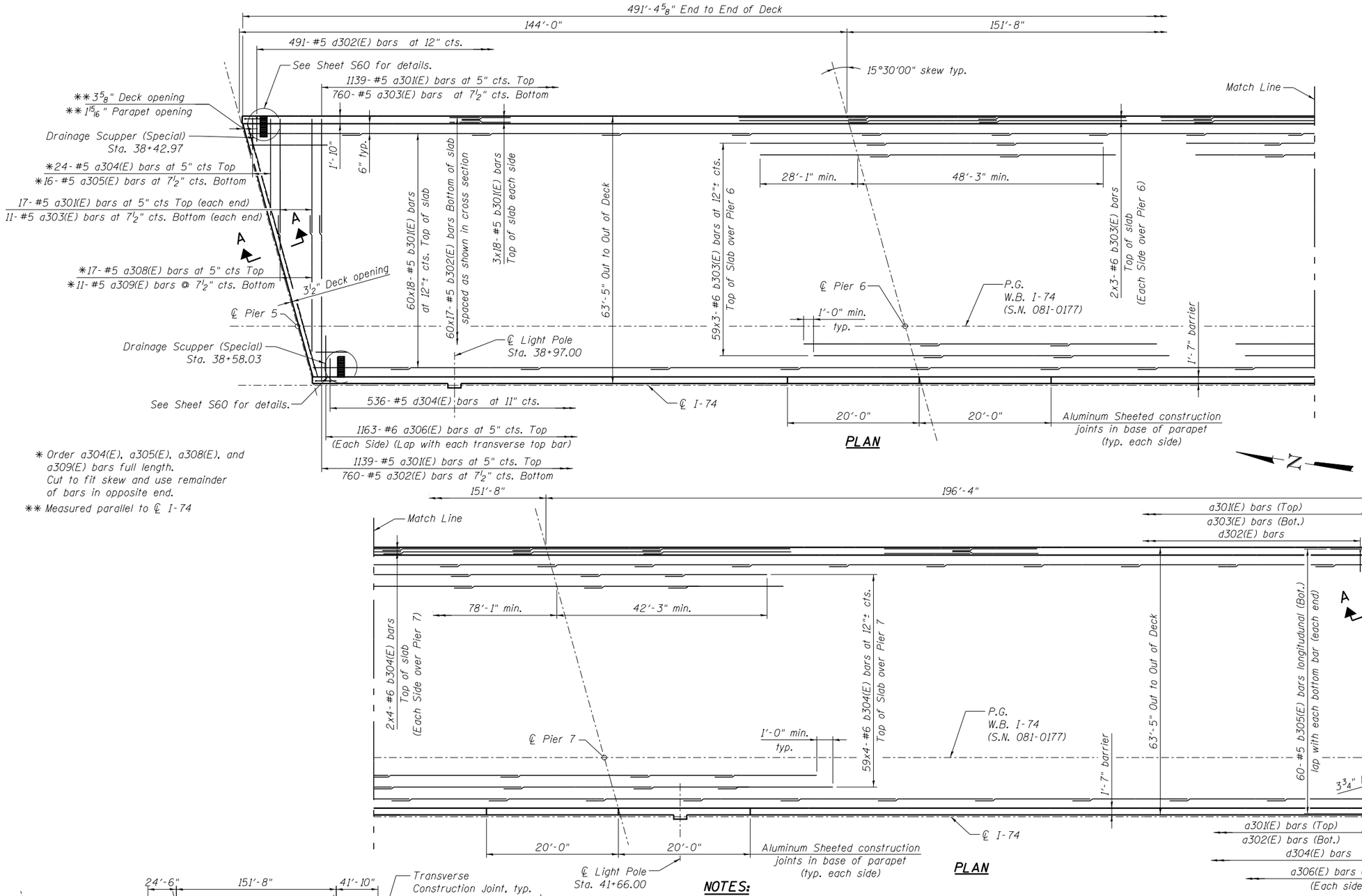

MINIMUM BAR LAP

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

REQUIRED DECK POUR SEQUENCE

NOTES:

1. When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
   A) At least 72 hours shall have elapsed from the end of the previous pour.
   B) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
2. The Contractor is alerted that camber and dead load deflection values were developed based on the deck pouring sequence shown. Any deviation from this pouring sequence could result in changes to camber and deck elevations. These changes shall be submitted to the Engineer to review and approve.
3. See Sheets S45 thru S47 for superstructure details and Bill of Materials.
4. See Sheet S35 for Deck Cross Section.
5. Bars indicated thus: 66x17-#5 etc. indicates 66 lines of bars with 17 lengths per line.
6. See Sheet S56 for Section A-A.
7. See Sheets S41 & S42 for parapet reinforcement.
8. Deck opening dimensions are measured from end of deck to ℄ pier at 50°F.

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-032-Deck Reinforcement Plan Unit 3.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AMB	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK REINFORCEMENT PLAN UNIT 3
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S32 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	801
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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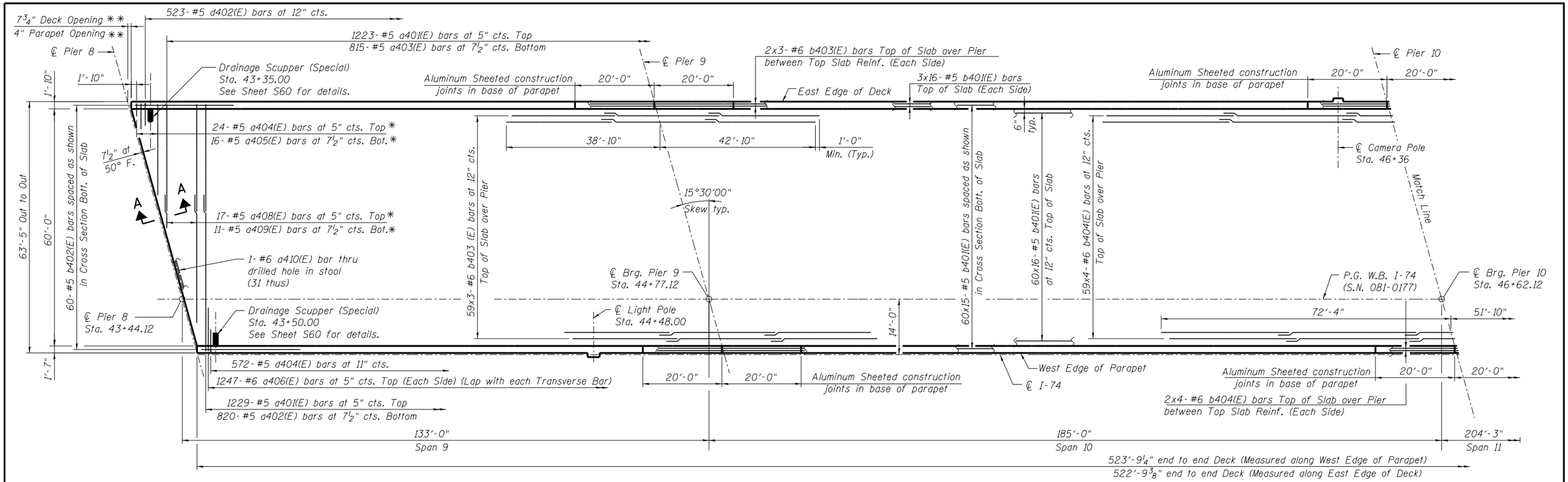

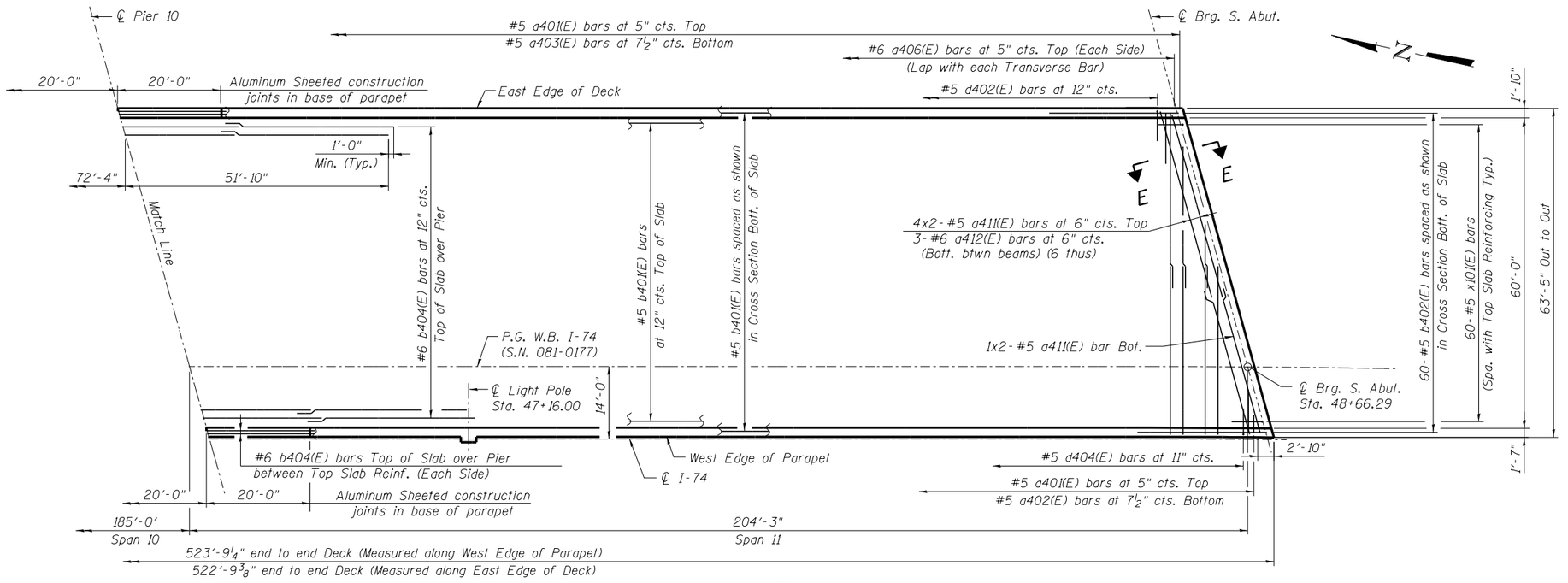

PLAN

MINIMUM BAR LAP

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

* Order a404(E), a405(E), a408(E), & a409(E), bars full length. Cut to fit skew and use remainder of bars in opposite end. See cutting diagram on sheet S47.

** Measured parallel to ℄ I-74

NOTES:

1. See Sheets S45 thru S47 for superstructure details and Bill of Materials.
2. See sheet S36 for Deck Cross Section.
3. Bars indicated thus: 60x16-#5 etc. indicates 60 lines of bars with 16 lengths per line.
4. See Sheet S56 for Section A-A.
5. See Sheet S45 for Section E-E.
6. See Sheets S43 & S44 for parapet reinforcement.
7. Dimensions at S. Abut. are based on Rolled Rail Strip Seal Joint. If Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on sheet S55.
8. See Sheet S36 for Pouring Sequence.

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FILENAME = 081-0177-C00AB-033-Deck Reinforcement Plan Unit 4.dgn
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USER NAME = ksnider | PLOT SCALE = | PLOT DATE = 1/18/2017
DESIGNED - JHG | DRAWN - VH | CHECKED - AJK
REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK REINFORCEMENT PLAN UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S33 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	802
		CONTRACT NO. 64C08		
ILLINOIS FED. AID PROJECT				

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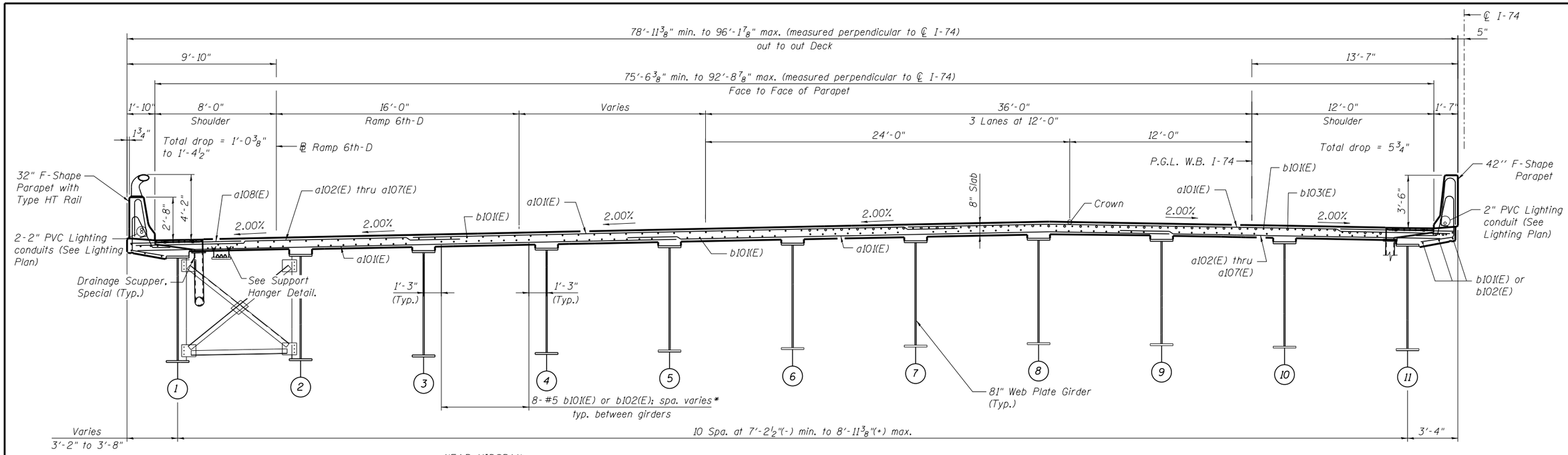


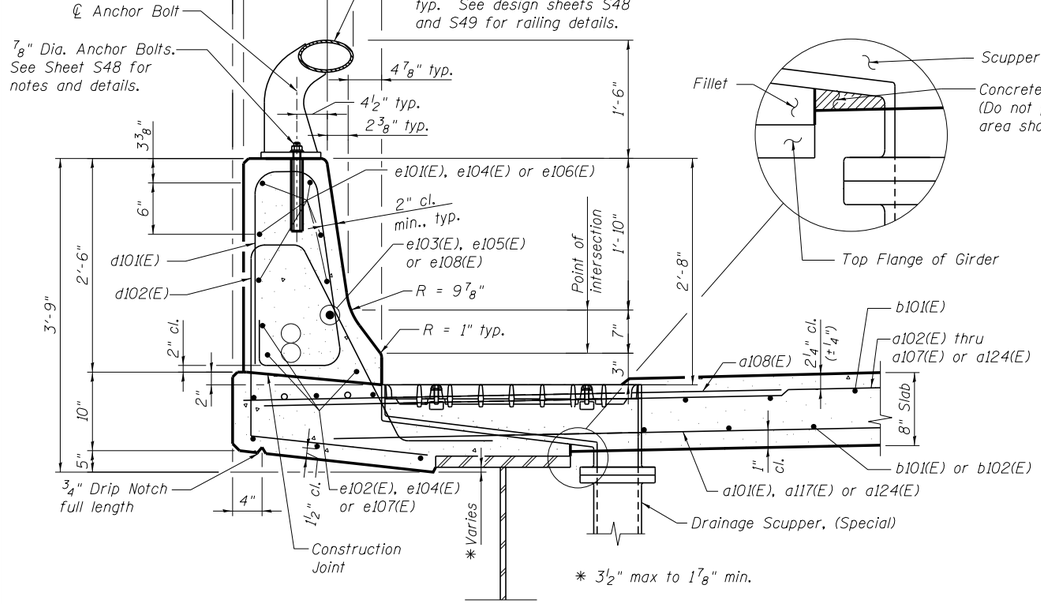
NEAR MIDSPAN

DECK CROSS SECTION

(Looking South)

NEAR PIER 1

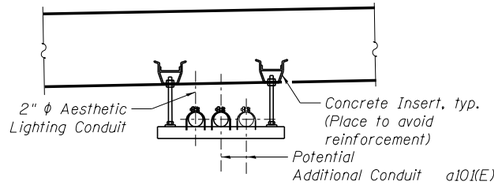
* Spacing 11 1/2" at Pier 2, 9 1/4" at Pier 1 and 8" at North Abut.



SECTION THRU EAST PARAPET

MINIMUM BAR LAP

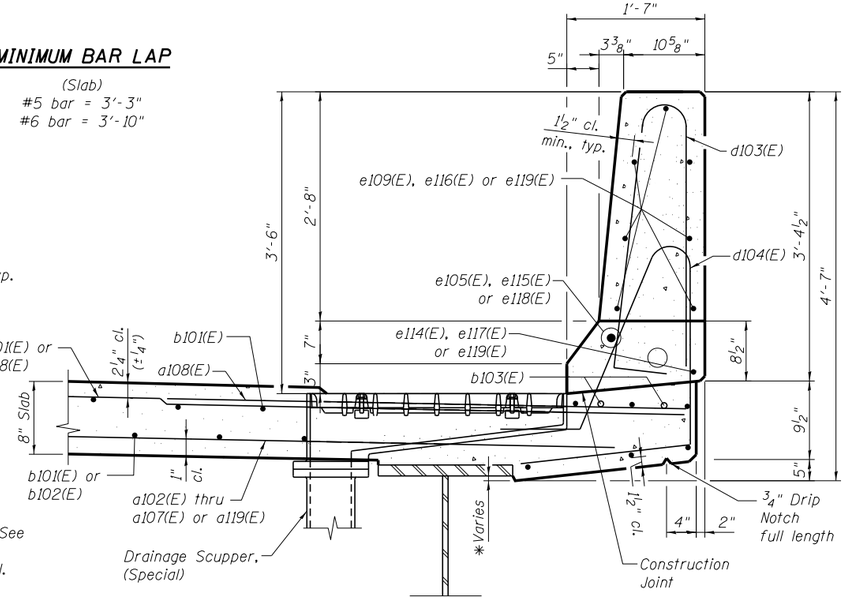
(Slab)
#5 bar = 3'-3"
#6 bar = 3'-10"



SUPPORT HANGER DETAIL

Notes:

1. Contractor shall supply support hanger for two potential future conduits in addition to proposed lighting conduits. See lighting plans for additional lighting details.
2. All exposed conduits shall be PVC coated galvanized steel.
3. Cost of concrete Inserts and supports shall be included with the conduits attached to structure. See "Lighting Plans and Details" sheets for pay items.
4. Contractor shall be responsible for routing conduit around cross frames at expansion joints and troughs subject to approval by the Engineer.



* 3 3/8" max. to 2" min.

SECTION THRU MEDIAN PARAPET

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - VH	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION UNIT 1
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S34 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	803
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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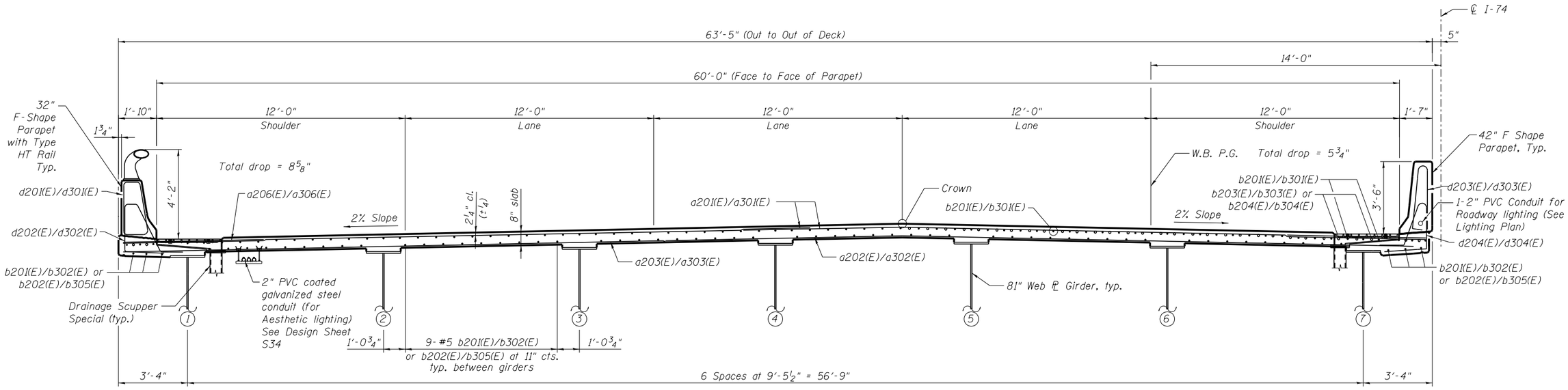

NEAR MIDSPAN

UNITS 2 & 3 CROSS SECTION

(Looking South)

NEAR PIER

benesch

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-035-Deck Cross Section Units 2 & 3.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AJK	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION UNITS 2 & 3
STRUCTURE NO. 081-0177 (WESTBOUND)

SHEET NO. S35 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	804
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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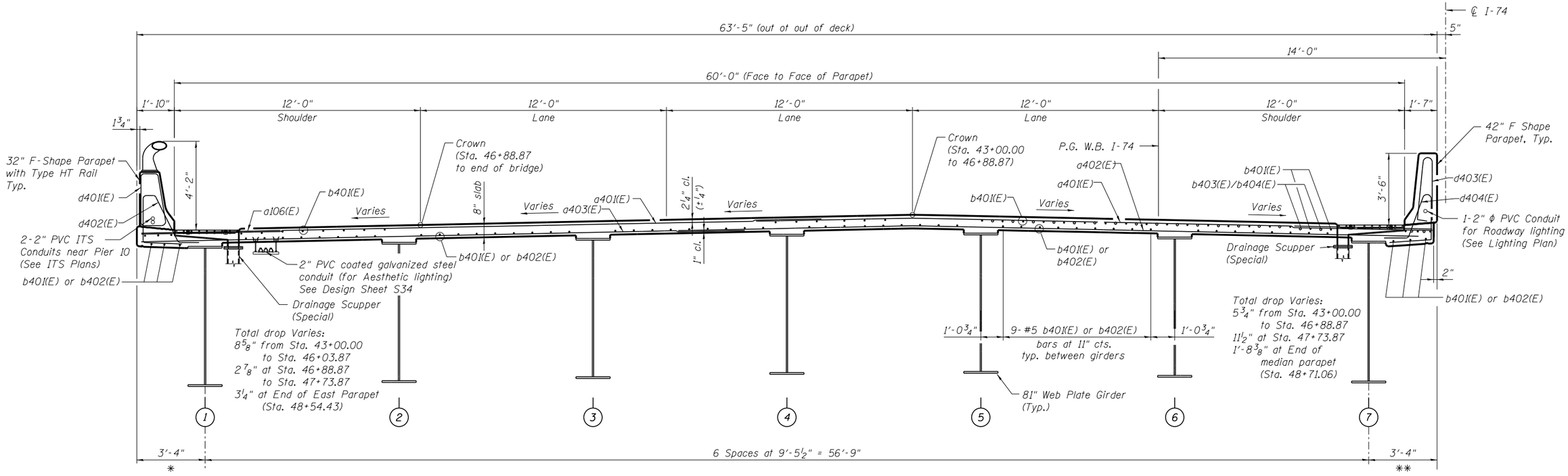


NEAR MIDSPAN

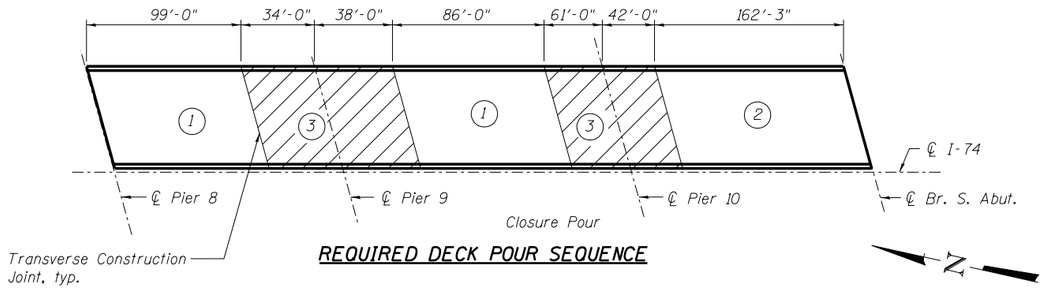
NEAR PIER

DECK CROSS SECTION

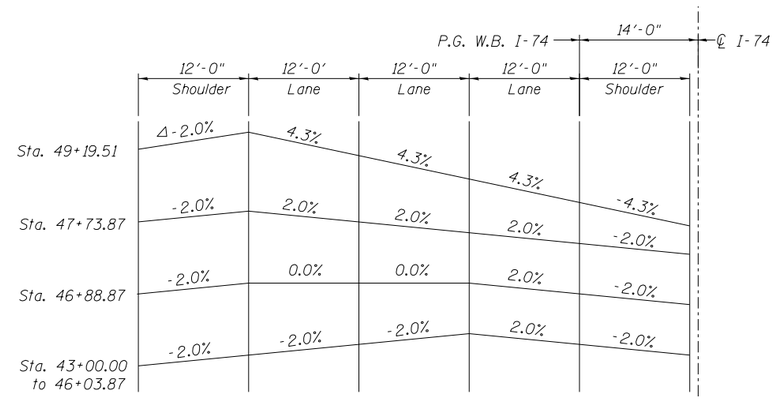
(Looking South)

*Constant 3'-4" from Pier 8 to station 48+42.87. Reduced to 3'-3 3/4" at S. Abutment along curve.

**Constant 3'-4" from Pier 8 to station 48+42.87. Increased to 3'-5 3/8" at S. Abutment along curve.



REQUIRED DECK POUR SEQUENCE



DECK POUR NOTES:

1. For pour one (1), the north segment shall be placed prior to south segment.
2. When the deck pour is stopped for the day at one or more of the transverse bonded construction joints in the deck pouring sequence as shown, the next pour shall not be made until both of the following are met:
   A) At least 72 hours shall have elapsed from the end of the previous pour.
   B) The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.
3. The Contractor is alerted that camber and dead load deflection values were developed based on the deck pouring sequence shown. Any deviation from this pouring sequence could result in changes to camber and deck elevations. These changes shall be submitted to the Engineer to review and approve.

Δ -2.0% cross slope will be maintained in shoulder to end of approach slab.

DECK SLOPE CROSS SECTION

(Looking South)

benesch
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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-036-Deck Cross Section Unit 4.dgn	USER NAME = ksnider	DESIGNED - JHG	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - VH	REVISED -
MODEL = Plot sheet	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S36 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	805
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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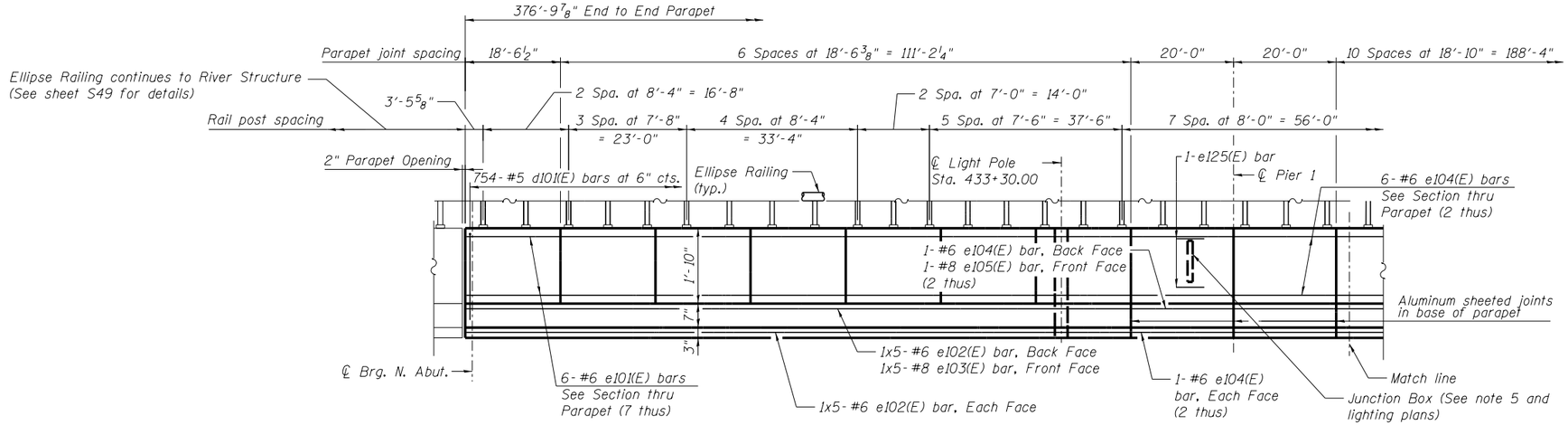
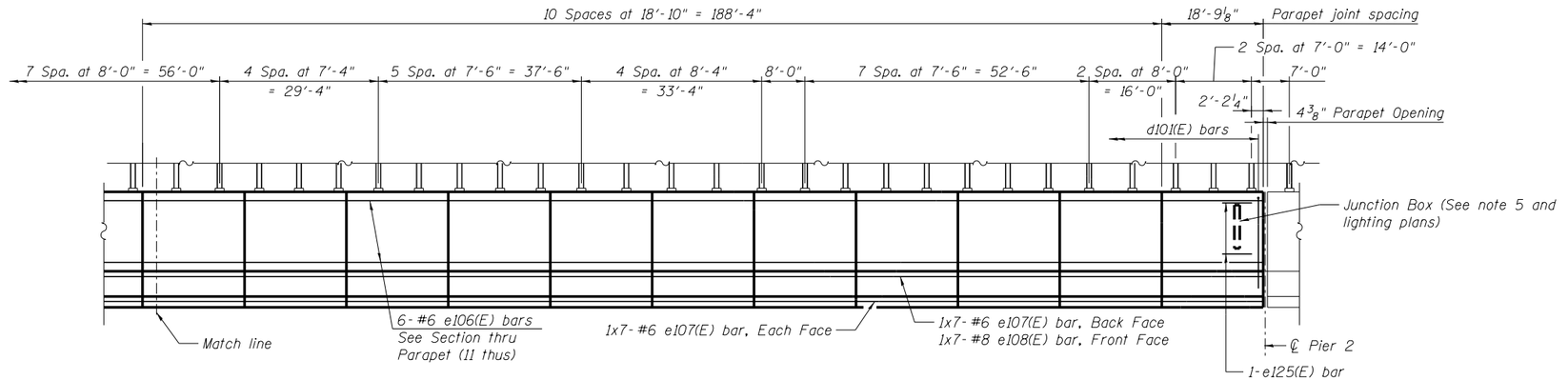
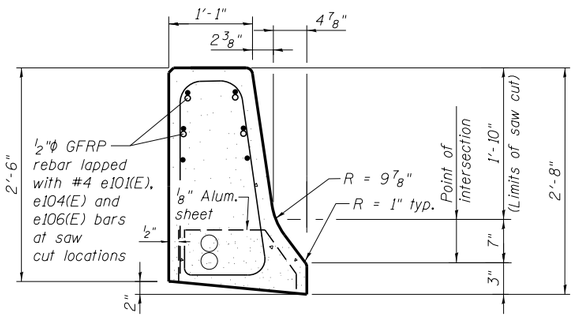




INSIDE ELEVATION OF EAST PARAPET

MINIMUM BAR LAP

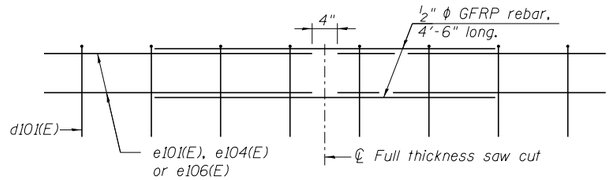
(Parapet)
#6 bar = 3'-0"
#8 bar = 5'-2"



SLIPFORMED PARAPET JOINT DETAILS

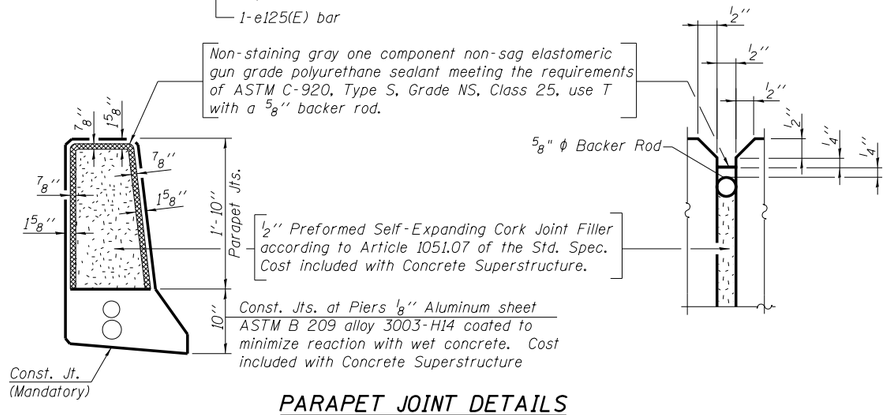
(Ellipse railing not shown for clarity)

1. All dimensions shall remain the same as shown on superstructure details.
2. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section at each parapet joint location.)
(GFRP rebar is only required if contractor elects to slipform parapet.)
(Cost of GFRP shall be included with Concrete Superstructure.)



PARAPET JOINT DETAILS

(For conventional concrete placement)

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x4-#8 etc. indicates 1 line of bars with 4 lengths per line.
3. See sheet S52 for continuation of rail post spacing on approach slab.
4. Light poles stationed along Ramp 6th-D.
5. 1 front face bar and 1 vertical bar may be cut to allow for junction box installation.

benesch
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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - JDS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST PARAPET DETAILS UNIT 1
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S37 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	806
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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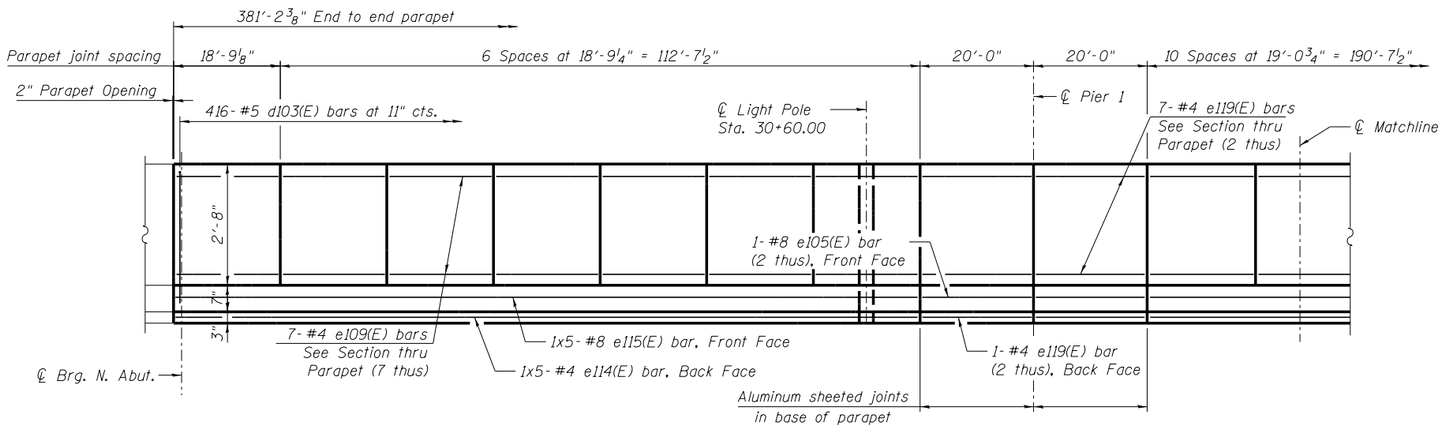
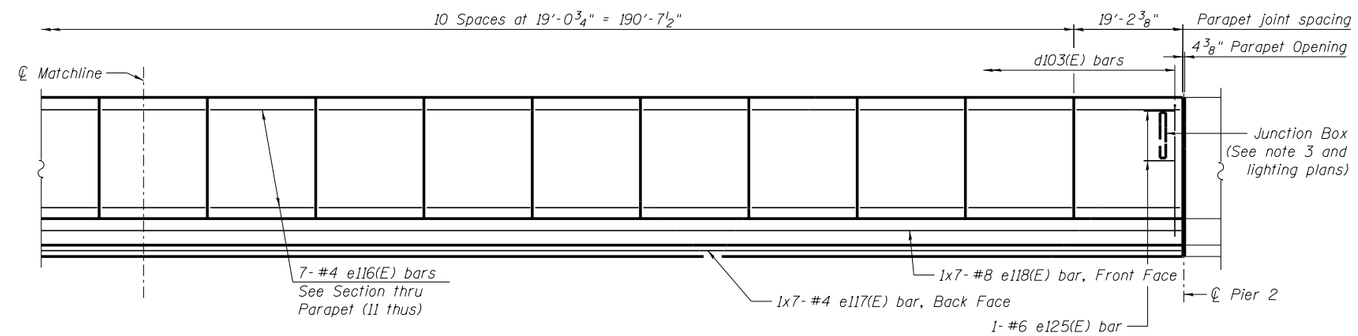
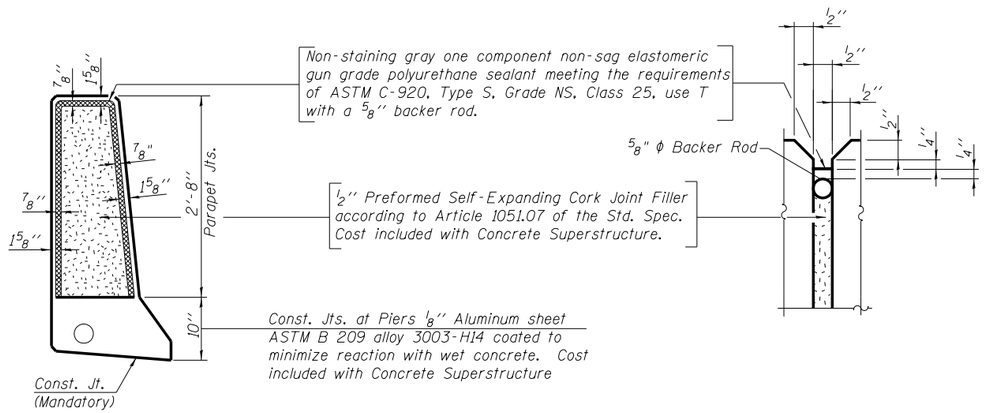




INSIDE ELEVATION OF WEST PARAPET

(Reflected View Shown)



PARAPET JOINT DETAILS

MINIMUM BAR LAP

(Parapet)

#4 bar = 2'-0"

#8 bar = 5'-2"

NOTES:

1. All dimensions shown are along the toe of the parapet (gutterline).
2. Bars indicated thus 1x4-#8 etc. indicates 1 line of bars with 4 lengths per line.
3. 1 front face bar and 1 vertical bar may be cut to allow for junction box installation.

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN PARAPET DETAILS UNIT 1
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S38 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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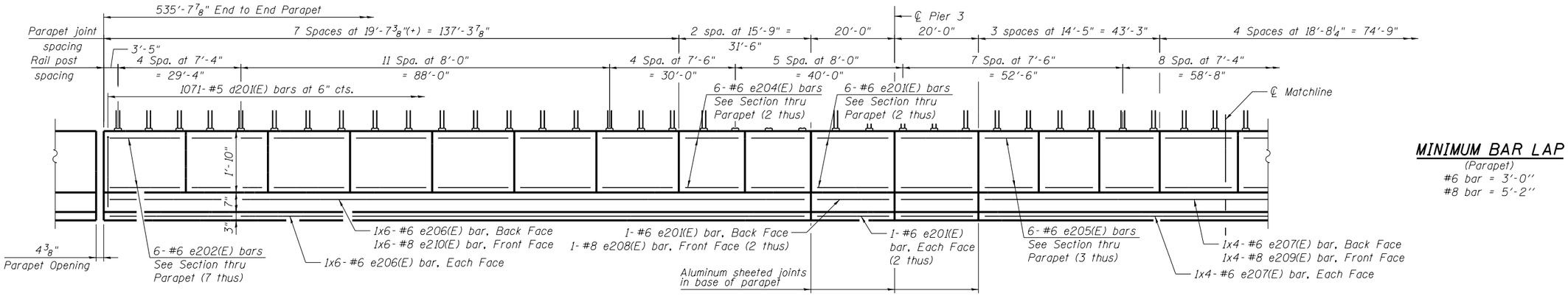
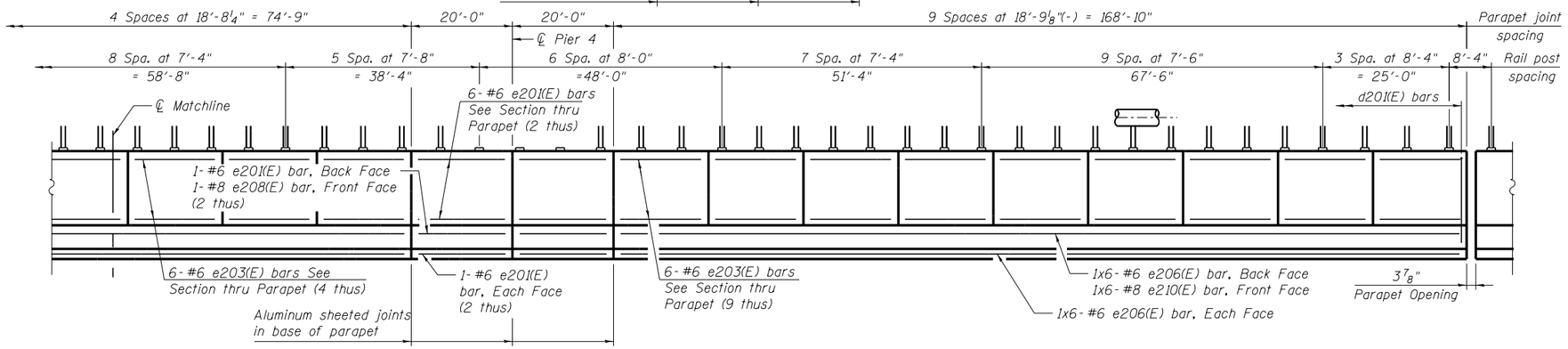
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

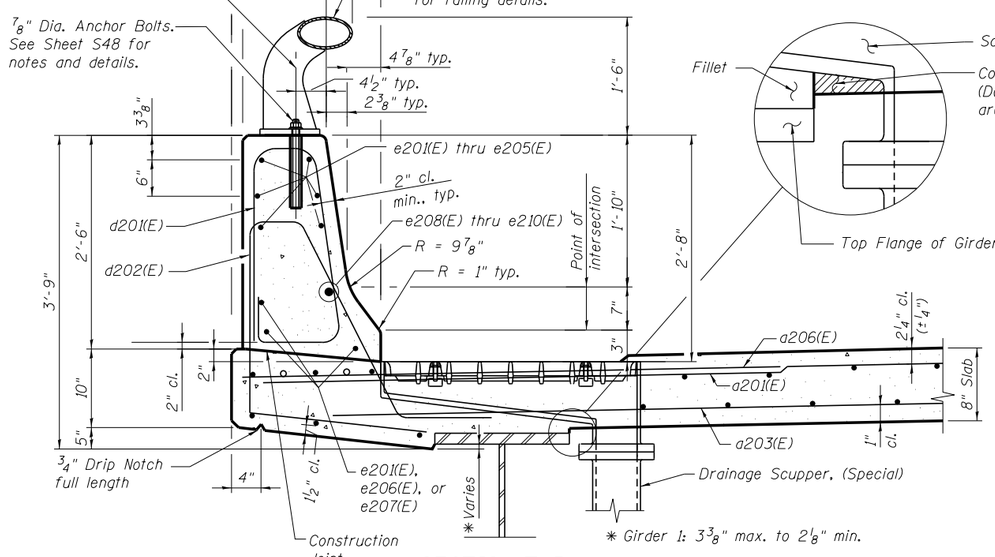


MINIMUM BAR LAP

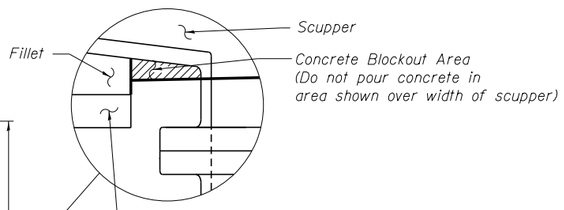
(Parapet)
#6 bar = 3'-0"
#8 bar = 5'-2"

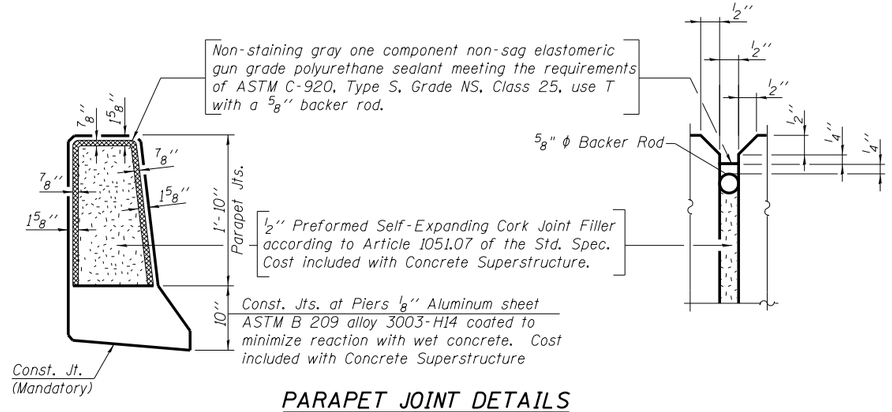


INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET





PARAPET JOINT DETAILS

(For conventional concrete placement)

NOTES:

1. Bars indicated thus 1x6-#8 etc. indicates 1 line of bars with 6 lengths per line.
2. See sheet S37, for slip forming details.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-039-East Parapet Details Unit 2.dgn	USER NAME = ksnider	DESIGNED - JDS/DTS	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AMB/TPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST PARAPET DETAILS UNIT 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S39 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	808
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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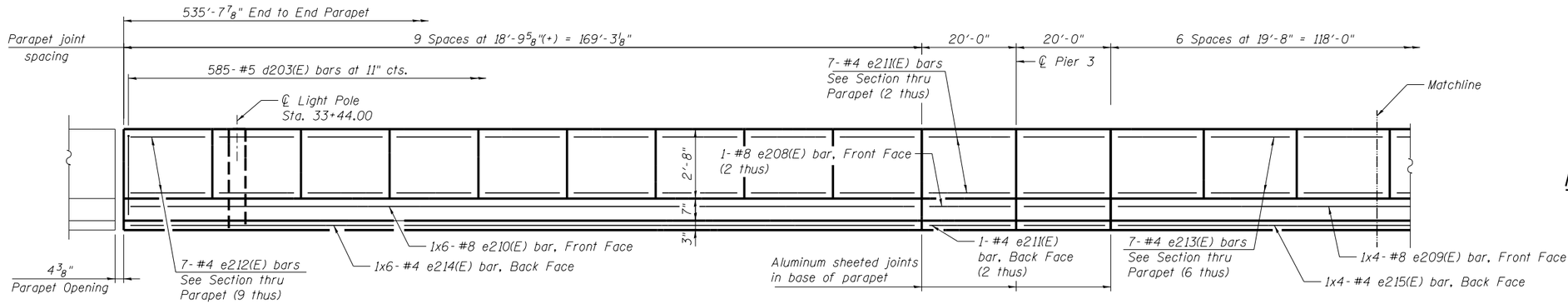
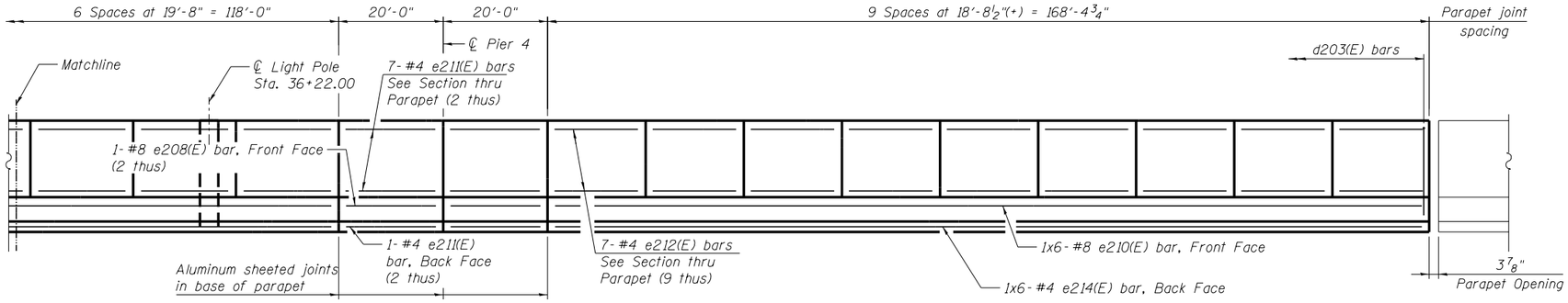
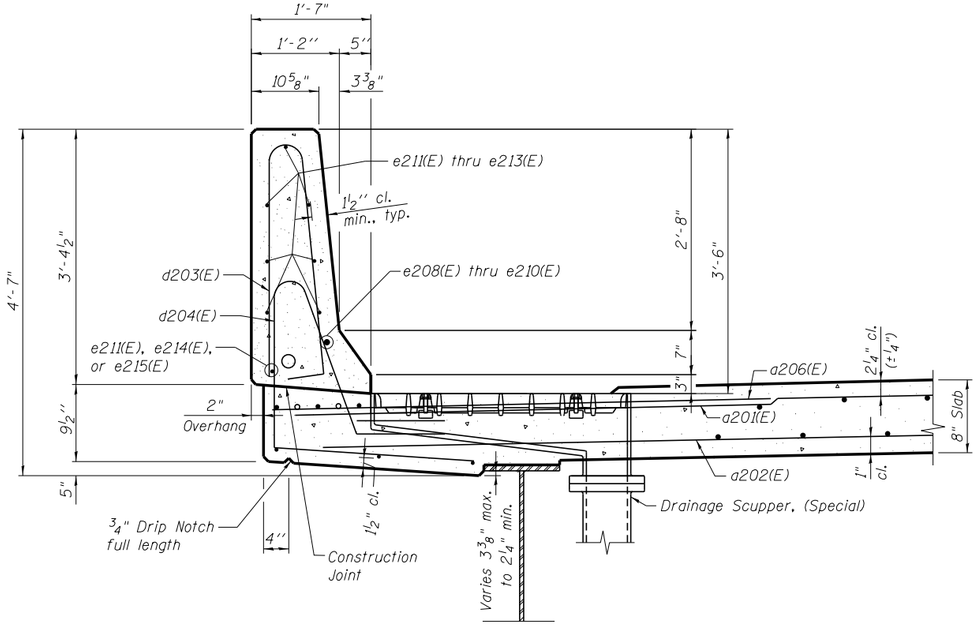


MINIMUM BAR LAP

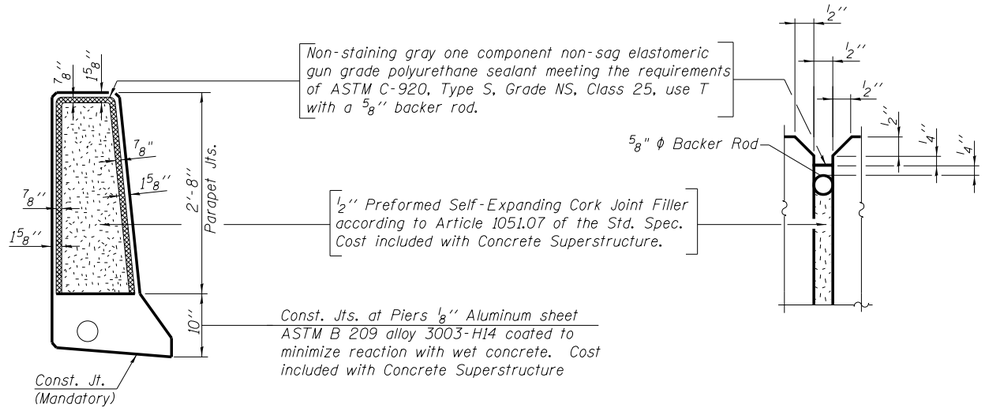
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"



INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET



PARAPET JOINT DETAILS

NOTE:

1. Bars indicated thus 1x6-#8 etc. indicates 1 line of bars with 6 lengths per line.

benesch
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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-040-Median Parapet Details Unit 2.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK/TPS	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK/TPS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN PARAPET DETAILS UNIT 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S40 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	809
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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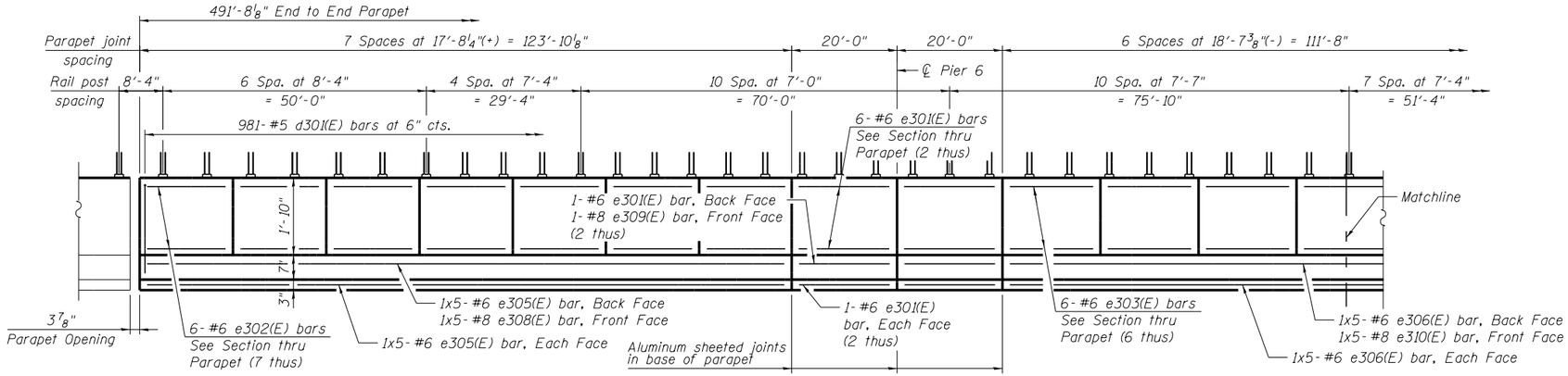
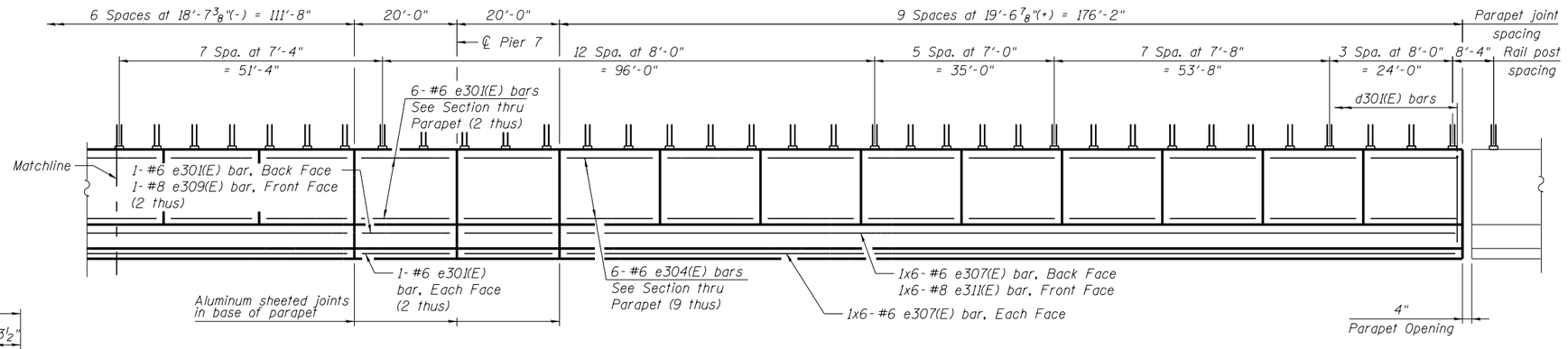
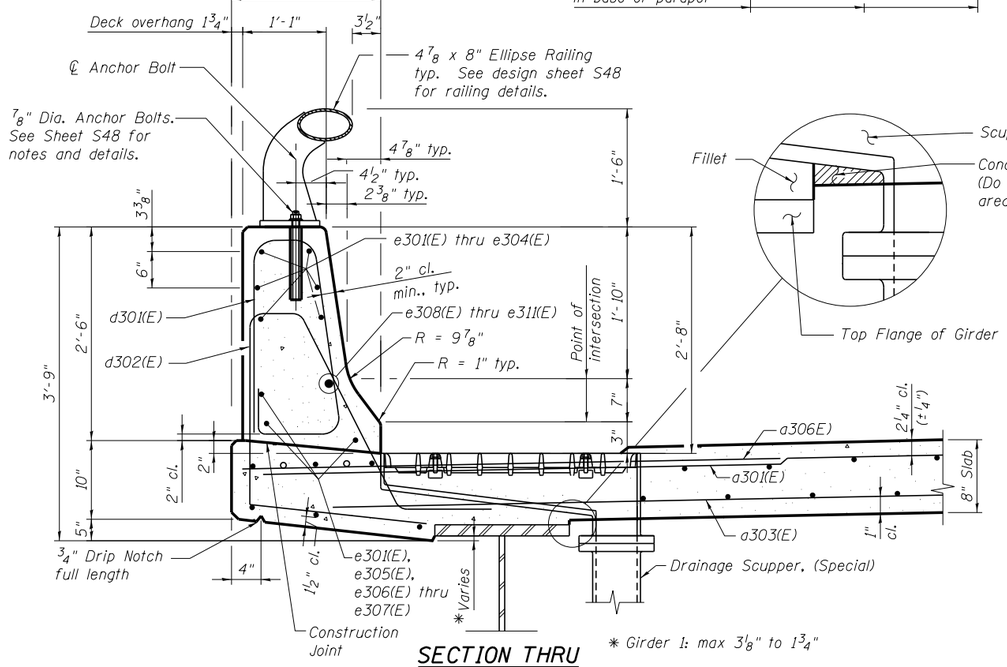


MINIMUM BAR LAP

(Parapet)
#6 bar = 3'-0''
#8 bar = 5'-2''

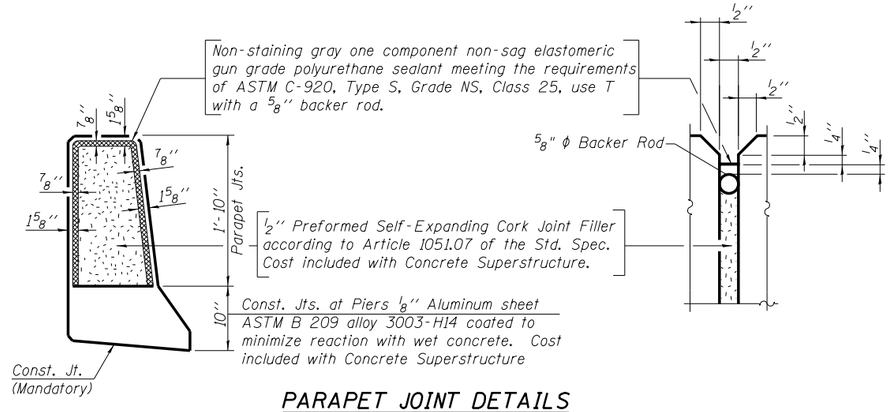


INSIDE ELEVATION OF PARAPET



SECTION THRU PARAPET

* Girder 1: max 3 1/8" to 1 3/4"



PARAPET JOINT DETAILS

(For conventional concrete placement)

NOTES:

1. Bars indicated thus 1x5-#8 etc. indicates 1 line of bars with 5 lengths per line.
2. See sheet S37, for slip forming details.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-041-East Parapet Details Unit 3.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AMB	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - JDS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST PARAPET DETAILS UNIT 3
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S41 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	810
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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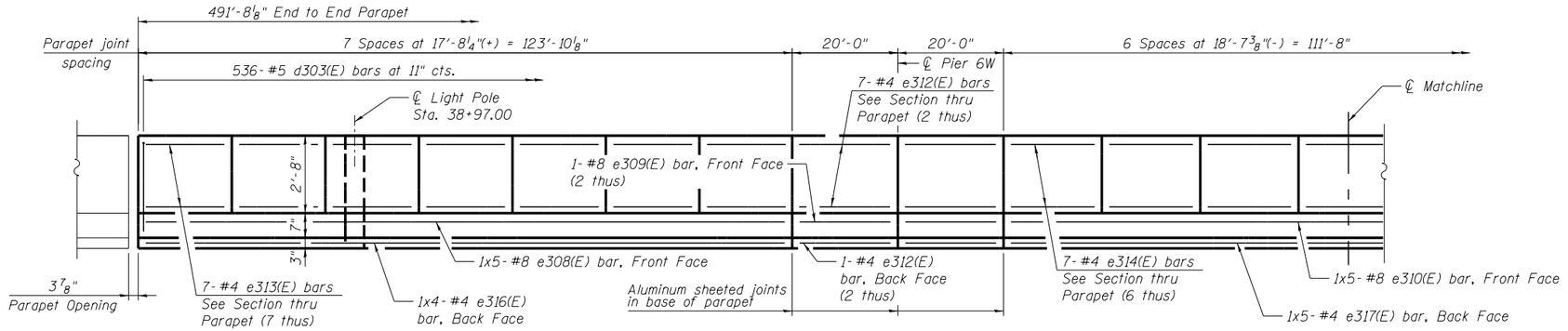
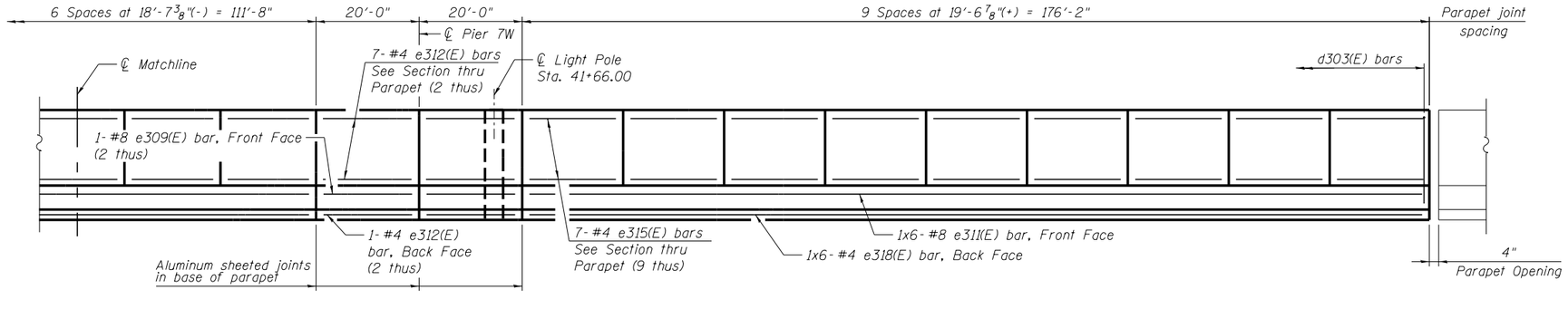


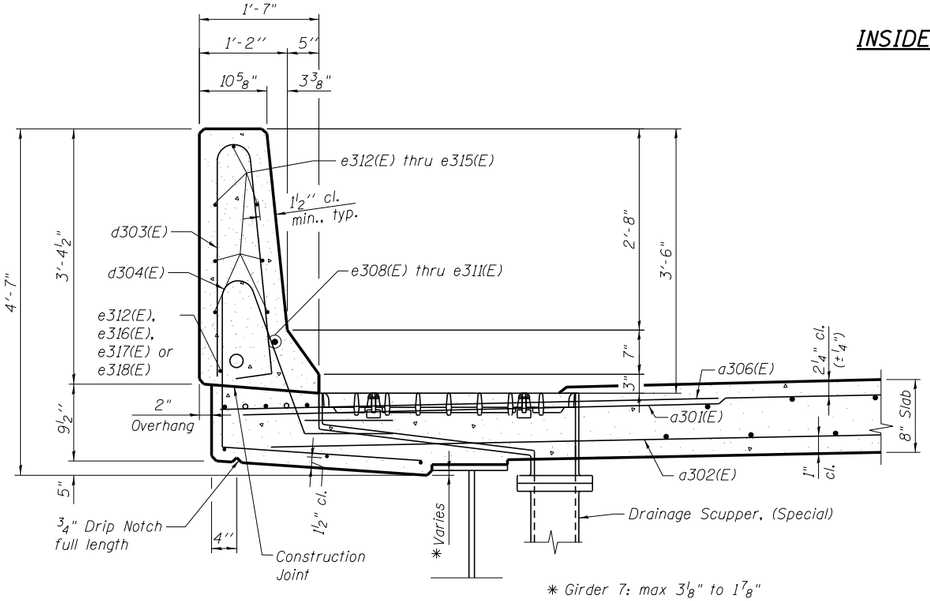
MINIMUM BAR LAP

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



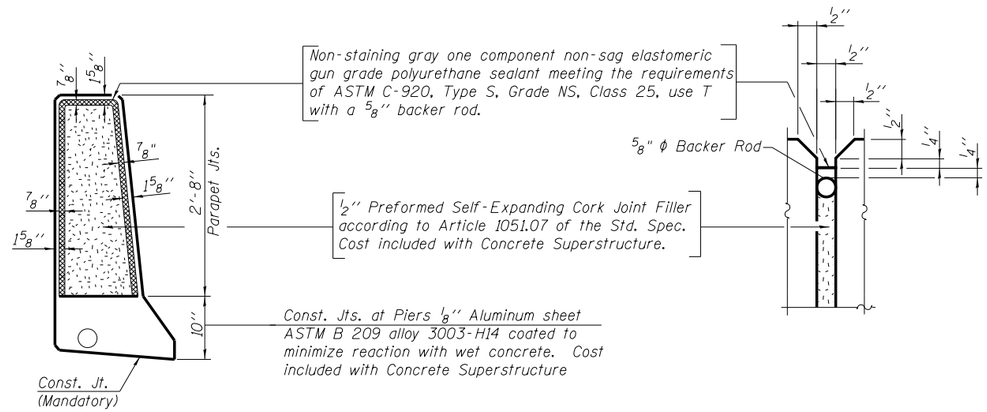
INSIDE ELEVATION OF PARAPET

(Reflected View Shown)



* Girder 7: max 3 1/8" to 1 7/8"

SECTION THRU PARAPET



PARAPET JOINT DETAILS

NOTE:

1. Bars indicated thus 1x5-#8 etc. indicates 1 line of bars with 5 lengths per line.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-042-Median Parapet Details Unit 3.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AMB	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - JDS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN PARAPET DETAILS UNIT 3
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S42 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	811
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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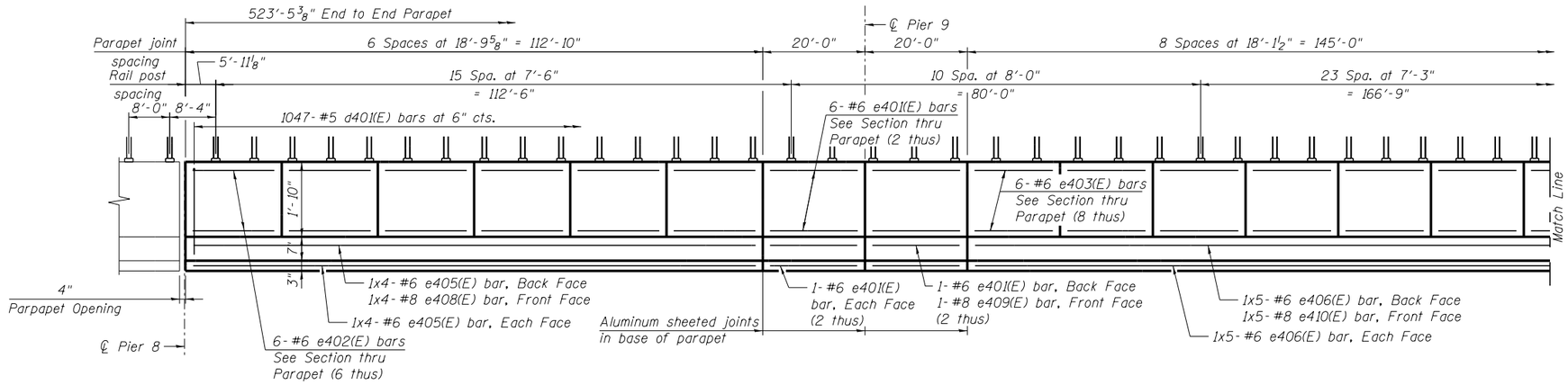
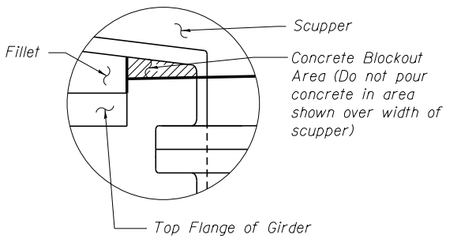
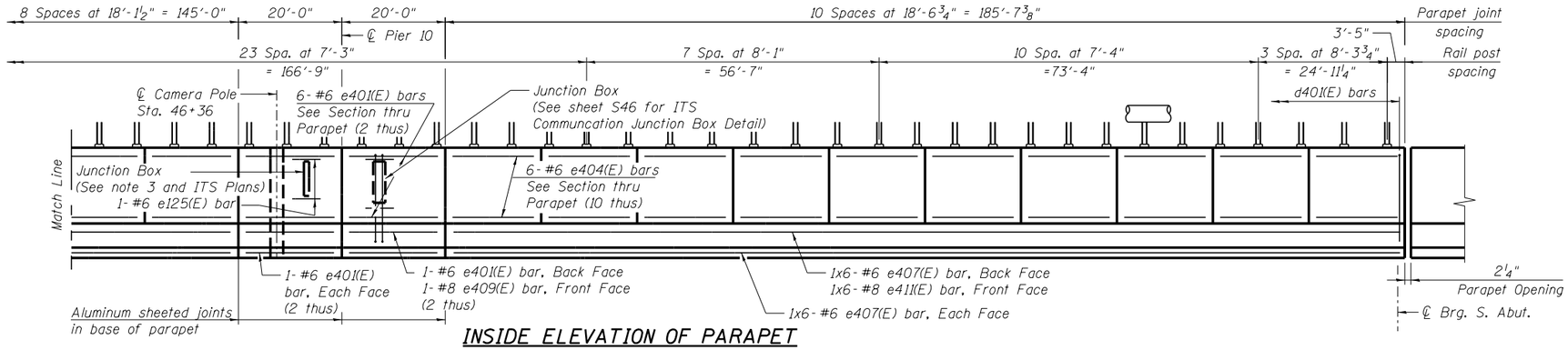


MINIMUM BAR LAP

(Parapet)
#6 bar = 3'-0"
#8 bar = 5'-2"

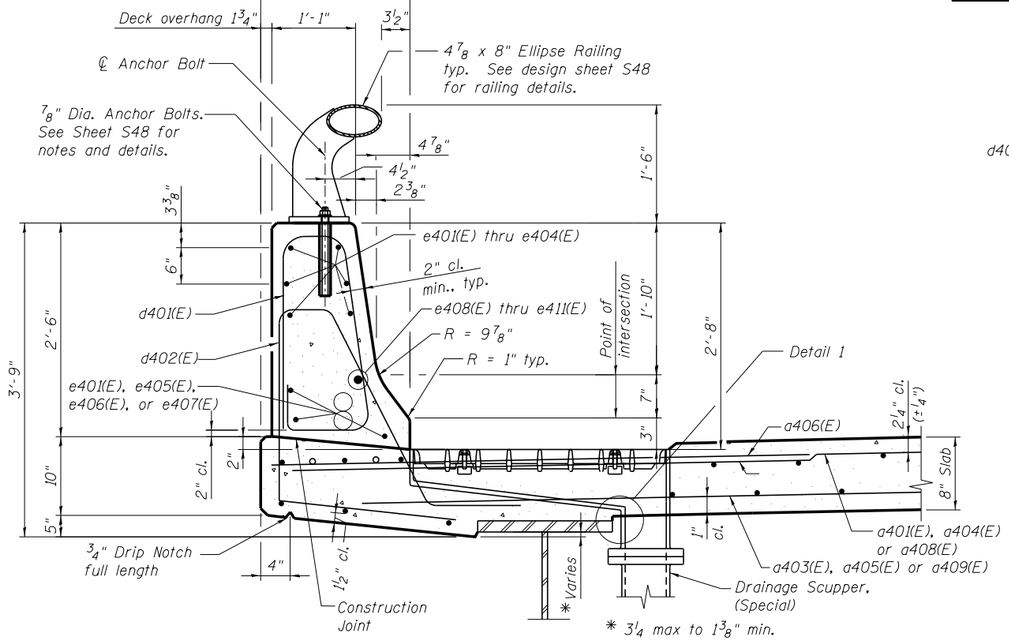


Detail 1

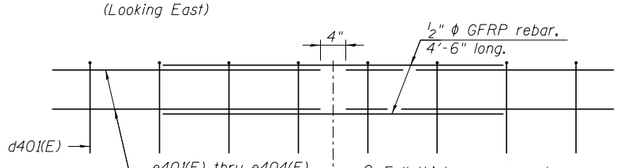


INSIDE ELEVATION OF PARAPET

(Looking East)

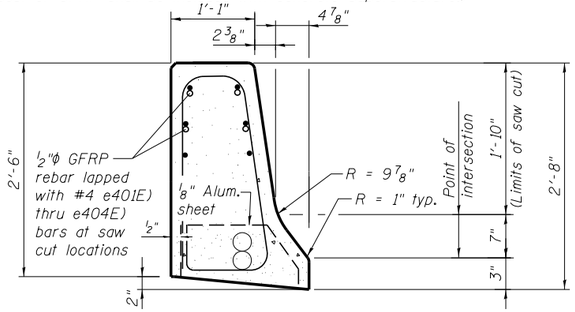


SECTION THRU PARAPET



GFRP REBAR STIFFENING DETAIL

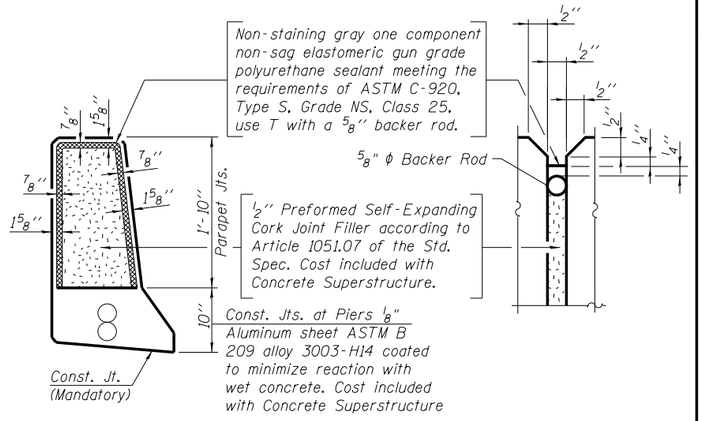
(Place as shown in parapet section at each parapet joint location.)
(GFRP rebar is only required if contractor elects to slipform parapet.)
(Cost of GFRP shall be included with Concrete Superstructure.)



