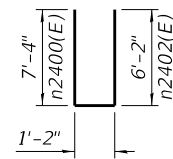
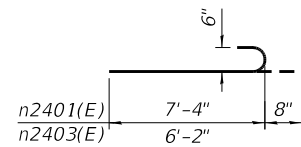


RAMP E - SOUTH ABUTMENT
BILL OF MATERIAL

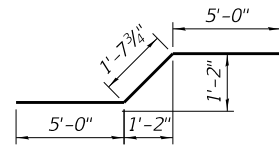
Bar	No.	Size	Length	Shape
d2400(E)	6	#4	2'-3"	□
h2400(E)	38	#5	27'-9"	—
h2401(E)	32	#4	20'-2"	—
h2402(E)	22	#4	15'-7"	—
n2400(E)	21	#6	15'-10"	□
n2401(E)	4	#6	8'-0"	□
n2402(E)	16	#6	13'-6"	□
n2403(E)	4	#6	6'-10"	□
p2400(E)	12	#7	31'-11"	—
p2401(E)	8	#7	29'-6"	—
p2402(E)	12	#7	22'-10"	—
p2403(E)	12	#7	11'-8"	—
p2404(E)	18	#6	11'-2"	—
p2405(E)	6	#6	6'-10"	—
p2406(E)	6	#7	17'-3"	—
p2407(E)	6	#7	21'-8"	—
s2400(E)	35	#6	19'-0"	□
s2401(E)	25	#6	19'-4"	□
s2402(E)	27	#4	9'-5"	□
s2403(E)	39	#4	10'-8"	□
u2400(E)	8	#6	14'-1"	□
u2401(E)	53	#5	8'-2"	□
u2402(E)	53	#5	5'-7"	□
u2403(E)	14	#5	13'-1"	□
u2404(E)	4	#5	11'-11"	□
v2400(E)	53	#5	3'-1"	Γ
v2401(E)	106	#5	8'-7"	—
v2402(E)	23	#5	9'-6"	—
v2403(E)	23	#5	9'-7"	—
v2404(E)	18	#5	7'-3"	—
v2405(E)	15	#5	5'-7"	—
v2406(E)	18	#5	5'-5"	—
Structure Excavation		Cu. Yd.	249.0	
Concrete Structures		Cu. Yd.	103.9	
Reinforcement Bars, Epoxy Coated		Pound	10,880	
Furnishing Metal Shell Piles 12"x0.250"		Foot	540	
Driving Piles		Foot	540	
Test Pile Metal Shells		Each	1	
Concrete Sealer		Sq. Ft.	701	



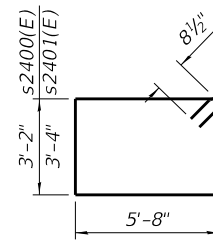
BAR n2400(E) & n2402(E)



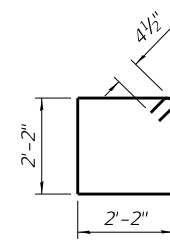
BAR n2401(E) & n2403(E)



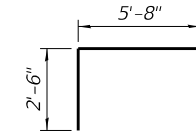
BAR p2403(E)



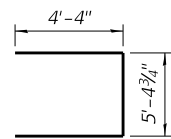
BARS s2400(E) & s2401(E)



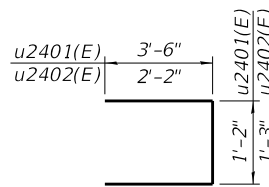
BARS s2402(E)



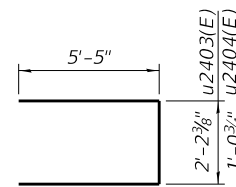
BAR s2403(E)



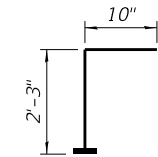
BAR u2400(E)



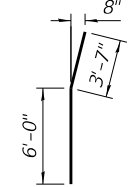
BAR u2401(E) & u2402(E)



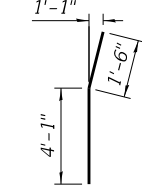
BAR u2403(E) & u2404(E)



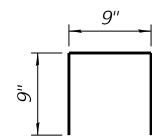
BAR v2400(E)
(Headed)



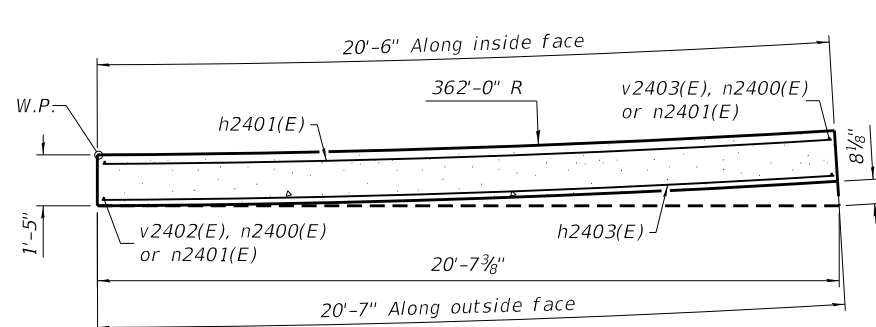
BAR v2403(E)



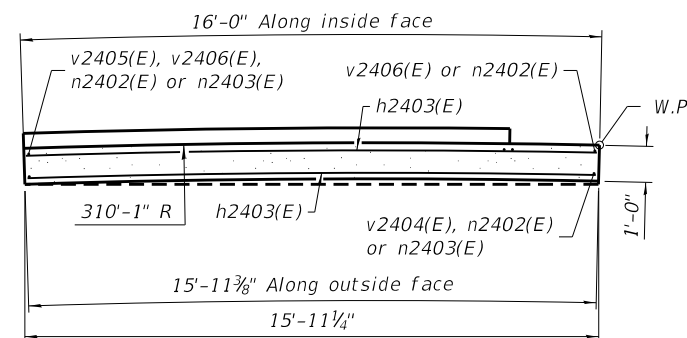
BAR v2405(E)



BAR d2400(E)



SECTION C-C



SECTION E-E

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-153 of 445.

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EFK • Moen, LLC
Civil Engineering Design

USER NAME = ABenz
PLOT SCALE = 0:2 1/4" / in.
PLOT DATE = 12/11/2018

DESIGNED -
CHECKED -
DRAWN -
CHECKED -

REVISED -
REVISED -
REVISED -
REVISED -

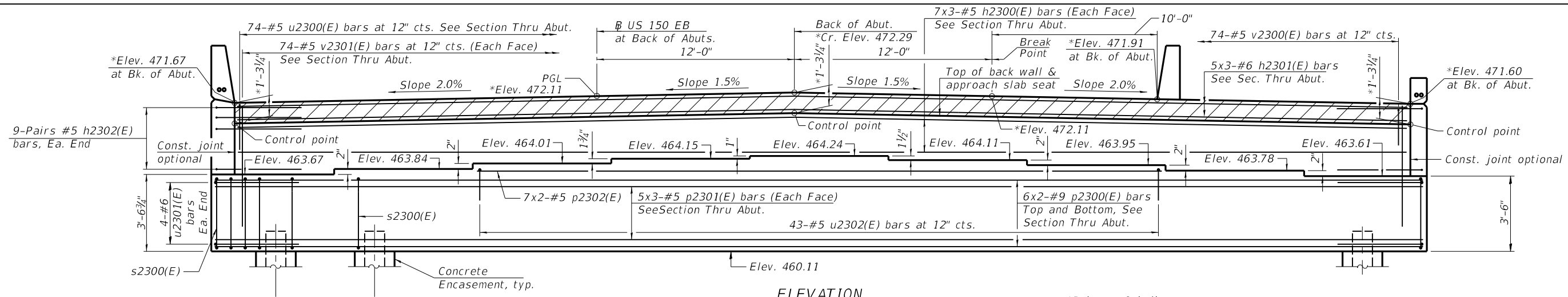
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT DETAILS, 2 OF 2
STRUCTURE NO. 090-0180

SHEET S-293 OF 445 SHEETS

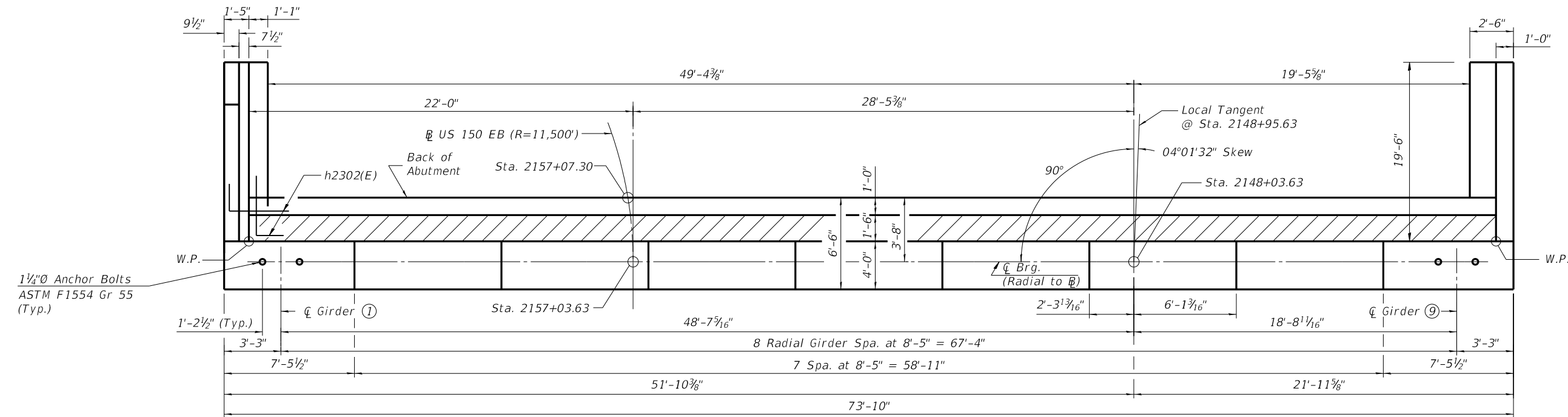
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317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1201
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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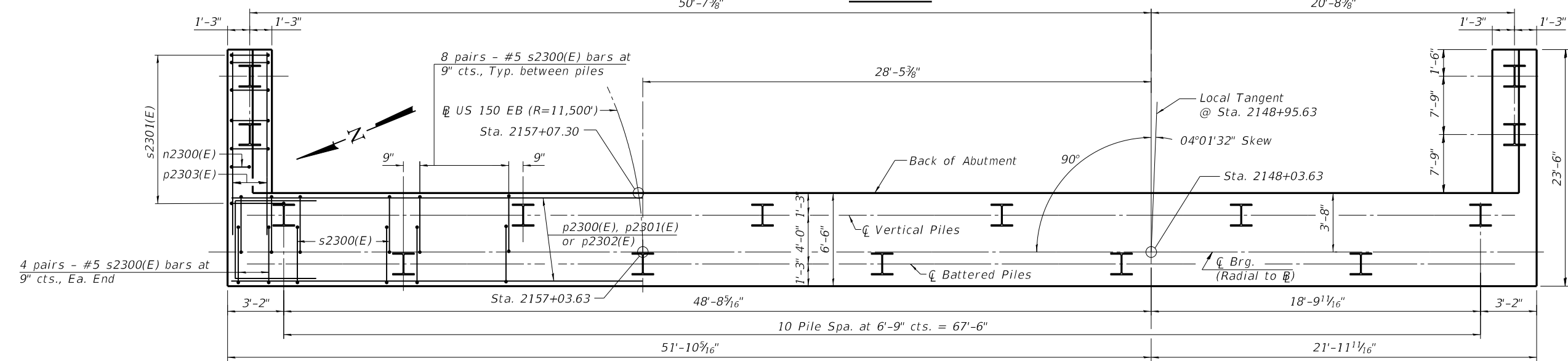


ELEVATION

*Prior to Grinding



TOP VIEW



PLAN-PILE CAP

MINIMUM BAR LAP

- #5 bar = 3'-2"
- #6 bar = 3'-10"
- #9 bar = 6'-5"

Notes:

1. Bars indicated thus 6x2-#9 etc. indicates 6 lines of bars with 2 lengths per line.
2. For bar list and bill of materials, see Sheet S-296 of 445.
3. For section thru abutment, see Sheet S-295 of 445.

PILE DATA

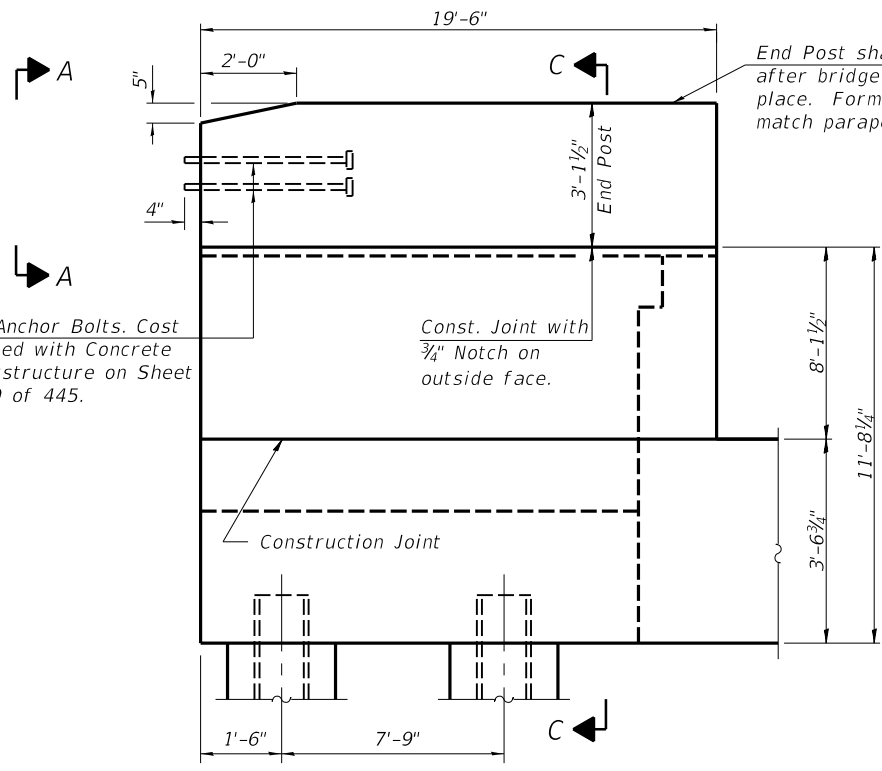
Type: *HP 14x117
 Nominal Required Bearing: 929K
 Factored Resistance Available: 445K
 Est. Length: 85 ft
 No. Production Piles: 14
 No. Test Piles: 1

* Piles shall be driven through 24" diameter precored holes extending to elevation 442.60 according to Article 512.09(c) of the Standard Specifications. Cost included in Driving Piles.

	CGP	USER NAME = johns00944	DESIGNED - CGP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EAST ABUTMENT STRUCTURE NO. 090-0180		F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 12/11/2018	CHECKED - JGT	DRAWN - DAP	REVISED -		CONTRACT NO. 68B46						
	ILLINOIS	FED. AID PROJECT	SHEET 5-294 OF 445 SHEETS			NHPY-RP3(905)						

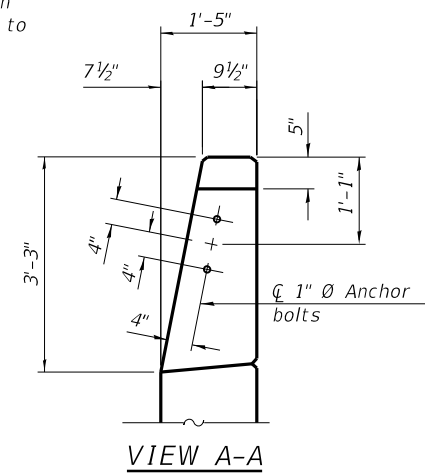
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 Copyright Hanson Professional Services Inc. 2018
 12/11/2018 4:07:48 PM

1" Ø Anchor Bolts. Cost included with Concrete Superstructure on Sheet S-150 of 445.

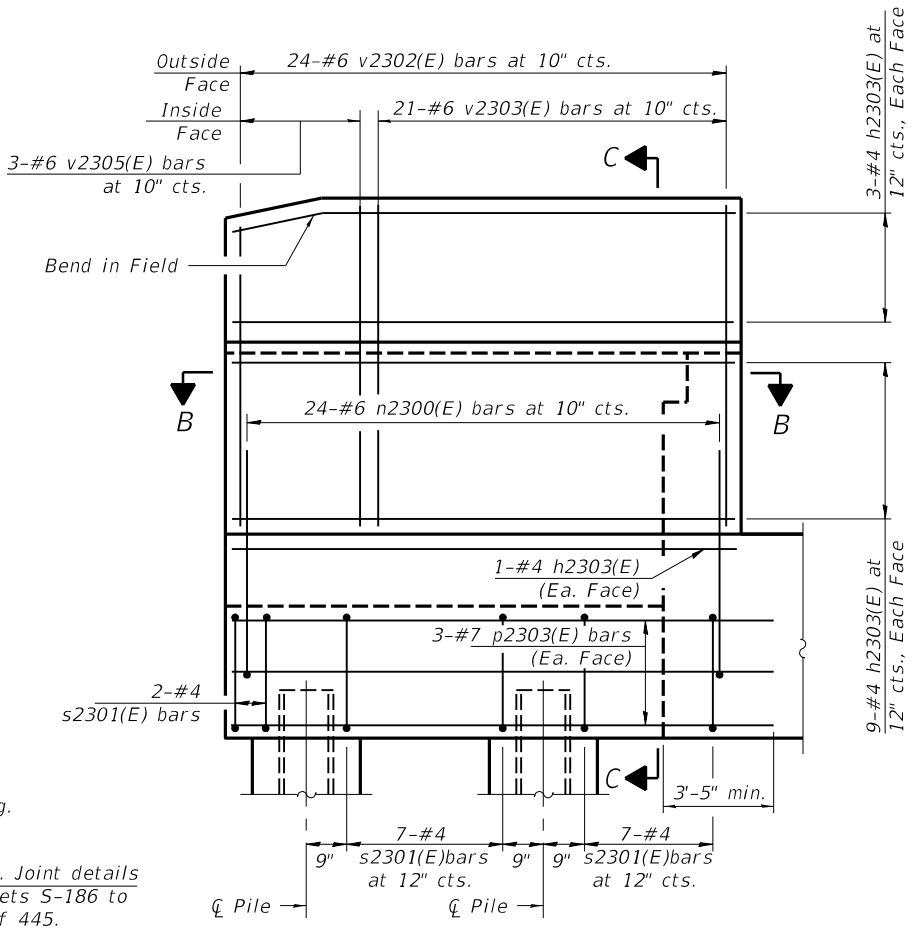


NORTH WING WALL ELEVATION
 Showing Dimensions

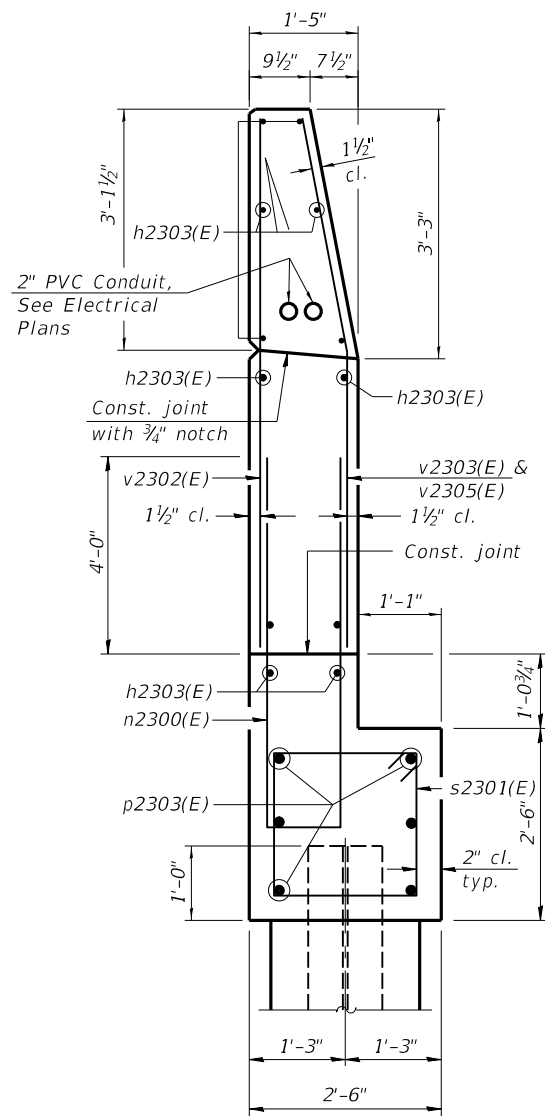
End Post shall be poured after bridge parapet is in place. Form top surface to match parapet grade.



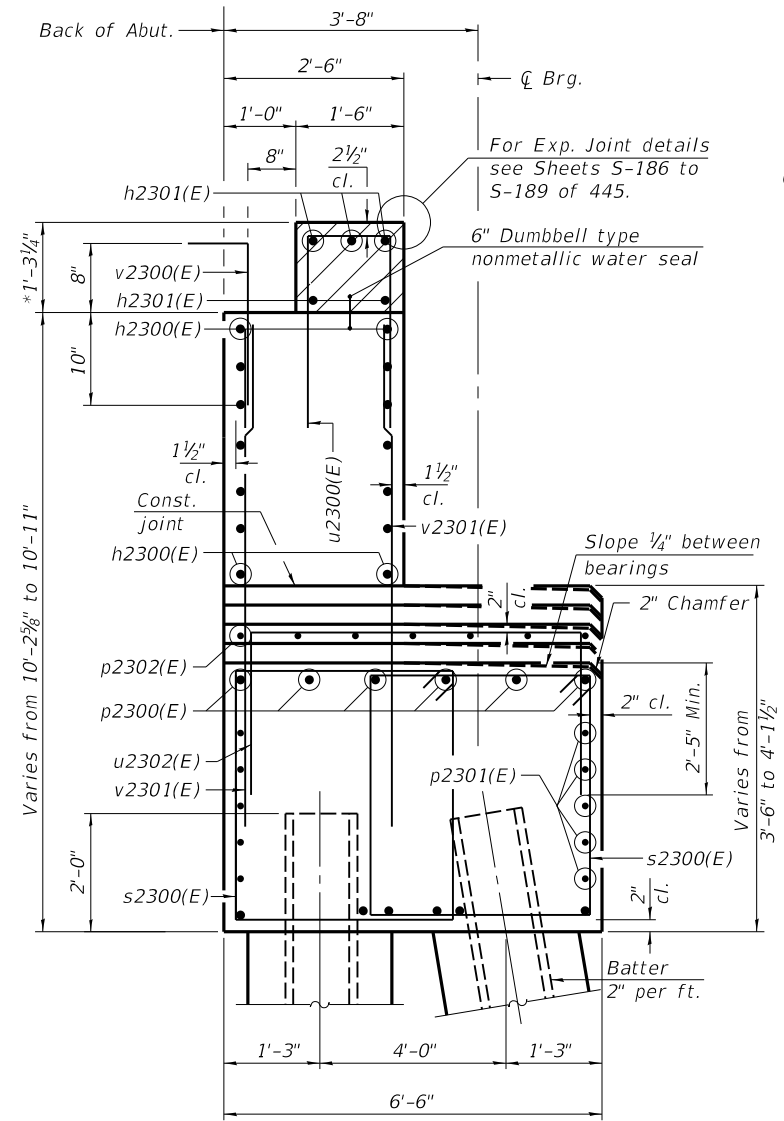
VIEW A-A



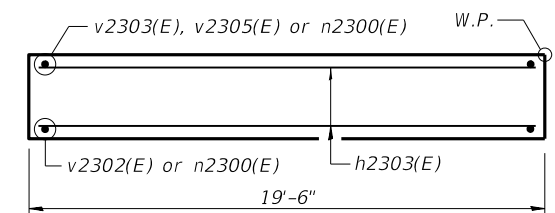
NORTH WING WALL ELEVATION
 Showing Reinforcement



SECTION C-C

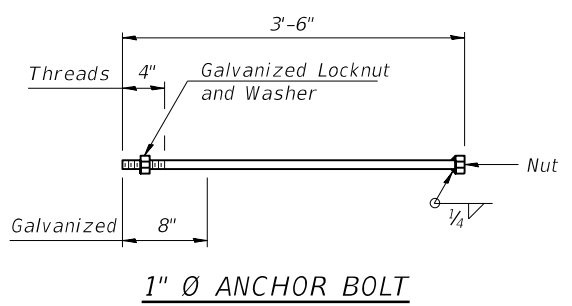


SEC. THRU ABUT.



SECTION B-B

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-150 of 445.
 For Concrete Encasement details, see Sheet S-430 of 445.



1" Ø ANCHOR BOLT



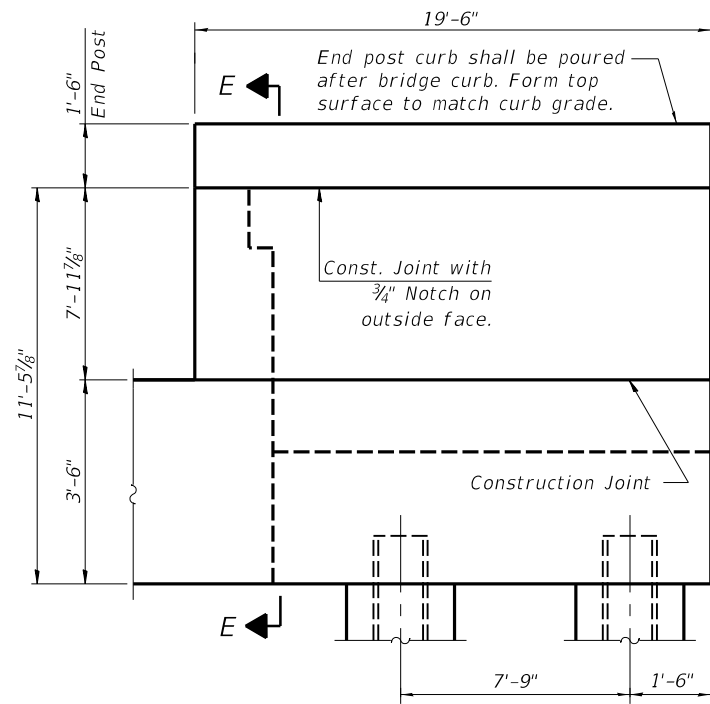
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CHECKED - MNM	REVISIONS -	
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PLOT DATE = 12/11/2018	CHECKED - JGT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

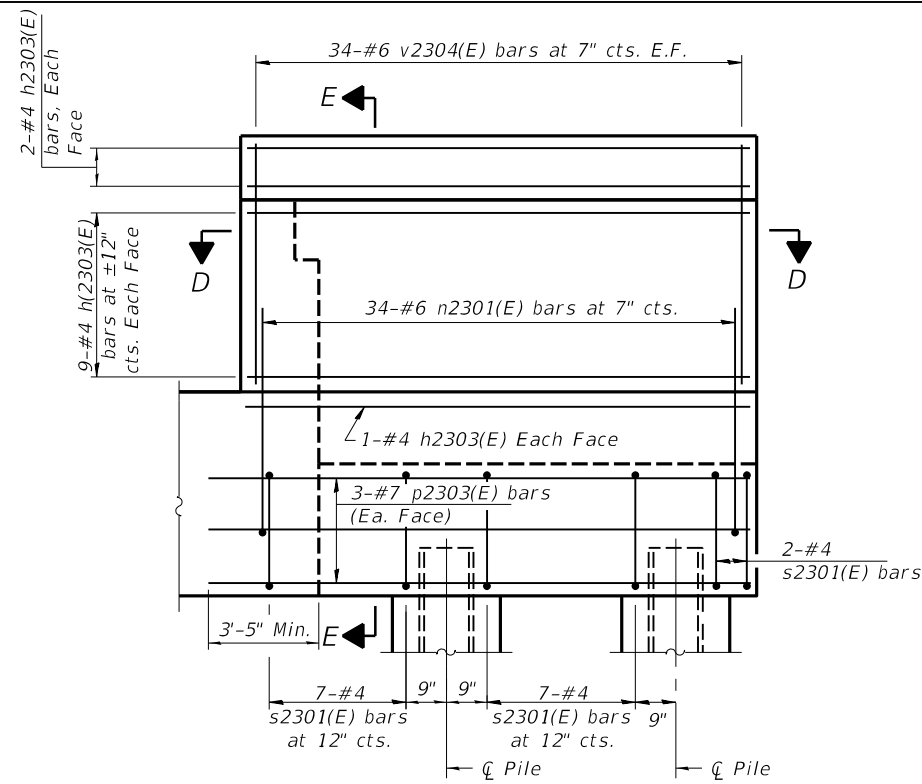
EAST ABUTMENT DETAILS, 1 OF 2
STRUCTURE NO. 090-0180

SHEET 5-295 OF 445 SHEETS

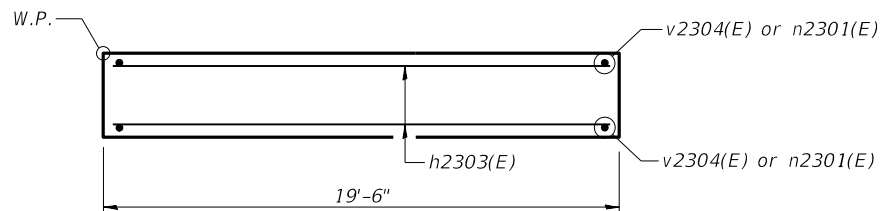
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1203
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



SOUTH WING WALL ELEVATION
Showing Dimensions

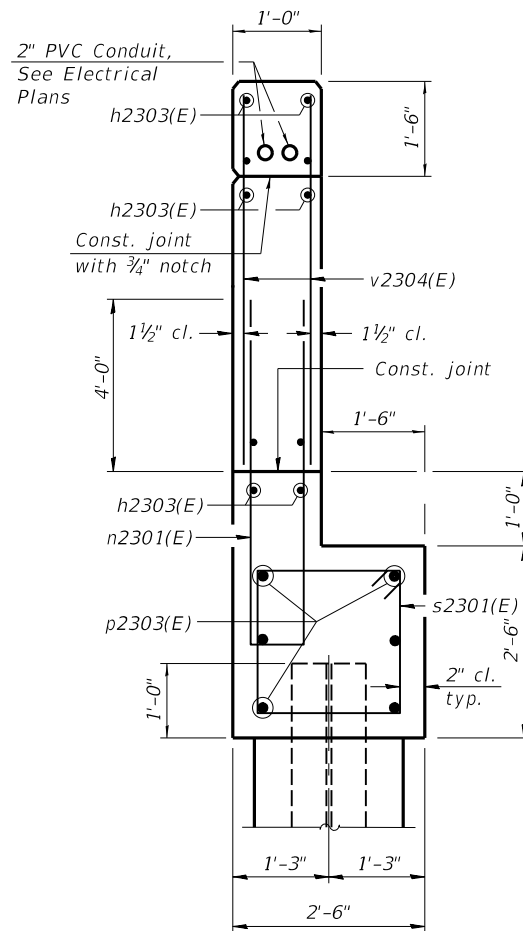


SOUTH WING WALL ELEVATION
Showing Reinforcement

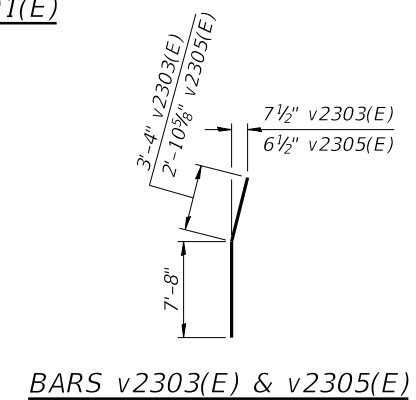
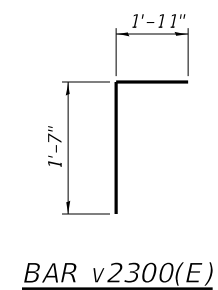
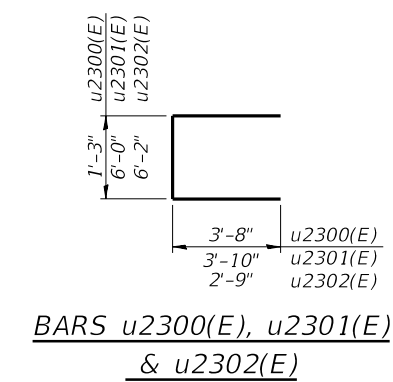
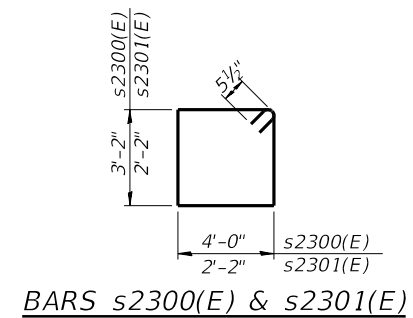
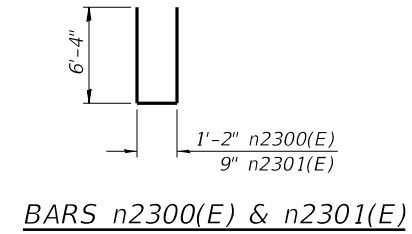
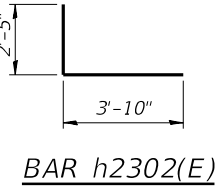


SECTION D-D

Notes:
Quantity of concrete in end post included with Concrete Superstructure on Sheet S-150 of 445.
For Concrete Encasement and Pile Details, see Sheet S-430 of 445.
Abutment shall have all exposed surfaces of backwall, bridge seats, and front faces of pile caps treated with Concrete Sealer.



SECTION E-E



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h2300(E)	42	#5	26'-0"	—
h2301(E)	15	#6	26'-5"	—
h2302(E)	36	#5	6'-3"	└
h2303(E)	50	#4	19'-2"	—
n2300(E)	24	#6	13'-10"	└
n2301(E)	34	#6	13'-5"	└
p2300(E)	24	#9	40'-0"	—
p2301(E)	30	#5	26'-9"	—
p2302(E)	14	#5	22'-7"	—
p2303(E)	12	#7	22'-11"	—
s2300(E)	176	#5	15'-3"	□
s2301(E)	32	#5	9'-7"	□
u2300(E)	74	#5	8'-7"	└
u2301(E)	8	#6	13'-8"	└
u2302(E)	43	#5	11'-8"	└
v2300(E)	74	#5	3'-6"	└
v2301(E)	148	#5	11'-0"	—
v2302(E)	24	#6	10'-11"	—
v2303(E)	21	#6	11'-0"	—
v2304(E)	68	#6	9'-2"	—
v2305(E)	3	#6	10'-7"	—
Structure Excavation			Cu. Yd.	474
Concrete Structures			Cu. Yd.	143.0
Concrete Encasement			Cu. Yd.	8.2
Reinforcement Bars, Epoxy Coated			Pound	16950
Furnishing Steel Piles HP14x117			Foot	1190
Driving Piles			Foot	1190
Test Pile Steel HP14x117			Each	1
Concrete Sealer			Sq. Ft.	1174

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REVISED -

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REVISED -

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT DETAILS, 2 OF 2
STRUCTURE NO. 090-0180

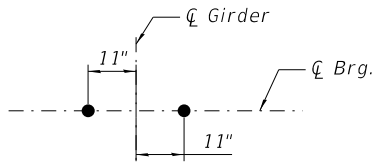
SHEET 5-296 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1204
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

Notes:
 Pour steps monolithically with cap.
 Adjust bar spacings to miss anchor bolts.

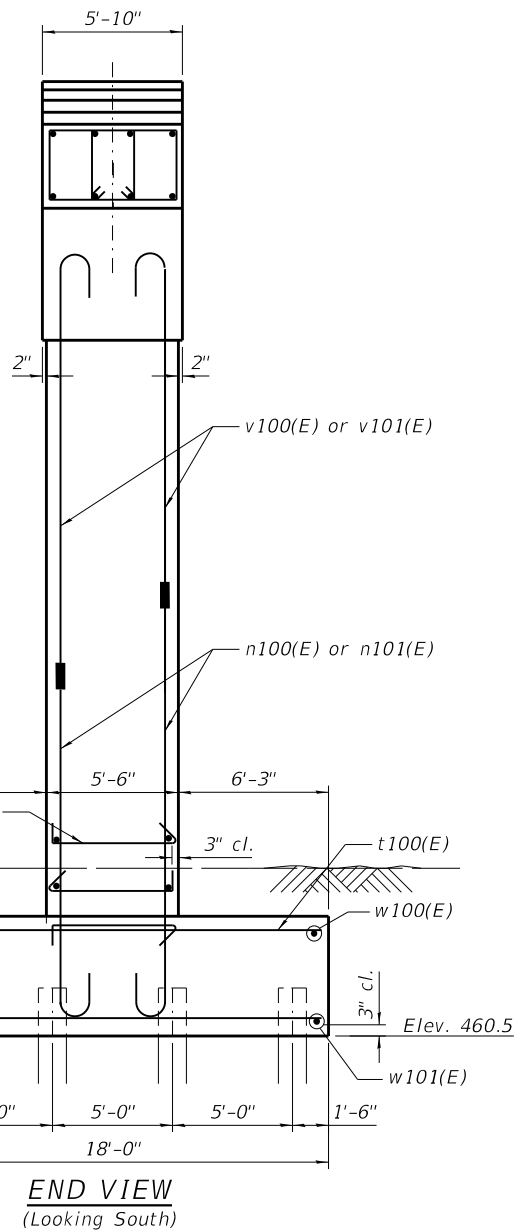
**PIER 1
 BEARING SEAT
 ELEVATIONS**

Girder	Elevation
1	497.92
2	498.08
3	498.25
4	498.39
5	498.50
6	498.38
7	498.27
8	498.15

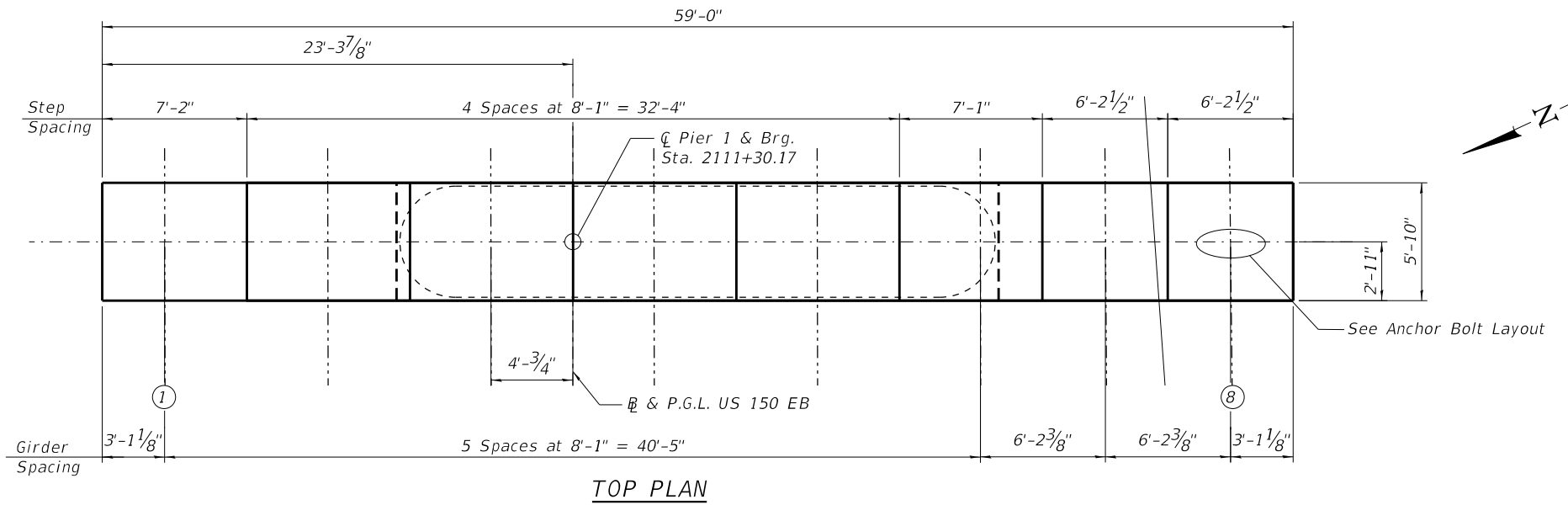


ANCHOR BOLT LAYOUT

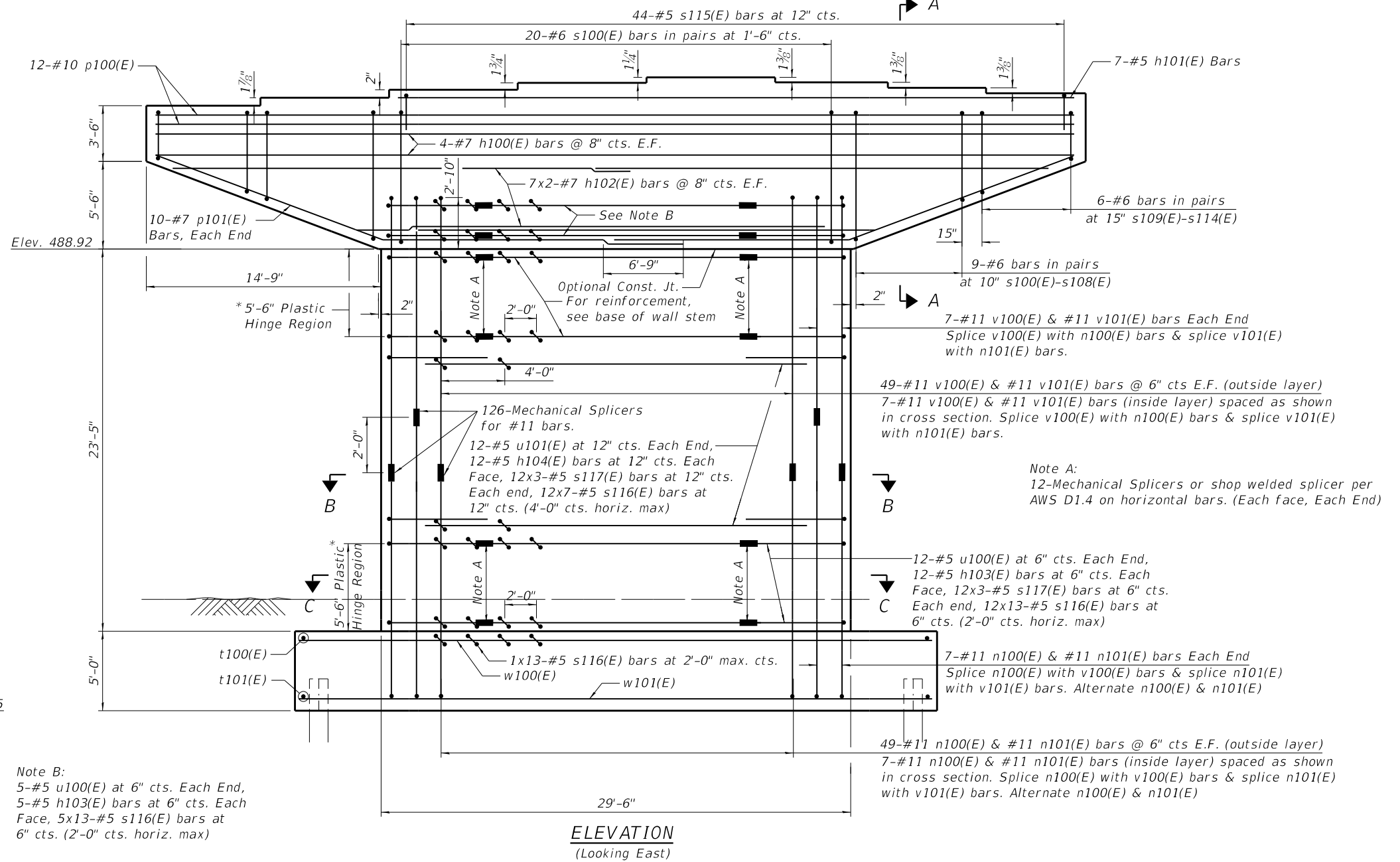
* Splicing of reinforcement will not be allowed in this area.



**END VIEW
 (Looking South)**



TOP PLAN



**ELEVATION
 (Looking East)**

Note B:
 5-#5 u100(E) at 6" cts. Each End,
 5-#5 h103(E) bars at 6" cts. Each
 Face, 5x13-#5 s116(E) bars at
 6" cts. (2'-0" cts. horiz. max)

Note A:
 12-Mechanical Splicers or shop welded splicer per
 AWS D1.4 on horizontal bars. (Each face, Each End)

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TYLIN INTERNATIONAL
 200 S. WACKER DR.
 SUITE 1400
 CHICAGO, IL 60606
 TEL: 312-777-2900

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 CHECKED -
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 DRAWN - CH
 PLOT DATE = 12/12/2018
 CHECKED -
 REVISED -

DESIGNED - SP
 CHECKED -
 DRAWN - CH
 CHECKED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER 1 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180**

SHEET 5-297 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1205
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

**PIER 1
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h100(E)	8	#7	58'-8"	—
h101(E)	7	#5	43'-5"	—
h102(E)	28	#7	30'-6"	—
h103(E)	58	#5	16'-6"	—
h104(E)	24	#5	24'-0"	—
n100(E)	63	#11	16'-10"	U
n101(E)	63	#11	17'-10"	U
p100(E)	24	#10	58'-8"	—
p101(E)	20	#7	33'-9"	—
s100(E)	44	#6	26'-0"	□
s101(E)	4	#6	25'-4"	□
s102(E)	4	#6	24'-9"	□
s103(E)	4	#6	24'-1"	□
s104(E)	4	#6	23'-6"	□
s105(E)	4	#6	22'-10"	□
s106(E)	4	#6	22'-3"	□
s107(E)	4	#6	21'-7"	□
s108(E)	4	#6	21'-0"	□
s109(E)	4	#6	20'-0"	□
s110(E)	4	#6	19'-1"	□
s111(E)	4	#6	18'-2"	□
s112(E)	4	#6	17'-2"	□
s113(E)	4	#6	16'-3"	□
s114(E)	4	#6	15'-4"	□
s115(E)	44	#5	10'-6"	□
s116(E)	461	#5	6'-0"	U
s117(E)	216	#5	5'-6"	U
t100(E)	41	#7	17'-8"	—
t101(E)	60	#9	17'-8"	—
u100(E)	58	#5	15'-4"	U
u101(E)	24	#5	17'-0"	U
v100(E)	63	#11	17'-4"	U
v101(E)	63	#11	16'-4"	U
w100(E)	19	#7	40'-0"	—
w101(E)	28	#9	40'-0"	—
Structure Excavation		Cu. Yd.	253	
Concrete Structures		Cu. Yd.	378.0	
Reinforcement Bars, Epoxy Coated		Pound	54,810	
Furnishing Steel Piles HP 14x89		Foot	2275	
Driving Piles		Foot	2275	
Test Pile, HP14x89		Each	1	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

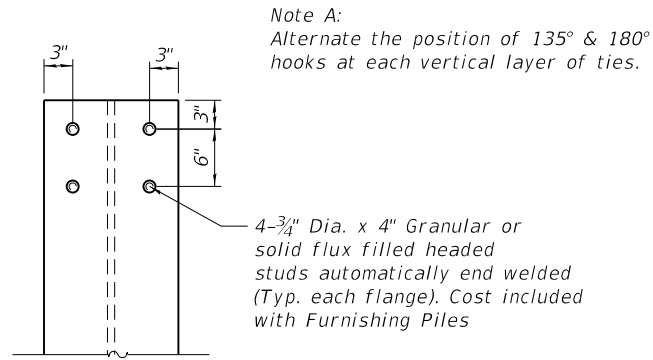
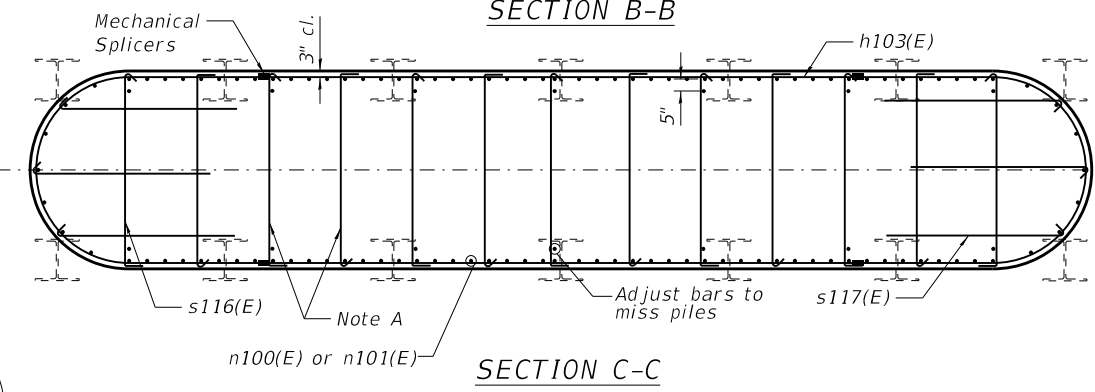
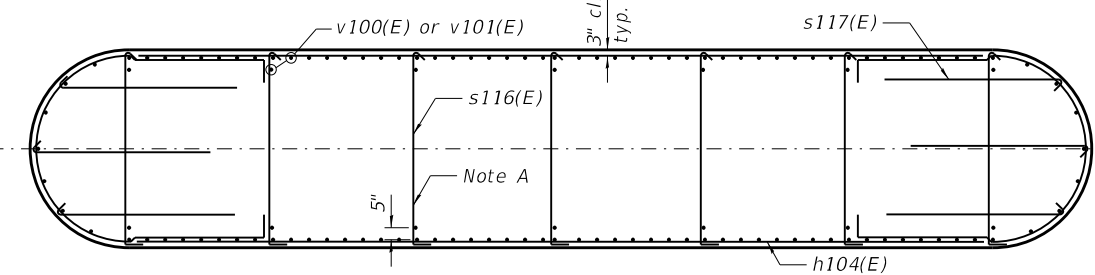
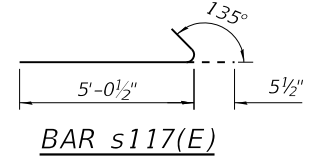
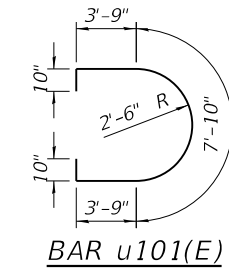
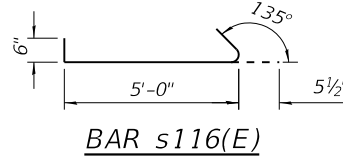
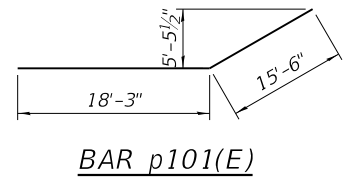
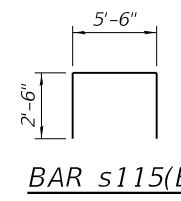
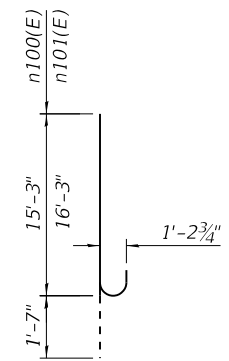
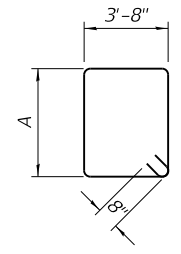
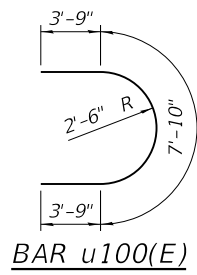
PILE DATA

Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 388 kips
Est. Length: 65'
No. Production Piles: 35
No. Test Piles: 1

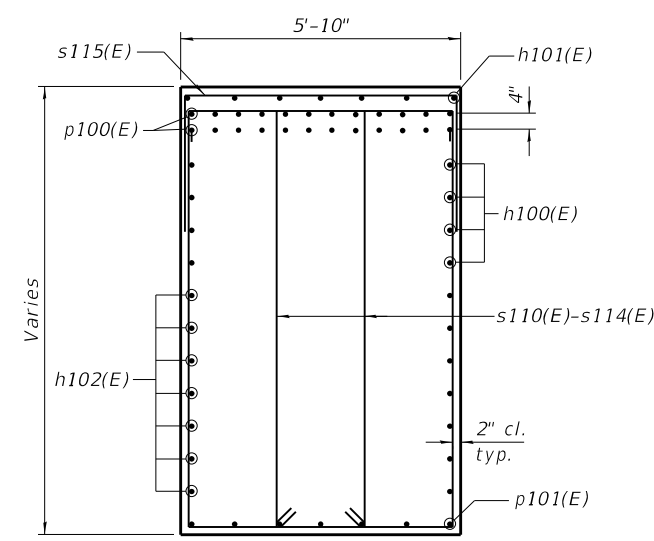
A DIMENSION

Bar	A
s100(E)	8'-8"
s101(E)	8'-4 $\frac{1}{8}$ "
s102(E)	8'-0 $\frac{3}{8}$ "
s103(E)	7'-8 $\frac{1}{2}$ "
s104(E)	7'-4 $\frac{3}{4}$ "
s105(E)	7'-1"
s106(E)	6'-9 $\frac{1}{4}$ "
s107(E)	6'-5 $\frac{1}{2}$ "
s108(E)	6'-1 $\frac{3}{4}$ "
s109(E)	5'-8"
s110(E)	5'-2 $\frac{3}{8}$ "
s111(E)	4'-8 $\frac{3}{4}$ "
s112(E)	4'-3"
s113(E)	3'-9 $\frac{3}{8}$ "
s114(E)	3'-3 $\frac{3}{4}$ "

Note: Overall bar length in Bill of Material rounded where necessary

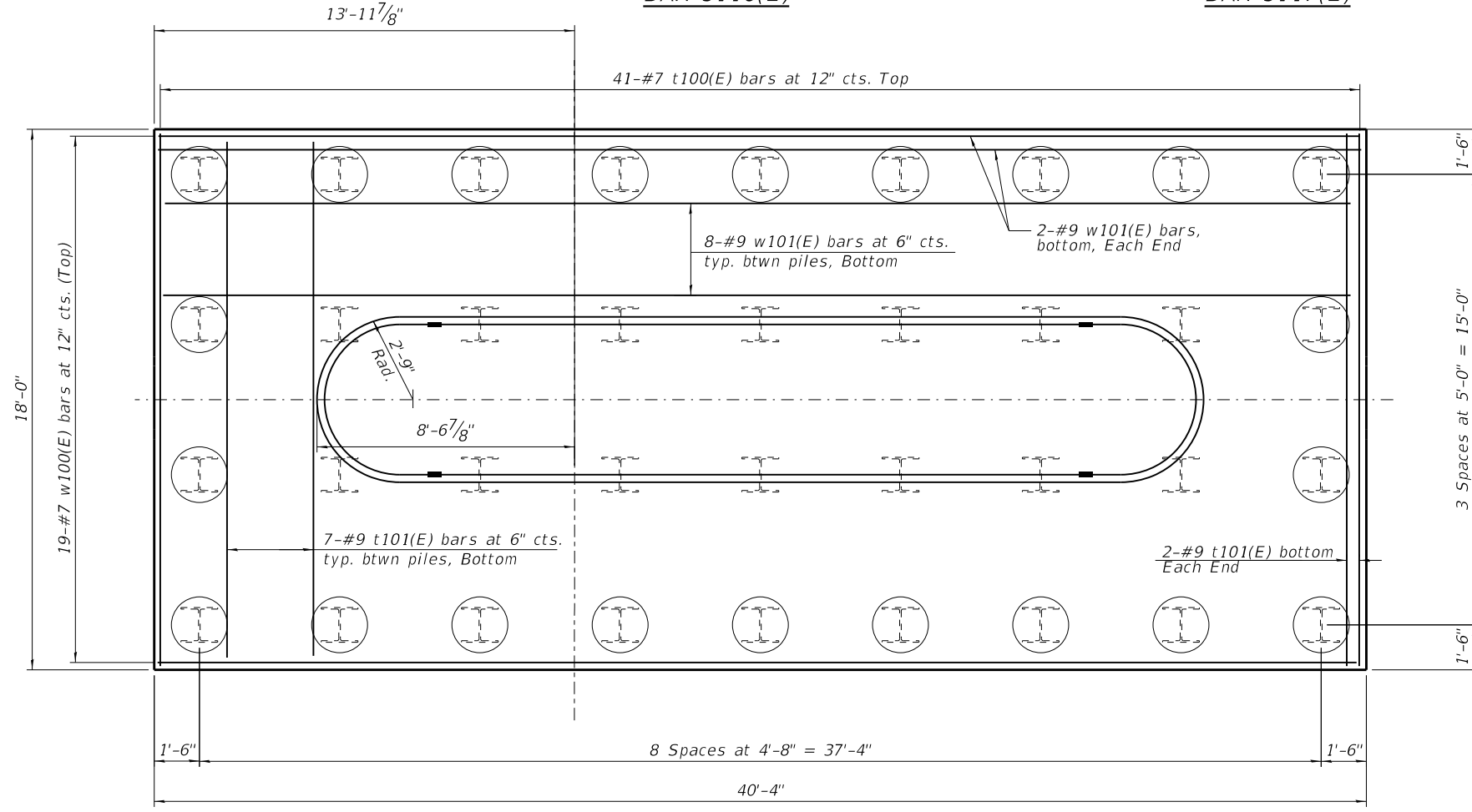


END OF PILE DETAIL



SECTION A-A

⊞ Piles Denoted such - see "End of pile Detail"



FOOTING PLAN

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USER NAME = RHoyos	DESIGNED - SP	REVISED -
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	CHECKED -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 1 REINFORCEMENT
STRUCTURE NO. 049-0180**

SHEET 5-298 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1206
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

**UNIT 1 AND
RAMP E BEARING
SEAT ELEVATIONS**

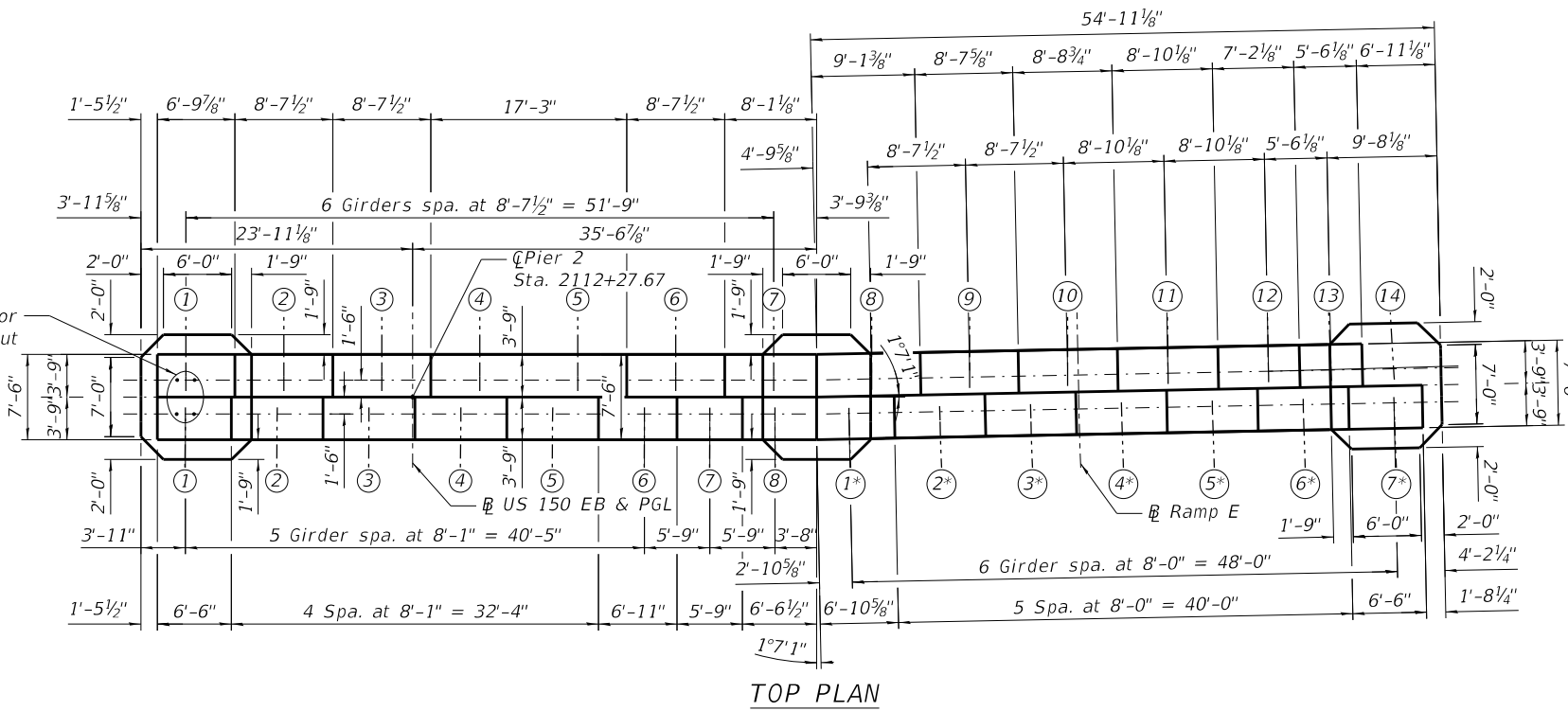
Girder	Elevation
1	496.18
2	496.34
3	496.50
4	496.64
5	496.76
6	496.63
7	496.54
8	496.42
1*	494.66
2*	494.34
3*	494.02
4*	493.74
5*	493.43
6*	493.21
7*	493.05

**UNIT 2 BEARING
SEAT ELEVATIONS**

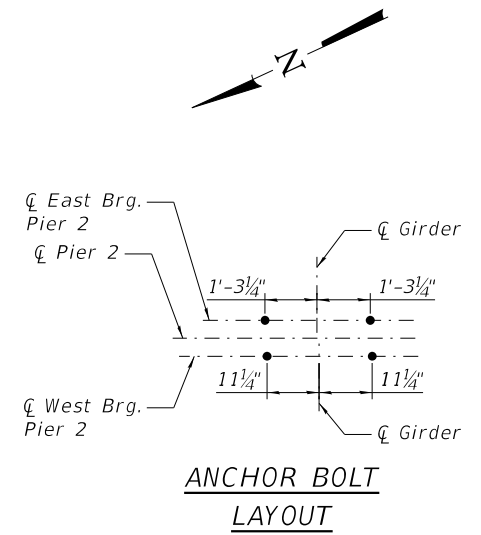
Girder	Elevation
1	493.90
2	494.07
3	494.24
4	494.38
5	494.38
6	494.31
7	494.14
8	493.91
9	493.57
10	493.23
11	492.89
12	492.59
13	492.53
14	492.37

*Girders are on Ramp E

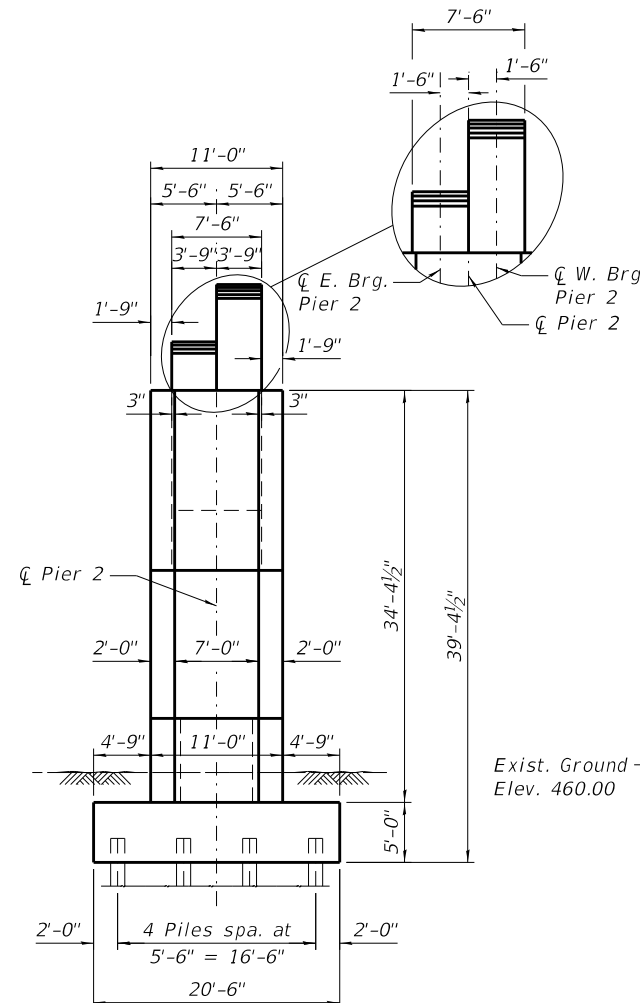
See Anchor Bolt Layout (typ. all girders)



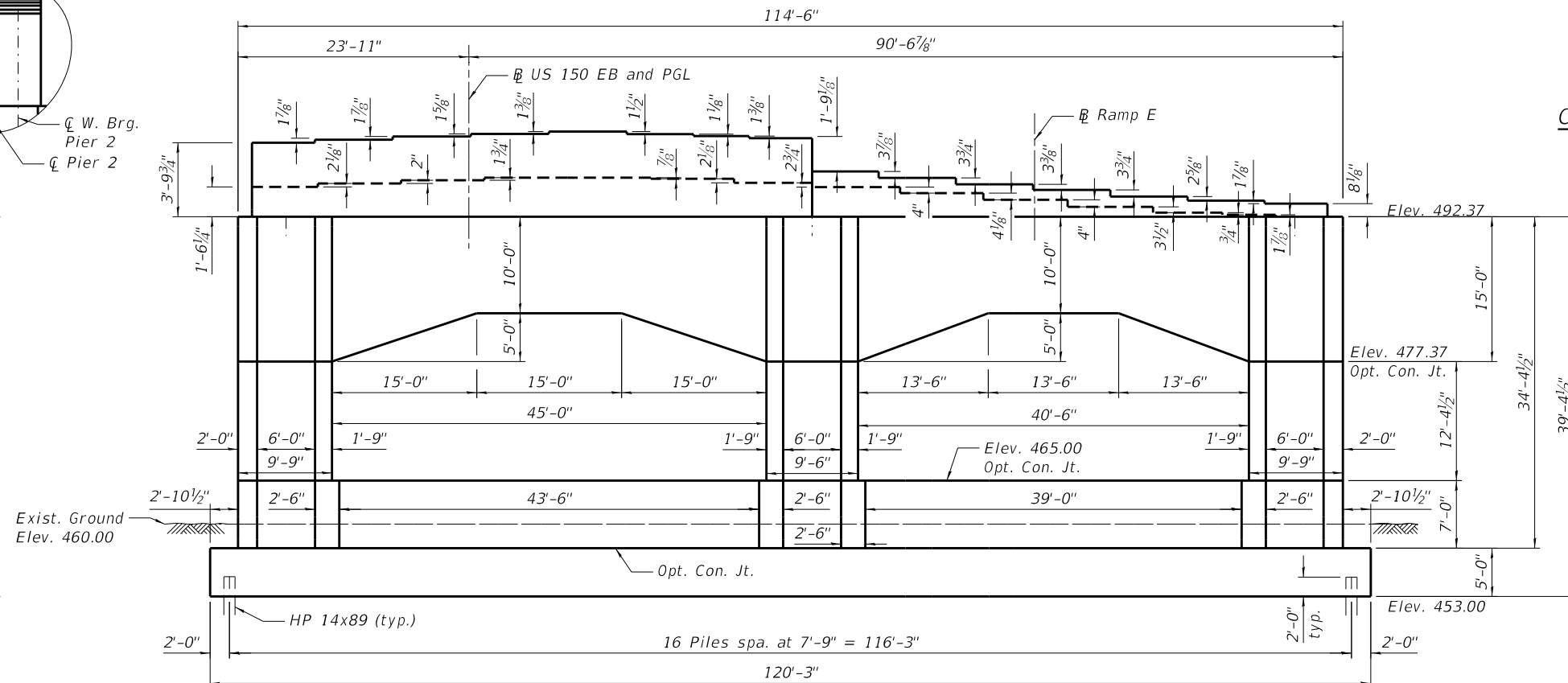
TOP PLAN



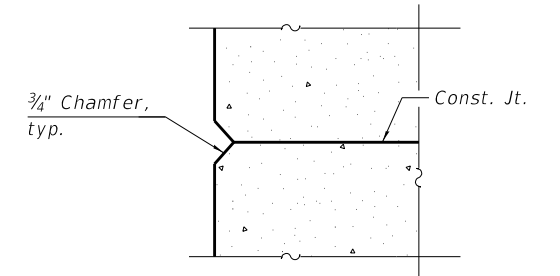
ANCHOR BOLT LAYOUT



**END VIEW
(Looking South)**



**ELEVATION
(Looking East)**



CONSTRUCTION JOINT

Notes:
Pour step monolithically with cap. Space reinforcement in cap to miss anchor bolts.

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2/4/2019 12:19:09 PM

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**STATE OF ILLINOIS
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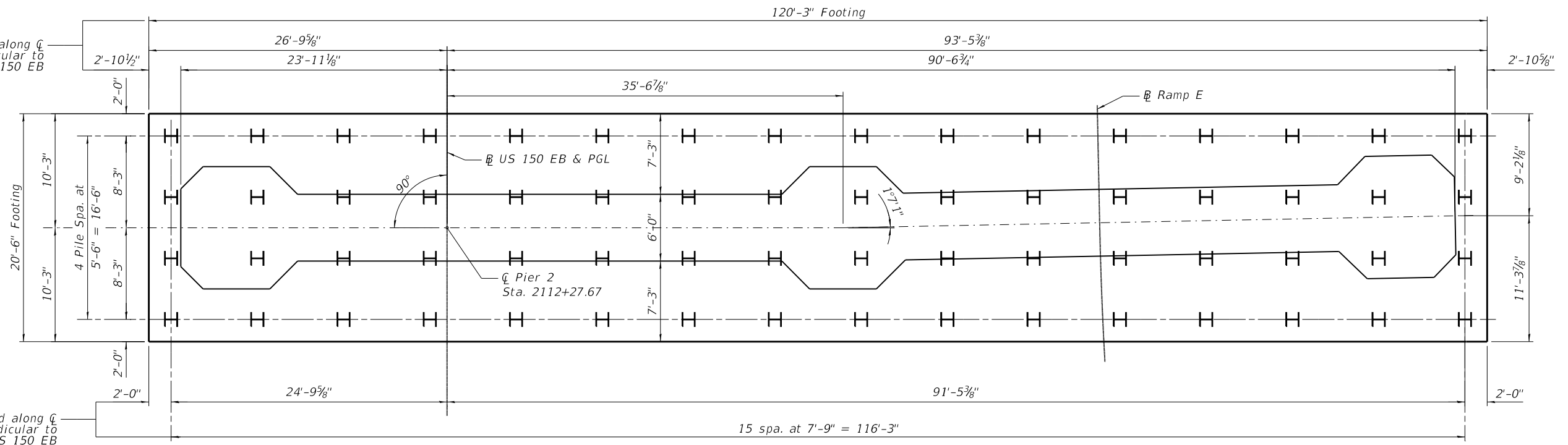
**PIER 2 PLAN AND ELEVATION
STRUCTURE NO. 090-0180**

SHEET 5-299 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1207
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



Measured along \bar{C} pier perpendicular to \bar{C} US 150 EB



FOOTING PLAN DIMENSIONS

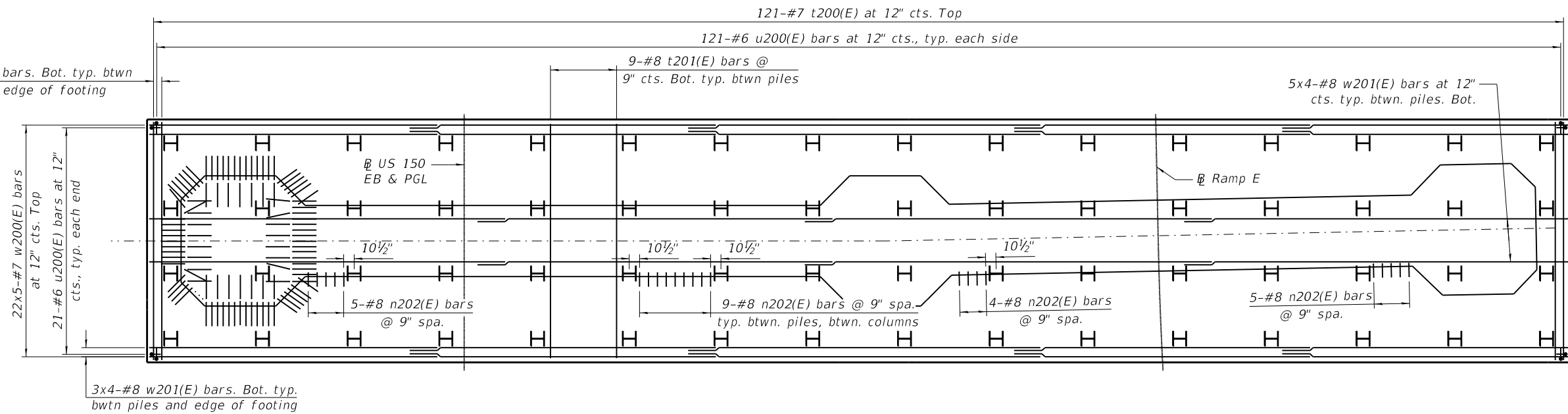
MINIMUM BAR LAP

#7 bar = 5'-0" Top Bars
#8 bar = 5'-1" Top Bars

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 388 kips
Est. Length: 71'
No. Production Piles: 63
No. Test Piles: 1

3-#8 t201(E) bars. Bot. typ. btwn piles and edge of footing



FOOTING PLAN REINFORCEMENT

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USER NAME = CHORBACZ
PLOT SCALE = 10:8,0000 '"/in.
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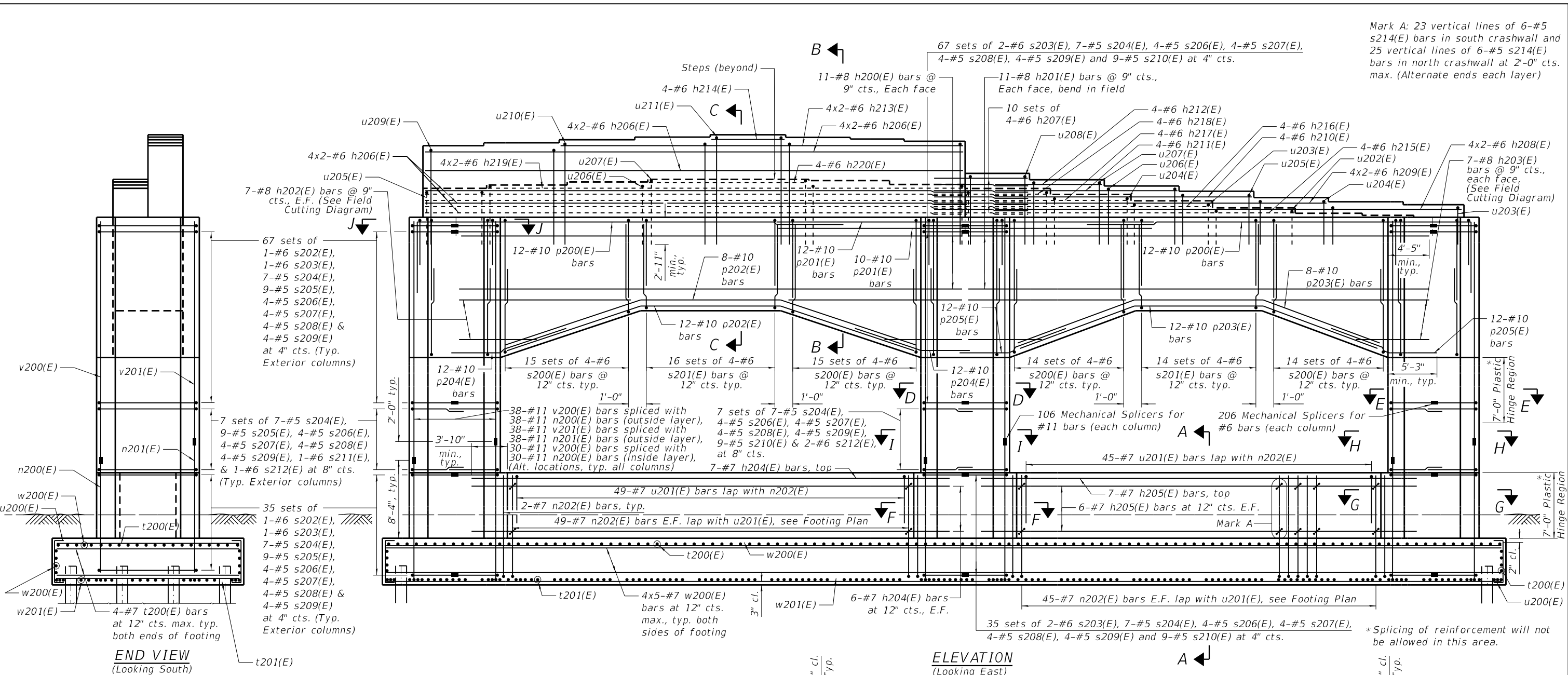
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PIER 2 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-300 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1208
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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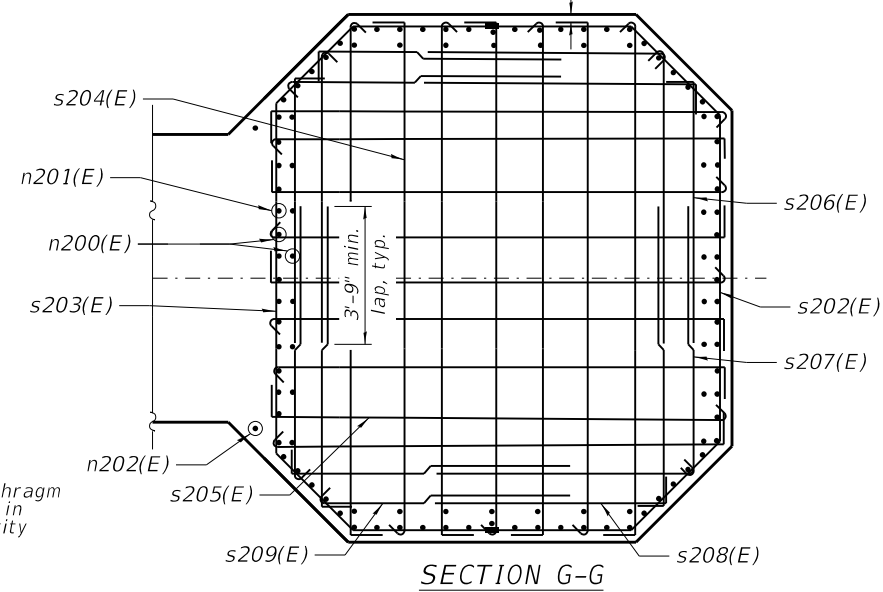
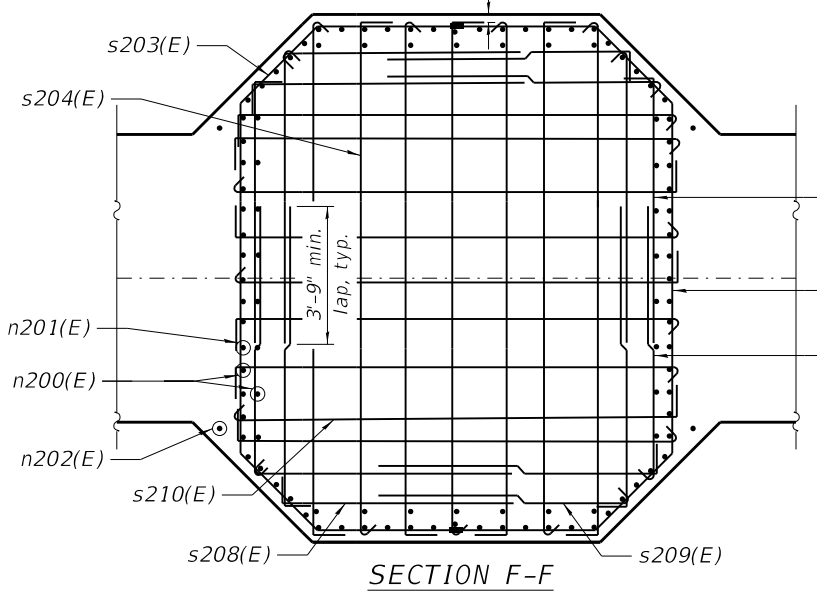


Mark A: 23 vertical lines of 6-#5 s214(E) bars in south crashwall and 25 vertical lines of 6-#5 s214(E) bars in north crashwall at 2'-0" cts. max. (Alternate ends each layer)

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"
- #10 bar (Top of cap) = 7'-8"
- #10 bar (Bot. of cap) = 6'-9"

- Notes:
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-303A of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-303A of 445.
 5. Alternate ends of s204(E) thru s210(E) bars each layer.



Note: Lower diaphragm rebar not shown in sections for clarity

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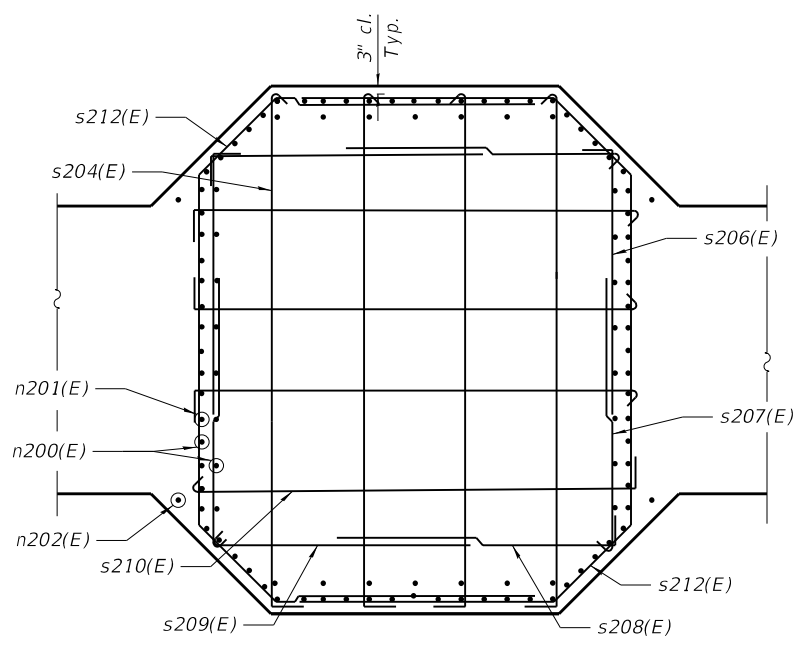
**STATE OF ILLINOIS
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**PIER 2 REINFORCEMENT, 1 OF 4
 STRUCTURE NO. 090-0180**

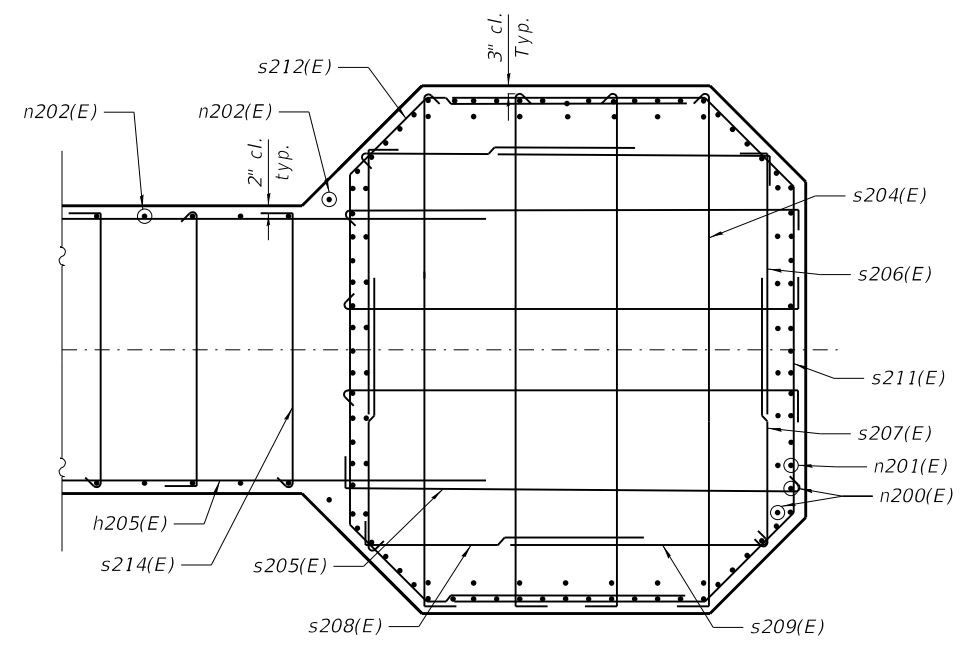
SHEET S-301 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1209
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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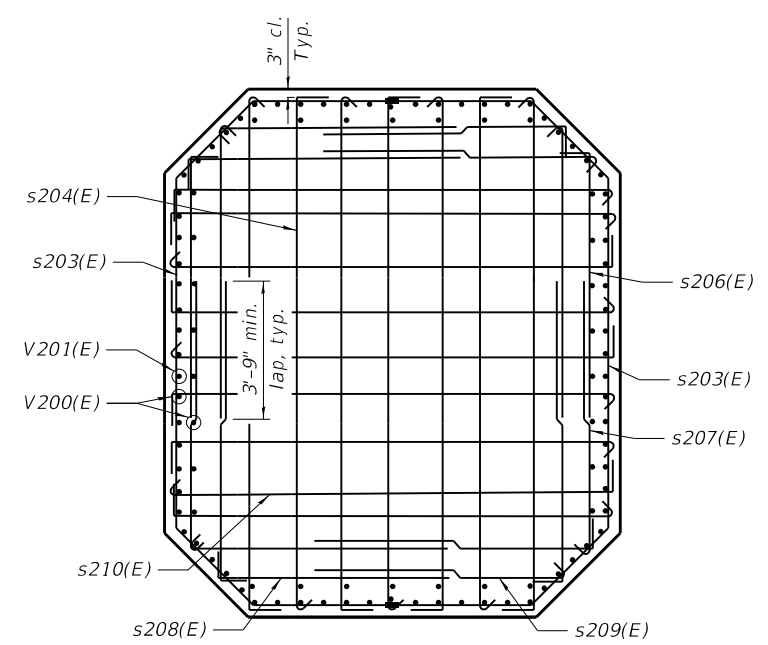
SECTION I-I



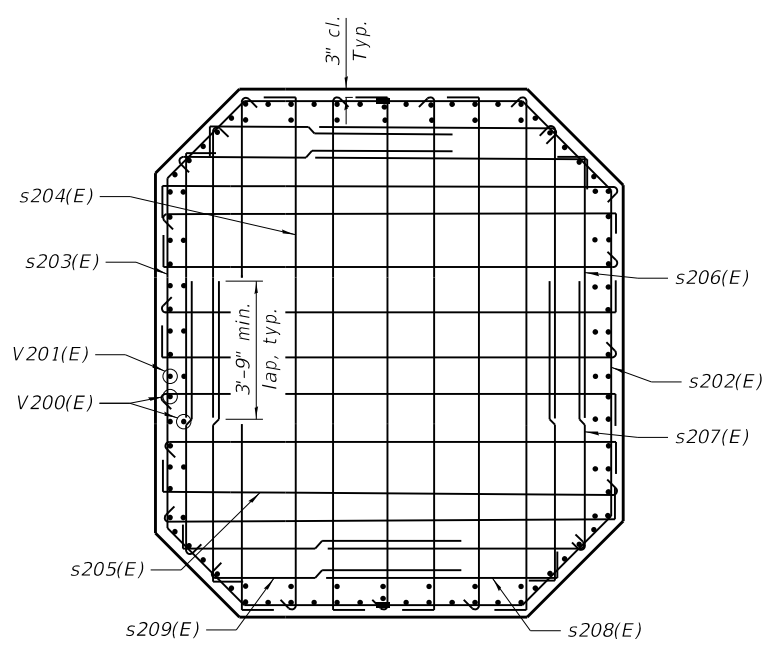
SECTION H-H

MINIMUM BAR LAP

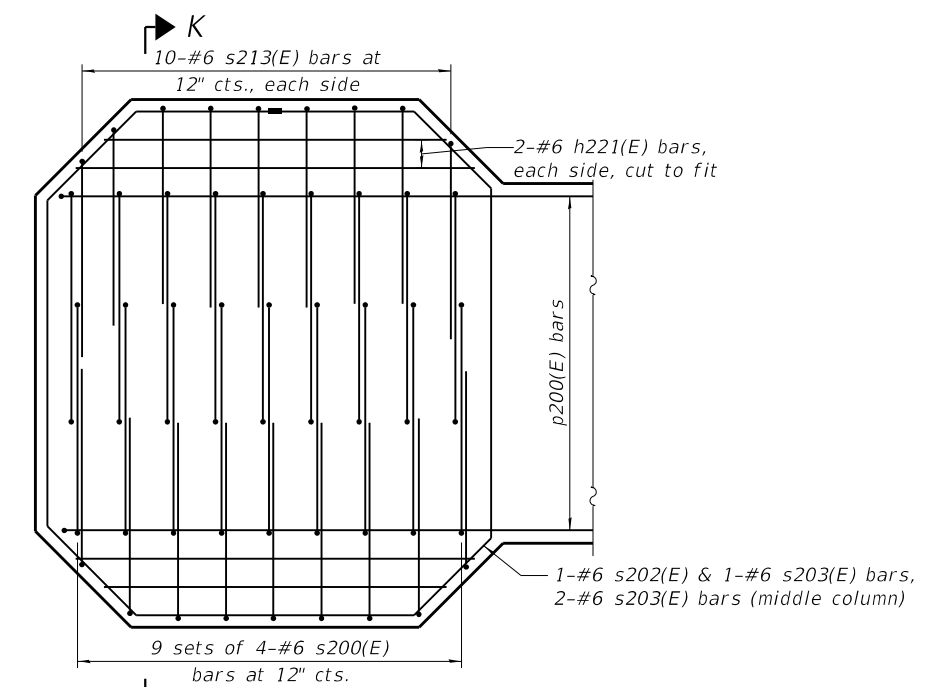
- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"



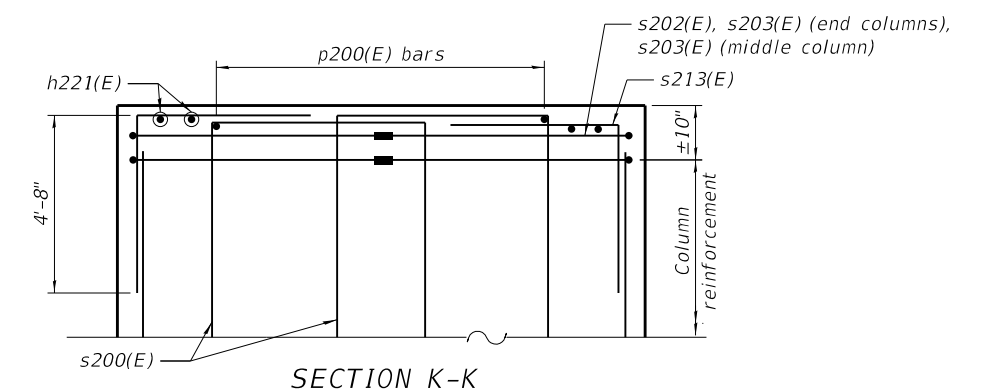
SECTION D-D



SECTION E-E



SECTION J-J
 (End columns shown, middle column similar except as noted)



SECTION K-K

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 PLOT DATE = 12/12/2018
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 DRAWN - CH
 CHECKED -
 REVISED -

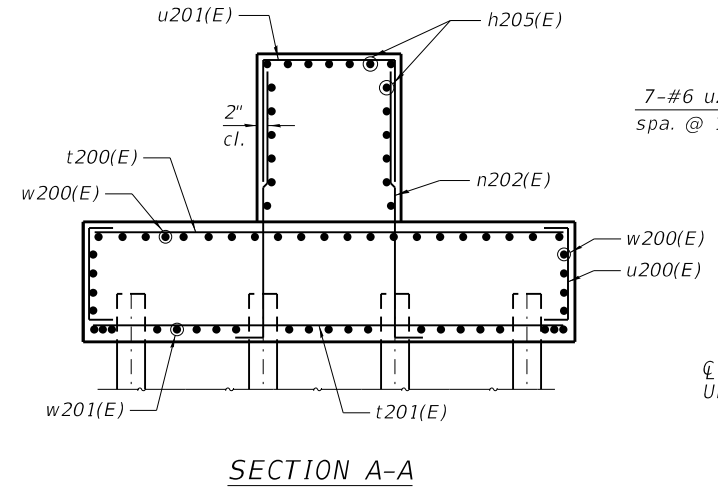
**STATE OF ILLINOIS
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PIER 2 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180

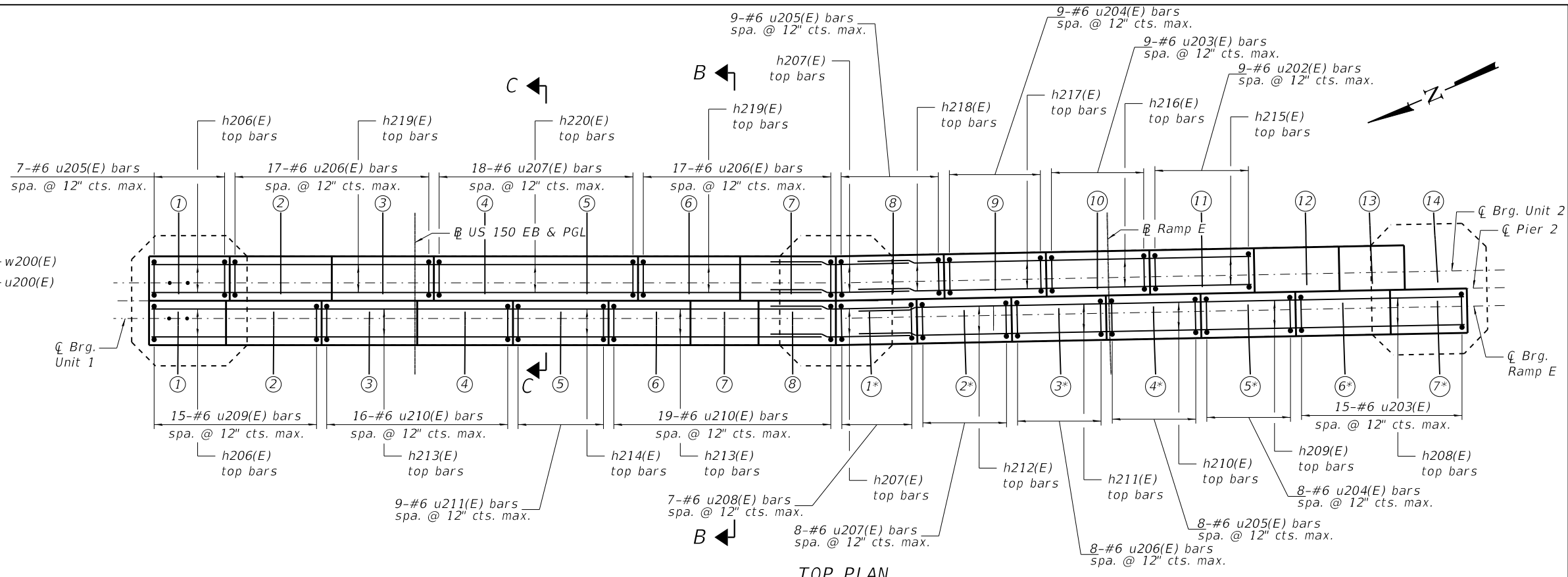
SHEET 5-302 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1210
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

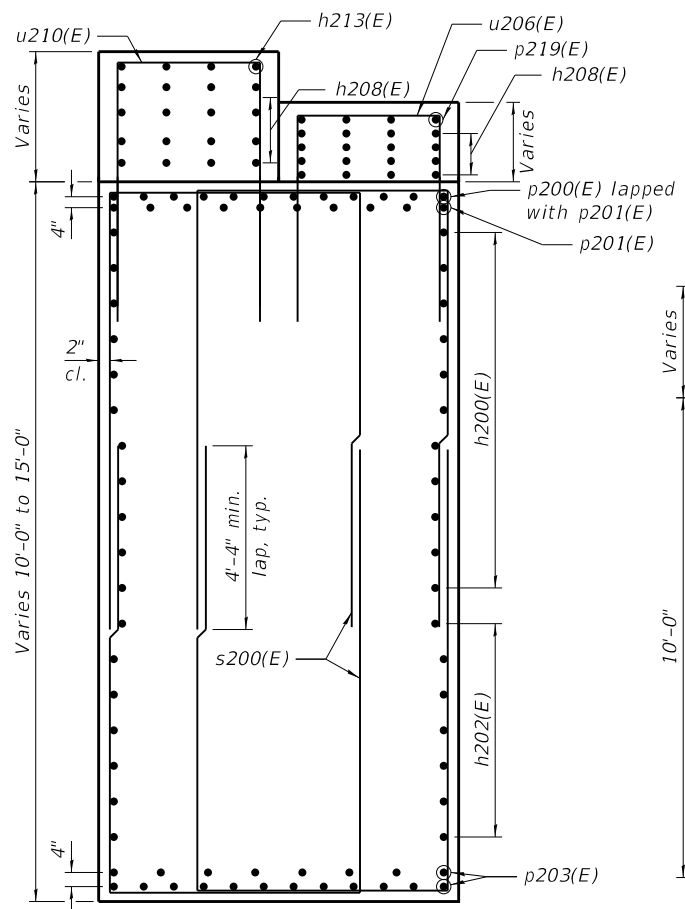
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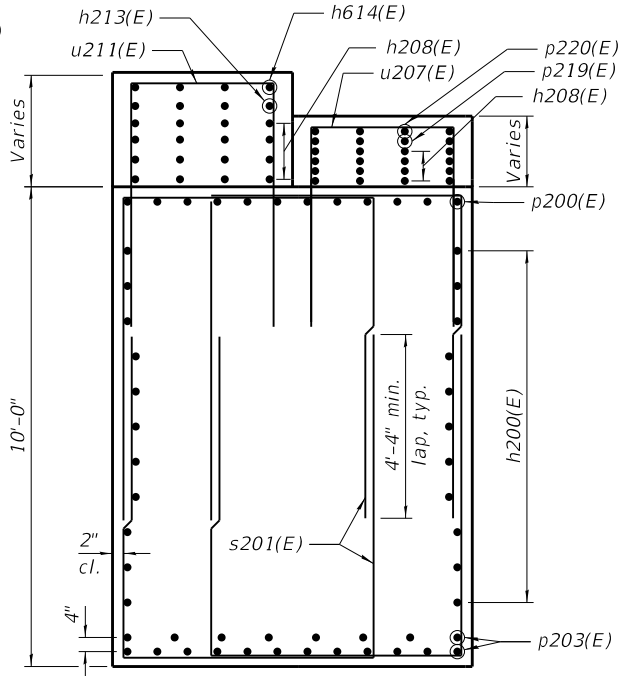
SECTION A-A



TOP PLAN



SECTION B-B



SECTION C-C

MINIMUM BAR LAP
 #5 bar = 3'-9"
 #6 bar = 4'-4"
 #7 bar = 5'-0"

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USER NAME = CHORBACZ
 DESIGNED - SP
 CHECKED -
 PLOT SCALE = 16:0.0000 "/ in.
 DRAWN - CH
 PLOT DATE = 12/12/2018
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DESIGNED - SP
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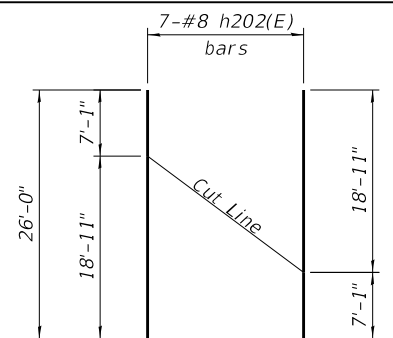
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 REINFORCEMENT, 3 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-303 OF 445 SHEETS

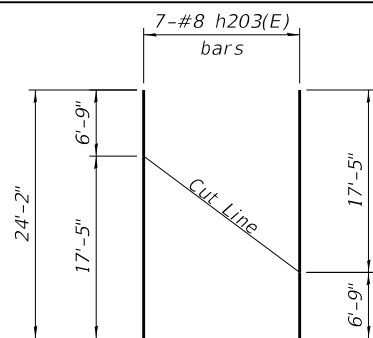
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1211
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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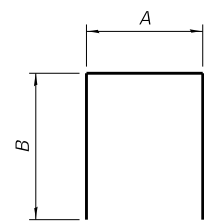
FIELD CUTTING DIAGRAM

Order full length. Cut as shown and use remainder of bars in opposite face.



FIELD CUTTING DIAGRAM

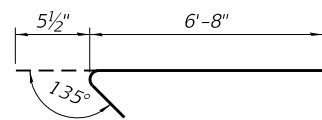
Order full length. Cut as shown and use remainder of bars in opposite face.



