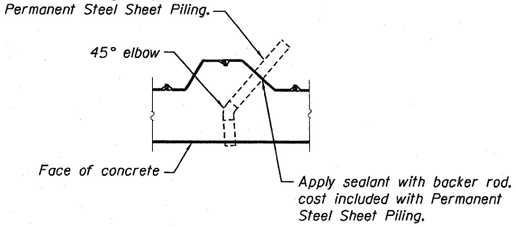
ELEVATION

(Looking @ front face of wall)



PLAN

4" dia x 2'-6" long Sch 80 PVC pipe with end cap, 12-½"ϕ evenly distributed holes and fabric wrapped. Pushed or predrilled into backfill. Cost of installing weep holes included with Permanent Steel Sheet Piling.



WEEP HOLE DETAIL

DESIGN SPECIFICATIONS

2002 AASHTO - Standard Specifications
for Highway Bridges

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (reinf.)
fy = 39,000 psi (M202 Grade 39)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h210(E)	4	#5	22'-6"	——
h211(E)	2	#5	21'-11"	——
h212(E)	1	#5	20'-6"	——
h213(E)	1	#5	10'-0"	——
h214(E)	1	#5	7'-0"	——
h215(E)	1	#5	17'-0"	——
h216(E)	22	#5	21'-0"	——
h217(E)	9	#5	19'-10"	——
v210(E)	6	#5	2'-6"	——
v211(E)	7	#5	11'-0"	——
v212(E)	4	#5	18'-6"	——
v213(E)	6	#5	20'-5"	——
v214(E)	5	#5	19'-7"	——
v215(E)	5	#5	18'-0"	——
v216(E)	11	#5	12'-4"	——
v217(E)	2	#5	2'-5"	——
v218(E)	2	#5	3'-10"	——
u210(E)	9	#5	4'-6"	⊐
Concrete Structures			Cu. Yd.	27.2
Reinforcement Bars, Epoxy Coated			Pound	1560
Permanent Steel Sheet Piling			Sq. Ft.	2430

P:\V60846691\300_CAD\901_Drawings\76C80_Master_Consolidated\Structural\082-0323\Sheet\S125_082-0323_0325_76C75_RetWall-1.dgn

AECOM

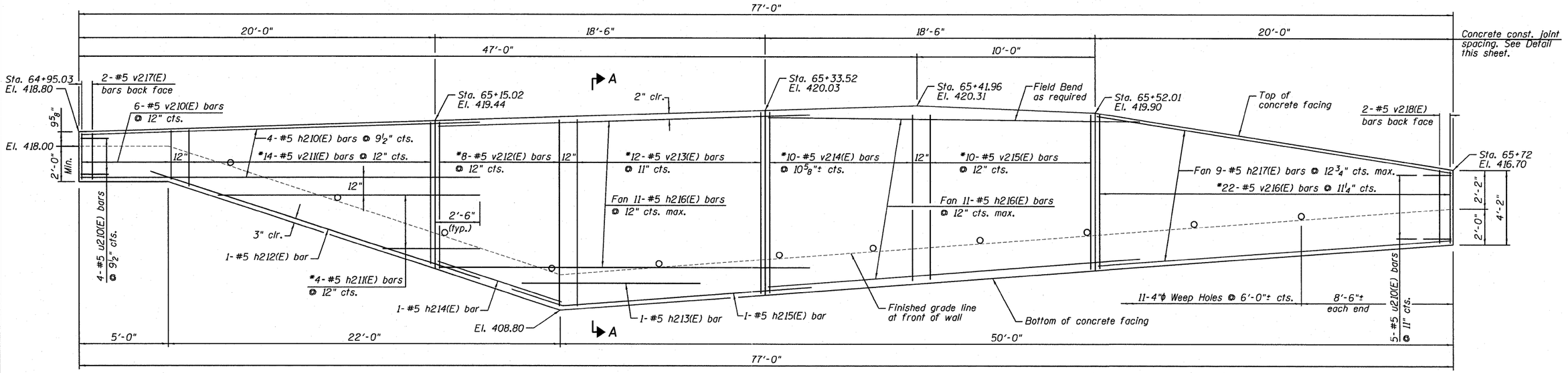
USER NAME = BhattA	DESIGNED - LLV	REVISED -	
	DRAWN - BRD	REVISED -	
PLOT SCALE = 0.166666 ' / in.	CHECKED - PJL	REVISED -	
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PERMANENT STEEL SHEET PILE WALL – GENERAL PLAN
I–70W OVER I–55, CSX & KCS RAILROADS

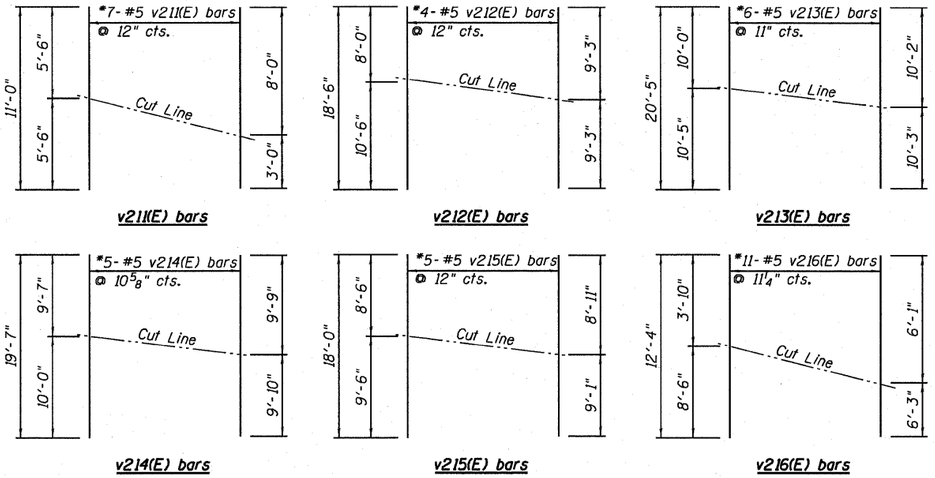
SCALE: NONE | SHEET NO. S-125 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	240
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



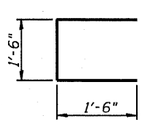
ELEVATION

(Looking @ front face of wall)

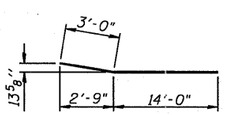


*FIELD CUTTING DIAGRAMS

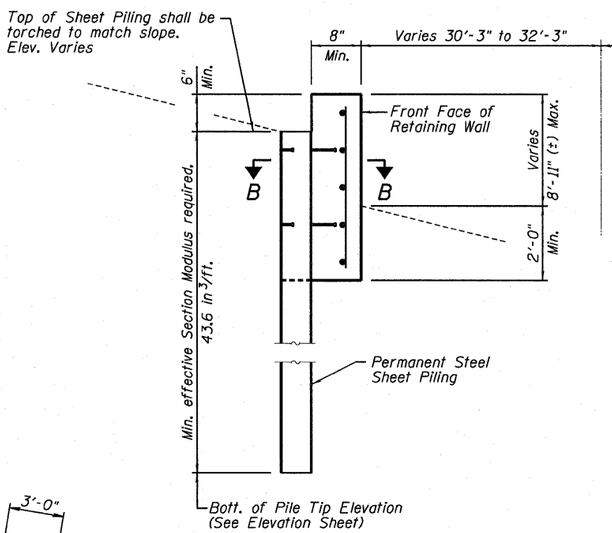
Order bars full length. Cut as shown and place for best fit.



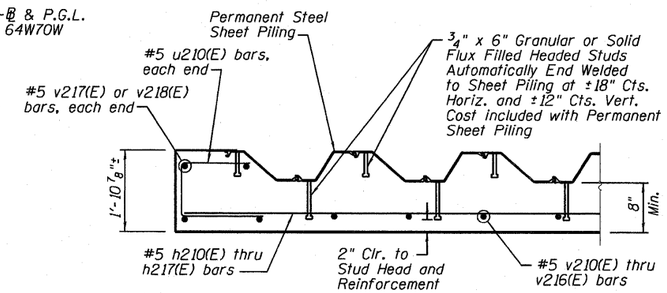
BAR u210(E



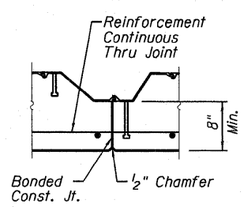
BAR h215(E)



SECTION A-A



SECTION B-B



WALL CONSTRUCTION JOINT

USER NAME = BhattA	DESIGNED - LLV	REVISED -	
	DRAWN - BRD	REVISED -	
PLOT SCALE = 0.166666 ' / in.	CHECKED - PJL	REVISED -	
PLOT DATE = *DATE*	DATE - 03/18/2011	REVISED -	

AECOM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PERMANENT STEEL SHEET PILE WALL DETAILS
I-70W OVER I-55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-126 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	241
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0323 / 082-0325
Station NA

BORING NO. B-417
Station 79+9.07
Offset 33.28ft Left
Ground Surface Elev. 421.00 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
420.80			
Asphalt – 2 inches thick			
Brown gray, SILTY CLAY (FILL), with cinders			
	3		
	2		27
-5	5		
	6		
414.00	6		20
Stiff, gray, CLAY	5		
412.00	1		
Very stiff, gray, SILTY CLAY	3	2.2	11
-10	5	S	
410.50			
Loose, gray, FINE GRAINED SAND, with silt	3		
	3		15
	3		
	1		
	3		26
-15	5		
	4		
	5		25
	3		
	3		
	4		28
-20	3		
Loose, gray, FINE GRAINED SAND, with silt (continued)			
	6		
	3		27
	4		
See attached grain size distribution	4		
	2		33
-25	3		
	5		
	5		42
	3		
	1		
	2		
-30	2		
very loose			
389.00			
Medium dense, gray, MEDIUM GRAINED SAND, trace gravel			
See attached grain size distribution	14		
	12		
-35	11		
384.00			
Loose to medium dense, gray, FINE GRAINED SAND			
	7		
	3		
-40	2		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0323 / 082-0325
Station NA

BORING NO. B-417
Station 79+9.07
Offset 33.28ft Left
Ground Surface Elev. 421.00 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose to medium dense, gray, FINE GRAINED SAND (continued)			
	12		
	10		
-45	8		
374.00			
Medium dense, gray, MEDIUM GRAINED SAND			
	7		
	13		
-50	10		
369.00			
Medium stiff, gray, CLAY			56
367.00	0		
Stiff, gray, SILTY LOAM	6	0.7	29
-55	9	B	
364.00			
Medium dense to dense, gray, FINE TO MEDIUM GRAINED SAND, with silt			
	10		
	12		
-60	12		
Medium dense to dense, gray, FINE TO MEDIUM GRAINED SAND, with silt (continued)			
	15		
	18		
-65	13		
See attached grain size distribution	8		
	7		
-70	11		
346.00			
Medium dense to dense, gray, MEDIUM GRAINED SAND, trace gravel			
	11		
	11		
-80	14		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0323 / 082-0325
Station NA

BORING NO. B-417
Station 79+9.07
Offset 33.28ft Left
Ground Surface Elev. 421.00 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense to dense, gray, MEDIUM GRAINED SAND, trace gravel (continued)			
-85	21		
	16		
-90	18		
-95			
	15		
	18		
-100	18		
Medium dense to dense, gray, MEDIUM GRAINED SAND, trace gravel (continued)			
-105	17		
	18		
-110	21		
-115			
302.00	50/2"		
End of Boring			
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = 8DATE8	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – I – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-127 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	242
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-418
Station 75+31.28
Offset 18.73ft Left
Ground Surface Elev. 414.42 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, CLAY (FILL), trace cinders, brick fragments,and gravel			
	6		
	9	0.4	
	8	P	
	4		
	4	1.0	
-5	5	P	
	5		
	7		
	7		
406.42			
Gray, SILTY LOAM (FILL), trace cinders.	5		
	9		
-10	7		
	4		
	7		
	8		
401.42			
Medium stiff to stiff, gray, SILTY LOAM	2		
	3		
-15	4		
	3		
	4		
	5		
396.42			
Soft to medium stiff, brown and gray, SILTY LOAM, with silt and sand seams	1		
	2		
-20	2		
Soft to medium stiff, brown and gray, SILTY LOAM, with silt and sand seams (continued)	1		
	2		
	6		
	2		
	4		
-25	2		
	0		
	3		
	3		
386.42			
Soft, gray, CLAY, with silt partings	3		
	1		
-30	2		
382.42			
Dense, gray, FINE GRAINED SAND	12		
	19		
-35	20		
377.42			
Loose, gray, FINE GRAINED SAND, trace silt	5		
	4		
See attached percent passing No. 200 sieve -40	3		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-418
Station 75+31.28
Offset 18.73ft Left
Ground Surface Elev. 414.42 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose, gray, FINE GRAINED SAND, trace silt (continued)			
	4		
-45	4		
	3		
367.42			
Medium dense to loose, gray, SANDY LOAM	8		
	12		
-50	12		
	5		
See attached grain size distribution	6		
-55	6		
	2		
with clay and silt seams	3		
-60	3		
Medium dense to very dense, gray, SANDY LOAM (continued)			
351.42			
Medium dense to very dense, gray, FINE GRAINED SAND	9		
	13		
-65	13		
	18		
Very dense	35		
-70	42		
339.42 -75			
Medium dense to very dense, gray, MEDIUM GRAINED SAND, trace gravel			
	6		
See attached grain size distribution -80	7		
	7		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-418
Station 75+31.28
Offset 18.73ft Left
Ground Surface Elev. 414.42 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense to very dense, gray, MEDIUM GRAINED SAND, trace gravel (continued)			
-85	15		
	29		
-90	35		
-95	11		
	13		
-100	15		
Medium dense to very dense, gray, MEDIUM GRAINED SAND, trace gravel (continued)			
309.42 -105			
Dense, gray, FINE TO COARSE GRAINED SAND, with gravel			
See attached grain size distribution	13		
	17		
-110	14		
299.42 -115			
Very dense, gray, FINE GRAINED SAND, trace gravel	42		
-120	50/5"		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – II – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-128 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	243
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-418
Station 75+31.28
Offset 18.73ft Left
Ground Surface Elev. 414.42 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very dense, gray, FINE GRAINED SAND, trace gravel (continued)				
	289.42 -125			
End of Boring				
	-130			
	-135			
	-140			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-425
Station 74+14.22
Offset 10.00ft Right
Ground Surface Elev. 415.08 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, SAND (FILL), trace cinders		8		
		15		
		8		
		4		
	410.08 -5	6		
		6		
Brown, SAND (FILL)		7		
		11		
		16		
	407.08			
Stiff to very stiff, gray, CLAY		3		
		5		24
	-10	6		
		4		
		5		13
		6		
		3		
		4	3.3	20
	-15	6	S	
	399.58			
Stiff, tan, SILT		5		
		6		7
		6		
	397.08			
Medium stiff, gray, SILTY CLAY, trace sand		2		
	-20	3		21
		3		
Medium stiff, gray, SILTY CLAY, trace sand (continued)		2		
		2		29
soft		2		
		1		
	-25	3		25
	389.58	4		
Medium stiff, gray, CLAY, trace sand		1		
		2	0.7	56
		2	B	
		1		
		1	0.6	36
	-30	2	B	
	383.08			
Loose to medium dense, gray, SANDY LOAM		2		
		3		32
	-35	2		
		6		
		6		30
	-40	8		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-425
Station 74+14.22
Offset 10.00ft Right
Ground Surface Elev. 415.08 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose to medium dense, gray, SANDY LOAM (continued)				
	373.08			
Medium dense, brown and gray, FINE GRAINED SAND, with silt		9		
	-45	11		
See attached grain size distribution		12		
		6		
	-50	8		
		6		
		6		
		8		
	-55	9		
		9		
	-60	8		
		12		
Medium dense, brown and gray, FINE GRAINED SAND, with silt (continued)		15		
	353.08			
Loose to dense, gray, MEDIUM GRAINED SAND, trace silt		3		
		4		
See attached grain size distribution	-65	4		
		15		
		15		
	-70	14		
		12		
	-75			
		15		
	-80	16		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – III – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-129 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	244
	S.N. 082-0323 & S.N. 082-0325	CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-425
Station 74+14.22
Offset 10.00ft Right
Ground Surface Elev. 415.08 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DESCRIPTION
				Loose to dense, gray, MEDIUM GRAINED SAND, trace silt (continued)
330.08	-85			
	11			Dense, gray, FINE GRAINED SAND
	16			
-90	23			
-95				
	14			
	16			
-100	23			
				Dense, gray, FINE GRAINED SAND (continued)
-105				
	26			
	24			
-110	21			
300.08	-115			
				Very dense, gray, MEDIUM GRAINED SAND
	50/5"			
-120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-0323
Station NA

BORING NO. B-425
Station 74+14.22
Offset 10.00ft Right
Ground Surface Elev. 415.08 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DESCRIPTION
				Very dense, gray, MEDIUM GRAINED SAND (continued)
293.08				
				CRYSTALLINE LIMESTONE - See attached rock core log
-125				
-130				
283.08				
				End of Boring
-135				
-140				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = 8DATE8	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – IV – S.N. 082–0323
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-130 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	245
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 10/18/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-0322
Station NA

BORING NO. B- 4
Station 55+50
Offset 79.50ft Left
Ground Surface Elev. 421.60 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Soft to medium stiff, brown, CLAY with asphalt, brick/concrete fragments, gravel/crushed limestone, cinders (FILL)
	5			
	4	*	16	
	3			
	2			
	2	*	28	
-5	2			
	1			
	1	*	7	
	1			
412.60	2			
	2	1.8	29	Medium stiff, brown, SILTY CLAY
411.60 -10	4	S		
				Soft, brown, SILTY LOAM
	2			
	2	0.3	25	
	2	P		
408.60				
				Loose, brown, FINE GRAINED SAND
407.60	3			
	2	*		Soft, brown, CLAY LOAM
-15	2			
406.10				
				Loose, brown, SANDY LOAM
	3			
404.60	3	*		
	5			Loose, brown, FINE GRAINED SAND with layer of brown, silt @ 19'
				Start mud rotary drilling @20'
	4			
	3			
-20	5			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
401.10				
	6			Medium dense, brown, SANDY LOAM
	7	*		See Attached Gradation Test Results
	7			
398.60				
	2			Medium dense, brown, FINE GRAINED SAND with silt @ 28'-35' and layer of brown, MEDIUM GRAINED SAND @ 43'-45' and laminations of black organic material and Fe staining @ 53'-55'
	3			
-25	6			
	7			
	9			
	9			
	5			See Attached Gradation Test Results
	7			
-30	8			
	6			
	8			
-35	10			
	6			
	7			
	9			
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Date 10/18/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-0322
Station NA

BORING NO. B- 4
Station 55+50
Offset 79.50ft Left
Ground Surface Elev. 421.60 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Medium dense, brown, FINE GRAINED SAND with silt @ 28'-35' and layer of brown, MEDIUM GRAINED SAND @ 43'-45' and laminations of black organic material and Fe staining @ 53'-55' (continued)
	9			
	10			
-45	15			
	7			
	9			
-50	9			
	7			
	10			
-55	11			
364.60				
				Medium dense to very dense, gray, FINE GRAINED SAND
	25			
	30			
-60	30			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Medium dense to very dense, gray, FINE GRAINED SAND (continued)
	12			See Attached Gradation Test Results
	11		27	
-65	11			
354.60				
				Medium dense, gray, MEDIUM GRAINED SAND with fragments of light brown, highly weathered limestone
	9			
	10			
-70	10			
349.60				
				Medium dense, gray, FINE to MEDIUM GRAINED SAND
	18			
	14			
-75	16			
342.60				
-80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Date 10/18/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-0322
Station NA

BORING NO. B- 4
Station 55+50
Offset 79.50ft Left
Ground Surface Elev. 421.60 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Medium dense, gray, MEDIUM GRAINED SAND with fragments of light gray, highly weathered limestone (continued)
	19			
	12			
-85	11			
332.60				
				Medium dense to dense, gray, FINE to COARSE GRAINED SAND with lenses of light gray, weathered limestone
-90				
	7			
	9			
-95	15			
-100				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Medium dense to dense, gray, FINE to COARSE GRAINED SAND with lenses of light gray, weathered limestone (continued)
	11			
	13			
-105	13			
	18			
	18			
-115	30			
304.10				
-120				End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -	
	DRAWN - MK	REVISED -	
PLOT SCALE = 0.2 '1' / in.	CHECKED -	REVISED -	
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – I – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-131 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	246
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/3/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-403
Station 85+8.27
Offset 4.97ft Right
Ground Surface Elev. 418.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL - 12 Inches			
417.00			
Gray to black SILT (FILL), trace organics, cinders, and sand	2		
	2		20
	4		
414.50			
Medium stiff, brown, SILTY CLAY	2		
	2	2.0	29
-5	5	B	
412.00			
Stiff to soft, grayish brown, SILTY CLAY LOAM	1		
	3		29
	4		
	1		
	2		27
-10	2		
	4		
	5		24
405.00	7		
Medium dense, gray, FINE GRAINED SAND, with silt	5		
	7		
-15	8		
	8		
	7		
	11		
	8		
	11		
398.00 -20	11		
Loose, light gray, FINE GRAINED SAND, with silt			
See attached percent passing No. 200 sieve	4		
	5		
	5		
loose	4		
	6		
-25	5		
392.00			
Medium dense, gray, FINE GRAINED SAND	7		
	8		
	10		
	7		
	8		
-30	8		
	8		
	11		
-35	15		
	9		
	13		
-40	11		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Date 2/3/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-403
Station 85+8.27
Offset 4.97ft Right
Ground Surface Elev. 418.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, gray, FINE GRAINED SAND (continued)			
376.00			
Medium dense, gray, MEDIUM GRAINED SAND	9		
	11		
-45	11		
See attached grain size distribution			
	8		
	11		
-50	13		
	6		
	9		
-55	9		
361.00			
Very dense to medium dense, gray, FINE GRAINED SAND	22		
	32		
-60	42		
Very dense to medium dense, gray, FINE GRAINED SAND (continued)			
	10		
	7		
-65	9		
See attached grain size distribution			
	11		
	15		
-70	21		
344.00			
Medium dense, gray, FINE GRAINED SAND with trace gravel			
-75			
	10		
	15		
-80	14		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Date 2/3/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-403
Station 85+8.27
Offset 4.97ft Right
Ground Surface Elev. 418.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, gray, FINE GRAINED SAND with trace gravel (continued)			
-85			
	10		
	9		
-90	12		
326.00			
BOULDERS AND COBBLES			
324.00			
Medium dense, gray, COARSE GRAINED SAND with gravel			
-95			
	11		
	11		
318.00 -100	8		
BOULDERS AND COBBLES			
316.00			
Dense, gray, COARSE GRAINED SAND, with gravel			
-105			
	12		
	18		
-110	18		
304.00			
BOULDERS AND COBBLES			
-115			
301.50			
CRYSTALLINE LIMESTONE - See Rock Core Log			
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS - II - S.N. 082-0325
I-70W OVER I-55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-132 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	247
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/3/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 12, TWP. 2N, RNG. 10W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-403
Station 85+8.27
Offset 4.97ft Right
Ground Surface Elev. 418.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CRYSTALLINE LIMESTONE – See Rock Core Log (continued)			
-125			
291.50 End of Boring			
-130			
-135			
-140			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0323 / 082-0325
Station NA

BORING NO. B-417
Station 79+9.07
Offset 33.28ft Left
Ground Surface Elev. 421.00 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Asphalt – 2 inches thick 420.80			
Brown gray, SILTY CLAY (FILL), with cinders	3		
-5	2 5		27
	6		
414.00 Stiff, gray, CLAY	6 5		20
412.00 Very stiff, gray, SILTY CLAY	1		
-10	3 5	2.2 S	11
410.50 Loose, gray, FINE GRAINED SAND, with silt	3		
	3 3		15
	1		
-15	3 5		26
	4		
	5 3		25
	3		
-20	4 3		28

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose, gray, FINE GRAINED SAND, with silt (continued)	6		
	3 4		27
See attached grain size distribution	4		
-25	2 3		33
	5		
	5 3		42
	1		
-30	2 2		
very loose 389.00			
Medium dense, gray, MEDIUM GRAINED SAND, trace gravel			
See attached grain size distribution	14		
-35	12 11		
384.00 Loose to medium dense, gray, FINE GRAINED SAND	7		
-40	3 2		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0323 / 082-0325
Station NA

BORING NO. B-417
Station 79+9.07
Offset 33.28ft Left
Ground Surface Elev. 421.00 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose to medium dense, gray, FINE GRAINED SAND (continued)			
	12		
-45	10 8		
374.00 Medium dense, gray, MEDIUM GRAINED SAND	7		
	13		
-50	10		
369.00 Medium stiff, gray, CLAY			56
367.00	0		
Stiff, gray, SILTY LOAM	6	0.7	29
-55	9	B	
364.00 Medium dense to dense, gray, FINE TO MEDIUM GRAINED SAND, with silt	10		
-60	12 12		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense to dense, gray, FINE TO MEDIUM GRAINED SAND, with silt (continued)			
	15		
	18		
-65	13		
See attached grain size distribution	8		
	7		
-70	11		
346.00 Medium dense to dense, gray, MEDIUM GRAINED SAND, trace gravel			
-75	11		
-80	11 14		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '1' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – III – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-133 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	248
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0323 / 082-0325
Station NA

BORING NO. B-417
Station 79+9.07
Offset 33.28ft Left
Ground Surface Elev. 421.00 ft

Surface Water Elev. ____ ft
Stream Bed Elev. ____ ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense to dense, gray, MEDIUM GRAINED SAND, trace gravel (continued)			
-85	21		
	16		
-90	18		
-95	15		
	18		
-100	18		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense to dense, gray, MEDIUM GRAINED SAND, trace gravel (continued)			
-105	17		
	18		
-110	21		
-115			
302.00	50/2"		
End of Boring			
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-419
Station 73+60.05
Offset 1.23ft Right
Ground Surface Elev. 424.41 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, SAND (FILL), trace cinders, brick fragments,and gravel	5		
	6		
	12		
	4		
-5	5		
	5		
	4		
416.41	3		17
Medium stiff, brown, LOAM	3		
	4		
414.41	3		16
-10	3		
Stiff, black, CLAY	2		
	4		16
	6		
411.41			
Stiff, brown, SILTY LOAM	3		
	5		16
-15	4		
408.41			
Stiff to soft, SILT, with trace sand	5		
	5		16
	4		
	5		
-20	3		16
	4		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to soft, SILT, with trace sand (continued)	4		
	4		17
	6		
	2		
-25	2		16
	2		
395.41	2		
Medium stiff, gray, CLAY	2		17
-30	3		
391.41			
Medium dense, gray, FINE TO MEDIUM GRAINED SAND, trace gravel and silt See attached grain size distribution	14		
	14		
-35	11		
	7		
	8		
-40	8		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-419
Station 73+60.05
Offset 1.23ft Right
Ground Surface Elev. 424.41 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, gray, FINE TO MEDIUM GRAINED SAND, trace gravel and silt (continued)			
382.41			
Medium dense, gray, SANDY LOAM	6		
	8		
-45	12		
377.41			
Medium dense, gray, FINE GRAINED SAND, trace silt	12		
	9		
-50	12		
See attached grain size distribution	11		
	11		
-55	11		
	11		
-60	12		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, gray, FINE GRAINED SAND, trace silt (continued)			
	15		
	10		
-65	6		
	12		
	13		
-70	11		
-75			
	11		
	12		
-80	11		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = @DATE@	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – IV – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-134 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	249
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-419
Station 73+60.05
Offset 1.23ft Right
Ground Surface Elev. 424.41 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, gray, FINE GRAINED SAND, trace silt (continued)			
-85			
	25		
very dense	25		
-90	30		
-95			
328.41 Dense, gray, MEDIUM GRAINED SAND			
	15		
-100	20 20		
Dense, gray, MEDIUM GRAINED SAND (continued)			
-105			
318.41 Very dense, gray, FINE GRAINED SAND			
	20		
-110	25 27		
-115			
308.41 BOULDERS AND COBBLES			
305.91 End of Boring	50/1"		
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/23/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY MCD

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 55 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-420
Station 71+37.82
Offset 31.02ft Left
Ground Surface Elev. 416.03 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, SILTY CLAY (FILL)			
	6		
	10		24
	5		
	1		
	2		24
-5	4		
410.53 Stiff to soft, brownish gray, SILTY CLAY			
	2		
	3	2.0	33
	4	S	
	0		
	1		31
-10	2		
	0		
404.03	0		32
Very soft to stiff, brown, SILTY LOAM	0		
	1		
	5	0.7	43
-15	3	B	
	2		
	3		
	2		
	6		
396.03 -20	9 11		
Medium dense, gray, FINE GRAINED SAND, trace silt			
	7		
	12		
	12		
-25			
See attached grain size distribution	12		
388.03	11		
Very loose to loose, grayish black, SANDY LOAM	9		
	1		
	1		
-30	1		
	1		
	1		
	1		
-35	2		
	11		
medium dense	7		
-40	4		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/23/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY MCD

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 55 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-420
Station 71+37.82
Offset 31.02ft Left
Ground Surface Elev. 416.03 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ____ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very loose to loose, grayish black, SANDY LOAM (continued)			
	3		
-45	3 4		
364.03 Stiff, gray, SANDY CLAY			
	9		
	6		
-55	3		
359.03 Dense, grayish black, FINE GRAINED SAND			
	16		
See attached grain size distribution	16		
-60	19		
Dense, grayish black, FINE GRAINED SAND (continued)			
354.03 Dense, grayish black, MEDIUM GRAINED SAND			
	14		
	20		
-65	22		
349.03 Dense, grayish black, FINE GRAINED SAND, trace silt			
	18		
	22		
-70	16		
-75			
See attached grain size distribution	27		
	22		
-80	25		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – V – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS
SCALE: NONE | SHEET NO. S-135 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	250
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

SOIL BORING LOG

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

Page 3 of 3
Date 2/23/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY MCD

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 55 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-420
Station 71+37.82
Offset 31.02ft Left
Ground Surface Elev. 416.03 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense, grayish black, FINE GRAINED SAND, trace silt (continued)	331.03	-85			
Very dense, brown and black, GRAVEL, with coarse sand			50/3"		
		-90			
	321.03	-95			
Dense to very dense, gray, MEDIUM GRAINED SAND			29		
			31		
		-100	14		
Dense to very dense, gray, MEDIUM GRAINED SAND (continued)		-105			
			26		
			44		
		-110	50/2"		
	305.03				
End of Boring		-115			
		-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

Page 1 of 3
Date 2/24/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-421
Station 68+76.5
Offset 13.51ft Left
Ground Surface Elev. 411.40 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Tan, SANDY LOAM (FILL), with gravel and trace organics	410.40				
Loose to medium dense, tan, SANDY LOAM			4		
			9		13
			11		
			2		
			2		26
		-5	4		
			1		
			3		19
			3		
See attached percent passing No. 200 sieve			2		
			3		16
		-10	3		
			2		
			3		9
			3		
			2		
			4		12
		-15	5		
			6		
			6		
			7		
			4		
			5		
		-20	5		
Loose to medium dense, tan, SANDY LOAM (continued)			6		
			8		
			7		
See attached grain size distribution			7		
			7		
		-25	9		
			8		
			8		
			8		
becoming gray			5		
			5		27
		-30	5		
			6		
			6		
		-35	7		
	373.40				
Stiff, gray, CLAY, with sand			3		
			4		22
		-40	5		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

SOIL BORING LOG

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

Page 2 of 3
Date 2/24/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-421
Station 68+76.5
Offset 13.51ft Left
Ground Surface Elev. 411.40 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

Description	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff, gray, CLAY, with sand (continued)	369.40				
Medium dense to very dense, gray, FINE GRAINED SAND			20		
			27		
		-45	28		
			10		
			9		
		-50	8		
			4		
			4		
		-55	6		
			10		
			14		
		-60	19		
Medium dense to very dense, gray, FINE GRAINED SAND (continued)	349.40				
Medium dense, grayish brown, FINE TO COARSE GRAINED SAND, trace silt, with gravel. See attached grain size distribution			13		
			16		
		-65	9		
			9		
			13		
		-70	17		
	336.40	-75			
Very dense, tan, MEDIUM GRAINED SAND, trace silt			23		
			29		
		-80	27		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM	USER NAME = BhattA	DESIGNED - ATB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS – VI – S.N. 082–0325 I–70W OVER I–55, CSX & KCS RAILROADS	F.A.I. RTE. 70	SECTION 82-1-B-1	COUNTY ST. CLAIR	TOTAL SHEETS 319	SHEET NO. 251
		DRAWN - MK	REVISED -			S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
	PLOT SCALE = 0:2 ':' / in.	CHECKED -	REVISED -		SCALE: NONE	SHEET NO. S-136 OF S-138 SHEETS	STA. TO STA.			
	PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -			FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/24/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-421
Station 68+76.5
Offset 13.51ft Left
Ground Surface Elev. 411.40 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very dense, tan, MEDIUM GRAINED SAND, trace silt (continued)				Medium dense, tan, FINE GRAINED SAND, trace silt (continued)			
326.40	-85			306.40	-105		
Medium dense, tan, FINE GRAINED SAND, trace silt				Medium dense, gray brown, COARSE GRAINED SAND			
	19				50/3"		
	15			301.40	-110		
	18			End of Boring			
-90							
-95				-115			
	13						
	15						
-100	22			-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/26/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA, with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-422
Station 65+21.58
Offset 6.88ft Left
Ground Surface Elev. 413.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to soft, tan, SILT				Medium dense, brown, SANDY LOAM (continued)			
	4				10		
	4		16		12		
	5				13		
	2				9		
	2		22		9		
-5	2			-25	13		
				387.00			
	0			Loose to medium dense, gray, FINE GRAINED SAND, trace clay	6		
	2		26		2		
	3				3		
405.00							
Stiff to medium stiff, tan, SILTY LOAM	2				6		
	2	1.3	19		7		
-10	5	B		-30	8		
	3						
	4		15				
	5						
	1				10		
	2		25		8		
-15	3			-35	13		
397.00							
Medium stiff, gray, SILTY CLAY	0						
	0	0.6	42	376.00			
	3	B		Medium dense, gray, FINE GRAINED SAND, trace silt			
395.00							
Medium dense, brown, SANDY LOAM	5				7		
	7				7		
-20	9			-40	11		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/26/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA, with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-422
Station 65+21.58
Offset 6.88ft Left
Ground Surface Elev. 413.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, gray, FINE GRAINED SAND, trace silt (continued)				Dense, gray, FINE GRAINED SAND (continued)			
				351.00			
				Medium dense, gray, FINE GRAINED SAND			
	6				10		
	8				12		
-45	12			-65	10		
				346.00			
				Dense to very dense, gray, MEDIUM GRAINED SAND, with gravel			
See attached grain size distribution	11			See attached grain size distribution	17		
	9				18		
-50	11			-70	16		
	10						
	12						
-55	15			-75			
356.00							
Dense, gray, FINE GRAINED SAND							
	8				11		
	15				17		
-60	18			-80	36		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

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AECOM

USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – VII – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-137 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	252
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/26/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA, with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-422
Station 65+21.58
Offset 6.88ft Left
Ground Surface Elev. 413.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense to very dense, gray, MEDIUM GRAINED SAND, with gravel (continued)			
-85			
	16		
	25		
-90	21		
-95			
	13		
	17		
-100	23		
Dense to very dense, gray, MEDIUM GRAINED SAND, with gravel (continued)			
308.00 -105			
Very dense, gray, COARSE GRAINED SAND, with gravel			
	30		
	50/2"		
-110			
302.00			
Crystalline LIMESTONE - See rock core log			
-115			
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/26/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA, with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-0325
Station NA

BORING NO. B-422
Station 65+21.58
Offset 6.88ft Left
Ground Surface Elev. 413.00 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ___ Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crystalline LIMESTONE - See rock core log (continued)			
292.00			
End of Boring			
-125			
-130			
-135			
-140			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

P:\762046681\900.CAD\101.Drawings\76C90_Master_Consolidated\Structural\082-0323\Sheets\S138_082-0325_76C75_Boring-8.dgn

AECOM

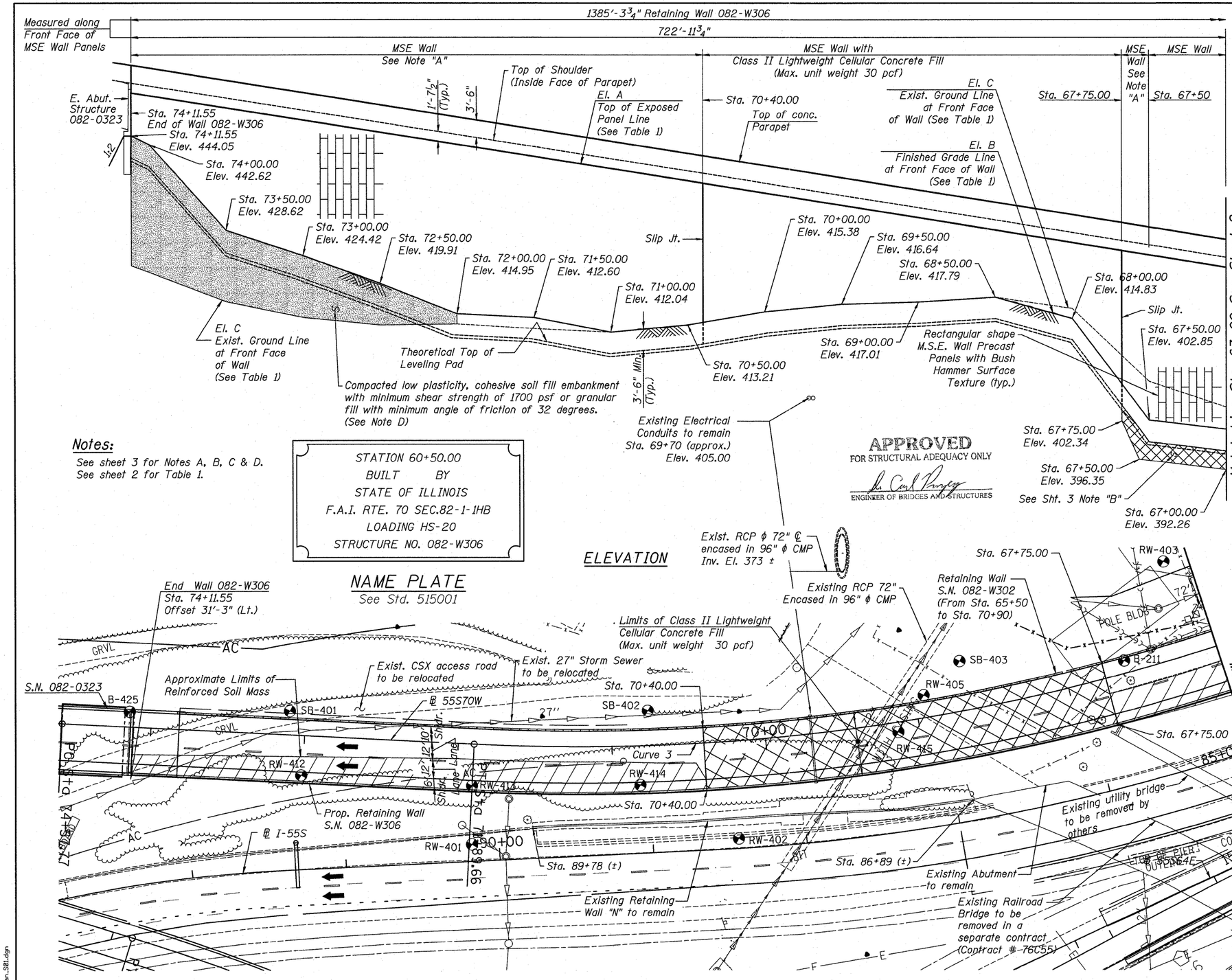
USER NAME = BhattA	DESIGNED - ATB	REVISED -
	DRAWN - MK	REVISED -
PLOT SCALE = 0.2 '' / in.	CHECKED -	REVISED -
PLOT DATE = $DATE$	DATE - 03/18/2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS – VIII – S.N. 082–0325
I–70W OVER I–55, CSX & KCS RAILROADS

SCALE: NONE | SHEET NO. S-138 OF S-138 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	253
S.N. 082-0323 & S.N. 082-0325		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



Notes:

See sheet 3 for Notes A, B, C & D.
See sheet 2 for Table 1.