SLIPFORMED PARAPET JOINT DETAILS

(Ellipse railing not shown for clarity)

1. All dimensions shall remain the same as shown on superstructure details.
2. Place aluminum sheet in curb portion at and near piers. Full thickness saw cut at all joint locations in lieu of cork joint filler.



PARAPET JOINT DETAILS

(For Conventional Concrete Placement)

NOTES:

1. All dimensions shown are along toe of parapet.
2. Bars indicated thus 1x5-#8 etc. indicates 1 line of bars with 5 lengths per line.
3. 1 front face bar and 1 vertical bar may be cut to allow for junction box installation.

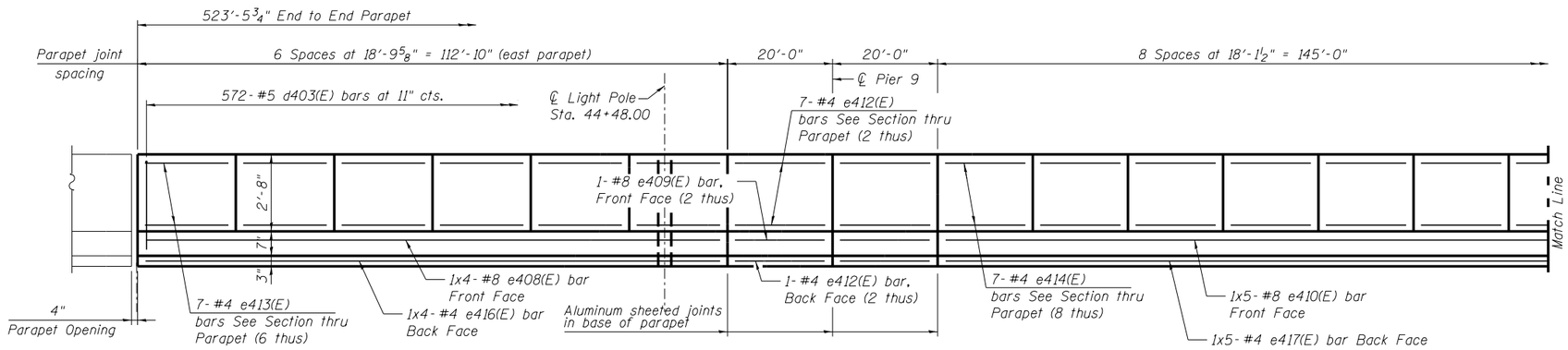
benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

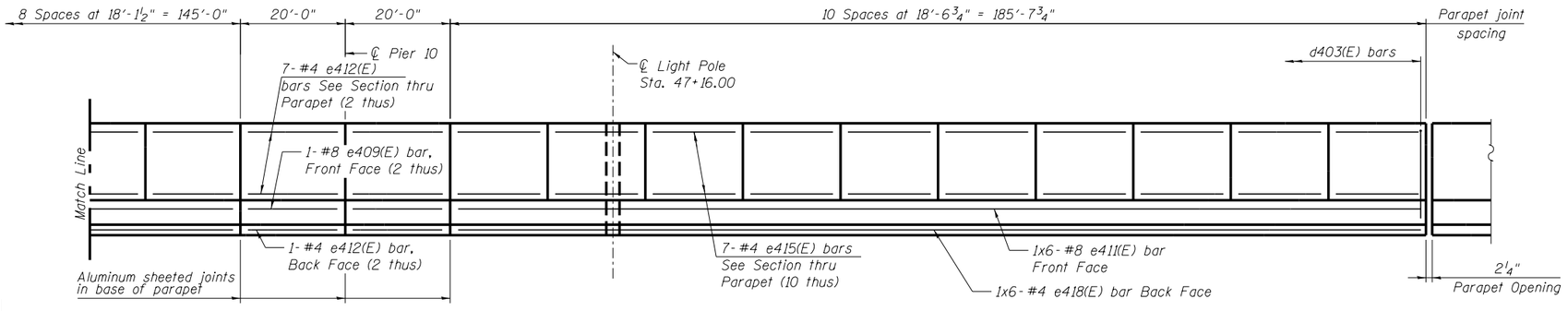
FILENAME = 081-0177-C00AB-043-East Parapet Details Unit 4.dgn	USER NAME = ksnider	DESIGNED - JHG	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Plot Sheet	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST PARAPET DETAILS UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S43 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	812
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			



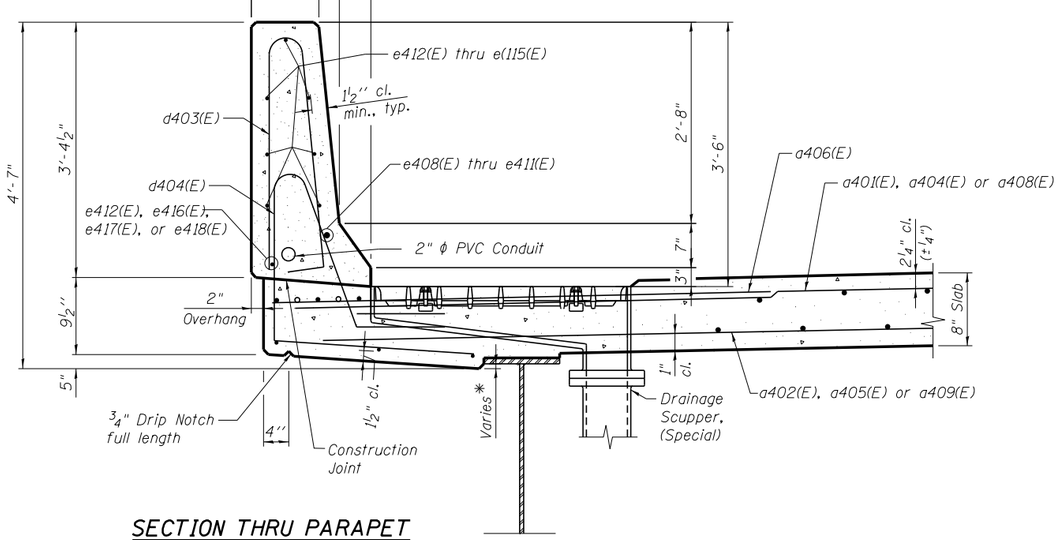


MINIMUM BAR LAP

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

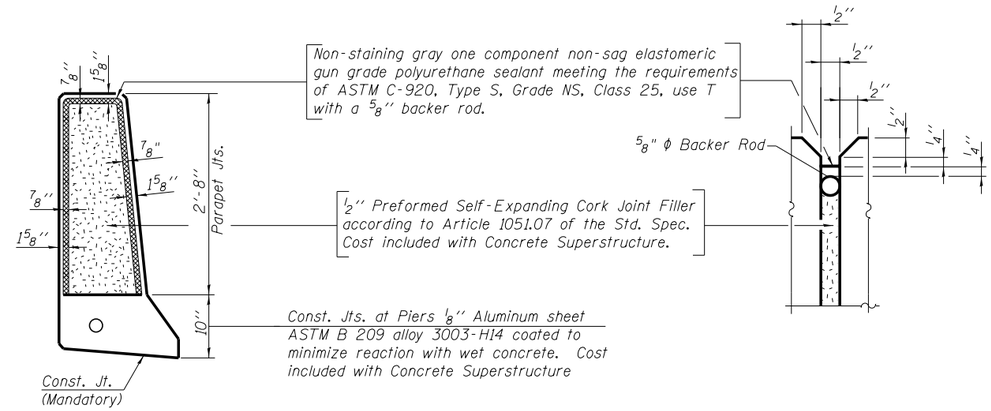
ELEVATION OF MEDIAN PARAPET

(Reflected view shown)



SECTION THRU PARAPET

* 3 5/8" max, 1 1/4" min. (W.B.)



PARAPET JOINT DETAILS

NOTES:

1. All dimensions shown are along toe of parapet.
2. Bars indicated thus 1x5-#8 etc. indicates 1 line of bars with 5 lengths per line.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450
Job No. 10061

FILENAME = 081-0177-C00AB-044-Median Parapet Details Unit 4.dgn	USER NAME = ksnider	DESIGNED - JHG	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Plot Sheet	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MEDIAN PARAPET DETAILS UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S44 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	813
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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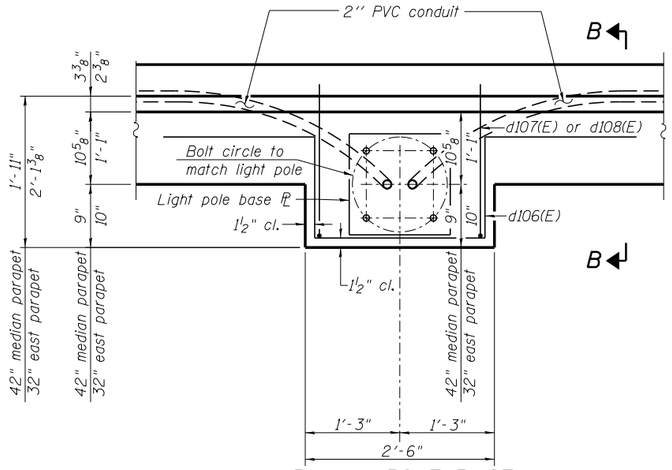
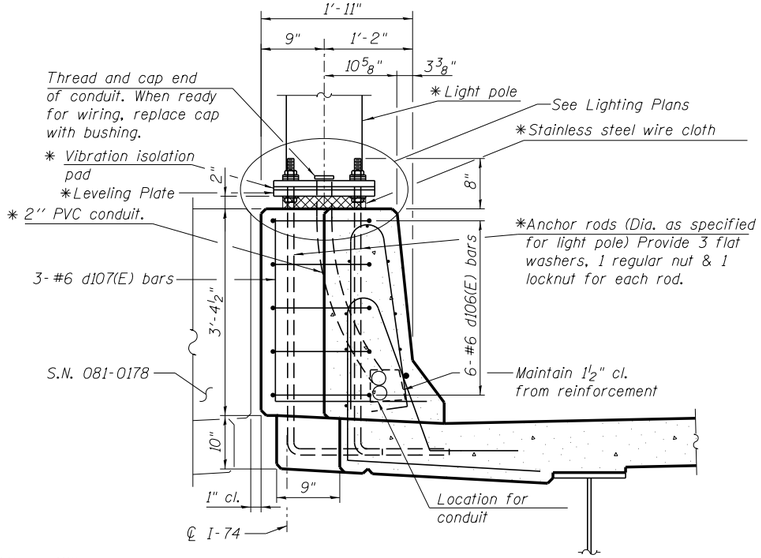


PLAN - POLE BASE

Note: Cost of Anchor rods included with concrete superstructure

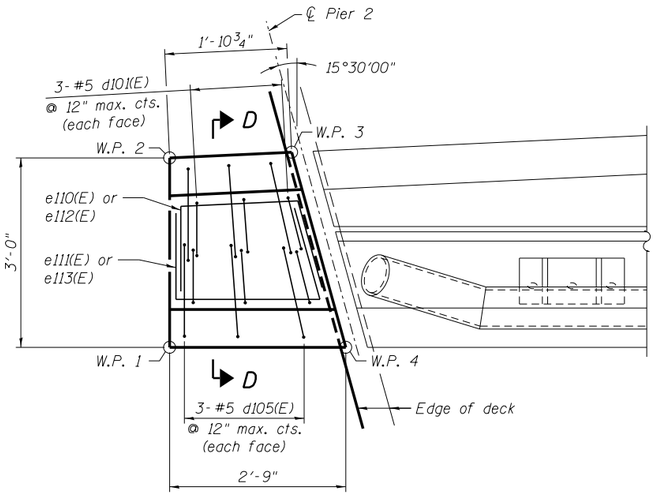


SECTION B-B - Median Parapet

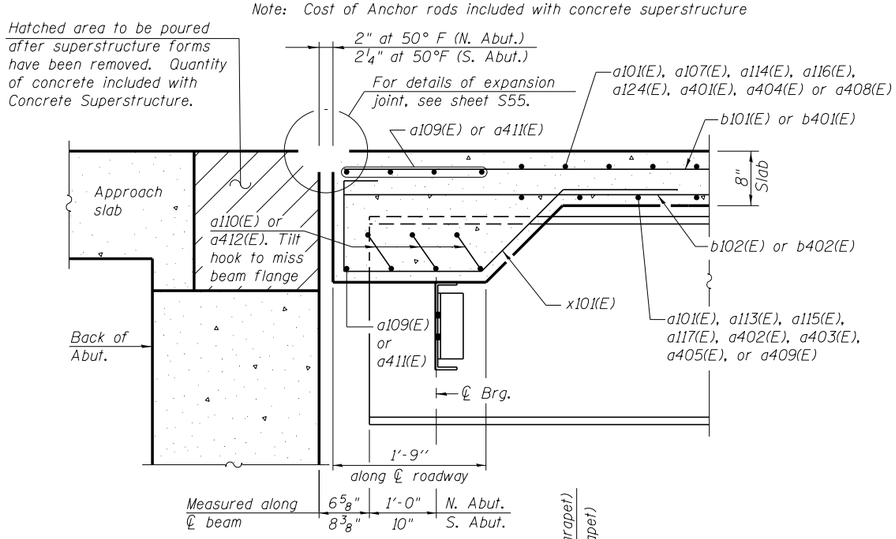
(7 locations)

Work Points

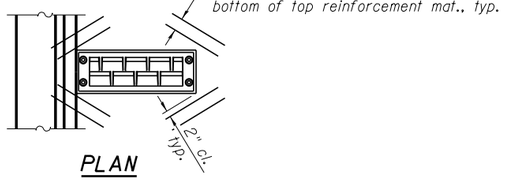
W.P.	Station	Offset
1	32+99.87	62.00' Lt.
2	32+99.87	65.00' Lt.
3	33+01.76	65.10' Lt.
4	33+02.62	62.00' Lt.



PARAPET TRANSITION DETAIL

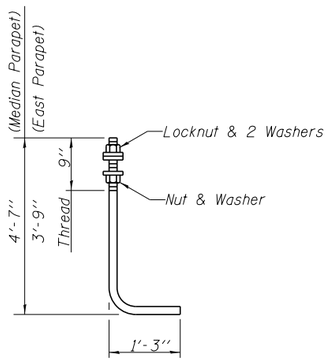


SECTION E-E



PLAN

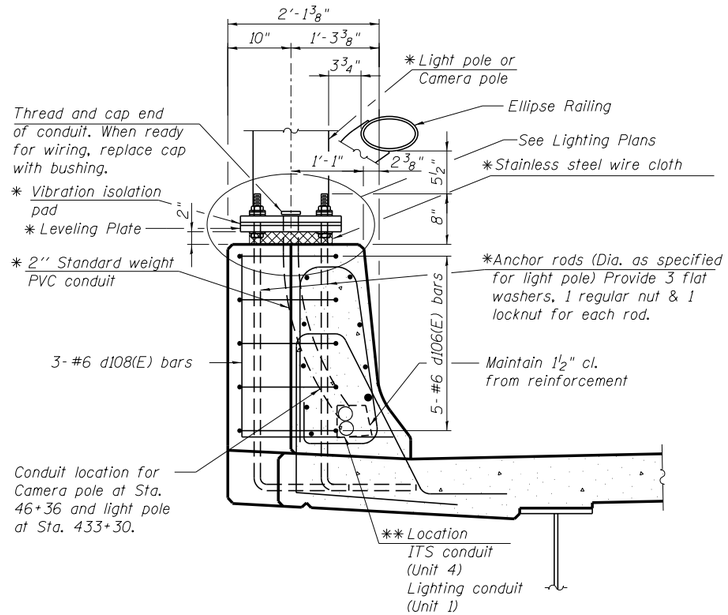
Note: Cut longitudinal reinforcement to clear drainage scuppers.



ANCHOR ROD

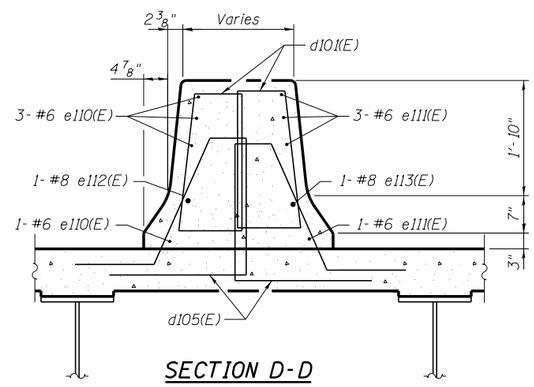
Diameter as specified for light poles. (ASTM F 1554 Grade 105) Full length hot dipped galvanized

* See Lighting Plans for Light Pole details and pay items.
** See ITS Plans for ITS details and pay items.



SECTION B-B - East Parapet

(2 locations)



SECTION D-D

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-045-Superstructure Details (1 of 2).dgn	USER NAME = ksnider	DESIGNED - JDS/DMS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - DMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AMB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS (1 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S45 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	814
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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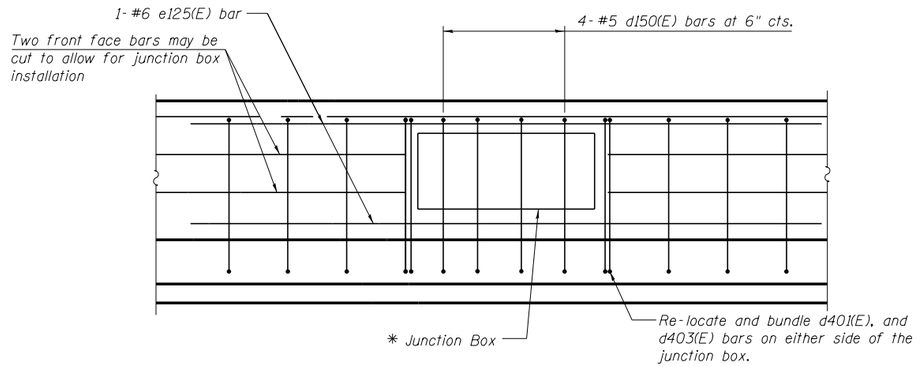

ITS COMMUNICATION JUNCTION BOX DETAIL

(1 Location)

* See ITS Plans for details and pay items.

NOTES:

1. Lap top e125(E) bar with top longitudinal reinforcement.
2. Edge of Junction Box shall be located a minimum of 1'-0" from Rail Post Anchor and a minimum of 3'-0" from a parapet joint.
3. If two junction boxes are located adjacent to each other, they shall be placed a minimum of 6'-0" apart.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-046-Superstructure Details (2 of 2).dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - LRB/AJK	REVISED -
	PLOT SCALE =	DRAWN - DTS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - LRB/AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE DETAILS (2 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S46 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	815
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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SUPERSTRUCTURE
BILL OF MATERIAL - UNIT 1

Bar	No.	Size	Length	Shape
a101(E)	2853	#5	36'-0"	
a102(E)	239	#5	30'-6"	
a103(E)	246	#5	27'-6"	
a104(E)	246	#5	24'-6"	
a105(E)	246	#5	21'-6"	
a106(E)	246	#5	18'-6"	
a107(E)	216	#5	15'-6"	
a108(E)	1800	#6	6'-6"	
a109(E)	15	#6	30'-0"	
a110(E)	30	#6	8'-6"	
a111(E)	49	#6	3'-4"	
a112(E)	24	#5	2'-0"	
a113(E)	3	#5	20'-6"	
a114(E)	10	#5	40'-2"	
a115(E)	6	#5	41'-3"	
a116(E)	11	#5	41'-7"	
a117(E)	7	#5	40'-2"	
a118(E)	12	#5	39'-0"	
a119(E)	7	#5	33'-0"	
a120(E)	10	#5	40'-5"	
a121(E)	7	#5	41'-4"	
a122(E)	8	#5	29'-7"	
a123(E)	6	#5	37'-4"	
a124(E)	4	#5	18'-4"	
a125(E)	3	#5	3'-3"	
b101(E)	2490	#5	30'-3"	
b102(E)	172	#5	16'-10"	
b103(E)	380	#6	38'-8"	
d101(E)	760	#5	7'-9"	
d102(E)	377	#5	7'-11"	
d103(E)	416	#5	6'-10"	
d104(E)	416	#5	7'-9"	
d105(E)	6	#5	8'-5"	
d106(E)	11	#6	8'-11"	
d107(E)	3	#6	5'-1"	
d108(E)	3	#6	4'-3"	
e101(E)	42	#6	18'-2"	
e102(E)	15	#6	28'-4"	
e103(E)	5	#8	30'-1"	
e104(E)	18	#6	19'-8"	
e105(E)	4	#8	19'-8"	
e106(E)	66	#6	18'-6"	
e107(E)	21	#6	32'-2"	
e108(E)	7	#8	34'-0"	
e109(E)	49	#4	18'-5"	
e110(E)	4	#6	4'-5"	
e111(E)	4	#6	5'-0"	
e112(E)	1	#8	4'-5"	
e113(E)	1	#8	5'-0"	
e114(E)	5	#4	27'-11"	
e115(E)	5	#8	30'-5"	
e116(E)	77	#4	18'-8"	
e117(E)	7	#4	31'-9"	
e118(E)	7	#8	34'-5"	
e119(E)	16	#4	19'-8"	
e125(E)	6	#6	8'-4"	
x101(E)	90	#5	6'-5"	
Concrete Superstructure			Cu. Yd.	984.6
Reinforcement Bars, Epoxy Coated			Pound	294,000

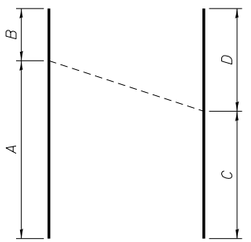
SUPERSTRUCTURE
BILL OF MATERIAL - UNIT 2

Bar	No.	Size	Length	Shape
a201(E)	2522	#5	33'-4"	
a202(E)	830	#5	37'-8"	
a203(E)	852	#5	29'-0"	
a204(E)	24	#5	36'-3"	
a205(E)	16	#5	36'-0"	
a206(E)	2562	#6	6'-6"	
a207(E)	16	#6	2'-0"	
a208(E)	17	#5	38'-9"	
a209(E)	11	#5	46'-7"	
a210(E)	62	#6	3'-4"	
b201(E)	2208	#5	33'-0"	
b202(E)	120	#5	16'-6"	
b203(E)	126	#6	25'-0"	
b204(E)	378	#6	35'-3"	
d106(E)	12	#6	8'-11"	
d107(E)	6	#6	5'-1"	
d201(E)	1071	#5	7'-9"	
d202(E)	535	#5	8'-2"	
d203(E)	585	#5	6'-10"	
d204(E)	585	#5	7'-9"	
e201(E)	36	#6	19'-8"	
e202(E)	42	#6	19'-3"	
e203(E)	78	#6	18'-5"	
e204(E)	12	#6	15'-5"	
e205(E)	18	#6	14'-1"	
e206(E)	36	#6	30'-8"	
e207(E)	12	#6	31'-8"	
e208(E)	8	#8	19'-8"	
e209(E)	8	#8	33'-4"	
e210(E)	24	#8	32'-6"	
e211(E)	32	#4	19'-8"	
e212(E)	126	#4	18'-5"	
e213(E)	42	#4	19'-4"	
e214(E)	12	#4	29'-10"	
e215(E)	4	#4	30'-11"	
Concrete Superstructure			Cu. Yd.	1,042.3
Reinforcement Bars, Epoxy Coated			Pound	312,660

Bar	A	B	C	D
a113(E)	15'-6"	5'-0"	11'-4"	9'-2"
a114(E)	34'-5"	5'-9"	20'-10"	19'-4"
a115(E)	34'-2"	7'-1"	21'-10"	19'-5"
a116(E)	36'-0"	5'-7"	21'-6"	20'-1"
a117(E)	35'-6"	4'-8"	21'-3"	18'-11"
a118(E)	36'-0"	3'-0"	20'-3"	18'-9"
a119(E)	30'-6"	2'-6"	17'-7"	15'-5"
a120(E)	34'-5"	6'-0"	21'-0"	19'-5"
a121(E)	36'-0"	5'-4"	21'-10"	19'-6"
a122(E)	25'-11"	3'-8"	15'-6"	14'-1"
a123(E)	32'-6"	4'-10"	19'-11"	17'-5"
a124(E)	14'-8"	3'-8"	9'-11"	8'-5"
a204(E)	35'-3"	1'-0"	1'-0"	35'-3"
a205(E)	34'-11"	1'-1"	1'-1"	34'-11"
a208(E)	31'-5"	7'-4"	7'-4"	31'-5"
a209(E)	34'-6"	12'-1"	12'-1"	34'-6"
a304(E)	35'-8"	1'-2"	1'-2"	35'-8"
a305(E)	35'-8"	1'-11"	1'-11"	35'-8"
a308(E)	31'-10"	7'-9"	7'-9"	31'-10"
a309(E)	35'-5"	12'-10"	12'-10"	35'-5"
a404(E)	35'-8"	1'-2"	1'-2"	35'-8"
a405(E)	35'-8"	1'-11"	1'-11"	35'-8"
a408(E)	31'-10"	7'-9"	7'-9"	31'-10"
a409(E)	35'-5"	12'-10"	12'-10"	35'-5"

SUPERSTRUCTURE
BILL OF MATERIAL - UNIT 3

Bar	No.	Size	Length	Shape
a301(E)	2312	#5	33'-4"	
a302(E)	760	#5	37'-8"	
a303(E)	782	#5	29'-0"	
a304(E)	24	#5	36'-10"	
a305(E)	16	#5	37'-7"	
a306(E)	2326	#6	6'-6"	
a307(E)	16	#6	2'-0"	
a308(E)	17	#5	39'-7"	
a309(E)	11	#5	48'-3"	
a310(E)	62	#6	3'-4"	
b301(E)	1188	#5	30'-5"	
b302(E)	1020	#5	30'-6"	
b303(E)	189	#6	28'-4"	
b304(E)	252	#6	33'-3"	
b305(E)	120	#5	15'-0"	
d106(E)	12	#6	8'-11"	
d107(E)	6	#6	5'-1"	
d301(E)	981	#5	7'-9"	
d302(E)	491	#5	8'-2"	
d303(E)	536	#5	6'-10"	
d304(E)	536	#5	7'-9"	
e301(E)	36	#6	19'-8"	
e302(E)	42	#6	17'-5"	
e303(E)	36	#6	18'-4"	
e304(E)	54	#6	19'-4"	
e305(E)	15	#6	27'-3"	
e306(E)	15	#6	24'-9"	
e307(E)	18	#6	31'-10"	
e308(E)	10	#8	29'-0"	
e309(E)	8	#8	19'-8"	
e310(E)	10	#8	26'-6"	
e311(E)	12	#8	33'-9"	
e312(E)	32	#4	19'-8"	
e313(E)	49	#4	17'-5"	
e314(E)	42	#4	18'-4"	
e315(E)	63	#4	19'-4"	
e316(E)	5	#4	26'-6"	
e317(E)	5	#4	24'-0"	
e318(E)	6	#4	31'-1"	
Concrete Superstructure			Cu. Yd.	957.0
Reinforcement Bars, Epoxy Coated			Pound	285,230

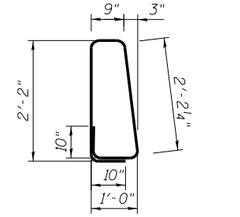


Cutting Diagram

(See table for bar designations)

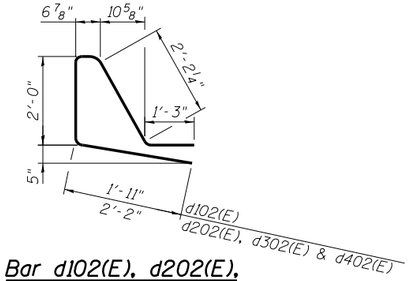
SUPERSTRUCTURE
BILL OF MATERIAL - UNIT 4

Bar	No.	Size	Length	Shape
a401(E)	2452	#5	33'-4"	
a402(E)	820	#5	37'-8"	
a403(E)	815	#5	29'-0"	
a404(E)	24	#5	36'-10"	
a405(E)	16	#5	37'-7"	
a406(E)	2494	#6	6'-6"	
a407(E)	16	#5	2'-0"	
a408(E)	17	#5	39'-7"	
a409(E)	11	#5	48'-3"	
a410(E)	31	#6	3'-8"	
a411(E)	10	#5	34'-6"	
a412(E)	18	#6	10'-10"	
b401(E)	1956	#5	36'-0"	
b402(E)	120	#5	21'-2"	
b403(E)	189	#6	30'-0"	
b404(E)	252	#6	34'-2"	
d106(E)	17	#6	8'-11"	
d107(E)	6	#6	5'-1"	
d108(E)	3	#6	4'-3"	
d150(E)	4	#5	3'-11"	
d401(E)	1047	#5	7'-9"	
d402(E)	523	#5	8'-2"	
d403(E)	572	#5	6'-10"	
d404(E)	572	#5	7'-9"	
e125(E)	4	#6	8'-4"	
e401(E)	36	#6	19'-8"	
e402(E)	36	#6	18'-6"	
e403(E)	48	#6	17'-10"	
e404(E)	60	#6	18'-3"	
e405(E)	12	#6	30'-6"	
e406(E)	15	#6	31'-5"	
e407(E)	18	#6	33'-5"	
e408(E)	8	#8	32'-0"	
e409(E)	8	#8	19'-8"	
e410(E)	10	#8	33'-2"	
e411(E)	12	#8	35'-3"	
e412(E)	32	#4	19'-8"	
e413(E)	42	#4	18'-6"	
e414(E)	56	#4	17'-10"	
e415(E)	70	#4	18'-3"	
e416(E)	4	#4	29'-8"	
e417(E)	5	#4	30'-7"	
e418(E)	6	#4	32'-7"	
x101(E)	60	#5	6'-5"	
Concrete Superstructure			Cu. Yd.	1,018.3
Reinforcement Bars, Epoxy Coated			Pound	303,100



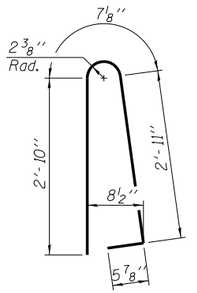
Bar d101(E), d201(E), d301(E) & d401(E)

All dimensions are out to out.

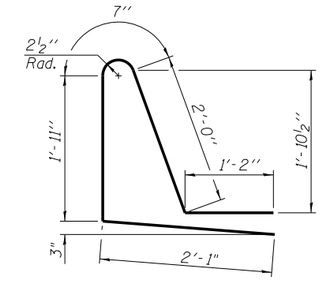


Bar d102(E), d202(E), d302(E) & d401(E)

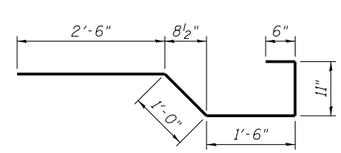
All dimensions are out to out.



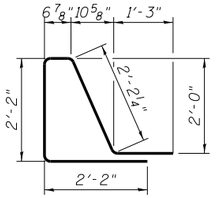
Bars d103(E), d203(E), d303(E) & d403(E)



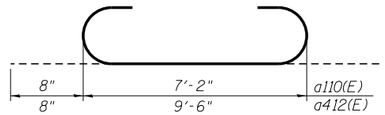
Bars d104(E), d204(E), d304(E) & d404(E)



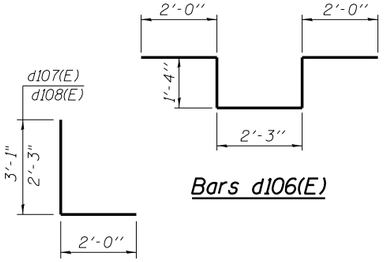
Bar x101(E)



Bar d105(E)

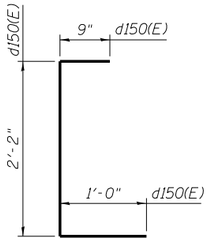


Bars a110(E) & a412(E)

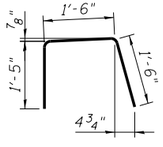


Bars d107(E) and d108(E)

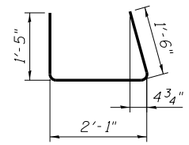
Bars d106(E)



BARS d150(E) & d151(E)



Bars e110(E) and e112(E)



Bars e111(E) and e113(E)

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-047-Reinforcement Details and Bill of Materials.dgn
MODEL = Default

USER NAME = ksnider | PLOT SCALE = | PLOT DATE = 1/18/2017

DESIGNED - JDS/DMS | CHECKED - AMB/AJK/TPS | DRAWN - DMS | CHECKED - AJK/TPS

REVISED - | REVISED - | REVISED - | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

REINFORCING BAR DETAILS AND BILL OF MATERIAL
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S47 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	816
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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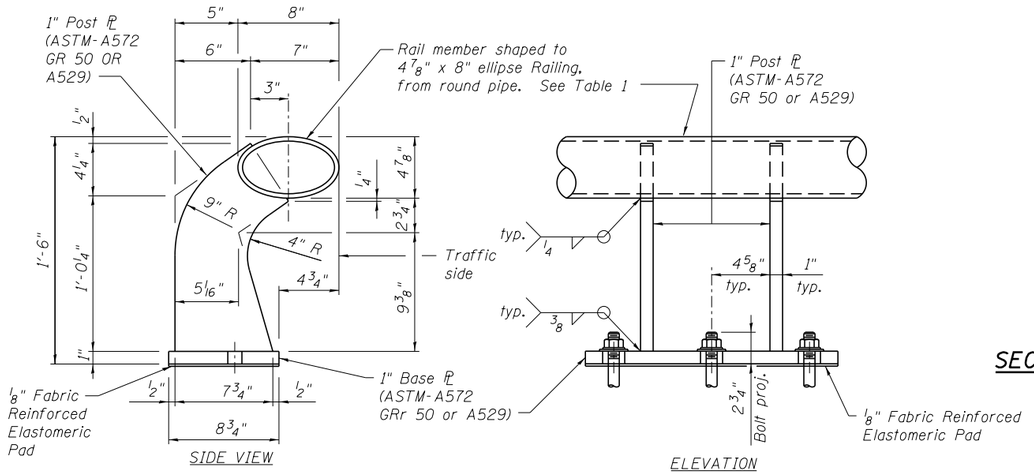
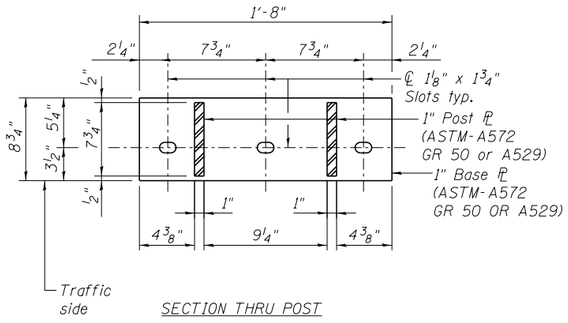
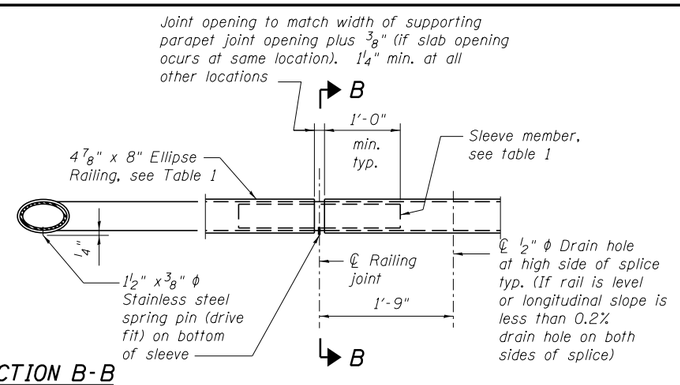




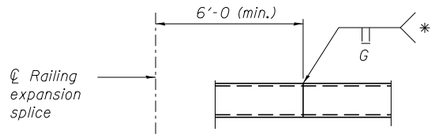
ELLIPTICAL TUBE WITH RAIL POST AND ANCHORAGE DETAILS



SECTION B-B

ELLIPSE RAILING SLEEVE DETAIL

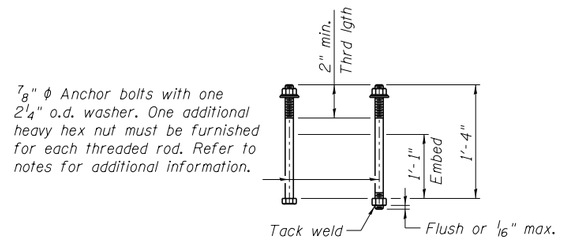
Note:
The major and minor diameters of the rail member may vary +/- 3/16" from plan dimensions. However, the difference between the outside diameters of the sleeve and the inside diameters of the rail shall not exceed 1/8" along the major or minor axis. The maximum gap along the 45° axis of the sleeve may be 1/4" max.



RAILING SHOP SPLICE DETAIL

* Shop splice is permitted with minimum 85 percent penetration. The weld may be square groove, double vee groove, or single groove. Grind smooth.

TABLE 1		
APPROVED RAILING MATERIAL		
4 7/8"x 8" Ellipse Railing	Sleeve Member (at railing splice)	
Material	Material	Thickness
6" Dia. Std. Pipe ASTM-A53 E OR S GRADE B	ASTM-A53-B	0.353"
	A36 or A500 GR. B	0.339"
	API-5LX52	0.224"
6" dia. . 0.280" Wall thickness ASTM-A501	ASTM-A53-B	0.353"
	A36 or A500 GR. B	0.339"
	API-5LX52	0.224"
6 5/8" O.D. x 0.188" Tube API-5LX52	ASTM-A53-B	0.339"
	A36 or A500 GR. B	0.325"
	API-5LX52	0.216"



7/8" ϕ Anchor bolts with one 2 1/4" o.d. washer. One additional heavy hex nut must be furnished for each threaded rod. Refer to notes for additional information.

CAST-IN-PLACE ANCHOR BOLT OPTIONS

NOTES:

1. See sheets S37, S39, S41 & S43, for post spacing.
2. Steel Railing (Special) shall be fabricated and installed in accordance with Article 509 of the Standard Specifications, unless otherwise noted.
3. All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
4. The Steel Railing (Special) is to be bid on a per linear foot basis measured from end to end of steel railing.
5. Payment for Steel Railing (Special) shall include full compensation for furnishing all material, and all the equipment and labor required to erect the rail in accordance with these plans and the Standard Specifications.
6. Anchor bolts shall be 7/8" ϕ, ASTM A-193 GR. B7, fully threaded with heavy hex nuts and one hardened washer and one 2 1/4" O.D. washer each. Embed threaded rods 10 1/2" min. into concrete parapet. Material for these items shall be in accordance with the adhesive manufacturer's requirements to be capable of obtaining an ultimate load per threaded rod of 36 kips in tension, considering spacing and edge distance. See Standard Specification 509.06 for further details on setting anchor bolts. Cost of anchor bolts included with Steel Railing (Special).
7. Optional cast-in-place anchor bolts to comply with ASTM F-1554 Grade 105. Hex nuts to comply with AASHTO M291, washers to comply with AASHTO M-293. Galvanizing in accordance with AASHTO M-232.
8. Provide one 1/8" and two 1/16" galvanized steel shims for 25% of rail posts, to be used as required. Shims shall be similar to base plates in size and holes. Cost included with Steel Railing (Special).

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Steel Railing (Special)	Foot	1960

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-048-Traffic barrier details (1 of 3).dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TRAFFIC BARRIER DETAILS (1 OF 3) STRUCTURE NO. 081-0177 (WESTBOUND)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - AJK	REVISED -			74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	817
MODEL = Default	PLOT SCALE =	DRAWN - DTS	REVISED -					CONTRACT NO. 64C08		
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -		SHEET NO. S48 OF S120 SHEETS			ILLINOIS FED. AID PROJECT		

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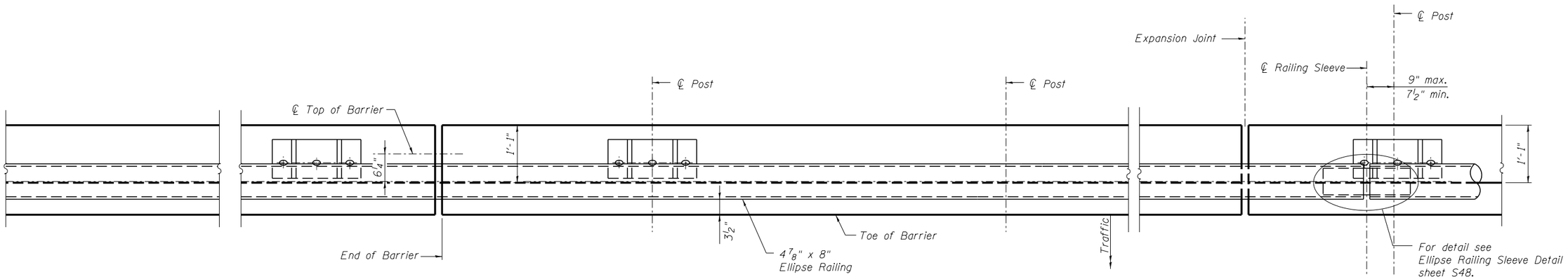
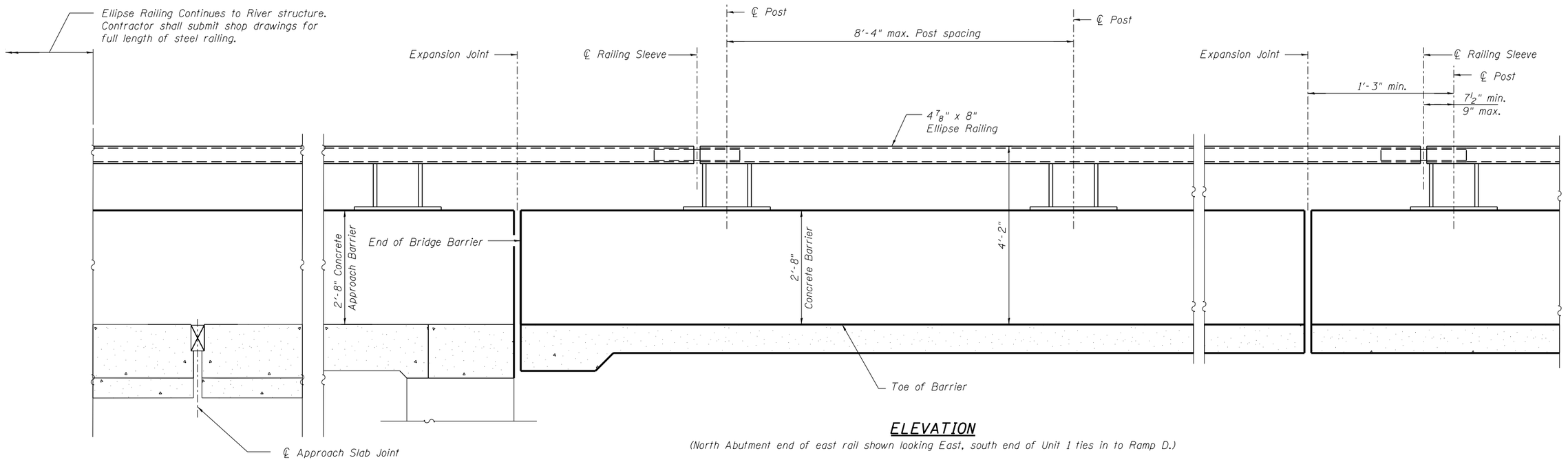


PLAN



ELEVATION

(North Abutment end of east rail shown looking East, south end of Unit 1 ties in to Ramp D.)

NOTES:

1. Edge of base plate shall not be less than 6" from any cold joint or barrier discontinuity including the back of the abutment or opening for finger plate expansion joint.
2. See sheets S37, S39, S41 and S43, for post spacing.

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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-049-Traffic Barrier Details (2 of 3).dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - DTS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC BARRIER DETAILS (2 OF 3)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S49 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	818
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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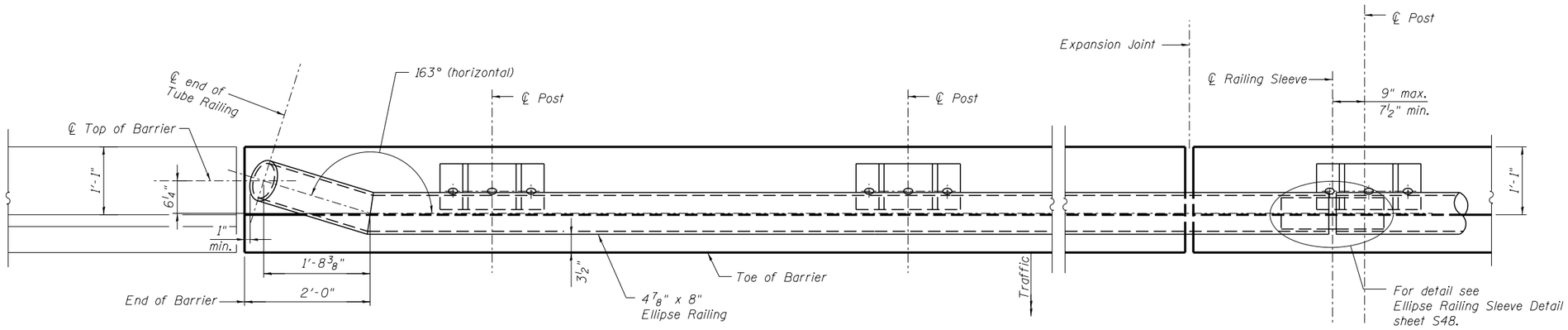

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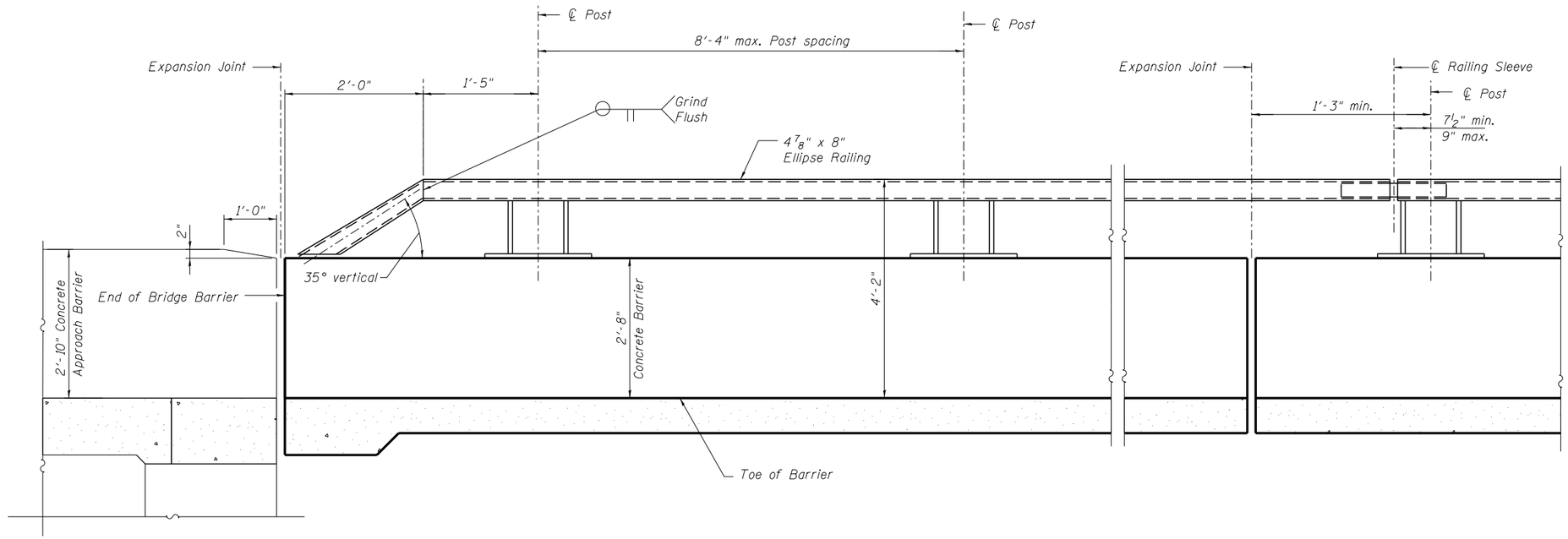

ELEVATION

(South Abutment shown, looking West, beginning of rail in Span 3 shown, looking east)
(See sheet S45 for Parapet Transition Detail.)

NOTES:

1. Edge of base plate shall not be less than 6" from any cold joint or barrier discontinuity including the back of the abutment or opening for finger plate expansion joint.
2. See sheets S37, S39, S41 & S43 for post spacing.

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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-050-Traffic Barrier Details (3 of 3).dgn	USER NAME = ksnider	DESIGNED - JHG	REVISED -
		CHECKED - AJK	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TRAFFIC BARRIER DETAILS (3 OF 3)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S50 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	819
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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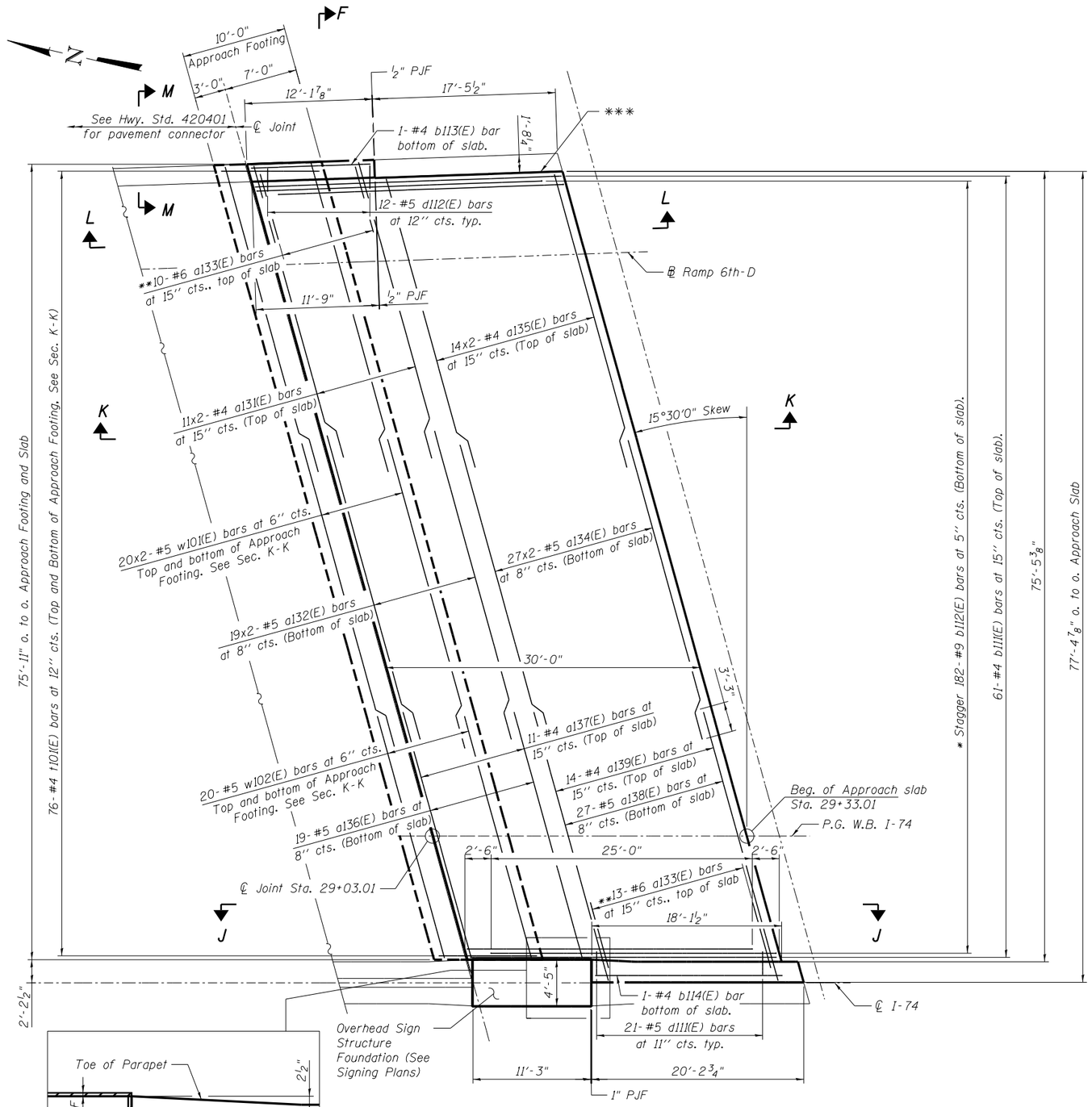
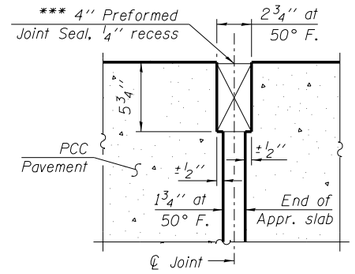


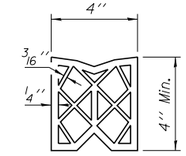
PLAN

*** Cost included with Concrete Superstructure.

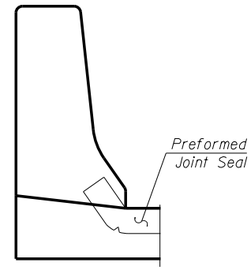


RIGID PAVEMENT

DETAIL A



PREFORMED JOINT SEAL



VIEW M-M

Angle Preformed Joint Seal at 45° at parapet.

MINIMUM BAR LAP

(Approach)
#4 bar = 2'-7"
#5 bar = 3'-3"

NOTE:

1. See sheet S52 for Sections F-F & K-K and Views J-J & L-L.
2. a131(E) thru a139(E) bar spacings measured along P.G W.B. I-74.
3. b111(E) & b112(E) bar spacings measured perpendicular to P.G W.B. I-74.
4. See sheet S89 for dimensions between end of approach slab and abutment backwall.
5. Maskwall not shown for clarity.

* Tilt #9 b112(E) bars as required to maintain clearance.
** Space between a131(E) or a139(E) bars.
*** Preformed Flexible Foam Expansion Joint Filler according to Article 1051.09 of standard specification, full depth slab, full length of parapet.

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312-565-0450 Job No. 10061

BA-R 10-9-12

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		CHECKED - AJK	REVISED -
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MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH BRIDGE APPROACH SLAB PLAN
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S51 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	820
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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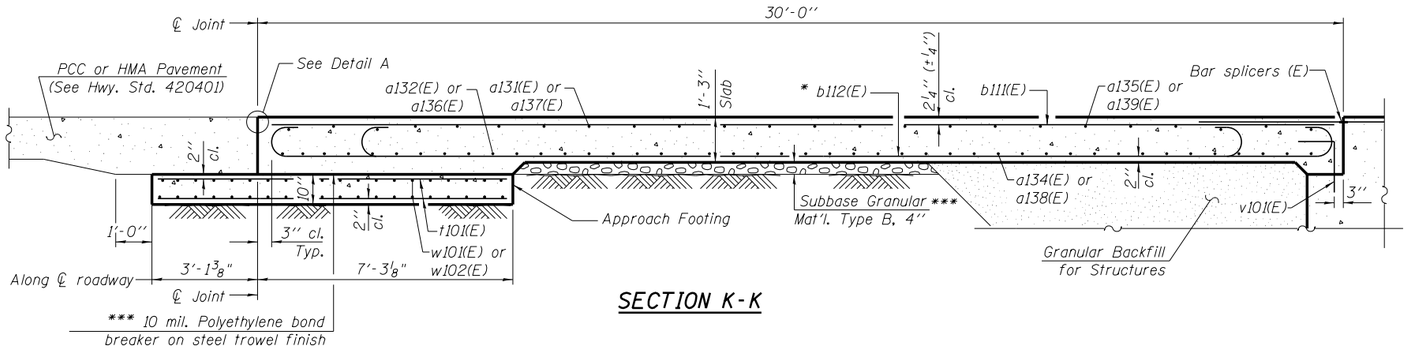
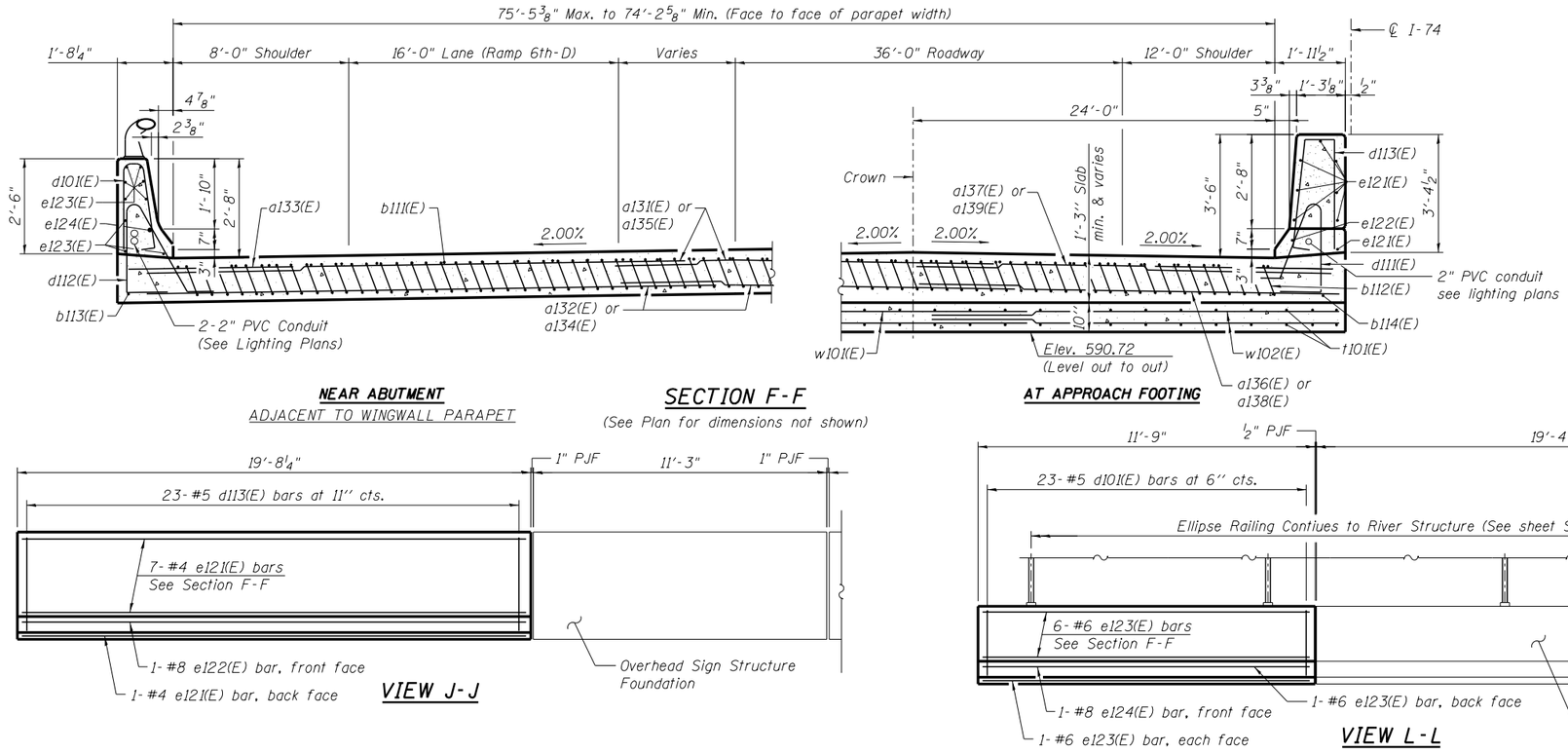


SECTION K-K

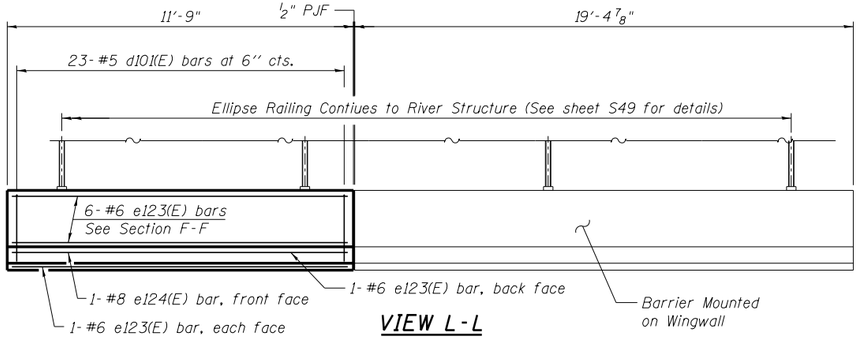


NEAR ABUTMENT
ADJACENT TO WINGWALL PARAPET

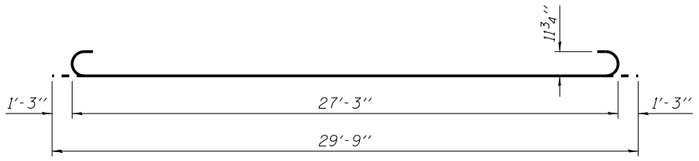
SECTION F-F

(See Plan for dimensions not shown)

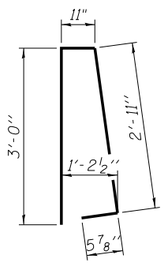
VIEW J-J



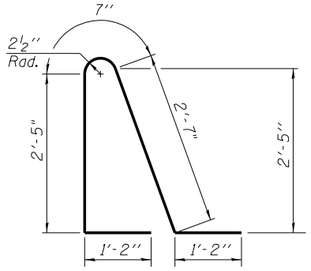
VIEW L-L



BAR b112(E)



Bars d113(E)

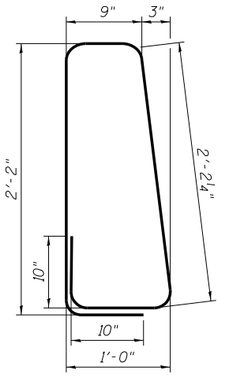


Bar d111(E)

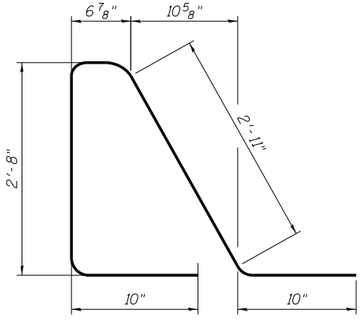
Notes:
See sheet S51 for Detail A.
Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
Approach footing concrete shall be paid for as Concrete Structures.
Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
For v101(E) bar details, see sheets S85 and S89.
The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
For bar splicer details, see sheet S108.
Cost of excavation for approach footing included with Concrete Structures.
For Granular Backfill for Structures and drainage treatment details, see sheet S7.
Ellipse Railing not shown for clarity.