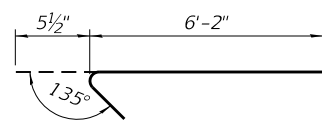
BAR s200(E), s201(E), u200(E), u201(E), u202(E), u203(E), u204(E), u205(E), u206(E), u207(E), u208(E), u209(E), u210(E), u211(E)

A & B DIMENSIONS

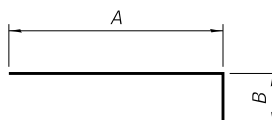
Bar	A	B
s200(E)	5'-2"	9'-6"
s201(E)	5'-2"	7'-0"
u200(E)	4'-6"	2'-11"
u201(E)	5'-8"	5'-0"
u202(E)	3'-5"	3'-1"
u203(E)	3'-5"	3'-5"
u204(E)	3'-5"	3'-9"
u205(E)	3'-5"	4'-1"
u206(E)	3'-5"	4'-5"
u207(E)	3'-5"	4'-9"
u208(E)	3'-5"	5'-1"
u209(E)	3'-5"	6'-5"
u210(E)	3'-5"	6'-9"
u211(E)	3'-5"	7'-1"



BARS s207(E)



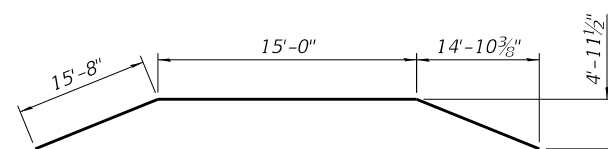
BARS s209(E)



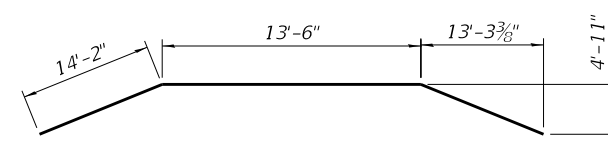
BARS n200(E), n201(E), n202(E), p200(E), s206(E), s208(E) & s213(E)

A & B DIMENSIONS

Bar	A	B
n200(E)	13'-0"	2'-0"
n201(E)	15'-0"	2'-0"
n202(E)	11'-6"	1'-2"
p200(E)	45'-8"	7'-7"
s206(E)	6'-8"	0'-6"
s208(E)	6'-2"	0'-6"
s213(E)	4'-8"	3'-7"



BAR p202(E)



BAR p203(E)



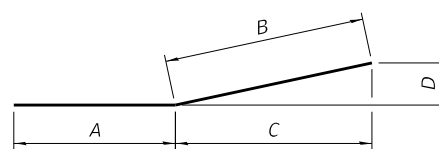
BARS s204(E), s205(E), s210(E) & s214(E)

A DIMENSIONS

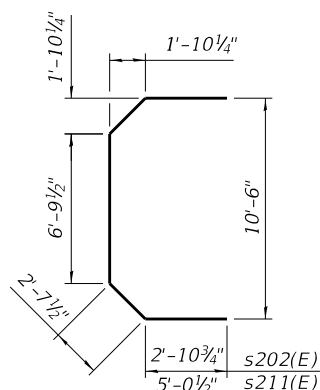
Bar	A
s204(E)	10'-6"
s205(E)	9'-3"
s210(E)	9'-0"
s214(E)	5'-8"

A, B & C DIMENSIONS

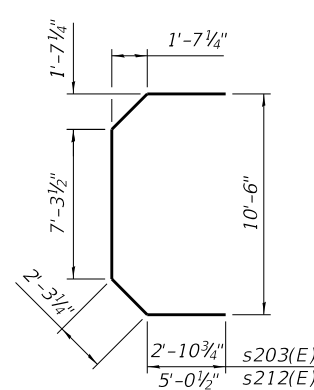
Bar	A	B	C	D
h207(E)	3'-7"	6'-8"	6'-8"	0'-1 1/2"
p201(E)	31'-4"	3'-0"	3'-0"	3/4"
p204(E)	5'-3"	7'-2"	6'-9 1/2"	2'-3 1/4"
p205(E)	5'-3"	7'-3"	6'-9 3/4"	2'-5 3/4"



BARS h207(E), p201(E), p204(E), p205(E), p206(E) & p207(E)



BAR s202(E) and s211(E)



BAR s203(E) and s212(E)

BILL OF MATERIAL

Structure	Excavation	Cu. Yd.	790
Concrete Structures		Cu. Yd.	1325.4
Reinforcement Bars, Epoxy Coated		Pound	282,560
Furnishing Steel Piles HP 14x89		Foot	4473
Driving Piles		Foot	4473
Test Pile, HP14x89		Each	1
Concrete Sealer		Sq. Ft.	8426

Bar	No.	Size	Length	Shape
h200(E)	22	#8	53'-10"	—
h201(E)	22	#8	49'-4"	—
h202(E)	14	#8	26'-0"	—
h203(E)	14	#8	24'-2"	—
h204(E)	19	#7	51'-2"	—
h205(E)	19	#7	46'-8"	—
h206(E)	64	#6	31'-0"	—
h207(E)	40	#6	10'-3"	—
h208(E)	8	#6	27'-8"	—
h209(E)	8	#6	20'-5"	—
h210(E)	4	#6	28'-5"	—
h211(E)	4	#6	20'-5"	—
h212(E)	4	#6	12'-5"	—
h213(E)	8	#6	23'-6"	—
h214(E)	4	#6	7'-9"	—
h215(E)	4	#6	32'-10"	—
h216(E)	4	#6	24'-2"	—
h217(E)	4	#6	15'-3"	—
h218(E)	4	#6	7'-0"	—
h219(E)	8	#6	27'-10"	—
h220(E)	4	#6	16'-11"	—
h221(E)	12	#6	9'-4"	—
n200(E)	204	#11	15'-0"	—
n201(E)	114	#11	17'-0"	—
n202(E)	196	#7	12'-8"	—
p200(E)	24	#10	53'-3"	—
p201(E)	22	#10	40'-0"	—
p202(E)	20	#10	35'-0"	—
p203(E)	20	#10	30'-8"	—
p204(E)	24	#10	12'-5"	—
p205(E)	24	#10	12'-6"	—
s200(E)	340	#6	24'-2"	—
s201(E)	120	#6	19'-2"	—
s202(E)	206	#6	17'-10"	—
s203(E)	412	#6	17'-8"	—
s204(E)	2289	#5	11'-6"	—
s205(E)	1962	#5	10'-3"	—
s206(E)	1308	#5	7'-2"	—
s207(E)	1308	#5	7'-2"	—
s208(E)	1308	#5	6'-8"	—
s209(E)	1308	#5	6'-8"	—
s210(E)	981	#5	10'-0"	—
s211(E)	14	#6	22'-2"	—
s212(E)	28	#6	21'-11"	—
s213(E)	60	#6	8'-3"	—
s214(E)	288	#5	6'-8"	—
t200(E)	129	#7	20'-0"	—
t201(E)	141	#8	20'-0"	—
u200(E)	284	#6	10'-4"	—
u201(E)	94	#7	15'-8"	—
u202(E)	9	#6	9'-9"	—
u203(E)	24	#6	10'-3"	—
u204(E)	17	#6	10'-11"	—
u205(E)	24	#6	11'-7"	—
u206(E)	42	#6	12'-3"	—
u207(E)	26	#6	12'-11"	—
u208(E)	7	#6	13'-7"	—
u209(E)	15	#6	16'-5"	—
u210(E)	35	#6	16'-11"	—
u211(E)	9	#6	17'-7"	—
v200(E)	204	#11	25'-10"	—
v201(E)	114	#11	23'-10"	—
w200(E)	150	#7	28'-0"	—
w201(E)	84	#8	33'-10"	—

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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 TEL: 312-777-2900

USER NAME = CHORBACZ
 DESIGNED - SP
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 PLOT SCALE = 10:8,0000 '"/in.
 DRAWN - CH
 PLOT DATE = 12/12/2018
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 REVISED -

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 DRAWN - CH
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 REVISED -

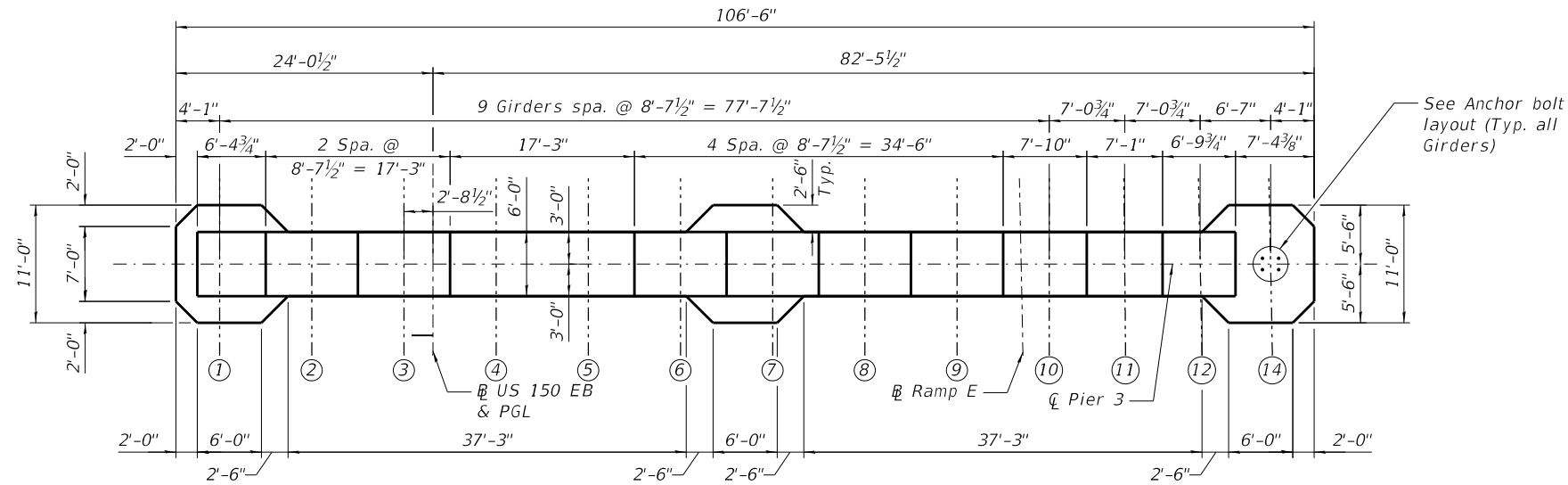
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER 2 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180**

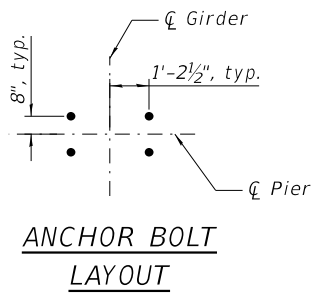
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317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1212
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

BEARING SEAT ELEVATIONS

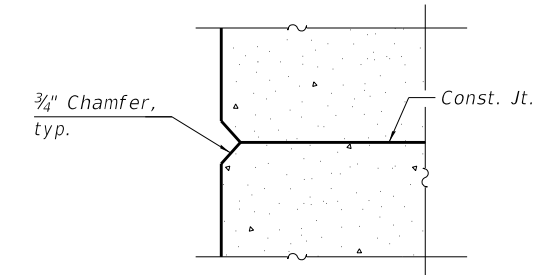
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2	490.32
3	490.49
4	490.63
5	490.63
6	490.53
7	490.38
8	490.22
9	490.05
10	489.87
11	489.74
12	489.60
14	489.48



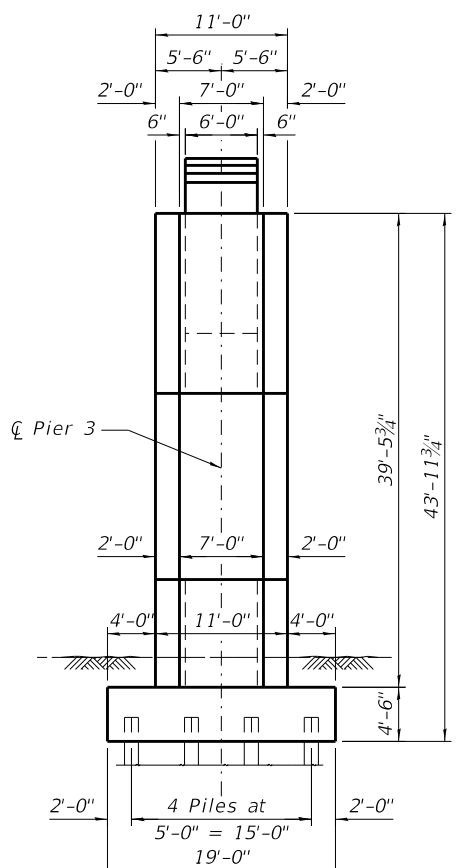
TOP PLAN



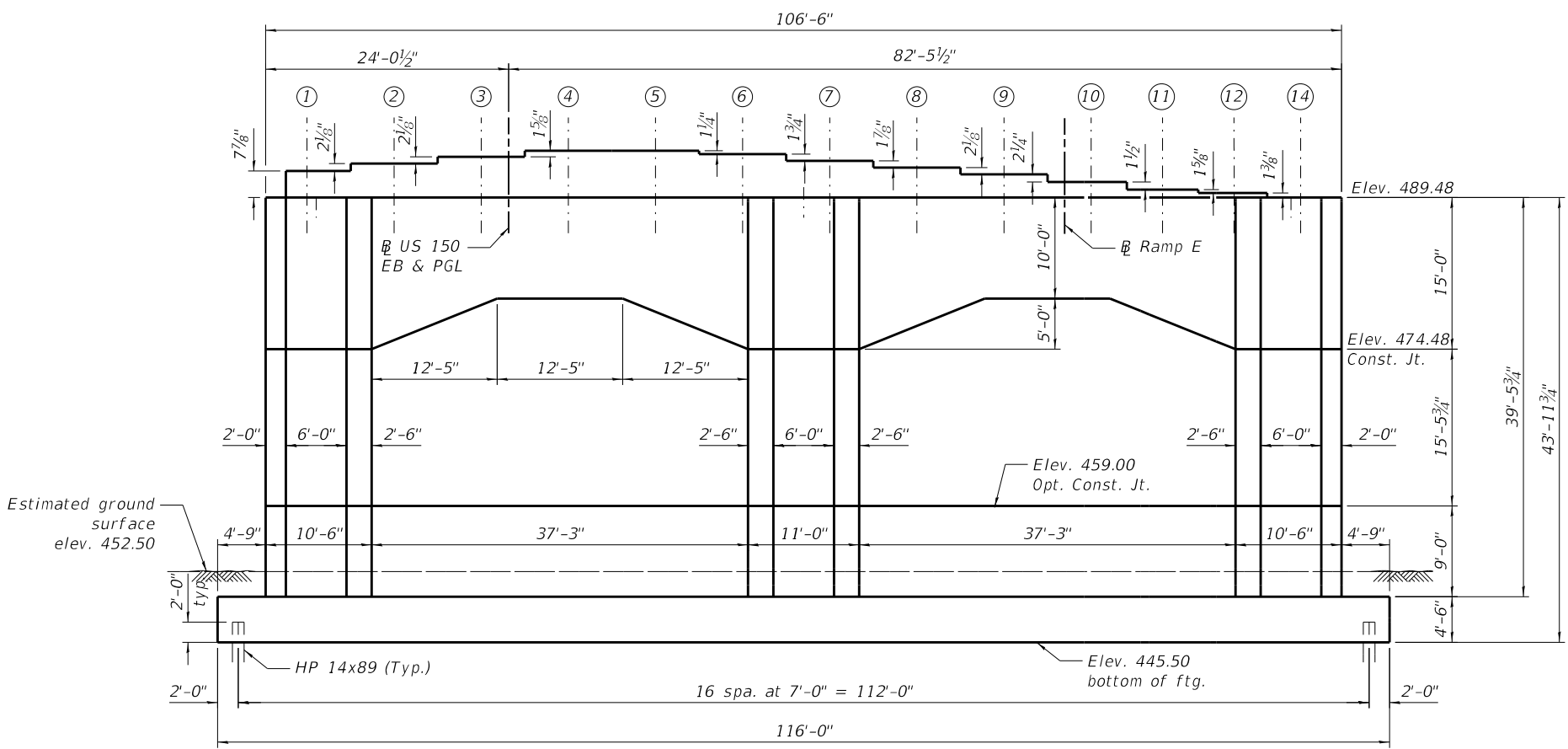
ANCHOR BOLT LAYOUT



CONSTRUCTION JOINT



END VIEW
(Looking South)



ELEVATION
(Looking East)

Notes:
Pour steps monolithically with cap. Space reinforcement in cap to miss anchor bolts.

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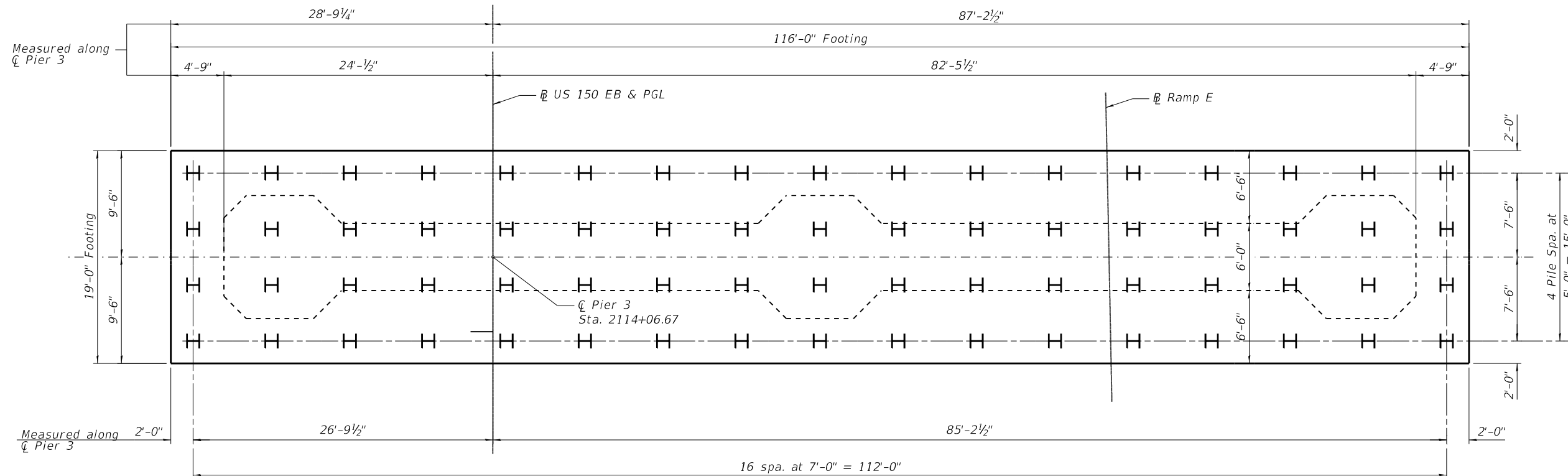
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	CHECKED -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 3 PLAN AND ELEVATION
STRUCTURE NO. 090-0180

SHEET 5-304 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1213
			CONTRACT NO. 68B46	
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



FOOTING PLAN

PILE DATA

Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 388 kips
 Est. Length: 61'
 No. Production Piles: 67
 No. Test Piles: 1

Note:
 Centerline of Pier 3 is radial to the # US 150 EB & PGL.

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 DRAWN - CH
 PLOT DATE = 12/12/2018
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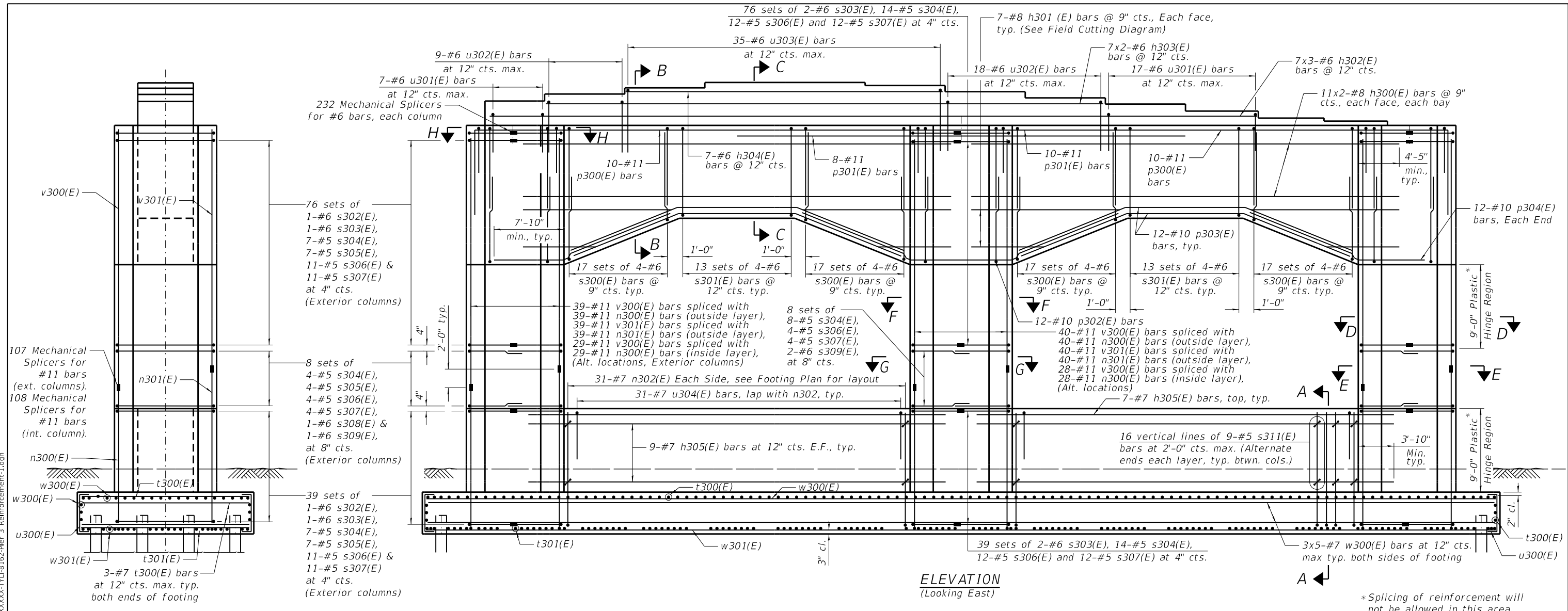
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PIER 3 FOOTING PLAN
 STRUCTURE NO. 090-0180

SHEET 5-305 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR]BR	PEO/TAZ	1361	1214
			CONTRACT NO. 68B46	
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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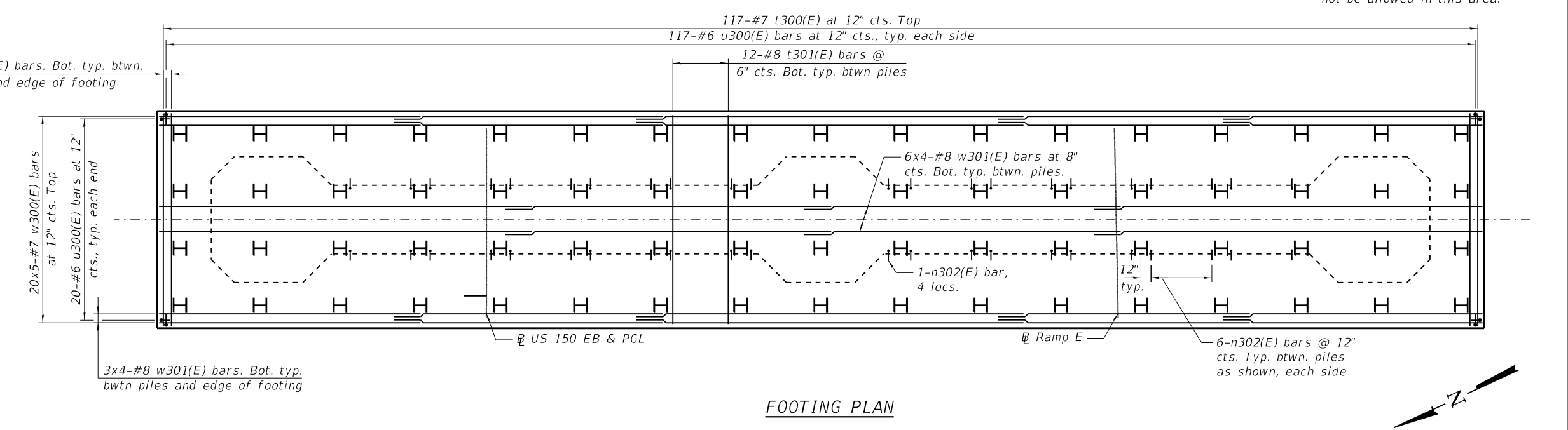


MINIMUM BAR LAP

#5 bar = 3'-9"
 #6 bar = 4'-4"
 #7 bar = 5'-0"
 #8 bar = 5'-1"
 #10 bar = 10'-2"
 #11 bar = 9'-5"

Notes:

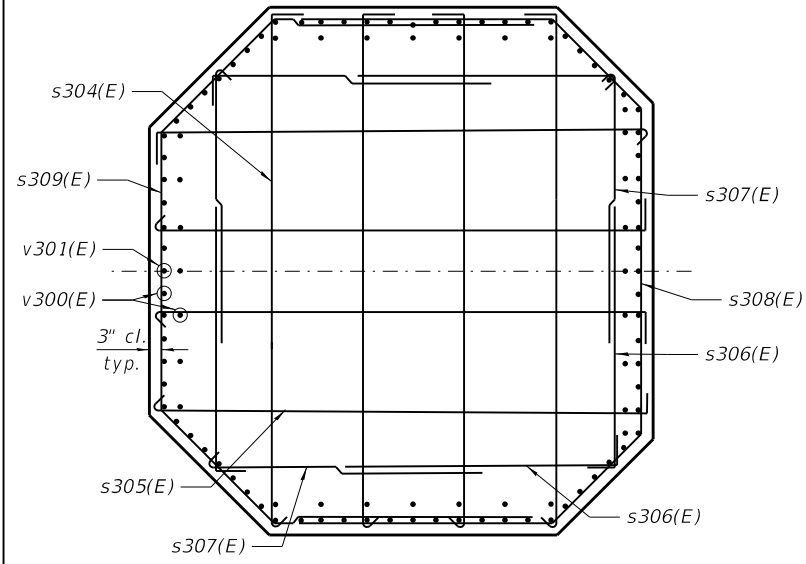
- Adjust bar spacing to miss anchor bolts.
- Cut bars according to cutting diagram on Sheet S-309 of 445 and use remainder of bars in opposite face.
- Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
- For bar list and Bill of Material, see Sheet S-309 of 445.
- Alternate ends of s304(E) thru s307(E) bars each layer.



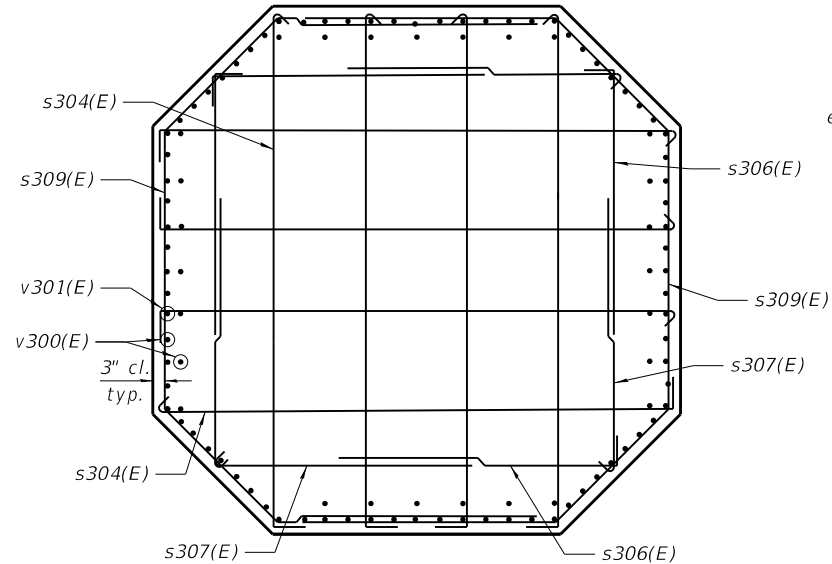
*Splicing of reinforcement will not be allowed in this area.

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PLOT DATE = 12/12/2018	CHECKED -	REVISED -	REVISED -	SHEET S-306 OF 445 SHEETS	SHEET NO. 1215	CONTRACT NO. 68B46	ILLINOIS FED. AID PROJECT NHPP-YRP3(905)	TOTAL SHEETS 1361	SHEET NO. 1215	CONTRACT NO. 68B46

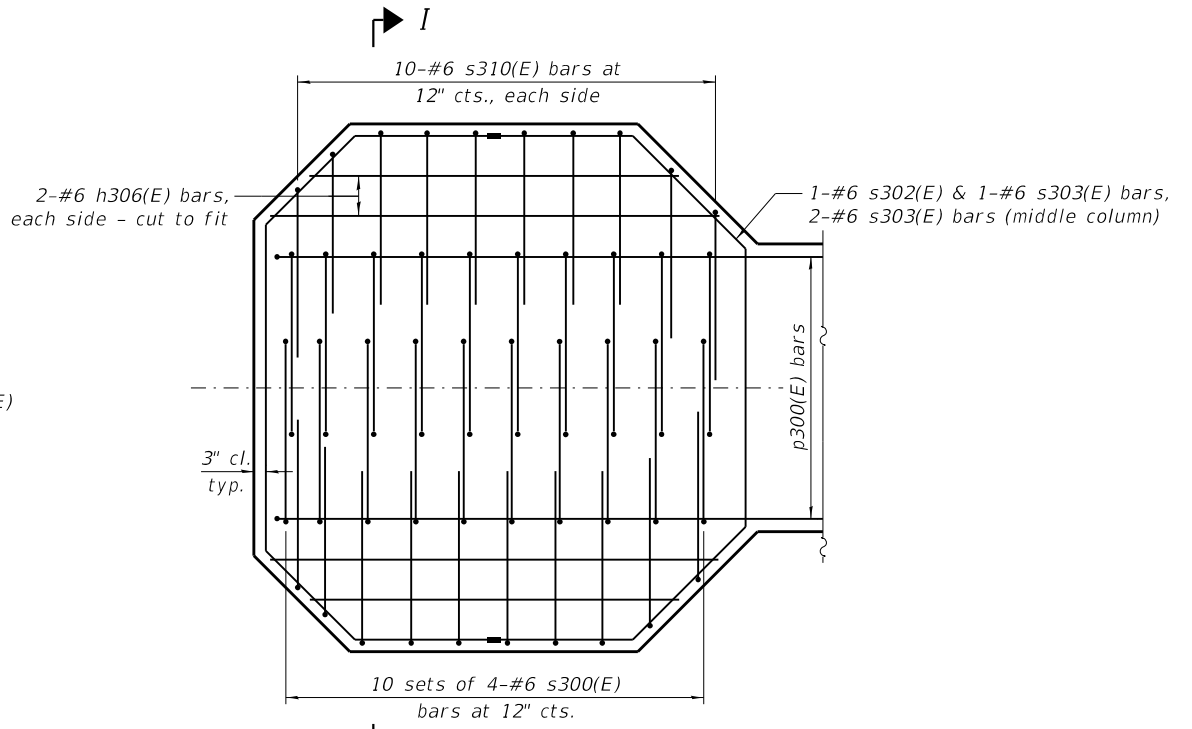
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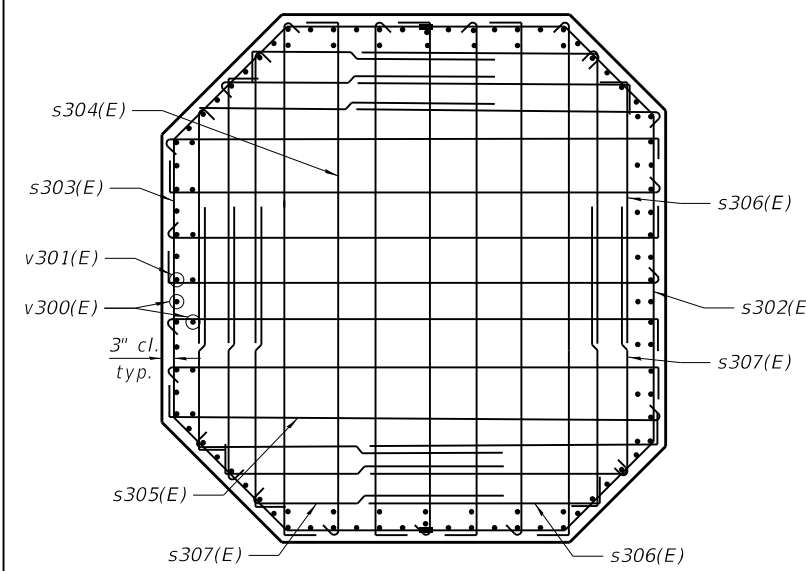
SECTION E-E



SECTION G-G



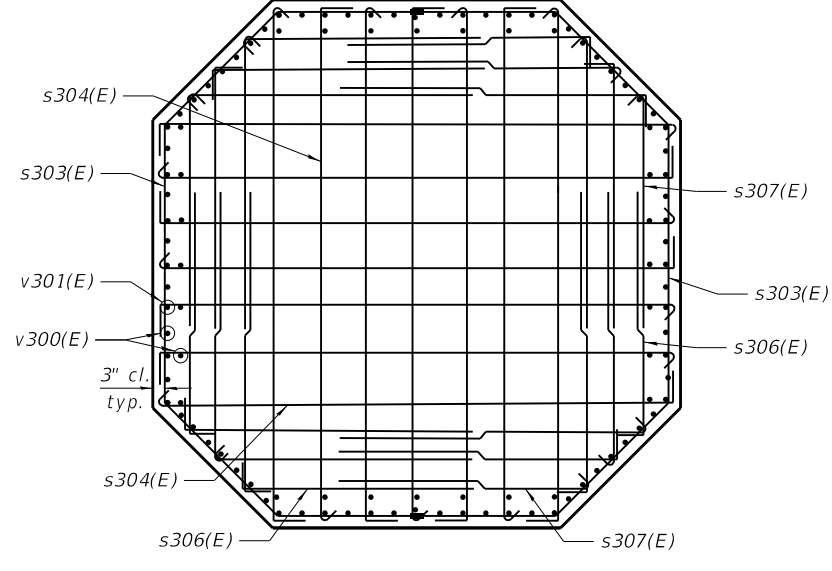
SECTION H-H
 (End columns shown, middle column similar except as noted)



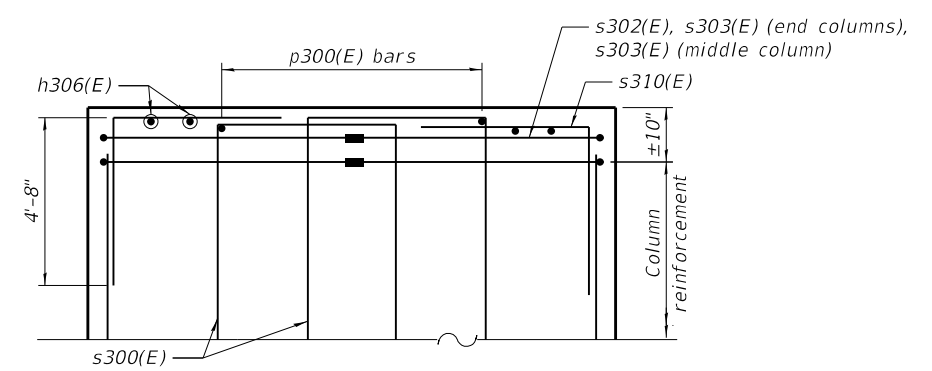
SECTION D-D

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"



SECTION F-F



SECTION I-I

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USER NAME = CHORBACZ
 PLOT SCALE = 16:0,0000 "/ in.
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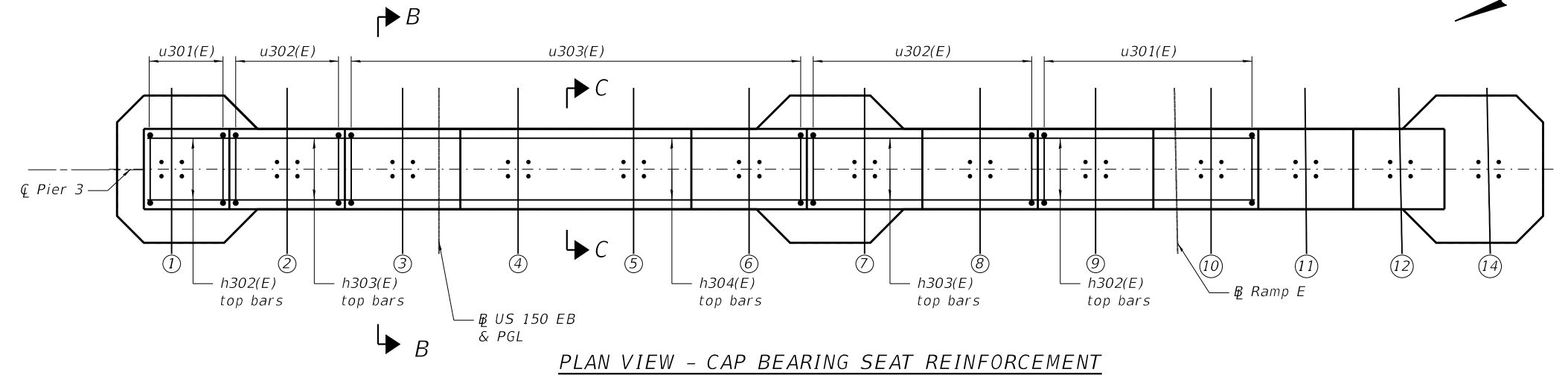
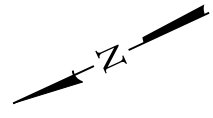
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

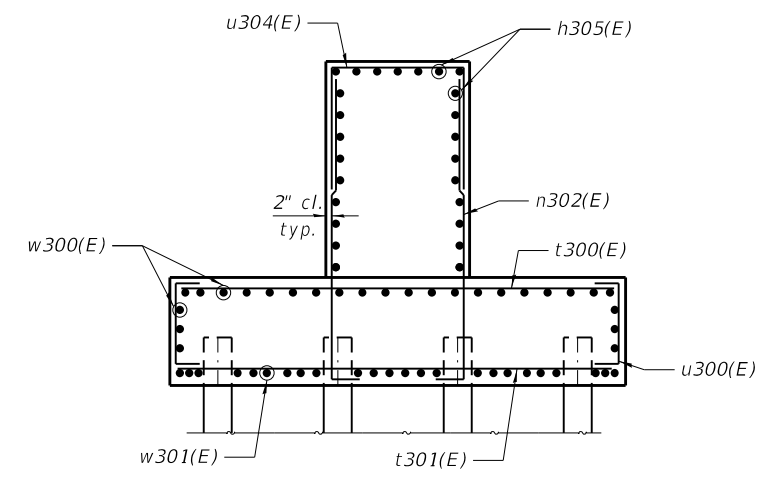
PIER 3 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-307 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1216
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



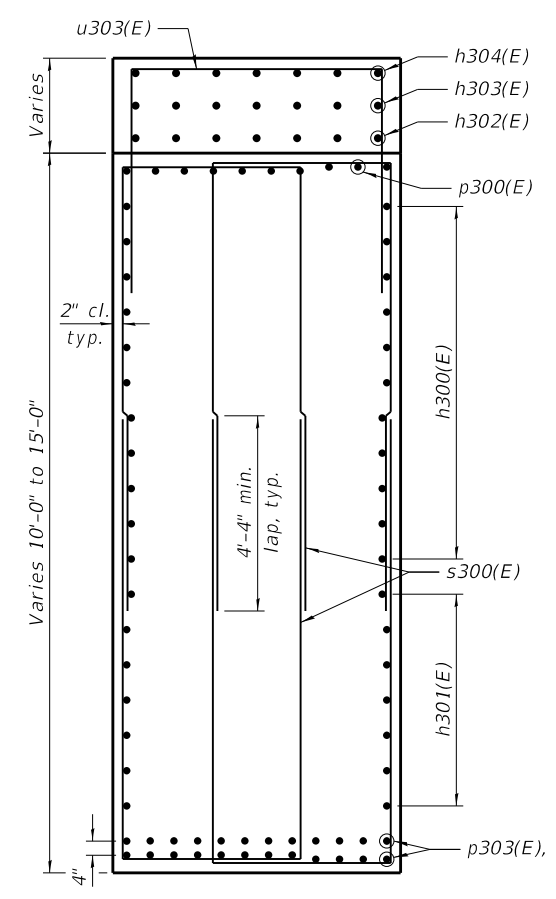
PLAN VIEW - CAP BEARING SEAT REINFORCEMENT



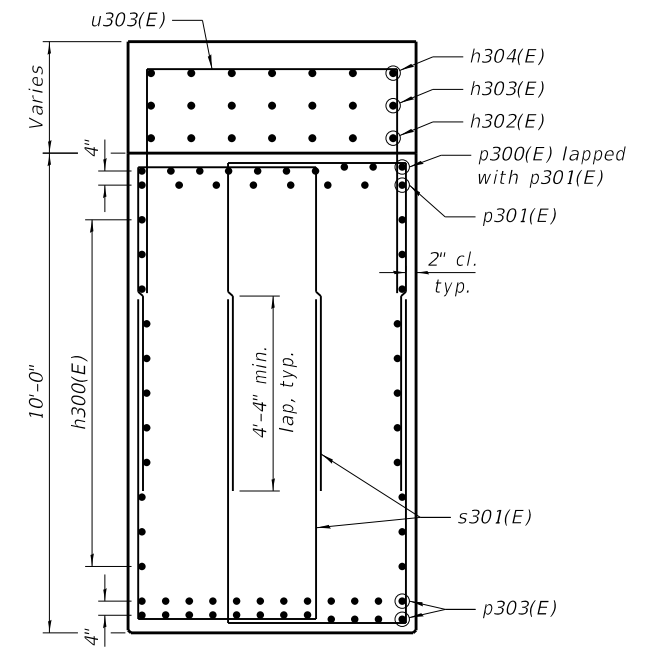
SECTION A-A

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"



SECTION B-B

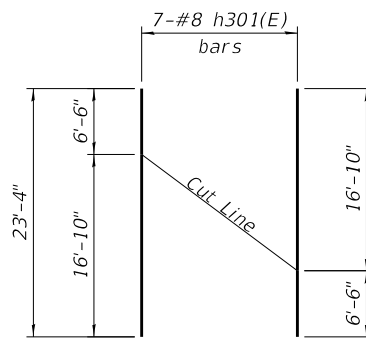


SECTION C-C

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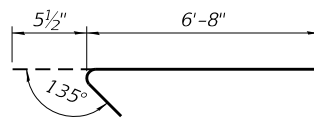
TYLIN INTERNATIONAL 200 S. WACKER DR. SUITE 1400 CHICAGO, IL 60606 TEL: 312-777-2900	USER NAME = CHORBACZ	DESIGNED - SP	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 3 REINFORCEMENT, 3 OF 4 STRUCTURE NO. 090-0180	F.A.P. RTE. 317	SECTION [15B;(102-1),(14HB)]BR/BR	COUNTY PEO/TAZ	TOTAL SHEETS 1361	SHEET NO. 1217
	PLOT SCALE = 16:0,0000 " / in.	DRAWN - CH	REVISED -			SHEET 5-308 OF 445 SHEETS	CONTRACT NO. 68B46		ILLINOIS FED. AID PROJECT NHPP-YRP3(905)	
PLOT DATE = 12/12/2018	CHECKED -	REVISED -								

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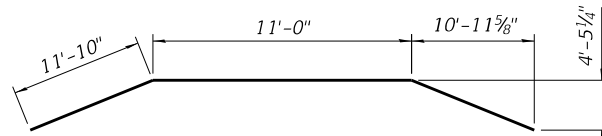


FIELD CUTTING DIAGRAM

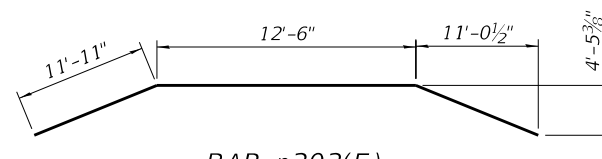
Order full length. Cut as shown and use remainder of bars in opposite face.



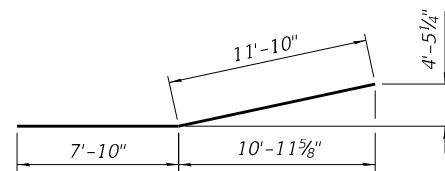
BARS s307(E)



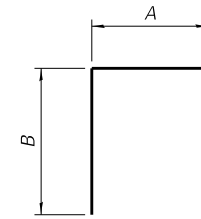
BAR p302(E)



BAR p303(E)



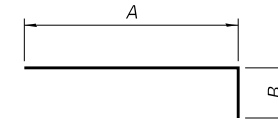
BAR p304(E)



**BAR s300(E), s301(E),
 u300(E), u301(E), u302(E),
 u303(E) & u304(E)**

A & B DIMENSIONS

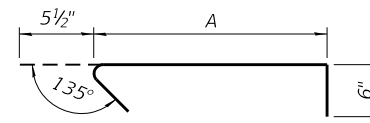
Bar	A	B
s300(E)	3'-9"	9'-6"
s301(E)	3'-9"	7'-0"
u300(E)	4'-0"	2'-11"
u301(E)	5'-8"	3'-1"
u302(E)	5'-8"	3'-5"
u303(E)	5'-8"	3'-9"
u304(E)	5'-8"	5'-0"



**BARS n300(E), n301(E),
 n302(E), p300(E),
 s306(E), s310(E)**

A & B DIMENSIONS

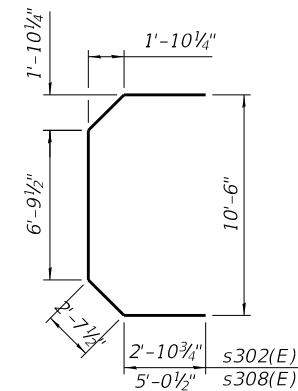
Bar	A	B
n300(E)	15'-5"	2'-0"
n301(E)	17'-5"	2'-0"
n302(E)	13'-0"	1'-2"
p300(E)	41'-2"	9'-2"
s306(E)	6'-8"	0'-6"
s310(E)	4'-8"	3'-7"



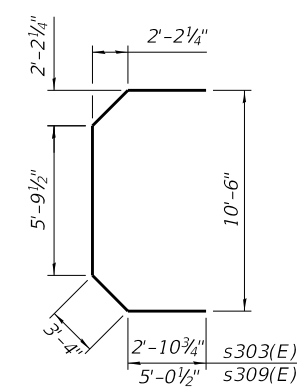
**BARS s304(E),
 s305(E) & s311(E)**

A DIMENSIONS

Bar	A
s304(E)	10'-6"
s305(E)	10'-0"
s311(E)	5'-8"



**BARS s302(E)
 and s308(E)**



**BARS s303(E)
 and s309(E)**

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h300(E)	44	#8	46'-1"	—
h301(E)	28	#8	23'-4"	—
h302(E)	21	#6	30'-7"	—
h303(E)	14	#6	32'-3"	—
h304(E)	7	#6	34'-2"	—
h305(E)	50	#7	44'-11"	—
h306(E)	12	#6	9'-4"	—
* n300(E)	204	#11	17'-5"	┌┐
* n301(E)	118	#11	19'-5"	┌┐
n302(E)	124	#7	14'-2"	┌┐
p300(E)	20	#11	50'-4"	┌┐
p301(E)	18	#11	48'-3"	┌┐
p302(E)	12	#10	34'-8"	┌┐
p303(E)	48	#10	36'-2"	┌┐
p304(E)	24	#10	19'-8"	┌┐
s300(E)	392	#6	22'-9"	┌┐
s301(E)	104	#6	17'-9"	┌┐
* s302(E)	232	#6	17'-10"	┌┐
* s303(E)	464	#6	18'-4"	┌┐
s304(E)	3348	#5	11'-6"	┌┐
s305(E)	1674	#5	11'-0"	┌┐
s306(E)	4006	#5	7'-2"	┌┐
s307(E)	4006	#5	7'-2"	┌┐
s308(E)	16	#6	22'-2"	┌┐
s309(E)	32	#6	22'-7"	┌┐
s310(E)	60	#6	8'-3"	┌┐
s311(E)	288	#5	6'-8"	┌┐
t300(E)	123	#7	18'-8"	—
t301(E)	198	#8	18'-6"	—
u300(E)	274	#6	9'-10"	┌┐
u301(E)	24	#6	11'-10"	┌┐
u302(E)	27	#6	12'-6"	┌┐
u303(E)	35	#6	13'-2"	┌┐
u304(E)	62	#7	15'-8"	┌┐
* v300(E)	204	#11	27'-2"	—
* v301(E)	118	#11	25'-2"	—
w300(E)	130	#7	27'-2"	—
w301(E)	96	#8	32'-9"	—
Structure Excavation		Cu. Yd.	716	
Concrete Structures		Cu. Yd.	1184.9	
Reinforcement Bars, Epoxy Coated		Pound	311,560	
Furnishing Steel Piles HP 14x89		Foot	4087	
Driving Piles		Foot	4087	
Test Pile, HP14x89		Each	1	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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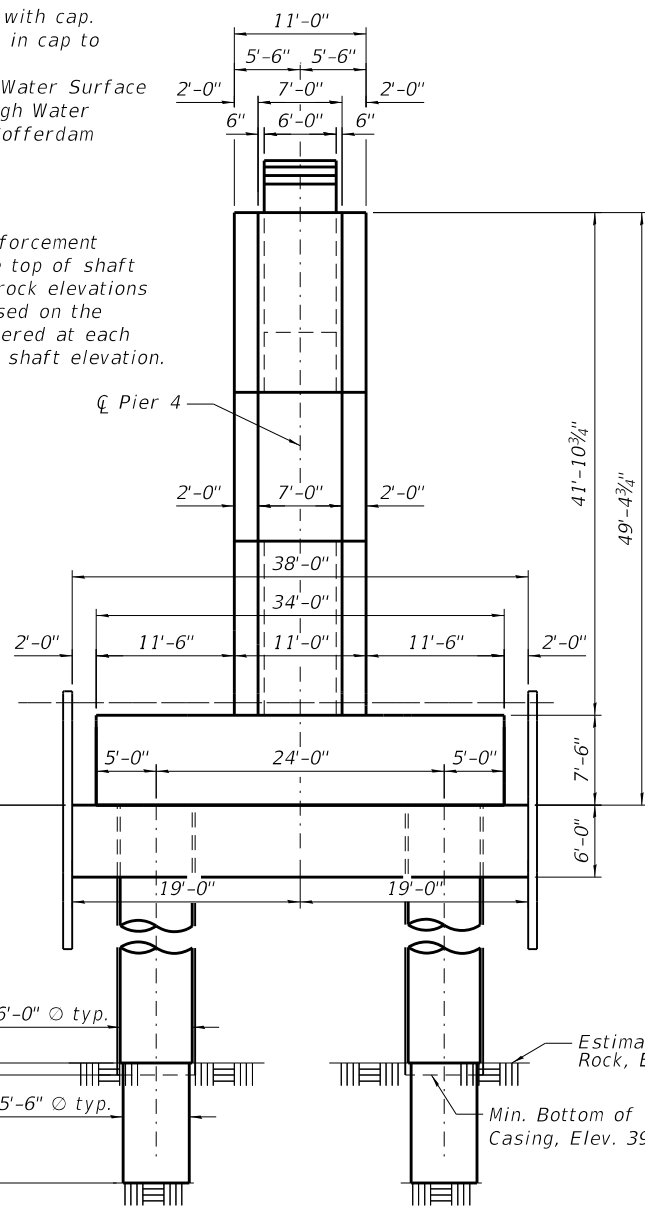
**PIER 3 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180**

SHEET 5-309 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1218
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

Notes:
 Pour steps monolithically with cap.
 Space reinforcement bars in cap to miss anchor bolts.
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.

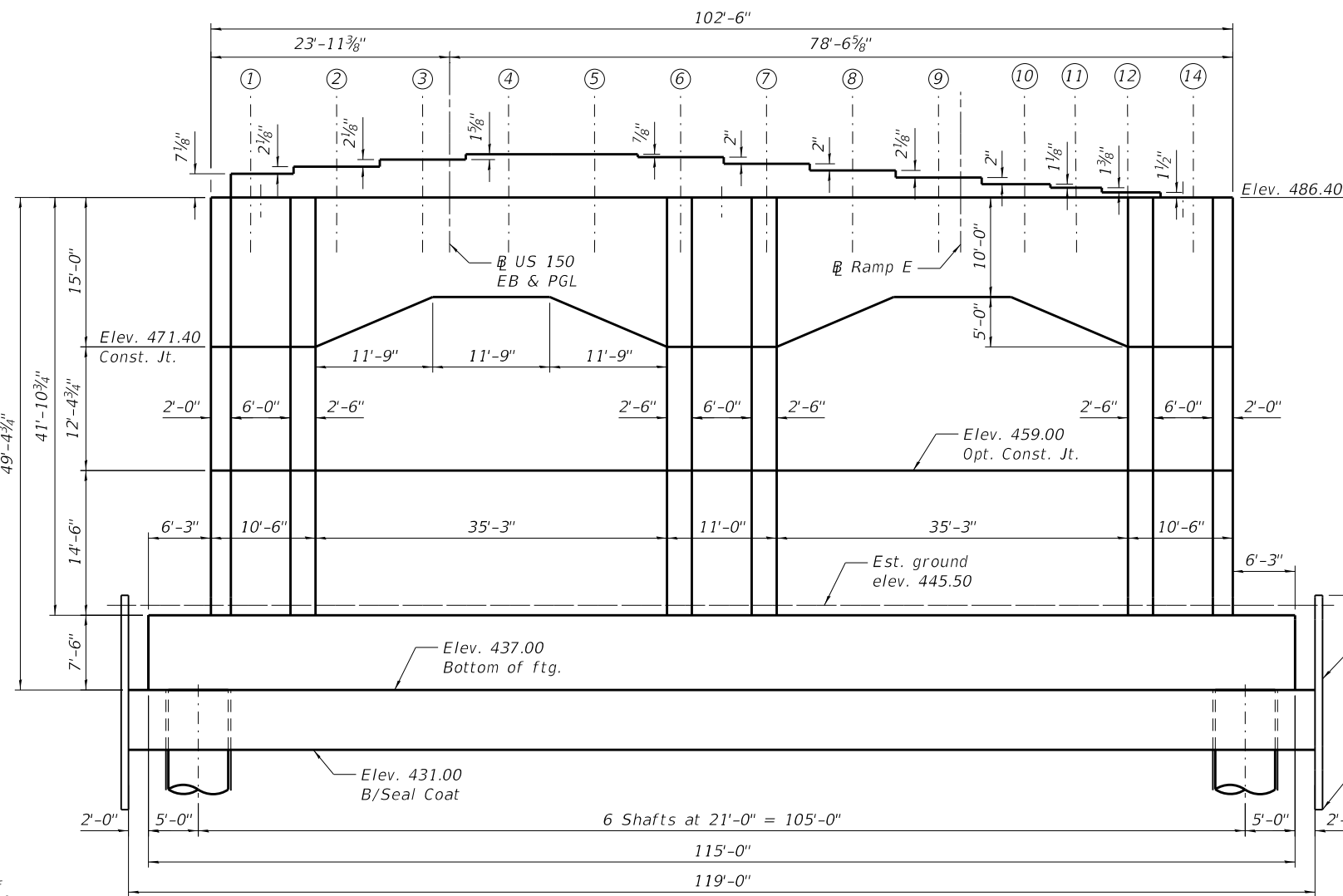


END VIEW
(Looking South)

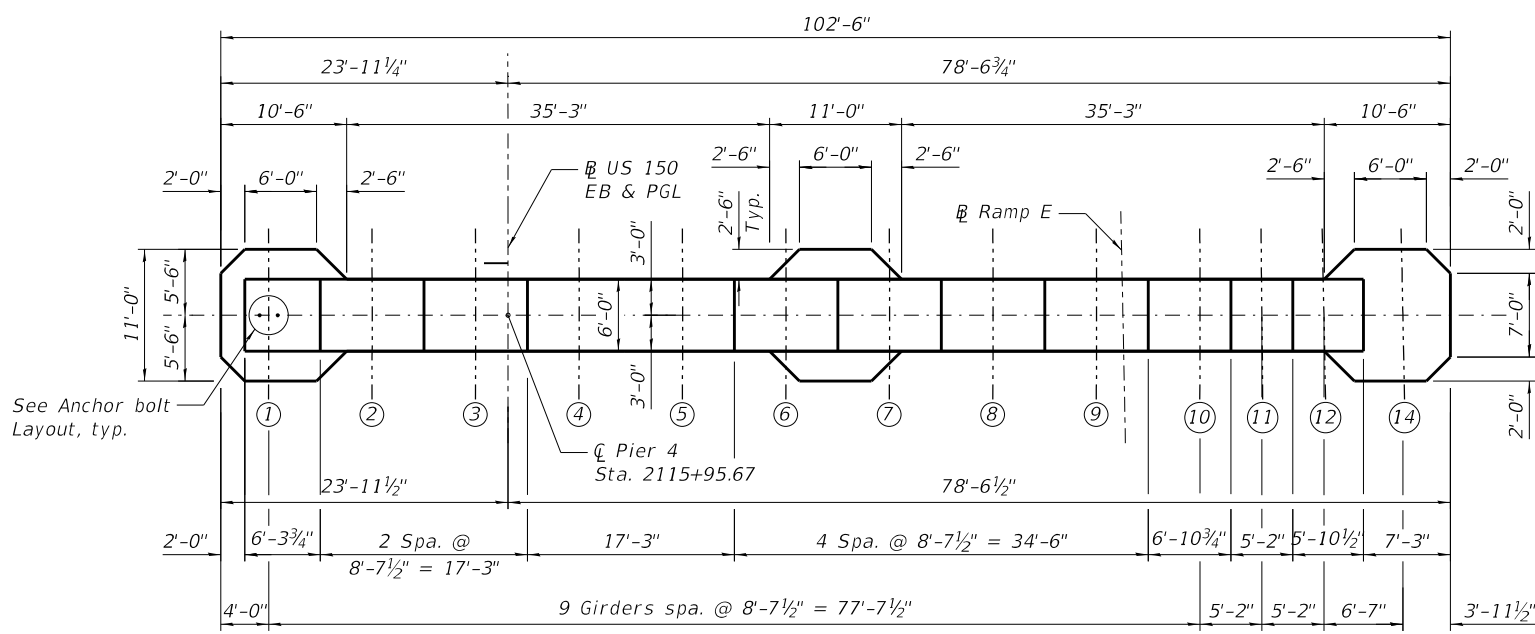
Note A:
 43'-5" Limits of Permanent Casing. Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.

BEARING SEAT
ELEVATIONS

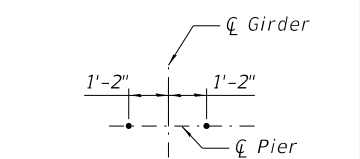
Girder	Elevation
1	487.00
2	487.18
3	487.35
4	487.49
5	487.49
6	487.41
7	487.25
8	487.08
9	486.91
10	486.74
11	486.64
12	486.53
14	486.40



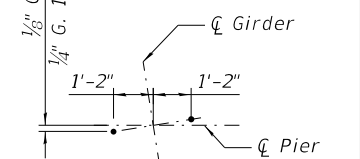
ELEVATION
(Looking East)



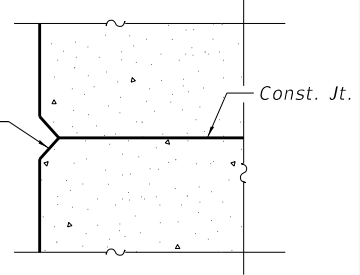
TOP PLAN



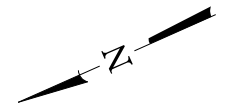
ANCHOR BOLT
LAYOUT



ANCHOR BOLT
LAYOUT
(Girders 11, 12 & 14)



CONSTRUCTION JOINT



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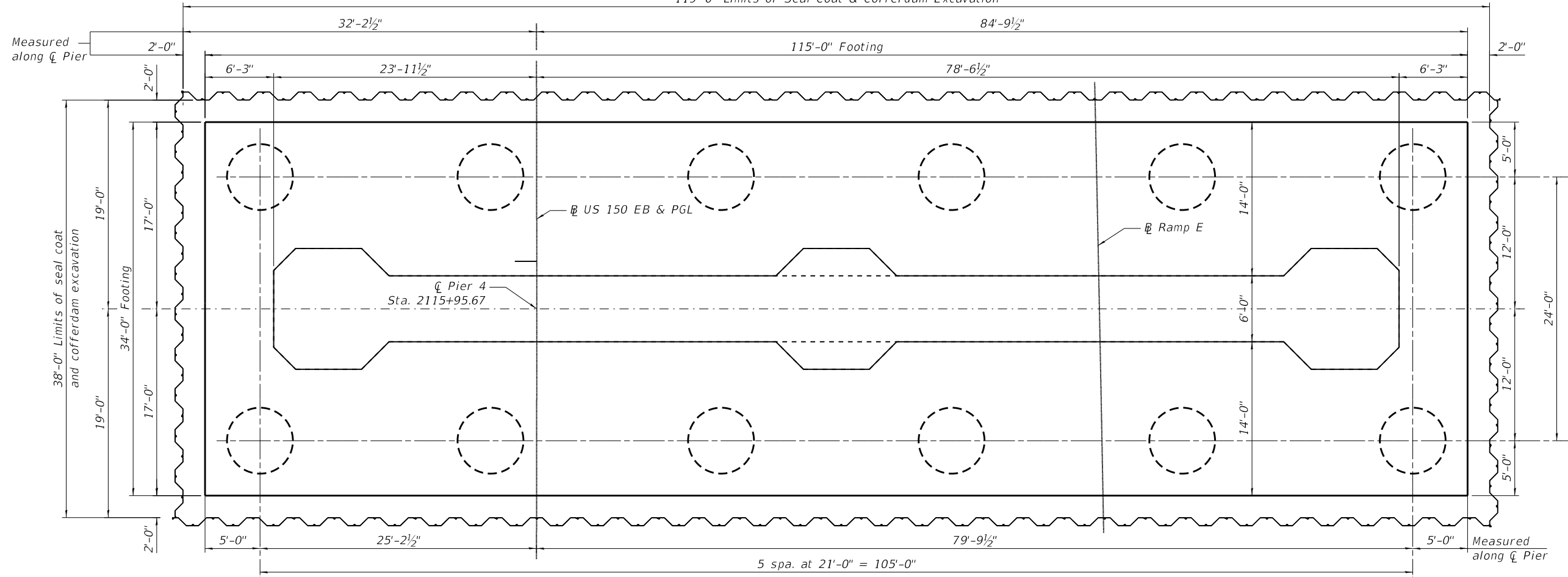
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PIER 4 PLAN AND ELEVATION
STRUCTURE NO. 090-0180

SHEET 5-310 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1219
				CONTRACT NO. 68B46
				ILLINOIS FED. AID PROJECT NHPY-RP3(905)

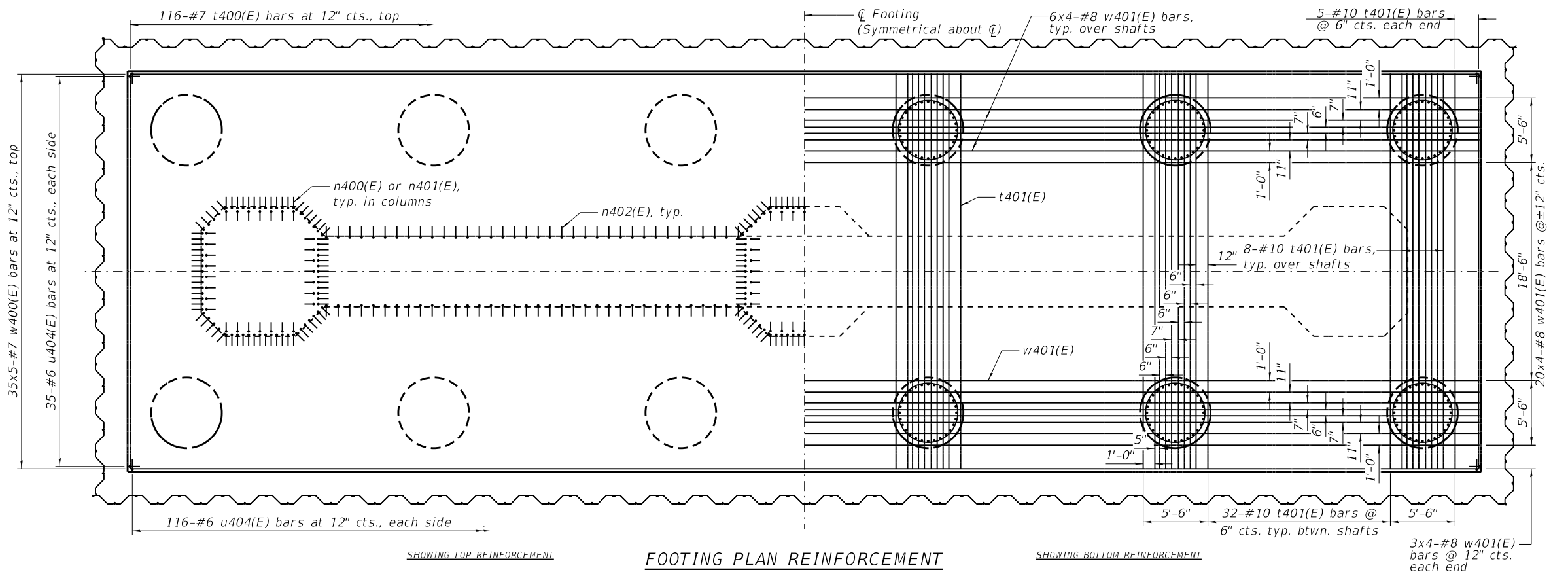
119'-0" Limits of Seal Coat & Cofferdam Excavation



MINIMUM BAR LAP

#7 bar = 5'-0"
#8 bar = 5'-1"

FOOTING PLAN DIMENSIONS



SHOWING TOP REINFORCEMENT

FOOTING PLAN REINFORCEMENT

SHOWING BOTTOM REINFORCEMENT

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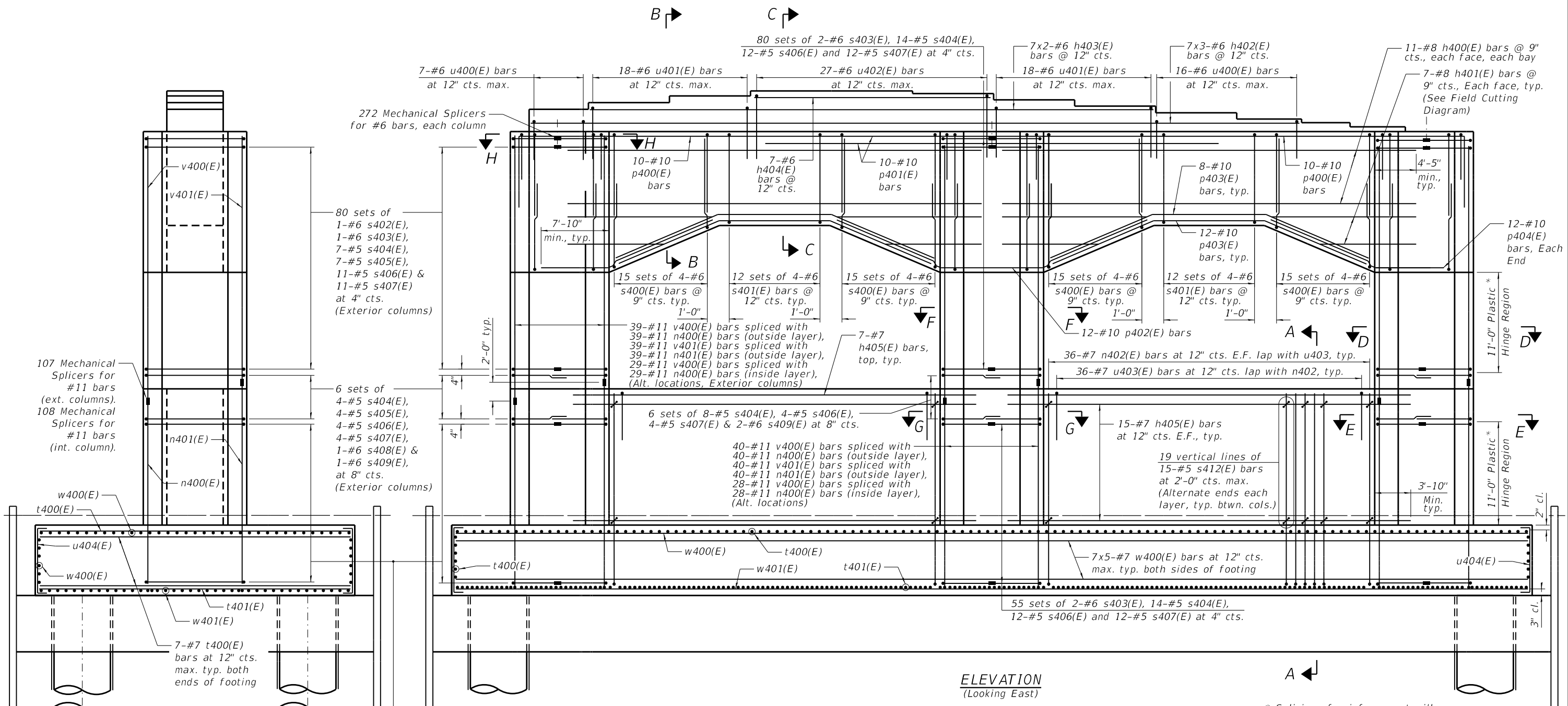
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**PIER 4 FOOTING PLAN
STRUCTURE NO. 090-0180**

SHEET 5-311 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1220
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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MINIMUM BAR LAP

- #6 bar = 4'-4"
- #7 bar = 5'-0"
- #8 bar = 5'-1"
- #10 bar (top of cap) = 7'-8"
- #10 bar (bot. of cap) = 10'-2"

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

- Notes:
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-315 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-315 of 445.
 5. Alternate ends of s404(E) thru s407(E) bars each layer.

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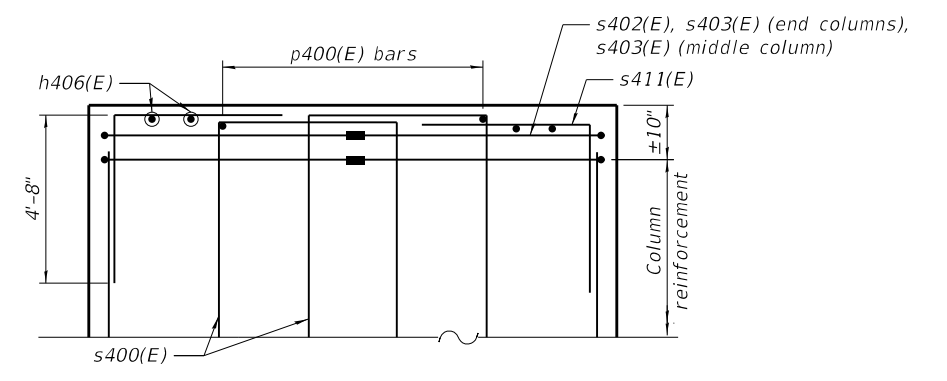
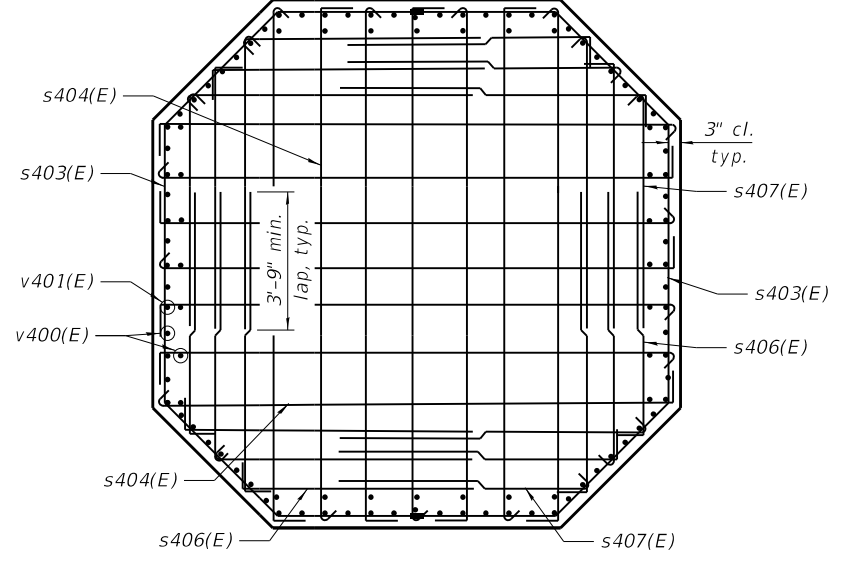
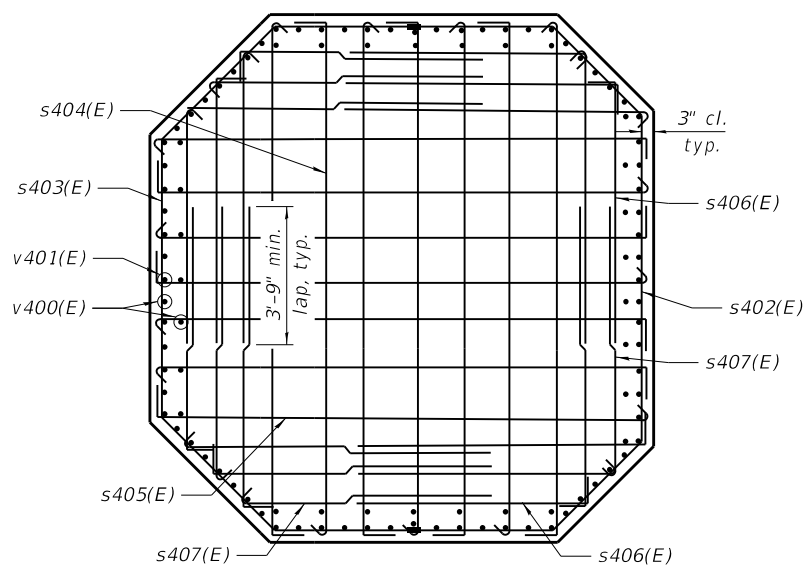
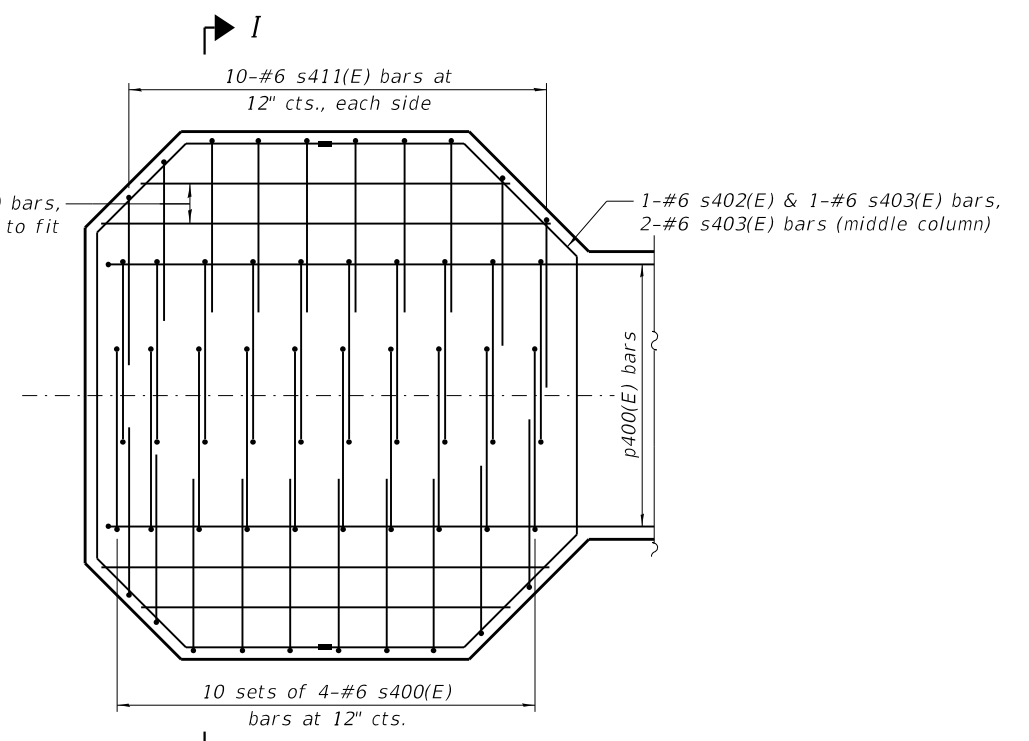
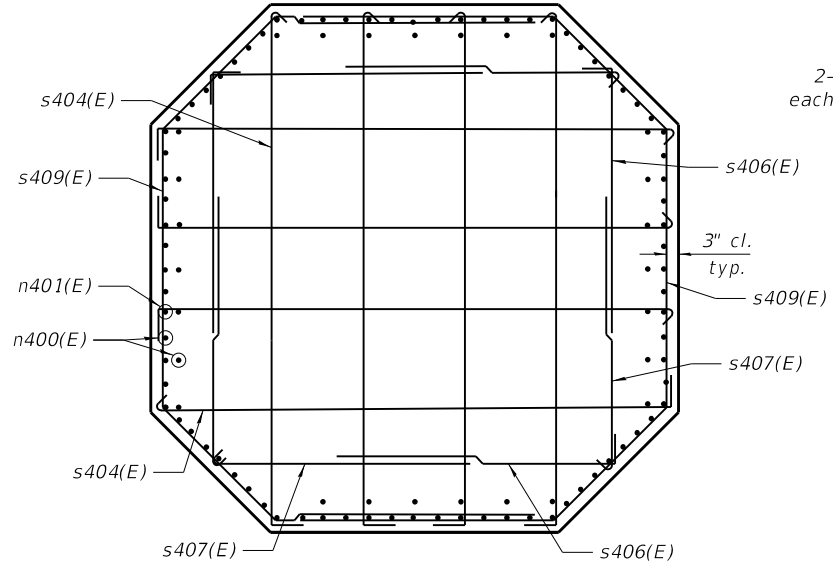
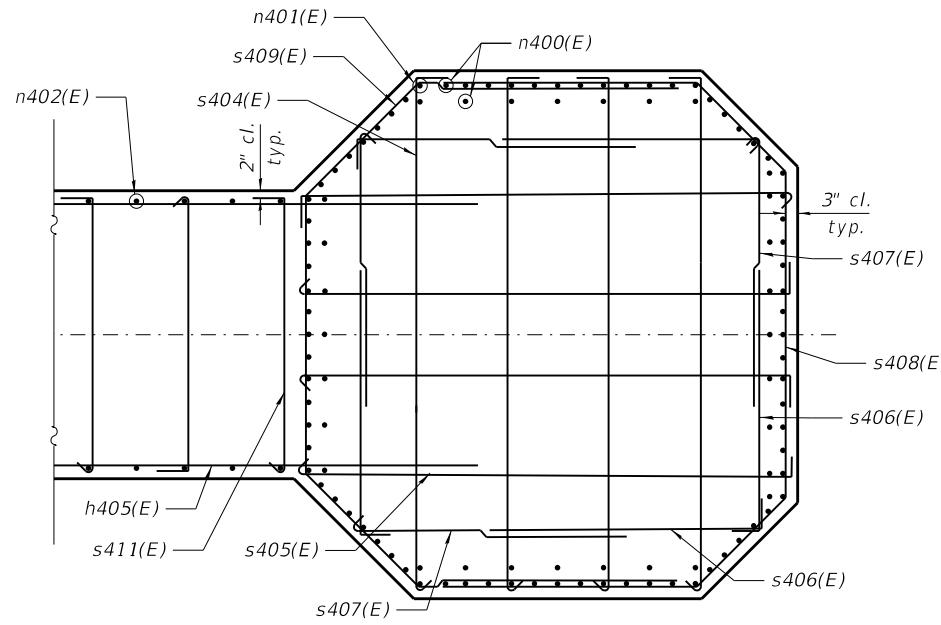
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**PIER 4 REINFORCEMENT, 1 OF 4
 STRUCTURE NO. 090-0180**

SHEET S-312 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1221
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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MINIMUM BAR LAP
 #5 bar = 3'-9"
 #6 bar = 4'-4"
 #7 bar = 5'-0"

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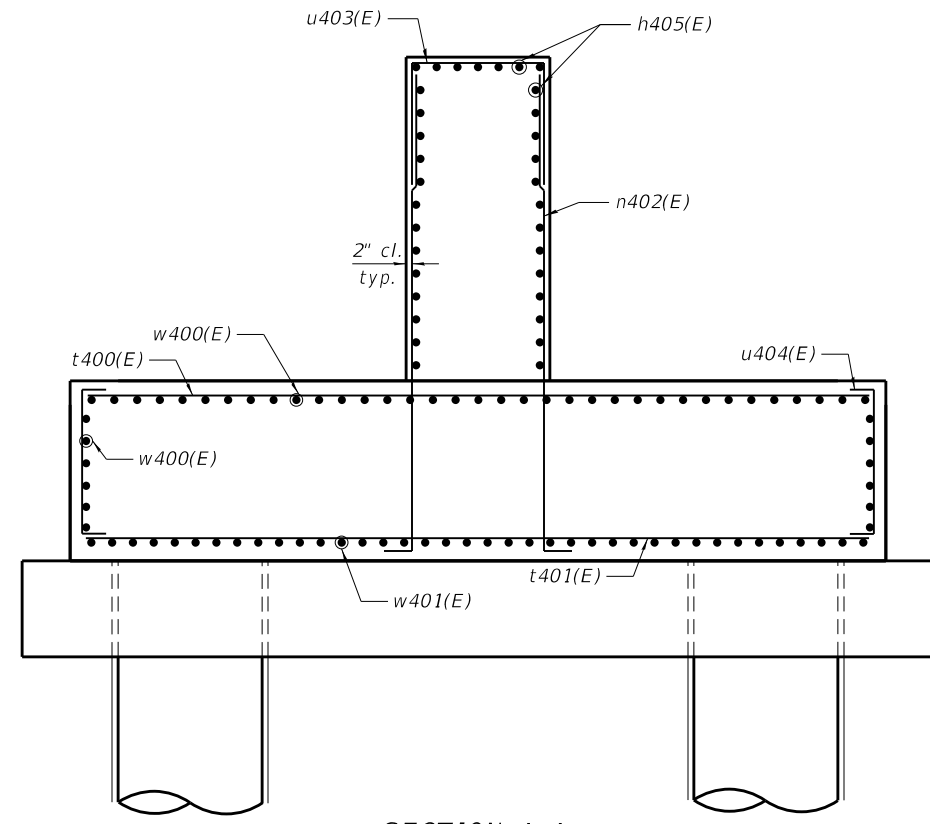
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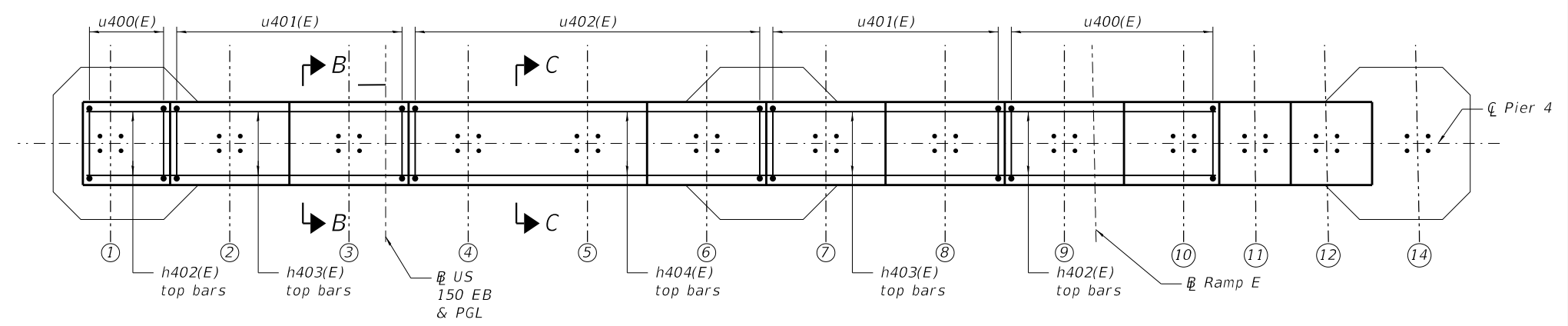
**PIER 4 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180**

SHEET 5-313 OF 445 SHEETS

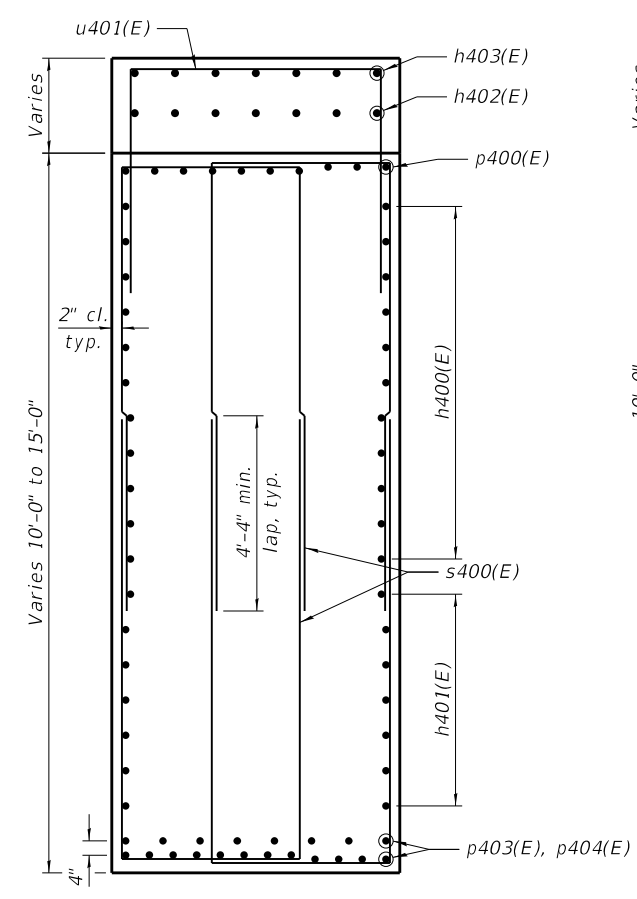
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1222
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



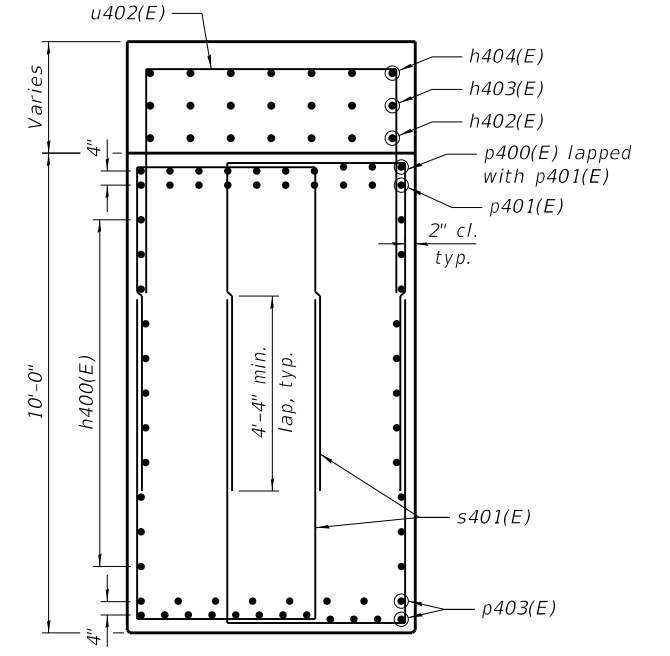
SECTION A-A



PLAN VIEW - CAP BEARING SEAT REINFORCEMENT



SECTION B-B



SECTION C-C

MINIMUM BAR LAP
 #5 bar = 3'-9"
 #6 bar = 4'-4"
 #7 bar = 5'-0"

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PIER 4 REINFORCEMENT, 3 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-314 OF 445 SHEETS

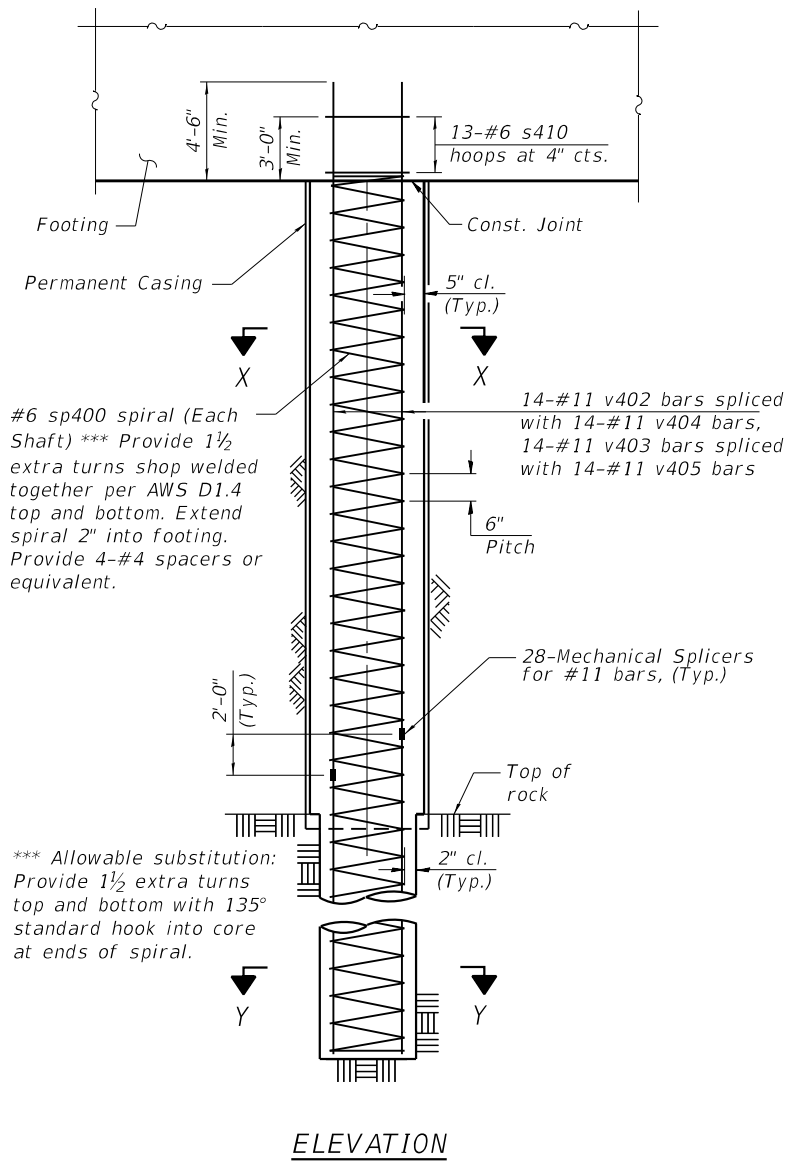
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317	[15B;(102-1),(14HB)JR]BR	PEO/TAZ	1361	1223
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

BILL OF MATERIAL

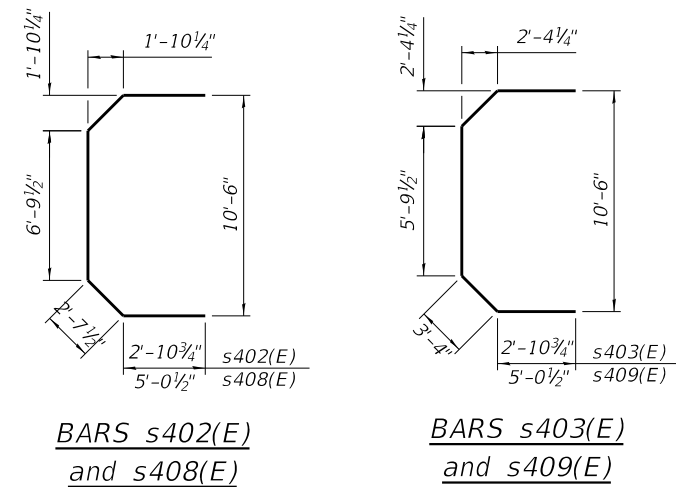
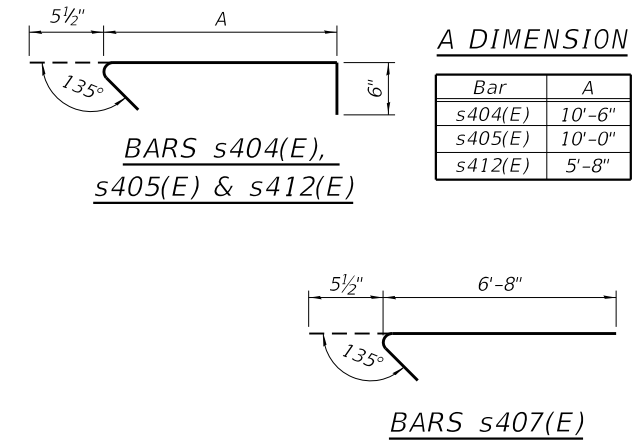
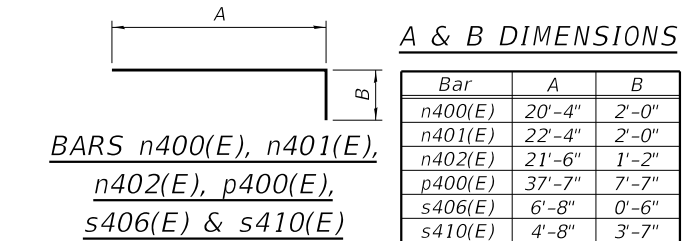
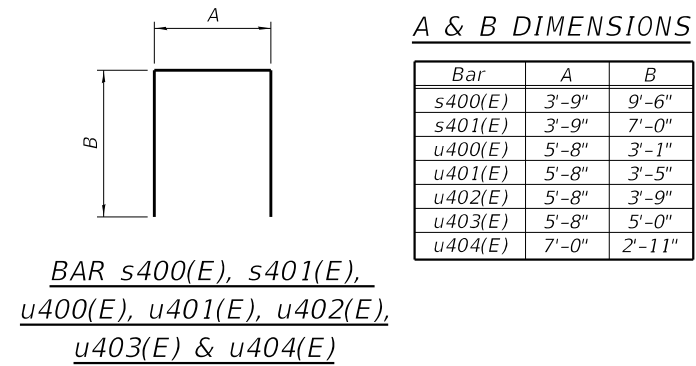
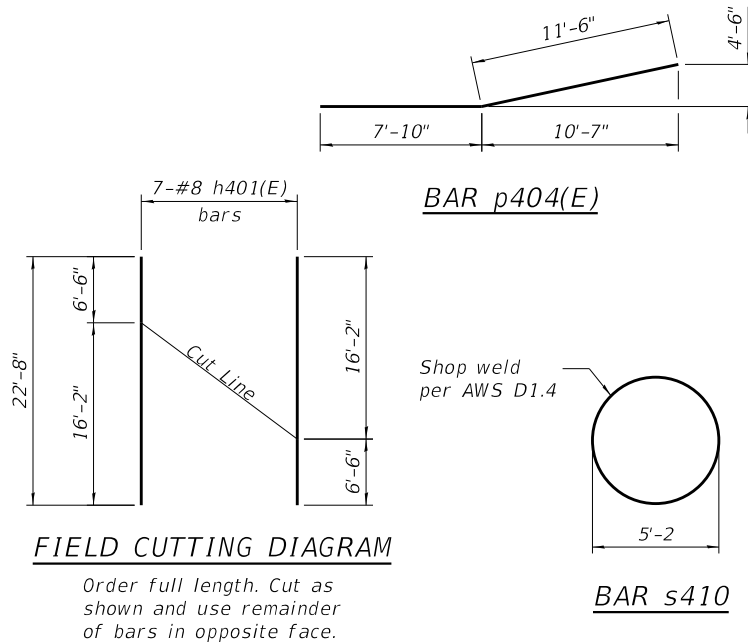
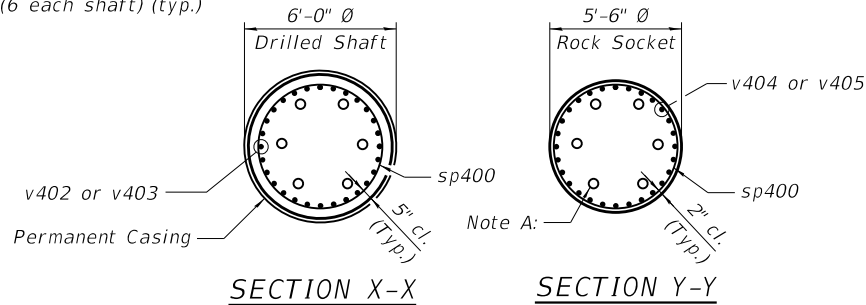
Bar	No.	Size	Length	Shape
h400(E)	44	#8	44'-1"	—
h401(E)	28	#8	22'-8"	—
h402(E)	21	#6	30'-3"	—
h403(E)	14	#6	32'-3"	—
h404(E)	7	#6	25'-7"	—
h405(E)	74	#7	42'-11"	—
h406(E)	12	#6	9'-4"	—
n400(E)	204	#11	22'-4"	┘
n401(E)	118	#11	24'-4"	┘
n402(E)	144	#7	22'-8"	┘
p400(E)	20	#10	45'-2"	┘
p401(E)	20	#10	48'-3"	┘
p402(E)	12	#10	33'-11"	┘
p403(E)	40	#10	34'-8"	┘
p404(E)	24	#10	19'-4"	┘
s400(E)	360	#6	22'-9"	┘
s401(E)	96	#6	17'-9"	┘
s402(E)	272	#6	17'-10"	┘
s403(E)	544	#6	18'-4"	┘
s404(E)	3876	#5	11'-6"	┘
s405(E)	1938	#5	11'-0"	┘
s406(E)	4662	#5	7'-2"	┘
s407(E)	4662	#5	7'-2"	┘
s408(E)	12	#6	22'-2"	┘
s409(E)	24	#6	22'-7"	┘
s410	156	#6	16'-3"	┘
s411(E)	60	#6	8'-3"	┘
s412(E)	570	#5	6'-8"	┘
sp400	12	#6	56'-6"	⋈
t400(E)	130	#7	33'-8"	—
t401(E)	218	#10	33'-8"	—
u400(E)	23	#6	11'-10"	┘
u401(E)	36	#6	12'-6"	┘
u402(E)	27	#6	13'-2"	┘
u403(E)	72	#7	15'-8"	┘
u404(E)	302	#6	12'-10"	┘
v400(E)	204	#11	28'-0"	—
v401(E)	118	#11	26'-0"	—
v402	168	#11	32'-6"	—
v403	168	#11	34'-6"	—
v404	168	#11	24'-6"	—
v405	168	#11	22'-6"	—
w400(E)	245	#7	27'-0"	—
w401(E)	152	#8	32'-7"	—
Concrete Structures		Cu. Yd.	1998.9	
Permanent Casing		Foot	521	
Reinforcement Bars		Pound	136,940	
Reinforcement Bars, Epoxy Coated		Pound	384,460	
Drilled Shaft in Soil		Cu.Yd.	532.9	
Drilled Shaft in Rock		Cu.Yd.	105.6	
Cofferdam Excavation		Cu. Yd.	2429	
Cofferdam (Type 2) (Location-4)		Each	1	
Crosshole Sonic Logging Access Ducts		Foot	4104	
Seal Coat Concrete		Cu. Yd.	1004.9	
Crosshole Sonic Logging Testing		Each	1	

* Length is height of spiral. Minimum lap for spirals = 2'-7"

** The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.



Note A:
2" I.D. Steel pipe for crosshole sonic logging (6 each shaft) (typ.)



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**PIER 4 REINFORCEMENT, 4 OF 4
STRUCTURE NO. 090-0180**

SHEET 5-315 OF 445 SHEETS

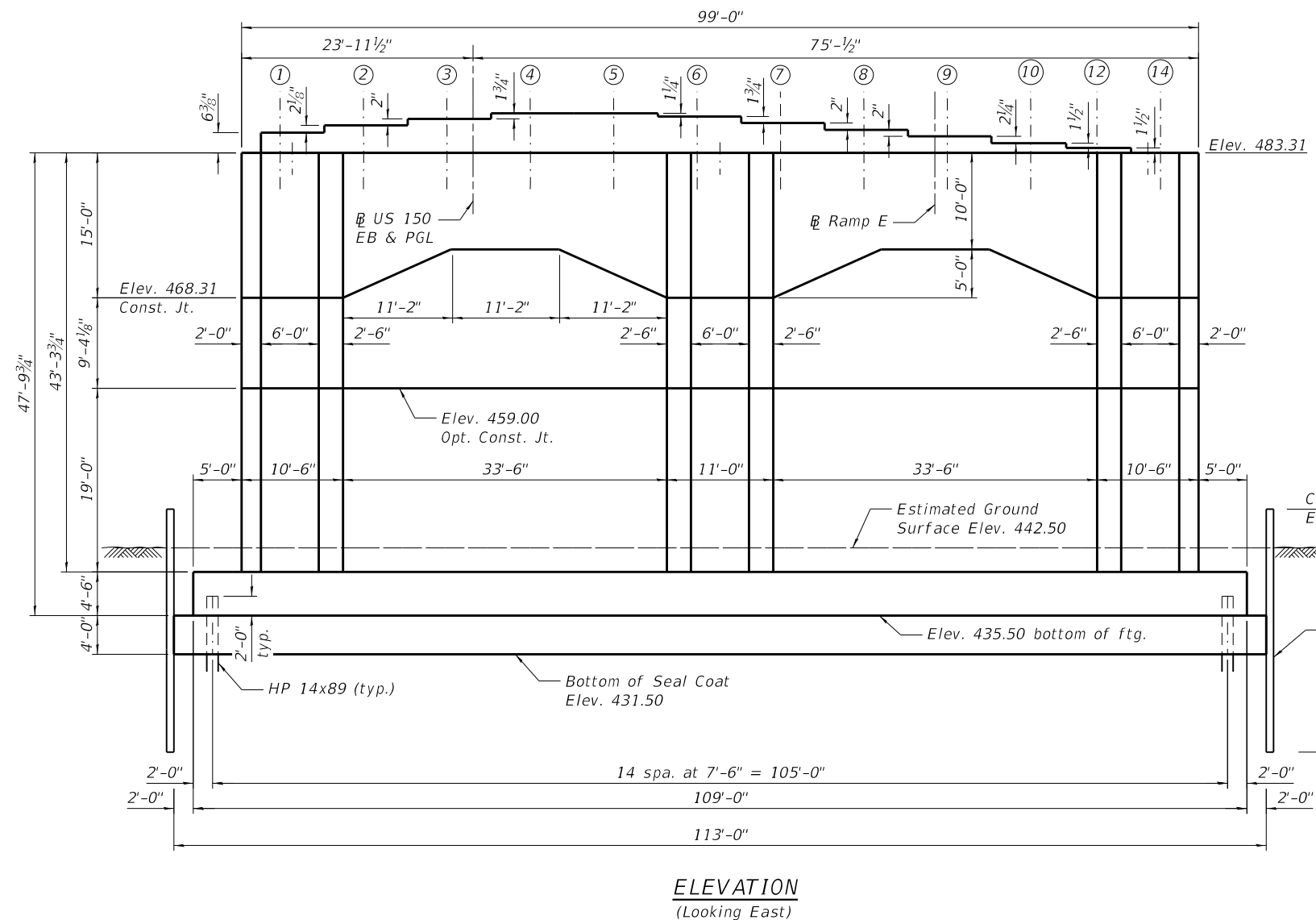
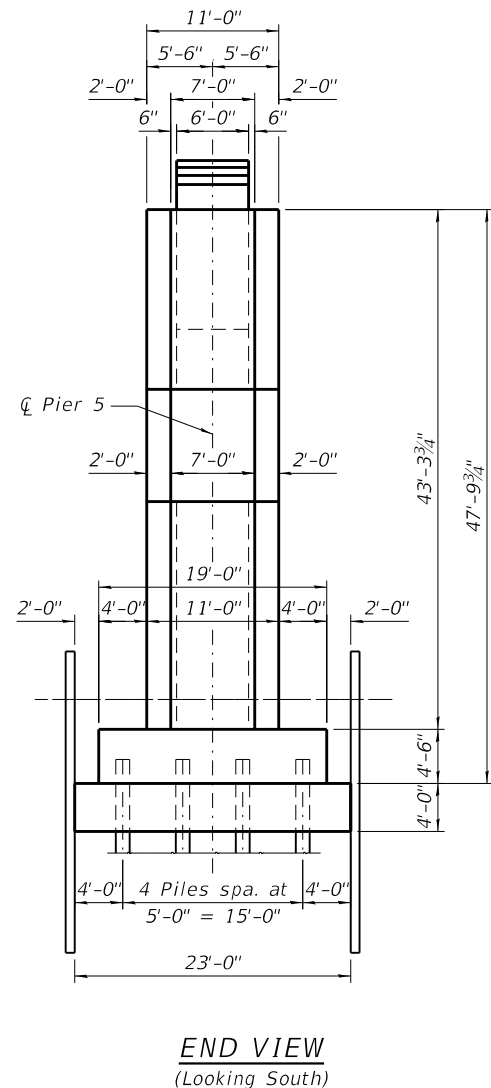
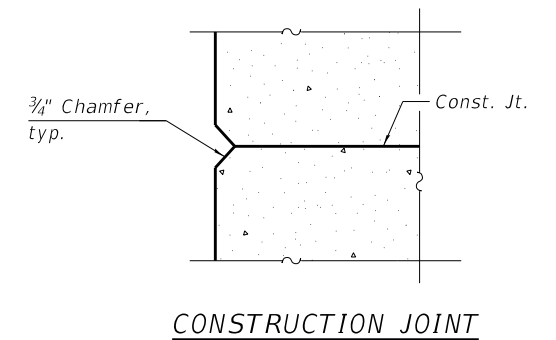
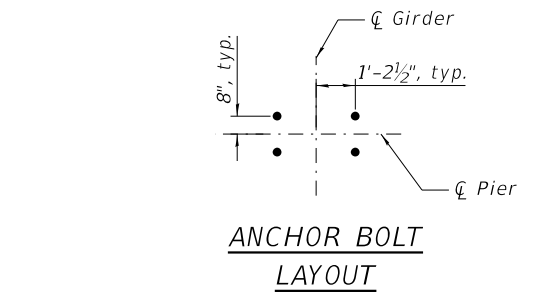
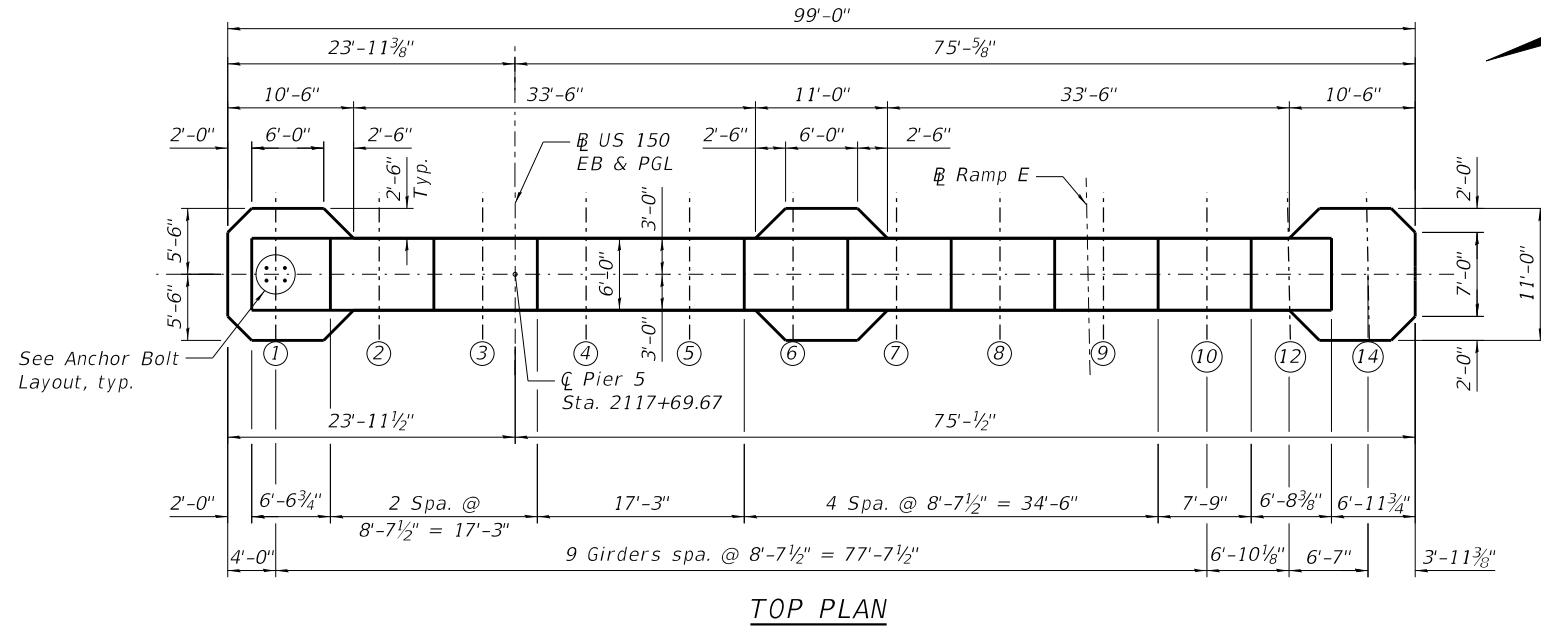
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14H)BR)BR	PEO/TAZ	1361	1224
CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

Notes:
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.

BEARING SEAT ELEVATIONS

Girder	Elevation
1	483.84
2	484.02
3	484.19
4	484.33
5	484.33
6	484.23
7	484.09
8	483.92
9	483.75
10	483.57
12	483.44
14	483.31



- ▼ Design HWE Elev. 458.10
- ▼ 2% Flow Line Elev. 449.90
- ▼ EWSE Elev. 443.50
- ▼ Normal Pool Elev. 439.70

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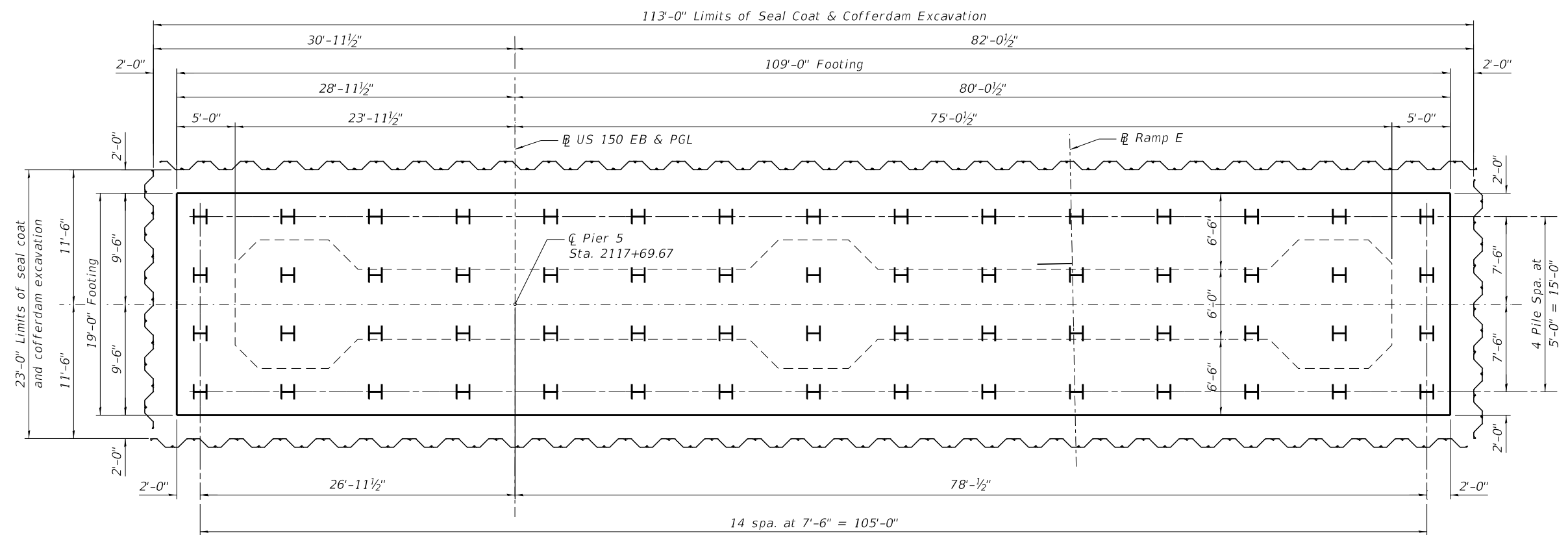
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 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PIER 5 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180

SHEET 5-316 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1225
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



FOOTING PLAN DIMENSIONS

PILE DATA

Type: HP 14x89
 Nominal Required Bearing: 705 kips
 Factored Resistance Available: 388 kips
 Est. Length: 56'
 No. Production Piles: 59
 No. Test Piles: 1

Notes:
 Dimensions are along \bar{C} Pier.
 \bar{C} Pier 3 is radial to \bar{C} US150 EB & PGL.