STATION 60+50.00
BUILT BY
STATE OF ILLINOIS
F.A.I. RTE. 70 SEC.82-1-1HB
LOADING HS-20
STRUCTURE NO. 082-W306

NAME PLATE

See Std. 515001

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

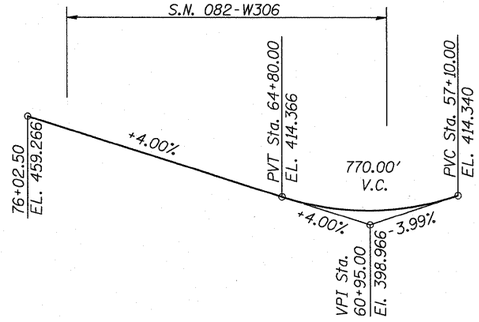
DESIGN SPECIFICATIONS

2002 AASHTO - Load Factor Design

DESIGN STRESSES

f'c = 3,500 psi
f'c = 4,500 psi (Precast Panel)
fy = 60,000 psi (Reinforcement)

INDEX of SHEETS

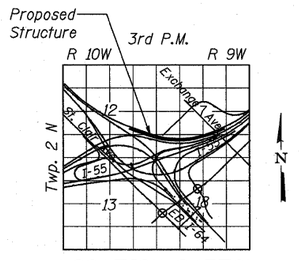


PROFILE GRADE 55S70W

(℄ 55S70W)

STATE OF ILLINOIS
DEBORAH A. ZROKA
081-005152
LICENSED STRUCTURAL ENGINEER

Signature — Date 03-18-2011
Expires November 30, 2012



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A.I. RTE. 70
(I-55/I-64 TRI-LEVEL)
SECTION 82-1-1HB
ST. CLAIR COUNTY
STA. 60+50.00 TO 74+11.55
STRUCTURE NO. 082-W306

ZROKA engineering — Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	USER NAME = Scott Whitney	DESIGNED MJP	REVISED -
		DRAWN JHR	REVISED -
	PLOT SCALE = 0:2.00000 '/ IN.	CHECKED MJP	REVISED -
	PLOT DATE = 3/17/2011	DATE 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
GENERAL PLAN I

SCALE: N.T.S. | SHEET NO. 1 OF 18 SHEETS | STA. 67+00.00 TO STA. 74+11.55

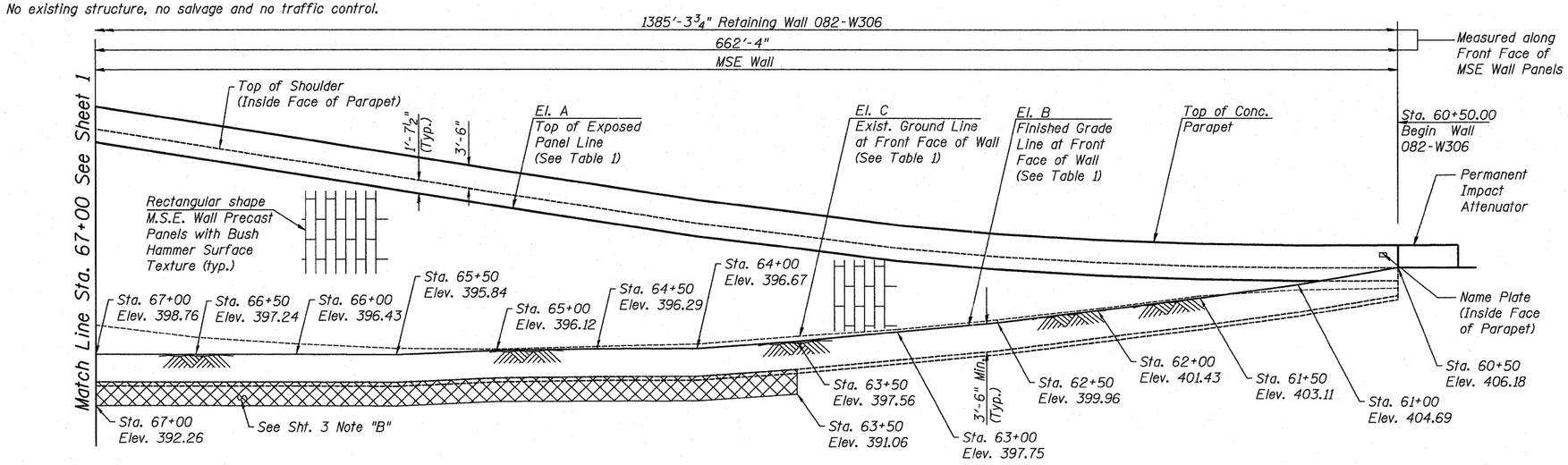
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	254
		CONTRACT NO. 76C75		
		ILLINOIS FED. AID PROJECT		

082-W306_76C75_GeneralPlan_SB1.dgn

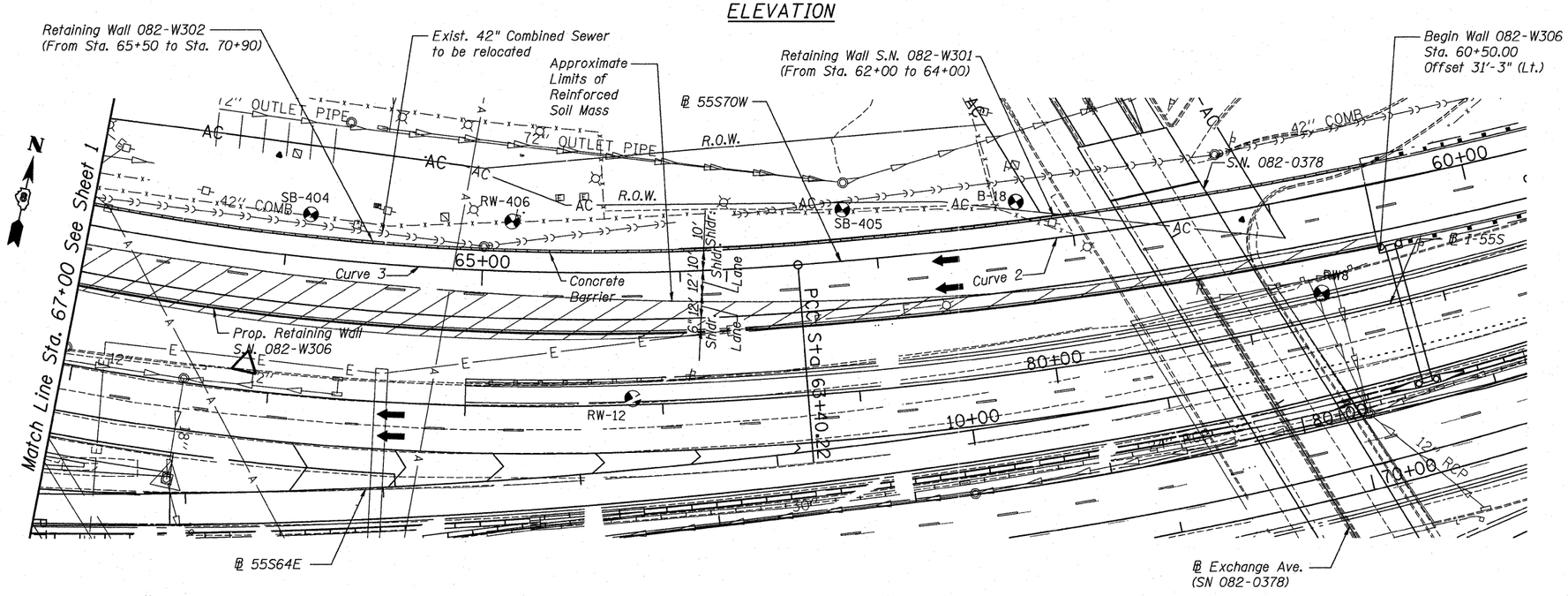
Benchmark JD4:

Chiselled square northerly foundation sign truss over I-55/70 W.B. ramp to I-64 E.B.
35.5' Rt., Sta. 18+35 (℄ 55S64E), Elev. 403.40

No existing structure, no salvage and no traffic control.



ELEVATION



PLAN

TABLE 1

Station	Offset (Radial)	Elevation A (feet)	Elevation B (feet)	Elevation C (feet)
60+50.00	31'-3" Lt	405.86	406.18	404.44
61+00.00	31'-3" Lt	405.76	404.69	404.20
61+50.00	31'-3" Lt	405.91	403.11	402.06
62+00.00	31'-3" Lt	406.33	401.43	399.67
62+50.00	31'-3" Lt	407.01	399.96	400.41
63+00.00	31'-3" Lt	408.00	397.75	399.17
63+50.00	31'-3" Lt	409.53	397.56	398.29
64+00.00	31'-3" Lt	410.98	396.67	397.36
64+50.00	31'-3" Lt	412.70	396.29	397.06
65+00.00	31'-3" Lt	414.65	396.12	396.74
65+50.00	31'-3" Lt	416.65	395.84	396.82
66+00.00	31'-3" Lt	418.65	396.43	397.40
66+50.00	31'-3" Lt	420.65	397.24	398.20
67+00.00	31'-3" Lt	422.65	398.76	399.78
67+50.00	31'-3" Lt	424.65	402.85	403.98
68+00.00	31'-3" Lt	426.65	414.83	415.97
68+50.00	31'-3" Lt	428.65	417.79	417.79
69+00.00	31'-3" Lt	430.65	417.01	417.01
69+50.00	31'-3" Lt	432.65	416.64	416.64
70+00.00	31'-3" Lt	434.65	415.38	415.38
70+50.00	31'-3" Lt	436.65	413.21	413.21
71+00.00	31'-3" Lt	438.65	412.04	412.04
71+50.00	31'-3" Lt	440.65	412.60	412.60
72+00.00	31'-3" Lt	442.46	414.95	413.35
72+50.00	31'-3" Lt	444.14	419.91	413.19
73+00.00	31'-3" Lt	446.18	424.42	414.46
73+50.00	31'-3" Lt	448.43	428.62	417.06
74+00.00	31'-3" Lt	450.59	442.62	422.96
74+11.55	31'-3" Lt	451.05	444.05	422.92

El. A-Top of Exposed Panel (Vertical curve between Sta. 60+50 and Sta. 64+80)
El. B-Finished Grade Line at Front Face of Wall
El. C-Existing Ground Line at Front Face of Wall

Stations and Offsets are measured from the Baseline of 55S70W to the Front Face of the Wall Panels

CURVE DATA

Curve: 55S70W-2
Δ = 14°-29'-28.84" (RT)
D = 2°-29'-24.14"
T = 292.5476'
L = 581.9728'
E = 18.5226'
R = 2301.00'
S.E. = 4%
ATTAINMENT T.R. = 0
ATTAINMENT S.E. RUN = 36'
P.C. = Sta. 57+58.25
P.T. = Sta. 63+40.22
P.I. = Sta. 60+50.80

CURVE DATA

Curve: 55S70W-3
Δ = 36°-19'-13.31" (RT)
D = 4°-16'-32.90"
T = 439.5379'
L = 849.4393'
E = 70.2459'
R = 1340.00'
S.E. = 5.3%
ATTAINMENT T.R. = 0
ATTAINMENT S.E. RUN = 47'
P.C. = Sta. 63+40.22
P.T. = Sta. 71+89.66
P.I. = Sta. 67+79.76
REMOVAL S.E. RUN = 65'
REMOVAL T.R. = 0

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED MJP	REVISED -	
	DRAWN JHR	REVISED -	
PLOT SCALE = 0:2.00000 ' / IN.	CHECKED MJP	REVISED -	
PLOT DATE = 3/9/2011	DATE 3-18-2011	REVISED -	

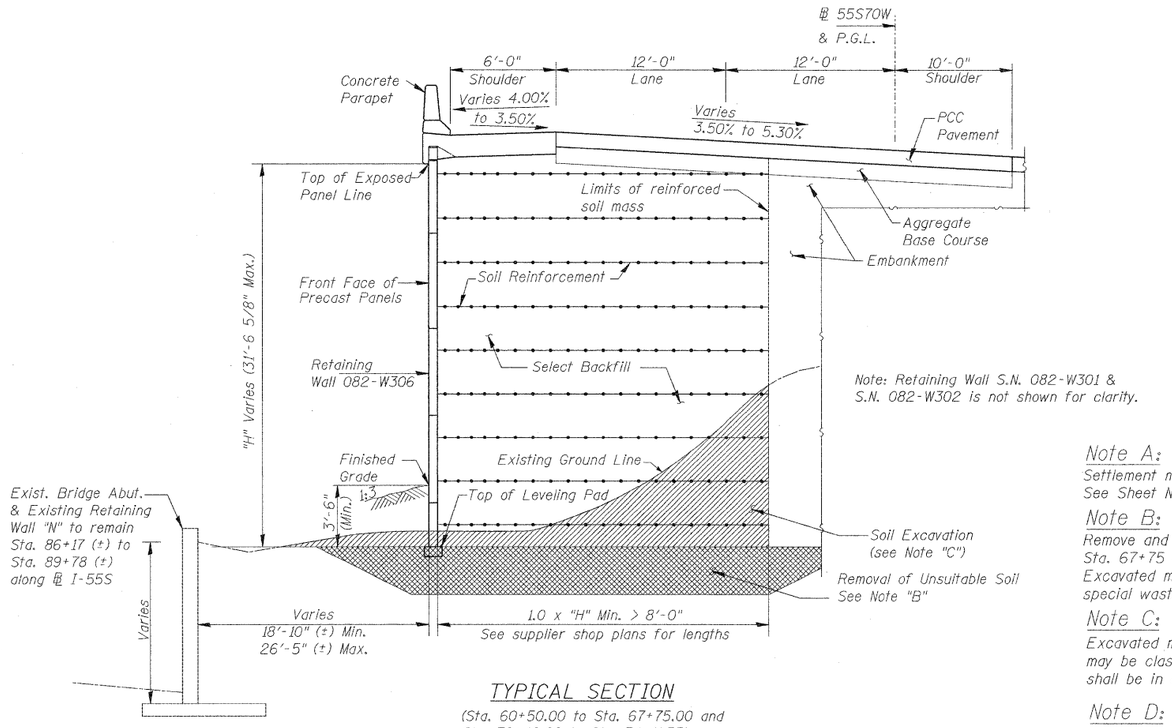
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
GENERAL PLAN II

SCALE: N.T.S. | SHEET NO. 2 OF 18 SHEETS | STA. 60+50.00 TO STA. 67+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	255
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

082-W306_76C75_GeneralPlan_S02.dgn



Note: Retaining Wall S.N. 082-W301 & S.N. 082-W302 is not shown for clarity.

TYPICAL SECTION

(Sta. 60+50.00 to Sta. 67+75.00 and Sta. 70+40.00 to Sta. 74+11.55)
(Looking Upstation)
NTS

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. Slipforming of the parapets is not allowed.
4. The Contractor shall take all precautions to protect existing electrical conduits at Sta. 69+70 (approx.), Elev. 405 during the construction of the MSE wall.
5. For Drainage Structure location, type and size, see Sheet Nos. 58 thru 60. The wall system supplier shall design the load transfer system to accomodate drainage structure and pipe.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material	Cu Yd	1,206
Protective Coat	Sq Yd	1,589
Structure Excavation	Cu Yd	3,682
Concrete Structures	Cu Yd	513.5
Concrete Superstructure	Cu Yd	177.7
Reinforcement Bars, Epoxy Coated	Pound	144,690
Name Plates	Each	1
Mechanically Stabilized Earth Retaining Wall	Sq Ft	22,239
Mechanically Stabilized Earth Retaining Wall, Special	Sq Ft	4,926
Porous Granular Embankment	Cu Yd	1,206

Note A:

Settlement monitoring devices shall be installed to monitor MSE wall and Fill Embankment. See Sheet No. 286A for location of settlement monitoring devices.

Note B:

Remove and replace soft cohesive subgrade soil between Sta. 63+50 & Sta. 67+75 and replace with compacted, well graded crushed rock. Excavated material may classified as a special waste. Removal of special waste shall be in accordance with contaminated soil provision.

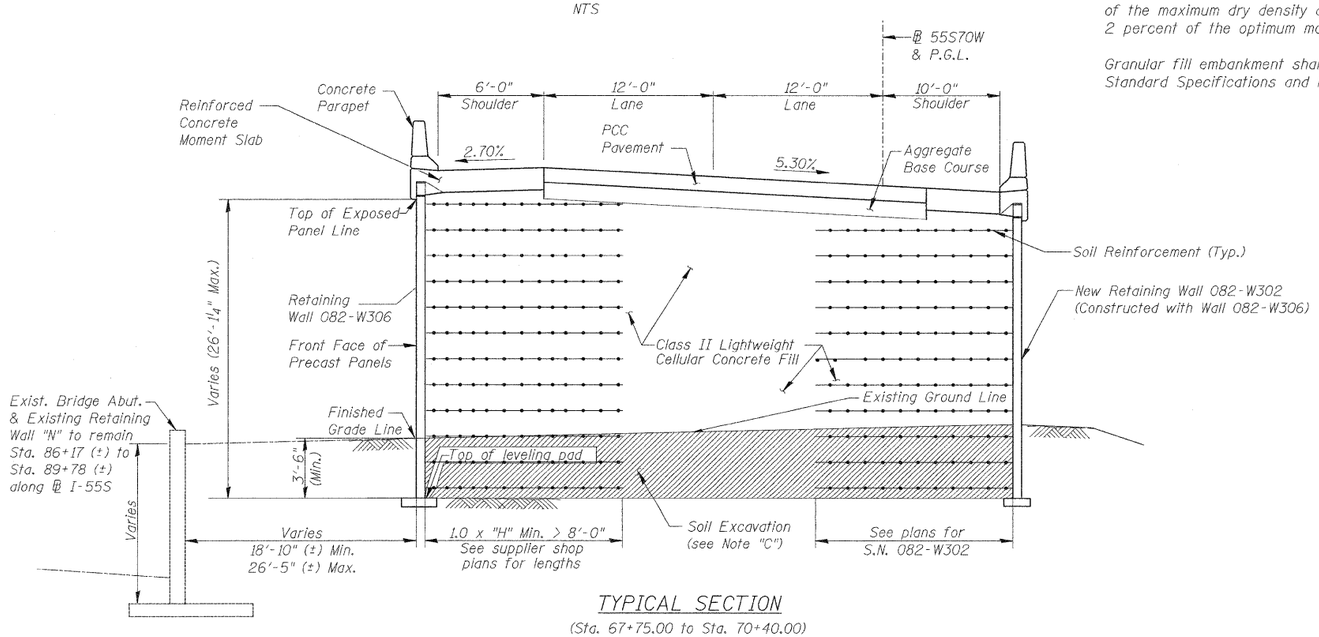
Note C:

Excavated material (soil cuts, unsuitable material and level pads) may be classified as a special waste. Removal of special waste shall be in accordance with contaminated soil provision.

Note D:

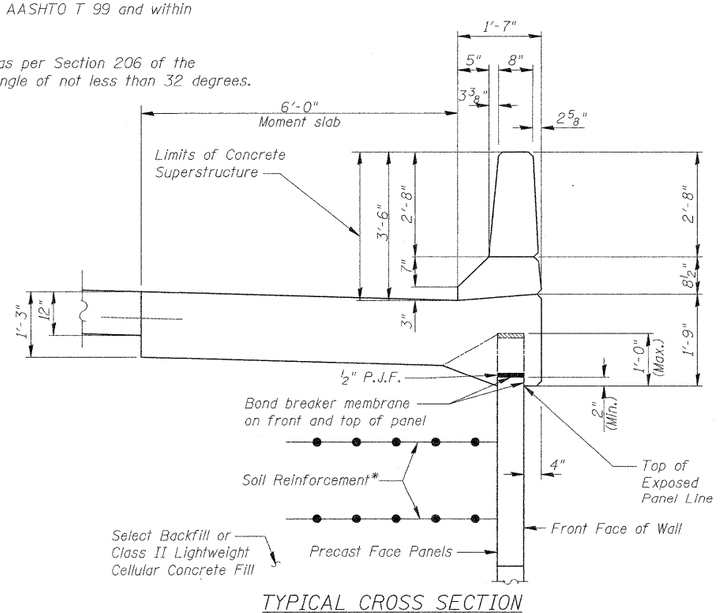
Low plasticity, cohesive soil fill embankment must be compacted as per Section 205 of the Standard Specifications to not less than 100 percent of the maximum dry density as determined by AASHTO T 99 and within 2 percent of the optimum moisture content.

Granular fill embankment shall be compacted as per Section 206 of the Standard Specifications and have a friction angle of not less than 32 degrees.



TYPICAL SECTION

(Sta. 67+75.00 to Sta. 70+40.00)
(Looking Upstation)
NTS



TYPICAL CROSS SECTION

NTS

*The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.

082-W306_76C75_TypicalSections_S03.dgn

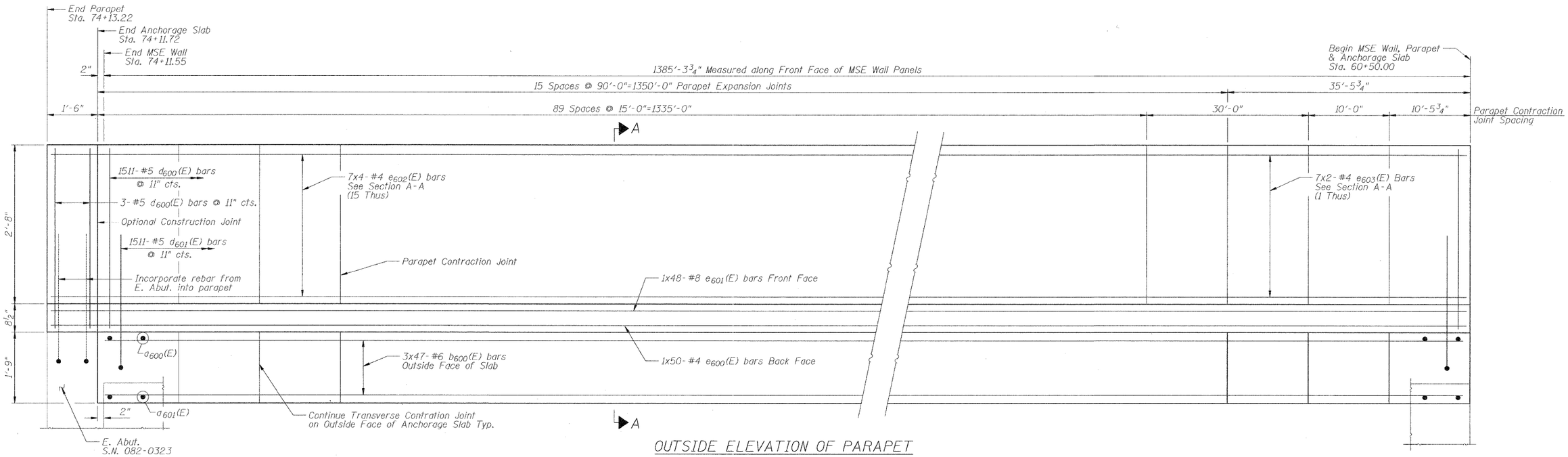
ZROKA engineering — Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	USER NAME = Scott Whitney	DESIGNED - MJP	REVISED -
		DRAWN - JHR	REVISED -
	PLOT SCALE = 01.00000 '/' IN.	CHECKED - MJP	REVISED -
	PLOT DATE = 5/3/2011	DATE - 4-7-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

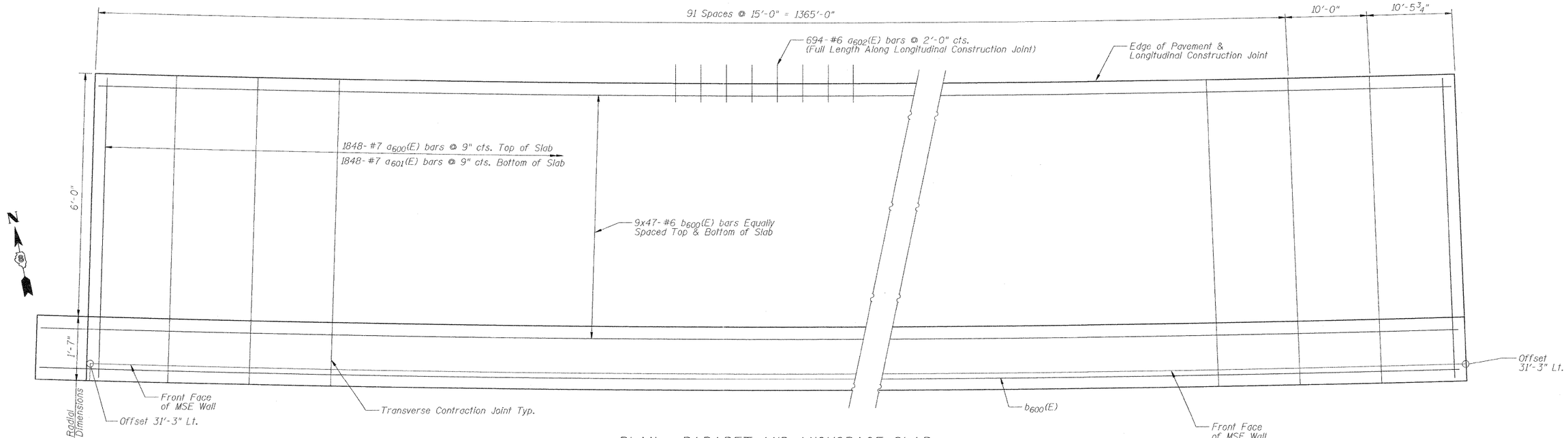
RETAINING WALL 082-W306
GENERAL DATA & TYPICAL SECTIONS

SCALE: N.T.S. | SHEET NO. 3 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	256
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			



OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHORAGE SLAB

(Offsets from 55S70W)

Notes:

1. For Section A-A, see Sheet No. 5.
2. Optional full depth construction joints with 1/2" chamfers may be provided in anchorages slab and parapet at 120' intervals and placed at a contraction joint location.
3. Bars indicated thus 9x47-#6 etc. indicates 9 lines with 47 lengths per line.
4. For Drainage Structure location, type and size, see Sheet Nos. 58 thru 60.

MIN. BAR LAPS

#4 bars = 2'-0"
#6 bars = 3'-1"
#8 bars = 5'-2"

ZROKA engineering — Zroka Engineering, P.C. 4216 North Hermitage Chicago, IL 60613	USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
		DRAWN - MJK	REVISED -
	PLOT SCALE = 10.0000 '/ IN.	CHECKED - DAZ	REVISED -
	PLOT DATE = 5/3/2011	DATE - 4-7-2011	REVISED -

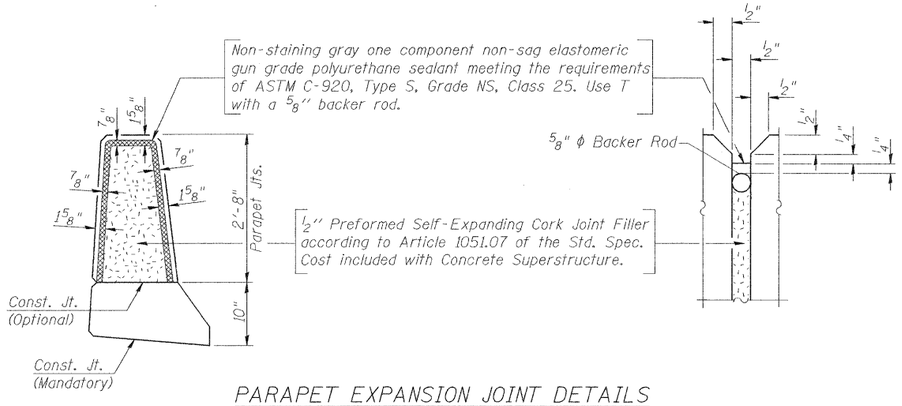
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
PARAPET & ANCHORAGE SLAB

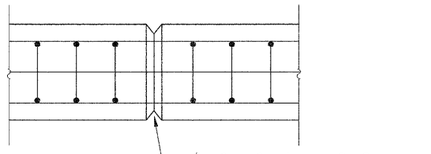
SCALE: N.T.S. | SHEET NO. 4 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	257
		CONTRACT NO. 76C75		
	ILLINOIS	FED. AID PROJECT		

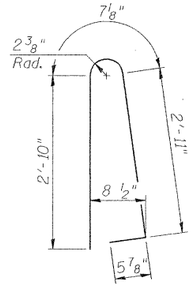
082-W306-76C75_Parapetanchorage_584.dgn



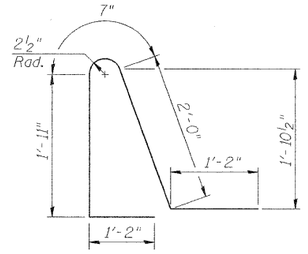
PARAPET EXPANSION JOINT DETAILS



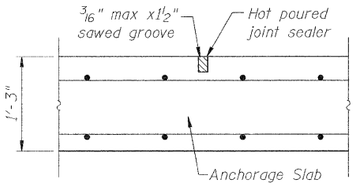
PARAPET CONTRACTION JOINT



BAR $d_{600}(E)$

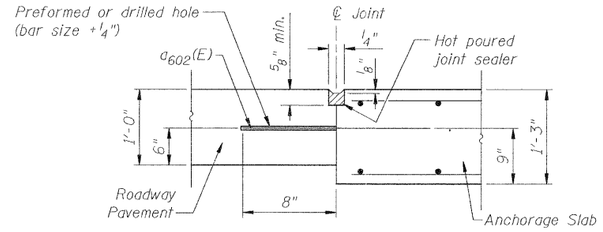


BAR $d_{601}(E)$



TRANSVERSE CONTRACTION JOINT

See Article 420.05 & 420.12 of the Standard Specifications



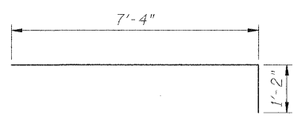
LONGITUDINAL CONSTRUCTION JOINT

(Tie bar grouted in place)

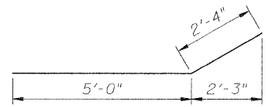
See Article 420.05 & 420.12 of the Standard Specifications

The Contractor may substitute grout in place tie bars.

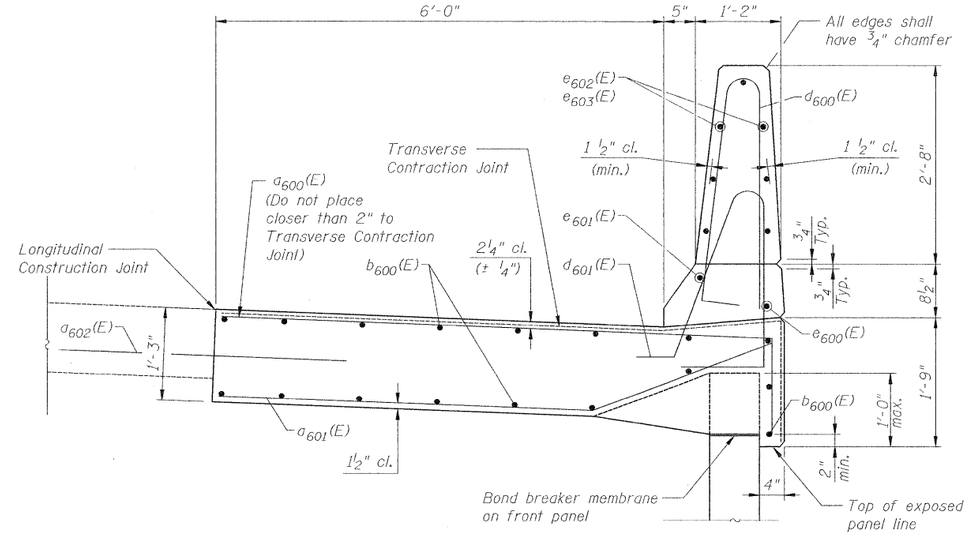
Tie bar length can be reduced by 6".



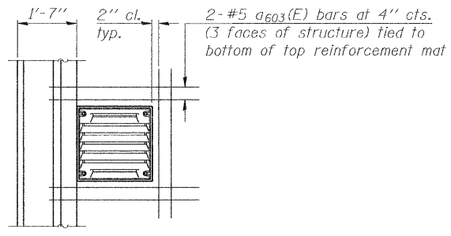
BAR $a_{600}(E)$



BAR $a_{601}(E)$

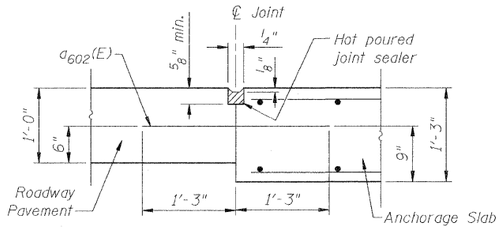


SECTION A-A



PLAN AT DRAINAGE STRUCTURE

Note:
Cut longitudinal reinforcement to clear catch basins and inlets.



LONGITUDINAL CONSTRUCTION JOINT

(Tie bar formed in place)

See Article 420.05 & 420.12 of the Standard Specifications

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_{600}(E)$	1848	#7	8'-6"	
$a_{601}(E)$	1848	#7	7'-4"	
$a_{602}(E)$	694	#6	2'-6"	
$a_{603}(E)$	36	#5	5'-0"	
$b_{600}(E)$	987	#6	32'-6"	
$d_{600}(E)$	1514	#5	6'-10"	
$d_{601}(E)$	1511	#5	6'-10"	
$e_{600}(E)$	50	#4	29'-9"	
$e_{601}(E)$	48	#8	34'-0"	
$e_{602}(E)$	420	#4	24'-4"	
$e_{603}(E)$	14	#4	18'-6"	
Reinforcement Bars, Epoxy Coated		Pound	144,690	
Concrete Superstructure		Cu. Yds.	177.7	
Concrete Structures		Cu. Yds.	513.5	

082-W306-76C75_Details_505.dgn

ZROKA engineering

Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -	
	DRAWN - MJK	REVISED -	
PLOT SCALE = 1.2000 ' / IN.	CHECKED - DAZ	REVISED -	
PLOT DATE = 5/3/2011	DATE - 4-7-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
DETAILS

SCALE: N.T.S. | SHEET NO. 5 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	258
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 11/2/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station NA

BORING NO. B- 18
Station 62+26.75
Offset 21ft Right
Ground Surface Elev. 420.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
0				Brown, CLAY with gravel/crushed limestone (FILL)
	1			
	3	1.0	20	
	4	P		
	1			
416.0				
	13	*	15	Gravel/crushed limestone (FILL) 415.5
-5	10			Very stiff, brown, SANDY CLAY
414.5				
	3			Stiff, dark brown to brown, SILTY CLAY with laminations of brown, FINE GRAINED SAND @ 8'-10'
	4	2.5	30	
	6	P		
	3			
	6	*	21	
410.0 -10	5			
				Loose, brown, SANDY LOAM
	1			
	3	*	18	
	3			
407.0				
	1			Soft, brown/gray, mottled, SILTY CLAY sandy in places with Fe staining @ 16'-19'
	1	1.0	23	
-15	3	S		
	1			
	2	1.0		
	2	P		
401.0				
	4			
-20	3			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
399.5				Loose, brown, FINE GRAINED SAND with seams of brown/gray, mottled, silt. Started mud rotary drilling @ 20' *(continued)*
	3			
	5	*		
	5			
				Loose, brown, SANDY LOAM with Fe staining
	3			
-25	3	*		
394.5				
	3			Interbedded, stiff, gray, SILT and medium dense, brown, FINE GRAINED SAND
	5	*		
	6			
392.0				
	5			Medium dense, brown, SANDY LOAM with laminations of gray, silt
	7			
-30	9			
386.0				
	7			
	8			Medium dense, brown, FINE GRAINED SAND with laminations of black organic material and rare rounded quartz
-35	8			
	8			
	9			
-40	11			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 11/2/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station NA

BORING NO. B- 18
Station 62+26.75
Offset 21ft Right
Ground Surface Elev. 420.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Medium dense, brown, FINE GRAINED SAND with laminations of black organic material and rare rounded quartz *(continued)*
378.0				
				Medium dense to dense, gray, FINE GRAINED SAND with layers of black organic material
	8			
	11			
-45	14			
	10			
	12			
-50	13			
	12			
	19			
-55	25			
	11			See Attached Gradation Test Results
	13			
-60	15			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Medium dense to dense, gray, FINE GRAINED SAND with layers of black organic material *(continued)*
	5			
	7			
-65	14			
353.0				
				Medium dense to very dense, gray, FINE GRAINED SAND
	8			
	12			
-70	13			
	2			
	12			
-75	18			
-80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 11/2/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station NA

BORING NO. B- 18
Station 62+26.75
Offset 21ft Right
Ground Surface Elev. 420.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Medium dense to very dense, gray, FINE GRAINED SAND *(continued)*
	18			
	33			
-85	35			
330.0 -90				
				Medium dense, gray, MEDIUM GRAINED SAND with rounded quartz
	11			
	14			
-95	15			
320.0 -100				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
				Medium dense, brown, FINE GRAINED SAND with rounded quartz and lenses of light gray weathered limestone (109-114)
	8			
	14			
-105	18			
-110				
306.0				
	22			
	41			GRAVEL, BOULDERS
	53			
-115				
-120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -	
	DRAWN - MJK	REVISED -	
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -	
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 6 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	259
		CONTRACT NO. 76C75		
	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 4 of 4
Date 11/2/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC
SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W
COUNTY St. Clair DRILLING METHOD Hollow Stem Auger and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station NA

BORING NO. B- 18
Station 62+26.75
Offset 21ft Right
Ground Surface Elev. 420.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
GRAVEL, BOULDERS *(continued)*	299.5				
CRYSTALLINE LIMESTONE - See Rock Core Log					
		-125			
		-130			
	289.5				
End of Boring					
		-135			
		-140			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 3
Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS
SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W
COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station

BORING NO. B-211
Station 67+60.43
Offset 8ft Right
Ground Surface Elev. 416.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 397.8 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crushed limestone GRAVEL (FILL) - 6 inches	416.3				
Dark brown, SILTY CLAY (FILL)			1		
			2		24
with crushed limestone gravel to 3 feet			3		
			2		
			2		23
		-5	6		
			1		
			1		26
			2		
	408.8				
Stiff to medium stiff, brown, SILT			2		
			5		16
		-10	7		
			3		
			4		
No sample recovery in SS-5			7		
			1		
			3		25
See Gradation Test Results	401.8	-15	4		
Medium stiff, brown, SILTY LOAM			3		
			3		27
sandy clay seams from 16 to 18 feet			3		
	398.8				
Soft, grayish-brown, SILTY CLAY	▼		0		
			1		
		-20	2		

	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft, grayish-brown, SILTY CLAY *(continued)*	395.8				
Very soft, gray, SILTY CLAY			0		
			1		40
			1		
			0		
	392.3		2		38
Medium dense to dense, light brown, FINE-GRAINED SAND		-25	7		
			7		
			11		
See Gradation Test Results			10		
			11		
			9		
		-30	7		
			11		
			19		
		-35	17		
	379.8				
Medium dense, grayish-brown, MEDIUM-GRAINED SAND			9		
			10		
		-40	12		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 2 of 3
Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS
SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W
COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station

BORING NO. B-211
Station 67+60.43
Offset 8ft Right
Ground Surface Elev. 416.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 397.8 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, grayish-brown, MEDIUM-GRAINED SAND *(continued)*					
			6		
See Attached Gradation Test Results			6		
		-45	8		
			12		
			8		
		-50	7		
	364.8				
Very dense to medium dense, gray, FINE-GRAINED SAND			16		
			25		
		-55	28		
			9		
			6		
		-60	15		

	Elev.	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very dense to medium dense, gray, FINE-GRAINED SAND *(continued)*					
	354.8				
Medium dense, gray, MEDIUM-GRAINED SAND			7		
			8		
		-65	7		
	349.8				
Medium dense, gray, FINE-GRAINED SAND, with silt seems and coal fragments			11		
			18		
		-70	17		
	344.8				
Medium dense to dense, gray, MEDIUM-GRAINED SAND			12		
with gravel from 72 to 75 feet			13		
		-75	17		
		-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used
BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 '/ IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 7 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	260

CONTRACT NO. 76C75
ILLINOIS FED. AID PROJECT

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 3 of 3

Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station
BORING NO. B-211
Station 67+60.43
Offset 8ft Right
Ground Surface Elev. 416.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft
Groundwater Elev.:
First Encounter 397.8 ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense to dense, gray, MEDIUM-GRAINED SAND *(continued)*			
	11		
	22		
-85	11		
-90			
-95	12		
	14		
	14		
316.8 -100			
Very dense, gray, MEDIUM-GRAINED SAND, with gravel			
-105	21		
	21		
	42		
-110			
303.8			
GRAVEL, COBBLES AND BOULDERS, drill penetration very slow			
-115			
299.8			
Borehole continued with rock coring.			
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 4