* Tilt #9 b112(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.



BAR d101(E)



Bar d112(E)

All dimensions are out to out.

NORTH BRIDGE APPROACH SLAB BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a131(E)	22	#4	30'-4"	
a132(E)	38	#5	31'-0"	
a133(E)	23	#6	6'-6"	
a134(E)	54	#5	30'-1"	
a135(E)	28	#4	29'-5"	
a136(E)	19	#5	24'-4"	
a137(E)	11	#4	24'-4"	
a138(E)	27	#5	26'-7"	
a139(E)	14	#4	26'-7"	
b111(E)	61	#4	29'-8"	
b112(E)	182	#9	29'-9"	
b113(E)	1	#4	11'-10"	
b114(E)	1	#4	18'-4"	
d101(E)	23	#5	7'-9"	
d111(E)	21	#5	7'-11"	
d112(E)	12	#5	7'-10"	
d113(E)	23	#5	7'-4"	
e121(E)	8	#4	19'-6"	
e122(E)	1	#8	19'-6"	
e123(E)	9	#6	11'-5"	
e124(E)	1	#8	11'-5"	
t101(E)	152	#4	9'-11"	
w101(E)	80	#5	30'-5"	
w102(E)	40	#5	23'-11"	
Concrete Superstructure			Cu. Yd.	137.1
Concrete Structures			Cu. Yd.	24.3
Reinforcement Bars, Epoxy Coated			Pound	30,960

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312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S52 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	821
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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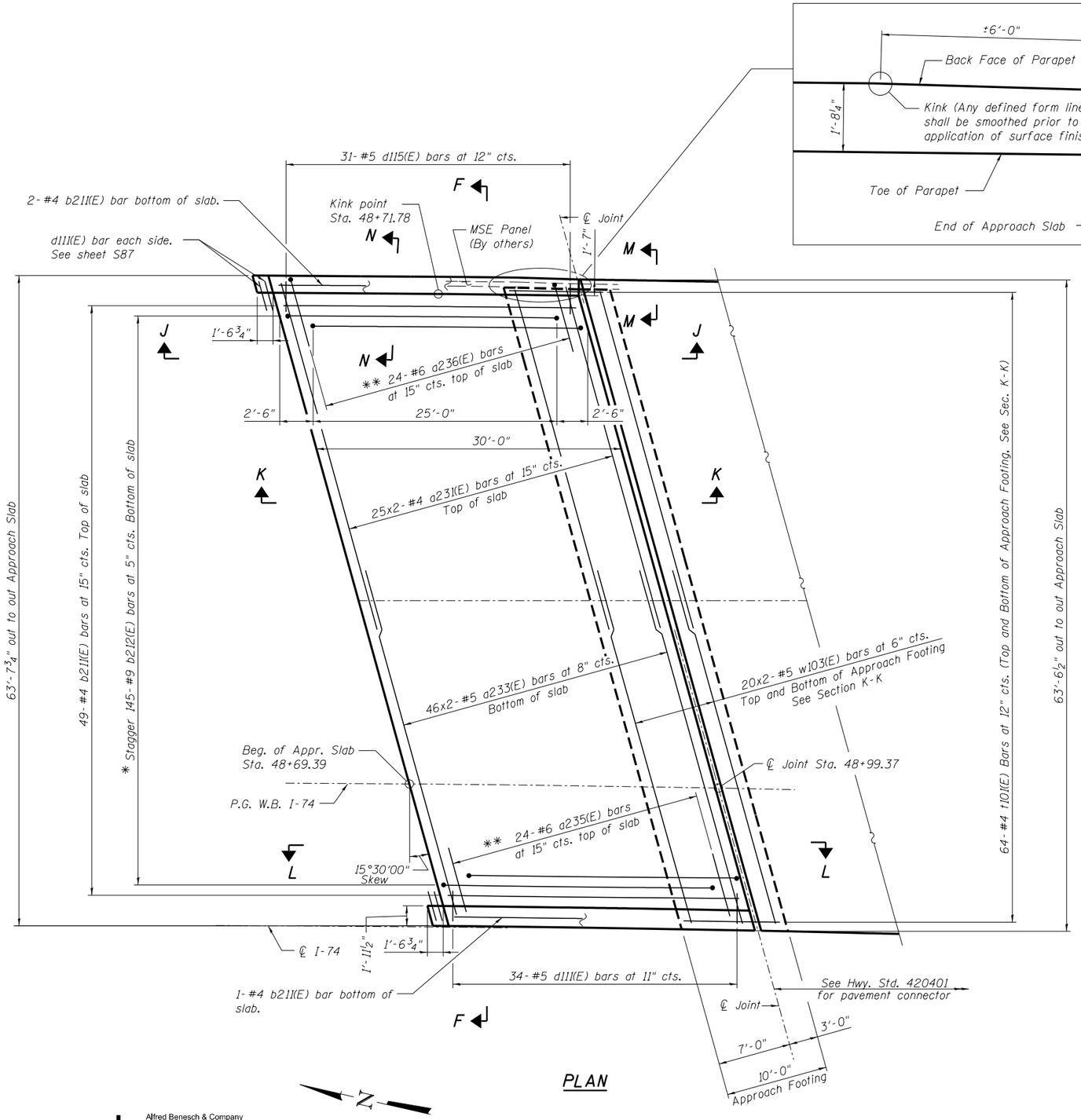
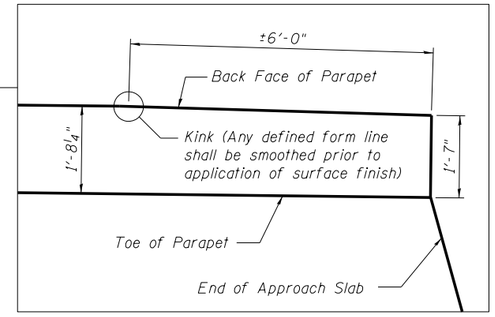
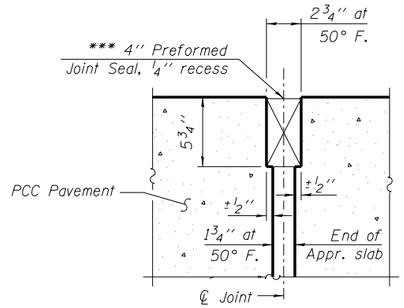


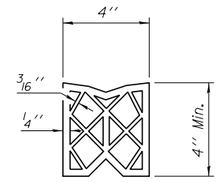
PLAN



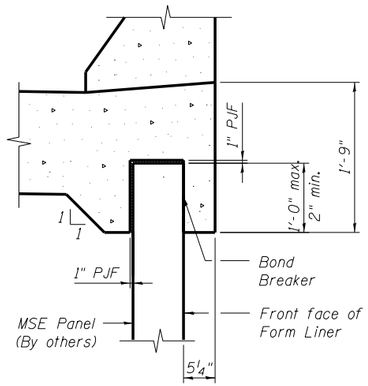


RIGID PAVEMENT

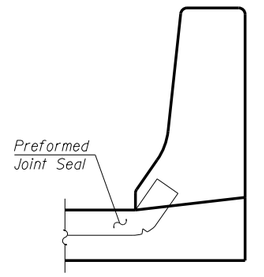
DETAIL A



PREFORMED JOINT SEAL



SECTION N-N



VIEW M-M

Angle Preformed Joint Seal at 45° at parapet.

MINIMUM BAR LAP

(Approach)
#4 bar = 2'-7"
#5 bar = 3'-3"

* Tilt #9 b212(E) bars as required to maintain clearance.
** Space between a231(E) bars.
*** Cost included with Concrete Superstructure.

NOTE:

1. See sheet S54 for Sections F-F & K-K and Views J-J & L-L.
2. a231(E) thru a236(E) bar spacings measured along P.G. W.B. I-74.
3. b211(E) & b212(E) bar spacings measured perpendicular to P.G. W.B. I-74.
4. See sheet S88 for dimensions between end of approach slab and abutment backwall.
5. Maskwall not shown for clarity.

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312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB PLAN
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S53 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	822
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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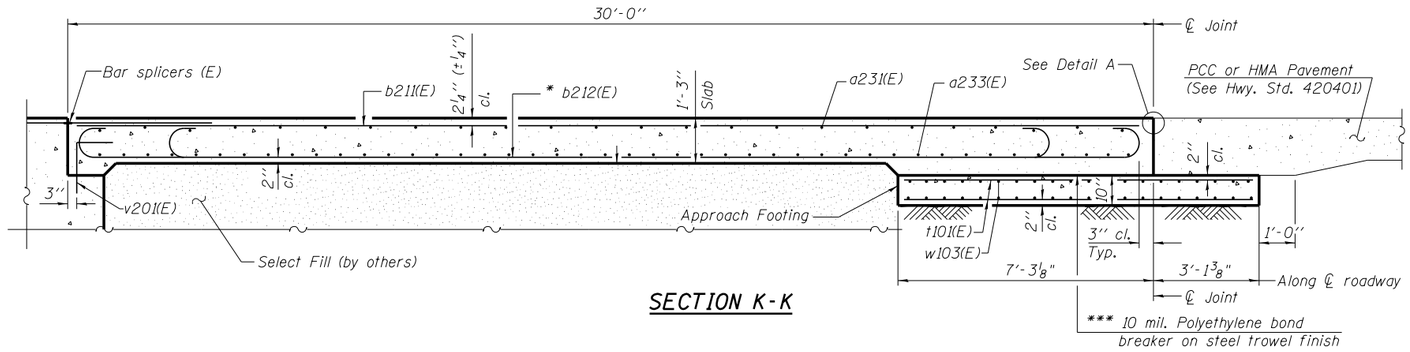
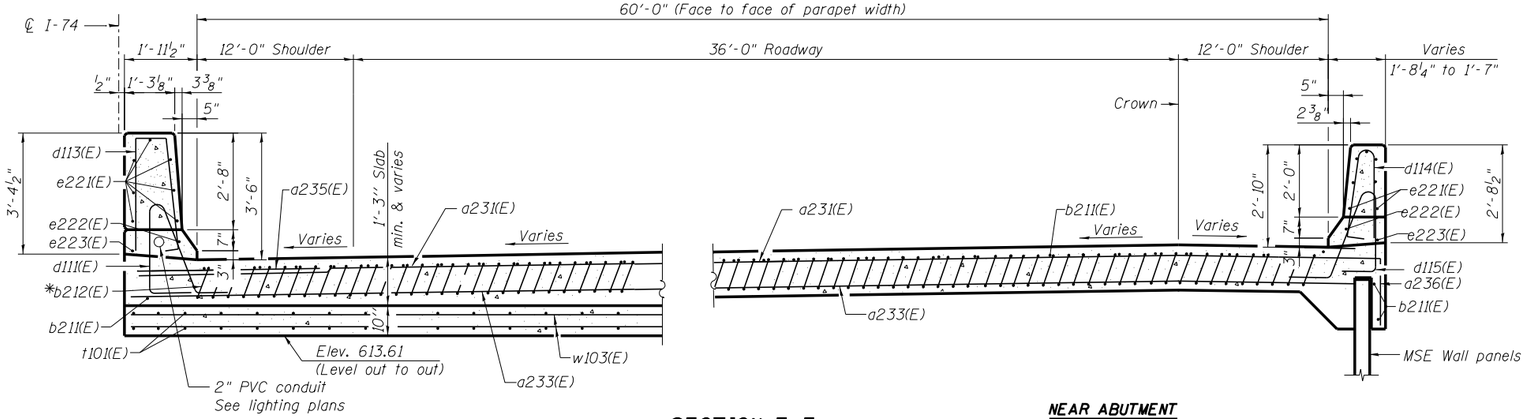


SECTION K-K

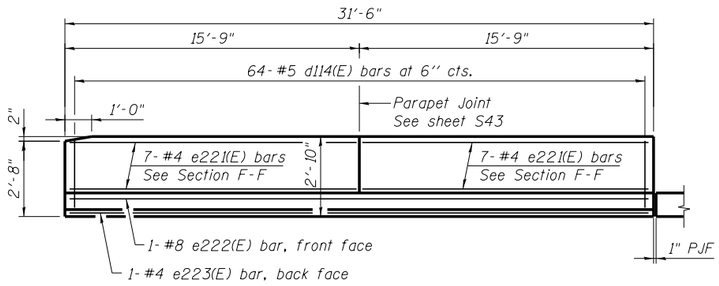


SECTION F-F

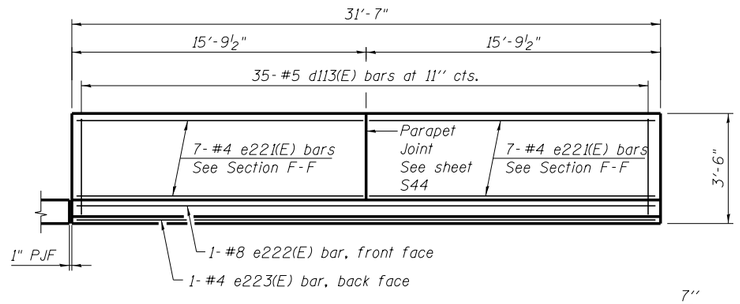
(See Plan for dimensions not shown)

NEAR ABUTMENT

AT APPROACH FOOTING



VIEW J-J



VIEW L-L

NOTES:

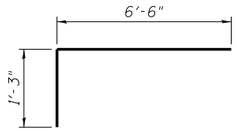
1. See sheet S53 for Detail A.
2. See sheet S36 for Deck Slope Cross Section.
3. Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
4. Approach footing concrete shall be paid for as Concrete Structures.
5. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
6. For v201(E) bar details, see sheets S87, S88 and S89.
7. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
8. For bar splicer details, see sheet S108.
9. Cost of excavation for approach footing included with Concrete Structures.

* Tilt #9 b212(E) bars as required to maintain clearance.

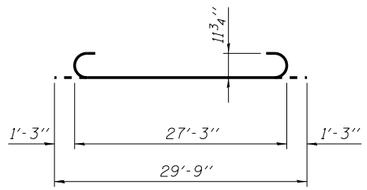
*** Cost included with Concrete Superstructure.

SOUTH BRIDGE APPROACH SLAB BILL OF MATERIAL

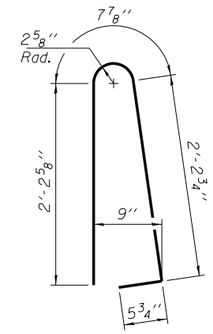
Bar	No.	Size	Length	Shape
a231(E)	50	#4	34'-3"	
a233(E)	92	#5	34'-7"	
a235(E)	24	#6	6'-6"	
a236(E)	24	#6	7'-9"	
b211(E)	52	#4	29'-8"	
b212(E)	145	#9	29'-9"	
d111(E)	34	#5	7'-11"	
d113(E)	35	#5	7'-4"	
d114(E)	64	#5	5'-7"	
d115(E)	31	#5	6'-9"	
e221(E)	28	#4	15'-6"	
e222(E)	2	#8	31'-3"	
e223(E)	2	#4	31'-3"	
t101(E)	128	#4	9'-11"	
w103(E)	80	#5	34'-7"	
Concrete Superstructure			Cu. Yd.	122.6
Concrete Structures			Cu. Yd.	20.4
Reinforcement Bars, Epoxy Coated			Pound	26,050



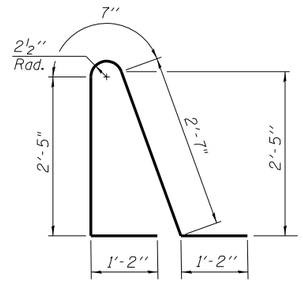
BAR a236(E)



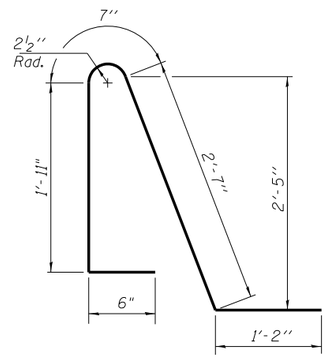
BAR b212(E)



BAR d114(E)



BAR d111(E)



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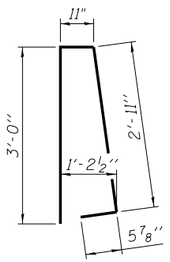

BAR d113(E)

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH BRIDGE APPROACH SLAB DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S54 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	823
		CONTRACT NO. 64C08		
		ILLINOIS	FED. AID PROJECT	

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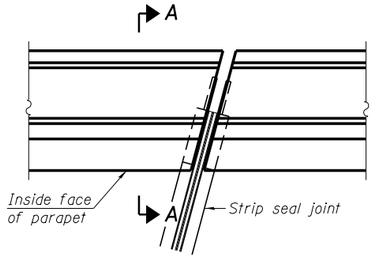
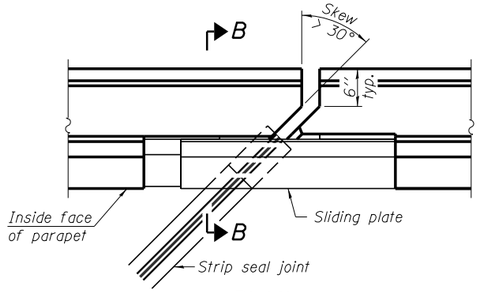
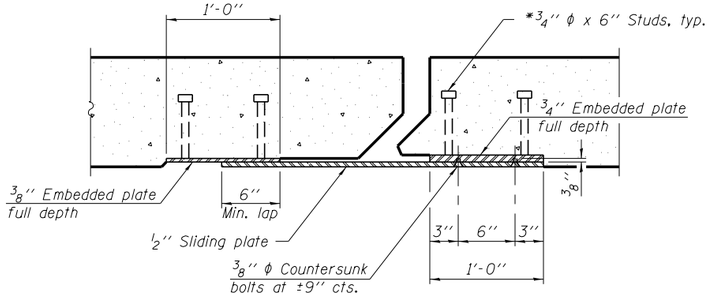


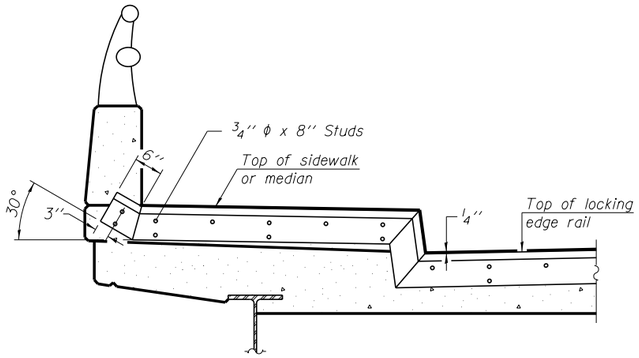
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

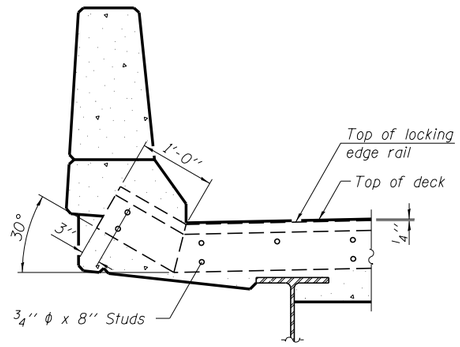


SECTION C-C

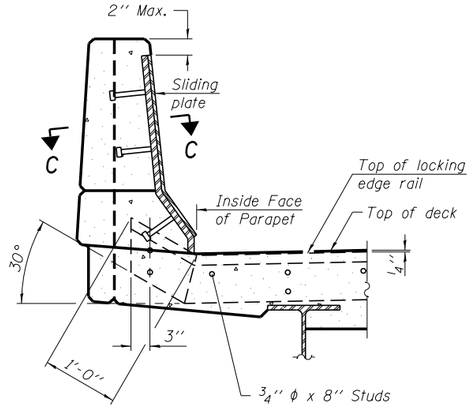


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

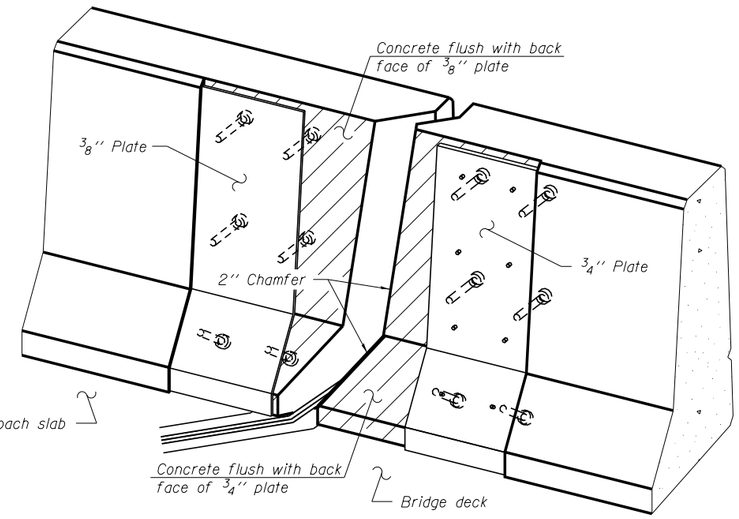
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



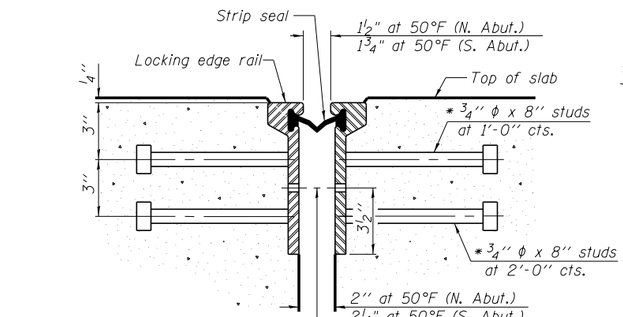
SECTION A-A



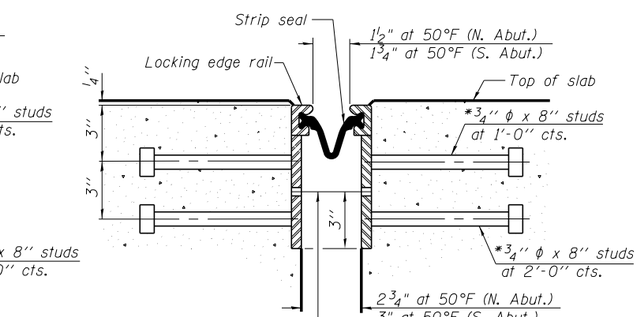
SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

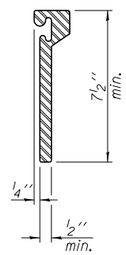


SECTION THRU ROLLED RAIL JOINT

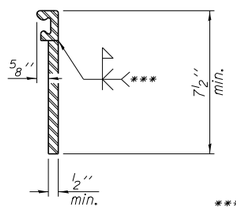


SECTION THRU WELDED RAIL JOINT

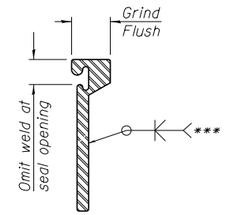
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



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

LOCKING EDGE RAIL SPLICE

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

Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

Notes:

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

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

The manufacturer's recommended installation methods shall be followed.

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

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

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

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	145.0

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

EJ-SSJ 1-27-12

FILENAME = 081-0177-C00AB-055-Strip Seal Expansion Joint Details.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S55 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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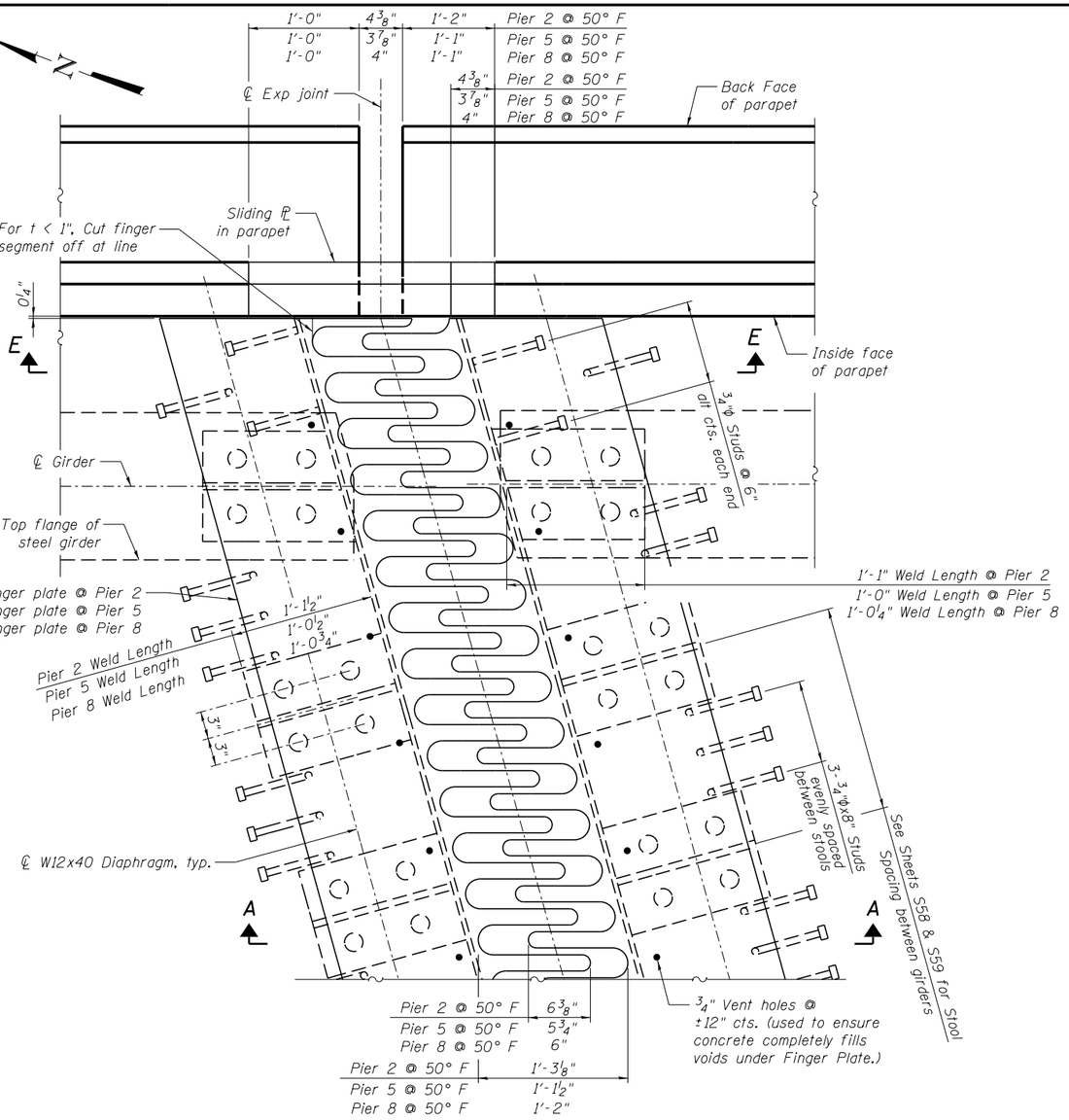
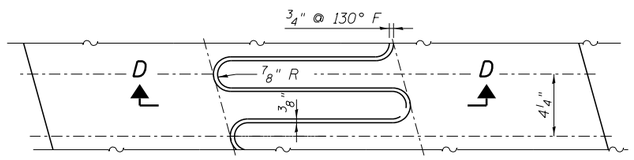
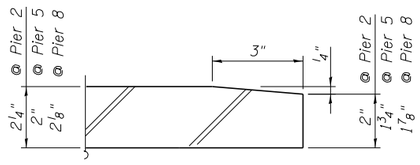
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			



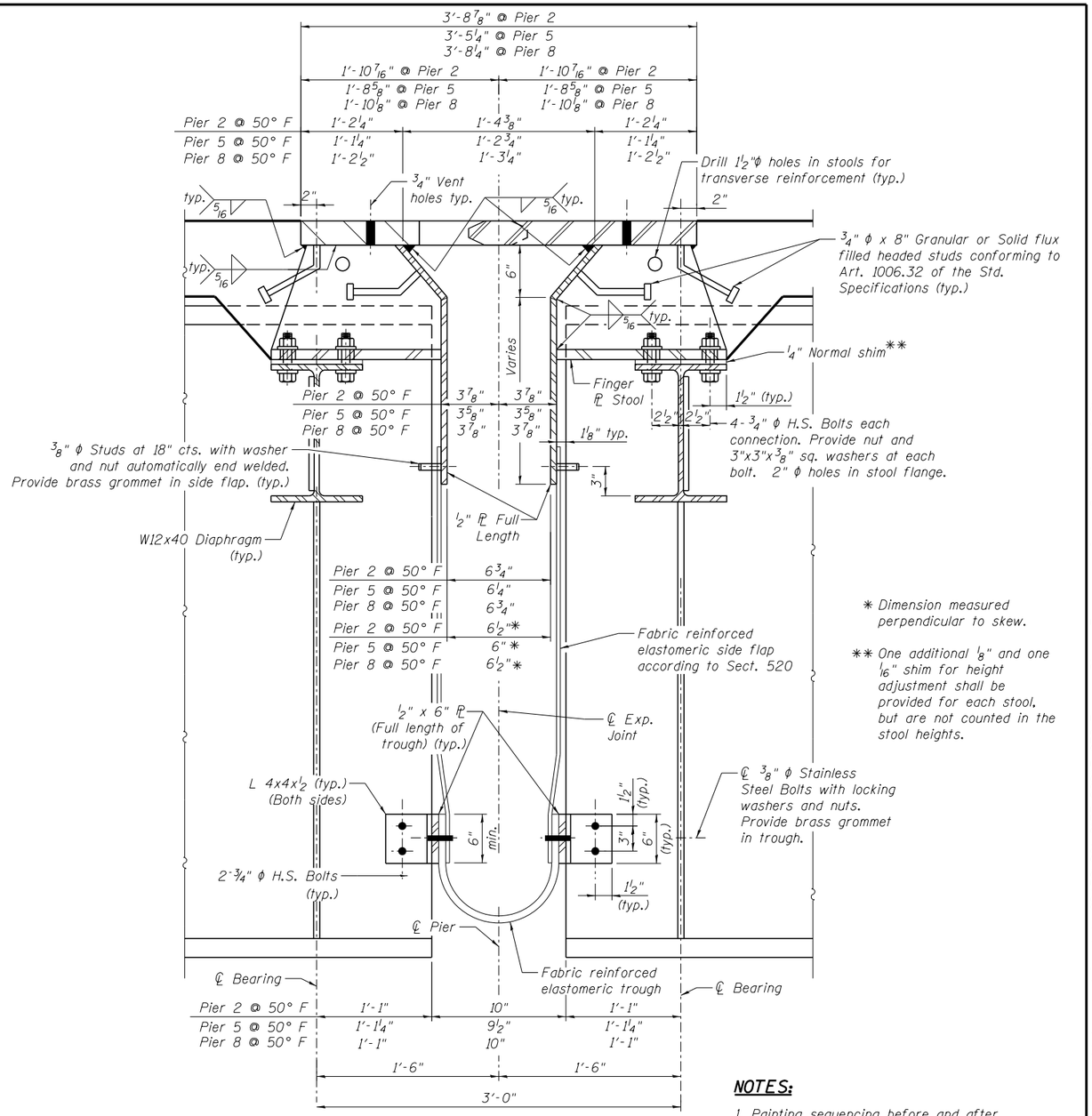
PLAN OF FINGER PLATE



FINGER DETAIL



SECTION D-D



SECTION A-A

(All dimensions shown along ℄ I-74)

* Dimension measured perpendicular to skew.

** One additional ⅛" and one 1/16" shim for height adjustment shall be provided for each stool, but are not counted in the stool heights.

NOTES:

1. Painting sequencing before and after installation shall occur according to Articles 520.03 and 520.09 of the Standard Specifications.
2. All steel for Finger Plate Joint shall conform to AASHTO M270 specification, Gr. 50.
3. Design expansion at Pier 2 ± 3.60"
4. Design expansion at Pier 5 ± 3.02"
5. Design expansion at Pier 8 ± 3.21"
6. Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
7. For View E-E, see sheet S57.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-056-Finger Plate Expansion Joint Details (1 of 2).dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE EXPANSION JOINT DETAILS (1 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S56 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	825
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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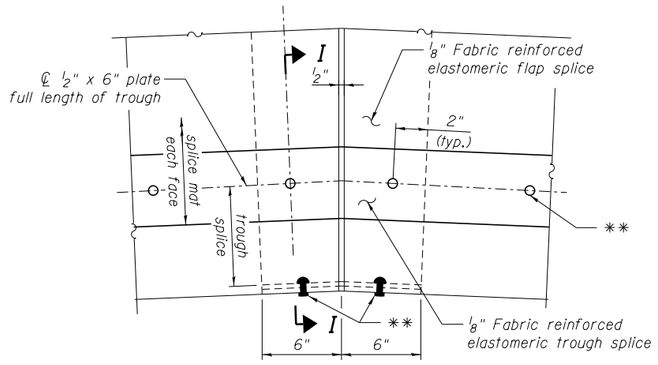
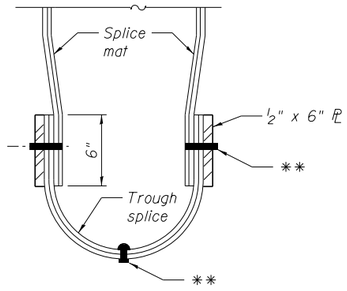
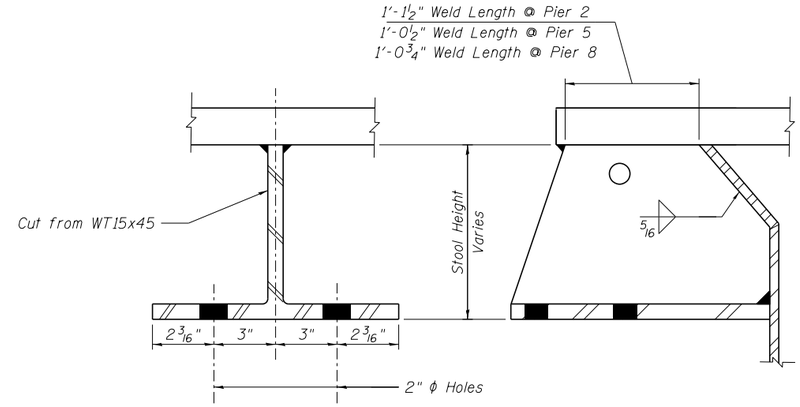


TROUGH SPLICE DETAIL

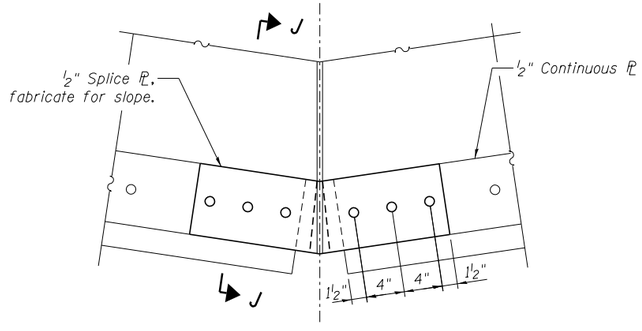


SECTION I-I

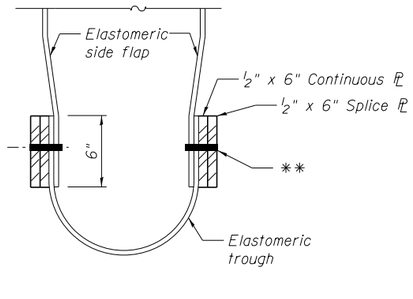
** 3/8" ϕ Stainless Steel bolts w/ washers & nuts. Provide brass grommet in trough.



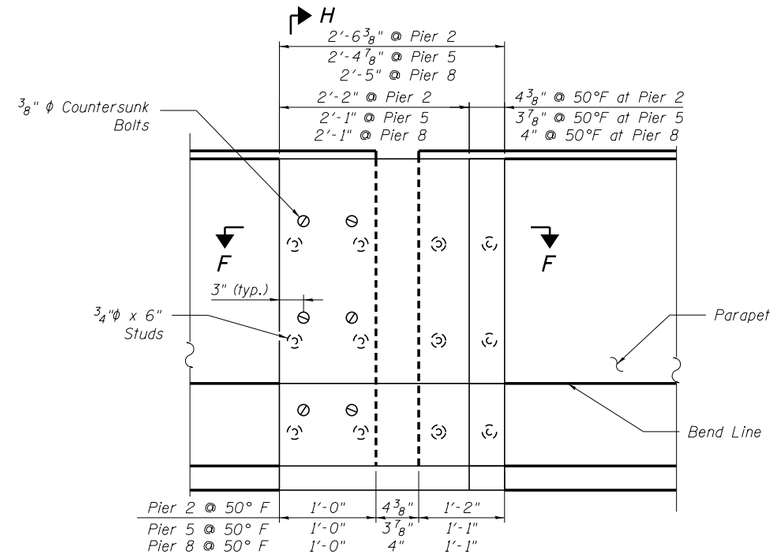
FINGER PLATE STOOL DETAIL



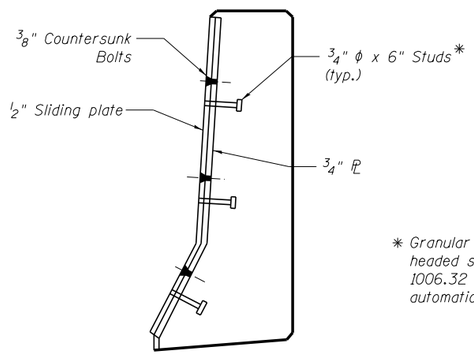
CONNECTION PL DETAIL AT COLLECTOR



SECTION J-J

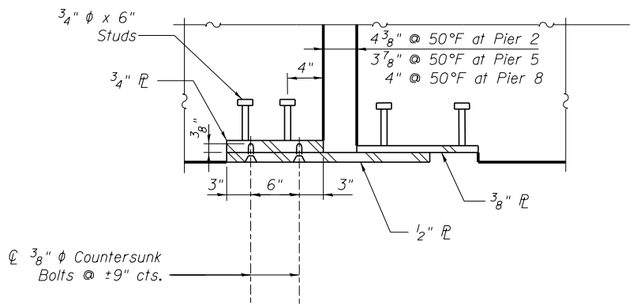


VIEW E-E



SECTION H-H

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



SECTION F-F

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Finger Plate Expansion Joint, 4"	FOOT	218.0

NOTES:

1. For drainage details, see sheets S61 thru S64.
2. Painting sequencing before and after installation shall occur according to Articles 520.03 and 520.09 of the Standard Specifications.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-057-Finger Plate Expansion Joint Details (2 of 2).dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE EXPANSION JOINT DETAILS (2 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S57 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	826
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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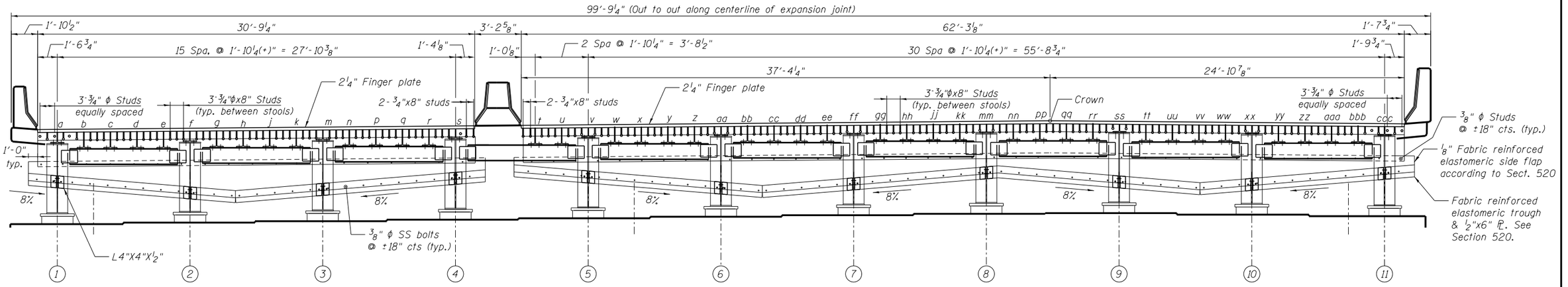
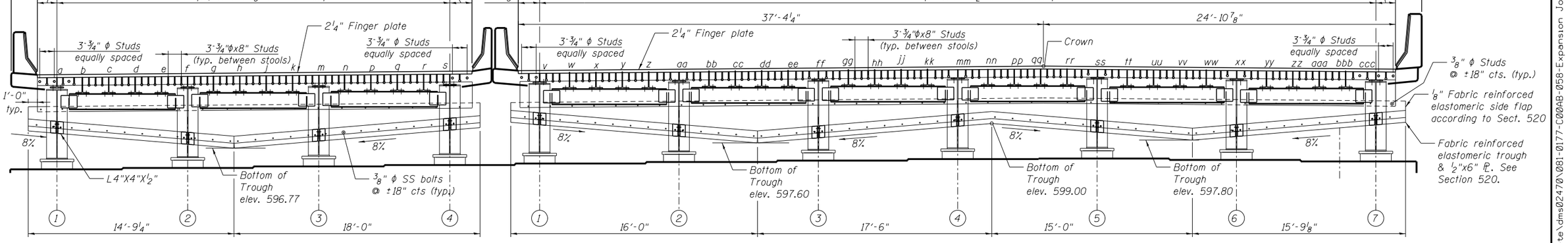


NORTH SIDE OF JOINT

(Looking south)
(All dimensions measured along ℄ expansion joint)



SOUTH SIDE OF JOINT

(Looking south, reflected view)
(All dimensions measured along ℄ expansion joint)

STOOL HEIGHT

(Stool height measured at ℄ Brg.)

ITEM	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w	x	y	z	aa	bb	cc	dd	ee	ff	gg
North side of joint	6 5/16"	11"	11 9/16"	1'-0 1/8"	1'-0 5/8"	6 3/4"	11 7/16"	1'-0"	1'-0 9/16"	1'-1 1/16"	6 3/4"	11 7/16"	1'-0"	1'-0 9/16"	1'-1 1/16"	6 3/4"	1'-0 9/16"	1'-1 1/16"	8 3/8"	1'-1 1/16"	1'-1 5/8"	1'-2 3/16"	1'-2 11/16"	8 1/4"	1'-0 15/16"	1'-1 1/2"	1'-2 1/16"	1'-2 9/16"	8"	1'-0 11/16"
South side of joint	6 3/4"	11"	11 9/16"	1'-0 1/16"	1'-0 5/8"	6 3/4"	11"	11 9/16"	1'-0 1/16"	1'-0 5/8"	6 3/4"	11"	11 9/16"	1'-0 1/16"	1'-0 5/8"	6 3/4"	N/A	N/A	6 7/8"	11 5/16"	11 15/16"	1'-0 1/2"	1'-1 1/8"	6 7/8"	11 5/16"	11 15/16"	1'-0 1/2"	1'-1 1/8"	6 7/8"	11 5/16"

ITEM	hh	jj	kk	mm	nn	pp	qq	rr	ss	tt	uu	vv	ww	xx	yy	zz	aaa	bbb	ccc
North side of joint	1'-1 1/4"	1'-1 13/16"	1'-2 5/16"	7 7/8"	1'-0 9/16"	1'-1 1/8"	1'-1 5/16"	1'-1"	7 1/4"	1'-0 9/16"	1'-0 5/16"	1'-0"	11 11/16"	7 1/4"	1'-0 13/16"	1'-0 9/16"	1'-0 1/4"	11 15/16"	7 1/2"
South side of joint	11 15/16"	1'-0 1/2"	1'-1 1/8"	6 7/8"	11 5/16"	11 15/16"	1'-0 1/2"	1'-0 3/8"	6 7/8"	12 1/16"	11 11/16"	11 3/8"	11 1/16"	6 7/8"	12 1/16"	11 11/16"	11 3/8"	11 1/16"	6 7/8"

NOTES:

1. For Finger Plate details, see sheets S56 & S57.
2. For drainage details, see sheet S61.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-058-Expansion Joint Details - Pier 2.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AJK	REVISED -
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MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS – PIER 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S58 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	827
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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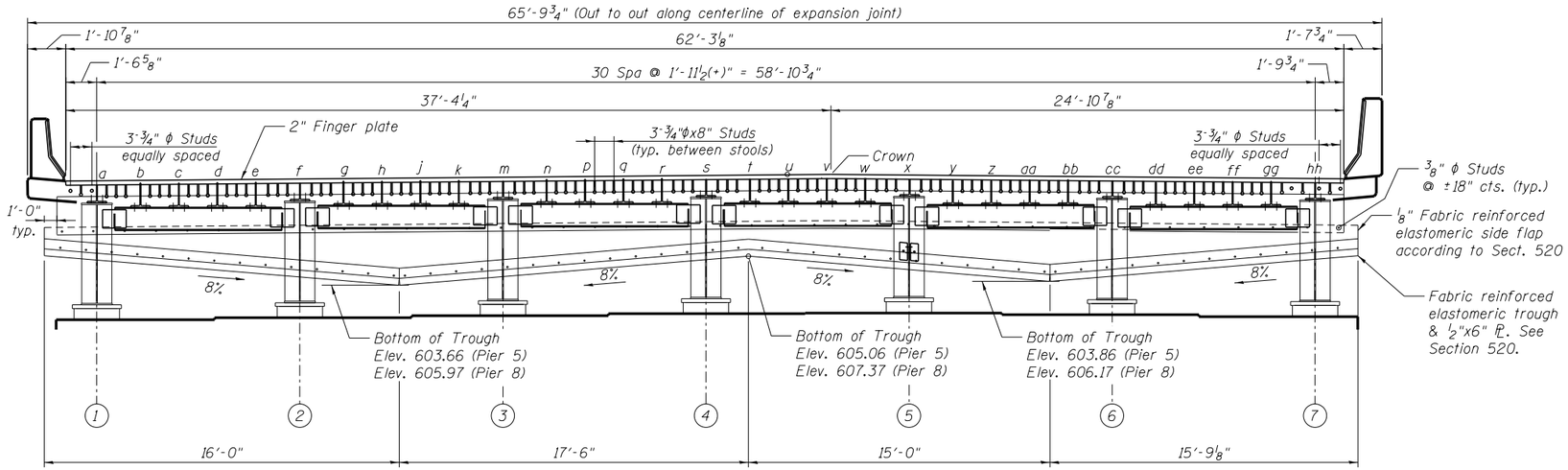

PIERS 5 AND 8

(Looking south)
(All dimensions measured along ℄ expansion joint)

NOTES:

1. For Finger Plate details, see sheets S56 & S57.
2. For drainage details, see sheets S62 & S63.

STOOL HEIGHT - PIER 5

(Stool heights measured at ℄ Brg.)

ITEM	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w	x	y	z	aa	bb	cc	dd	ee	ff	gg	hh
North Side of joint	7 1/8"	11 1/2"	1′-0"	1′-0 7/16"	1′-0 15/16"	7 1/16"	11 7/16"	11 7/8"	1′-0 3/8"	1′-0 7/8"	7 1/8"	11 1/2"	1′-0"	1′-0 7/16"	1′-0 15/16"	7 1/8"	11 1/2"	1′-0"	1′-0 7/16"	1′-0 1/4"	7 1/8"	1′-0 11/16"	1′-0 1/4"	11 7/8"	11 7/16"	7 1/8"	1′-0 15/16"	1′-0 1/2"	1′-0 1/8"	11 11/16"	7 3/8"
South Side of joint	7 1/4"	11 5/8"	1′-0 1/8"	1′-0 9/16"	1′-1 1/16"	7 1/8"	11 1/2"	1′-0"	1′-0 7/16"	1′-0 15/16"	7 1/8"	11 1/2"	1′-0"	1′-0 7/16"	1′-0 15/16"	7 1/8"	11 1/2"	1′-0"	1′-0 7/16"	1′-0 1/4"	7 1/8"	1′-0 13/16"	1′-0 3/8"	1′-0"	11 9/16"	7 1/4"	1′-0 15/16"	1′-0 1/2"	1′-0 1/8"	11 11/16"	7 3/8"

STOOL HEIGHT - PIER 8

(Stool heights measured at ℄ Brg.)

ITEM	a	b	c	d	e	f	g	h	j	k	m	n	p	q	r	s	t	u	v	w	x	y	z	aa	bb	cc	dd	ee	ff	gg	hh
North Side of joint	6 7/8"	11 3/8"	11 7/8"	1′-0 5/16"	1′-0 13/16"	6 7/8"	11 3/8"	11 7/8"	1′-0 5/16"	1′-0 13/16"	6 7/8"	11 3/8"	11 7/8"	1′-0 5/16"	1′-0 13/16"	6 7/8"	11 3/8"	11 7/8"	1′-0 5/16"	1′-0 1/8"	6 7/8"	1′-0 9/16"	1′-0 1/8"	11 3/4"	11 5/16"	6 7/8"	1′-0 9/16"	1′-0 1/8"	11 3/4"	11 5/16"	6 7/8"
South Side of joint	7"	11 1/4"	11 3/4"	1′-0 3/16"	1′-0 11/16"	7"	11 1/4"	11 3/4"	1′-0 3/16"	1′-0 11/16"	7 1/8"	11 3/8"	11 7/8"	1′-0 5/16"	1′-0 13/16"	7 1/8"	11 3/8"	11 7/8"	1′-0 5/16"	1′-0 1/8"	7 1/8"	1′-0 7/16"	1′-0"	11 5/8"	11 3/16"	7"	1′-0 9/16"	1′-0 1/8"	11 3/4"	11 5/16"	7 1/8"

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-059-Expansion Joint Details - Pier 5 and 8.dgn	USER NAME = ksnider	DESIGNED - JDS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT DETAILS – PIERS 5 AND 8
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S59 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	828
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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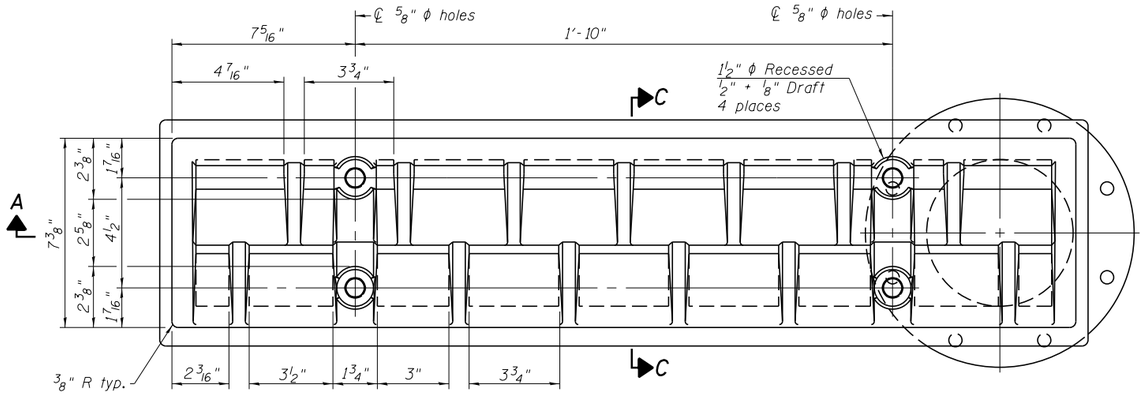
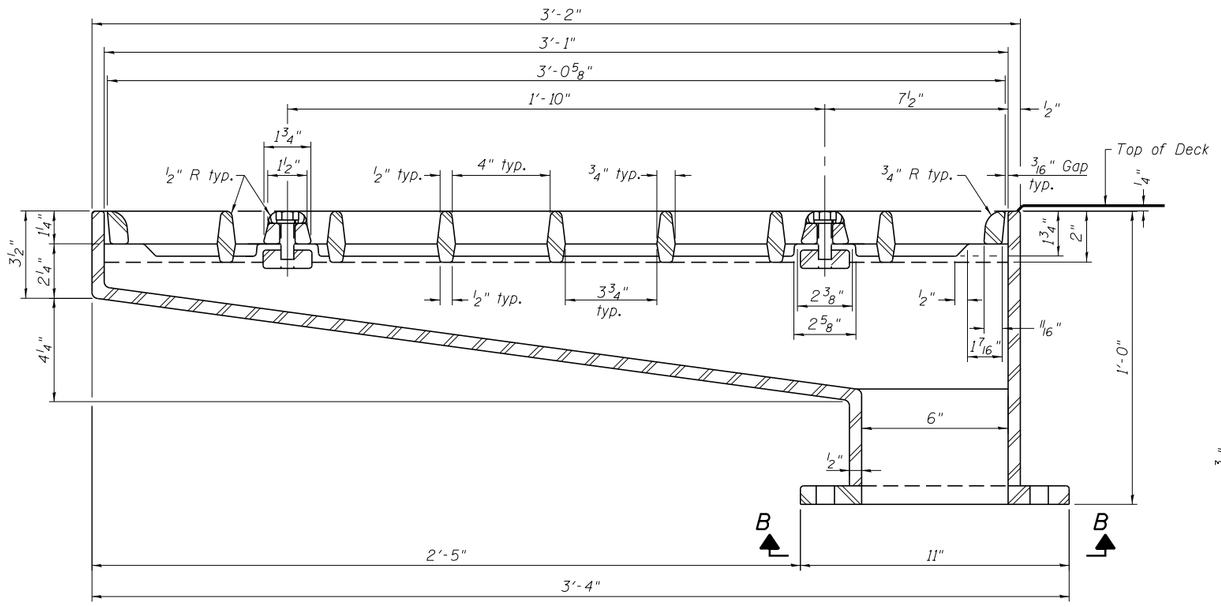
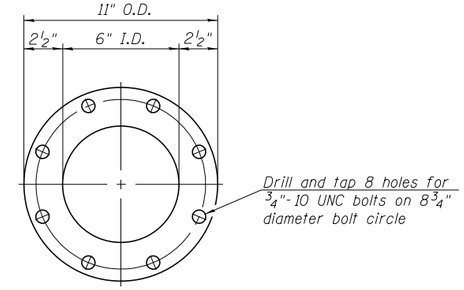


PLAN

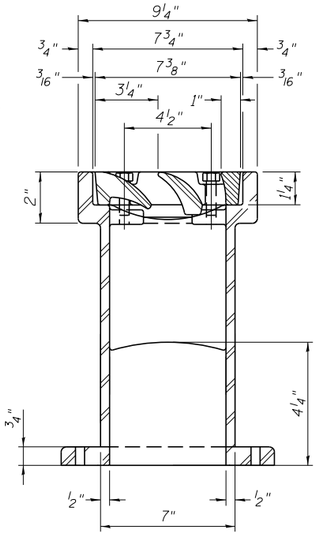


SECTION A-A

See sheets S34 thru S36 for scupper location relative to parapet.



VIEW B-B



SECTION C-C

Notes:

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

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

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

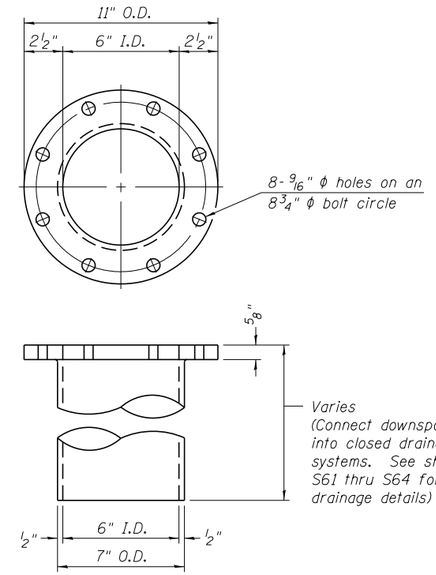
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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

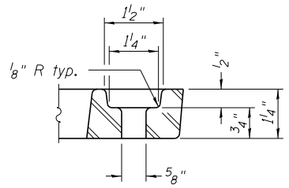
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

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

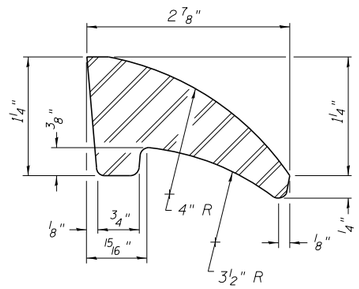
Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.



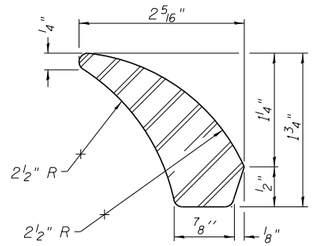
DOWNSPOUT



BOLT HOLE DETAIL



FIRST VANE DETAIL



SECOND VANE DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper (Special)	Each	9

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-060-Scupper Details.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCUPPER DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S60 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	829
		CONTRACT NO. 64C08		
	ILLINOIS	FED. AID PROJECT		

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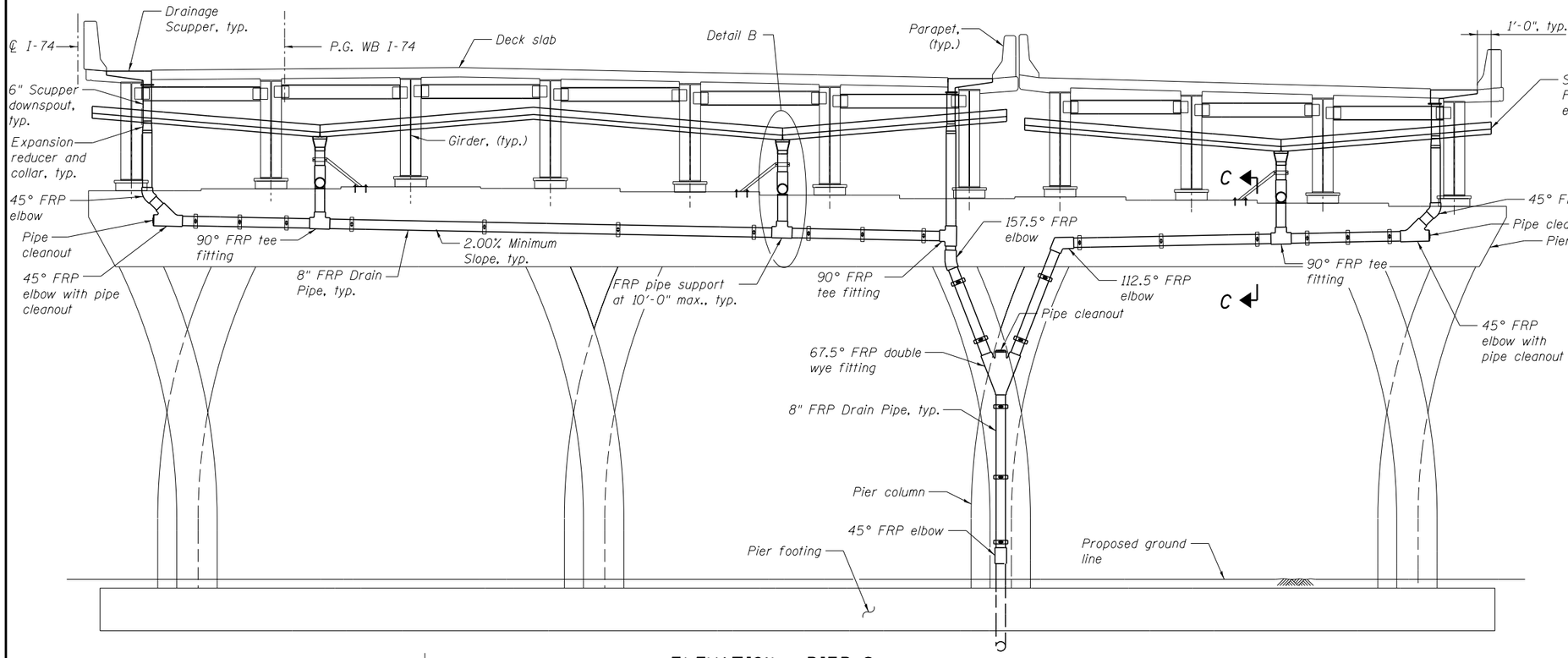
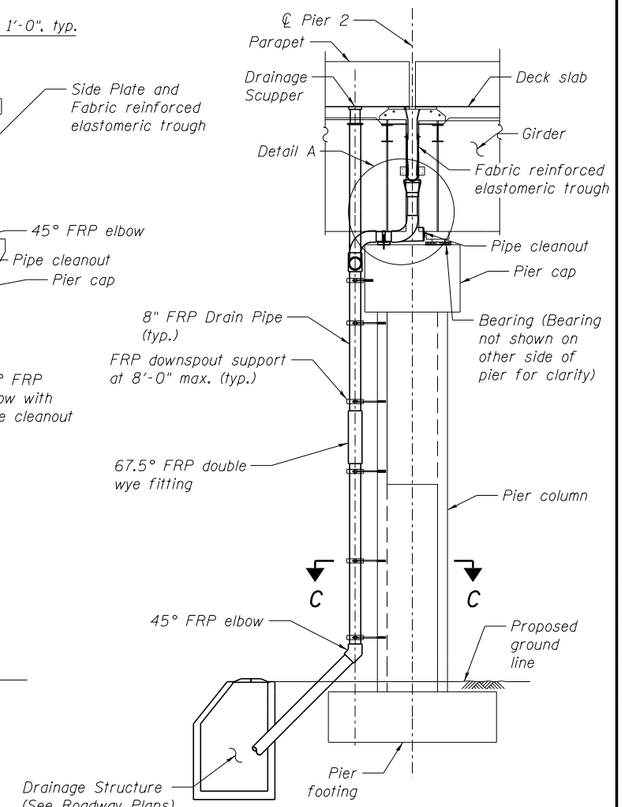
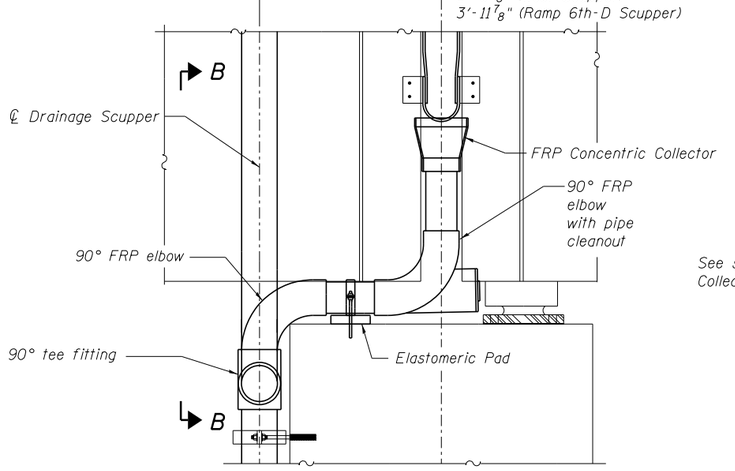


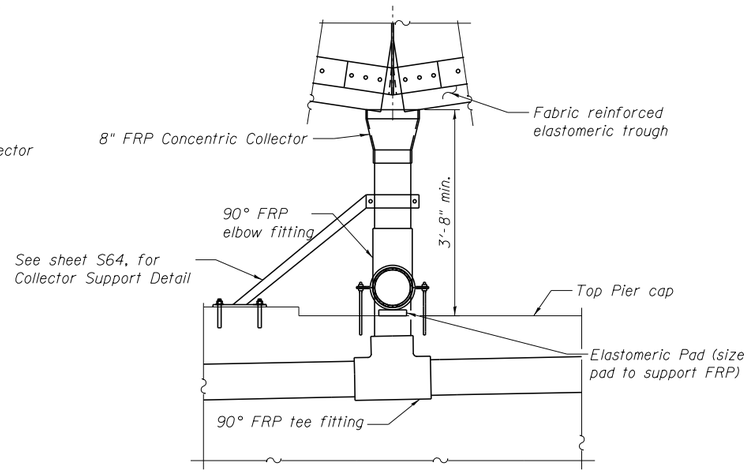
ELEVATION - PIER 2
(Looking north)



END VIEW - PIER 2
(Looking west)



DETAIL A
(Dimension measured along gutter line)



DETAIL B

NOTES:

1. Closed Drainage system shall be fabricated and installed in accordance with special provision "Drainage System."
2. The surface of the fiberglass shall be free of bond inhibiting agents.
3. For section C-C, see sheet S64.
4. See sheets S56 thru S59, for finger plate expansion joint details.
5. Expansion Reducers shall be sized to accomodate longitudinal thermal movement of the superstructure.
6. Seal opening of drainage structure with grout after installation of drain pipe. Cost included with Drainage System.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-061-Drainage Details - Pier 2.dgn
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	CHECKED - AJK	REVISED -
PLOT SCALE =	DRAWN - KMS	REVISED -
PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS – PIER 2
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S61 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	830
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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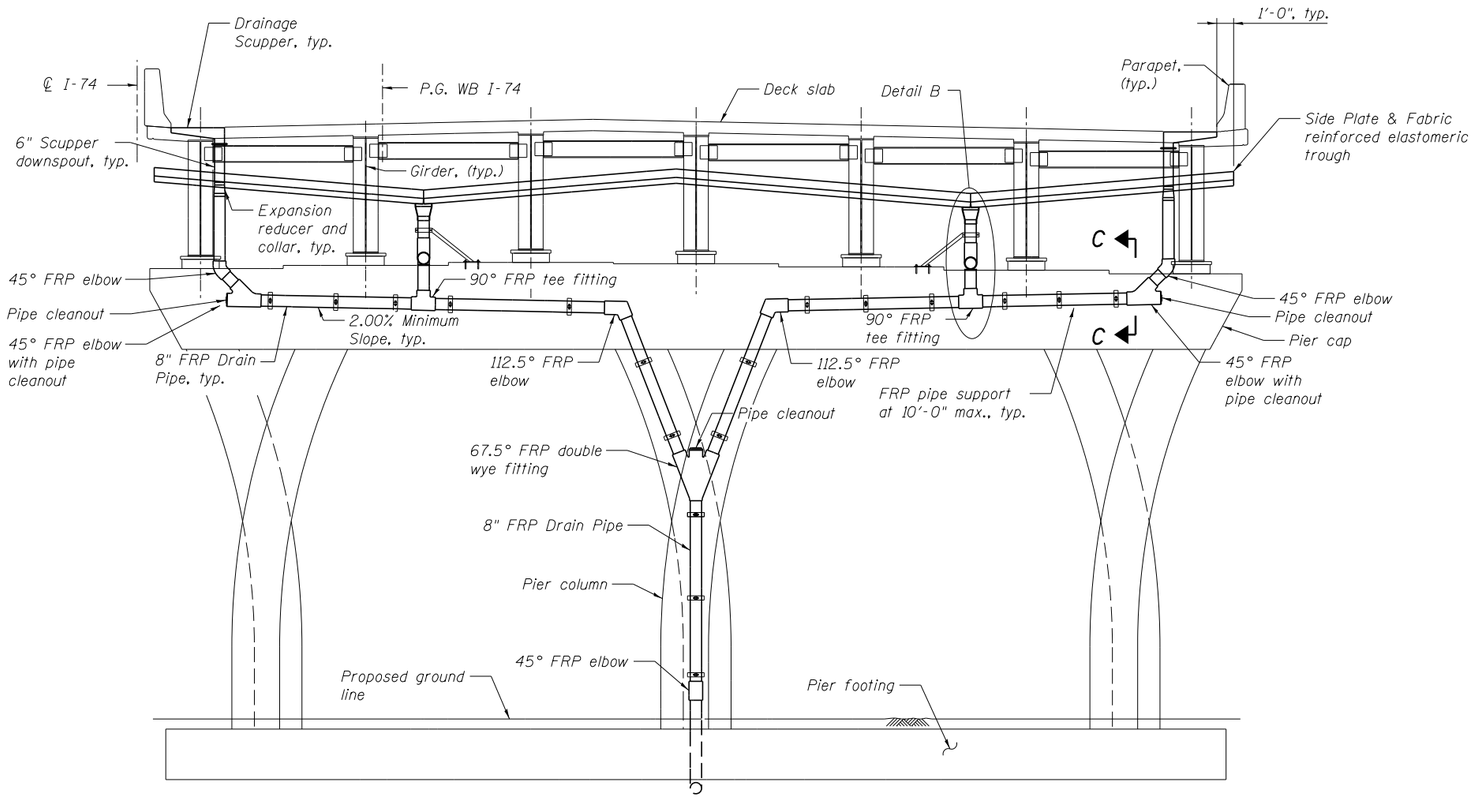
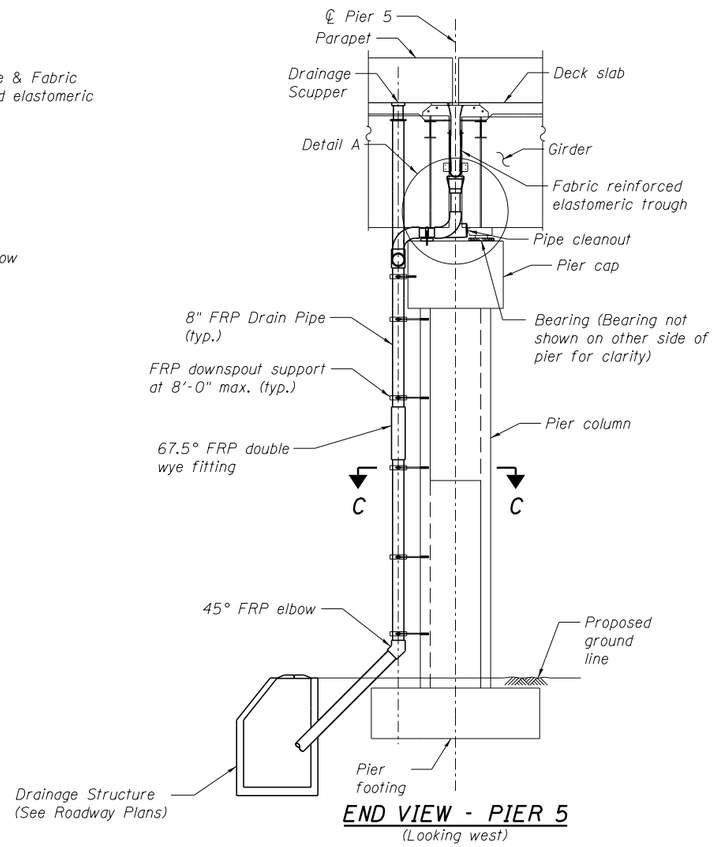