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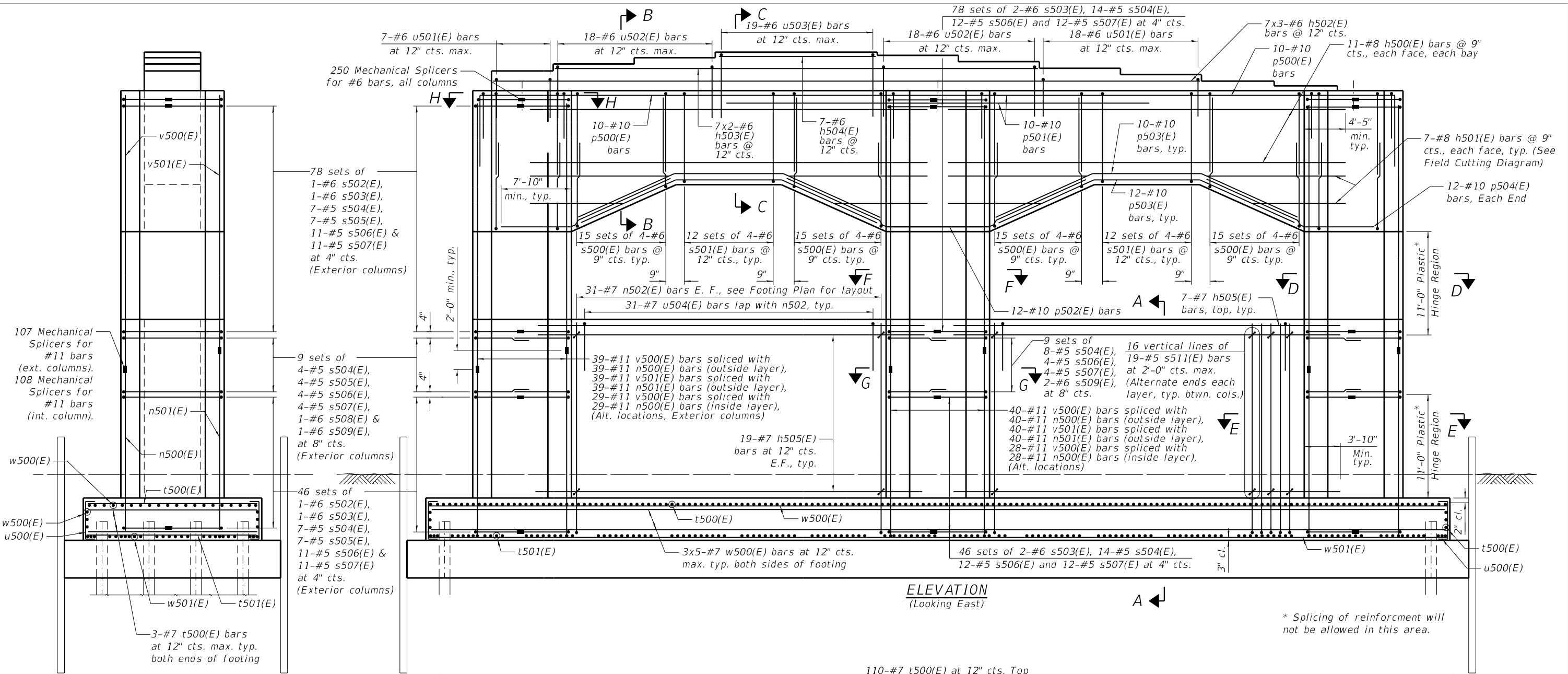
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PIER 5 FOOTING PLAN
 STRUCTURE NO. 090-0180

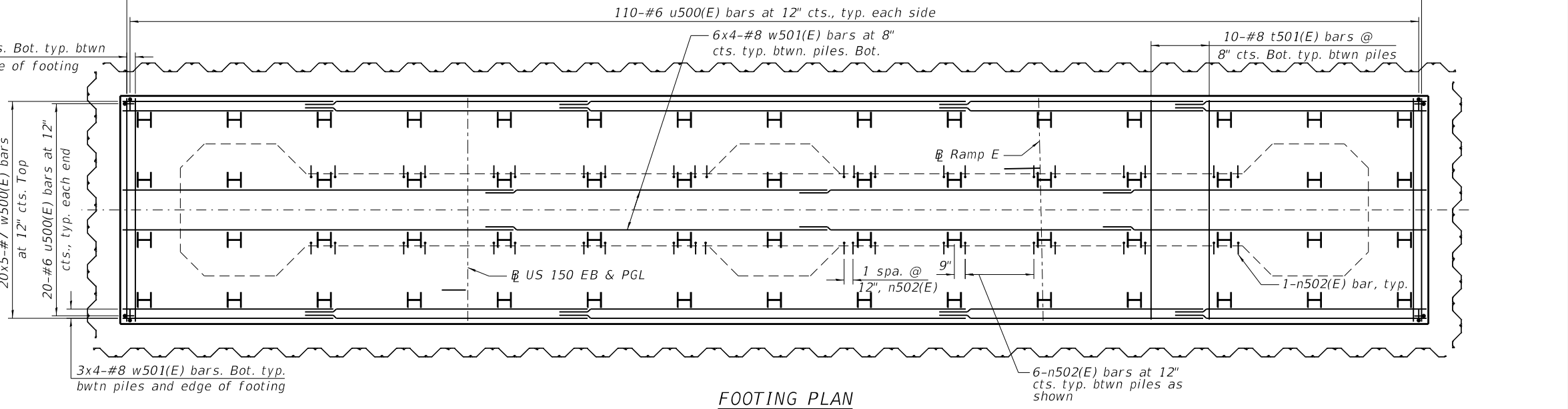
SHEET 5-317 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1226
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



- MINIMUM BAR LAP**
- #5 bar = 3'-9"
 - #6 bar = 4'-4"
 - #7 bar = 5'-0"
 - #8 bar = 5'-1"
 - #10 bar (top of cap) = 7'-8"
 - #10 bar (bot. of cap) = 10'-2"

- Notes:**
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-321 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-321 of 445.
 5. Alternate ends of s504(E) thru s507(E) bars each layer.

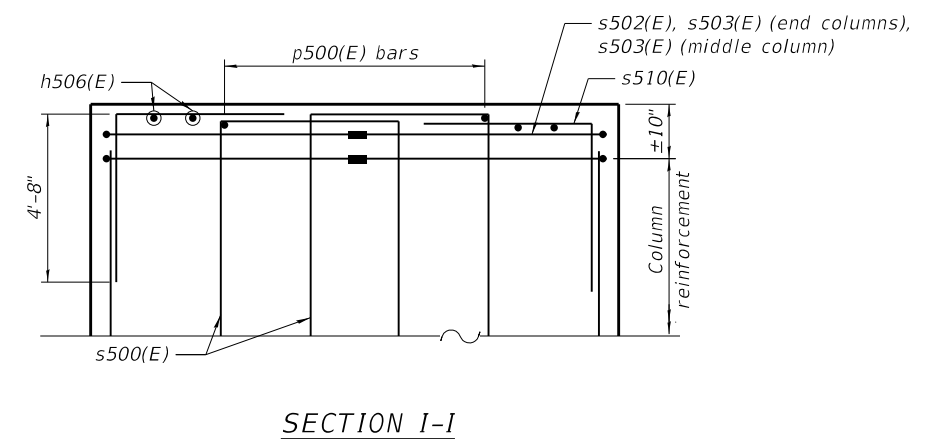
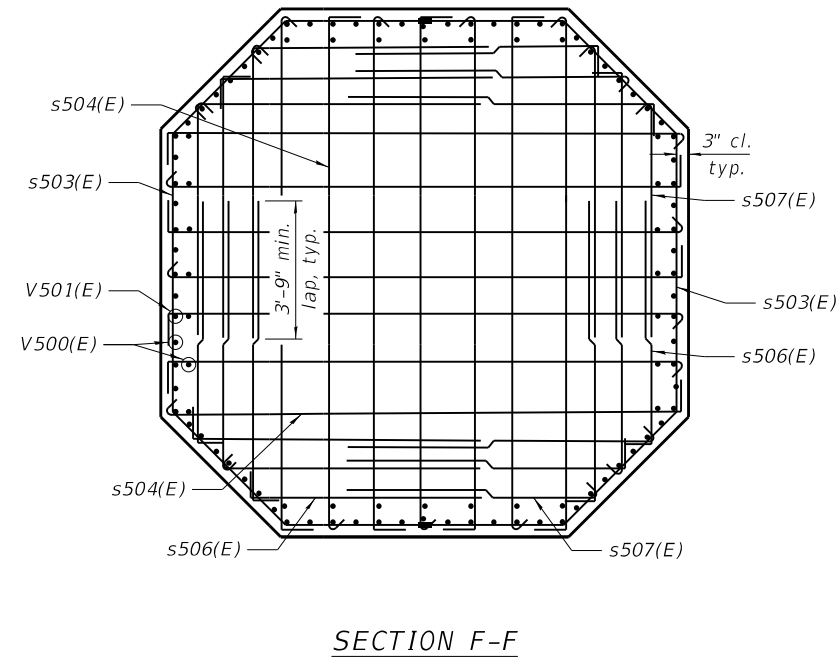
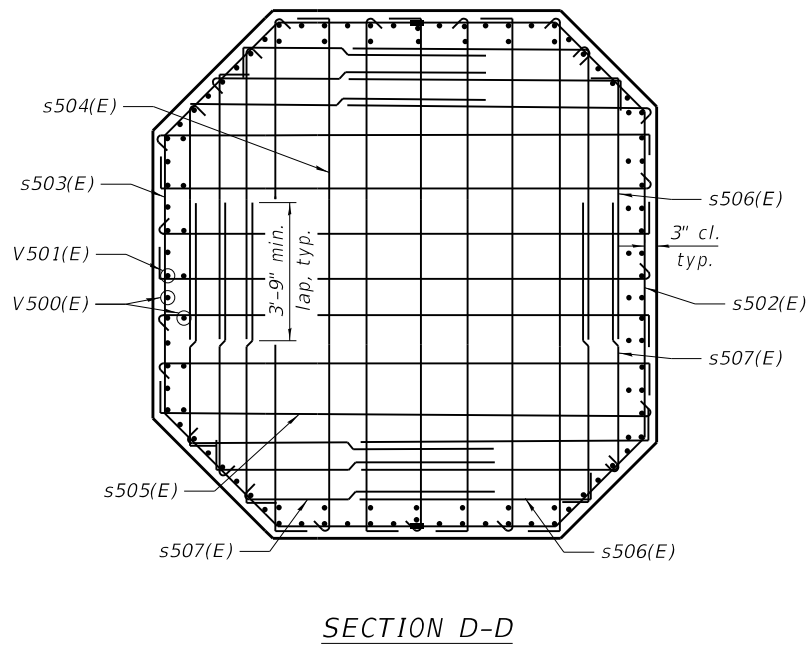
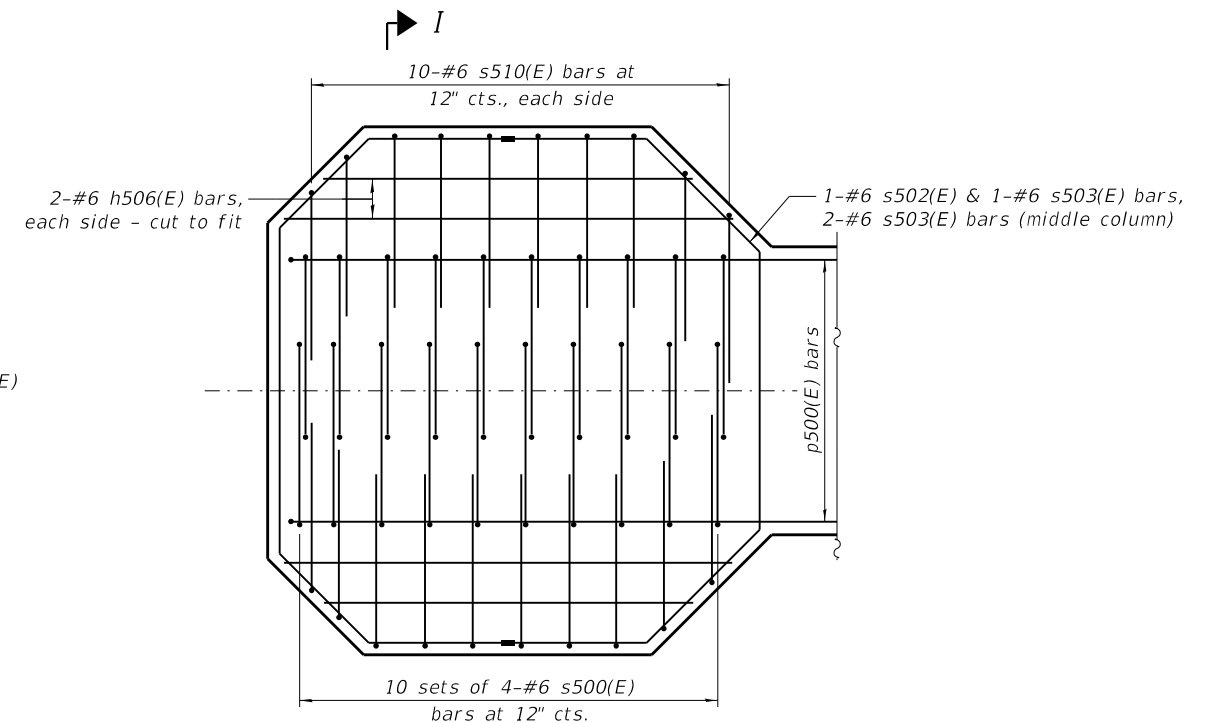
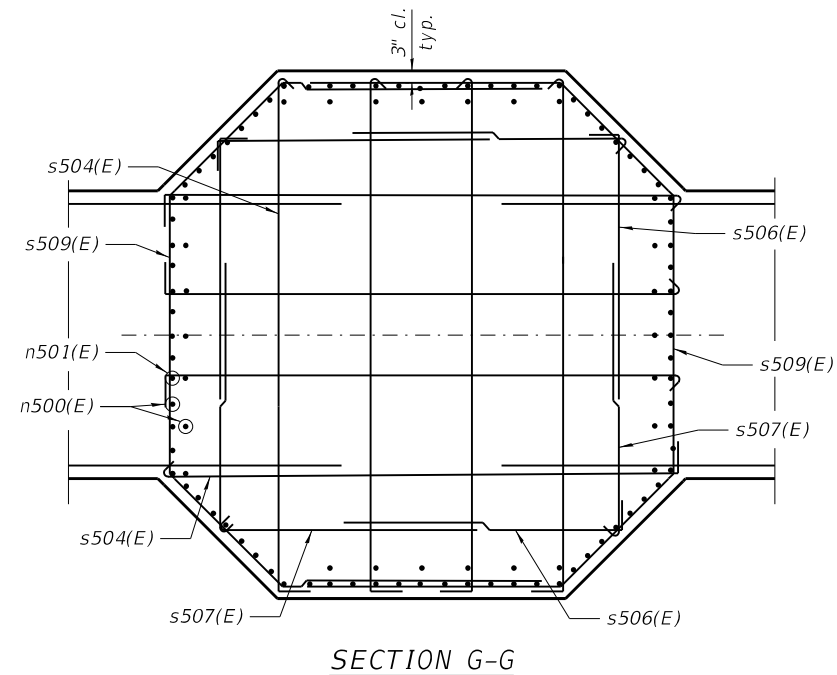
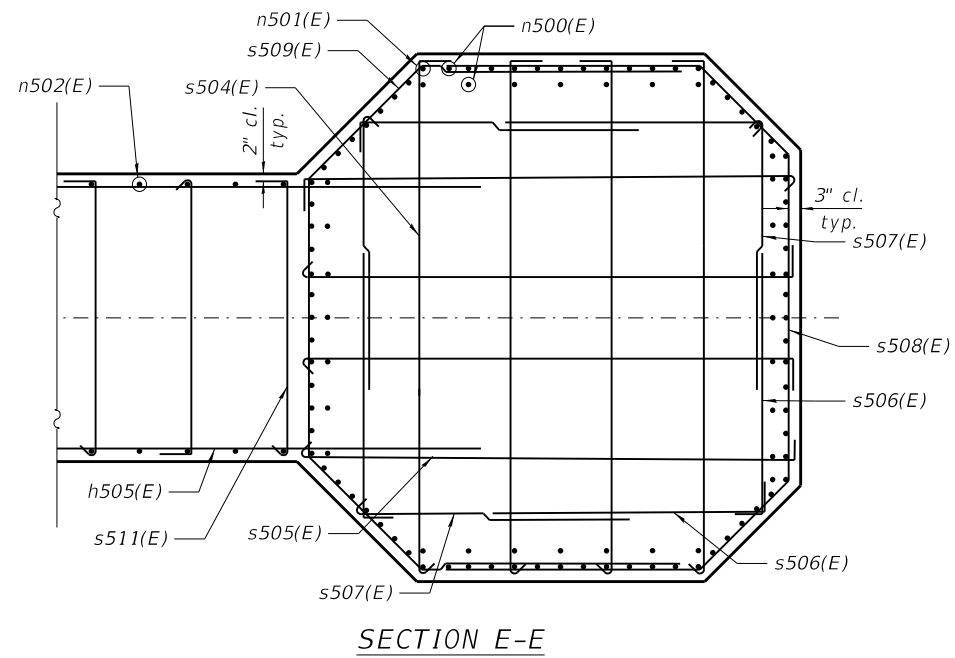


* Splicing of reinforcement will not be allowed in this area.

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TYLIN INTERNATIONAL 200 S. WACKER DR. SUITE 1400 CHICAGO, IL 60606 TEL: 312-777-2900	USER NAME = CHORBACZ DESIGNED - SP CHECKED - PLOT SCALE = 10:8,000 "/>	DESIGNED - SP CHECKED - DRAWN - CH CHECKED -	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 5 REINFORCEMENT, 1 OF 4 STRUCTURE NO. 090-0180	F.A.P. RTE. 317 SECTION (15B;(102-1),(14HB)JR)BR COUNTY PEO/TAZ TOTAL SHEETS 1361 SHEET NO. 1227	CONTRACT NO. 68B46 ILLINOIS FED. AID PROJECT NHPP-YRP3(905)
	PLOT DATE = 12/12/2018	SHEET 5-318 OF 445 SHEETS					

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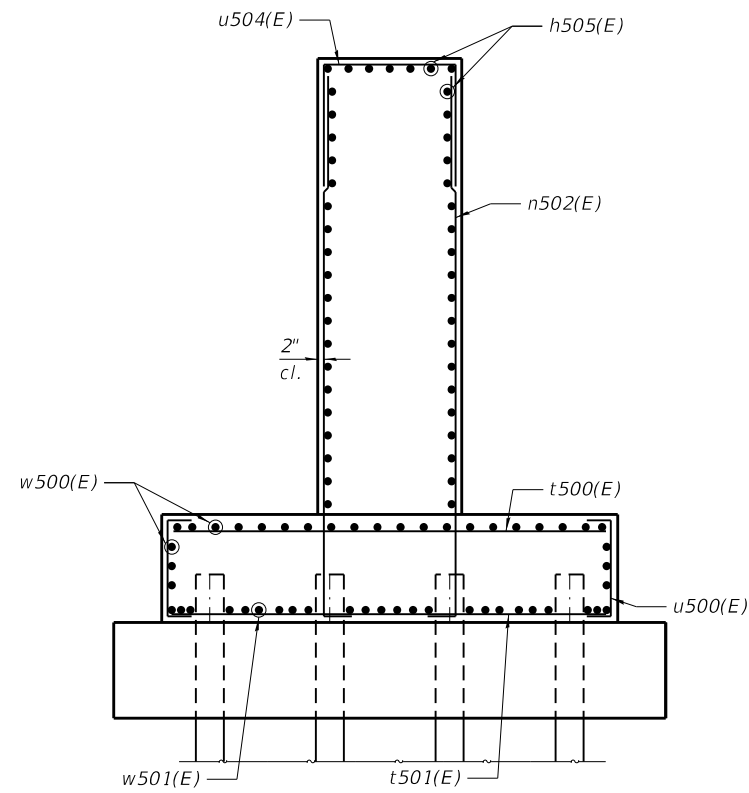
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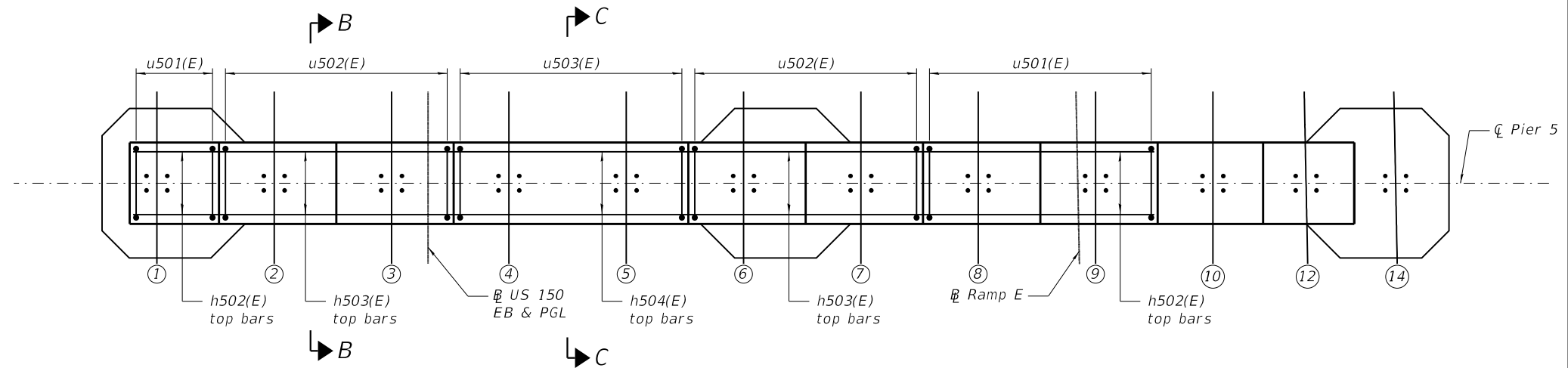
**PIER 5 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180**

SHEET 5-319 OF 445 SHEETS

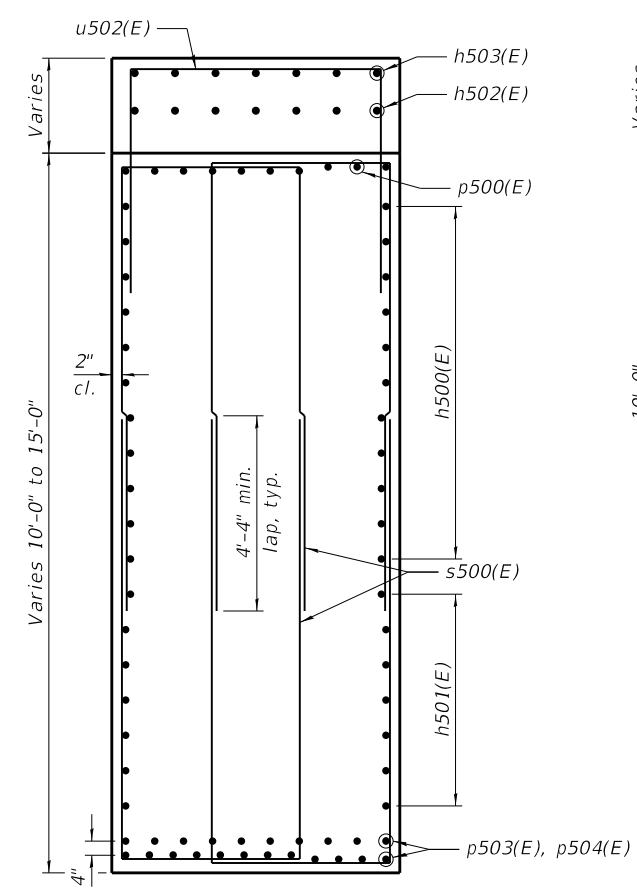
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB))BR/BR	PEO/TAZ	1361	1228
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



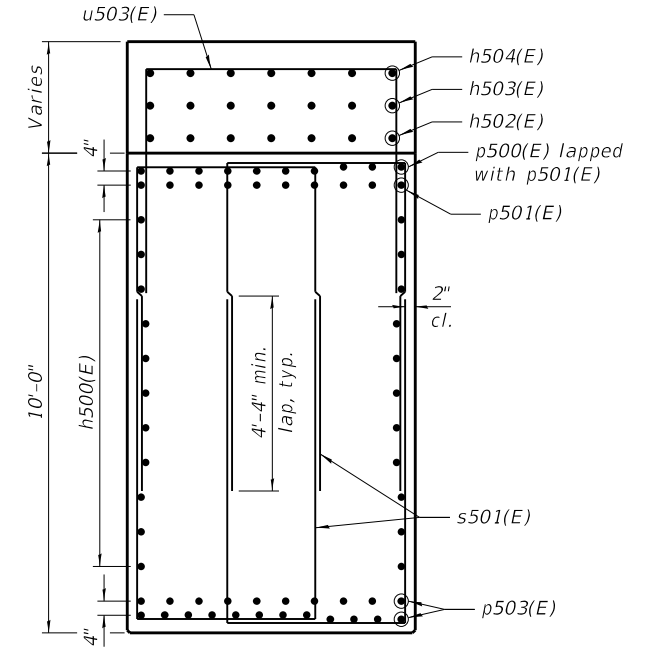
SECTION A-A



BEARING SEAT REINFORCEMENT PLAN



SECTION B-B



SECTION C-C

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 PLOT DATE = 12/12/2018

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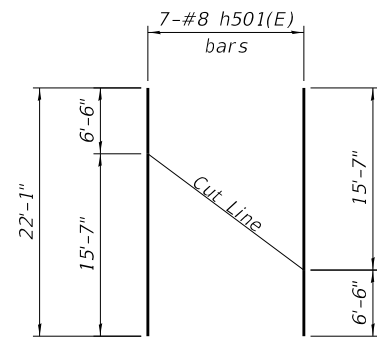
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 DEPARTMENT OF TRANSPORTATION**

PIER 5 REINFORCEMENT, 3 OF 4
 STRUCTURE NO. 090-0180

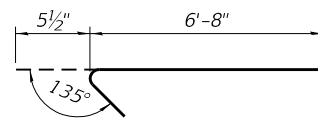
SHEET 5-320 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

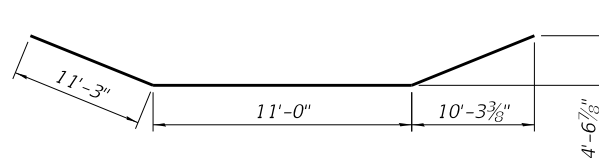


FIELD CUTTING DIAGRAM

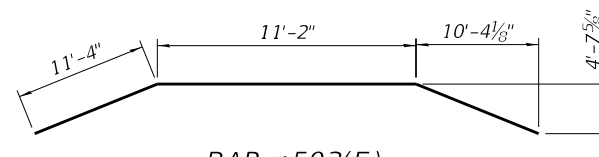
Order full length. Cut as shown and use remainder of bars in opposite face.



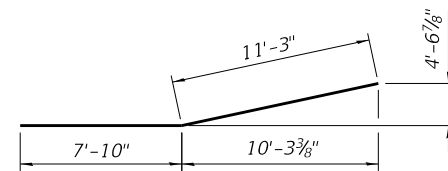
BARS s507(E)



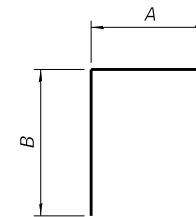
BAR p502(E)



BAR p503(E)



BAR p504(E)



BAR s500(E), s501(E), u500(E), u501(E), u502(E), u503(E) & u504(E)

A & B DIMENSIONS

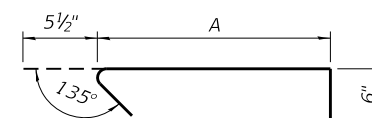
Bar	A	B
s500(E)	3'-9"	9'-6"
s501(E)	3'-9"	7'-0"
u500(E)	4'-0"	2'-11"
u501(E)	5'-8"	3'-1"
u502(E)	5'-8"	3'-5"
u503(E)	5'-8"	3'-9"
u504(E)	5'-8"	5'-0"



BARS n500(E), n501(E), n502(E), p500(E), s506(E) & s510(E)

A & B DIMENSIONS

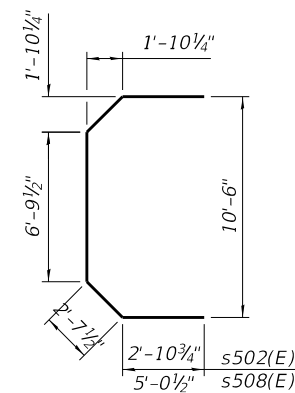
Bar	A	B
n500(E)	17'-10"	2'-0"
n501(E)	19'-10"	2'-0"
n502(E)	23'-0"	1'-2"
p500(E)	35'-10"	7'-7"
s506(E)	6'-8"	0'-6"
s510(E)	4'-8"	3'-7"



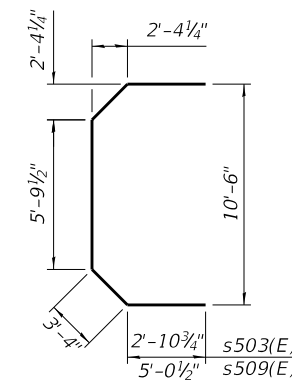
BARS s504(E), s505(E) & s511(E)

A DIMENSION

Bar	A
s504(E)	10'-6"
s505(E)	10'-0"
s511(E)	5'-8"



BARS s502(E) and s508(E)



BARS s503(E) and s509(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h500(E)	44	#8	42'-4"	—
h501(E)	28	#8	22'-1"	—
h502(E)	21	#6	28'-0"	—
h503(E)	14	#6	27'-11"	—
h504(E)	7	#6	17'-0"	—
h505(E)	90	#7	41'-2"	—
h506(E)	12	#6	9'-4"	—
* n500(E)	204	#11	19'-10"	—
* n501(E)	118	#11	21'-10"	—
n502(E)	124	#7	24'-2"	—
p500(E)	20	#10	43'-5"	—
p501(E)	20	#10	45'-0"	—
p502(E)	12	#10	33'-5"	—
p503(E)	44	#10	33'-7"	—
p504(E)	24	#10	17'-2"	—
s500(E)	360	#6	22'-9"	—
s501(E)	96	#6	17'-9"	—
* s502(E)	250	#6	17'-10"	—
* s503(E)	500	#6	18'-4"	—
s504(E)	3616	#5	11'-6"	—
s505(E)	1808	#5	11'-0"	—
s506(E)	4324	#5	7'-2"	—
s507(E)	4324	#5	7'-0"	—
s508(E)	18	#6	22'-2"	—
s509(E)	36	#6	22'-7"	—
s510(E)	60	#6	8'-3"	—
s511(E)	608	#5	6'-8"	—
t500(E)	116	#7	18'-8"	—
t501(E)	146	#8	18'-8"	—
u500(E)	260	#6	9'-10"	—
u501(E)	25	#6	11'-10"	—
u502(E)	36	#6	12'-6"	—
u503(E)	19	#6	13'-2"	—
u504(E)	62	#7	15'-8"	—
* v500(E)	204	#11	28'-11"	—
* v501(E)	118	#11	26'-11"	—
w500(E)	130	#7	25'-9"	—
w501(E)	96	#8	31'-0"	—
Concrete Structures		Cu. Yd.	1321.7	
Reinforcement Bars, Epoxy Coated		Pound	326,950	
Furnishing Steel Piles HP 14x89		Foot	3304	
Driving Piles		Foot	3304	
Test Pile, HP14x89		Each	1	
Cofferdam Excavation (Location-5)		Cu. Yd.	1087	
Cofferdam (Type 2)		Each	1	
Seal Coat Concrete		Cu. Yd.	385.1	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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REVISOR -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 5 REINFORCEMENT, 4 OF 4
STRUCTURE NO. 090-0180**

SHEET 5-321 OF 445 SHEETS

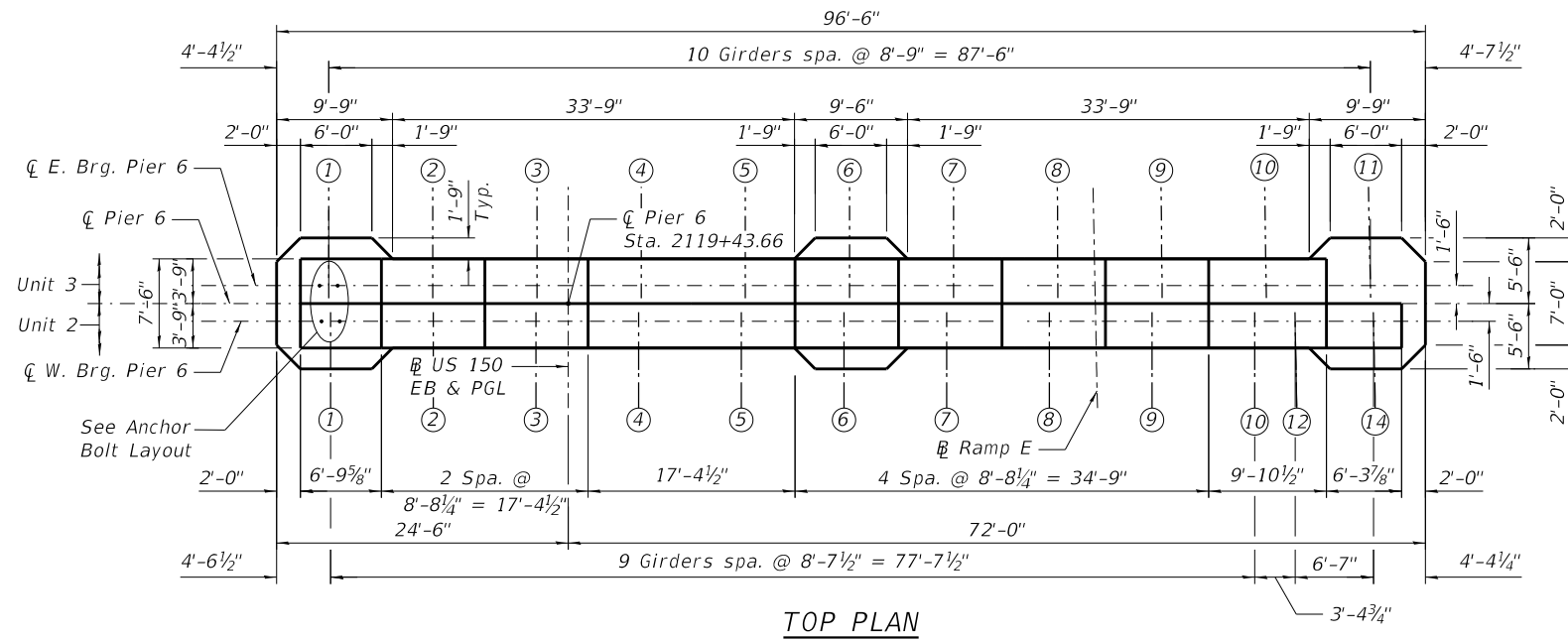
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1230
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

**UNIT 2
BEARING SEAT
ELEVATIONS**

Girder	Elevation
1	483.56
2	483.74
3	483.91
4	484.05
5	484.05
6	483.98
7	483.81
8	483.63
9	483.46
10	483.22
12	483.22
14	483.09

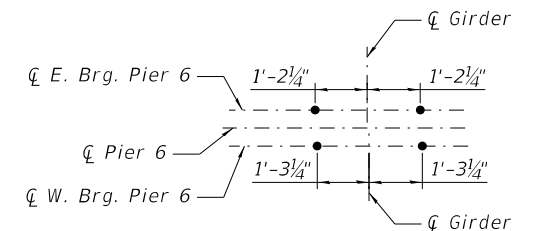
**UNIT 3
BEARING SEAT
ELEVATIONS**

Girder	Elevation
1	482.96
2	483.13
3	483.31
4	483.45
5	483.45
6	483.37
7	483.19
8	483.02
9	482.84
10	482.67
11	482.49

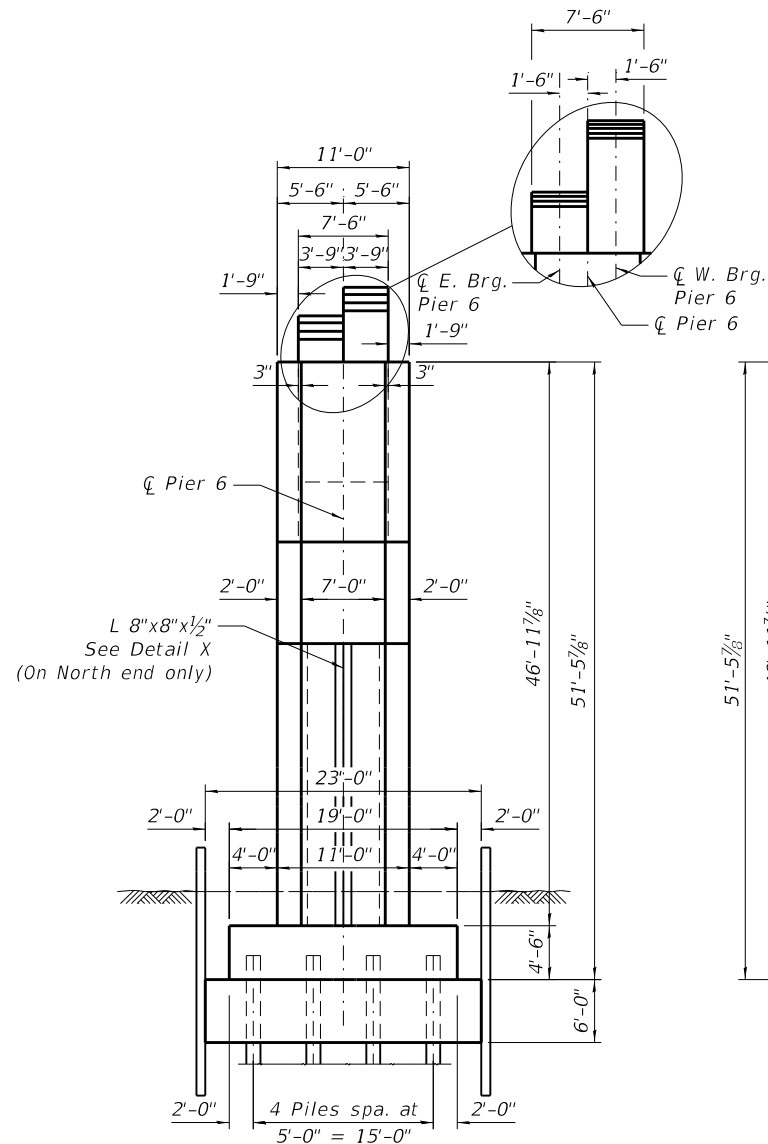


TOP PLAN

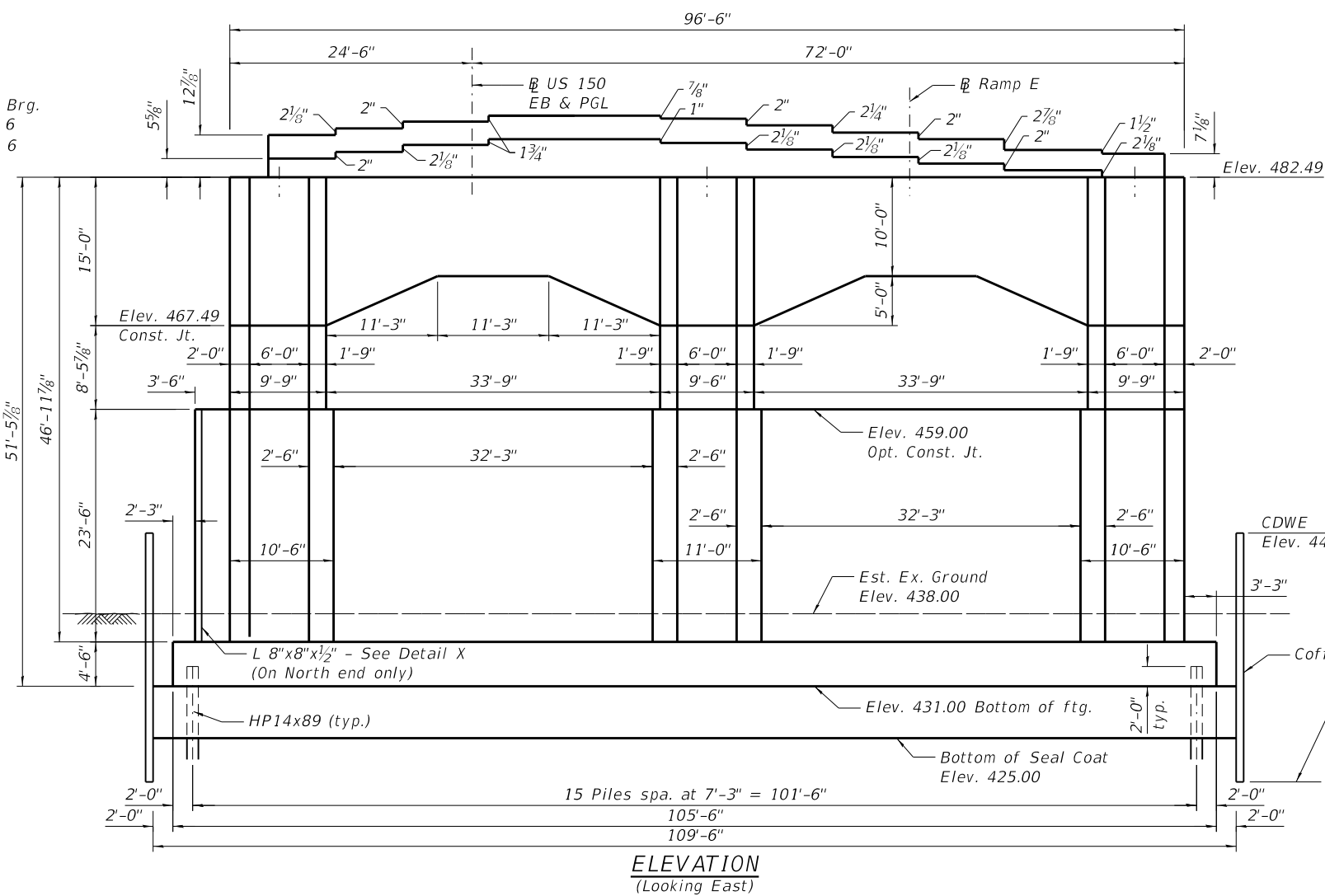
Notes:
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation. Pour steps monolithically with cap. Space reinforcement in cap to miss anchor bolts.



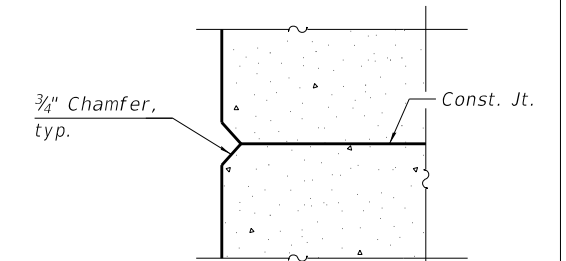
ANCHOR BOLT LAYOUT



**SIDE VIEW
(Looking South)**



**ELEVATION
(Looking East)**



CONSTRUCTION JOINT

- ▼ Design HWE Elev. 458.10
- ▼ 2% Flow Line Elev. 449.90
- ▼ EWSE Normal Pool Elev. 439.70
- ▼ CDWE Elev. 446.50

Estimated elevation 417.50 Seal coat thickness and cofferdam tip elevation are dependant on Contractor's design

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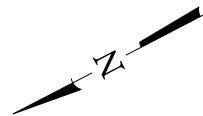
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**STATE OF ILLINOIS
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**PIER 6 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180**

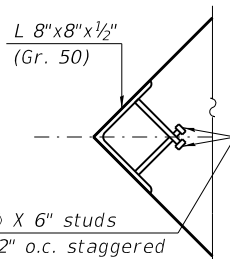
SHEET 5-322 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1231
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



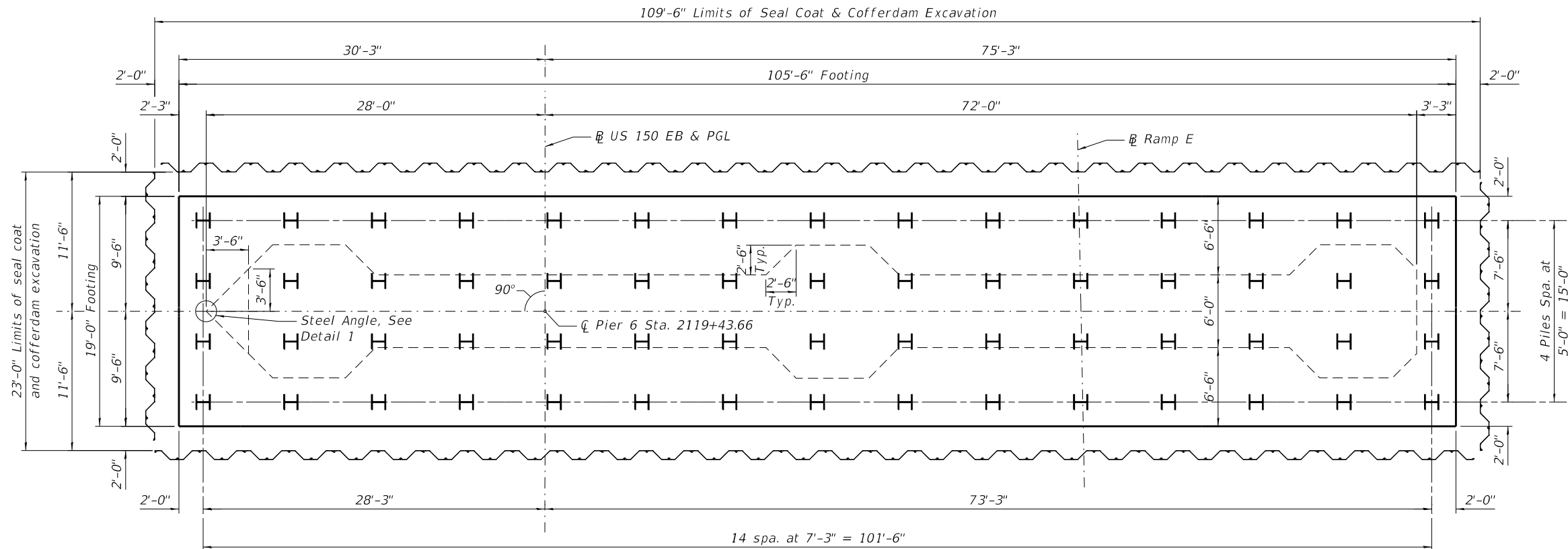
VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

	100 Yr. Water Level	
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular



DETAIL 1

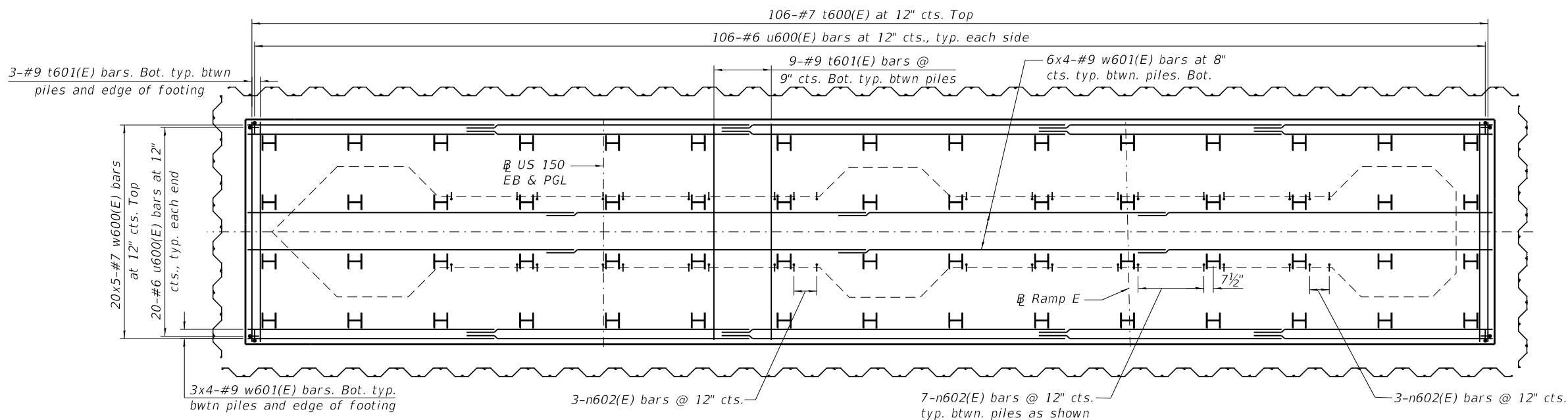
Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.



FOOTING PLAN DIMENSIONS

PILE DATA

Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 388 kips
Est. Length: 53'
No. Production Piles: 59
No. Test Piles: 1



FOOTING PLAN REINFORCEMENT

MINIMUM BAR LAP

#7 bar = 5'-0"
#8 bar = 5'-1"

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DRAWN - CH
PLOT SCALE = 10:8,0000 " / in.
PLOT DATE = 12/12/2018

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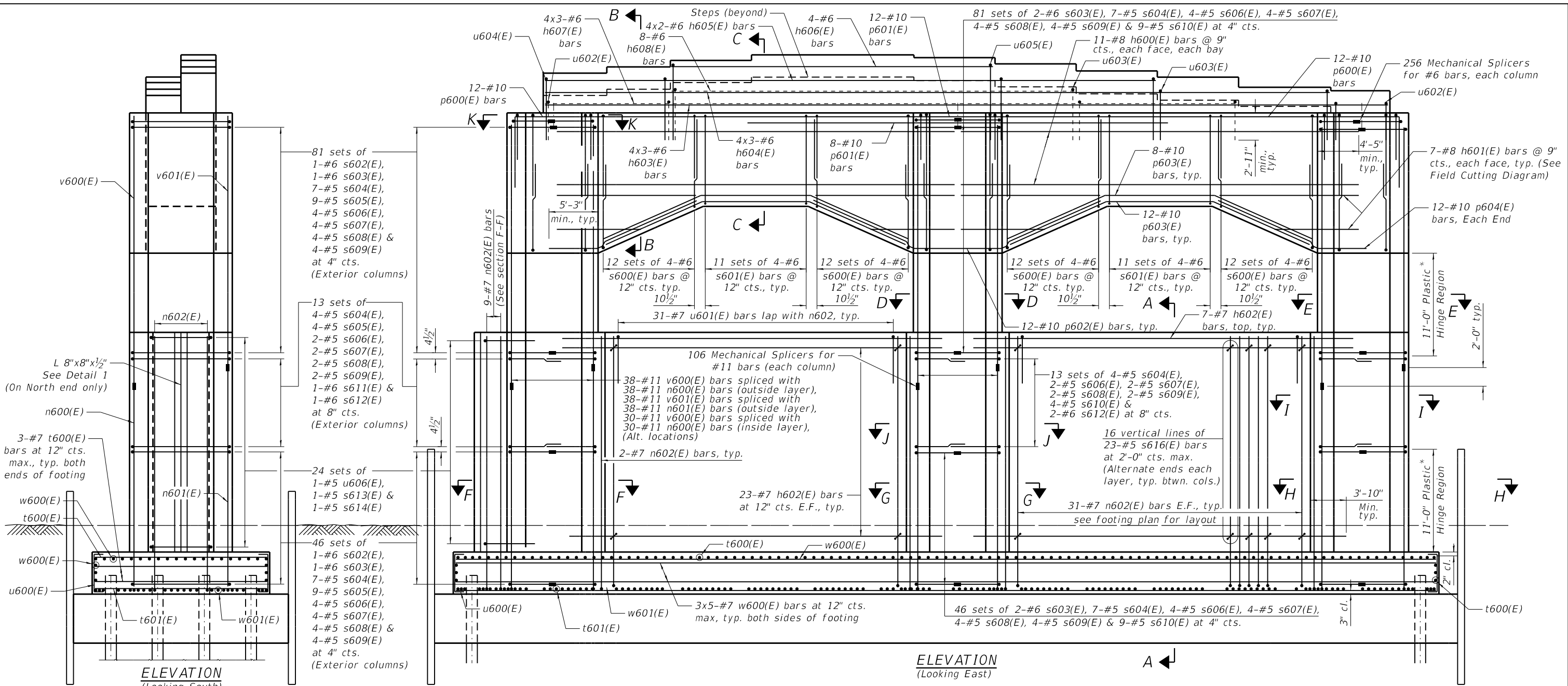
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 6 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-323 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1232
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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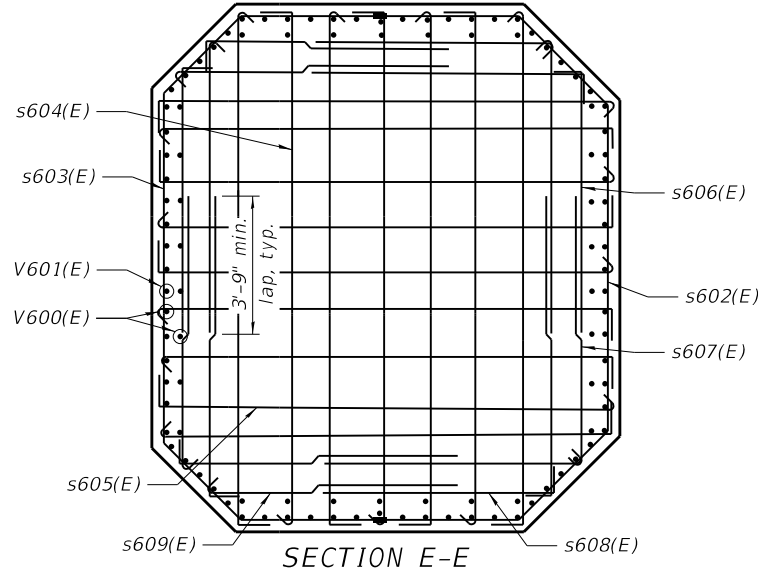
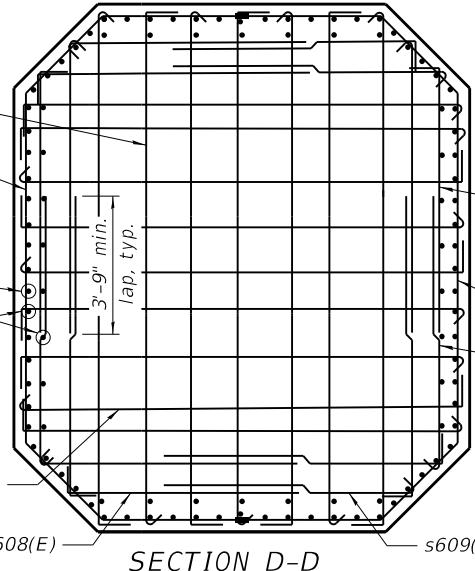


81 sets of
 1-#6 s602(E),
 1-#6 s603(E),
 7-#5 s604(E),
 9-#5 s605(E),
 4-#5 s606(E),
 4-#5 s607(E),
 4-#5 s608(E) &
 4-#5 s609(E)
 at 4" cts.
 (Exterior columns)

13 sets of
 4-#5 s604(E),
 4-#5 s605(E),
 2-#5 s606(E),
 2-#5 s607(E),
 2-#5 s608(E),
 2-#5 s609(E),
 1-#6 s611(E) &
 1-#6 s612(E)
 at 8" cts.
 (Exterior columns)

24 sets of
 1-#5 u606(E),
 1-#5 s613(E) &
 1-#5 s614(E)

46 sets of
 1-#6 s602(E),
 1-#6 s603(E),
 7-#5 s604(E),
 9-#5 s605(E),
 4-#5 s606(E),
 4-#5 s607(E),
 4-#5 s608(E) &
 4-#5 s609(E)
 at 4" cts.
 (Exterior columns)



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

MINIMUM BAR LAP

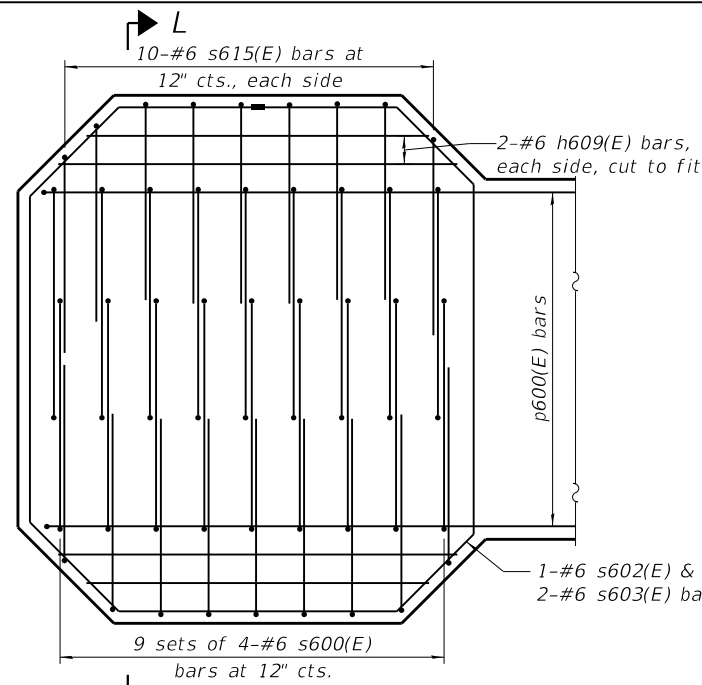
- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"
- #8 bar = 5'-1"
- #10 bar (top of cap) = 7'-8"
- #10 bar (bot. of cap) = 6'-9"

- Notes:
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-327 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-327 of 445.
 5. Alternate ends of s604(E) thru s610(E) bars each layer.

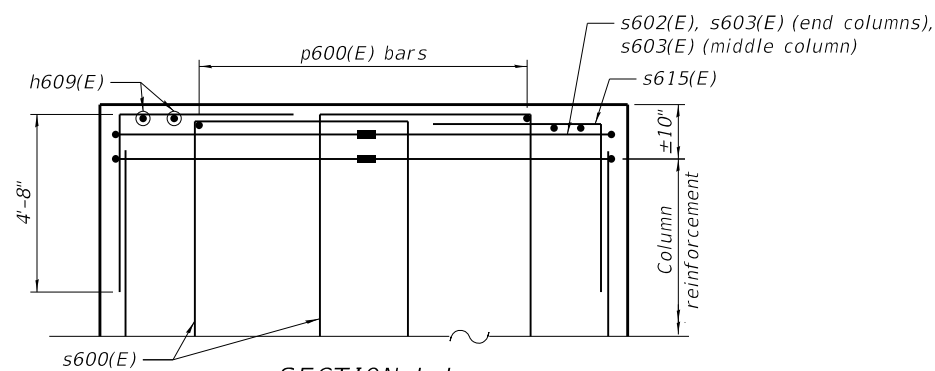
TYLIN INTERNATIONAL 200 S. WACKER DR. SUITE 1400 CHICAGO, IL 60606 TEL: 312-777-2900	USER NAME = CHORBACZ	DESIGNED - SP CHECKED - SP	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 6 REINFORCEMENT, 1 OF 4 STRUCTURE NO. 090-0180	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 10:8,000 "/ in.	DRAWN - CH CHECKED -	REVISED - REVISED -			317	(15B;(102-1),(14HB)JR)BR	PEO/TAZ	1361	1233
	PLOT DATE = 12/12/2018	CHECKED -	REVISED -			SHEET S-324 OF 445 SHEETS		CONTRACT NO. 68B46		ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

MINIMUM BAR LAP

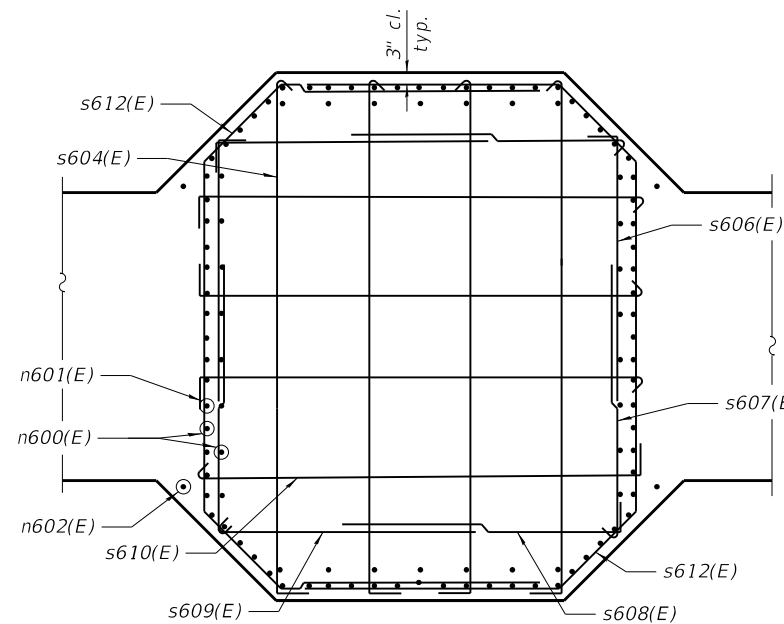
#5 bar = 3'-9"
 #6 bar = 4'-4"
 #7 bar = 5'-0"



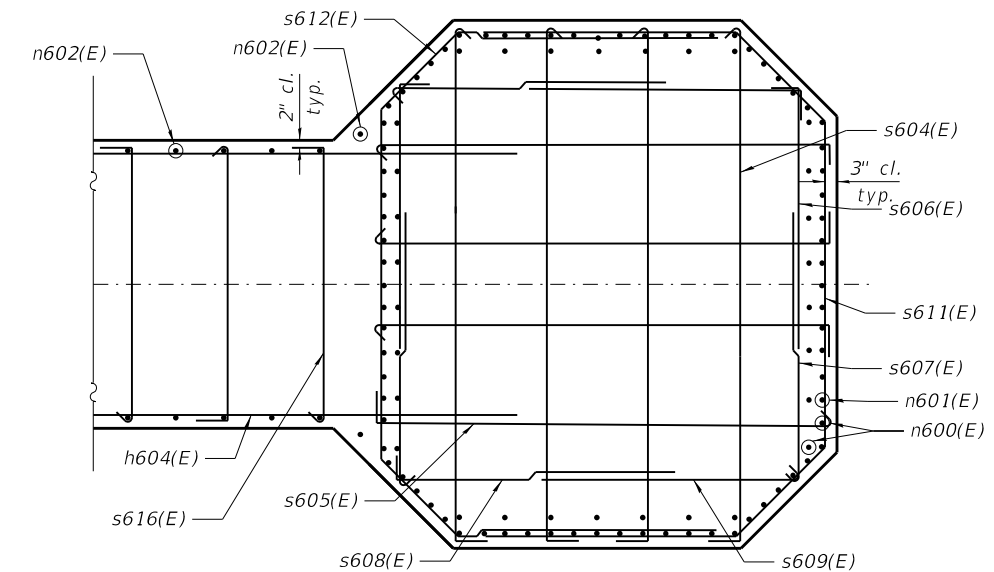
SECTION K-K
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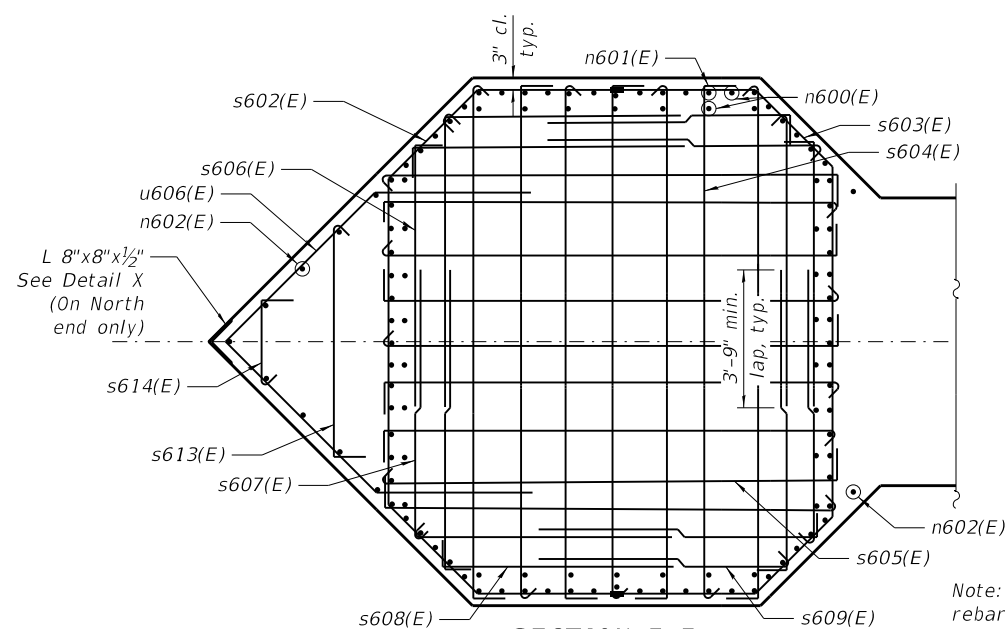
SECTION L-L



SECTION J-J

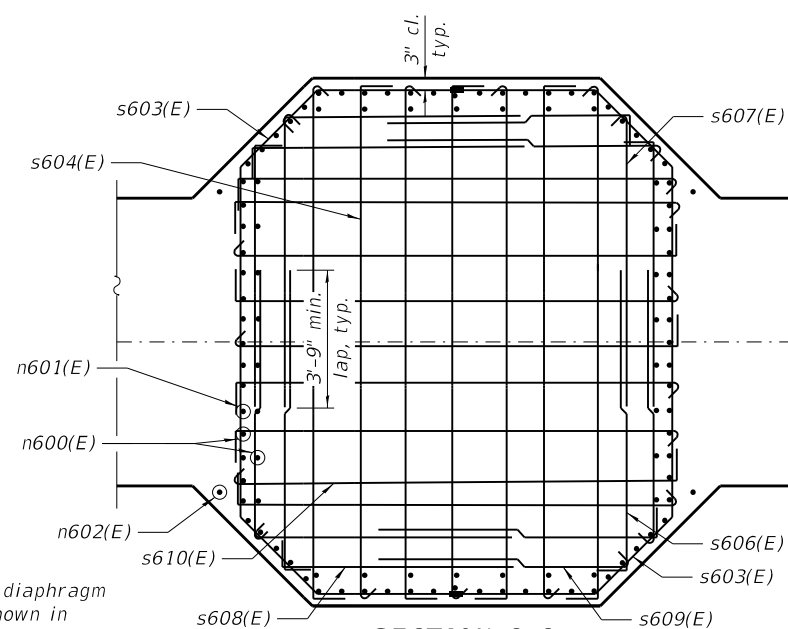


SECTION I-I

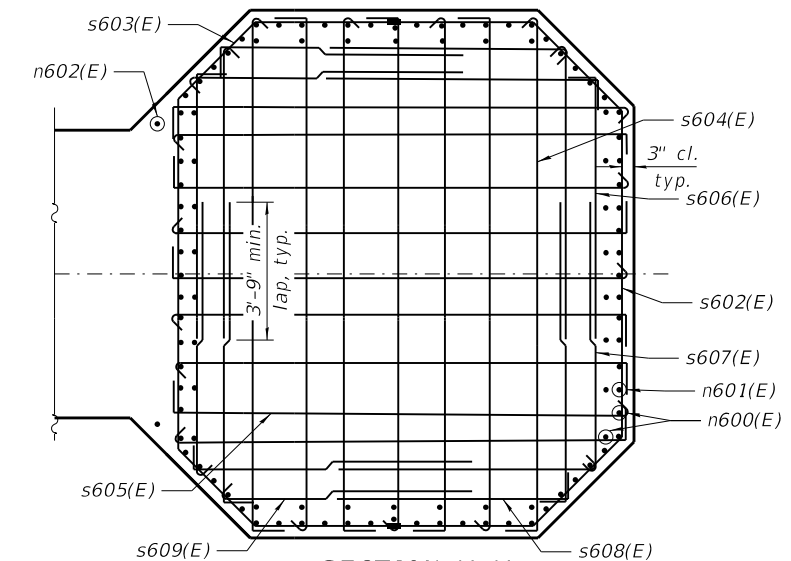


SECTION F-F

Note: Lower diaphragm rebar not shown in sections for clarity



SECTION G-G



SECTION H-H

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 CHICAGO, IL 60606
 TEL: 312-777-2900

USER NAME = CHORBACZ
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 PLOT DATE = 12/12/2018

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 CHECKED - SP
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 CHECKED -

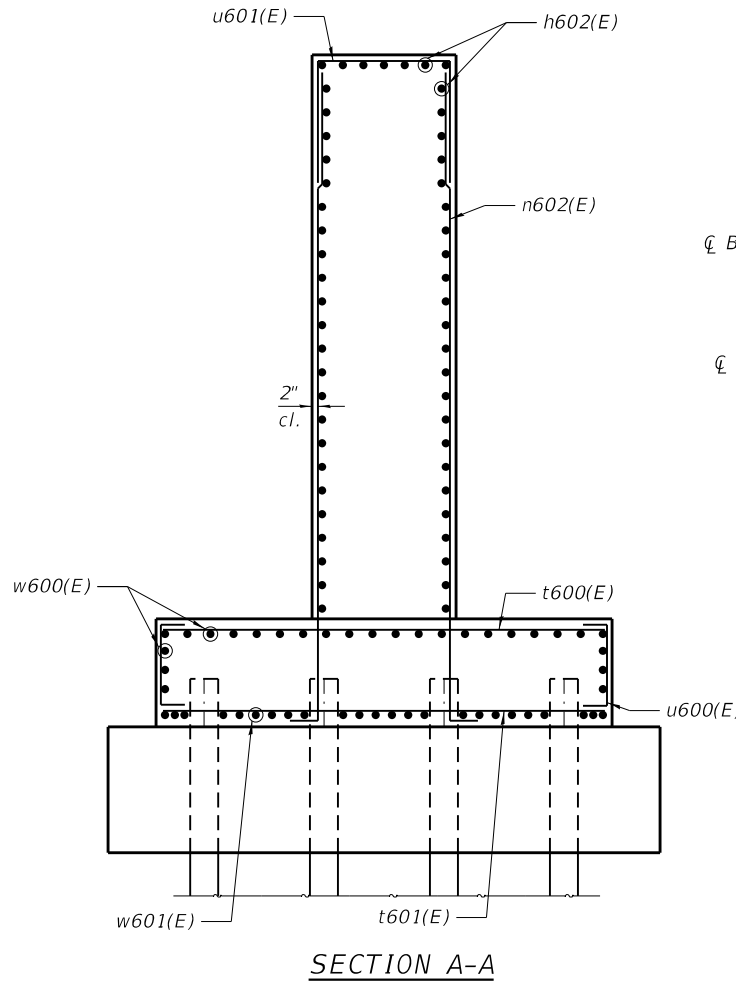
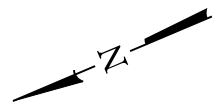
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 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

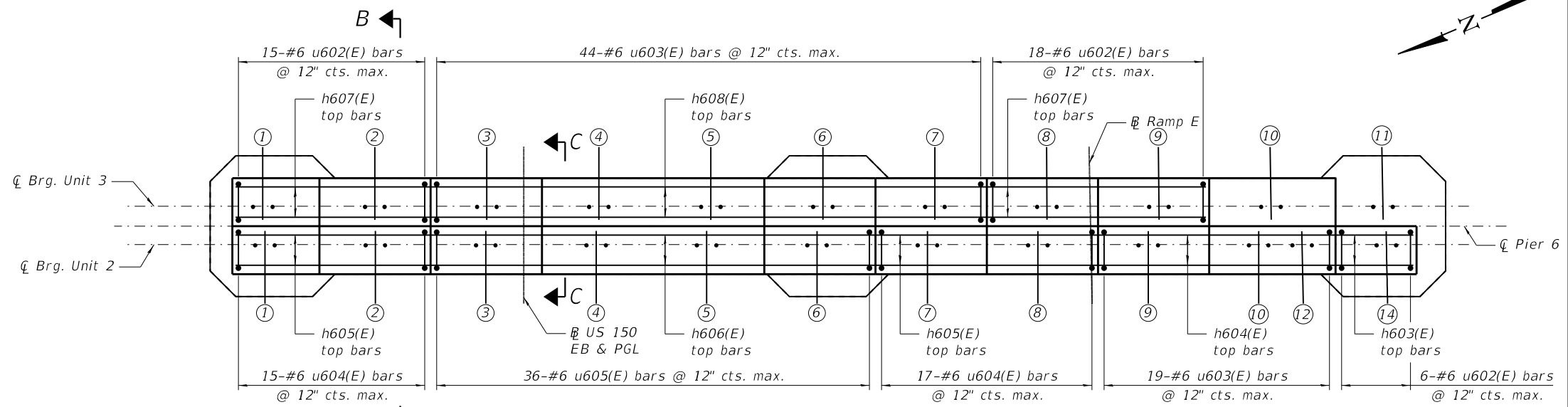
**PIER 6 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180**

SHEET 5-325 OF 445 SHEETS

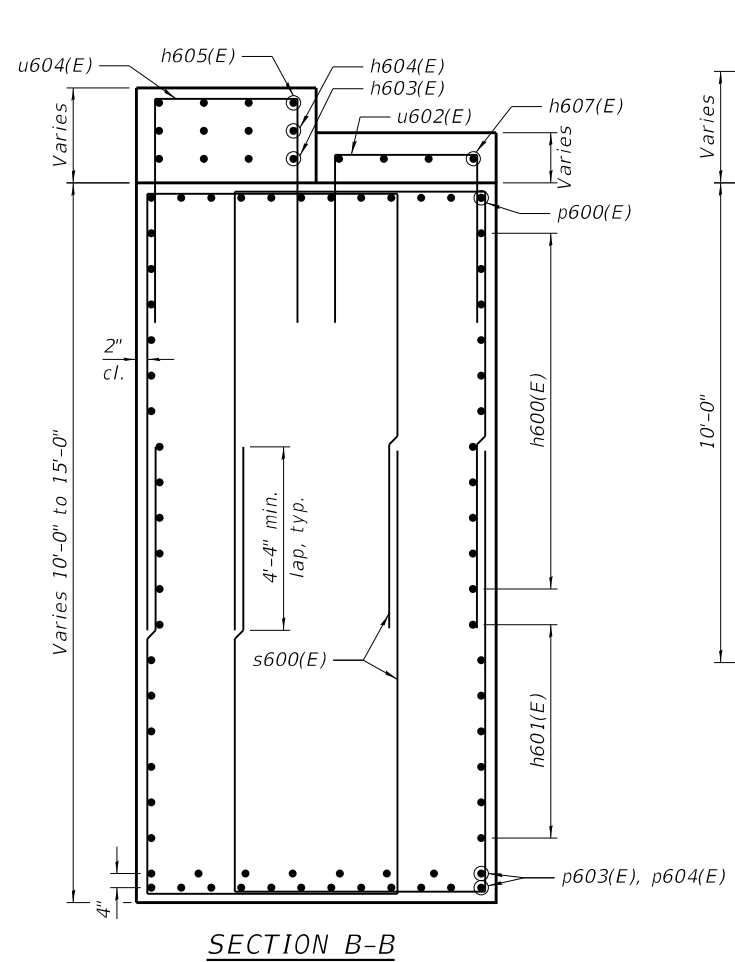
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1234
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



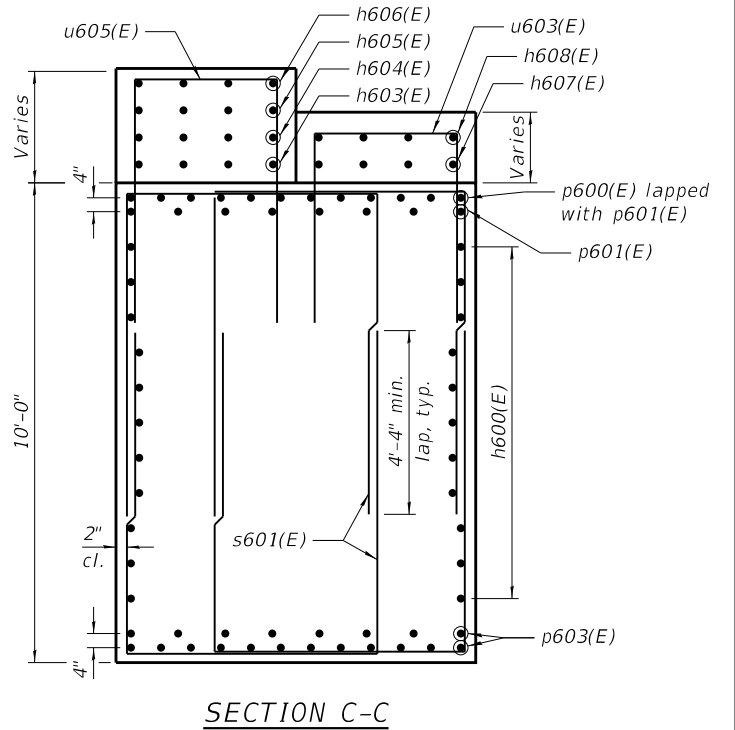
SECTION A-A



PLAN VIEW - CAP BEARING SEAT REINFORCEMENT



SECTION B-B



SECTION C-C

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"

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200 S. WACKER DR.
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CHICAGO, IL 60606
TEL: 312-777-2900

USER NAME = CHORBACZ
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CHECKED - SP
DRAWN - CH
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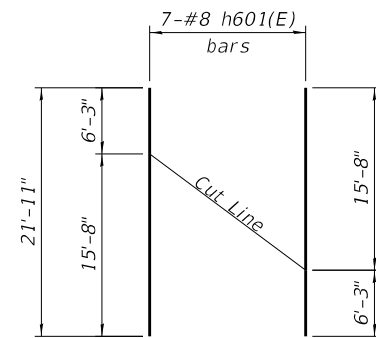
REVISIONS:
REVISOR: SP
DATE: 12/12/2018
CHECKED: -
REVISOR: -
DATE: -
CHECKED: -
REVISOR: -
DATE: -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PIER 6 REINFORCEMENT, 3 OF 4
STRUCTURE NO. 090-0180

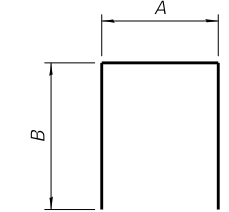
SHEET 5-326 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1235
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



FIELD CUTTING DIAGRAM

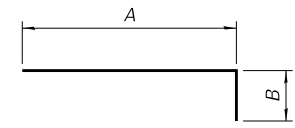
Order full length. Cut as shown and use remainder of bars in opposite face.



BAR s600(E), s601(E), u600(E), u601(E), u602(E), u603(E), u604(E) & u605(E)

A & B DIMENSIONS

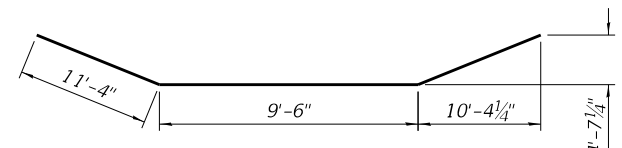
Bar	A	B
s600(E)	5'-2"	9'-6"
s601(E)	5'-2"	7'-0"
u600(E)	4'-0"	2'-11"
u601(E)	5'-8"	5'-0"
u602(E)	3'-5"	3'-1"
u603(E)	3'-5"	3'-5"
u604(E)	3'-5"	3'-9"
u605(E)	3'-5"	4'-1"



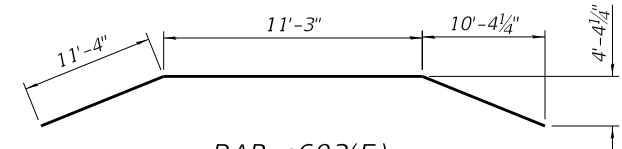
BARS n600(E), n601(E), n602(E), s606(E), p600(E), s608(E) & s615(E)

A & B DIMENSIONS

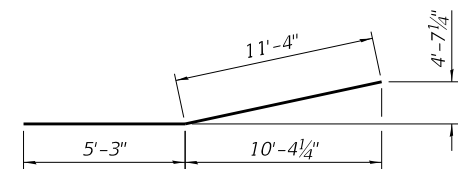
Bar	A	B
n600(E)	21'-11"	2'-0"
n601(E)	23'-11"	2'-0"
n602(E)	27'-6"	1'-2"
s606(E)	6'-8"	0'-6"
p600(E)	35'-4"	7'-7"
s608(E)	5'-11"	0'-6"
s615(E)	4'-8"	3'-7"



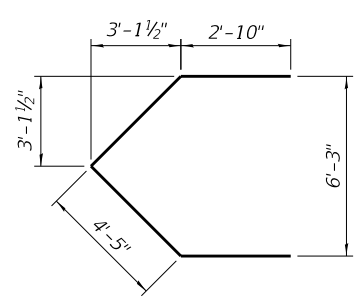
BAR p602(E)



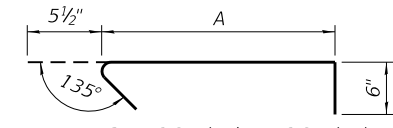
BAR p603(E)



BAR p604(E)



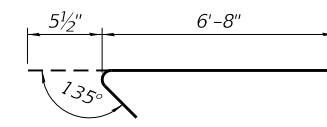
BAR u606(E)



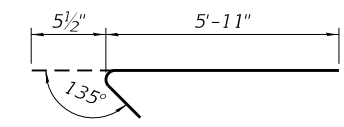
BARS s604(E), s605(E), s610(E), s613(E), s614(E) & s616(E)

A DIMENSION

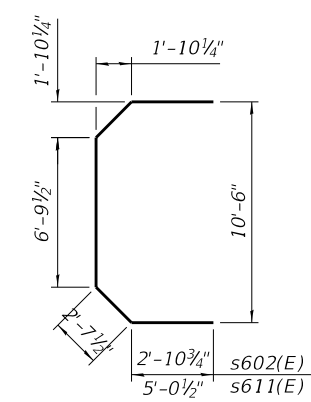
Bar	A
s604(E)	10'-6"
s605(E)	9'-3"
s610(E)	9'-0"
s613(E)	4'-7"
s614(E)	1'-7"
s616(E)	5'-8"



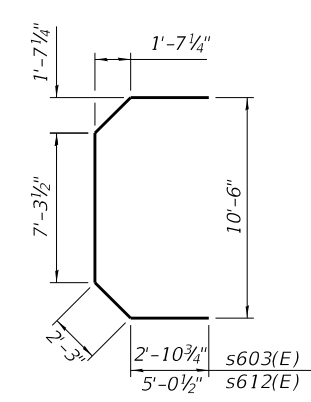
BARS s607(E)



BARS s609(E)



BARS s602(E) and s611(E)



BARS s603(E) and s612(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h600(E)	44	#8	42'-7"	—
h601(E)	28	#8	21'-11"	—
h602(E)	106	#7	39'-11"	—
h603(E)	12	#6	33'-0"	—
h604(E)	12	#6	30'-11"	—
h605(E)	8	#6	34'-11"	—
h606(E)	4	#6	34'-5"	—
h607(E)	12	#6	27'-7"	—
h608(E)	8	#6	23'-9"	—
h609(E)	12	#6	9'-4"	—
n600(E)	204	#11	23'-11"	┘
n601(E)	114	#11	25'-11"	┘
n602(E)	141	#7	28'-8"	┘
p600(E)	24	#10	42'-11"	┘
p601(E)	20	#10	45'-0"	┘
p602(E)	12	#10	28'-8"	┘
p603(E)	40	#10	30'-5"	┘
p604(E)	24	#10	17'-5"	┘
s600(E)	300	#6	24'-2"	┘
s601(E)	88	#6	19'-2"	┘
s602(E)	256	#6	17'-10"	┘
s603(E)	512	#6	17'-8"	┘
s604(E)	2823	#5	11'-6"	┘
s605(E)	2390	#5	10'-3"	┘
s606(E)	1602	#5	7'-2"	┘
s607(E)	1602	#5	7'-2"	┘
s608(E)	1602	#5	6'-5"	┘
s609(E)	1602	#5	6'-5"	┘
s610(E)	1195	#5	10'-0"	┘
s611(E)	26	#6	22'-2"	┘
s612(E)	52	#6	21'-11"	┘
s613(E)	24	#5	5'-7"	┘
s614(E)	24	#5	2'-7"	┘
s615(E)	60	#6	8'-3"	┘
s616(E)	736	#5	6'-8"	┘
t600(E)	112	#7	18'-8"	—
t601(E)	132	#9	18'-8"	—
u600(E)	252	#6	9'-10"	┘
u601(E)	62	#7	15'-8"	┘
u602(E)	39	#6	9'-7"	┘
u603(E)	63	#6	10'-3"	┘
u604(E)	32	#6	10'-11"	┘
u605(E)	36	#6	11'-7"	┘
u606(E)	24	#5	10'-1"	┘
v600(E)	204	#11	28'-6"	—
v601(E)	114	#11	26'-6"	—
w600(E)	130	#7	25'-1"	—
w601(E)	96	#9	30'-7"	—
Concrete Structures		Cu. Yd.	1456.2	
Reinforcement Bars, Epoxy Coated		Pound	329,380	
Furnishing Steel Piles HP 14x89		Foot	3127	
Driving Piles		Foot	3127	
Test Pile, HP14x89		Each	1	
Cofferdam Excavation		Cu. Yd.	1213	
Cofferdam (Type 2) (Location-6)		Each	1	
Seal Coat Concrete		Cu. Yd.	559.7	
Concrete Sealer		Sq. Ft.	9899	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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TYLIN INTERNATIONAL
200 S. WACKER DR.
SUITE 1400
CHICAGO, IL 60606
TEL: 312-777-2900

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PLOT DATE = 12/12/2018	DRAWN -	REVISED -
	CHECKED -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 6 REINFORCEMENT, 4 OF 4
STRUCTURE NO. 090-0180**

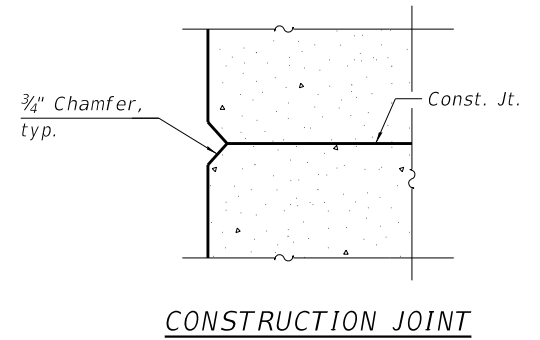
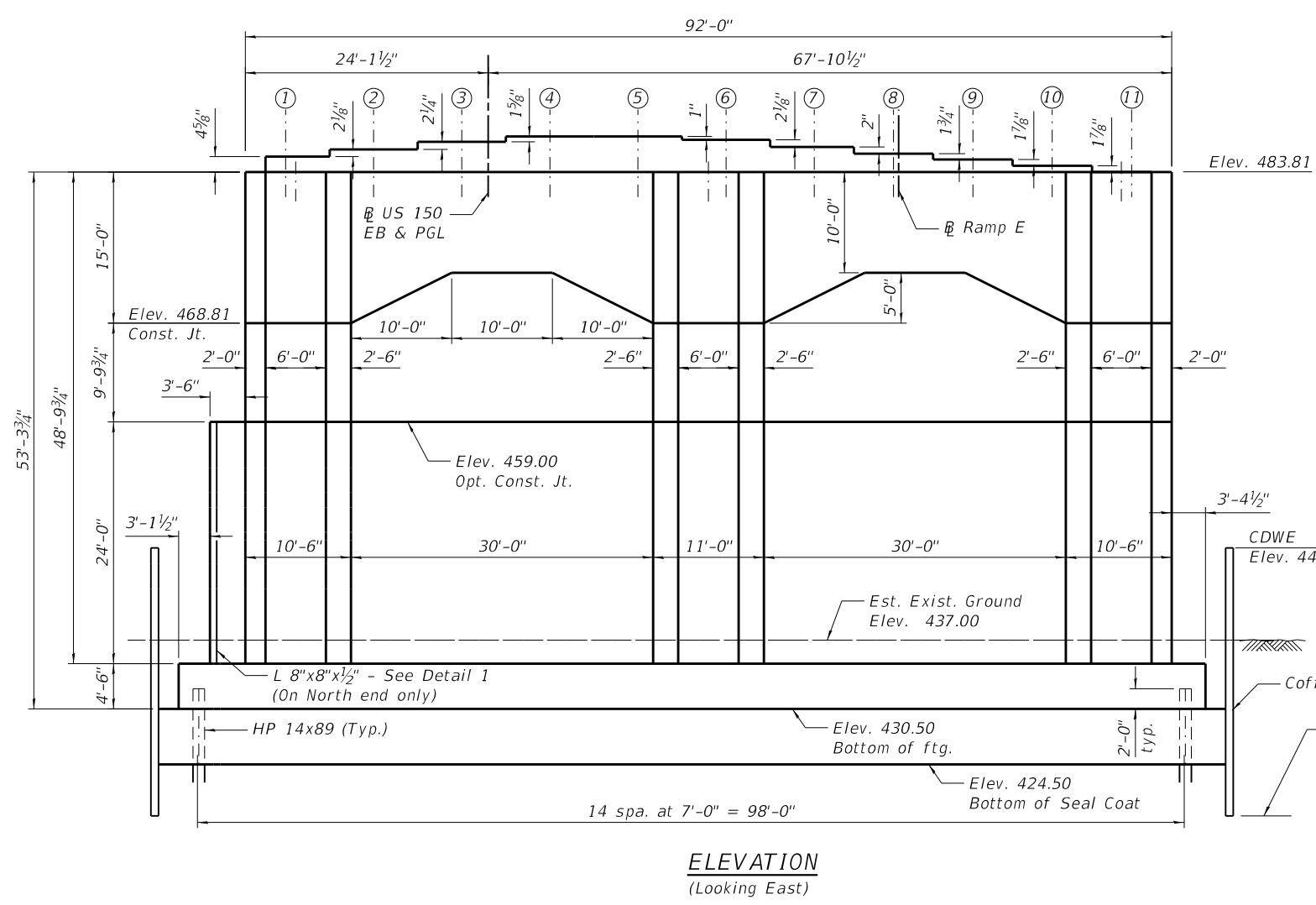
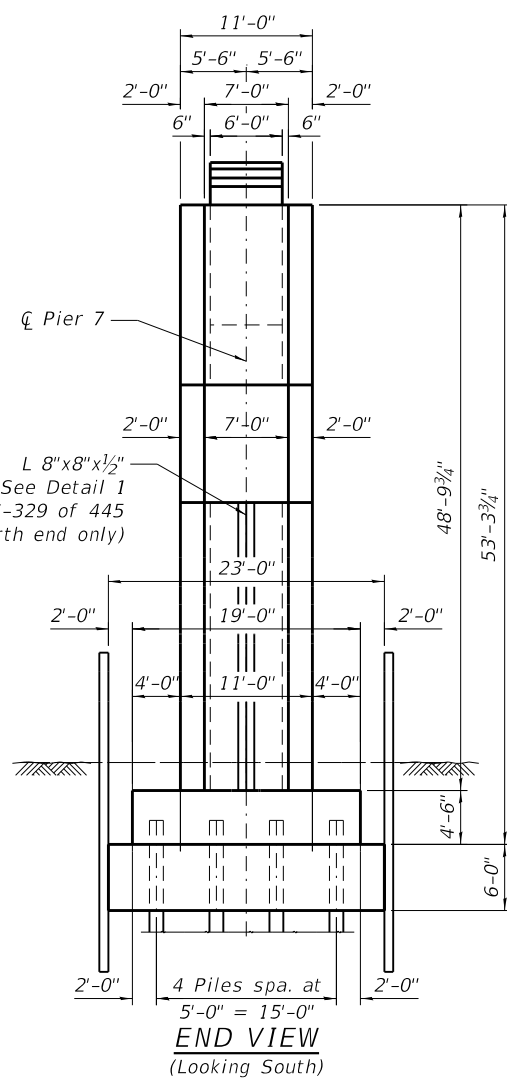
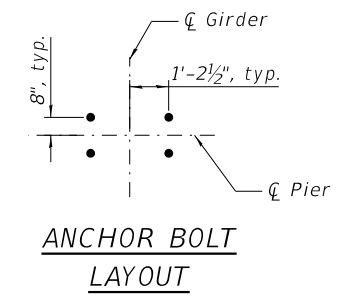
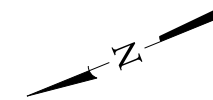
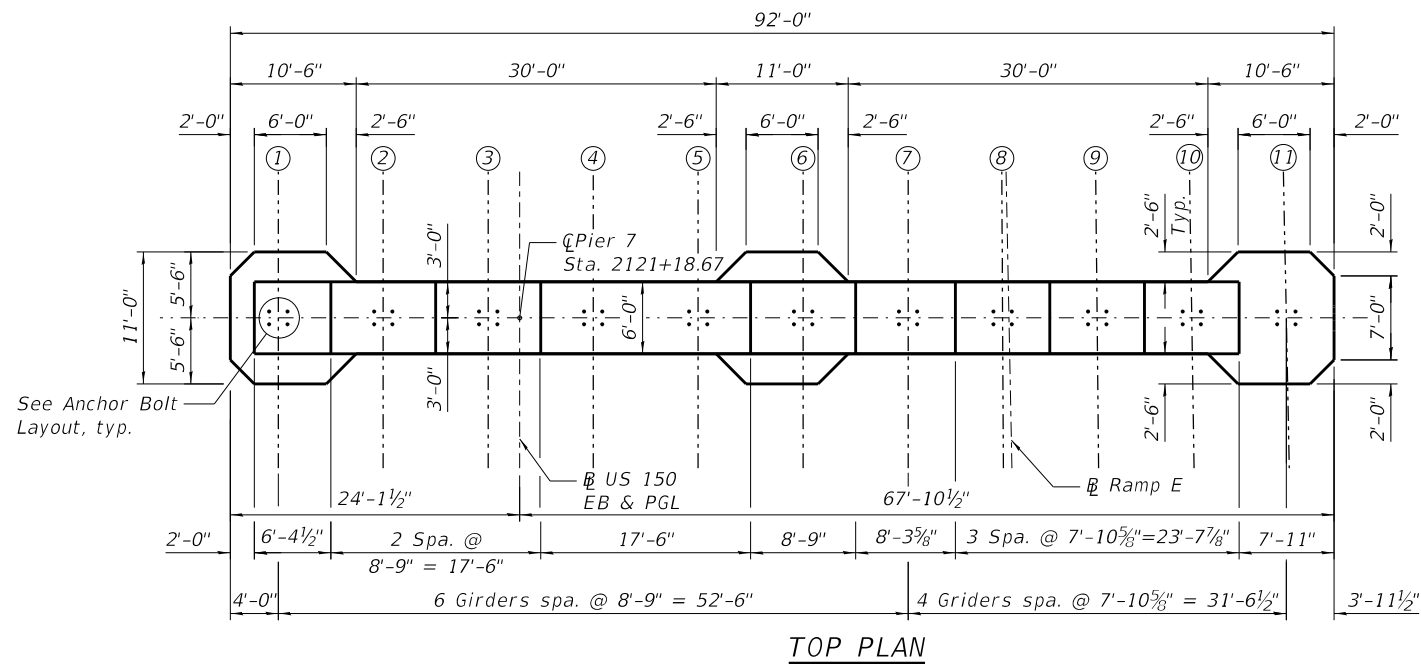
SHEET 5-327 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1236
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

Notes:
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.

BEARING SEAT ELEVATIONS

Girder	Elevation
1	484.21
2	484.39
3	484.57
4	484.71
5	484.71
6	484.62
7	484.45
8	484.27
9	484.13
10	483.97
11	483.81



- ▼ Design HWE Elev. 458.10
- ▼ 2% Flow Line Elev. 449.90
- ▼ CDWE Elev. 446.50
- ▼ EWSE Elev. 443.50
- ▼ Normal Pool Elev. 439.70

Estimated elevation 417.00 Seal coat thickness and cofferdam tip elevation are dependant on Contractor's design

MODEL: Default FILE NAME: pw:\1\sp\sv\306\hanson\Projects\Documents\13\obs\13\H0106\Phase-III\CAD\Struct\Sheet\0900180-XXXXX-TYLI-8280-Pier 7 Plan and Elev.dgn

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 CHICAGO, IL 60606
 TEL: 312-777-2900

USER NAME = spantazis
 PLOT SCALE = 16:0.0000 "/ in.
 PLOT DATE = 2/4/2019

DESIGNED -
 CHECKED -
 DRAWN -
 CHECKED -
 REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER 7 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180**

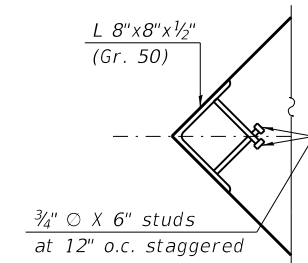
SHEET 5-328 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1237
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

	100 Yr. Water Level	
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



DETAIL 1

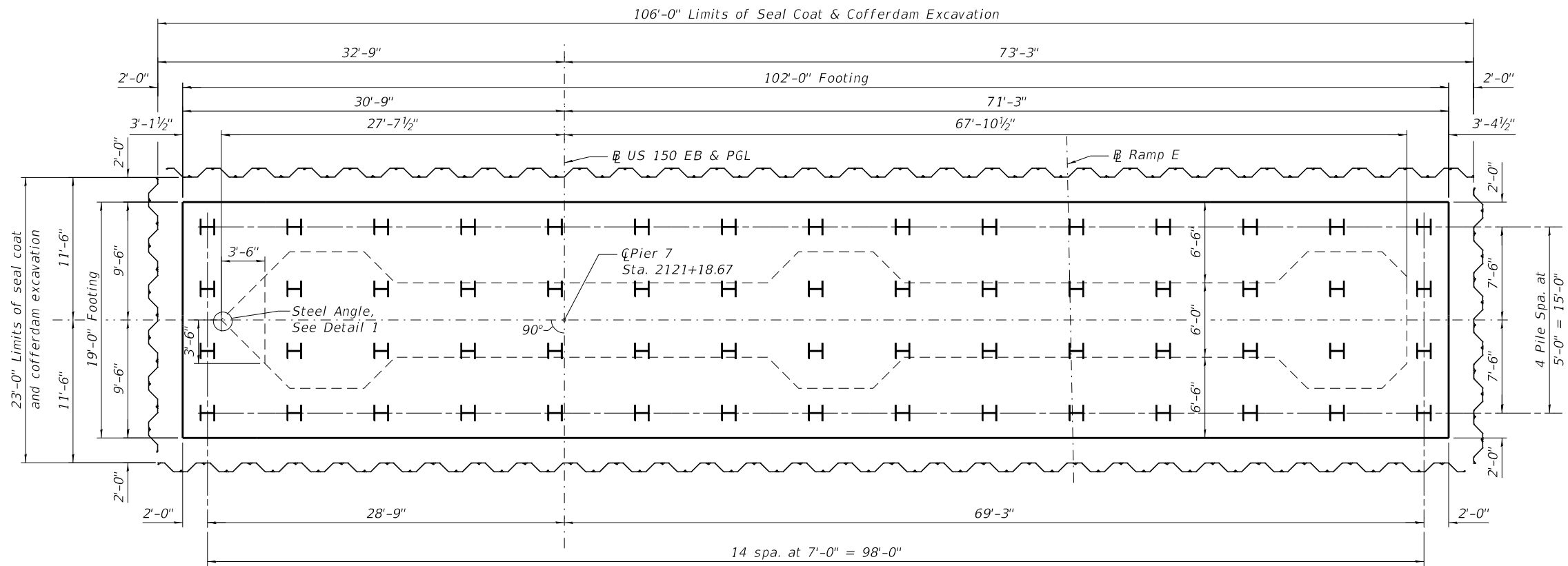
Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.