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-W306
Station NA
BORING NO. B-425
Station 74+14.22
Offset 10ft Right
Ground Surface Elev. 415.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft
Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, SAND (FILL), trace cinders			
	8		
	15		
	8		
	4		
	6		
-5	6		
Brown, SAND (FILL) 410.1			
	7		
	11		
	16		
Stiff to very stiff, gray, CLAY 407.1			
	3		
	5		24
-10	6		
	4		
	5		13
	6		
	3		
	4	3.3 S	20
-15	6		
Stiff, tan, SILT 399.6			
	5		
	6		7
	6		
Medium stiff, gray, SILTY CLAY, trace sand 397.1			
	2		
	3		21
-20	3		
Medium stiff, gray, SILTY CLAY, trace sand *(continued)*			
	2		
	2		29
soft			
	1		
	3		26
-25	4		
Medium stiff, gray, CLAY, trace sand 389.6			
	1		
	2	0.7	56
	2	B	
	1		
	1	0.6	36
-30	2	B	
Loose to medium dense, gray, SANDY LOAM 383.1			
	2		
	3		32
-35	2		
	6		
	6		30
-40	8		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 2 of 4

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-W306
Station NA
BORING NO. B-425
Station 74+14.22
Offset 10ft Right
Ground Surface Elev. 415.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft
Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose to medium dense, gray, SANDY LOAM *(continued)*			
373.1			
Medium dense, brown and gray, FINE GRAINED SAND, with silt			
	9		
	11		
-45	12		
See attached grain size distribution			
	6		
	8		
-50	6		
	6		
	8		
-55	9		
	9		
	8		
-60	12		
Medium dense, brown and gray, FINE GRAINED SAND, with silt *(continued)*			
353.1			
Loose to dense, gray, MEDIUM GRAINED SAND, trace silt			
	3		
	4		
-65	4		
	15		
	15		
-70	14		
-75			
	12		
	15		
-80	16		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 8 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	261
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. B-425
Station 74+14.22
Offset 10ft Right
Ground Surface Elev. 415.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose to dense, gray, MEDIUM GRAINED SAND, trace silt *(continued)*			
330.1	-85		
Dense, gray, FINE GRAINED SAND			
	11		
	16		
-90	23		
-95			
	14		
	16		
-105	23		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense, gray, FINE GRAINED SAND *(continued)*			
-105			
	26		
	24		
-110	21		
300.1 -115			
Very dense, gray, MEDIUM GRAINED SAND			
	50/5"		
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and MR HAMMER TYPE CME 85 / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. B-425
Station 74+14.22
Offset 10ft Right
Ground Surface Elev. 415.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Very dense, gray, MEDIUM GRAINED SAND *(continued)*			
293.1			
CRYSTALLINE LIMESTONE - See attached rock core log			
-125			
-130			
283.1			
End of Boring			
-135			
-140			

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/19/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY TP

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station NA

BORING NO. RW- 8
Station 60+82.09
Offset 64ft Left
Ground Surface Elev. 400.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Asphalt (FILL)			
399.0			
Medium stiff, brown, SILT, with sand	2		
	2	*	
	4		
397.0			
Medium dense, brown, SANDY LOAM	1		
	9		
-5	5		
394.5			
Loose to medium dense, brown, FINE GRAINED SAND	7		
	5		
	7		
	2		
	5		
-10	6		
	3		
	3		
	4		
387.0			
Medium dense, brownish gray, FINE to MEDIUM GRAINED SAND			
	9		
	9		
-15	7		
	7		
	9		
	15		
	10		
	11		
-20	11		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
379.5			
Medium dense, brown to gray, FINE to MEDIUM GRAINED SAND	7		
	10		
	16		
	8		
	10		
-25	14		
	9		
	10		
	9		
	7		
	10		
-30	8		
369.0			
Dense, gray, FINE GRAINED SAND			
	18		
	18		
-35	23		
363.0			
Medium dense, gray, FINE to MEDIUM GRAINED SAND			
361.0	4		
End of Boring	6		
-40	7		

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 8-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 9 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	262
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/24/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY TP

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic Hammer

STRUCT. NO. 082-W306
Station NA

BORING NO. RW- 12
Station 64+24.94
Offset 64ft Left
Ground Surface Elev. 390.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Loose, brown, SANDY LOAM			
	2		
	3	1.0	14
	3	P	
387.0			
Medium dense, brown, FINE to MEDIUM GRAINED SAND			
	2		
	6		
-5	6		
384.5			
Loose, brown, FINE GRAINED SAND			
	2		
	3		
	4		
382.0			
Dense, brown, MEDIUM GRAINED SAND with gravel Grain size distribution conducted	15		
	28		
-10	10		
379.5			
Loose, brown to gray, MEDIUM GRAINED SAND with gravel			
	4		
	3		
	3		
	3		
	4		
-15	5		
	4		
	4		
372.0	5		
Medium dense, gray, MEDIUM GRAINED SAND with gravel	5		
-20	10		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
369.5			
Medium dense, gray, MEDIUM GRAINED SAND Grain size distribution conducted	10		
	13		
	13		
-25			
364.5			
Very dense, gray, FINE GRAINED SAND	24		
	29		
	34		
362.0			
Dense, gray, FINE GRAINED SAND	19		
	19		
-30	13		
358.0			
Medium dense, gray, MEDIUM GRAINED SAND with COARSE GRAINED SAND and gravel	3		
	7		
-35	12		
353.0			
Medium dense, gray, FINE GRAINED SAND	5		
350.5	7		
End of Boring -40	9		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/2/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 15 ft HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-401
Station 71+80
Offset 98ft Left
Ground Surface Elev. 406.7 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Asphalt - 8 inches			
406.0			
Crushed limestone gravel (FILL)	3		
405.5			
Loose, brown-gray to gray, FINE GRAINED SAND, with silt	4		22
	5		
	3		
-5	2		
	3		
See Attached Gradation Results	2		
	3		12
	2		
	2		
-10	2		
	3		
	2		
	3		23
	3		
	2		
	3		
-15	5		
	4		
	3		24
	2		
	3		
Very loose	2		
385.7 -20	2		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft, gray, SILTY LOAM			
Grain size distribution conducted	3		
	2		20
	2		
383.7			
Medium stiff, gray, SILTY LOAM	4		
	4		32
-25	4		
380.7			
Loose to medium dense, gray, FINE GRAINED SAND	3		
	3		
	4		
	5		
	6		
-30	7		
	4		
	4		
-35	8		
370.7			
Dense, gray, MEDIUM GRAINED SAND			
	7		
	15		
End of Boring -40	17		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/2/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 15 ft HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-402
Station 70+22.27
Offset 84ft Left
Ground Surface Elev. 399.5 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Asphalt - 8 inches			
398.7			
Crushed limestone gravel (FILL)	1		
398.2			
Medium stiff, gray, CLAY	2	*	30
	3		
	2		
	2	*	34
-5	3		
393.5			
Loose, gray, FINE GRAINED SAND, with silt Grain size distribution conducted	4		
	3		31
	3		
391.5			
Loose, gray, SANDY LOAM			
	2		
	2		19
389.5 -10	5		
Soft, gray, SANDY CLAY LOAM			
	3		
387.5	2		29
Medium dense, brown, FINE GRAINED SAND, with silt	2		
Grain size distribution conducted			
	2		
	5		
-15	6		
	4		
	6		
	10		
Grain size distribution conducted			
	4		
	7		
-20	11		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, brown, FINE GRAINED SAND, with silt *(continued)*			
	6		
	6		
	12		
	4		
	15		
-25	19		
373.5			
Loose to medium dense, brown, MEDIUM GRAINED SAND	5		
	5		
	4		
	4		
	7		
-30	8		
Grain size distribution conducted			
	6		
	8		
-35	10		
361.5			
Medium dense, gray, FINE GRAINED SAND	7		
	7		
End of Boring -40	8		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 10 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	263
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 2

Date 2/9/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR DRILL RIG/ HAMMER EFFICIENCY CME 75 / 80%

STRUCT. NO. RW-W306
Station NA

BORING NO. RW-403
Station 67+16.01
Offset 63ft Right
Ground Surface Elev. 420.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Crushed limestone gravel (FILL)
418.8				
	14			Stiff, gray, CLAY, trace sand
	6		20	
	7			
	4			
	6	1.9	15	
-5	5			
414.6				
	2			Medium stiff, brown, SANDY CLAY LOAM
	3		26	
	4			
412.1				
	2			Medium stiff, brown, SILTY LOAM Grain size distribution conducted
	3		23	
-10	3			
	2			
	2	1.1	18	
407.6	3			
				Stiff to medium stiff, gray, SILTY CLAY LOAM
	2			
	3	1.1	20	
-15	7			
	2			
	2	0.6	29	
402.1	2			
				Very stiff to medium stiff, gray, SILTY CLAY, with trace silt
	2			
	2	3.0	27	
-20	3			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Very stiff to medium stiff, gray, SILTY CLAY, with trace silt *(continued)*
	2			
	2	0.6	41	
	2			
	0			
	1	1.1	35	
-25	1			
394.6				
	7			Medium dense, light brown,FINE GRAINED SAND, trace silt
	9			
	10			
	8			Grain size distribution conducted
	12			
-30	13			
	5			
	7			
-35	9			
383.1				
				Medium dense to dense, brown, MEDIUM GRAINED SAND, with gravel
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 2 of 2

Date 2/6/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR DRILL RIG/ HAMMER EFFICIENCY CME 75 / 80%

STRUCT. NO. RW-W306
Station NA

BORING NO. RW-403
Station 67+16.01
Offset 63ft Right
Ground Surface Elev. 420.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Medium dense to dense, brown, MEDIUM GRAINED SAND, with gravel *(continued)*
	13			
	17			
-45	13			
	7			
	7			
-50	8			
	10			
	20			
-55	21			
	9			
	13			
360.1 -60	26			

End of Boring
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 3/3/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR DRILL RIG/ HAMMER EFFICIENCY CME 75 / 80%

STRUCT. NO. RW-W306
Station NA

BORING NO. RW-405
Station 68+93.87
Offset 15ft Right
Ground Surface Elev. 418.4 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	
				Topsoil - 3 inches
418.2				
	3			Black, SANDY LOAM, with cinders (FILL)
	2		23	
416.4	2			
				Very stiff, gray to brown, CLAY
	2			
	3	2.8	26	
413.6 -5	6	S		
				Soft, brown, SANDY CLAY
	2			
	2		11	
	2			
	2			
	1		28	
-10	2			
407.9				
	1			Loose, brown, FINE GRAINED SAND, trace silt Grain size distribution conducted
	2		24	
	4			
	3			
	2		17	
-15	5			
	2			
	3		12	
	4			
	3			
	3		10	
398.4 -20	3			

End of Boring
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -	
	DRAWN - MJK	REVISED -	
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -	
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 11 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	264
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 2/6/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR DRILL RIG/ HAMMER EFFICIENCY CME 75 / 80%

STRUCT. NO. RW-W306
Station NA

BORING NO. RW-406
Station 64+85.7
Offset 25ft Right
Ground Surface Elev. 410.5 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
410.2 Crushed limestone GRAVEL base (FILL)			
Gray brown, CLAY, with silt, sand, cinders, and brick fragments (FILL)	9		
	10		
	9		
	1		
-5	2	0.9	18
	3		
	2		
	2	1.4	24
402.5	4		
Medium stiff, brown, SILT	2		
-10	2	0.7	14
400.0	1		
Stiff, brown, SILTY CLAY	1		
	2	1.2	28
397.5	3		
Stiff, brown, CLAY	1		
	2	1.8	27
-15	2		
	1		
	2	1.5	34
	2		
	1		
390.5 -20	2	1.8	33
	6		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, brown, FINE GRAINED SAND, trace silt	6		
See Attached Gradation Results	8		
	7		
	7		
	10		
-25	11		
	11		
	10		
	17		
	3		
	13		
-35	16		
	11		
	14		
-35	16		
	6		
370.5 -40	6		
	6		

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 8/20/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 25 ft HAMMER TYPE Diedrich D50 / 75%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-411
Station 74+75
Offset 45ft Left
Ground Surface Elev. 419.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, SAND (FILL), with trace cinders, silt, and gravel	4		
	5		
	5		
	2		
-5	2		
	3		
	2		
	2		
	3		
	2		
-10	3		
	4		
407.5	3		
Stiff, brown and gray, SILTY LOAM	5	1.7	22
406.0	7	P	
Very stiff to stiff, gray, CLAY, trace silt	3		
	4	2.7	33
-15	7	S	
	4		
	4	1.9	28
401.0	6	S	
Stiff to medium stiff, brown and gray, SILTY CLAY LOAM	2		
	3	1.5	27
-20	4	S	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to medium stiff, brown and gray, SILTY CLAY LOAM (continued)	5		
	5	0.6	32
	4	S	
	3		
394.5	4	1.6	23
Stiff, brown and gray, SILTY CLAY -25	4	B	
393.0	3		
Stiff, gray, SILTY LOAM	5	0.5	32
	6	B	
	4		
390.0	3	1.4	57
Stiff, gray, CLAY -30	3	S	
387.5	20		
Dense, gray, FINE GRAINED SAND, trace silt and gravel	20		
-35	20		
382.0	6		
Medium dense, gray, FINE GRAINED SAND	7		
379.0 -40	5		

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 2

Date 4/12/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 40 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-412
Station 73+10
Offset 30ft Left
Ground Surface Elev. 422.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 386.0 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
421.7 Topsoil - 4 inches			
Black, CINDERS, trace sand, silt, and rubble (FILL)	3		
	4		
	4		
	2		
-5	3		
	3		
	2		
415.5	2		
Stiff to medium stiff, brown, CLAY	3	1.6	24
	3	B	
	2		
	3	1.3	27
-10	4	S	
	1		
	2	1.0	27
	2	S	
	2		
	3	0.7	27
-15	3	S	
406.5			
Loose, brown, SANDY LOAM	3		
Grain Size Distribution Conducted	3		5
	3		
	3		
-20	3		5

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
401.5 Loose, brown, SANDY LOAM (continued)			
Very stiff to medium stiff, brown, SILTY LOAM	3		
Grain Size Distribution Conducted	4	1.4	18
	4	S	
	4		
	4		8
-25	4		
395.7	3		
Loose, brown, SANDY LOAM	4		8
Grain Size Distribution Conducted	6		
	3		
	4		8
-30	4		
390.0			
Stiff to medium stiff, brown, SILT	2		
	2	1.3	26
-35	3	S	
	1		
	2	0.7	31
-40	1	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

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Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -	
	DRAWN - MJK	REVISED -	
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -	
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 12 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	265
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/12/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 40 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-412
Station 73+10
Offset 30ft Left
Ground Surface Elev. 422.0 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 386.0 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff to medium stiff, brown, SILT *(continued)*			
380.0			
Stiff to very stiff, brown, LOAM			
Grain Size Distribution Conducted	4		
-45	4 5		
	6		
	9		
-50	9		
370.0			
Medium dense, FINE TO MEDIUM GRAINED SAND, trace gravel			
	10		
	12		
-55	12		
	8		
362.0	8		
-60	8		
End of Boring			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-413
Station 71+90
Offset 30ft Left
Ground Surface Elev. 419.7 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 378.7 ft ▼
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, CINDERS, with sand, gravel, and brick (FILL)			
	3		
	3		
	4		
	5		
	5		
414.7 -5	4		
Soft to medium stiff, brown, SILT			
	2		
	1		11
	2		
	2		
Grain Size Distribution Conducted	3	0.5	27
-10	3	S	
	2		
	2	0.4	18
	3	S	
	2		
405.4	2	1.3	28
Stiff, brown, CLAY -15	3	S	
404.2			
Medium stiff to very stiff, brown, LOAM	3		
Grain Size Distribution Conducted	3	0.8	20
	4	S	
	3		
	4	1.9	23
-20	4	S	
Medium stiff to very stiff, brown, LOAM *(continued)*			
398.4	2		
Very stiff, brown, SILTY CLAY	3	1.4	27
	5	B	
396.7			
Loose, brown, SANDY LOAM	3		
Grain Size Distribution Conducted	4		17
-25	6		
394.2			
Soft, brown, SILT	4		
	4	0.4	15
	4	S	
391.7			
Medium stiff, gray, SILT	1		
	1	1.0	30
-30	2	S	
	1		
	1	0.6	34
-35	2	S	
	2		
	3	0.8	27
-40	5	B	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used
BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/13/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-413
Station 71+90
Offset 30ft Left
Ground Surface Elev. 419.7 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 378.7 ft ▼
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium stiff, gray, SILT *(continued)*			
376.7 ▼			
Loose to medium dense, gray, FINE GRAINED SAND			
	3		
	4		
-45	5		
	10		
	9		
369.7 -50	10		
End of Boring			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used
BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 13 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	266
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/14/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 40 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-414
Station 70+70
Offset 30ft Left
Ground Surface Elev. 418.6 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 380.6 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, CINDERS, with sand, gravel, and brick fragments (FILL)			
	4		
	2		
	4		
	3		
	5		11
-5	6		
412.3			
Stiff, brown, SILTY CLAY	2		
	3	1.7	22
	3	S	
410.6			
Soft to medium stiff, brown to gray, SILT	2		
	2		29
-10	2		
	2		
	3		23
	3		
	3		
	4		17
-15	3		
	2		
	2	0.5	31
	2	S	
	2		
-20	3	0.7	29
	4	S	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Soft to medium stiff, brown to gray, SILT *(continued)*			
	2		
	2	1.3	40
stiff	3	S	
	3		
	3	0.8	28
-25	4	S	
392.3			
Medium dense, brown, FINE GRAINED SAND	4		
Grain Size Distribution Conducted	7		6
	8		
	5		
	6		10
-30	7		
386.6			
Medium stiff, gray, SILT	2		
	2	0.8	31
-35	2	B	
380.6 ▼			
Medium dense, brown, FINE GRAINED SAND	6		
	8		
-40	10		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Date 4/14/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 40 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-414
Station 70+70
Offset 30ft Left
Ground Surface Elev. 418.6 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 380.6 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, brown, FINE GRAINED SAND *(continued)*			
	10		
Grain Size Distribution Conducted	14		
-45	15		
371.6			
Medium dense, brown, FINE TO MEDIUM GRAINED SAND, trace gravel			
	7		
	8		
358.6 -50	8		
End of Boring			
-55			
-60			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/15/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 35 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-415
Station 69+20
Offset 10ft Left
Ground Surface Elev. 417.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, CINDERS, with sand, gravel, and brick (FILL)			
	4		
415.9	5	3.3	26
Very stiff to stiff, gray to brown, CLAY	4	B	
	3		
	3	2.9	25
-5	4	B	
	2		
	2	1.7	27
	3	B	
409.9			
Soft to very stiff, brown, SILT	1		
	2		15
-10	2		
	2		
	1	2.2	30
	2	B	
	2		
403.6			
Stiff, brown, CLAY	2	1.4	38
-15	3	S	
	2		
400.9	2	1.3	31
Stiff, brown, SILT	5	S	
	4		
	4		9
-20	5		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Stiff, brown, SILT *(continued)* 397.4			
Medium dense, brown, FINE GRAINED SAND	4		
Grain Size Distribution Conducted	7		6
	9		
394.1			
Stiff, gray, CLAY	2		
	2	1.7	32
-25	2	S	
	1		
	1	1.3	40
	2	S	
389.9			
Stiff, brown, SILTY LOAM	8		
388.6			
Medium dense, brown, FINE GRAINED SAND	8		25
-30	11		
	7		
	8		
-35	8		
	17		
dense, with gravel	19		
-40	14		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 14 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	267
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/15/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 35 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-415
Station 69+20
Offset 10ft Left
Ground Surface Elev. 417.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Medium dense, brown, FINE GRAINED SAND *(continued)*
	6			
-45	7 8			
	7			
-50	7 6			
365.9				Medium dense, brown to gray, MEDIUM GRAINED SAND
	8			
	10			Grain Size Distribution Conducted
-65	13			
	12			
	14			dense
-80	17			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Medium dense, brown to gray, MEDIUM GRAINED SAND *(continued)*
	12			
	14			
-85	14			
	5			
	5			
-70	6			
345.9				Dense to medium dense, FINE TO MEDIUM GRAINED SAND
	7			
	10			
-75	27			
	50/4"			
-80				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/15/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 35 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-415
Station 69+20
Offset 10ft Left
Ground Surface Elev. 417.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Dense to medium dense, FINE TO MEDIUM GRAINED SAND *(continued)*
	9			
	9			Grain Size Distribution Conducted
-85	9			
	14			
	24			
-95	18			Dense to medium dense, brown, MEDIUM TO COARSE GRAINED SAND, with gravel
	50/5"			
-100				

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Dense to medium dense, brown, MEDIUM TO COARSE GRAINED SAND, with gravel *(continued)*
	7			
	7			
-105	7			
312.9				End of Boring
-110				
-115				
-120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/17/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY DTC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. SB-401
Station 73+10.34
Offset 16ft Right
Ground Surface Elev. 421.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ___ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Black, FINE GRAINED SAND (FILL), with cinders
	4			
	3			
	3			
	3			
	4			
-5	3			
416.8				Medium stiff to stiff, brown, SILT, trace cinders and gravel
	3			
	3		16	
	2			
	3			
	4		23	
-10	5			
411.8				End of Boring
-15				
-20				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 2/16/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA HAMMER TYPE CME 55 / 80%

STRUCT. NO. 082-W306
Station NA

BORING NO. SB-402
Station 70+75.97
Offset 23ft Right
Ground Surface Elev. 421.4 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown, MEDIUM GRAINED SAND (FILL), with brick fragments		2		
		6 5		
		2		
	416.4 -5	2 4		
Medium stiff, gray, SILTY CLAY LOAM		2		
		2 4		23
	413.4			
Loose, brown, SANDY LOAM		2		
	411.4 -10	2 5		
End of Boring				
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 2/9/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W306
Station NA

BORING NO. SB-403
Station 68+59.91
Offset 35ft Right
Ground Surface Elev. 417.7 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL - 4 inches	417.4			
Crushed limestone GRAVEL base (FILL)	416.2	4		
Brownish gray, CLAY, with rubble (FILL)		5 5		
		1		
	412.2 -5	2 2		27
Medium stiff, brown, SANDY LOAM		3		
		4 3		27
		2		
	407.7 -10	4 4		16
End of Boring				
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 2/5/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W306
Station NA

BORING NO. SB-404
Station 65+89.36
Offset 22ft Right
Ground Surface Elev. 414.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crushed limestone GRAVEL base (FILL)	414.4			
Brown, SAND, trace gravel (FILL)		2		
		3 2		
	411.9			
Loose, brown, SAND, trace gravel		2		
		4		
	-5	4		
		2		
	-10	2 3		
		3		
		3		
		4		
	401.9			
Soft, gray, CLAY LOAM		1		
		1 2		21
	-15			
	398.4	1		
Medium stiff, gray, SILTY CLAY LOAM		1 2	0.4	35
		1		
	394.9 -20	2 2	0.3	30
End of Boring				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 16 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	269
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Page 1 of 1

Date 2/5/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W306
Station NA

BORING NO. SB-405
Station 63+22
Offset 40ft Right
Ground Surface Elev. 419.5 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crushed limestone GRAVEL base (FILL) 419.2			
Brown, SILT (FILL), with sand, gravel, clay, and concrete rubble	8		
	12		14
	3		
	3		
	50/1"		16
-5 414.0			
Loose, brown, SAND (FILL), with silt	2		
	3		16
	3		
	2		
	2		14
-10	3		
	2		
	3		16
	3		
	0		
	1		29
-15	3		
404.0			
Loose to medium dense, gray, FINE GRAINED SAND	3		
	3		
	5		
	5		
	5		
-20 399.5	6		
End of Boring			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

ROCK CORE LOG

Page 1 of 1

Date 11/2/00

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair CORING METHOD Wireline

STRUCT. NO. 082-W306
Station NA

BORING NO. B- 18 Core
Station 62+26.75
Offset 21ft Right
Ground Surface Elev. 420.0 ft

CORING BARREL TYPE & SIZE NX (2.985 in.)
Core Diameter 2 in
Top of Rock Elev. 299.5 ft
Begin Core Elev. 299.5 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Broken LIMESTONE, hard, light gray to gray, fine crystalline, slightly weathered with no signs of discoloration 298.8	1	100	83	3.2	
LIMESTONE, hard, light gray to gray, very fine to fine crystalline, micritic in places, thick bedded to massive, fresh to slightly weathered					427.0
295.4					
-125 LIMESTONE, hard, light gray to gray, very fine to fine crystalline, micritic in places, thick bedded to massive, fresh to slightly weathered with vertical fracturing with weathering along fractures (127.5' - 129'), moderately weathered with partings and bands of greenish gray shale (129.5' - 130.5')	2	95	92	2.7	
290.0 -130 Core loss 289.5					
End of Boring					
-135					
-140					

Color pictures of the cores Yes
Cores will be stored for examination until September 1, 2002
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

ROCK CORE LOG

Page 1 of 1

Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair CORING METHOD Wireline

STRUCT. NO. 082-W306
Station

BORING NO. B-211
Station 67+60.43
Offset 8ft Right
Ground Surface Elev. 416.8 ft

CORING BARREL TYPE & SIZE NX (2.985 in.)
Core Diameter 2 in
Top of Rock Elev. 299.8 ft
Begin Core Elev. 299.8 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE: Brownish-gray, very finely crystalline, porphyritic, massive, fresh, good quality, hard, dense, occasional stylolites and argillaceous limestone partings 299.8	1	90	82	4.2	1370.0
-120					
LIMESTONE: Gray, very finely crystalline, massive, fresh, fair quality, hard, dense, argillaceous 294.1	2	71	35	7.9	
-125					
bluish-gray clay seams from 126 to 126.4 feet 290.3					
End of Boring					
-130					
-135					

Color pictures of the cores Yes
Cores will be stored for examination until 9/1/02
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 17 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	270
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

ROCK CORE LOG

Date 8/13/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair CORING METHOD Wireline

STRUCT. NO. 082-W306
Station NA

CORING BARREL TYPE & SIZE NX

Core Diameter 2 in
Top of Rock Elev. 293.1 ft
Begin Core Elev. 293.1 ft

BORING NO. B-425 Core
Station 74+14.22
Offset 10ft Right
Ground Surface Elev. 415.1 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
Hard to moderately hard, gray, very finely crystalline, massive, fresh, LIMESTONE	-125	1	84	64		400.0
288.1						
Moderalley hard, gray, very finely medium crystalline, medium bedded, slightly weathered, LIMESTONE; with clay partings	-130	2	100	84		
283.1						
End of Boring	-135 -140					

Color pictures of the cores Yes
Cores will be stored for examination until 9-30-09
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

082-W306-76C75-Boring Logs Sheets 6-18.dgn

ZROKA engineering
Zroka Engineering, P.C.
4216 North Hermitage
Chicago, IL 60613

USER NAME = Scott Whitney	DESIGNED - PMM	REVISED -
	DRAWN - MJK	REVISED -
PLOT SCALE = 20.0000 ' / IN.	CHECKED - DAZ	REVISED -
PLOT DATE = 3/9/2011	DATE - 3-18-2011	REVISED -

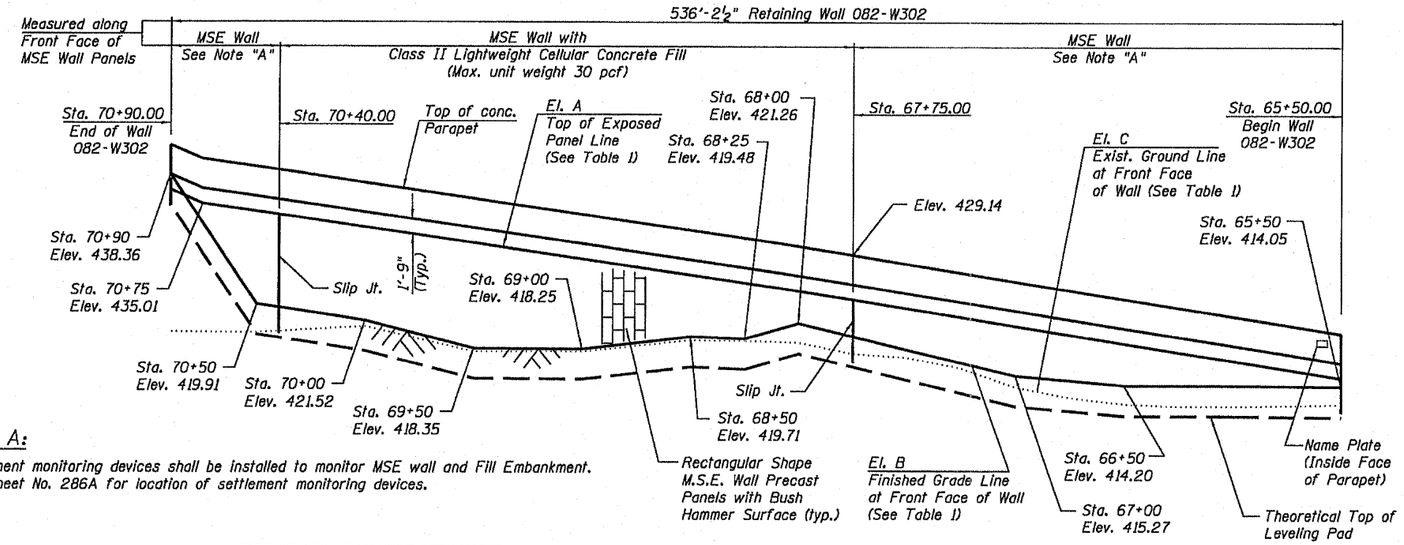
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W306
BORING LOGS

SCALE: N.T.S. | SHEET NO. 18 OF 18 SHEETS | STA. 60+50.00 TO STA. 74+11.55

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-1HB	ST. CLAIR	319	271
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Benchmark JD4: Chiselled square northerly foundation sign truss over I-55/70 W.B. Ramp to I-64 E.B. 35.5' RT. Sta. 18+35 (55S64E) Elev. 403.40.
Existing Structure: None



Note A:

Settlement monitoring devices shall be installed to monitor MSE wall and Fill Embankment. See Sheet No. 286A for location of settlement monitoring devices.

TABLE 1				
Station	Offset (Radial)	Elevation A	Elevation B	Elevation C
65+50.00	10'-11" Rt.	415.01	414.05	412.01
66+00.00	10'-11" Rt.	417.01	414.16	411.82
66+50.00	10'-11" Rt.	419.01	414.2	412.08
67+00.00	10'-11" Rt.	421.01	415.27	413.95
67+50.00	10'-11" Rt.	423.01	418.26	417.38
68+00.00	10'-11" Rt.	425.01	421.26	419.05
68+50.00	10'-11" Rt.	427.01	419.71	419.33
69+00.00	10'-11" Rt.	429.01	418.25	417.97
69+50.00	10'-11" Rt.	431.01	418.35	417.97
70+00.00	10'-11" Rt.	433.01	421.52	420.87
70+50.00	10'-11" Rt.	435.01	423.41	420.14
70+90.00	10'-11" Rt.	436.61	438.36	420.26

EL. A = Top of Exposed Panel
EL. B = Finished Grade Line at Front Face of Wall
EL. C = Existing Ground Line at Front Face of Wall

Stations and Offsets are measured from the Baseline of 55S70W to the Front Face of the MSE Wall Panels.

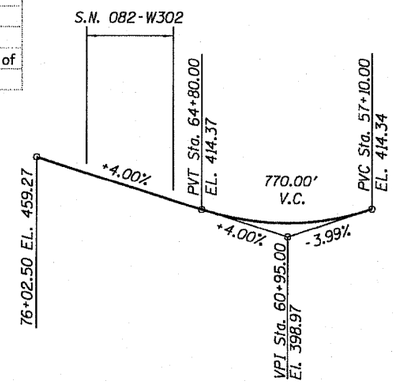
DESIGN SPECIFICATIONS

2002 AASHTO Load Factor Design

DESIGN STRESSES

f'c = 3,500 psi
f'c = 4,500 psi (Precast Panel)
fy = 60,000 psi (Reinforcement)

INDEX OF SHEETS



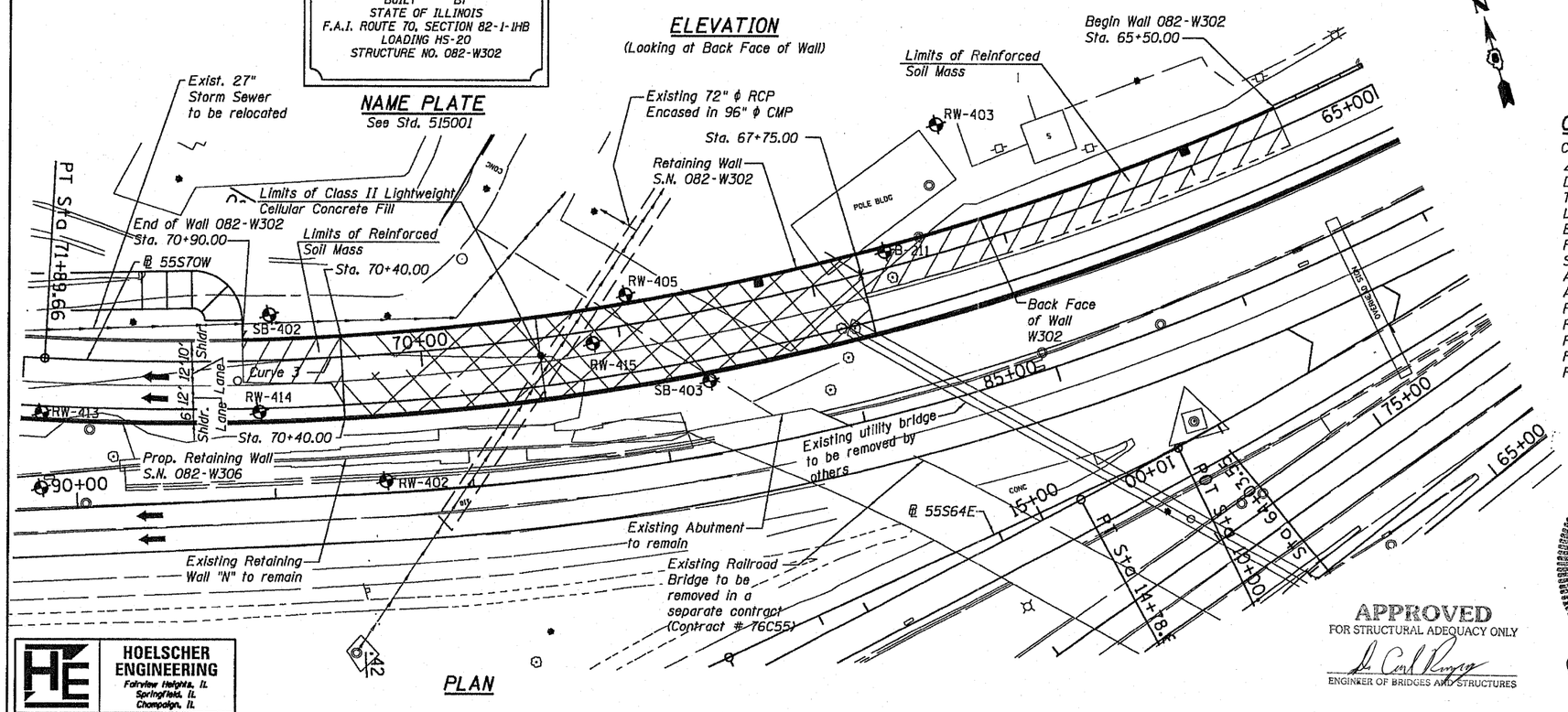
STATION 65+50.00
BUILT BY
STATE OF ILLINOIS
F.A.I. ROUTE 70, SECTION 82-1-1HB
LOADING HS-20
STRUCTURE NO. 082-W302

NAME PLATE

See Std. 515001

ELEVATION

(Looking at Back Face of Wall)

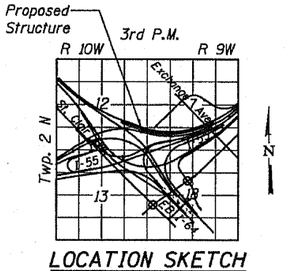


PLAN

CURVE DATA

Curve: 55S70W-3
Δ = 36°-19'-13.31" (RT)
D = 4°-16'-32.90"
T = 439.5379'
L = 849.4393'
E = 70.2459'
R = 1340.00'
S.E. = 5.3%
ATTAINMENT T.R. = 0
ATTAINMENT S.E. RUN = 47'
P.C. = Sta. 63+40.22
P.T. = Sta. 71+89.66
P.I. = Sta. 67+79.76
REMOVAL S.E. RUN = 65'
REMOVAL T.R. = 0

PROFILE GRADE 55S70W



LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

18-March-2011
STATE OF ILLINOIS
CURTIS M. WATKINS
NUMBER 81-005494
LICENSED STRUCTURAL ENGINEER
Exp. Date 30-Nov-2012

GENERAL PLAN & ELEVATION
F.A.I. RTE. 70
(I-55/I-64 TRI-LEVEL)
SECTION 82-1-1HB
ST. CLAIR COUNTY
STA. 65+50.00 TO 70+90
STRUCTURE NO. 082-W302

HOELSCHER ENGINEERING
Fairview Heights, IL
Springfield, IL
Champaign, IL

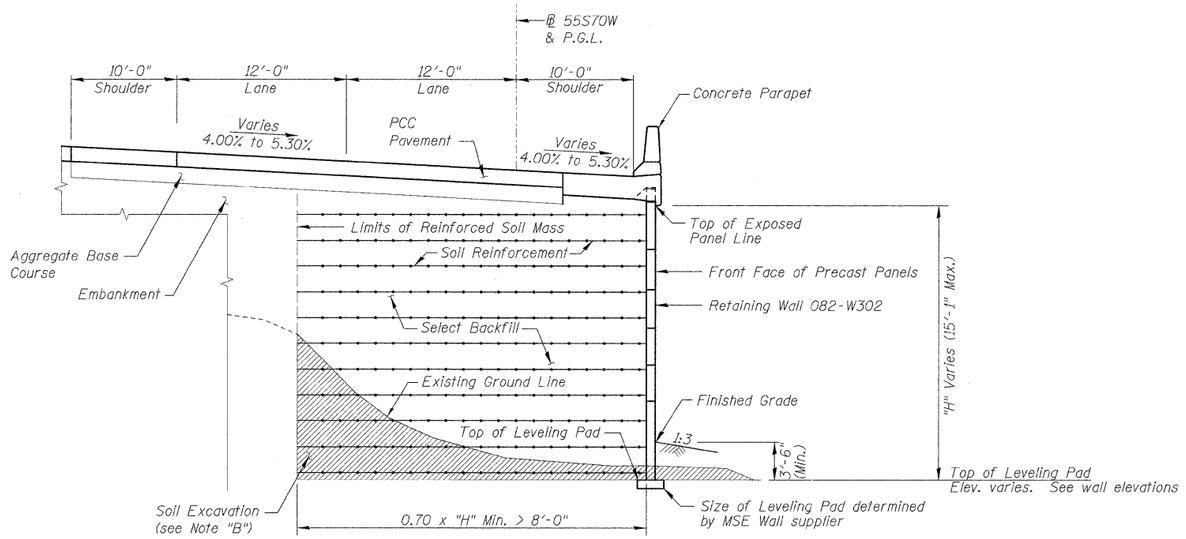
FILE NAME = 082 W302 76C75 S01 final plan.dgn	USER NAME = $USER$	DESIGNED - CMW	REVISED CMW 12-20-10
		DRAWN - BTM	REVISED CMW 12-30-10
	PLOT SCALE = $SCALE$	CHECKED - JSA	REVISED CMW 02-28-11
	PLOT DATE = $DATE$	DATE - 12-09-10	REVISED CMW 03-18-11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
GENERAL PLAN

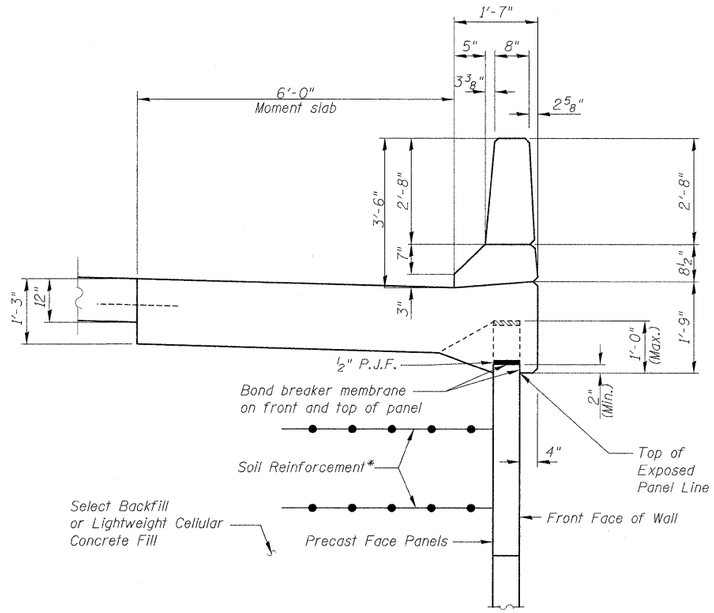
SCALE: N.T.S. | SHEET NO. 1 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-1-1HB	ST. CLAIR	319	272
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL SECTION

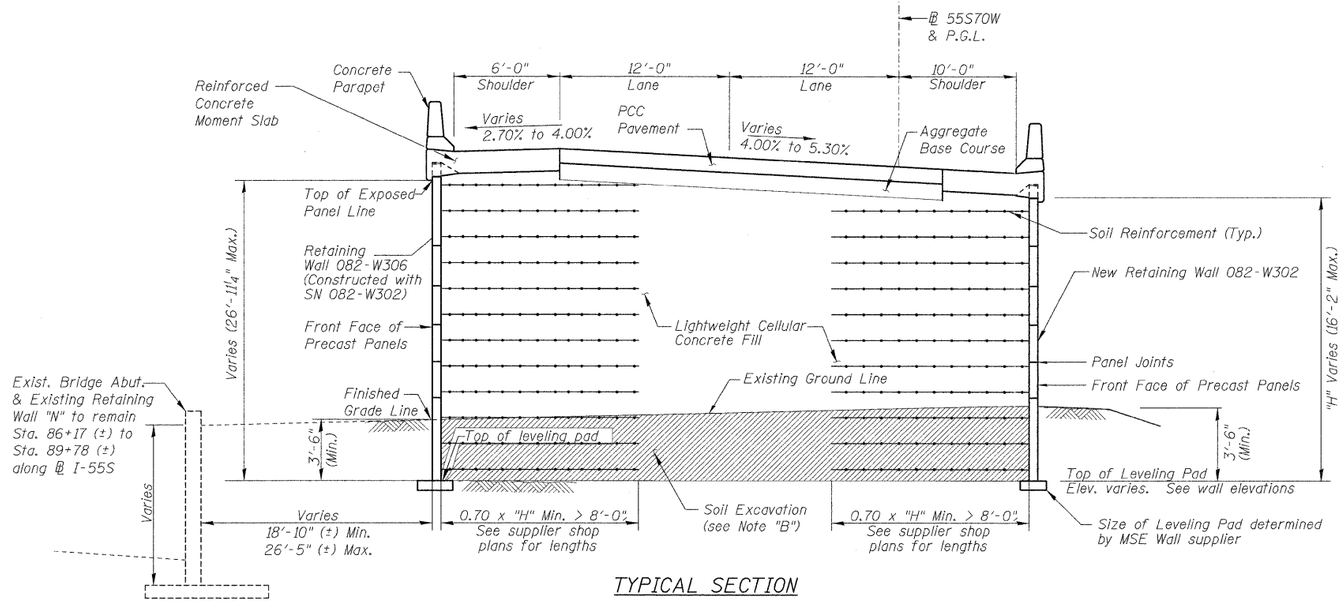
(Sta. 60+50.00 to Sta. 67+75.00
and Sta. 70+40.00 to Sta. 74+11.55)
(Looking Upstation)
NTS



TYPICAL CROSS SECTION

NTS

*The M.S.E. wall supplier's internal stability design shall account for the anchorage slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 kips/ft. of wall.