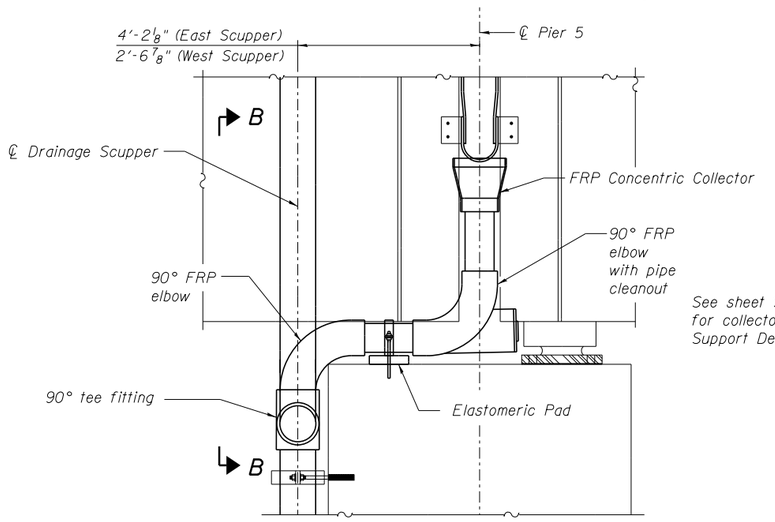
ELEVATION - PIER 5

(Looking north)



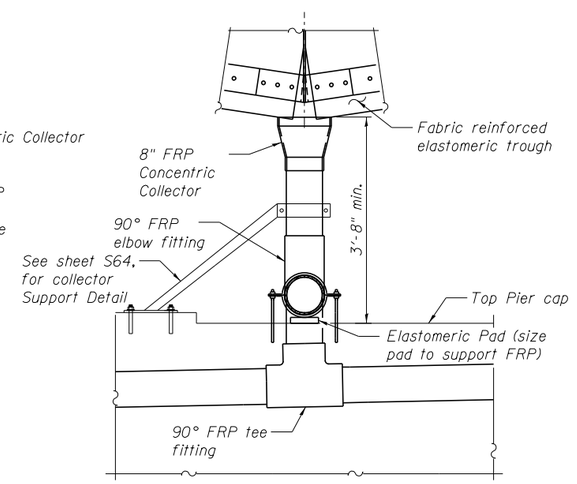
END VIEW - PIER 5

(Looking west)



DETAIL A

(Dimensions measured along gutter line)



DETAIL B

NOTES:

1. Closed Drainage system shall be fabricated and installed in accordance with special provision "Drainage System."
2. The surface of the fiberglass shall be free of bond inhibiting agents.
3. For section C-C, see sheet S64.
4. See sheets S56 thru S59, for finger plate expansion joint details.
5. Expansion Reducers shall be sized to accomodate longitudinal thermal movement of the superstructure.
6. Seal opening of drainage structure with grout after installation of drain pipe. Cost included with Drainage System.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-062-Drainage Details - Pier 5.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS – PIER 5
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S62 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	831
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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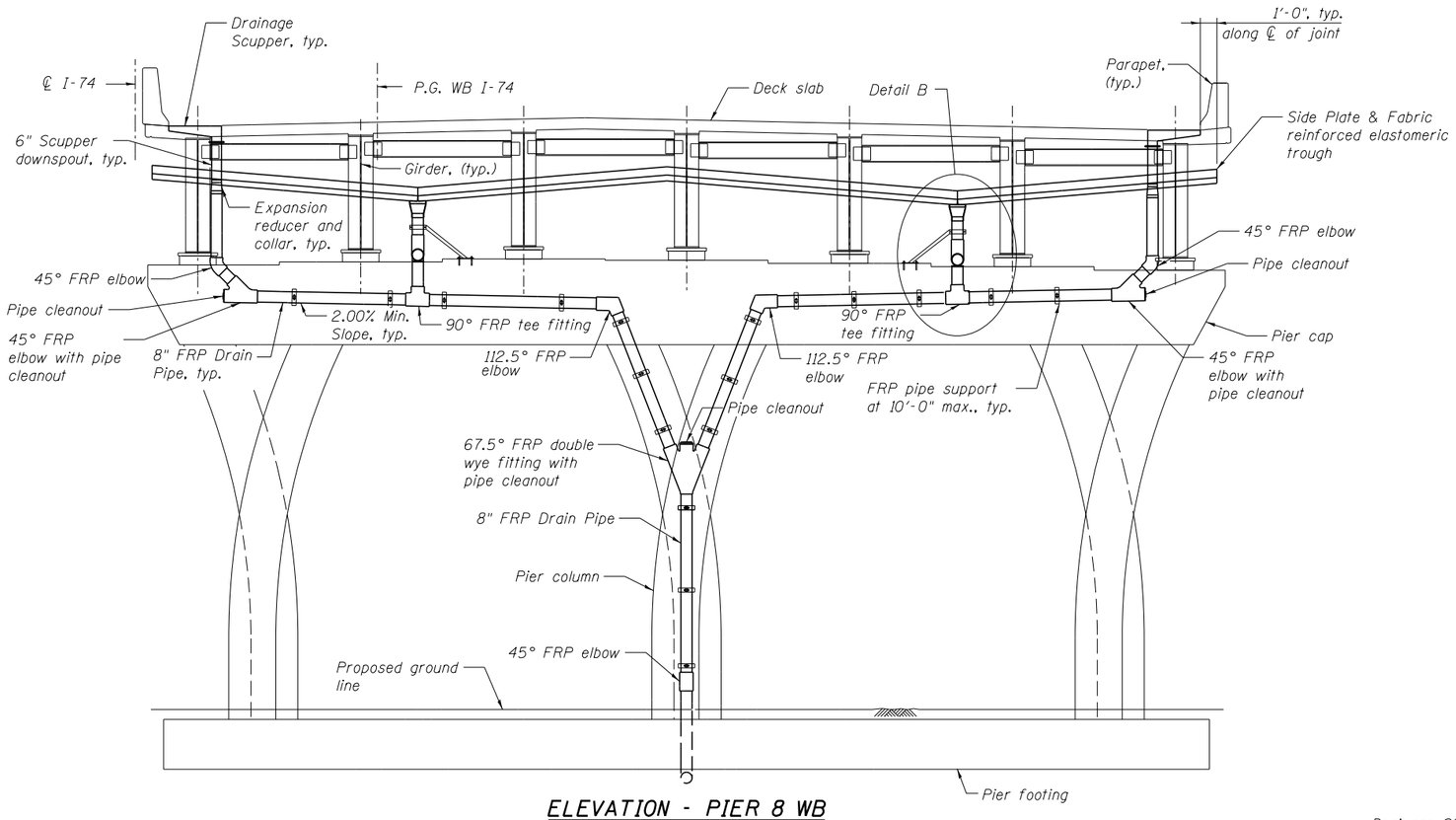
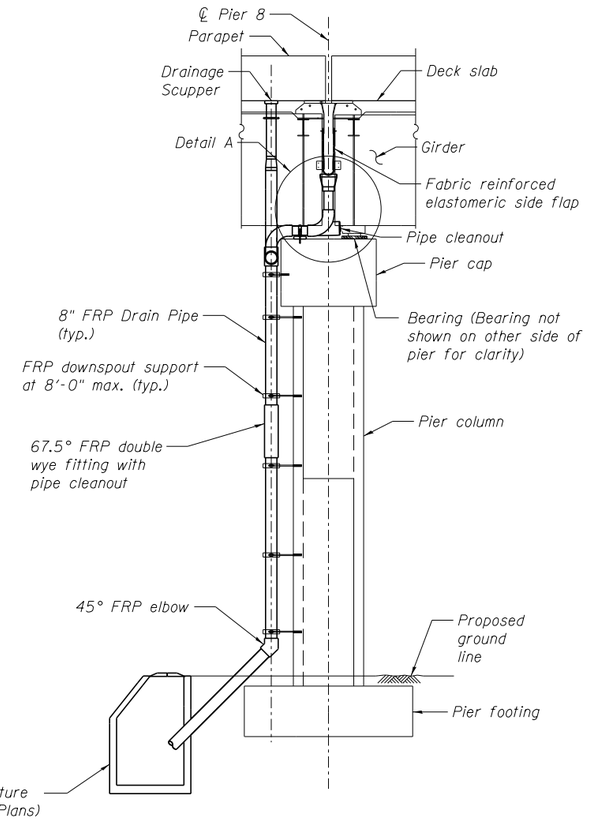


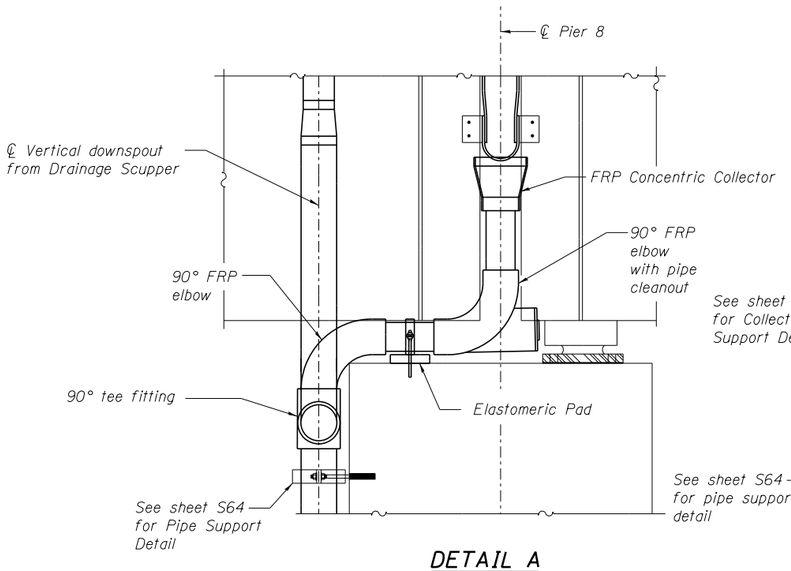
ELEVATION - PIER 8 WB

(Looking north)

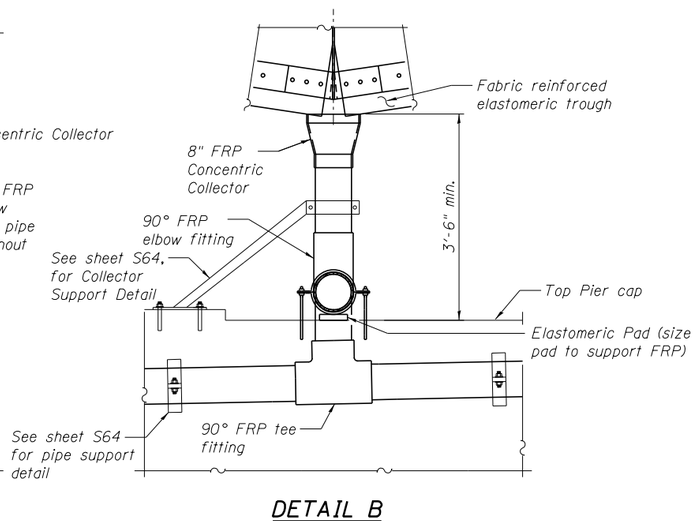


END VIEW - PIER 8 WB

(Looking west)



DETAIL A



DETAIL B

NOTES:

1. Closed Drainage system shall be fabricated and installed in accordance with special provision "Drainage System."
2. The surface of the fiberglass shall be free of bond inhibiting agents.
3. See sheets S56 thru S59, for finger plate expansion joint details.
4. Expansion Reducers shall be sized to accomodate longitudinal thermal movement of the superstructure.
5. Seal opening of drainage structure with grout after installation of drain pipe. Cost included with Drainage System.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-063-Drainage Details - Pier 8.dgn
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	CHECKED - TJJ	REVISED -
PLOT SCALE =	DRAWN - VH	REVISED -
PLOT DATE = 1/18/2017	CHECKED - TJJ	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS – PIER 8
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S63 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	832
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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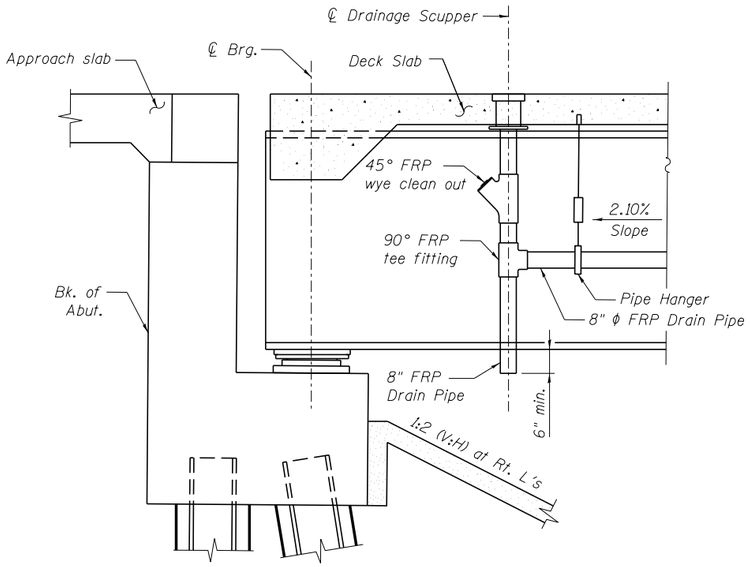
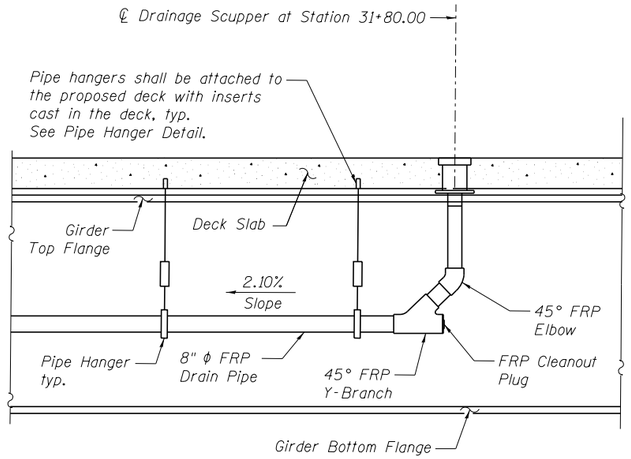
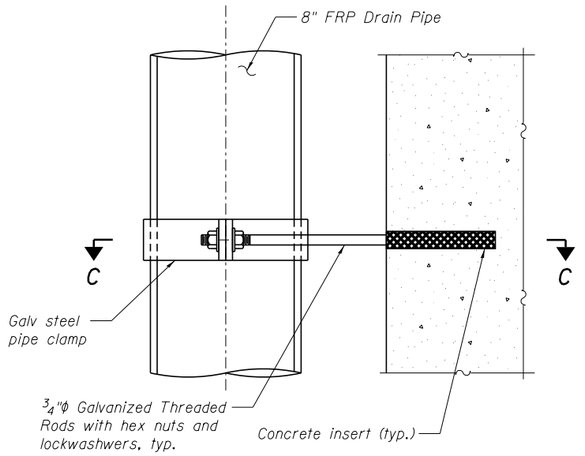


DRAINAGE DETAIL AT N. ABUT.

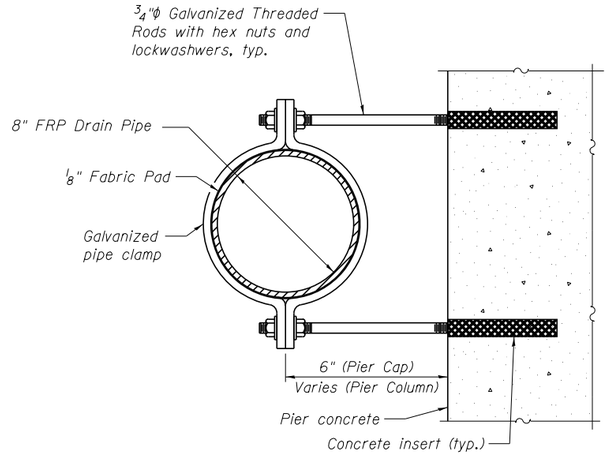
(Free fall onto slopewall)
(East Scupper shown looking East. West Scupper downspout similar but does not have longitudinal tie-in.)



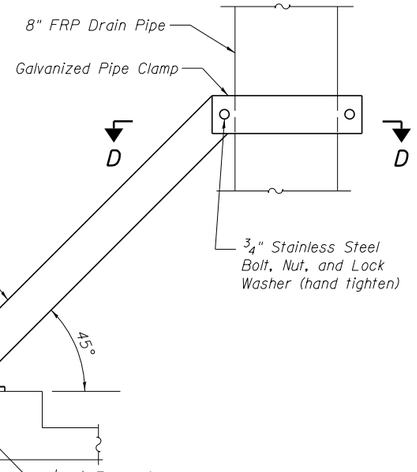
DRAINAGE DETAIL IN UNIT 1



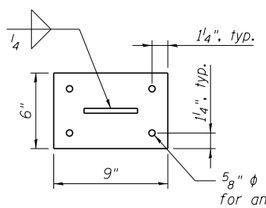
PIPE SUPPORT PLAN AT PIER



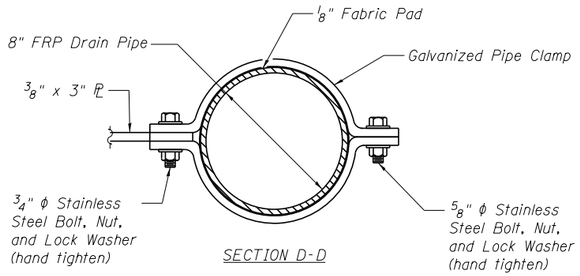
SECTION C-C



ELEVATION



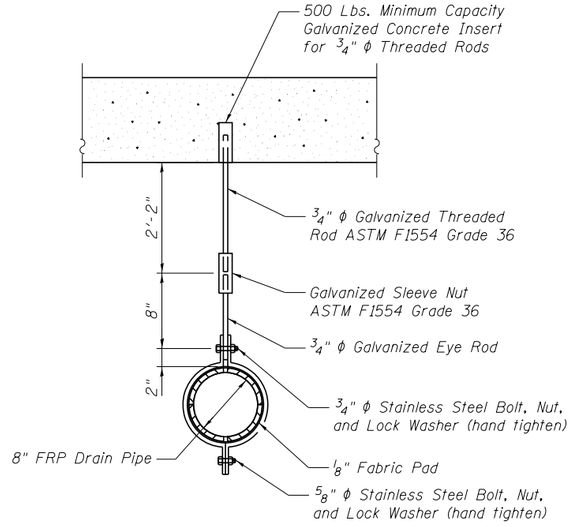
BASE PLATE DETAIL



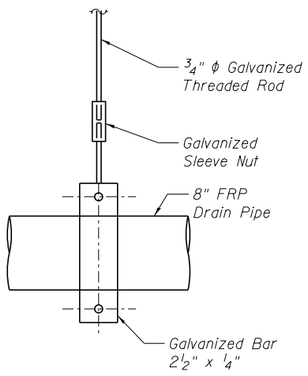
SECTION D-D

COLLECTOR SUPPORT DETAIL

(Cost included with Drainage System)



PIPE HANGER DETAIL



ELEVATION

NOTE:

1. A single expansion collar shall be placed between Unit 1 scuppers with a total movement capacity of 3".

benesch
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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-064-Drainage Details.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAINAGE DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S64 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	833
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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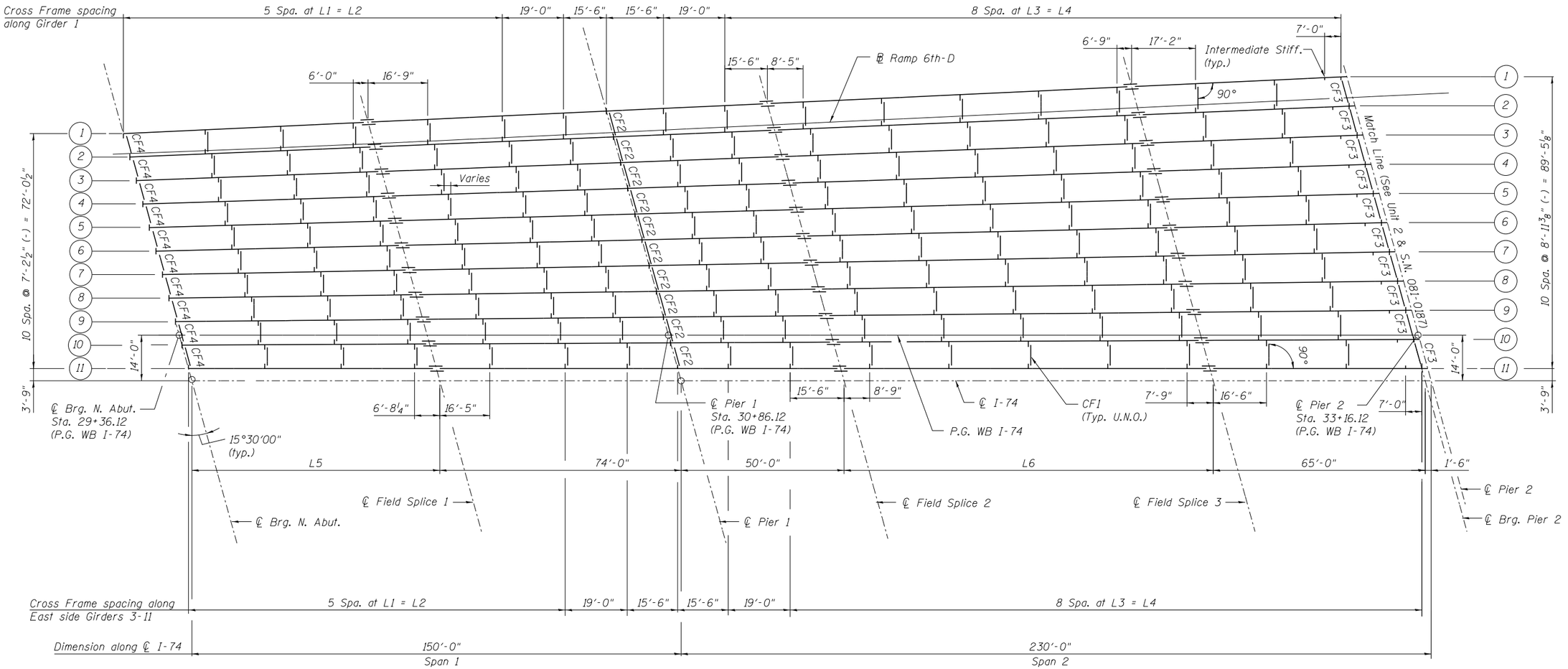

FRAMING PLAN - SPAN 1 & SPAN 2

Girder No.	Girder Dimensions					
	L1	L2	L3	L4	L5	L6
1	22'-9"	113'-9"	23'-11"	191'-4"	74'-3"	110'-10"
2	-	-	-	-	74'-4 7/8"	111'-0 7/8"
3	22'-9 3/4"(+)	114'-0 7/8"	23'-11 3/4"(-)	191'-9 1/8"	74'-6 7/8"	111'-3 1/8"
4	22'-10 1/8"(+)	114'-2 7/8"	24'-0 1/8"	192'-1"	74'-8 7/8"	111'-7"
5	22'-10 5/8"(-)	114'-4 7/8"	24'-0 1/2"(+)	192'-4 1/8"	74'-10 1/8"	111'-10 1/8"
6	22'-11"	114'-7"	24'-0 7/8"(+)	192'-7 1/4"	75'-1"	112'-1 1/4"
7	22'-11 3/8"(+)	114'-9 1/8"	24'-1 1/4"(+)	192'-10 1/2"	75'-3 1/8"	112'-4 1/2"
8	22'-11 7/8"(-)	114'-11 1/4"	24'-1 3/4"(-)	193'-1 3/4"	75'-5 1/4"	112'-7 3/4"
9	23'-0 1/4"(+)	115'-1 1/2"	24'-2 1/8"(+)	193'-5 1/8"	75'-7 1/2"	112'-11 1/8"
10	23'-0 3/4"	115'-3 3/4"	24'-2 5/8"(-)	193'-8 1/2"	75'-9 3/4"	113'-2 1/2"
11	23'-1 1/4"(-)	115'-6"	24'-3"	194'-0"	76'-0"	113'-6"

NOTES:

1. Work this sheet with sheets S66 and S67.
2. For girder lengths see sheet S66.
3. Cross frames are placed perpendicular to the East Side of Girder 3-11 and the West Side of Girder 1.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-065-Framing Plan Unit 1.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - TJJ	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN UNIT 1
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S65 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	834
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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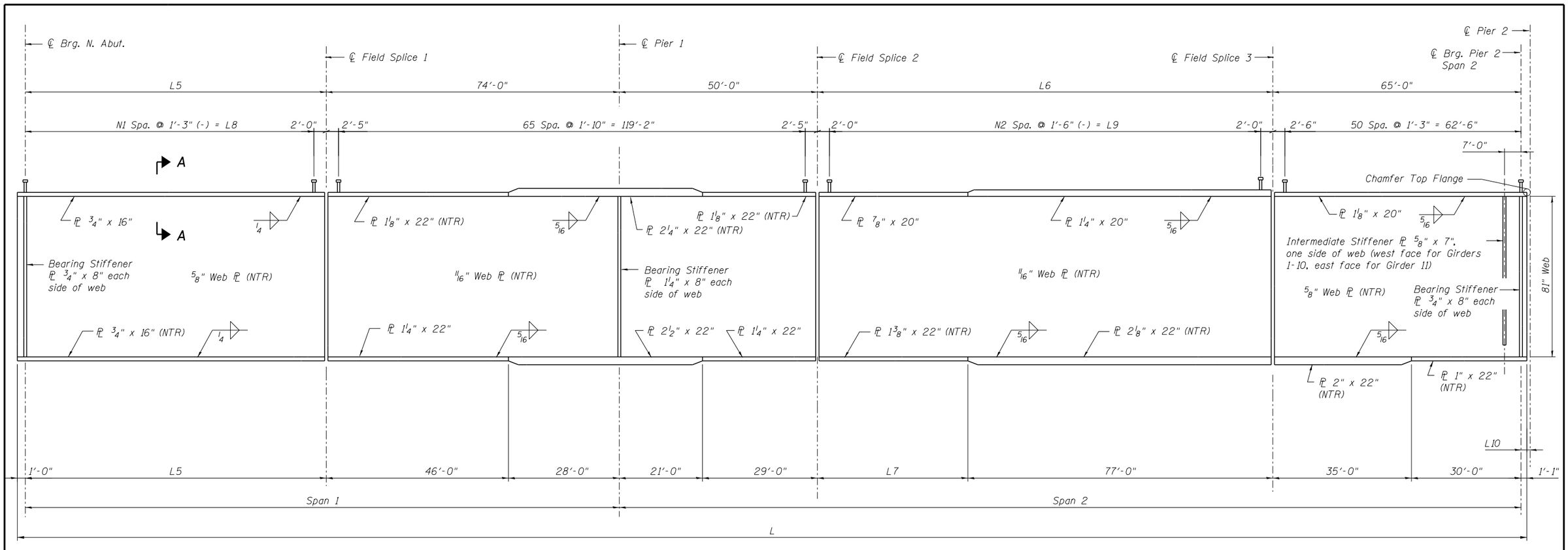
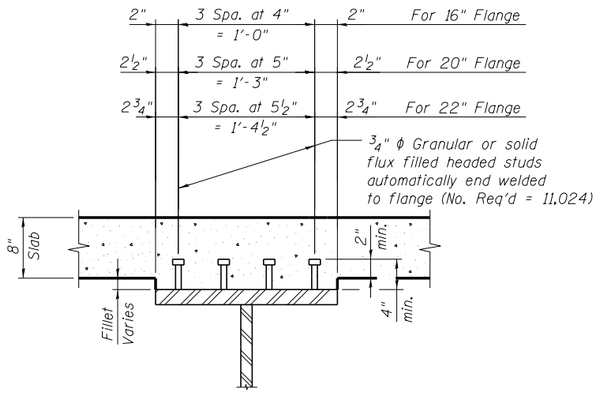


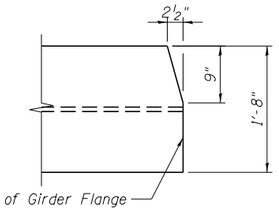
GIRDER ELEVATION

For dimensions L5 & L6 see sheet S65.

Girder No.	Girder Dimensions							Shear Connector NO. of Spaces	
	Span 1	Span 2	L	L7	L8	L9	L10	N1	N2
1	148'-3"	225'-10"	376'-2"	33'-10"	72'-3"	106'-10"	1'-5 3/4"	58	72
2	148'-4 7/8"	226'-0 7/8"	376'-6 3/4"	34'-0 7/8"	72'-4 7/8"	107'-0 7/8"	1'-5 3/4"	58	72
3	148'-6 7/8"	226'-3 7/8"	376'-11 3/4"	34'-3 7/8"	72'-6 7/8"	107'-3 7/8"	1'-5 3/4"	59	72
4	148'-8 7/8""	226'-7"	377'-4 7/8"	34'-7"	72'-8 7/8"	107'-7"	1'-5 7/8"	59	72
5	148'-10 7/8"	226'-10 1/8"	377'-10"	34'-10 1/8"	72'-10 7/8"	107'-10 1/8"	1'-5 7/8"	59	72
6	149'-1"	227'-1 1/4"	378'-3 1/4"	35'-1 1/4"	73'-1"	108'-1 1/4"	1'-5 7/8"	59	73
7	149'-3 1/8"	227'-4 1/2"	378'-8 5/8"	35'-4 1/2"	73'-3 1/8"	108'-4 1/2"	1'-5 7/8"	59	73
8	149'-5 1/4"	227'-7 3/4"	379'-2"	35'-7 3/4"	73'-5 1/4"	108'-7 3/4"	1'-5 7/8"	59	73
9	149'-7 1/2"	227'-11 1/8"	379'-7 5/8"	35'-11 1/8"	73'-7 1/2"	108'-11 1/8"	1'-6"	59	73
10	149'-9 3/4"	228'-2 1/2"	380'-1 1/4"	36'-2 1/2"	73'-9 3/4"	109'-2 1/2"	1'-6"	60	73
11	150'-0"	228'-6"	380'-7"	36'-6"	74'-0"	109'-6"	1'-6"	60	73



SECTION A-A



S. END TOP FLANGE CHAMFER DETAIL

NOTES:

1. See Sheet S65 for additional girder data table.

2. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

3. All flange plates, web plates, and bearing stiffeners shall be AASHTO M270 Grade 50 steel.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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		CHECKED - TJJ	REVISED -
MODEL = Plot sheet	PLOT SCALE =	DRAWN - VH	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER ELEVATION UNIT 1
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S66 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	835
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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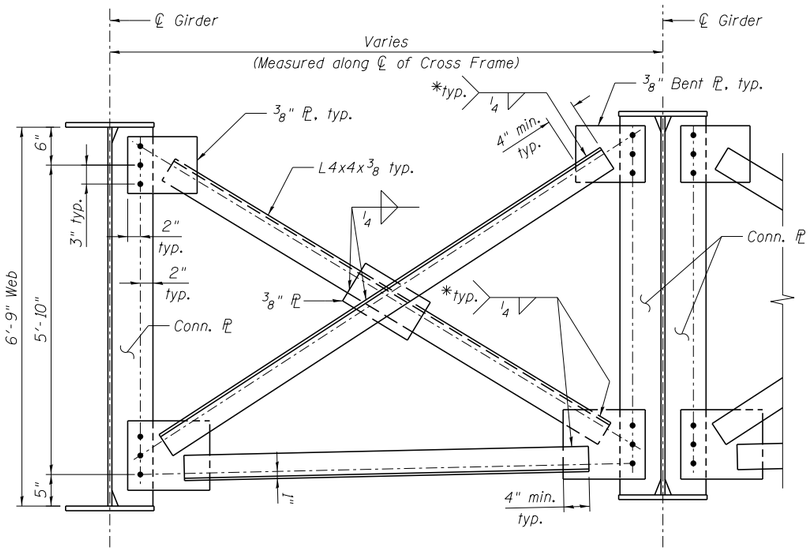
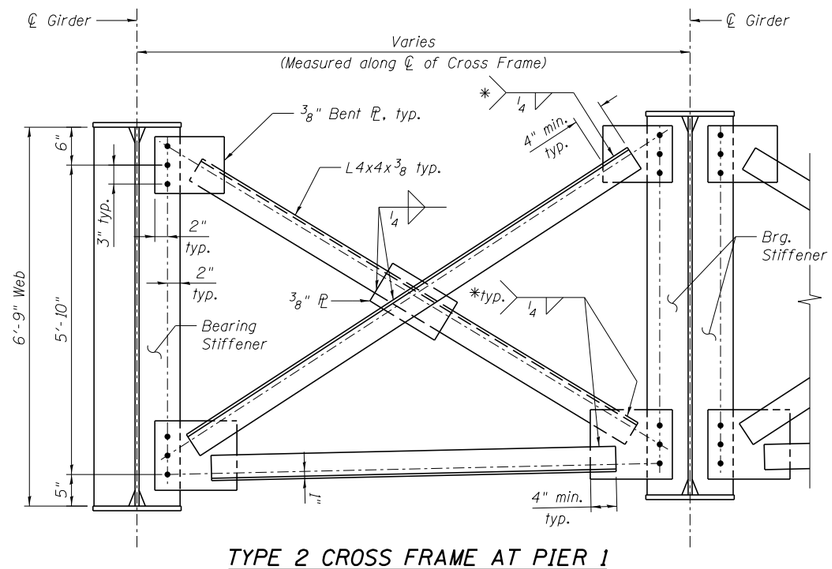


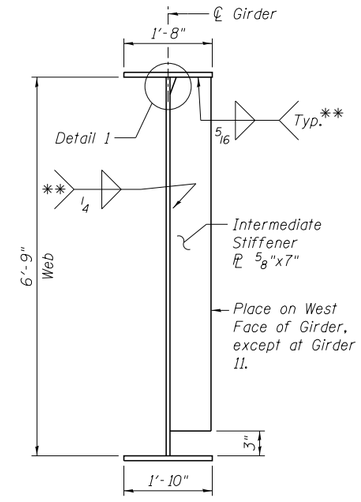
TYPE 1 CROSS FRAME

(CF1)
(No. Req'd = 150)



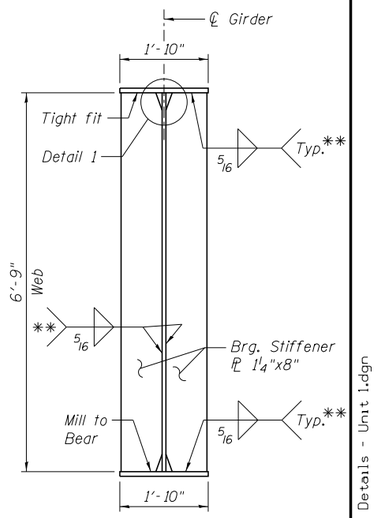
TYPE 2 CROSS FRAME AT PIER 1

(CF2)
(No. Req'd = 10)



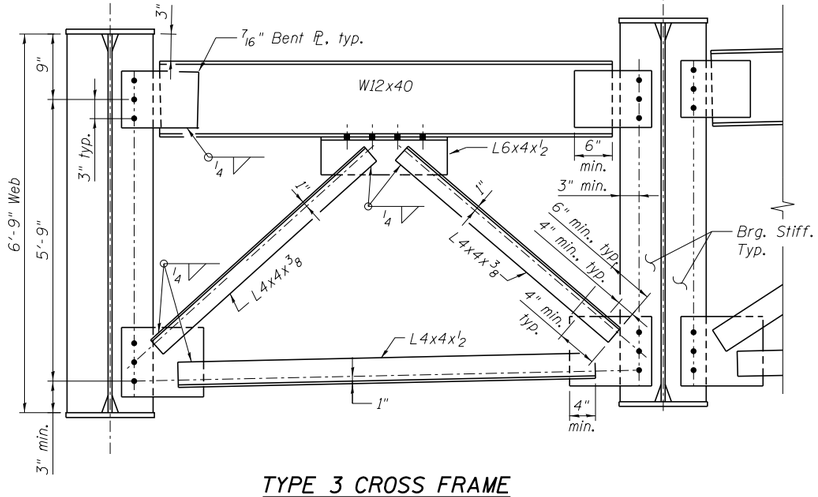
INTERMEDIATE STIFFENER

(No. of Plates Req'd = 11)



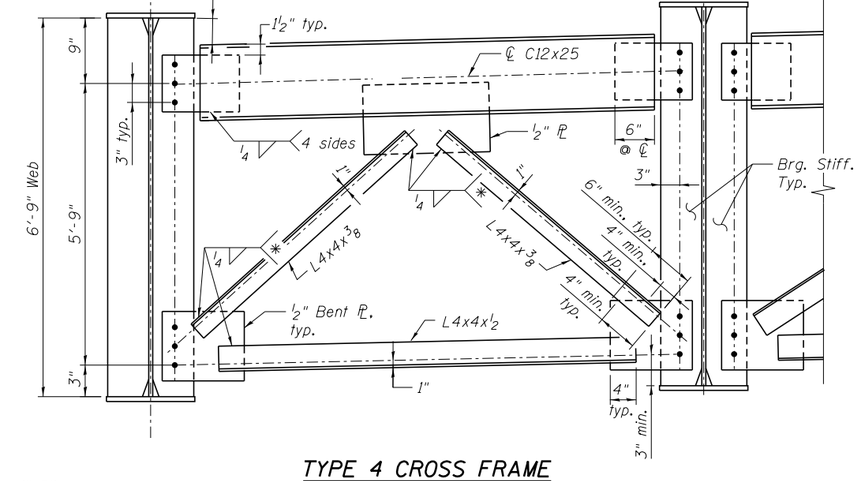
BEARING STIFFENER AT PIER 1

(No. of Plates Req'd = 22)



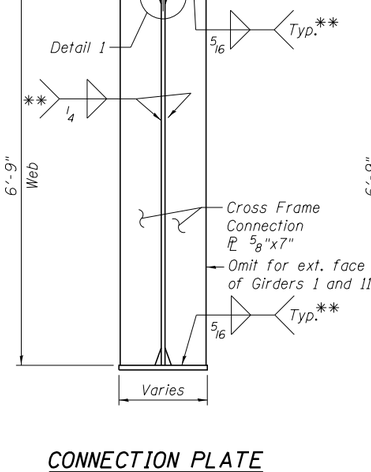
TYPE 3 CROSS FRAME AT PIER 2

(CF3)
(No. Req'd = 10)



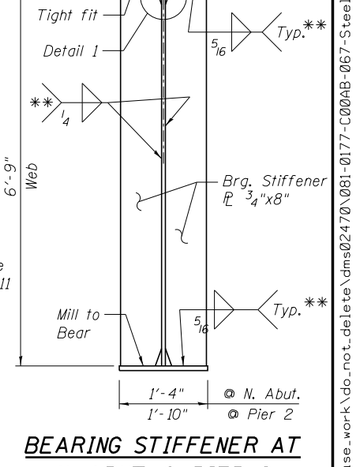
TYPE 4 CROSS FRAME AT NORTH ABUTMENT

(CF4)
(No. Req'd = 10)



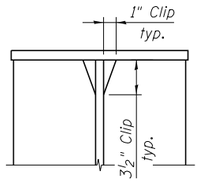
CONNECTION PLATE

(No. of Plates Req'd = 300)



BEARING STIFFENER AT N. ABUT. & PIER 2

(No. of Plates Req'd = 44)



DETAIL 1

(Typical top & bottom flanges)

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

NOTES:

1. All cross frames between girders shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
2. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4" ϕ, holes 15/16" ϕ, unless noted otherwise. Two hardened washers required for each set of oversized holes.

benesch
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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-067-Steel Plate Girder Cross Frame Details - Unit 1.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - TJJ	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER CROSS FRAME DETAILS – UNIT 1
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S67 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	836
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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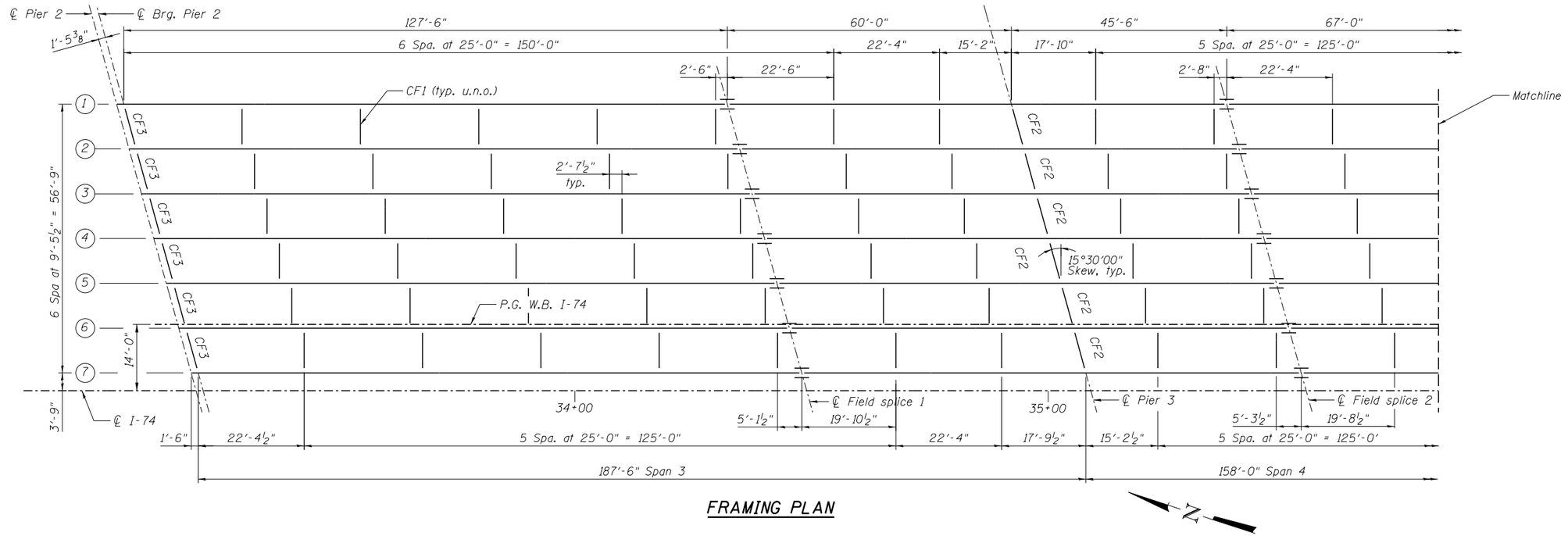
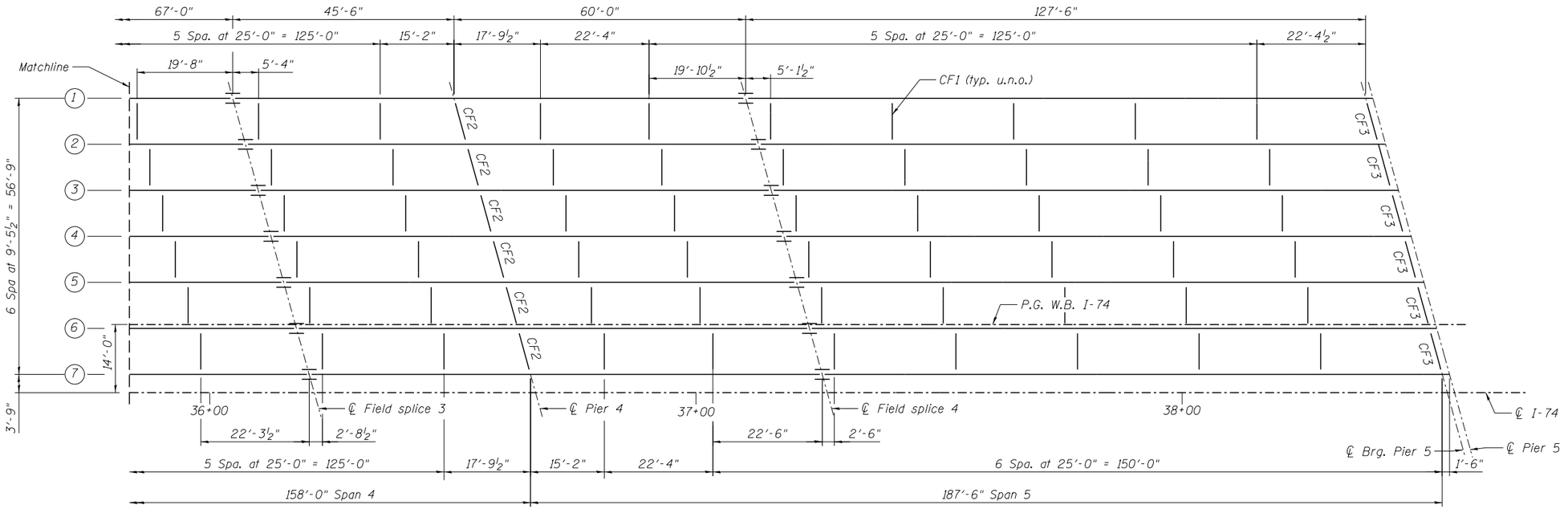
1/18/2017 11:34:20 AM



FRAMING PLAN



FRAMING PLAN

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-068-Framing Plan Unit 2.dgn	USER NAME = ksnider	DESIGNED - SL	REVISED -
		CHECKED - DTS	REVISED -
	PLOT SCALE =	DRAWN - SL	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN UNIT 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S68 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	837
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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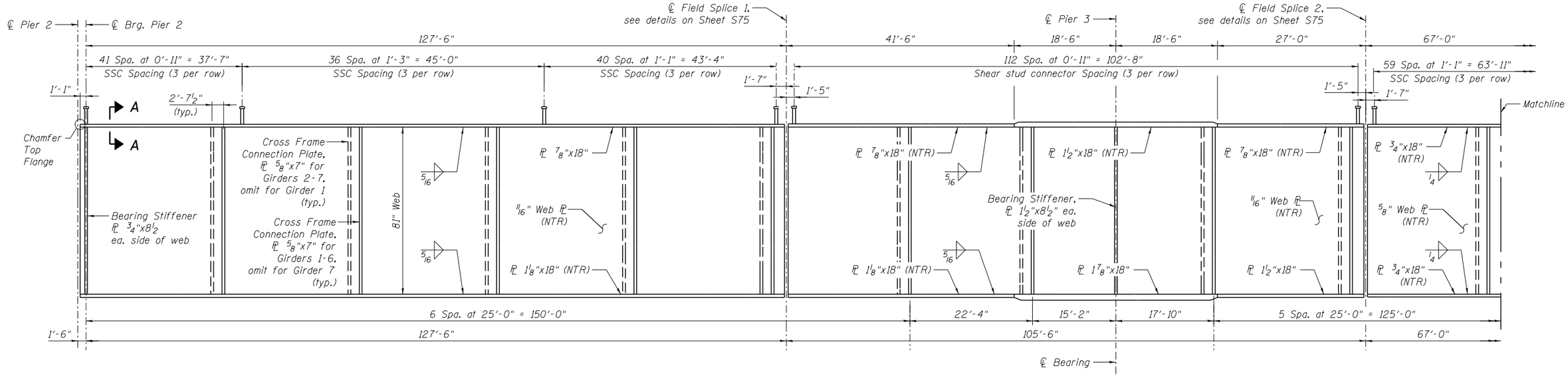
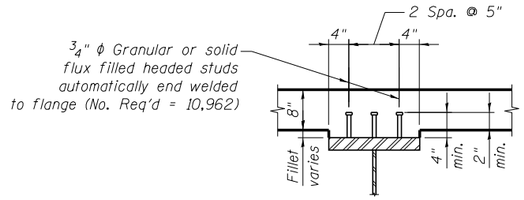


GIRDER ELEVATION

Interior Girder Shown, Exterior Girders Similar
(Looking East, 7 Required)

N. END TOP FLANGE CHAMFER DETAIL

S. END TOP FLANGE CHAMFER DETAIL



SECTION A-A

NOTES:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

2. All flange plates, web plates, and bearing stiffeners, shall be AASHTO M270 Grade 50 steel.

3. SSC - Shear stud connector

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FILENAME = 081-0177-C00AB-069-Steel Plate Girder Elevation Unit 2.dgn	USER NAME = ksnider	DESIGNED - SL	REVISED -
		CHECKED - DTS	REVISED -
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MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - DTS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER ELEVATION UNIT 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S69 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	838
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

Plate Girder Elevation Unit 2.dgn
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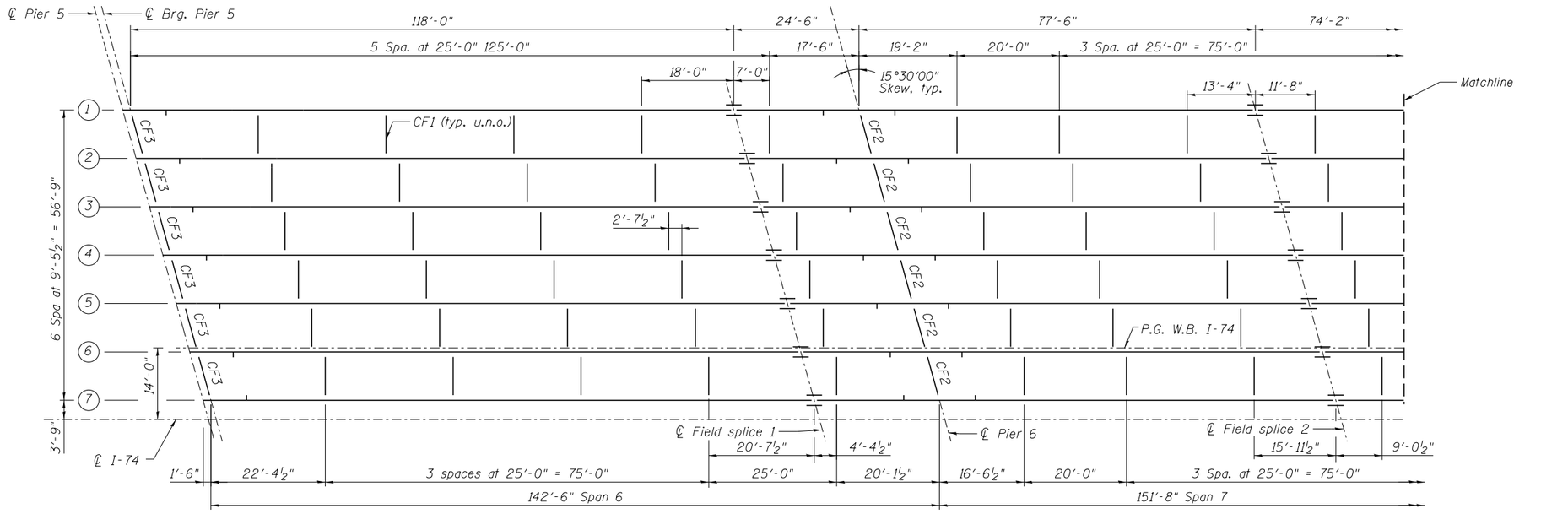
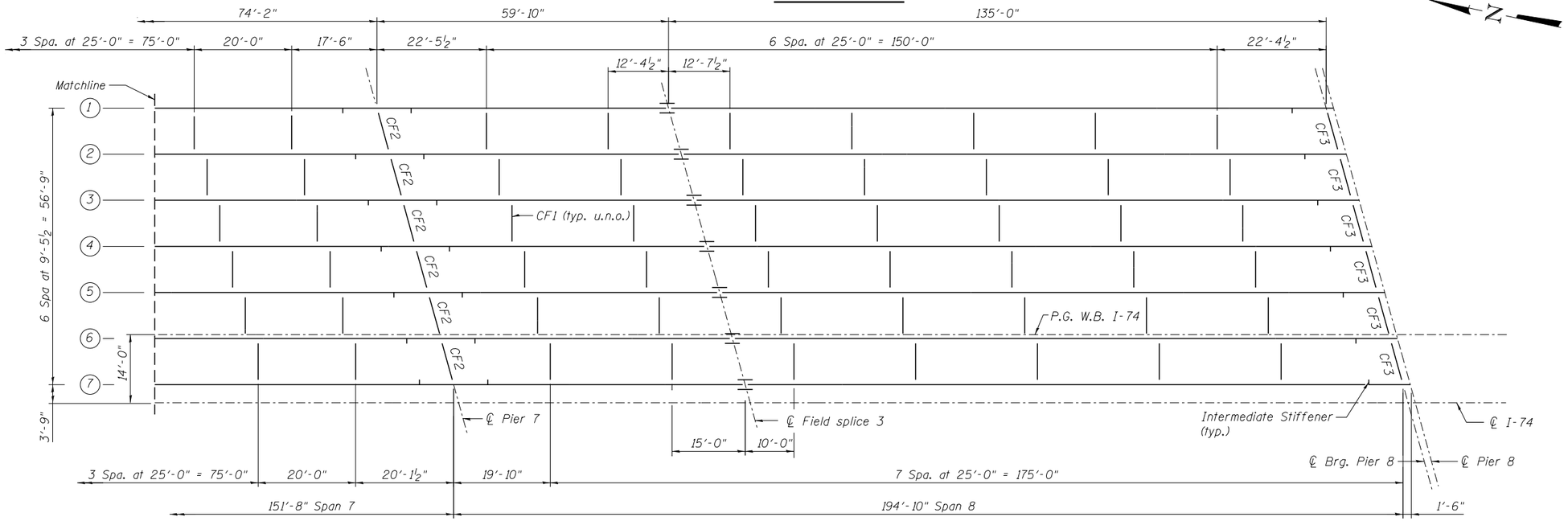
1/18/2017 11:34:30 AM



FRAMING PLAN



FRAMING PLAN

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN UNIT 3
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S7O OF S12O SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	839
		CONTRACT NO. 64C08		
		ILLINOIS	FED. AID PROJECT	

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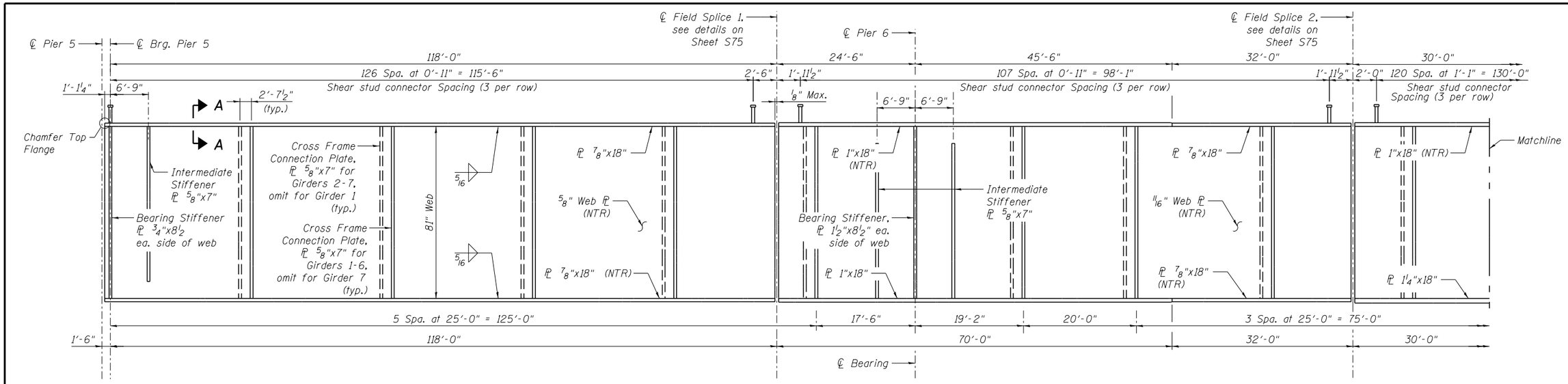
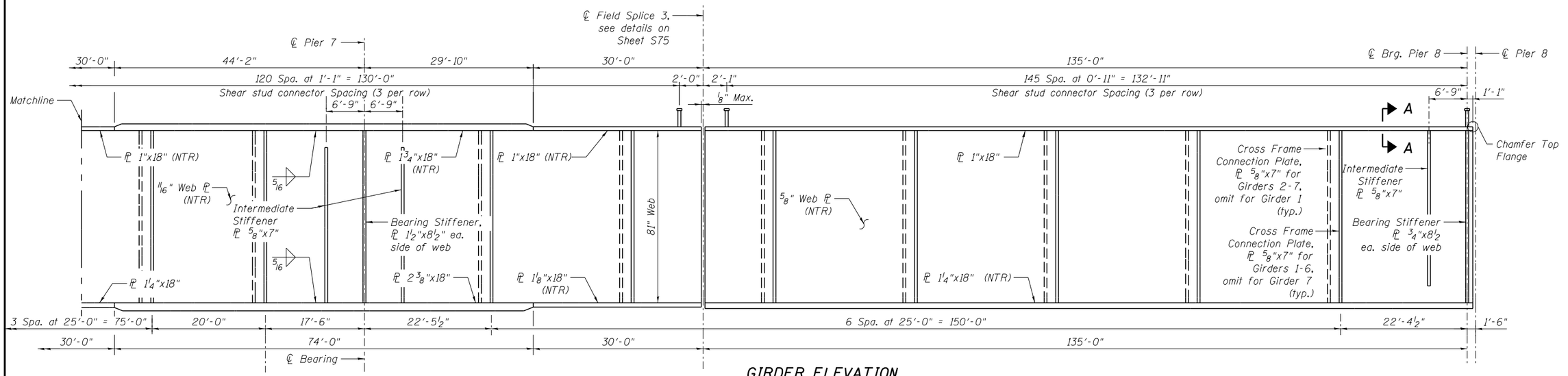
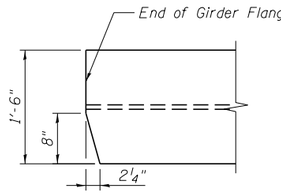


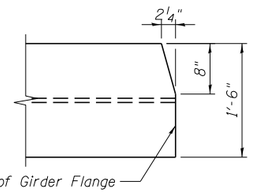


GIRDER ELEVATION

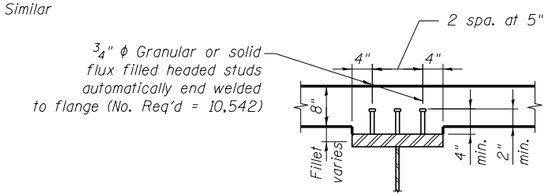
Interior Girder Shown, Exterior Girders Similar
(Looking East, 7 Required)



N. END TOP FLANGE CHAMFER DETAIL



S. END TOP FLANGE CHAMFER DETAIL



SECTION A-A

NOTES:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
2. All flange plates, web plates, and bearing stiffeners shall be AASHTO M270 Grade 50 steel.
3. See sheet S70 for Intermediate Stiffener Locations.

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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-071-Steel Plate Girder Elevation Unit 3.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - LRB	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - LRB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER ELEVATION UNIT 3
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S71 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	840
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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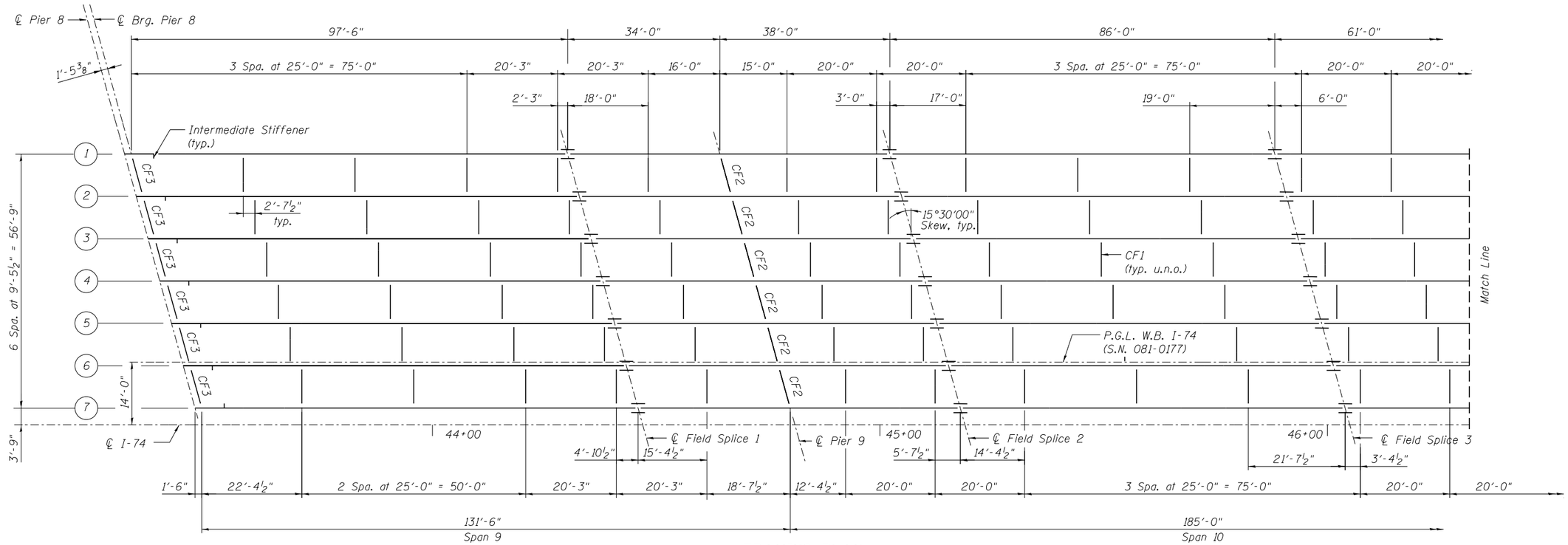
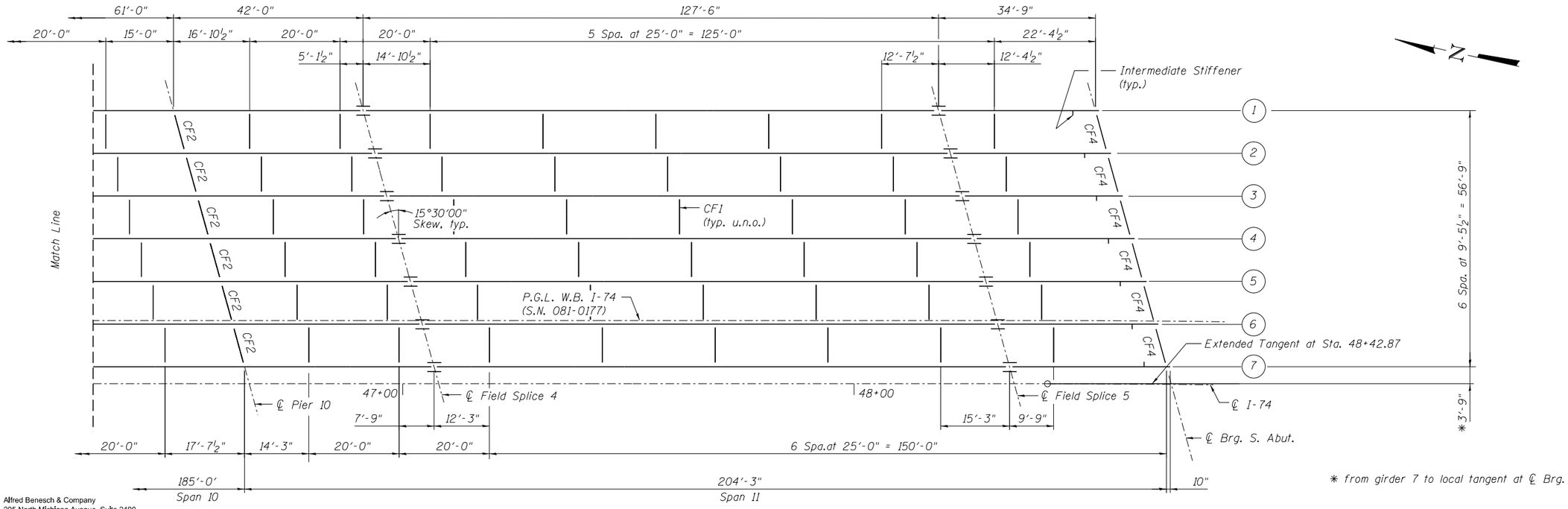


FRAMING PLAN



FRAMING PLAN

* from girder 7 to local tangent at ℄ Brg.