PILE DATA

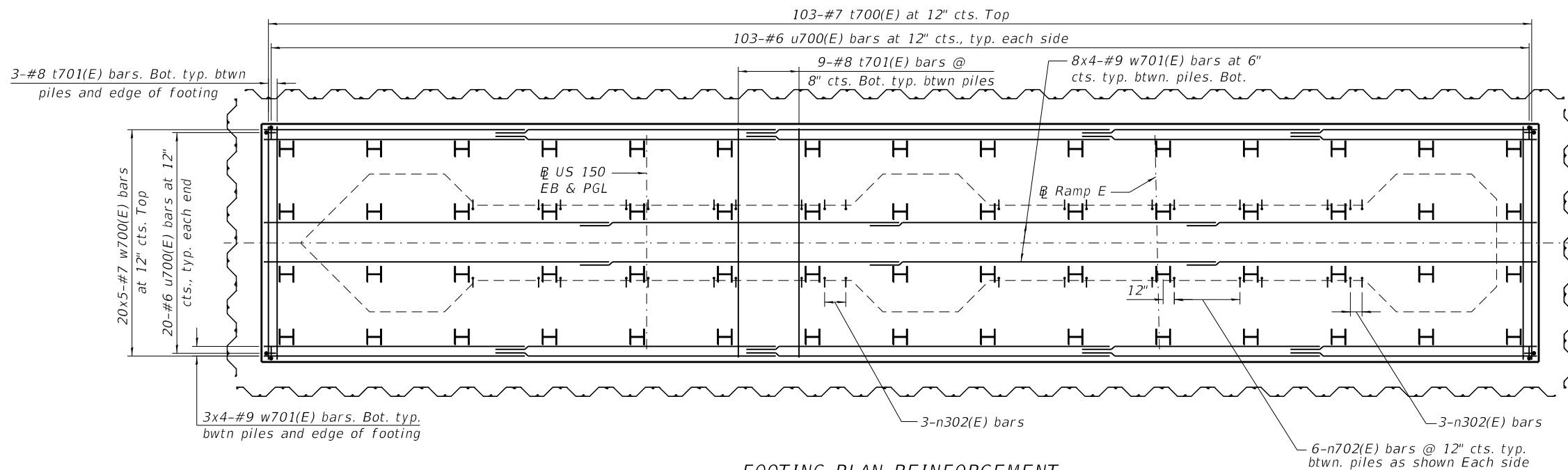
Type: HP 14x89
Nominal Required Bearing: 705 kips
Factored Resistance Available: 388 kips
Est. Length: 61'
No. Production Piles: 59
No. Test Piles: 1

MINIMUM BAR LAP

#7 bar = 5'-0"
#8 bar = 5'-1"



FOOTING PLAN DIMENSIONS



FOOTING PLAN REINFORCEMENT

MODEL: Default
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TYLIN INTERNATIONAL
200 S. WACKER DR.
SUITE 1400
CHICAGO, IL 60606
TEL: 312-777-2900

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DESIGNED -
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PLOT DATE = 12/12/2018
CHECKED -

DESIGNED -
CHECKED -
DRAWN -
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REVISED -
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REVISED -
REVISED -

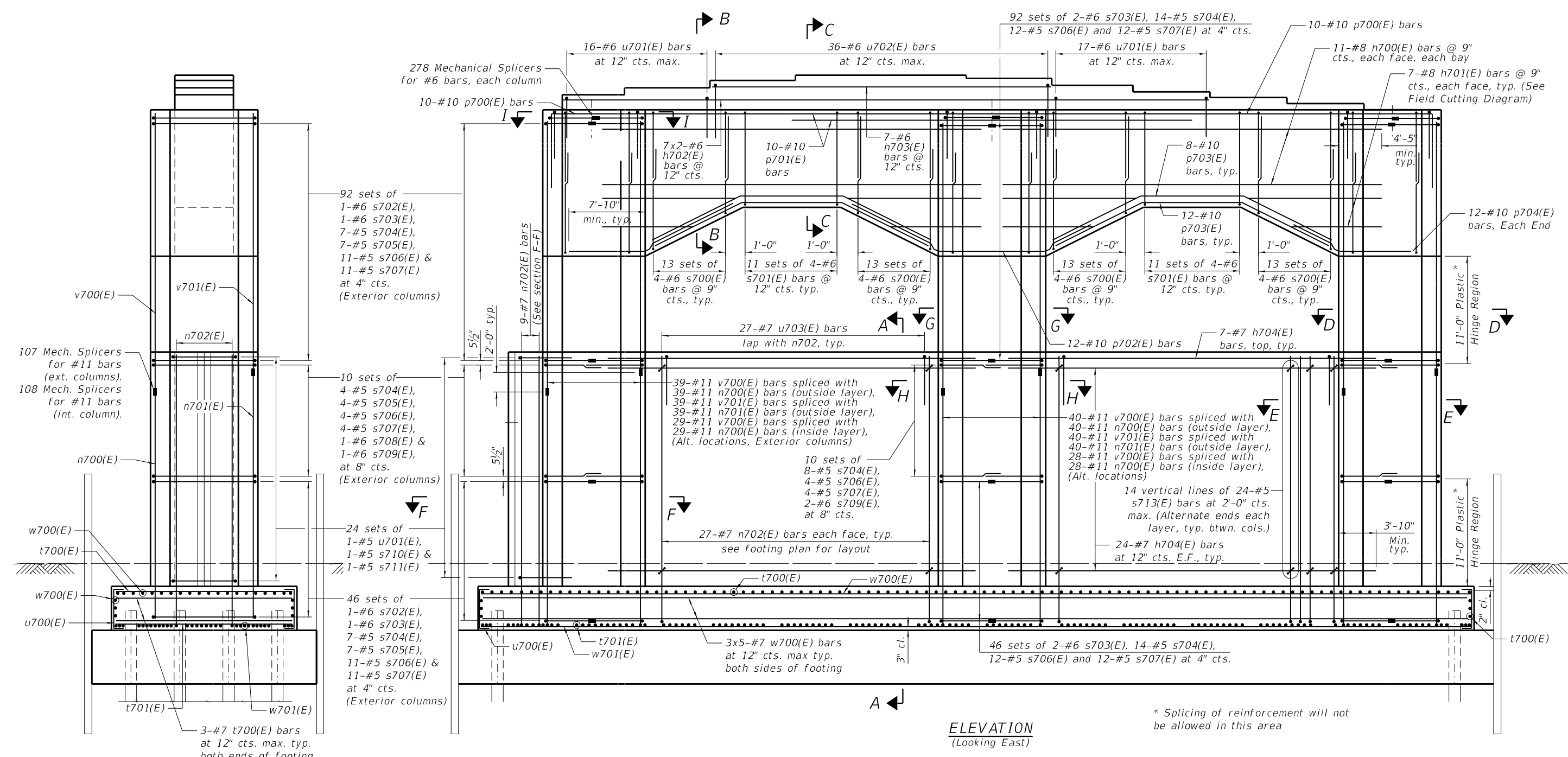
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 7 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-329 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1238
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

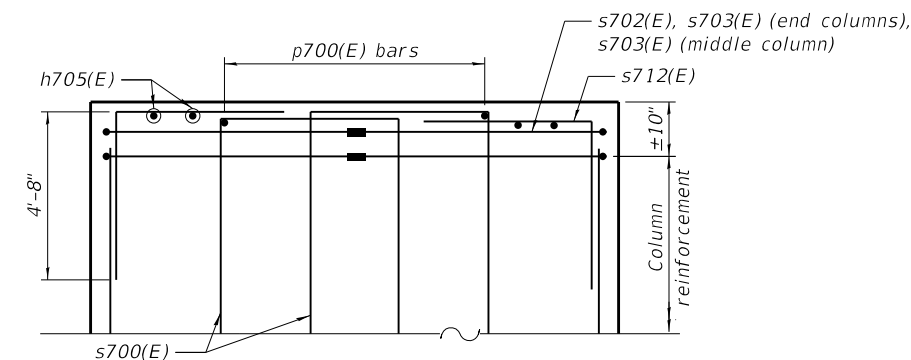
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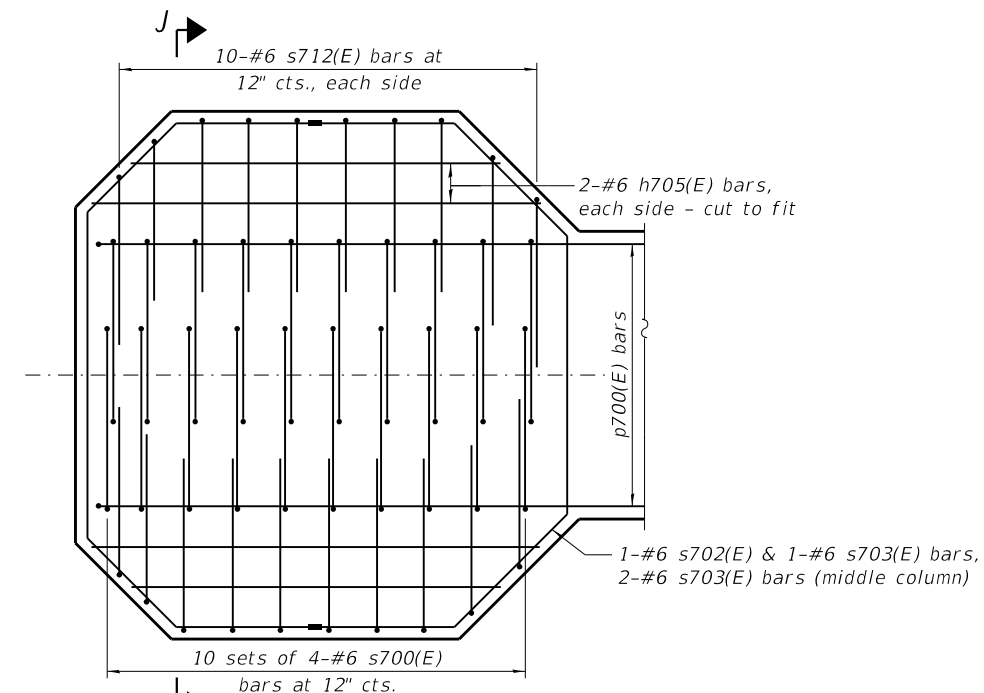
TYLIN INTERNATIONAL 200 S. WACKER DR. SUITE 1400 CHICAGO, IL 60606 TEL: 312-777-2900	USER NAME = CHORBACZ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 7 REINFORCEMENT, 1 OF 4 STRUCTURE NO. 090-0180	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 12/12/2018	CHECKED -	REVISED -				CONTRACT NO. 68B46		ILLINOIS FED. AID PROJECT NHPP-YRP3(905)		

MINIMUM BAR LAP

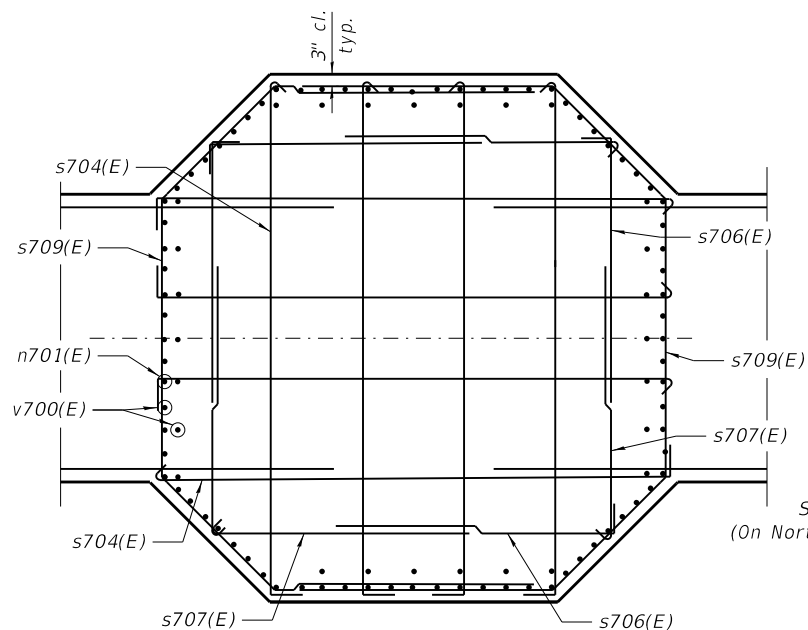
- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"



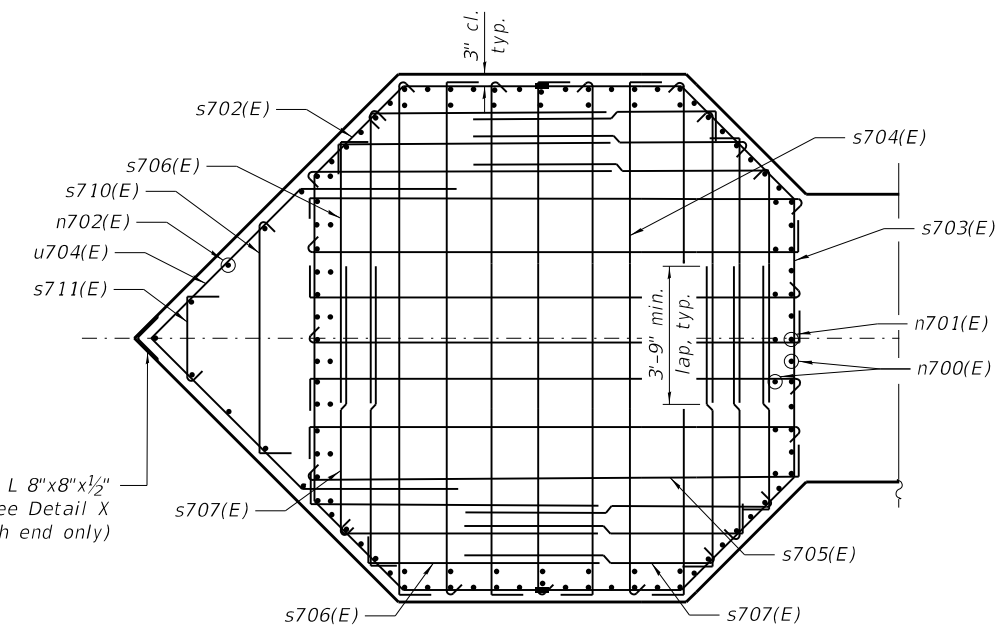
SECTION J-J



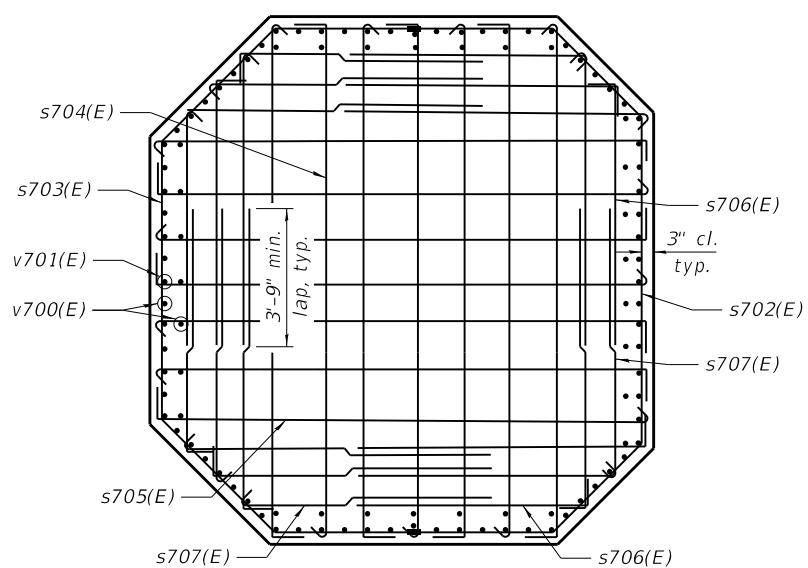
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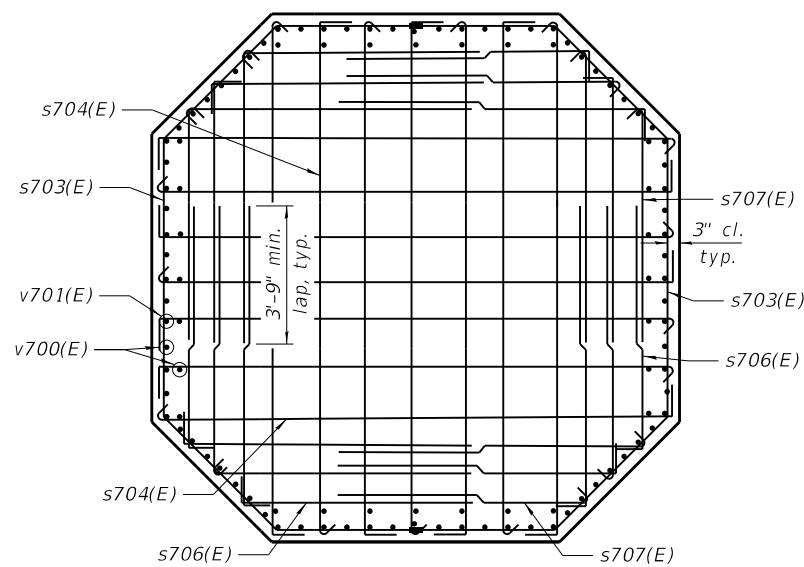
SECTION H-H



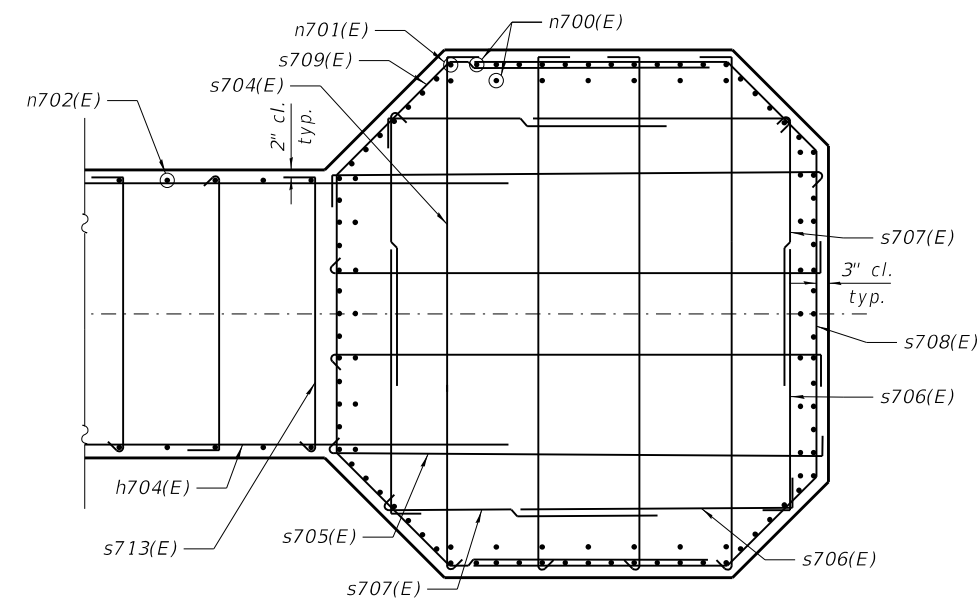
SECTION F-F



SECTION D-D



SECTION G-G



SECTION E-E

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TYLIN INTERNATIONAL
200 S. WACKER DR.
SUITE 1400
CHICAGO, IL 60606
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USER NAME = CHORBACZ
DESIGNED -
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PLOT SCALE = 16:0.0000 "/ in.
DRAWN -
PLOT DATE = 12/12/2018
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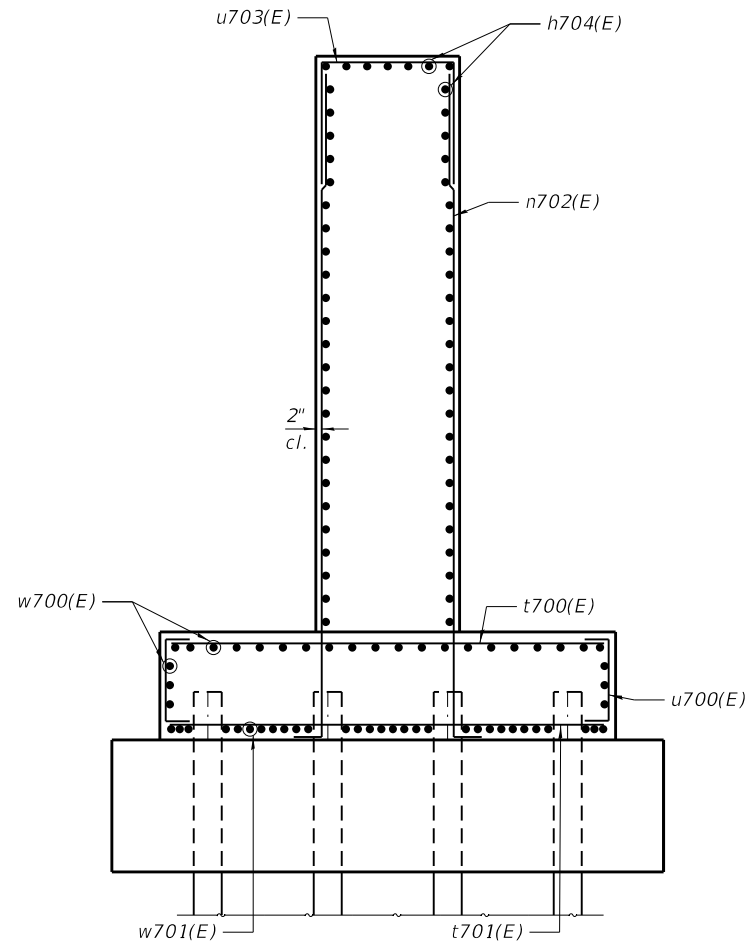
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 7 REINFORCEMENT, 2 OF 4
STRUCTURE NO. 090-0180**

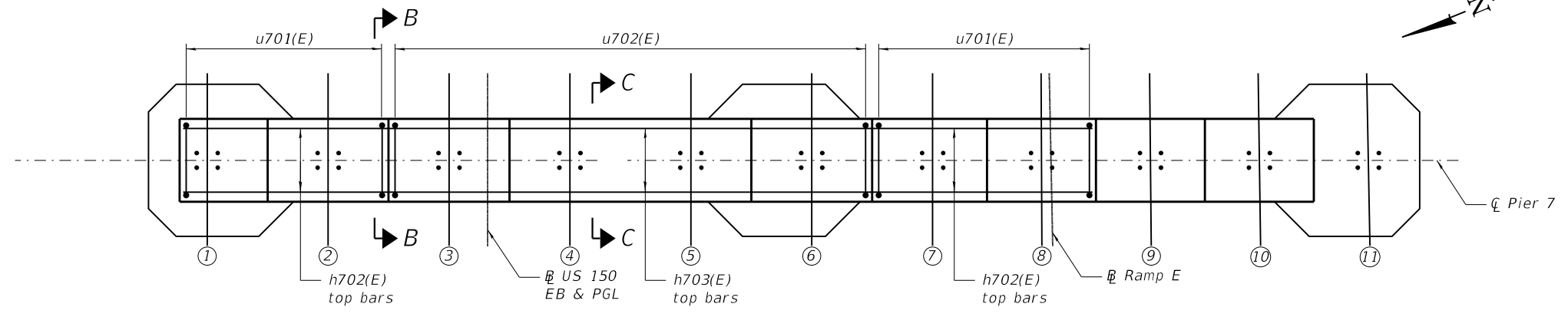
SHEET 5-331 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1240
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

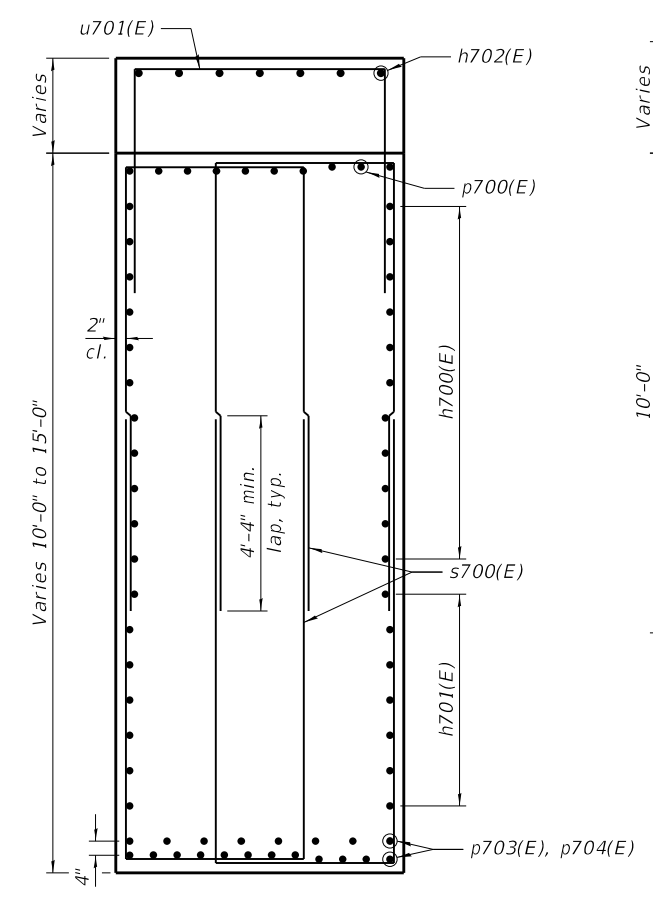
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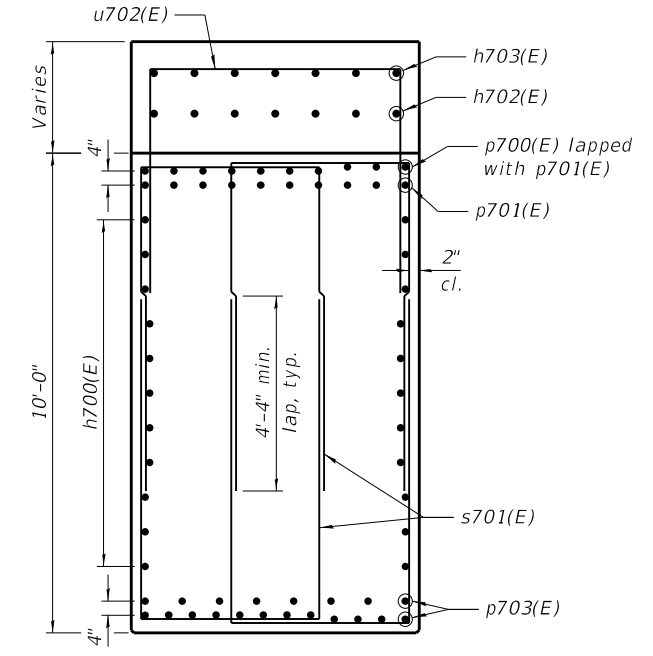
SECTION A-A



PLAN VIEW-CAP BEARING SEAT REINFORCEMENT



SECTION B-B



SECTION C-C

MINIMUM BAR LAP

#6 bar = 4'-4"
 #7 bar = 5'-0"

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 TEL: 312-777-2900

USER NAME = CHORBACZ
 PLOT SCALE = 16:0,0000 '"/ in.
 PLOT DATE = 12/12/2018

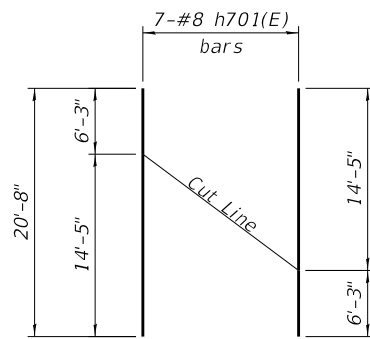
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CHECKED -	REVISD -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 7 REINFORCEMENT, 3 OF 4
 STRUCTURE NO. 090-0180

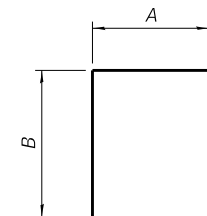
SHEET 5-332 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB))BR/BR	PEO/TAZ	1361	1241
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



FIELD CUTTING DIAGRAM

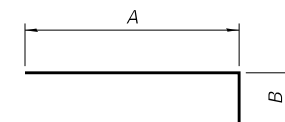
Order full length. Cut as shown and use remainder of bars in opposite face.



BAR s700(E), s701(E), u700(E), u701(E), u702(E) & u703(E)

A & B DIMENSIONS

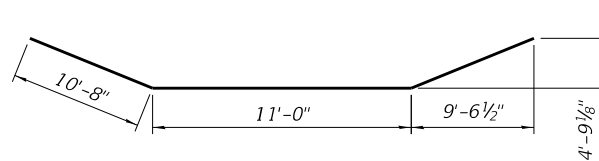
Bar	A	B
s700(E)	3'-9"	9'-6"
s701(E)	3'-9"	7'-0"
u700(E)	4'-0"	2'-11"
u701(E)	5'-8"	3'-1"
u702(E)	5'-8"	3'-5"
u703(E)	5'-8"	5'-0"



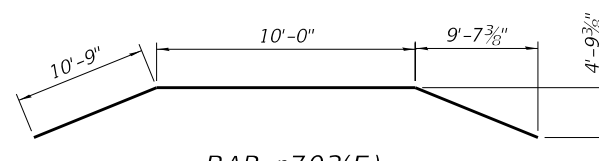
BARS n700(E), n701(E), n702(E), p700(E), s706(E) & s712(E)

A & B DIMENSIONS

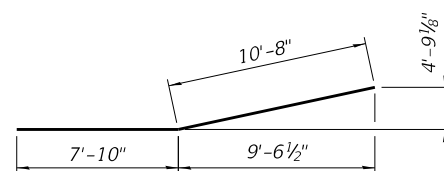
Bar	A	B
n700(E)	24'-1"	2'-0"
n701(E)	26'-1"	2'-0"
n702(E)	28'-0"	1'-2"
p700(E)	32'-4"	7'-7"
s706(E)	6'-8"	0'-6"
s712(E)	4'-8"	3'-7"



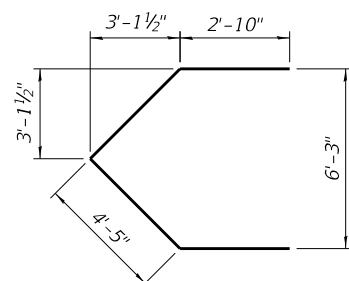
BAR p702(E)



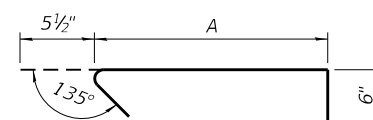
BAR p703(E)



BAR p704(E)



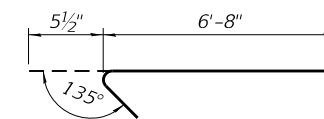
BAR u704(E)



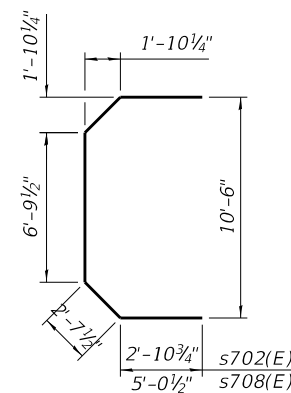
BARS s704(E), s705(E), s710(E), s711(E) & s713(E)

A DIMENSION

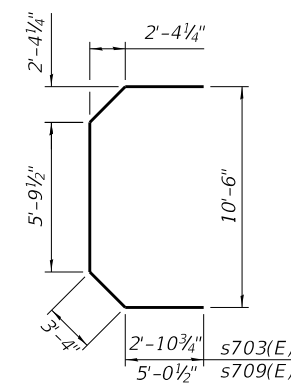
Bar	A
s704(E)	10'-6"
s705(E)	10'-0"
s710(E)	4'-7"
s711(E)	2'-7"
s713(E)	5'-8"



BARS s707(E)



BARS s702(E) and s708(E)



BARS s703(E) and s709(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h700(E)	44	#8	38'-10"	—
h701(E)	28	#8	20'-8"	—
h702(E)	14	#6	35'-3"	—
h703(E)	7	#6	34'-9"	—
h704(E)	110	#7	37'-8"	—
h705(E)	12	#6	9'-4"	—
n700(E)	204	#11	26'-1"	┌┐
n701(E)	118	#11	28'-1"	┌┐
n702(E)	117	#7	29'-2"	┌┐
p700(E)	20	#10	39'-11"	┌┐
p701(E)	20	#10	41'-0"	┌┐
p702(E)	12	#10	31'-8"	┌┐
p703(E)	40	#10	30'-8"	┌┐
p704(E)	24	#10	16'-7"	┌┐
s700(E)	328	#6	22'-9"	┌┐
s701(E)	88	#6	17'-9"	┌┐
s702(E)	278	#6	17'-10"	┌┐
s703(E)	556	#6	18'-4"	┌┐
s704(E)	4024	#5	11'-6"	┌┐
s705(E)	2012	#5	11'-0"	┌┐
s706(E)	4812	#5	7'-2"	┌┐
s707(E)	4812	#5	7'-2"	┌┐
s708(E)	20	#6	22'-2"	┌┐
s709(E)	40	#6	22'-7"	┌┐
s710(E)	24	#5	5'-7"	┌┐
s711(E)	24	#5	2'-7"	┌┐
s712(E)	60	#6	8'-3"	┌┐
s713(E)	672	#5	6'-8"	┌┐
t700(E)	109	#7	18'-8"	—
t701(E)	132	#8	18'-8"	—
u700(E)	246	#6	9'-10"	┌┐
u701(E)	33	#6	11'-10"	┌┐
u702(E)	36	#6	12'-6"	┌┐
u703(E)	54	#7	15'-8"	┌┐
u704(E)	24	#5	10'-1"	┌┐
v700(E)	204	#11	28'-2"	—
v701(E)	118	#11	26'-2"	—
w700(E)	130	#7	24'-4"	—
w701(E)	120	#9	29'-9"	—
Concrete Structures		Cu. Yd.	1390.7	
Reinforcement Bars, Epoxy Coated		Pound	354,690	
Furnishing Steel Piles HP 14x89		Foot	3,599	
Driving Piles		Foot	3,599	
Test Pile, HP14x89		Each	1.0	
Cofferdam Excavation		Cu. Yd.	1129	
Cofferdam (Type 2) (Location-7)		Each	1	
Seal Coat Concrete		Cu. Yd.	541.8	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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TYLIN INTERNATIONAL
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CHICAGO, IL 60606
TEL: 312-777-2900

USER NAME = CHORBACZ
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PLOT SCALE = 10:8,0000 " = 1" / in.
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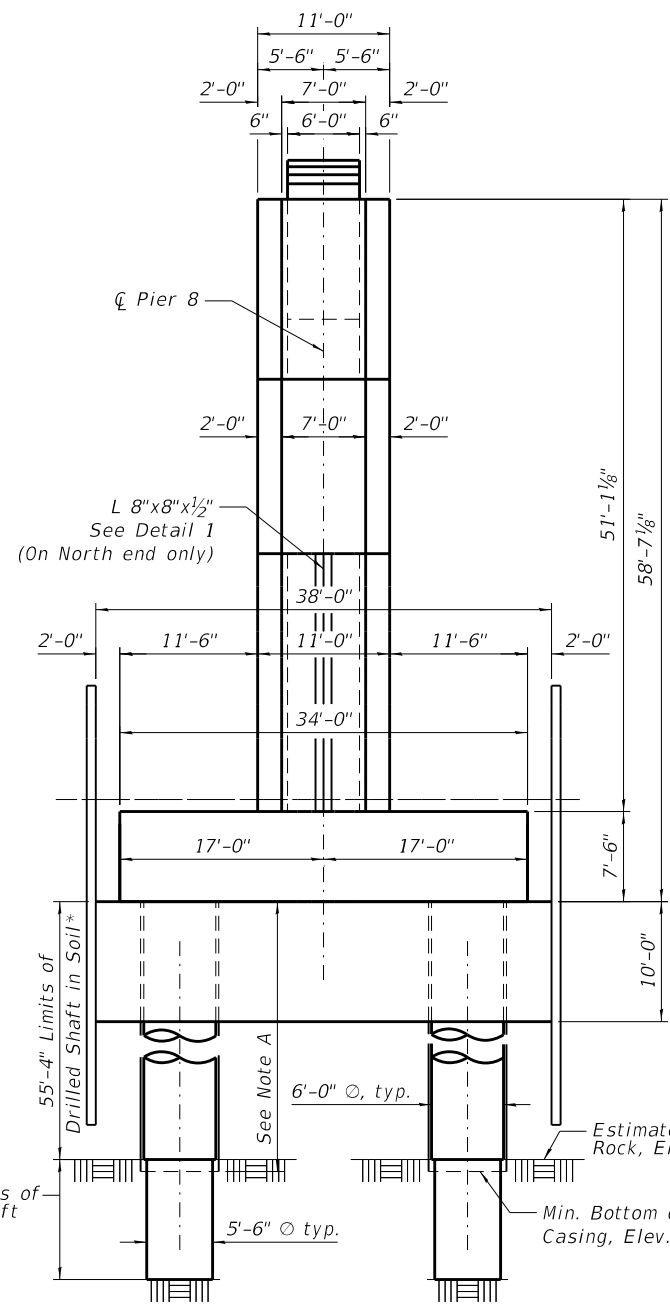
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PIER 7 REINFORCEMENT, 4 OF 4
STRUCTURE NO. 090-0180

SHEET 5-333 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1242
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

Notes:
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation. Pour steps monolithically with cap. Space reinforcement in cap to miss anchor bolts.



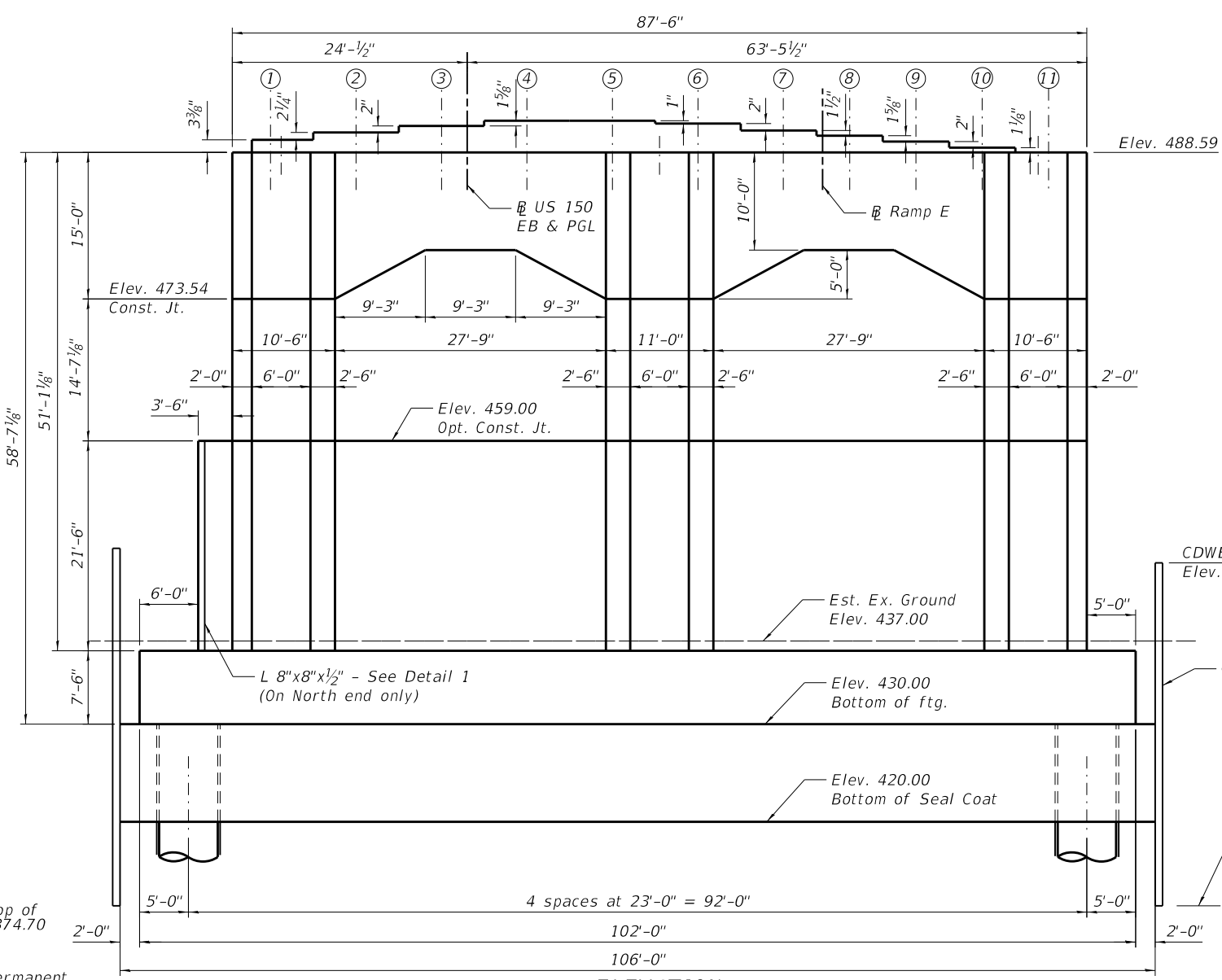
END VIEW
(Looking South)

BEARING SEAT ELEVATIONS

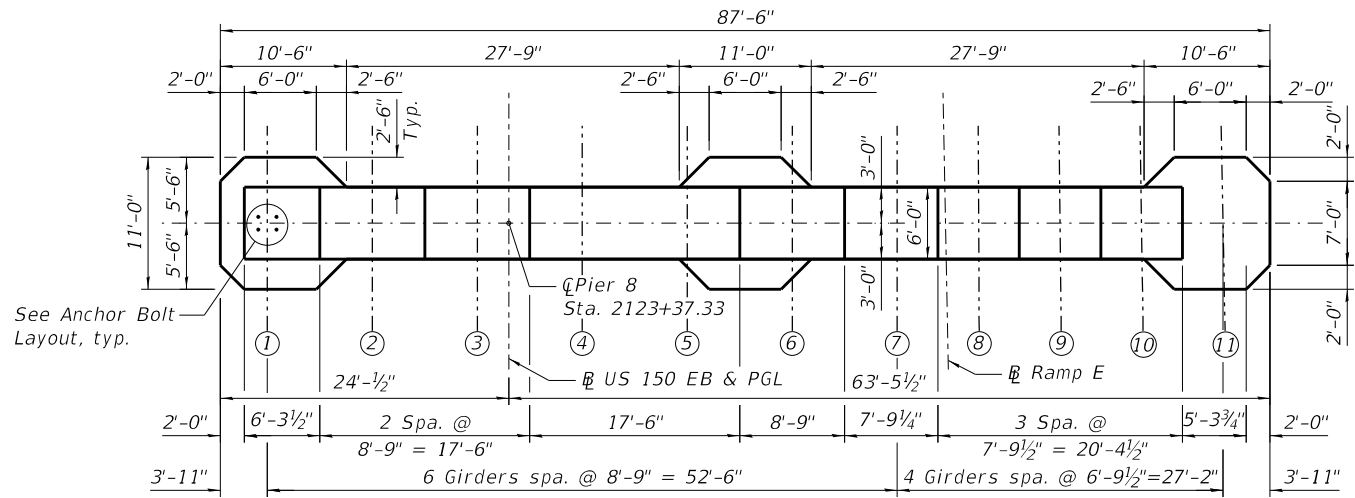
Girder	Elevation
1	488.87
2	489.05
3	489.22
4	489.36
5	489.36
6	489.28
7	489.11
8	488.99
9	488.85
10	488.68
11	488.59

Note A:
 56'-4" Limits of Permanent Casing. Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.

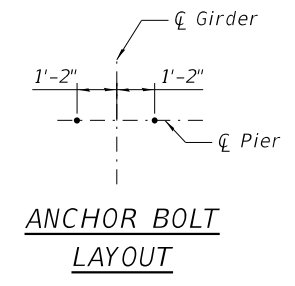
* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.



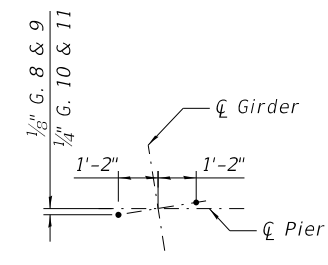
ELEVATION
(Looking East)



TOP PLAN



ANCHOR BOLT LAYOUT

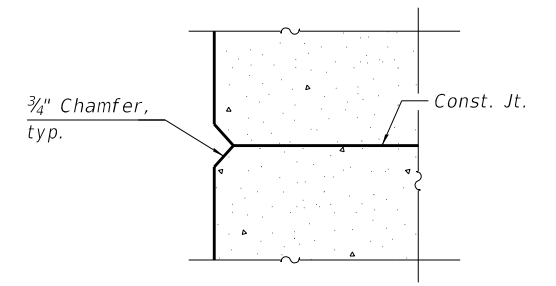
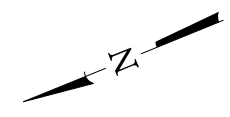


ANCHOR BOLT LAYOUT
(Girders 8, 9, 10 & 11)

- ▼ Design HWE
Elev. 458.10
- ▼ 2% Flow Line
Elev. 449.90
- ▼ EWSE
Elev. 443.50
- ▼ Normal Pool
Elev. 439.70

CDWE
Elev. 446.50

Estimated elevation 411.00
 Seal coat thickness and cofferdam tip elevation are dependant on Contractor's design



CONSTRUCTION JOINT

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TYLIN INTERNATIONAL
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 CHICAGO, IL 60606
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USER NAME = spantazis
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 PLOT SCALE = 16:0.0000 " = 1" / in.
 DRAWN -
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 CHECKED -
 DRAWN -
 CHECKED -

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 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 8 PLAN AND ELEVATION
STRUCTURE NO. 090-0180

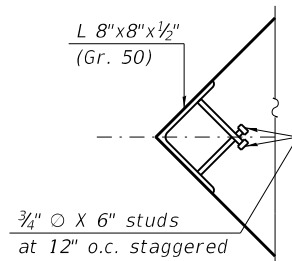
SHEET 5-334 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1243
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

100 Yr. Water Level		
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.

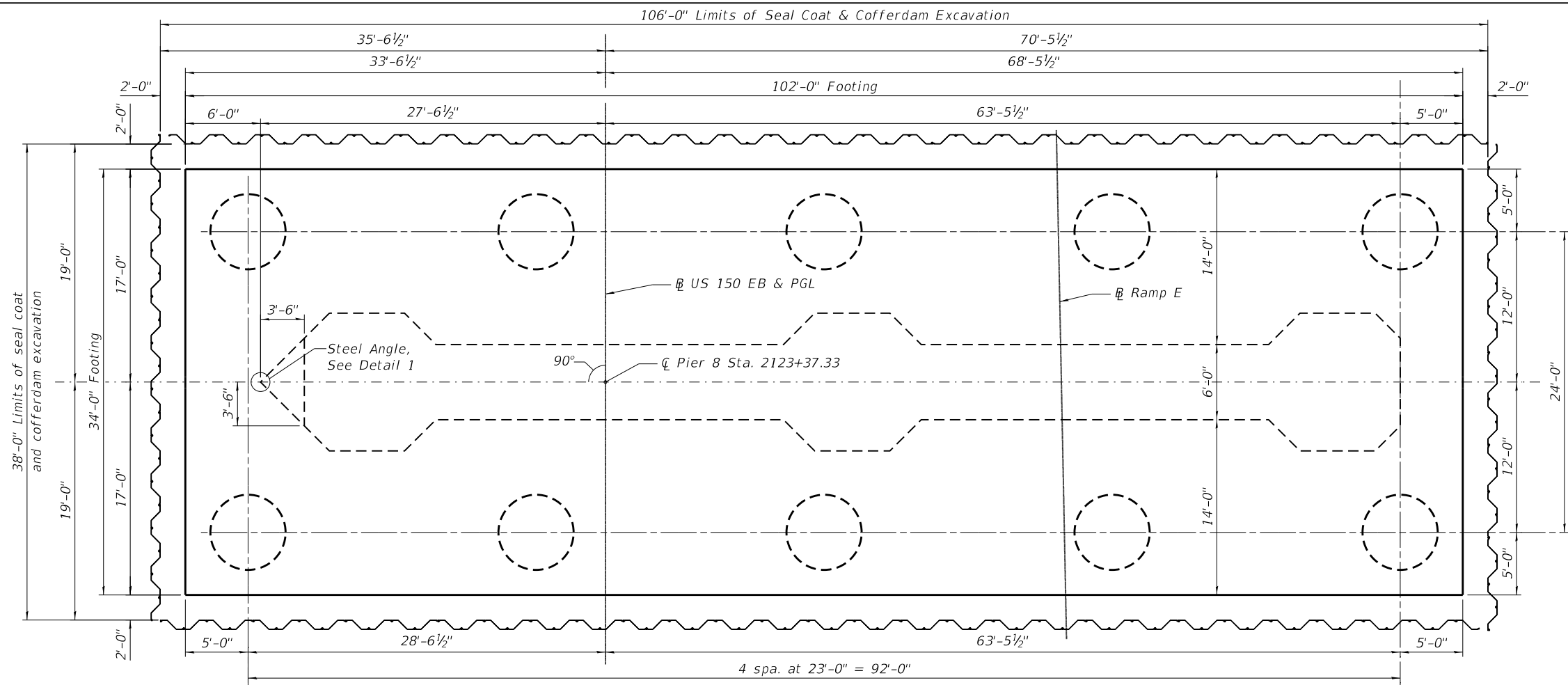


DETAIL 1

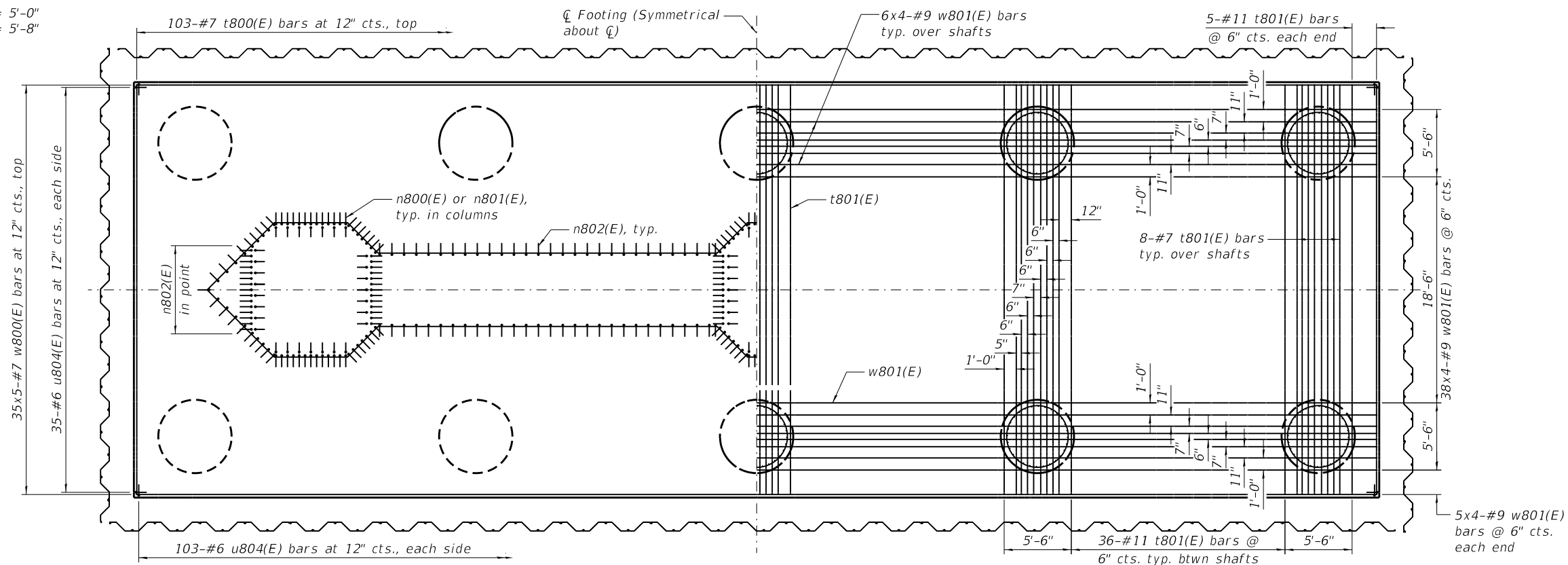
Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.

MINIMUM BAR LAP

#7 bar = 5'-0"
#9 bar = 5'-8"



FOOTING PLAN DIMENSIONS



FOOTING PLAN

SHOWING TOP REINFORCEMENT

SHOWING BOTTOM REINFORCEMENT

MODEL: Default
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200 S. WACKER DR.
SUITE 1400
CHICAGO, IL 60606
TEL: 312-777-2900

USER NAME = CHORBACZ
DESIGNED -
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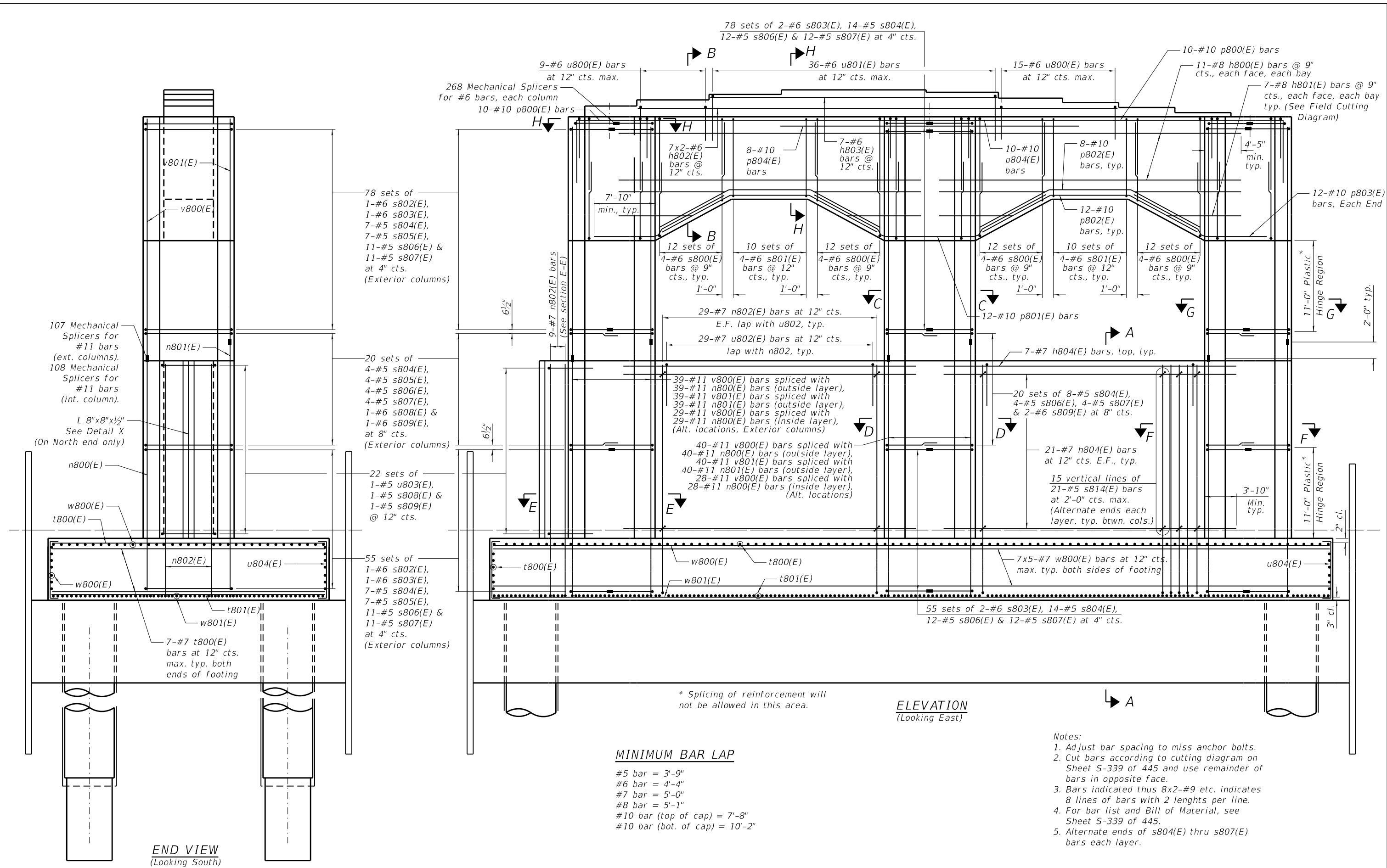
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 8 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-335 OF 445 SHEETS

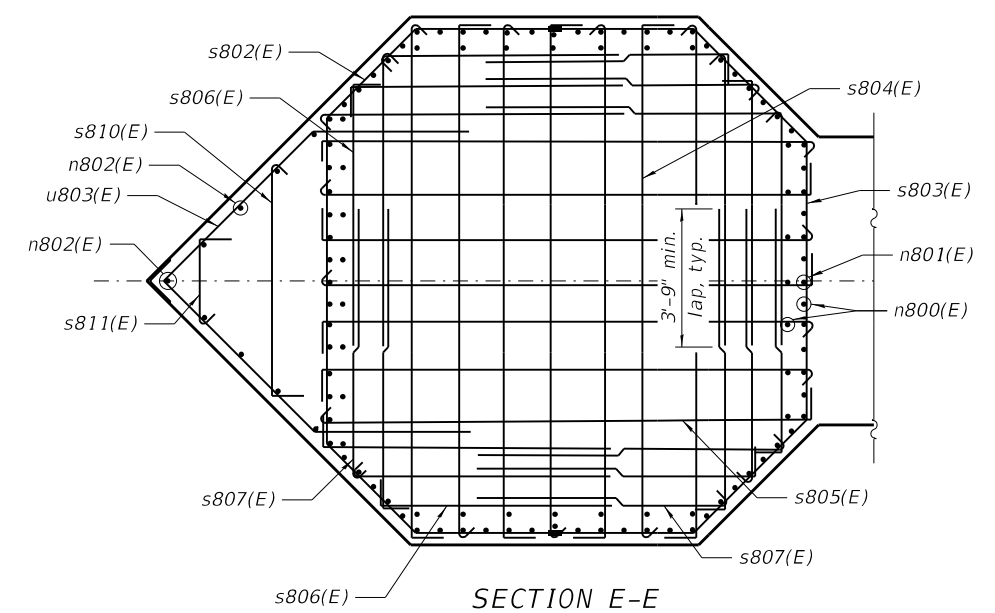
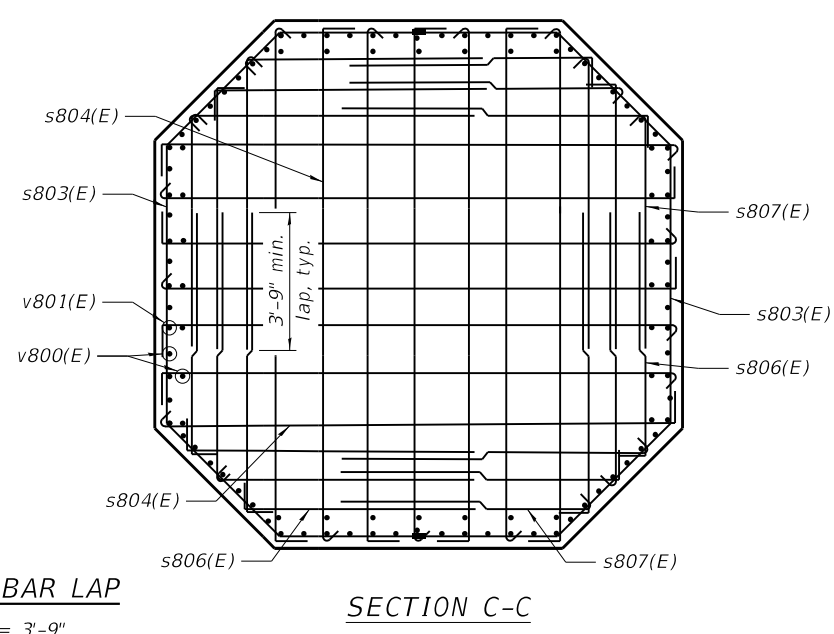
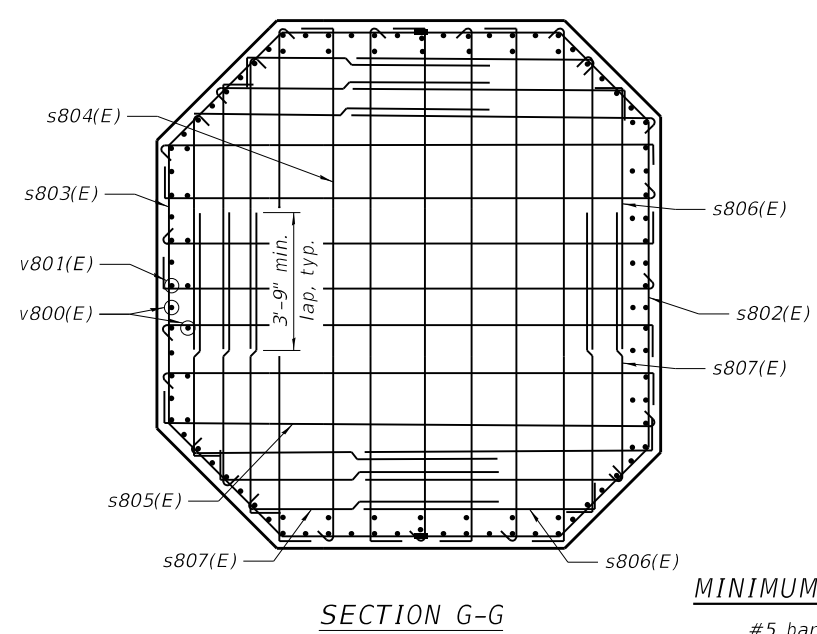
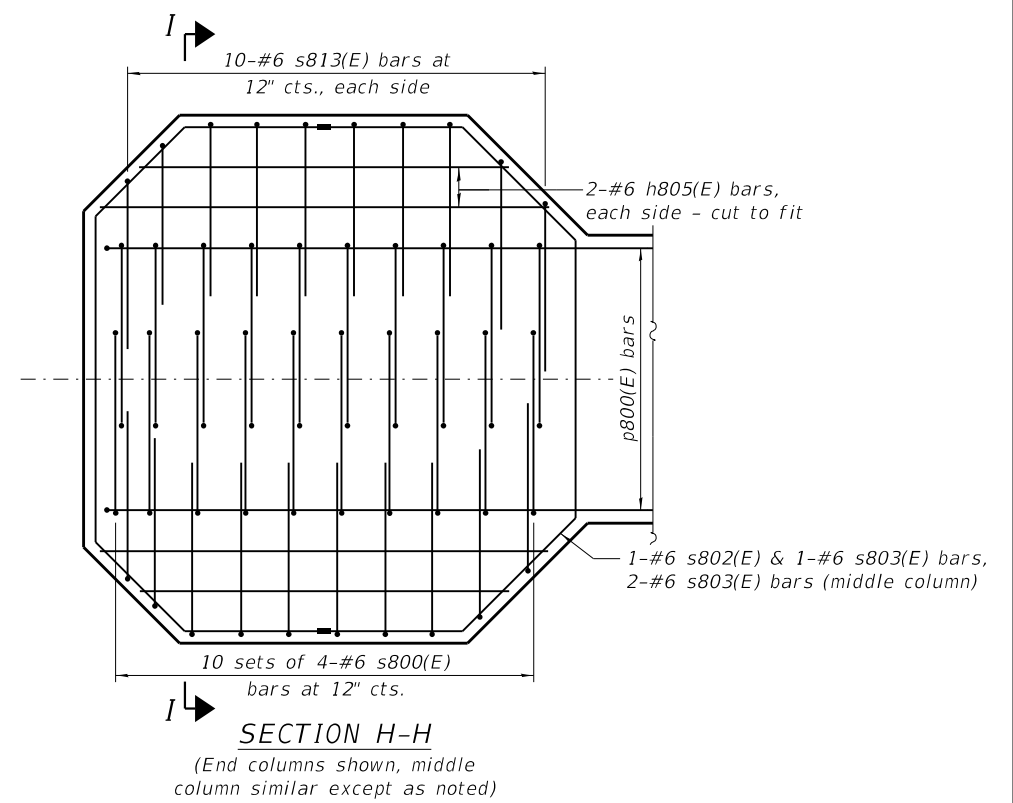
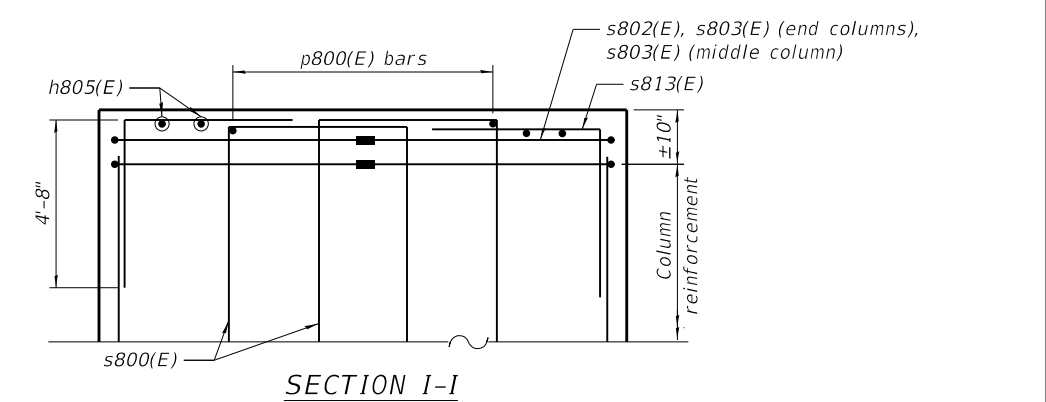
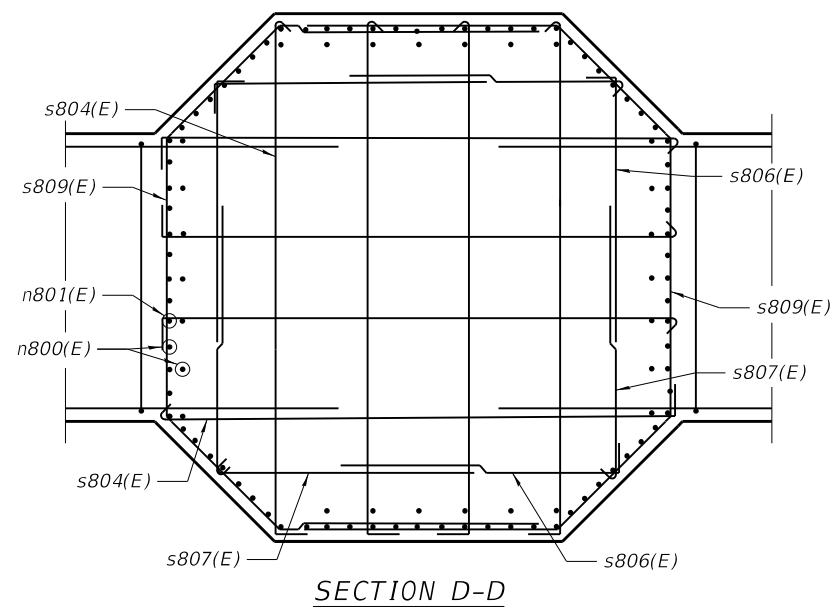
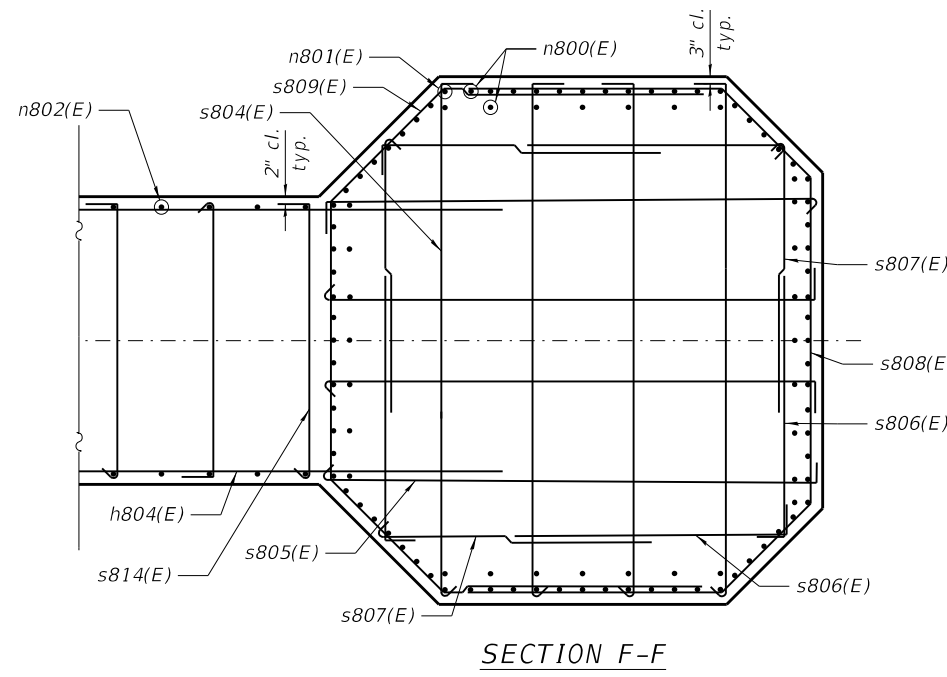
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1244
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP:YRP3(905)				

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TYLIN INTERNATIONAL 200 S. WACKER DR. SUITE 1400 CHICAGO, IL 60606 TEL: 312-777-2900	USER NAME = CHORBACZ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 8 REINFORCEMENT, 1 OF 4 STRUCTURE NO. 090-0180	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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PLOT DATE = 12/12/2018	CHECKED -	DRAWN -	REVISED -	SHEET S-336 OF 445 SHEETS		CONTRACT NO. 68B46		ILLINOIS FED. AID PROJECT NHPP-YRP3(905)		

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MINIMUM BAR LAP
 #5 bar = 3'-9"
 #6 bar = 4'-4"
 #7 bar = 5'-0"

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 200 S. WACKER DR.
 SUITE 1400
 CHICAGO, IL 60606
 TEL: 312-777-2900

USER NAME = CHORBACZ
 DESIGNED -
 CHECKED -
 PLOT SCALE = 16:0.0000 "/ in.
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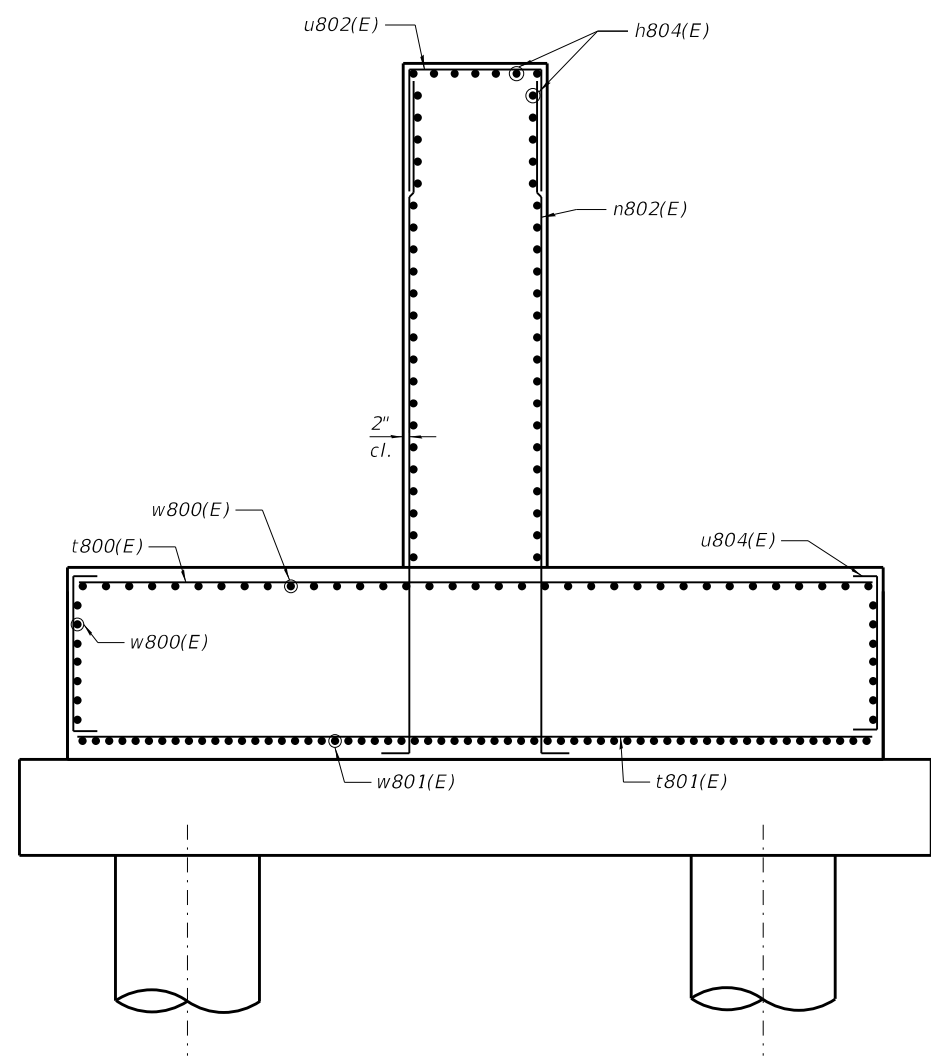
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

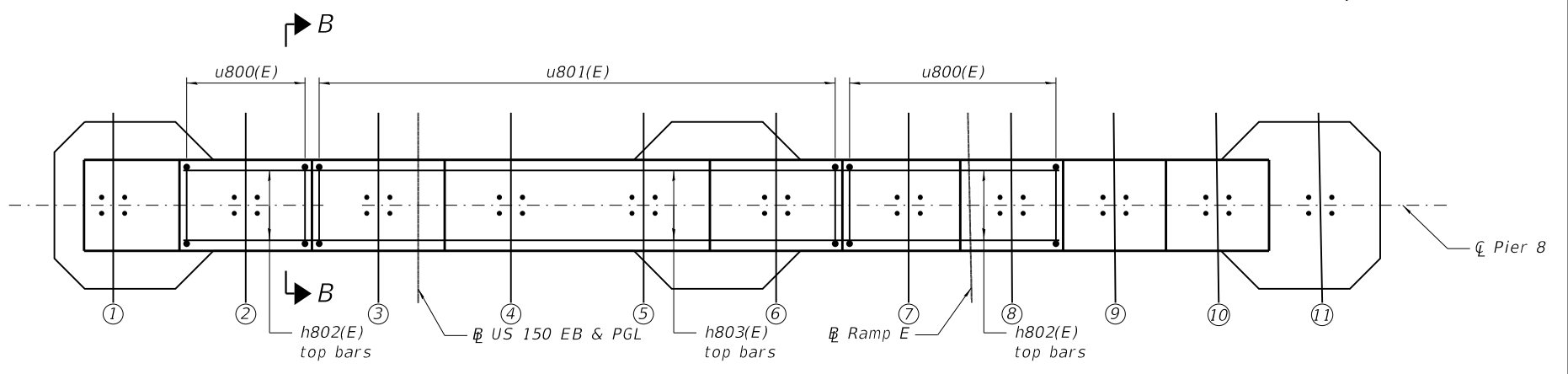
**PIER 8 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180**

SHEET 5-337 OF 445 SHEETS

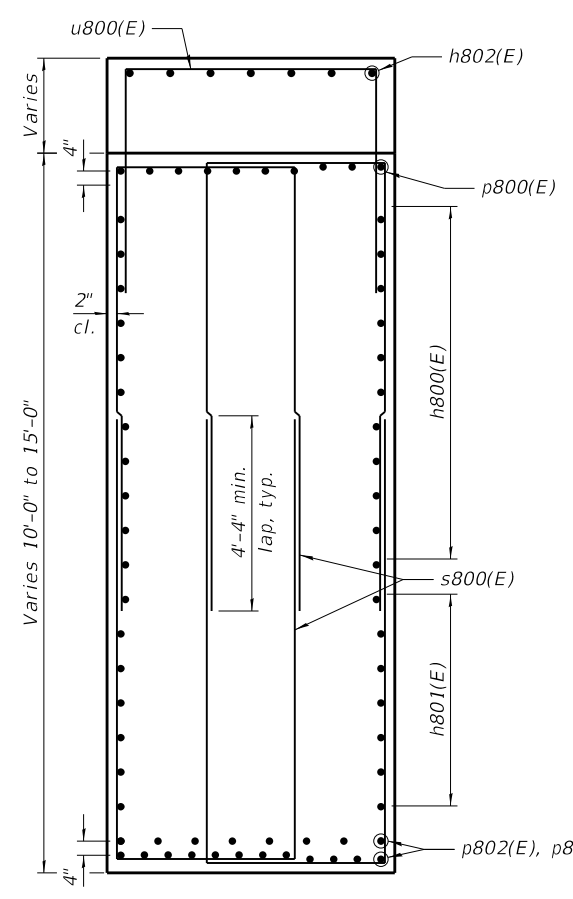
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1246
			CONTRACT NO. 68B46	
		ILLINOIS	FED. AID PROJECT	NHPP-YRP3(905)



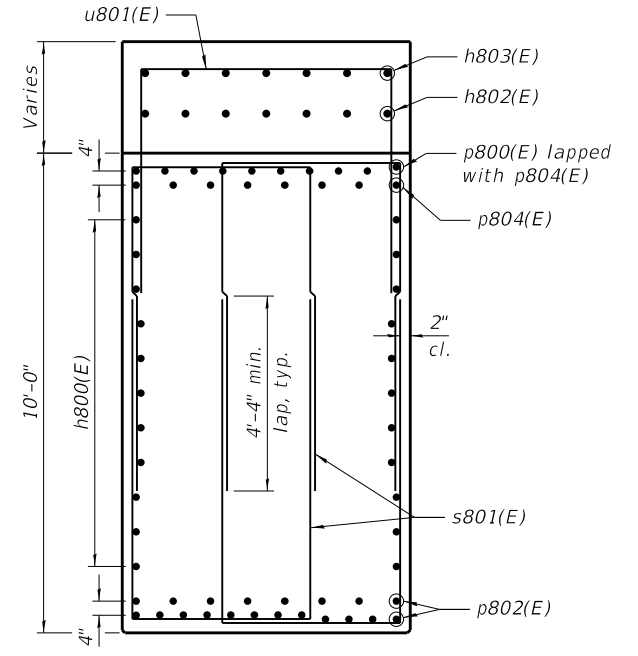
SECTION A-A



PLAN VIEW-CAP BEARING SEAT REINFORCEMENT



SECTION B-B



SECTION H-H

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #7 bar = 5'-0"

MODEL: Default
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 8 REINFORCEMENT, 3 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-338 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1247
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

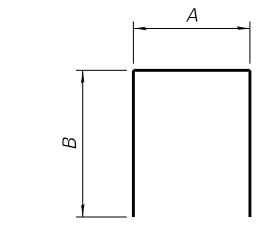
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h800(E)	44	#8	36'-7"	—
h801(E)	28	#8	19'-8"	—
h802(E)	14	#6	31'-3"	—
h803(E)	7	#6	34'-9"	—
h804(E)	98	#7	35'-5"	—
h805(E)	12	#6	9'-4"	—
n800(E)	204	#11	30'-3"	┘
n801(E)	118	#11	32'-3"	┘
n802(E)	125	#7	29'-8"	┘
p800(E)	20	#10	40'-8"	┘
p801(E)	12	#10	33'-10"	┘
p802(E)	40	#10	30'-1"	┘
p803(E)	24	#10	18'-3"	┘
p804(E)	18	#10	36'-2"	—
s800(E)	312	#6	22'-9"	┘
s801(E)	80	#6	17'-9"	┘
s802(E)	268	#6	17'-10"	┘
s803(E)	536	#6	18'-4"	┘
s804(E)	4044	#5	11'-6"	┘
s805(E)	2022	#5	11'-0"	┘
s806(E)	4762	#5	7'-2"	┘
s807(E)	4762	#5	7'-2"	┘
s808(E)	40	#6	22'-2"	┘
s809(E)	80	#6	22'-7"	┘
s810(E)	22	#5	5'-7"	┘
s811(E)	22	#5	2'-7"	┘
s812	130	#6	16'-3"	○
s813(E)	60	#6	8'-3"	┘
s814(E)	630	#5	6'-8"	┘
sp800	10	#6	65'-6"	⋈
t800(E)	117	#7	33'-6"	—
t801(E)	194	#11	33'-6"	—
u800(E)	24	#6	11'-10"	┘
u801(E)	36	#6	12'-6"	┘
u802(E)	58	#7	15'-8"	┘
u803(E)	22	#5	10'-1"	┘
u804(E)	276	#6	12'-10"	┘
v800(E)	204	#11	28'-5"	—
v801(E)	118	#11	26'-5"	—
v802	140	#11	36'-0"	—
v803	140	#11	34'-0"	—
v804	140	#11	34'-4"	—
v805	140	#11	36'-4"	—
w800(E)	245	#7	24'-5"	—
w801(E)	240	#9	29'-9"	—
Concrete Structures	Cu. Yd.	1983.3		
Permanent Casing	Foot	564		
Reinforcing Bars	Pound	139,230		
Reinforcement Bars, Epoxy Coated	Pound	411,650		
Drilled Shaft in Soil	Cu.Yd.	579.4		
Drilled Shaft in Rock	Cu.Yd.	88.0		
Cofferdam Excavation	Cu. Yd.	2537		
Cofferdam (Type 2) (Location-8)	Each	1		
Crosshole Sonic Logging	Foot	3960		
Access Ducts				
Seal Coat Concrete	Cu. Yd.	1491.9		
Crosshole Sonic Logging Testing	Each	1		

* Length is height of spiral.
Minimum lap for spirals = 2'-7"
** The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

A & B DIMENSIONS

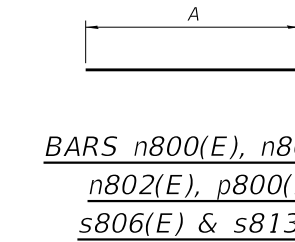
Bar	A	B
s800(E)	3'-9"	9'-8"
s801(E)	3'-9"	7'-0"
u800(E)	5'-8"	3'-1"
u801(E)	5'-8"	3'-5"
u802(E)	5'-8"	5'-0"
u804(E)	7'-0"	2'-11"



BAR s800(E), s801(E), u800(E), u801(E), u802(E) & u804(E)

A & B DIMENSIONS

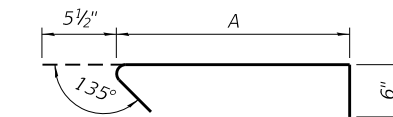
Bar	A	B
n800(E)	29'-0"	2'-0"
n801(E)	31'-0"	2'-0"
n802(E)	28'-6"	1'-2"
p800(E)	33'-1"	7'-7"
s806(E)	6'-8"	0'-6"
s813(E)	4'-8"	3'-7"



BARS n800(E), n801(E), n802(E), p800(E), s806(E) & s813(E)

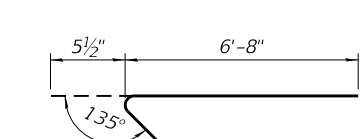
A DIMENSION

Bar	A
s804(E)	10'-6"
s805(E)	10'-0"
s810(E)	4'-7"
s811(E)	2'-7"
s814(E)	5'-8"



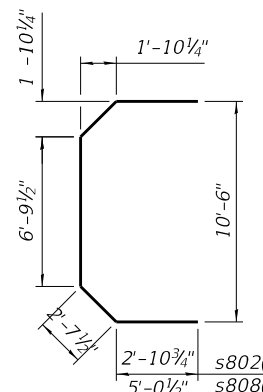
BARS s804(E), s805(E), s810(E), s811(E) & s814(E)

Shop weld per AWS D1.4

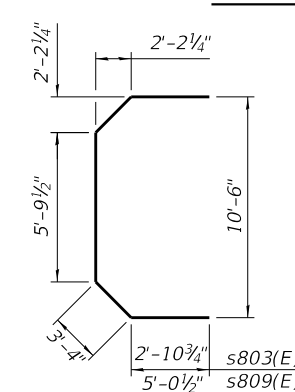


BARS s807(E)

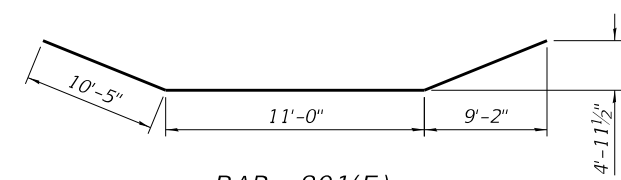
BAR s812



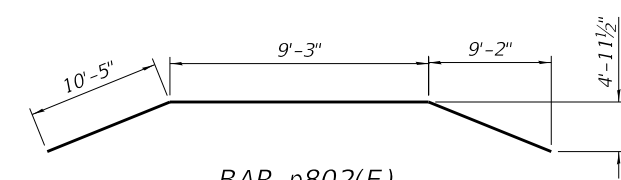
BARS s802(E) and s808(E)



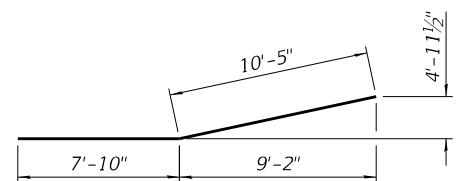
BARS s803(E) and s809(E)



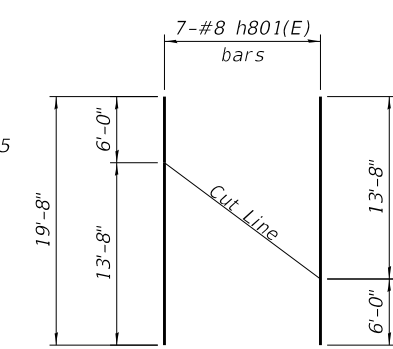
BAR p801(E)



BAR p802(E)

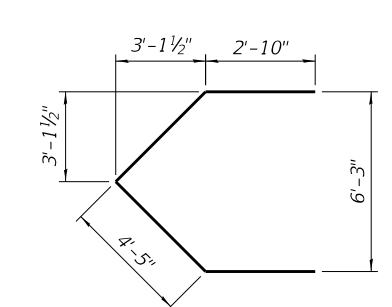


BAR p803(E)

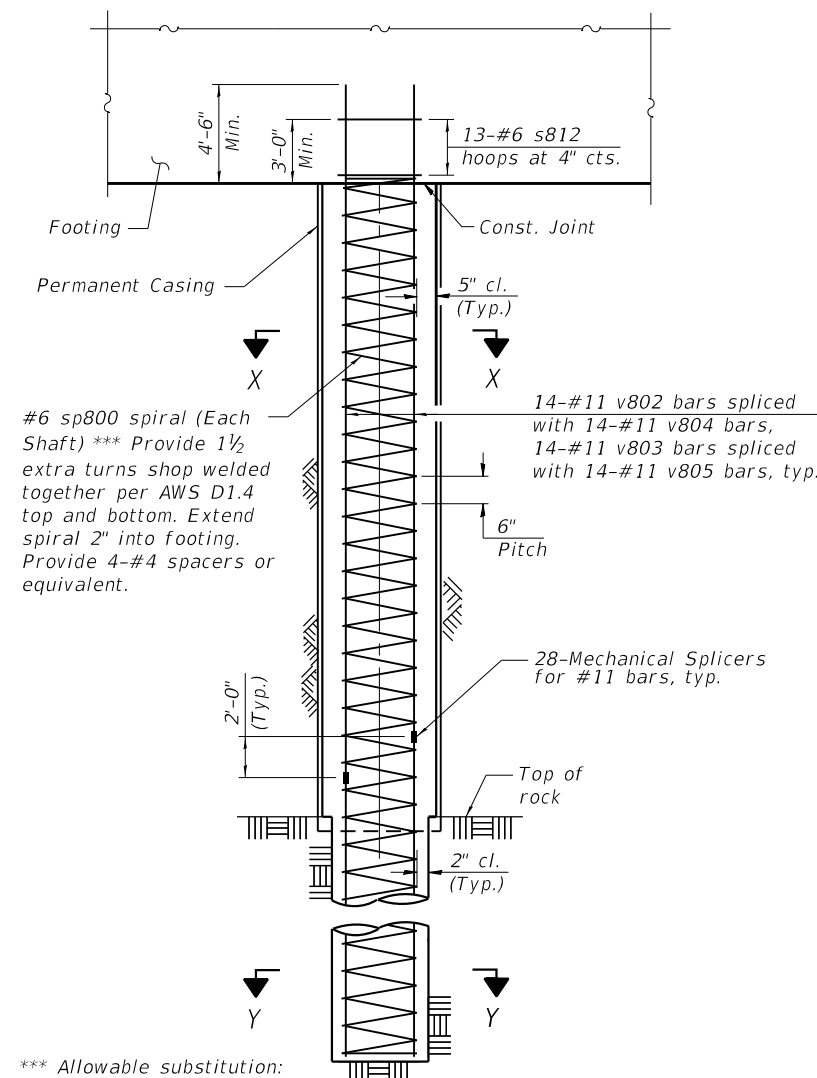


FIELD CUTTING DIAGRAM

Order full length. Cut as shown and use remainder of bars in opposite face.



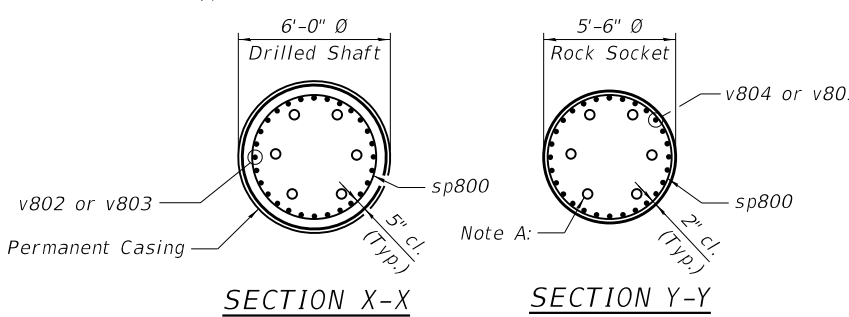
BAR u803(E)



ELEVATION

*** Allowable substitution: Provide 1/2 extra turns top and bottom with 135° standard hook into core at ends of spiral.

Note A: 2" I.D. Steel pipe for crosshole sonic logging (6 each shaft) (typ.)

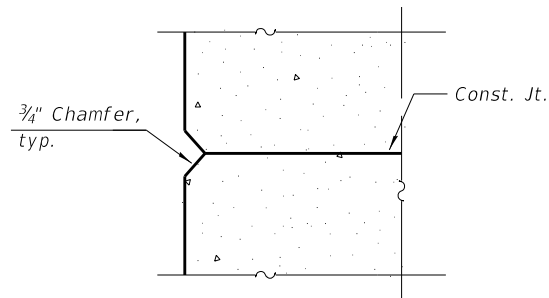
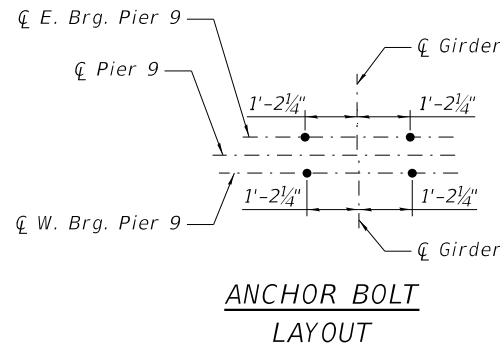


SECTION X-X

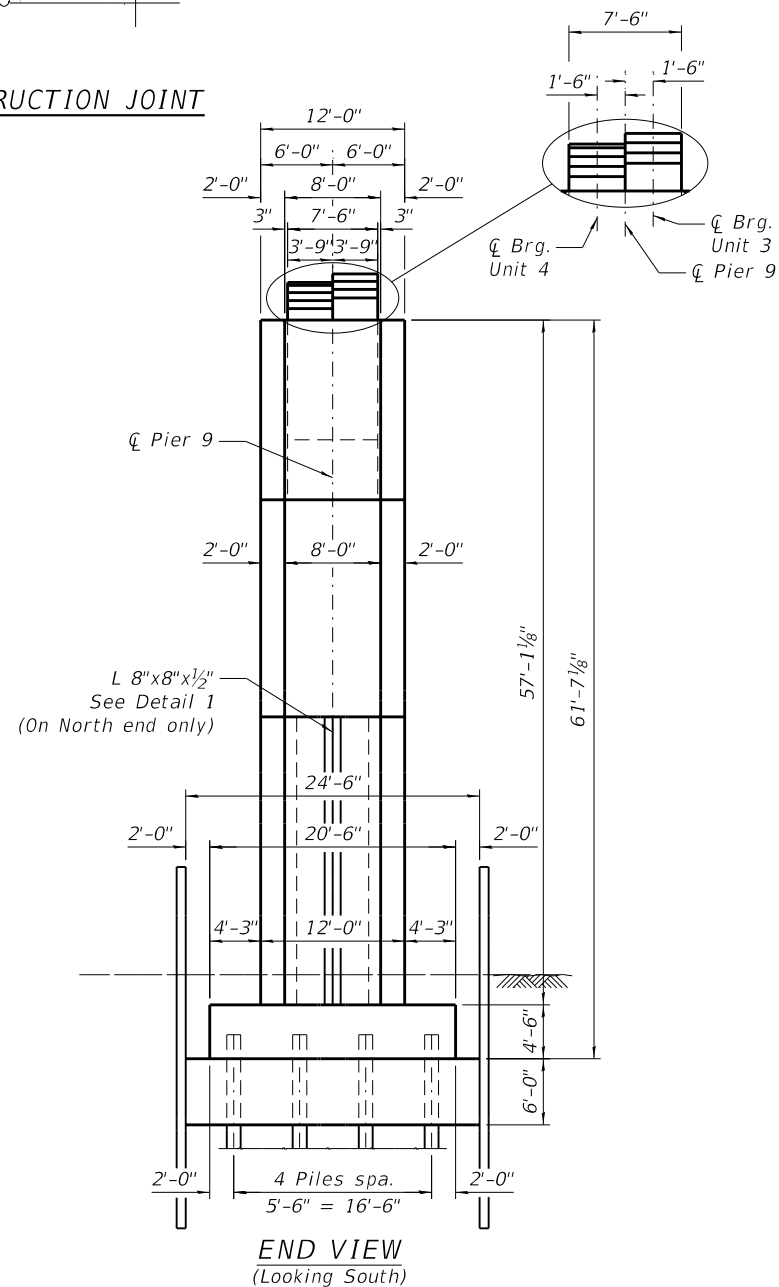
SECTION Y-Y

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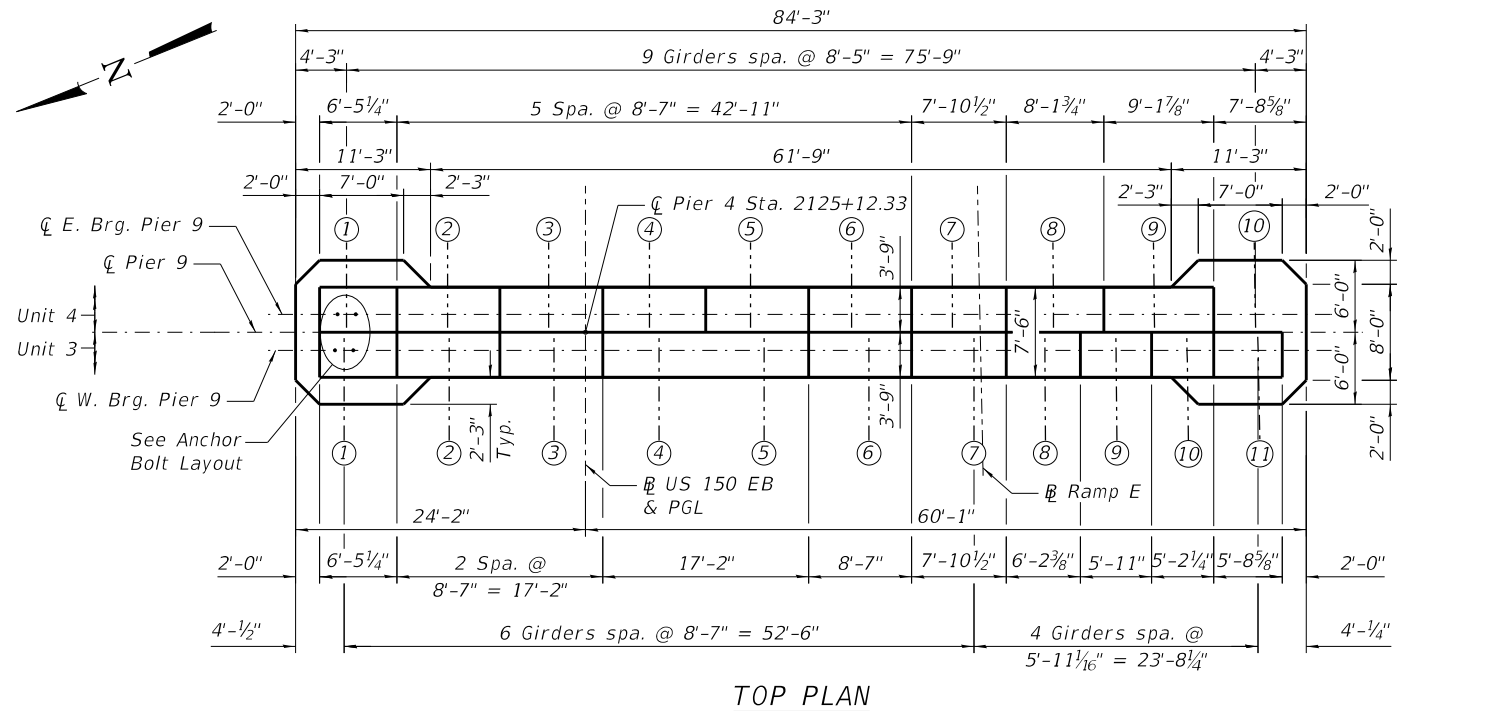
Notes:
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.



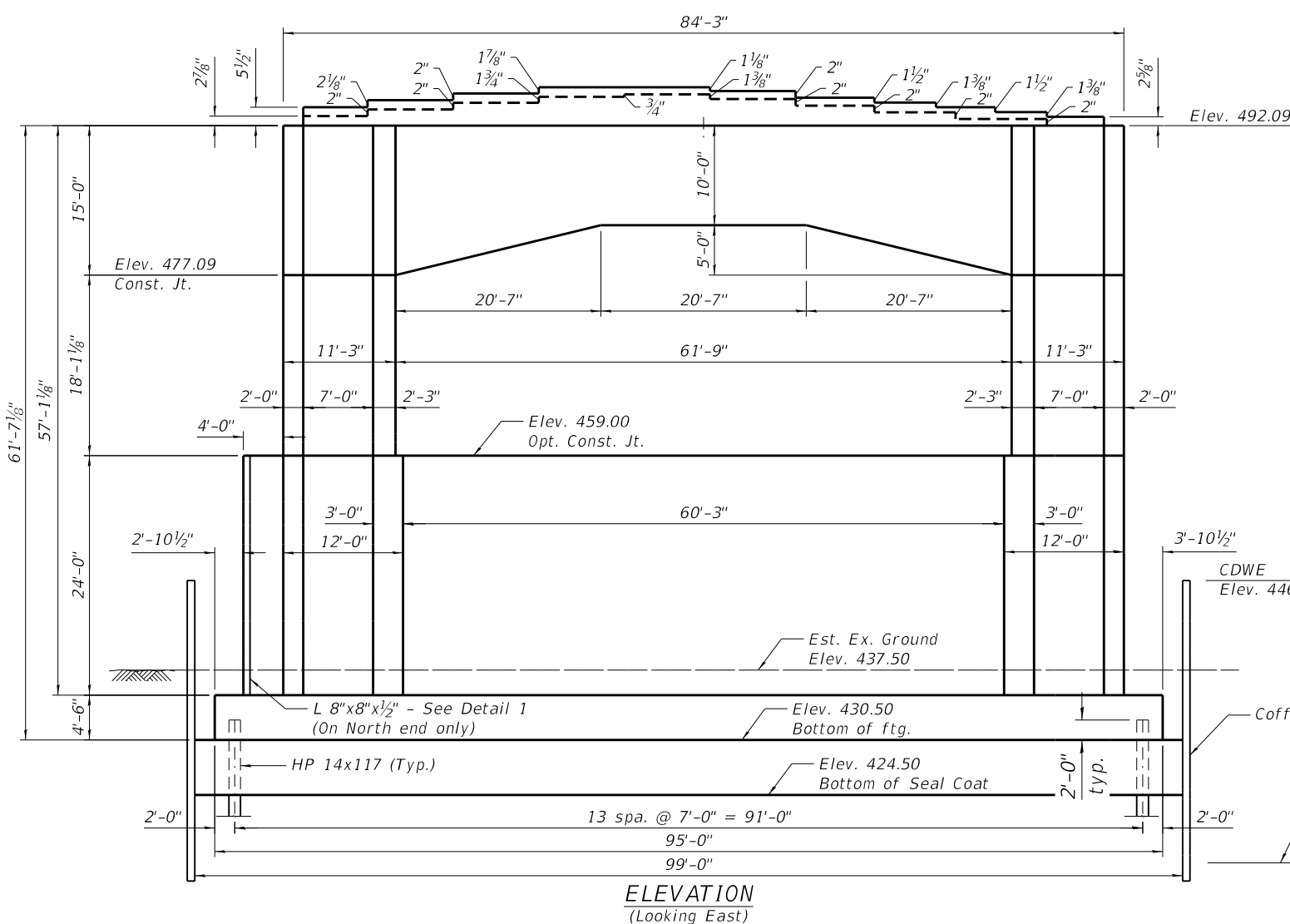
CONSTRUCTION JOINT



END VIEW
(Looking South)



TOP PLAN



ELEVATION
(Looking East)

UNIT 3
BEARING SEAT
ELEVATIONS

Girder	Elevation
1	492.55
2	492.73
3	492.90
4	493.05
5	493.05
6	492.96
7	492.79
8	492.67
9	492.55
10	492.43
11	492.31

UNIT 4
BEARING SEAT
ELEVATIONS

Girder	Elevation
1	492.33
2	492.50
3	492.67
4	492.81
5	492.88
6	492.76
7	492.60
8	492.43
9	492.26
10	492.09

▼ Design HWE
Elev. 458.10

▼ 2% Flow Line
Elev. 449.90

▼ EWSE
Elev. 443.50

▼ Normal Pool
Elev. 439.70

Estimated elevation 417.00
 Seal coat thickness and
 cofferdam tip elevation
 are dependant on
 Contractor's design

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 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 9 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180

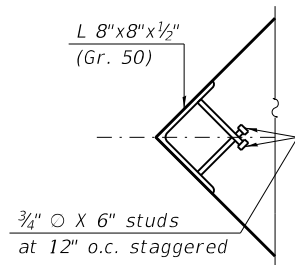
SHEET 5-340 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1249
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

100 Yr. Water Level		
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



DETAIL 1

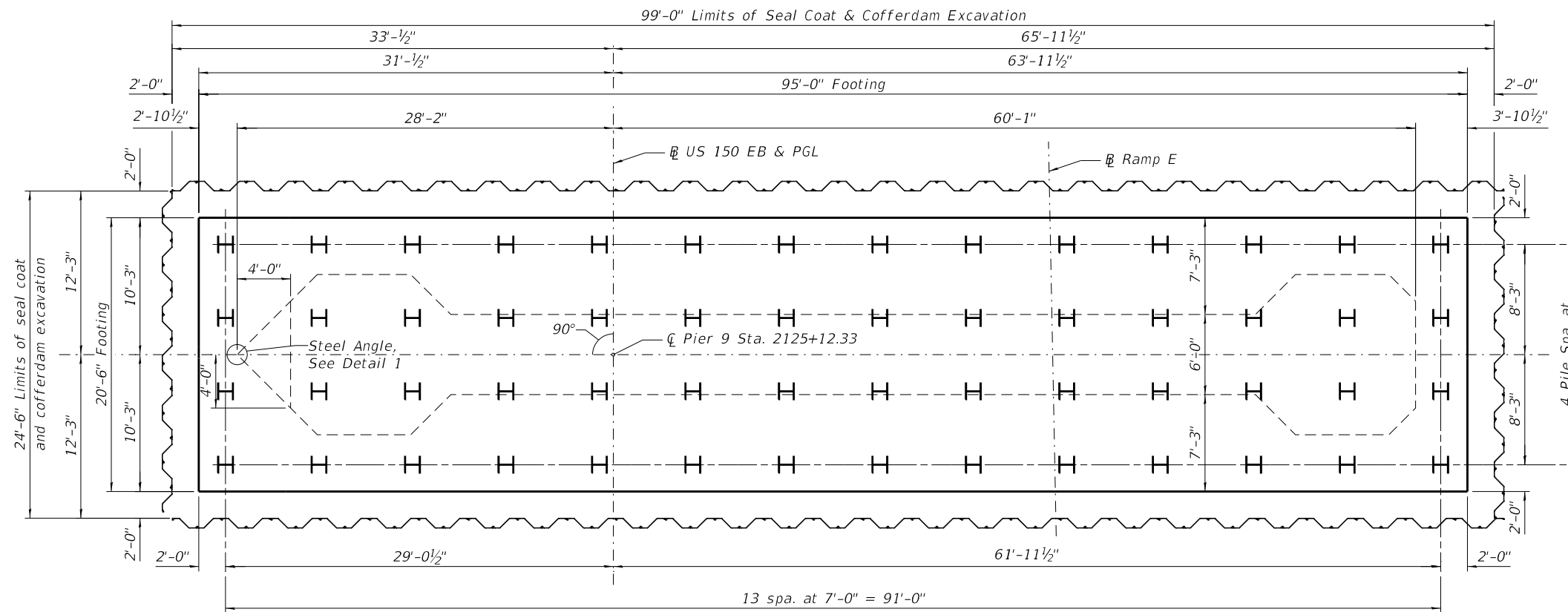
Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.

PILE DATA

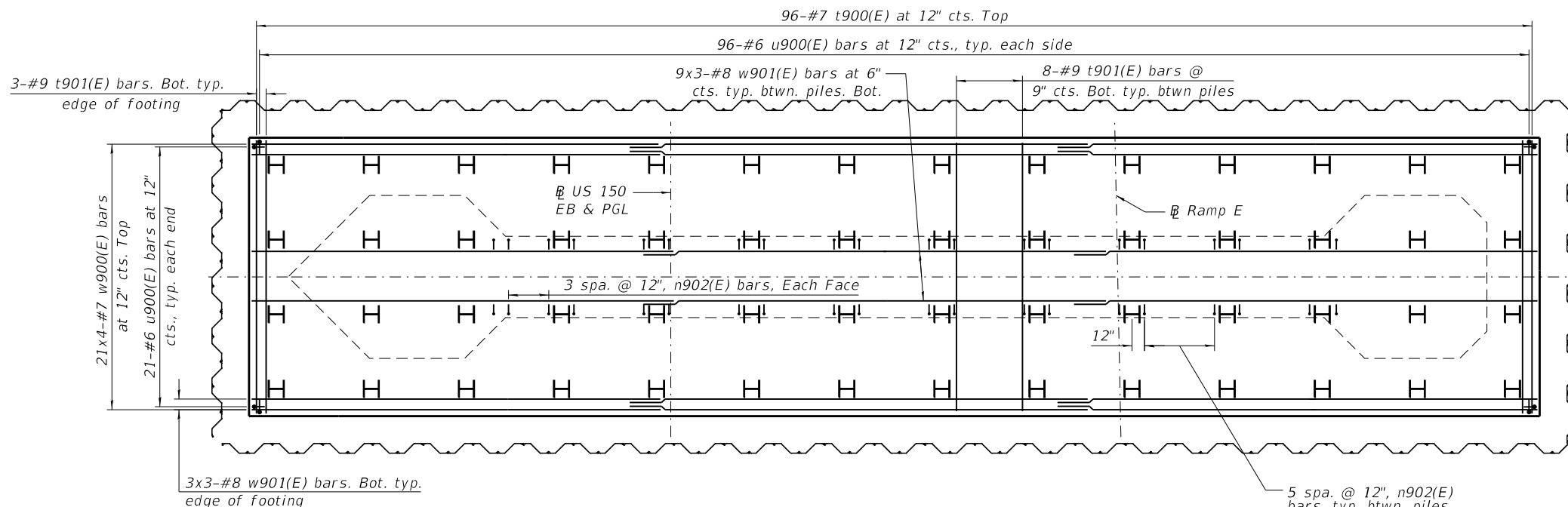
Type: HP 14x117
Nominal Required Bearing: 929 kips
Factored Resistance Available: 511 kips
Est. Length: 57'
No. Production Piles: 55
No. Test Piles: 1

MINIMUM BAR LAP

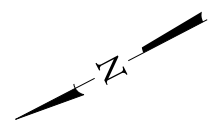
#7 bar = 5'-0"
#8 bar = 5'-1"



FOOTING PLAN



FOOTING PLAN REINFORCEMENT



MODEL: Default
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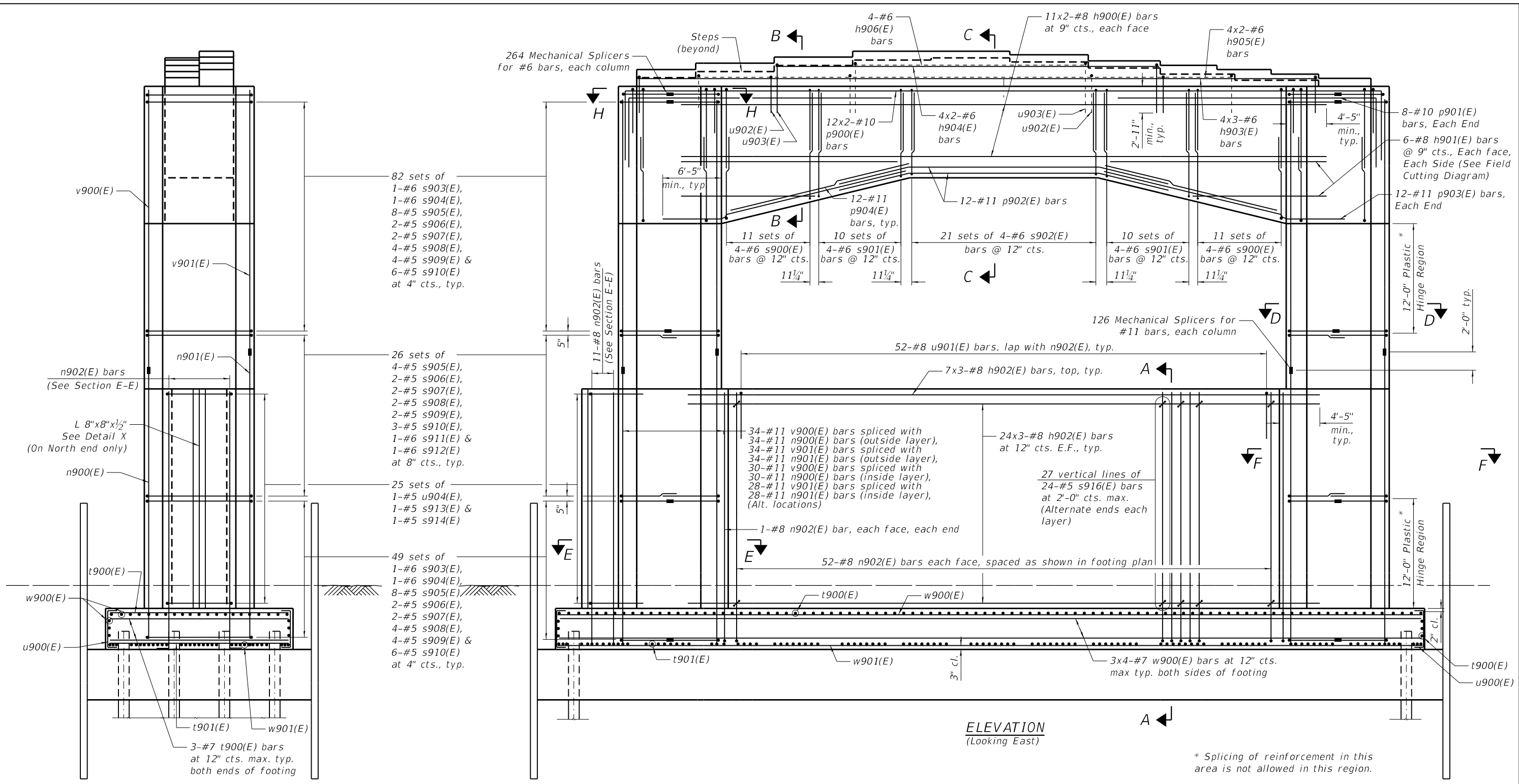
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 9 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-341 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1250
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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END VIEW
(Looking South)

ELEVATION
(Looking East)

* Splicing of reinforcement in this area is not allowed in this region.

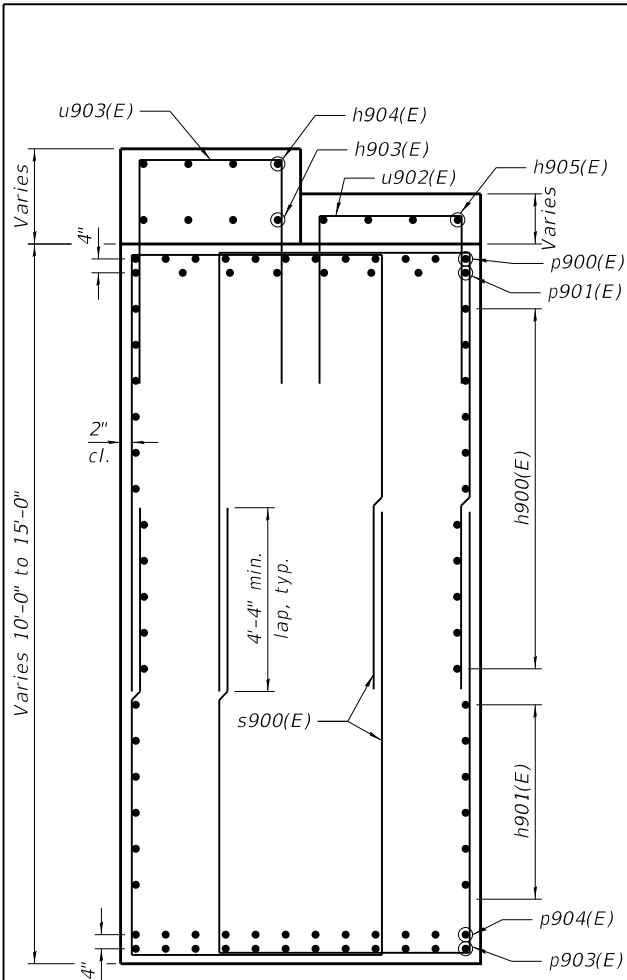
MINIMUM BAR LAP

- #6 bar = 4'-4"
- #7 bar = 5'-0"
- w901(E) = 5'-1"
- h900(E) & h902(E) = 5'-9"
- #10 bar = 7'-8"
- #11 bar = 8'-4"

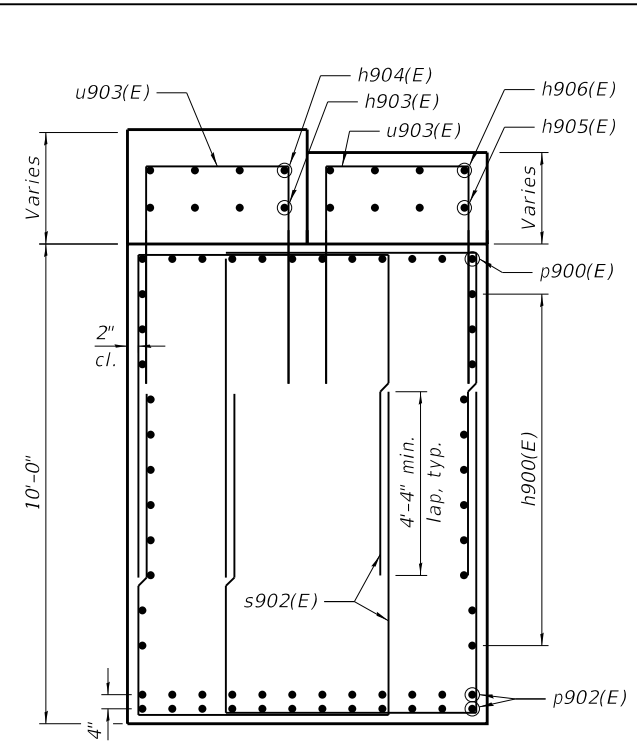
Notes:

1. Adjust bar spacing to miss anchor bolts.
2. Cut bars according to cutting diagram on Sheet S-344 of 445 and use remainder of bars in opposite face.
3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
4. For bar list and Bill of Material, see Sheet S-344 of 445.
5. Alternate ends of s905(E) thru s910(E) bars each layer.