TYPICAL SECTION

(Sta. 67+75.00 to Sta. 70+40.00)
(Looking Upstation)
NTS

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Protective Coat	Sq. Yd.	618
Structure Excavation	Cu. Yd.	402
Concrete Structures	Cu. Yd.	202.4
Concrete Superstructure	Cu. Yd.	69.3
Reinforcement Bars, Epoxy Coated	Pound	55,800
Name Plates	Each	1
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	2161
Mechanically Stabilized Earth Retaining Wall, Special	Sq. Ft.	3327

GENERAL NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A706 Gr 60. See Special Provisions.
2. Reinforcement bars designated (E) shall be epoxy coated.
3. The Contractor shall take all precautions to protect existing electrical conduits at Sta. 69+70 (approx.), Elev. 405 during the construction of the MSE wall.
4. For drainage structure location, type and size see Sheet No. 58 thru. 60. The wall system supplier shall design load transfer system to accommodate drainage structure and pipe.
5. Slipforming of the parapets is not allowed.

Note B:

Excavated material (soil cuts, unsuitable material, and level pads) may classified as a special waste. Removal of special waste shall be in accordance with contaminated soil provision.

HOELSCHER ENGINEERING
Fairview Heights, IL
Springfield, IL
Champaign, IL

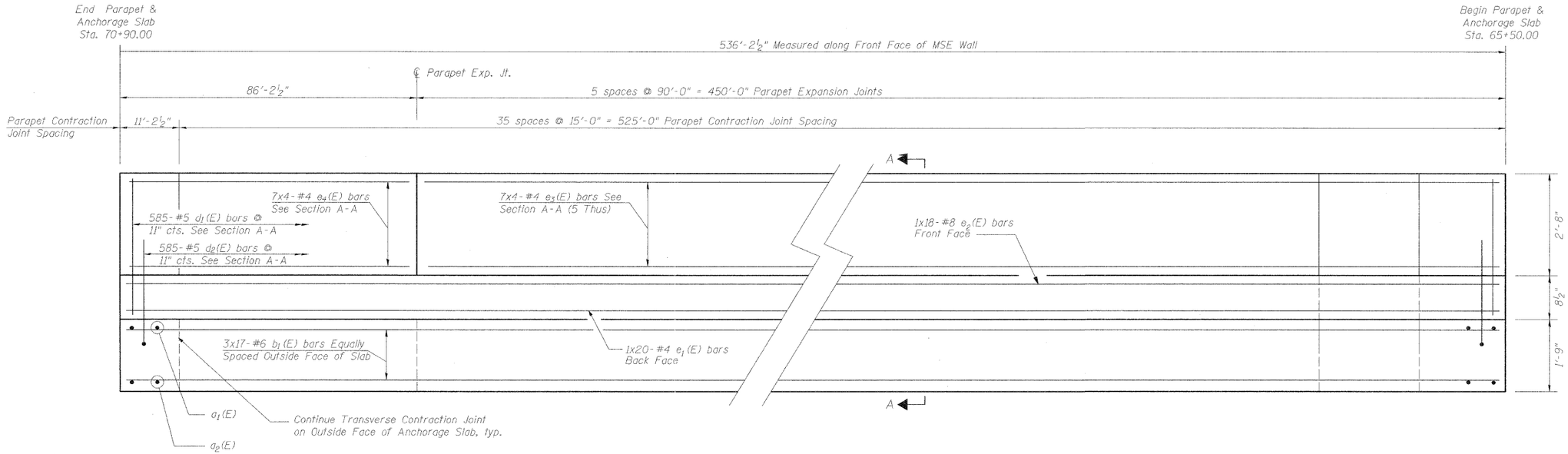
FILE NAME = 082 W302 76C75 S02 final plan.dgn	USER NAME = BhattA	DESIGNED - CMW	REVISED CMW 12-20-10
		DRAWN - BTM	REVISED CMW 12-30-10
	PLOT SCALE = @1.00000 '' / in.	CHECKED - JSA	REVISED -
	PLOT DATE = $DATE$	DATE - 05-02-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

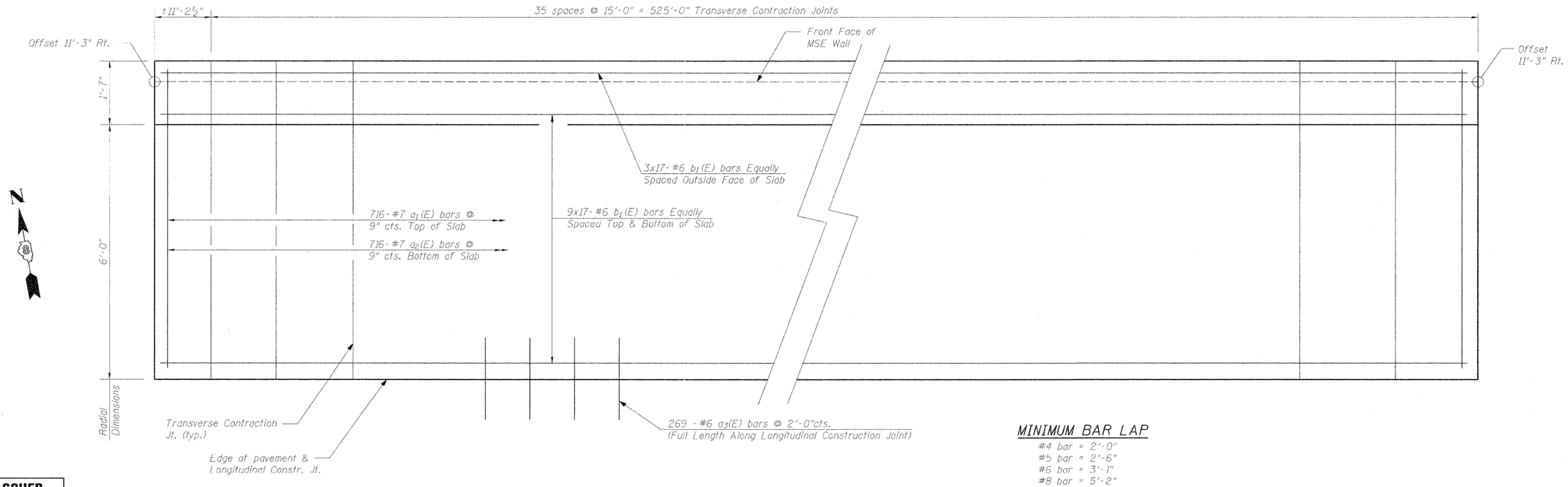
RETAINING WALL 082-W302
GENERAL DATA & TYPICAL SECTIONS

SCALE: N.T.S. | SHEET NO. 2 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-1-1HB	ST. CLAIR	319	273
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



INSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHORAGE SLAB

(offsets from 55S70W)

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"
#6 bar = 3'-1"
#8 bar = 5'-2"

HOELSCHER ENGINEERING
Fairview Heights, IL
Springfield, IL
Champaign, IL

Notes:
1. For Section A-A, see Sheet No. 4.
2. Bars indicated 9x17 - #6 etc. indicates 9 lines with 17 bars per line.
3. For drainage structure location, type and size see Sheet No. 58 thru. 60.

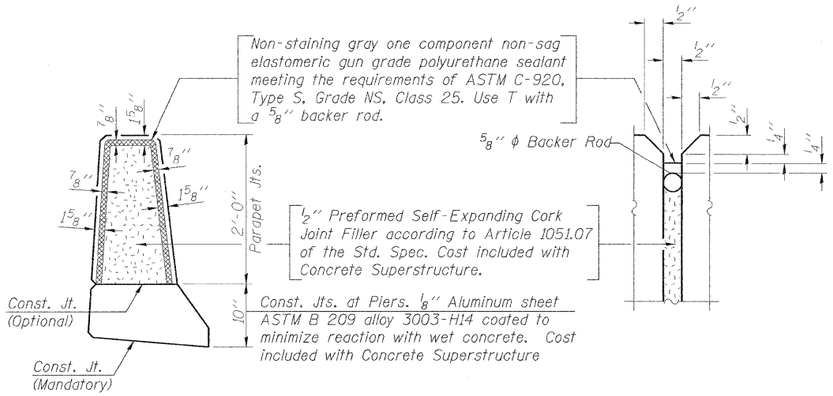
FILE NAME = 082-W302_76C75_final plan S3.dgn	USER NAME = BhattA	DESIGNED - CMW	REVISED CMW 12-20-10
		DRAWN - BTM	REVISED CMW 12-30-10
	PLOT SCALE = 01.00000 '=' / in.	CHECKED - JSA	REVISED CMW 02-28-11
	PLOT DATE = 5/3/2011	DATE - 04-07-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

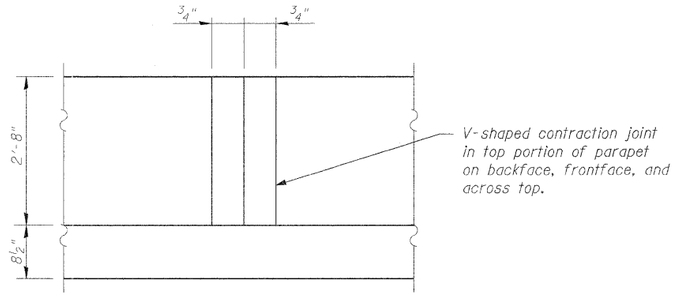
RETAINING WALL 082-W302
PARAPET & ANCHORAGE SLAB

SCALE: N.T.S. | SHEET NO. 3 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

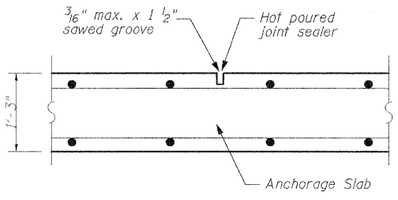
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-1-1HB	ST. CLAIR	319	274
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



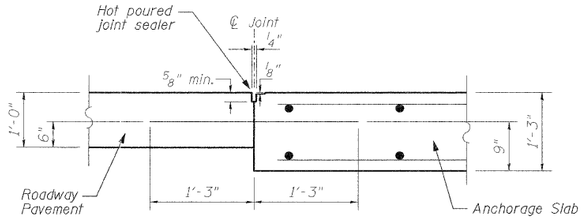
PARAPET EXPANSION JOINT DETAILS



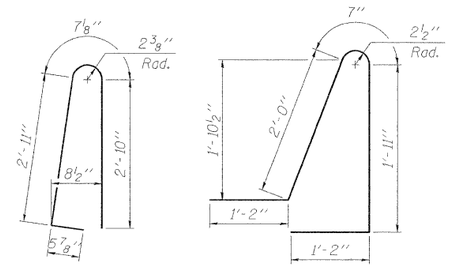
PARAPET CONTRACTION JOINT DETAIL



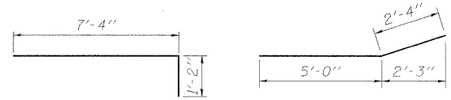
TRANSVERSE CONTRACTION JOINT
See Article 420.05 & 420.12 of the Standard Specifications



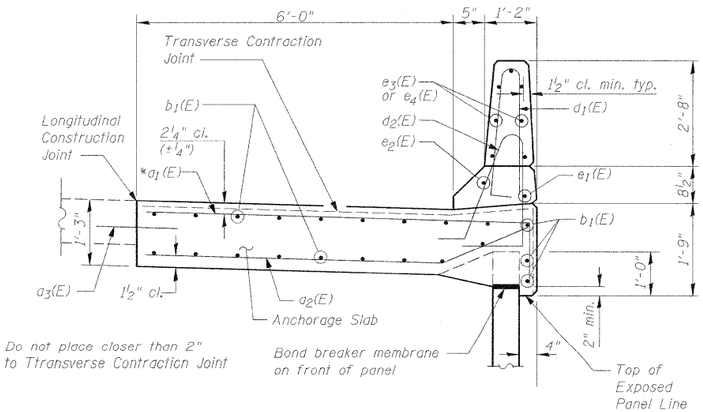
LONGITUDINAL CONSTRUCTION JOINT
See Article 420.05 & 420.12 of the Standard Specifications



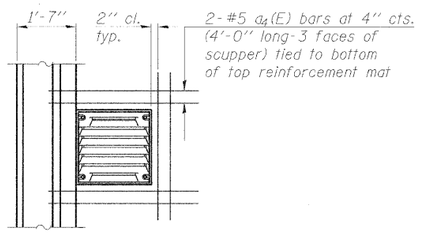
BAR $d_1(E)$ BAR $d_2(E)$



BAR $d_1(E)$ BAR $d_2(E)$



SECTION A-A
(NTS)



PLAN AT DRAINAGE STRUCTURE OPENING

Note:
Cut longitudinal reinforcement to clear drainage scuppers.
Parapet concrete shall be paid for as Concrete Superstructure.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_1(E)$	716	#7	8'-6"	
$a_2(E)$	716	#7	7'-4"	
$a_3(E)$	269	#6	2'-6"	
$a_4(E)$	12	#5	4'-0"	
$b_1(E)$	357	#6	34'-6"	
$d_1(E)$	585	#5	6'-10"	
$d_2(E)$	585	#5	6'-10"	
$e_1(E)$	20	#4	28'-9"	
$e_2(E)$	18	#8	34'-8"	
$e_3(E)$	140	#4	24'-0"	
$e_4(E)$	28	#4	23'-1"	
Concrete Structures			Cu. Yd.	202.4
Concrete Superstructure			Cu. Yd.	69.3
Reinforcement Bars, Epoxy Coated			Pound	55,800

HOELSCHER ENGINEERING
Fairview Heights, IL
Springfield, IL
Champaign, IL

FILE NAME = 082 W302 76C75 S04 final plan.dgn	USER NAME = BhattA	DESIGNED - CMW	REVISED CMW 12-20-10
		DRAWN - BTM	REVISED CMW 12-30-10
	PLOT SCALE = 61.00000 '/ in.	CHECKED - JSA	REVISED CMW 02-28-11
	PLOT DATE = 5/3/2011	DATE - 04-07-2011	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
DETAILS

SCALE: N.T.S. | SHEET NO. 4 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
998	82-1-1HB	ST. CLAIR	319	275
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary DRILL RIG/ HAMMER EFFICIENCY Automatic Hammer

STRUCT. NO. 082-W302
Station

BORING NO. B-211
Station 67+45
Offset 14ft right
Ground Surface Elev. 416.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 397.8 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crushed limestone GRAVEL (FILL) - 6 inches 416.3			
Dark brown, SILTY CLAY (FILL)	1		
	2		24
with crushed limestone gravel to 3 feet	3		
	2		
	2		23
-5	6		
	1		
	1		26
	2		
408.8			
Stiff to medium stiff, brown, SILT	2		
	5		16
-10	7		
	3		
	4		
No sample recovery in SS-5	7		
	1		
	3		25
See Gradation Test Results 401.8 -15	4		
Medium stiff, brown, SILTY LOAM	3		
	3		27
sandy clay seams from 16 to 18 feet	3		
398.8			
Soft, grayish-brown, SILTY CLAY ▼	0		
-20	1 2		
Soft, grayish-brown, SILTY CLAY (continued) 395.8			
Very soft, gray, SILTY CLAY	0		
	1 1		40
	0		
392.3			
	2		38
-25 Medium dense to dense, light brown, FINE-GRAINED SAND	7		
	11		
See Gradation Test Results	10		
	11		
	9		
-30	7		
	11		
	19		
-35	17		
379.8			
Medium dense, grayish-brown, MEDIUM-GRAINED SAND	9		
	10		
-40	12		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary DRILL RIG/ HAMMER EFFICIENCY Automatic Hammer

STRUCT. NO. 082-W302
Station

BORING NO. B-211
Station 67+45
Offset 14ft right
Ground Surface Elev. 416.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 397.8 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, grayish-brown, MEDIUM-GRAINED SAND (continued)			
	6		
See Attached Gradation Test Results	6		
-45	8		
	12		
	8		
-50	7		
364.8			
Very dense to medium dense, gray, FINE-GRAINED SAND	16		
	25		
-55	28		
	9		
	6		
-60	15		
Very dense to medium dense, gray, FINE-GRAINED SAND (continued) 354.8			
Medium dense, gray, MEDIUM-GRAINED SAND	7		
	8		
-65	7		
349.8			
Medium dense, gray, FINE-GRAINED SAND, with silt seams and coal fragments	11		
	18		
-70	17		
344.8			
Medium dense to dense, gray, MEDIUM-GRAINED SAND	12		
with gravel from 72 to 75 feet	13		
-75	17		
-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = #FILE1#	USER NAME = #USER#	DESIGNED - CMW	REVISED CMW 02-28-11
		DRAWN - TJW	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - CMW	REVISED -
	PLOT DATE = #DATE#	DATE - 12-20-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
BORING LOGS

SCALE: N.T.S. | SHEET NO. 5 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	276
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA and Mud Rotary DRILL RIG/ HAMMER EFFICIENCY Automatic Hammer

STRUCT. NO. 082-W302
Station

BORING NO. B-211
Station 67+45
Offset 14ft right
Ground Surface Elev. 416.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 397.8 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				Medium dense to dense, gray, MEDIUM-GRAINED SAND *(continued)*
	11			
-85	22 11			
-90				
	12 14			
-95	14			
316.8 -100				
				Very dense, gray, MEDIUM-GRAINED SAND, with gravel
-105	21 21 42			
-110				
303.8				GRAVEL, COBBLES AND BOULDERS, drill penetration very slow
-115				
299.8				Borehole continued with rock coring.
-120				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

ROCK CORE LOG

Date 11/26/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY JSS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair CORING METHOD Wireline

STRUCT. NO. 082-W302
Station

CORING BARREL TYPE & SIZE NX (2.985 in.)
Core Diameter 2 in
Top of Rock Elev. 299.8 ft
Begin Core Elev. 299.8 ft

BORING NO. B-211
Station 67+45
Offset 14ft right
Ground Surface Elev. 416.8 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
299.8	1	90	82	4.2	1370.0	LIMESTONE: Brownish-gray, very finely crystalline, porphyritic, massive, fresh, good quality, hard, dense, occasional stylolites and argillaceous limestone partings
-120						
294.1	2	71	35	7.9		LIMESTONE: Gray, very finely crystalline, massive, fresh, fair quality, hard, dense, argillaceous
-125						
290.3						bluish-gray clay seams from 126 to 126.4 feet End of Boring
-130						
-135						

Color pictures of the cores Yes
Cores will be stored for examination until 9/1/02
The "Strength" column represents the uniaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

FILE NAME = $FILE$	USER NAME = $USER$	DESIGNED - CMW	REVISED CMW 02-28-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RETAINING WALL 082-W302 BORING LOGS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - TJW	REVISED -			70	82-1-B-1	ST. CLAIR	319	277
	PLOT SCALE = $SCALE$	CHECKED - CMW	REVISED -					CONTRACT NO. 76C75		
	PLOT DATE = $DATE$	DATE - 12-20-2010	REVISED -		SCALE: N.T.S. SHEET NO. 6 OF 13 SHEETS STA. 65+50.00 TO STA. 70+90.00			ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology

SOIL BORING LOG

Date 2/6/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W302
Station 67+16.01

BORING NO. RW-403
Station 67+16.01
Offset 63ft Right
Ground Surface Elev. 420.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Crushed limestone gravel (FILL)
418.8	14			
	6		20	Stiff, gray, CLAY, trace sand
	7			
	4			
	6	1.9	15	
-5	5			
414.6				
	2			Medium stiff, brown, SANDY CLAY LOAM
	3		26	
	4			
412.1				
	2			Medium stiff to stiff, brown, SILTY LOAM
	3		23	Grain size distribution conducted
-10	3			
	2			
	2	1.1	18	
	3			
407.6				
	2			Stiff to medium stiff, gray, SILTY CLAY LOAM
	3	1.1	20	
-15	7			
	2			
	2	0.6	29	
	2			
402.1				
	2			Very stiff to medium stiff, gray, SILTY CLAY, with trace silt
	2	3.0	27	
-20	3			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
	2			Very stiff to medium stiff, gray, SILTY CLAY, with trace silt *(continued)*
	2	0.6	41	
	2			
	0			
	1	1.1	35	
-25	1			
394.6				
	7			Medium dense, light brown, FINE GRAINED SAND, trace silt
	9			
	10			
	8			Grain size distribution conducted
	12			
-30	13			
	5			
	7			
-35	9			
383.1				
				Medium dense to dense, brown, MEDIUM GRAINED SAND, with gravel
-40				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology

SOIL BORING LOG

Date 2/6/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W302
Station 67+16.01

BORING NO. RW-403
Station 67+16.01
Offset 63ft Right
Ground Surface Elev. 420.1 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Material
				Medium dense to dense, brown, MEDIUM GRAINED SAND, with gravel *(continued)*
	13			
	17			
-45	13			
	7			
	7			
-50	8			
	10			
	20			
-55	21			
	9			
	13			
360.1 -60	26			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - CMW	REVISED CMW 02-28-11
		DRAWN - TJW	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - CMW	REVISED -
	PLOT DATE = $DATE$	DATE - 12-20-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
BORING LOGS

SCALE: N.T.S. | SHEET NO. 7 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	278
		CONTRACT NO. 76C75		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology

SOIL BORING LOG

Page 1 of 1

Date 3/3/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY LAH

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W302
Station 68+93.87

BORING NO. RW-405
Station 68+93.87
Offset 15ft Right
Ground Surface Elev. 418.4 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Topsoil - 3 inches 418.2			
Black, SANDY LOAM, with cinders (FILL)	3		
416.4	2 2		23
Very stiff, gray to brown, CLAY			
	2		
	3 6	2.8 S	26
413.6 -5			
Soft, brown, SANDY CLAY	2		
	2 2		11
	2		
	1 2		28
407.9 -10			
Loose, brown, FINE GRAINED SAND, trace silt	1		
Grain size distribution conducted	2 4		24
	3		
	2 5		17
-15			
	2		
	3 4		12
	3		
	3 3		10
398.4 -20			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

Illinois Department of Transportation
Division of Highways
Geotechnology

SOIL BORING LOG

Page 1 of 1

Date 2/6/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR HAMMER TYPE CME 75 / 80%

STRUCT. NO. 082-W302
Station 64+85.7

BORING NO. RW-406
Station 64+85.7
Offset 25ft Right
Ground Surface Elev. 410.5 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crushed limestone GRAVEL base (FILL) 410.2			
Gray brown, CLAY, with silt, sand, cinders, and brick fragments (FILL)	9		
	10 9		
	1		
	2 3	0.9	18
-5			
	2		
	2 4	1.4	24
402.5			
Medium stiff, brown, SILT	2		
	2 1	0.7	14
400.0 -10			
Stiff, brown, SILTY CLAY	1		
	2 3	1.2	28
397.5			
Stiff, brown, CLAY	1		
	2 2	1.8	27
-15			
	1		
	2 2	1.5	34
	1		
	2 6	1.6	33
390.5 -20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, brown, FINE GRAINED SAND, trace silt			
See Attached Gradation Results	6		
	6 7		
	7		
	10 11		
-25			
	11		
	10 17		
	3		
	13 16		
-30			
	11		
	14 16		
-35			
	6		
	6 6		
370.5 -40			

End of Boring

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, from 137 (Rev. 8-99)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

FILE NAME = #FILEL#	USER NAME = #USER#	DESIGNED - CMW	REVISED CMW 02-28-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RETAINING WALL 082-W302 BORING LOGS
		DRAWN - TJW	REVISED -		
	PLOT SCALE = #SCALE#	CHECKED - CMW	REVISED -		
	PLOT DATE = #DATE#	DATE - 12-20-2010	REVISED -		

SCALE: N.T.S. | SHEET NO. 8 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	279
		CONTRACT NO. 76C75		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/14/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 40 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-414
Station 70+70
Offset 30ft Left
Ground Surface Elev. 418.6 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 380.6 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	4			Black, CINDERS, with sand, gravel, and brick fragments (FILL)
	2 4			
	3			
-5	5 6		11	
412.3	2			
	3 3	1.7 S	22	Stiff, brown, SILTY CLAY
410.6				Soft to medium stiff, brown to gray, SILT
	2			
-10	2 2		29	
	2			
	3 3		23	
	3			
-15	4 3		17	
	2			
	2 2	0.5 S	31	
	2			
-20	3 4	0.7 S	29	
-25	2			Soft to medium stiff, brown to gray, SILT *(continued)*
	2 3	1.3 S	40	stiff
	3			
-25	3 4	0.8 S	28	
392.3	4			
	7 8		6	Medium dense, brown, FINE GRAINED SAND Grain Size Distribution Conducted
	5			
-30	6 7		10	
386.6	2			Medium stiff, gray, SILT
-35	2 2	0.8 B	31	
380.6 ▼	6			Medium dense, brown, FINE GRAINED SAND
-40	8 10			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/14/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 40 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-414
Station 70+70
Offset 30ft Left
Ground Surface Elev. 418.6 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter 380.6 ft ▼
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Soil Description
	10			Medium dense, brown, FINE GRAINED SAND *(continued)*
	14			Grain Size Distribution Conducted
-45	15			
371.6	7			Medium dense, brown, FINE TO MEDIUM GRAINED SAND, trace gravel
	8			
368.6	8			End of Boring
-55				
-60				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED - CMW	REVISED CMW 02-28-11
		DRAWN - TJW	REVISED -
	PLOT SCALE = $SCALE$	CHECKED - CMW	REVISED -
	PLOT DATE = $DATE$	DATE - 12-20-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
BORING LOGS

SCALE: N.T.S. | SHEET NO. 9 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	280

CONTRACT NO. 76C75
ILLINOIS FED. AID PROJECT

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/15/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 35 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-415
Station 69+20
Offset 10ft Left
Ground Surface Elev. 417.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, CINDERS, with sand, gravel, and brick (FILL)			
	4		
415.9			
Very stiff to stiff, gray to brown, CLAY	5	3.3	26
	4	B	
	3		
	3	2.9	25
-5	4	B	
	2		
	2	1.7	27
	3	B	
409.9			
Soft to very stiff, brown, SILT	1		
	2		15
-10	2		
	2		
	1	2.2	30
	2	B	
	2		
403.6			
Stiff, brown, CLAY	2	1.4	38
-15	3	S	
	2		
400.9			
Stiff, brown, SILT	2	1.3	31
	5	S	
	4		
	4		9
-20	5		
Stiff, brown, SILT *(continued)* 397.4			
Medium dense, brown, FINE GRAINED SAND	4		
Grain Size Distribution Conducted	7		6
	9		
394.1			
Stiff, gray, CLAY	2		
-25	2	1.7	32
		S	
	1		
	1	1.3	40
	2	S	
389.9			
Stiff, brown, SILTY LOAM	8		
388.6			
Medium dense, brown, FINE GRAINED SAND	8		25
-30	11		
	7		
	8		
-35	8		
	17		
dense, with gravel	19		
-40	14		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

^ Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/15/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 35 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-415
Station 69+20
Offset 10ft Left
Ground Surface Elev. 417.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Medium dense, brown, FINE GRAINED SAND *(continued)*			
	6		
	7		
-45	8		
	7		
	7		
-60	6		
365.9			
Medium dense, brown to gray, MEDIUM GRAINED SAND	8		
Grain Size Distribution Conducted	10		
-65	13		
	12		
dense	14		
-80	17		
Medium dense, brown to gray, MEDIUM GRAINED SAND *(continued)*			
	12		
	14		
-85	14		
	5		
	5		
-70	6		
345.9			
Dense to medium dense, FINE TO MEDIUM GRAINED SAND	7		
	10		
-75	27		

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = #FILE#	USER NAME = #USER#	DESIGNED - CMW	REVISED CMW 02-28-11
		DRAWN - TJW	REVISED -
	PLOT SCALE = #SCALE#	CHECKED - CMW	REVISED -
	PLOT DATE = #DATE#	DATE - 12-20-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
BORING LOGS

SCALE: N.T.S. SHEET NO. 10 OF 13 SHEETS STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	281
		CONTRACT NO. 76C75		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/15/10

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 18, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA with MR below 35 ft HAMMER TYPE CME 750X / 73%

STRUCT. NO. 082-W306
Station NA

BORING NO. RW-415
Station 69+20
Offset 10ft Left
Ground Surface Elev. 417.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense to medium dense, FINE TO MEDIUM GRAINED SAND *(continued)*			
	9		
Grain Size Distribution Conducted	9		
-86	9		
-90			
	14		
323.6	24		
Dense to medium dense, brown, MEDIUM TO COARSE GRAINED SAND, with gravel	18		
-95			
-100			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Dense to medium dense, brown, MEDIUM TO COARSE GRAINED SAND, with gravel *(continued)*			
	7		
	7		
312.9 -105	7		
End of Boring			
-110			
-115			
-120			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 4/16/01

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BEC

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD Hollow Stem Auger HAMMER TYPE Automatic Hammer

STRUCT. NO.
Station NA

BORING NO. SB- 65
Station 34+01
Offset 41ft Right
Ground Surface Elev. 418.8 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter ** ft
Upon Completion ** ft
After ** Hrs. ** ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Black, SILTY CLAY with cinders and brick/concrete fragments (FILL)	3		
	6		
	6		
	3		
	3	1.0	
-5	5	P	
413.3			
Stiff, olive brown to brown, SILTY CLAY, with Fe staining	3		
	4	1.5	35
	5	P	
	1		
	2	1.7	36
-10	3	S	
408.3			
Loose, brown, SANDY LOAM, with Fe staining	2		
	2		21
	4		
404.8	2		
Stiff, grayish-green, SILT, with seams of silty clay	2	1.2	47
-15	2	S	
402.3	1		
Stiff, brown, SILTY CLAY, with Fe staining and sand seams	1	1.7	33
	3	S	
	2		
	2	1.3	31
398.8 -20	3	S	

End of Boring
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = *FILE1*	USER NAME = *USER*	DESIGNED - CMW	REVISED CMW 02-28-11
		DRAWN - TJW	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - CMW	REVISED -
	PLOT DATE = *DATE*	DATE - 12-20-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
BORING LOGS

SCALE: N.T.S. | SHEET NO. 11 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	282
		CONTRACT NO. 76C75		
		ILLINOIS FED. AID PROJECT		

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/16/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY BJS

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA HAMMER TYPE CME 55 / 80%

STRUCT. NO. NA
Station NA

BORING NO. SB-402
Station
Offset
Ground Surface Elev. 421.4 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Brown, MEDIUM GRAINED SAND (FILL), with brick fragments		2		
		6 5		
		2		
		2 4		
416.4	-5			
Medium stiff, gray, SILTY CLAY LOAM		2		
		2 4		23
413.4				
Loose, brown, SANDY LOAM		2		
		2 5		
411.4	-10			
End of Boring				
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/9/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA DRILL RIG/ HAMMER EFFICIENCY CME 75 / 80%

STRUCT. NO. NA
Station NA

BORING NO. SB-403
Station 69+00
Offset 12ft right
Ground Surface Elev. 417.7 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL - 4 inches 417.4				
Crushed limestone GRAVEL base (FILL) 416.2		4		
Brownish gray, CLAY , with rubble (FILL)		5 5		
		1		
	-5	2 2		27
412.2				
Medium stiff, brown, SANDY LOAM		3		
		4 3		27
		2		
		4 4		16
407.7	-10			
End of Boring				
	-15			
	-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = *FILEL*	USER NAME = *USER*	DESIGNED - CMW	REVISED CMW 02-28-11
		DRAWN - TJW	REVISED -
	PLOT SCALE = *SCALE*	CHECKED - CMW	REVISED -
	PLOT DATE = *DATE*	DATE - 12-20-2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RETAINING WALL 082-W302
BORING LOGS

SCALE: N.T.S. | SHEET NO. 12 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	283
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

Illinois Department of Transportation
Division of Highways
Geotechnology, Inc

SOIL BORING LOG

Date 2/5/09

ROUTE FAP 998 DESCRIPTION Trilevel Interchange LOGGED BY RFW

SECTION 82-1 LOCATION East St. Louis, IL, SEC. 7, TWP. 2N, RNG. 9W

COUNTY St. Clair DRILLING METHOD HSA DRILL RIG/ HAMMER EFFICIENCY CME 75 / 80%

STRUCT. NO. NA
Station NA

BORING NO. SB-404
Station 66+00
Offset 30ft right
Ground Surface Elev. 414.9 ft

Surface Water Elev. Unknown ft
Stream Bed Elev. Unknown ft

Groundwater Elev.:
First Encounter Not Measured ft
Upon Completion Not Measured ft
After ____ Hrs. Not Measured ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
Crushed limestone GRAVEL base (FILL) 414.4			
Brown, SAND, trace gravel (FILL)	2		
	3 2		
411.9			
Loose, brown, SAND, trace gravel	2		
	4 4		
-5			
	2		
	2 3		
	4		
	2		
-10	3		
	3		
	3 4		
401.9			
Soft, gray, CLAY LOAM	1		
	1		21
-15	2		
	1		
398.4			
Medium stiff, gray, SILTY CLAY LOAM	1 2	0.4	35
	1		
	2	0.3	30
394.9 -20	2		

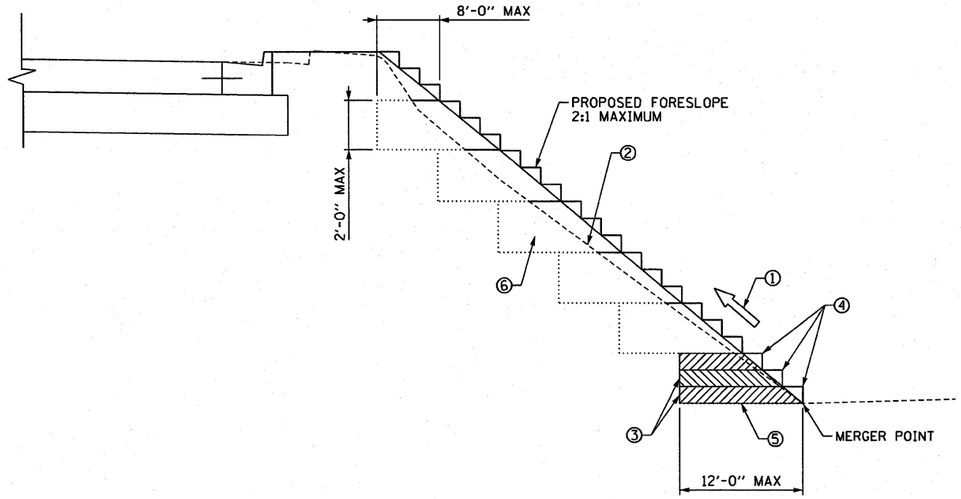
End of Boring
The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)
* Rimac attempted, not measured due to sample disturbance
** Not measured due to drilling methods used

BBS, from 137 (Rev. 8-99)

FILE NAME = *FILE*	USER NAME = *USER*	DESIGNED - CMW	REVISED CMW 002-28-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	RETAINING WALL 082-W302 BORING LOGS
		DRAWN - TJW	REVISED -		
	PLOT SCALE = *SCALE*	CHECKED - CMW	REVISED -		
	PLOT DATE = *DATE*	DATE - 12-20-2010	REVISED -		

SCALE: N.T.S. | SHEET NO. 13 OF 13 SHEETS | STA. 65+50.00 TO STA. 70+90.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	284
		CONTRACT NO. 76C75		
		ILLINOIS FED. AID PROJECT		



TYPICAL BENCHING DETAIL FOR EMBANKMENT

SCALE: NONE

NOTES:

① CONSTRUCT SUCCEEDING BENCH CUTS AND EMBANKMENT PLACEMENT AND COMPACTION FROM BOTTOM TO TOP IN STAIRSTEP FASHION.

② EXISTING FORESLOPE PREPARED IN ACCORDANCE WITH ARTICLE 205.03 OF THE STANDARD SPECIFICATIONS.

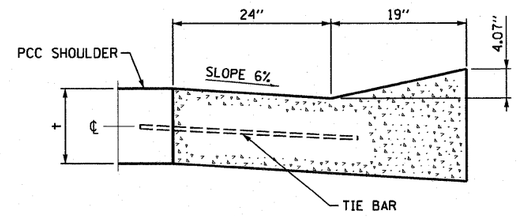
③ BENCH CUT EXISTING FINAL SLOPE TYPICAL FOR EACH STEP.

④ TRIM TO FINAL SLOPE.

⑤ EQUAL 8-INCH LIFTS OF EMBANKMENT COMPACTED IN ACCORDANCE WITH ARTICLE 205.05 OF THE STANDARD SPECIFICATIONS.

⑥ EXCAVATION OF BENCH CUTS WITHIN EXISTING EMBANKMENT WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER CUBIC YARD FOR "EARTH EXCAVATION". THIS PRICE WILL INCLUDE ALL LABOR AND MATERIAL, NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

⑦ SLOPES SHALL BE BENCHED ACCORDING TO THIS DETAIL WHEN THE SLOPE IS STEEPER THAN 4:1 AND THE HEIGHT IS GREATER THAN 5'.