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205 North Michigan Avenue, Suite 2400
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FILENAME = 081-0177-C00AB-072-Framing Plan Unit 4.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S72 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	841
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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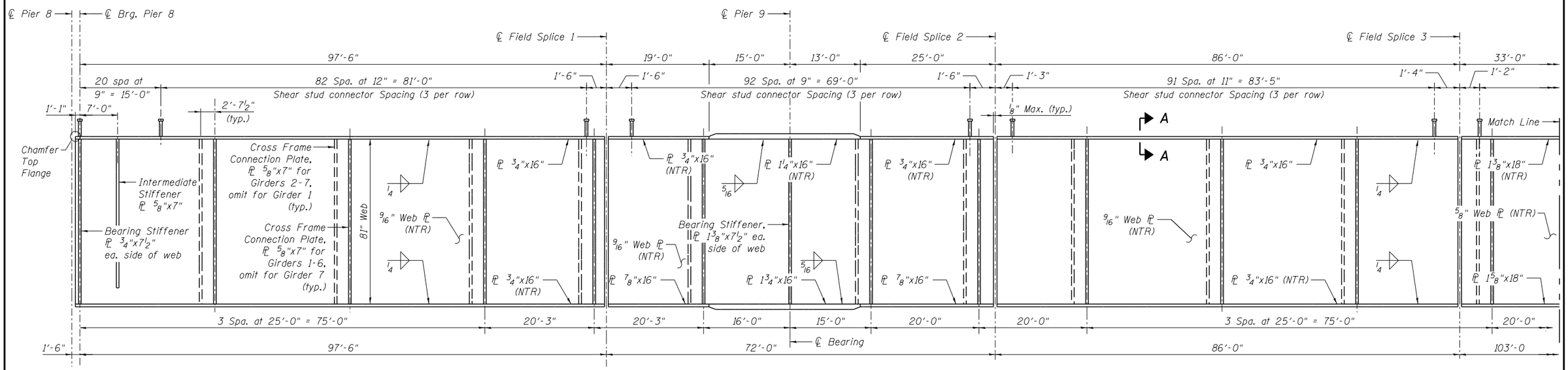
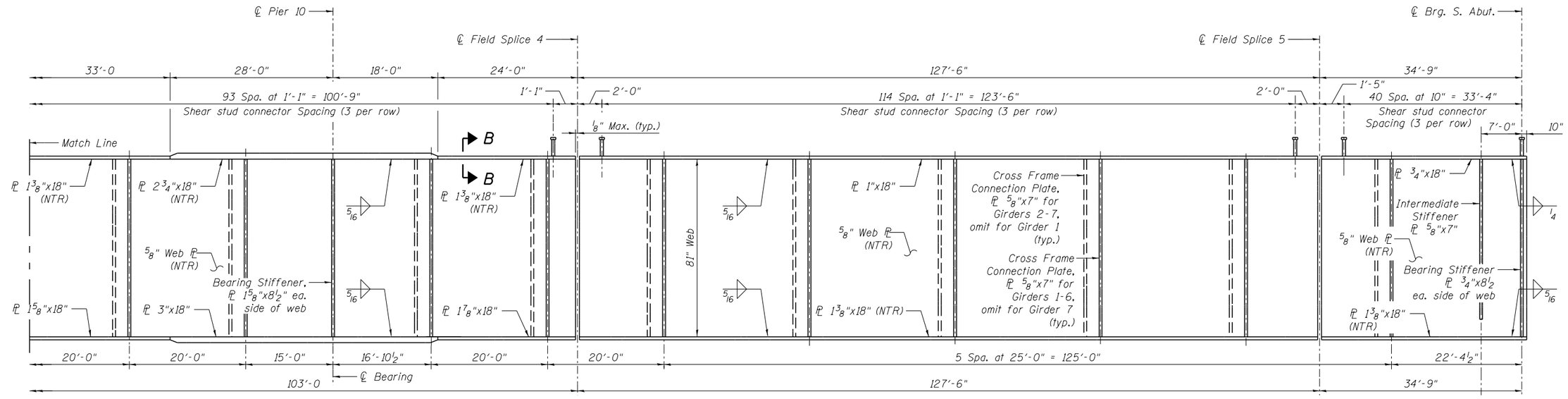
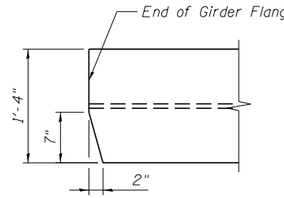


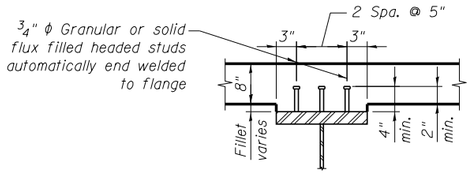


GIRDER ELEVATION

Interior Girder Shown, Exterior Girders Similar
(Looking East, 7 Required)

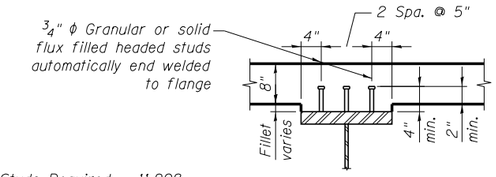


N. END TOP FLANGE CHAMFER DETAIL



SECTION A-A

(For 16" wide flanges)



SECTION B-B

(For 18" wide flanges)

NOTES:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.
2. All flange plates, web plates, and bearing stiffeners shall be AASHTO M270 Grade 50 steel.
3. See sheet S74, for Cross Frame and Connection Plate locations.
4. See sheet S77, for splice details.

Total Studs Required = 11,298

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-073-Steel Plate Girder Elevation Unit 4.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER ELEVATION UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S73 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	842
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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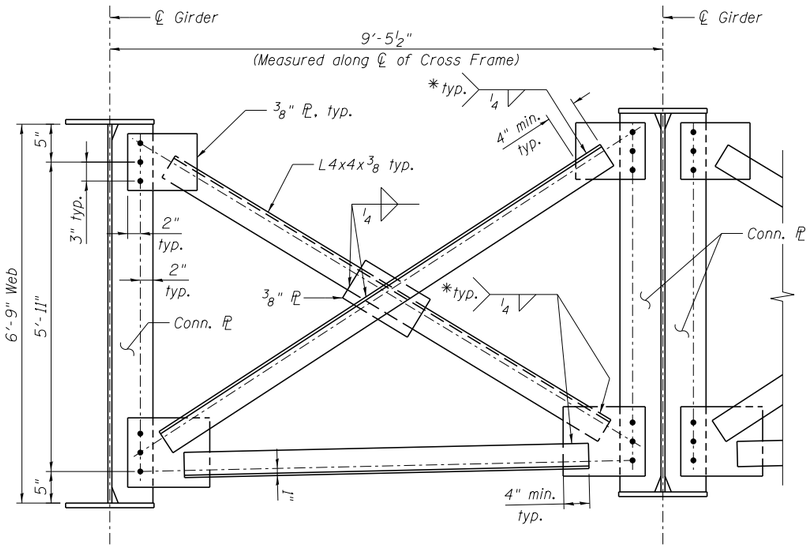
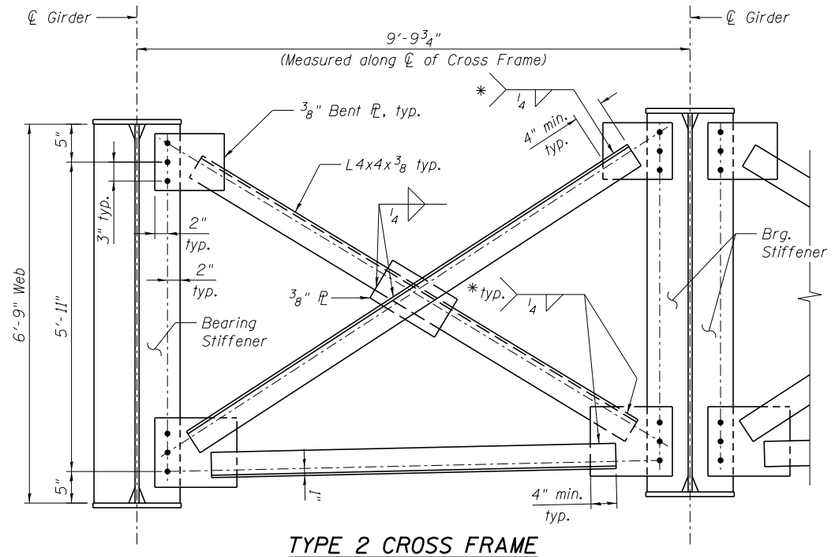


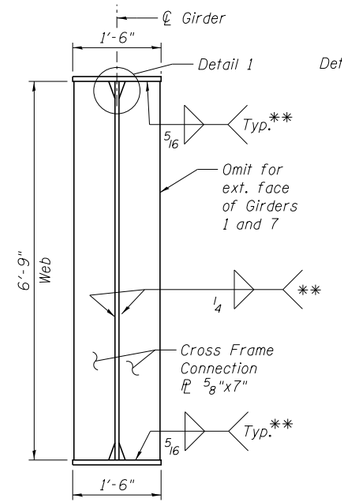
TYPE 1 CROSS FRAME

(CF1)
(No. Req'd = 354)



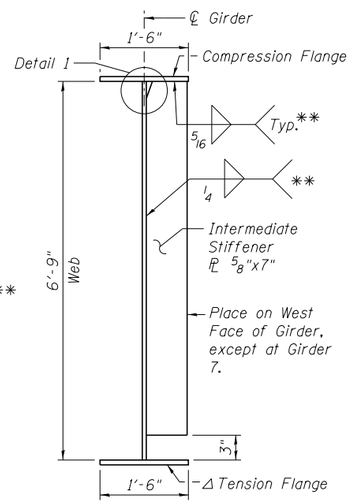
TYPE 2 CROSS FRAME AT PIERS 3, 4, 6, 7, 9 & 10

(CF2)
(No. Req'd = 36)



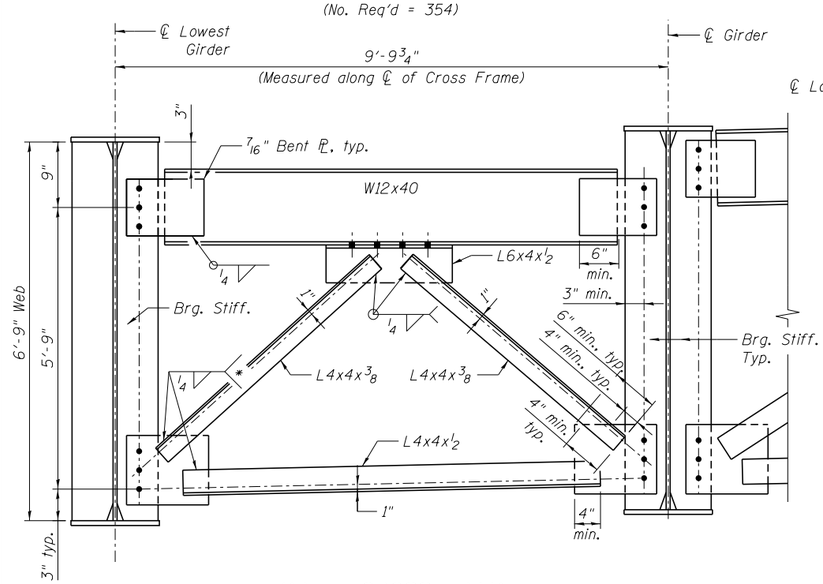
CONNECTION PLATE

(No. of Plates Req'd = 708)



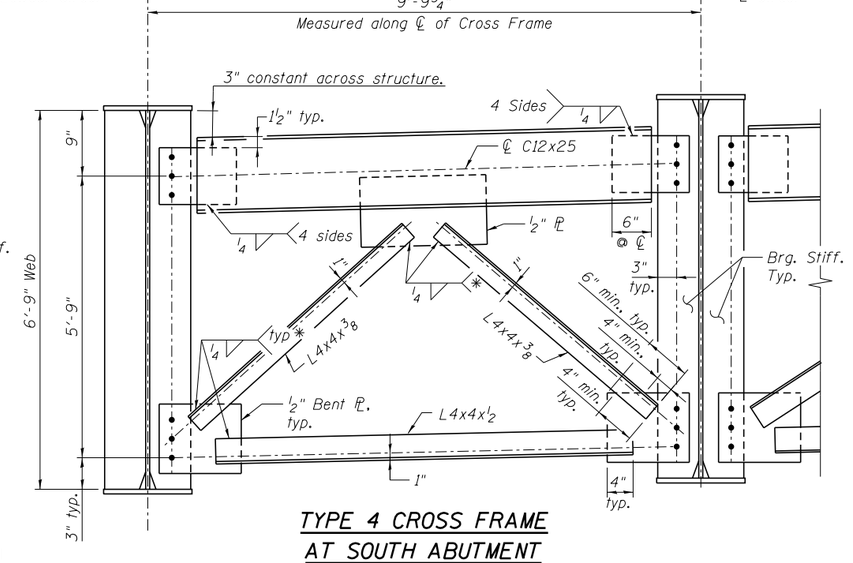
INTERMEDIATE STIFFENER

(No. of Plates Req'd = 56)



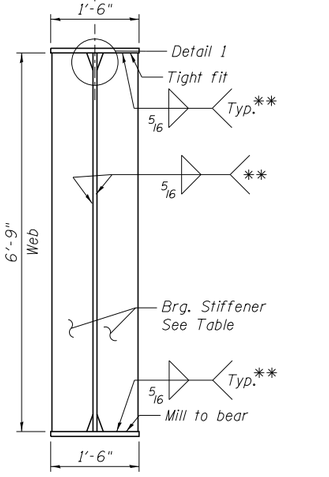
TYPE 3 CROSS FRAME AT PIERS 2, 5 & 8

(CF3)
(No. Req'd = 30)



TYPE 4 CROSS FRAME AT SOUTH ABUTMENT

(CF4)
(No. Req'd = 6)



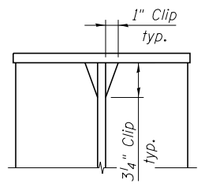
BEARING STIFFENER

(No. of Plates Req'd = 168)
(See Table)

Δ Bottom Flange is in tension near Piers 2, 5, 8, and the S. Abut. Top Flange is in tension near Piers 6 & 7.

BEARING STIFFNER DIMENSIONS

Location	ℙ Size
Pier 2 (Unit 2)	3/4" x 8 1/2"
Pier 3	1 1/2 x 8 1/2"
Pier 4	1 1/2" x 8 1/2"
Pier 5 (Unit 2)	3/4" x 8 1/2"
Pier 5 (Unit 3)	3/4" x 8 1/2"
Pier 6	1 1/2" x 8 1/2"
Pier 7	1 1/2" x 8 1/2"
Pier 8 (Unit 3)	3/4" x 8 1/2"
Pier 8 (Unit 4)	3/4" x 7 1/2"
Pier 9	1 3/8" x 7 1/2"
Pier 10	1 5/8" x 8 1/2"
S. Abut.	3/4" x 8 1/2"



DETAIL 1

(Typical top & bottom flanges)

NOTES:

1. All cross frames between girders shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
2. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts 3/4" ϕ, holes 15/16" ϕ, unless noted otherwise. Two hardened washers required for each set of oversized holes.

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

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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-074-Steel Plate Girder Cross Frame Details - Units 2,3 & 4.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - LRB	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - LRB	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER CROSS FRAME DETAILS – UNITS 2, 3 AND 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S74 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	843
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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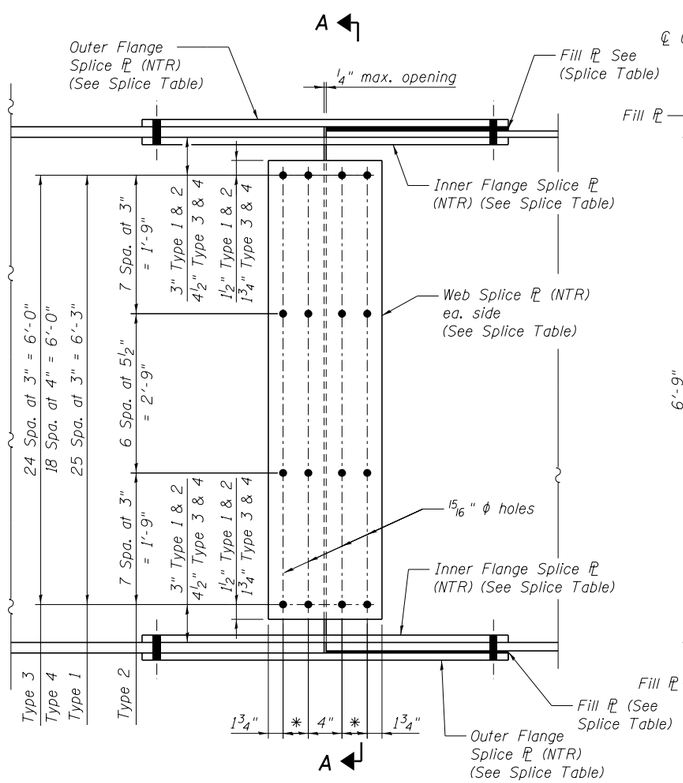
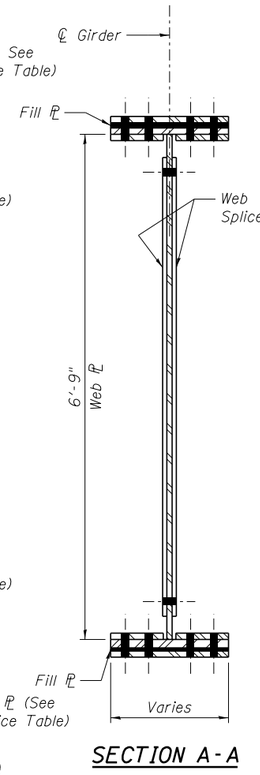


ELEVATION

* D Spa. at 3" = E cts.



SECTION A-A

TOP OF WEB ELEVATIONS - UNIT 1

(For fabrication only)

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8	Girder 9	Girder 10	Girder 11
Brg. N. Abut	592.68	592.87	593.05	593.24	593.42	593.61	593.80	593.96	593.85	593.75	593.65
Splice 1	594.01	594.19	594.39	594.59	594.78	594.98	595.18	595.37	595.28	595.17	595.08
Brg. Pier 1	595.54	595.74	595.94	596.15	596.35	596.55	596.76	596.96	596.90	596.80	596.70
Splice 2	596.97	597.18	597.39	597.61	597.81	598.01	598.23	598.44	598.40	598.31	598.19
Splice 3	599.50	599.73	599.96	600.19	600.42	600.64	600.87	601.09	601.14	601.02	600.91
Brg. Pier 2	600.18	600.37	600.60	600.83	600.93	601.17	601.42	601.66	601.77	601.65	601.50

TOP OF WEB ELEVATIONS - UNIT 2

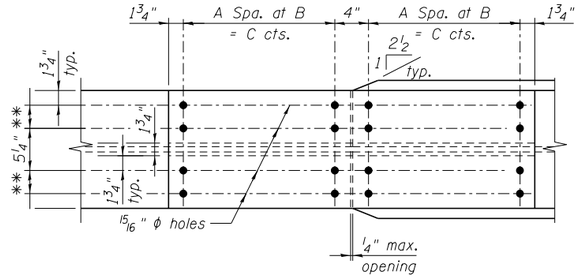
(For fabrication only)

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7
Brg. Pier 2	601.06	601.30	601.55	601.79	601.90	601.77	601.64
Splice 1	603.99	604.22	604.45	604.68	604.78	604.64	604.49
Brg. Pier 3	604.40	604.63	604.86	605.08	605.17	605.02	604.87
Splice 2	604.86	605.09	605.31	605.53	605.62	605.46	605.30
Splice 3	605.60	605.82	606.03	606.25	606.33	606.16	606.00
Brg. Pier 4	606.16	606.37	606.58	606.79	606.87	606.70	606.53
Splice 4	607.10	607.30	607.50	607.71	607.78	607.60	607.42
Brg. Pier 5	607.27	607.47	607.67	607.87	607.94	607.77	607.57

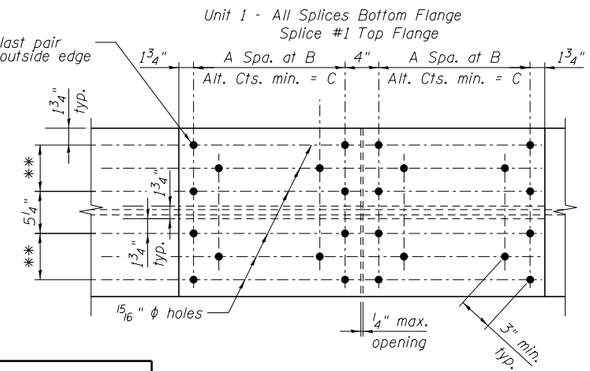
TOP OF WEB ELEVATIONS - UNIT 3

(For fabrication only)

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7
Brg. Pier 5	607.27	607.48	607.69	607.89	607.96	607.77	607.58
Splice 1	607.87	608.09	608.28	608.48	608.56	608.38	608.20
Brg. Pier 6	607.96	608.17	608.37	608.57	608.64	608.47	608.29
Splice 2	608.26	608.44	608.64	608.85	608.91	608.74	608.57
Brg. Pier 7	608.73	608.92	609.12	609.32	609.39	609.22	609.03
Splice 3	609.48	609.68	609.88	610.08	610.16	609.97	609.78
Brg. Pier 8	609.75	609.95	610.15	610.36	610.43	610.25	610.07



FLANGE SPLICE



Unit 1 - All Splices Bottom Flange
Splice #1 Top Flange

FLANGE SPLICE

Unit 1 - Splice #2 and #3 Top Flange
Units 2 & 3 - All Splices

** Unit 1 - Splice 1 - $3\frac{5}{8}$" Top & Bottom Flange
Splice 2 & 3 - $5\frac{5}{8}$" Top Flange
Splice 2 - 2 @ $3\frac{5}{16}$" = $6\frac{5}{8}$" Bottom Flange
Splice 3 - $6\frac{5}{8}$" Bottom Flange
Units 2 & 3 - All Splices - $4\frac{5}{8}$" Top & Bottom Flange

SPLICE TABLE - UNIT 1

Splice Location	Top Flange							Bottom Flange							Web				
	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Web Splice ℄	D	E	Type	No. Bolts
Field Splice 1	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/8"x2'-1 1/2"	3/8"x16"x1'-0 5/8"	3	3"	9"	32	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/8"x2'-1 1/2"	1/2"x16"x1'-0 5/8"	3	3"	9"	32	3/8"x13 1/2"x6'-6"	1	3"	1	104
Field Splice 2	1/2"x20"x2'-1 1/2"	2-1/2"x9 1/8"x2'-1 1/2"	1/4"x20"x1'-0 5/8"	6	1 1/2"	9"	44	3/4"x22"x2'-7 1/2"	2-3/4"x10 1/8"x2'-7 1/2"	1/8"x22"x1'-3 5/8"	4	3"	1'-0"	60	3/8"x19 1/2"x6'-6"	2	6"	2	126
Field Splice 3	3/4"x20"x3'-1 1/2"	2-3/4"x9 1/8"x3'-1 1/2"	1/8"x20"x1'-6 5/8"	10	1 1/2"	1'-3"	68	1 1/8"x22"x8'-1 1/2"	2-1 1/8"x10 1/8"x8-1 1/2"	1/8"x22"x4'-0 5/8"	15	3"	3'-9"	128	3/8"x19 1/2"x6'-6"	2	6"	1	154

SPLICE TABLE - UNIT 2

Splice Location	Top Flange							Bottom Flange							Web				
	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Web Splice ℄	D	E	Type	No. Bolts
Field Splice 1	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	N/A	4	2"	8"	32	5/8"x18"x3'-3 1/2"	2-5/8"x8 1/8"x3'-3 1/2"	N/A	8	2"	1'-4"	56	1/2"x19 1/2"x6'-3 1/2"	2	6"	3	150
Field Splice 2	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	1/8"x18"x11 5/8"	4	2"	8"	32	1/2"x18"x2'-7 1/2"	2-1/2"x8 1/8"x2'-7 1/2"	3/4"x18"x1'-3 5/8"	6	2"	1'-0"	44	3/8"x19 1/2"x6'-3 1/2"	2	6"	4	114
Field Splice 3	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	1/8"x18"x11 5/8"	4	2"	8"	32	1/2"x18"x2'-7 1/2"	2-1/2"x8 1/8"x2-7 1/2"	3/4"x18"x1'-3 5/8"	6	2"	1'-0"	44	3/8"x19 1/2"x6'-3 1/2"	2	6"	4	114
Field Splice 4	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	N/A	4	2"	8"	32	5/8"x18"x3'-3 1/2"	2-5/8"x8 1/8"x3'-3 1/2"	N/A	8	2"	1'-4"	56	1/2"x19 1/2"x6'-3 1/2"	2	6"	3	150

SPLICE TABLE - UNIT 3

Splice Location	Top Flange							Bottom Flange							Web				
	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Web Splice ℄	D	E	Type	No. Bolts
Field Splice 1	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	1/8"x18"x11 5/8"	4	2"	8"	32	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	1/8"x18"x11 5/8"	4	2"	8"	32	3/8"x13 1/2"x6'-6"	1	3"	1	104
Field Splice 2	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	1/8"x18"x11 5/8"	4	2"	8"	32	1/2"x18"x2'-7 1/2"	2-1/2"x8 1/8"x2'-7 1/2"	3/8"x18"x1'-3 5/8"	6	2"	1'-0"	44	3/8"x19 1/2"x6'-6"	2	6"	2	126
Field Splice 3	1/2"x18"x1'-11 1/2"	2-1/2"x8 1/8"x1'-11 1/2"	N/A	4	2"	8"	32	5/8"x18"x2'-7 1/2"	2-5/8"x8 1/8"x2-7 1/2"	1/8"x18"x1'-3 5/8"	6	2"	1'-0"	44	3/8"x19 1/2"x6'-6"	2	6"	2	126

NOTES:

1. All Splice Plates shall be AASHTO M270 Grade 50 steel.
2. All Splice Bolts shall be 7/8" ϕ ASTM A325 High Strength with 15/16" ϕ holes.
3. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-075-Steel Plate Girder Splice Details Units 1-3.dgn	USER NAME = ksnider	DESIGNED - AAY/SL	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STEEL PLATE GIRDER SPLICE DETAILS UNITS 1-3
		CHECKED - KWS/DTS	REVISED -		STRUCTURE NO. 081-0177 (WESTBOUND)
MODEL = Default	PLOT SCALE =	DRAWN - KMS/SL	REVISED -		SHEET NO. S75 OF S120 SHEETS
	PLOT DATE = 1/18/2017	CHECKED - KWS/DTS	REVISED -		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	844
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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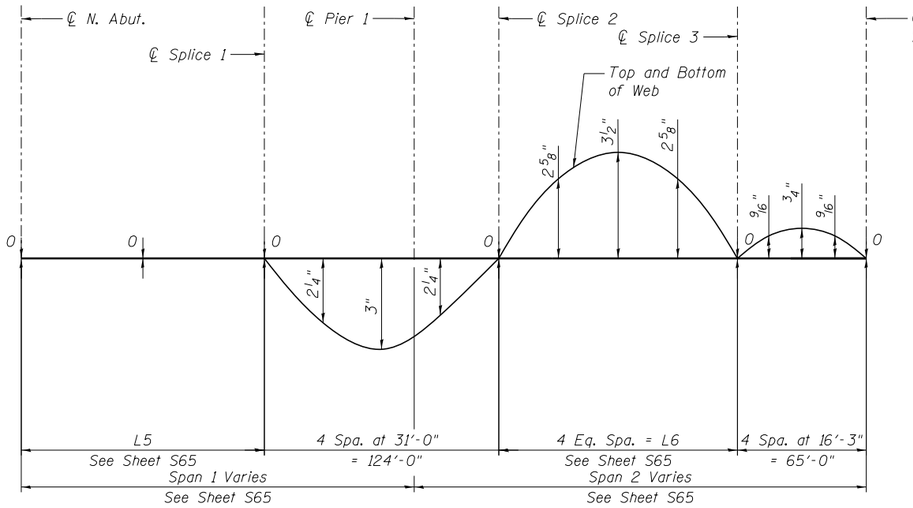
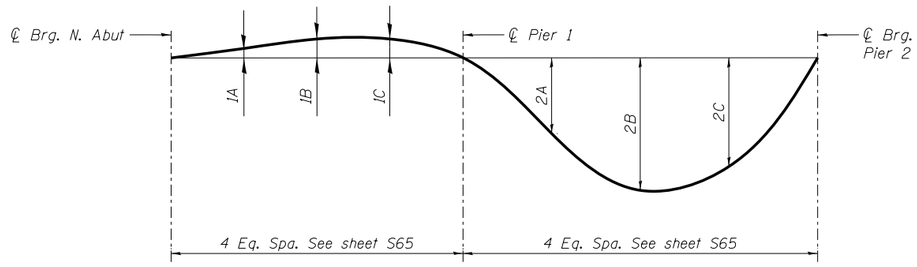


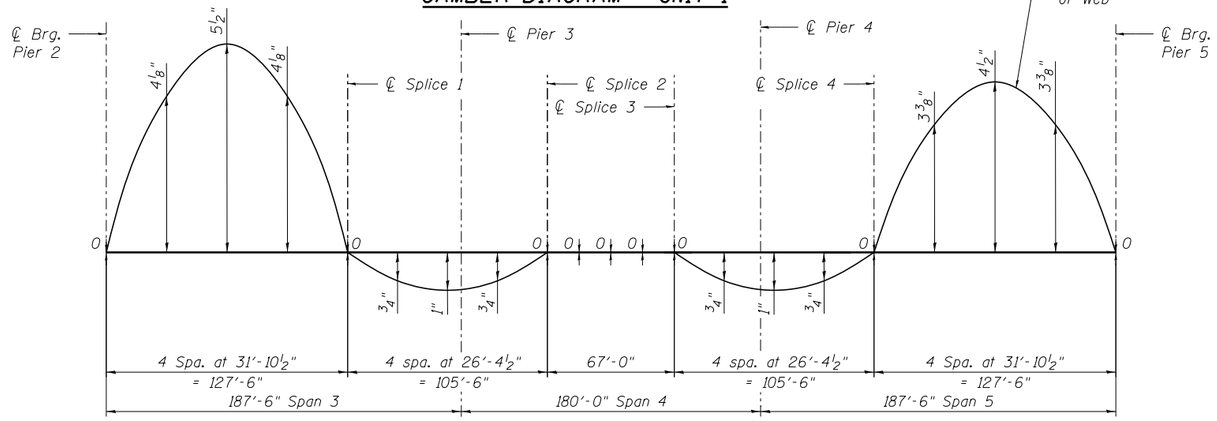
CAMBER DIAGRAM - UNIT 1



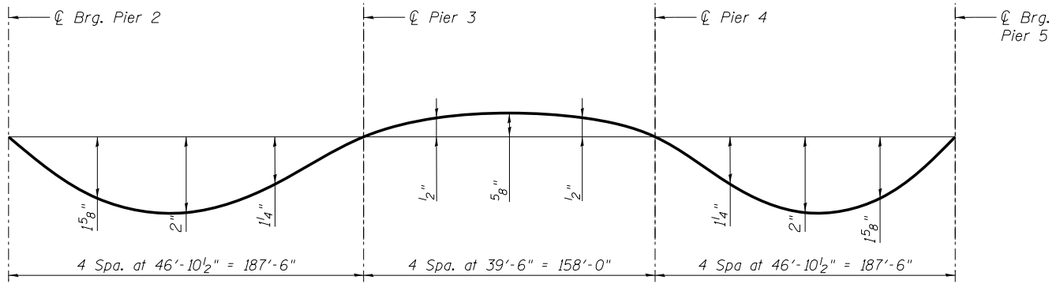
STEEL DEFLECTION DIAGRAM - UNIT 1

STEEL DEFLECTION TABLE

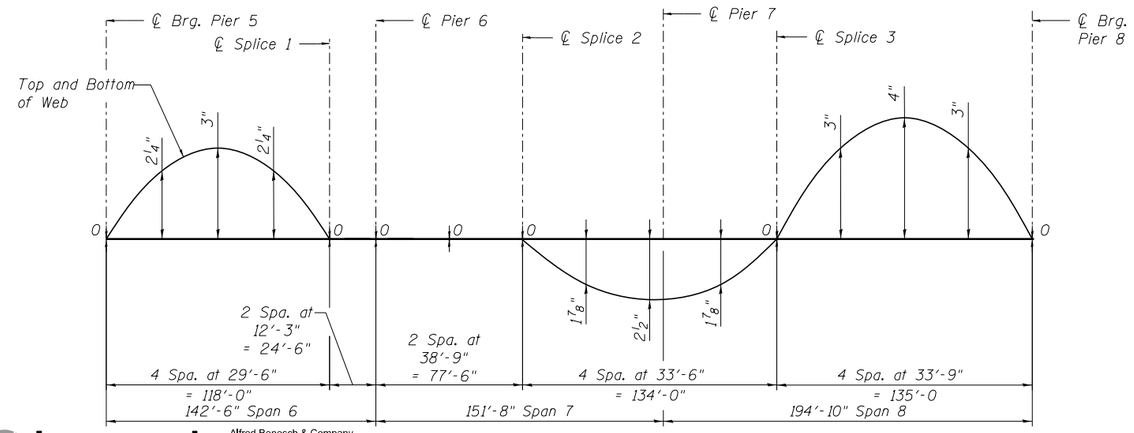
Girder	1A	1B	1C	2A	2B	2C
1	1/4"	3/8"	1/2"	1 1/8"	3 1/4"	2 5/8"
2	1/8"	3/8"	1/2"	1 1/8"	3 3/8"	2 3/4"
3	1/8"	3/8"	1/2"	1 1/8"	3 3/8"	2 3/4"
4	1/8"	1/2"	1/2"	2"	3 3/8"	2 3/4"
5	1/8"	1/2"	1/2"	2"	3 3/8"	2 3/4"
6	1/8"	1/2"	1/2"	2"	3 3/8"	2 3/4"
7	1/8"	1/2"	1/2"	2"	3 3/8"	2 3/4"
8	1/8"	1/2"	1/2"	2"	3 3/8"	2 3/4"
9	1/4"	1/2"	1/2"	2"	3 1/2"	2 7/8"
10	1/4"	1/2"	1/2"	2"	3 1/2"	2 7/8"
11	1/4"	1/2"	1/2"	2"	3 3/8"	2 3/4"



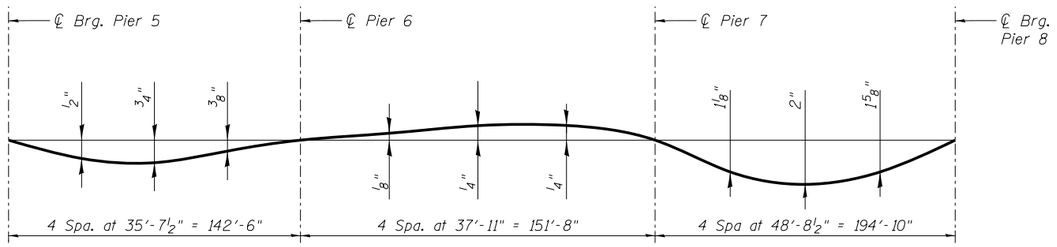
CAMBER DIAGRAM - UNIT 2



STEEL DEFLECTION DIAGRAM - UNIT 2



CAMBER DIAGRAM - UNIT 3



STEEL DEFLECTION DIAGRAM - UNIT 3

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312-565-0450
Job No. 10061

FILENAME = 081-0177-C00AB-076-Steel Plate Girder Camber Diagrams Units 1-3.dgn	USER NAME = ksnider	DESIGNED - AAY/DTS	REVISED -
		CHECKED - AJK/DTS/KWS	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK/DTS/KWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER CAMBER DIAGRAMS UNITS 1–3
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S76 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	845
		CONTRACT NO. 64C08		
ILLINOIS	FED. AID PROJECT			

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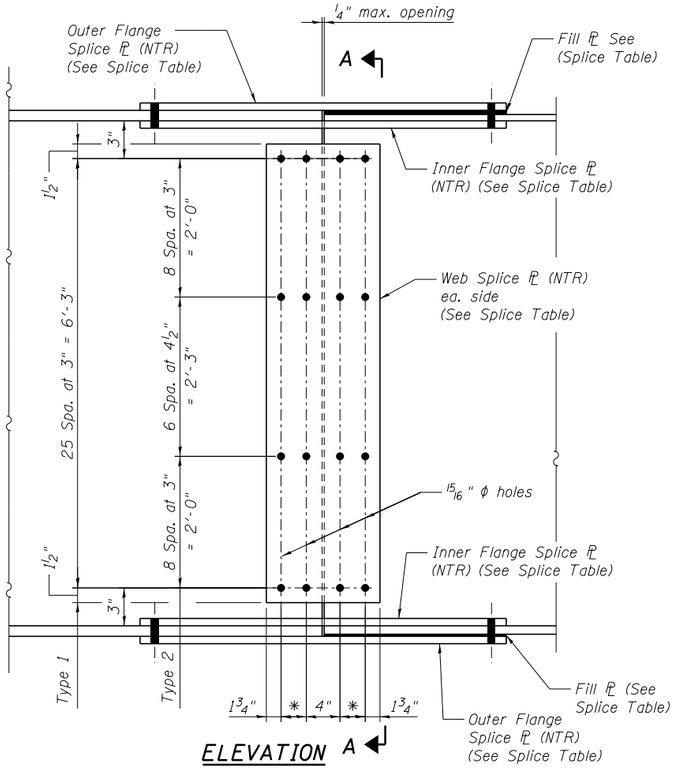
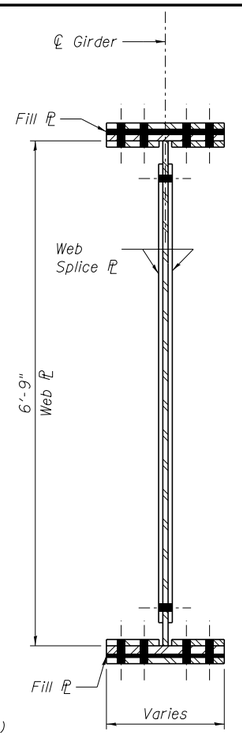
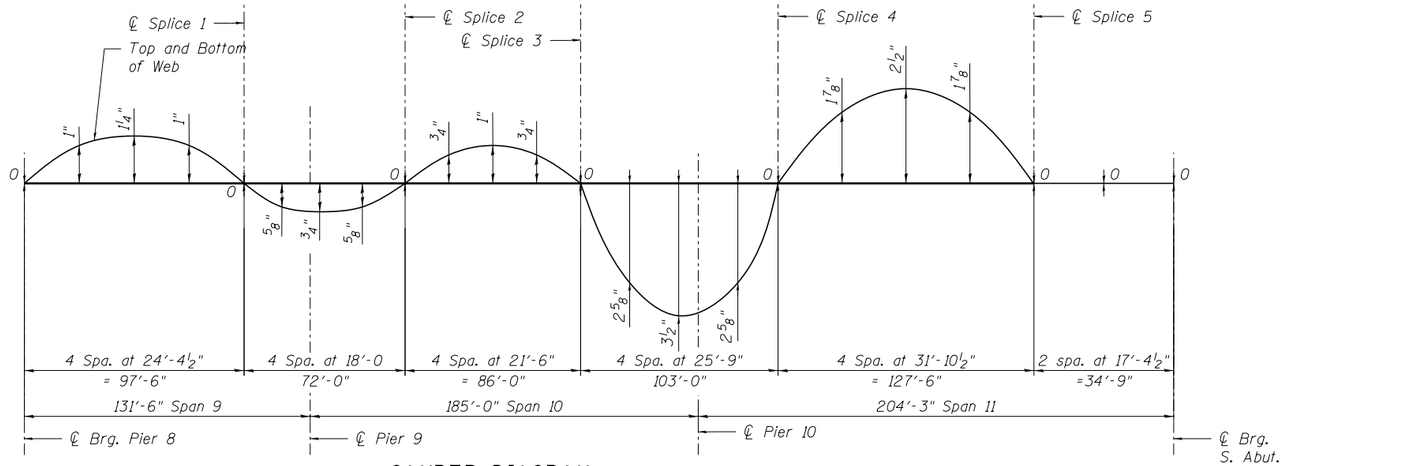


ELEVATION A

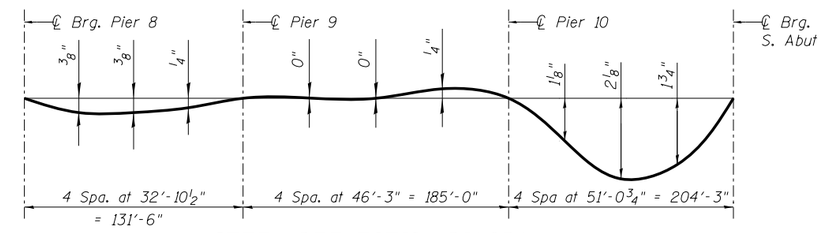
* D Spa. at 3" = E cts.



SECTION A-A

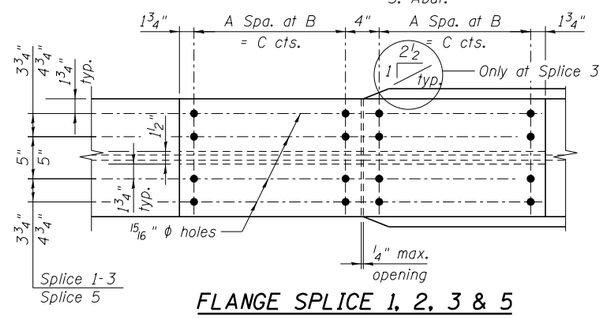


CAMBER DIAGRAM

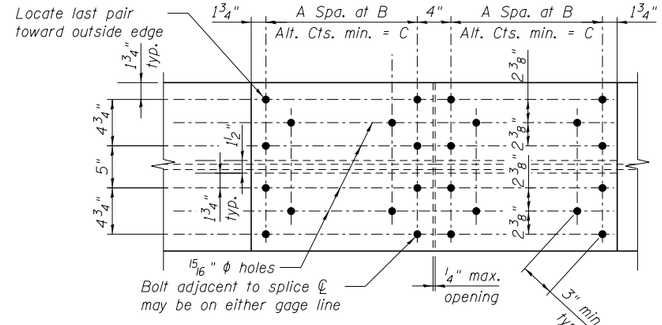


STEEL DEFLECTION DIAGRAM

(Deflections due to steel self weight only)



FLANGE SPLICE 1, 2, 3 & 5



FLANGE SPLICE 4

TOP OF WEB ELEVATIONS

(For fabrication only)

Location	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7
Brg. Pier 8	609.77	609.97	610.17	610.37	610.44	610.27	610.09
Splice 1	610.33	610.53	610.73	610.94	611.00	610.83	610.65
Brg. Pier 9	610.41	610.62	610.81	611.02	611.09	610.92	610.73
Splice 2	610.63	610.84	611.04	611.24	611.31	611.15	610.96
Splice 3	611.06	611.30	611.53	611.74	611.81	611.65	611.49
Brg. Pier 10	611.81	612.04	612.17	612.26	612.26	612.10	611.94
Splice 4	612.79	613.02	613.08	613.10	613.04	612.88	612.71
Splice 5	615.31	615.57	615.41	615.19	614.97	614.72	614.47
Brg. S. Abut.	615.64	615.88	615.68	615.41	615.14	614.86	614.57

SPLICE TABLE

Splice Location	Top Flange							Bottom Flange							Web				
	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Outer Flange ℄	Inner Flange ℄	Fill ℄	A	B	C	No. Bolts	Web Splice ℄	D	E	Type	No. Bolts
Field Splice 1	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/4"x2'-1 1/2"	N/A	3	3"	9"	32	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/4"x2'-1 1/2"	1/8"x16"x1'-0 5/8"	3	3"	9"	32	3/8"x13 1/2"x6'-6"	1	3"	1	104
Field Splice 2	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/4"x2'-1 1/2"	N/A	3	3"	9"	32	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/4"x2'-1 1/2"	1/8"x16"x1'-0 5/8"	3	3"	9"	32	3/8"x13 1/2"x6'-6"	1	3"	1	104
Field Splice 3	1/2"x16"x2'-1 1/2"	2-1/2"x7 1/4"x2'-1 1/2"	5/8"x16"x1'-0 5/8"	3	3"	9"	32	1/2"x16"x2'-7 1/2"	2-1/2"x7 1/4"x2'-7 1/2"	7/8"x16"x1'-3 5/8"	4	3"	1'-0"	40	3/8"x13 1/2"x6'-6"	1	3"	1	104
Field Splice 4	1/2"x18"x2'-7 1/2"	2-1/2"x8 1/4"x2'-7 1/2"	3/8"x18"x1'-3 5/8"	6	2"	1'-0"	44	3/4"x18"x3'-3 1/2"	2-3/4"x8 1/4"x3'-3 1/2"	1/2"x18"x1'-7 5/8"	8	2"	1'-4"	56	3/8"x13 1/2"x6'-6"	1	3"	1	104
Field Splice 5	1/2"x18"x2'-7 1/2"	2-1/2"x8 1/4"x2'-7 1/2"	1/4"x18"x1'-3 5/8"	4	3"	1'-0"	40	3/4"x18"x4'-1 1/2"	2-3/4"x8 1/4"x4'-1 1/2"	N/A	7	3"	1'-9"	64	3/8"x19 1/2"x6'-6"	2	3"	2	138

NOTES:

1. All Splice Plates shall be AASHTO M270 Grade 50 steel.
2. All Splice Bolts shall be 7/8" ϕ ASTM A325 High Strength with 15/16" ϕ holes.
3. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement. Zone 2.

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FILENAME = 081-0177-C00AB-077-Steel Plate Girder Camber and Splice Details Unit 4.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - KWS	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - KWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER CAMBER AND SPLICE DETAILS UNIT 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S77 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	846
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

UNIT 1 EXTERIOR GIRDER MOMENT TABLE (GIRDER 11 CONTROLS)

		0.4 Sp. 1	Pier 1	0.6 Sp. 2
I_s	(in^4)	67,779	211,784	146,939
$I_c(n)$	(in^4)	149,640	-----	296,212
$I_c(3n)$	(in^4)	110,013	-----	215,777
$I_c(cr)$	(in^4)	-----	229,502	-----
S_s	(in^3)	1643	5100	4145
$S_c(n)$	(in^3)	2289	-----	5152
$S_c(3n)$	(in^3)	2048	-----	4729
$S_c(cr)$	(in^3)	-----	5237	-----
DC1	(k/')	1.101	1.440	1.351
M_{DC1}	('k)	335	6961	5500
DC2	(k/')	0.193	0.193	0.193
M_{DC2}	('k)	110	1029	798
DW	(k/')	0.356	0.374	0.403
M_{DW}	('k)	150	2041	1687
M_{L+IM}	('k)	2225	3795	4037
M_u (Strength I)	('k)	4675	19,690	17,468
$\phi_f M_n$	('k)	12,137	22,543	21,395
f_s DC1	(ksi)	2.4	16.4	15.9
f_s DC2	(ksi)	0.6	2.4	2.0
f_s DW	(ksi)	0.9	4.7	4.3
f_s (L+IM)	(ksi)	11.7	8.7	9.4
f_s (Service II)	(ksi)	19.1	34.7	34.5
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----
V_f	(k)	71.8	70.0	78.0

UNIT 1 - EXTERIOR GIRDER REACTION TABLE (GIRDER 11 CONTROLS)

		N. Abut.	Pier 1	Pier 2
R_{DC1}	(k)	39.1	320.5	119.9
R_{DC2}	(k)	7.6	47.9	17.6
R_{DW}	(k)	12.9	94.4	37.4
R_{L+IM}	(k)	104.2	263.1	142.3
R_{Total}	(k)	163.8	725.9	317.2

UNIT 2 - GIRDERS 1 & 7 MOMENT TABLE

		0.4 Sp. 3 & 0.6 Sp. 5	Pier 3 & 4	0.5 Sp. 4
I_s	(in^4)	90,609	133,659	72,791
$I_c(n)$	(in^4)	190,820	250,212	156,788
$I_c(3n)$	(in^4)	139,853	-----	115,810
$I_c(cr)$	(in^4)	-----	150,482	-----
S_s	(in^3)	2,289	3,347	1,765
$S_c(n)$	(in^3)	3,051	-----	2,411
$S_c(3n)$	(in^3)	2,749	-----	2,167
$S_c(cr)$	(in^3)	-----	3,506	-----
DC1	(k/')	1.265	1.354	1.215
M_{DC1}	('k)	3,696	-4,112	-264
DC2	(k/')	0.157	0.157	0.157
M_{DC2}	('k)	458	-512	-24
DW	(k/')	0.429	0.429	0.429
M_{DW}	('k)	1,250	-1,398	-65
M_{L+IM}	('k)	3,448	-3,351	2,248
M_u (Strength I)	('k)	13,102	-13,741	3,477
$\phi_f M_n$	('k)	14,177	14,887	12,883
f_s DC1	(ksi)	19.4	-14.7	-1.8
f_s DC2	(ksi)	2.0	-1.8	-0.1
f_s DW	(ksi)	5.5	-4.8	-0.4
f_s (L+IM)	(ksi)	13.6	-11.5	11.2
f_s (Service II)	(ksi)	44.5	-36.2	12.3
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----
V_f	(k)	71.6	80.9	54.9

UNIT 2 - GIRDERS 1 & 7 REACTION TABLE

		Pier 2 & 5	Pier 3 & 4
R_{DC1}	(k)	97.9	241.5
R_{DC2}	(k)	12.0	29.8
R_{DW}	(k)	32.8	81.5
R_{L+IM}	(k)	138.0	261.4
R_{Total}	(k)	280.7	614.2

UNIT 1 INTERIOR GIRDER MOMENT TABLE (GIRDER 10 CONTROLS)

		0.4 Sp. 1	Pier 1	0.6 Sp. 2
I_s	(in^4)	67,779	211,784	146,939
$I_c(n)$	(in^4)	146,786	-----	296,093
$I_c(3n)$	(in^4)	107,783	-----	215,701
$I_c(cr)$	(in^4)	-----	231,599	-----
S_s	(in^3)	1643	5100	4145
$S_c(n)$	(in^3)	2275	-----	5150
$S_c(3n)$	(in^3)	2031	-----	4728
$S_c(cr)$	(in^3)	-----	5253	-----
DC1	(k/')	1.060	1.434	1.371
M_{DC1}	('k)	237	6941	5586
DC2	(k/')	0.193	0.193	0.193
M_{DC2}	('k)	110	1025	796
DW	(k/')	0.356	0.374	0.403
M_{DW}	('k)	151	2033	1684
M_{L+IM}	('k)	2218	3773	4035
M_u (Strength I)	('k)	4542	19,610	17,565
$\phi_f M_n$	('k)	12,128	22,571	21,379
f_s DC1	(ksi)	1.7	16.3	16.2
f_s DC2	(ksi)	0.6	2.3	2.0
f_s DW	(ksi)	0.9	4.6	4.3
f_s (L+IM)	(ksi)	11.7	8.6	9.4
f_s (Service II)	(ksi)	18.5	34.5	34.7
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----
V_f	(k)	67.7	70.0	78.0

UNIT 1 - INTERIOR GIRDER REACTION TABLE (GIRDER 10 CONTROLS)

		N. Abut.	Pier 1	Pier 2
R_{DC1}	(k)	36.0	318.8	122.3
R_{DC2}	(k)	7.6	47.8	17.5
R_{DW}	(k)	13.0	94.3	37.4
R_{L+IM}	(k)	104.1	262.9	142.3
R_{Total}	(k)	160.7	723.8	319.5

UNIT 2 - GIRDERS 2 THRU 6 MOMENT TABLE

		0.4 Sp. 3 & 0.6 Sp. 5	Pier 3 & 4	0.5 Sp. 4
I_s	(in^4)	90,609	133,659	72,791
$I_c(n)$	(in^4)	199,122	261,059	163,157
$I_c(3n)$	(in^4)	146,097	195,079	121,015
$I_c(cr)$	(in^4)	-----	155,857	-----
S_s	(in^3)	2,289	3,347	1,765
$S_c(n)$	(in^3)	3,091	4,182	2,442
$S_c(3n)$	(in^3)	2,793	3,841	2,203
$S_c(cr)$	(in^3)	-----	3,554	-----
DC1	(k/')	1.327	1.419	1.274
M_{DC1}	('k)	3,874	-4,310	-277
DC2	(k/')	0.157	0.157	0.157
M_{DC2}	('k)	458	-511	-24
DW	(k/')	0.429	0.429	0.429
M_{DW}	('k)	1,251	-1,397	-64
M_{L+IM}	('k)	3,448	-3,352	2,246
M_u (Strength I)	('k)	13,326	-13,988	3,458
$\phi_f M_n$	('k)	14,196	15,182	13,035
f_s DC1	(ksi)	20.3	-15.5	-1.9
f_s DC2	(ksi)	2.0	-1.6	-0.1
f_s DW	(ksi)	5.4	-4.4	-0.3
f_s (L+IM)	(ksi)	13.4	-9.6	11.0
f_s (Service II)	(ksi)	45.1	-33.9	12.0
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----
V_f	(k)	71.6	80.9	54.9

UNIT 2 - GIRDERS 2 THRU 6 REACTION TABLE

		Pier 2 & 5	Pier 3 & 4
R_{DC1}	(k)	102.8	253.2
R_{DC2}	(k)	12.0	29.8
R_{DW}	(k)	32.8	81.5
R_{L+IM}	(k)	138.0	261.4
R_{Total}	(k)	285.6	625.9

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FILENAME = 081-0177-C00AB-078-Steel Plate Girder Moment and Reaction Tables - Unit 1 & 2.dgn
MODEL = Default
USER NAME = ksnider | DESIGNED - AAY/SL | REVISED -
CHECKED - LRB/DTS | REVISED -
PLOT SCALE = | DRAWN - KMS | REVISED -
PLOT DATE = 1/18/2017 | CHECKED - LRB/DTS | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER MOMENT AND REACTION TABLES – UNITS 1 & 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S78 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	847
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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UNIT 3 - GIRDERS 1 & 7 MOMENT TABLE						
		0.4 Sp. 6	Pier 6	0.4 Sp. 7	Pier 7	0.6 Sp. 8
I_s	(in^4)	80,471	90,966	83,239	156,928	95,610
$I_c(n)$	(in^4)	167,422	-----	172,837	-----	196,128
$I_c(3n)$	(in^4)	124,374	-----	127,810	-----	145,079
$I_c(cr)$	(in^4)	-----	105,559	-----	174,919	-----
S_s	(in^3)	1945	2192	2012	4004	2409
$S_c(n)$	(in^3)	2592	-----	2704	-----	3124
$S_c(3n)$	(in^3)	2341	-----	2430	-----	2841
$S_c(cr)$	(in^3)	-----	2346	-----	4168	-----
DC1	(k/')	1.231	1.265	1.249	1.402	1.263
M_{DC1}	('k)	2121	2205	144	5133	3734
DC2	(k/')	0.157	0.157	0.157	0.157	0.157
M_{DC2}	('k)	270	281	17	619	468
DW	(k/')	0.429	0.429	0.429	0.429	0.429
M_{DW}	('k)	738	769	47	1690	1278
M_{L+IM}	('k)	2555	2491	2194	3711	3454
M_u (Strength I)	('k)	8567	8620	4111	16,219	13,214
$\phi_f M_n$	('k)	12,693	9,930	14,642	16,971	14,795
f_s DC1	(ksi)	13.1	12.1	0.9	15.4	18.6
f_s DC2	(ksi)	1.4	1.4	0.1	1.8	2.0
f_s DW	(ksi)	3.8	3.9	0.2	4.9	5.4
f_s (L+IM)	(ksi)	11.8	12.7	9.7	10.7	13.3
f_s (Service II)	(ksi)	33.6	34.0	13.8	35.9	43.2
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----	-----	-----
V_f	(k)	71.1	83.6	83.6	76.8	76.8

UNIT 3 - GIRDERS 2 THRU 6 MOMENT TABLE						
		0.4 Sp. 6	Pier 6	0.4 Sp. 7	Pier 7	0.6 Sp. 8
I_s	(in^4)	80,471	90,966	83,239	156,928	95,610
$I_c(n)$	(in^4)	174,221	-----	180,071	-----	204,429
$I_c(3n)$	(in^4)	129,775	-----	133,385	-----	151,342
$I_c(cr)$	(in^4)	-----	110,128	-----	180,713	-----
S_s	(in^3)	1945	2192	2012	4004	2409
$S_c(n)$	(in^3)	2624	-----	2740	-----	3161
$S_c(3n)$	(in^3)	2379	-----	2470	-----	2882
$S_c(cr)$	(in^3)	-----	2389	-----	4217	-----
DC1	(k/')	1.291	1.327	1.310	1.470	1.324
M_{DC1}	('k)	2224	2312	151	5381	3914
DC2	(k/')	0.157	0.157	0.157	0.157	0.157
M_{DC2}	('k)	270	281	18	618	468
DW	(k/')	0.429	0.429	0.429	0.429	0.429
M_{DW}	('k)	738	769	48	1688	1279
M_{L+IM}	('k)	2554	2491	2194	3713	3453
M_u (Strength I)	('k)	8694	8754	4123	16,529	13,439
$\phi_f M_n$	('k)	12,759	9,942	14,835	17,256	14,819
f_s DC1	(ksi)	13.7	12.7	0.9	16.1	19.5
f_s DC2	(ksi)	1.4	1.4	0.1	1.8	1.9
f_s DW	(ksi)	3.7	3.9	0.2	4.8	5.3
f_s (L+IM)	(ksi)	11.7	12.5	9.6	10.6	13.1
f_s (Service II)	(ksi)	34.0	34.2	13.7	36.4	43.8
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	-----	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	-----	-----	-----	-----
V_f	(k)	71.1	83.6	83.6	76.8	72.5

UNIT 3 - GIRDERS 1 & 7 REACTION TABLE					
		Pier 5	Pier 6	Pier 7	Pier 8
R_{DC1}	(k)	73.2	180.9	273.3	98.1
R_{DC2}	(k)	9.2	22.8	32.6	12.1
R_{DW}	(k)	25.2	62.4	89.1	33.1
R_{L+IM}	(k)	126.2	232.1	266.9	137.9
R_{Total}	(k)	233.8	498.2	661.9	281.2

UNIT 3 - GIRDERS 2 THRU 6 REACTION TABLE					
		Pier 5	Pier 6	Pier 7	Pier 8
R_{DC1}	(k)	76.8	189.7	286.5	102.9
R_{DC2}	(k)	9.2	22.6	32.6	12.1
R_{DW}	(k)	25.2	62.4	89.1	33.1
R_{L+IM}	(k)	126.2	232.1	266.9	137.9
R_{Total}	(k)	237.4	506.8	675.1	286.0

UNIT 4 - GIRDERS 1 & 7 MOMENT TABLE						
		0.4 Sp. 9	Pier 9	0.5 Sp. 10	Pier 10	0.6 Sp. 11
I_s	(in^4)	65,011	105,473	65,011	209,559	99,081
$I_c(n)$	(in^4)	144,211	215,026	144,211	227,028	204,904
$I_c(3n)$	(in^4)	106,731	159,048	106,731	-----	150,855
$I_c(cr)$	(in^4)	-----	122,665	-----	226,690	-----
S_s	(in^3)	1576	2728	1576	4962	2550
$S_c(n)$	(in^3)	2176	3452	2176	-----	3299
$S_c(3n)$	(in^3)	1960	3166	1960	-----	3001
$S_c(cr)$	(in^3)	-----	2894	-----	5091	-----
DC1	(k/')	1.192	1.278	1.192	1.498	1.281
M_{DC1}	('k)	1461	2551	788	6430	3872
DC2	(k/')	0.157	0.157	0.157	0.157	0.157
M_{DC2}	('k)	188	344	116	767	479
DW	(k/')	0.429	0.429	0.429	0.429	0.429
M_{DW}	('k)	515	939	318	2096	1309
M_{L+IM}	('k)	2412	2916	2517	4288	3746
M_u (Strength I)	('k)	7055	10,130	6012	19,644	13,958
$\phi_f M_n$	('k)	10,739	-----	11,211	21,247	15,689
f_s DC1	(ksi)	11.1	11.2	6.0	15.5	18.2
f_s DC2	(ksi)	1.2	1.3	0.7	1.8	1.9
f_s DW	(ksi)	3.2	3.6	1.9	4.9	5.2
f_s (L+IM)	(ksi)	13.3	10.1	13.9	10.1	13.6
f_s (Service II)	(ksi)	32.7	29.3	26.7	35.4	43.1
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	42.8	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	46.4	-----	-----	-----
V_f	(k)	75.4	80.7	52.2	73.9	81.9

UNIT 4 - GIRDERS 2 THRU 6 MOMENT TABLE						
		0.4 Sp. 9	Pier 9	0.5 Sp. 10	Pier 10	0.6 Sp. 11
I_s	(in^4)	65,011	105,473	65,011	209,559	99,081
$I_c(n)$	(in^4)	149,854	224,193	149,854	353,623	213,751
$I_c(3n)$	(in^4)	111,608	165,878	111,608	-----	157,452
$I_c(cr)$	(in^4)	-----	128,051	-----	232,273	-----
S_s	(in^3)	1576	2728	1576	4962	2550
$S_c(n)$	(in^3)	2203	3489	2203	-----	3337
$S_c(3n)$	(in^3)	1993	3208	1993	-----	3045
$S_c(cr)$	(in^3)	-----	2940	-----	5131	-----
DC1	(k/')	1.240	1.329	1.240	1.560	1.333
M_{DC1}	('k)	1520	2652	819	6688	4028
DC2	(k/')	0.157	0.157	0.157	0.157	0.157
M_{DC2}	('k)	188	344	117	765	480
DW	(k/')	0.429	0.429	0.429	0.429	0.429
M_{DW}	('k)	514	940	320	2090	1311
M_{L+IM}	('k)	2412	2860	2516	4087	3741
M_u (Strength I)	('k)	7127	10160	6053	19604	14148
$\phi_f M_n$	('k)	10,812	-----	11,316	21,210	15,733
f_s DC1	(ksi)	11.6	11.7	6.2	16.2	19.0
f_s DC2	(ksi)	1.1	1.3	0.7	1.8	1.9
f_s DW	(ksi)	3.1	3.5	1.9	4.9	5.2
f_s (L+IM)	(ksi)	13.1	9.8	13.7	9.6	13.5
f_s (Service II)	(ksi)	32.9	29.3	26.7	35.3	43.5
$0.95R_hF_{yf}$	(ksi)	47.5	47.5	47.5	47.5	47.5
f_s (Total)(Strength I)	(ksi)	-----	42.5	-----	-----	-----
$\phi_f F_n$	(ksi)	-----	46.4	-----	-----	-----
V_f	(k)	75.4	80.7	52.2	73.9	81.9

UNIT 4 - GIRDERS 1 & 7 REACTION TABLE					
		Pier 8	Pier 9	Pier 10	S. Abut.
R_{DC1}	(k)	60.3	191.6	309.1	100.5
R_{DC2}	(k)	7.7	25.2	36.6	12.3
R_{DW}	(k)	21.1	68.8	100.0	33.6
R_{L+IM}	(k)	124.5	242.6	277.9	141.4
R_{Total}	(k)	213.5	528.1	723.7	287.8

UNIT 4 - GIRDERS 2 THRU 6 REACTION TABLE					
		Pier 8	Pier 9	Pier 10	S. Abut.
R_{DC1}	(k)	62.8	199.2	321.6	104.7
R_{DC2}	(k)	7.7	25.2	36.6	12.3
R_{DW}	(k)	21.1	68.8	100.0	33.6
R_{L+IM}	(k)	124.5	242.6	277.9	141.4
R_{Total}	(k)	216.0	535.8	736.1	292.0

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in^4 and in^3).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in^4 and in^3).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in^4 and in^3).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in^4 and in^3).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_yf$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_f: Maximum factored shear range in span computed according to Article 6.10.10.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL PLATE GIRDER MOMENT AND REACTION TABLES – UNITS 3 & 4
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S79 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	848
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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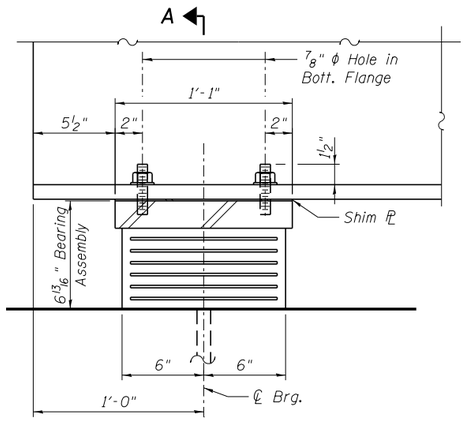

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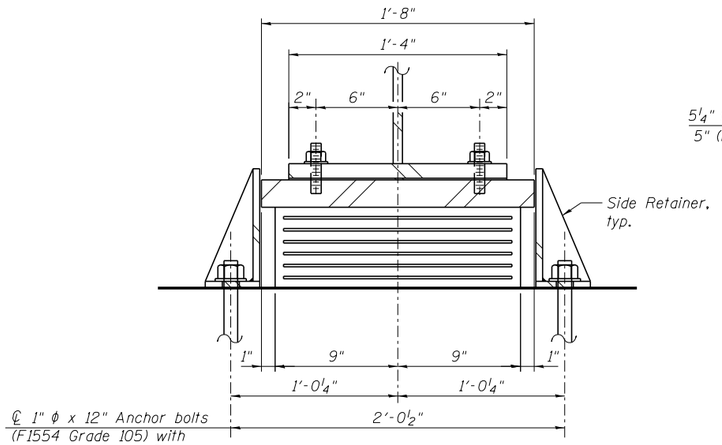
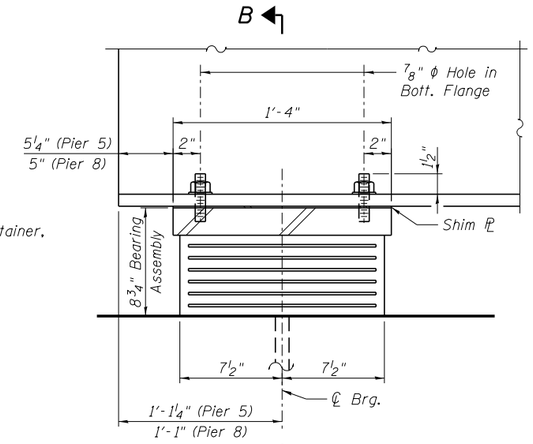


SECTION A-A



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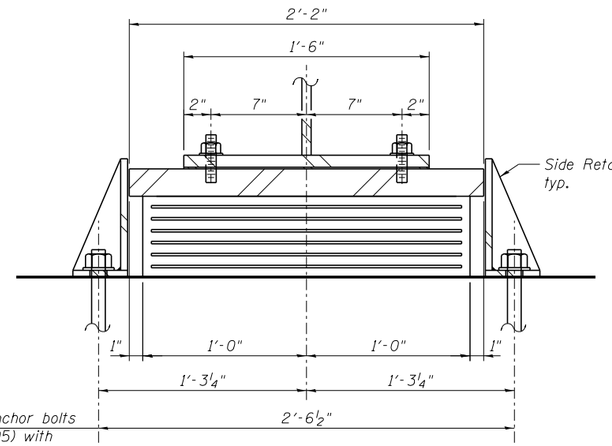
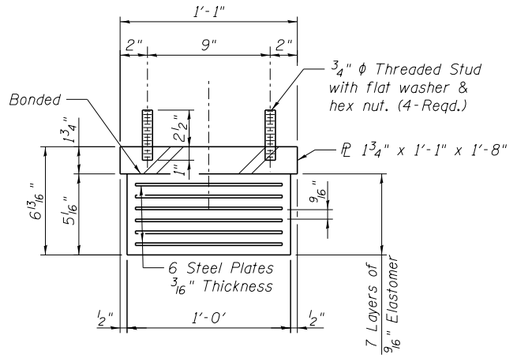


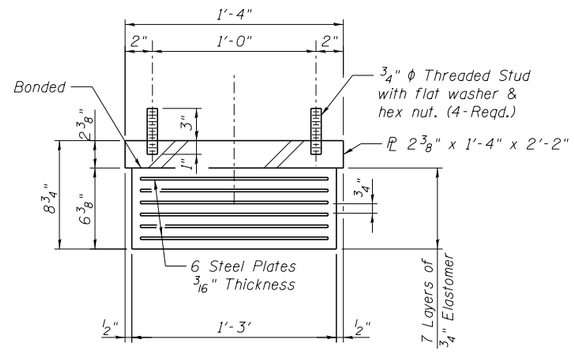
SECTION B-B



BEARING ASSEMBLY

TYPE I ELASTOMERIC EXP. BRG. NORTH ABUTMENT

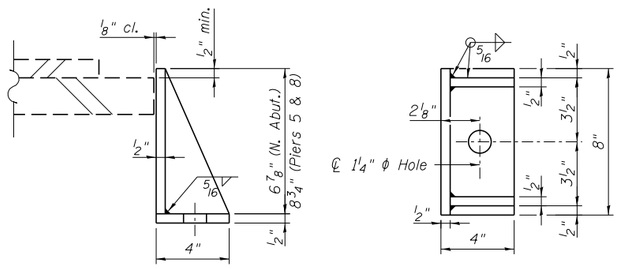
(11 Required)



BEARING ASSEMBLY

TYPE I ELASTOMERIC EXP. BRG. PIER 5 (SPAN 5) & PIER 8 (SPAN 8)

(14 Required)



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	25
Anchor Bolts, 1"	Each	50

NOTES:

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

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

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

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

Shim plates shall not be placed under Type I bearing assemblies.

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

The structural steel plates of the bearing assembly, shall conform to requirements of AASHTO M270 Grade 50.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

I-2E-1

1-27-12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPE I ELASTOMERIC BEARING DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)

SHEET NO. S80 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	849
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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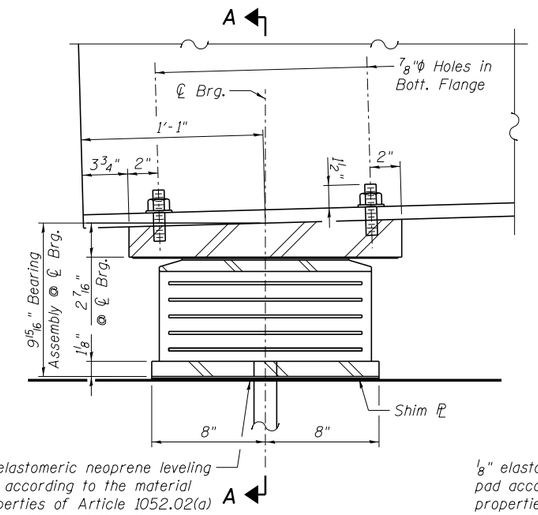
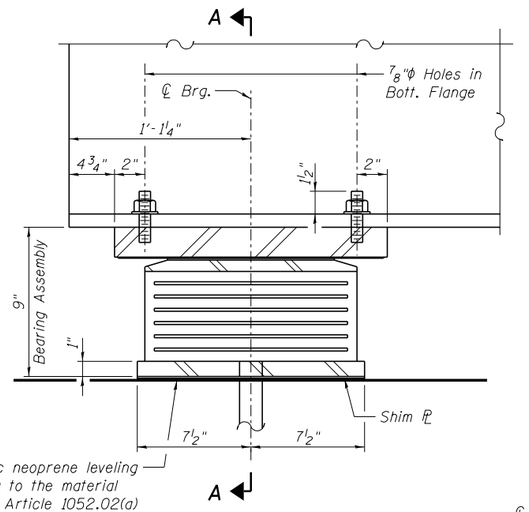


1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Elastomeric Bearing Assembly Type II.