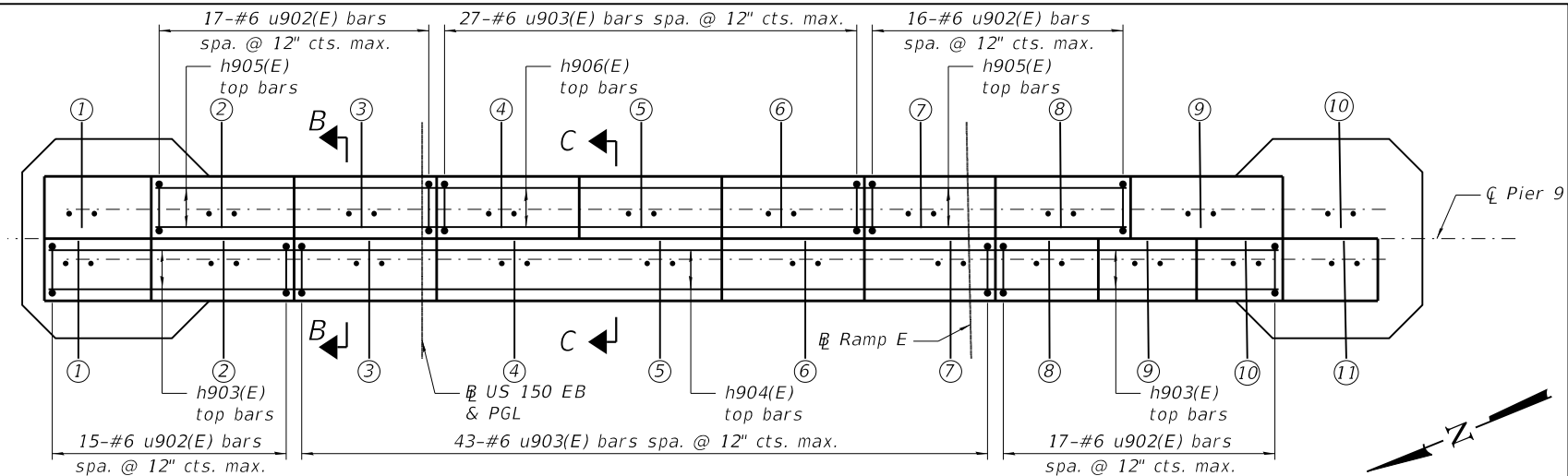
TYLIN INTERNATIONAL 200 S. WACKER DR. SUITE 1400 CHICAGO, IL 60606 TEL: 312-777-2900	USER NAME = CHORBACZ	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PIER 9 REINFORCEMENT, 1 OF 3 STRUCTURE NO. 090-0180	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 12/12/2018	CHECKED -	REVISED -			317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1251
		CHECKED -	REVISED -			CONTRACT NO. 68B46		ILLINOIS FED. AID PROJECT NHPP-YRP3(905)		



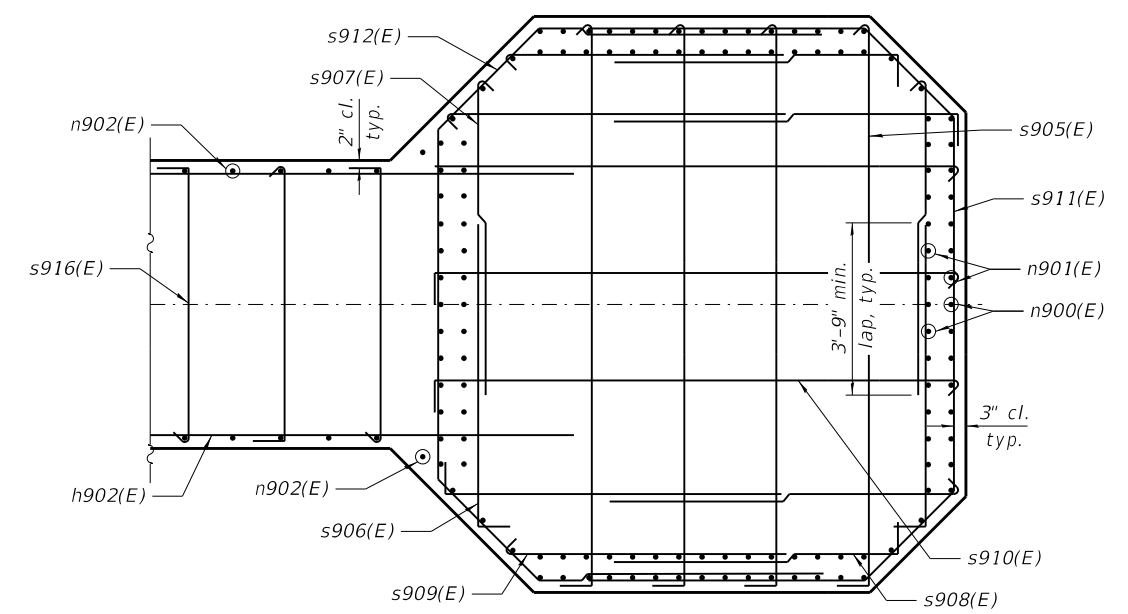
SECTION B-B



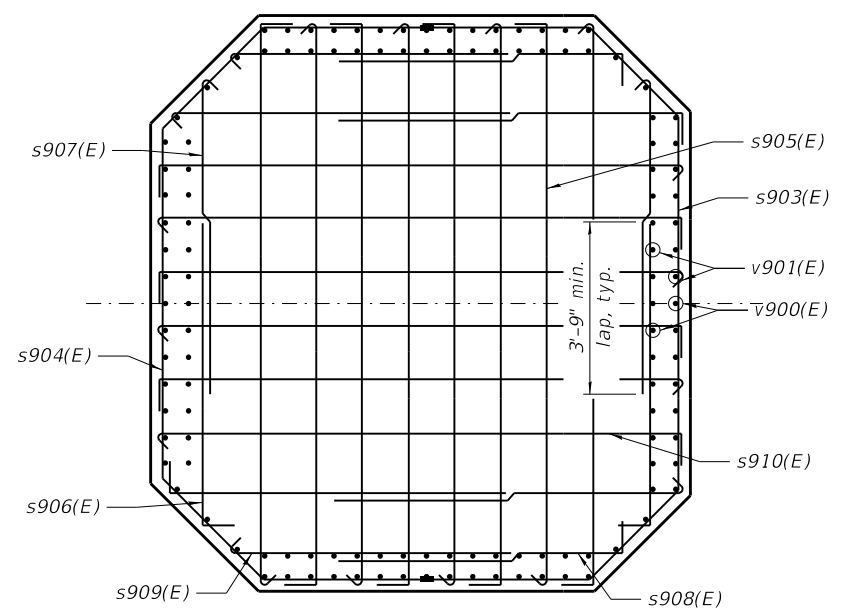
SECTION C-C



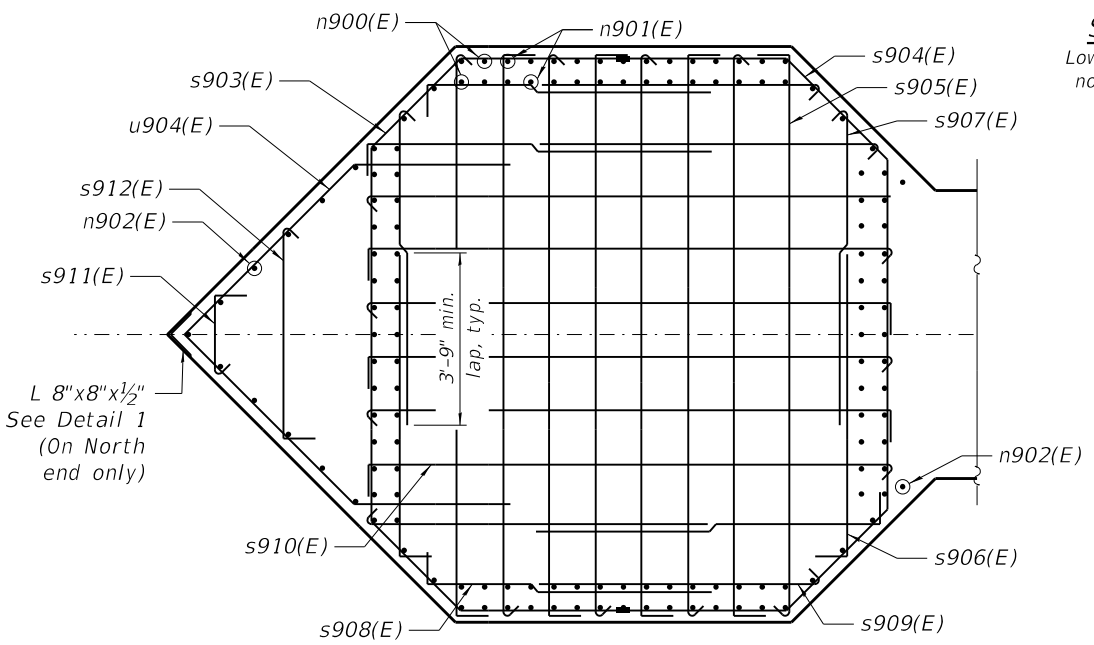
PLAN VIEW - CAP BEARING SEAT REINFORCEMENT



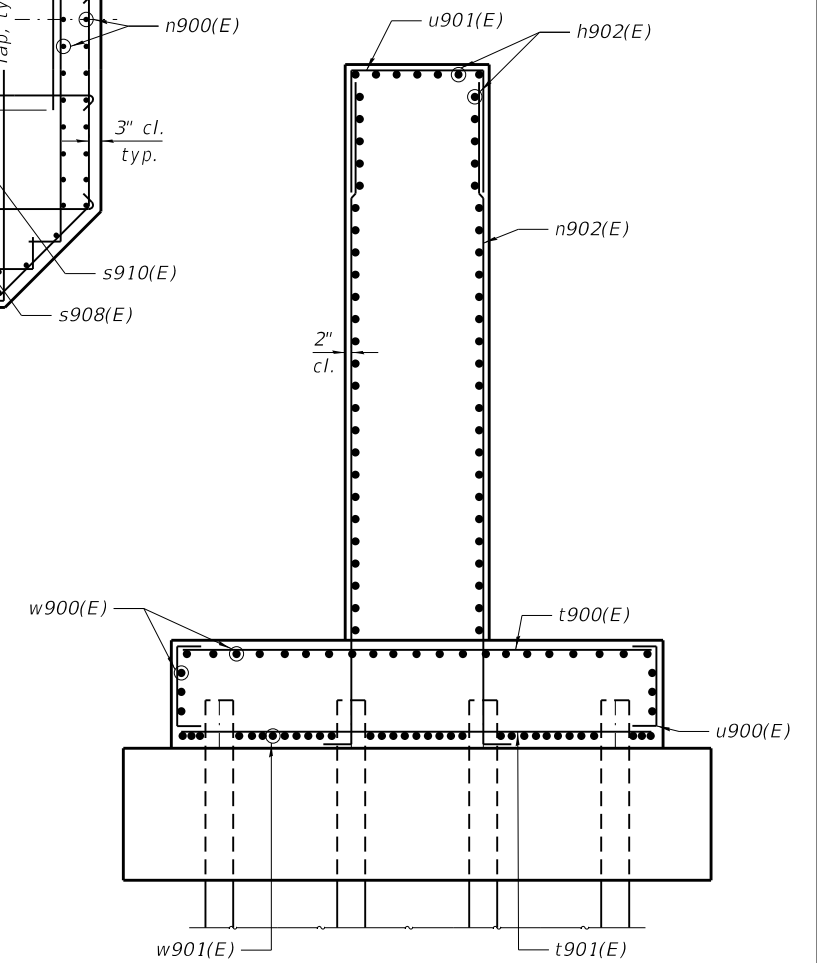
SECTION F-F
Lower diaphragm rebar
not shown for clarity



SECTION D-D



SECTION E-E
Lower diaphragm rebar
not shown for clarity



SECTION A-A

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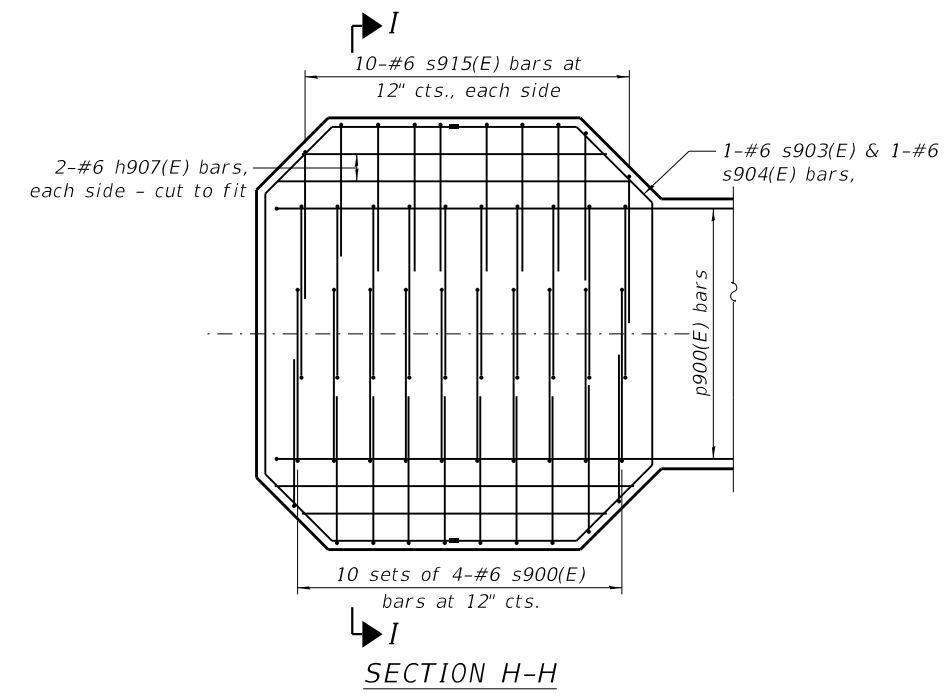
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PIER 9 REINFORCEMENT, 2 OF 3
STRUCTURE NO. 090-0180

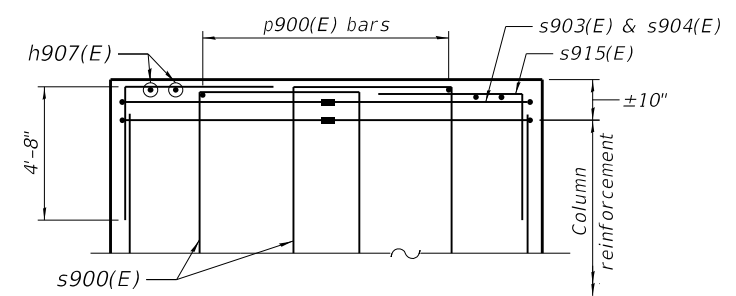
SHEET 5-343 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1252
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

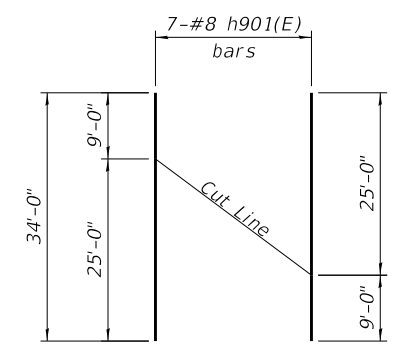
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SECTION H-H

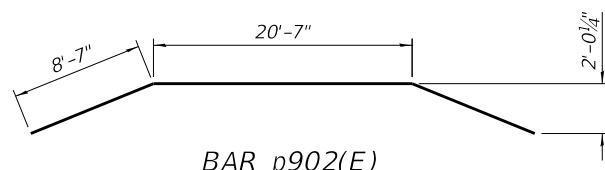


SECTION I-I

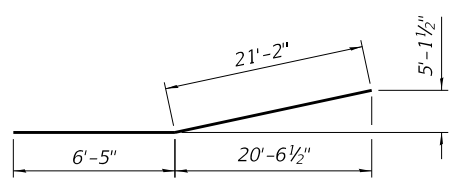


FIELD CUTTING DIAGRAM

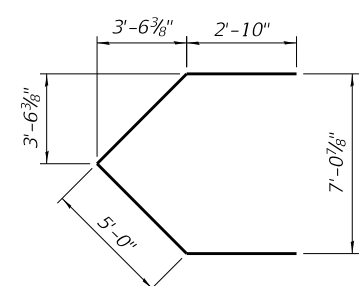
Order full length. Cut as shown and use remainder of bars in opposite face.



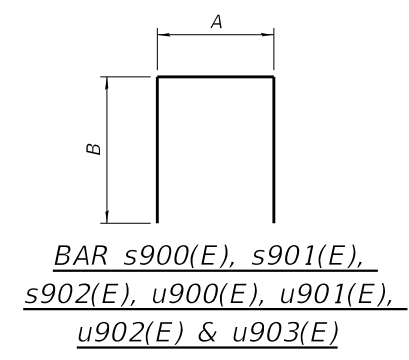
BAR p902(E)



BAR p903(E)



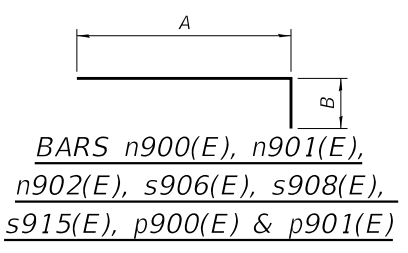
BAR u904(E)



BAR s900(E), s901(E), s902(E), u900(E), u901(E), u902(E) & u903(E)

A & B DIMENSIONS

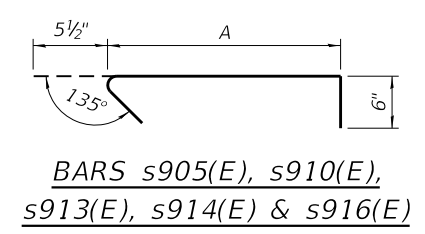
Bar	A	B
s900(E)	3'-9"	9'-6"
s901(E)	3'-9"	8'-2"
s902(E)	3'-9"	7'-0"
u900(E)	4'-0"	2'-11"
u901(E)	5'-7"	5'-9"
u902(E)	3'-5"	3'-1"
u903(E)	3'-5"	3'-5"



BARS n900(E), n901(E), n902(E), s906(E), s908(E), s915(E), p900(E) & p901(E)

A & B DIMENSIONS

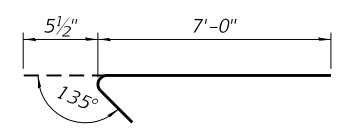
Bar	A	B
n900(E)	30'-2"	2'-0"
n901(E)	32'-2"	2'-0"
n902(E)	28'-0"	1'-4"
s906(E)	7'-0"	0'-6"
s908(E)	6'-9"	0'-6"
s915(E)	4'-8"	3'-7"
p900(E)	45'-7"	7'-7"
p901(E)	28'-6"	7'-7"



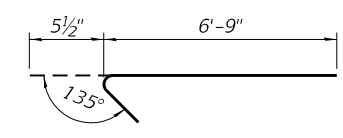
BARS s905(E), s910(E), s913(E), s914(E) & s916(E)

A DIMENSION

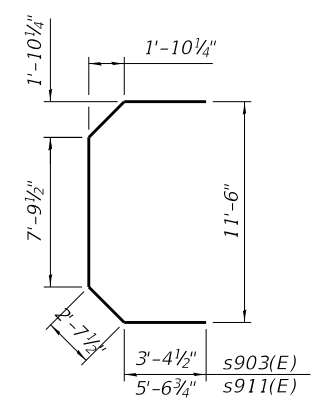
Bar	A
s905(E)	11'-6"
s910(E)	10'-9"
s913(E)	1'-4"
s914(E)	4'-2"
s916(E)	5'-8"



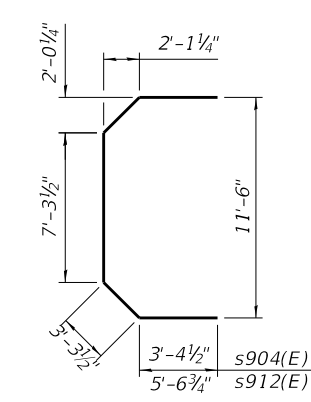
BARS s907(E)



BARS s909(E)



BARS s903(E) and s911(E)



BARS s904(E) and s912(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h900(E)	44	#8	27'-5"	—
h901(E)	12	#8	34'-0"	—
h902(E)	165	#8	26'-11"	—
h903(E)	12	#6	27'-8"	—
h904(E)	8	#6	23'-2"	—
h905(E)	8	#6	31'-6"	—
h906(E)	4	#6	25'-5"	—
h907(E)	8	#6	9'-11"	—
n900(E)	128	#11	32'-2"	┘
n901(E)	124	#11	34'-2"	┘
n902(E)	119	#8	29'-4"	┘
p900(E)	24	#10	53'-2"	┘
p901(E)	16	#10	36'-1"	┘
p902(E)	24	#11	37'-9"	┘
p903(E)	24	#11	27'-7"	┘
p904(E)	24	#11	21'-2"	—
s900(E)	168	#6	22'-9"	┘
s901(E)	80	#6	20'-1"	┘
s902(E)	84	#6	17'-9"	┘
s903(E)	264	#6	19'-10"	┘
s904(E)	264	#6	20'-0"	┘
s905(E)	2304	#5	12'-6"	┘
s906(E)	628	#5	7'-6"	┘
s907(E)	628	#5	7'-6"	┘
s908(E)	1152	#5	7'-3"	┘
s909(E)	1152	#5	7'-3"	┘
s910(E)	1728	#5	11'-9"	┘
s911(E)	52	#6	24'-2"	┘
s912(E)	52	#6	24'-5"	┘
s913(E)	25	#5	2'-4"	┘
s914(E)	25	#5	5'-2"	┘
s915(E)	40	#6	8'-3"	┘
s916(E)	648	#5	6'-8"	┘
t900(E)	102	#7	20'-2"	—
t901(E)	110	#9	20'-0"	—
u900(E)	234	#6	9'-10"	┘
u901(E)	52	#8	17'-1"	┘
u902(E)	65	#6	9'-7"	┘
u903(E)	70	#6	10'-3"	┘
u904(E)	25	#5	15'-8"	┘
v900(E)	128	#11	30'-4"	—
v901(E)	124	#11	28'-4"	—
w900(E)	108	#7	27'-6"	—
w901(E)	99	#8	34'-11"	—
Concrete Structures	Cu. Yd.		1426.6	
Reinforcement Bars, Epoxy Coated	Pound		278,480	
Furnishing Steel Piles HP 14x117	Foot		3,135	
Driving Piles	Foot		3,135	
Test Pile, HP14x117	Each		1	
Cofferdam Excavation	Cu. Yd.		1168	
Cofferdam (Type 2) (Location-9)	Each		1	
Seal Coat Concrete	Cu. Yd.		539.0	
Concrete Sealer	Sq. Ft.		10,083	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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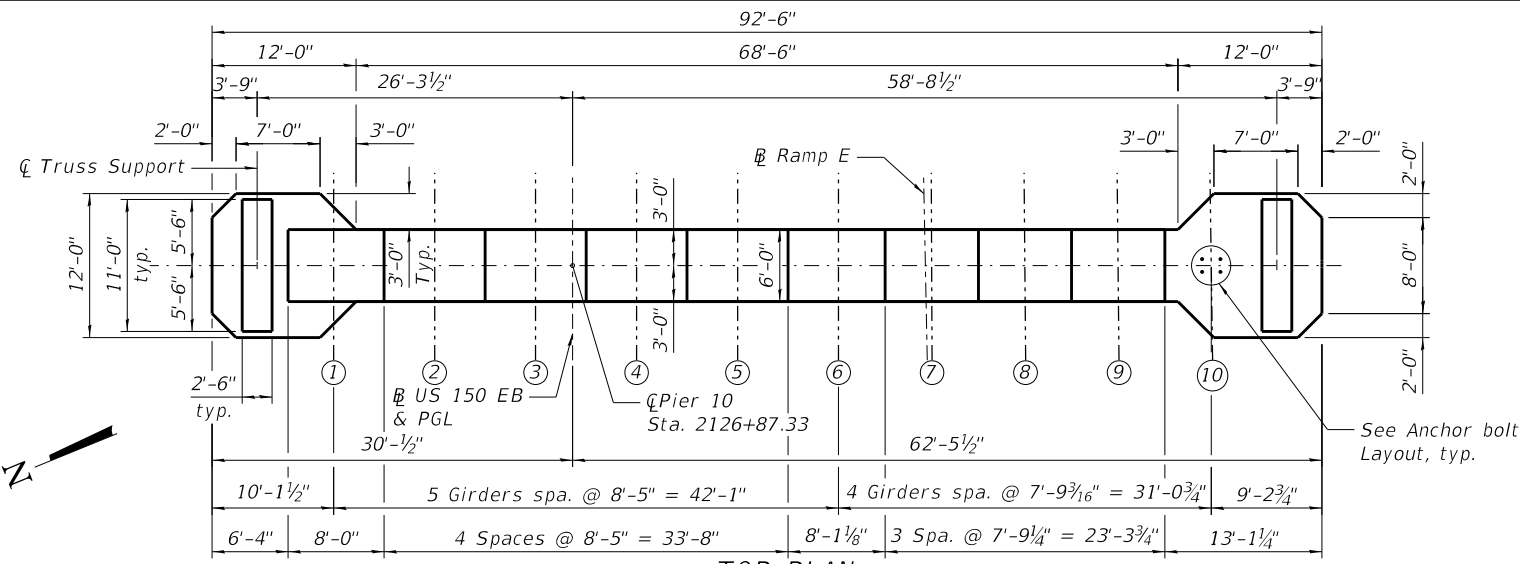
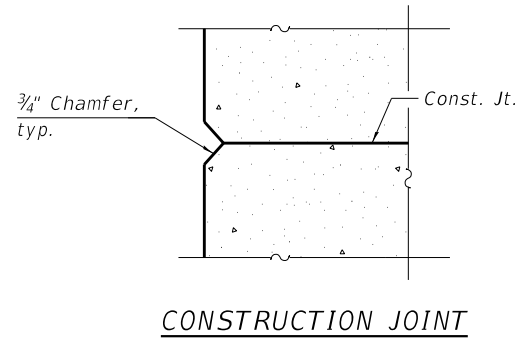
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PIER 9 REINFORCEMENT, 3 OF 3
 STRUCTURE NO. 090-0180

SHEET 5-344 OF 445 SHEETS

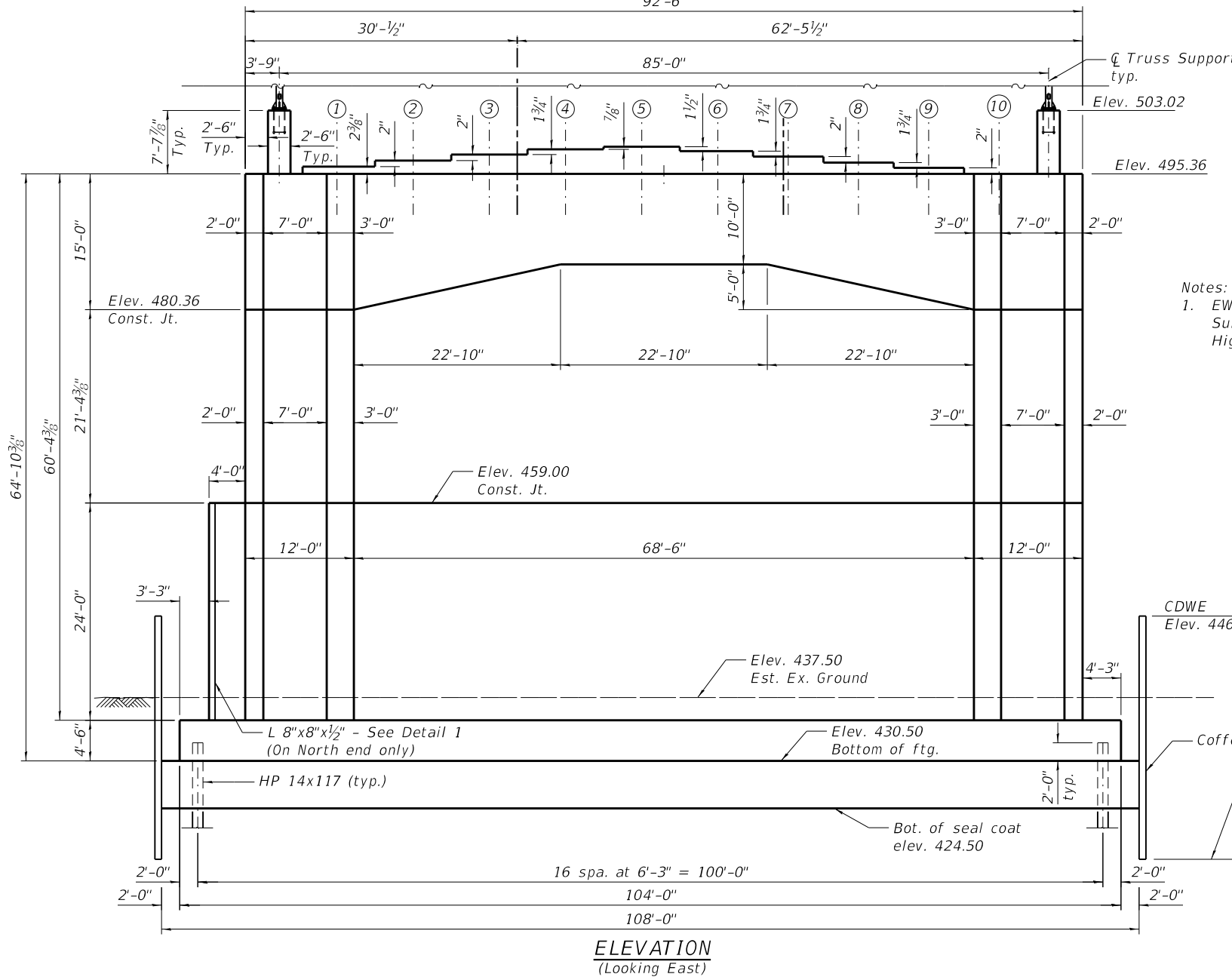
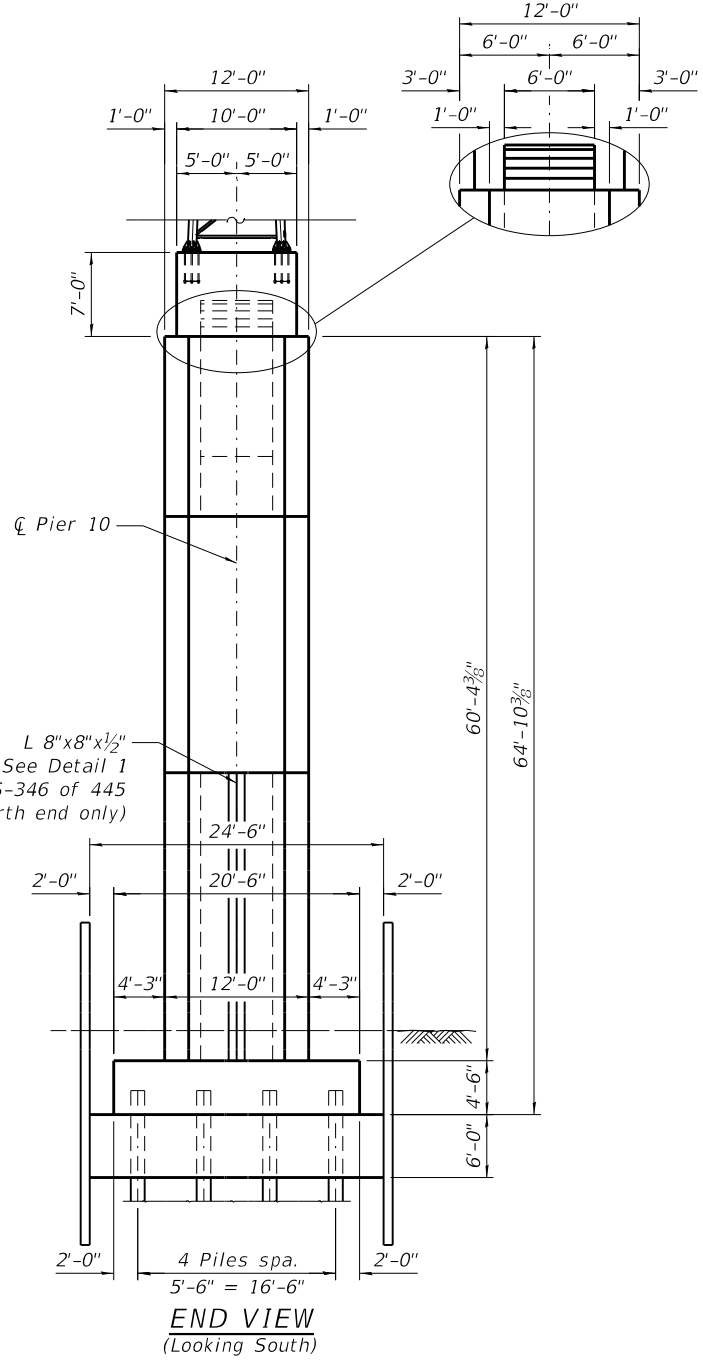
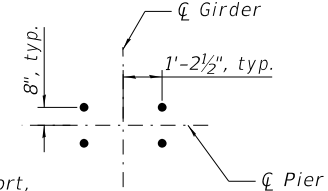
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1253
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

Notes:
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.
 Pour steps monolithically with cap.
 Space reinforcement in cap to miss anchor bolts.



BEARING SEAT ELEVATIONS

Girder	Elevation
1	495.56
2	495.73
3	495.90
4	496.04
5	496.12
6	495.99
7	495.84
8	495.68
9	495.53
10	495.36



Notes:
 1. EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation.

- ▼ Design HWE Elev. 458.10
- ▼ 2% Flow Line Elev. 449.90
- ▼ CDWE Elev. 446.50
- ▼ EWSE Elev. 443.50
- ▼ Normal Pool Elev. 439.70

Estimated elevation 417.00
 Seal coat thickness and cofferdam tip elevation are dependant on Contractor's design

MODEL: Default FILE NAME: p:\1\sp\sv\306\hanson_projects\documents\13\obs\13\H0106\Phase-III\CAD\Struct\Sheet\0900180-XXXX-TYLI-8370-Pier 10 Plan and Elev.dgn

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**STATE OF ILLINOIS
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**PIER 10 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180**

SHEET 5-345 OF 445 SHEETS

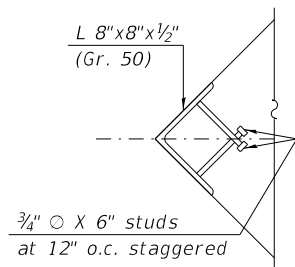
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1254
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

VESSEL COLLISION FORCE

FOR EXTREME EVENT II LOAD COMBINATION

	100 Yr. Water Level	
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



DETAIL 1

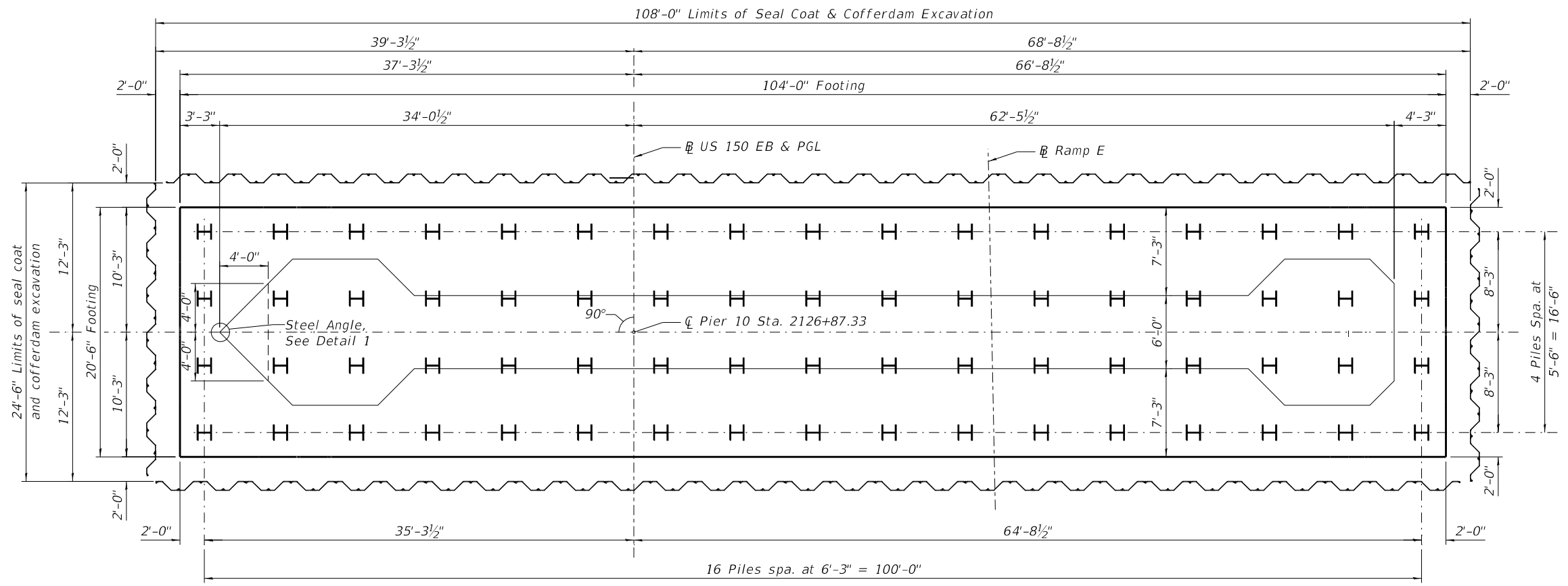
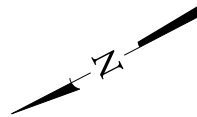
Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.

PILE DATA

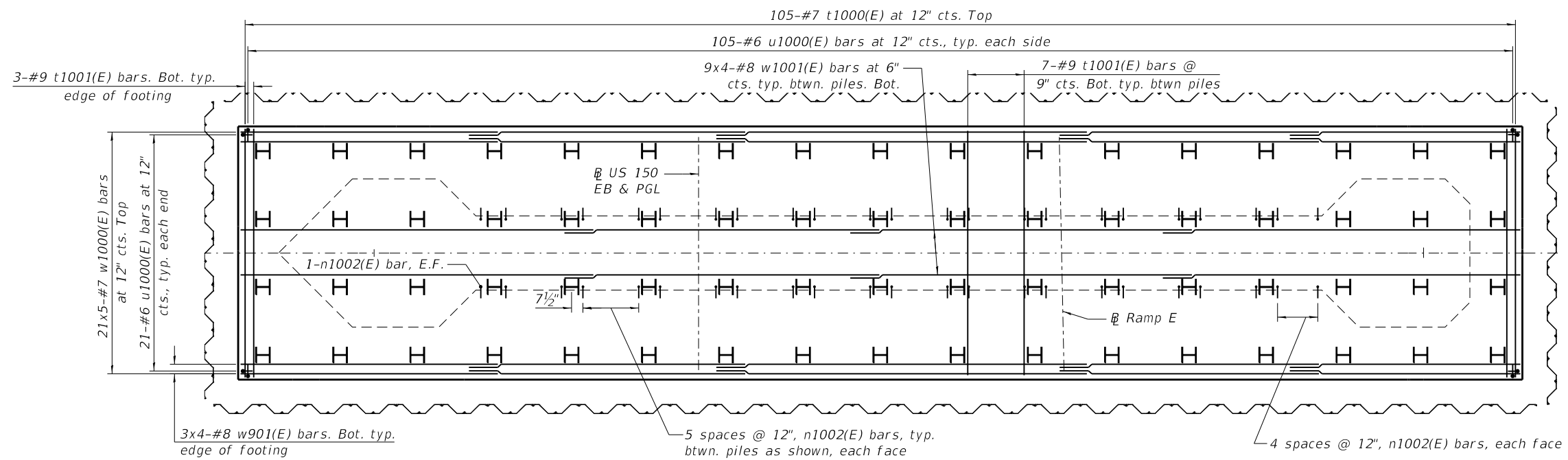
Type: HP 14x117
 Nominal Required Bearing: 929 kips
 Factored Resistance Available: 511 kips
 Est. Length: 60'
 No. Production Piles: 67
 No. Test Piles: 1

MINIMUM BAR LAP

#7 bar = 5'-0"
 #8 bar = 5'-1"



FOOTING PLAN



FOOTING PLAN REINFORCEMENT

MODEL: Default
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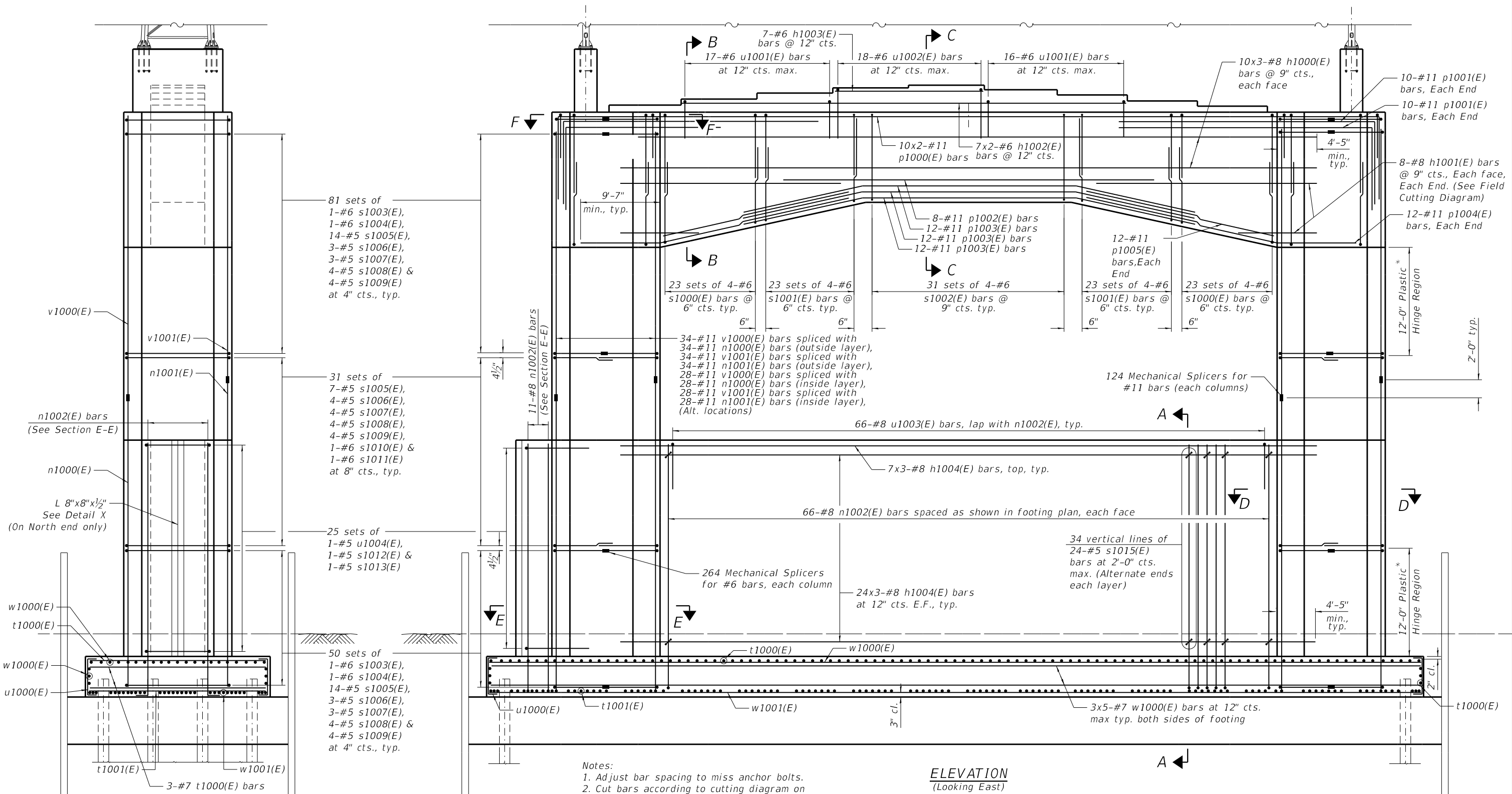
**STATE OF ILLINOIS
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PIER 10 FOOTING PLAN
 STRUCTURE NO. 090-0180

SHEET 5-346 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1255
			CONTRACT NO. 68B46	
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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- Notes:**
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-349 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-349 of 445.
 5. Alternate ends of s1005(E) thru s1009(E) bars each layer.

ELEVATION
 (Looking East)

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

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #8 bar = 5'-9"
- #11 bar (top of cap) = 9'-5"
- #11 bar (bot. of cap) = 12'-6"

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 PLOT DATE = 12/12/2018

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DRAWN -	REVISED -
CHECKED -	REVISED -

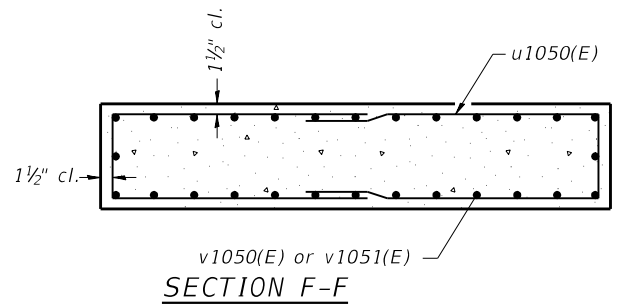
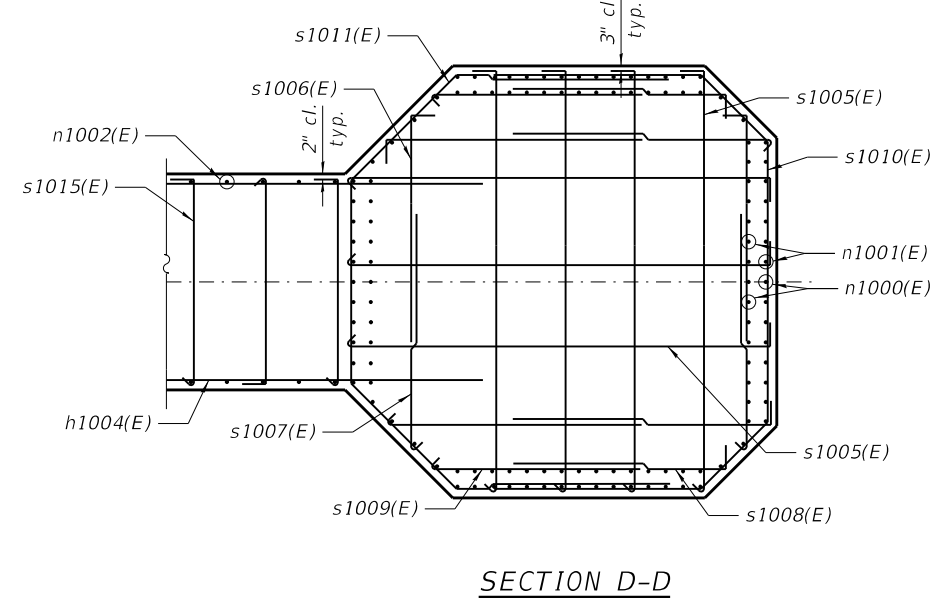
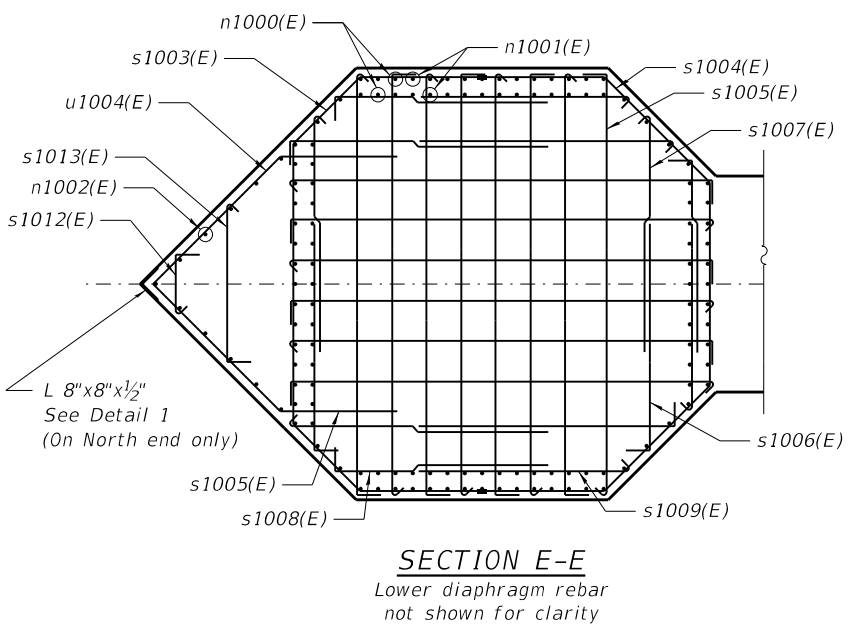
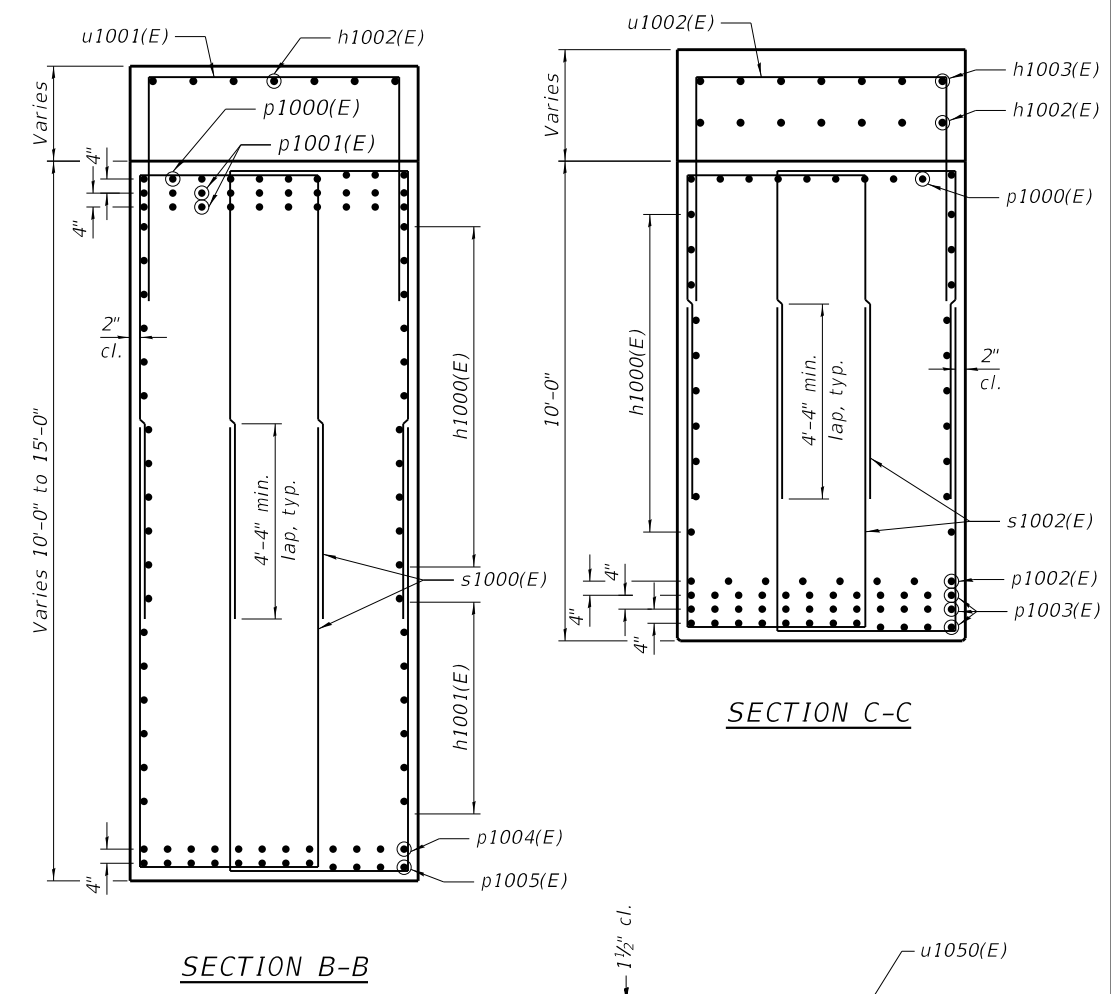
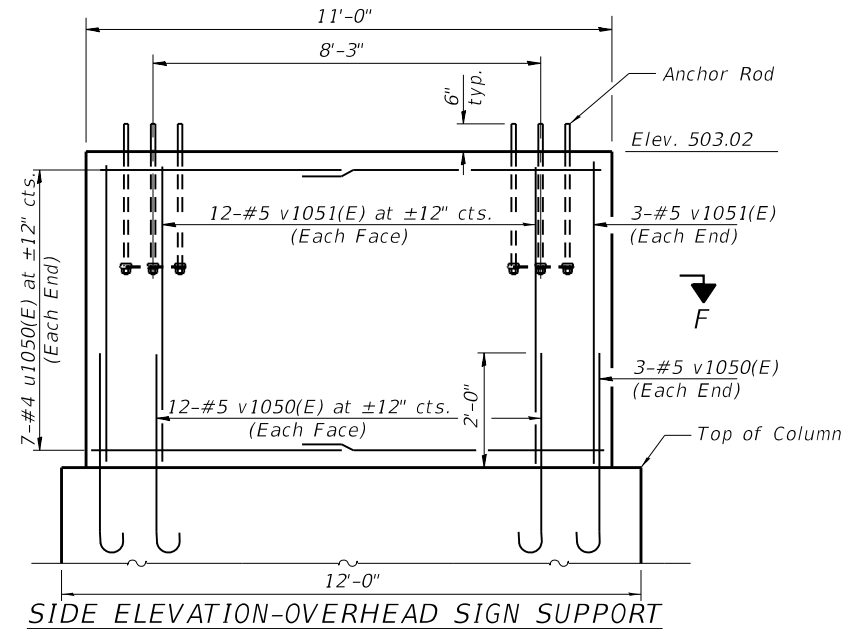
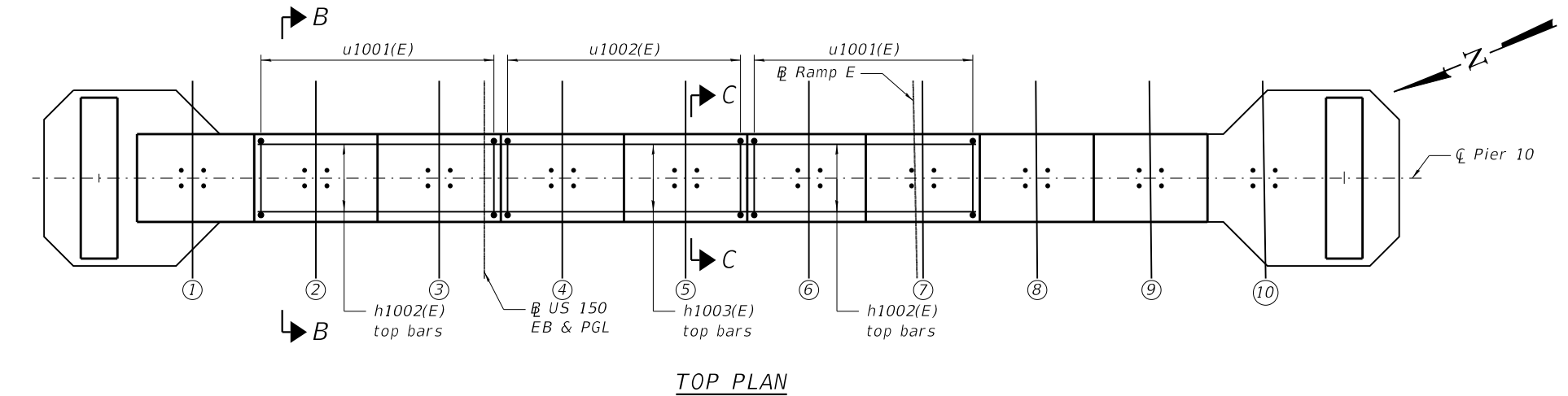
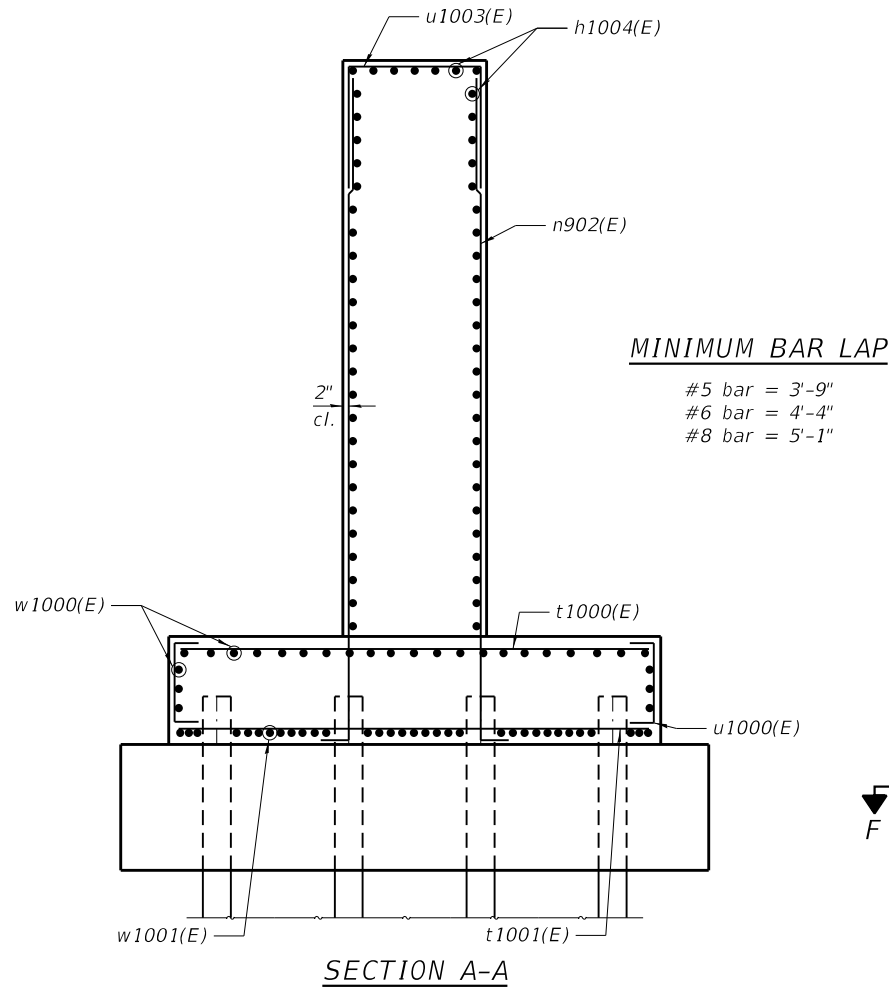
STATE OF ILLINOIS
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PIER 10 REINFORCEMENT, 1 OF 3
 STRUCTURE NO. 090-0180

SHEET S-347 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1256
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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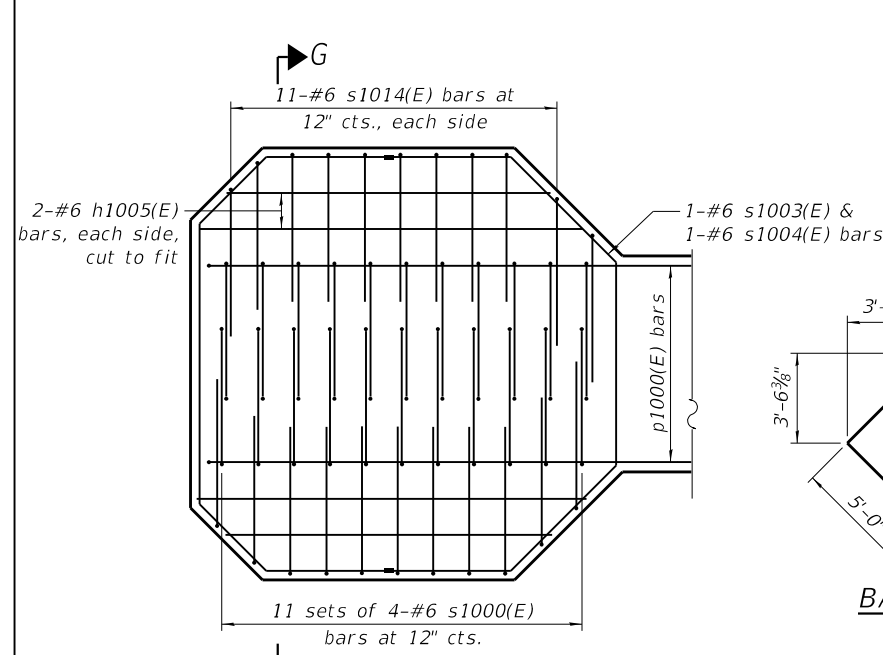
**STATE OF ILLINOIS
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**PIER 10 REINFORCEMENT, 2 OF 3
 STRUCTURE NO. 090-0180**

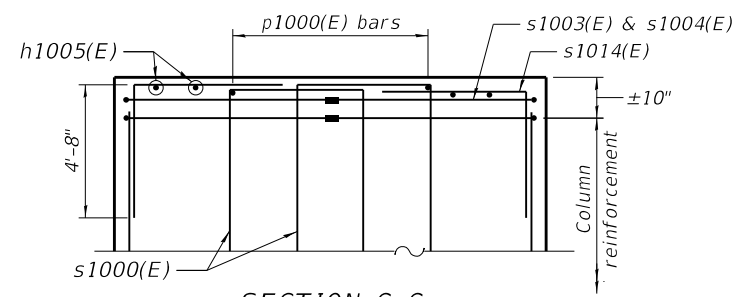
SHEET 5-348 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)JBR)BR	PEO/TAZ	1361	1257
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-VRP3(905)	

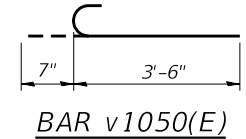
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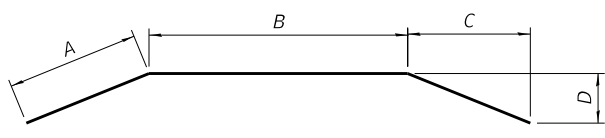
SECTION F-F



SECTION G-G



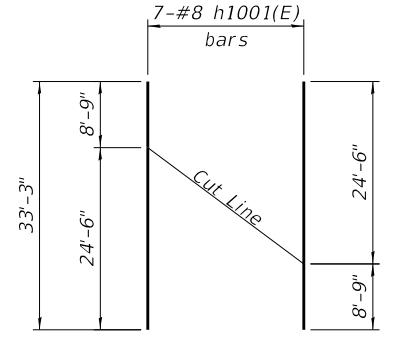
BAR v1050(E)



BAR p1003(E)

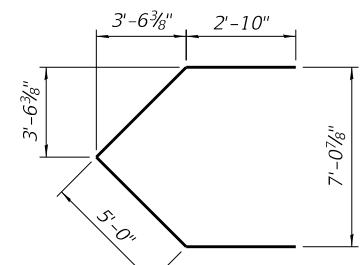
A, B, C & D DIMENSIONS

Bar	A	B	C	D
p1003(E)	13'-6"	22'-10"	13'-2 1/4"	2'-10 3/8"

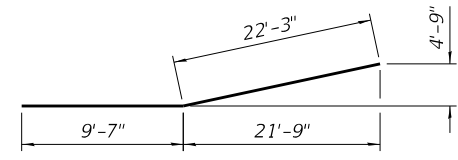


FIELD CUTTING DIAGRAM

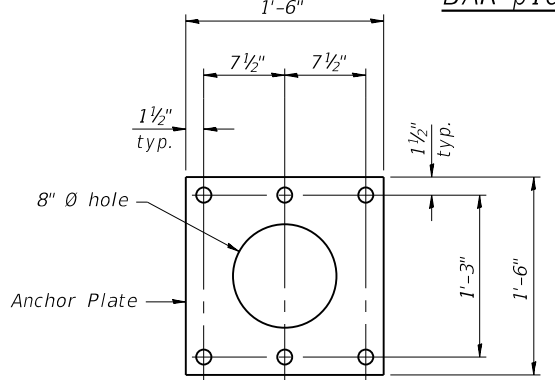
Order full length. Cut as shown and use remainder of bars in opposite face.



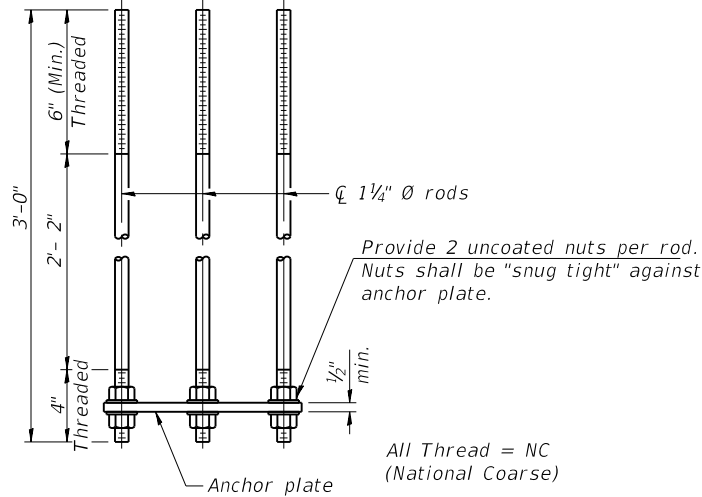
BAR u1004(E)



BAR p1004(E)



8" Ø hole
 1 1/2" typ.
 1 1/2" typ.
 1'-3"
 1'-6"

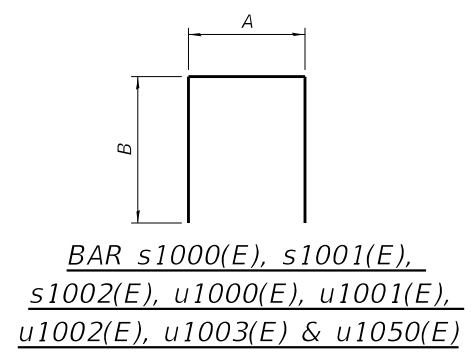


ANCHOR ROD DETAIL

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods. Anchor rods and anchor plate shall be included in the cost of Concrete Structures.

All Thread = NC (National Coarse)

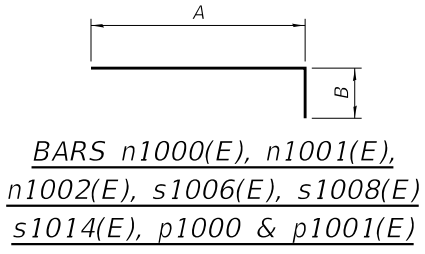
Provide 2 uncoated nuts per rod. Nuts shall be "snug tight" against anchor plate.



BAR s1000(E), s1001(E), s1002(E), u1000(E), u1001(E), u1002(E), u1003(E) & u1050(E)

A & B DIMENSIONS

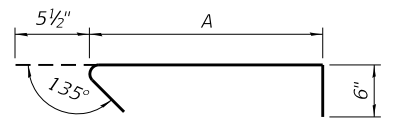
Bar	A	B
s1000(E)	3'-9"	9'-6"
s1001(E)	3'-9"	8'-3"
s1002(E)	3'-9"	7'-0"
u1000(E)	4'-0"	2'-11"
u1001(E)	5'-8"	3'-1"
u1002(E)	5'-8"	3'-5"
u1003(E)	5'-8"	5'-9"
u1050(E)	2'-3"	6'-10"



BARS n1000(E), n1001(E), n1002(E), s1006(E), s1008(E), s1014(E), p1000 & p1001(E)

A & B DIMENSIONS

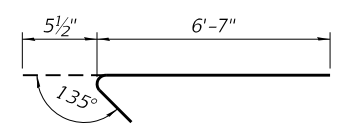
Bar	A	B
s1000(E)	272	#6 22'-9"
s1001(E)	184	#6 20'-3"
s1002(E)	124	#6 19'-2"
s1003(E)	264	#6 19'-10"
s1004(E)	264	#6 20'-8"
s1005(E)	4102	#5 12'-6"
s1006(E)	1034	#5 7'-1"
s1007(E)	1034	#5 7'-1"
s1008(E)	1296	#5 7'-6"
s1009(E)	1296	#5 7'-6"
s1010(E)	62	#6 24'-2"
s1011(E)	62	#6 25'-0"
s1012(E)	25	#5 2'-4"
s1013(E)	25	#5 5'-2"
s1014(E)	44	#6 8'-9"
s1015(E)	816	#5 6'-8"



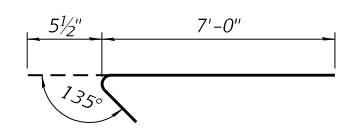
BARS s1005(E), s1012(E), s1013(E) & s1015(E)

A DIMENSION

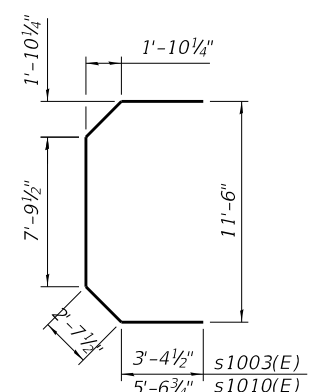
Bar	A
s1005(E)	11'-6"
s1012(E)	1'-4"
s1013(E)	4'-2"
s1015(E)	5'-8"



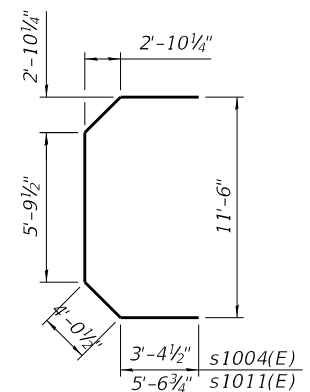
BARS s1007(E)



BARS s1009(E)



BARS s1003(E) and s1010(E)



BARS s1004(E) and s1011(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1000(E)	60	#8	29'-8"	—
h1001(E)	16	#8	33'-3"	—
h1002(E)	14	#6	26'-10"	—
h1003(E)	7	#6	16'-7"	—
h1004(E)	165	#8	29'-8"	—
h1005(E)	8	#6	10'-7"	—
n1000(E)	124	#11	34'-10"	┘
n1001(E)	124	#11	36'-10"	┘
n1002(E)	143	#8	29'-4"	┘
p1000(E)	20	#11	59'-11"	┘
p1001(E)	40	#11	41'-11"	┘
p1002(E)	8	#11	41'-2"	┘
p1003(E)	36	#11	49'-10"	┘
p1004(E)	24	#11	31'-10"	┘
p1005(E)	24	#11	23'-2"	┘
s1000(E)	272	#6	22'-9"	┘
s1001(E)	184	#6	20'-3"	┘
s1002(E)	124	#6	19'-2"	┘
s1003(E)	264	#6	19'-10"	┘
s1004(E)	264	#6	20'-8"	┘
s1005(E)	4102	#5	12'-6"	┘
s1006(E)	1034	#5	7'-1"	┘
s1007(E)	1034	#5	7'-1"	┘
s1008(E)	1296	#5	7'-6"	┘
s1009(E)	1296	#5	7'-6"	┘
s1010(E)	62	#6	24'-2"	┘
s1011(E)	62	#6	25'-0"	┘
s1012(E)	25	#5	2'-4"	┘
s1013(E)	25	#5	5'-2"	┘
s1014(E)	44	#6	8'-9"	┘
s1015(E)	816	#5	6'-8"	┘
t1000(E)	111	#7	20'-2"	—
t1001(E)	118	#9	20'-0"	—
u1000(E)	252	#6	9'-10"	┘
u1001(E)	33	#6	11'-10"	┘
u1002(E)	18	#6	12'-6"	┘
u1003(E)	66	#8	17'-2"	┘
u1004(E)	25	#5	15'-8"	┘
u1050(E)	28	#4	15'-11"	┘
v1000(E)	124	#11	30'-11"	—
v1001(E)	124	#11	28'-11"	—
v1050(E)	60	#5	4'-1"	┘
v1051(E)	60	#5	7'-6"	—
w1000(E)	135	#7	24'-9"	—
w1001(E)	132	#8	29'-10"	—
Concrete Structures		Cu. Yd.	1505.5	
Reinforcement Bars, Epoxy Coated		Pound	325,140	
Furnishing Steel Piles HP 14x117		Foot	4,020	
Driving Piles		Foot	4,020	
Test Pile, HP14x117		Each	1	
Cofferdam Excavation (Location-10)		Cu. Yd.	1274	
Cofferdam (Type 2)		Each	1	
Seal Coat Concrete		Cu. Yd.	588.0	

*The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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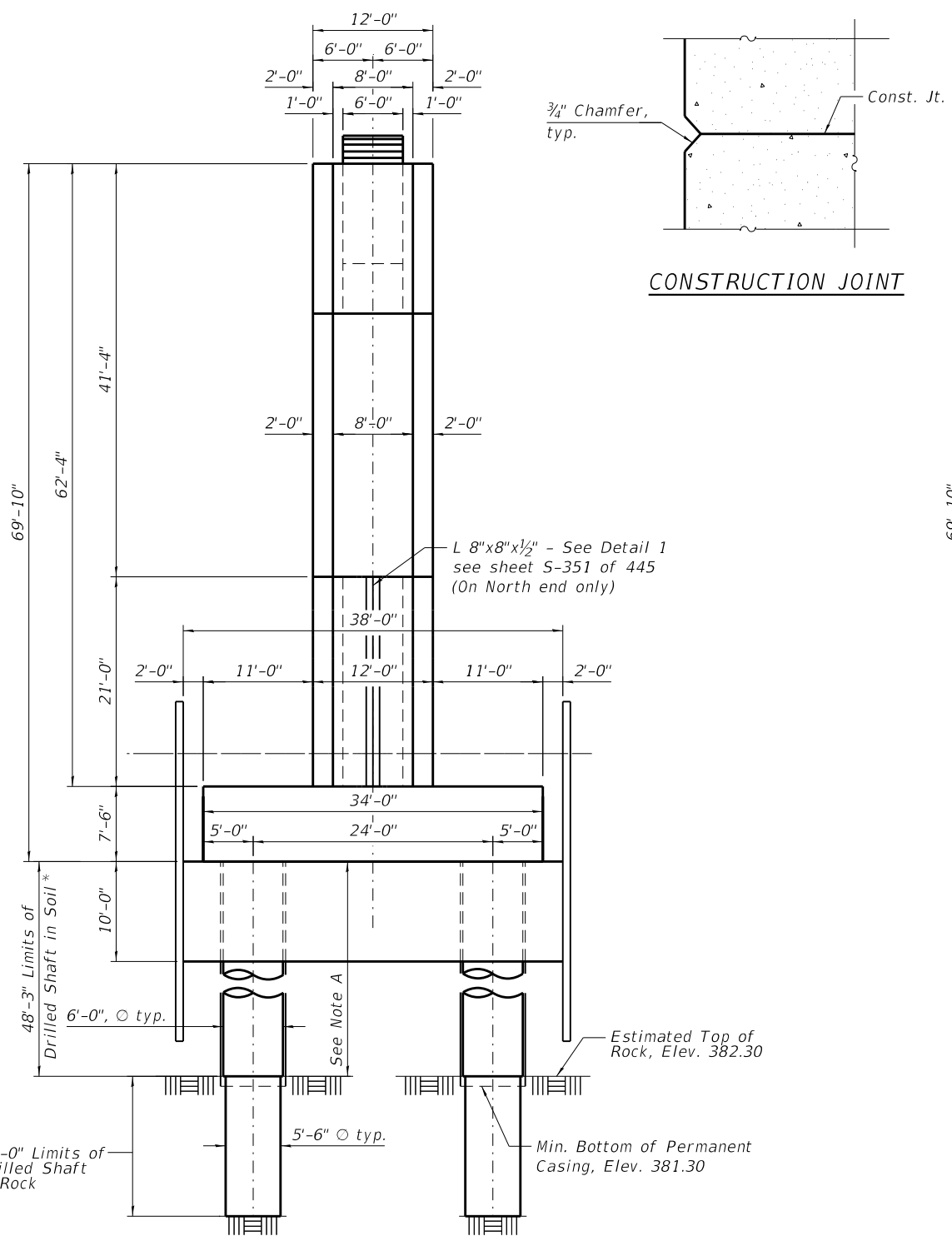
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PIER 10 REINFORCEMENT, 3 OF 3
 STRUCTURE NO. 090-0180

SHEET 5-349 OF 445 SHEETS

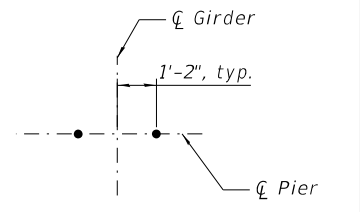
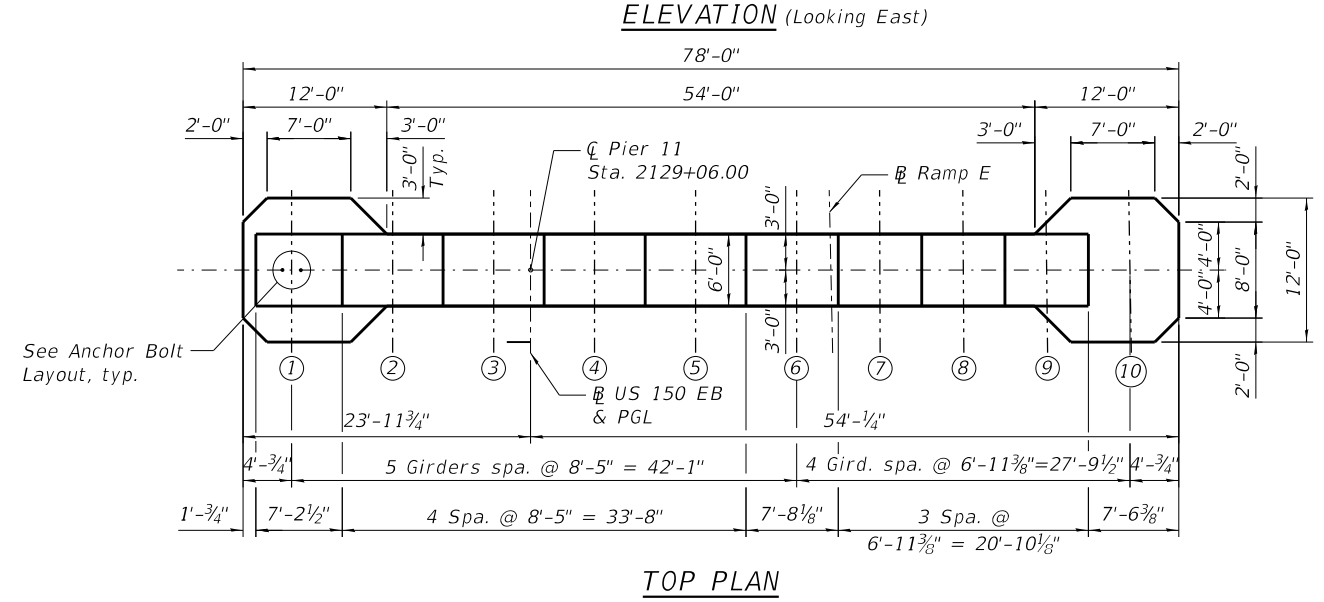
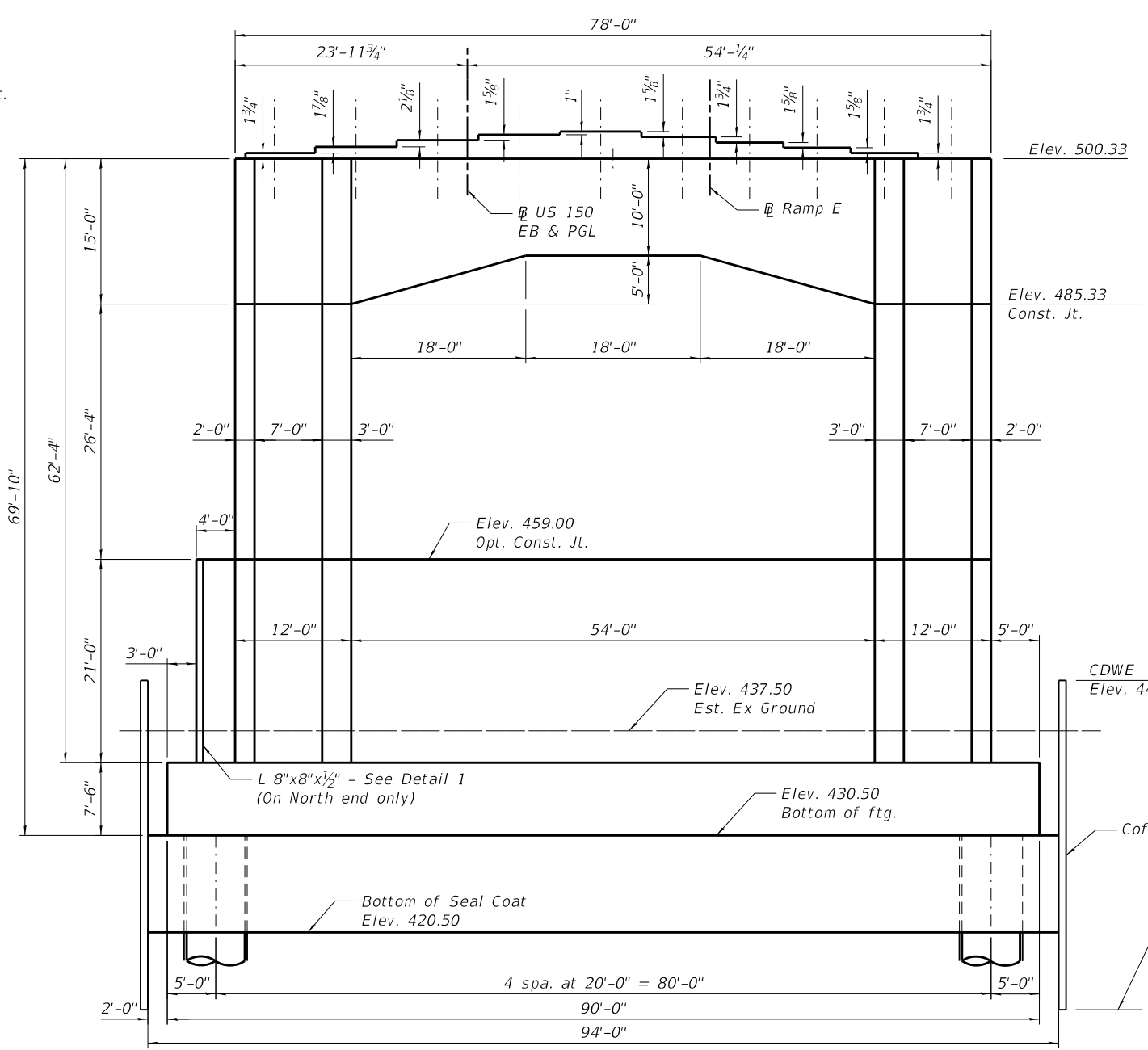
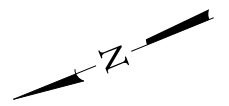
F.A.P. RT. 317 SECTION (15B;(102-1),(14HB)BR)BR COUNTY PEO/TAZ TOTAL SHEETS 1361 SHEET NO. 1258 CONTRACT NO. 68B46 ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

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Note A:
 43'-4" Limits of Permanent Casing. Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06(d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.

* The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock encountered at each shaft and the final top of shaft elevation.



ANCHOR BOLT LAYOUT BEARING SEAT ELEVATIONS

Girder	Elevation
1	500.48
2	500.64
3	500.81
4	500.95
5	501.03
6	500.90
7	500.75
8	500.62
9	500.48
10	500.33

Design HWE Elev. 458.10

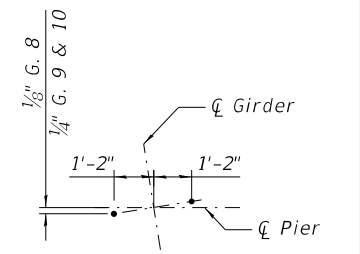
2% Flow Line Elev. 449.90

EWSE Elev. 443.50

Normal Pool Elev. 439.70

CDWE Elev. 446.50

Estimated elevation 411.00 Seal coat thickness and cofferdam tip elevation are dependant on Contractor's design



Notes:
 Pour steps monolithically with cap. Space reinforcement bars in cap to miss anchor bolts.
 EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.

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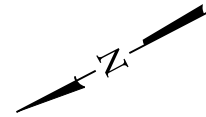
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PIER 11 PLAN AND ELEVATION STRUCTURE NO. 090-0180

SHEET S-350 OF 445 SHEETS

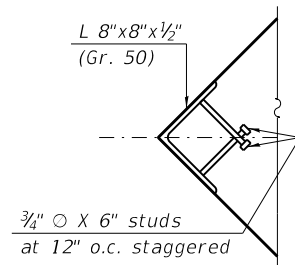
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317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1259
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

100 Yr. Water Level		
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.

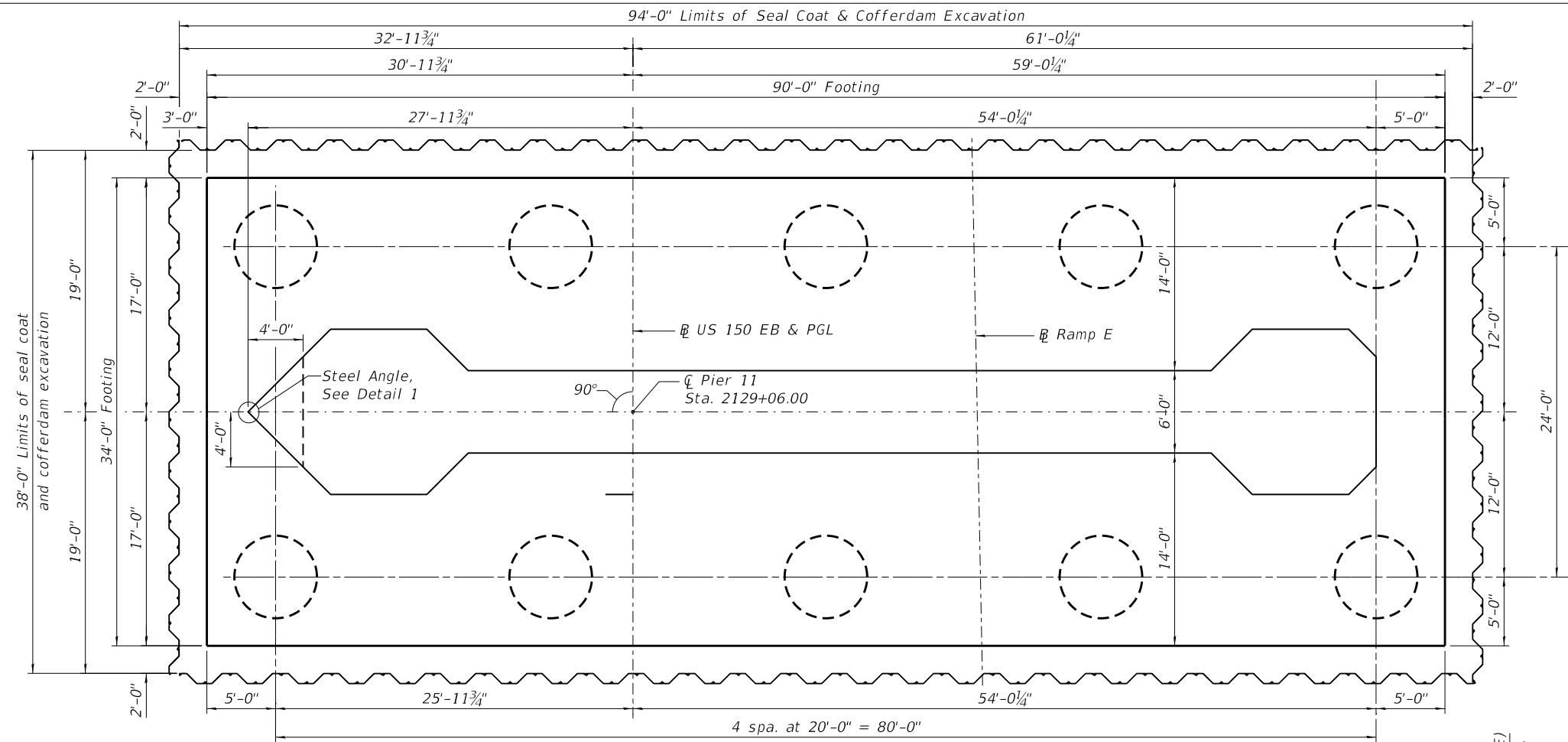


DETAIL 1

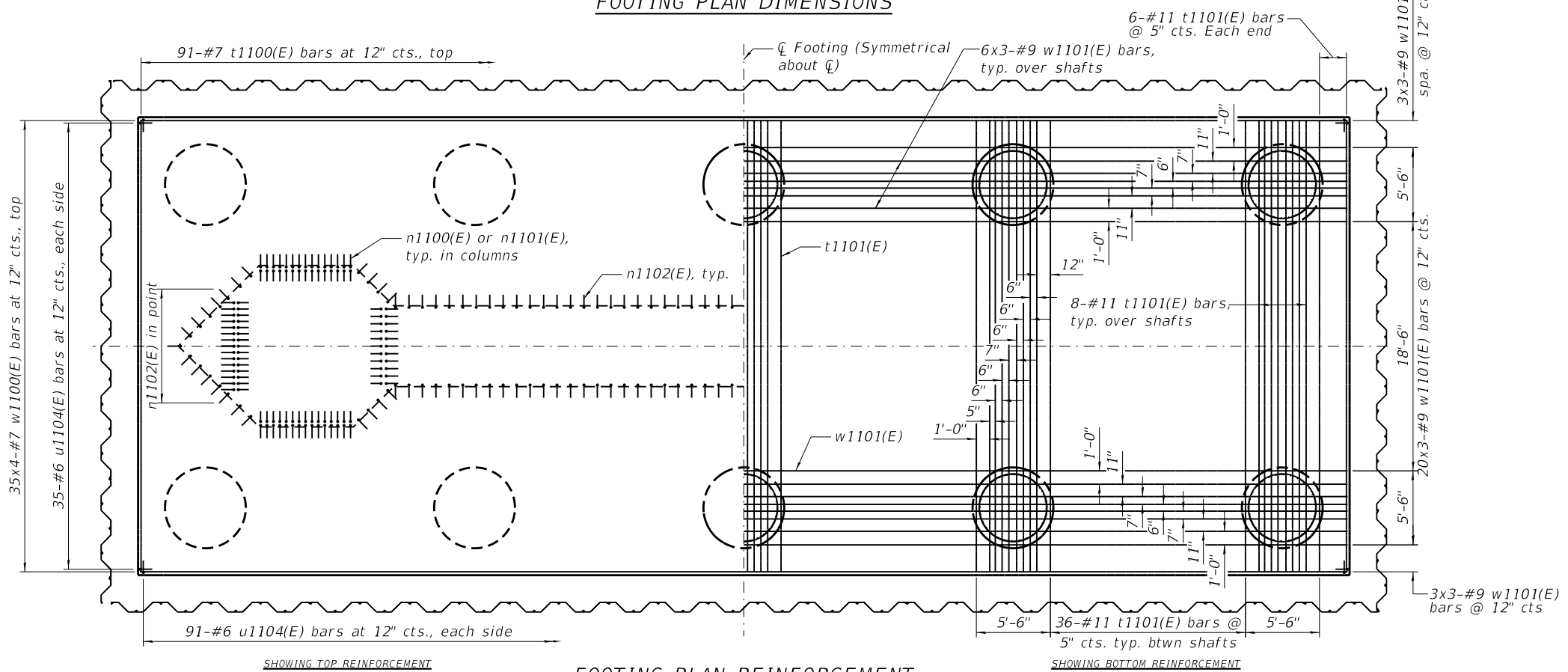
Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.

MINIMUM BAR LAP

- #7 = 5'-0"
- #9 = 5'-8"



FOOTING PLAN DIMENSIONS



FOOTING PLAN REINFORCEMENT

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PIER 11 FOOTING PLAN
STRUCTURE NO. 090-0180

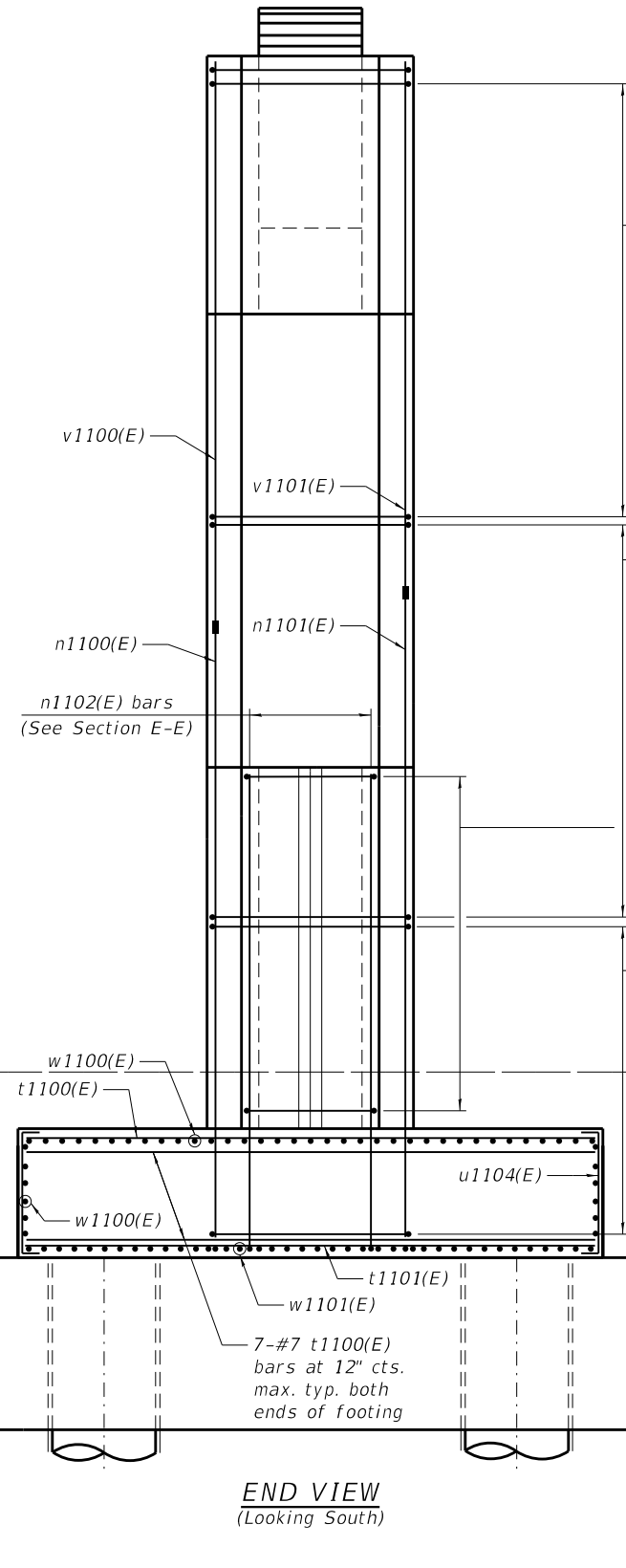
SHEET 5-351 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B)(102-1)(14HB)BR/BR	PEO/TAZ	1361	1260
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

- Notes:
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-354 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-354 of 445.
 5. Alternate ends of s1105(E) thru s1109(E) bars each layer.

MINIMUM BAR LAP

- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #8 bar = 5'-9"
- #11 bar (Top of cap) = 9'-5"
- #11 bar (Bot. of cap) = 12'-6"

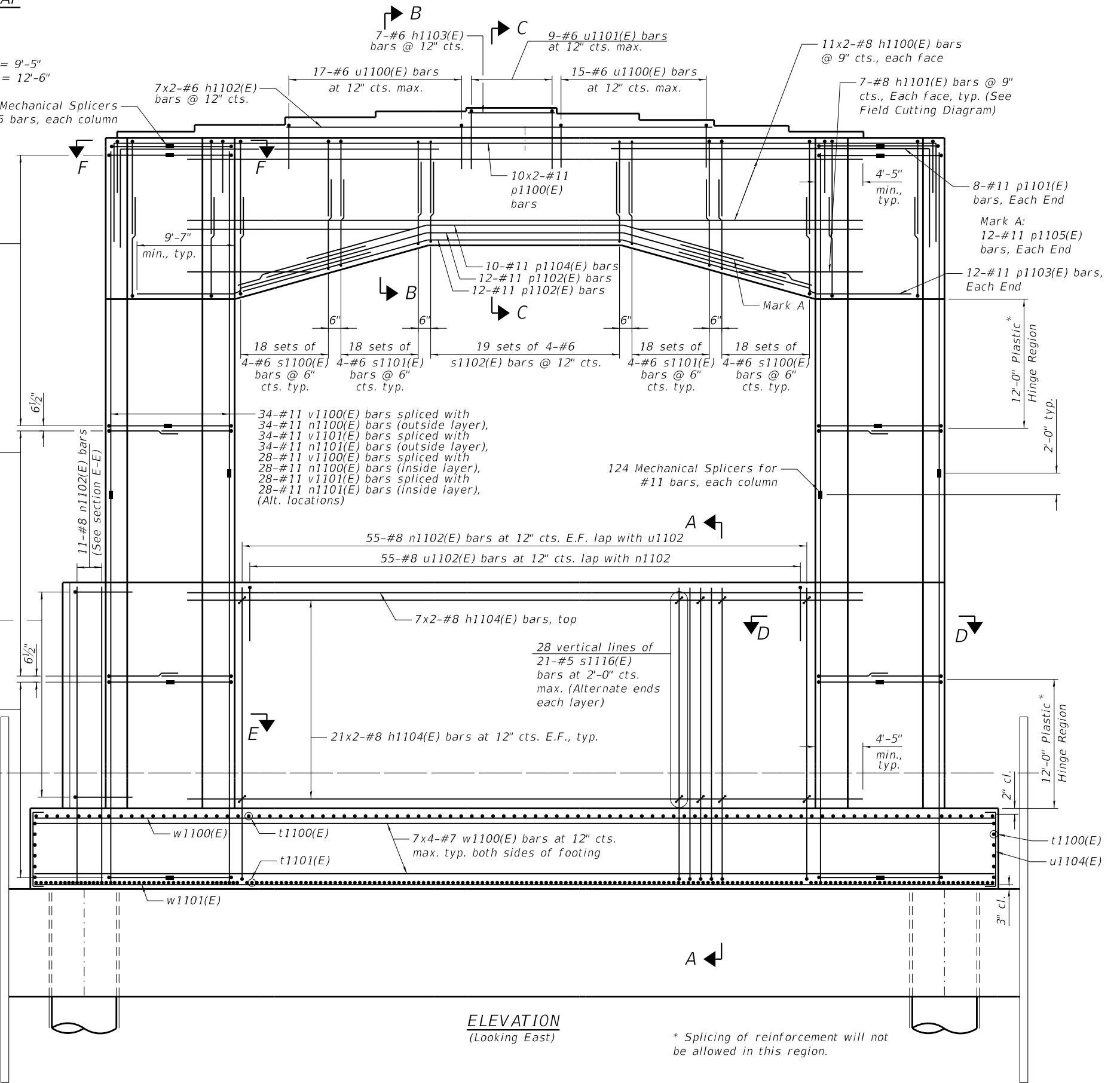


- 81 sets of 1-#6 s1103(E), 1-#6 s1104(E), 14-#5 s1105(E), 3-#5 s1106(E), 3-#5 s1107(E), 4-#5 s1108(E) & 4-#5 s1109(E) at 4" cts., typ.

- 33 sets of 7-#5 s1105(E), 2-#5 s1106(E), 2-#5 s1107(E), 4-#5 s1108(E), 4-#5 s1109(E), 1-#6 s1110(E) & 1-#6 s1111(E) at 8" cts., typ.

- 21 sets of 1-#5 u1103(E), 1-#5 s1112(E) & 1-#5 s1113(E) at 12" cts.

- 60 sets of 1-#6 s1103(E), 1-#6 s1104(E), 14-#5 s1105(E), 3-#5 s1106(E), 3-#5 s1107(E), 4-#5 s1108(E) & 4-#5 s1109(E) at 4" cts., typ.