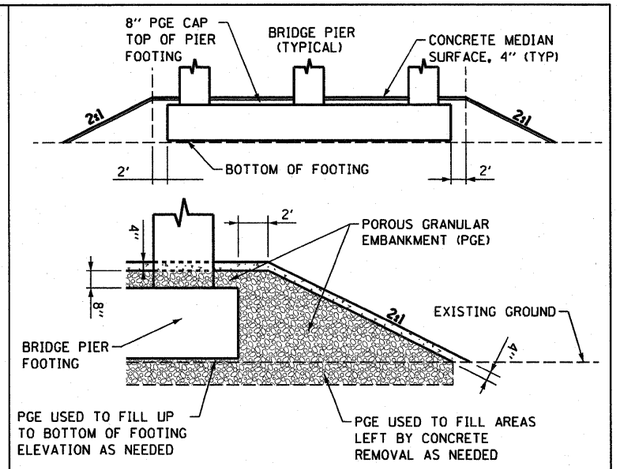


COMBINATION CONCRETE CURB AND GUTTER, TYPE B-6.24 MODIFIED (DEPRESSED)

ALIGNMENT	BEGIN STATION	END STATION	O/S
SB I-55	78+25.00	85+54.39	RT

SCALE: NONE

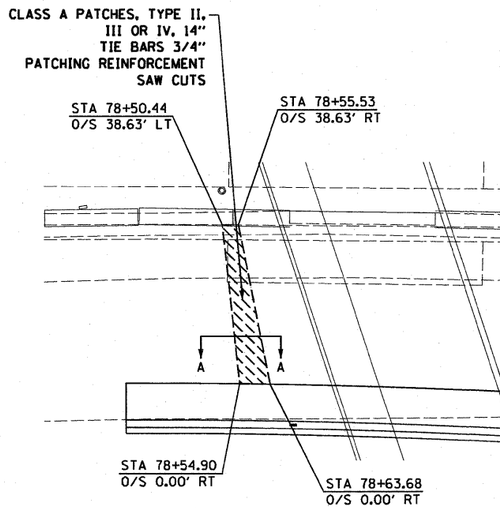
NOTE: EXCEPT FOR DIMENSIONS OF CURB AND GUTTER SHOWN HERE, ALL OTHER DETAILS IN STANDARD 606001 SHALL APPLY.

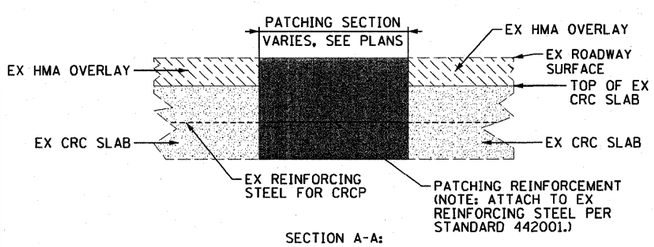


NOTE: MOUNDING AT PIER 9 OF SN 082-0325 MAY NEED TO BE FIELD ADJUSTED TO AVOID ENCROACHING INTO KCS ROW.

DETAIL FOR MOUNDING OF PIER FOOTINGS

SCALE: NONE



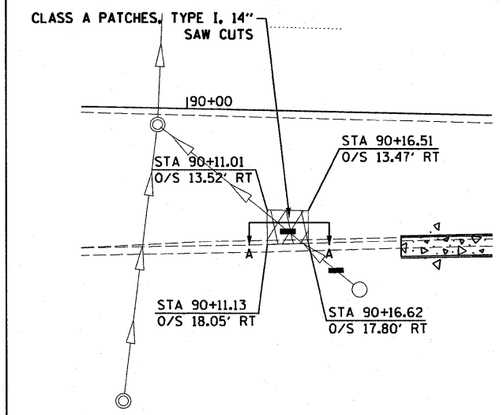


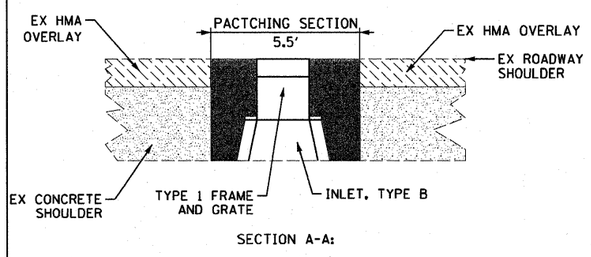
SECTION A-A:

PATCHING FOR PR PIPE ROADWAY CROSSINGS

SCALE: NONE

NOTE: ALL STATION AND OFFSETS TAKEN FROM I-55 ℄





SECTION A-A:

PATCHING FOR INLET CONSTRUCTION

SCALE: NONE

USER NAME = searsb	DESIGNED - CRH		REVISED -
	DRAWN - CRH		REVISED -
PLOT SCALE = 20.000 ' / in.	CHECKED - DBM		REVISED -
PLOT DATE = $DATE$	DATE - 3-18-11		REVISED -

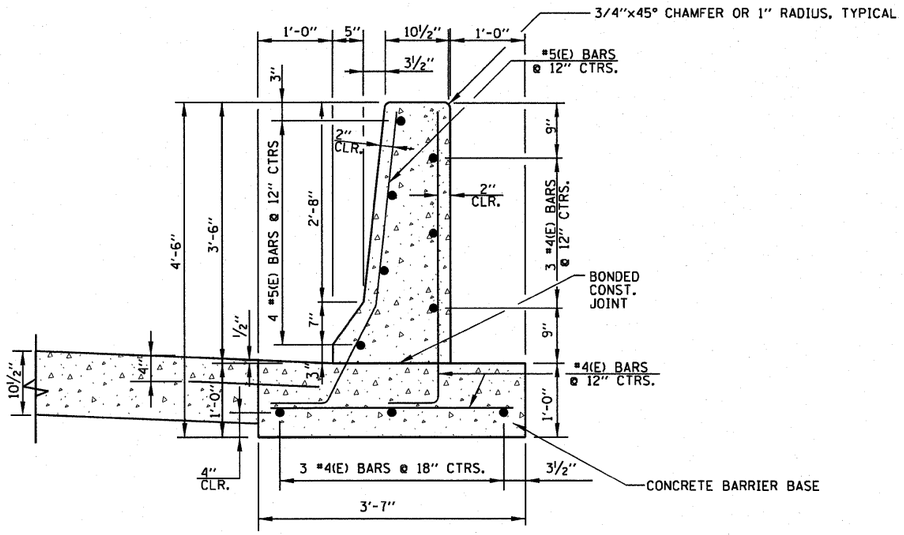
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY DETAILS

SCALE: NONE | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	285
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FILE NAME = P:\P60046609\900_CAD\901_Drawings\76C75_Contract\Sheet\Civil\Details\DBTri-76C75-sht-details-02.dgn

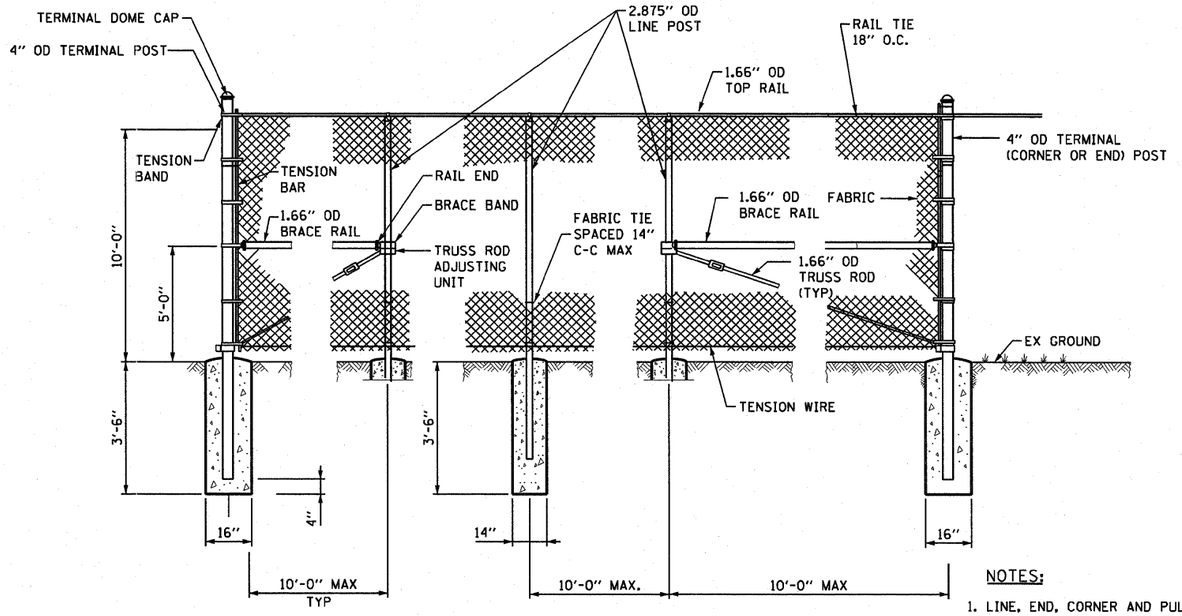


CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT (SPECIAL)

STA 60+50.00 TO STA 65+00.00, RT (RAMP 55S70W)

NOTES:

1. DIMENSIONS AND REINFORCEMENT DETAILS APPLY TO ALL CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT (SPECIAL) (SPECIAL) SHOWN IN THE PLANS
2. THERE SHALL BE A MINIMUM 6" OVERLAP BETWEEN CONCRETE THICKNESS IN BARRIER WALL BASE AND CONCRETE THICKNESS IN ADJACENT SHOULDER TO PROVIDE ADEQUATE CONCRETE ABOVE AND BELOW THE TIE BAR.
3. TOP SHOULDER EDGE OF BARRIER BASE GUTTER SHALL MATCH THE TOP OF SHOULDER ELEVATION.
4. CONTRACTION AND EXPANSION JOINTS SHALL BE IN ACCORDANCE WITH ARTICLE 637.08 OF THE STANDARD SPECIFICATIONS.
5. REINFORCING BARS SHALL MEET THE REQUIREMENTS OF AASHTO M31 (ASTM A615), GRADE 60, AND SHALL CONFORM TO SECTION 508 OF THE STANDARD SPECIFICATIONS.
6. REINFORCING BARS DESIGNATED "(E)" SHALL BE EPOXY COATED.
7. REINFORCEMENT BENDING DETAILS SHALL BE IN ACCORDANCE WITH THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES ", ACI 315, LATEST EDITION.
8. REINFORCEMENT BAR BENDING DIMENSIONS ARE OUT TO OUT.
9. ¾" PREFORMED JOINT FILLER SHALL BE USED WHERE CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT MEETS CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT (SPECIAL). PAYMENT SHALL BE INCLUDED IN COST OF CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT

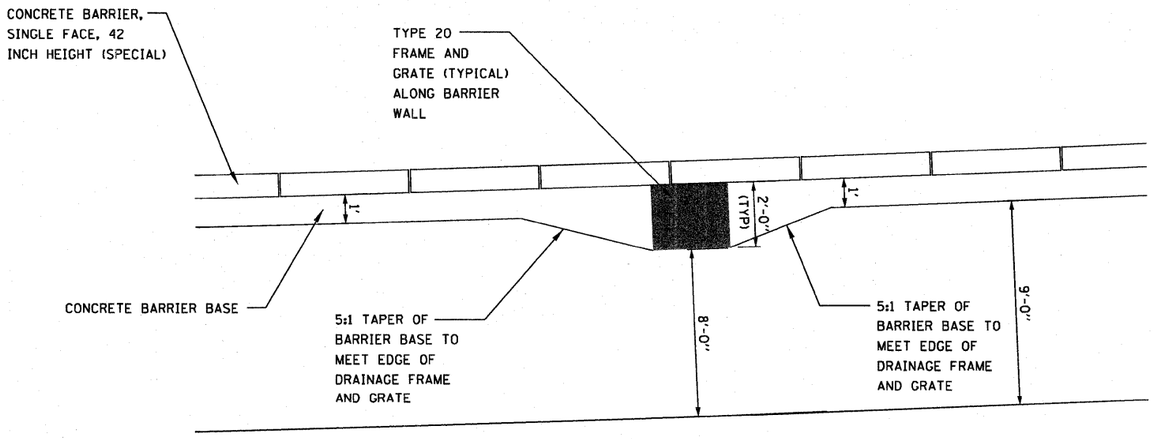


CHAIN LINK FENCE, 10' (SPECIAL)

SCALE: NONE

NOTES:

1. LINE, END, CORNER AND PULL POST, AND TOP, BRACE AND INTERMEDIATE RAILS TO BE HOT DIPPED GALVANIZED AND IN ACCORDANCE WITH ASTM F1043, SCHEDULE 40.
2. FABRIC: 2" MESH, ZINC COATED STEEL.



DETAIL OF BARRIER BASE CONSTRUCTED AROUND DRAINAGE STRUCTURE

SCALE: NONE

USER NAME = searsb	DESIGNED - CRH	REVISED -	
	DRAWN - CRH	REVISED -	
PLOT SCALE = 20.000 ' / in.	CHECKED - DBM	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY DETAILS

SCALE: NONE | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	286
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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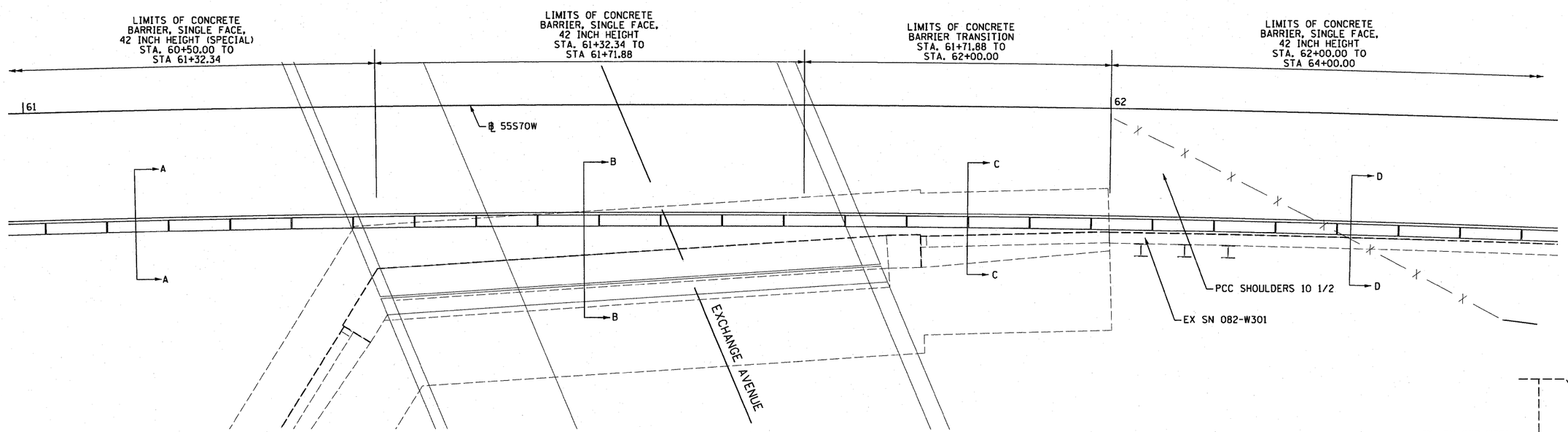
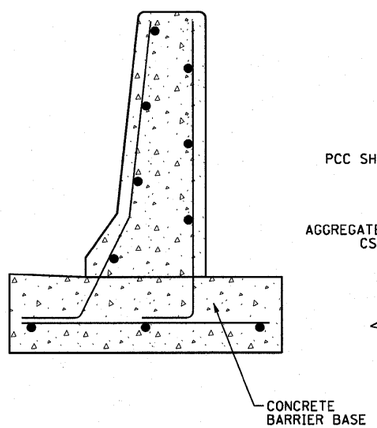
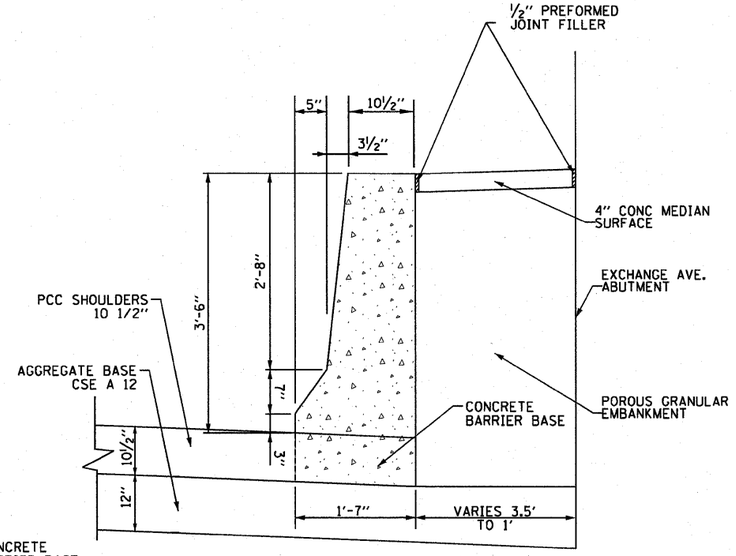
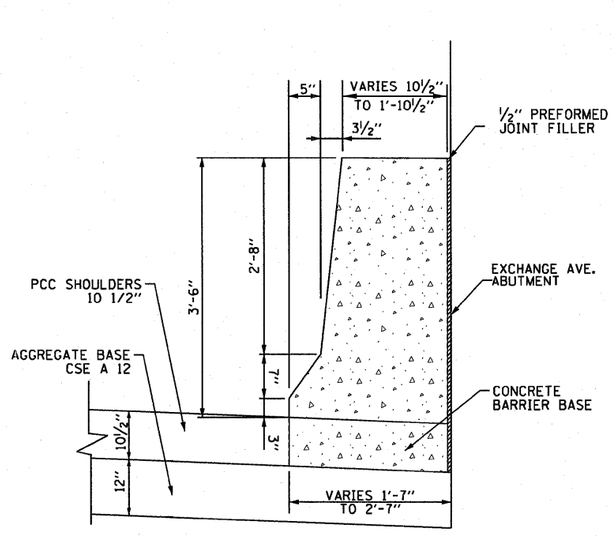




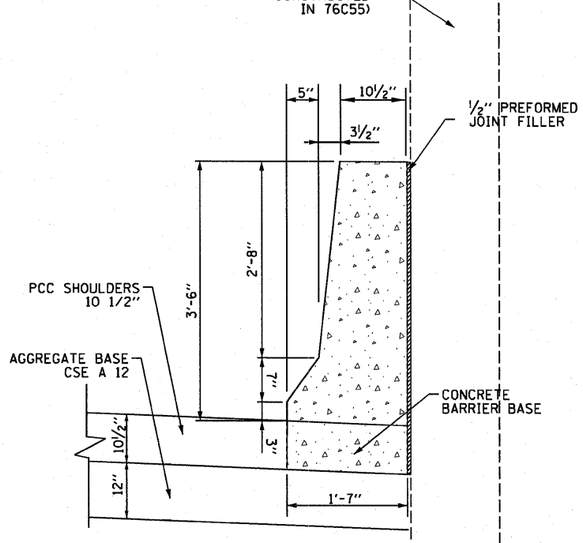
SECTION A-A
CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT (SPECIAL)
STA 60+50.00 TO 61+32.34 (55S70W ℄)



SECTION B-B
CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT
STA 61+32.34 TO 61+71.88 (55S70W ℄)



SECTION C-C
CONCRETE BARRIER TRANSITION
STA 61+71.88 TO 62+00.00
(55S70W ℄)



SECTION D-D
CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT
STA 62+00.00 TO 64+00.00 (55S70W ℄)

NOTES:

NOTES FROM CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT (SPECIAL) APPLY TO ALL CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT AND CONCRETE BARRIER TRANSITION. (SEE ROADWAY DETAILS SHEET 2 OF 4)

5 0 5 10
SCALE IN FEET

USER NAME = searsb	DESIGNED - CRH	REVISED -	
	DRAWN - CRH	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - DBM	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY DETAILS

SCALE: 1" = 5' | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	286A
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

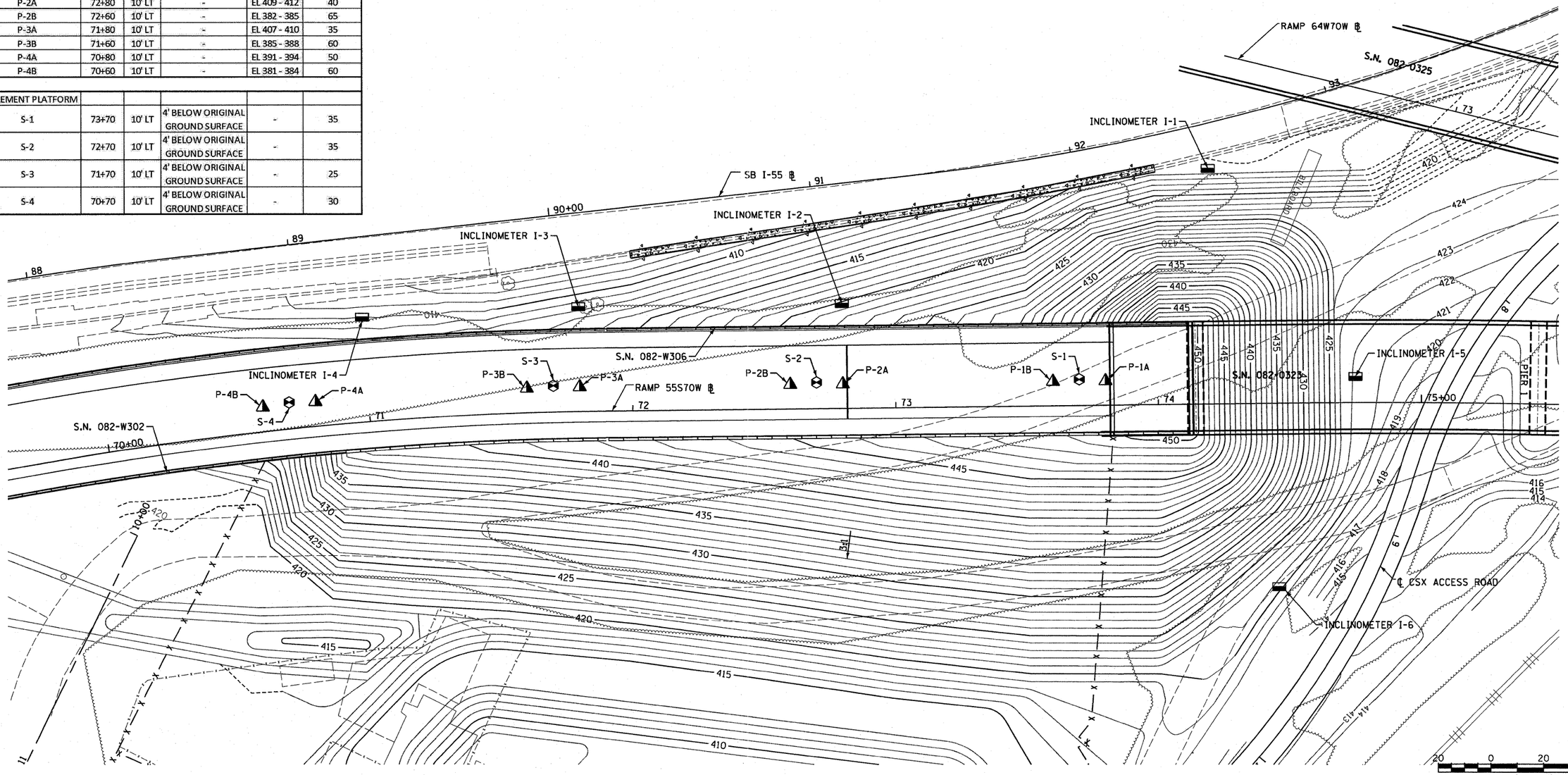
FILE NAME = P:\P60046609\900_CAD\901_Drawings\76C75_Contract\Sheet\Civil\Details\D8Tr1-76C75-sht-details-04.dgn

SUGGESTED LOCATIONS FOR EMBANKMENT CONSTRUCTION AND MONITORING

	STATION	O/S	BOTTOM ELEVATION	SCREEN INTERVAL	APPROX LENGTH (FT)
SLOPE INCLINOMETER					
I-1	74+20	90' LT	EL 345	-	70
I-2	72+80	40' LT	EL 350	-	65
I-3	71+80	40' LT	EL 350	-	60
I-4	71+00	40' LT	EL 355	-	55
I-5	74+75	10' LT	EL 345	-	75
I-6	74+45	70' RT	EL 345	-	75
PORE PRESSURE MEASUREMENT DEVICE					
P-1A	73+80	10' LT	-	EL 393 - 396	60
P-1B	73+60	10' LT	-	EL 385 - 388	68
P-2A	72+80	10' LT	-	EL 409 - 412	40
P-2B	72+60	10' LT	-	EL 382 - 385	65
P-3A	71+80	10' LT	-	EL 407 - 410	35
P-3B	71+60	10' LT	-	EL 385 - 388	60
P-4A	70+80	10' LT	-	EL 391 - 394	50
P-4B	70+60	10' LT	-	EL 381 - 384	60
SETTLEMENT PLATFORM					
S-1	73+70	10' LT	4' BELOW ORIGINAL GROUND SURFACE	-	35
S-2	72+70	10' LT	4' BELOW ORIGINAL GROUND SURFACE	-	35
S-3	71+70	10' LT	4' BELOW ORIGINAL GROUND SURFACE	-	25
S-4	70+70	10' LT	4' BELOW ORIGINAL GROUND SURFACE	-	30

NOTES:
1. SETTLEMENT PLATFORM SHALL BE INSTALLED IN ACCORDANCE WITH ARTICLE 204.06 OF THE STANDARD SPECIFICATIONS.
2. ACTUAL PLACEMENT OF ALL THREE DEVICES ARE TO BE DETERMINED IN THE FIELD AND AS DIRECTED BY THE ENGINEER.

LEGEND:
- SETTLEMENT PLATFORM
- PORE PRESSURE MEASUREMENT DEVICES
- SLOPE INCLINOMETER



USER NAME = searsb	DESIGNED - CRH	REVISED -	
	DRAWN - CRH	REVISED -	
PLOT SCALE = 40.0000 ' / in.	CHECKED - DBM	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUGGESTED LOCATIONS FOR EMBANKMENT CONSTRUCTION AND MONITORING

SCALE: 1" = 20' | SHEET NO. 4 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	286B
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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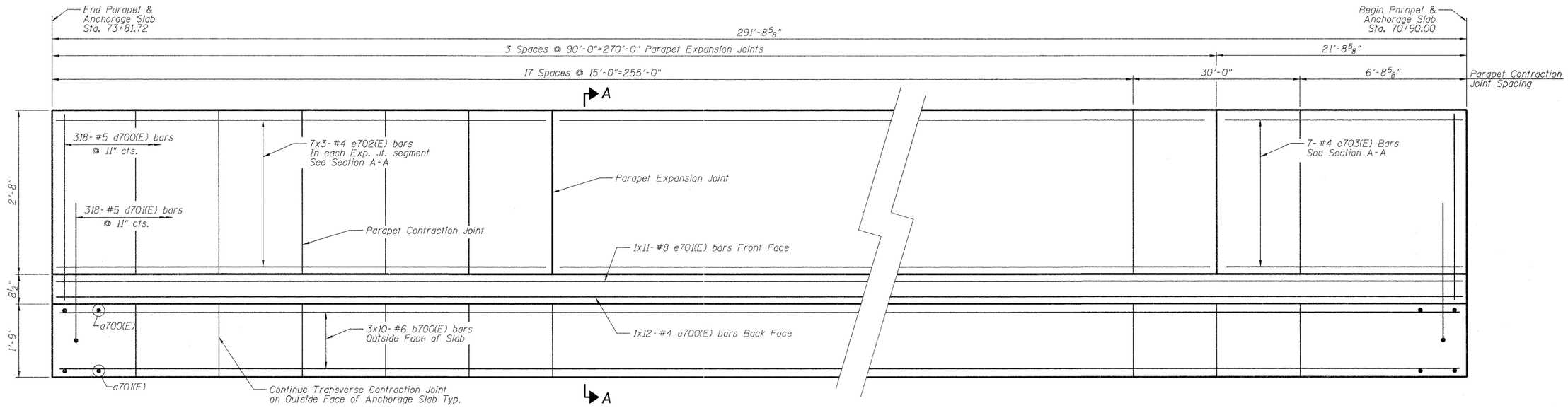
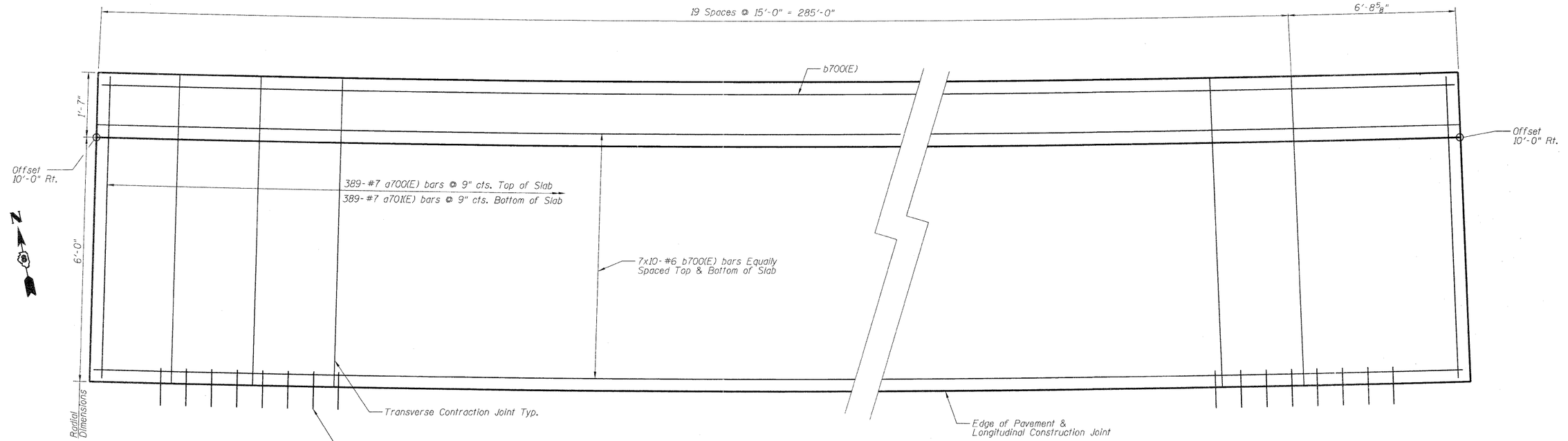


OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHORAGE SLAB

(Offsets from 55S70W)

Notes:

1. For Section A-A, see Sheet No. 3.
2. Optional full depth construction joints with ½" chamfers may be provided in anchorages slab and parapet at 120' intervals and placed at a contraction joint location.
3. Bars indicated thus 7x10-#6 etc. indicates 7 lines with 10 lengths per line.
4. For drainage structure location, type and size see Sheet No. 58 thru. 60.

MIN. BAR LAPS

#4 bars = 2'-0"
#6 bars = 3'-0"
#8 bars = 5'-2"

USER NAME = BhattA	DESIGNED - DEV	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 20.0000 ' / in.	CHECKED - DD	REVISED -	
PLOT DATE = $DATE$	DATE - 04-07-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET & ANCHORAGE SLAB I

- | SHEET NO. S-1 OF S-3 SHEETS | STA. 70+90.00 TO STA. 73+81.72

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	287
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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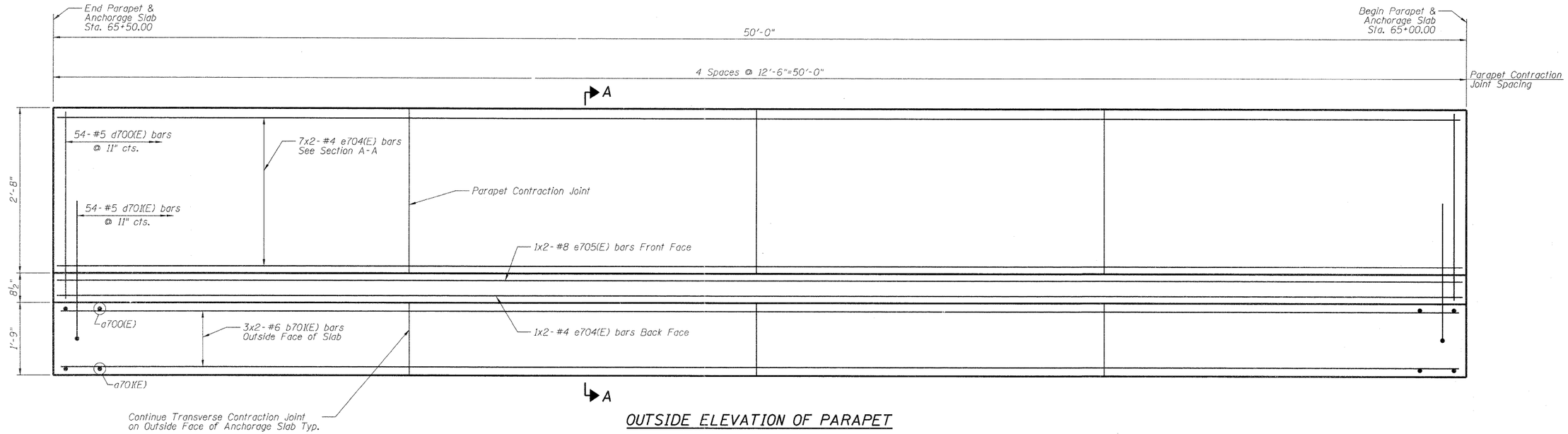
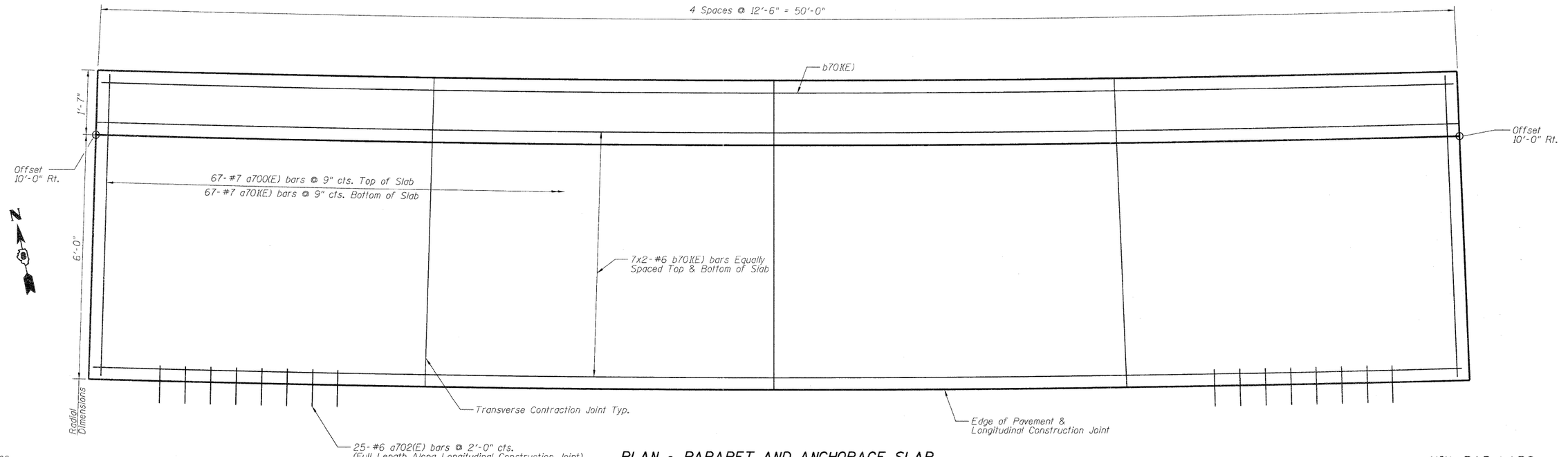


OUTSIDE ELEVATION OF PARAPET



PLAN - PARAPET AND ANCHORAGE SLAB

(Offsets from 55S70W)

Notes:

1. For Section A-A, see Sheet No. 3.
2. Optional full depth construction joints with ½" chamfers may be provided in anchorages slab and parapet a contraction joint location.
3. Bars indicated thus 9x2-#6 etc. indicates 9 lines with 2 lengths per line.
4. For drainage structure location, type and size see Sheet No. 58 thru. 60.