ELEVATION

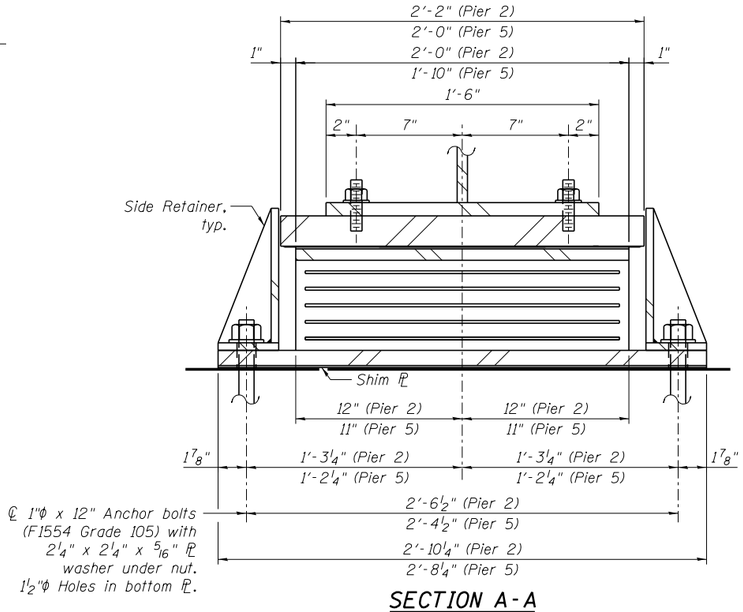
(Looking East)



1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Elastomeric Bearing Assembly Type II.

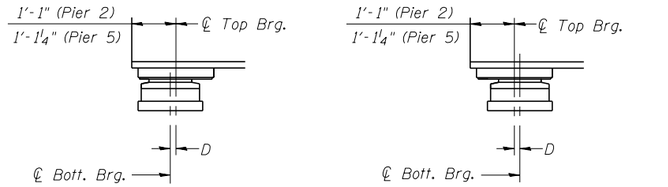
ELEVATION

(Looking East)



℄ 1"ϕ x 12" Anchor bolts (F1554 Grade 105) with 2 1/4" x 2 1/4" x 5/16" ℙ washer under nut. 1 1/2"ϕ Holes in bottom ℙ.

SECTION A-A



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

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

SETTING ANCHOR BOLTS AT EXP. BRG.

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

NOTES:

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

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

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

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

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

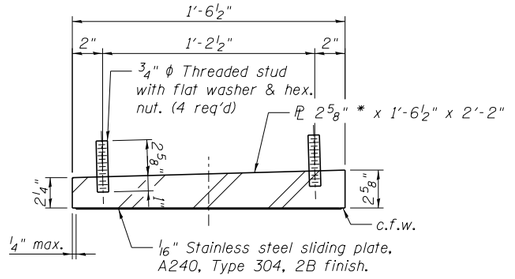
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

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

The structural steel plates of the bearing assembly, shall conform to requirements of AASHTO M270 Grade 50.

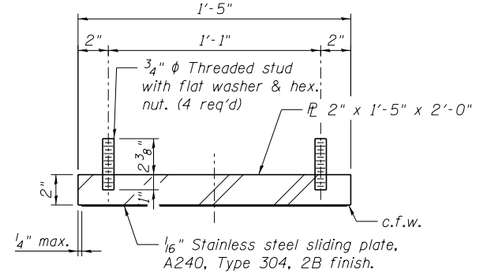
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	14
Anchor Bolts, 1"	Each	28

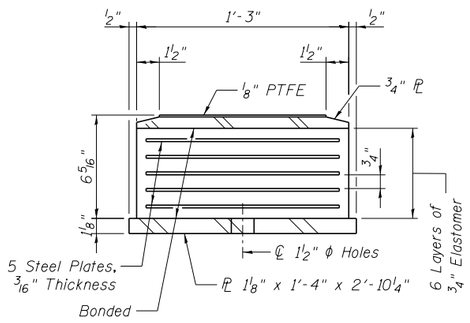


TOP BEARING ASSEMBLY

* Max. - top ℙ beveled



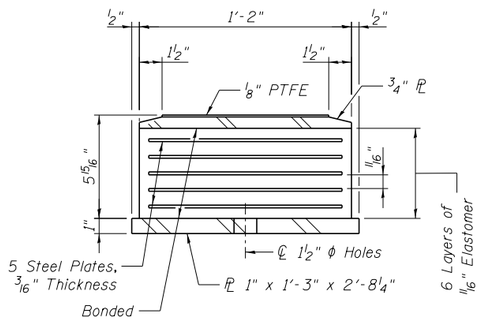
TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY

TYPE II ELASTOMERIC EXP. BRG. @ PIER 2 (SPAN 3)

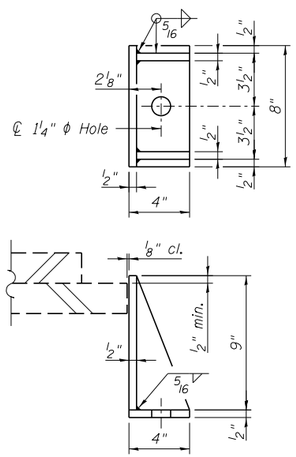
(7 Required)



BOTTOM BEARING ASSEMBLY

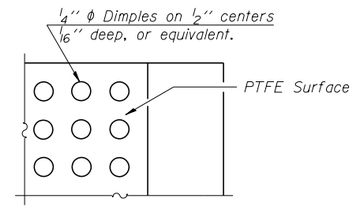
TYPE II ELASTOMERIC EXP. BRG. @ PIER 5 (SPAN 6)

(7 Required)

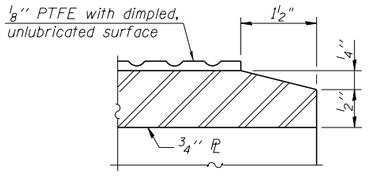


SIDE RETAINER

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



PLAN-PTFE SURFACE



SECTION THRU PTFE

benesch

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

I-2E-2

1-27-12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPE II ELASTOMERIC BEARING DETAILS (1 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S81 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	850
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		ILLINOIS FED. AID PROJECT		

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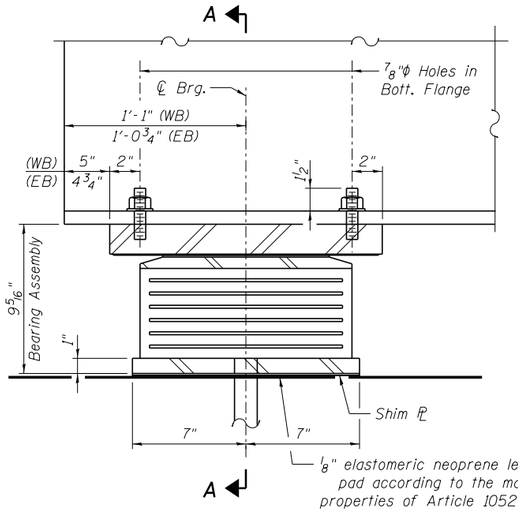
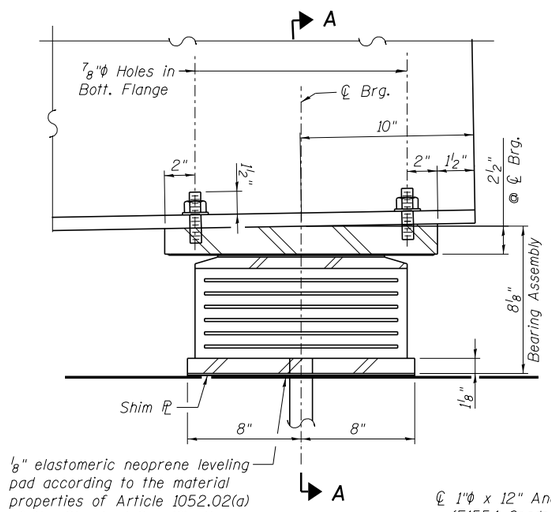


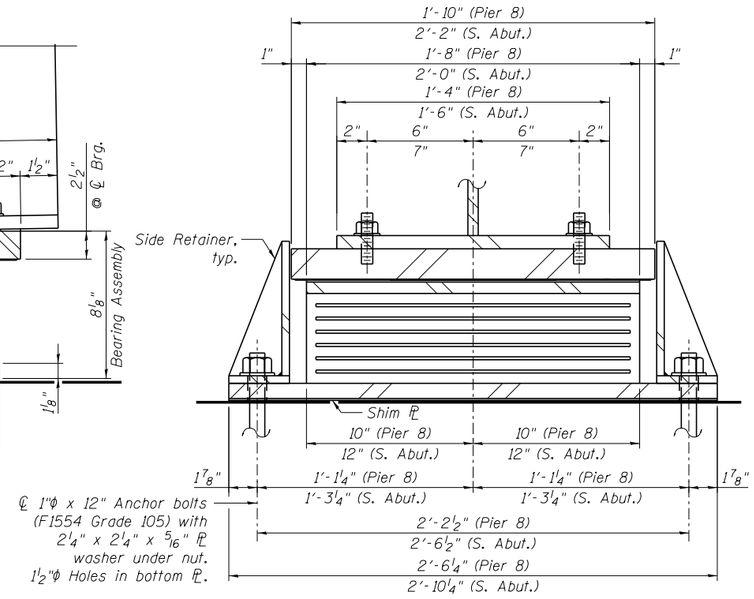
ELEVATION
(Looking East)

1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Elastomeric Bearing Assembly Type II.



1/8" elastomeric neoprene leveling pad according to the material properties of Article 1052.02(a) of the Standard Specifications. Cost included with Elastomeric Bearing Assembly Type II.

ELEVATION
(Looking East)



SECTION A-A

NOTES:

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

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

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

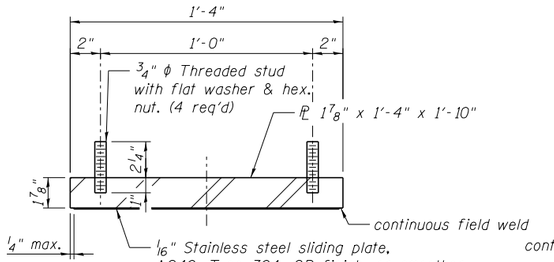
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

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

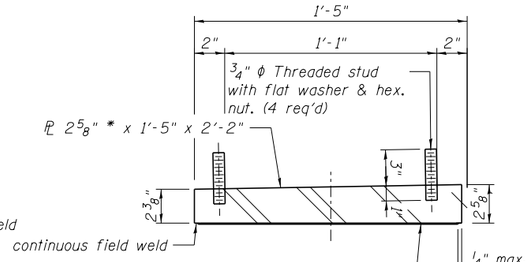
Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

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

The structural steel plates of the bearing assembly, shall conform to requirements of AASHTO M270 Grade 50.

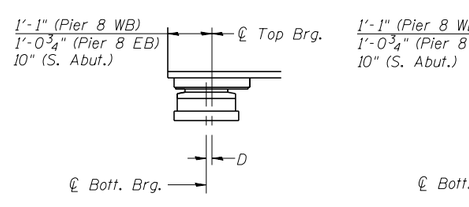


TOP BEARING ASSEMBLY

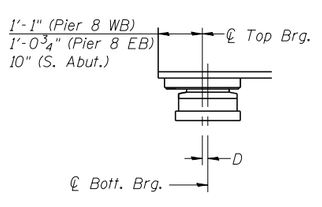


TOP BEARING ASSEMBLY

* Max. - top PL beveled



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



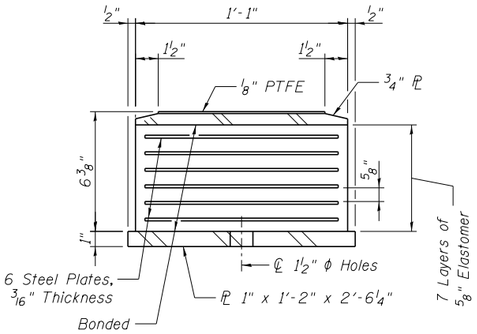
ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

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

BILL OF MATERIAL

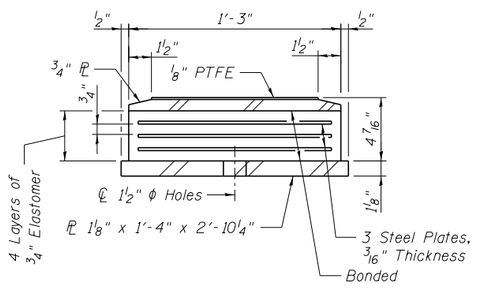
Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	14
Anchor Bolts, 1"	Each	28



BOTTOM BEARING ASSEMBLY

TYPE II ELASTOMERIC EXP. BRG. at PIER 8 (SPAN 9)

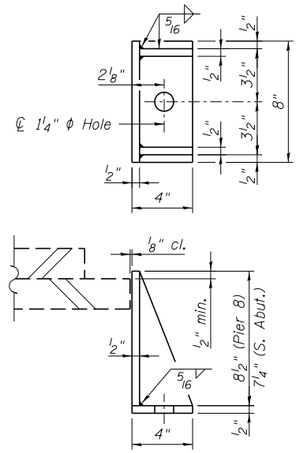
(7 Required)



BOTTOM BEARING ASSEMBLY

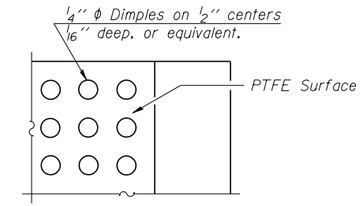
TYPE II ELASTOMERIC EXP. BRG. at S ABUT.

(7 Required)

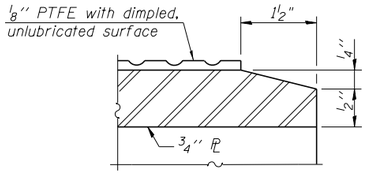


SIDE RETAINER

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



PLAN-PTFE SURFACE



SECTION THRU PTFE

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

I-2E-2

1-27-12

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TYPE II ELASTOMERIC BEARING DETAILS (2 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S82 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	851
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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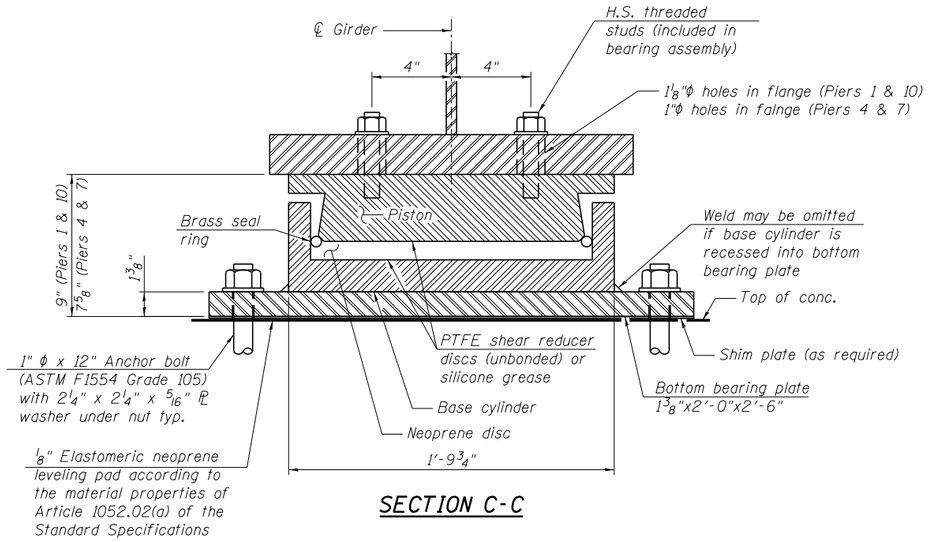
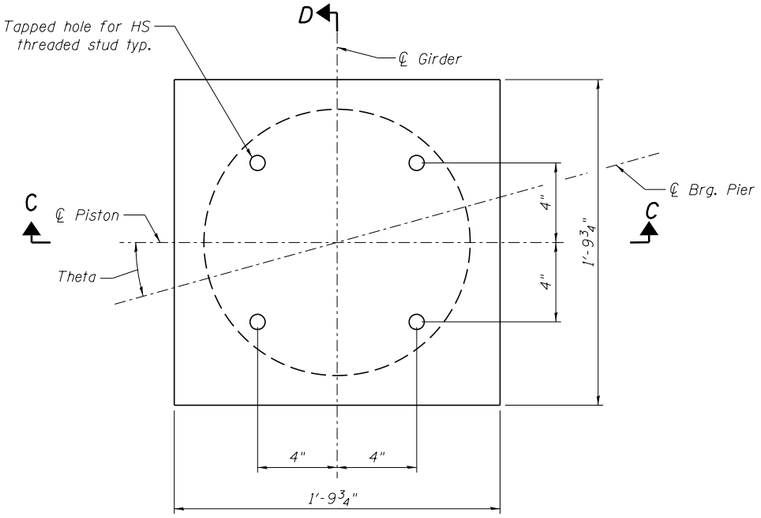
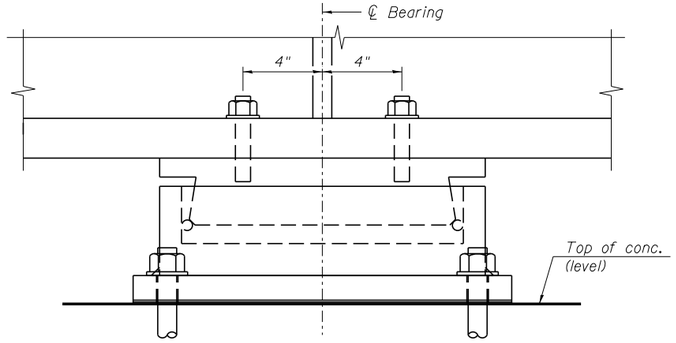


SECTION C-C



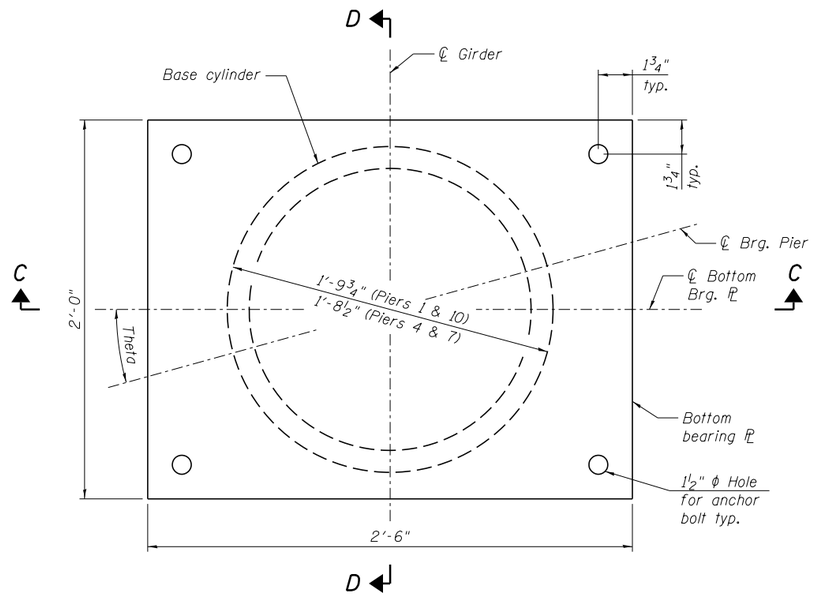
PISTON PLAN



SECTION D-D

Skew

Location	Theta
Pier 1, Girder 1	12°50'08"
Pier 1, Girder 2	13°06'17"
Pier 1, Girder 3	13°22'24"
Pier 1, Girder 4	13°38'29"
Pier 1, Girder 5	13°54'32"
Pier 1, Girder 6	14°10'32"
Pier 1, Girder 7	14°26'30"
Pier 1, Girder 8	14°42'26"
Pier 1, Girder 9	14°58'20"
Pier 1, Girder 10	15°14'11"
Pier 1, Girder 11	15°30'00"
Pier 4	15°30'00"
Pier 7	15°30'00"
Pier 10	15°30'00"



BOTTOM BEARING ℄ AND BASE CYLINDER PLAN

BEARING DIMENSIONS

Location	Pay Item Designation (kips)	Vert. Design Load* (kips)	Hu - Horz. Design Load* (kips)	θu - Req'd Rotation Range** (radians)	Top Plate Bevel	Threaded Studs ϕ
Pier 1	700	691	92	0.02	2.10%	1"
Pier 4	600	590	72	0.02	N/A	7/8"
Pier 7	650	638	81	0.02	N/A	7/8"
Pier 10	700	698	91	0.02	N/A	1"

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Fixed, 600K	Ea.	7
High Load Multi-Rotational Bearings, Fixed, 650K	Ea.	7
High Load Multi-Rotational Bearings, Fixed, 700K	Ea.	18
Anchor Bolts, 1"	Ea.	128

NOTE:

1. See notes on sheet S84.

* Design Loads are the governing loads with no dynamic allowance.
** Rotation allowances for fabrication tolerances (0.005 radians) and installation uncertainties (0.005 radians) are excluded.

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312-565-0450 Job No. 10061

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CHECKED - AJK | REVISED -
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PLOT DATE = 1/18/2017 | CHECKED - AJK | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR FIXED BEARING DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S83 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	852
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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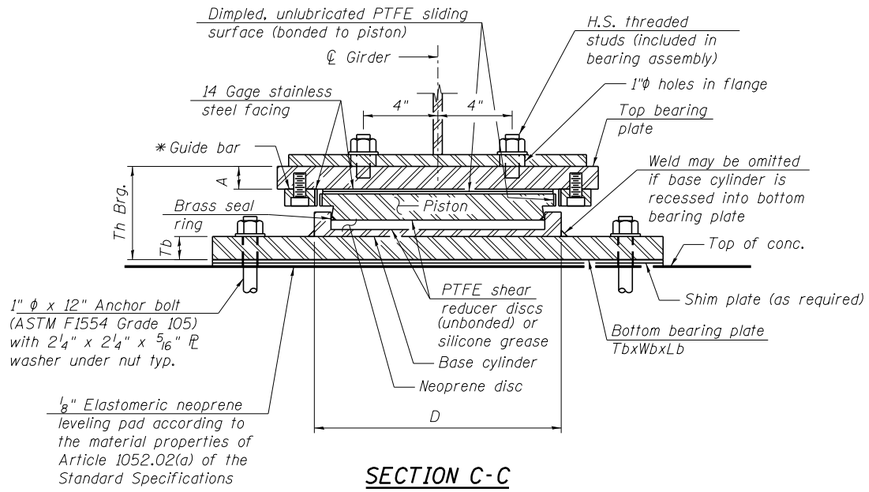
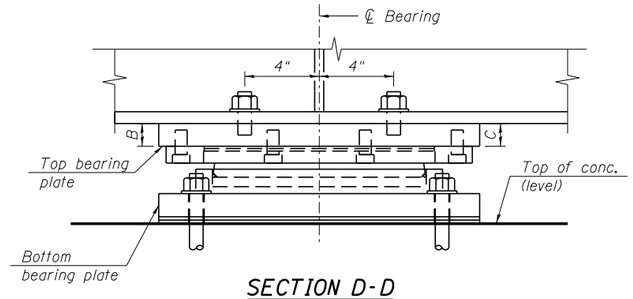


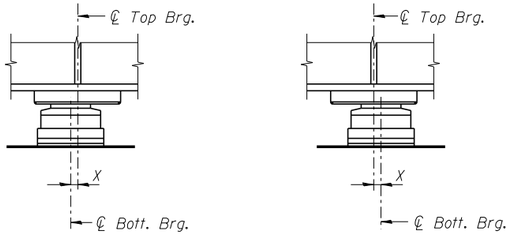
SECTION C-C



SECTION D-D

Skew

Location	Theta
Pier 2 (Span 2) Girder 1	12°50'08"
Pier 2 (Span 2) Girder 2	13°06'17"
Pier 2 (Span 2) Girder 3	13°22'24"
Pier 2 (Span 2) Girder 4	13°38'29"
Pier 2 (Span 2) Girder 5	13°54'32"
Pier 2 (Span 2) Girder 6	14°10'32"
Pier 2 (Span 2) Girder 7	14°26'30"
Pier 2 (Span 2) Girder 8	14°42'26"
Pier 2 (Span 2) Girder 9	14°58'20"
Pier 2 (Span 2) Girder 10	15°14'11"
Pier 2 (Span 2) Girder 11	15°30'00"
Pier 3	15°30'00"
Pier 6	15°30'00"
Pier 9	15°30'00"

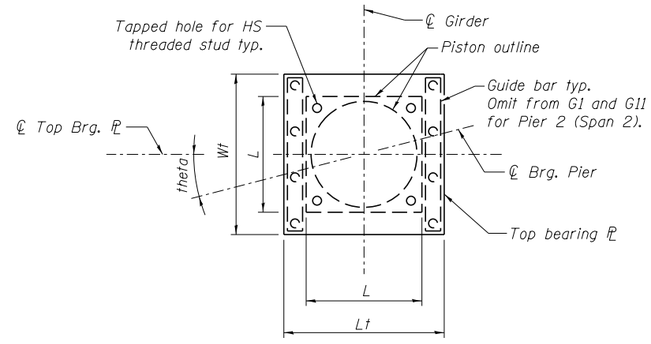


BELOW 50°F
(Move bottom brg. away from fixed brg.)

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

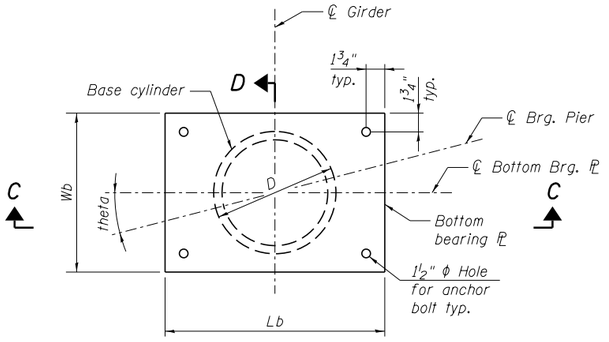
SETTING ANCHOR BOLTS AT EXP. BRG.

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



PIER 2 (SPAN 2)
PIER 3
PIER 6
PIER 9

TOP BEARING ℄ AND PISTON PLAN



D

PIER 2 (SPAN 2)
PIER 3
PIER 6
PIER 9

BOTTOM BEARING ℄ AND BASE CYLINDER PLAN

BILL OF MATERIAL

Item	Unit	Total
High Load Multi-Rotational Bearings, Guided Expansion, 300K	Ea.	11
High Load Multi-Rotational Bearings, Guided Expansion, 500K	Ea.	14
High Load Multi-Rotational Bearings, Guided Expansion, 600K	Ea.	7
Anchor Bolts, 1"	Ea.	128

BEARING DIMENSIONS

Location	Pay Item Designation (kips)	Vert. Design Load** (kips)	Hu - Horiz. Design Load** (kips)	θu - Req'd Roation Range*** (radians)	Max. Theor. Thermal Mvmt**** from 50 °F	Top Plate						Bearing Assembly		Bottom Plate			Total Ht.
						Wt	Lt	"A" ℄ Thickness @ ℄ Brg.	"B" ℄ Thickness @ North End	"C" ℄ Thickness @ South End	Threaded Stud ϕ	L	D	Wb	Lb	Tb	Th
Pier 2 (Span 2)	300	299	43	0.02	1½"	1'-8¼"	1'-9"	2 1/16"	1 7/8"	2¼"	⅞"	1'-3⅜"	1'-3⅜"	1'-6"	2'-4½"	1½"	8½"
Pier 3	600	590	72	0.02	1¼"	1'-11⅞"	1'-11½"	2⅝"	N/A	N/A	⅞"	1'-7"	1'-7"	2'-0"	2'-6"	1⅛"	9⅝"
Pier 6	500	473	54	0.02	1"	1'-10½"	1'-11"	2⅜"	N/A	N/A	⅞"	1'-5⅝"	1'-5⅝"	2'-0"	2'-6"	1⅝"	9⅝"
Pier 9	500	500	58	0.02	1¼"	1'-10½"	1'-11"	2⅜"	N/A	N/A	⅞"	1'-5⅝"	1'-5⅝"	2'-0"	2'-6"	1⅝"	9⅝"

* As an alternate to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece. Guide bars shall be omitted from G1 and G11 for Pier 2 (Span 2).

** Design Loads are the governing loads with no dynamic load allowance.

*** Rotation allowances for fabrication tolerances (0.005 radians), installation uncertainties (0.005 radians) are excluded.

**** Total required movement is based on one way expansion (or contraction) of the superstructure perpendicular to the centerline of girder when bearings are set at 50°F. Bearing movement tolerances are excluded.

NOTES:

1. All steel for bearings shall conform to the requirements of AASHTO M270 Grade 50, unless otherwise noted.
2. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554. Anchor bolts may be either cast in place or installed in holes drilled after the supported member is in place. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
3. Total bearing height is taken at the ℄ of bearing for bevelled top plates.
4. Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

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Job No. 10061

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	CHECKED - AJK	REVISED -	
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PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HLMR GUIDED EXPANSION BEARING DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S84 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	853
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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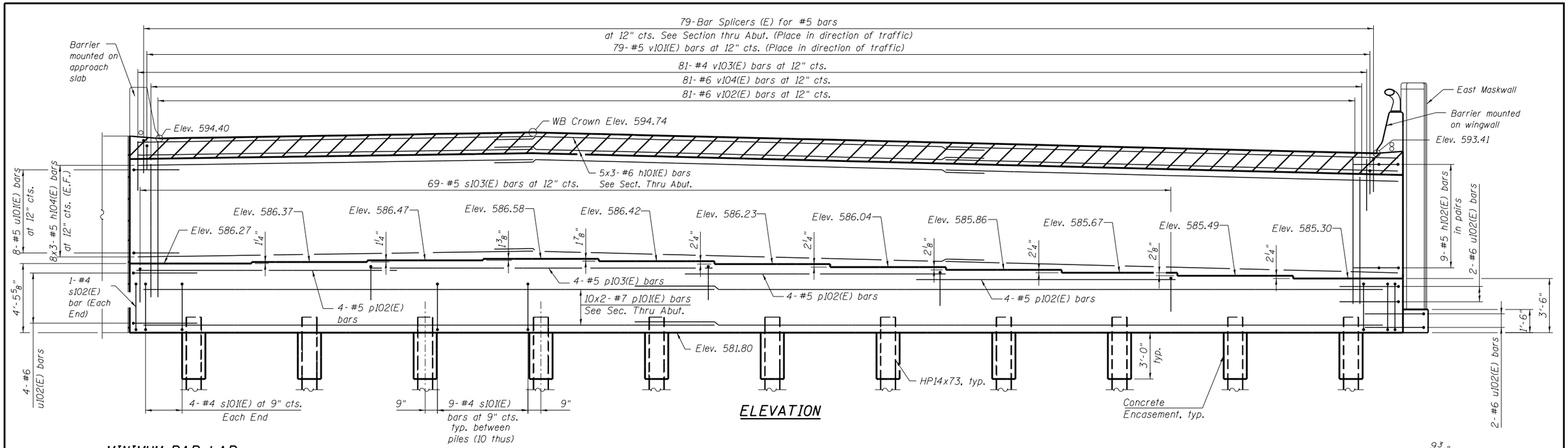


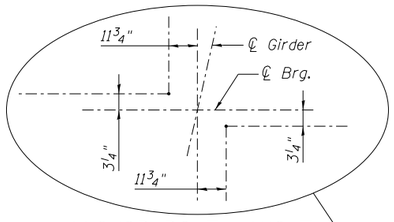
ELEVATION

MINIMUM BAR LAP

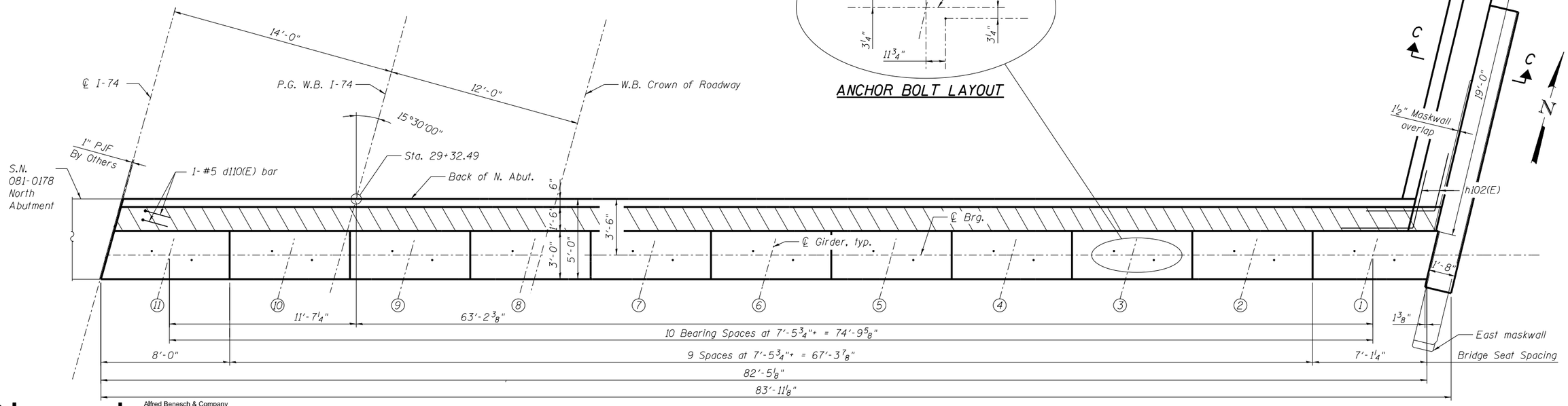
#5 bar = 3'-3"
#6 bar = 3'-10"
#7 bar = 5'-2"

NOTES:

1. See sheet S89. for additional notes.
2. See sheet S86. for Pile Cap Plan and pile data.
3. See sheets S8 & S9. for foundation layout.
4. See sheet S89. for section C-C and Section Thru Abutment.



ANCHOR BOLT LAYOUT



TOP VIEW

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT LAYOUT
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S85 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	854
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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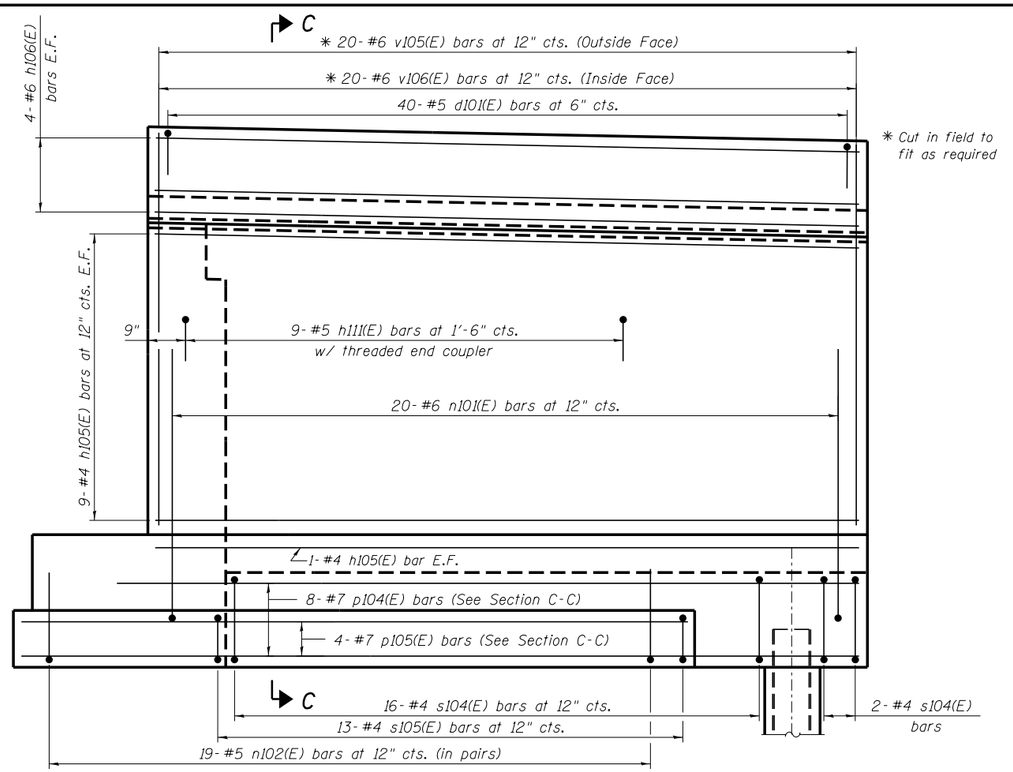
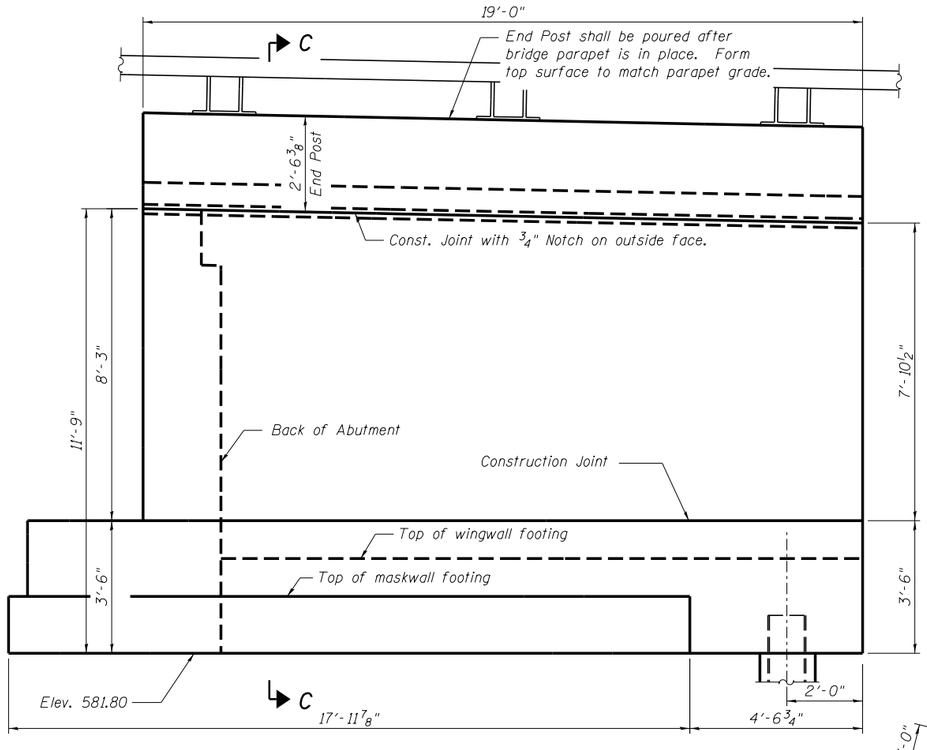


WINGWALL ELEVATION

(Looking West Showing Reinforcement)
(Ellipse Railing not shown for clarity)



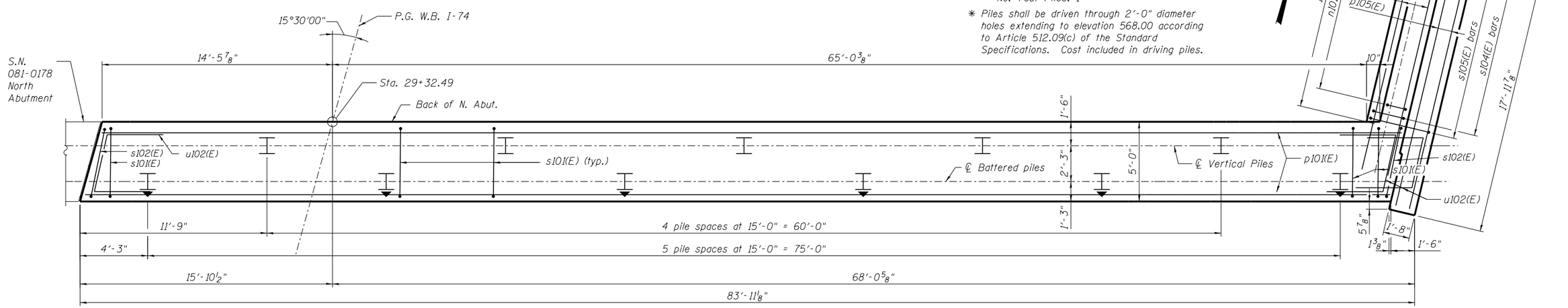
WINGWALL ELEVATION

(Looking West Showing Dimensions)

PILE DATA

Type: HP 14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips *
Est. Length: 35 feet
No. Production Piles: 11
No. Test Piles: 1

* Piles shall be driven through 2'-0" diameter holes extending to elevation 568.00 according to Article 512.09(c) of the Standard Specifications. Cost included in driving piles.



PLAN-PILE CAP

(See S7 for pile layout)

NOTE:
See sheet S89. for section C-C.

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312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S86 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	855
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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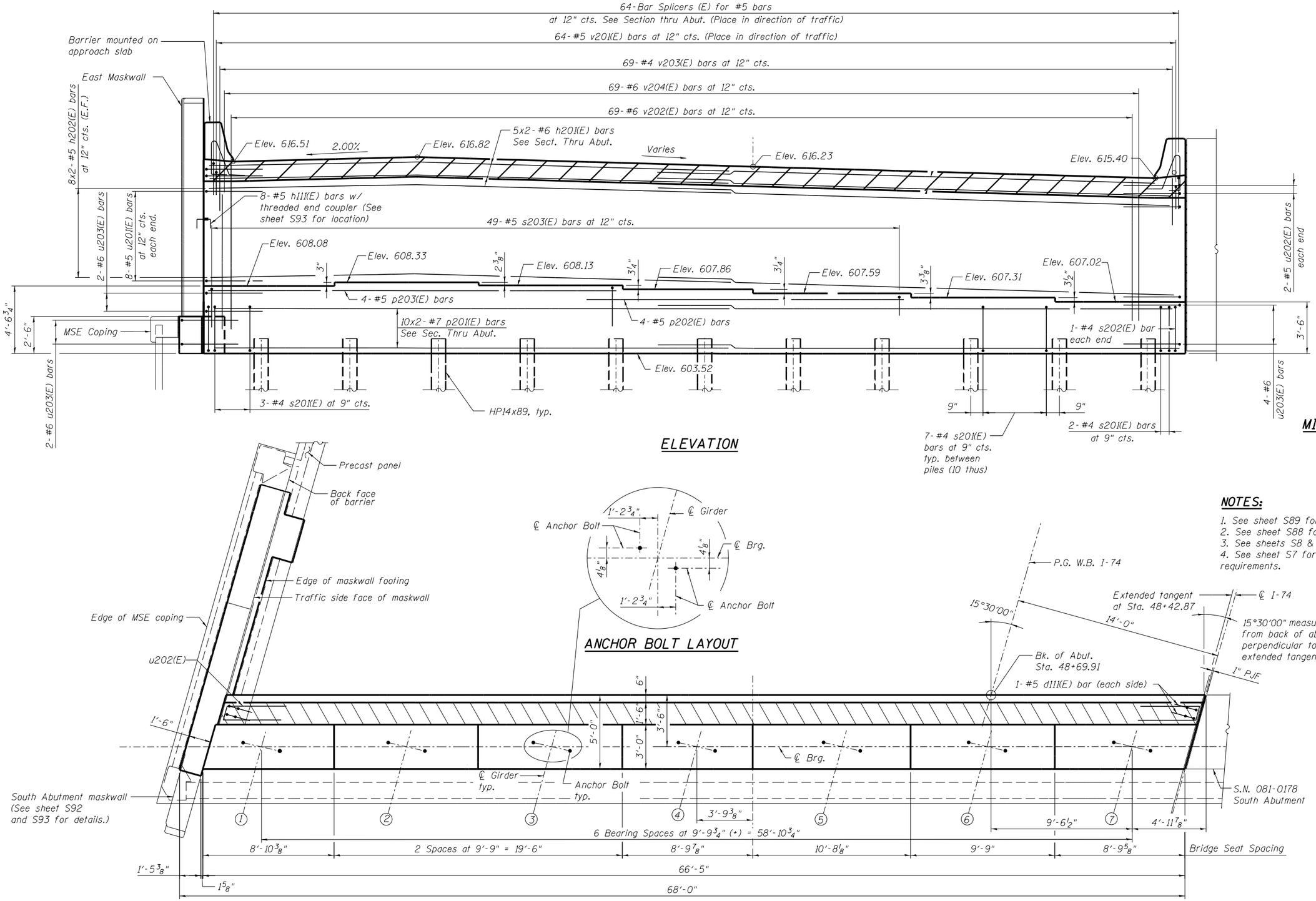

ELEVATION

MINIMUM BAR LAP

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

ANCHOR BOLT LAYOUT

NOTES:

1. See sheet S89 for additional notes.
2. See sheet S88 for Pile Cap Plan and pile data.
3. See sheets S8 & S9 for foundation layout.
4. See sheet S7 for South Abutment coordination requirements.

TOP VIEW

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT LAYOUT
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S87 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	856
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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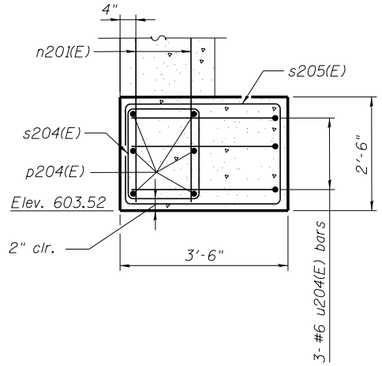
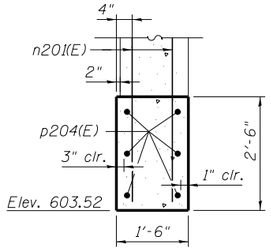
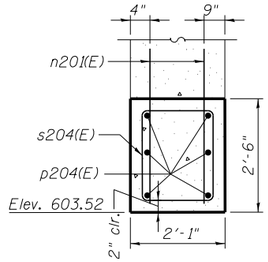


SECTION D-D



SECTION A-A



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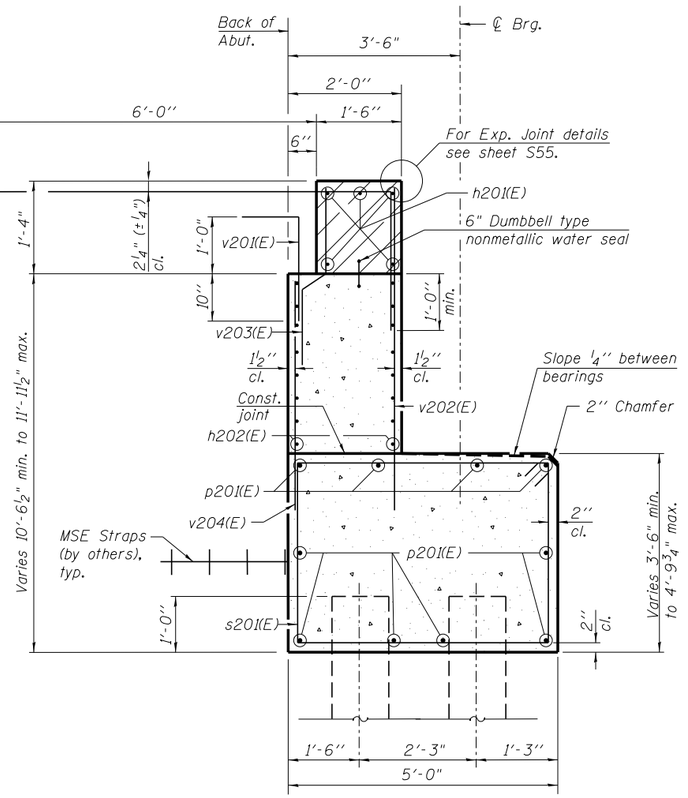
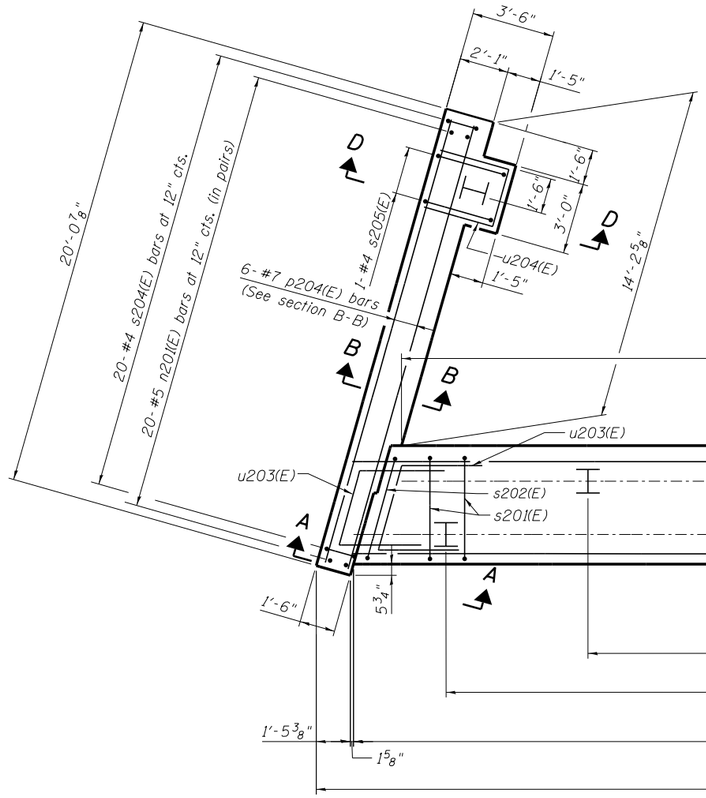
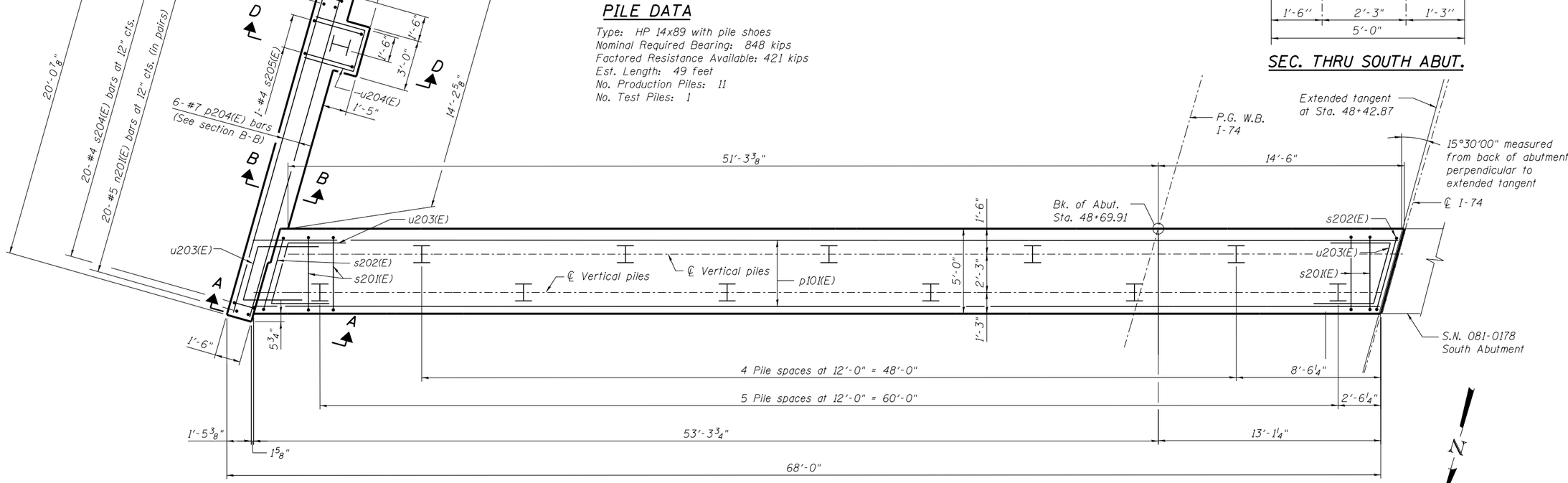


SEC. THRU SOUTH ABUT.





PILE DATA

Type: HP 14x89 with pile shoes
Nominal Required Bearing: 848 kips
Factored Resistance Available: 421 kips
Est. Length: 49 feet
No. Production Piles: 11
No. Test Piles: 1

PLAN - PILE CAP

NOTES:

1. See sheets S8 & S9 for foundation layout.
2. Factored Resistance Available accounts for the effects on downdrag on the pile.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-088-South Abutment Details.dgn
MODEL = Default

USER NAME = ksnider	DESIGNED - DTS	REVISED -
	CHECKED - AJK	REVISED -
PLOT SCALE =	DRAWN - VH	REVISED -
PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S88 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	857
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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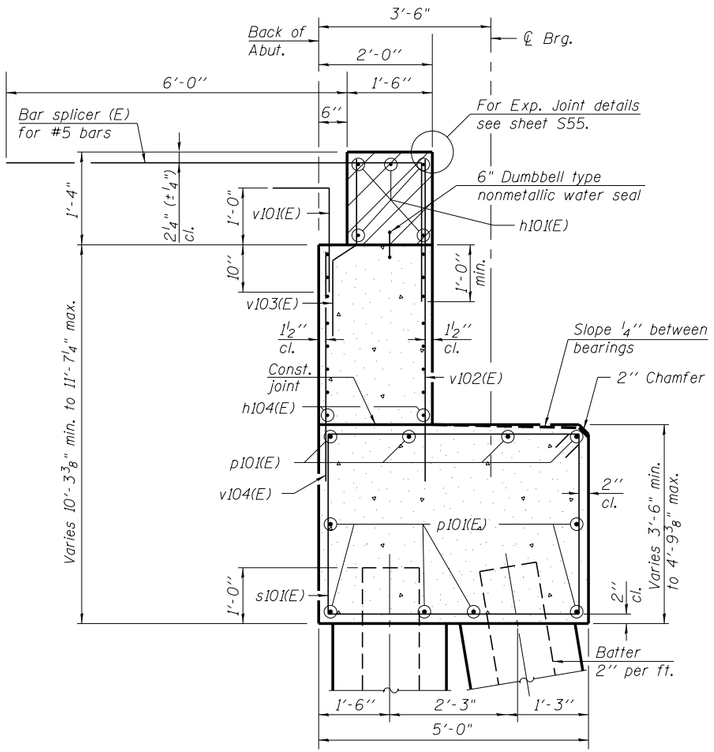

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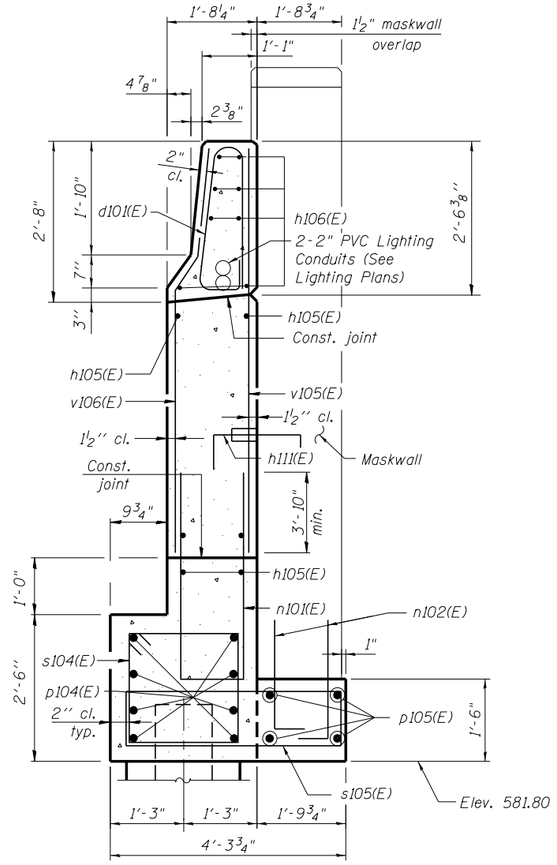
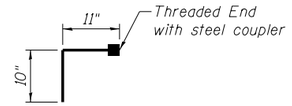
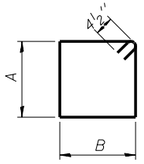


SECTION C-C

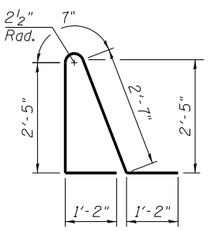


BAR h111(E)

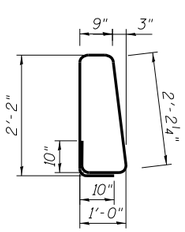


BARS s101(E), s102(E), s104(E), s105(E), s201(E), s202(E), s204(E) & s205(E)

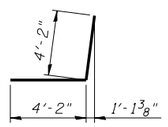
Bar	A	B
s101(E)	3'-2"	4'-8"
s102(E)	3'-2"	4'-10"
s104(E)	2'-2"	2'-2"
s105(E)	1'-2"	4'-0"
s201(E)	3'-2"	4'-8"
s202(E)	3'-2"	4'-10"
s204(E)	2'-2"	1'-1½"
s205(E)	2'-2"	3'-2"



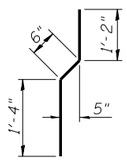
BARS d110(E) & d111(E)



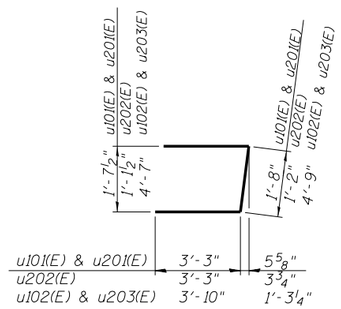
BAR d101(E)



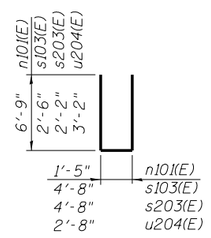
BAR h102(E)



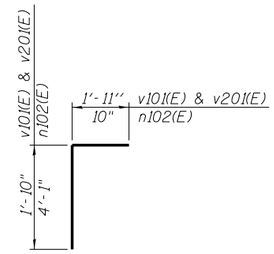
BARS v103(E) & v203(E)



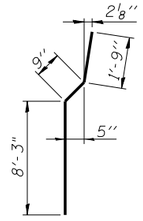
BARS u101(E), u102(E), u201(E), u202(E) & u203(E)



BARS n101(E), s103(E) s203(E) & u204(E)



BARS v101(E), n102(E) & v201(E)



BAR v106(E)

NORTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d101(E)	40	#5	7'-9"	
d110(E)	2	#5	7'-11"	
h101(E)	15	#6	30'-0"	
h102(E)	18	#5	8'-4"	
h104(E)	48	#5	29'-8"	
h105(E)	20	#4	18'-8"	
h106(E)	8	#6	18'-8"	
h111(E)	9	#5	1'-9"	
n101(E)	20	#6	14'-11"	
n102(E)	38	#5	4'-11"	
p101(E)	20	#7	44'-0"	
p102(E)	12	#5	17'-3"	
p103(E)	4	#5	22'-1"	
p104(E)	8	#7	20'-9"	
p105(E)	4	#7	17'-2"	
s101(E)	98	#4	16'-5"	
s102(E)	2	#4	16'-9"	
s103(E)	69	#5	9'-8"	
s104(E)	18	#4	9'-5"	
s105(E)	13	#4	9'-11"	
u101(E)	8	#5	8'-2"	
u102(E)	8	#6	12'-5"	
v101(E)	79	#5	3'-9"	
v102(E)	81	#6	10'-3"	
v103(E)	81	#4	3'-0"	
v104(E)	81	#6	8'-11"	
v105(E)	20	#6	10'-9"	
v106(E)	20	#6	10'-9"	
Pile Shoes			Each	12
Concrete Structures			Cu. Yd.	122.1
Reinforcement Bars, Epoxy Coated			Pound	12,040
Furnishing Steel Piles HP14x73			Foot	385
Driving Piles			Foot	385
Concrete Sealer			Sq. Ft.	1141
Test Pile Steel HP14x73			Each	1
Concrete Encasement			Cu. Yd.	6.5
Structure Excavation			Cu. Yd.	254

Bars indicated this 10x2-#7 etc. indicates 10 lines of bars with 2 lengths per line.