ELEVATION
(Looking East)

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

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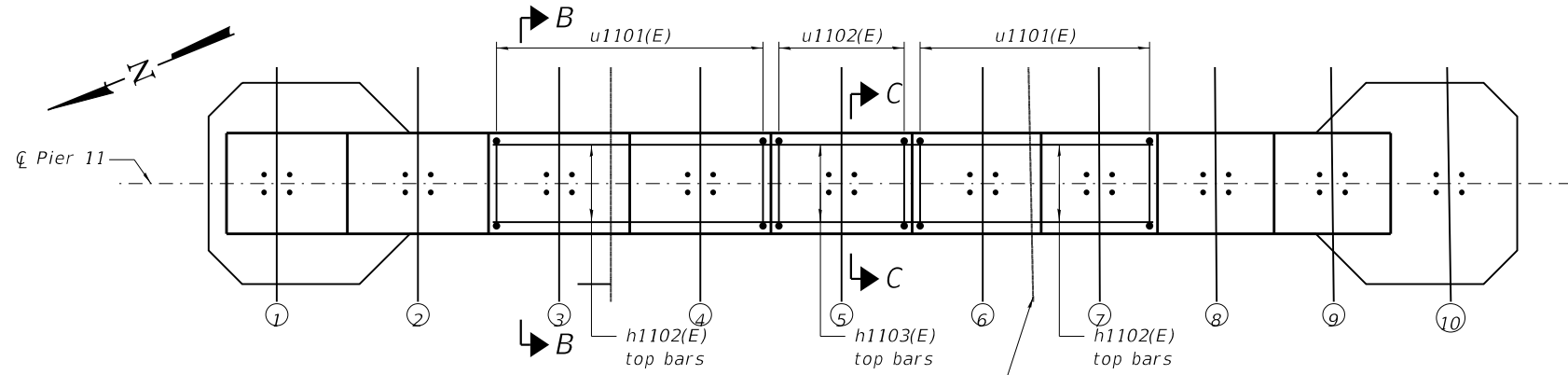
PIER 11 REINFORCEMENT, 1 OF 3
STRUCTURE NO. 090-0180

SHEET S-352 OF 445 SHEETS

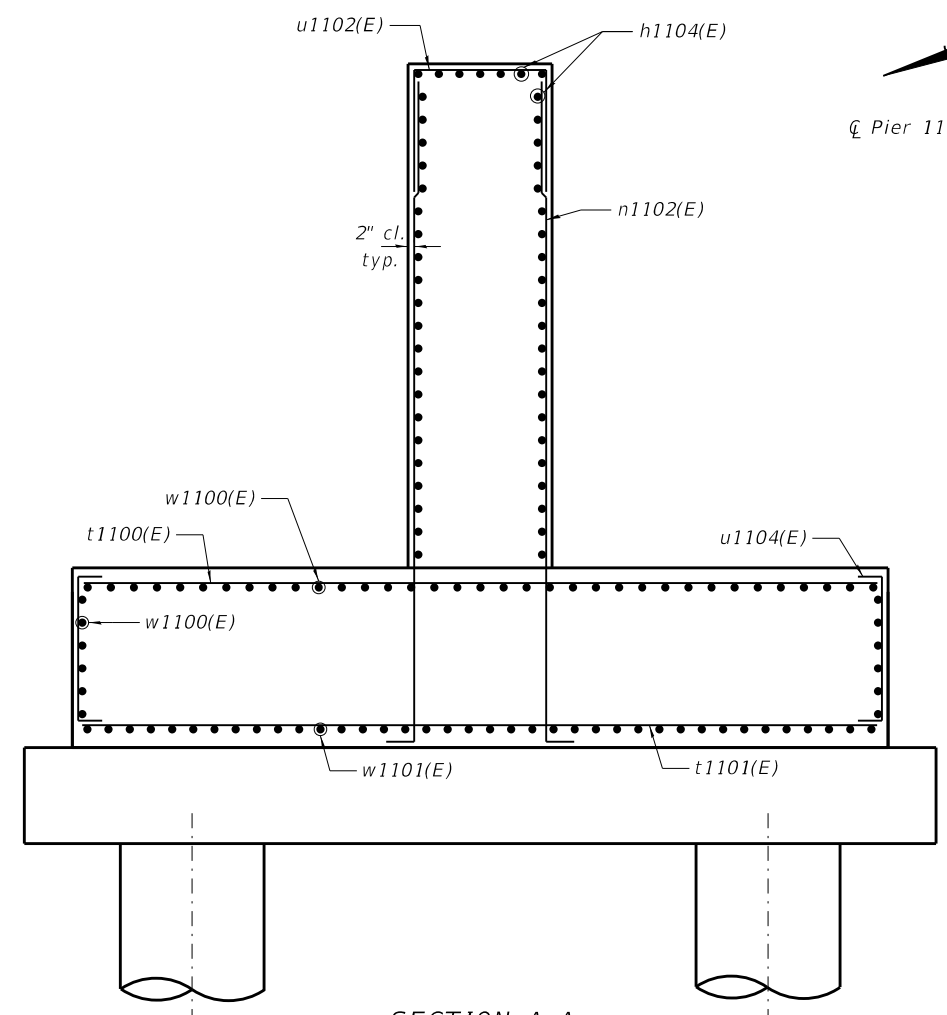
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1261
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

MINIMUM BAR LAP

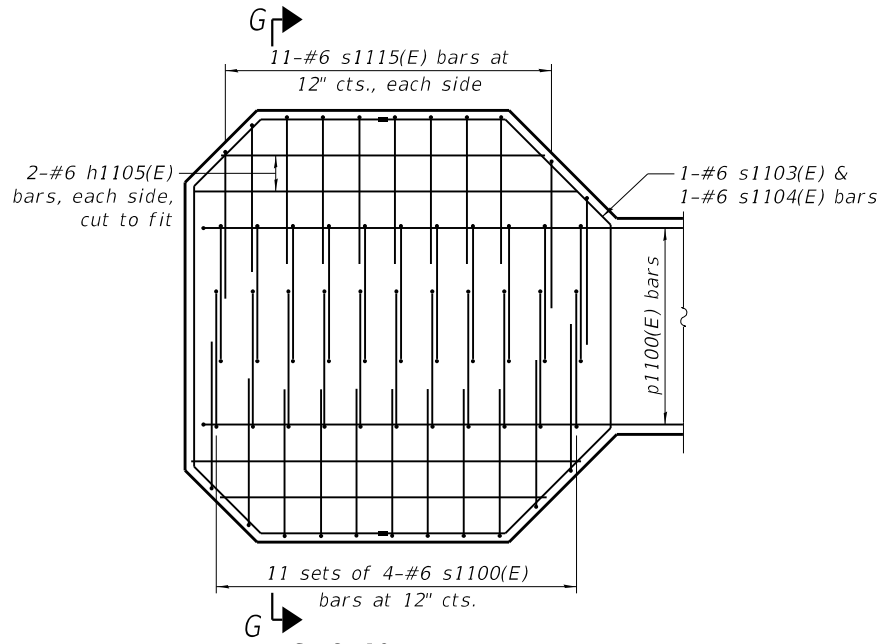
- #5 bar = 3'-9"
- #6 bar = 4'-4"
- #8 bar = 5'-9"



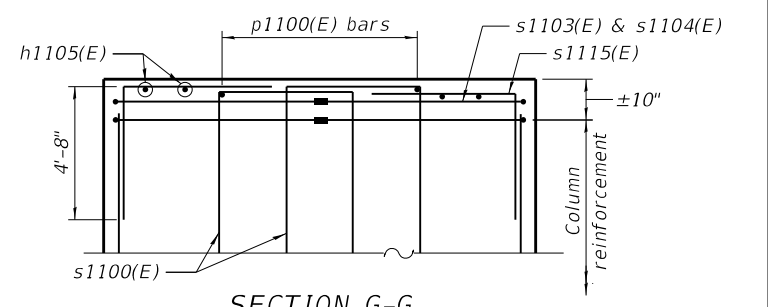
PLAN VIEW - CAP BEARING SEAT REINFORCEMENT



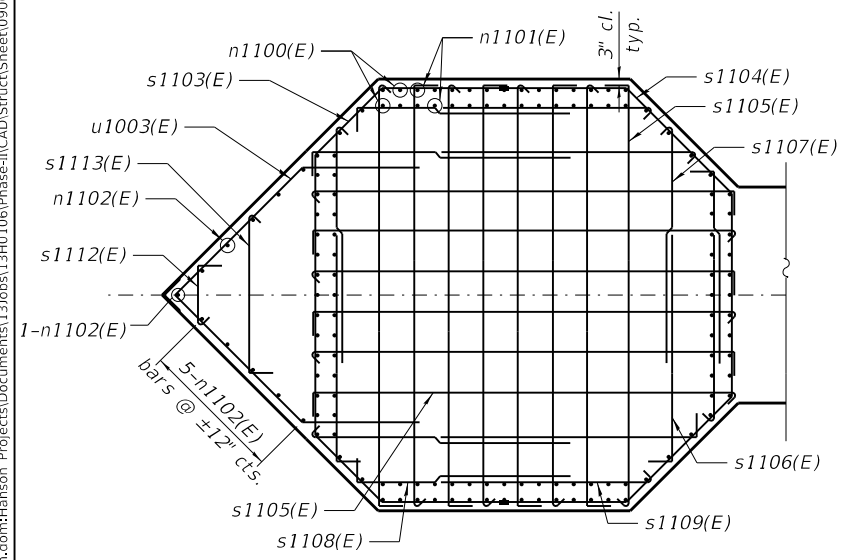
SECTION A-A



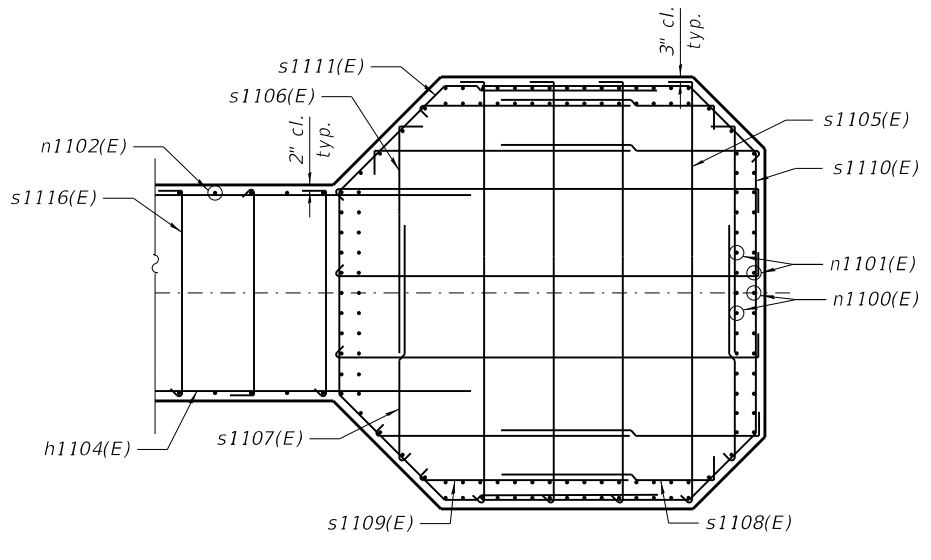
SECTION F-F



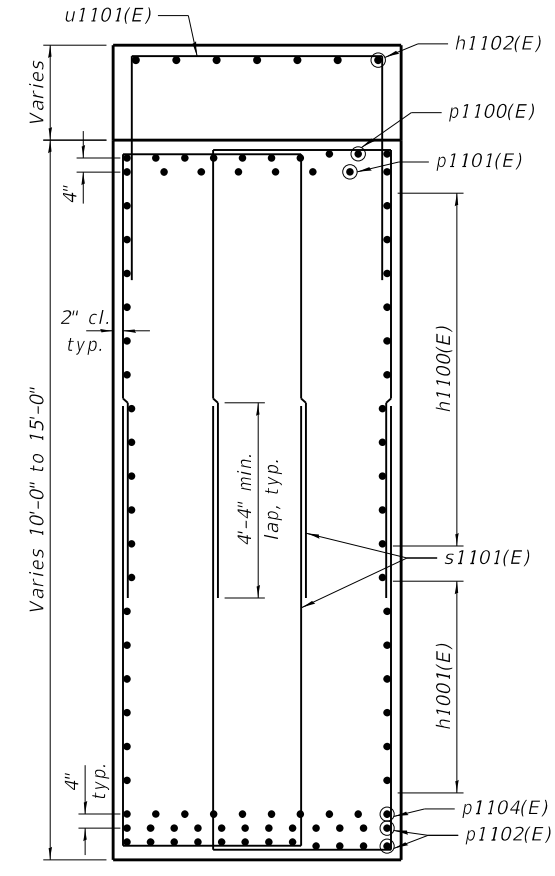
SECTION G-G



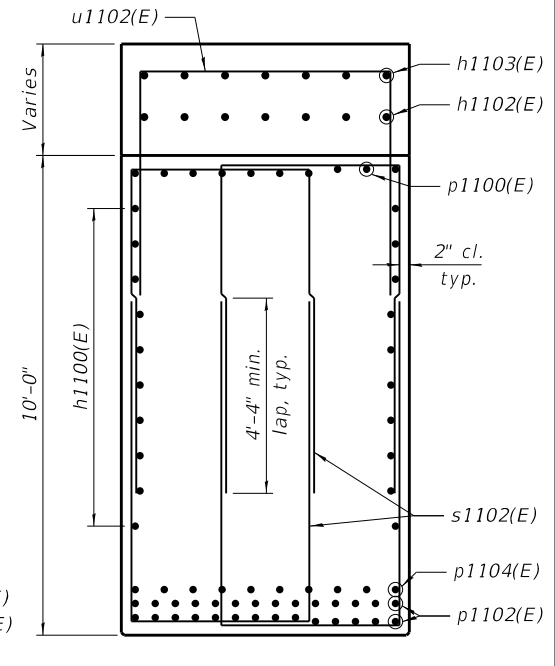
SECTION E-E
Lower diaphragm rebar
not shown for clarity



SECTION D-D



SECTION B-B



SECTION C-C

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PIER 11 REINFORCEMENT, 2 OF 3
STRUCTURE NO. 090-0180

SHEET 5-353 OF 445 SHEETS

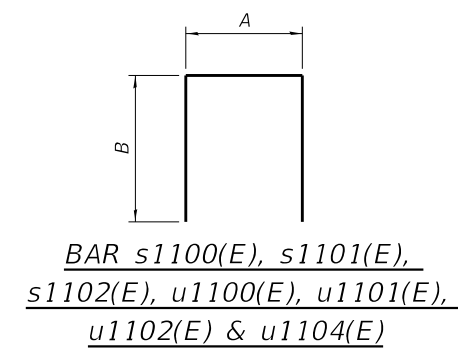
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317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1262
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-VRP3(905)	

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1100(E)	44	#8	31'-5"	—
h1101(E)	14	#8	31'-10"	—
h1102(E)	14	#6	21'-11"	—
h1103(E)	7	#6	8'-0"	—
h1104(E)	98	#8	34'-4"	—
h1105(E)	8	#6	10'-7"	—
n1100(E)	124	#11	38'-4"	┌┐
n1101(E)	124	#11	40'-4"	┌┐
n1102(E)	121	#8	29'-4"	┌┐
p1100(E)	20	#11	52'-8"	┌┐
p1101(E)	16	#11	40'-2"	┌┐
p1102(E)	28	#11	49'-4"	┌┐
p1103(E)	24	#11	25'-3"	┌┐
p1104(E)	10	#11	41'-2"	┌┐
p1105(E)	24	#11	15'-7"	┌┐
s1100(E)	232	#6	22'-9"	┌┐
s1101(E)	144	#6	20'-3"	┌┐
s1102(E)	76	#6	19'-2"	┌┐
s1103(E)	284	#6	19'-10"	┌┐
s1104(E)	284	#6	20'-8"	┌┐
s1105(E)	4410	#5	12'-6"	┌┐
s1106(E)	978	#5	7'-1"	┌┐
s1107(E)	978	#5	7'-1"	┌┐
s1108(E)	1392	#5	7'-6"	┌┐
s1109(E)	1392	#5	7'-6"	┌┐
s1110(E)	66	#5	24'-2"	┌┐
s1111(E)	66	#5	25'-0"	┌┐
s1112(E)	21	#5	2'-4"	┌┐
s1113(E)	21	#5	5'-2"	┌┐
s1114	130	#6	16'-3"	┌┐
s1115(E)	44	#6	8'-9"	┌┐
s1116(E)	588	#5	6'-8"	┌┐
sp1100	12	#6	56'-6"	⋈
t1100(E)	105	#7	33'-6"	—
t1101(E)	196	#11	33'-6"	—
u1100(E)	32	#6	11'-10"	┌┐
u1101(E)	9	#6	12'-6"	┌┐
u1102(E)	55	#8	17'-2"	┌┐
u1103(E)	21	#5	15'-8"	┌┐
u1104(E)	252	#6	12'-10"	┌┐
v1100(E)	124	#11	32'-11"	—
v1101(E)	124	#11	30'-11"	—
v1102	140	#11	36'-0"	—
v1103	140	#11	34'-0"	—
v1104	140	#11	25'-4"	—
v1105	140	#11	27'-4"	—
w1100(E)	196	#7	26'-2"	—
w1101(E)	114	#9	33'-10"	—
Concrete Structures	Cu. Yd.		1875.9	
Permanent Casing	Foot		494	
Reinforcement Bars	Pound		124,440	
Reinforcement Bars, Epoxy Coated	Pound		349,480	
Drilled Shaft in Soil	Cu.Yd.		505.3	
Drilled Shaft in Rock	Cu.Yd.		105.6	
Cofferdam Excavation	Cu. Yd.		2250	
Cofferdam (Type 2) (Location-11)	Each		1	
Crosshole Sonic Logging Access Ducts	Foot		3,780	
Seal Coat Concrete	Cu. Yd.		1,323.0	
Crosshole Sonic Logging Testing	Each		1	

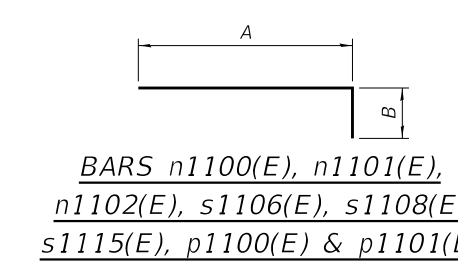
A & B DIMENSIONS

Bar	A	B
s1100(E)	3'-9"	9'-6"
s1101(E)	3'-9"	8'-2"
s1102(E)	3'-9"	7'-0"
u1100(E)	5'-8"	3'-1"
u1101(E)	5'-8"	3'-5"
u1102(E)	5'-8"	5'-9"
u1104(E)	7'-0"	2'-11"



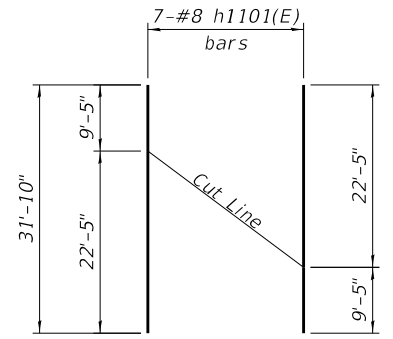
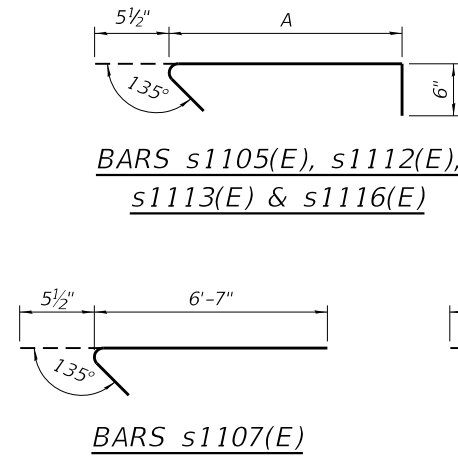
A & B DIMENSIONS

Bar	A	B
n1100(E)	36'-4"	2'-0"
n1101(E)	38'-4"	2'-0"
n1102(E)	28'-0"	1'-4"
s1106(E)	6'-7"	0'-6"
s1108(E)	7'-0"	0'-6"
s1115(E)	4'-8"	4'-1"
p1100(E)	43'-6"	9'-2"
p1101(E)	31'-0"	9'-2"



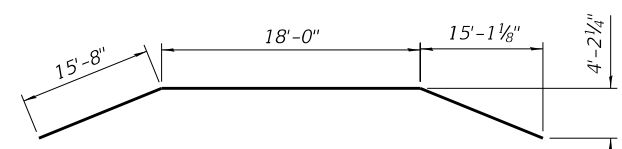
A DIMENSION

Bar	A
s1105(E)	11'-6"
s1112(E)	1'-4"
s1113(E)	4'-2"
s1116(E)	5'-8"

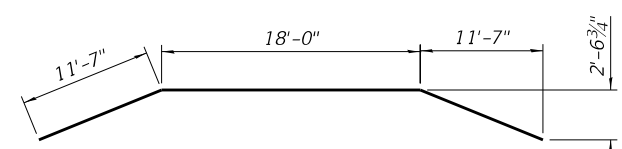


FIELD CUTTING DIAGRAM

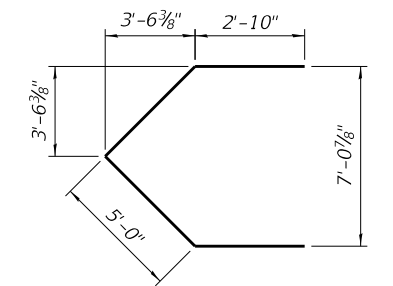
Order full length. Cut as shown and use remainder of bars in opposite face.



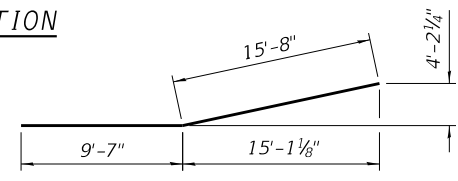
BAR p1102(E)



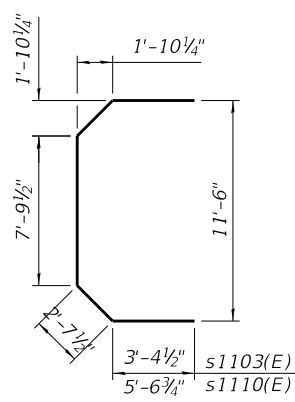
BAR p1104(E)



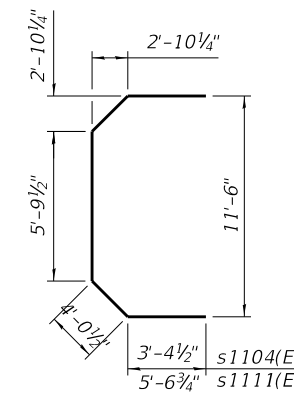
BAR u1103(E)



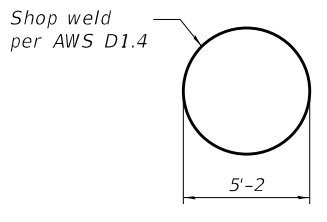
BAR p1103(E)



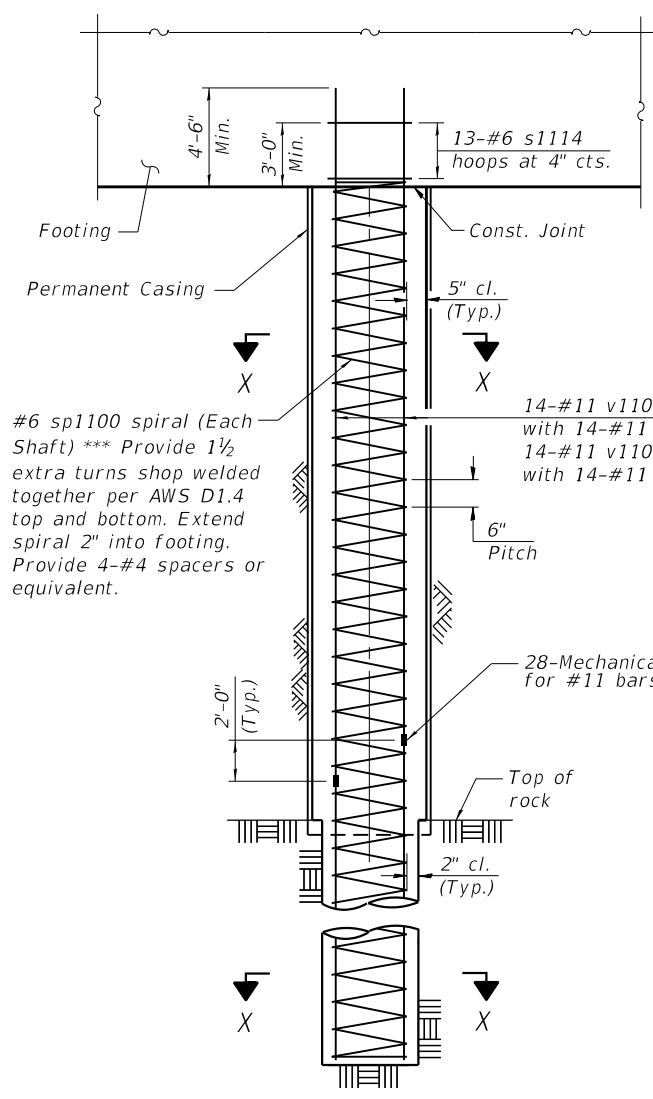
BARS s1103(E) and s1110(E)



BARS s1104(E) and s1111(E)



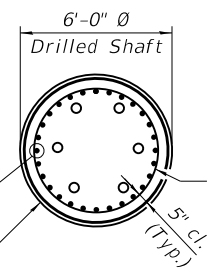
BAR s1114



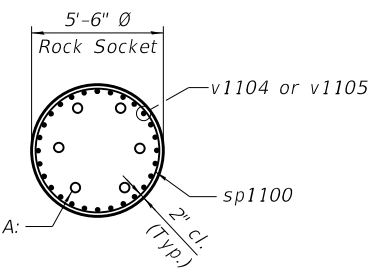
ELEVATION

*** Allowable substitution: Provide 1 1/2 extra turns top and bottom with 135° standard hook into core at ends of spiral.

Note A: 2" I.D. Steel pipe for crosshole sonic logging (6 each shaft) (typ.)



SECTION X-X



SECTION X-X

* Length is height of spiral. Minimum lap for spirals = 2'-7"
 ** The bar length is to the center of the mechanical splicer. The Contractor shall adjust the length as required for the selected mechanical splicer.

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TYLIN INTERNATIONAL
 200 S. WACKER DR.
 SUITE 1400
 CHICAGO, IL 60606
 TEL: 312-777-2900

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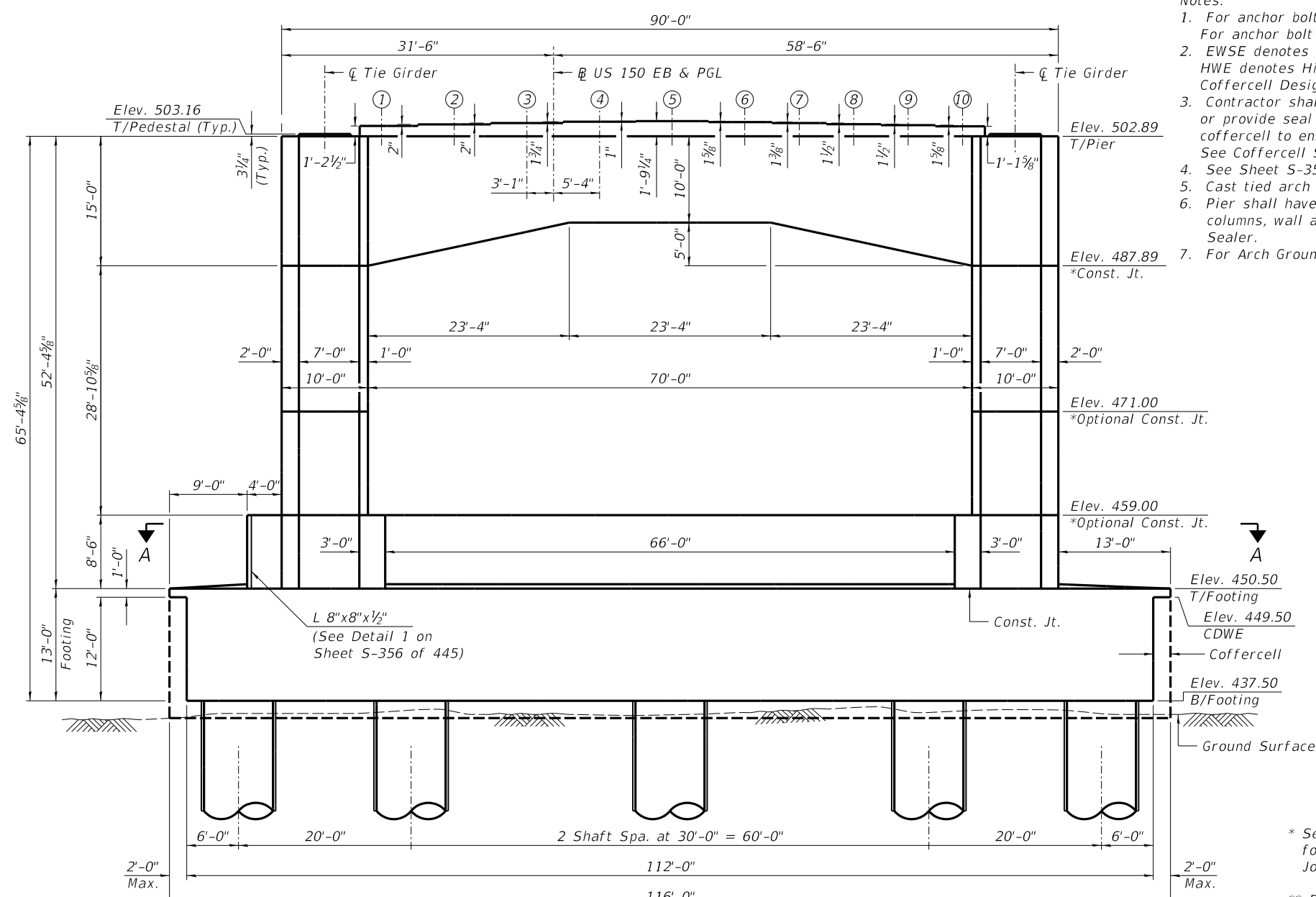
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 DEPARTMENT OF TRANSPORTATION**

**PIER 11 REINFORCEMENT, 3 OF 3
 STRUCTURE NO. 090-0180**

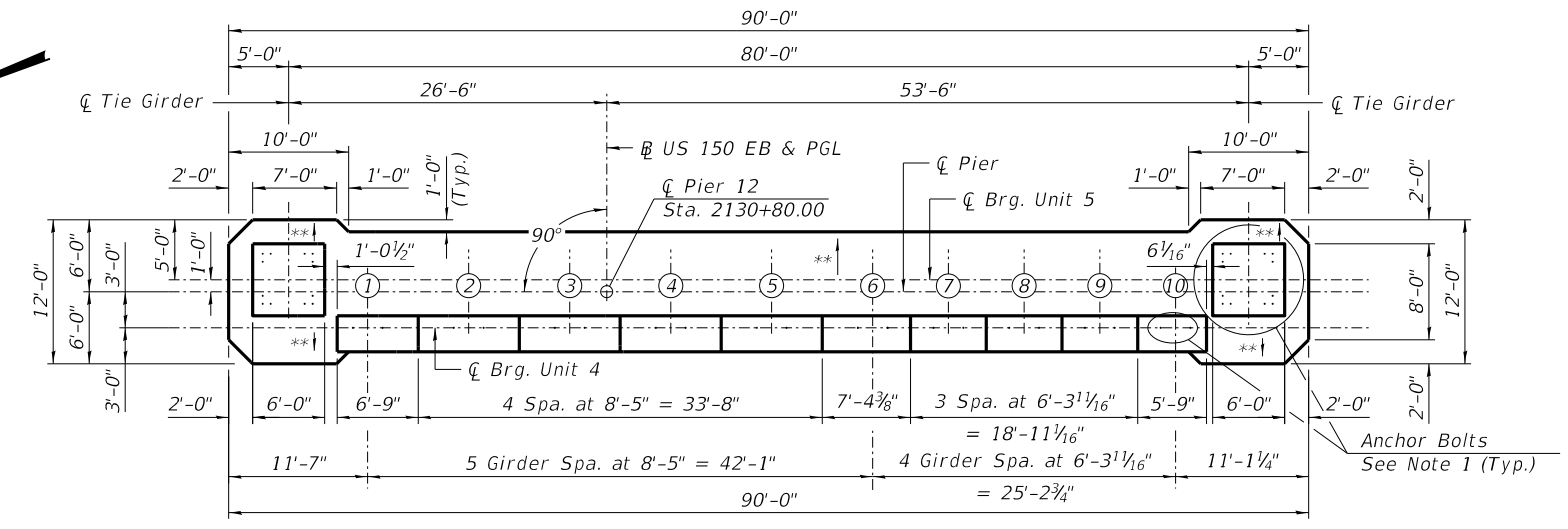
SHEET 5-354 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(15B;(102-1),(14HB)BR)BR	PEO/TAZ	1361	1263
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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ELEVATION
(Looking East)



TOP PLAN

- Notes:
- For anchor bolt details, see Bearing Details Drawing. For anchor bolt layout, see Sheet S-356 of 445.
 - EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Coffercell Design Water Elevation.
 - Contractor shall seal around the drilled shaft casings or provide seal coat between bottom of footing and coffercell to ensure a sealed, dry coffercell. See Coffercell Special Provision.
 - See Sheet S-356 of 445 for Section A-A. ϕ Exp. Brg. Unit 5
 - Cast tied arch pedestal monolithic with cap.
 - Pier shall have exposed surfaces of cap, seats, columns, wall and top of footing treated with Concrete Sealer.
 - For Arch Grounding Details, See Sheet S-429 of 445.

Design HWE
Elev. 458.10

2% Flow Line
Elev. 449.90

EWSE
Elev. 443.50

Normal Pool
Elev. 439.70

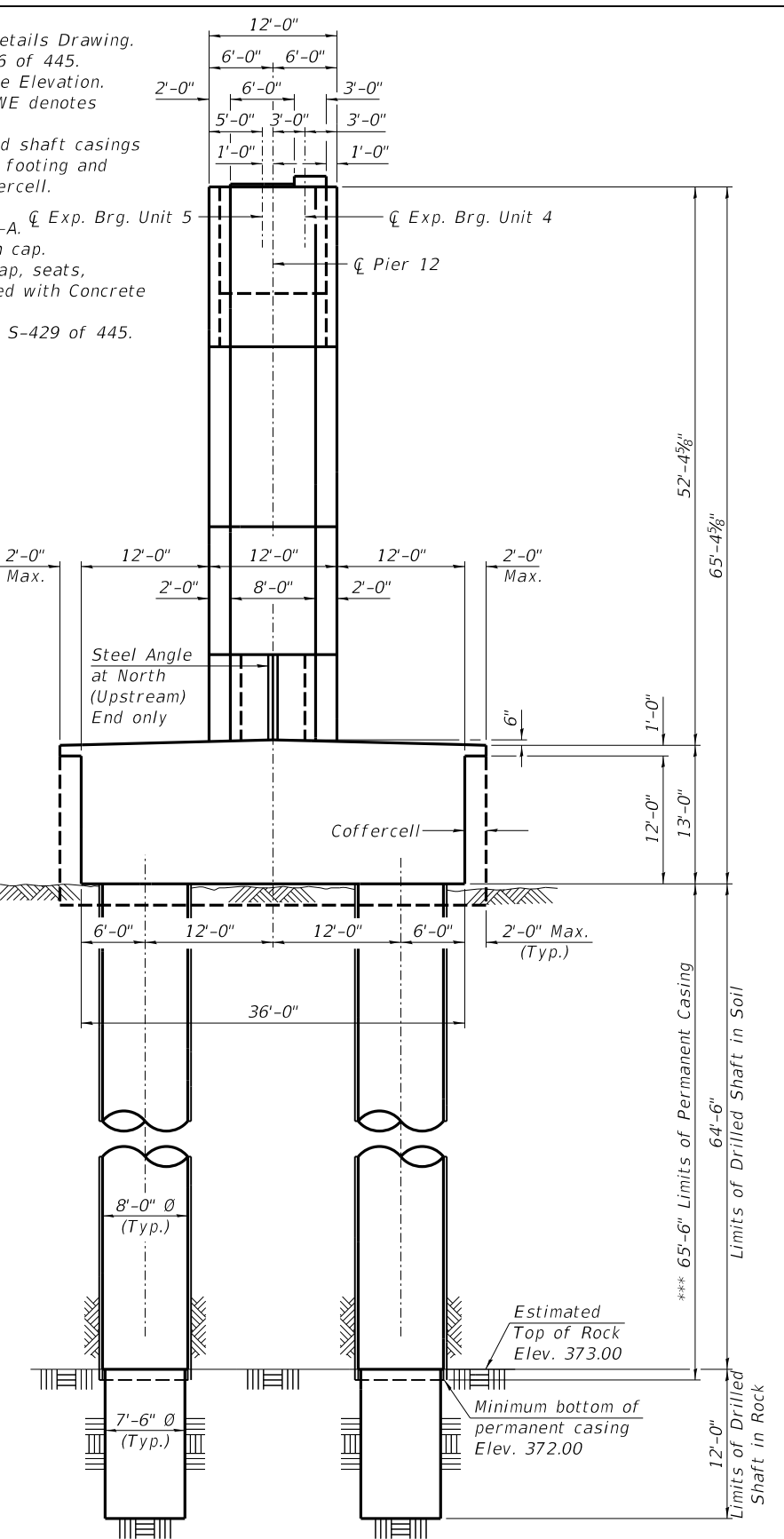
Estimated ground surface
Elev. 436.00

* See Sheet S-356 of 445 for Construction Joint Detail.

** Bearing seats are to be constructed level. Slope away from bearing seats at 1/8" per ft. to drain, Typ.

UNIT 4 BEARING SEAT ELEVATIONS

Girder	Elevation
1	504.10
2	504.27
3	504.44
4	504.58
5	504.66
6	504.53
7	504.41
8	504.29
9	504.16
10	504.03



END VIEW
(Looking South)

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06 (d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.



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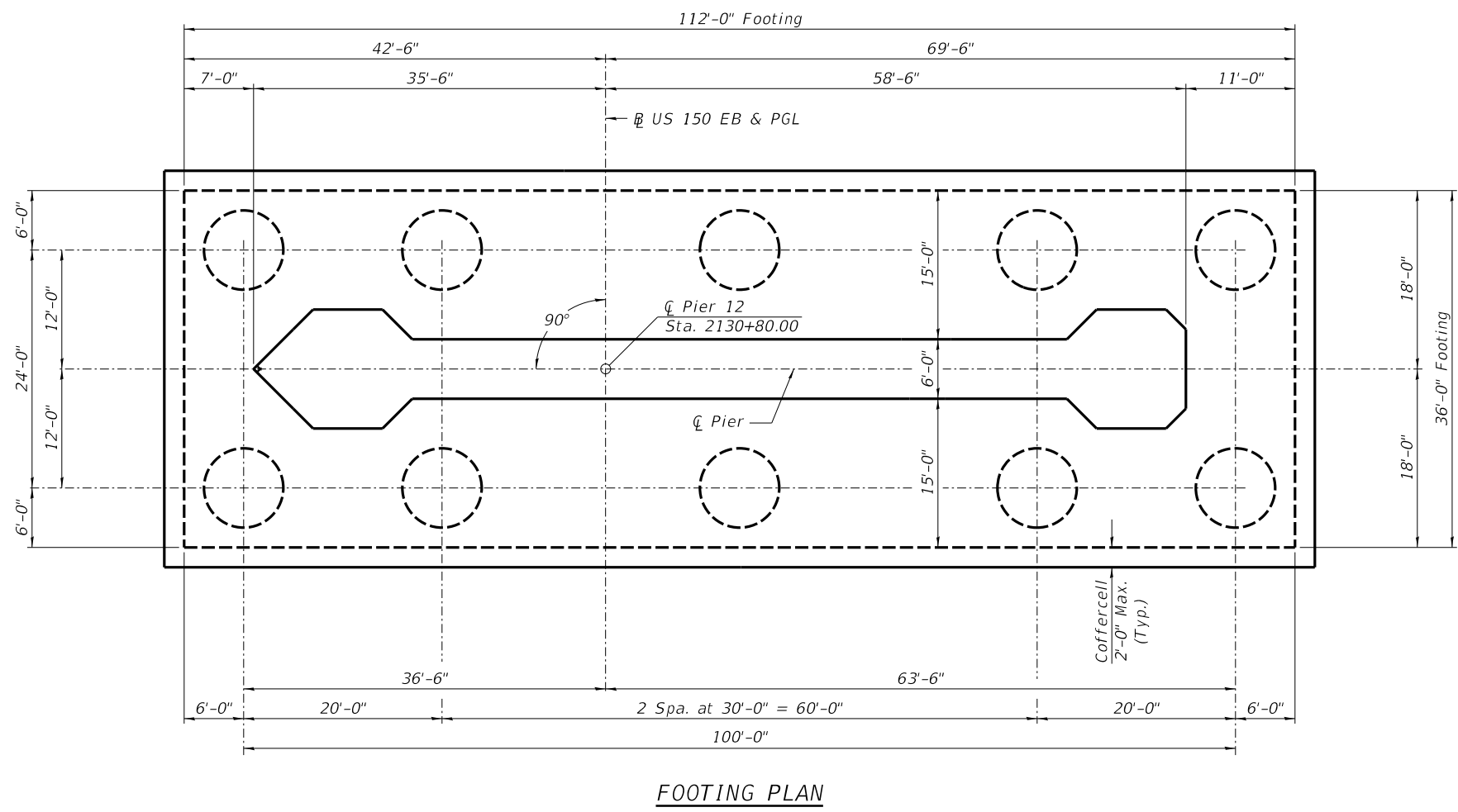
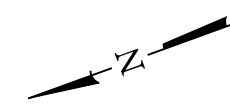
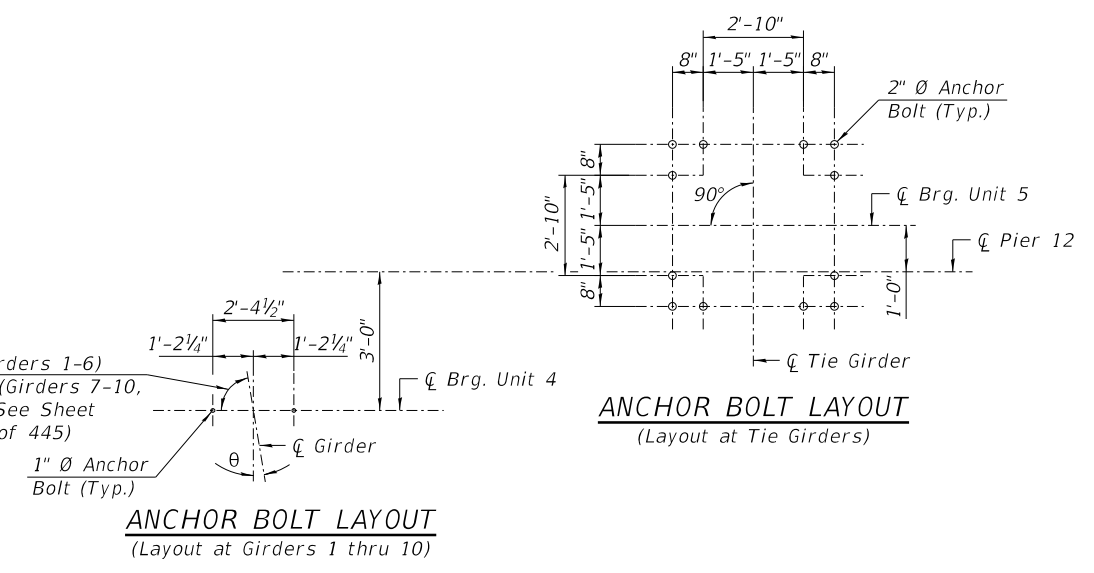
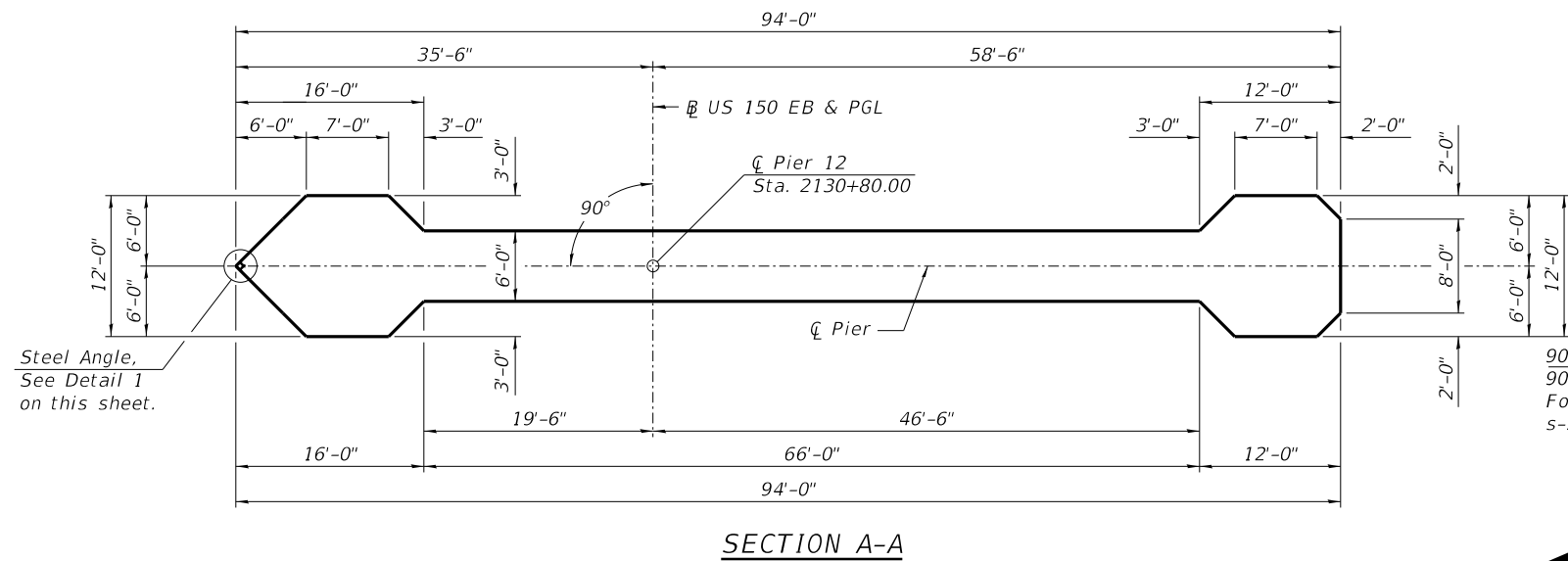
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 12 PLAN AND ELEVATION
STRUCTURE NO. 090-0180**

SHEET S-355 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1264
CONTRACT NO. 68B46				

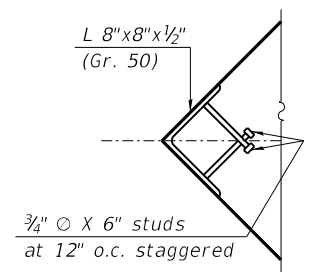
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)



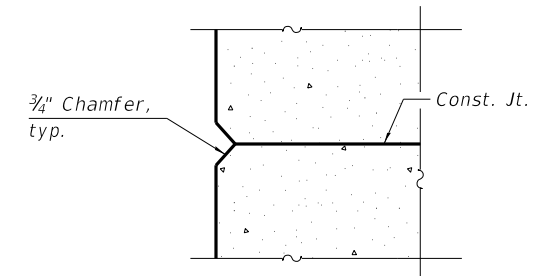
VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

	10% Yearly Mean Water Level		100 Yr. Water Level	
	Case 1	Case 2	Case 1	Case 2
Static Load	3150 kips	1575 kips	620 kips	310 kips
Elevation	449.49	449.49	470.79	470.79
Direction	Parallel	Perpendicular	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 12 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-356 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1265
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68B46	
NHPY-RP3(905)				

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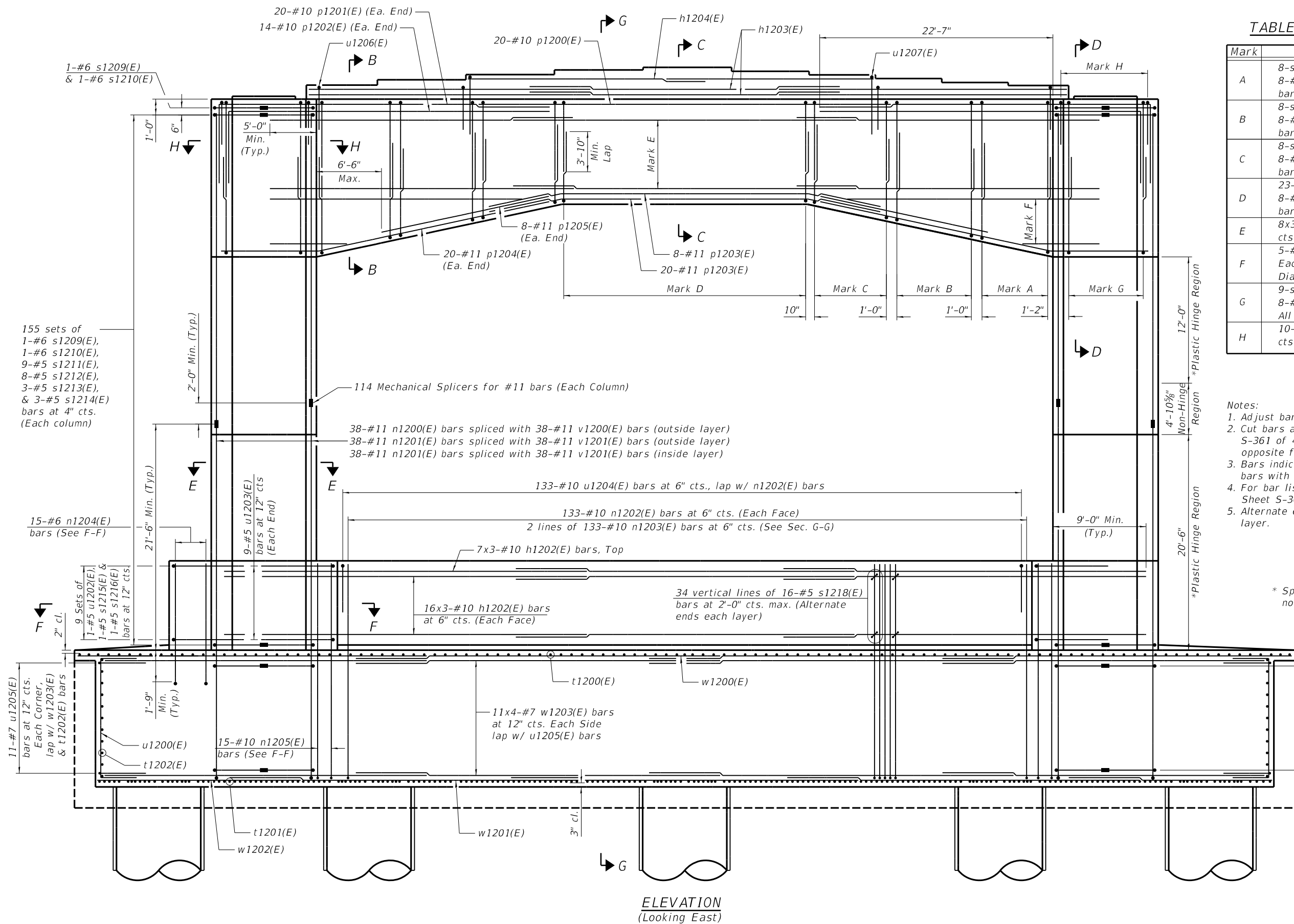


TABLE OF REINFORCEMENT BARS

Mark	Reinforcement	Notes
A	8-sets of: 2-#6 s1200(E), 8-#6 s1204(E), 7-#5 s1208(E) bars. All at 12" cts.	
B	8-sets of: 2-#6 s1201(E), 8-#6 s1205(E), 6-#5 s1208(E) bars. All at 12" cts.	
C	8-sets of: 2-#6 s1202(E), 8-#6 s1206(E), 5-#5 s1208(E) bars. All at 12" cts.	
D	23-sets of: 2-#6 s1203(E), 8-#6 s1207(E), 4-#5 s1208(E) bars. All at 12" cts.	
E	8x3-#9 h1200(E) bars at 12" cts., Each Face	
F	5-#9 h1201(E) bars at 12" cts., Each Face (See Field Cutting Diagram)	2
G	9-sets of: 2-#6 s1200(E), 8-#6 s1204(E) bars. All at ±12" cts.	
H	10-#6 u1208(E) bars at ±12" cts., Each Face	

- Notes:
- Adjust bar spacing to miss anchor bolts.
 - Cut bars according to cutting diagram on Sheet S-361 of 445 and use remainder of bars in opposite face.
 - Bars indicated thus 8x3-#9 etc. indicates 8 lines of bars with 3 lengths per line.
 - For bar list and Bill of Material, see Sheet S-361 of 445.
 - Alternate ends of s1211(E) thru s1214(E) bars each layer.

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

MINIMUM BAR LAP

- #6 bar = 3'-10"
- #7 bar = 5'-0"
- #9 bar = 6'-5"
- #10 bar = 7'-8"
- #11 bar = 8'-4"

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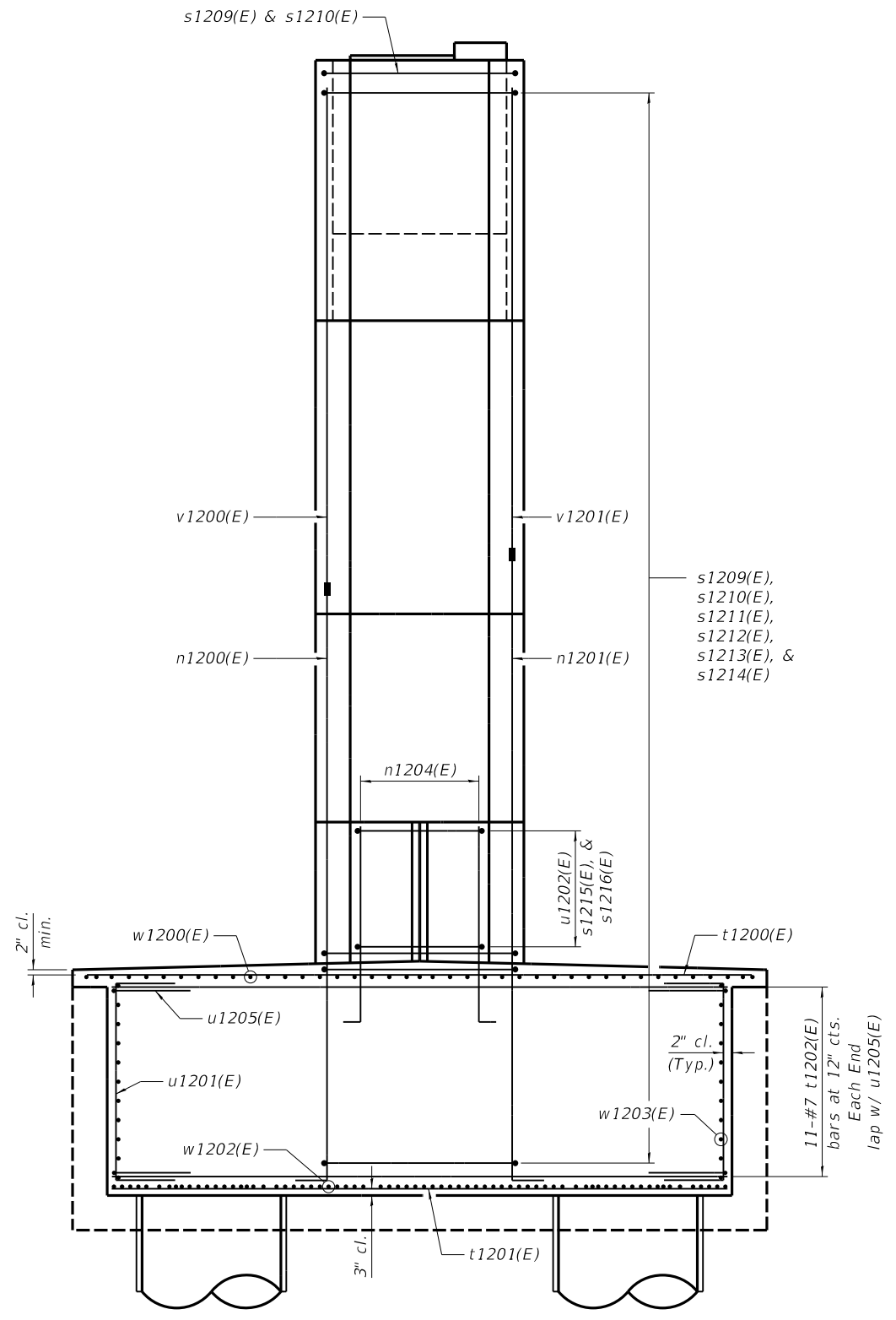
PIER 12 REINFORCEMENT, 1 OF 4
 STRUCTURE NO. 090-0180

SHEET S-357 OF 445 SHEETS

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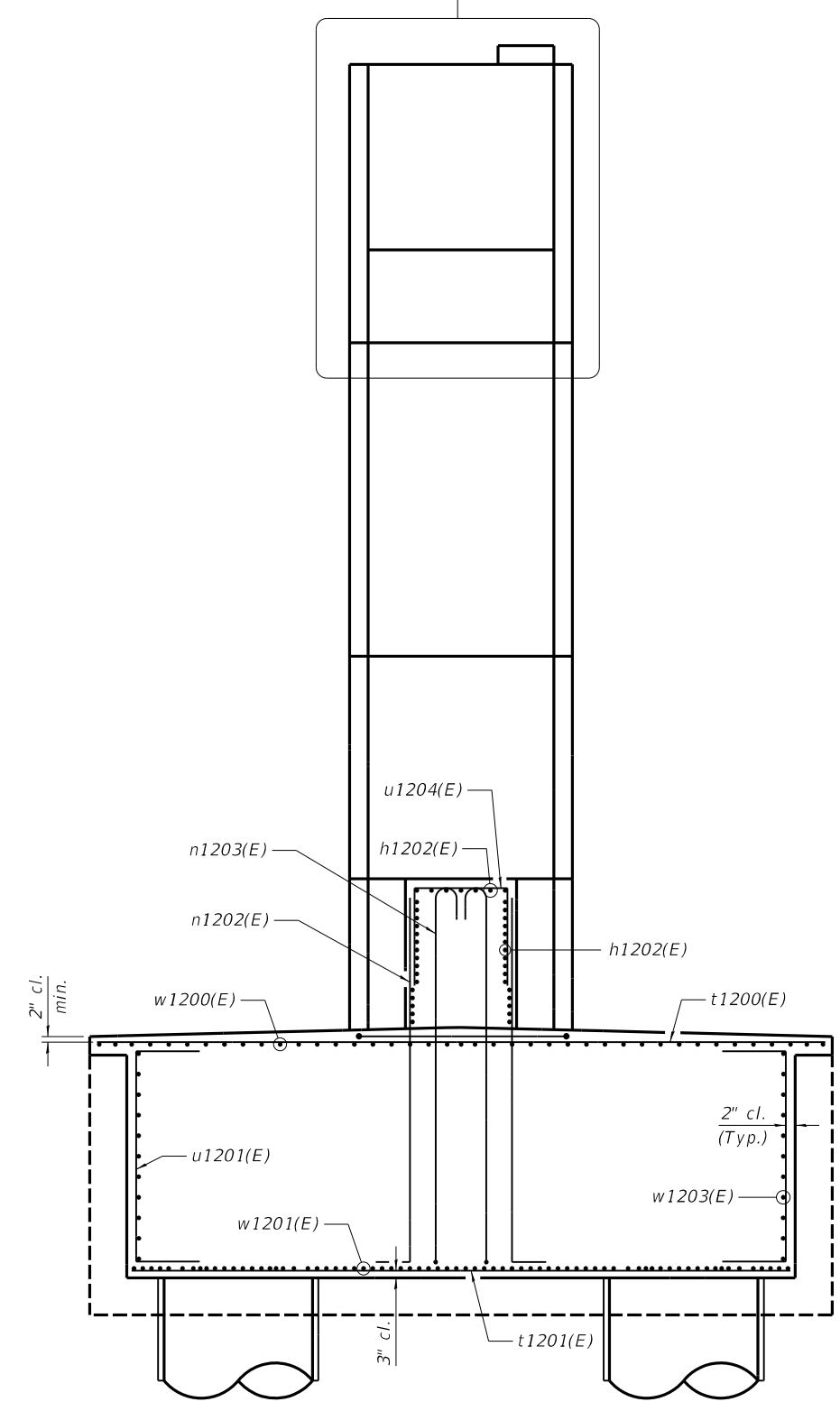
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317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1266
CONTRACT NO. 68B46			ILLINOIS FED. AID PROJECT NHPP-YRP3(905)	

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END VIEW
 (Looking South)

For reinforcement See Sections B-B & C-C on Sheet S-359 of 445.



SECTION G-G



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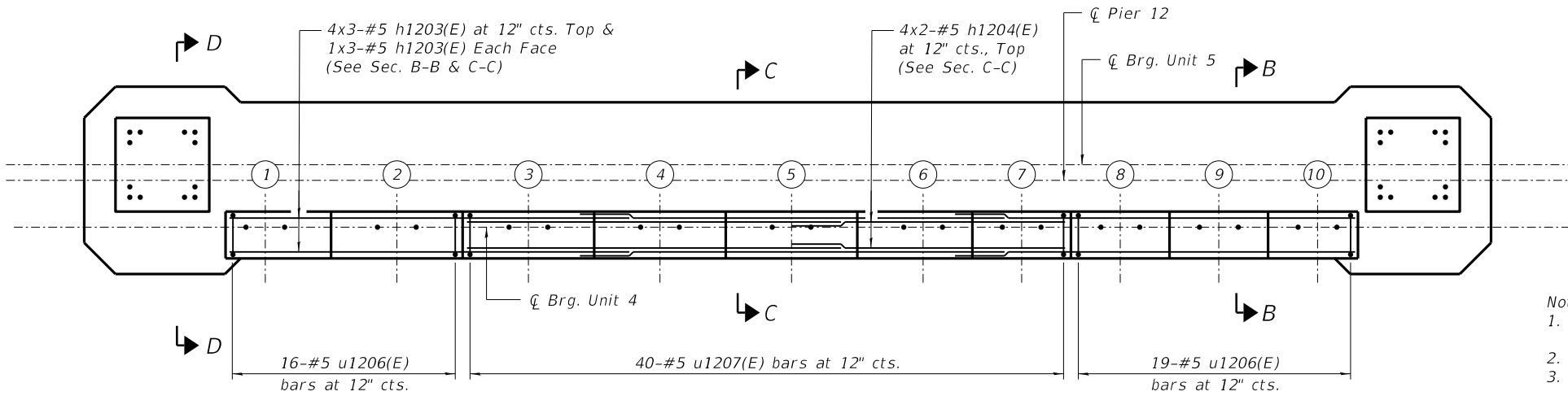
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PIER 12 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-358 OF 445 SHEETS

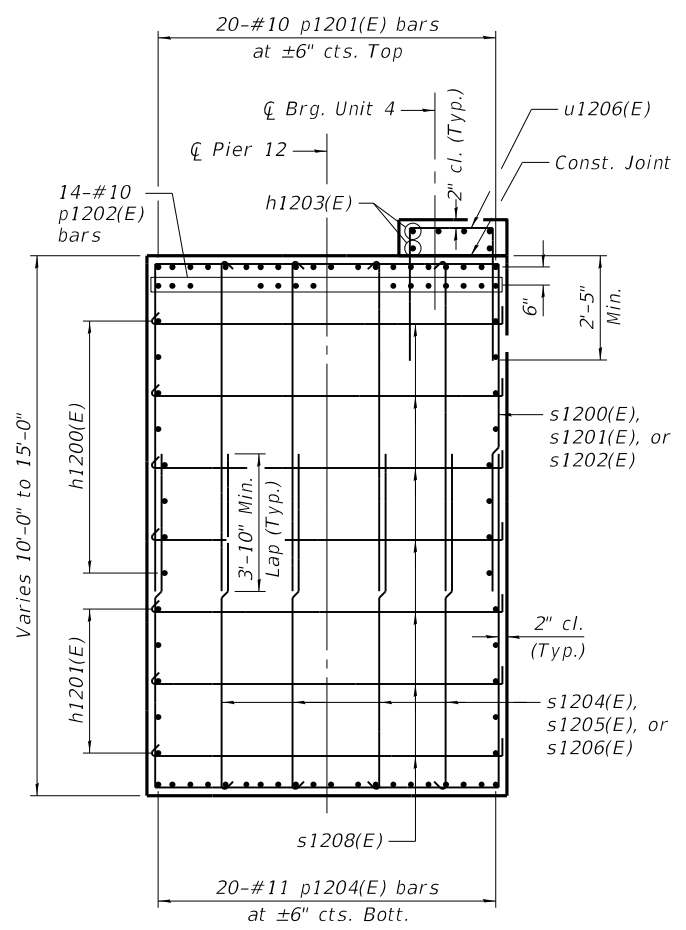
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317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1267
CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)



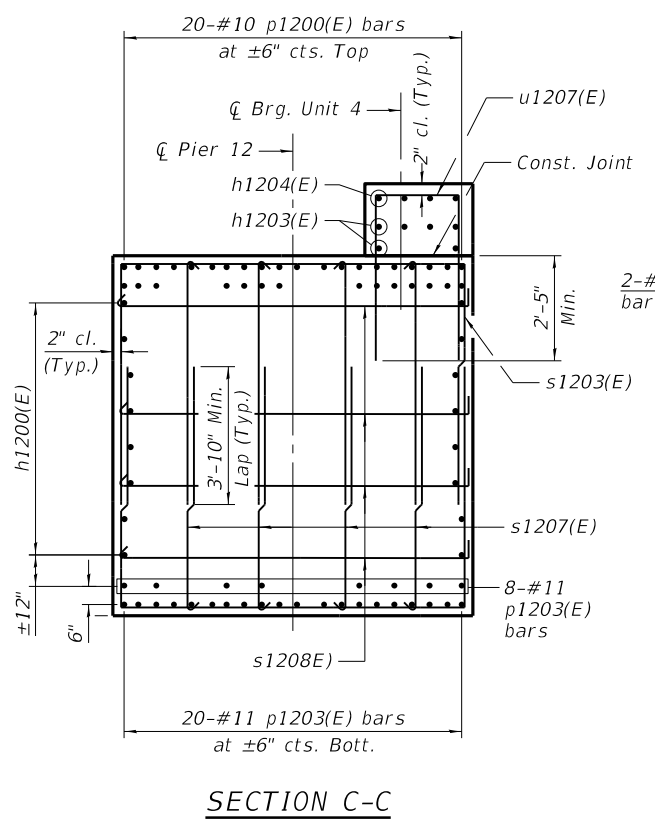
TOP PLAN

- Notes:
1. Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-361 of 445.
 3. For anchor bolts and bearing details, see Sheets S-264, S-266 & S-283 of 445.
 4. Adjust bar spacing in pier cap to miss anchor bolts. Arch bearing anchor bolts shall not be drilled and grouted. Cast anchor bolts with pier, or cast oversize sleeves to permit subsequent grouting of anchor bolts. Verify arch bearing bolt positions locally (with respect to Pier 12 elements) and globally (with respect to companion bearing on Pier 13) prior to casting.

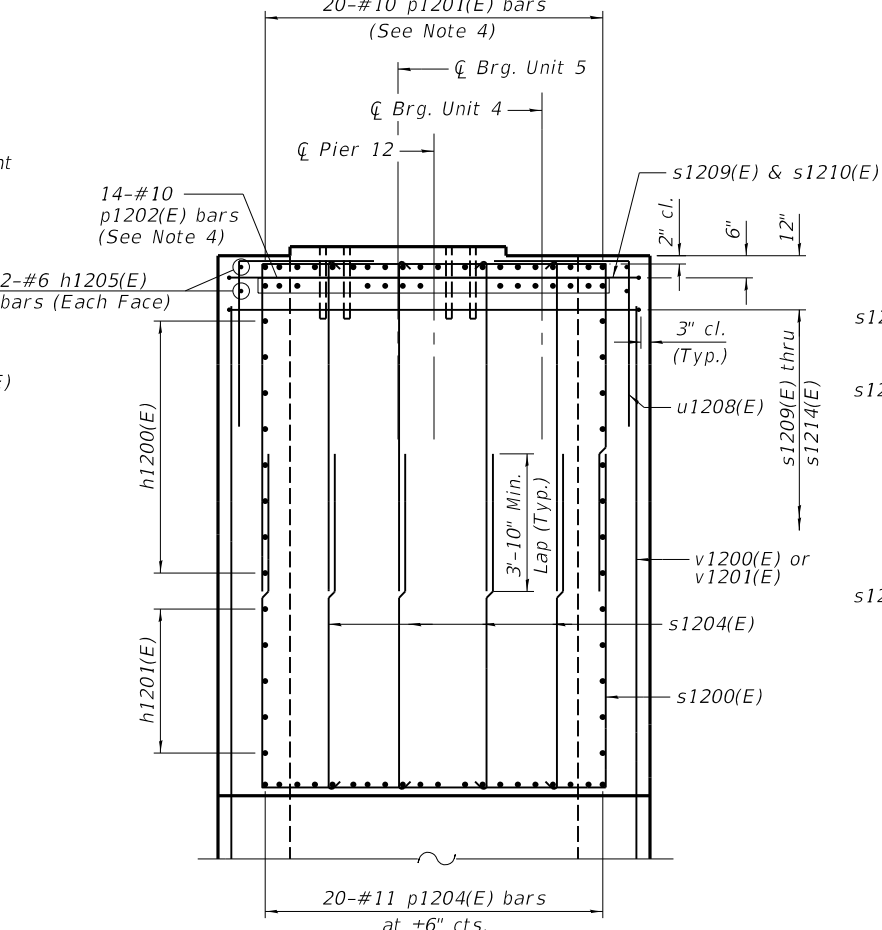


SECTION B-B

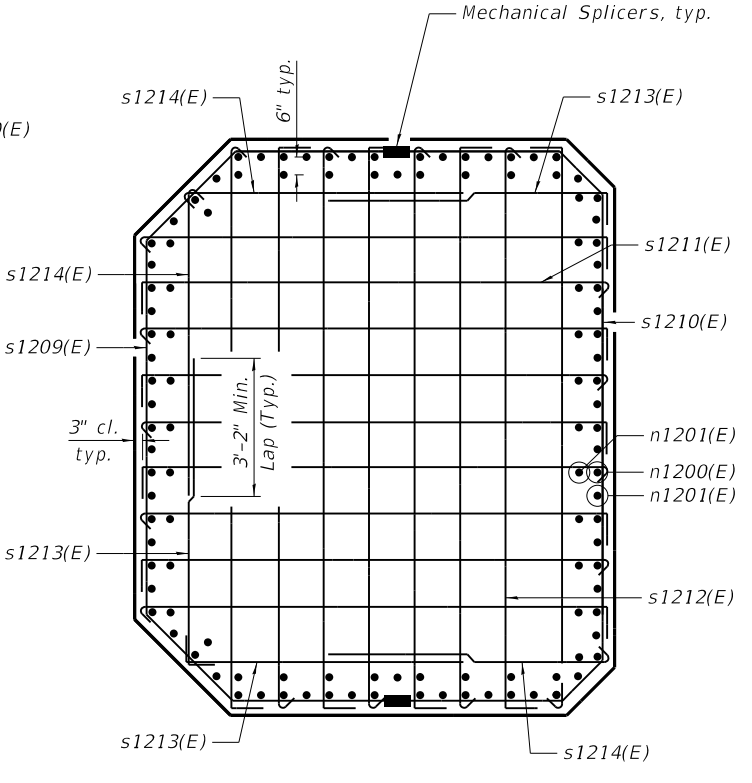
(Mark A shown, Mark B and Mark C similar)



SECTION C-C



SECTION D-D



SECTION E-E

MINIMUM BAR LAP

- #5 bar = 3'-2"
- #6 bar = 3'-10"

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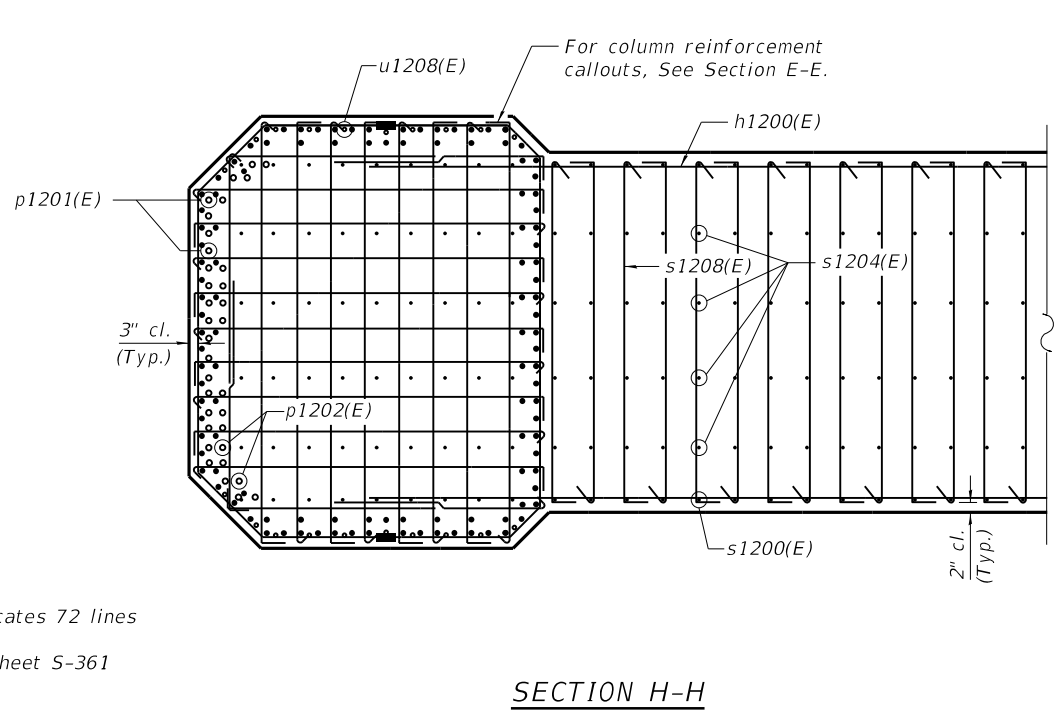
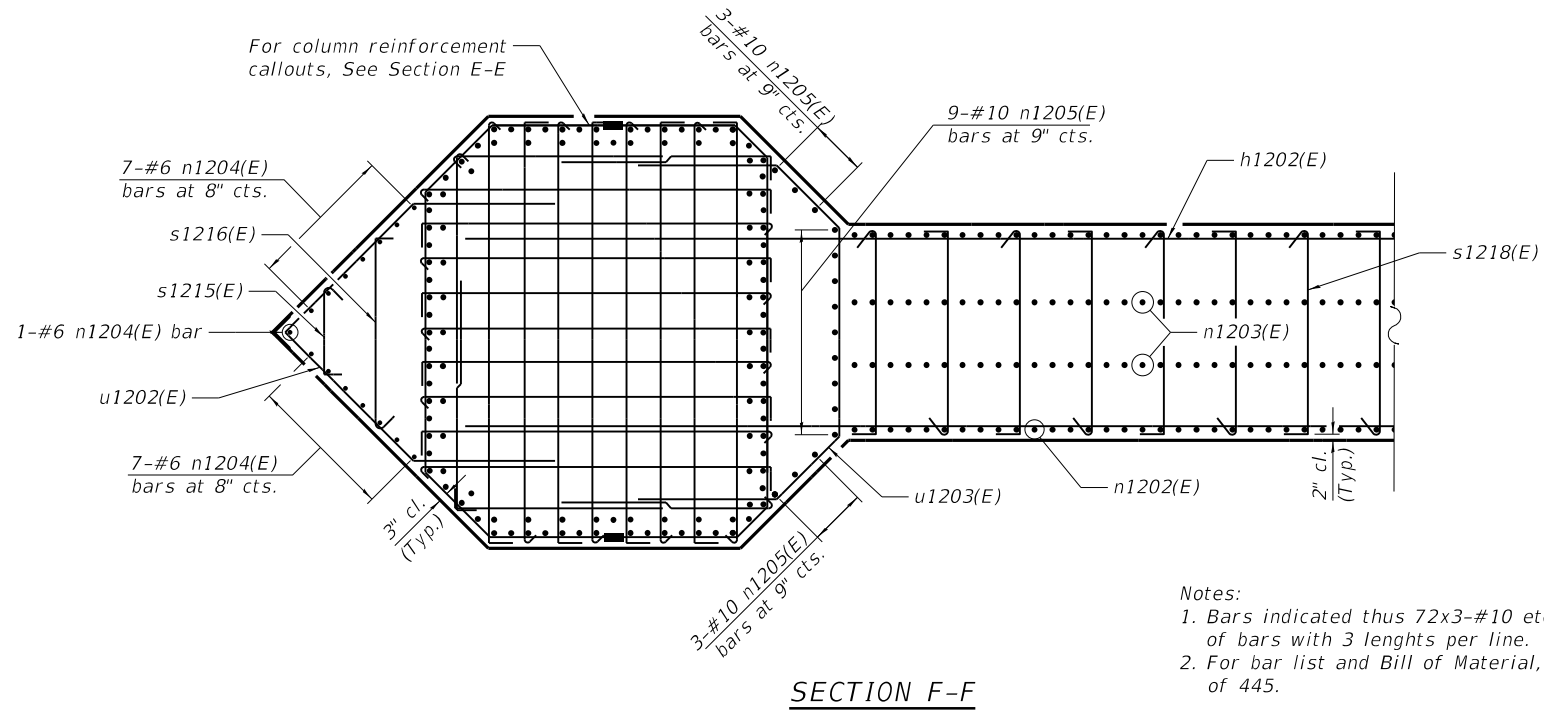
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 12 REINFORCEMENT, 3 OF 4
STRUCTURE NO. 090-0180**

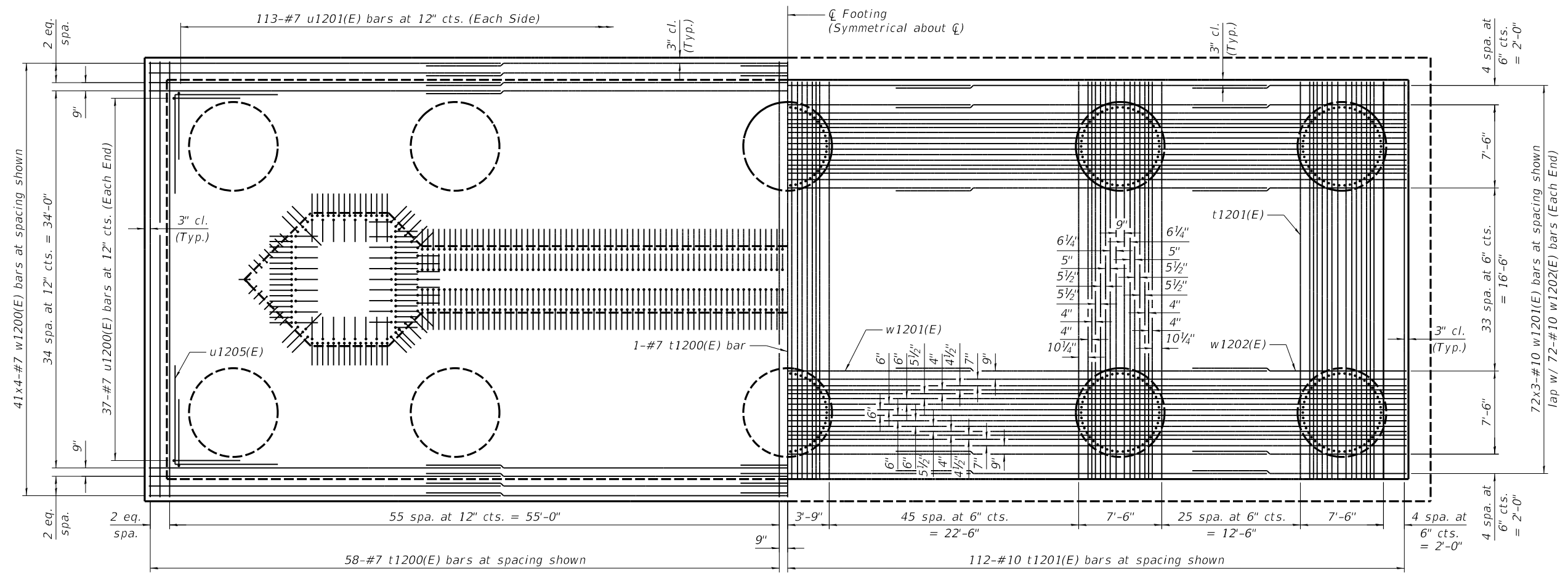
SHEET 5-359 OF 445 SHEETS

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CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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Notes:
 1. Bars indicated thus 72x3-#10 etc. indicates 72 lines of bars with 3 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-361 of 445.



MINIMUM BAR LAP
 #7 bar = 5'-0"
 #10 bar = 7'-8"



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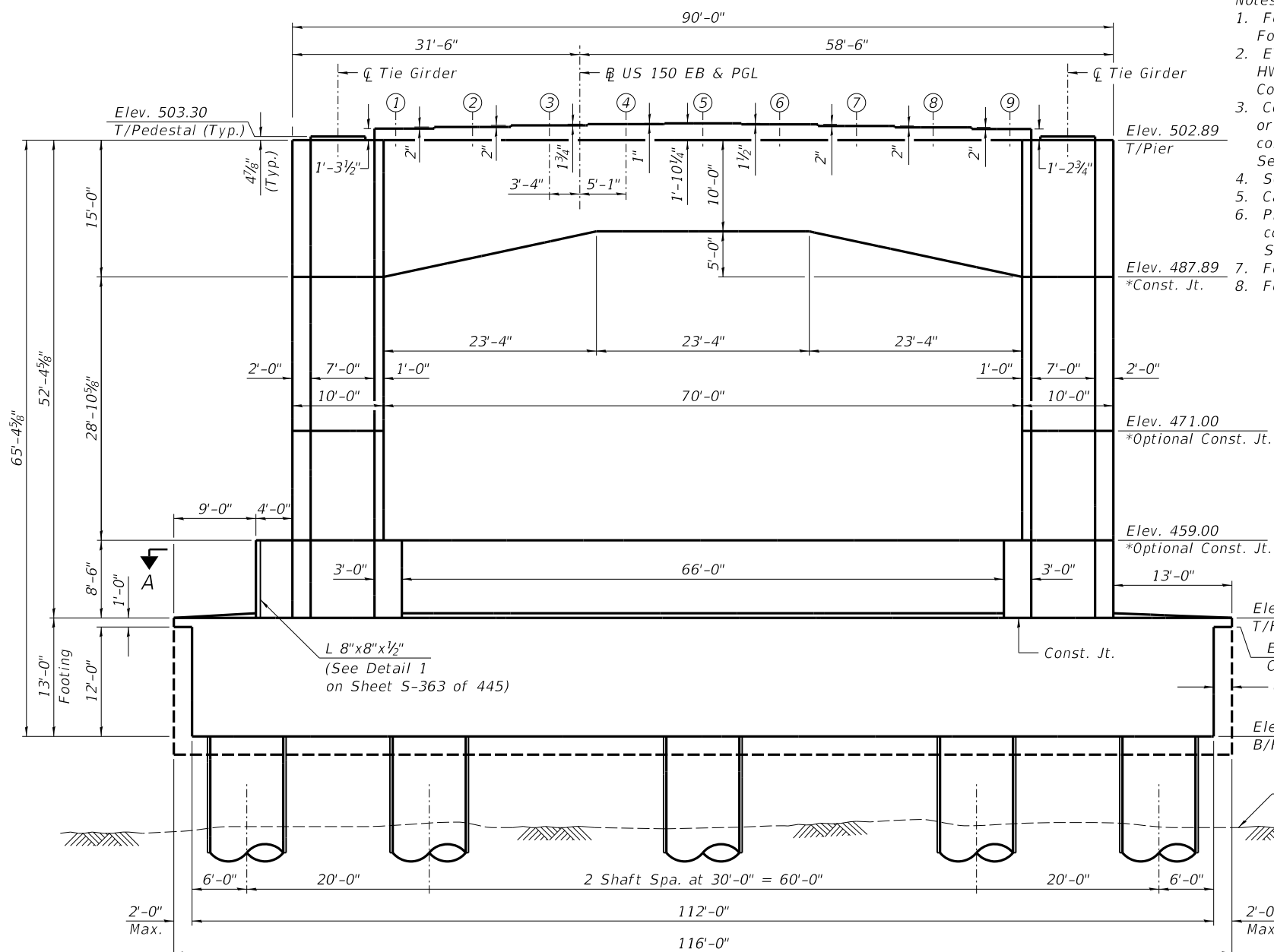
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PIER 12 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180

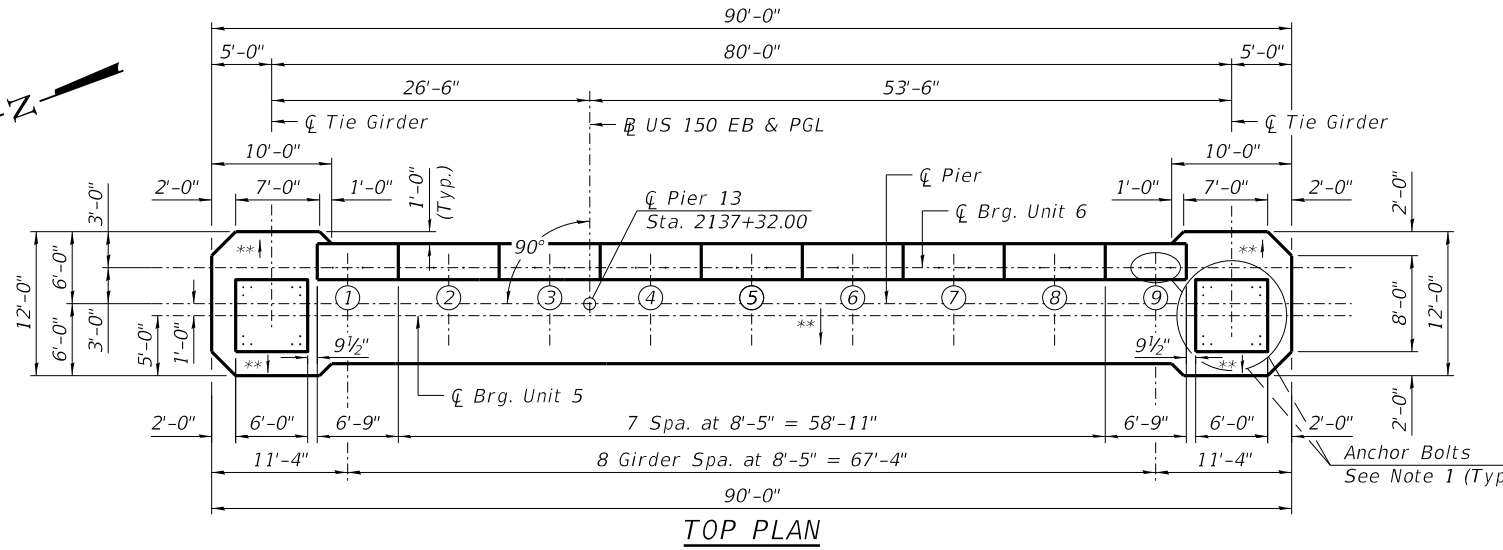
SHEET S-360 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

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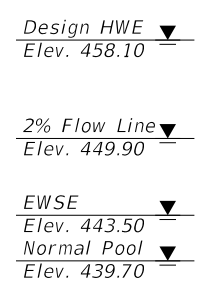


ELEVATION
(Looking East)



TOP PLAN

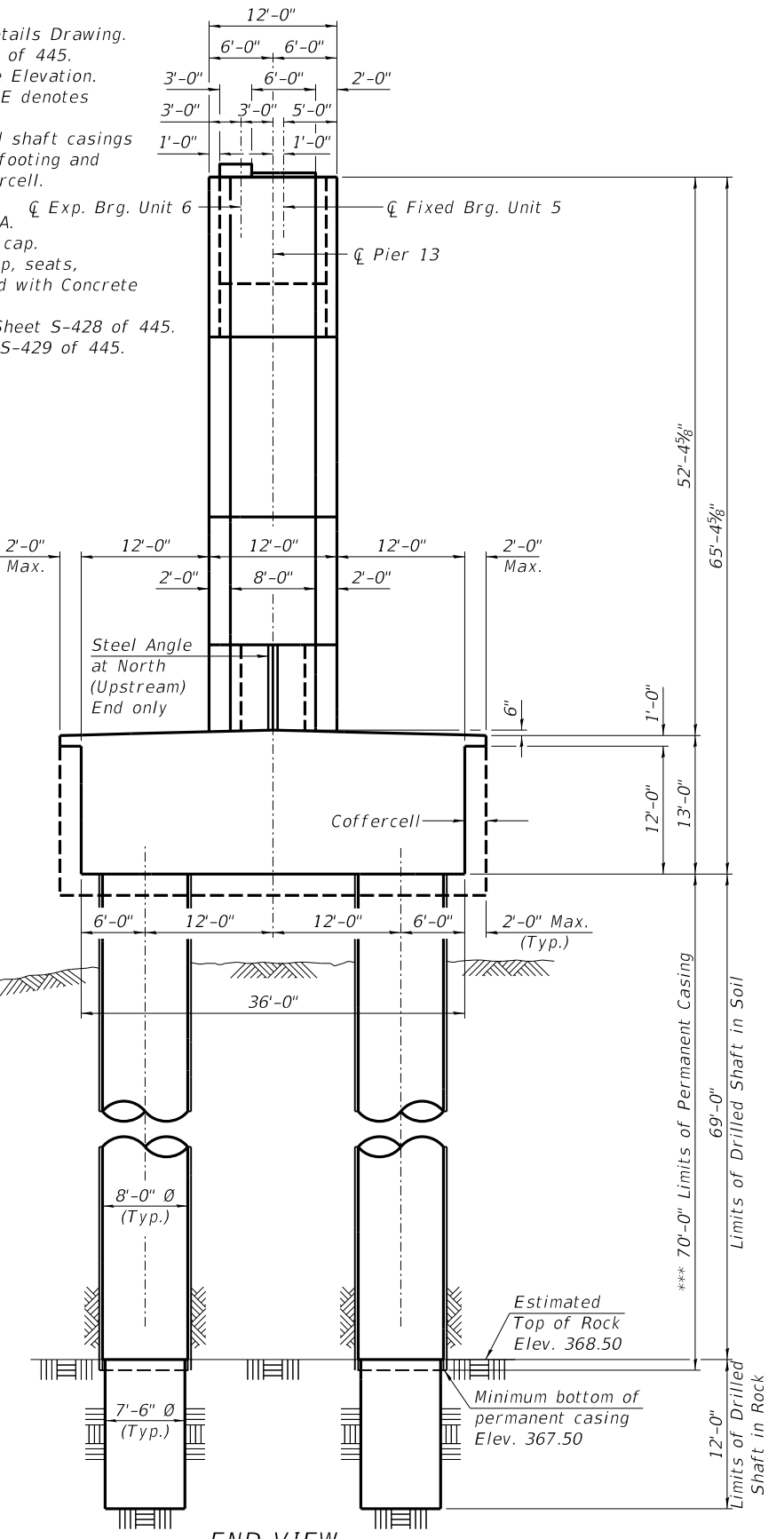
- Notes:
1. For anchor bolt details, see Bearing Details Drawing. For anchor bolt layout, see Sheet S-363 of 445.
 2. EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Coffercell Design Water Elevation.
 3. Contractor shall seal around the drilled shaft casings or provide seal coat between bottom of footing and coffercell to ensure a sealed, dry coffercell. See Coffercell Special Provision.
 4. See Sheet S-363 of 445 for Section A-A.
 5. Cast tied arch pedestal monolithic with cap.
 6. Pier shall have exposed surfaces of cap, seats, columns, wall and top of footing treated with Concrete Sealer.
 7. For Navigation Clearance Gauges, See Sheet S-428 of 445.
 8. For Arch Grounding Details, See Sheet S-429 of 445.



* See Sheet S-363 of 445 for Construction Joint Detail.
 ** Bearing seats are to be constructed level. Slope away from bearing seats at 1/8" per ft. to drain, Typ.

UNIT 6 BEARING SEAT ELEVATIONS

Girder	Elevation
1	504.18
2	504.35
3	504.52
4	504.66
5	504.74
6	504.62
7	504.46
8	504.29
9	504.12



END VIEW
(Looking South)

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06 (d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.



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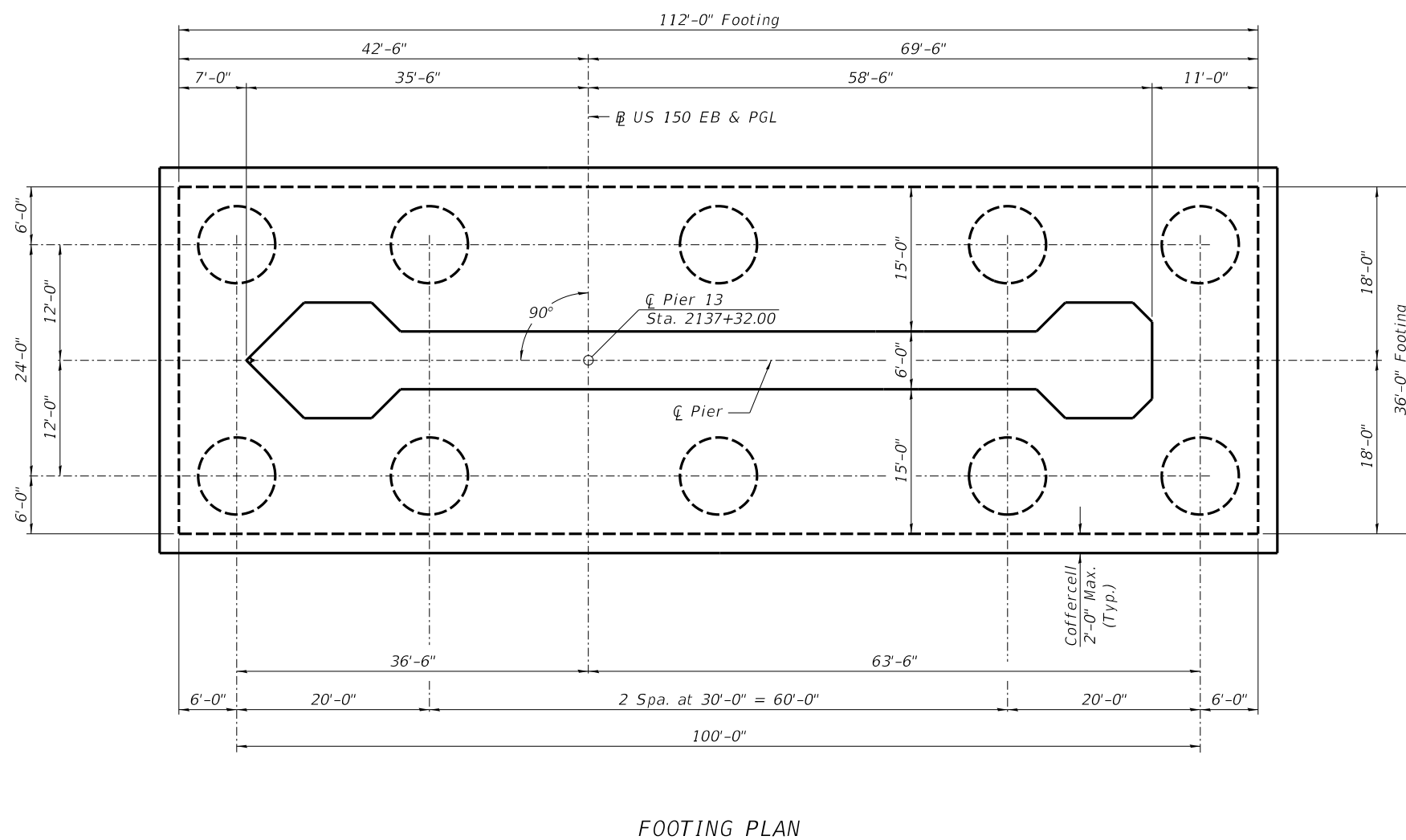
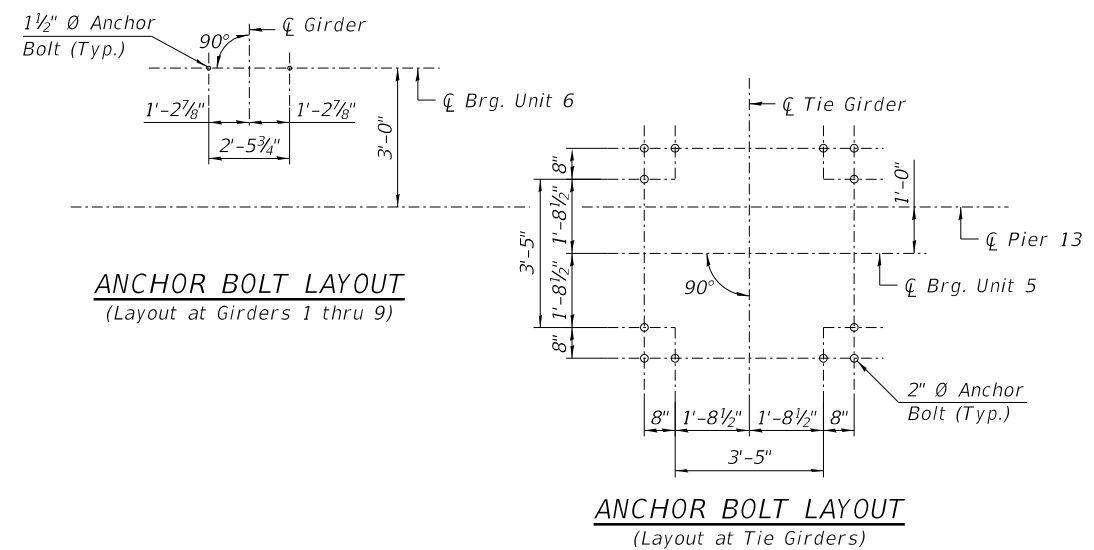
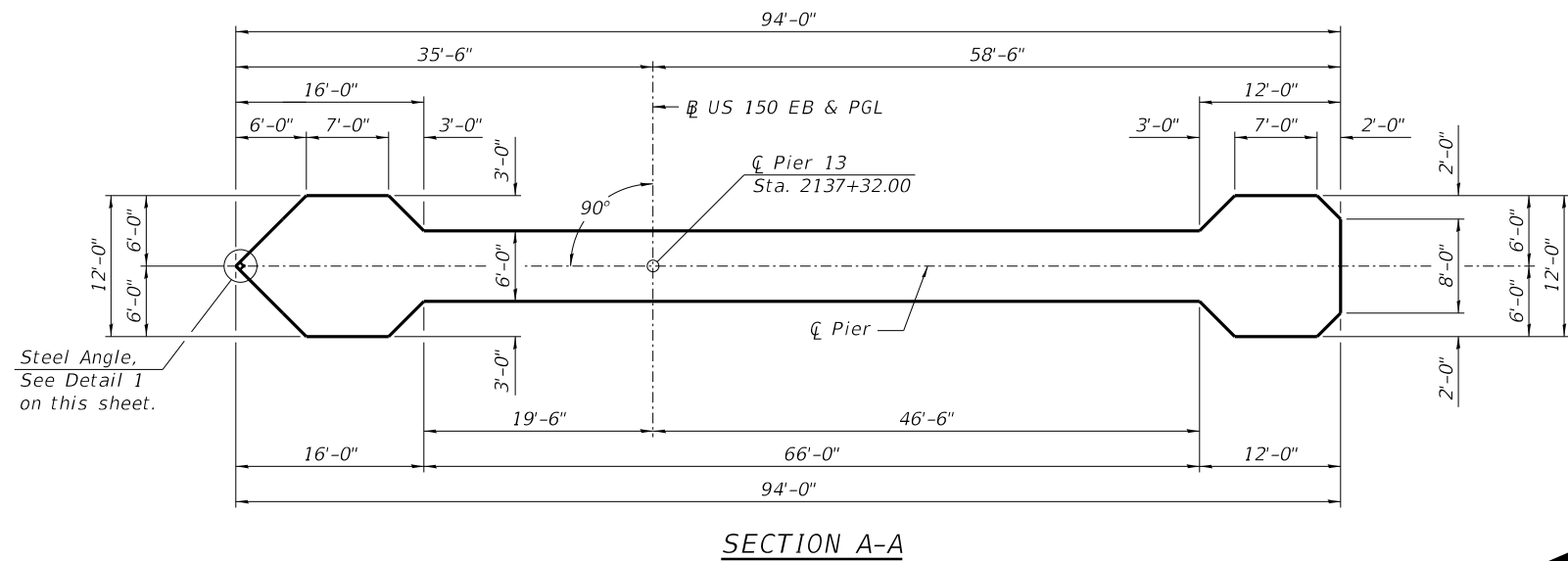
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PIER 13 PLAN AND ELEVATION
 STRUCTURE NO. 090-0180**

SHEET 5-362 OF 445 SHEETS

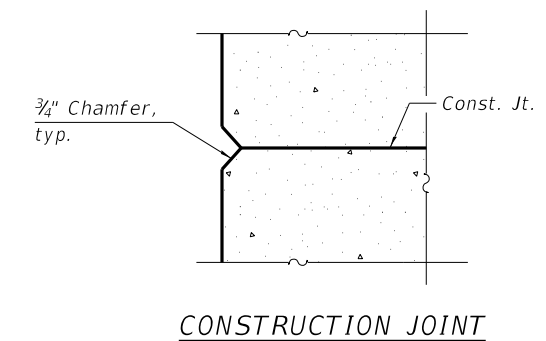
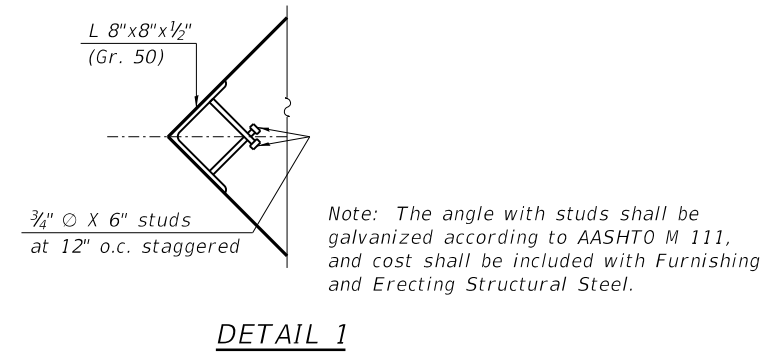
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317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1271
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-RP3(905)				



VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

	10% Yearly Mean Water Level		100 Yr. Water Level	
	Case 1	Case 2	Case 1	Case 2
Static Load	3150 kips	1575 kips	620 kips	310 kips
Elevation	449.49	449.49	470.79	470.79
Direction	Parallel	Perpendicular	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 13 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-363 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1272
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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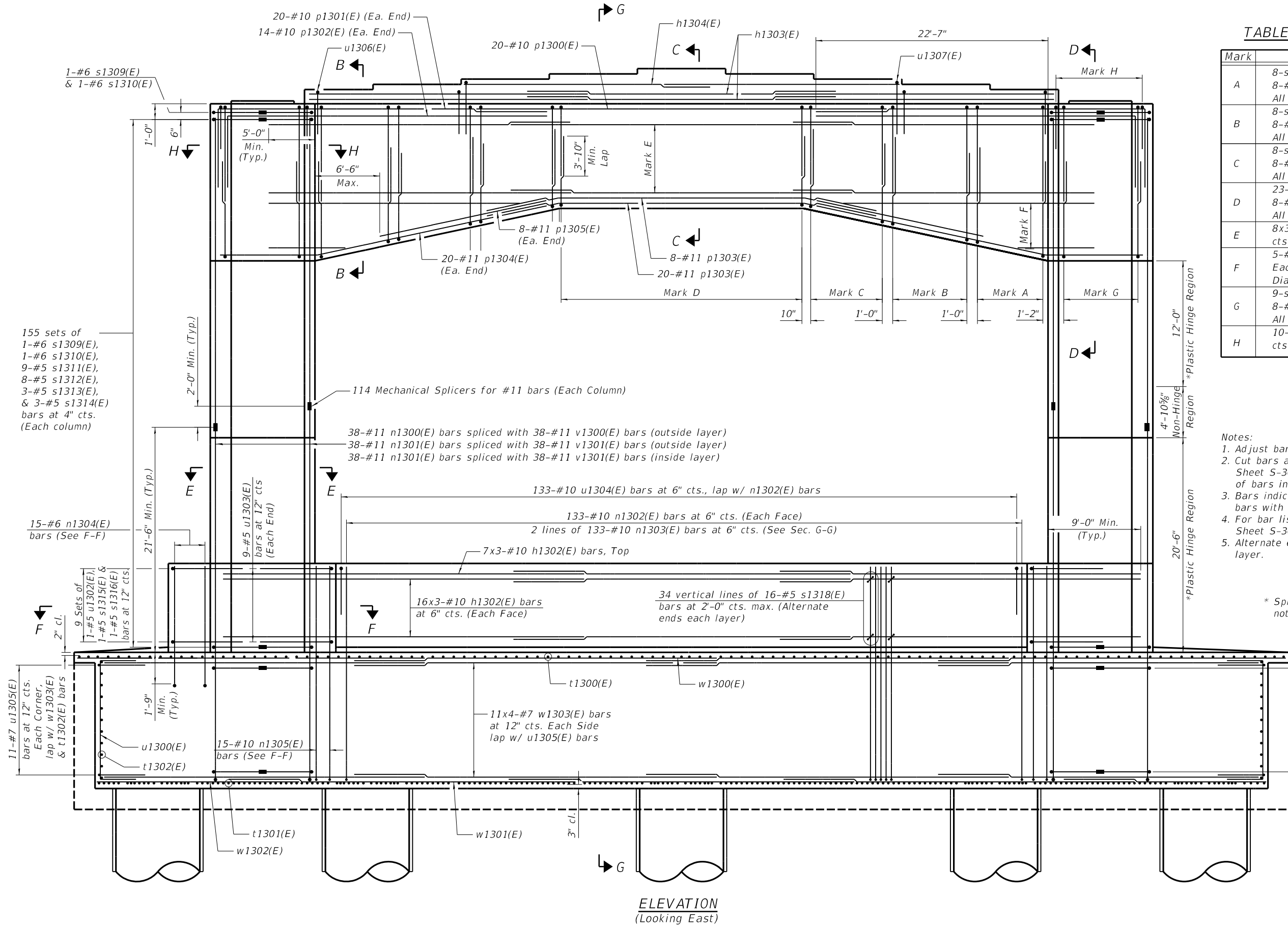


TABLE OF REINFORCEMENT BARS

Mark	Reinforcement	Notes
A	8-sets of: 2-#6 s1300(E), 8-#6 s1304(E), 7-#5 s1308(E). All bars at 12" cts.	
B	8-sets of: 2-#6 s1301(E), 8-#6 s1305(E), 6-#5 s1308(E). All bars at 12" cts.	
C	8-sets of: 2-#6 s1302(E), 8-#6 s1306(E), 5-#5 s1308(E). All bars at 12" cts.	
D	23-sets of: 2-#6 s1303(E), 8-#6 s1307(E), 4-#5 s1308(E). All bars at 12" cts.	
E	8x3-#9 h1300(E) bars at 12" cts., Each Face	
F	5-#9 h1301(E) bars at 12" cts., Each Face (See Field Cutting Diagram)	2
G	9-sets of: 2-#6 s1300(E), 8-#6 s1304(E) bars. All at ±12" cts.	
H	10-#6 u1308(E) bars at ±12" cts., Each Face	

- Notes:
- Adjust bar spacing to miss anchor bolts.
 - Cut bars according to cutting diagram on Sheet S-368 of 445 and use remainder of bars in opposite face.
 - Bars indicated thus 8x3-#9 etc. indicates 8 lines of bars with 3 lengths per line.
 - For bar list and Bill of Material, see Sheet S-368 of 445.
 - Alternate ends of s1311(E) thru s1314(E) bars each layer.

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

MINIMUM BAR LAP

- #6 bar = 3'-10"
- #7 bar = 5'-0"
- #9 bar = 6'-5"
- #10 bar = 7'-8"
- #11 bar = 8'-4"

ELEVATION
 (Looking East)



USER NAME = johns00944	DESIGNED - JGT	REVISED -
	CHECKED - MNM	REVISED -
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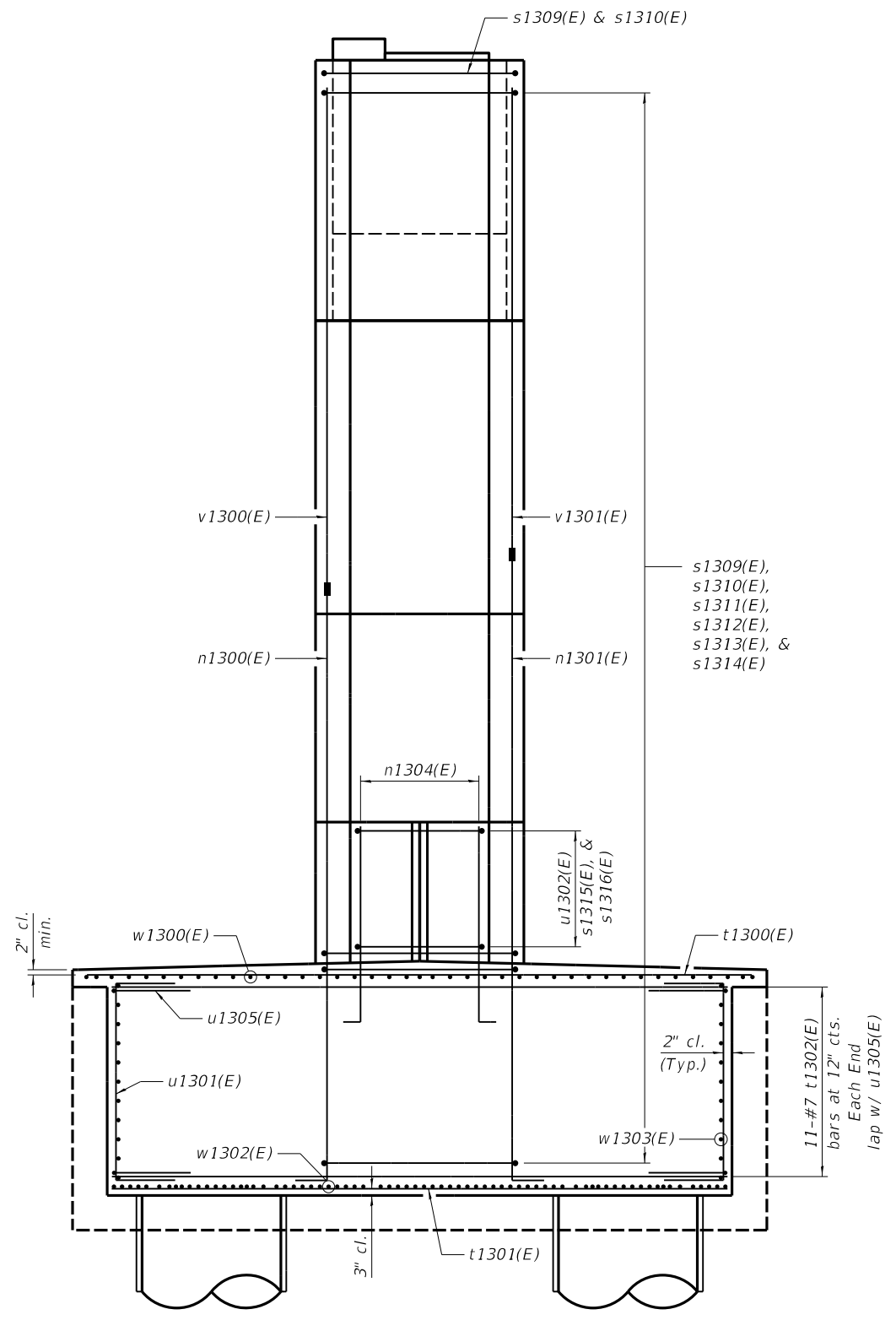
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 13 REINFORCEMENT, 1 OF 4
 STRUCTURE NO. 090-0180

SHEET S-364 OF 445 SHEETS

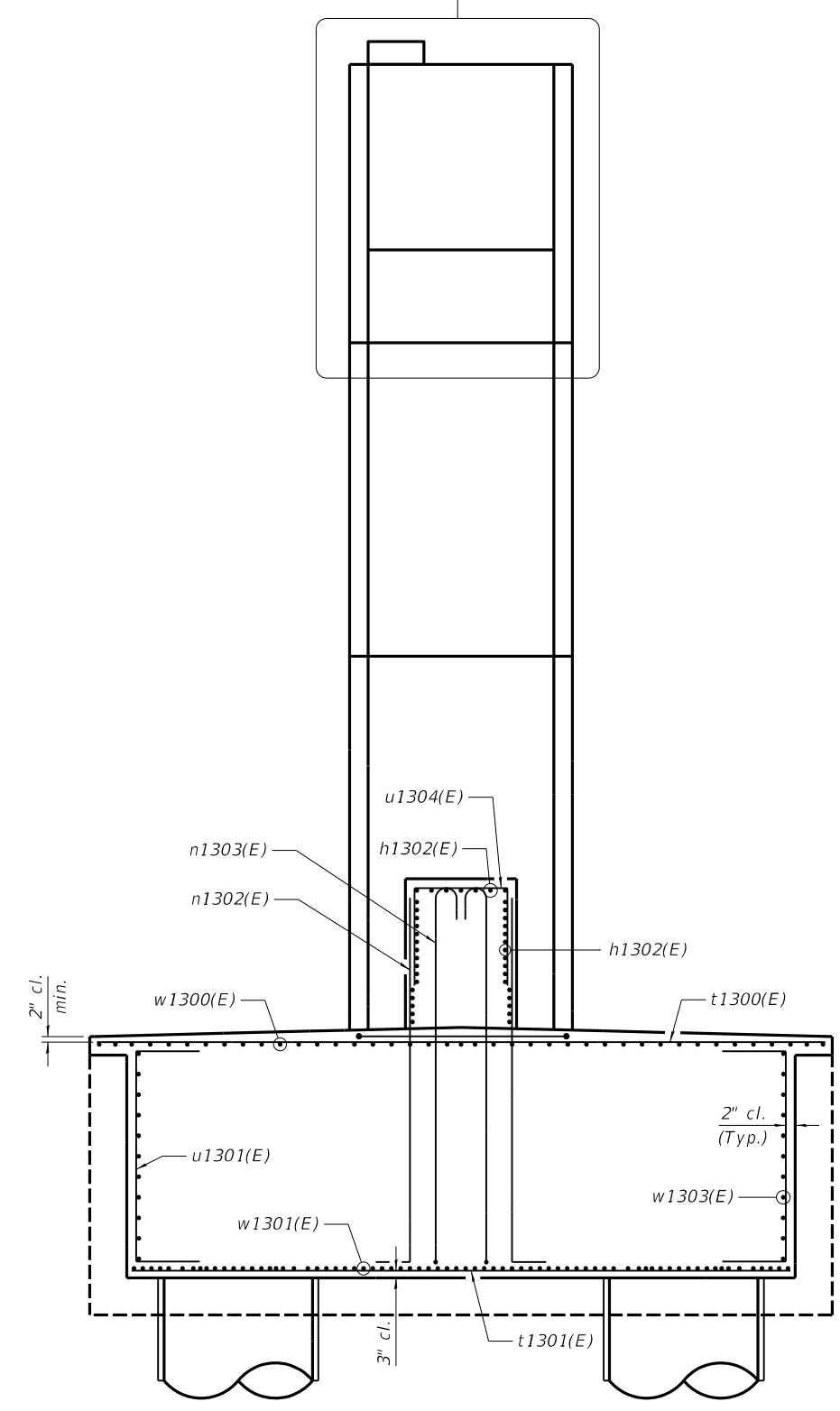
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317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1273
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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END VIEW
 (Looking South)

For reinforcement See Sections B-B & C-C on Sheet S-366 of 445.