MIN. BAR LAPS

#4 bars = 2'-0"
#6 bars = 3'-0"
#8 bars = 5'-2"

USER NAME = BhattA	DESIGNED - DEV	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 20.0000 ' / in.	CHECKED - DD	REVISED -	
PLOT DATE = $DATE$	DATE - 04-07-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET & ANCHORAGE SLAB II

- | SHEET NO. S-2 OF S-3SHEETS | STA. 65+00.00 TO STA. 65+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	288
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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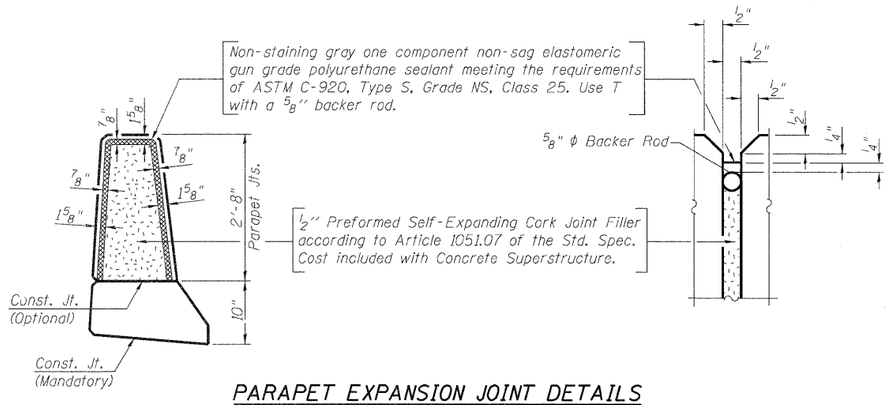
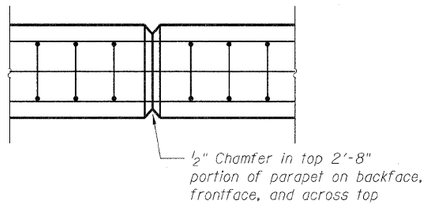
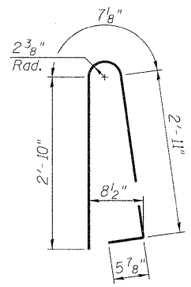


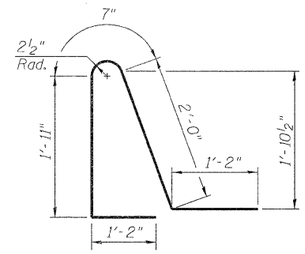
PARAPET EXPANSION JOINT DETAILS



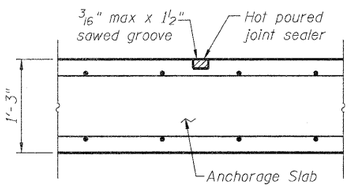
PARAPET CONTRACTION JOINT



BAR d700(E)

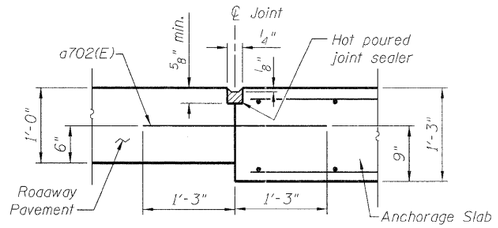


BAR d701(E)



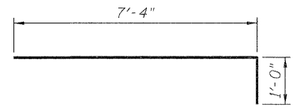
TRANSVERSE CONTRACTION JOINT

See Article 420.05 & 420.12 of the Standard Specifications

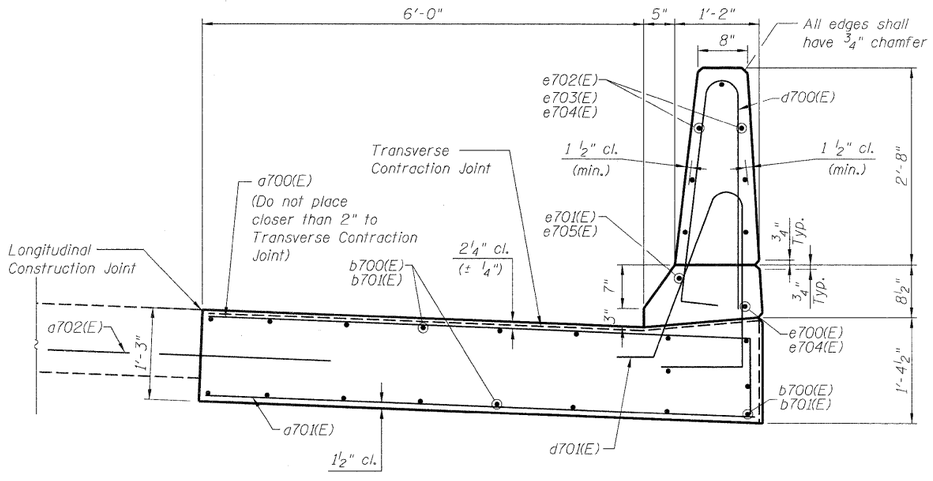


LONGITUDINAL CONSTRUCTION JOINT

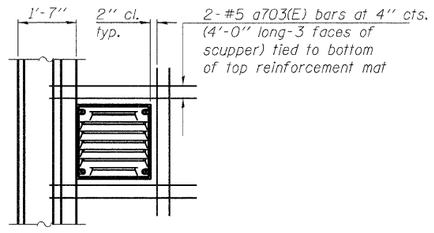
See Article 420.05 & 420.12 of the Standard Specifications



BAR a700(E)



SECTION A-A



PLAN AT DRAINAGE STRUCTURE OPENING

Note:
Cut longitudinal reinforcement to clear drainage scuppers.
Parapet concrete shall be paid for as Concrete Superstructure.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a700(E)	456	#7	8'-4"	
a701(E)	456	#7	7'-4"	
a702(E)	171	#6	2'-6"	
a703(E)	18	#5	4'-0"	
b700(E)	170	#6	31'-10"	
b701(E)	34	#6	26'-4"	
d700(E)	372	#5	6'-10"	
d701(E)	372	#5	6'-10"	
e700(E)	12	#4	26'-2"	
e701(E)	11	#8	31'-3"	
e702(E)	63	#4	31'-3"	
e703(E)	7	#4	21'-4"	
e704(E)	16	#4	25'-10"	
e705(E)	2	#8	27'-5"	
Reinforcement Bars, Epoxy Coated			Pound	33,220
Concrete Superstructure			Cu. Yd.	47
Concrete Structures			Cu. Yd.	120

USER NAME = BhattA	DESIGNED - DEV	REVISED -	
	DRAWN - JHR	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - DD	REVISED -	
PLOT DATE = $DATE$	DATE - 04-01-2011	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET & ANCHORAGE SLAB III

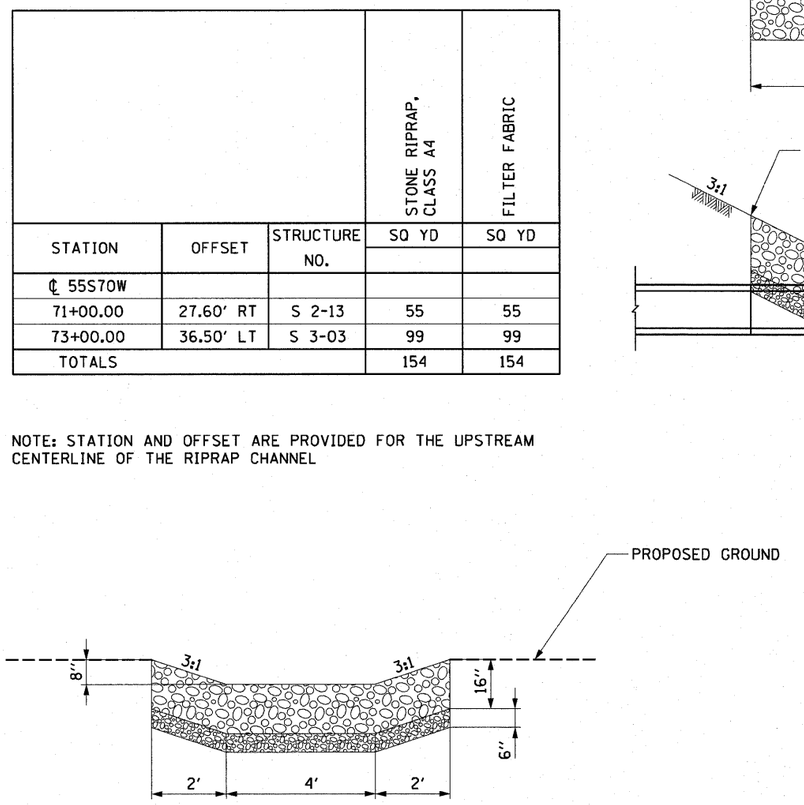
SCALE: | SHEET NO. S-3 OF S-3SHEETS | STA. 70+90.00 TO STA. 73+81.72

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	289
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

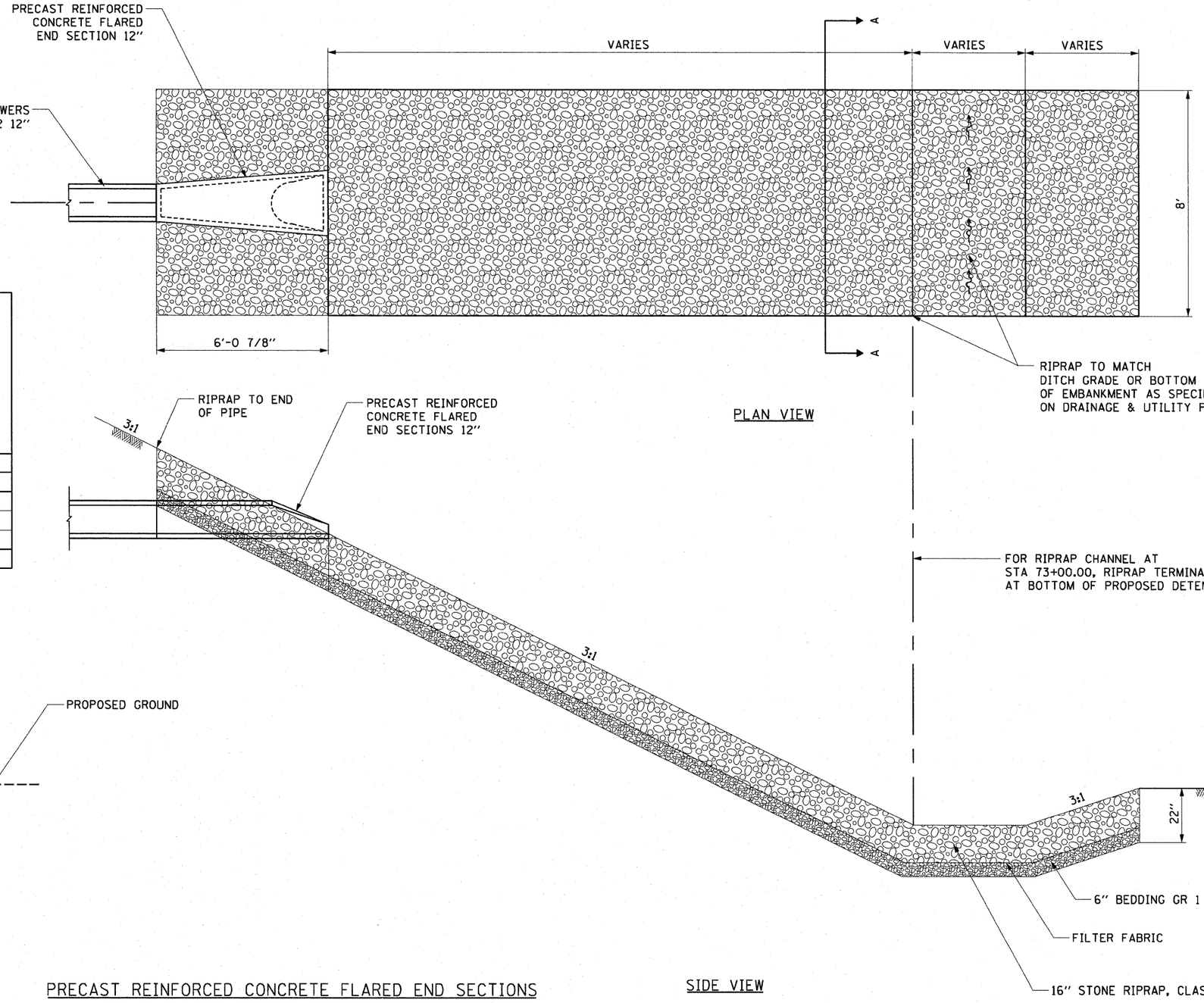
FILE NAME = P:\P60046609\900_CAD\901_Drawings\76C00_Master_Consolidated\Structural\76C75_MomentSlab\Sheet\DBTri-76C75-sht-MomentSlabDetails-03.dgn

STATION	OFFSET	STRUCTURE NO.	STONE RIPRAP, CLASS A4 SQ YD	FILTER FABRIC SQ YD
℄ 55S70W				
71+00.00	27.60' RT	S 2-13	55	55
73+00.00	36.50' LT	S 3-03	99	99
TOTALS			154	154

NOTE: STATION AND OFFSET ARE PROVIDED FOR THE UPSTREAM CENTERLINE OF THE RIPRAP CHANNEL



SECTION A-A



PLAN VIEW

FOR RIPRAP CHANNEL AT STA 73+00.00, RIPRAP TERMINATES AT BOTTOM OF PROPOSED DETENTION BASIN

SIDE VIEW

PRECAST REINFORCED CONCRETE FLARED END SECTIONS STONE DUMPED RIPRAP PROTECTION DETAIL

FOR STORM SEWERS PERPENDICULAR TO DITCH FLOW

℄ RAMP 55S70W: STA 71+00.00 & STA 73+00.00

USER NAME = HenaoC	DESIGNED - KLK	REVISED -	
	DRAWN - KLK	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - EEY	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAIL 1

SCALE: NONE | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	290
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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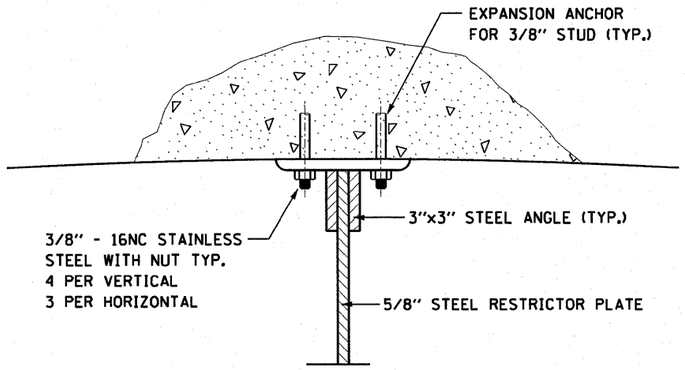
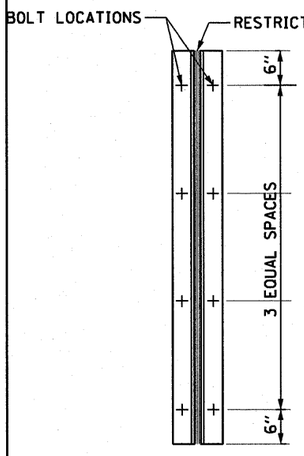
64



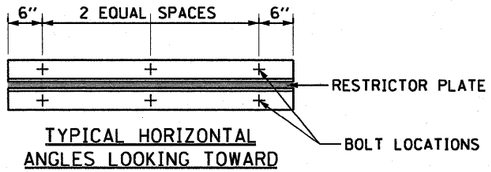
ANGLE FASTENER DETAIL

NOTES:

1. ALL STEEL ANGLES AND PLATE TO BE GALVANIZED AFTER FABRICATION.
2. ALL RESTRICTOR PLATES, ANGLES AND HARDWARE TO BE INCLUDED IN THE COST OF THE MANHOLE.



TYPICAL VERTICAL ANGLES
LOOKING TOWARD MANHOLE WALL



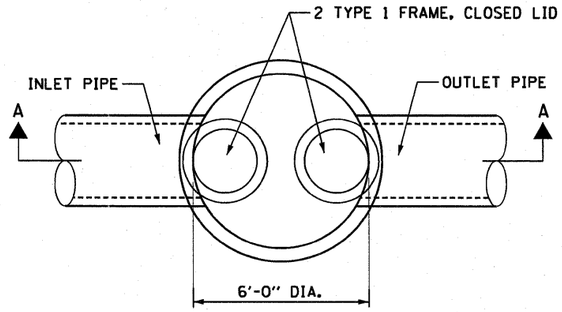
TYPICAL HORIZONTAL
ANGLES LOOKING TOWARD
BOTTOM OF MANHOLE

TOTAL BOLTS REQUIRED: 22

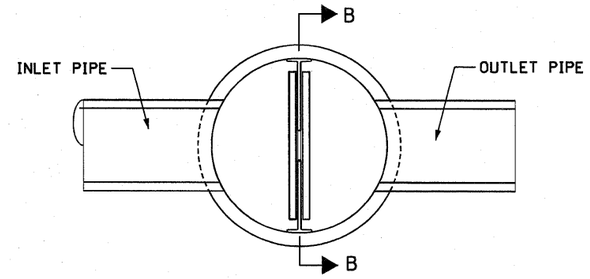
NOTES:

1. ANGLES SHOULD BE 3"x3"x3/4"
2. VERTICAL ANGLES SHOULD EXTEND FROM THE BOTTOM OF THE RESTRICTOR PLATE TO THE TOP.
3. HORIZONTAL ANGLES SHOULD EXTEND FROM VERTICAL ANGLE TO VERTICAL ANGLE.

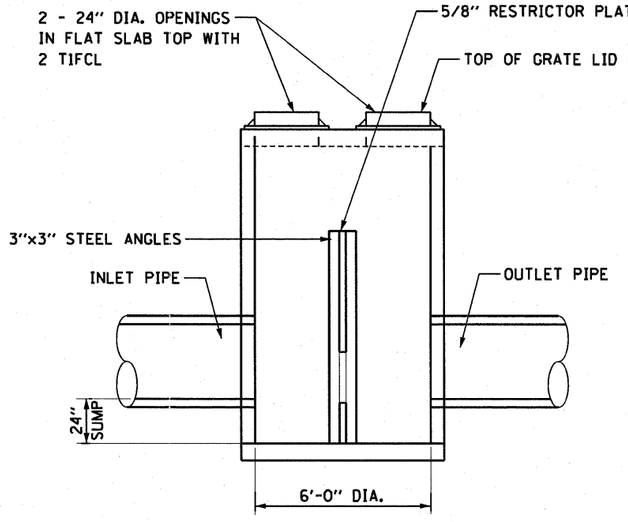
STEEL ANGLE BOLTING DETAILS



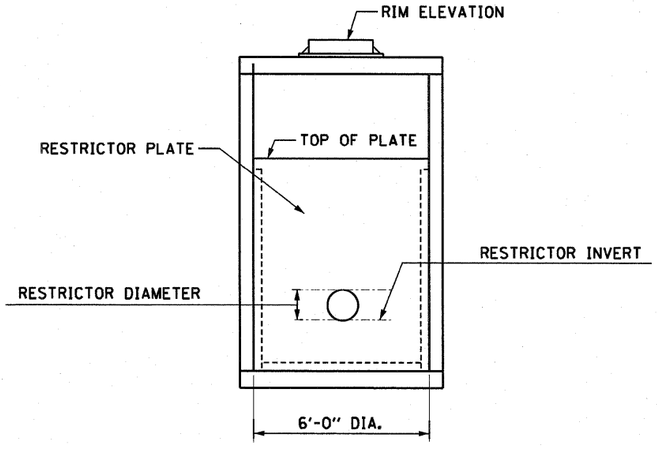
PLAN



PLAN



SECTION A-A



SECTION B-B

THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH FOR:
MANHOLES, TYPE A, 6'-DIAMETER, WITH 2 TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE

STR. NO.	STATION	OFFSET	ROADWAY	RESTRICTOR DIAMETER (INCHES)	RESTRICTOR INVERT	TOP OF PLATE ELEVATION	RIM ELEVATION
S 1-07	60+82.25	40.00' LT	55S70W	16	396.01	400.93	403.26
S 9-04	70+76.42	102.41' RT	55S70W	4.5	407.34	412.90	419.00

USER NAME = HenaoC	DESIGNED - KLK	REVISED -	
	DRAWN - KLK	REVISED -	
PLOT SCALE = 2.0000 ' / in.	CHECKED - EEY	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

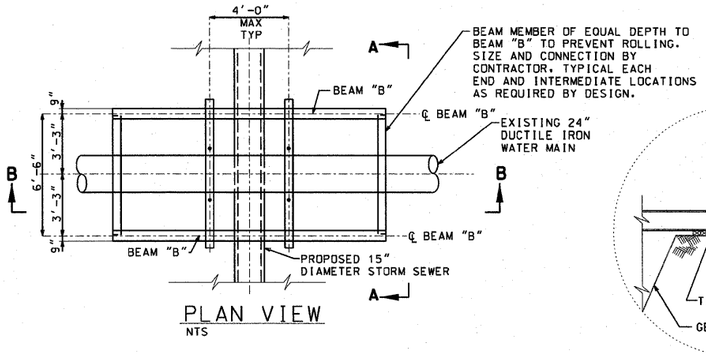
DRAINAGE DETAIL 2

SCALE: NONE | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

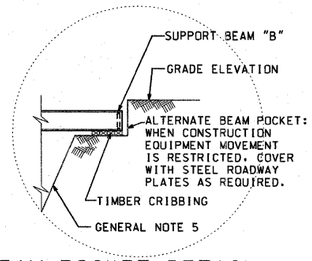
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	291
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FILE NAME = P:\P60046609\900_CAD\901_Drawings\76C75_Contract\Sheet\Civil\Details\D8Tri-76C75-sht-drain-details-02.dgn

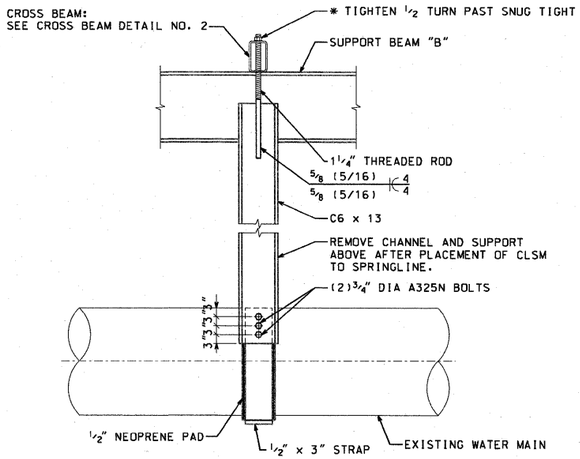
WATER MAIN SUPPORT STRUCTURE



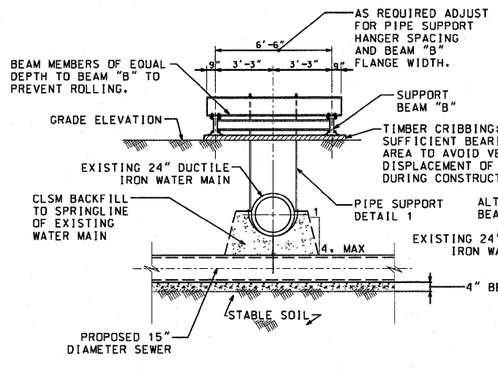
PLAN VIEW
NTS



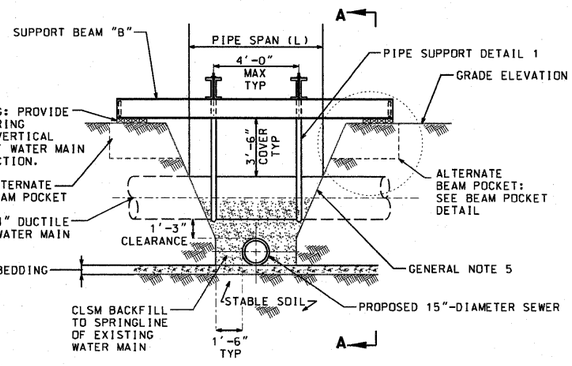
BEAM POCKET DETAIL
NTS



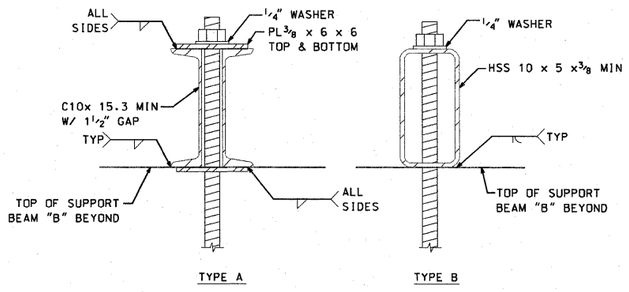
① PIPE SUPPORT DETAIL
NTS
1. MINIMUM TWO PIPE SUPPORTS REQUIRED.



SECTION A
NTS



SECTION B
NTS



TYPE A TYPE B

NOTE: CONTRACTOR MAY SELECT CROSS BEAM TYPE.

② CROSS BEAM DETAIL
NTS
1. CONTRACTOR WILL TACK WELD NUT OR SUPPLY A SECOND NUT AS APPROPRIATE FOR LOCKING NUT ROTATION ON THREADED RODS USED FOR PERMANENT AND TEMPORARY WATER MAIN SUPPORT.
2. CONTRACTOR WILL RECORD SUPPORT BEAM AND WATER MAIN ELEVATIONS AND THEN MONITOR ELEVATIONS DURING CONSTRUCTION FOR ANY SETTLEMENT. UNEVEN SETTLEMENT SHOULD BE ANTICIPATED AND SHIMS PROVIDED.

GENERAL NOTES:

1. THESE DETAILS ARE PROVIDED FOR REFERENCE ONLY AND DO NOT REPRESENT A COMPLETE DESIGN. THE CONTRACTOR MUST COMPLETE THE DESIGN FOR EACH LOCATION WHERE WATER MAIN SUPPORT IS TO BE IMPLEMENTED.
2. THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR THE SUPPORT METHOD USED STAMPED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE OF ILLINOIS. THE DESIGN MUST TAKE INTO ACCOUNT THE ACTUAL FIELD VERIFIED DIMENSIONS, SPANS, AND TRIBUTARY LOADING WHICH MAY EXCEED VALUES SHOWN.
3. THE DESIGN OF THE MAIN SUPPORT BEAM "B" MUST LIMIT TOTAL DEFLECTION OF THE PIPE TO L/480 OF THE PIPE SPAN (L).
4. MATERIAL PROPERTIES MUST MEET THE FOLLOWING CRITERIA:

W-SHAPES	ASTM A992 GRADE 50
CHANNELS	ASTM A36
PLATES & BARS	ASTM A36
THREADED RODS	ASTM A36
HSS SHAPES	ASTM A500 GRADE B
HIGH STRENGTH BOLTS	ASTM A325 N-BOLTS
CLSM	IDOT STANDARD SPECIFICATIONS SECTION 1019 MIX 2

5. THE CONTRACTOR MUST SLOPE TRENCH WALLS OR SHORE EXCAVATIONS FOR CONSTRUCTION SAFETY AND IN ACCORDANCE WITH CURRENT OSHA REQUIREMENTS. THE OVERALL WIDTH OF EXCAVATION MUST BE SUBMITTED TO THE DEPARTMENT FOR REVIEW PRIOR TO THE START OF CONSTRUCTION.
6. SUPPORT BEAMS, CROSS BEAMS, PIPE SUPPORT, AND TIMBER CRIBBING MUST BE REMOVED AFTER CLSM BACKFILL HAS ATTAINED THE COMPRESSIVE STRENGTH THAT SATISFIES THE ENGINEER.

USER NAME = HenaoC	DESIGNED - KLK	REVISED -	
	DRAWN - KLK	REVISED -	
PLOT SCALE = 10.000 ' / in.	CHECKED - DBM	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAIL 3

SCALE: NONE | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	291A
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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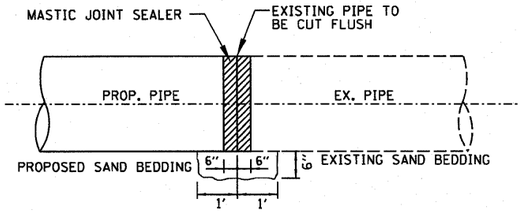

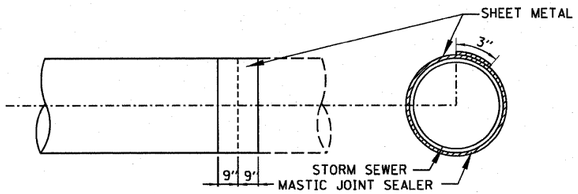

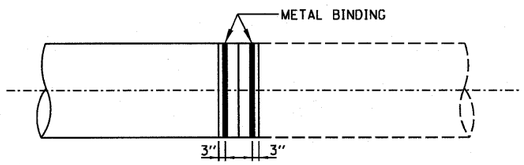

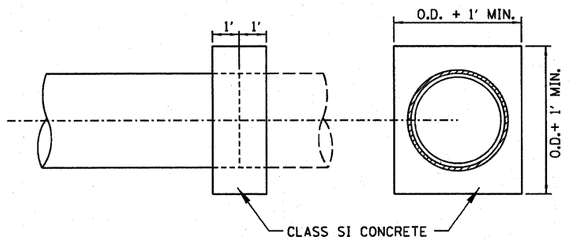

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CONCRETE COLLAR

CONSTRUCTION SEQUENCE

1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" OF EACH PIPE.
3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 1' X 6" DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
4. CUT SHEET METAL GAGE 19 OR GEOTEXTILE FABRIC CLASS B, 1.5' WIDE AND THE LENGTH OF THE OUTSIDE CIRCUMFERENCE OF THE PIPE PLUS 3" LONG.
5. WRAP THE SHEET METAL OR GEOTEXTILE FABRIC CLASS B AROUND THE PIPES, 9" ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
6. LAP THE SHEET METAL OR GEOTEXTILE FABRIC CLASS B, AT LEAST 3" AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL OR GEOTEXTILE FABRIC CLASS B AND THE PIPES.
9. PLACE CONCRETE AROUND THE JOINT.

GENERAL NOTES:

1. WHEN THE CONNECTION LOCATION SHOWN ON THE PLANS IS WITHIN 2' OF AN EXISTING JOINT, GO TO THE EXISTING JOINT.
2. CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE PIPE. ALL DEBRIS THAT ENTERS THE PIPE MUST BE REMOVED. THE PIPE MUST BE LEFT CLEAN AND UNOBSTUCTED UPON COMPLETION OF THE CONTRACT.
3. CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE FROM PROJECTING INTO THE EXISTING PIPE.

USER NAME = HenaoC	DESIGNED - KLK	REVISED -	
	DRAWN - KLK	REVISED -	
PLOT SCALE = 100.0000 ' / in.	CHECKED - EEY	REVISED -	
PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAIL 4

SCALE: NONE | SHEET NO. 4 OF 4 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	291B
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

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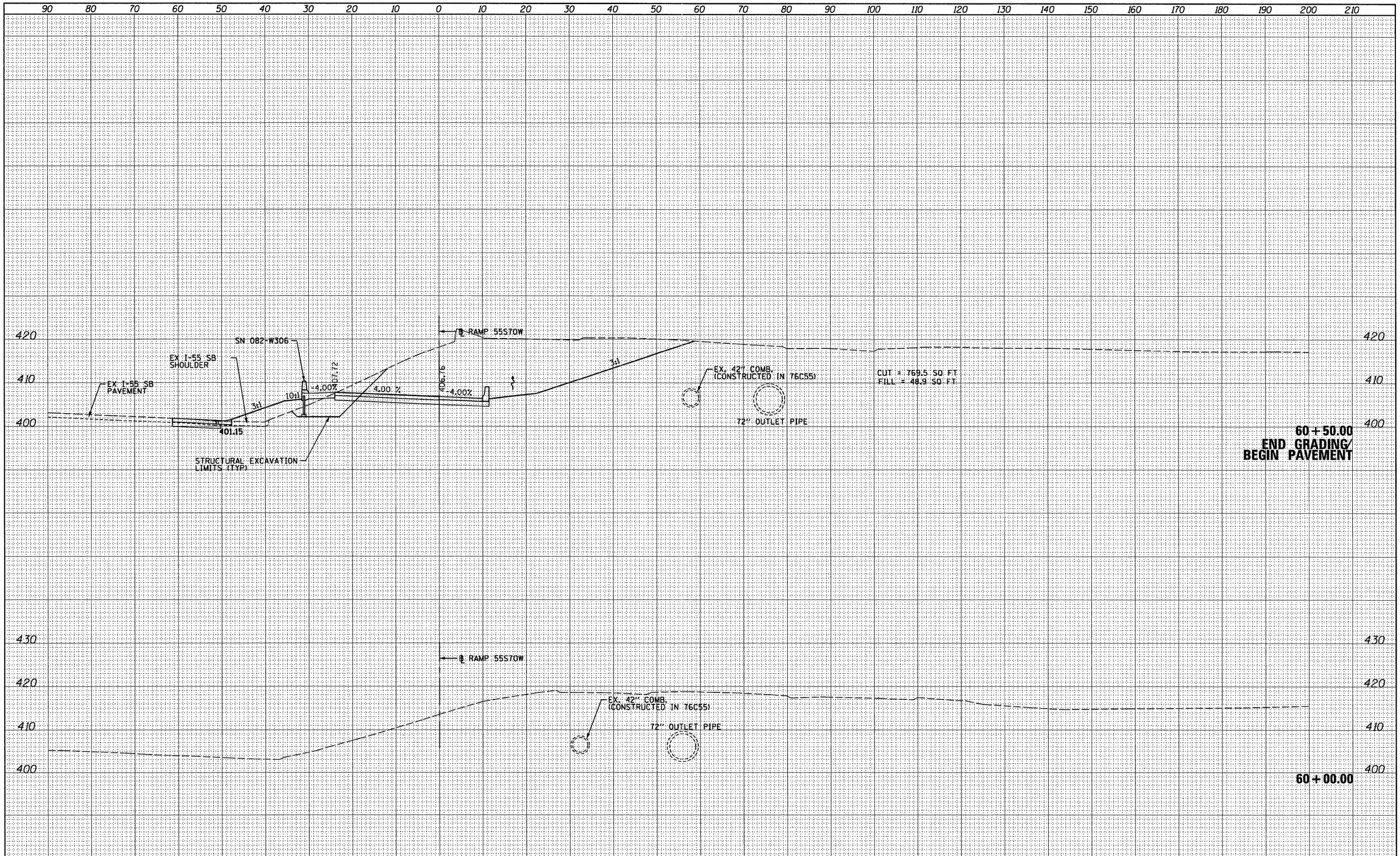
FINAL SURVEY	NOTE BOOK	NO.
SURVEYED	TEMPLATE	AREAS CHECKED
PLOTTED	AREAS	

BY	DATE



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED	TEMPLATE	AREAS CHECKED
PLOTTED	AREAS	

BY	DATE

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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

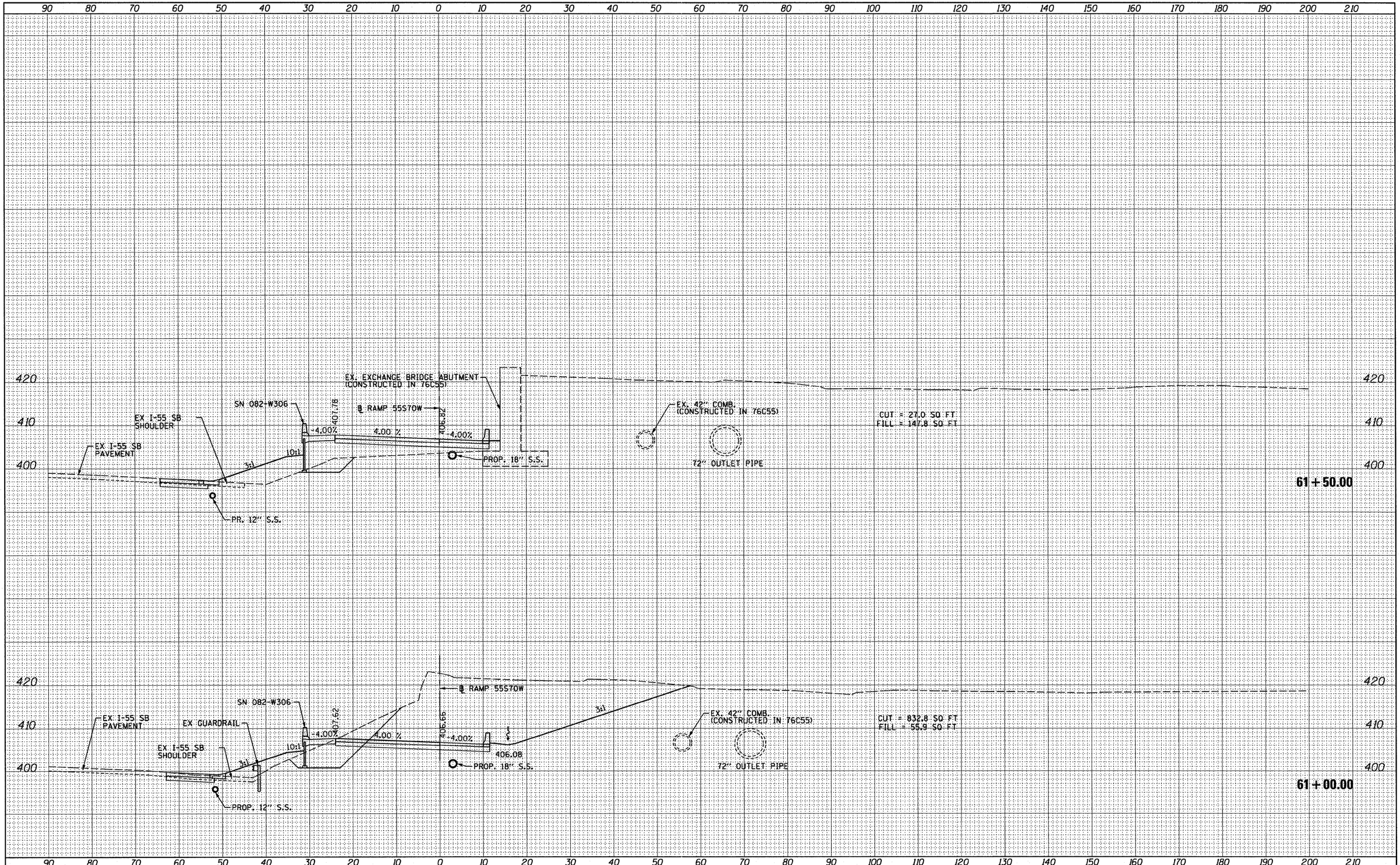
CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 1 OF 18 SHEETS | STA. 60+00.00 TO STA. 60+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	292
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	AREAS CHECKED

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	AREAS CHECKED



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	PLOT DATE = @DATE@	DATE - 3-18-11	REVISED -

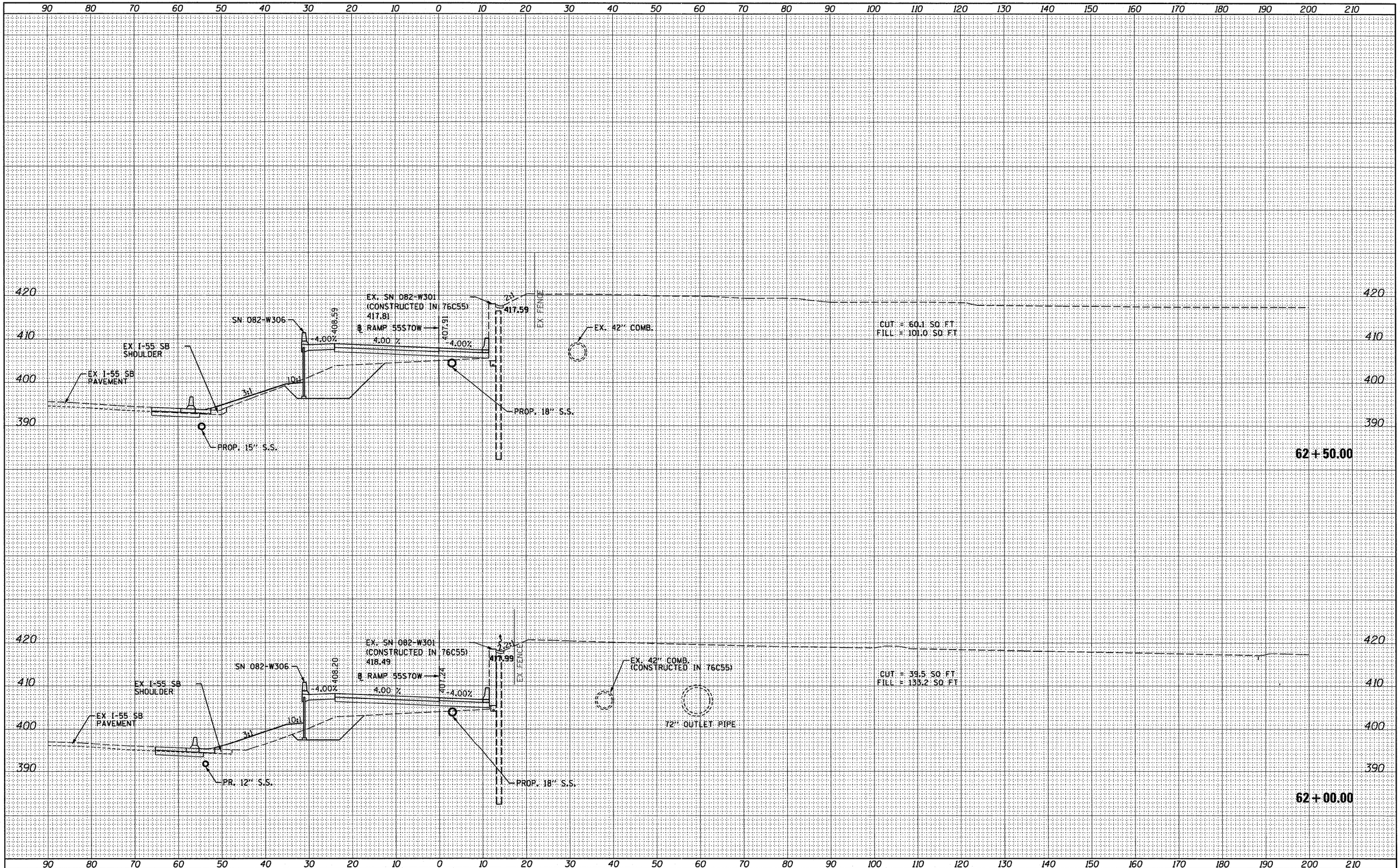
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 2 OF 18 SHEETS | STA. 61+00.00 TO STA. 61+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	293
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

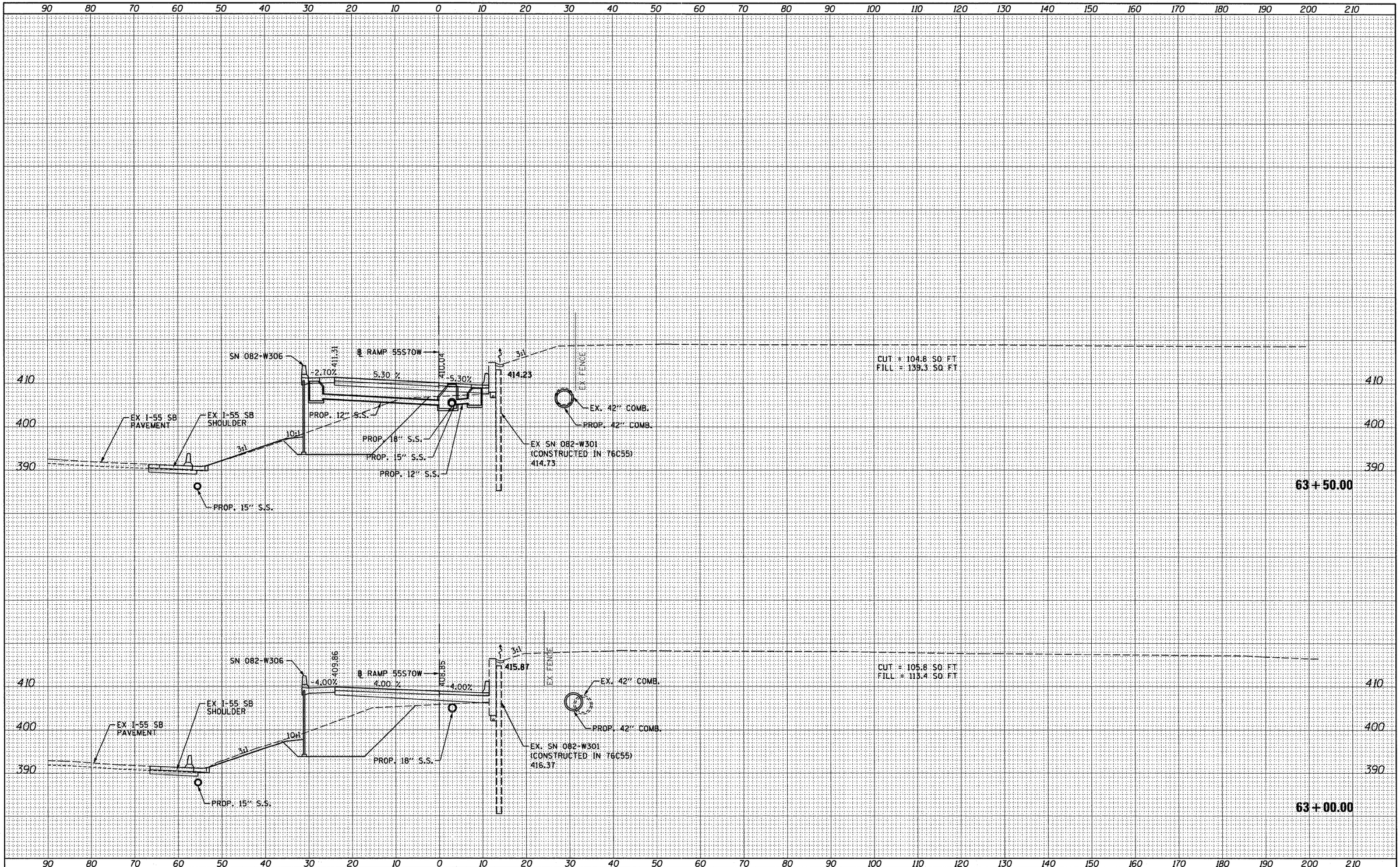
CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 3 OF 18 SHEETS | STA. 62+00.00 TO STA. 62+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	294
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
NO.	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		