SOUTH ABUTMENT BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d111(E)	4	#5	7'-11"	
h201(E)	10	#6	35'-2"	
h202(E)	32	#5	34'-10"	
h111(E)	8	#5	1'-9"	
n201(E)	40	#5	4'-8"	
p201(E)	20	#7	35'-10"	
p202(E)	4	#5	17'-3"	
p203(E)	4	#5	27'-6"	
p204(E)	6	#7	19'-9"	
s201(E)	75	#4	16'-5"	
s202(E)	2	#4	16'-9"	
s203(E)	49	#5	9'-0"	
s204(E)	20	#4	7'-4"	
s205(E)	2	#4	11'-5"	
u201(E)	16	#5	8'-2"	
u202(E)	4	#5	7'-8"	
u203(E)	8	#6	12'-5"	
u204(E)	3	#6	9'-0"	
v201(E)	64	#5	3'-9"	
v202(E)	69	#6	10'-9"	
v203(E)	69	#4	3'-0"	
v204(E)	69	#6	9'-5"	
Pile Shoes			Each	12
Concrete Structures			Cu. Yd.	96.3
Reinforcement Bars, Epoxy Coated			Pound	8,090
Furnishing Steel Piles HP14x89			Foot	539
Driving Piles			Foot	539
Concrete Sealer			Sq. Ft.	954
Test Pile Steel HP14x89			Each	1

NOTES:

1. Hatched area to be poured after superstructure false work has been removed. Quantity of concrete included with Concrete Superstructure.
2. Space reinforcement in cap to miss anchor bolts.
3. Pour steps monolithically with cap.
4. Quantity of concrete in end post included with Concrete Superstructure on sheets S52 & S54.
5. See sheet S90 thru S94 for maskwall details.
6. See sheet S107 for HP Pile and Concrete Encasement Details.
7. See sheet S108 for Bar Splicer Details.
8. Cost of reinforcement for concrete encasement shall be included with Cost of Concrete Encasement.
9. Piles shall be driven prior to placement of reinforced select fill at the S. Abut.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-089-Abutment Details and ReinforcementDetails.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ABUTMENT DETAILS AND REINFORCEMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S89 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	858
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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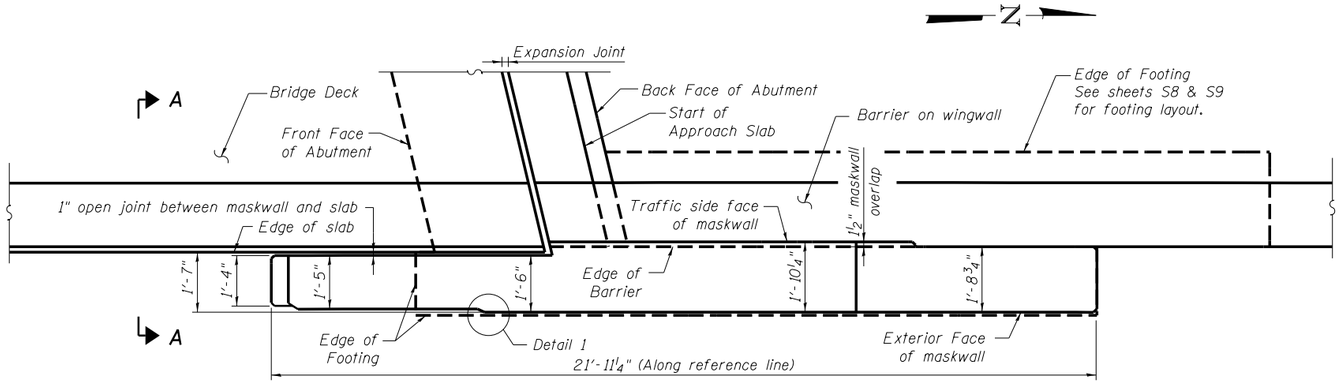
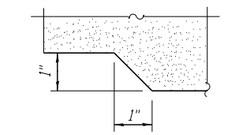
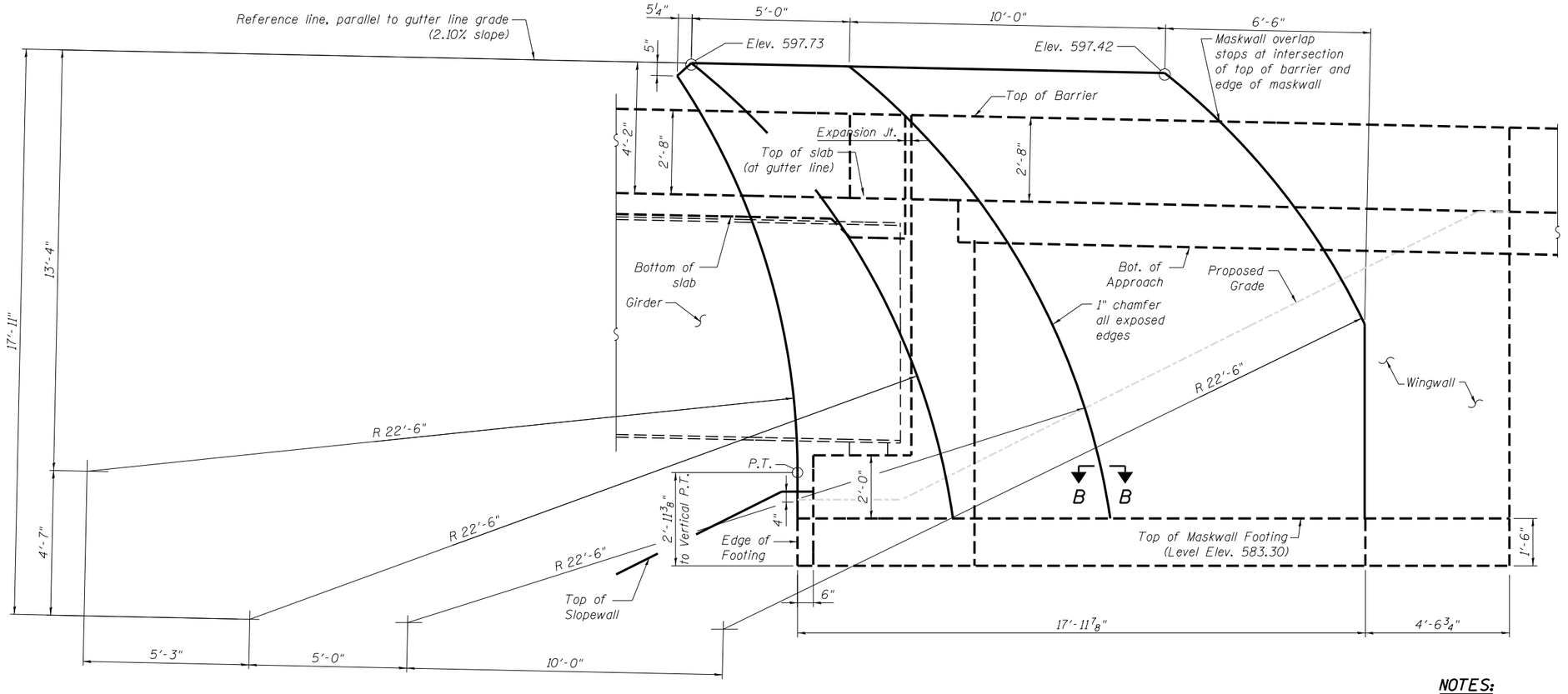


MASKWALL PLAN

(Ellipse Railing not shown for clarity)

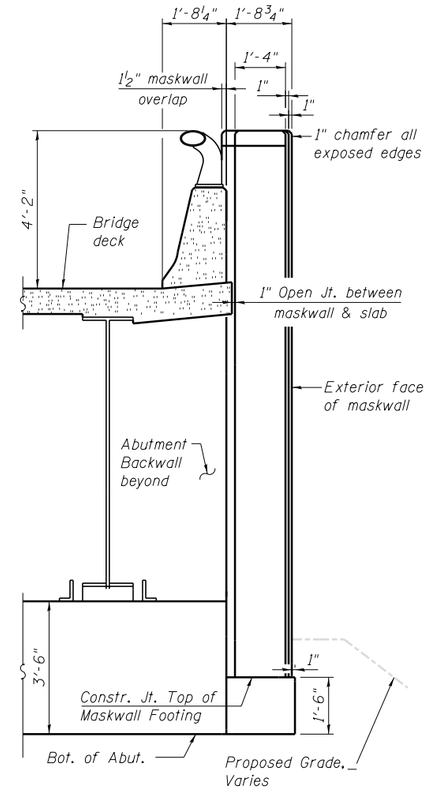


SECTION B-B - DETAIL 1



ELEVATION

(Ellipse railing not shown for clarity)



VIEW A-A

NOTES:

1. Top of maskwall shall be parallel to the longitudinal grade of the roadway and any adjacent barrier.
2. P.T. denotes point of vertical tangent for curved face of southern edge only.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-090-North Abutment Maskwall Details (1 of 2).dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT MASKWALL DETAILS (1 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S90 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	859
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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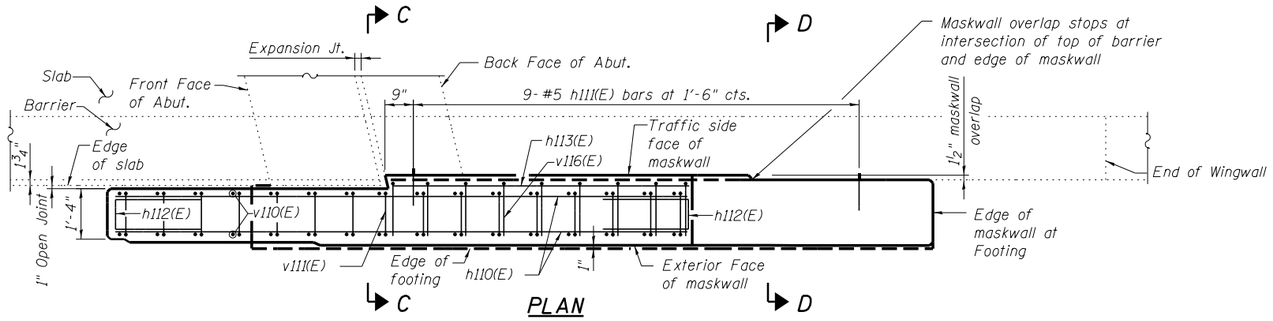

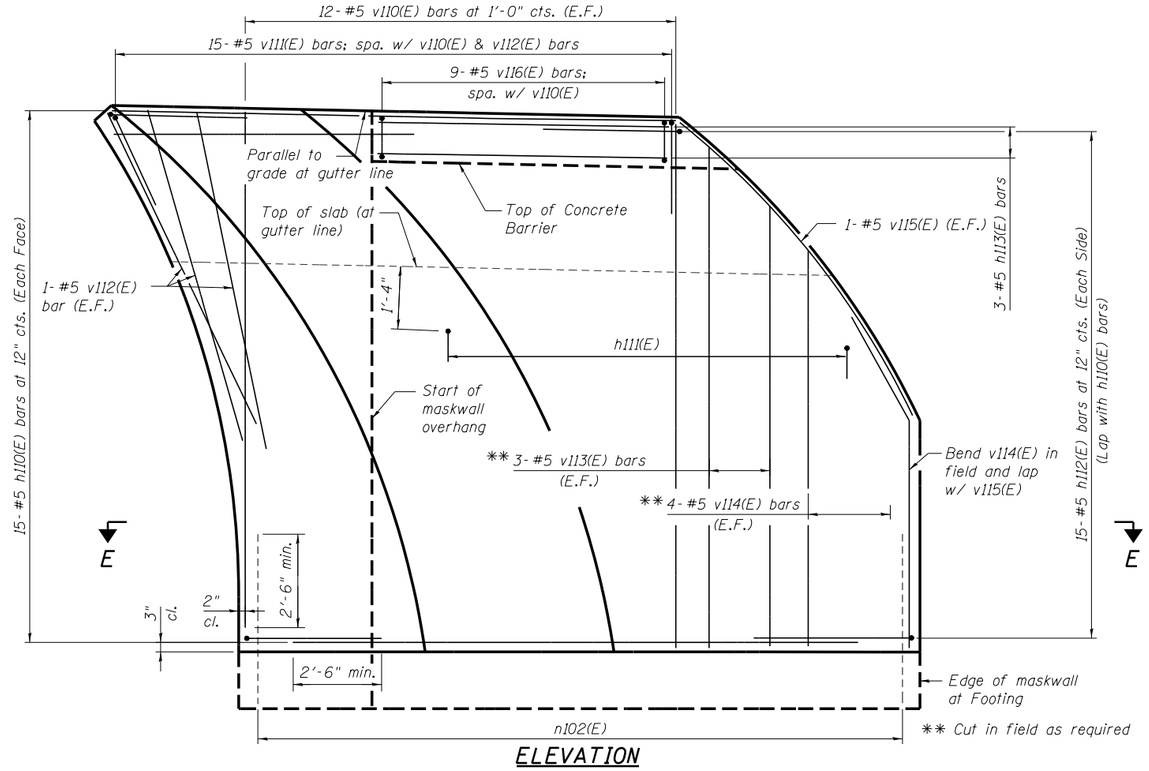

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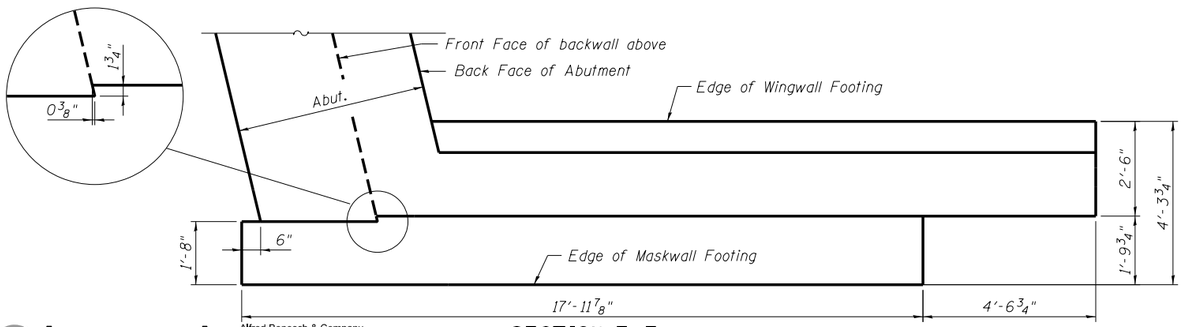
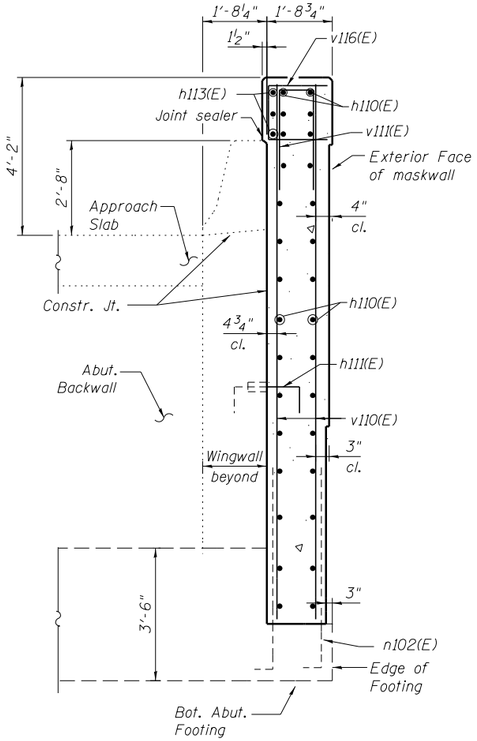
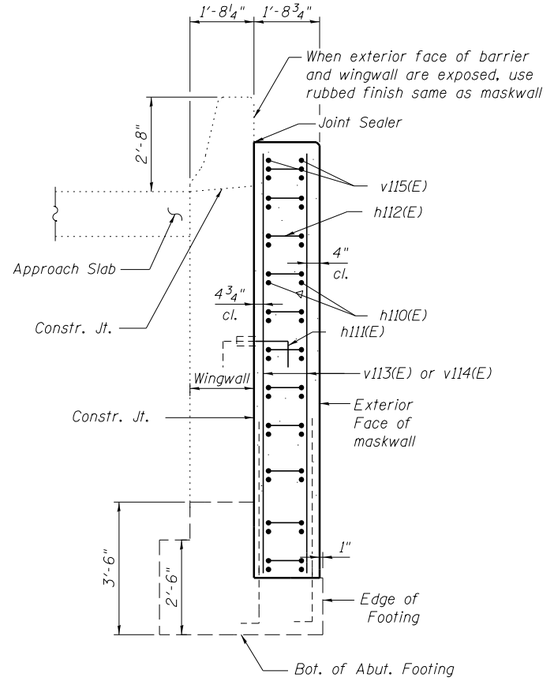


SECTION E-E

(Footing Partial Plan)



SECTION C-C



SECTION D-D

NOTES:

1. Two inch clear concrete cover unless noted otherwise.
2. The joint sealer shall be light gray nonsag latex caulking sealer marketed for outdoor use. Cost of the joint sealer shall be included with concrete structures.
3. See sheets S85, S86 & S89 for maskwall footing bar detailing.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT MASKWALL DETAILS (2 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S91 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	860
		CONTRACT NO. 64C08		
ILLINOIS	FED. AID PROJECT			

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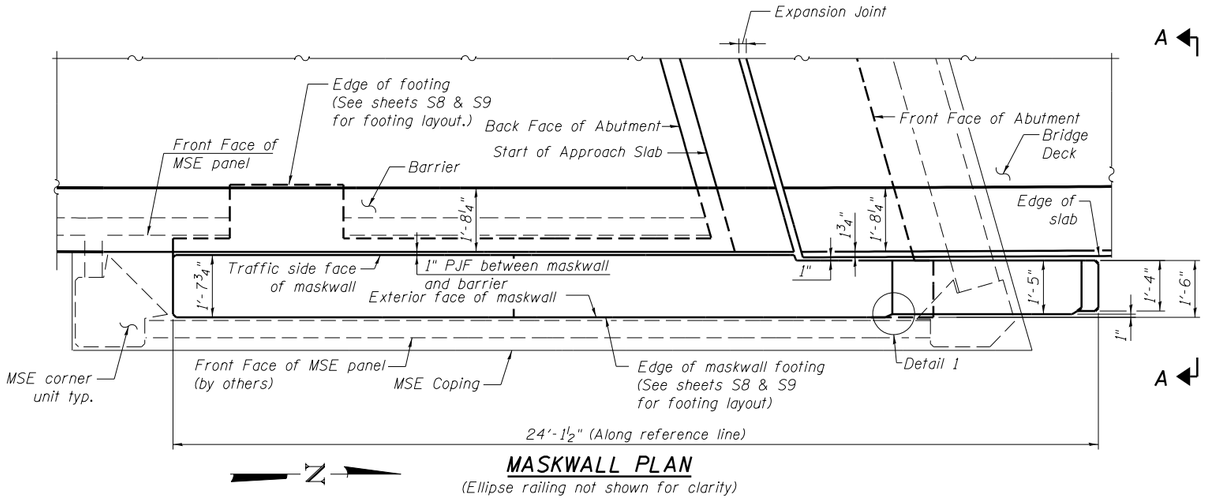
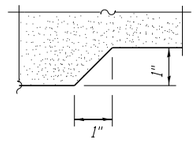


MASKWALL PLAN

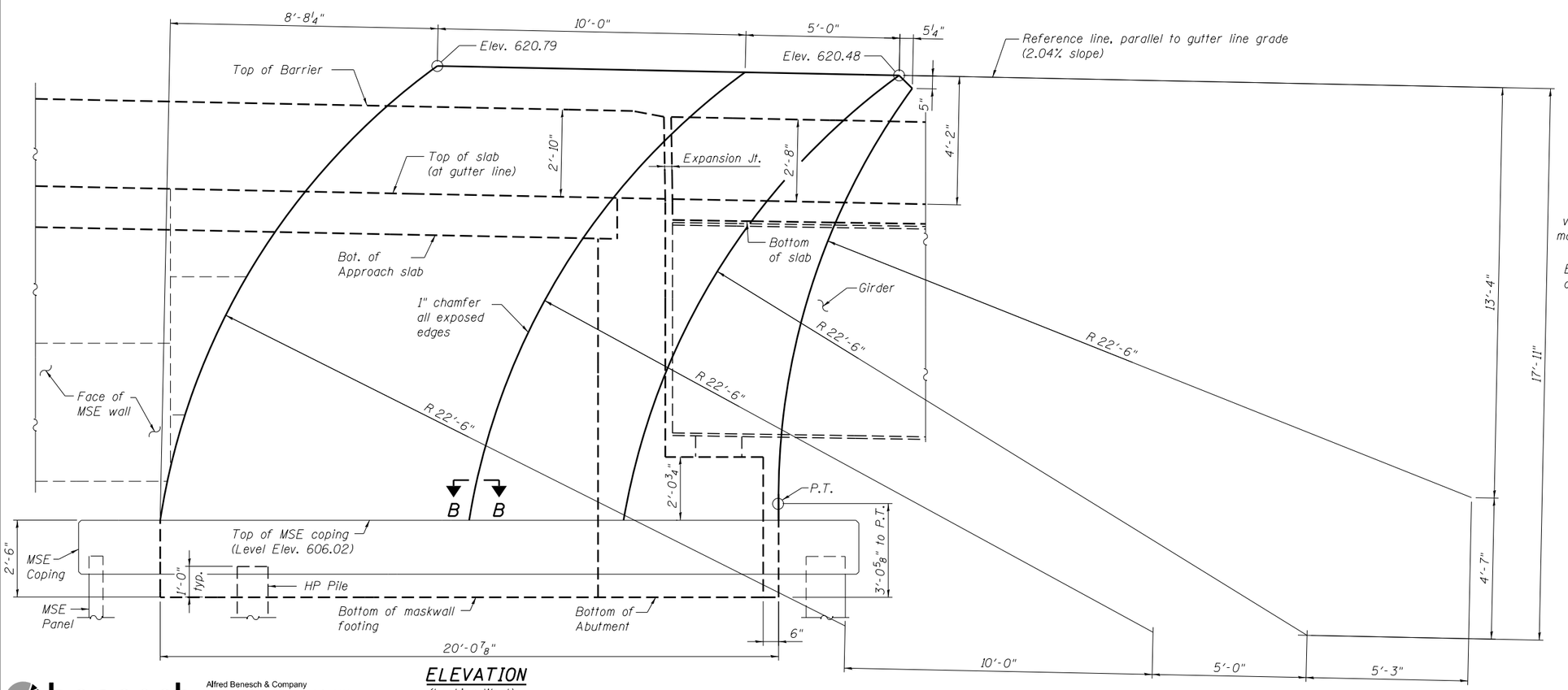
(Ellipse railing not shown for clarity)



SECTION B-B - DETAIL 1

NOTES:

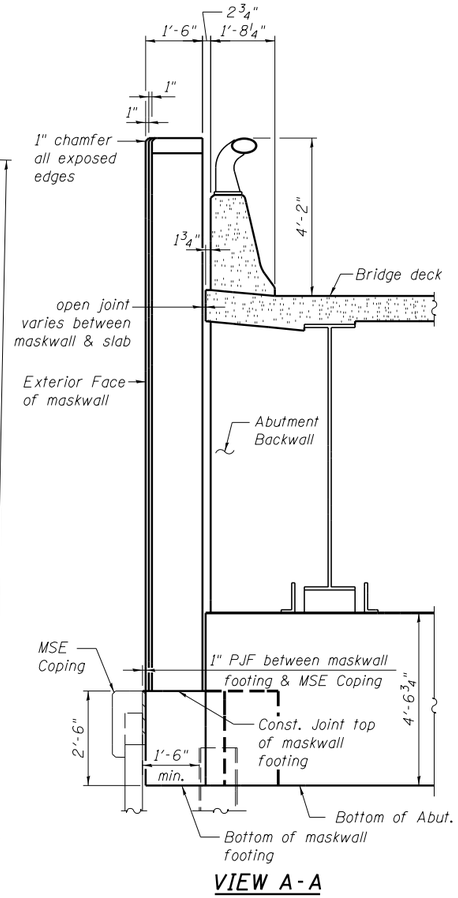
1. Top of maskwall shall be parallel to the longitudinal grade of the roadway and adjacent barrier.
2. P.T. denotes Point of Tangent for curved northern edge only.
3. See sheet S7 for coordination details.



ELEVATION

(Looking West)

(Ellipse railing not shown for clarity)



VIEW A-A

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT MASKWALL DETAILS (1 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S92 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	861
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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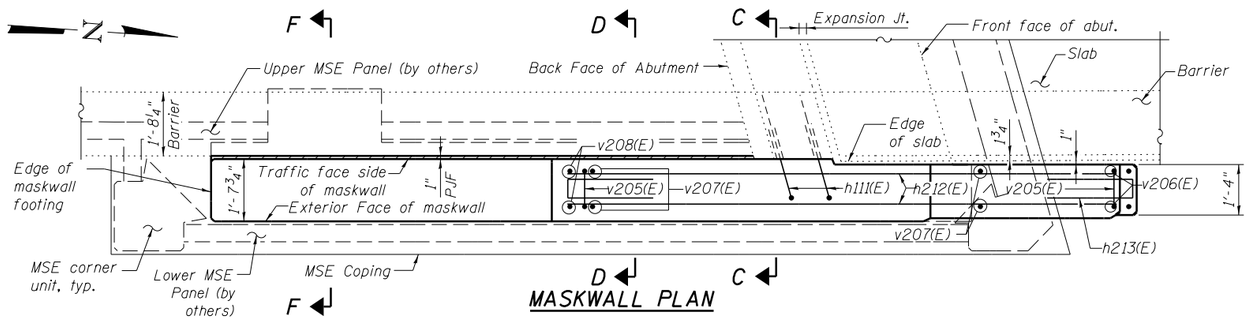
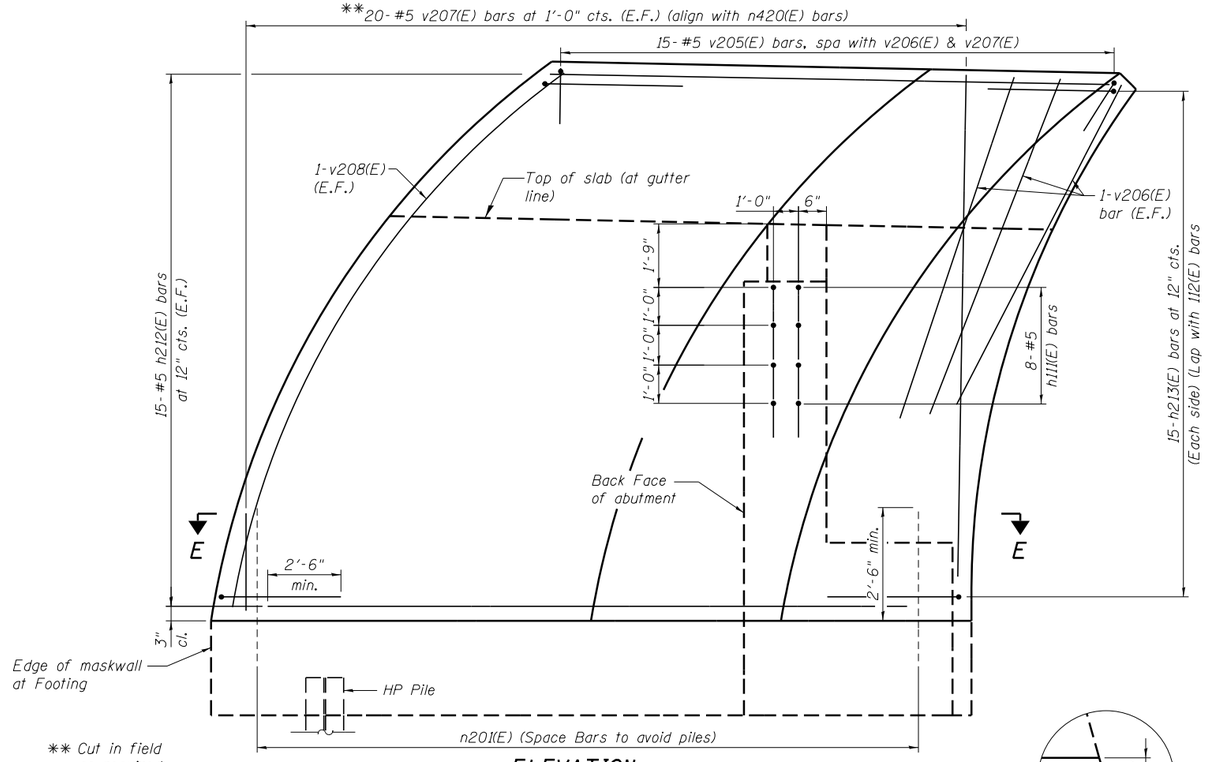
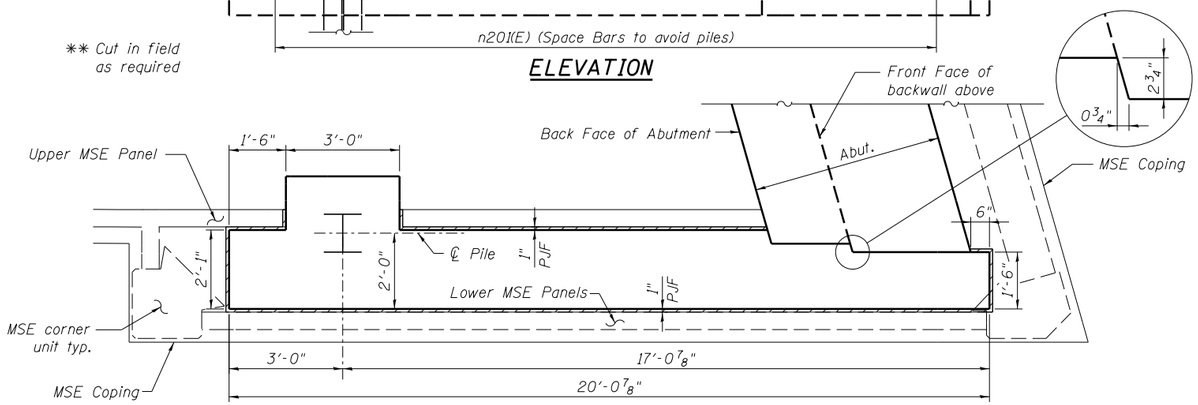


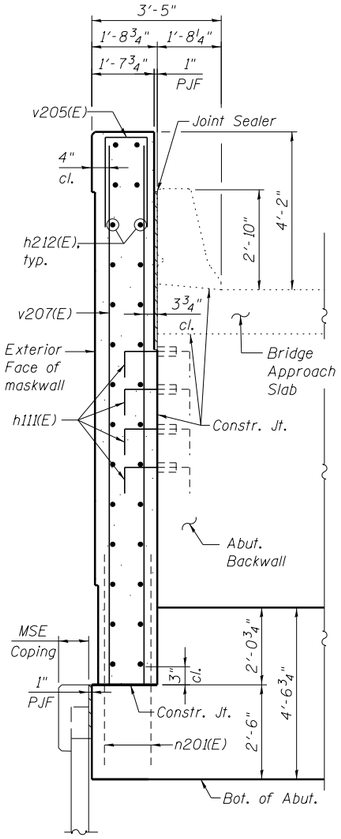
MASKWALL PLAN



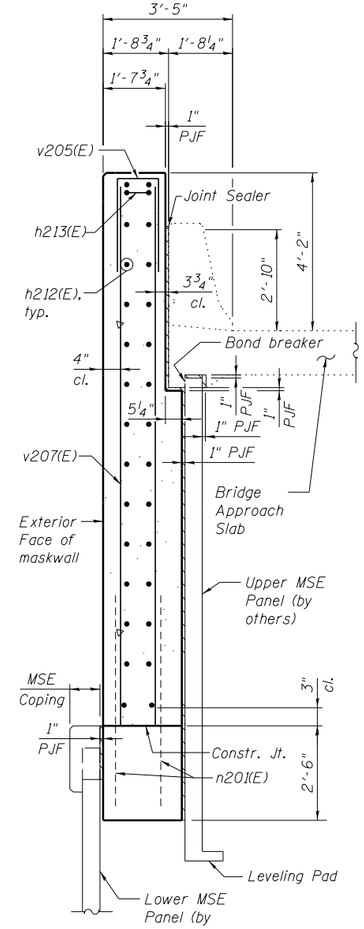
ELEVATION



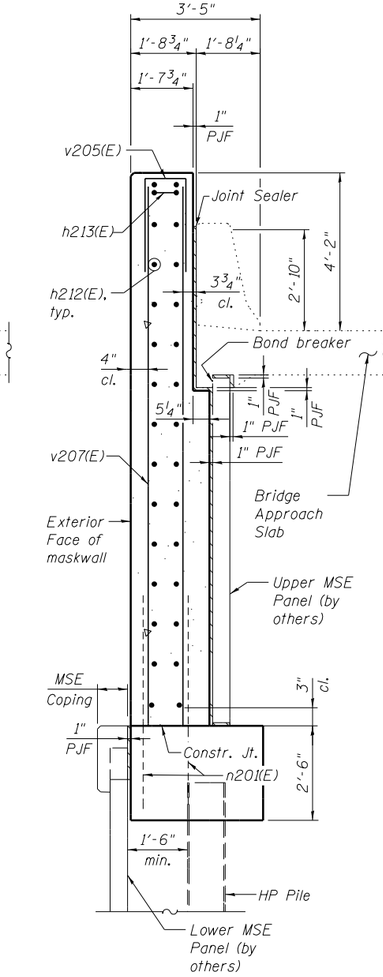
SECTION E-E
(Footing Partial Plan)



SECTION C-C



SECTION D-D



SECTION F-F

NOTES:

1. Two inch clear concrete cover unless noted otherwise.
2. The joint sealer shall be light gray nonsag latex caulking sealer marketed for outdoor use. Cost of the joint sealer shall be included with concrete structure.
3. See sheets S87 thru S89 for maskwall footing bar detailing.
4. When exterior face of barrier is exposed, contractor shall use rubbed finish same as maskwall.
5. See sheet S7 for coordination notes.

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205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-093-South Abutment Maskwall Details (2 of 2).dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT MASKWALL DETAILS (2 OF 2)
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S93 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	862
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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MASKWALL FINISHING NOTES

If form ties are used in forming the maskwall, arrange ties to be regularly spaced and in a consistent geometric grid pattern. Do not locate ties at edges of concrete rustications.

Following form removal, a rubbed surface finish in accordance with Article 503.15 (b) of the Standard Specifications shall be required but with the following additional requirements:

1. *Demonstrate hole and void patching operations in accordance with Article 503.15 (b) of the Standard Specifications on a four foot section of vertical maskwall located in an inconspicuous area. Begin patching demonstration by using a mortar mix comprised of 1 part white cement, 2 parts standard portland cement, 6 parts mortar sand, and water. The quantity of water used shall produce a mortar consistency as dry as possible to use effectively.*

2. *When patching test areas have set, saturate with water and rub with a fine carborundum stone until surfaces are smooth in texture. Remove loose powder and other contaminants by rubbing with burlap and rinsing with water. After surfaces have dried, patch color and texture of surfaces will be reviewed by the engineer. Patches should match or be slightly lighter than surrounding concrete. If results are unsatisfactory, adjust patching mortar mix proportions and perform another demonstration until results are deemed satisfactory by the engineer.*

3. *Use the patching mortar mix proportions that are approved by the engineer as a result of the satisfactory demonstration. Do not use patching mortar that is more than 1 hour old.*

4. *Finished maskwall concrete shall be smooth and show no wood grain or other texture from the face of the forms used. All costs for repair or covering wood grain or other textures on these surfaces shall be the responsibility of the Contractor.*

5. *Do not apply curing compounds, sealers, or other coatings to the finished maskwalls.*

NOTE:

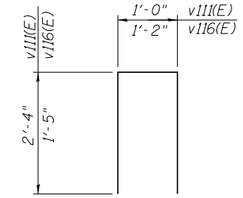
Contractor shall exercise all due care to assure that the maskwall surface finish is intact and the overall appearance is aesthetically pleasing at completion of the project. If the maskwalls are constructed before the deck, approach slab or parapets, additional effort may be required in forming and placing the deck, approach slab and/or parapet concrete, and precautions shall be taken to protect the maskwalls during these operations. If the maskwalls are constructed after deck, approach slab or parapets, temporary earth retention may be required. In either case, any costs for protecting the maskwalls, working around them or temporary earth retention and final grading shall be included in the cost of Concrete Structures.

NORTH ABUTMENT MASKWALL BILL OF MATERIAL

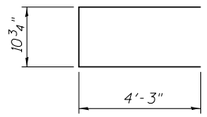
Bar	No.	Size	Length	Shape
h110(E)	30	#5	15'-0"	——
h111(E)	9	#5	1'-9"	⌐
h112(E)	30	#5	9'-5"	⊏
h113(E)	3	#5	7'-9"	——
v110(E)	24	#5	13'-10"	——
v111(E)	15	#5	5'-8"	⊓
v112(E)	6	#5	8'-3"	——
v113(E)	6	#5	13'-5"	——
v114(E)	8	#5	10'-4"	——
v115(E)	2	#5	9'-10"	⌒
v116(E)	9	#5	4'-0"	⊏
Concrete Structures			Cu. Yd.	15.0
Reinforcement Bars, Epoxy Coated			Pound	1,520

SOUTH ABUTMENT MASKWALL BILL OF MATERIAL

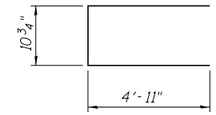
Bar	No.	Size	Length	Shape
h111(E)	8	#5	1'-9"	⌐
h212(E)	30	#5	15'-0"	——
h213(E)	30	#5	10'-9"	⊏
v205(E)	15	#5	4'-10"	⊓
v206(E)	6	#5	8'-3"	——
v207(E)	40	#5	14'-7"	——
v208(E)	2	#5	16'-7"	⌒
Concrete Structures			Cu. Yd.	17.5
Reinforcement Bars, Epoxy Coated			Pound	1,600



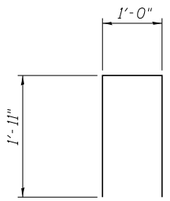
Bars v111(E) & v116(E)



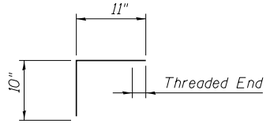
BAR h112(E)



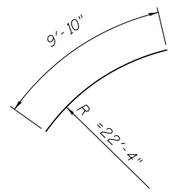
BAR h213(E)



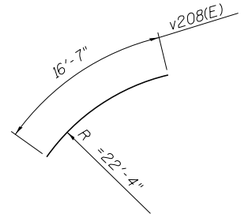
Bar v205(E)



Bar h111(E)



Bar v115(E)



Bar v208(E)

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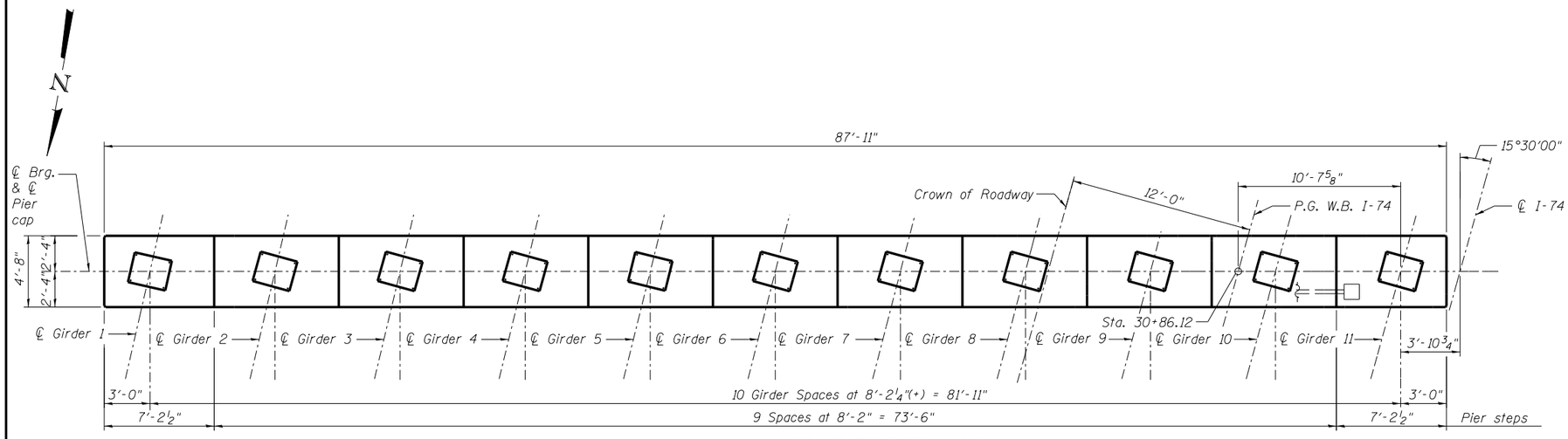
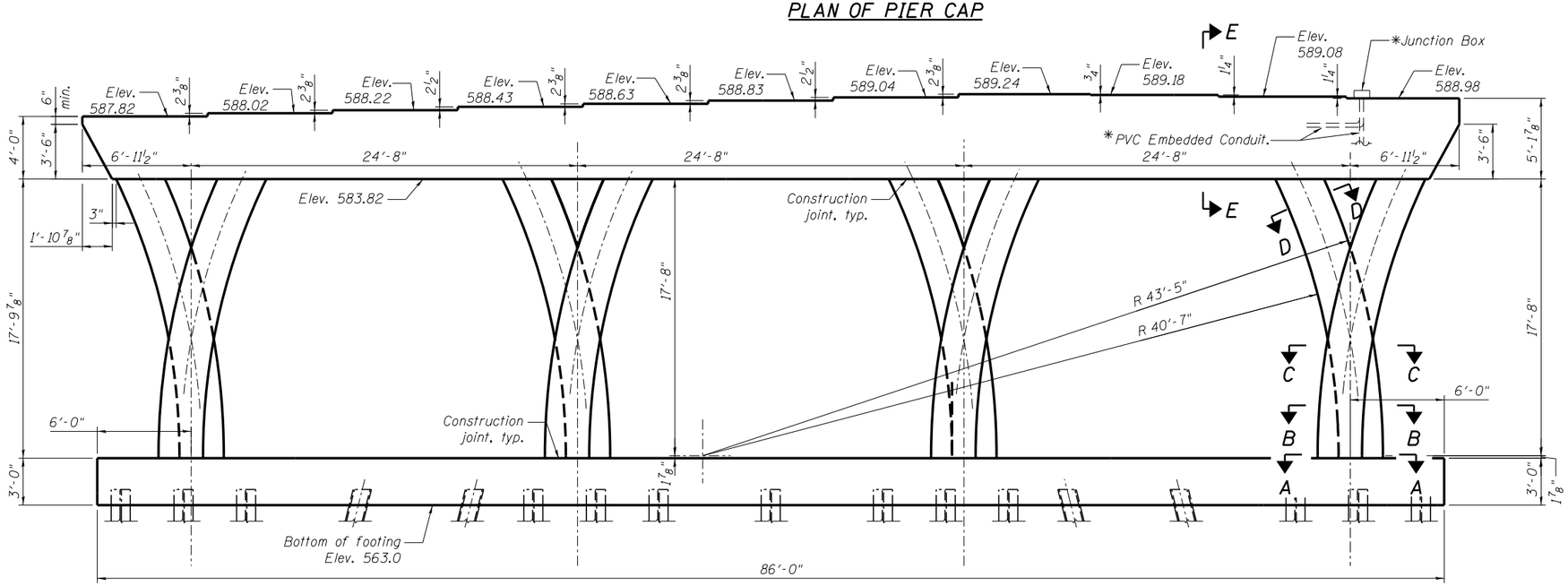
		CHECKED - AJK	REVISED -			74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	863
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -					CONTRACT NO. 64C08		
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -		SHEET NO. S94 OF S120 SHEETS			ILLINOIS	FED. AID PROJECT	

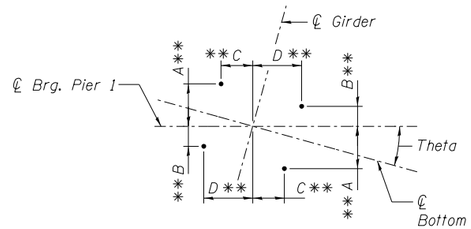


PLAN OF PIER CAP



PIER 1 ELEVATION

(Looking South)



ANCHOR BOLT LAYOUT

A	1'-0 7/8" to 1'-1 3/8"
B	6 3/8" to 7"
C	10" to 10 5/8"
D	1'-3 1/4 to 1'-3 1/2"

** Variation in anchor bolt offset from ℄ Pier and ℄ Girder Intersection due to variation in Theta. See sheet S83 for additional information and values of theta.

* See "Lighting plans and details" sheets, for details and pay items.

PILE DATA

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 10 feet
No. Production Piles: 33
No. Test Piles: 1

NOTES:

1. See sheet S96 for pier reinforcing details.
2. See sheet S104 for pier notes.
3. See sheet S105 for bar list and bill of materials.
4. See sheet S103 for sections A-A, B-B, C-C, D-D & E-E.

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 PLAN AND ELEVATION
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S95 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	864
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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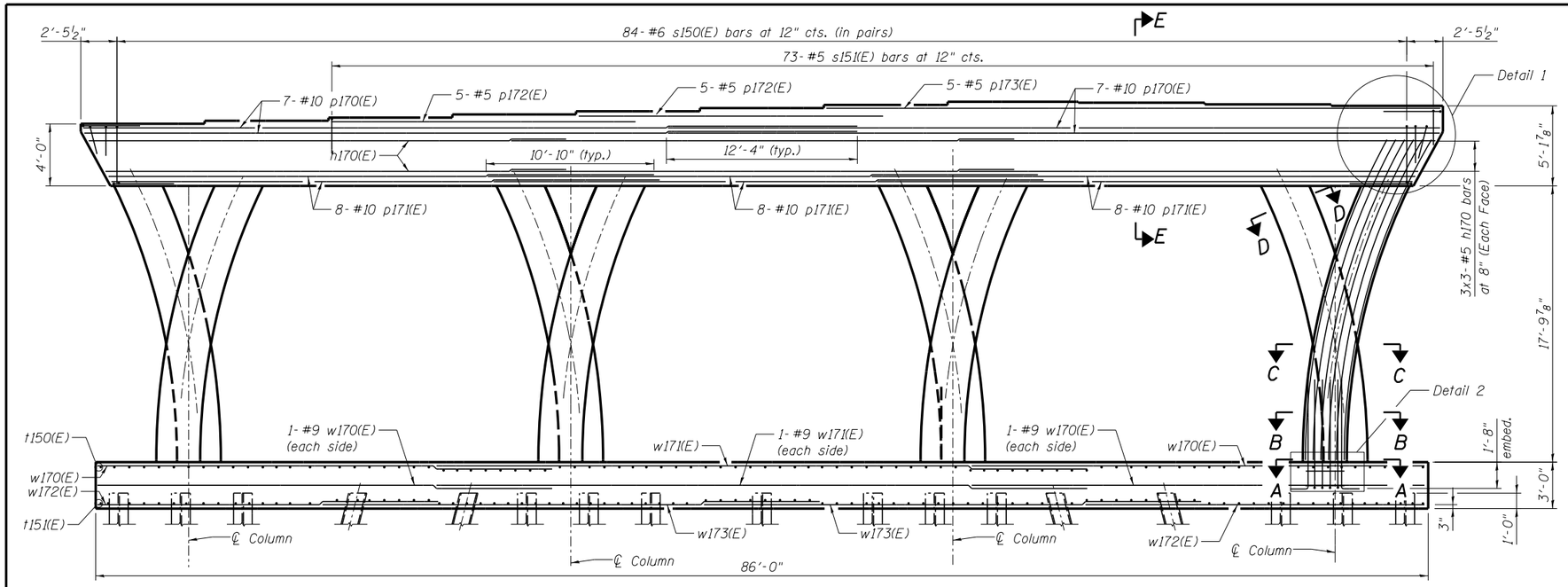
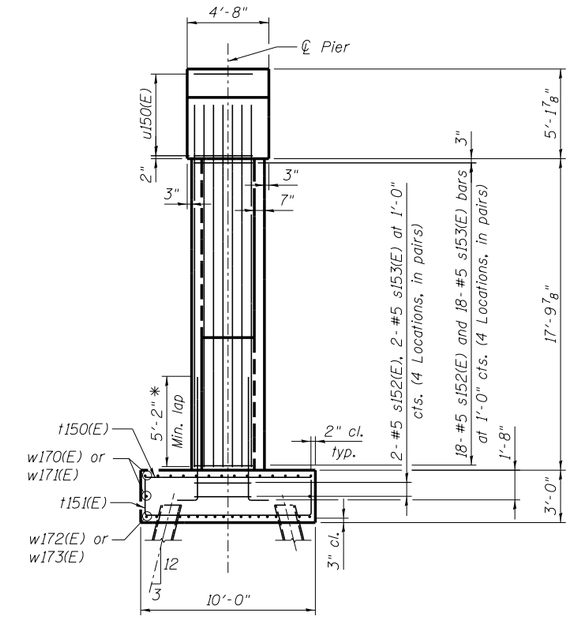


PIER 1 ELEVATION

(Looking South)

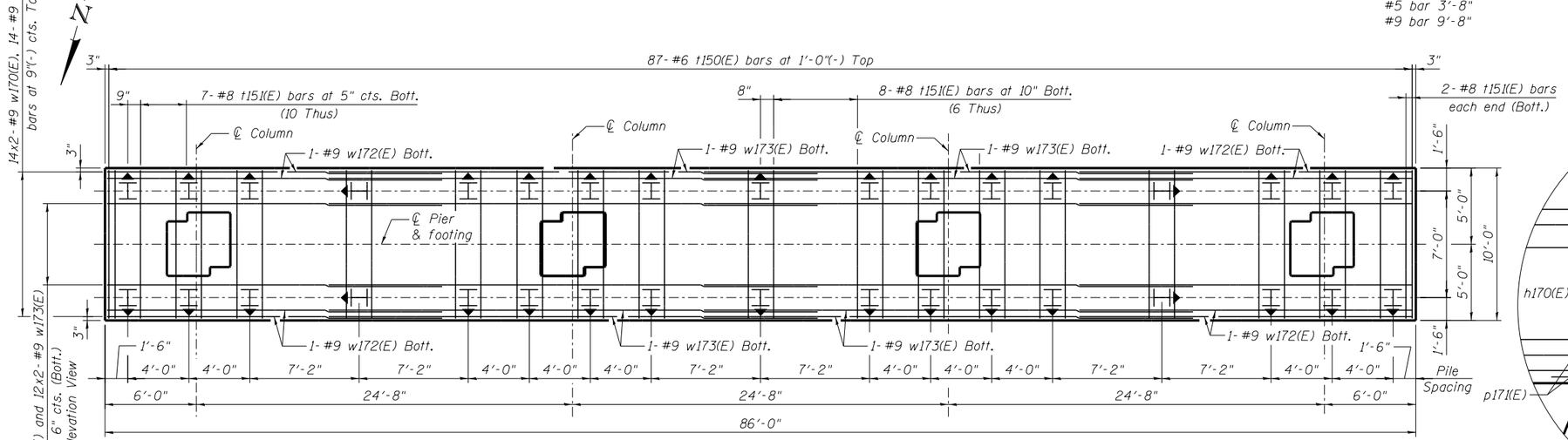


END VIEW

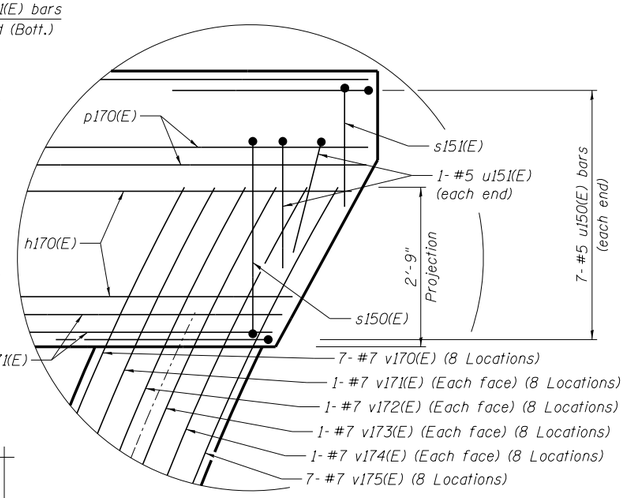
* Bend n151(E) bars in field to match radius of "v" bars

MINIMUM BAR LAP

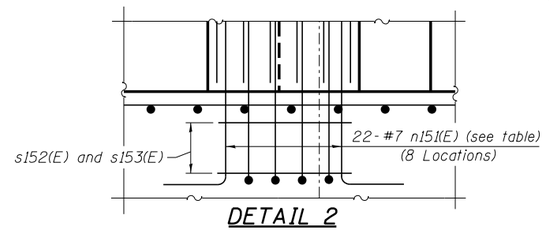
#5 bar 3'-8"
#9 bar 9'-8"



FOOTING PLAN



DETAIL 1



DETAIL 2

NOTES:

1. See sheet S103 for sections A-A, B-B, C-C, D-D & E-E.
2. See sheet S104 for pier notes.
3. See sheets S8 and S9 for footing and pile layout.

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 1 REINFORCEMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S96 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	865
		CONTRACT NO. 64C08		
		ILLINOIS	FED. AID PROJECT	

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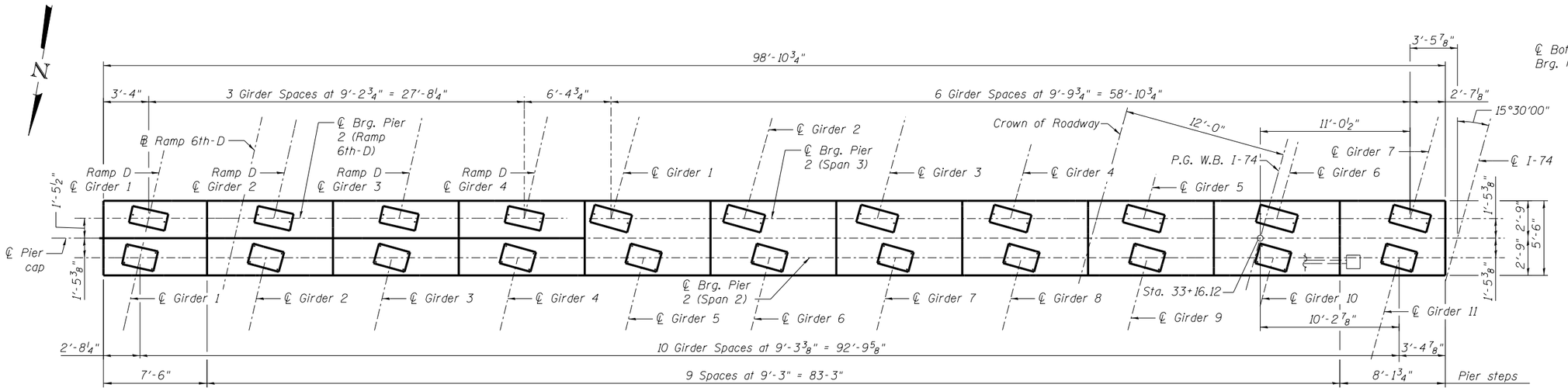

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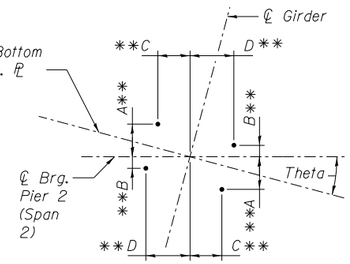
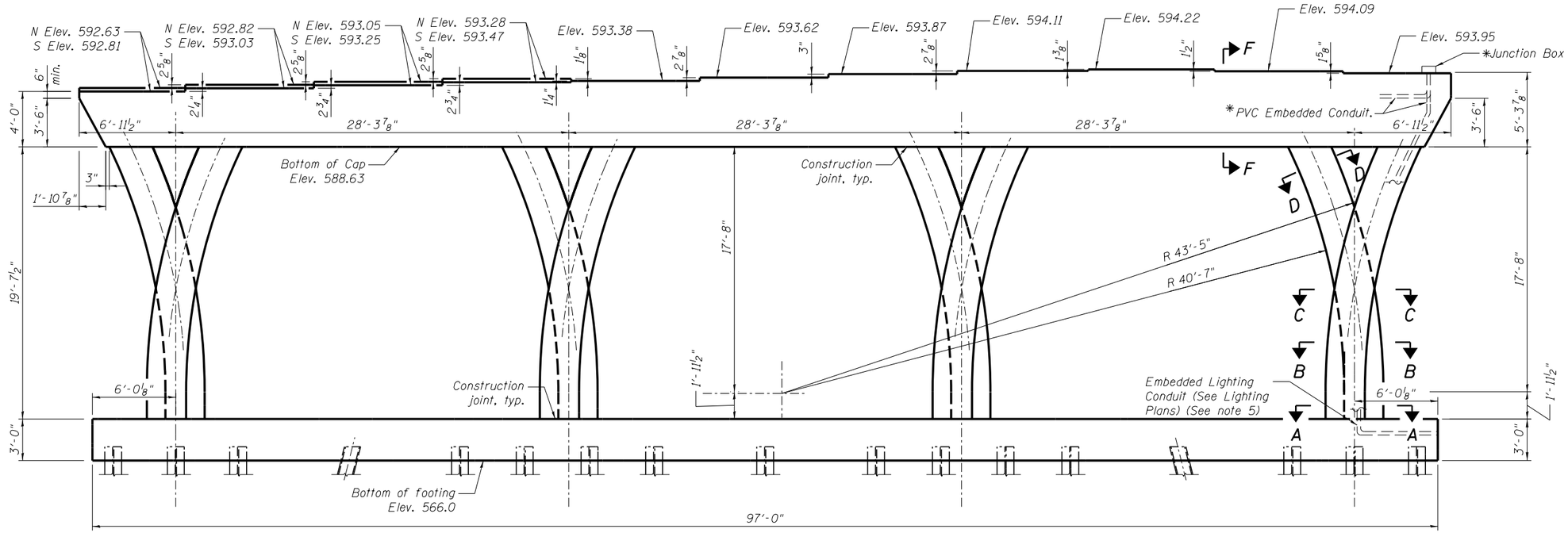


ANCHOR BOLT LAYOUT

Span 2

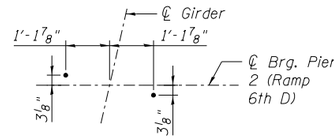
A	9 7/8" to 10 3/8"
B	3 5/8" to 4 1/4"
C	10 1/8" to 10 5/8"
D	1'-1 3/4" to 1'-2"

** Variation in anchor bolt offset from ℄ Pier and ℄ Girder Intersection due to variation in Theta. See sheet S84 for additional information and values of theta.



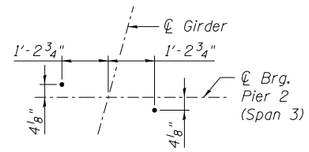
PIER 2 ELEVATION

(Looking South)



ANCHOR BOLT LAYOUT

Span 3 (Ramp D)



ANCHOR BOLT LAYOUT

Span 3 (Westbound)

PILE DATA

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 15 feet
No. Production Piles: 33
No. Test Piles: 1

* See "Lighting plans and details" sheets, for details and pay items.

NOTES:

1. See sheet S98 for pier reinforcing details.
2. See sheet S104 for pier notes.
3. See sheet S105 for bar list and bill of material.
4. See sheet S103 for sections A-A, B-B, C-C, D-D & F-F.
5. Conduits shall be 6" clr. from edge of column.

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FILENAME = 081-0177-C00AB-097-Pier 2 Plan and Elevation.dgn	USER NAME = ksnider	DESIGNED - AWH	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 PLAN AND ELEVATION
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S97 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	866
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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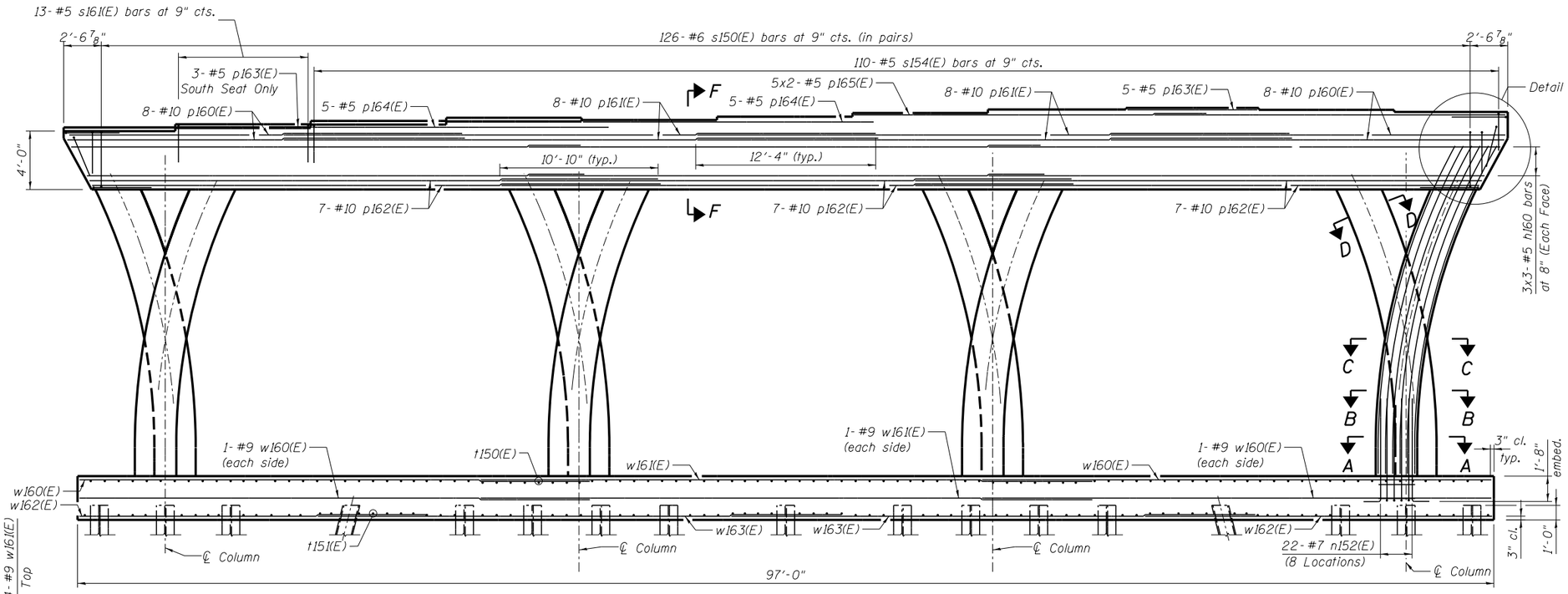
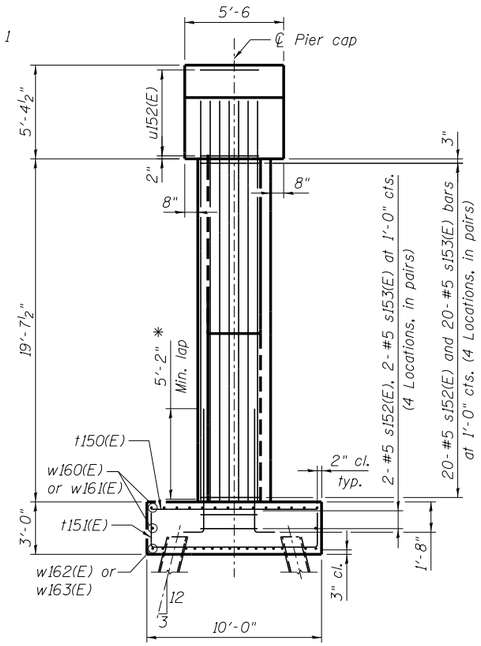


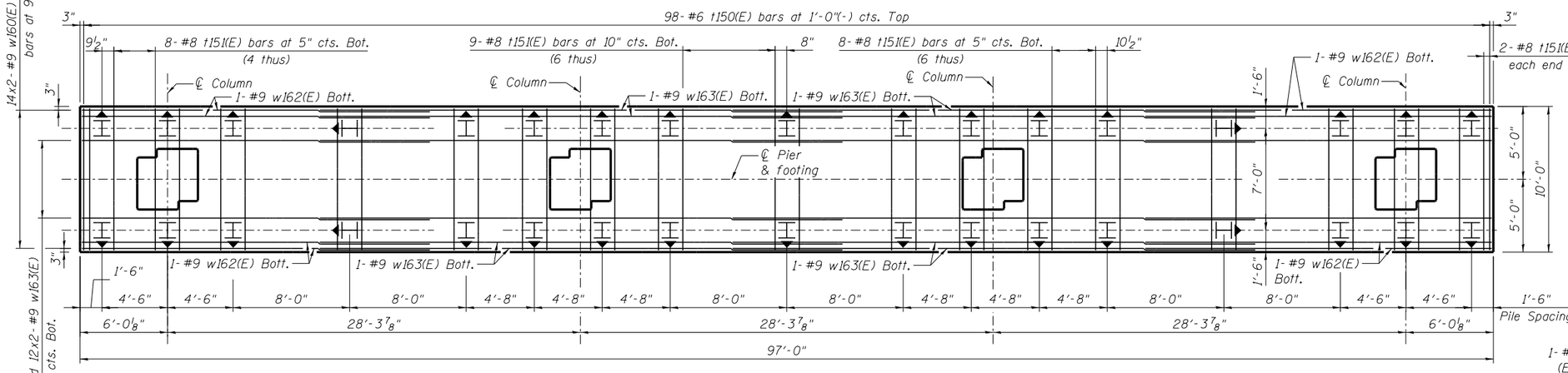
PIER 2 ELEVATION

(Looking South)

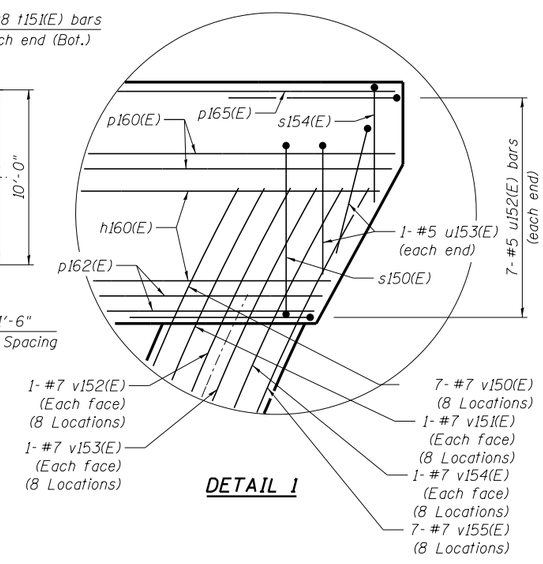


END VIEW

* Bend n152(E) bars in field to match radius of "v" bars



FOOTING PLAN



DETAIL 1

MINIMUM BAR LAP

#5 bar 3'-8"
#9 bar 9'-8"

N

NOTES:

1. For sections A-A, B-B, C-C, D-D, & F-F see sheet S103.
2. See sheet S104 for pier notes.
3. See sheet S105 for bar list and bill of materials.
4. See sheets S8 and S9 for footing and pile layout.

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-098-Pier 2 Reinforcement Details.dgn	USER NAME = ksnider	DESIGNED - AWH	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER 2 REINFORCEMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S98 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	867
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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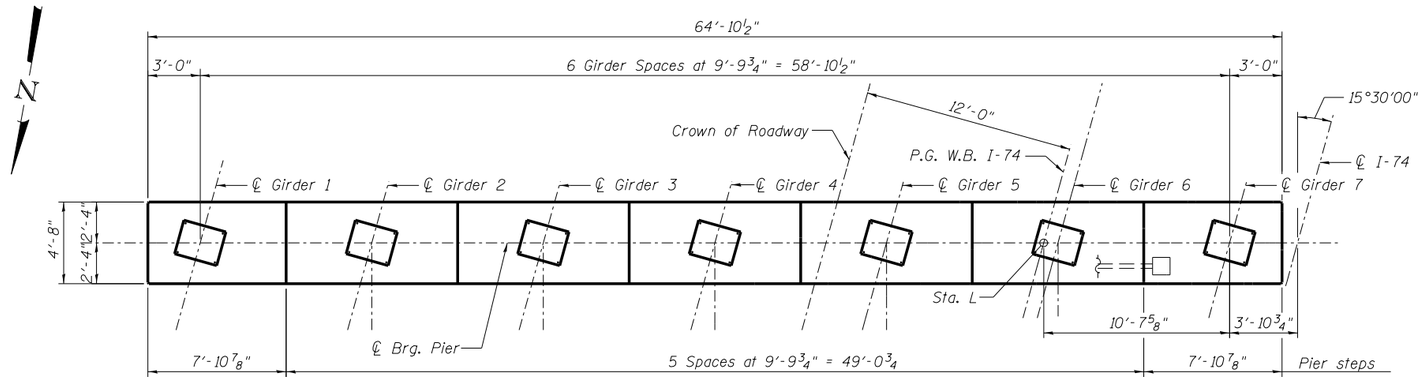
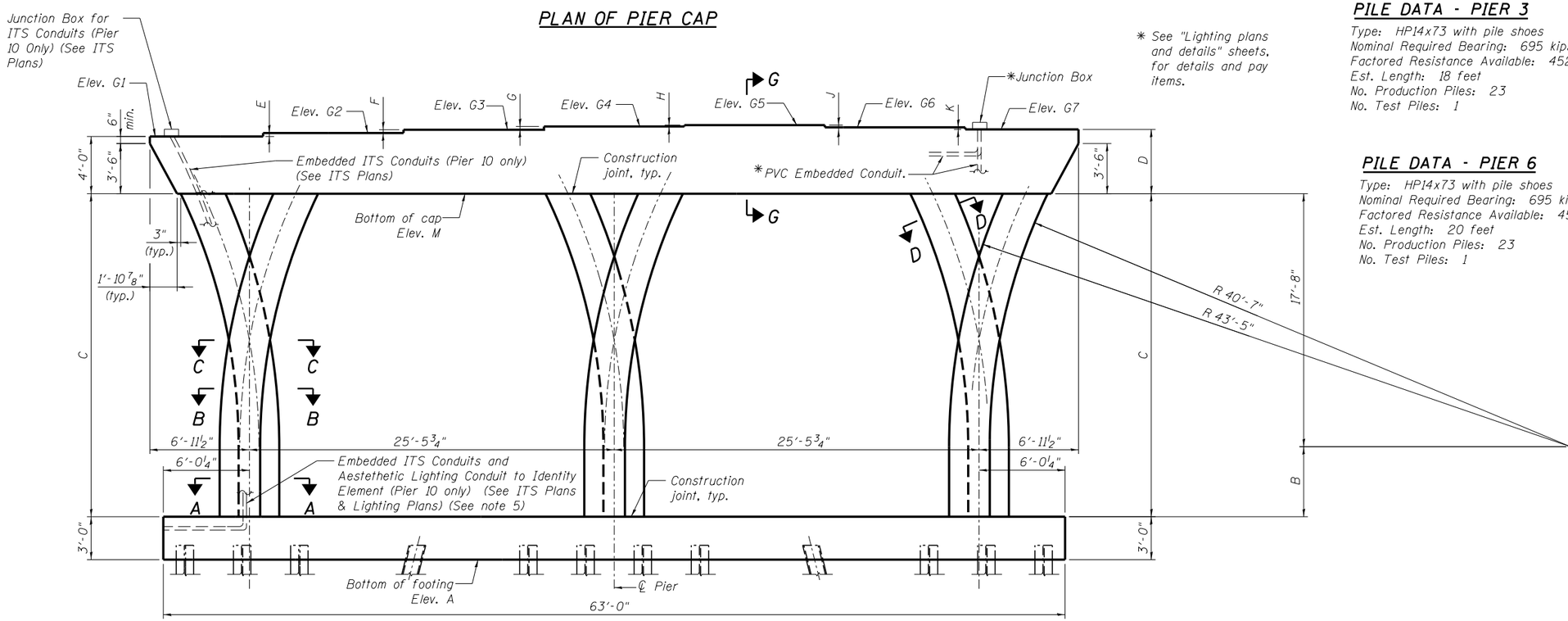


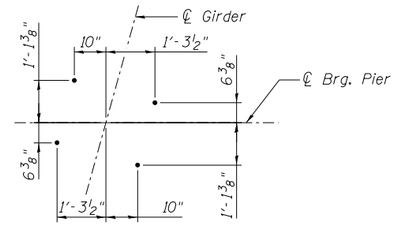
PLAN OF PIER CAP



PIERS 3, 4, 6, 7, 9 & 10 ELEVATION

(Looking South)

* See "Lighting plans and details" sheets, for details and pay items.