SECTION G-G



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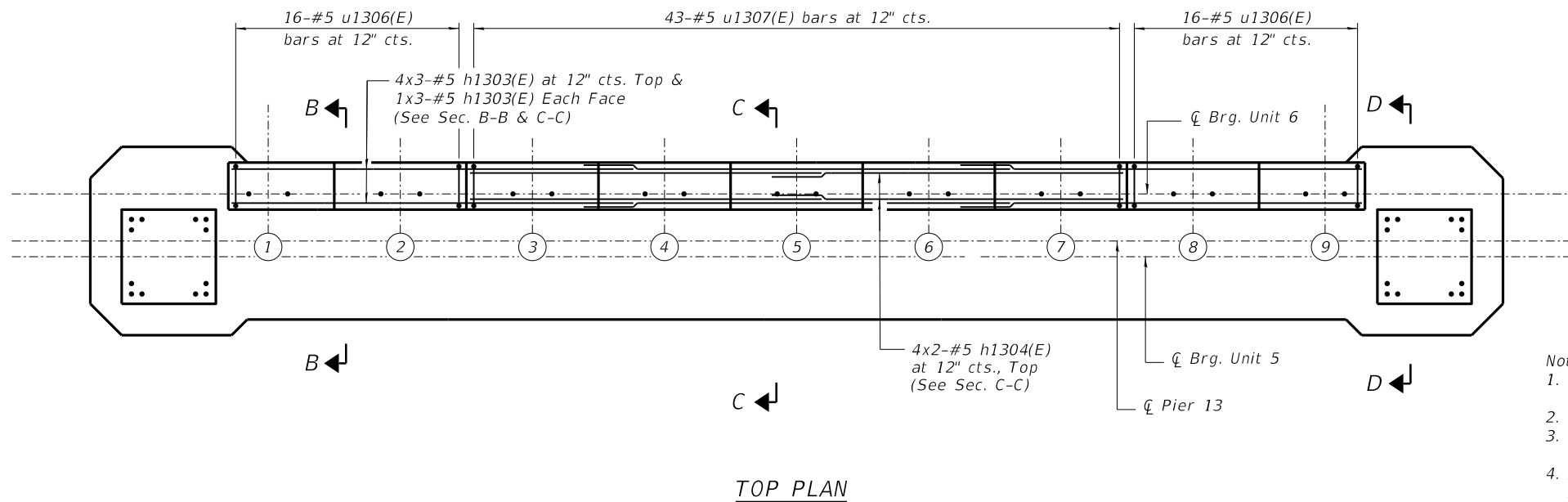
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 13 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180

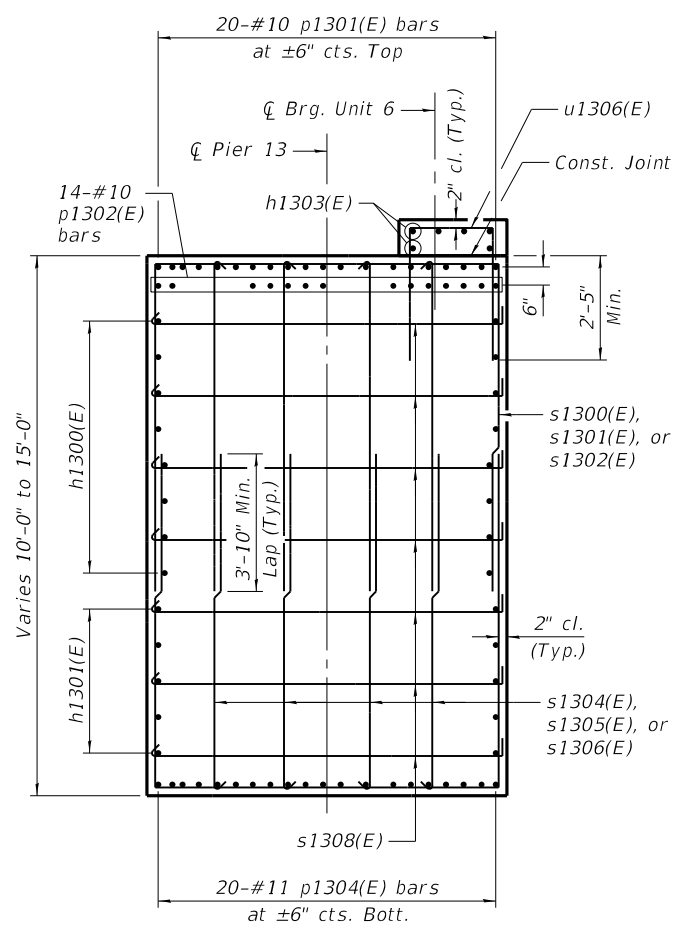
SHEET S-365 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1).(14HB)BR]BR	PEO/TAZ	1361	1274
			CONTRACT NO. 68B46	

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

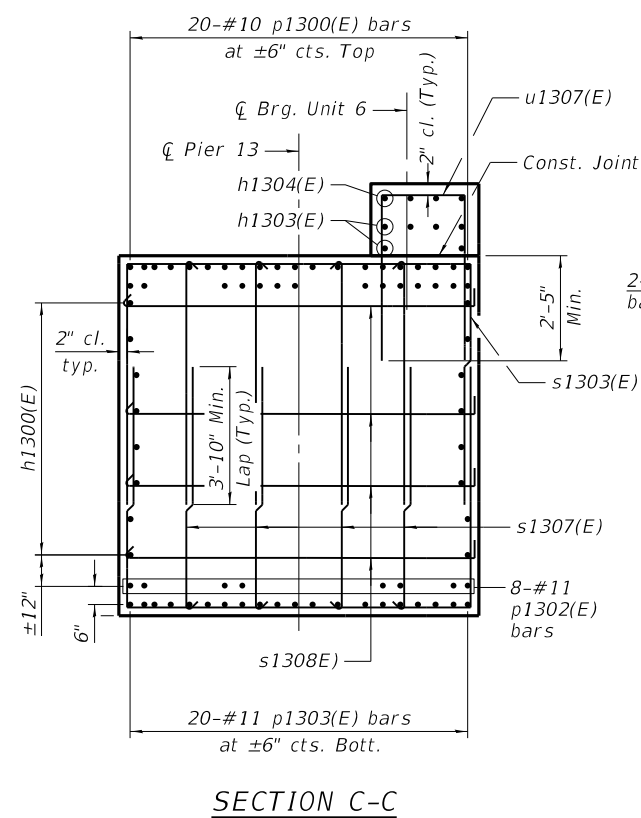


- Notes:
1. Bars indicated thus 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-368 of 445.
 3. For anchor bolts and bearing details, see Sheets S-265, S-266 & S-283 of 445.
 4. Adjust bar spacing in pier cap to miss anchor bolts. Arch bearing anchor bolts shall not be drilled and grouted. Cast anchor bolts with pier, or cast oversize sleeves to permit subsequent grouting of anchor bolts. Verify arch bearing bolt positions locally (with respect to Pier 13 elements) and globally (with respect to companion bearing on Pier 12) prior to casting.

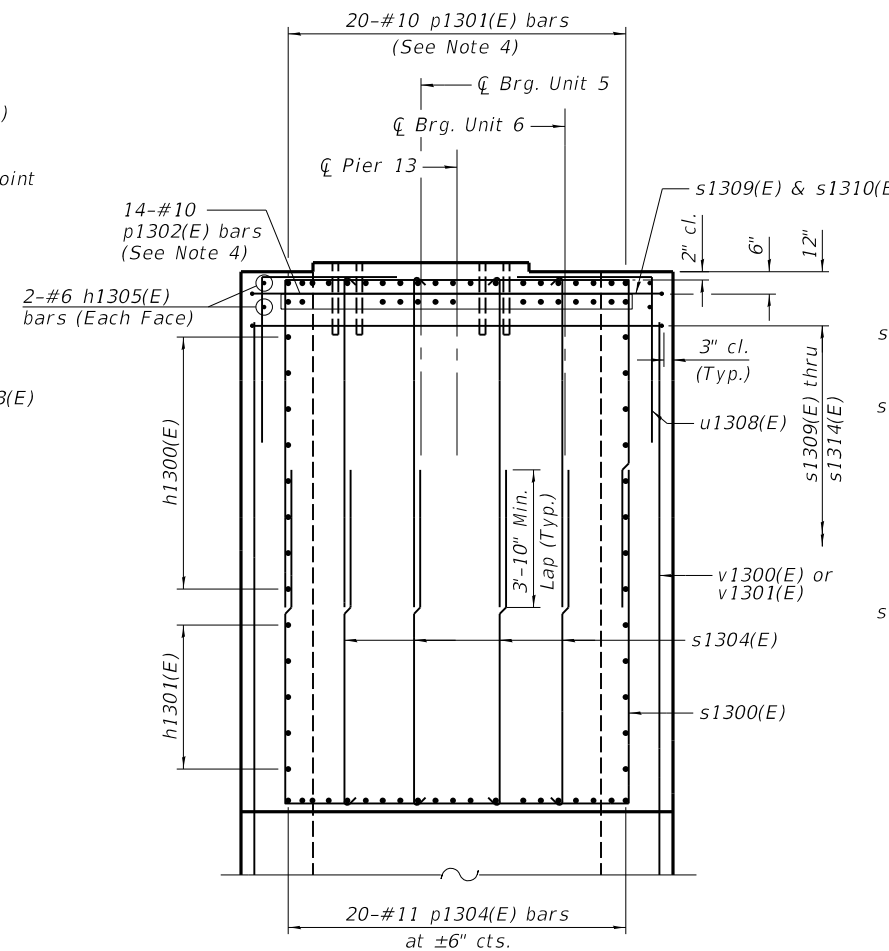


SECTION B-B

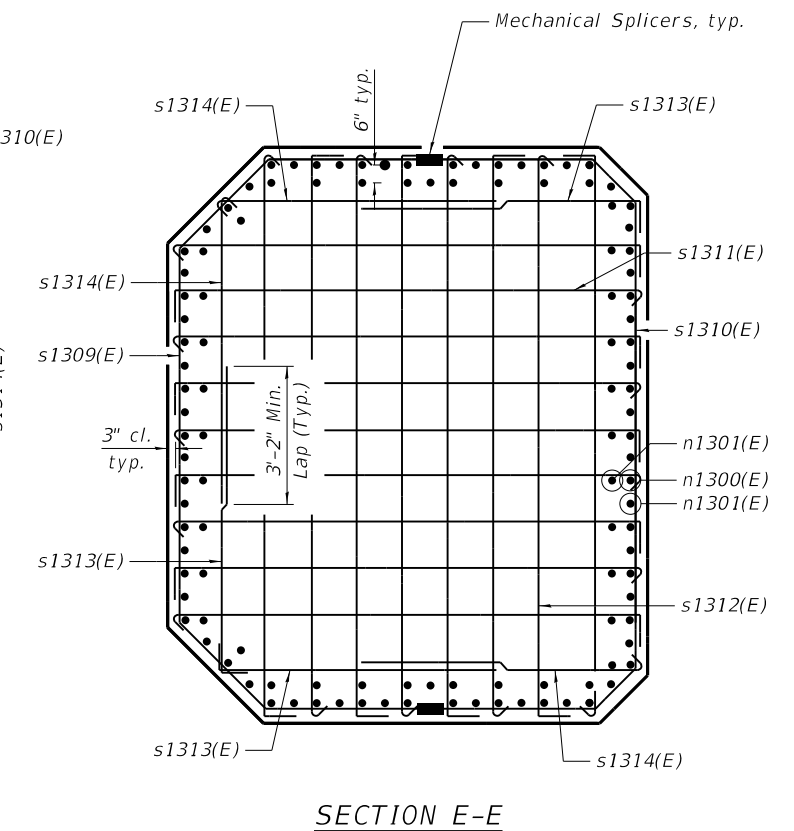
(Mark A shown, Mark B and Mark C similar)



SECTION C-C



SECTION D-D



SECTION E-E

MINIMUM BAR LAP

#5 bar = 3'-2"
#6 bar = 3'-10"

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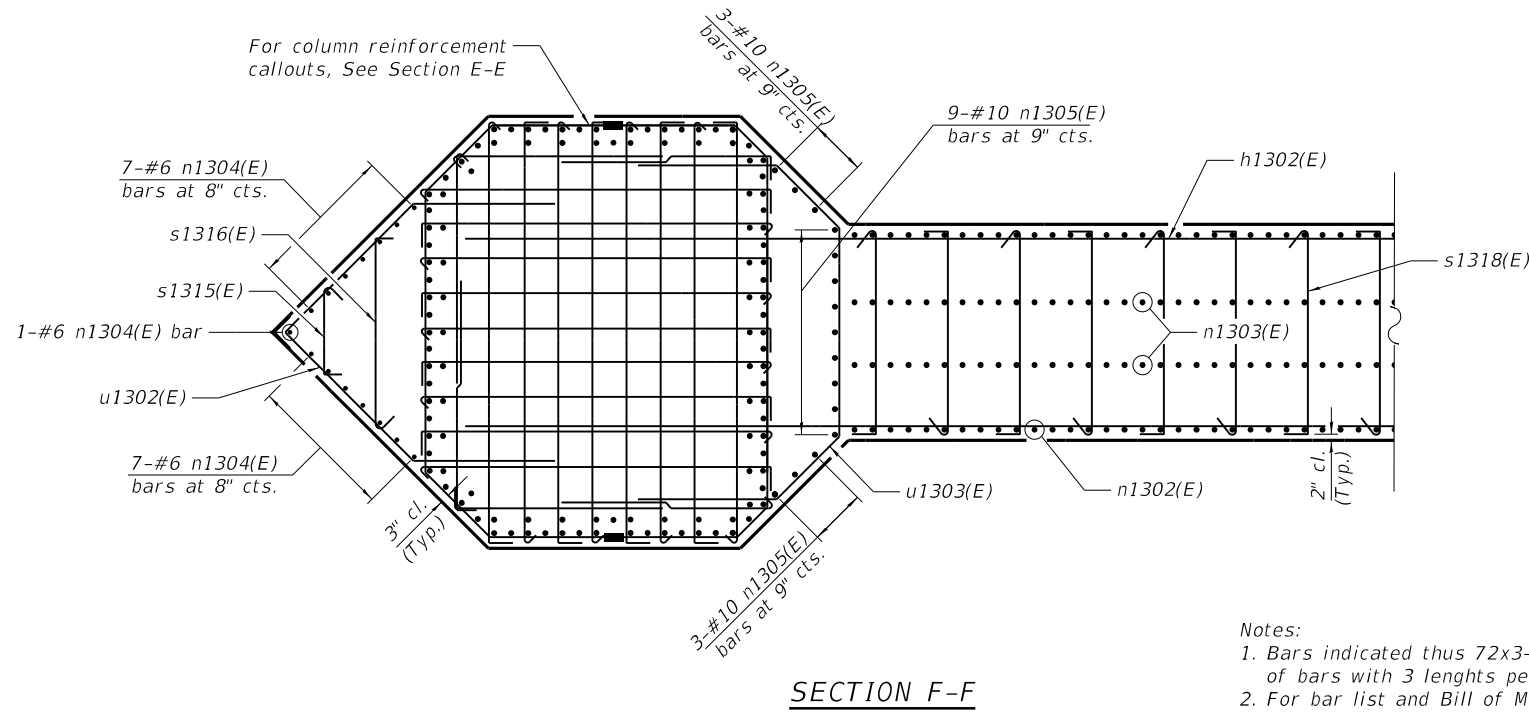
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 13 REINFORCEMENT, 3 OF 4
STRUCTURE NO. 090-0180

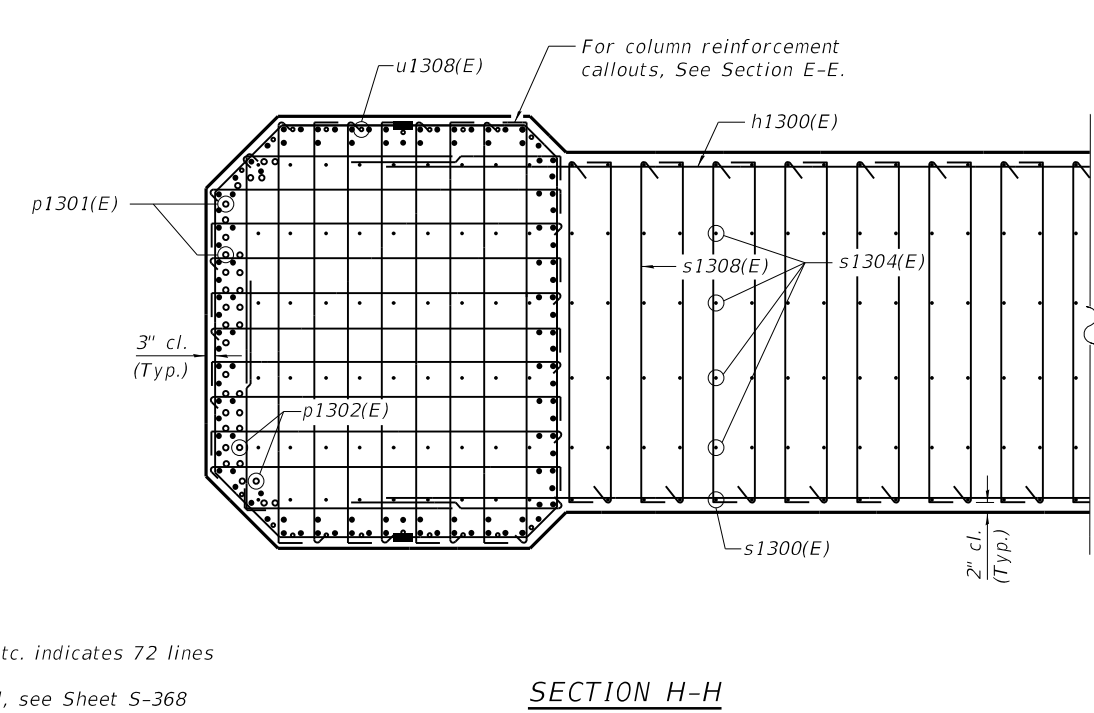
SHEET 5-366 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1275
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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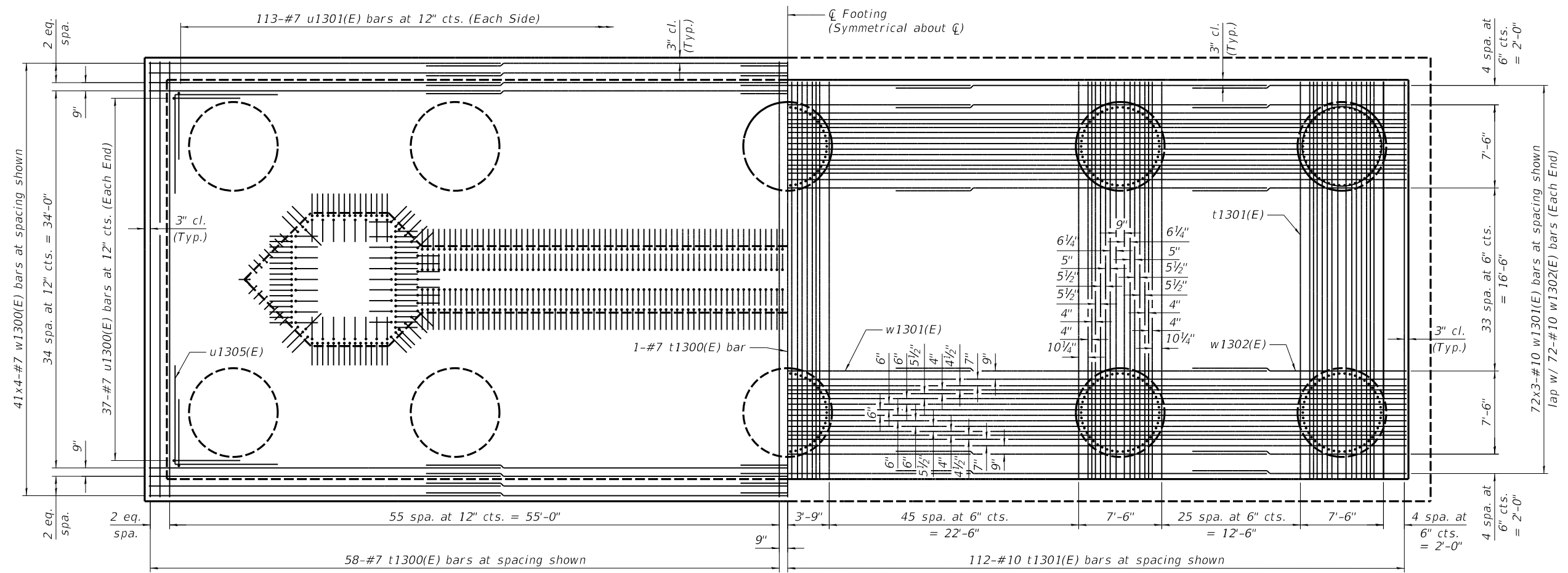


SECTION F-F



SECTION H-H

Notes:
 1. Bars indicated thus 72x3-#10 etc. indicates 72 lines of bars with 3 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-368 of 445.



SHOWING TOP REINFORCEMENT

FOOTING PLAN

SHOWING BOTTOM REINFORCEMENT

MINIMUM BAR LAP

#7 bar = 5'-0"
 #10 bar = 7'-8"



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	CHECKED - MNM	REVISED -
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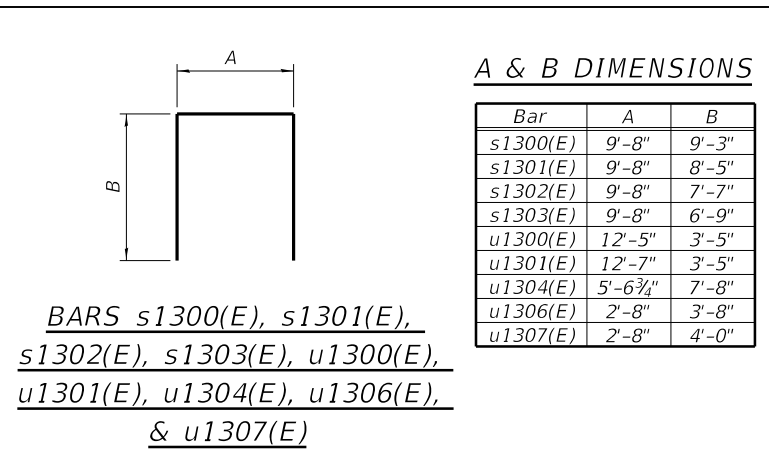
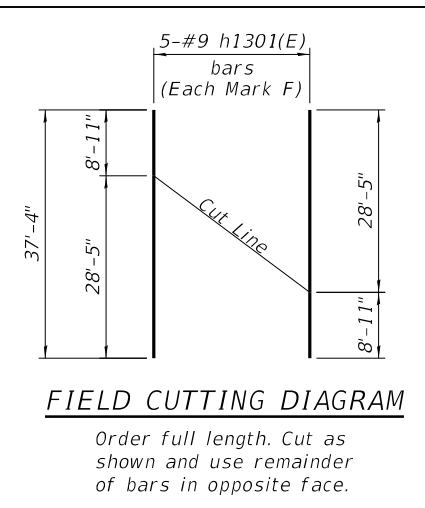
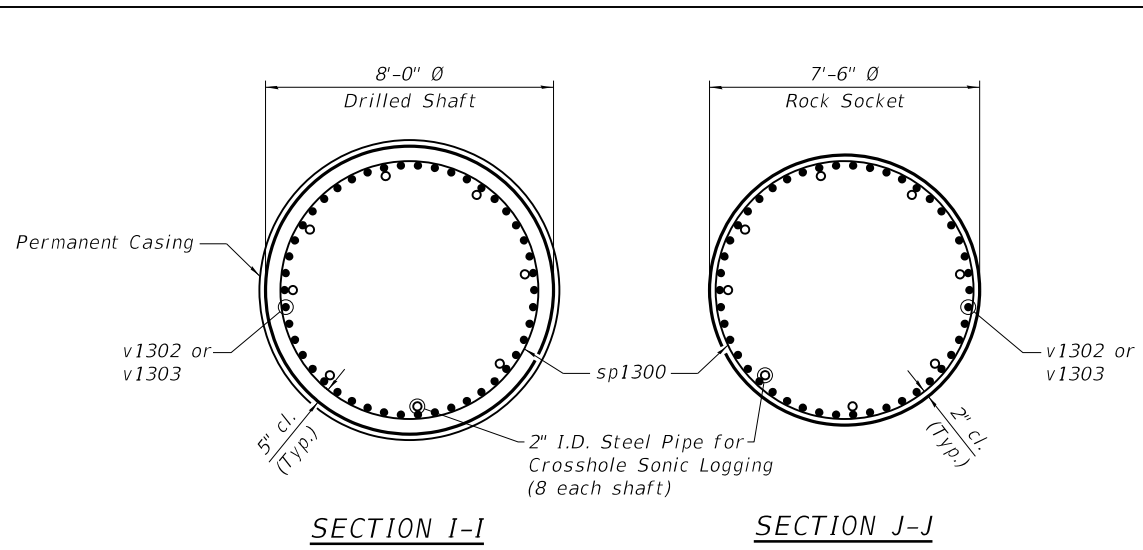
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 13 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180

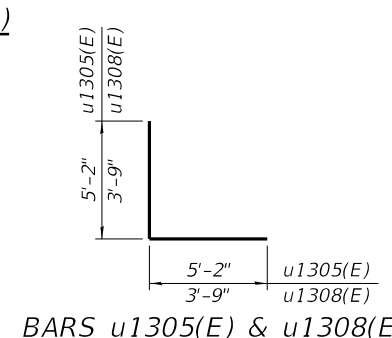
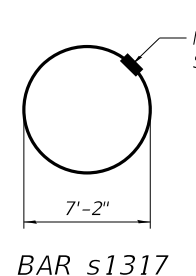
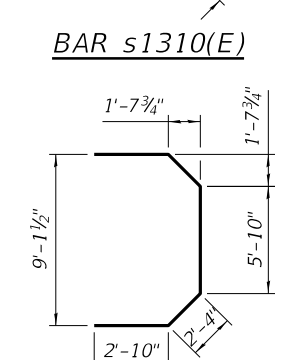
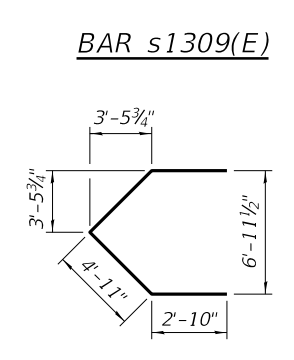
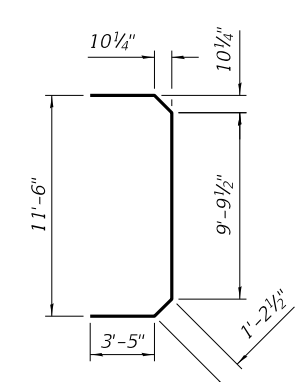
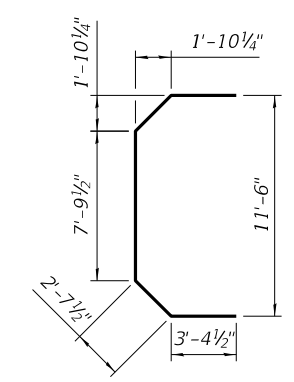
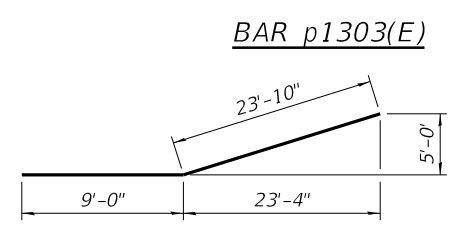
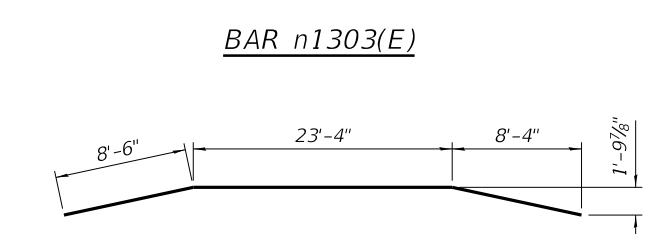
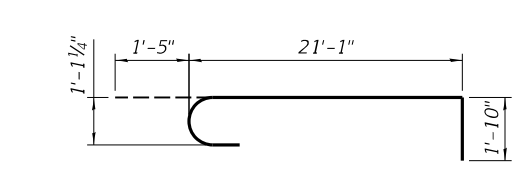
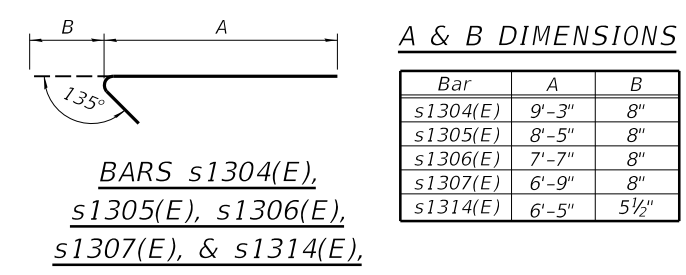
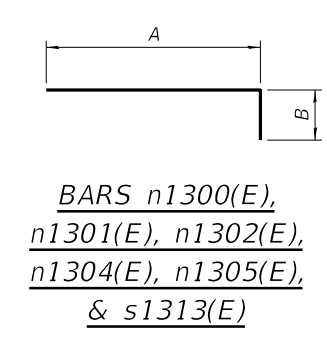
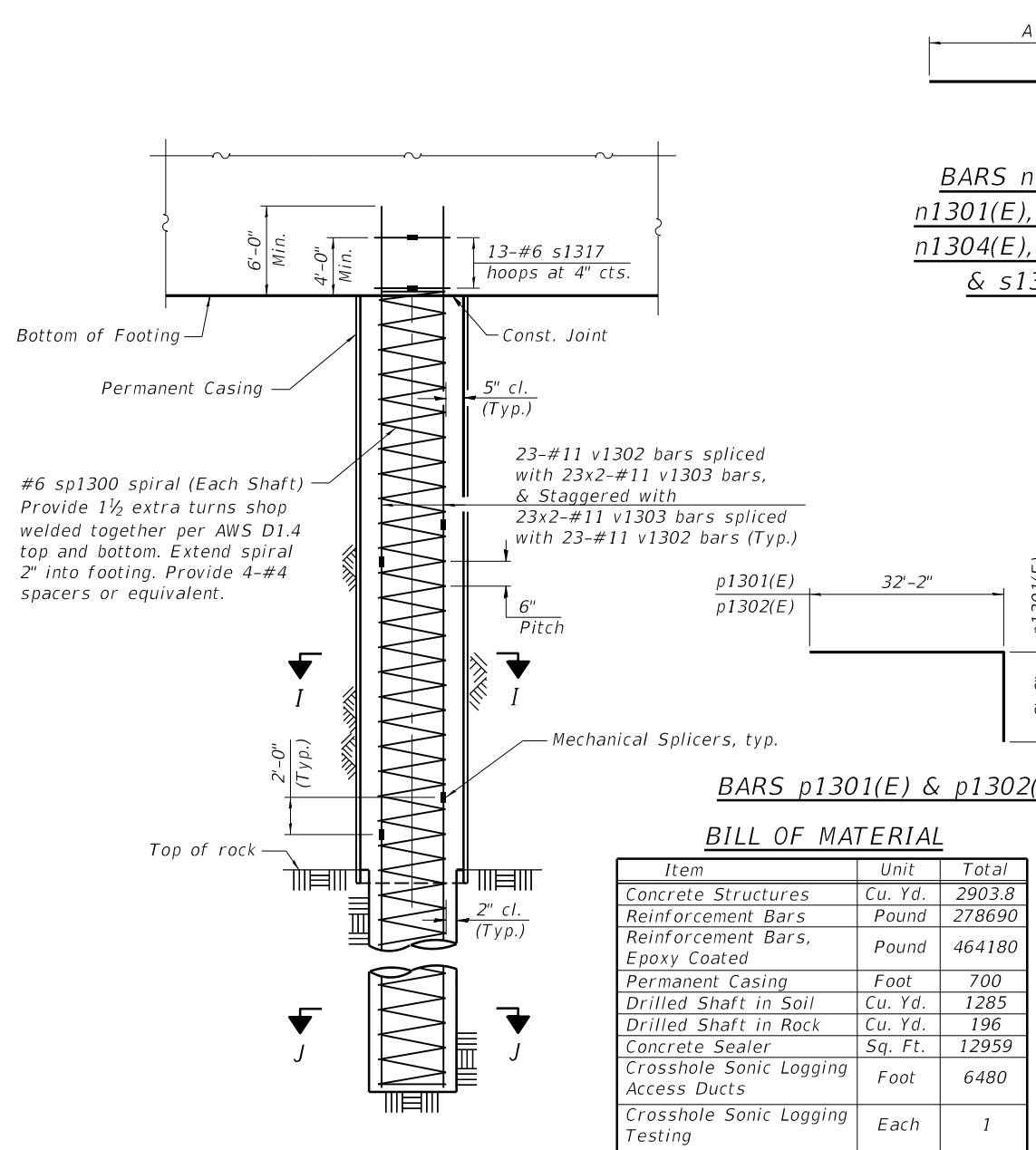
SHEET S-367 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1276
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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Bar	No.	Size	Length	Shape
h1300(E)	48	#9	31'-0"	—
h1301(E)	10	#9	37'-4"	—
h1302(E)	117	#10	34'-6"	—
h1303(E)	18	#5	26'-3"	—
h1304(E)	8	#5	22'-8"	—
h1305(E)	8	#6	8'-0"	—
n1300(E)	76	#11	36'-0"	┘
n1301(E)	152	#11	38'-0"	┘
n1302(E)	266	#10	22'-9"	┘
n1303(E)	266	#10	24'-4"	┘
n1304(E)	15	#6	11'-3"	┘
n1305(E)	30	#10	22'-11"	┘
p1300(E)	20	#10	40'-2"	┘
p1301(E)	40	#10	40'-8"	┘
p1302(E)	28	#10	40'-2"	┘
p1303(E)	28	#11	40'-4"	┘
p1304(E)	40	#11	32'-10"	┘
p1305(E)	16	#11	17'-3"	┘
s1300(E)	68	#6	28'-2"	┘
s1301(E)	32	#6	26'-6"	┘
s1302(E)	32	#6	24'-10"	┘
s1303(E)	46	#6	23'-2"	┘
s1304(E)	272	#6	9'-11"	┘
s1305(E)	128	#6	9'-1"	┘
s1306(E)	128	#6	8'-3"	┘
s1307(E)	184	#6	7'-5"	┘
s1308(E)	380	#5	10'-8"	┘
s1309(E)	382	#6	19'-10"	┘
s1310(E)	382	#6	19'-1"	┘
s1311(E)	3420	#5	10'-6"	┘
s1312(E)	3040	#5	12'-6"	┘
s1313(E)	1140	#5	6'-11"	┘
s1314(E)	1140	#5	6'-11"	┘
s1315(E)	9	#5	3'-2"	┘
s1316(E)	9	#5	6'-2"	┘
s1317	130	#6	22'-6"	○
s1318(E)	544	#5	6'-8"	┘
sp1300	10	#6	81'-0"	⋈
t1300(E)	117	#7	39'-8"	—
t1301(E)	224	#10	35'-8"	—
t1302(E)	22	#7	35'-8"	—
u1300(E)	74	#7	19'-3"	┘
u1301(E)	226	#7	19'-5"	┘
u1302(E)	9	#5	15'-6"	┘
u1303(E)	18	#5	16'-2"	┘
u1304(E)	133	#10	20'-11"	┘
u1305(E)	44	#7	10'-4"	┘
u1306(E)	32	#5	10'-0"	┘
u1307(E)	43	#5	10'-8"	┘
u1308(E)	40	#6	7'-6"	┘
v1300(E)	76	#11	29'-9"	—
v1301(E)	152	#11	27'-9"	—
v1302	460	#11	30'-6"	—
v1303	920	#11	28'-6"	—
w1300(E)	164	#7	32'-9"	—
w1301(E)	216	#10	34'-3"	—
w1302(E)	144	#10	20'-0"	—
w1303(E)	88	#7	31'-9"	—

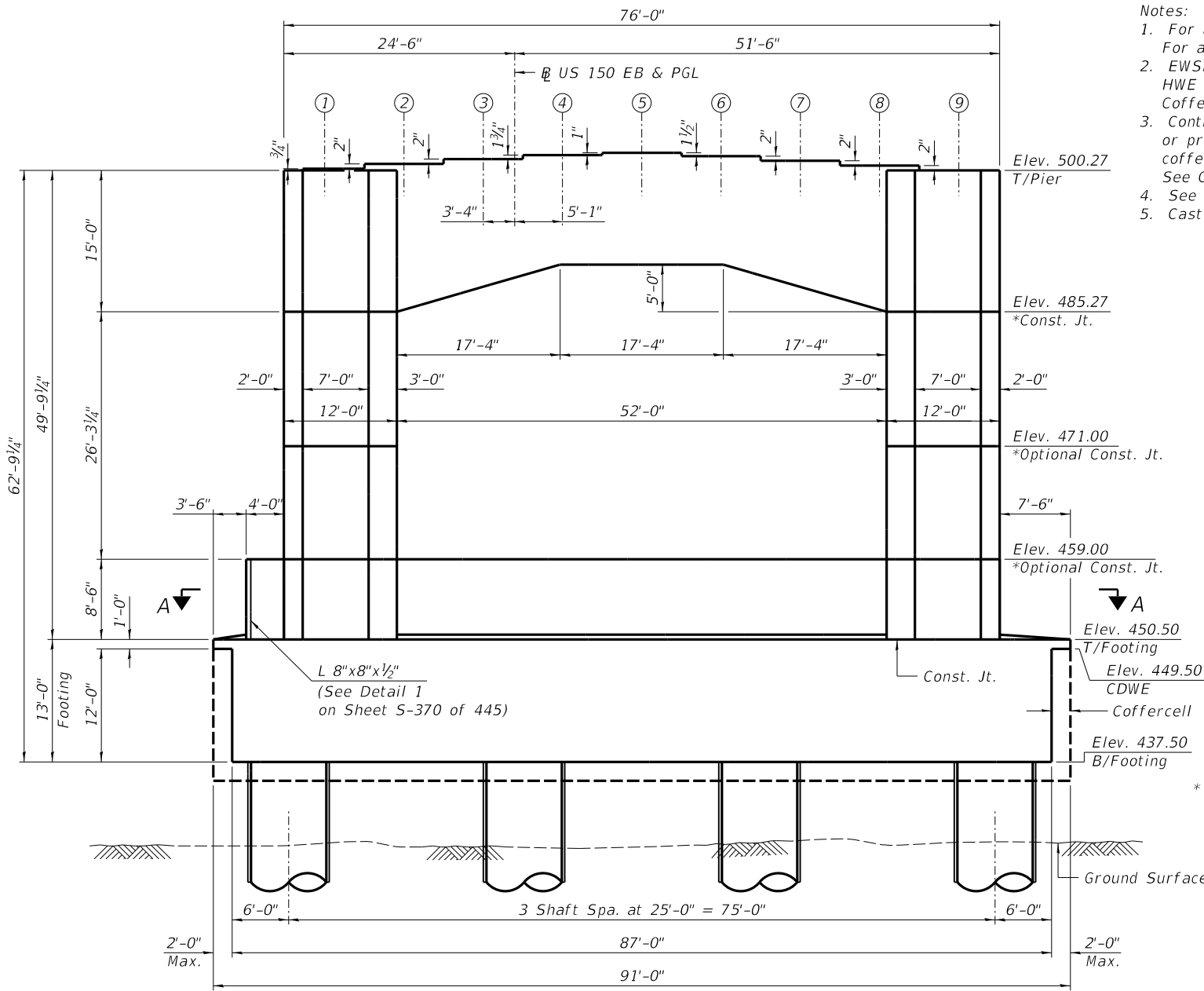


Item	Unit	Total
Concrete Structures	Cu. Yd.	2903.8
Reinforcement Bars	Pound	278690
Reinforcement Bars, Epoxy Coated	Pound	464180
Permanent Casing	Foot	700
Drilled Shaft in Soil	Cu. Yd.	1285
Drilled Shaft in Rock	Cu. Yd.	196
Concrete Sealer	Sq. Ft.	12959
Crosshole Sonic Logging Access Ducts	Foot	6480
Crosshole Sonic Logging Testing	Each	1
Coffercell (Location-13)	Each	1
Vertical Clearance Gauge	Each	1

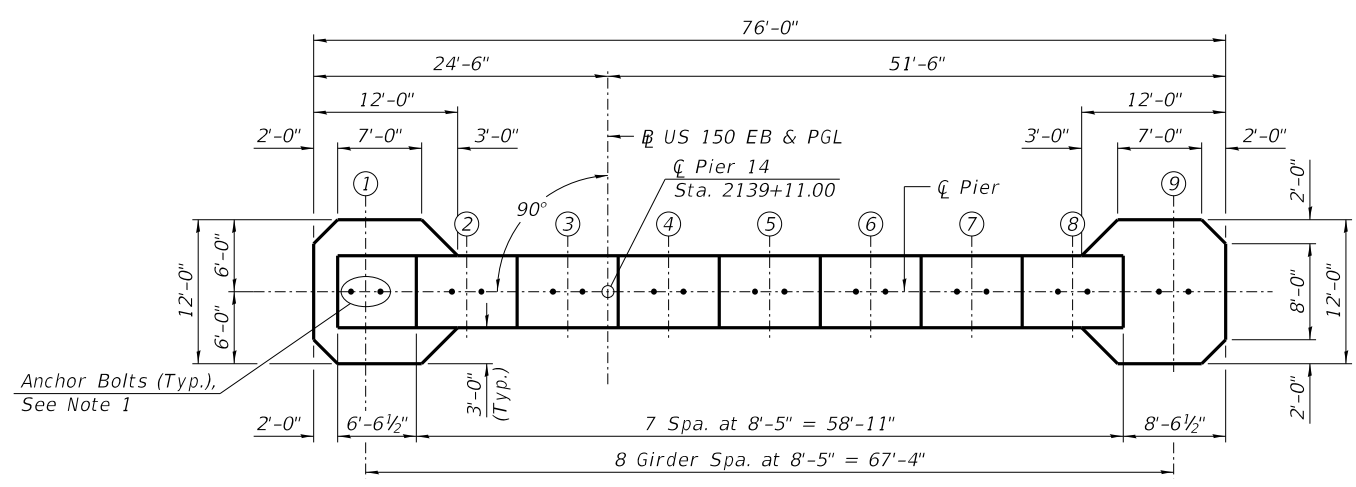
* Actual bar segment lengths of mechanically spliced bars shall be determined by contractor for ease of install. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturer's recommendations for installation and ease of construction, while meeting all requirements specified in the plans.

** Length is height of spiral.
Minimum lap for spirals = 3'-0"

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ELEVATION
(Looking East)



TOP PLAN

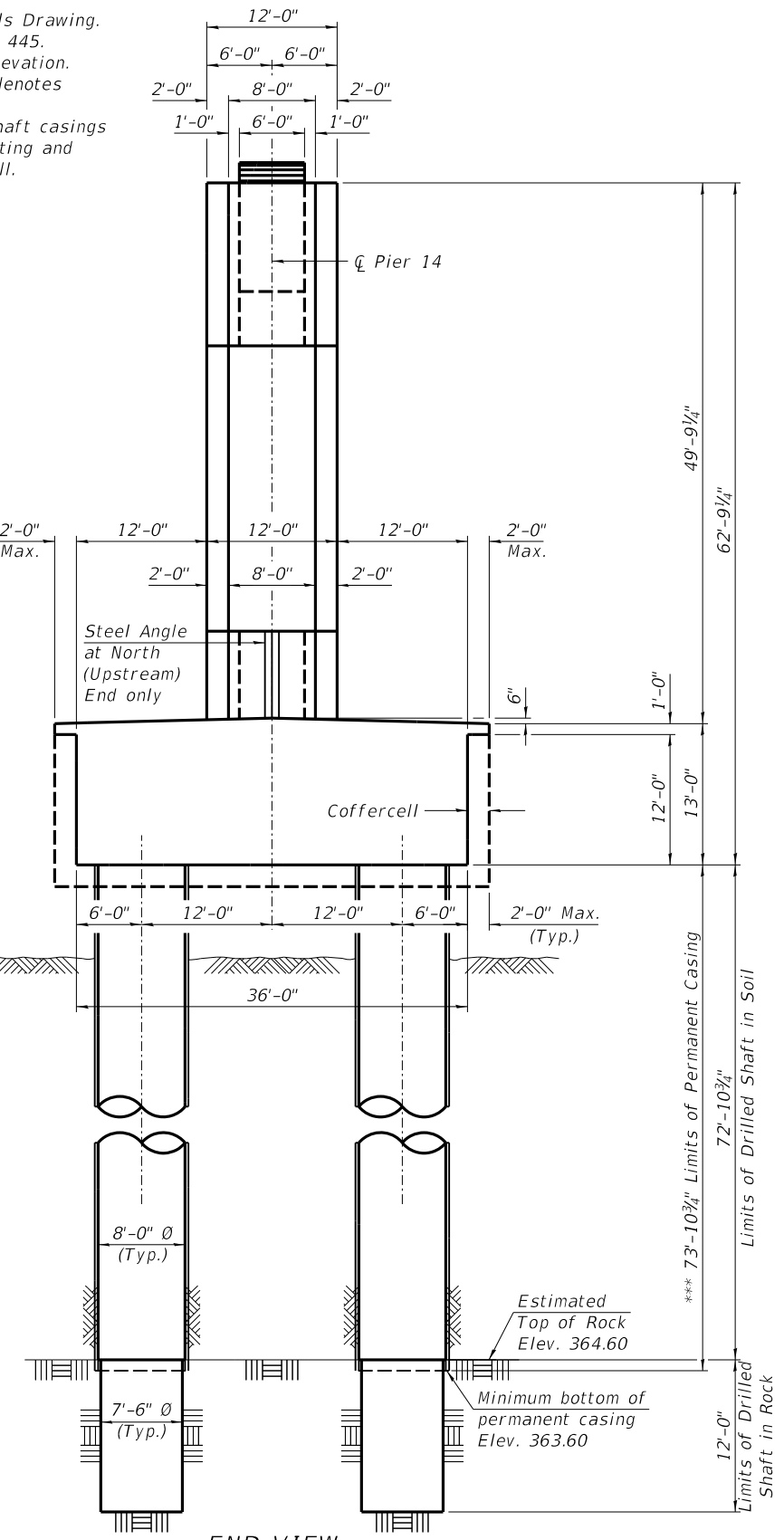
- Notes:
1. For anchor bolt details, see Bearing Details Drawing. For anchor bolt layout, see Sheet S-370 of 445.
 2. EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Coffercell Design Water Elevation.
 3. Contractor shall seal around the drilled shaft casings or provide seal coat between bottom of footing and coffercell to ensure a sealed, dry coffercell. See Coffercell Special Provision.
 4. See Sheet S-370 of 445 for Section A-A.
 5. Cast steps monolithic with cap.

BEARING SEAT ELEVATIONS

Girder	Elevation
1	500.33
2	500.50
3	500.67
4	500.82
5	500.90
6	500.77
7	500.61
8	500.44
9	500.27

- Design HWE ▼
Elev. 458.10
- 2% Flow Line ▼
Elev. 449.90
- EWSE ▼
Elev. 443.50
- Normal Pool ▼
Elev. 439.70

* See Sheet S-370 of 445 for Construction Joint Detail.



END VIEW
(Looking South)

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06 (d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.



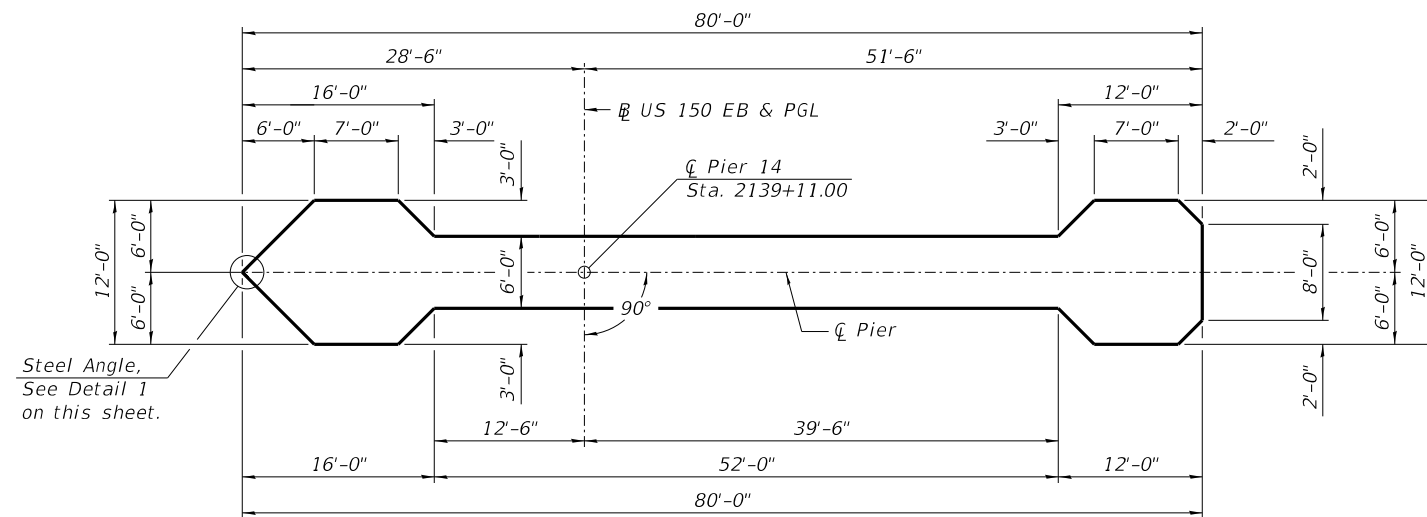
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

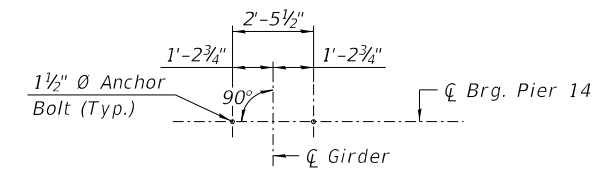
**PIER 14 PLAN AND ELEVATION
STRUCTURE NO. 090-0180**

SHEET 5-369 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1278
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



SECTION A-A



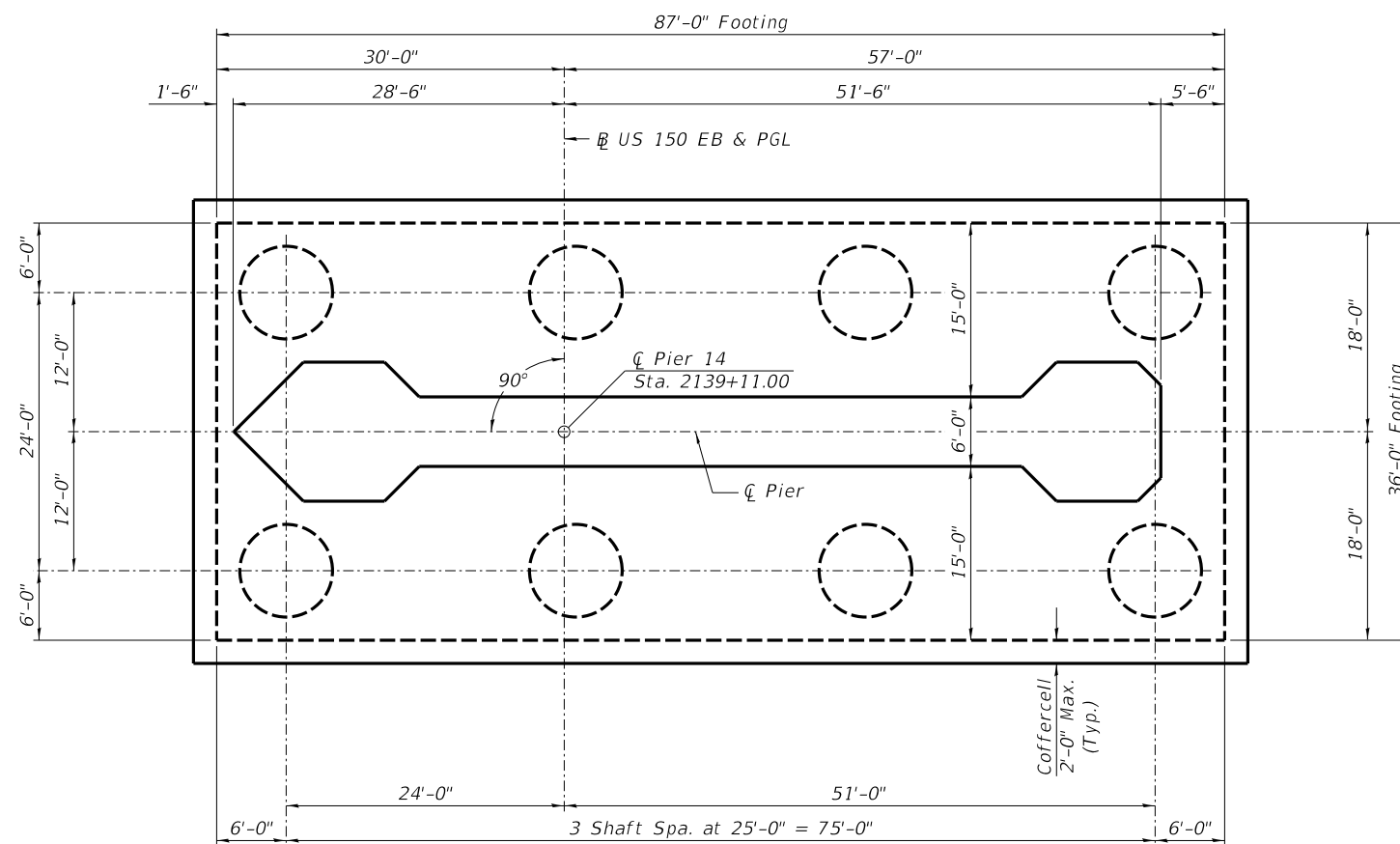
ANCHOR BOLT LAYOUT
(Layout at Girders 1 thru 9)



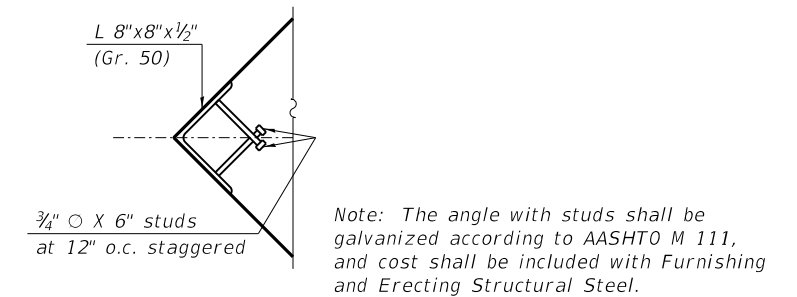
VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

	10% Yearly Mean Water Level		100 Yr. Water Level	
	Case 1	Case 2	Case 1	Case 2
Static Load	3050 kips	1525 kips	620 kips	310 kips
Elevation	449.49	449.49	470.79	470.79
Direction	Parallel	Perpendicular	Parallel	Perpendicular

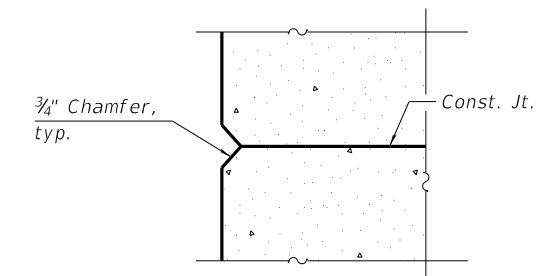
Note: Direction is with respect to Illinois River Flow.



FOOTING PLAN



DETAIL 1



CONSTRUCTION JOINT

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PLOT DATE = 12/11/2018

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CHECKED - MNM
DRAWN - DAP
CHECKED - JGT

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 14 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-370 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1279
CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

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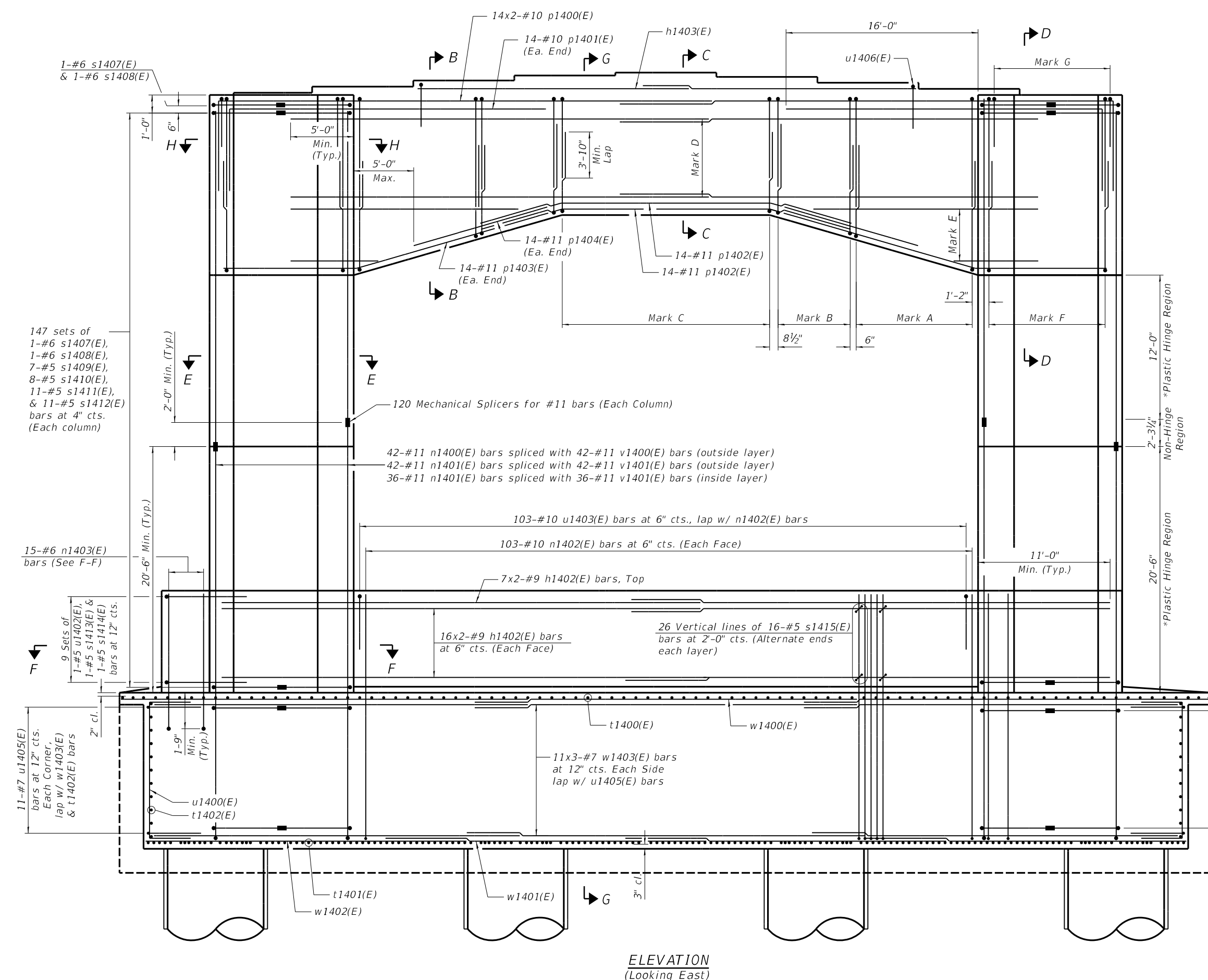


TABLE OF REINFORCEMENT BARS

Mark	Reinforcement	Notes
A	21-sets of: 2-#6 s1400(E), 8-#6 s1403(E), 7-#5 s1406(E). All bars at 6" cts.	
B	9-sets of: 2-#6 s1401(E), 4-#6 s1404(E), 5-#5 s1406(E). All bars at 9" cts.	
C	24-sets of: 2-#6 s1402(E), 4-#6 s1405(E), 4-#5 s1406(E). All bars at 9" cts.	
D	8x2-#9 h1400(E) bars at 12" cts., Each Face	
E	5-#9 h1401(E) bars at 12" cts., Each Face (See Field Cutting Diagram)	2
F	11-sets of: 2-#6 s1400(E), 8-#6 s1403(E) bars. All at ±12" cts.	
G	12-#6 u1407(E) bars at ±12" cts., Each Face	

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

- Notes:
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-375 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-375 of 445.
 5. Alternate ends of s1409(E) thru s1412(E) bars each layer.

35 sets of
 1-#6 s1407(E),
 1-#6 s1408(E),
 7-#5 s1409(E),
 8-#5 s1410(E),
 11-#5 s1411(E),
 & 11-#5 s1412(E)
 bars at 4" cts.
 (Each column)

MINIMUM BAR LAP

#6 bar = 3'-10"
#7 bar = 5'-0"
#9 bar = 6'-5"
#10 bar = 7'-8"
#11 bar = 8'-4"

ELEVATION
 (Looking East)

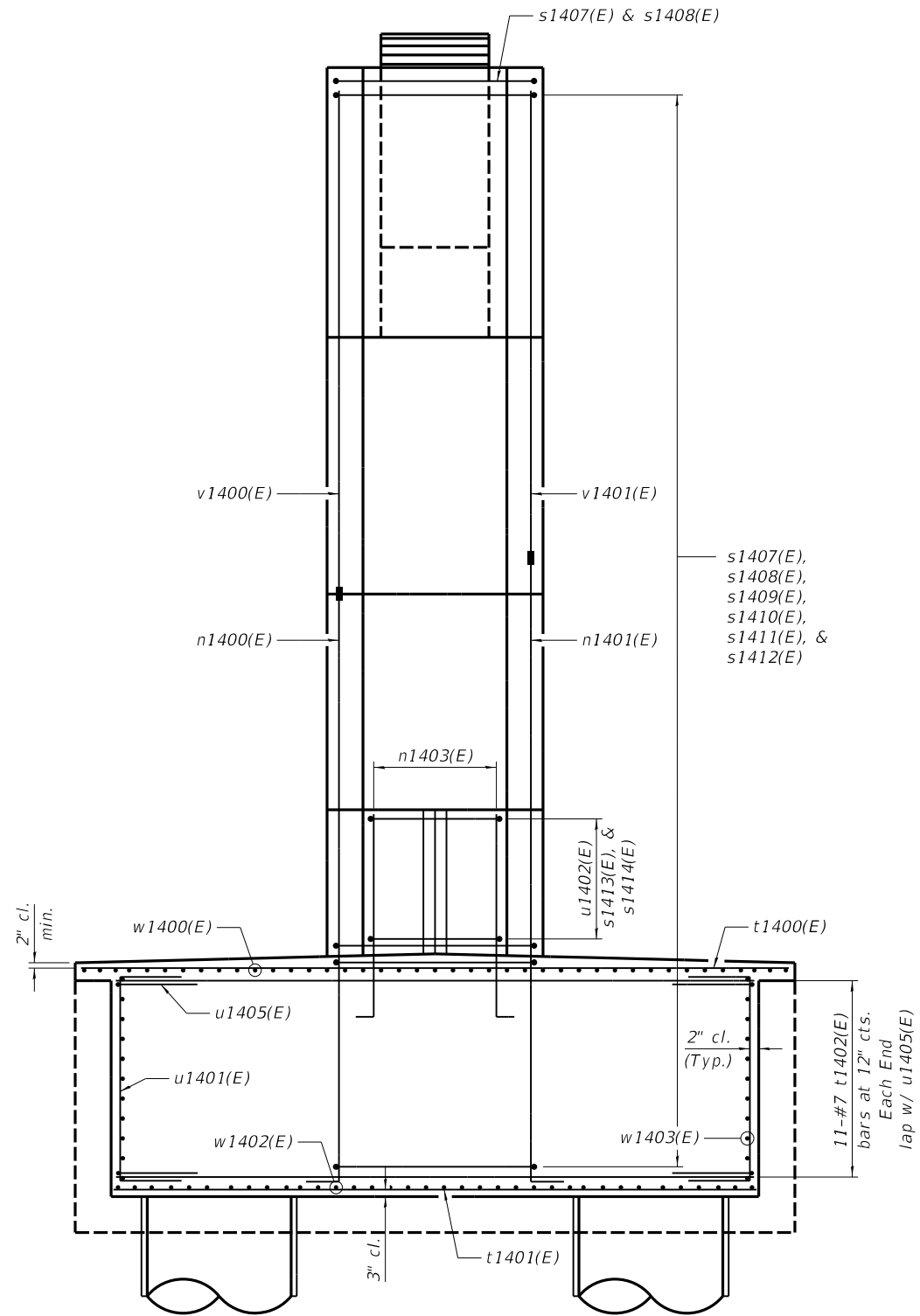
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 14 REINFORCEMENT, 1 OF 4
 STRUCTURE NO. 090-0180

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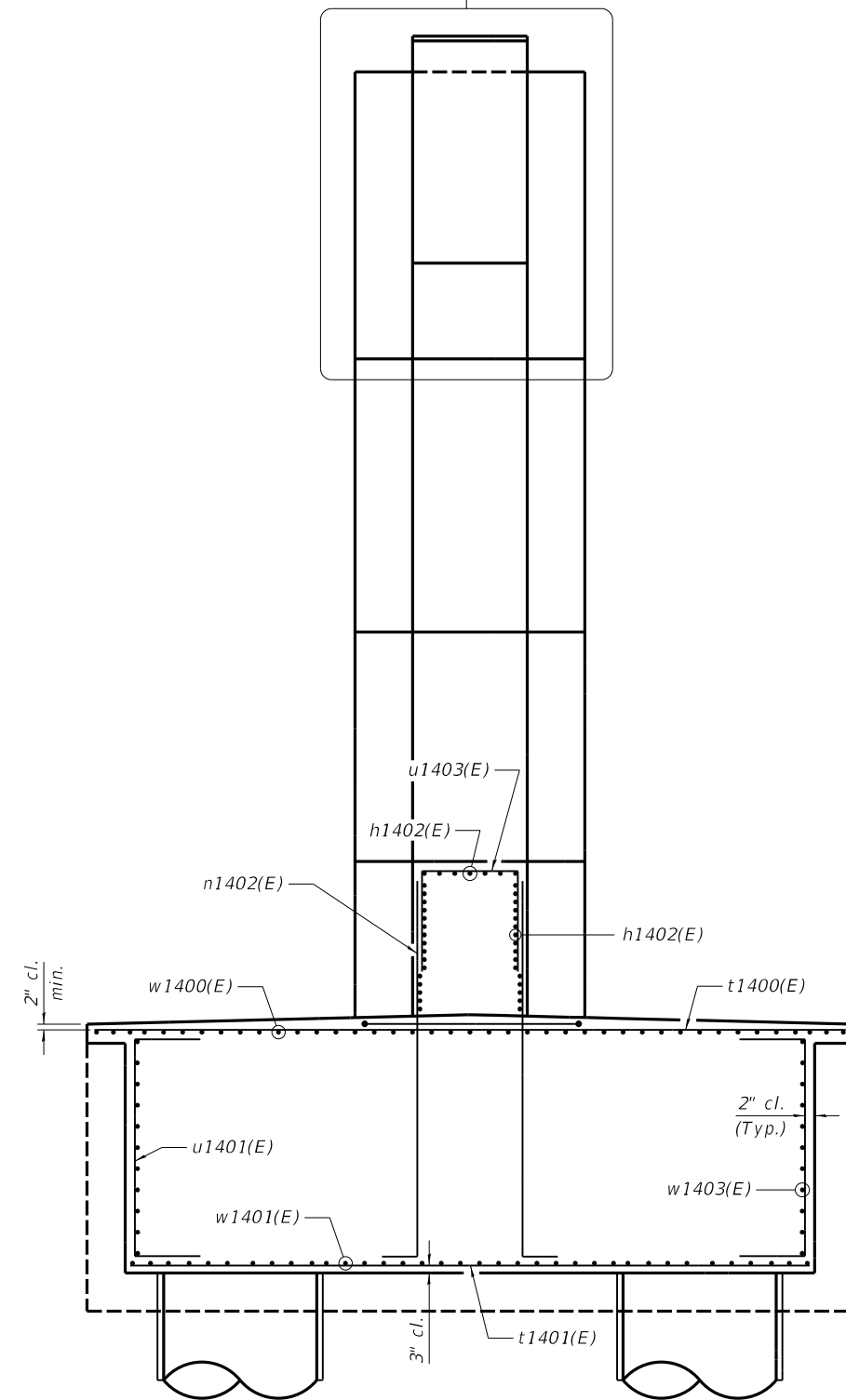
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317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1280
ILLINOIS FED. AID PROJECT			CONTRACT NO. 68B46	
NHPP-YRP3(905)				

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END VIEW
 (Looking South)

For reinforcement See Sections B-B & C-C on Sheet S-373 of 445.



SECTION G-G

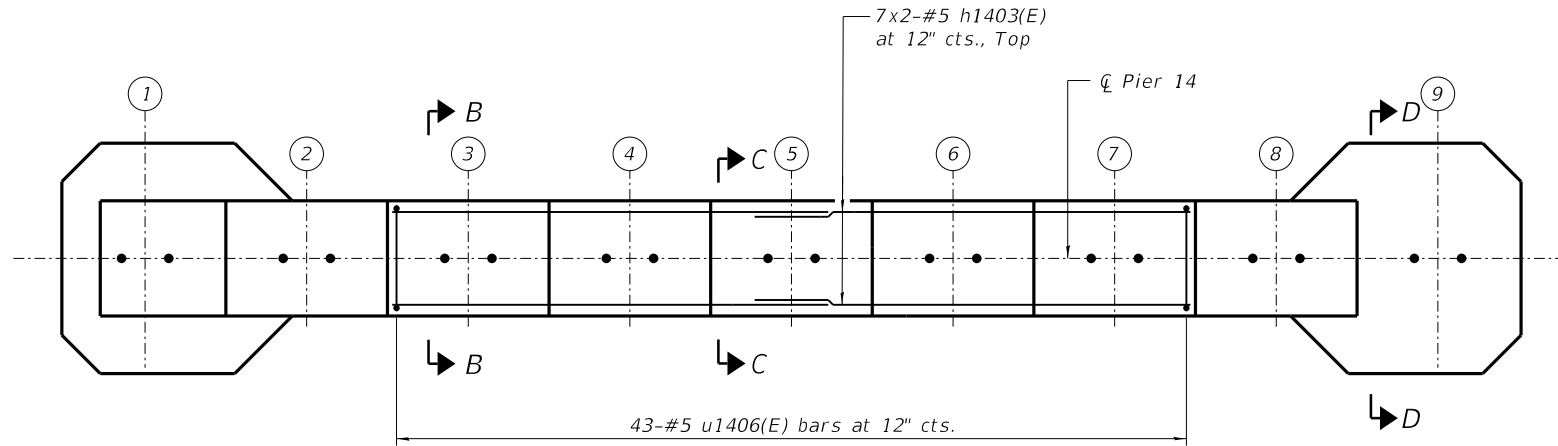
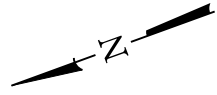
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 14 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180

SHEET S-372 OF 445 SHEETS

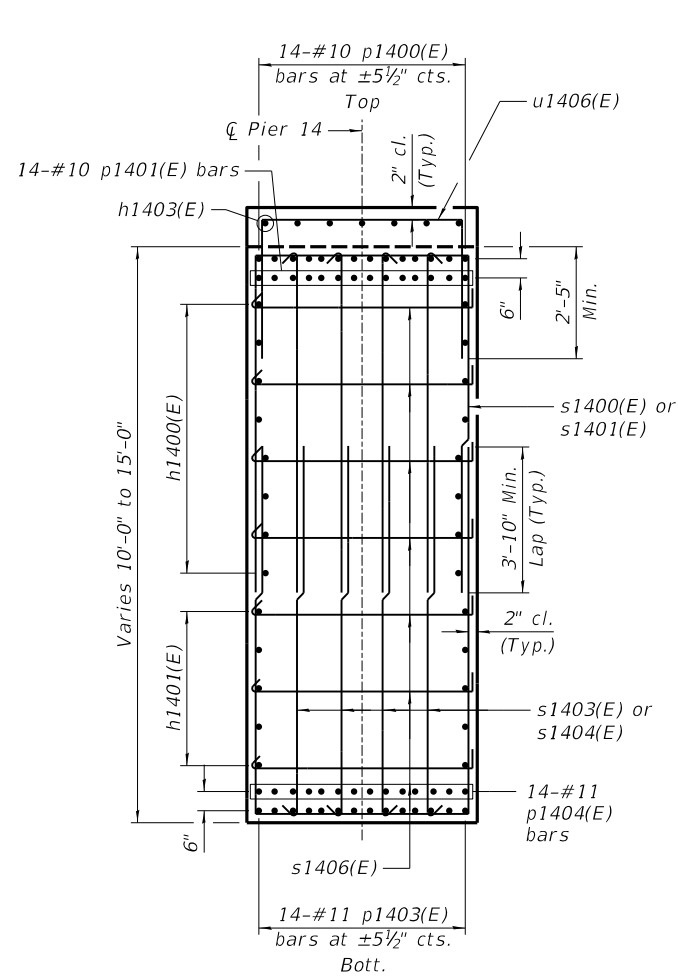
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317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1281
			CONTRACT NO. 68B46	
		ILLINOIS	FED. AID PROJECT	NHPP-YRP3(905)



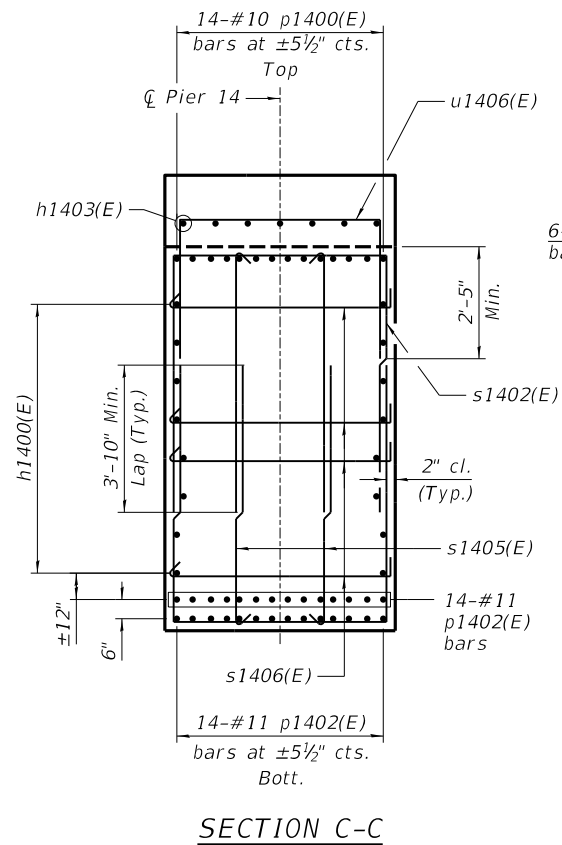
TOP PLAN

- Notes:
1. Bars indicated thus 7x2-#5 etc. indicates 7 lines of bars with 2 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-375 of 445.
 3. For anchor bolts and bearing details, see Sheet S-283 of 445.
 4. Adjust bar spacing in pier cap to miss anchor bolts.

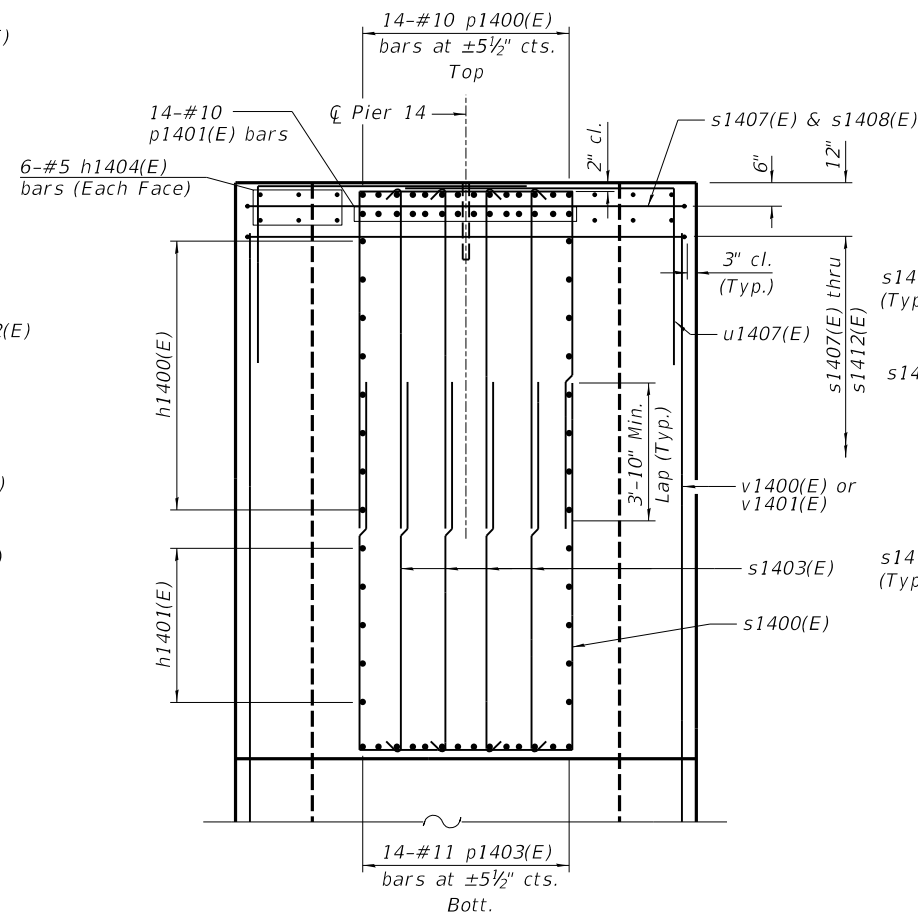


SECTION B-B

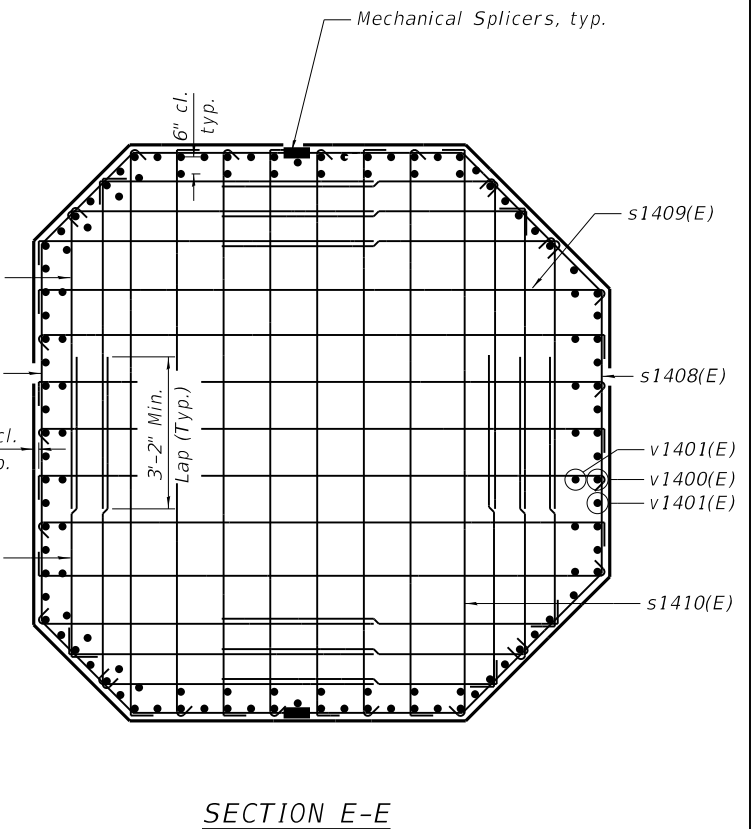
(Mark A shown, Mark B similar)



SECTION C-C



SECTION D-D



SECTION E-E

MINIMUM BAR LAP

- #5 bar = 3'-2"
- #6 bar = 3'-10"

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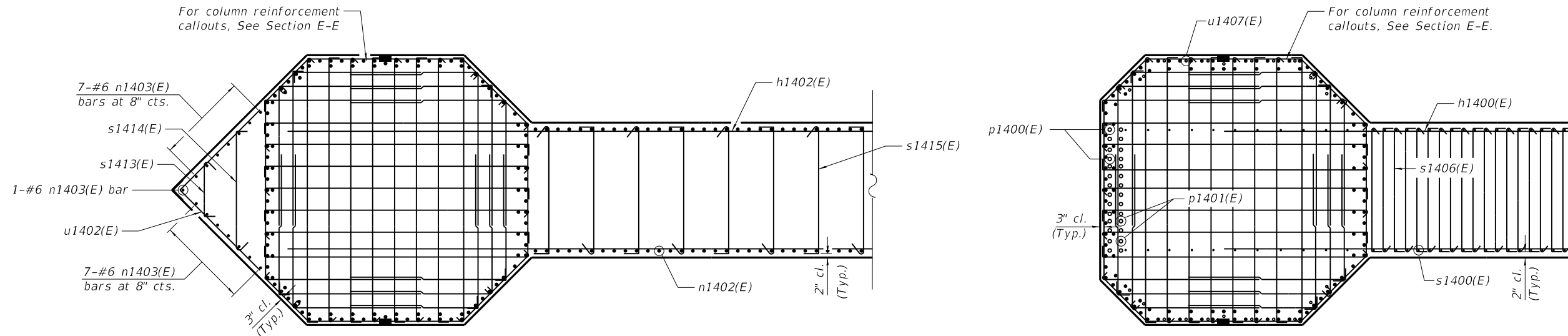
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 14 REINFORCEMENT, 3 OF 4
STRUCTURE NO. 090-0180**

SHEET S-373 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

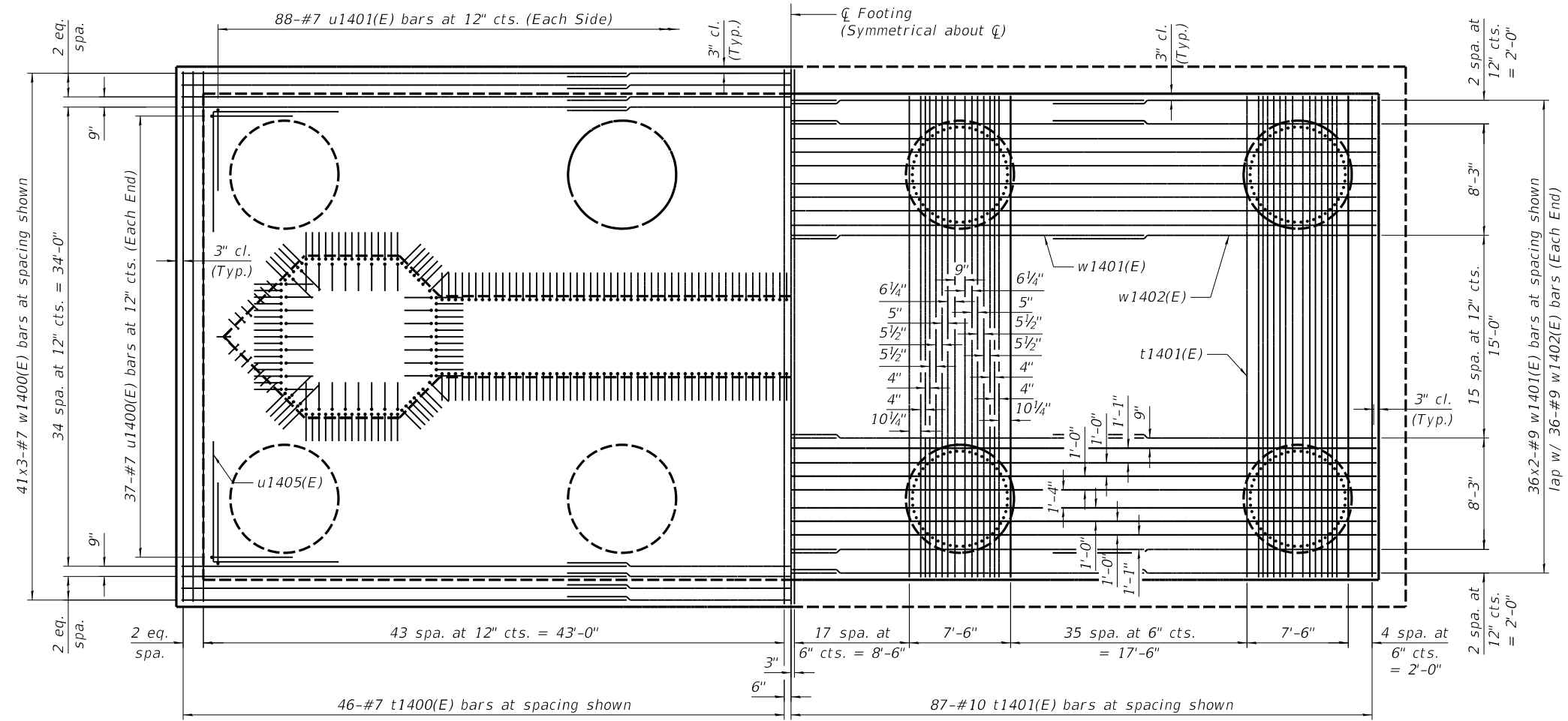
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SECTION F-F

SECTION H-H

Notes:
 1. Bars indicated thus 36x2-#9 etc. indicates 36 lines of bars with 2 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-375 of 445.



SHOWING TOP REINFORCEMENT

SHOWING BOTTOM REINFORCEMENT

FOOTING PLAN

MINIMUM BAR LAP
 #7 bar = 5'-0"
 #9 bar = 5'-8"



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 14 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-374 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68B46				

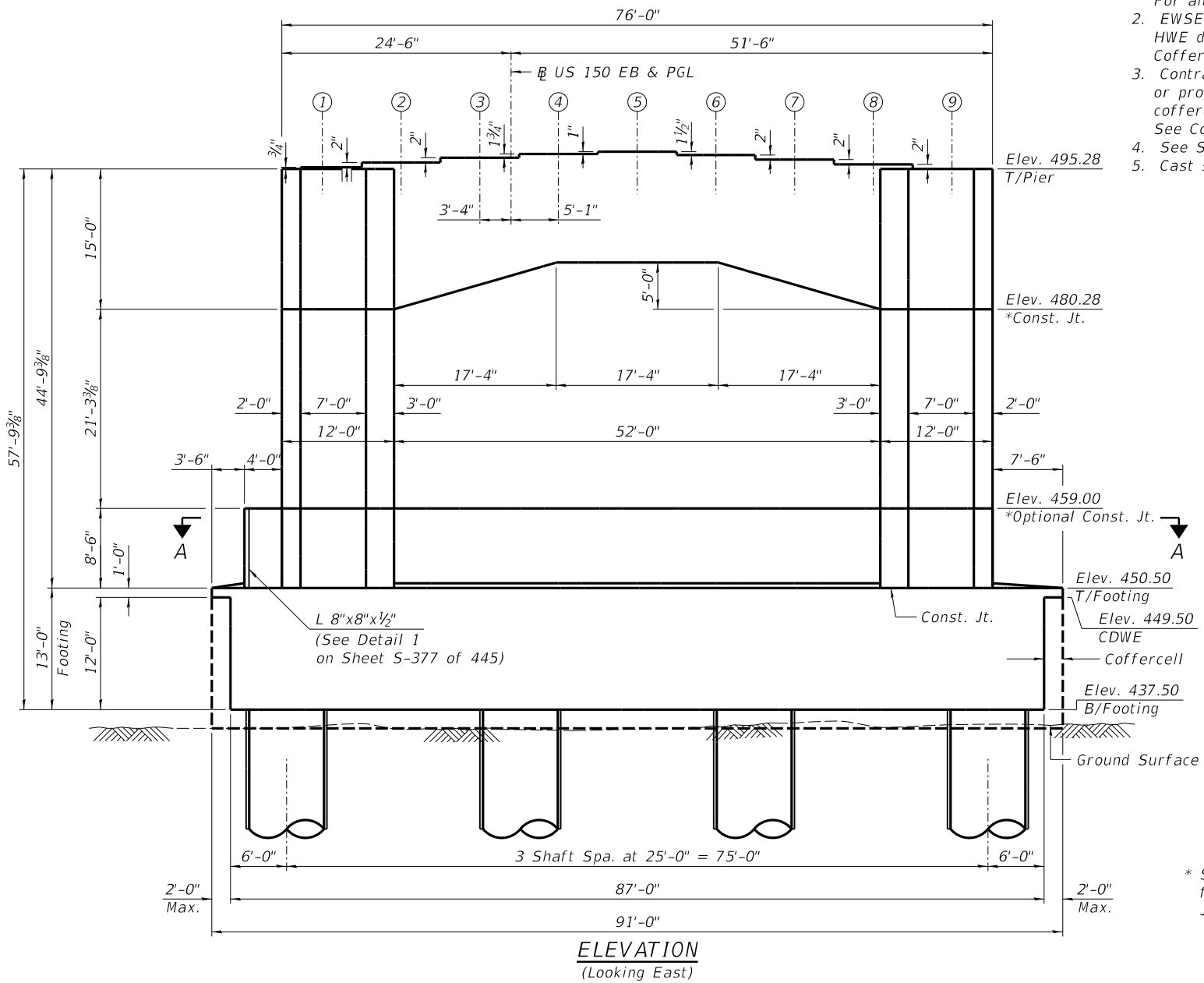
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

Notes:

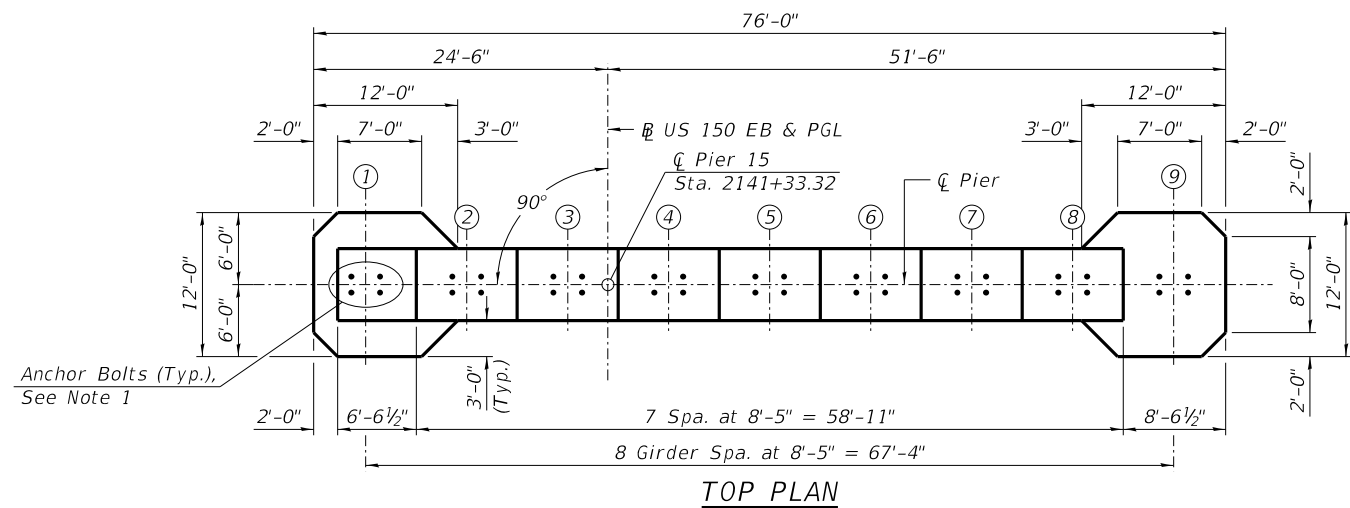
1. For anchor bolt details, see Bearing Details Drawing. For anchor bolt layout, see Sheet S-377 of 445.
2. EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Coffercell Design Water Elevation.
3. Contractor shall seal around the drilled shaft casings or provide seal coat between bottom of footing and coffercell to ensure a sealed, dry coffercell. See Coffercell Special Provision.
4. See Sheet S-377 of 445 for Section A-A.
5. Cast steps monolithic with cap.

BEARING SEAT ELEVATIONS

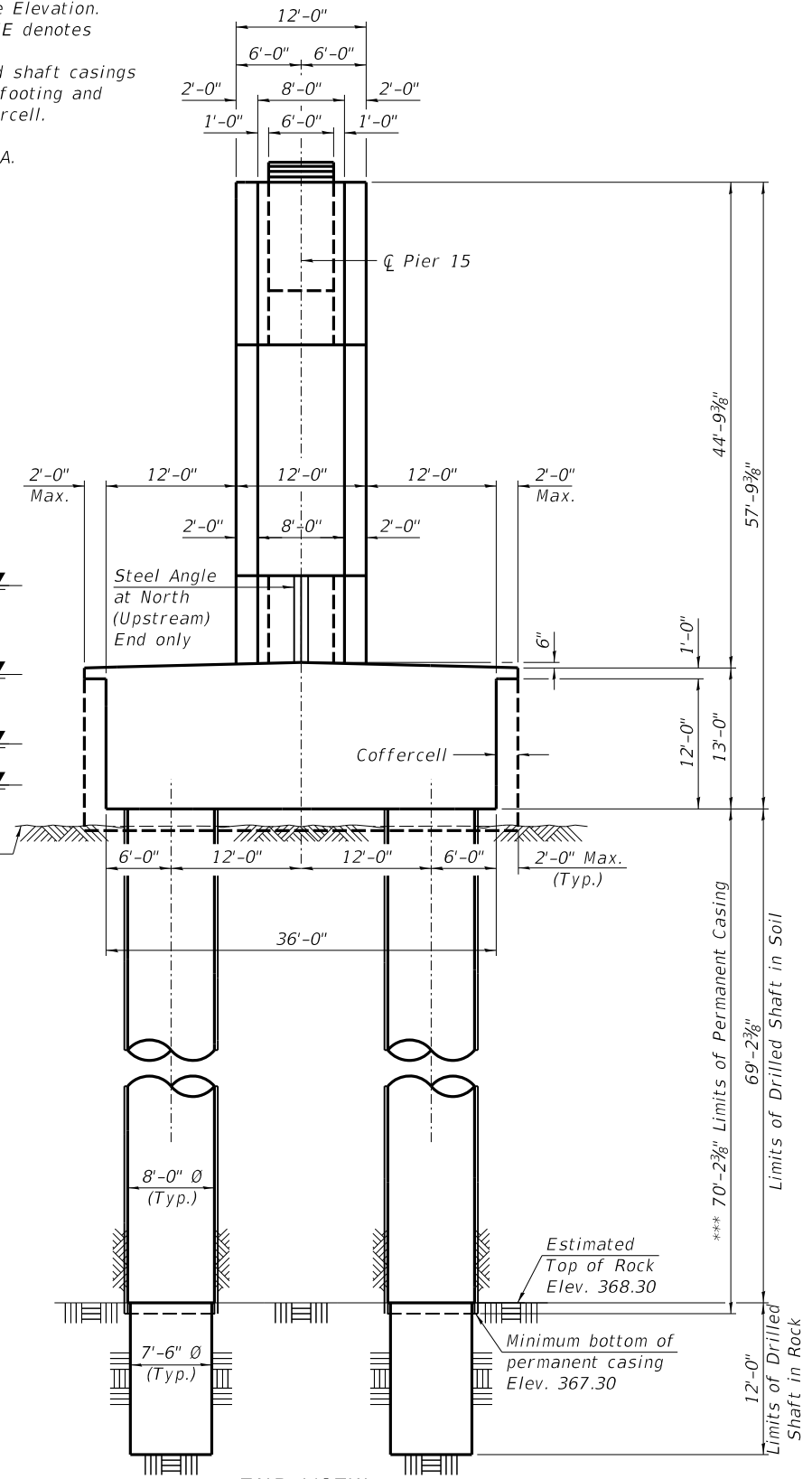
Girder	Elevation
1	495.34
2	495.51
3	495.68
4	495.82
5	495.91
6	495.78
7	495.62
8	495.45
9	495.28



ELEVATION
(Looking East)



TOP PLAN



END VIEW
(Looking South)

*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06 (d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.

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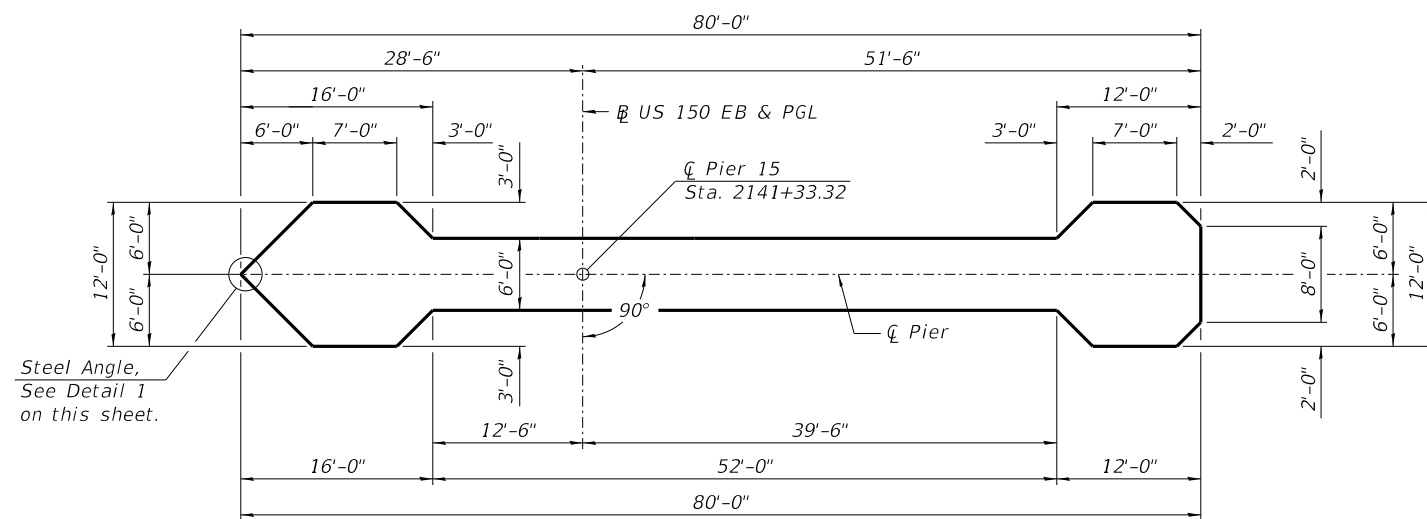
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

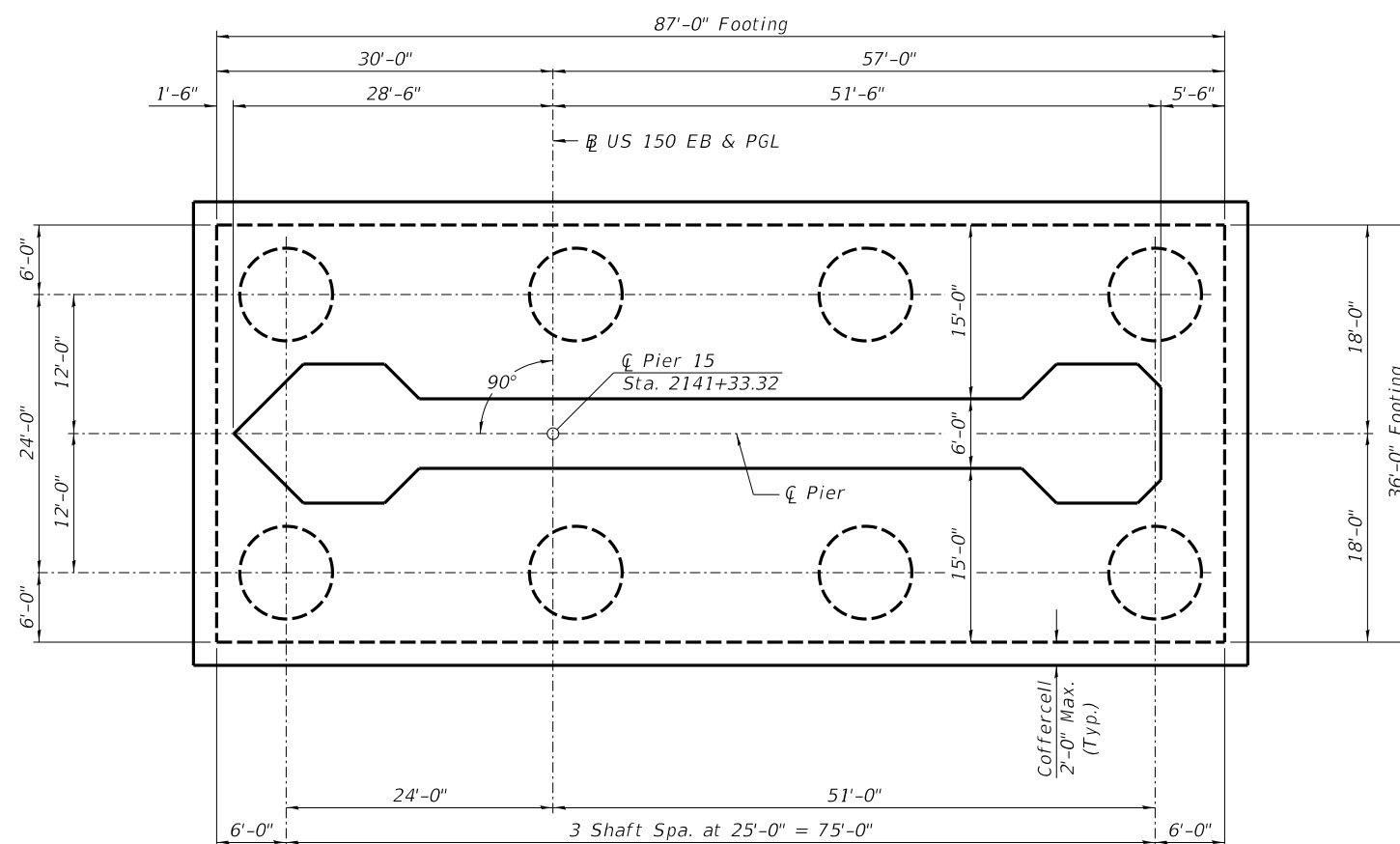
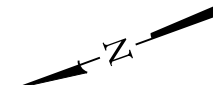
PIER 15 PLAN AND ELEVATION
STRUCTURE NO. 090-0180

SHEET 5-376 OF 445 SHEETS

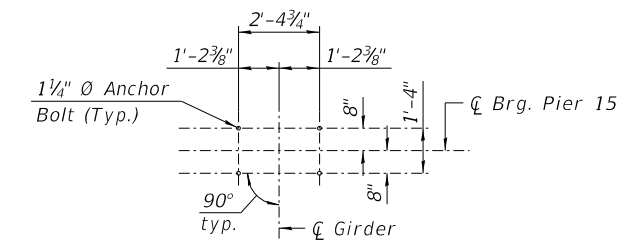
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CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



SECTION A-A



FOOTING PLAN

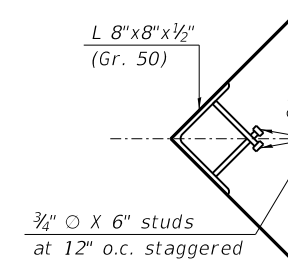


ANCHOR BOLT LAYOUT
(Layout at Girders 1 thru 9)

VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

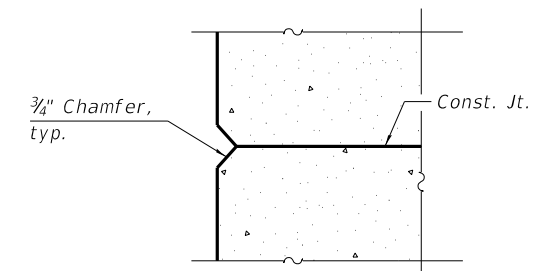
	10% Yearly Mean Water Level		100 Yr. Water Level	
	Case 1	Case 2	Case 1	Case 2
Static Load	2900 kips	1450 kips	620 kips	310 kips
Elevation	449.49	449.49	470.79	470.79
Direction	Parallel	Perpendicular	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



DETAIL 1

Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.