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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

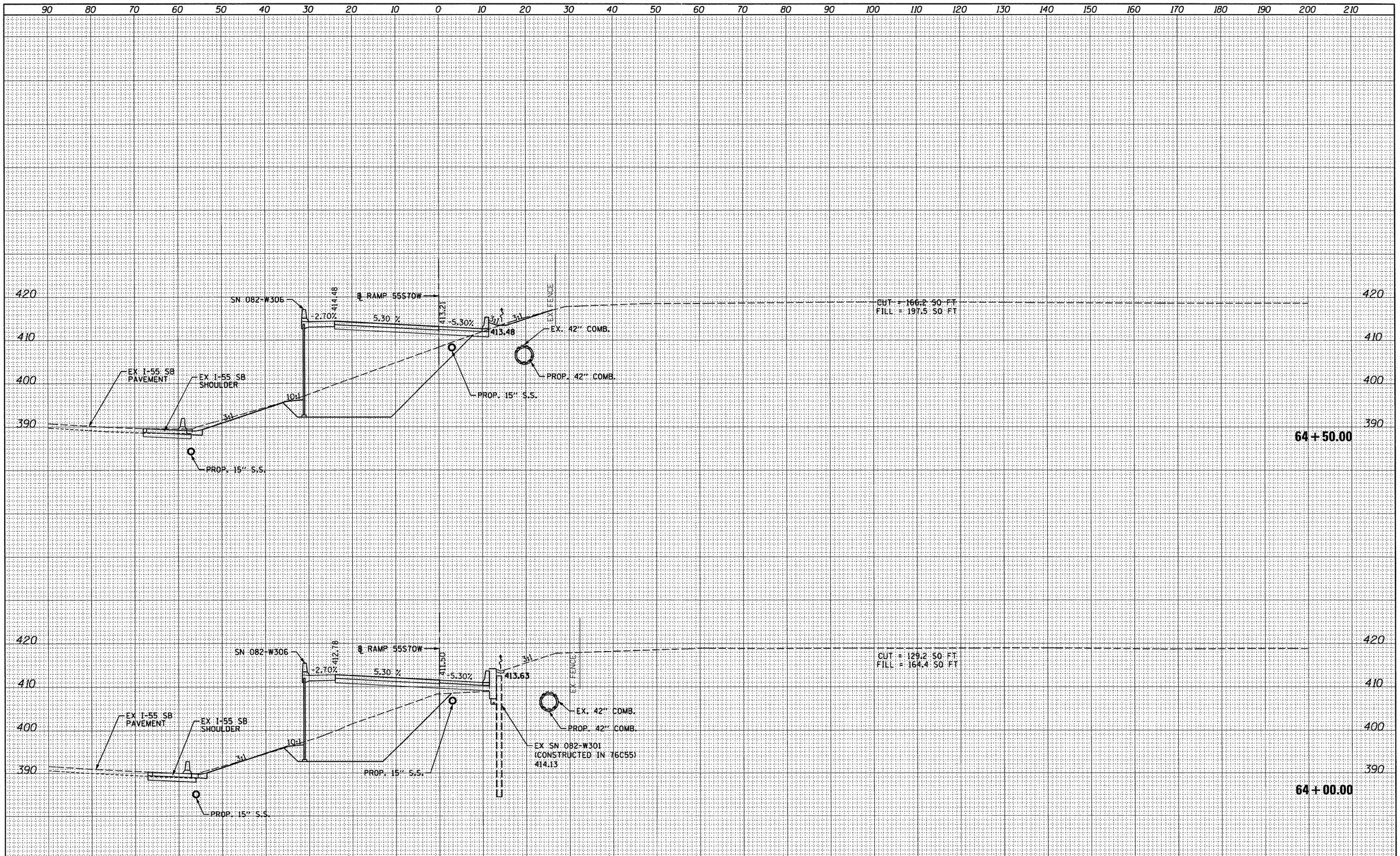
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 4 OF 18 SHEETS | STA. 63+00.00 TO STA. 63+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	295
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

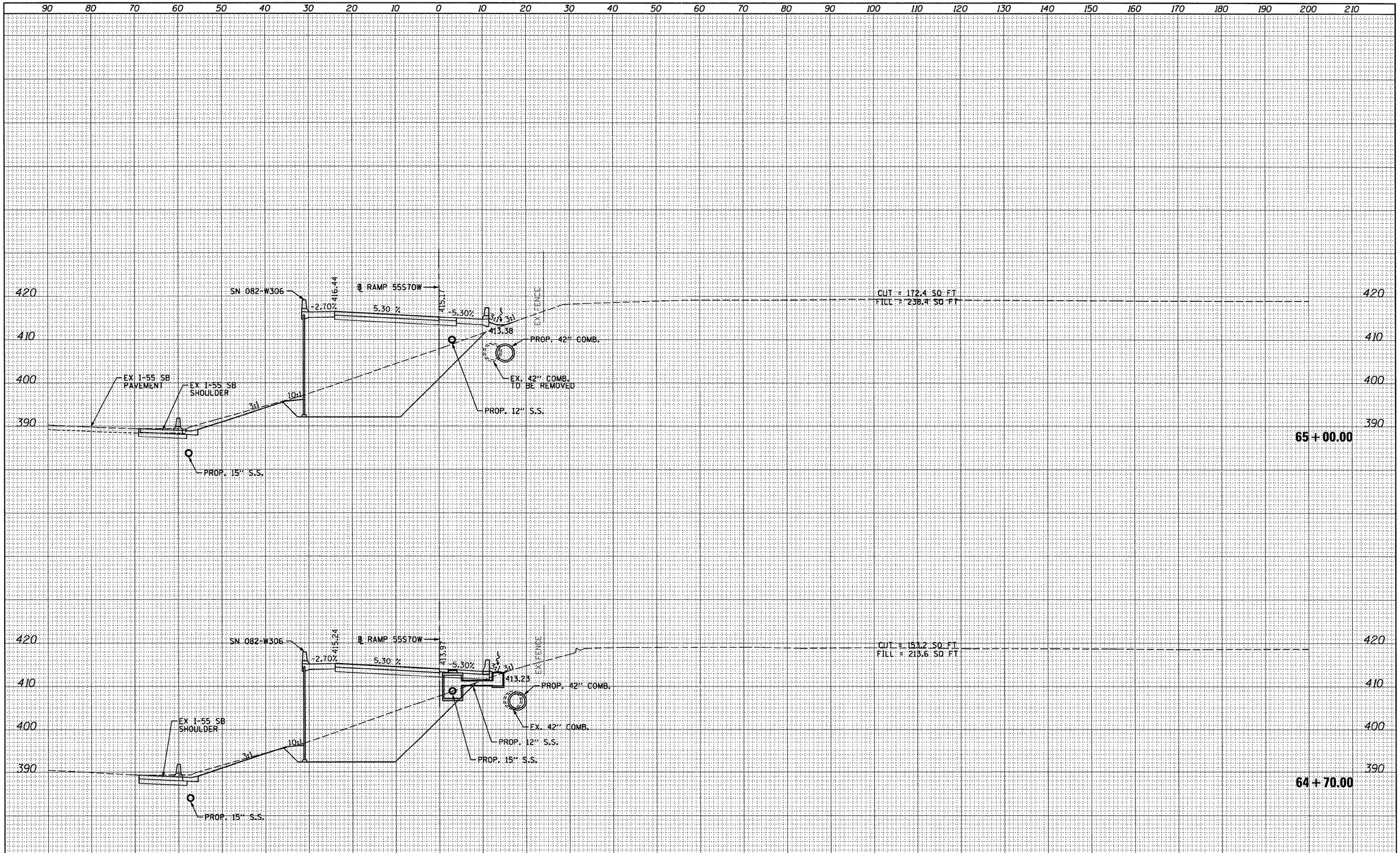
CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 5 OF 18 SHEETS | STA. 64+00.00 TO STA. 64+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	296
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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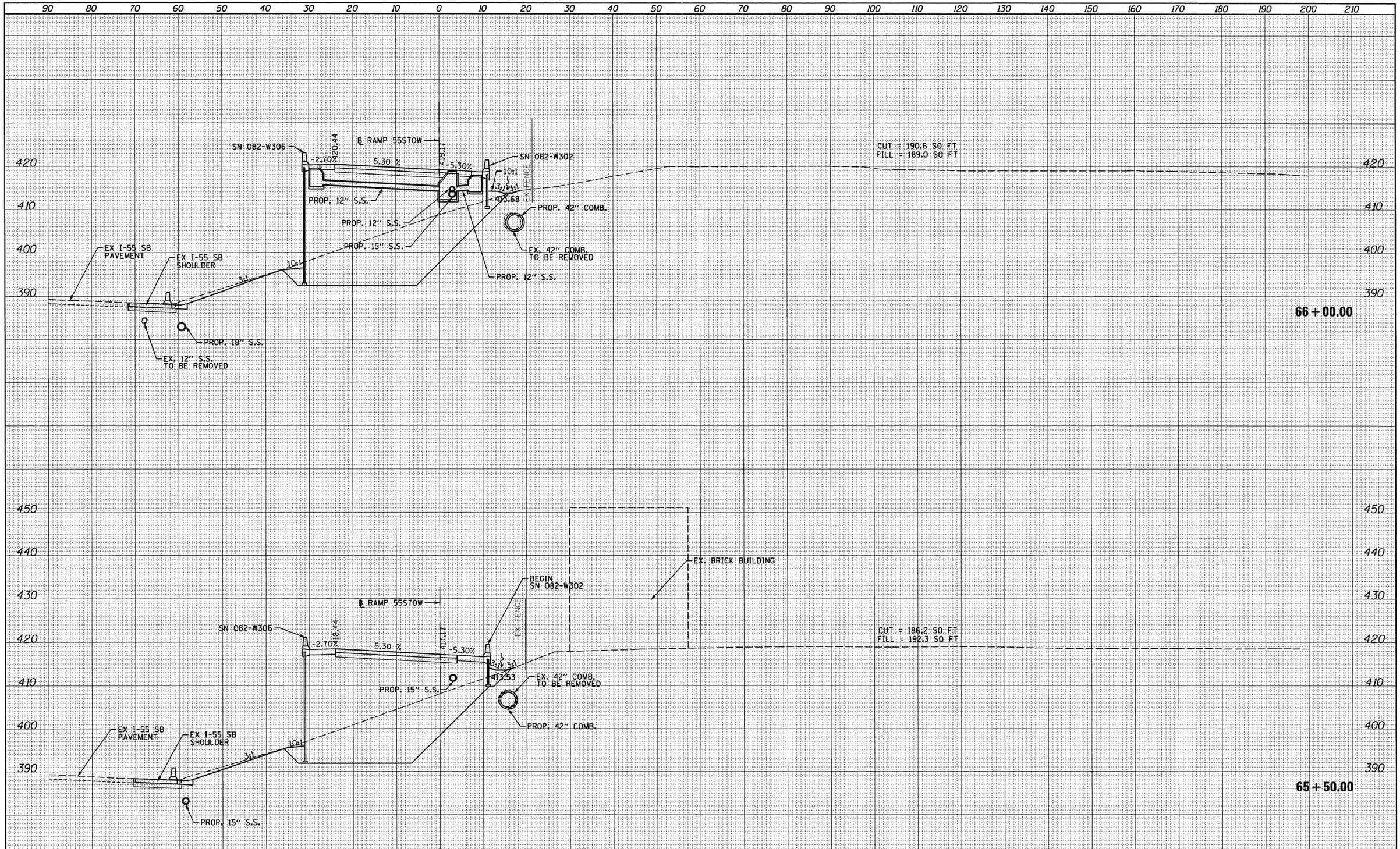
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 6 OF 18 SHEETS | STA. 64+70.00 | TO STA. 65+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	297
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	AREAS CHECKED

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	AREAS CHECKED

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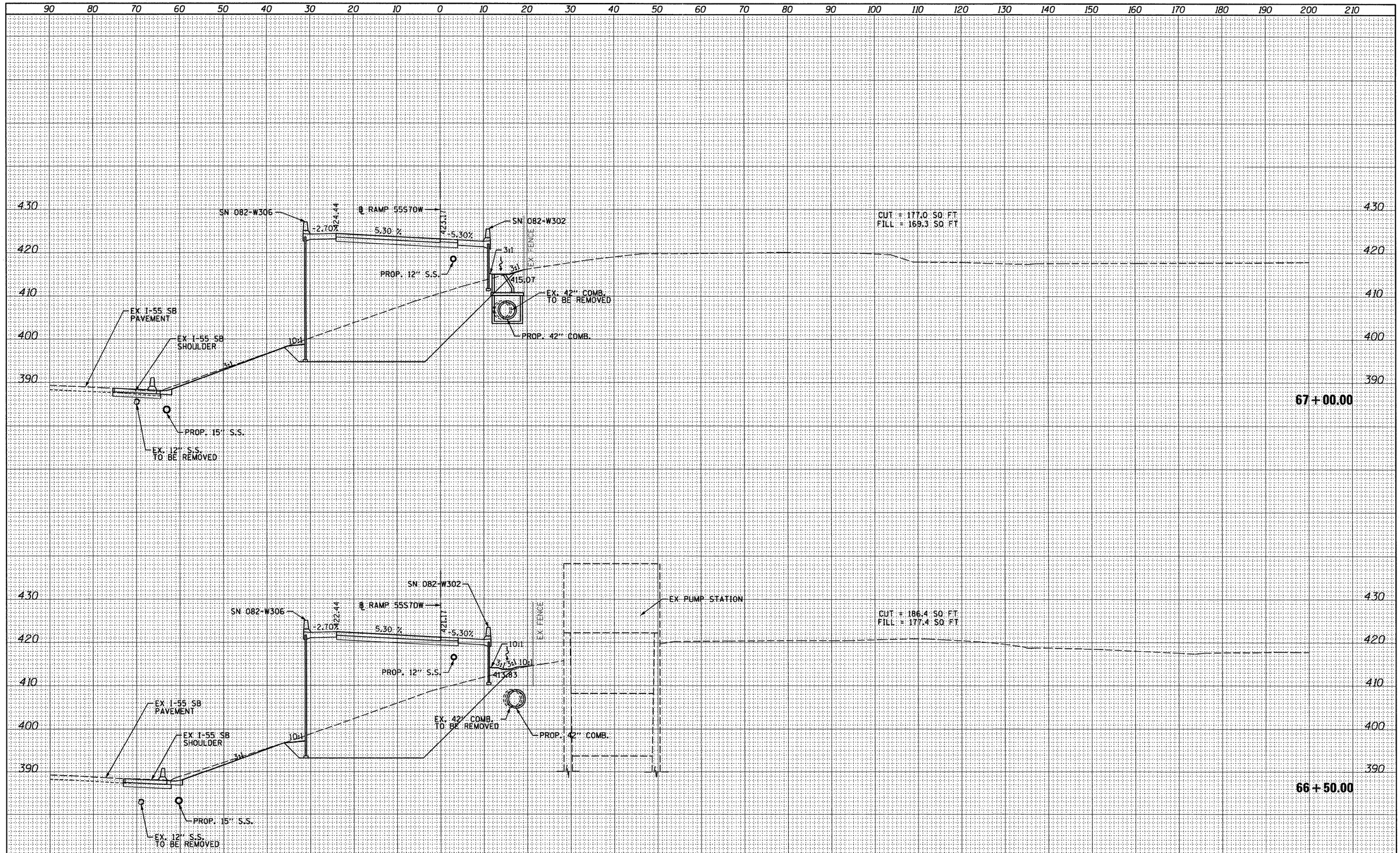
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 7 OF 18 SHEETS | STA. 65+50.00 TO STA. 66+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	298
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



BY	DATE

FINAL SURVEY — NOTE BOOK — NO.
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

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SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

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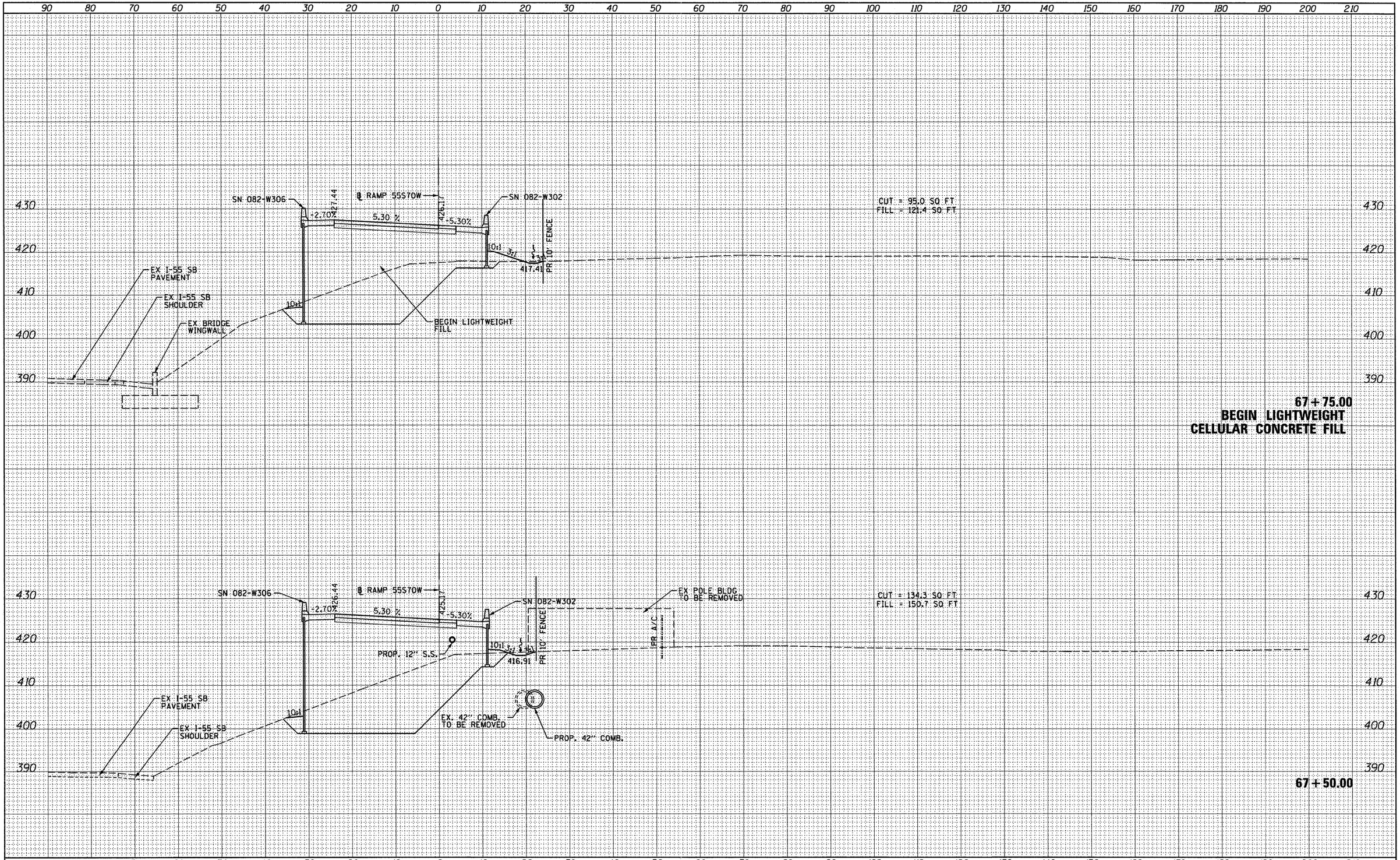
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 8 OF 18 SHEETS | STA. 66+50.00 TO STA. 67+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	299
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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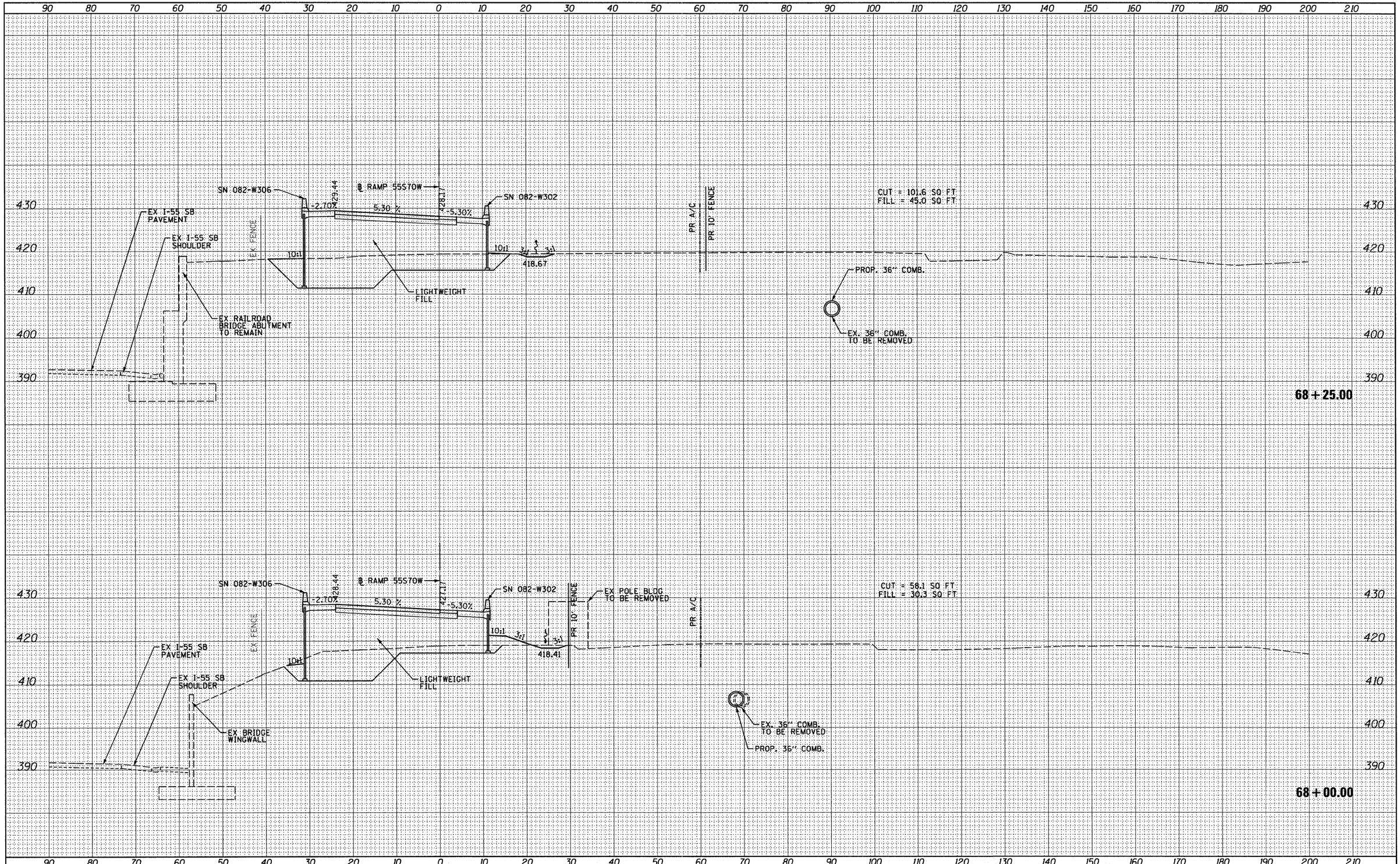
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 9 OF 18 SHEETS | STA. 67+50.00 TO STA. 67+75.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	300
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY — NOTE BOOK — NO. — BY — DATE
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ORIGINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

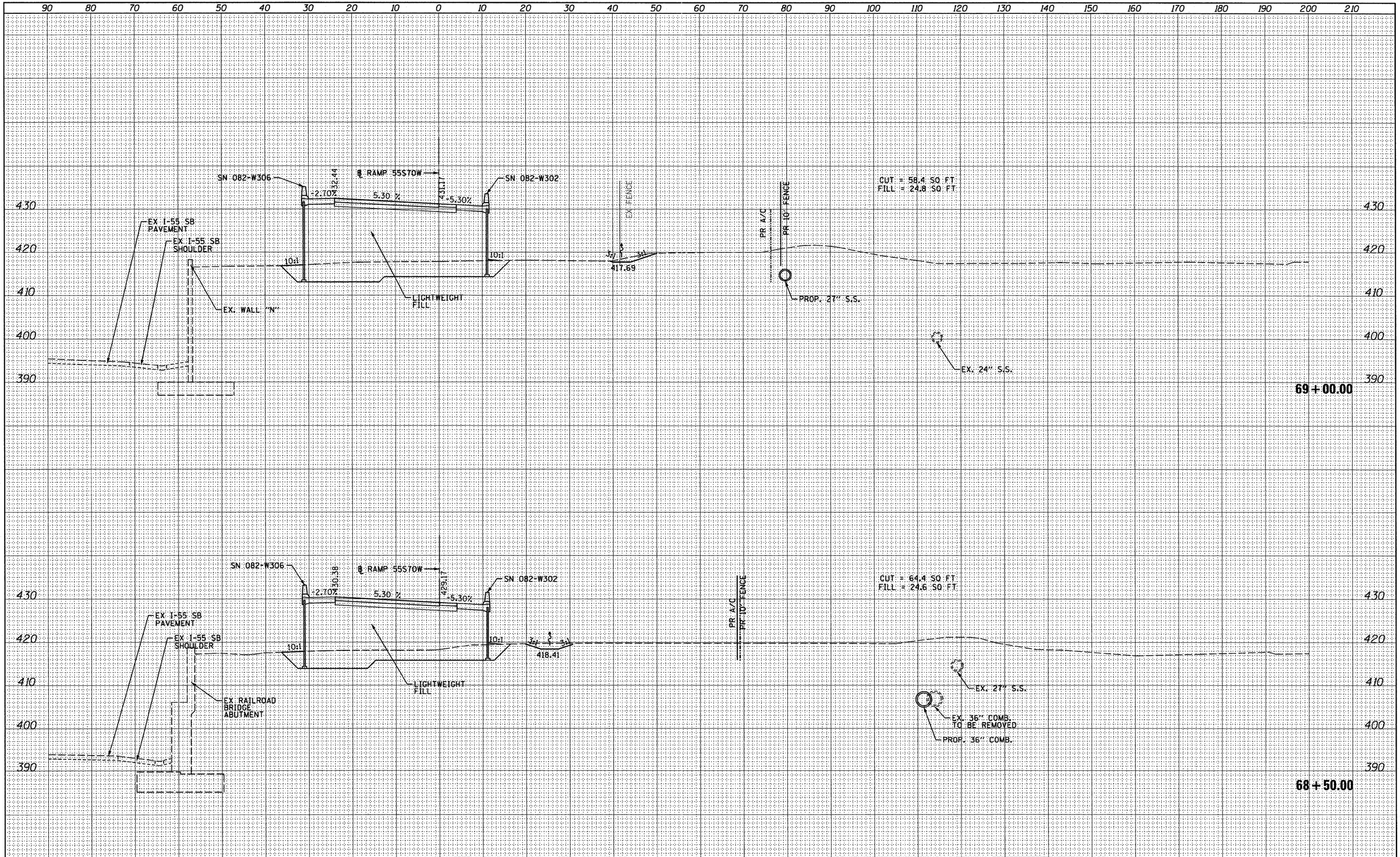
CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 10 OF 18 SHEETS | STA. 68+00.00 TO STA. 68+25.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	301
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	BY	DATE
NOTE BOOK		
NO.		

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED



ORIGINAL SURVEY	BY	DATE
NOTE BOOK		
NO.		

SURVEYED
PLOTTED
TEMPLATE
AREAS
AREAS CHECKED

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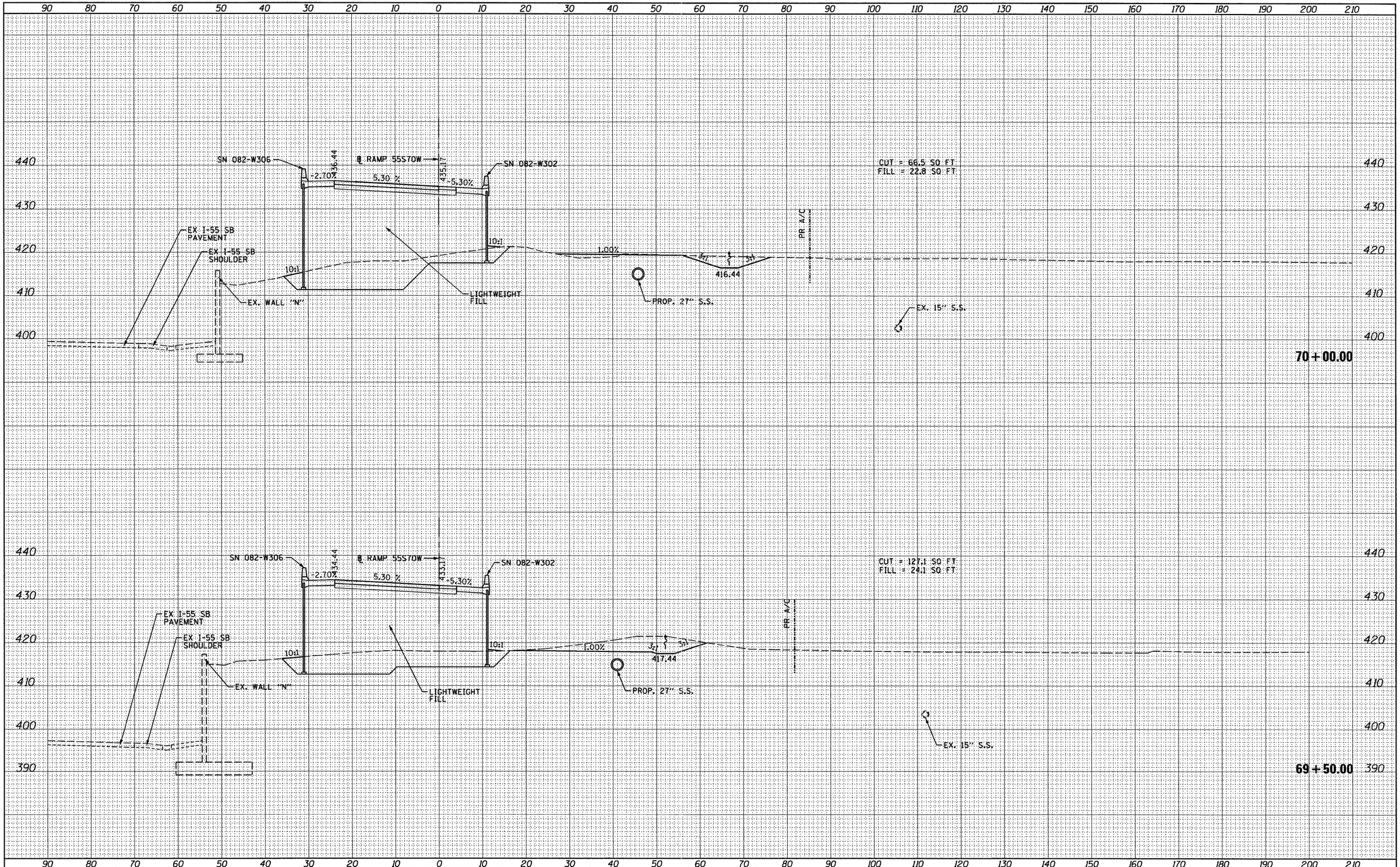
		DRAWN - CRH	REVISED -		
	PLOT SCALE = 20.0000 ' / in.	CHECKED - DBM	REVISED -		SCALE: 1" = 10' | SHEET NO. 11 OF 18 SHEETS | STA. 68+50.00 TO STA. 69+00.00
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	302
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

ORIGINAL SURVEY — NOTE BOOK — NO. — BY — DATE
SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED

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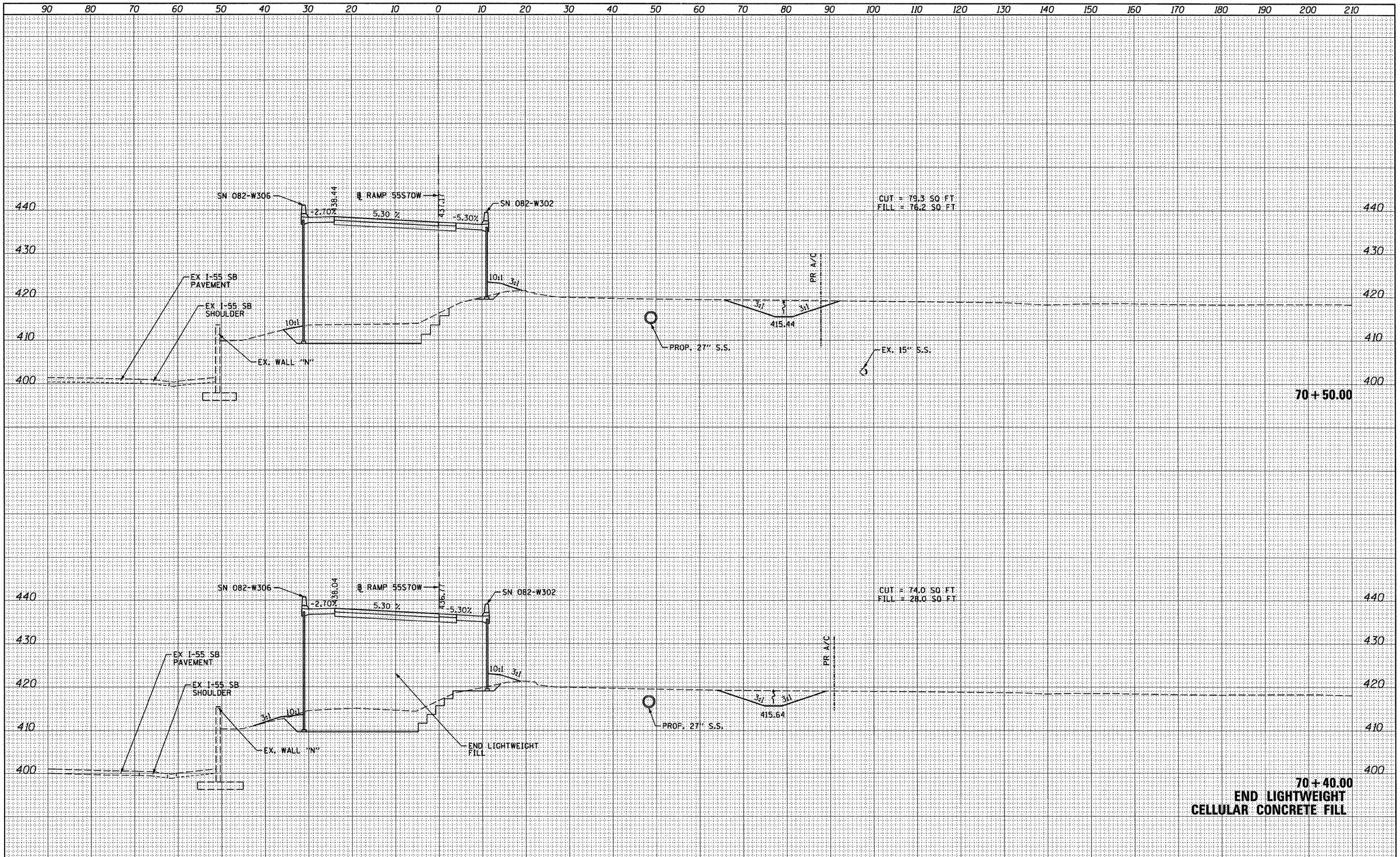
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 12 OF 18 SHEETS | STA. 69+50.00 | TO STA. 70+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	303
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

ORIGINAL SURVEY — NOTE BOOK — NO. — SURVEYED — PLOTTED — TEMPLATE — AREAS — AREAS CHECKED — BY — DATE

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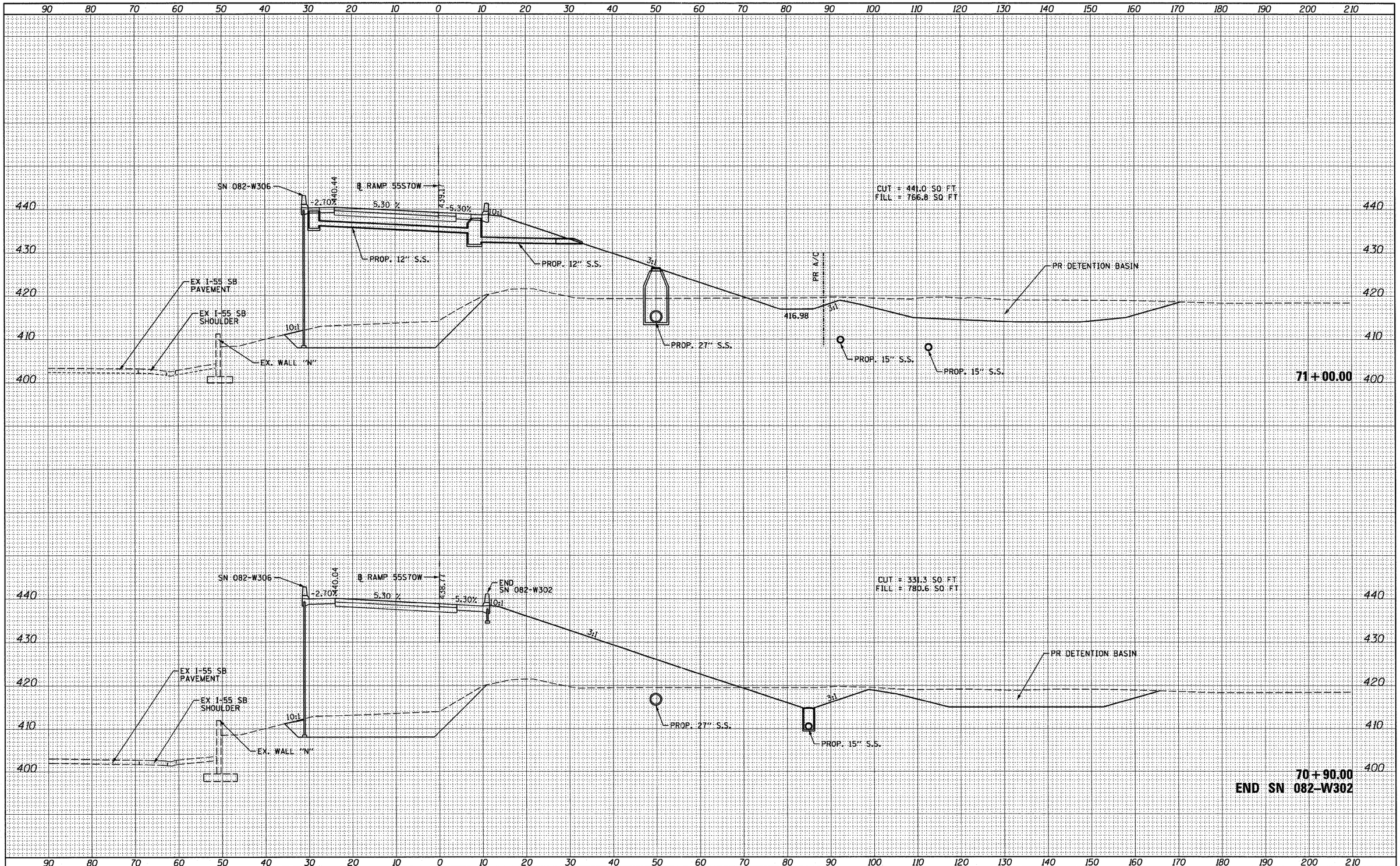
	PLOT SCALE = 20.0000 ' / in.	CHECKED - DBM	REVISED -
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 13 OF 18 SHEETS | STA. 70+40.00 TO STA. 70+50.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	304
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

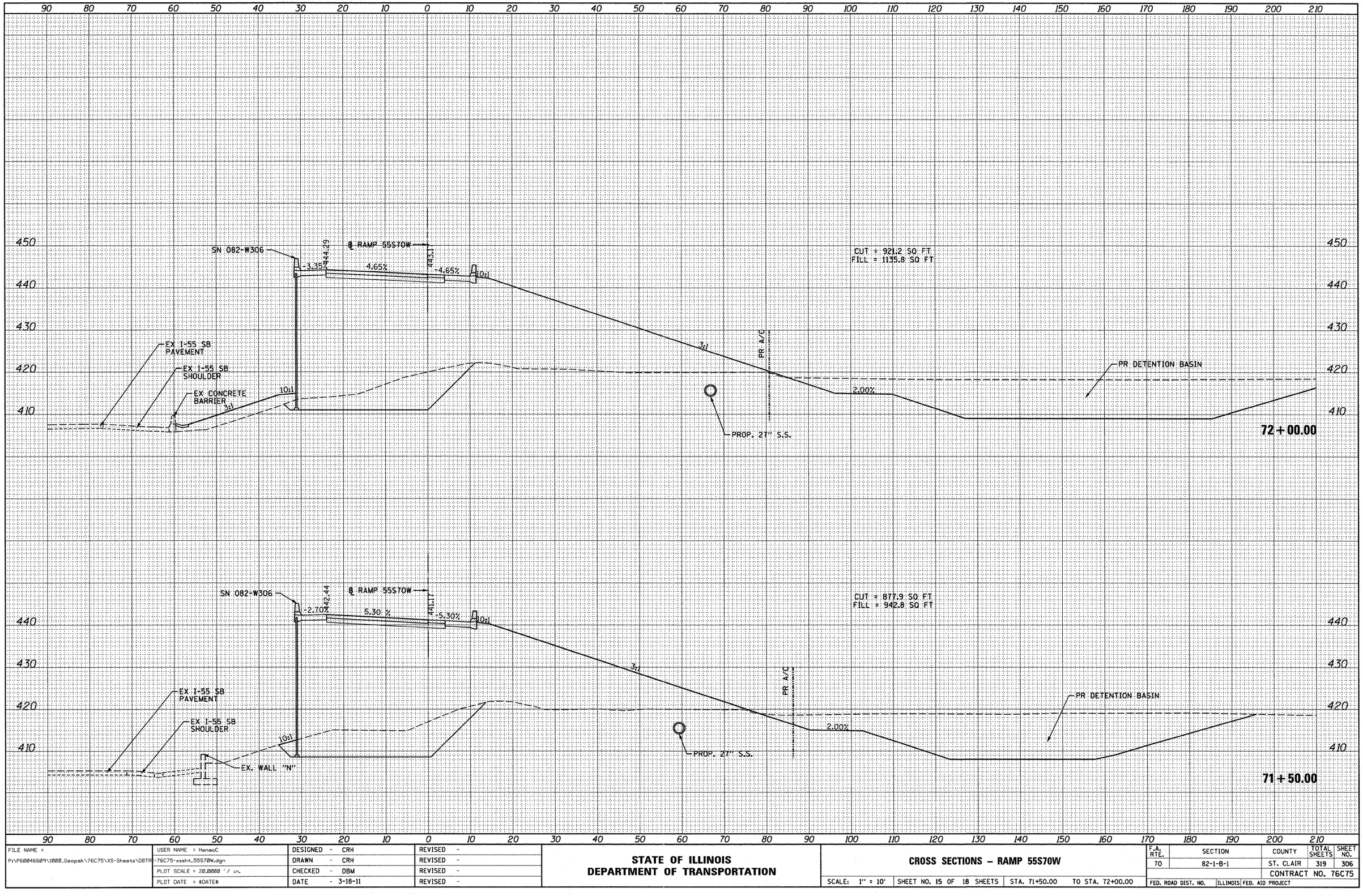
CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 14 OF 18 SHEETS | STA. 70+90.00 TO STA. 71+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	305
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

FILE NAME = P:\P60046609\1000_Geopak\76C75\XS-Sheets\D8TR-76C75-xssht_55S70W.dgn	USER NAME = HenaoC	DESIGNED - CRH	REVISED -
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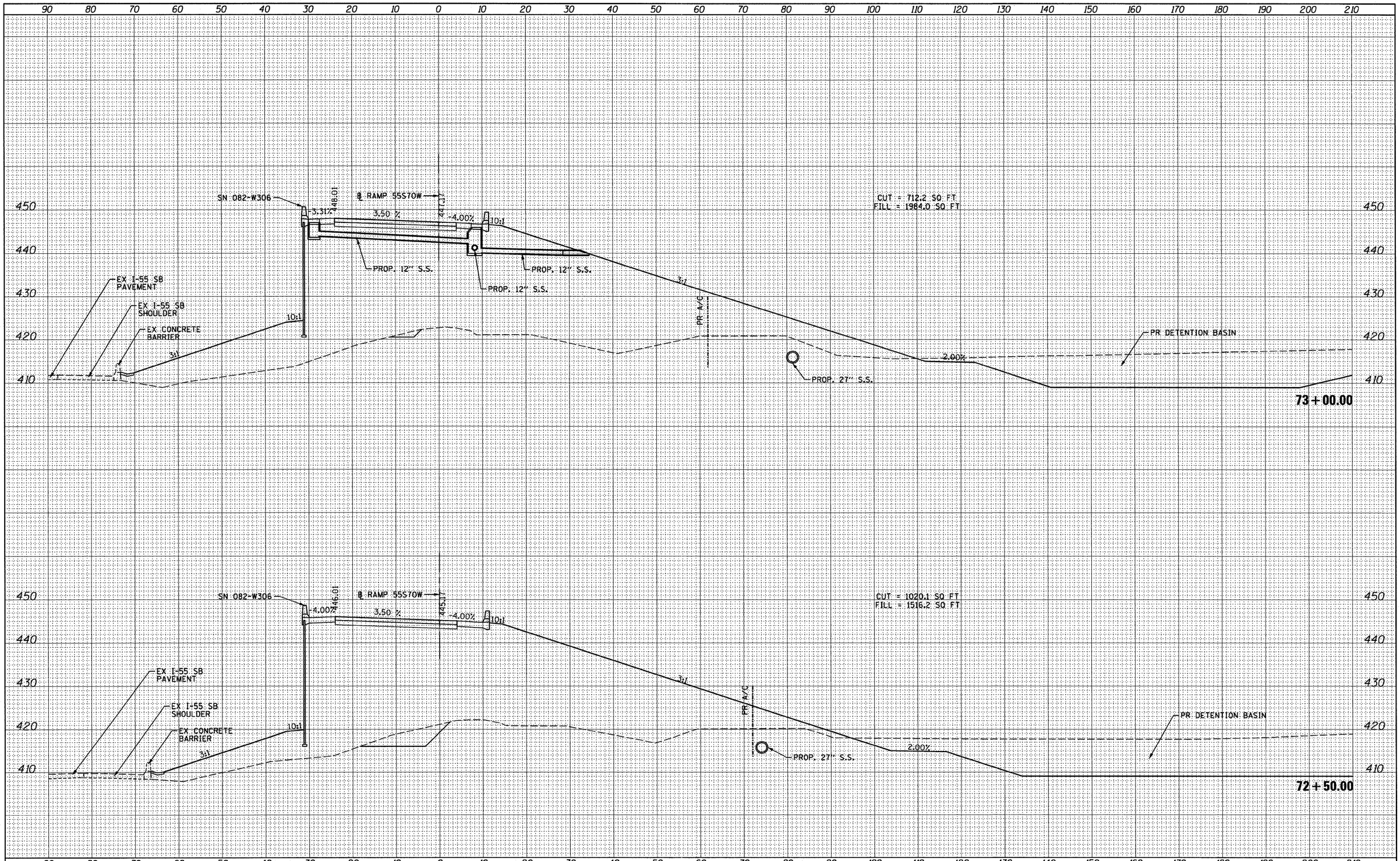
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 15 OF 18 SHEETS | STA. 71+50.00 TO STA. 72+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	306
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY NOTE BOOK NO.	SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED	BY	DATE
ORIGINAL SURVEY NOTE BOOK NO.	SURVEYED PLOTTED TEMPLATE AREAS AREAS CHECKED	BY	DATE

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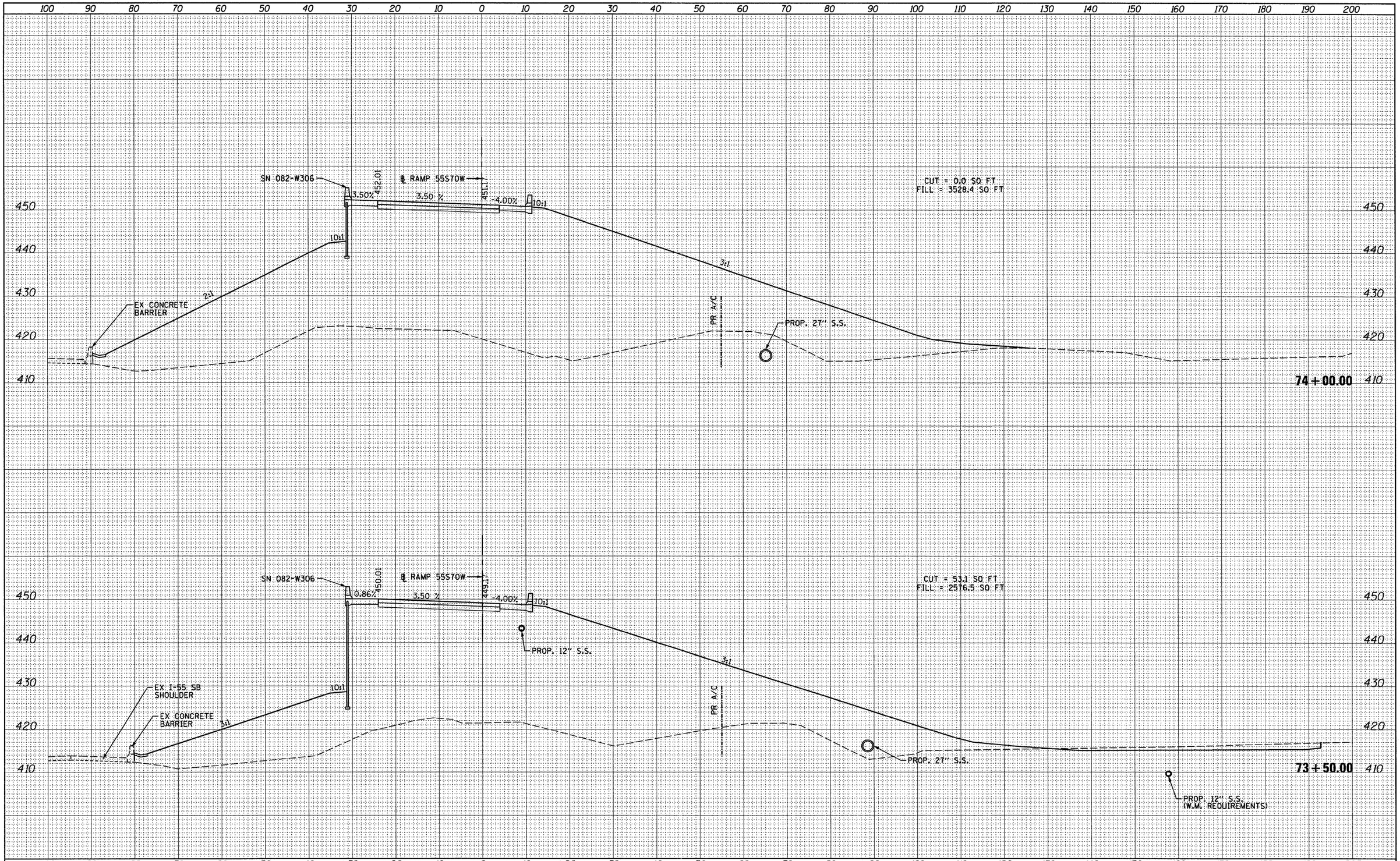
	PLOT SCALE = 20.0000 ' / in.	CHECKED - DBM	REVISED -
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 16 OF 18 SHEETS | STA. 72+50.00 TO STA. 73+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	307
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

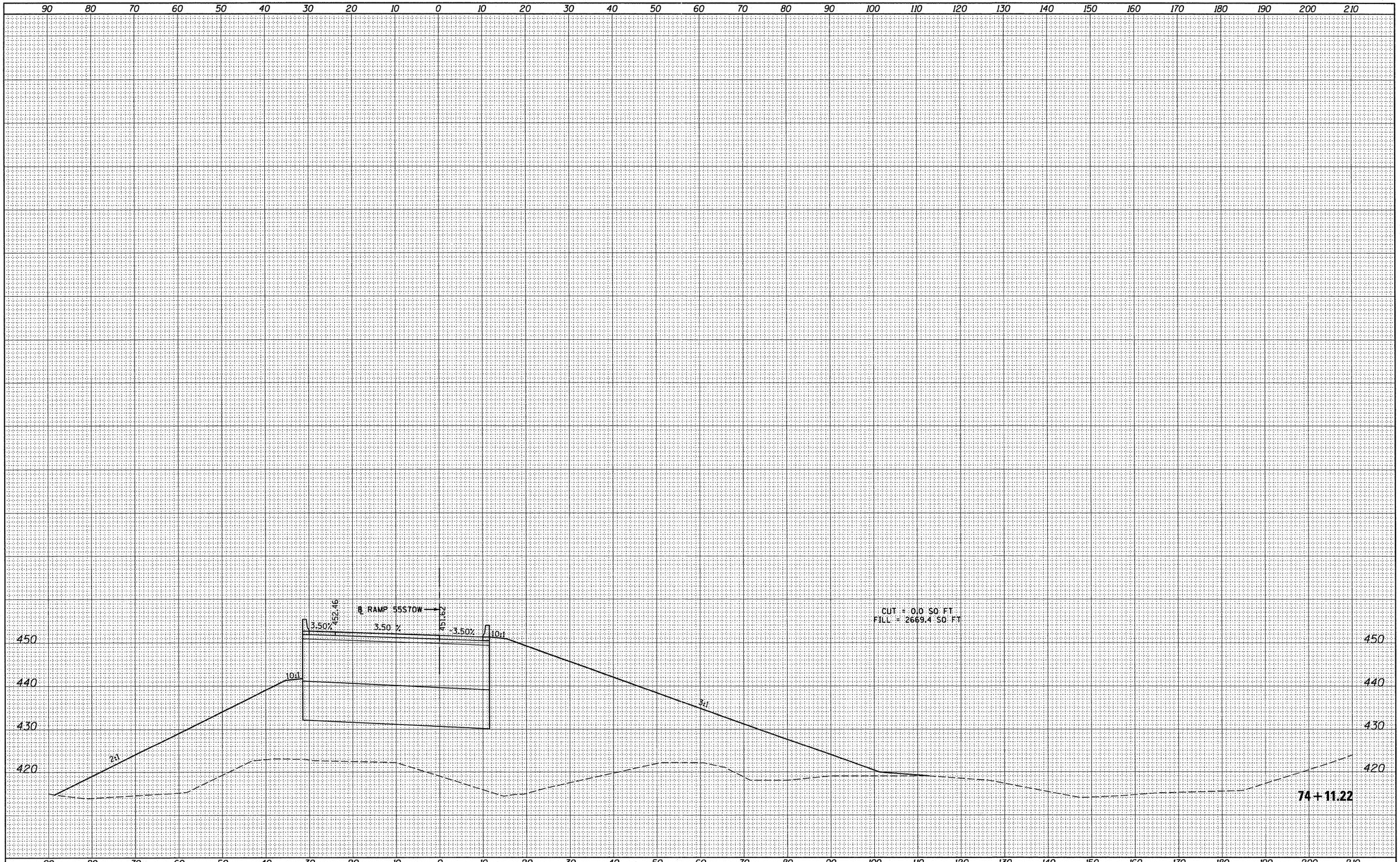
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 17 OF 18 SHEETS | STA. 73+50.00 TO STA. 74+00.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	308
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	



ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

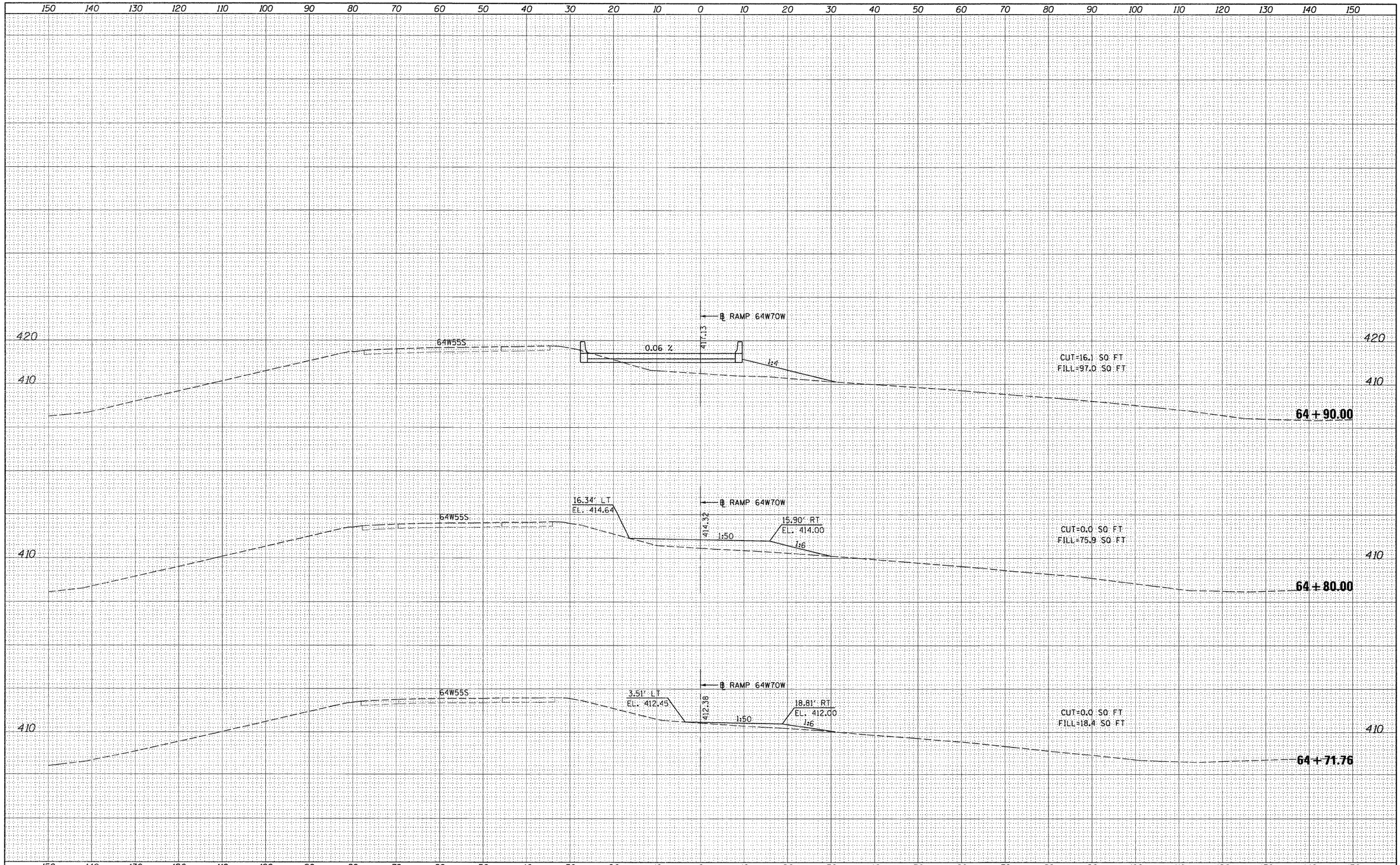
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 55S70W

SCALE: 1" = 10' | SHEET NO. 18 OF 18 SHEETS | STA. 74+11.22 | TO STA. 74+11.22

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	309
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TYPICALS		
	AREAS		
NO.	AREAS CHECKED		



ORIGINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TYPICALS		
	AREAS		
NO.	AREAS CHECKED		

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	PLOT DATE = $DATE$	DATE - 3-30-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 64W70W

SCALE: 1" = 10' | SHEET NO. 1 OF 2 SHEETS | STA. 64+71.76 | TO STA. 64+90.00

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	310
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

ORIGINAL SURVEY	BY	DATE
SURVEYED		
PLOTTED		
NOTE BOOK	TEMPLATE	
NO.	AREAS	
	AREAS CHECKED	

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

420

410

430

420

410

0.87%

418.43

0.37 %

417.65

1:4

65 + 15.96
BACK OF EAST ABUTMENT

65 + 00.00

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FILE NAME = P:\PG004G609\1000_Geopak\76C75\XS-Sheets\D8TR-76C75-xssht_XS_64W70W.dgn	USER NAME = HenaoC	DESIGNED - CRH	REVISED -
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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – RAMP 64W70W

SCALE: 1" = 10' | SHEET NO. 2 OF 2 SHEETS | STA. 65+00.00 TO STA. 65+15.96

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	311
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
	AREAS	AREAS CHECKED
	TEMPLATE	
	PLOTTED	
	SURVEYED	

BY	DATE

ORIGINAL SURVEY	NOTE BOOK	NO.
	AREAS	AREAS CHECKED
	TEMPLATE	
	PLOTTED	
	SURVEYED	

BY	DATE

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

PIER 3

2:1

SN 082-0323

2:1

78 + 98.22

SEE ROADWAY DETAILS FOR TYPICAL PIER MOUNDING

PIER 2

420

SN 082-0323

77 + 44.22 420

420

PIER 1

SN 082-0323

420

75 + 44.22

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

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		DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – SN 082–0323 PIERS

SCALE: 1" = 10' | SHEET NO. 1 OF 1 SHEETS | STA. 75+44.22 TO STA. 78+98.22

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	312
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	TEMPLATE		
	AREAS		
NO.	AREAS CHECKED		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

420
410
400
390

EX ST. CLAIR ENTRANCE RAMP

EX RAMP 64W55N SHOULDER

EX RAMP 64W55N PAVEMENT

EX RAMP 64W55N SHOULDER

PIER 3

SN 082-0325

APPROX. STRUCTURE EXCAVATION LIMITS

PIER 2

SN 082-0325

APPROX. STRUCTURE EXCAVATION LIMITS

PIER 1

SN 082-0325

APPROX. STRUCTURE EXCAVATION LIMITS

EX I-55 NB SHOULDER

EX I-55 NB PAVEMENT

69+76.96

68+06.96

66+29.96

FILE NAME =	USER NAME = HenaoC	DESIGNED - CRH	REVISED -
P:\P60046609\1000_Geopak\76C75\XS-Sheets\D8TR-76C75-xssht_SN 082-0325 Piers.dgn		DRAWN - CRH	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED - DBM	REVISED -
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – SN 082-0325 PIERS

SCALE: 1" = 10' | SHEET NO. 1 OF 4 SHEETS | STA. 66+29.96 | TO STA. 69+76.96

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	313
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

430
420

℄ EX CSX RAILROAD TRACK

EX ACCESS RD

PIER 6

SN 082-0325

APPROX. STRUCTURE EXCAVATION LIMITS

EX ACCESS RD

75 + 58.21

EX RETAINING WALL "L"

EX I-55S PAVEMENT

EX I-55S SHOULDER

EX ACCESS RD

PIER 5

SN 082-0325

APPROX. STRUCTURE EXCAVATION LIMITS

73 + 53.21

430
420
410

PIER 4

TEMPORARY SOIL RETENTION SYSTEM

SN 082-0325

APPROX. STRUCTURE EXCAVATION LIMITS

71 + 30.79

150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

FINAL SURVEY	NOTE BOOK	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE
NO.								

ORIGINAL SURVEY	NOTE BOOK	SURVEYED	PLOTTED	TEMPLATE	AREAS	AREAS CHECKED	BY	DATE
NO.								

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	PLOT DATE = @DATE@	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

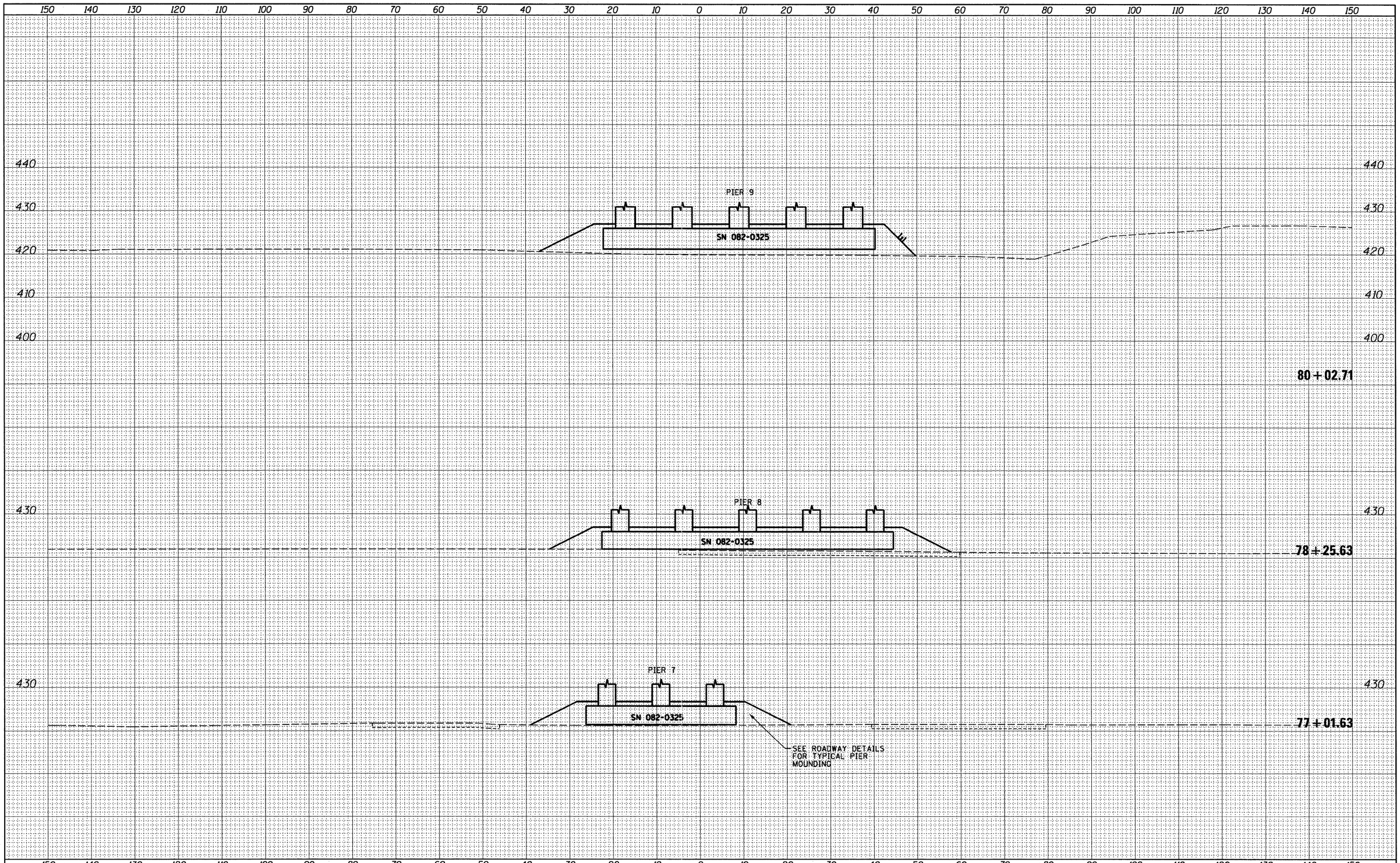
CROSS SECTIONS – SN 082-0325 PIERS

SCALE: 1" = 10' | SHEET NO. 2 OF 4 SHEETS | STA. 71+30.79 | TO STA. 75+58.21

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	314
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE



ORIGINAL SURVEY	NOTE BOOK	NO.
SURVEYED		
PLOTTED		
TEMPLATE		
AREAS		
AREAS CHECKED		

BY	DATE

FILE NAME = P:\P60046609\1000_Geopak\76C75\XS-Sheets\DBTR-76C75-xssht_SN 082-0325 Piers.dgn	USER NAME = HenaoC	DESIGNED - CRH	REVISED -
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	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – SN 082-0325 PIERS

SCALE: 1" = 10' | SHEET NO. 3 OF 4 SHEETS | STA. 77+01.63 TO STA. 80+02.71

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TO	82-1-B-1	ST. CLAIR	319	315
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	
NOTE BOOK	
NO.	

SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

NO.	BY	DATE

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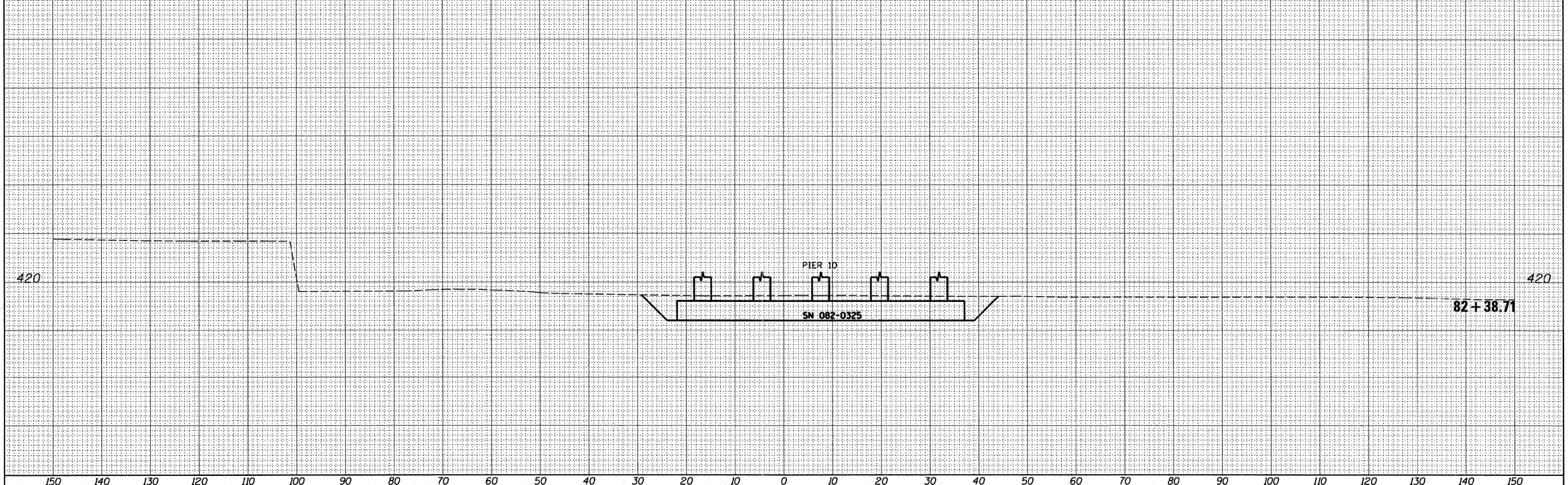


150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

ORIGINAL SURVEY	
NOTE BOOK	
NO.	

SURVEYED	
PLOTTED	
TEMPLATE	
AREAS	
AREAS CHECKED	

NO.	BY	DATE

FILE NAME = P:\P60046609\1000_Geopak\76C75\XS-Sheets\DBTR-76C75-xssht_SN 082-0325 Piers.dgn	USER NAME = HeneoC	DESIGNED - CRH	REVISED -
		DRAWN - CRH	REVISED -
	PLOT SCALE = 20.0000 ' / in.	CHECKED - DBM	REVISED -
	PLOT DATE = $DATE$	DATE - 3-18-11	REVISED -

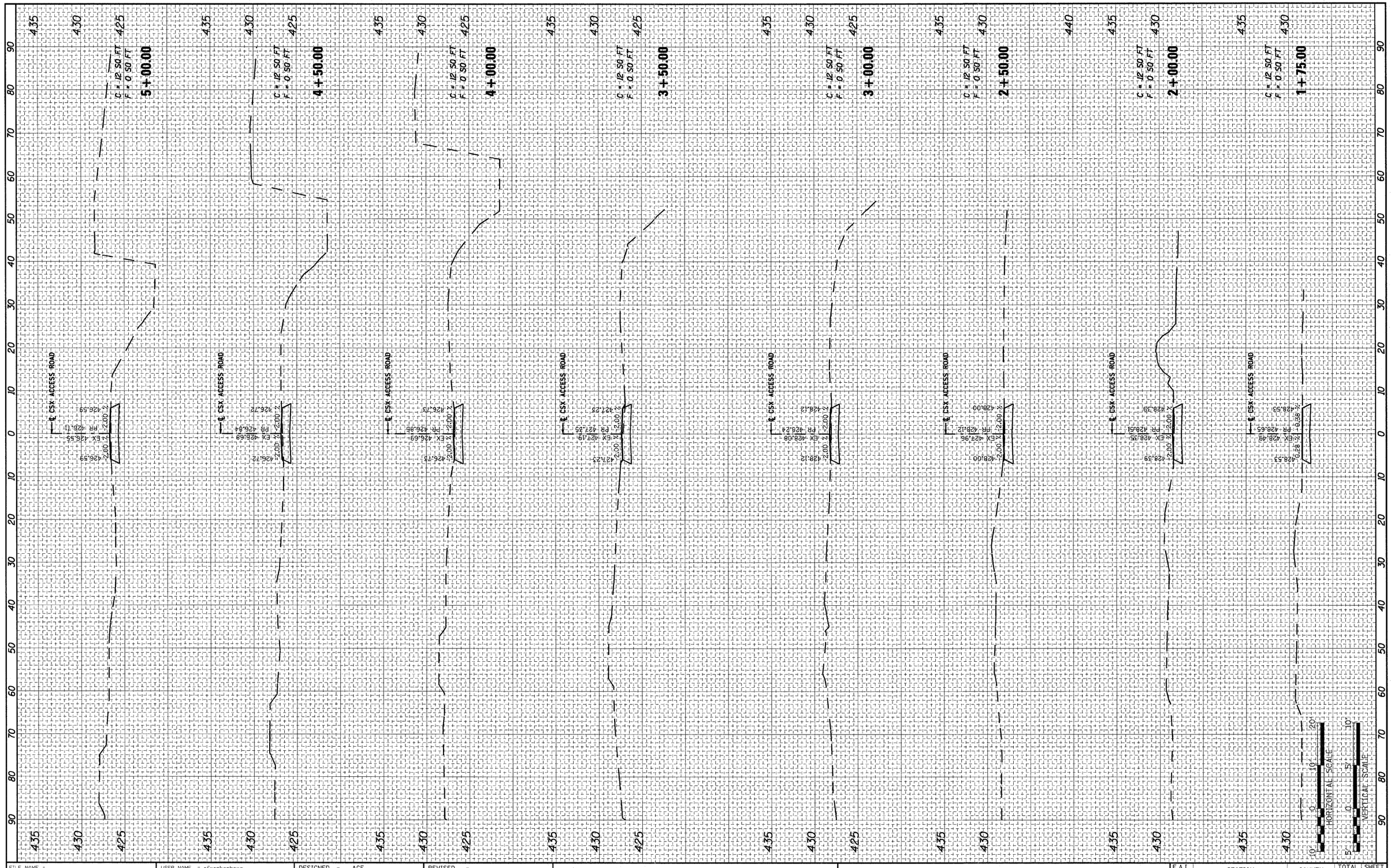
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – SN 082-0325 PIERS

SCALE: 1" = 10' | SHEET NO. 4 OF 4 SHEETS | STA. 82+38.71 | TO STA. 82+38.71

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	316
		CONTRACT NO. 76C75		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		



ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

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		DRAWN - AGF	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED - MPW	REVISED -
	PLOT DATE = 3/21/2011	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

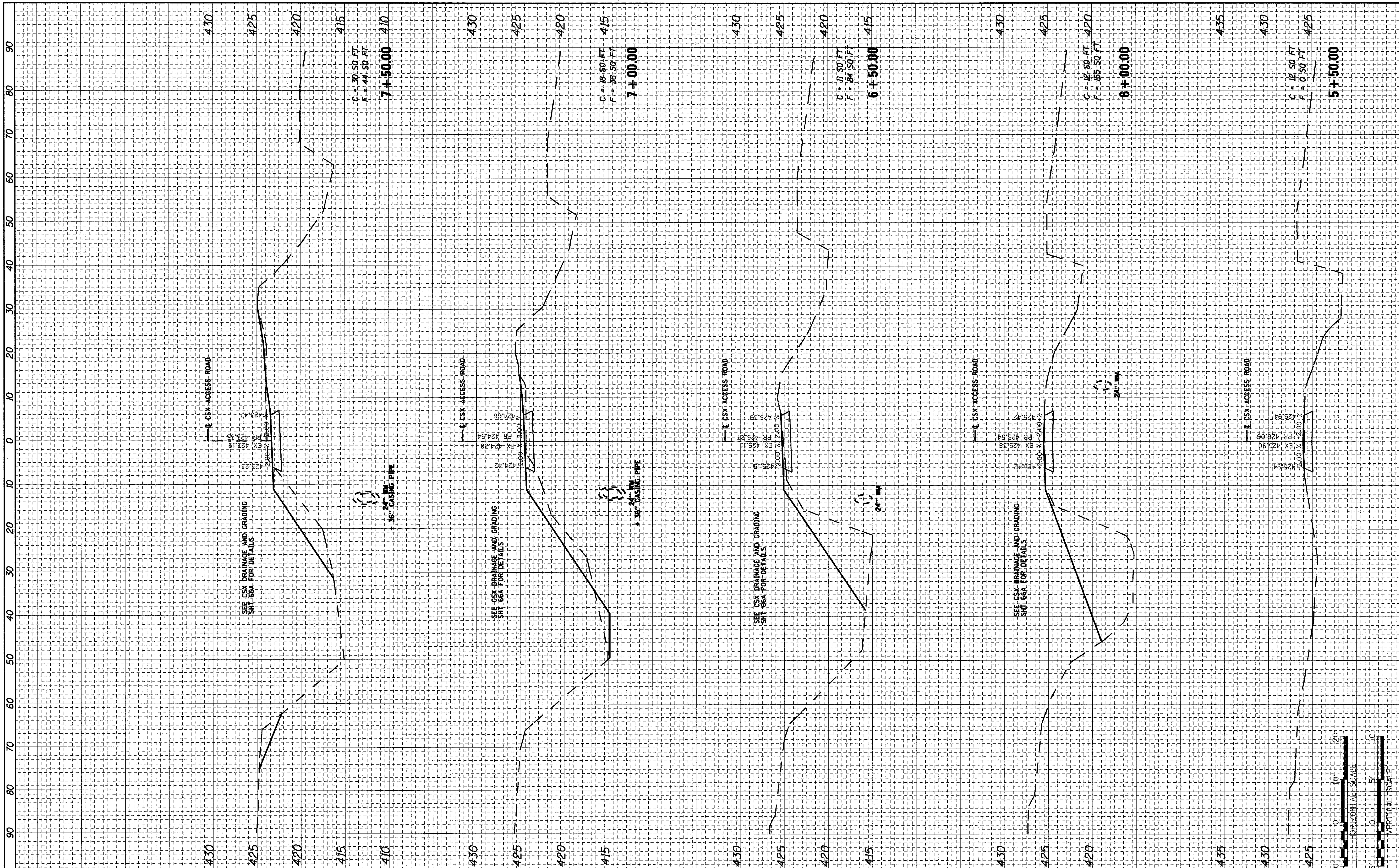
CROSS SECTIONS – CSX ACCESS ROAD

SCALE: V:20 H:5 | SHEET NO. 26 OF 28 SHEETS | STA. 1+75.00 | TO STA. 5+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	317
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		



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		DRAWN - AGF	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED - MPW	REVISED -
	PLOT DATE = 3/21/2011	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – CSX ACCESS ROAD

SCALE: V:20 H:5 | SHEET NO. 26A OF 28 SHEETS | STA. 5+50.00 TO STA. 7+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	317A
		CONTRACT NO. 76C75		
	ILLINOIS FED. AID PROJECT			

FINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FILE NAME =	USER NAME = afrankenberg	DESIGNED - AGF	REVISED -
@FILEL@		DRAWN - AGF	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED - MPW	REVISED -
	PLOT DATE = 3/21/2011	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS – CSX ACCESS ROAD

SCALE: V:20 H:5 | SHEET NO. 27 OF 28 SHEETS | STA. 8+00.00 TO STA. 10+00.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	318
		CONTRACT NO. 76C75		
	ILLINOIS	FED. AID PROJECT		

FINAL SURVEY	SURVEYED	BY	
NOTE BOOK	PLOTTED		DATE
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	
NOTE BOOK	PLOTTED		DATE
NO.	TEMPLATE		
	AREAS		
	AREAS CHECKED		

FILE NAME =	USER NAME = afrankenberg	DESIGNED - AGF	REVISED -
#FILEL#		DRAWN - AGF	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED - MPW	REVISED -
	PLOT DATE = 3/21/2011	DATE - 3-18-11	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS - CSX ACCESS ROAD

SCALE: V:20 H:5 | SHEET NO. 28 OF 28 SHEETS | STA. 10+50.00 TO STA. 12+50.00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-1-B-1	ST. CLAIR	319	319
		CONTRACT NO. 76C75		
	ILLINOIS	FED. AID PROJECT		