CONSTRUCTION JOINT

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DRAWN - DAP
CHECKED - JGT

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 15 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-377 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1286
			CONTRACT NO. 68B46	
			ILLINOIS FED. AID PROJECT NHPP-YRP3(905)	

TABLE OF REINFORCEMENT BARS

Mark	Reinforcement	Notes
A	21-sets of: 2-#6 s1500(E), 8-#6 s1503(E), 7-#5 s1506(E). All bars at 6" cts.	
B	9-sets of: 2-#6 s1501(E), 4-#6 s1504(E), 5-#5 s1506(E). All bars at 9" cts.	
C	24-sets of: 2-#6 s1502(E), 4-#6 s1505(E), 4-#5 s1506(E). All bars at 9" cts.	
D	8x2-#9 h1500(E) bars at 12" cts., Each Face	
E	5-#9 h1501(E) bars at 12" cts., Each Face (See Field Cutting Diagram)	2
F	11-sets of: 2-#6 s1500(E), 8-#6 s1503(E) bars. All at ±12" cts.	
G	12-#6 u1507(E) bars at ±12" cts., Each Face	

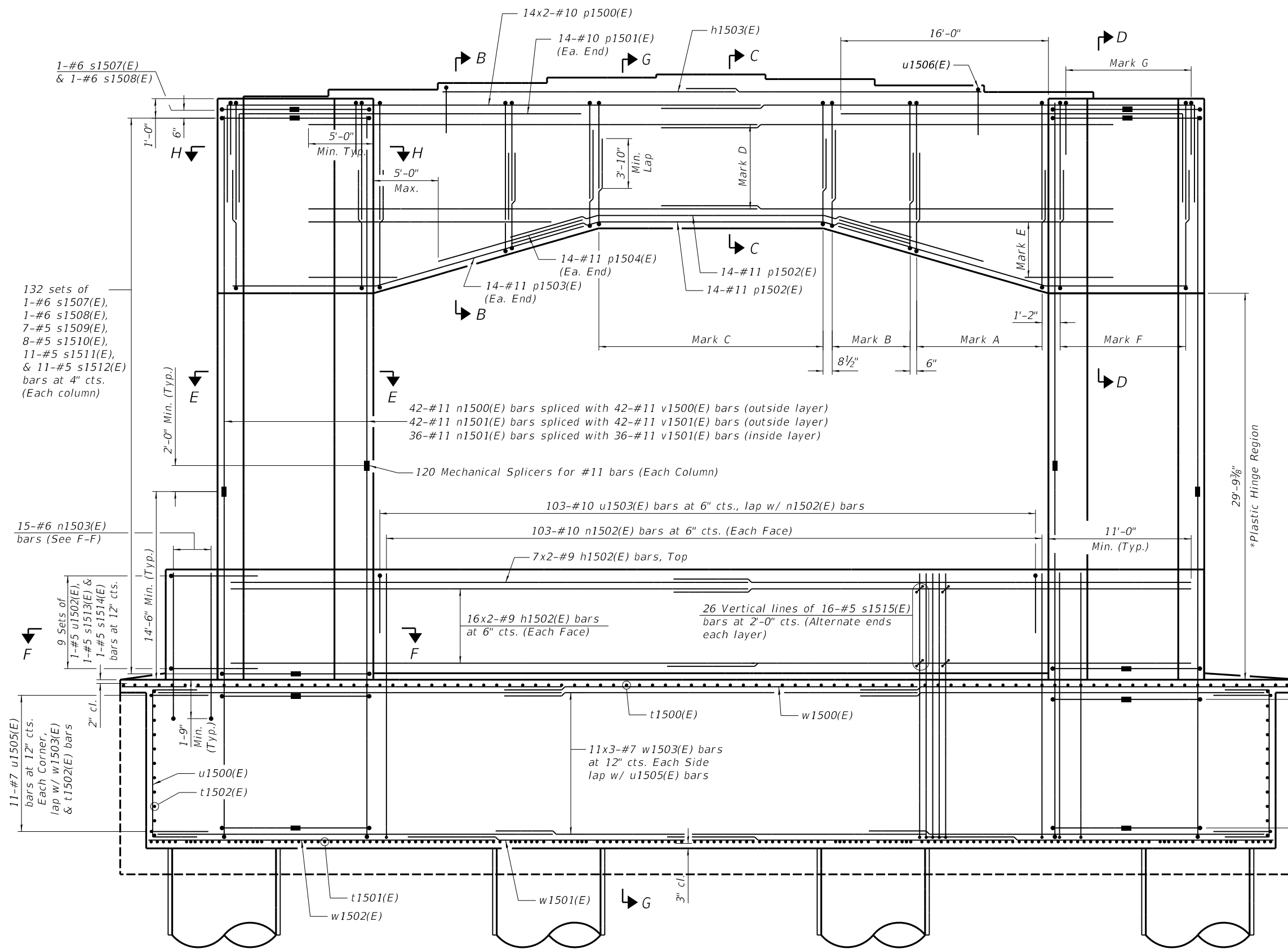
- Notes:
1. Adjust bar spacing to miss anchor bolts.
 2. Cut bars according to cutting diagram on Sheet S-382 of 445 and use remainder of bars in opposite face.
 3. Bars indicated thus 8x2-#9 etc. indicates 8 lines of bars with 2 lengths per line.
 4. For bar list and Bill of Material, see Sheet S-382 of 445.
 5. Alternate ends of s1509(E) thru s1512(E) bars each layer.

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

35 sets of
 1-#6 s1507(E),
 1-#6 s1508(E),
 7-#5 s1509(E),
 8-#5 s1510(E),
 11-#5 s1511(E),
 & 11-#5 s1512(E)
 bars at 4" cts.
 (Each column)

MINIMUM BAR LAP

- #6 bar = 3'-10"
- #7 bar = 5'-0"
- #9 bar = 6'-5"
- #10 bar = 7'-8"
- #11 bar = 8'-4"



ELEVATION
(Looking East)

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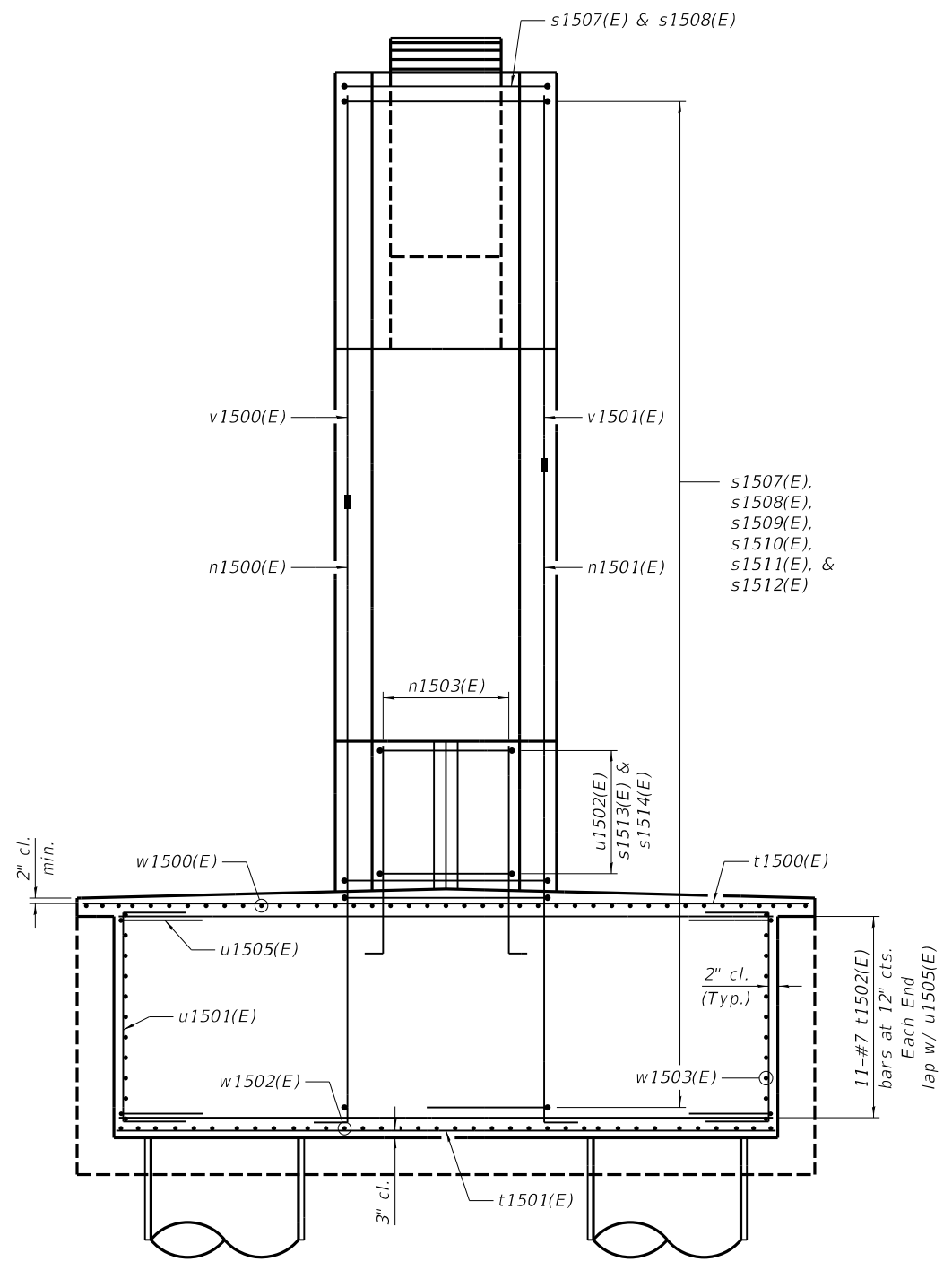
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 15 REINFORCEMENT, 1 OF 4
 STRUCTURE NO. 090-0180

SHEET S-378 OF 445 SHEETS

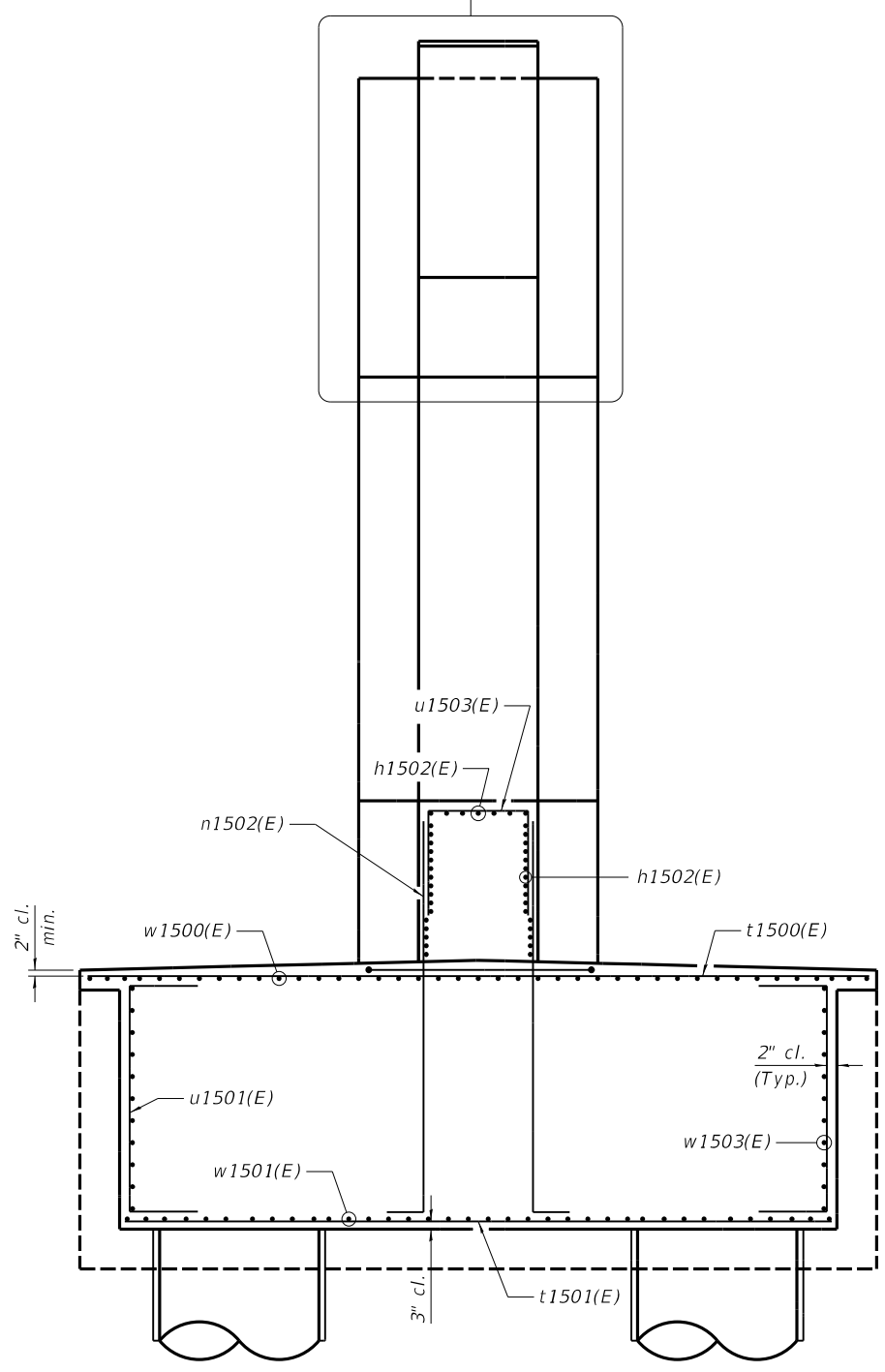
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END VIEW
 (Looking South)

For reinforcement See Sections B-B & C-C on Sheet S-380 of 445.



SECTION G-G



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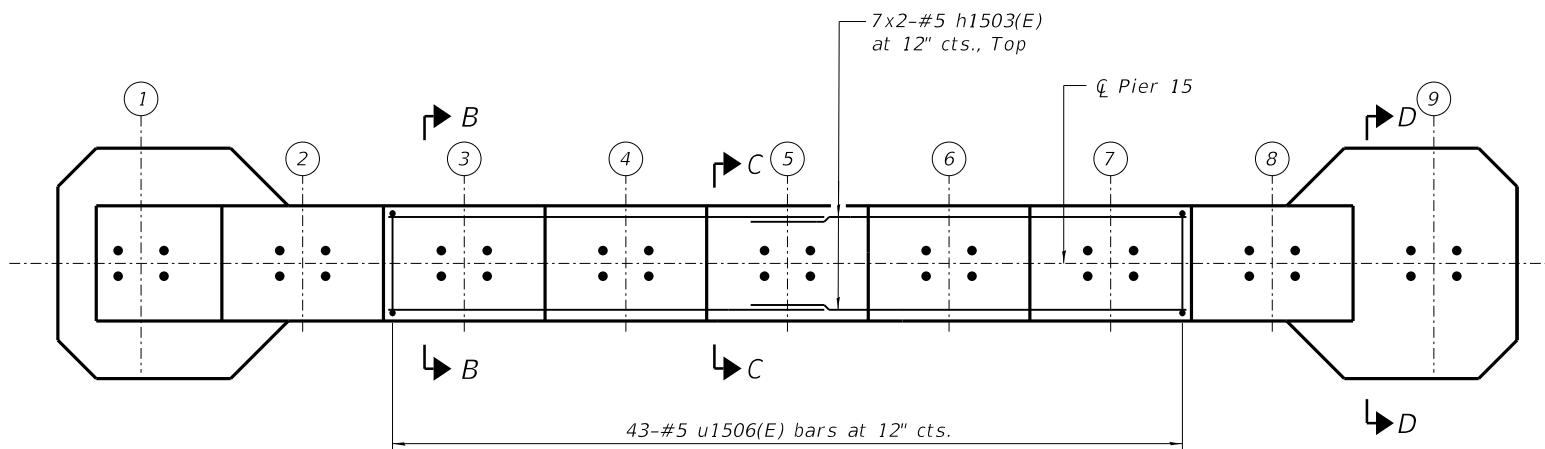
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 15 REINFORCEMENT, 2 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-379 OF 445 SHEETS

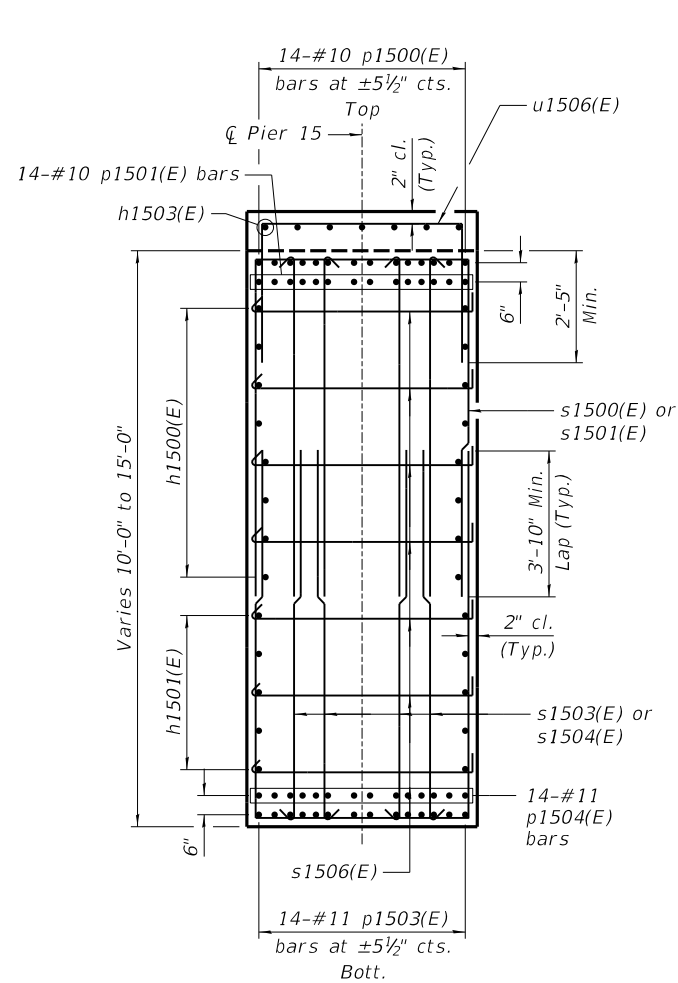
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CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)



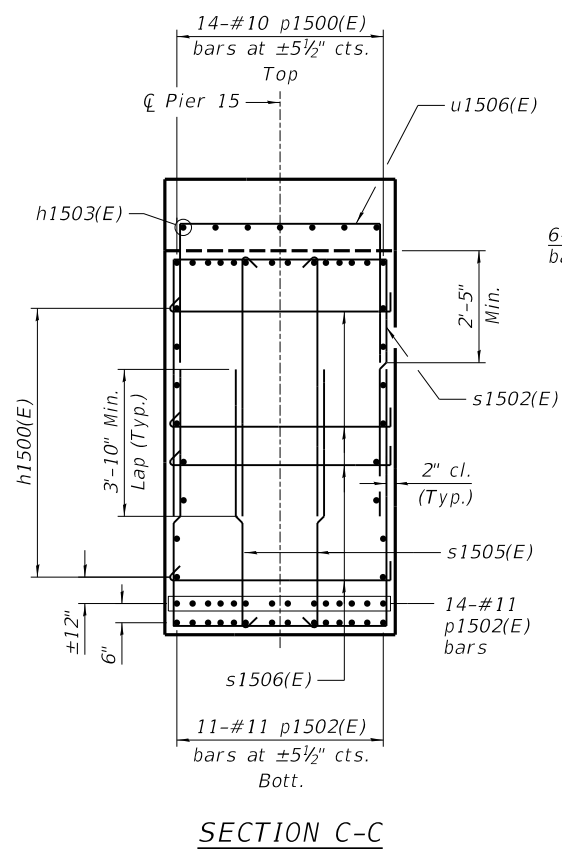
TOP PLAN

- Notes:
1. Bars indicated thus 7x2-#5 etc. indicates 7 lines of bars with 2 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-382 of 445.
 3. For anchor bolts and bearing details, see Sheets S-281 & S-282 of 445.
 4. Adjust bar spacing in pier cap to miss anchor bolts.

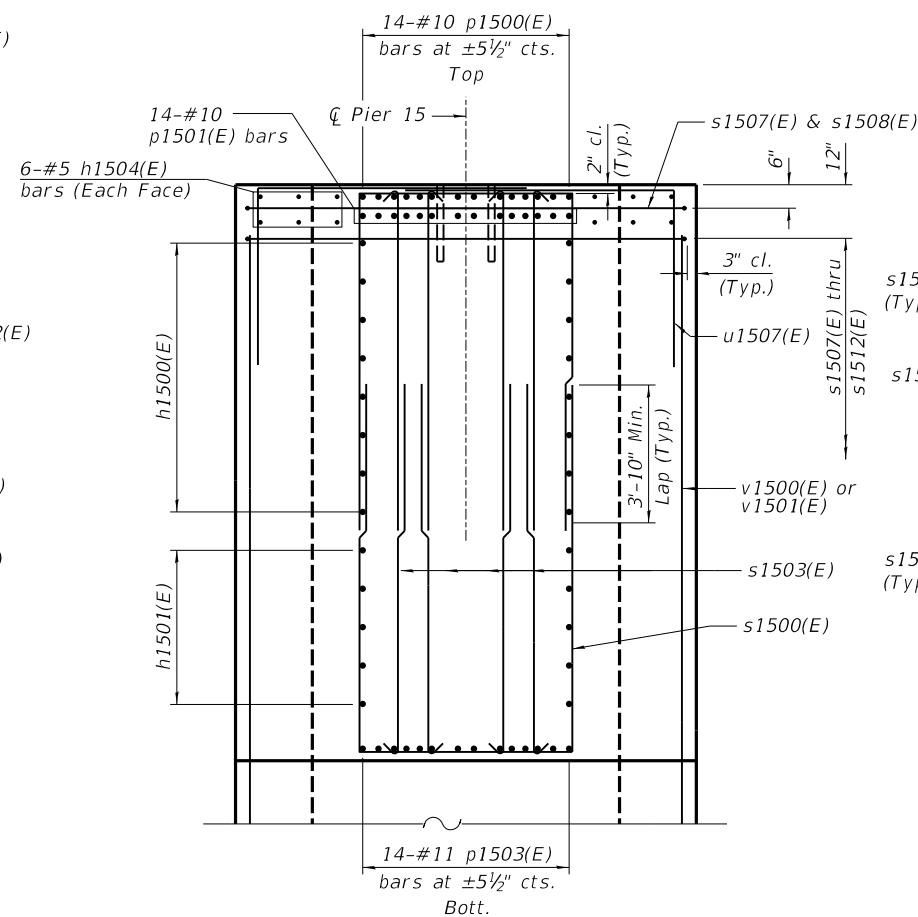


SECTION B-B

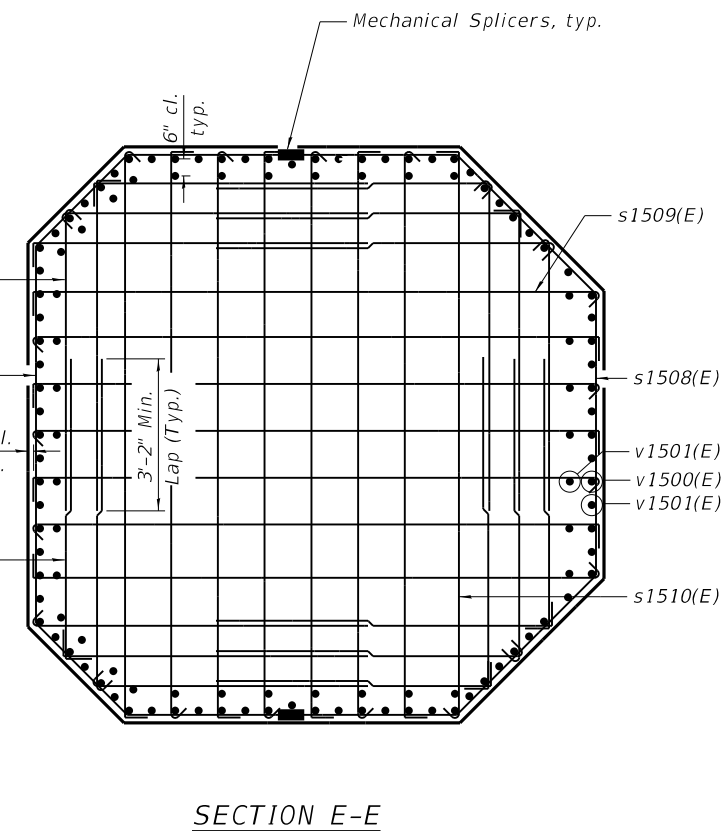
(Mark A shown, Mark B similar)



SECTION C-C



SECTION D-D



SECTION E-E

MINIMUM BAR LAP

- #5 bar = 3'-2"
- #6 bar = 3'-10"

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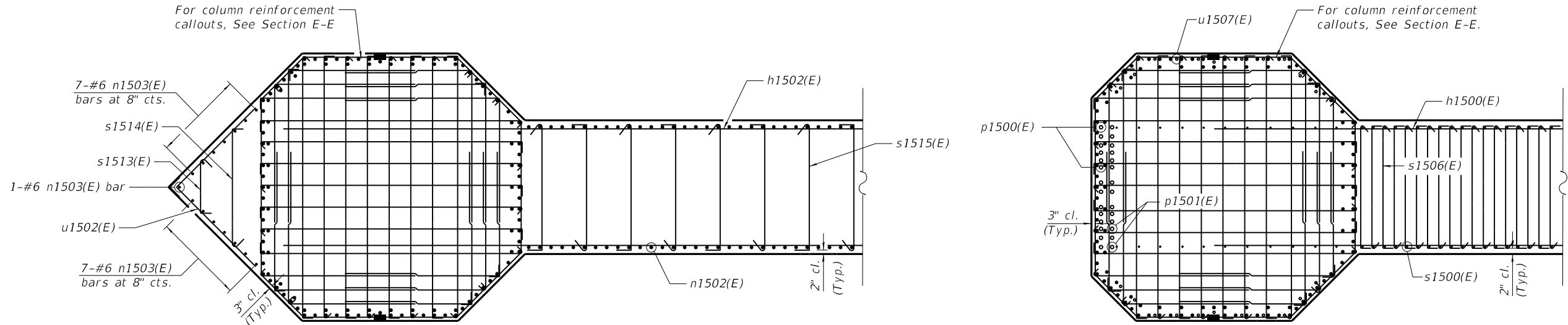
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PIER 15 REINFORCEMENT, 3 OF 4
STRUCTURE NO. 090-0180

SHEET 5-380 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68B46				
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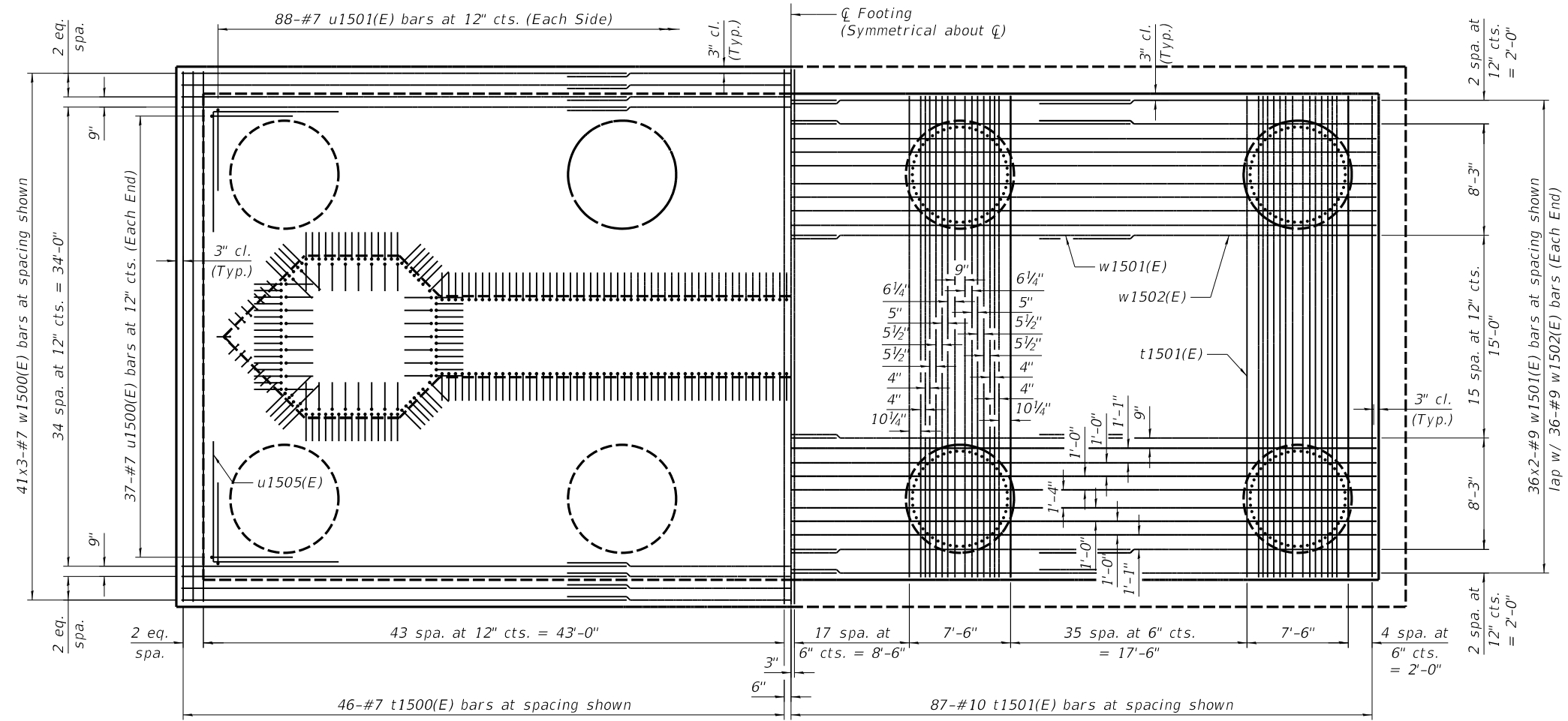
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SECTION F-F

SECTION H-H

Notes:
 1. Bars indicated thus 36x2-#9 etc. indicates 36 lines of bars with 2 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-382 of 445.



SHOWING TOP REINFORCEMENT

SHOWING BOTTOM REINFORCEMENT

FOOTING PLAN

MINIMUM BAR LAP

#7 bar = 5'-0"
 #9 bar = 5'-8"



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STATE OF ILLINOIS
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PIER 15 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-381 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

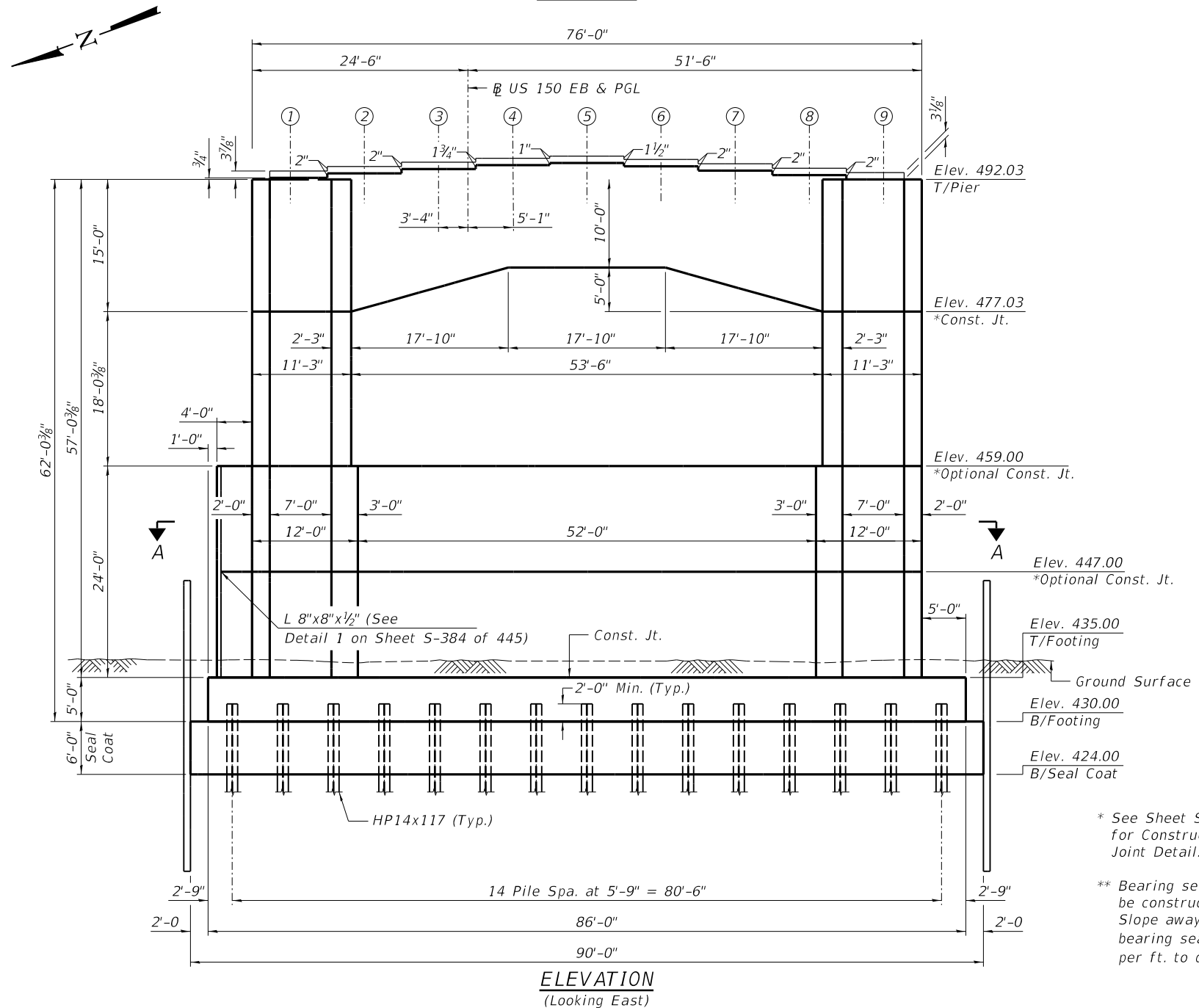
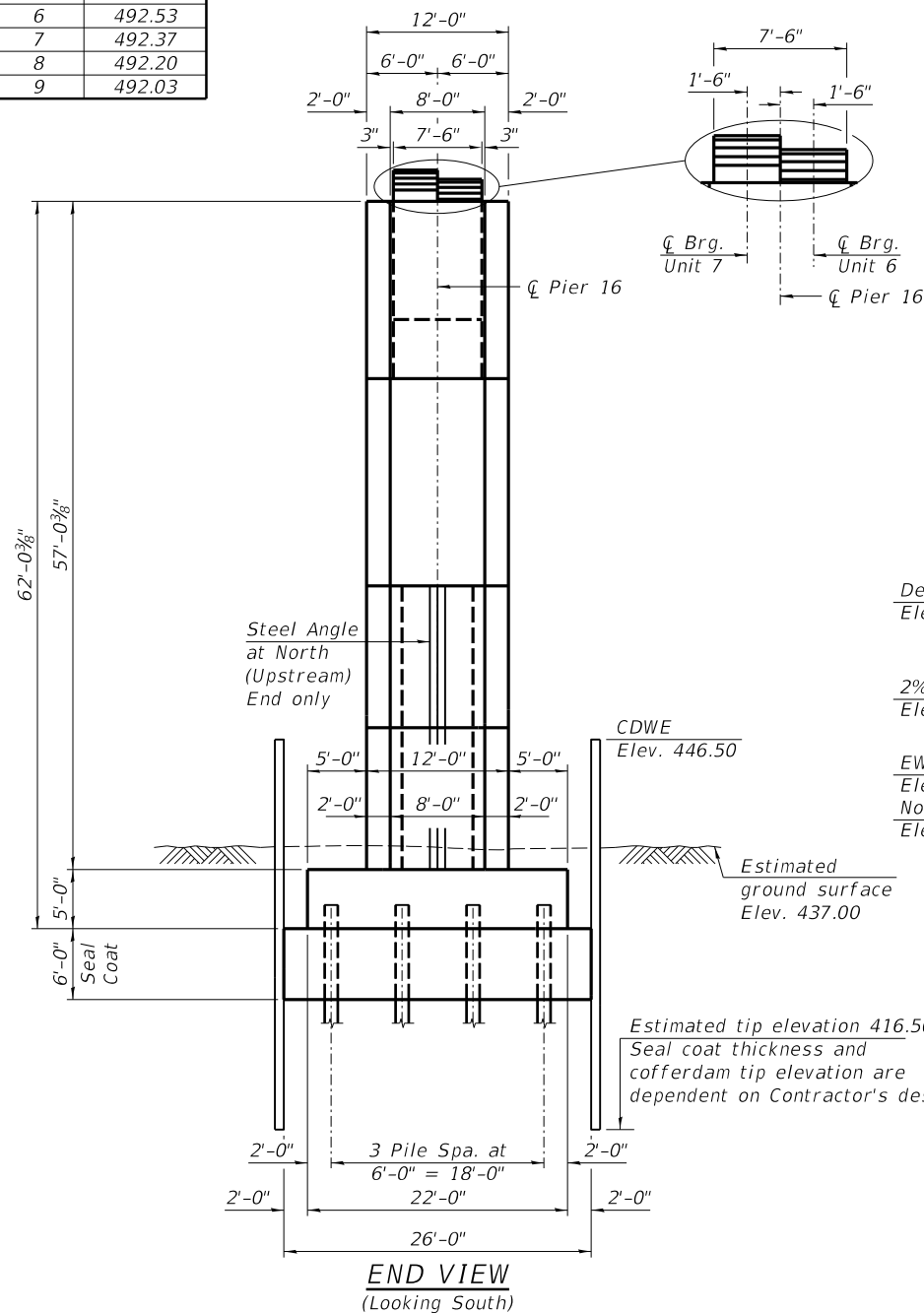
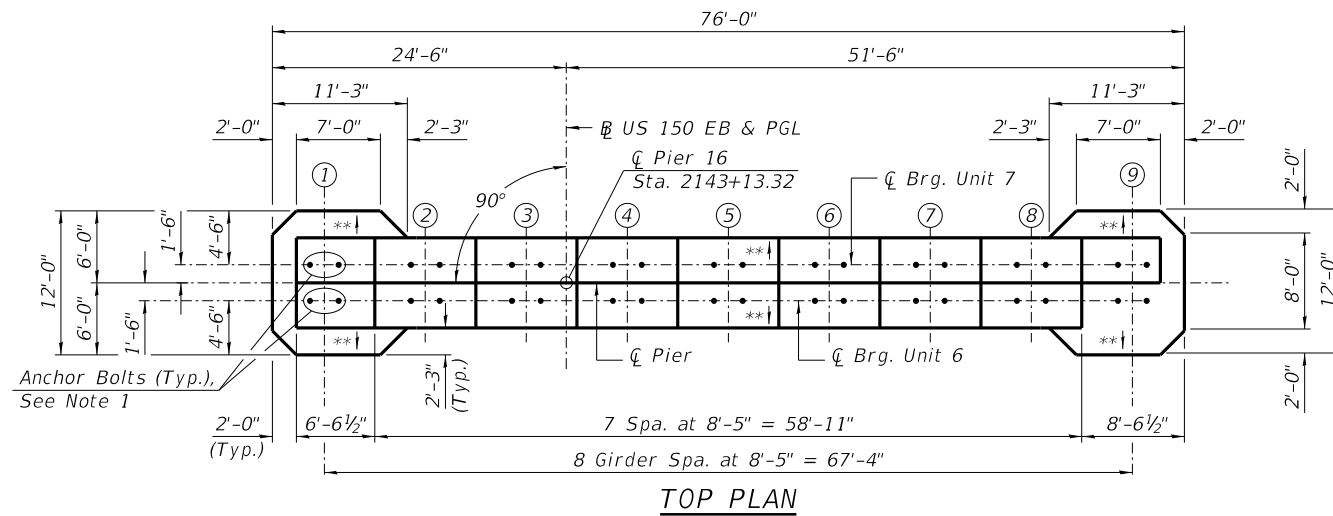
- Notes:
- For anchor bolt details, see Bearing Details Drawing.
For anchor bolt layout, see Sheet S-384 of 445.
 - EWSE denotes Estimated Water Surface Elevation.
HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.
 - See Sheet S-384 of 445 for Section A-A.
 - Cast steps monolithic with cap.
 - Pier shall have exposed surfaces of cap, seats, columns, and wall treated with Concrete Sealer.

**UNIT 6
BEARING SEAT
ELEVATIONS**

Girder	Elevation
1	492.09
2	492.26
3	492.43
4	492.58
5	492.66
6	492.53
7	492.37
8	492.20
9	492.03

**UNIT 7
BEARING SEAT
ELEVATIONS**

Girder	Elevation
1	492.35
2	492.52
3	492.69
4	492.84
5	492.92
6	492.79
7	492.63
8	492.46
9	492.29



* See Sheet S-384 of 445 for Construction Joint Detail.

** Bearing seats are to be constructed level. Slope away from bearing seats at 1/8" per ft. to drain, Typ.

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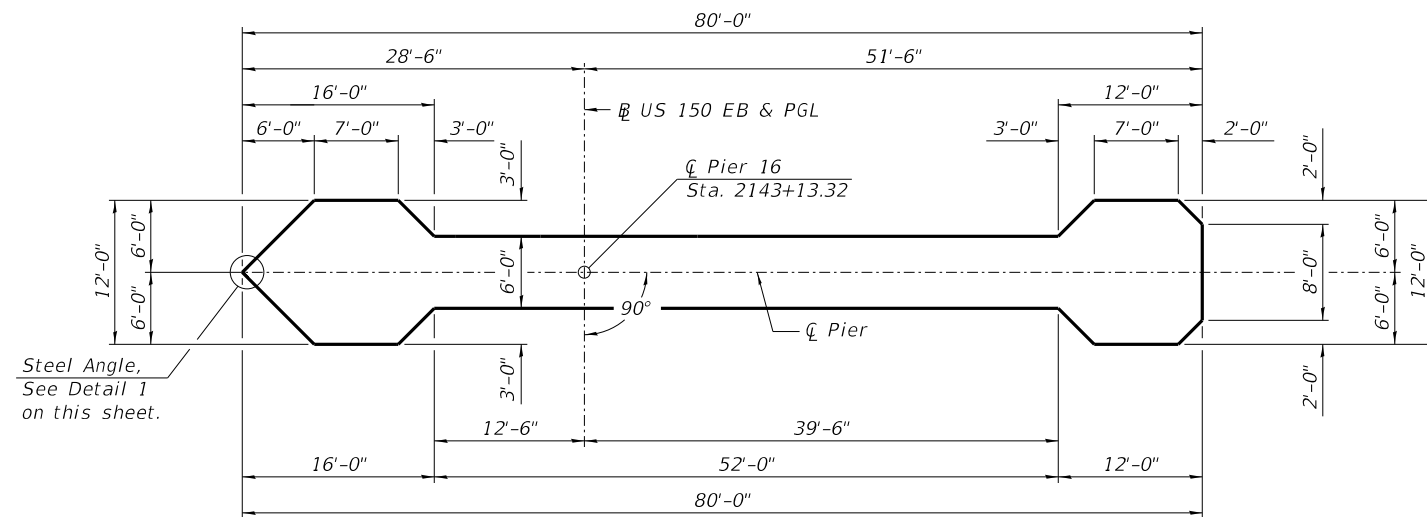
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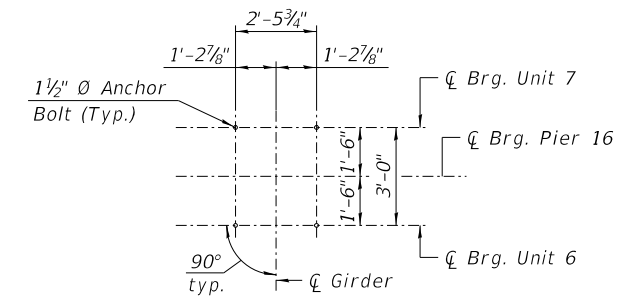
PIER 16 PLAN & ELEVATION
STRUCTURE NO. 090-0180

SHEET S-383 OF 445 SHEETS

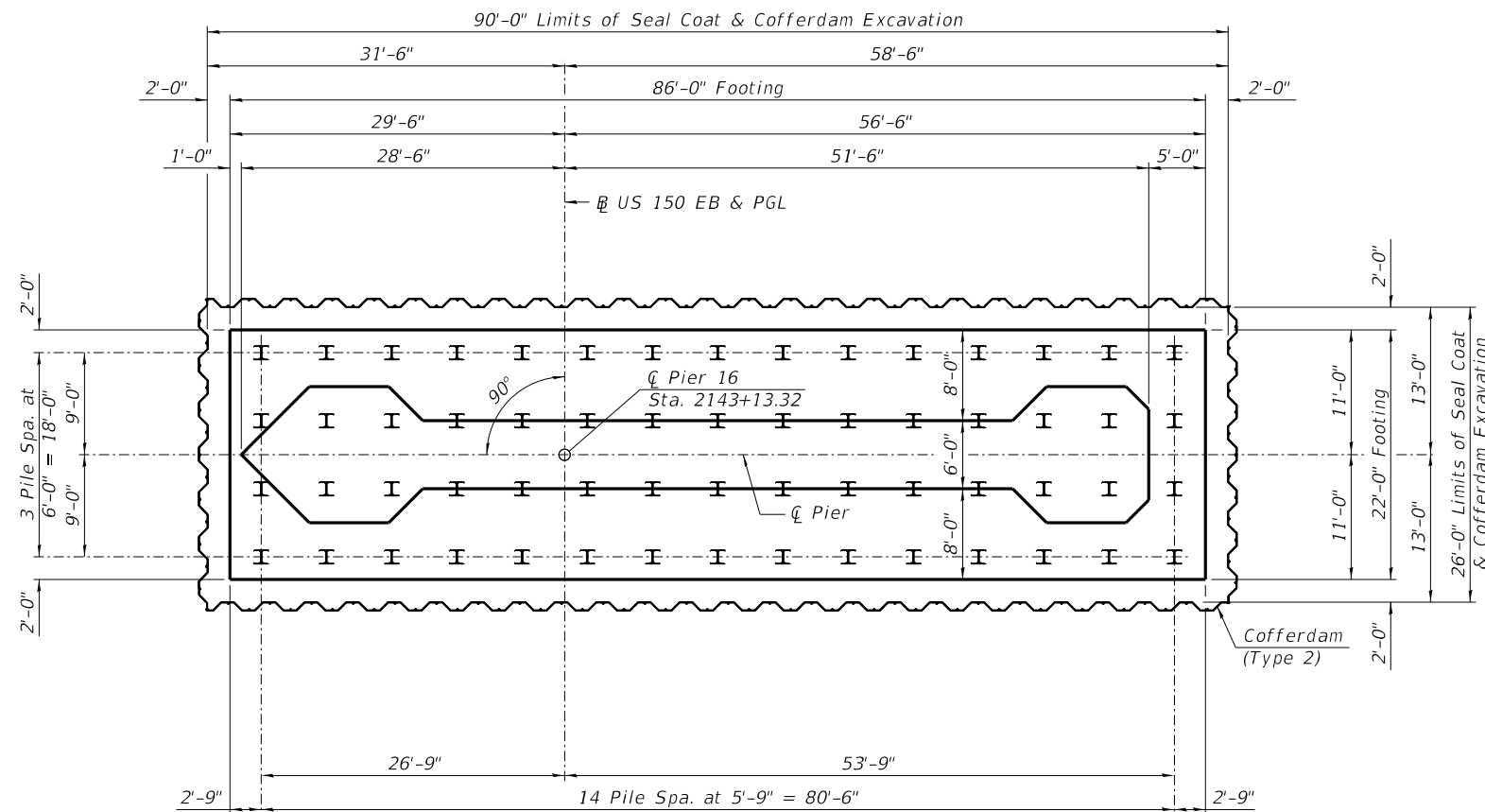
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1292
CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				



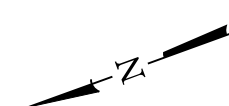
SECTION A-A



ANCHOR BOLT LAYOUT
(Layout at Girders 1 thru 9)



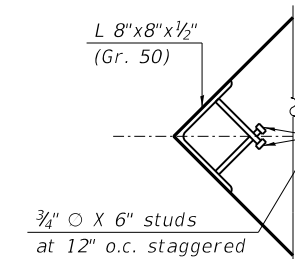
FOOTING PLAN



VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

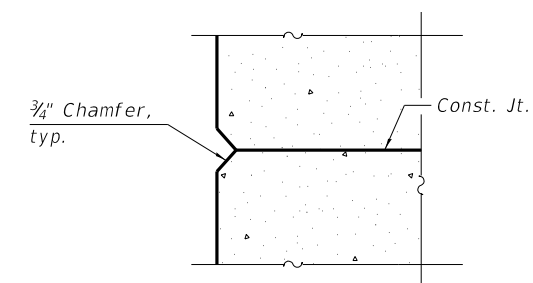
	100 Yr. Water Level	
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.



Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.

DETAIL 1



CONSTRUCTION JOINT

MODEL: Default
FILE NAME: p:\v\sp\sv\306\hanson\Projects\Documents\13\obs\13\H0106\Phase-III\CAD\Struct\Sheet\0900180-XXXXX-HAN-8541-Pier_16 Footing Plan.dgn
Copyright Hanson Professional Services Inc. 2018



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PLOT SCALE = 0:2.0000 " = 1" / in.
PLOT DATE = 12/11/2018

DESIGNED - JGT
CHECKED - MNM
DRAWN - DAP
CHECKED - JGT

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 16 FOOTING PLAN
STRUCTURE NO. 090-0180**

SHEET 5-384 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1).(14HB)]BR	PEO/TAZ	1361	1293
CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)

TABLE OF REINFORCEMENT BARS

Mark	Reinforcement	Notes
A	22-sets of: 2-#6 s1600(E), 8-#6 s1603(E), 7-#5 s1606(E). All bars at 6" cts.	
B	9-sets of: 2-#6 s1601(E), 4-#6 s1604(E), 5-#5 s1606(E). All bars at 9" cts.	
C	24-sets of: 2-#6 s1602(E), 4-#6 s1605(E), 4-#5 s1606(E). All bars at 9" cts.	
D	8x2-#9 h1600(E) bars at 12" cts., Each Face	
E	5-#9 h1601(E) bars at 12" cts., Each Face (See Field Cutting Diagram)	2
F	11-sets of: 2-#6 s1600(E), 8-#6 s1603(E) bars. All at ±12" cts.	
G	12-#6 u1605(E) bars at ±12" cts., Each Face	

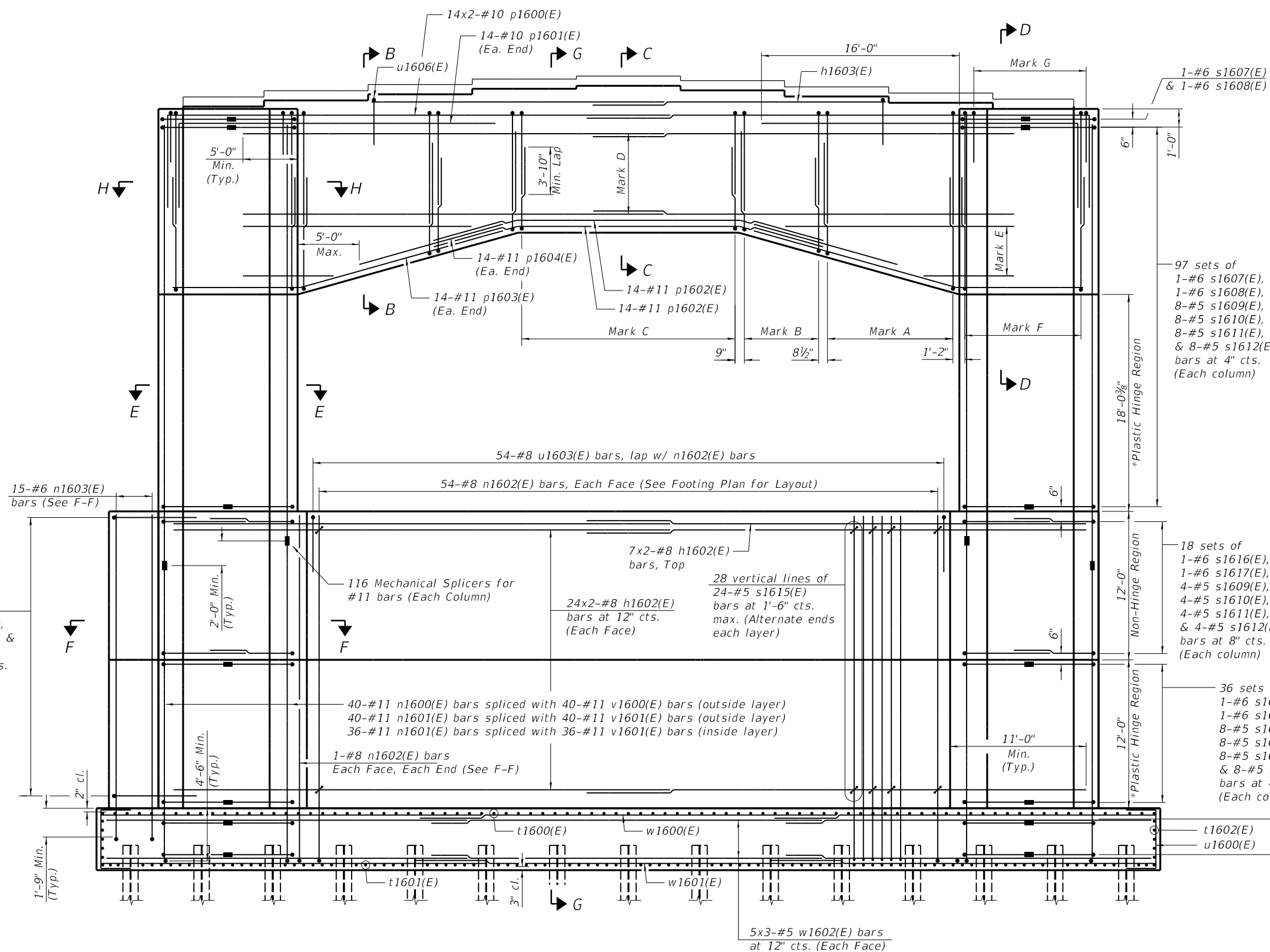
Notes:

1. Adjust bar spacing to miss anchor bolts.
2. Cut bars according to cutting diagram on Sheet S-389 of 445 and use remainder of bars in opposite face.
3. Bars indicated thus 7x3-#10 etc. indicates 7 lines of bars with 3 lengths per line.
4. For bar list and Bill of Material, see Sheet S-389 of 445.
5. Alternate ends of s1609(E) thru s1612(E) bars each layer.
6. Unit 7 bearing seat reinforcement not shown for clarity. See Pier Cap Plan View on Sheet S-387 of 445 for details.

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

MINIMUM BAR LAP

- #5 bar = 3'-2"
- #6 bar = 3'-10"
- #8 bar = 5'-9"
- #9 bar = 6'-5"
- #10 bar = 7'-8"
- #11 bar = 8'-4"



ELEVATION
(Looking East)

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PLOT DATE = 12/11/2018	DRAWN - DAP	REVISED -
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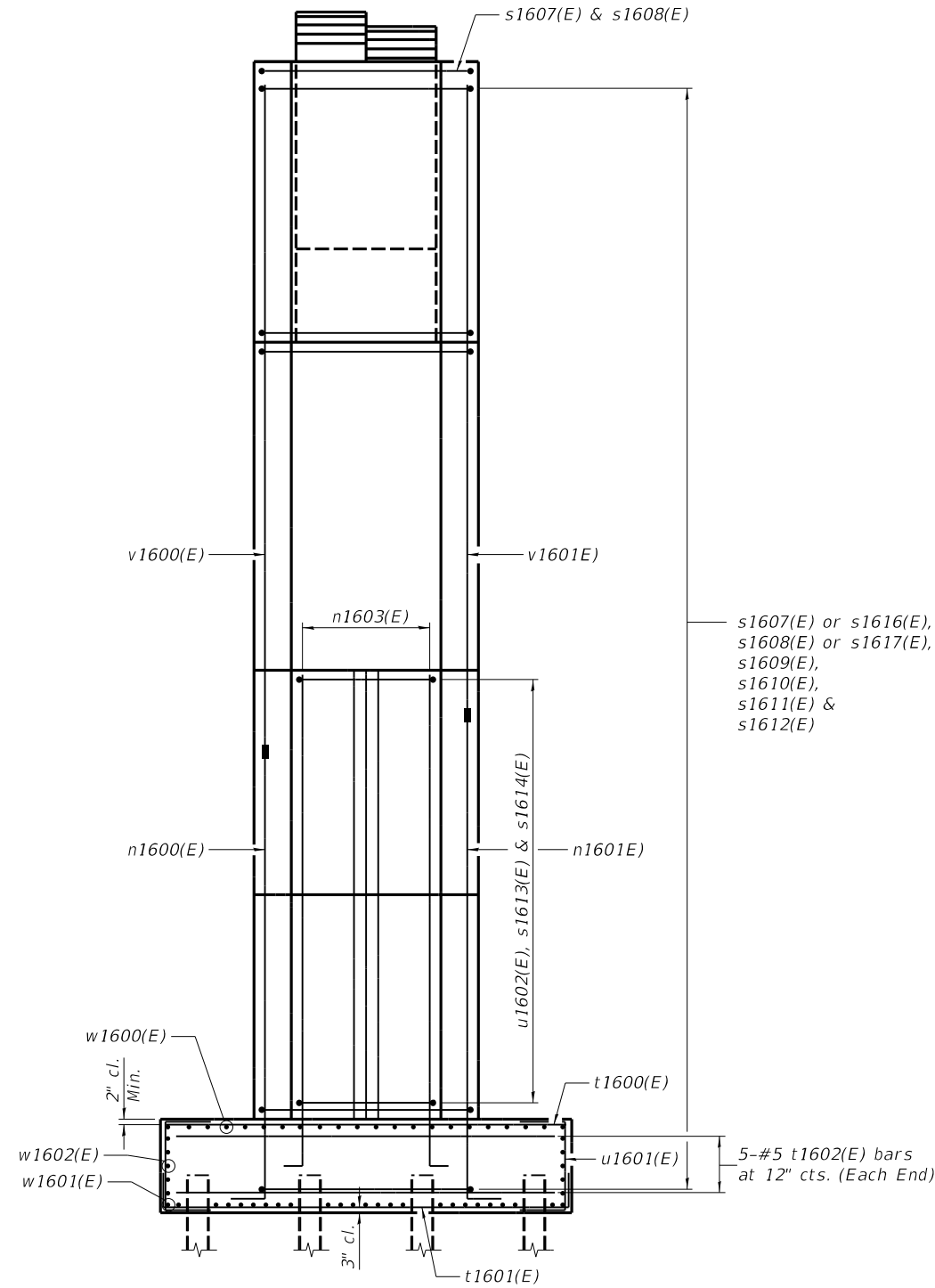
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 16 REINFORCEMENT, 1 OF 4
STRUCTURE NO. 090-0180

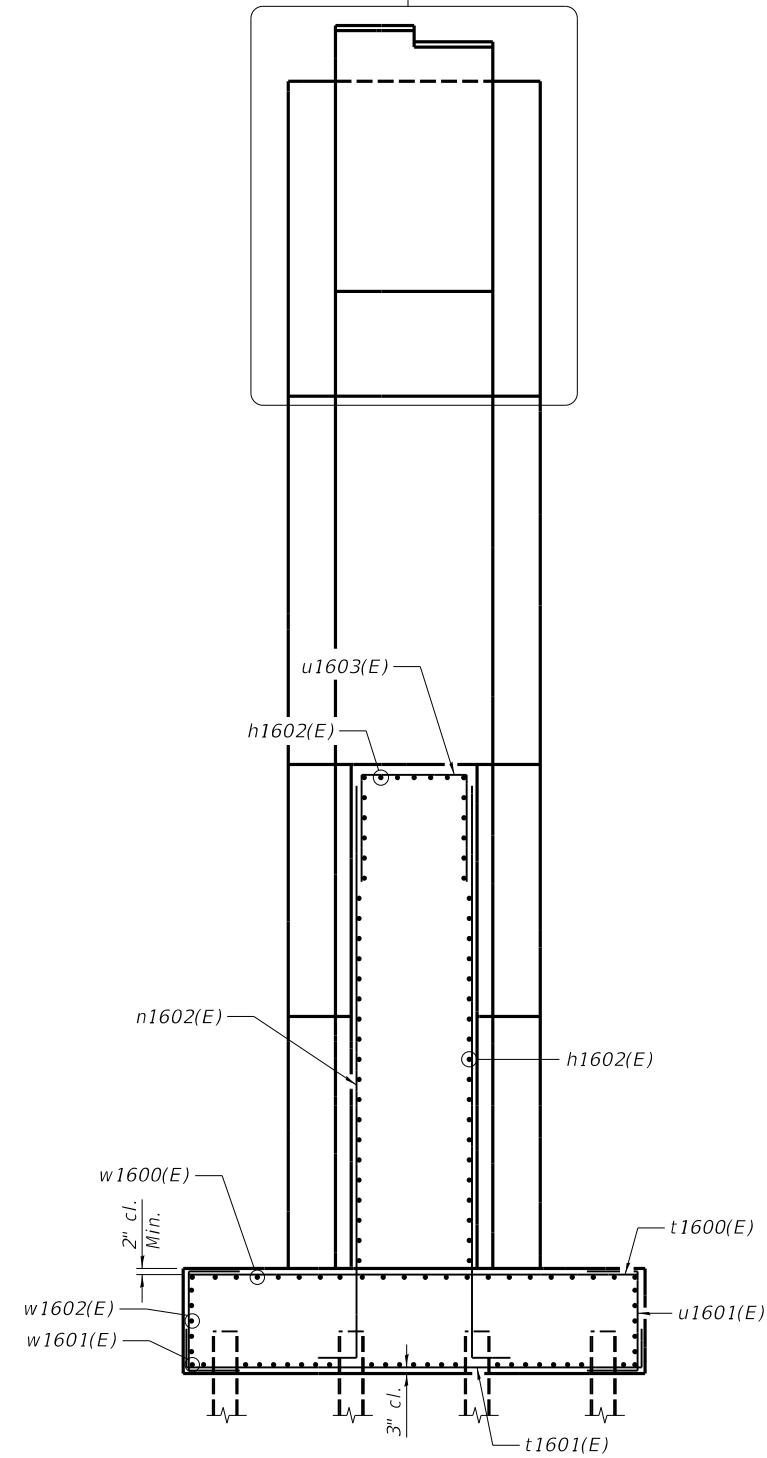
SHEET S-385 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1294
CONTRACT NO. 68B46			ILLINOIS FED. AID PROJECT NHPP-RP3(905)	

For reinforcement See Sections B-B
& C-C on Sheet S-387 of 445.



END VIEW
(Looking South)



SECTION G-G

MODEL: Default
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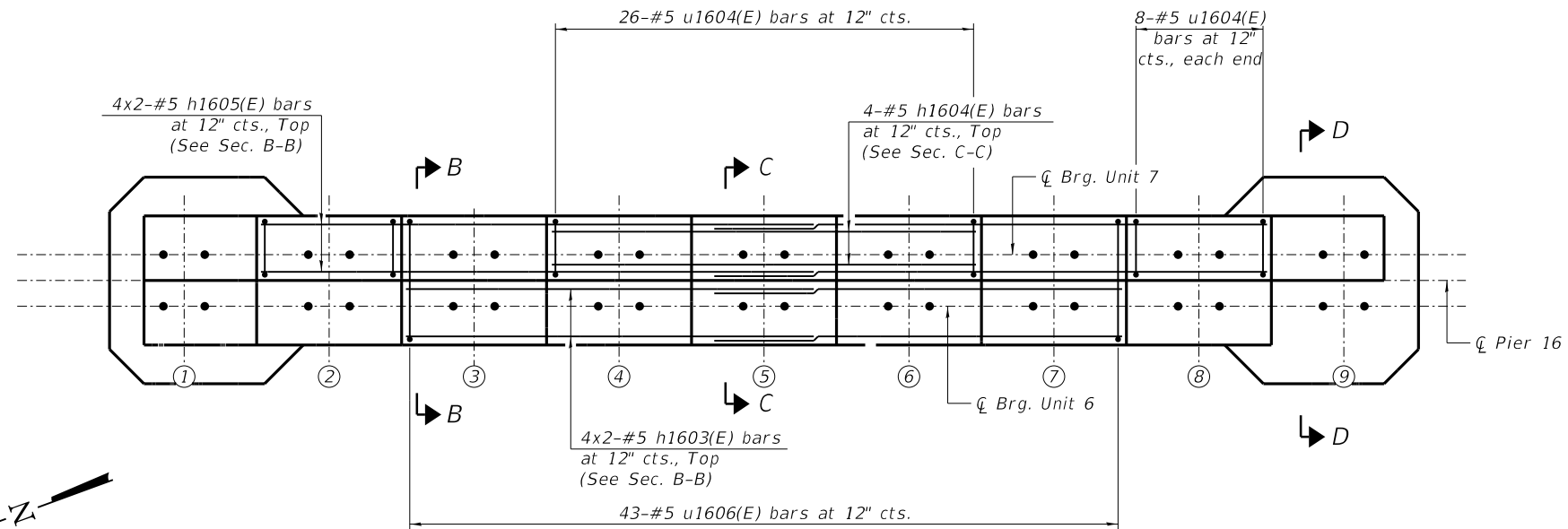
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DRAWN - DAP	REVISED -
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PIER 16 REINFORCEMENT, 2 OF 4
STRUCTURE NO. 090-0180

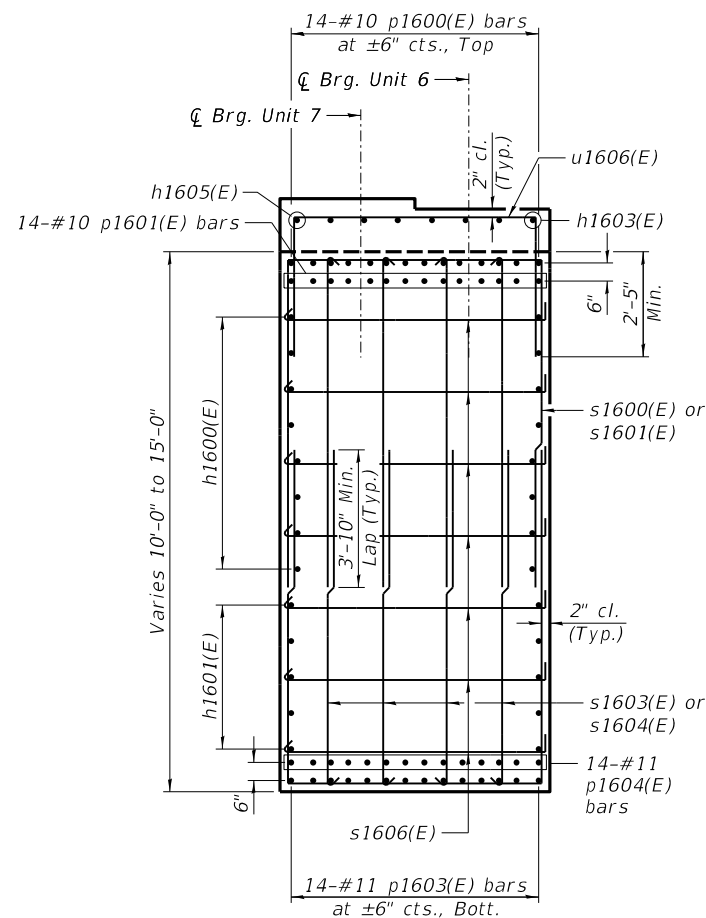
SHEET S-386 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR/BR	PEO/TAZ	1361	1295
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	



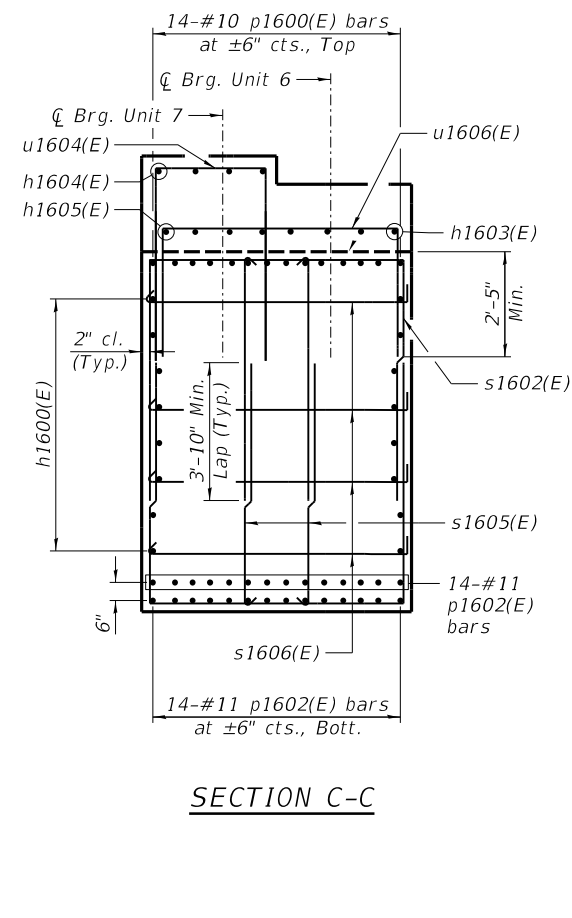
TOP PLAN

- Notes:
1. Bars indicated thus 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-389 of 445.
 3. For anchor bolts and bearing details, see Sheets S-283 & S-284 of 445.
 4. Adjust bar spacing in pier cap to miss anchor bolts.

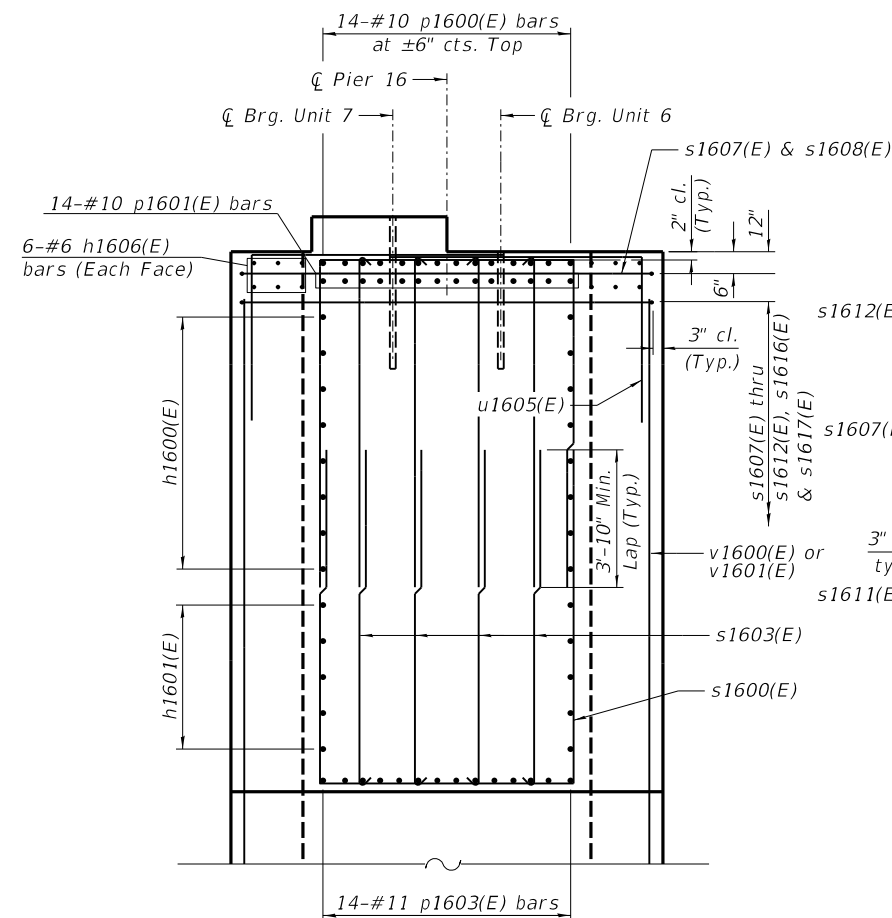


SECTION B-B

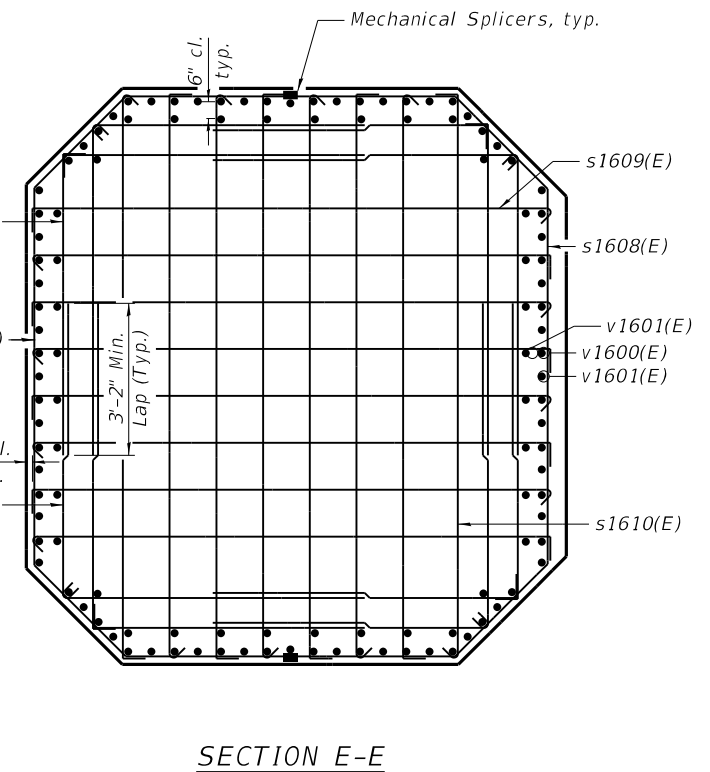
(Mark A shown, Mark B similar)



SECTION C-C



SECTION D-D



SECTION E-E

MINIMUM BAR LAP

- #5 bar = 3'-2"
- #6 bar = 3'-10"

MODEL: Default
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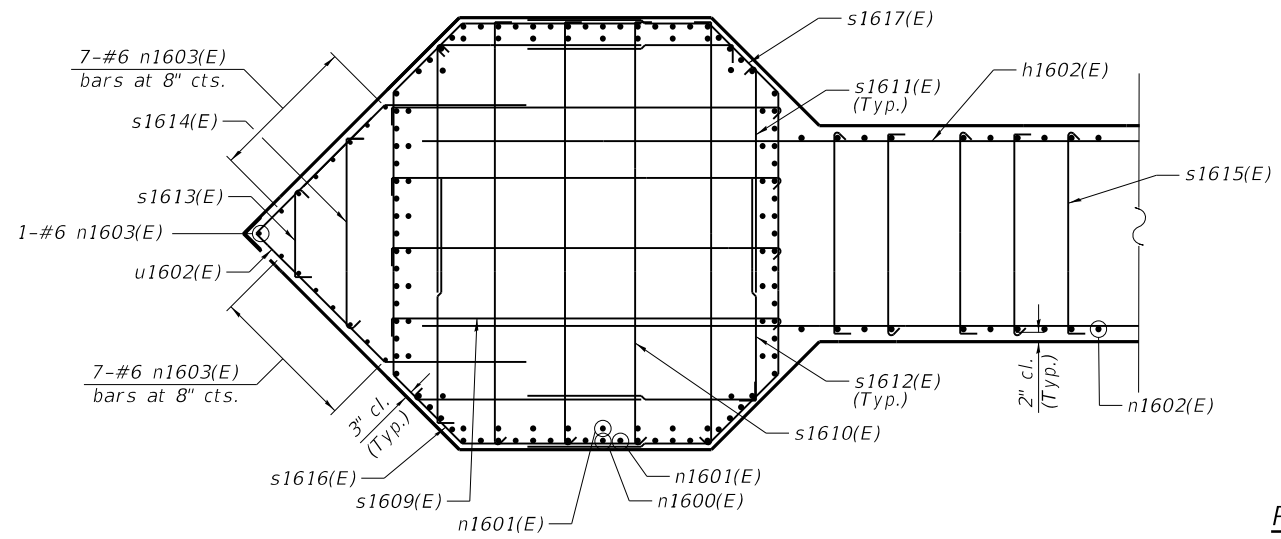
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

PIER 16 REINFORCEMENT, 3 OF 4
 STRUCTURE NO. 090-0180

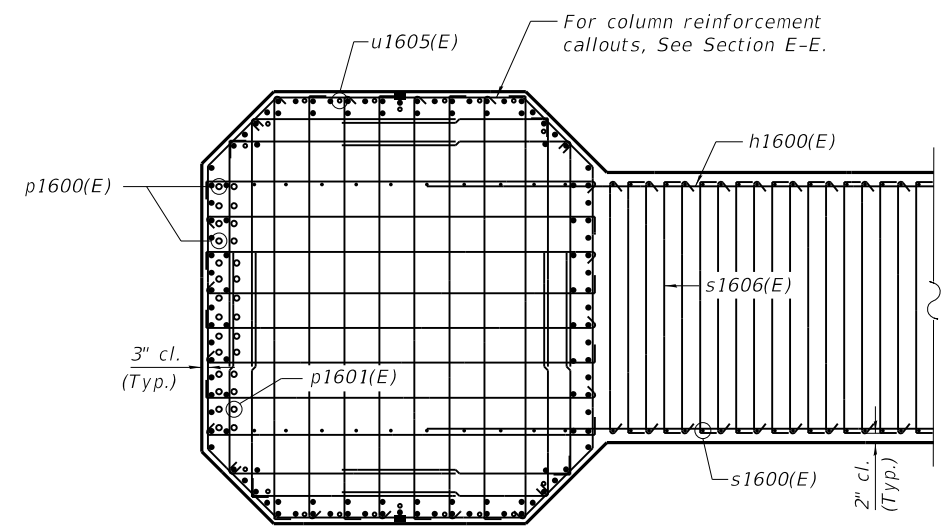
SHEET 5-387 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1296
CONTRACT NO. 68B46			ILLINOIS FED. AID PROJECT NHPP-YRP3(905)	

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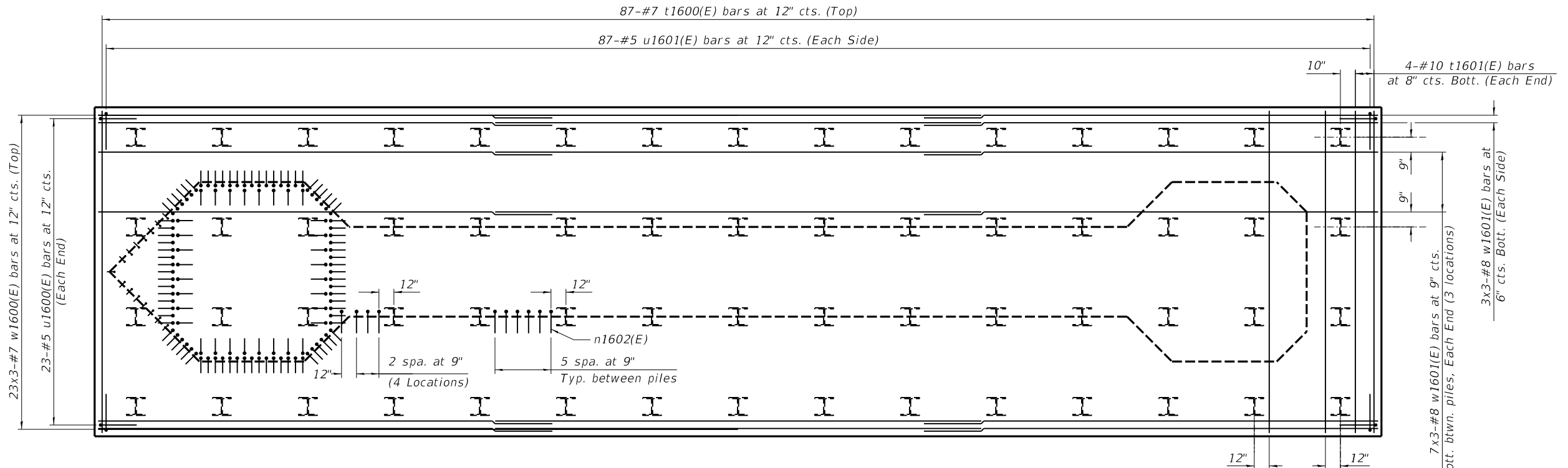
SECTION F-F



SECTION H-H

PILE DATA

Type:	HP14x117
Nominal Required Bearing:	929 kips
Factored Resistance Available:	506 kips
Est. Length:	69 feet
No. Production Piles:	59
No. Test Piles:	1



FOOTING PLAN

- Notes:
1. Bars indicated thus 7x3-#8 etc. indicates 7 lines of bars with 3 lengths per line.
 2. For bar list and Bill of Material, see Sheet S-389 of 445.
 3. Turn leg of "n" bars as required to miss piles.

MINIMUM BAR LAP

- #7 bar = 5'-0"
- #8 bar = 5'-1"



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	CHECKED - JGT	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

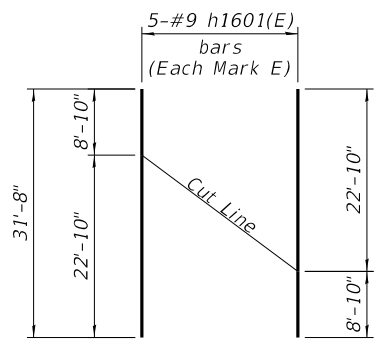
PIER 16 REINFORCEMENT, 4 OF 4
 STRUCTURE NO. 090-0180

SHEET 5-388 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1297
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

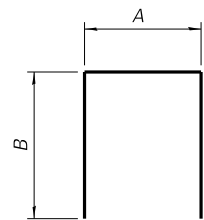
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1600(E)	32	#9	35'-0"	—
h1601(E)	10	#9	31'-8"	—
h1602(E)	110	#8	40'-0"	—
h1603(E)	8	#5	22'-7"	—
h1604(E)	4	#5	24'-11"	—
h1605(E)	8	#5	31'-0"	—
h1606(E)	8	#6	8'-0"	—
* n1600(E)	80	#11	26'-6"	┘
* n1601(E)	152	#11	28'-6"	┘
n1602(E)	112	#8	29'-9"	┘
n1603(E)	15	#6	26'-9"	┘
p1600(E)	28	#10	50'-2"	┘
p1601(E)	28	#10	35'-0"	┘
p1602(E)	28	#11	34'-10"	┘
p1603(E)	28	#11	29'-6"	┘
p1604(E)	28	#11	13'-6"	—
s1600(E)	132	#6	25'-8"	┘
s1601(E)	36	#6	22'-10"	┘
s1602(E)	48	#6	20'-8"	┘
s1603(E)	528	#6	9'-11"	┘
s1604(E)	72	#6	8'-6"	┘
s1605(E)	96	#6	7'-5"	┘
s1606(E)	494	#5	8'-2"	┘
* s1607(E)	292	#6	19'-10"	┘
* s1608(E)	292	#6	20'-1"	┘
s1609(E)	2464	#5	11'-9"	┘
s1610(E)	2464	#5	12'-6"	┘
s1611(E)	2464	#5	7'-2"	┘
s1612(E)	2464	#5	7'-2"	┘
s1613(E)	25	#5	3'-2"	┘
s1614(E)	25	#5	6'-2"	┘
s1615(E)	672	#5	6'-8"	┘
s1616(E)	36	#6	23'-9"	┘
s1617(E)	36	#6	23'-11"	┘
t1600(E)	87	#7	21'-8"	—
t1601(E)	92	#10	25'-4"	┘
t1602(E)	10	#5	21'-8"	—
u1600(E)	46	#5	9'-3"	┘
u1601(E)	174	#5	9'-5"	┘
u1602(E)	25	#5	15'-6"	┘
u1603(E)	54	#8	15'-10"	┘
u1604(E)	42	#5	9'-9"	┘
u1605(E)	48	#6	7'-6"	┘
u1606(E)	43	#5	12'-8"	┘
* v1600(E)	80	#11	36'-0"	—
* v1601(E)	152	#11	34'-0"	—
w1600(E)	69	#7	32'-0"	—
w1601(E)	81	#8	32'-1"	—
w1602(E)	30	#5	30'-9"	—
Cofferdam Excavation		Cu. Yd.	1127	
Cofferdam (Type 2) (Location 16)		Each	1	
Concrete Structures		Cu. Yd.	1365.6	
Seal Coat Concrete		Cu. Yd.	520	
Reinforcement Bars, Epoxy Coated		Pound	304590	
Furnishing Steel Piles HP14x117		Foot	4071	
Driving Piles		Foot	4071	
Test Pile Steel HP14x117		Each	1	
Concrete Sealer		Sq. Ft.	8869	



FIELD CUTTING DIAGRAM

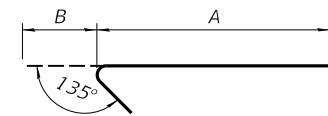
Order full length. Cut as shown and use remainder of bars in opposite face.



BARS s1600(E), s1601(E), s1602(E), u1600(E), u1601(E), u1603(E), u1604(E) & u1606(E)

A & B DIMENSIONS

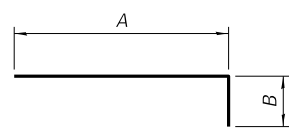
Bar	A	B
s1600(E)	7'-2"	9'-3"
s1601(E)	7'-2"	7'-10"
s1602(E)	7'-2"	6'-9"
u1600(E)	4'-5"	2'-5"
u1601(E)	4'-7"	2'-5"
u1603(E)	5'-8"	5'-1"
u1604(E)	3'-5"	3'-2"
u1606(E)	7'-2"	2'-9"



BARS s1603(E), s1604(E), s1605(E) & s1611(E)

A & B DIMENSIONS

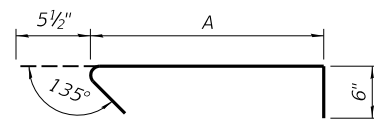
Bar	A	B
s1603(E)	9'-3"	8"
s1604(E)	7'-10"	8"
s1605(E)	6'-9"	8"
s1611(E)	6'-8"	5 1/2"



BARS n1600(E), n1601(E), n1602(E), n1603(E) & s1612(E)

A & B DIMENSIONS

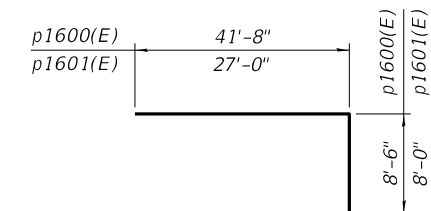
Bar	A	B
n1600(E)	24'-6"	2'-0"
n1601(E)	26'-6"	2'-0"
n1602(E)	28'-5"	1'-4"
n1603(E)	25'-9"	1'-0"
s1612(E)	6'-8"	6"



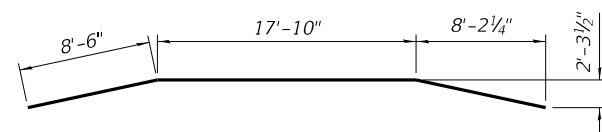
BARS s1606(E), s1609(E), s1610(E), s1613(E), s1614(E) & s1615(E)

A DIMENSIONS

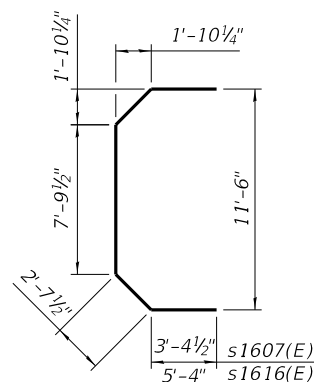
Bar	A
s1606(E)	7'-2"
s1609(E)	10'-9"
s1610(E)	11'-6"
s1613(E)	2'-2"
s1614(E)	5'-2"
s1615(E)	5'-8"



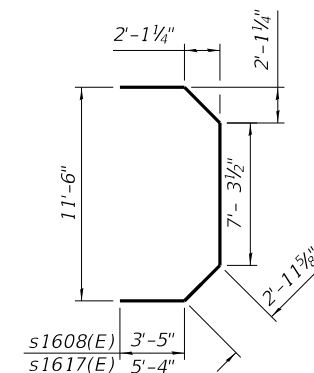
BARS p1600(E) & p1601(E)



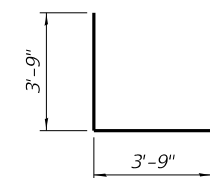
BAR p1602(E)



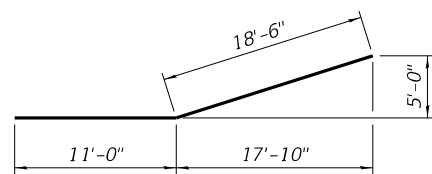
BARS s1607(E) & s1616(E)



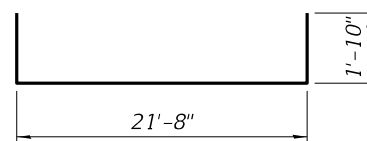
BARS s1608(E) & s1617(E)



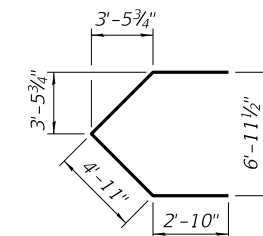
BAR u1605(E)



BAR p1603(E)



BAR t1601(E)



BAR u1602(E)

* Actual bar segment lengths of mechanically spliced bars shall be determined by contractor for ease of install. When a mechanical bar splice is used, the actual bar segment length will be determined by the contractor to accommodate manufacturers recommendations for installation and ease of construction, while meeting all requirements specified in the plans.

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PLOT DATE = 12/11/2018	DRAWN - DAP	REVISED -
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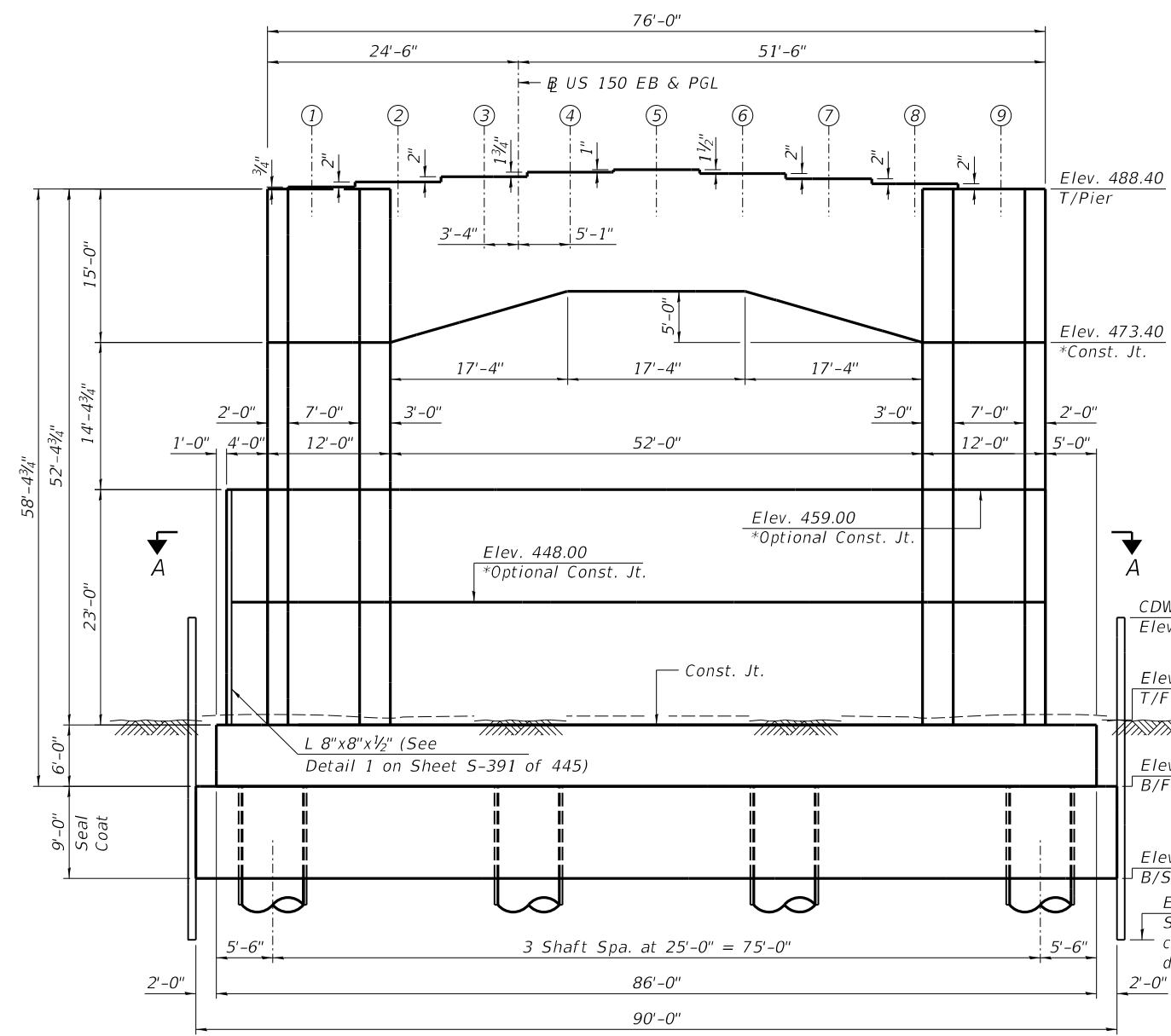
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER 16 DETAILS, BAR LIST AND BILL OF MATERIAL
STRUCTURE NO. 090-0180**

SHEET 5-389 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)BR]BR	PEO/TAZ	1361	1298
CONTRACT NO. 68B46				
ILLINOIS		FED. AID PROJECT	NHPP-YRP3(905)	

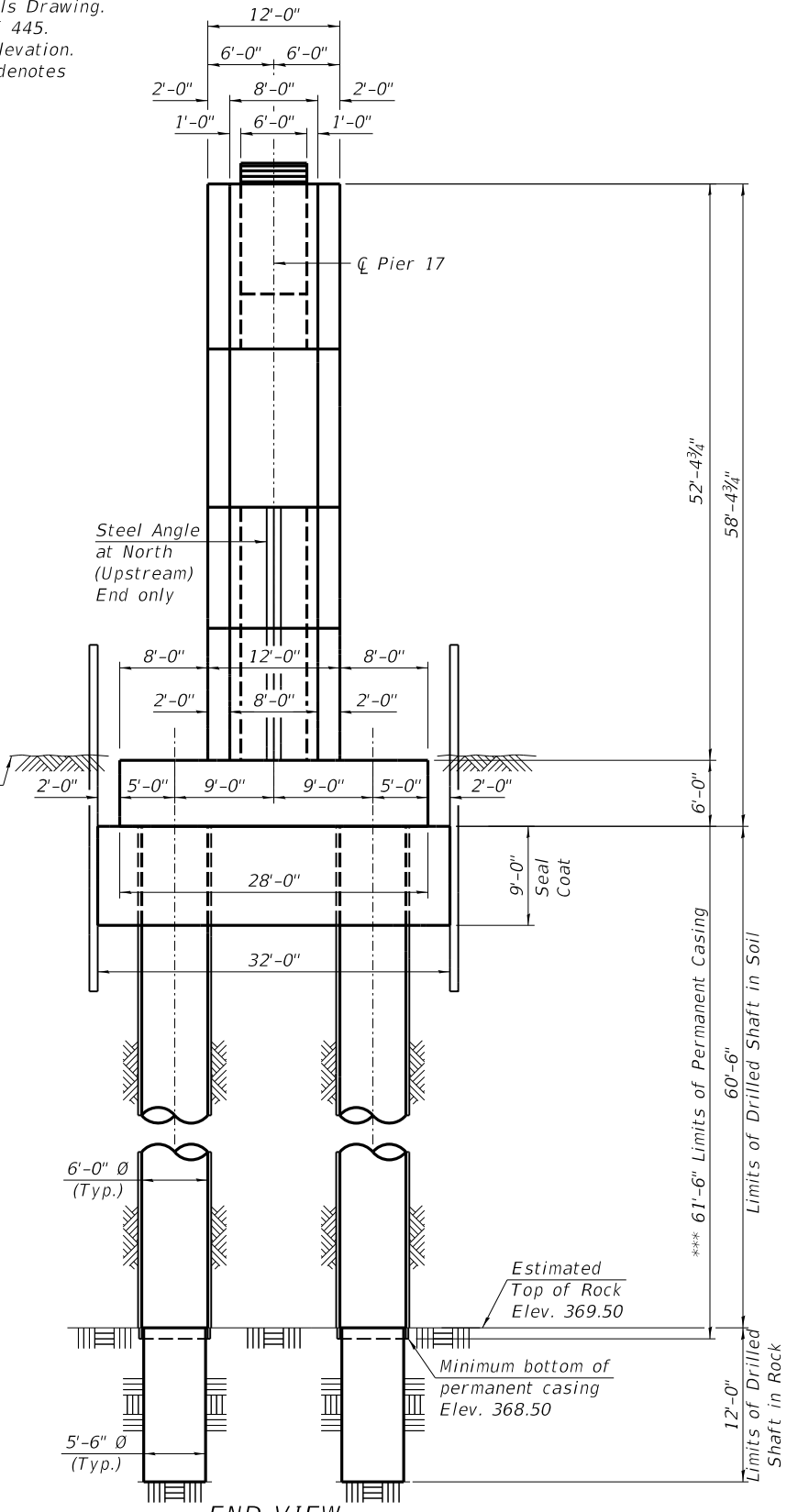
- Notes:
1. For anchor bolt details, see Bearing Details Drawing. For anchor bolt layout, see Sheet S-391 of 445.
 2. EWSE denotes Estimated Water Surface Elevation. HWE denotes High Water Elevation. CDWE denotes Cofferdam Design Water Elevation.
 3. See Sheet S-391 of 445 for Section A-A.
 4. Cast steps monolithic with cap.



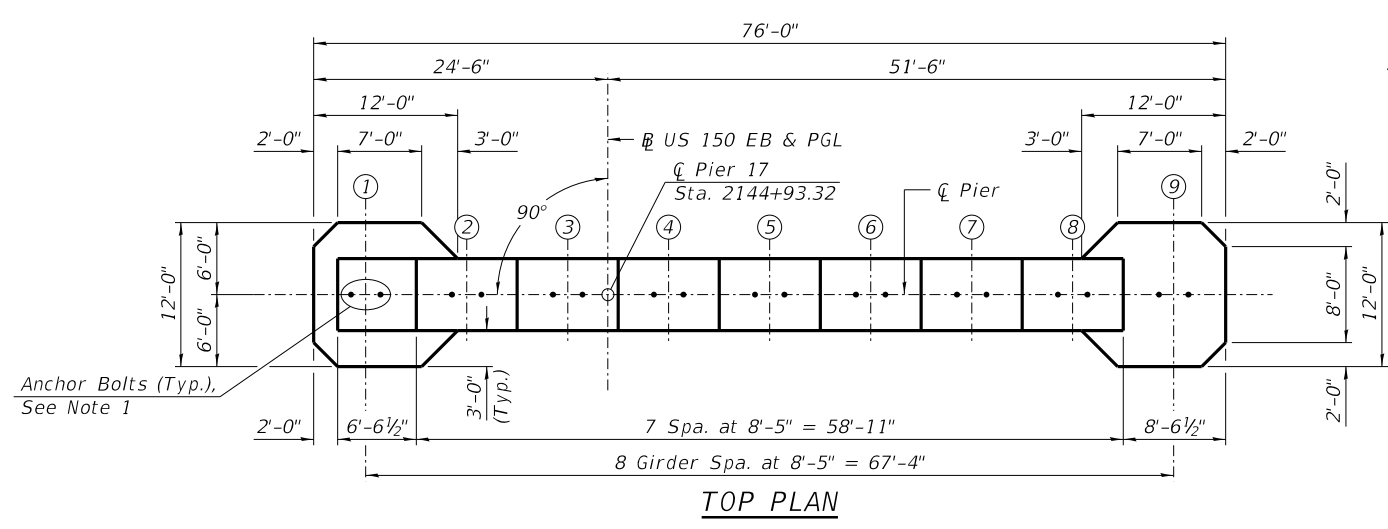
BEARING SEAT ELEVATIONS

Girder	Elevation
1	488.46
2	488.63
3	488.79
4	488.94
5	489.02
6	488.90
7	488.73
8	488.57
9	488.40

- Design HWE ∇
Elev. 458.10
- 2% Flow Line ∇
Elev. 449.90
- EWSE ∇
Elev. 443.50
- Normal Pool ∇
Elev. 439.70



*** Contractor is responsible for determining the casing thickness and the actual tip elevation to be used. See Article 516.06 (d) of the Standard Specifications. Pay limits for the Permanent Casing shall be based on the minimum length shown.



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 17 PLAN AND ELEVATION
STRUCTURE NO. 090-0180

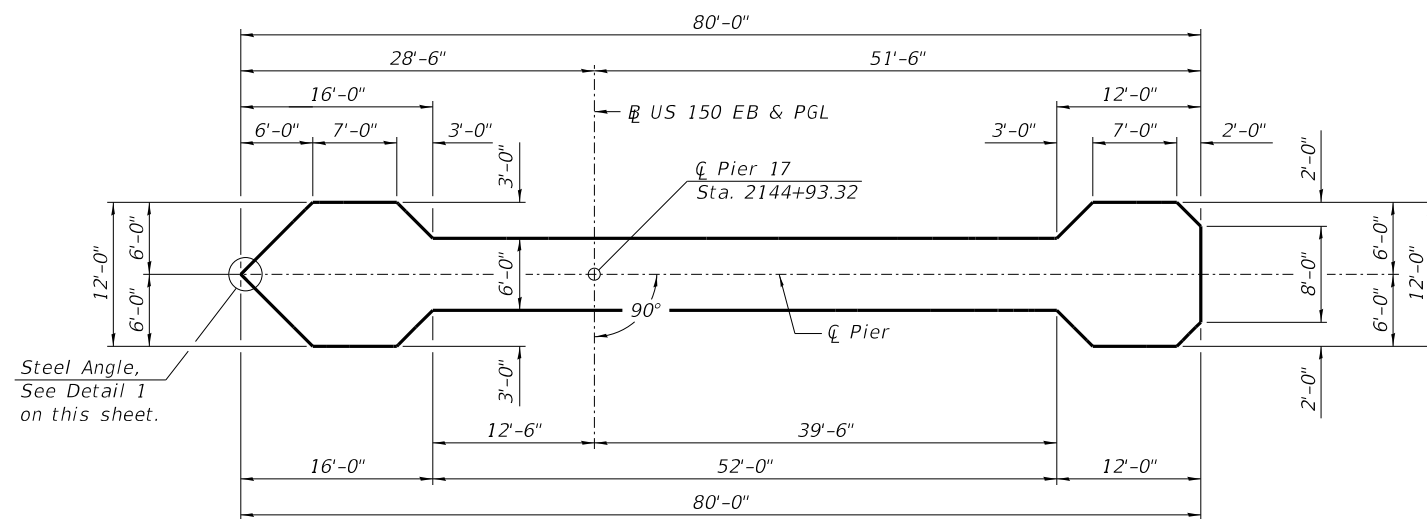
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CONTRACT NO. 68B46				
ILLINOIS FED. AID PROJECT NHPP-YRP3(905)				

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12/11/2018 4:04:55 PM

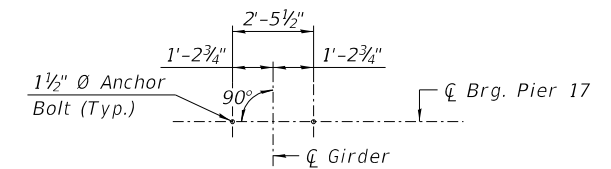


USER NAME =	johns00944	DESIGNED -	JGT	REVISED -	
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PLOT DATE =	12/11/2018	DRAWN -	DAP	REVISED -	
		CHECKED -	JGT	REVISED -	

SHEET 5-390 OF 445 SHEETS



SECTION A-A



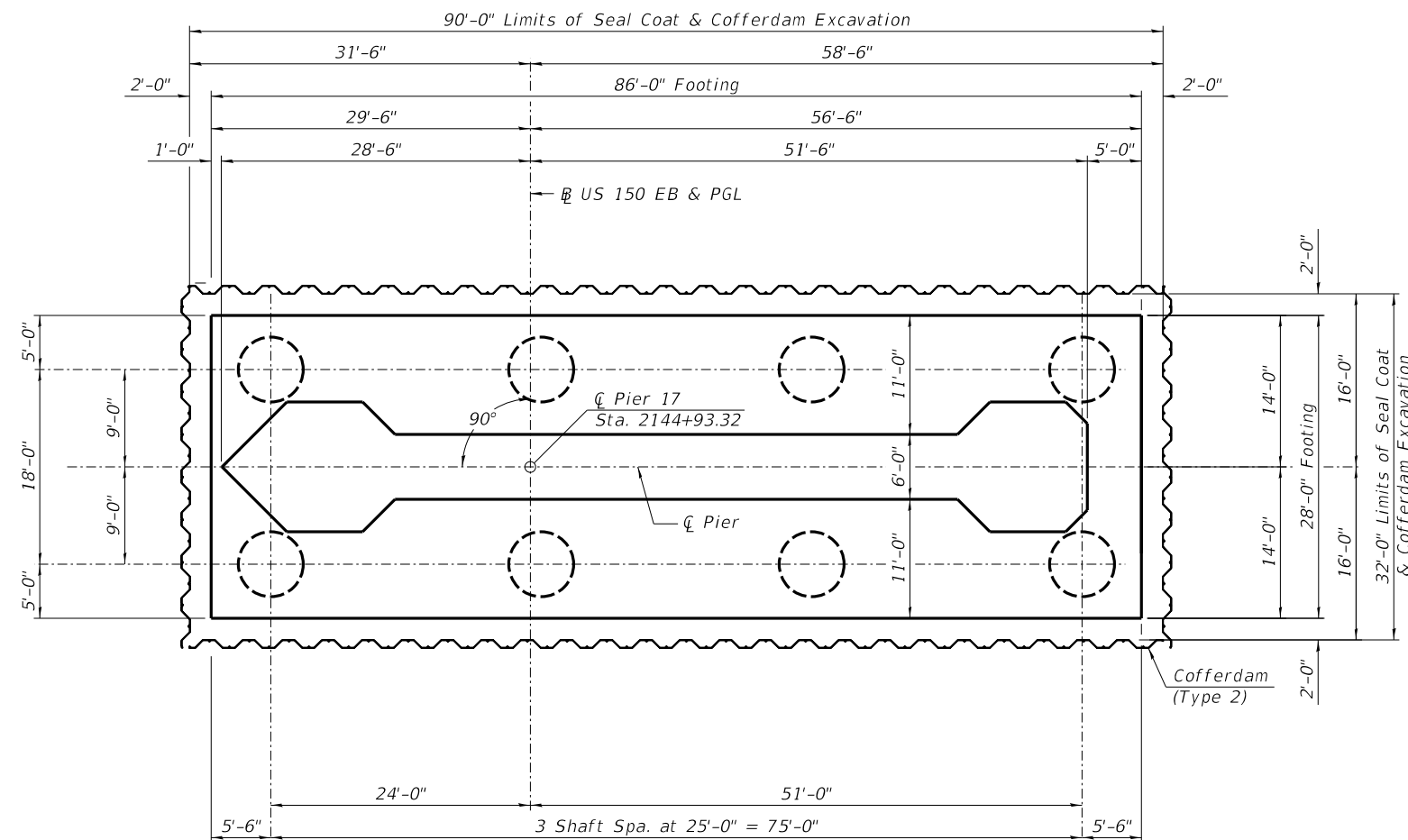
ANCHOR BOLT LAYOUT
(Layout at Girders 1 thru 9)



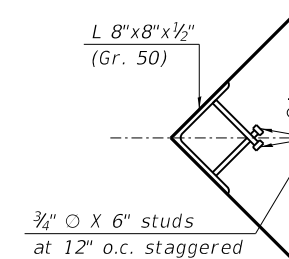
VESSEL COLLISION FORCE
FOR EXTREME EVENT II LOAD COMBINATION

	100 Yr. Water Level	
	Case 1	Case 2
Static Load	620 kips	310 kips
Elevation	470.79	470.79
Direction	Parallel	Perpendicular

Note: Direction is with respect to Illinois River Flow.

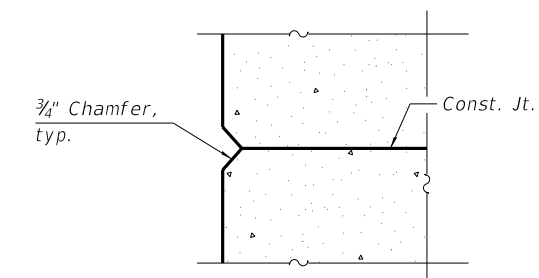


FOOTING PLAN



DETAIL 1

Note: The angle with studs shall be galvanized according to AASHTO M 111, and cost shall be included with Furnishing and Erecting Structural Steel.



CONSTRUCTION JOINT

MODEL: Default
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PLOT DATE = 12/11/2018

DESIGNED - JGT
CHECKED - MNM
DRAWN - DAP
CHECKED - JGT

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 17 FOOTING PLAN
STRUCTURE NO. 090-0180

SHEET 5-391 OF 445 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	[15B;(102-1),(14HB)]BR	PEO/TAZ	1361	1300
CONTRACT NO. 68B46				

ILLINOIS FED. AID PROJECT NHPP-YRP3(905)