ANCHOR BOLT LAYOUT

PILE DATA - PIER 3

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 18 feet
No. Production Piles: 23
No. Test Piles: 1

PILE DATA - PIER 4

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 18 feet
No. Production Piles: 23
No. Test Piles: 1

PILE DATA - PIER 6

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 20 feet
No. Production Piles: 23
No. Test Piles: 1

PILE DATA - PIER 7

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 15 feet
No. Production Piles: 23
No. Test Piles: 1

PILE DATA - PIER 9

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 21 feet
No. Production Piles: 23
No. Test Piles: 1

PILE DATA - PIER 10

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 22 feet
No. Production Piles: 23
No. Test Piles: 1

PIER DATA TABLE

PIER	A	B	C	D	E	F	G	H	J	K	L	M	G1	G2	G3	G4	G5	G6	G7
Pier 3	570.00	1'-11⅞"	19'-7⅞"	4'-5⅝"	2¾"	2¾"	2⅝"	1¼"	1⅞"	1¾"	35+05.12	592.66	596.66	596.89	597.12	597.34	597.44	597.28	597.13
Pier 4	571.00	2'-11⅜"	20'-7⅜"	4'-4½"	2½"	2½"	2½"	1"	2"	2"	36+63.12	594.61	598.61	598.82	599.03	599.24	599.32	599.15	598.98
Pier 6	574.00	1'-7⅞"	19'-3⅜"	4'-4"	2½"	2¼"	2⅜"	1"	2⅛"	2"	39+96.12	596.32	600.32	600.53	600.72	600.92	601.00	600.82	600.65
Pier 7	574.00	2'-5⅝"	20'-1⅝"	4'-3⅝"	2⅛"	2½"	2⅜"	⅞"	2⅛"	2⅛"	41+47.79	597.14	601.14	601.32	601.53	601.73	601.80	601.62	601.44
Pier 9	576.00	2'-0⅜"	19'-8⅜"	4'-4"	2½"	2⅜"	2⅜"	⅞"	2"	2⅛"	44+77.12	598.70	602.70	602.91	603.11	603.31	603.38	603.21	603.03
Pier 10	578.00	1'-4½"	19'-0½"	4'-1½"	2⅛"	1½"	1¼"	0"	1⅛"	2"	46+62.12	600.04	604.04	604.28	604.40	604.50	604.50	604.34	604.17

NOTES:

1. See sheet S100 for reinforcing details.
2. See sheet S104 for pier notes.
3. See sheets S105 & S106 for bar list and bill of material.
4. See sheet S103 for sections A-A, B-B, C-C, D-D & E-E.
5. Conduits shall be 6" clr. from edge of column.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-099-Piers 3, 4, 6, 7, 9 & 10 Plan and Elevation.dgn
MODEL = Default
USER NAME = ksnider | DESIGNED - AWH | REVISED -
PLOT SCALE = | DRAWN - KMS | REVISED -
PLOT DATE = 1/18/2017 | CHECKED - AJK | REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 3, 4, 6, 7, 9 AND 10 PLAN AND ELEVATION
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S99 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	868
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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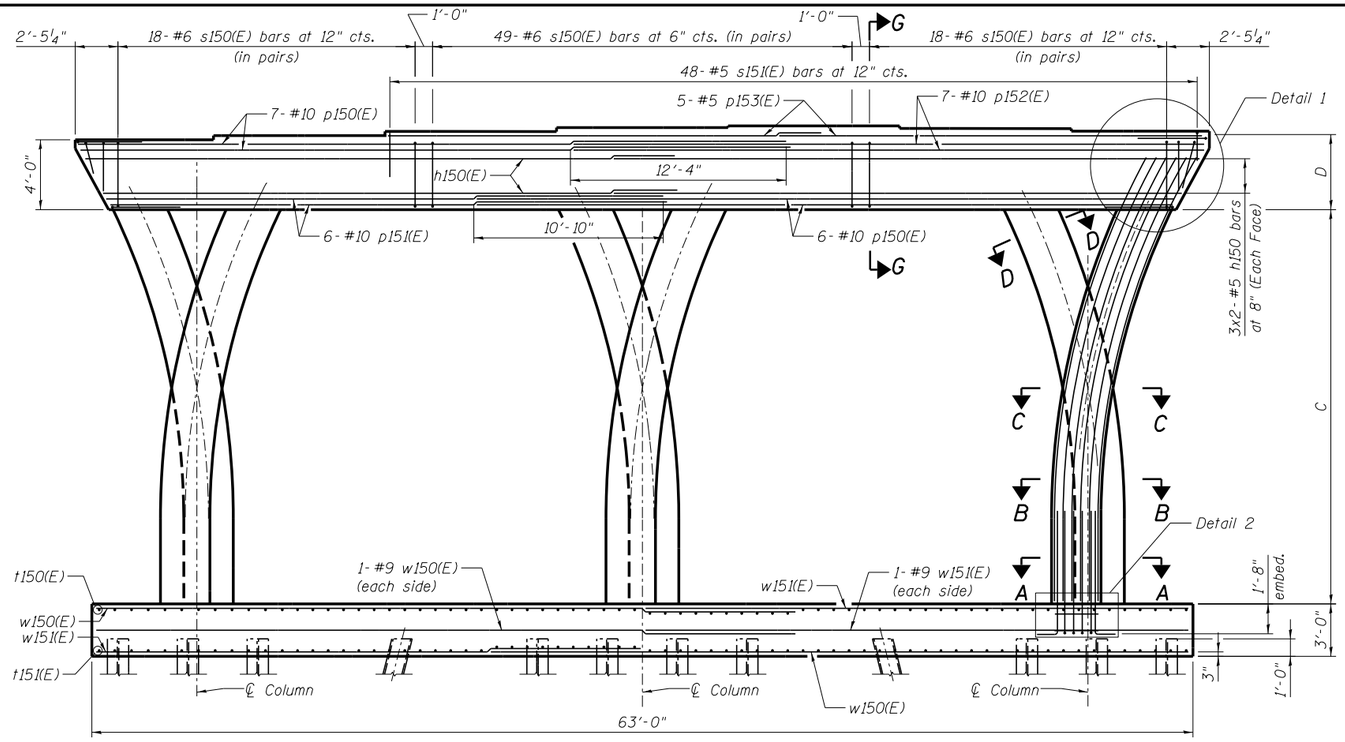
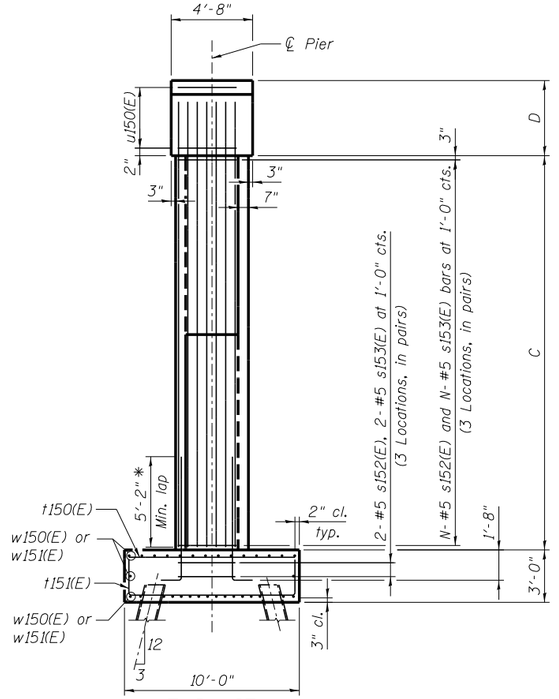


PIER ELEVATION

(Looking South)



END VIEW

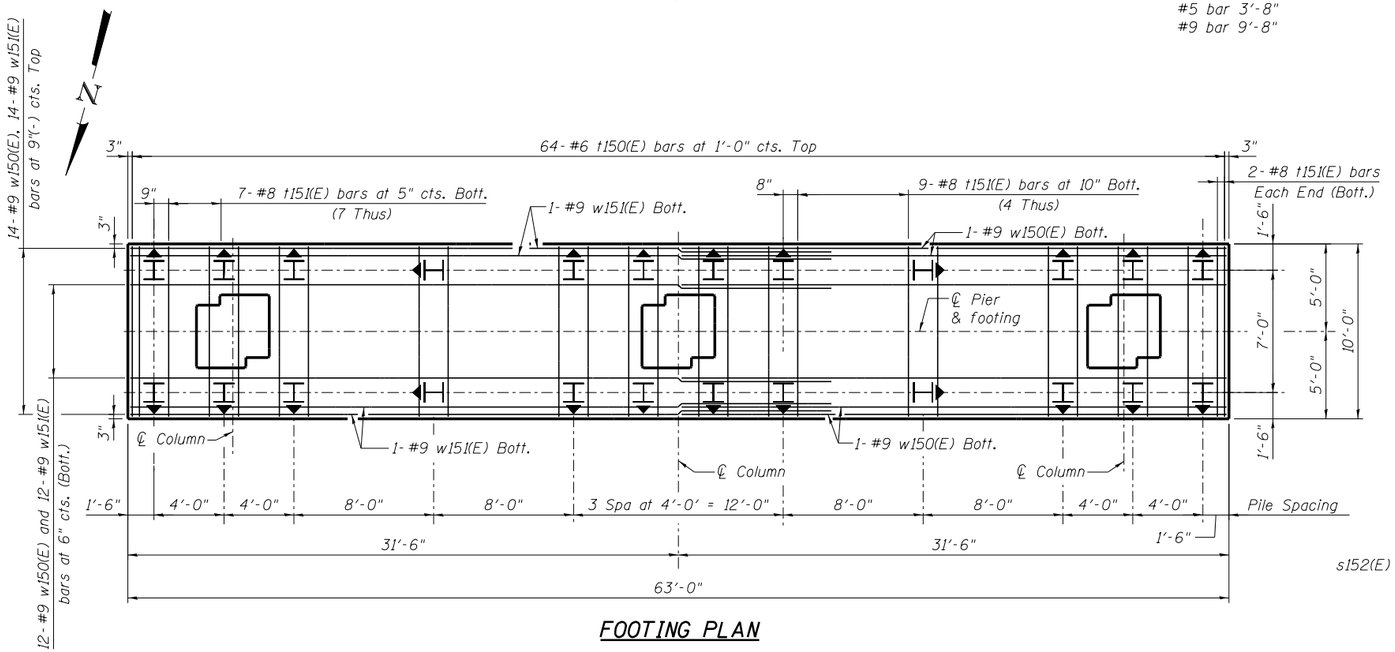
PIER DATA TABLE

PIER	N	Dowel Bar
Pier 3	20	n153
Pier 4	21	n154
Pier 6	20	n156
Pier 7	21	n157
Pier 9	20	n159
Pier 10	20	n160

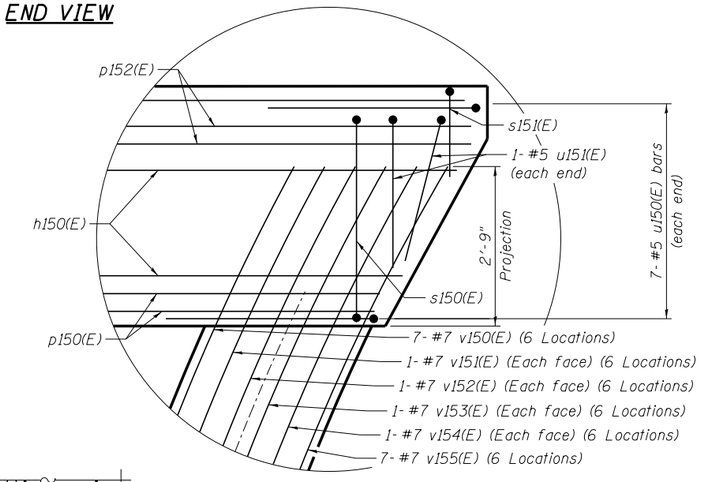
*Bend n153(E), n154(E), n156(E), n157(E), n159(E) and n160(E) bars in field to match radius of "v" bars

MINIMUM BAR LAP

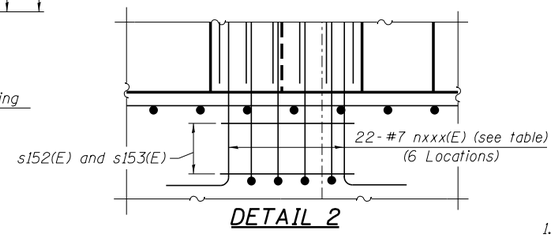
#5 bar 3'-8"
#9 bar 9'-8"



FOOTING PLAN



DETAIL 1



DETAIL 2

NOTES:

1. For sections A-A, B-B, C-C, D-D, & G-G see sheet S103.
2. See sheet S104 for pier notes.
3. See sheet S99 for pier data table.
4. See sheets S8 and S9 for footing and pile layout.

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205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 3, 4, 6, 7, 9 AND 10 REINFORCEMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S100 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	869
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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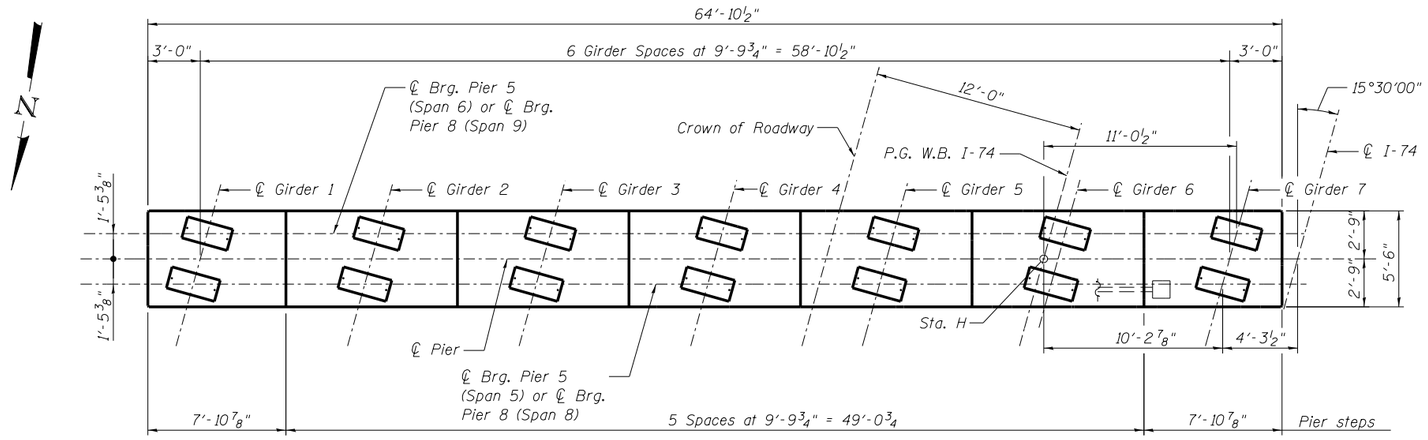
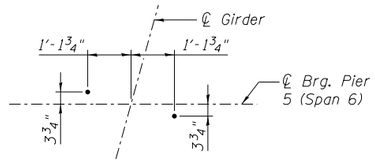
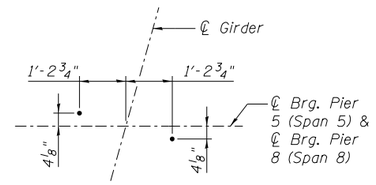


PLAN OF PIER CAP



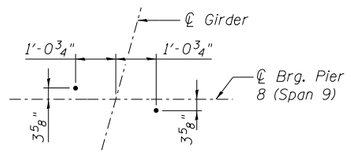
ANCHOR BOLT LAYOUT

Pier 5 (Span 6)



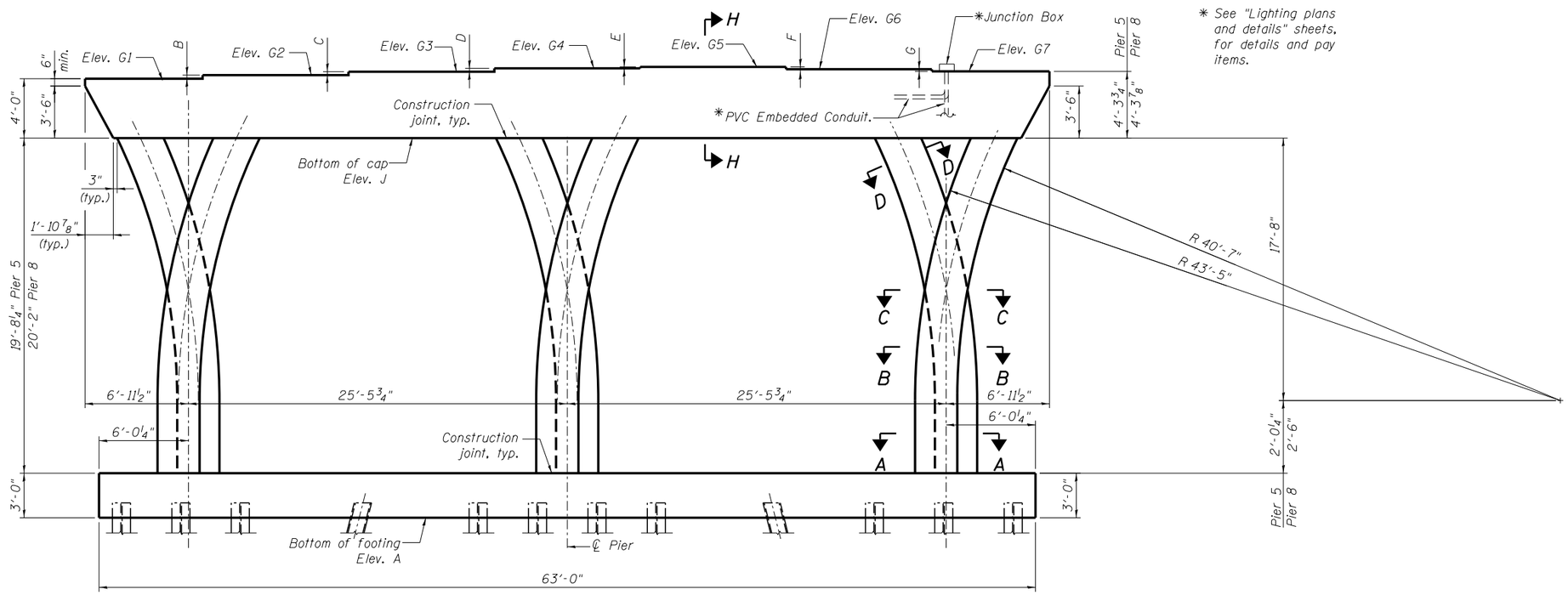
ANCHOR BOLT LAYOUT

Pier 5 (Span 5), Pier 8 (Span 8)



ANCHOR BOLT LAYOUT

Pier 8 (Span 9)



PIERS 5 & 8 ELEVATION

(Looking South)

* See "Lighting plans and details" sheets, for details and pay items.

PILE DATA - PIER 5

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 15 feet
No. Production Piles: 23
No. Test Piles: 1

PILE DATA - PIER 8

Type: HP14x73 with pile shoes
Nominal Required Bearing: 695 kips
Factored Resistance Available: 452 kips
Est. Length: 15 feet
No. Production Piles: 23
No. Test Piles: 1

PIER DATA TABLE

PIER	A	B	C	D	E	F	G	H	J	G1	G2	G3	G4	G5	G6	G7
Pier 5	573.00	2½"	2⅜"	2⅜"	⅞"	2½"	2¼"	38+52.12	595.69	599.69	599.90	600.10	600.30	600.37	600.19	600.00
Pier 8	575.00	2⅜"	2⅜"	2⅜"	⅞"	2"	2⅛"	43+44.12	598.17	602.17	602.37	602.57	602.77	602.84	602.67	602.49

NOTES:

1. See sheet S102 for reinforcing details.
2. See sheet S104 for pier notes.
3. See sheets S105 & S106 for bar list and bill of material.
4. See sheet S103 for sections A-A, B-B, C-C, D-D & E-E.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

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MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 5 AND 8 PLAN AND ELEVATION
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S101 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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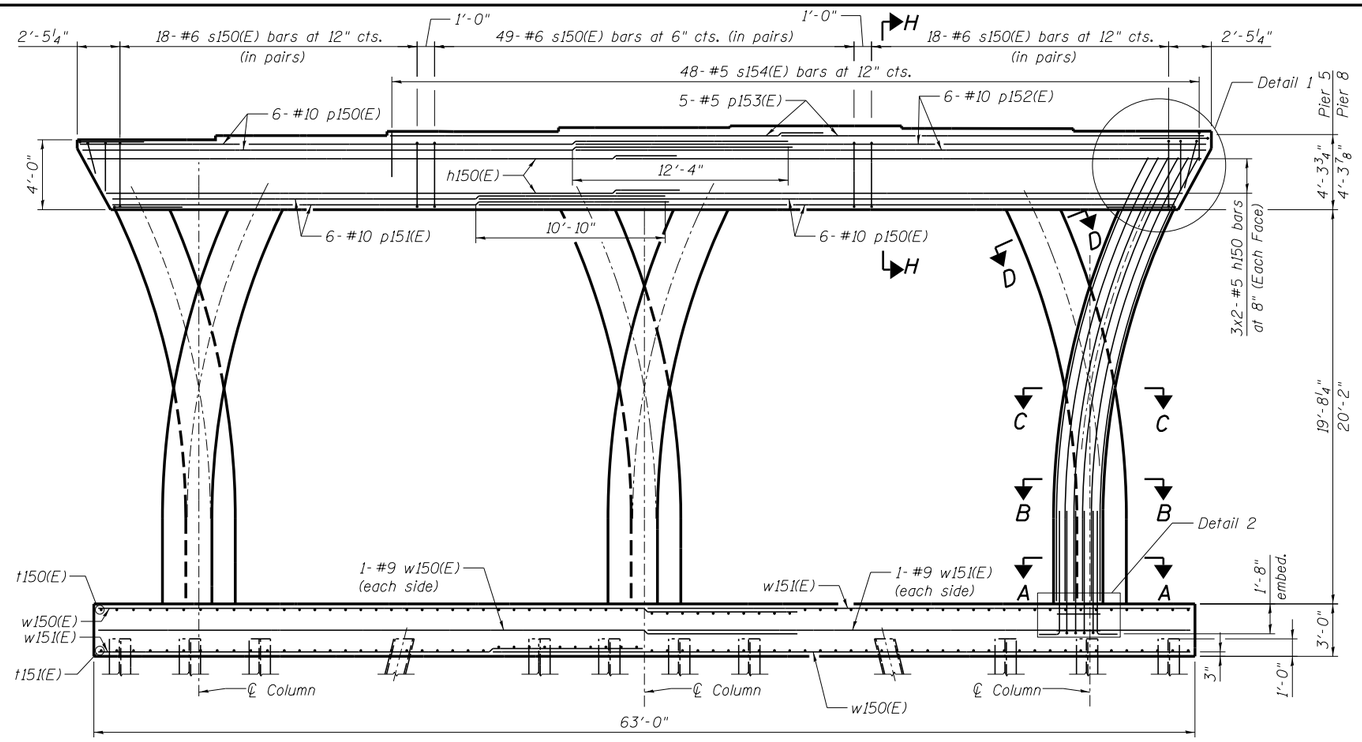
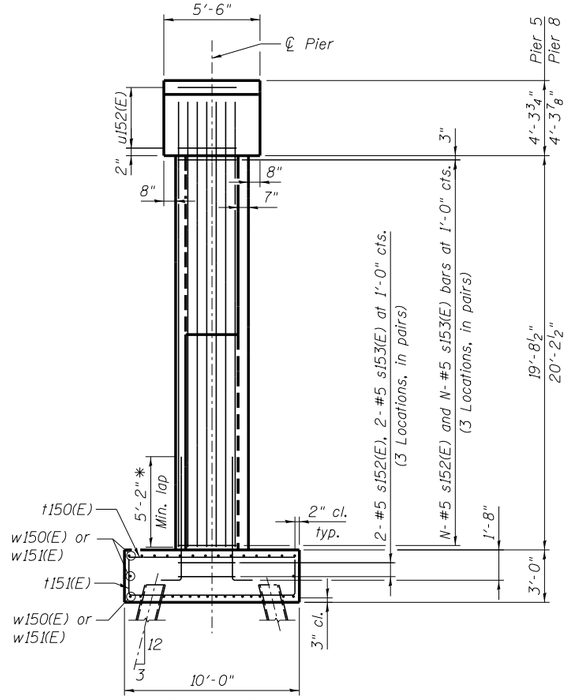
		CONTRACT NO. 64C08		
	ILLINOIS	FED. AID PROJECT		



PIER ELEVATION

(Looking South)



END VIEW

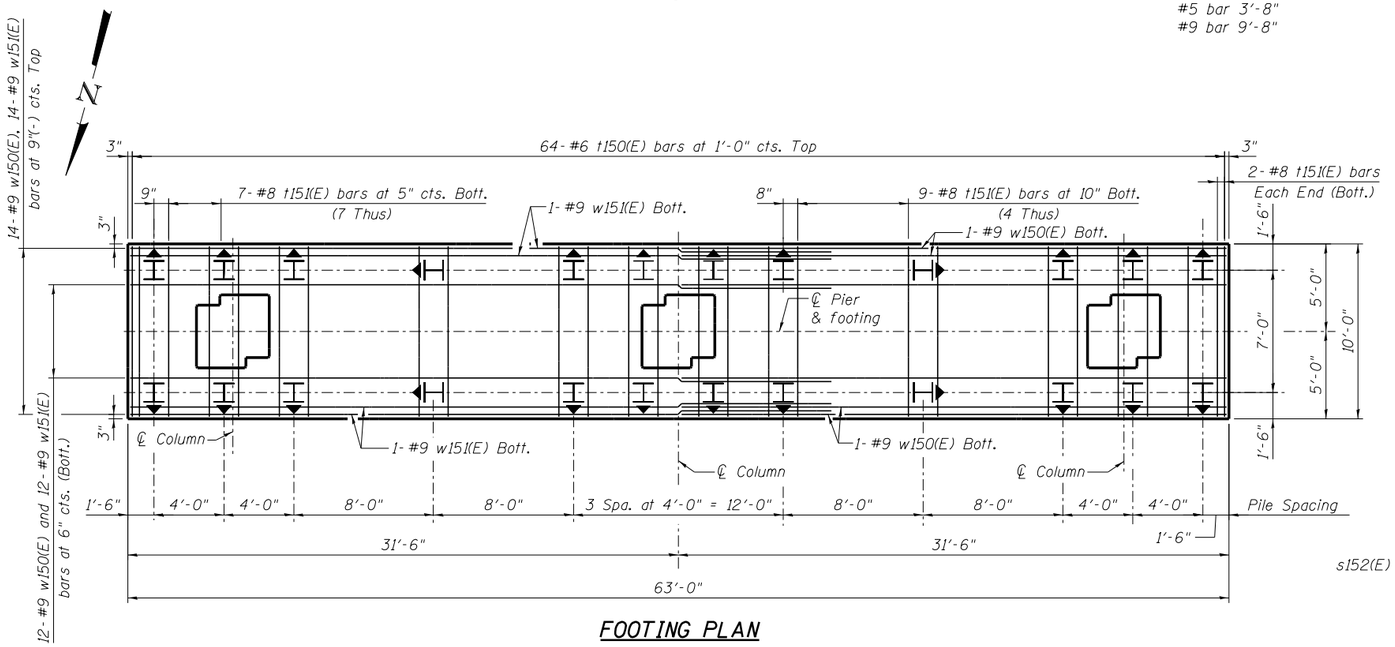
PIER DATA TABLE

PIER	N	Dowel Bar
Pier 5	20	n155
Pier 8	21	n158

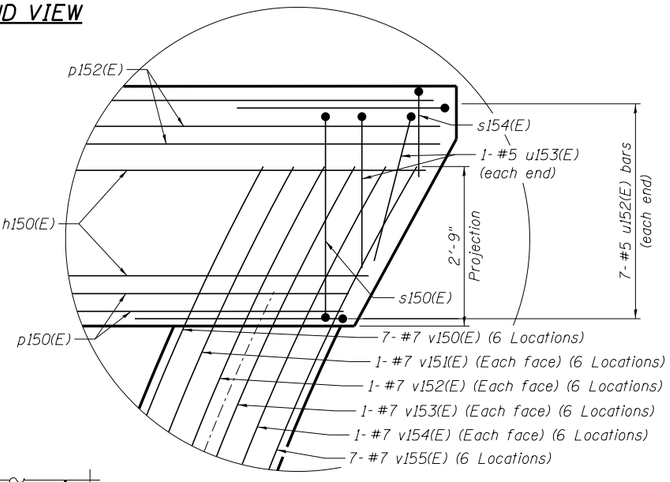
*Bend n155(E) and n158(E) bars in field to match radius of "v" bars

MINIMUM BAR LAP

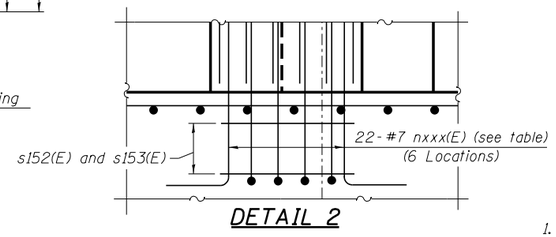
#5 bar 3'-8"
#9 bar 9'-8"



FOOTING PLAN



DETAIL 1



DETAIL 2

NOTES:

1. For sections A-A, B-B, C-C, D-D, & H-H see sheet S103.
2. See sheet S104 for pier notes.
3. See sheet S101 for pier data table.
4. See sheets S8 and S9 for footing and pile layout.

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Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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		CHECKED - AJK	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 5 AND 8 REINFORCEMENT DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S102 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	871
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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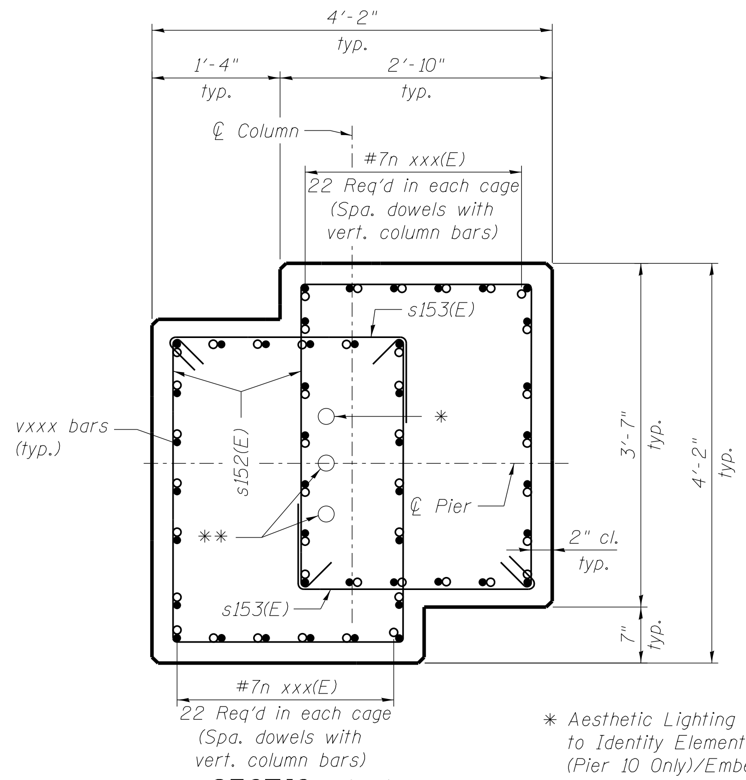
NOTE:

"EF" abbreviation indicates each face of the indicated reinforcement cage.

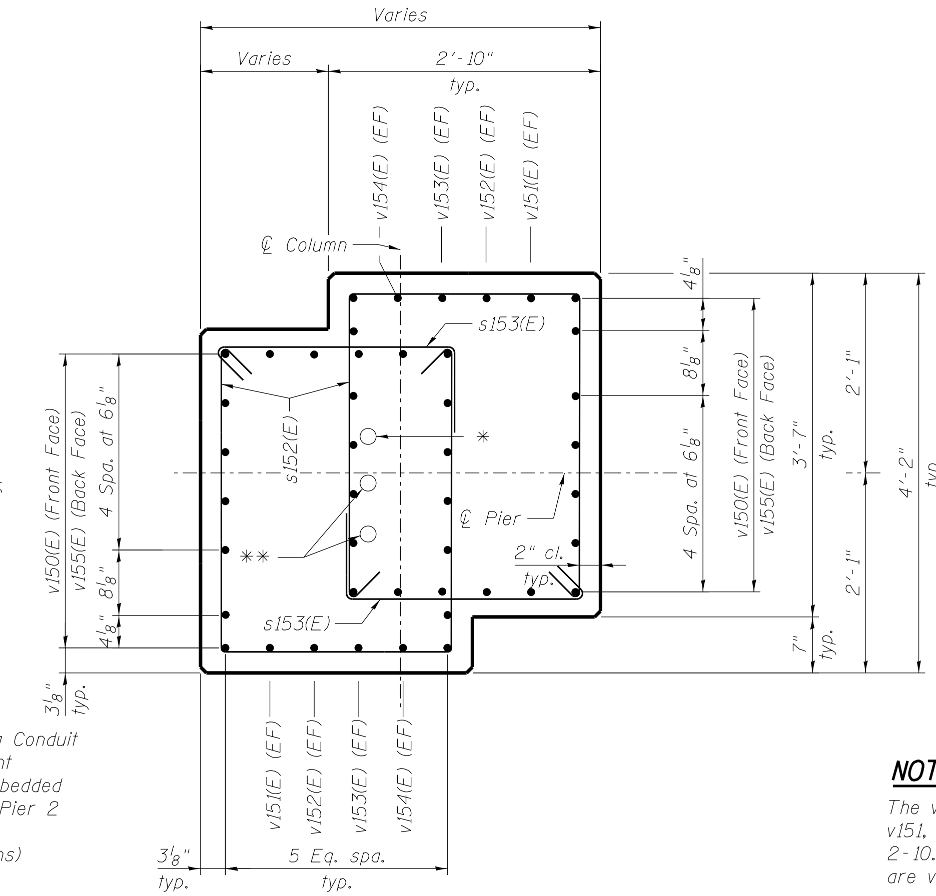


SECTION A-A

(Only dowels called out in this section for clarity. Main vertical bars same as called out and spaced in Section B-B)

* Aesthetic Lighting Conduit to Identity Element (Pier 10 Only)/Embedded Lighting Conduit (Pier 2 Only) (See Lighting Plans)

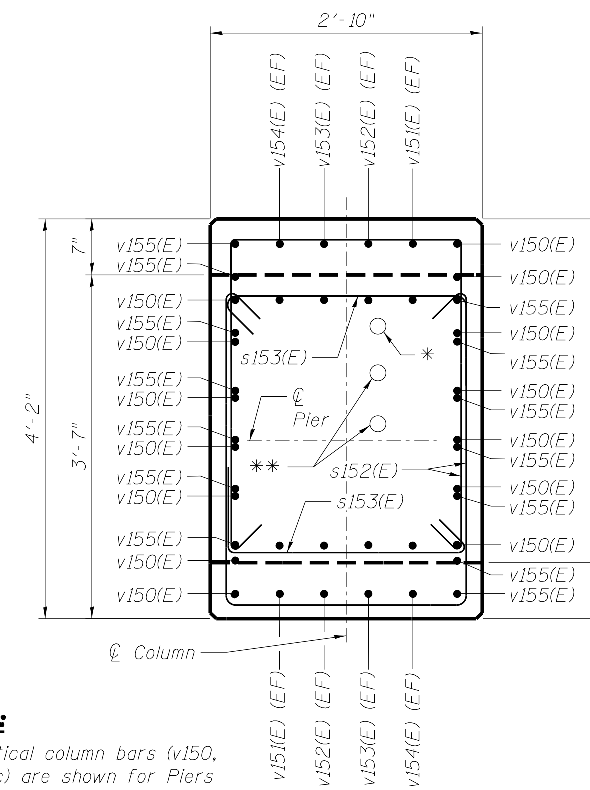
** ITS Conduit (Pier 10 Only) (See ITS Plans)



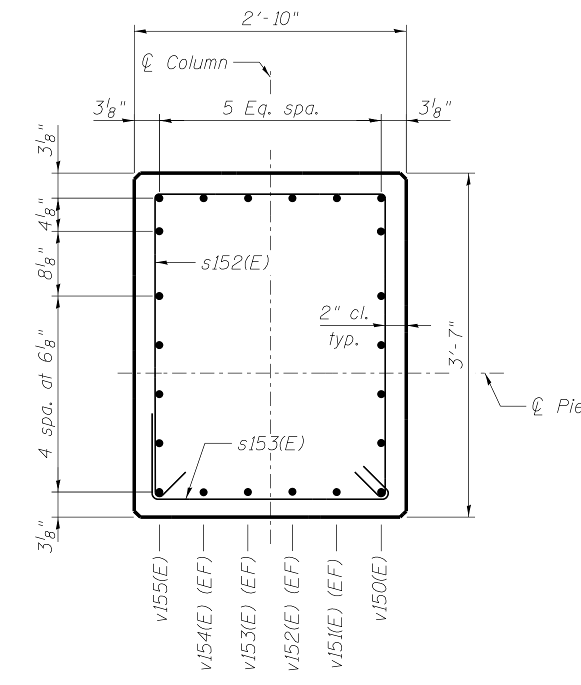
SECTION B-B

NOTE:

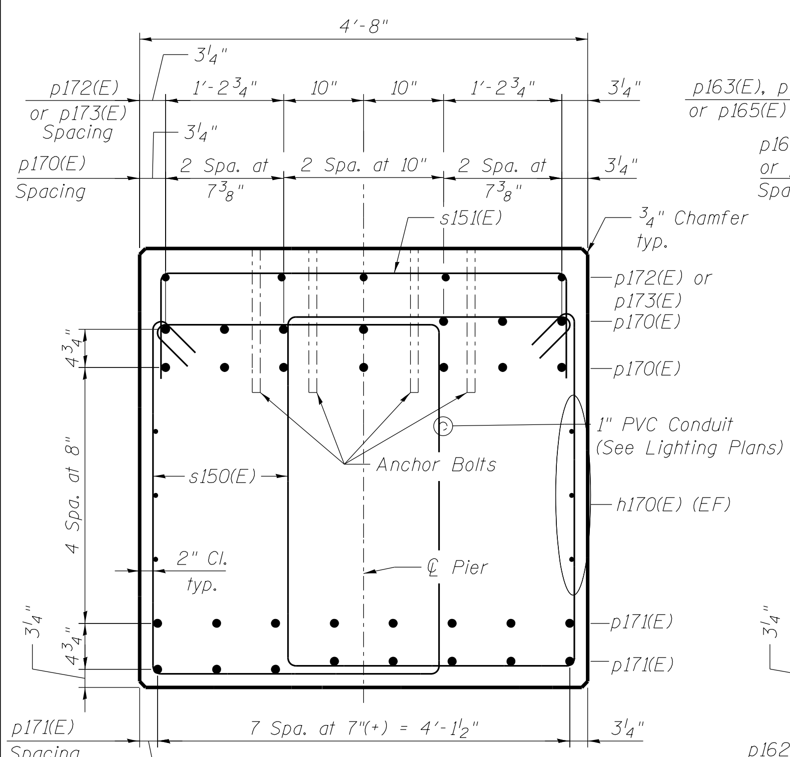
The vertical column bars (v150, v151, etc) are shown for Piers 2-10. For Pier 1, the bars are v170, v171, etc.



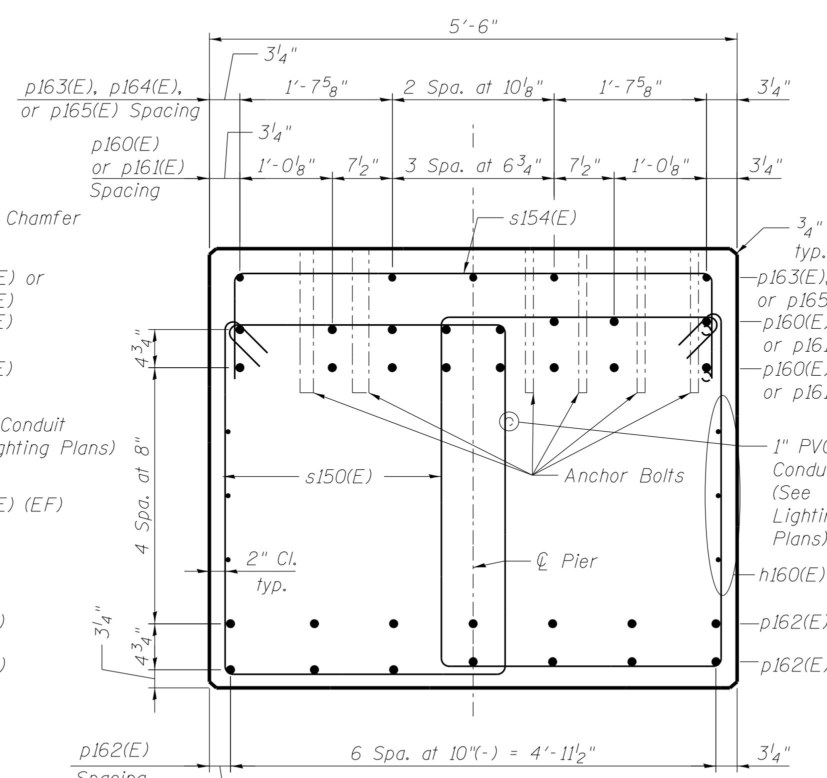
SECTION C-C



SECTION D-D

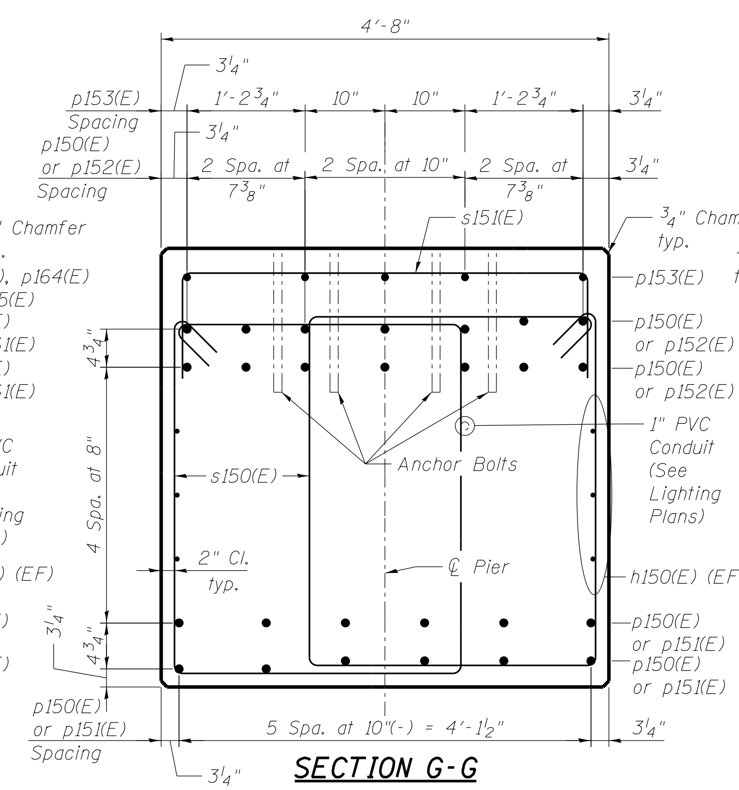


SECTION E-E

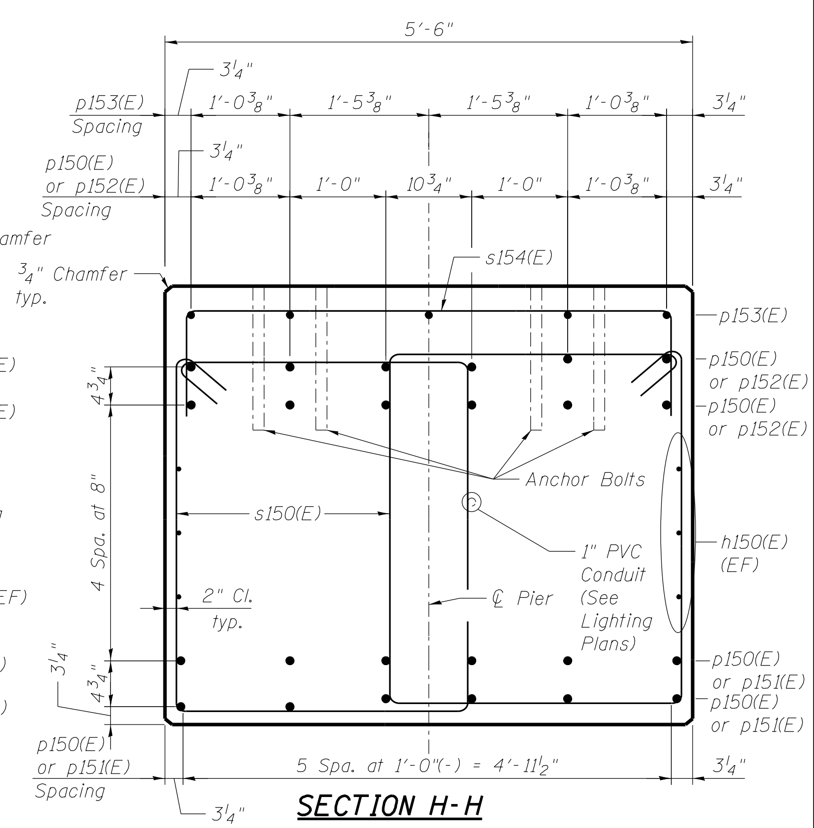


SECTION F-F

Northernmost p160(E) and p161(E) bars shall be lapped top and bottom to miss anchor bolts.



SECTION G-G



SECTION H-H

benesch

Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

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PIER CROSS SECTIONS
STRUCTURE NO. 081–0177 (WESTBOUND)

SHEET NO. S103 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	872
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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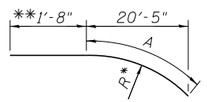
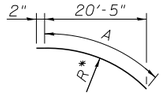
BENT BAR DETAILS



v150(E)-v155(E)

BAR	A	R*
v150(E)	21'-3"	43'-1 3/8"
v151(E)	21'-3"	42'-7 7/8"
v152(E)	21'-4"	42'-2 3/8"
v153(E)	21'-4"	41'-8 3/4"
v154(E)	21'-4"	41'-3 1/4"
v155(E)	21'-5"	40'-9 5/8"

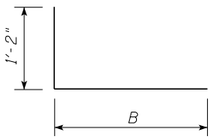
R* = Inside Radius.
** For Pier 10, dimension shall be 1'-5"



v170(E)-v175(E)

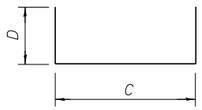
BAR	A	R*
v170(E)	21'-3"	43'-1 3/8"
v171(E)	21'-3"	42'-7 7/8"
v172(E)	21'-4"	42'-2 3/8"
v173(E)	21'-4"	41'-8 3/4"
v174(E)	21'-4"	41'-3 1/4"
v175(E)	21'-5"	40'-9 5/8"

R* = Inside Radius.



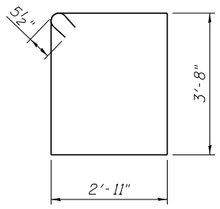
nxxx(E)

BAR	B
n151(E)	7'-0"
n152(E)	7'-2"
n153(E)	7'-3"
n154(E)	8'-2"
n155(E)	7'-4"
n156E)	7'-0"
n157E)	7'-11"
n158(E)	7'-10"
n159(E)	7'-6"
n160(E)	6'-10"

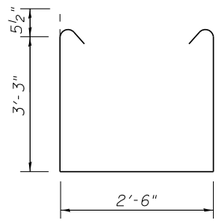


s151(E), s154(E), s161(E), t151(E), u150(E), u151(E), u152(E), u153(E)

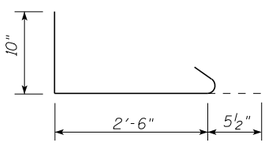
BAR	C	D
s151(E)	4'-4"	2'-0"
s154(E)	5'-2"	2'-0"
s161(E)	2'-5"	2'-0"
t151(E)	9'-8"	2'-6"
u150(E)	4'-3"	3'-3"
u151(E)	4'-4"	3'-0"
u152(E)	5'-1"	3'-3"
u153(E)	5'-2"	3'-0"



s150(E)



s152(E)



s153(E)

PIER NOTES:

1. The minimum clear distance from the face of concrete to near reinforcing bar is 2" unless noted otherwise.

2. All exposed corners, 90 degrees or sharper shall be filleted with a 3/4" dressed and beveled strip unless noted otherwise.

3. Space reinforcement in cap to miss anchor bolts.

4. The use of steel forms is required for the forming of all pier concrete surfaces from the tops of footings to the bottom of pier cap beams, including stem and pier columns. Use of medium-density overlaid (MDO) or high-density overlaid (HDO) plywood faced forms is allowed for forming of the pier cap beam. Plain plywood-faced forms will not be allowed for any portion of the pier column or cap surfaces.

5. The Contractor shall use self-consolidating concrete (SCC) in all the pier columns. The self-consolidating concrete shall conform to all requirements as specified in Section 1020 of the Standard Specifications. Cost of SCC shall be included with the cost of Concrete Structures.

6. The contractor shall provide adequate forms to contain the increased hydraulic pressure of the self consolidating concrete.

7. The tremie tube shall be in place prior to placing formwork.

8. See foundation layout on sheet S8 and S9 for pier layout.

PIER CONCRETE FINISH NOTES

If form ties are used in forming the pier, arrange ties to be regularly spaced and in a consistent geometric grid pattern. Do not locate ties at edges of concrete rustucations.

Following form removal, a rubbed surface finish in accordance with Article 503.15 (b) of the Standard Specifications shall be required but with the following additional requirements:

1. Demonstrate hole and void patching operations in accordance with Article 503.15 (b) of the standard S pecifications on a four foot section of vertical pier concrete located in an inconspicuous area. Begin patching demonstration by using a mortar mix comprised of 1 part white cement, 2 parts standard portland cement, 6 parts mortar sand, and water. The quantity of water used shall produce a mortar consistency as dry as possible to use effectively.

2. When patching test areas have set, saturate with water and rub with a fine carborundum stone until surfaces are smooth in texture. Remove loose powder and other contaminants by rubbing with burlap and rinsing with water. After surfaces have dried, patch color and texture of surfaces will be reviewed by the engineer. Patches should match or be slightly lighter than surrounding concrete. If results are unsatisfactory, adjust patching mortar mix proportions and perform another demonstration until results are deemed satisfactory by the engineer.

3. Use the patching mortar mix proportions that are approved by the engineer as a result of the satisfactory demonstration. Do not use patching mortar that is more than 1 hour old.

4. Finished pier concrete shall be smooth and show no wood grain or other texture from the face of the forms used. All costs for repair or covering wood grain or other textures on these surfaces shall be the responsibility of the Contractor.

NOTE:

All dimensions are out to out.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-104-Pier Bar Bends and Notes.dgn	USER NAME = ksnider	DESIGNED - AWH	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER NOTES AND BAR BENDS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S104 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	873
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

PIER 1
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h170(E)	18	#5	31'-5"	
n151(E)	176	#7	8'-2"	
p170(E)	28	#10	49'-11"	
p171(E)	48	#10	35'-5"	
p172(E)	10	#5	19'-8"	
p173(E)	5	#5	39'-8"	
s150(E)	168	#6	14'-1"	
s151(E)	73	#5	8'-4"	
s152(E)	160	#5	9'-11"	
s153(E)	160	#5	3'-10"	
t150(E)	87	#6	9'-8"	
t151(E)	122	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v170(E)	56	#7	21'-5"	
v171(E)	16	#7	21'-5"	
v172(E)	16	#7	21'-6"	
v173(E)	16	#7	21'-6"	
v174(E)	16	#7	21'-6"	
v175(E)	56	#7	21'-7"	
w170(E)	32	#9	31'-5"	
w171(E)	16	#9	42'-0"	
w172(E)	32	#9	25'-0"	
w173(E)	32	#9	32'-4"	

Concrete Structures	Cu. Yd.	214.1
Reinforcement Bars, Epoxy Coated	Pound	49,670
Structure Excavation	Cu. Yd.	234
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	330
Driving Piles	Foot	330
Pile Shoes	Each	34

PIER 2
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h160(E)	18	#5	35'-2"	
n152(E)	176	#7	8'-4"	
p160(E)	32	#10	27'-2"	
p161(E)	32	#10	40'-8"	
p162(E)	42	#10	39'-2"	
p163(E)	8	#5	8'-11"	
p164(E)	10	#5	20'-6"	
p165(E)	10	#5	24'-6"	
s150(E)	252	#6	14'-1"	
s154(E)	110	#5	9'-2"	
s152(E)	176	#5	9'-11"	
s153(E)	176	#5	3'-10"	
s161(E)	13	#5	6'-5"	
t150(E)	98	#6	9'-8"	
t151(E)	138	#8	14'-8"	
u152(E)	14	#5	11'-7"	
u153(E)	4	#5	11'-2"	
v150(E)	56	#7	22'-11"	
v151(E)	16	#7	22'-11"	
v152(E)	16	#7	23'-0"	
v153(E)	16	#7	23'-0"	
v154(E)	16	#7	23'-0"	
v155(E)	56	#7	23'-1"	
w160(E)	32	#9	37'-0"	
w161(E)	16	#9	42'-0"	
w162(E)	32	#9	26'-10"	
w163(E)	32	#9	36'-0"	

Concrete Structures	Cu. Yd.	256.4
Reinforcement Bars, Epoxy Coated	Pound	58,080
Structure Excavation	Cu. Yd.	210
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	495
Driving Piles	Foot	495
Pile Shoes	Each	34
Concrete Sealer	Sq. Ft.	3050

PIER 3
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n153(E)	132	#7	8'-5"	
p150(E)	26	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	14	#10	36'-4"	
p153(E)	10	#5	26-0"	
s150(E)	170	#6	14'-1"	
s151(E)	48	#5	8'-4"	
s152(E)	132	#5	9'-11"	
s153(E)	132	#5	3'-10"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	156.5
Reinforcement Bars, Epoxy Coated	Pound	35,630
Structure Excavation	Cu. Yd.	35
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	414
Driving Piles	Foot	414
Pile Shoes	Each	24

PIER 4
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n154(E)	132	#7	9'-4"	
p150(E)	26	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	14	#10	36'-4"	
p153(E)	10	#5	26-0"	
s150(E)	170	#6	14'-1"	
s151(E)	48	#5	8'-4"	
s152(E)	138	#5	9'-11"	
s153(E)	138	#5	3'-10"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	157.7
Reinforcement Bars, Epoxy Coated	Pound	35,960
Structure Excavation	Cu. Yd.	139
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	414
Driving Piles	Foot	414
Pile Shoes	Each	24

PIER 5
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n155(E)	132	#7	8'-6"	
p150(E)	24	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	12	#10	36'-4"	
p153(E)	10	#5	26-0"	
s150(E)	170	#6	14'-1"	
s152(E)	132	#5	9'-11"	
s153(E)	132	#5	3'-10"	
s154(E)	48	#5	9'-2"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u152(E)	14	#5	11'-7"	
u153(E)	4	#5	11'-2"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	164.2
Reinforcement Bars, Epoxy Coated	Pound	35,040
Structure Excavation	Cu. Yd.	174
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	345
Driving Piles	Foot	345
Pile Shoes	Each	24
Concrete Sealer	Sq. Ft.	2103

NOTE:

See sheet S104 for bar details and notes.

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312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-105-Piers 1-5 Bill of Material.dgn
MODEL = Default

USER NAME = ksnider	DESIGNED - AWH	REVISED -
	CHECKED - AJK	REVISED -
PLOT SCALE =	DRAWN - KMS	REVISED -
PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 1-5 BILL OF MATERIAL
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S105 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	874
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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PIER 6
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n156(E)	132	#7	8'-2"	
p150(E)	26	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	14	#10	36'-4"	
p153(E)	10	#5	26-0"	
s150(E)	170	#6	14'-1"	
s151(E)	48	#5	8'-4"	
s152(E)	132	#5	9'-11"	
s153(E)	132	#5	3'-10"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	155.1
Reinforcement Bars, Epoxy Coated	Pound	35,560
Structure Excavation	Cu. Yd.	157
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	460
Driving Piles	Foot	460
Pile Shoes	Each	24

PIER 7
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n157(E)	132	#7	9'-1"	
p150(E)	26	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	14	#10	36'-4"	
p153(E)	10	#5	26-0"	
s150(E)	170	#6	14'-1"	
s151(E)	48	#5	8'-4"	
s152(E)	138	#5	9'-11"	
s153(E)	138	#5	3'-10"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	156.5
Reinforcement Bars, Epoxy Coated	Pound	35,890
Structure Excavation	Cu. Yd.	139
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	345
Driving Piles	Foot	345
Pile Shoes	Each	24
Concrete Sealer	Sq. Ft.	1153

PIER 8
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n158(E)	132	#7	9'-0"	
p150(E)	24	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	12	#10	36'-4"	
p153(E)	10	#5	26-0"	
s150(E)	170	#6	14'-1"	
s152(E)	138	#5	9'-11"	
s153(E)	138	#5	3'-10"	
s154(E)	48	#5	9'-2"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u152(E)	14	#5	11'-7"	
u153(E)	4	#5	11'-2"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	165.1
Reinforcement Bars, Epoxy Coated	Pound	35,260
Structure Excavation	Cu. Yd.	174
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	345
Driving Piles	Foot	345
Pile Shoes	Each	24
Concrete Sealer	Sq. Ft.	2126

PIER 9
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n159(E)	132	#7	8'-8"	
p150(E)	26	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	14	#10	36'-4"	
p153(E)	10	#5	26'-0"	
s150(E)	170	#6	14'-1"	
s151(E)	48	#5	8'-4"	
s152(E)	132	#5	9'-11"	
s153(E)	132	#5	3'-10"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	154.8
Reinforcement Bars, Epoxy Coated	Pound	35,940
Structure Excavation	Cu. Yd.	382
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	483
Driving Piles	Foot	483
Pile Shoes	Each	24
Concrete Sealer	Sq. Ft.	1119

PIER 10
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h150(E)	12	#5	33'-9"	
n160(E)	132	#7	8'-0"	
p150(E)	26	#10	40'-6"	
p151(E)	12	#10	30'-10"	
p152(E)	14	#10	36'-4"	
p153(E)	10	#5	26'-0"	
s150(E)	170	#6	14'-1"	
s151(E)	48	#5	8'-4"	
s152(E)	132	#5	9'-11"	
s153(E)	132	#5	3'-10"	
t150(E)	64	#6	9'-8"	
t151(E)	89	#8	14'-8"	
u150(E)	14	#5	10'-9"	
u151(E)	4	#5	10'-4"	
v150(E)	42	#7	22'-11"	
v151(E)	12	#7	22'-11"	
v152(E)	12	#7	23'-0"	
v153(E)	12	#7	23'-0"	
v154(E)	12	#7	23'-0"	
v155(E)	42	#7	23'-1"	
w150(E)	32	#9	39'-2"	
w151(E)	32	#9	33'-2"	

Concrete Structures	Cu. Yd.	152.8
Reinforcement Bars, Epoxy Coated	Pound	35,760
Structure Excavation	Cu. Yd.	226
Test Pile Steel HP 14x73	Each	1
Furn. Steel Piles HP 14x73	Foot	506
Driving Piles	Foot	506
Pile Shoes	Each	24

NOTE:
See sheet S104 for bar details and notes.

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
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312-565-0450 Job No. 10061

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	CHECKED - AJK	REVISED -	
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PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIERS 6–10 BILL OF MATERIAL
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S106 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	875
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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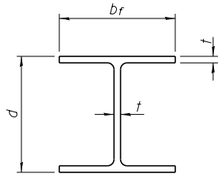
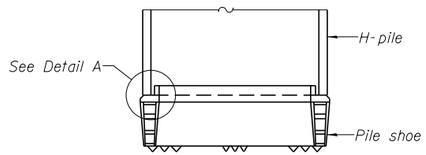
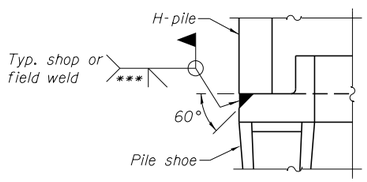


STEEL PILE TABLE

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

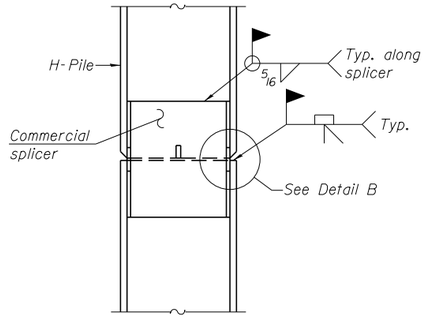


ELEVATION

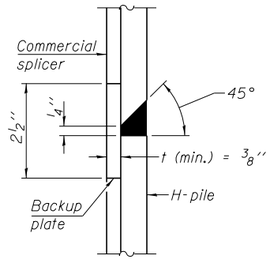


DETAIL A

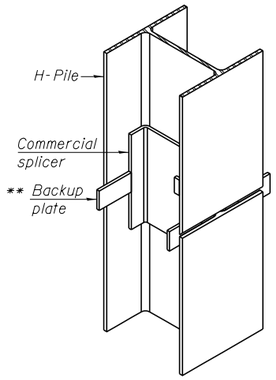
H-PILE SHOE ATTACHMENT



ELEVATION

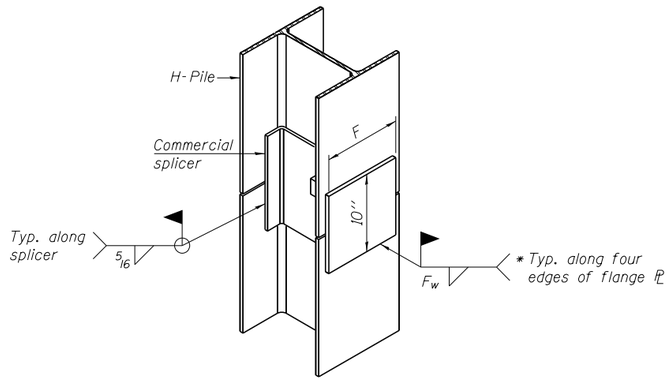


DETAIL "B"



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



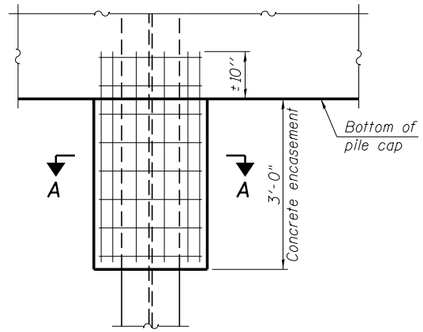
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

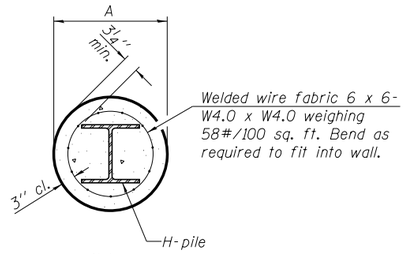
* Interrupt welds 1/4" from end of web and/or each flange.

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

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



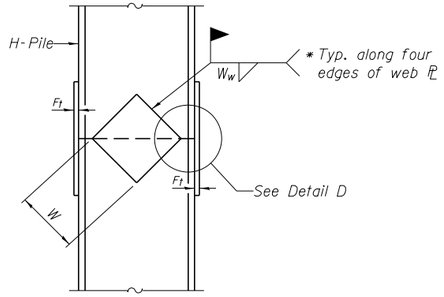
ELEVATION



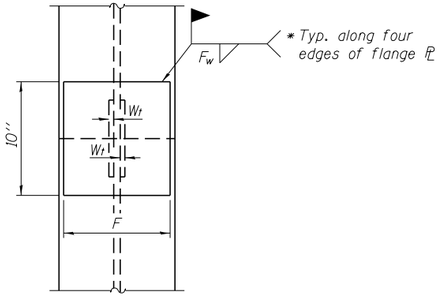
Note:
Forms for encasement may be omitted when soil conditions permit.

SECTION A-A

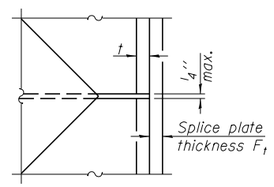
PILE ENCASEMENT



ELEVATION



END VIEW



DETAIL D

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

WELDED PLATE FIELD SPLICE

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

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

F-HP 1-27-12

FILENAME = 081-0177-C00AB-107-HP Pile Details.dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

HP PILE DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S107 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	876
		CONTRACT NO. 64C08		
	ILLINOIS	FED. AID PROJECT		

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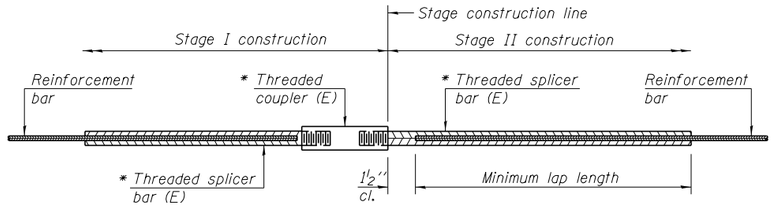


STANDARD BAR SPLICER ASSEMBLY

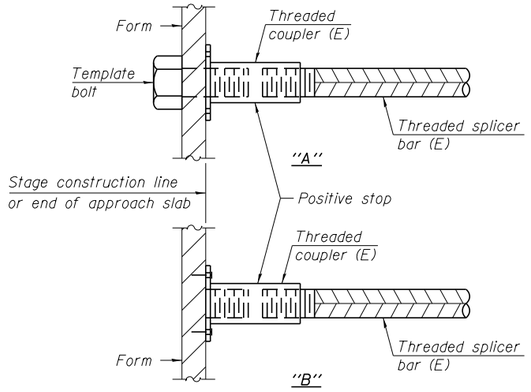
Minimum Lap Lengths						
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5	Table 6
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-7"	2'-11"
5	1'-9"	2'-5"	2'-7"	2'-11"	3'-3"	3'-8"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-10"	4'-5"
7	2'-9"	3'-10"	4'-2"	4'-8"	5'-2"	5'-10"
8	3'-8"	5'-1"	5'-5"	6'-2"	6'-9"	7'-8"
9	4'-7"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

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

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

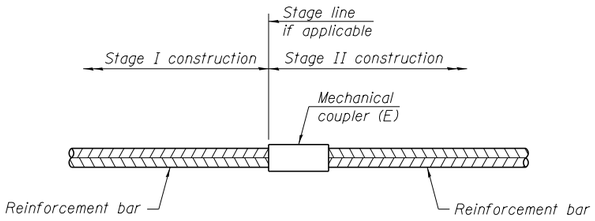
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

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



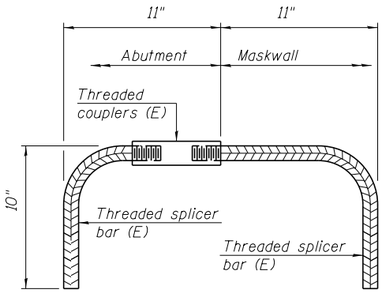
INSTALLATION AND SETTING METHODS

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



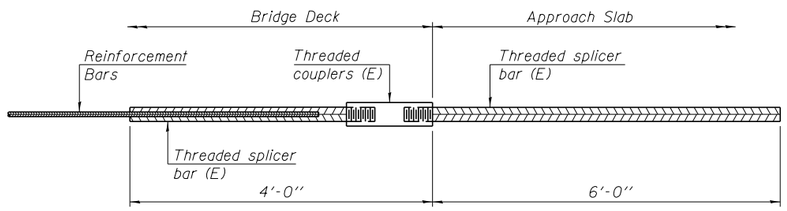
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



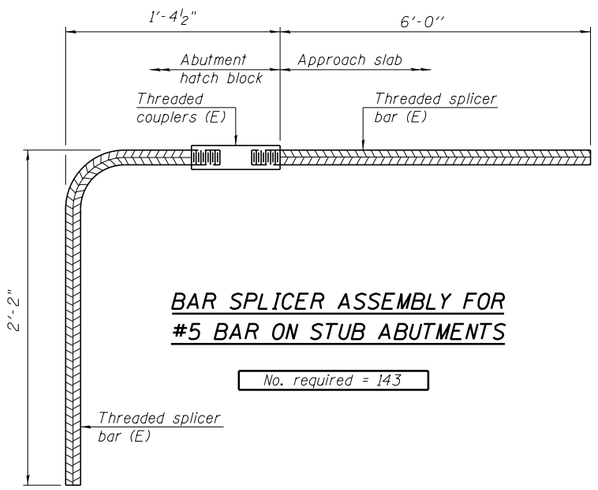
BAR SPLICER ASSEMBLY FOR #5 BAR ON MASKWALL

No. required = 17



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

No. required = 0



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required = 143

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.

All reinforcement shall be lapped and tied to the splicer bars.

Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.

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

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450
Job No. 10061

BSD-1

1-27-12

FILENAME = 081-0177-C00AB-108-Bar Splicer Assembly Details.dgn
MODEL = Default

USER NAME = ksnider	DESIGNED - DTS	REVISED -	
	CHECKED - AJK	REVISED -	
PLOT SCALE =	DRAWN - KMS	REVISED -	
PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S108 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	877
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 8/28/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=564892.331, E=2459310.415), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. Station [redacted]

BORING NO. VIAIL-103
Station
Offset
Ground Surface Elev. 568.50 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 561.5 ft
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
				SAND - brown to black, fine to medium grained, some silt, loose, moist.
	6			
	13			
	7			
				- angular limestone gravel fill at 1.8'-3'
-5	5			
	3			
	4			
	4			- saturated at 6'
	4	2.0		- 6" layer of dark brown to black clayey silt at 6.0'-6.5'
		P		
	3			
	2			
-10	2			
	4			- (Note: driller added water to augers to control sand blow-in starting at 11' depth)
	6			- fine to medium grained, trace to some silt at 11'-13.5'
	12			
	6			
554.30				
	8	3.0	21.5	- conglomerate with gravel to 1/2 inch at 14'
-15	25	P		
				SHALE - dark gray, clayey, medium plastic, decreasing plastic and increasingly friable with depth, severely weathered.
	11			
	50/5"		14.5	
	50/5"			
549.00				
-20				Borehole continued with rock coring.

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/28/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=564892.331, E=2459310.415), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 554.30 ft
Begin Core Elev. 549.00 ft

BORING NO. VIAIL-103
Station
Offset
Ground Surface Elev. 568.50 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
549.00						SHALE - dark gray, very soft, medium plastic, severely weathered.
-20	Run 1	33	0	4.7		- clay-like at 19.5'
546.80						
	Run 2	97	90		170.6	SANDSTONE - light brown gray to light gray, soft to very soft, with green to black shale parting and seams, occasional black banding, horizontal planar to slightly irregular fractures, smooth on shale partings to sandy rough, locally abundant shale clasts, slightly weathered.
-25						- conglomeratic at 22.8'-23.6'
	Run 3	92	66			
-30						
	Run 4	100	61	1.2		- occasional shale partings from 31.0'-36.0'
-35						
	Run 5	99	78	0.8		- dark gray shale partings and seams at 38.4'-39.5'
529.00						

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/28/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=564892.331, E=2459310.415), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 554.30 ft
Begin Core Elev. 549.00 ft

BORING NO. VIAIL-103
Station
Offset
Ground Surface Elev. 568.50 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
-40						SANDSTONE - medium gray and brown gray, fine grained, some black banding, occasional shale partings, horizontal planar to slightly irregular sandy rough fractures at thin to medium bedded spacing, fresh to slightly weathered.
	Run 6	100	89	2		- greenish gray shale seam at 41.0'-41.5'
-45						
522.50						End of Boring
-50						
-55						

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-103
Station: 29+27.46
Offset: 55.57' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-109-Soil Boring Logs - N Abutment.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – N. ABUTMENT
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S109 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	878
		CONTRACT NO. 64C08		
	ILLINOIS	FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 8/28/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION LOCATION (N=564749.647, E=2459344.727), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 55 HAMMER TYPE CME AUTOMATIC

STRUCT. NO. [redacted]
Station [redacted]

BORING NO. VIAIL-105
Station
Offset
Ground Surface Elev. 569.30 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 560.8 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL - 2-inch thick, roots. 569.10			
SILT - brown, trace sand, trace to little clay, slightly plastic, stiff, moist.	4 6 4	1.3 P	8.9
565.80			
SILT - brown, trace to little fine sand, grading downwards to some fine sand, trace clay, crumbly, moist.	3 3 5		12.1
-5			
563.80			
SILT - brown, sandy, little to some sand, trace clay, very soft to loose, wet.	2 1 1	0.3 P	21.5
[Sample at 6'-7.5' had free water in soil but outside of spoon was not wet until sample at 8.5'-10.0'] 561.30			
SAND - reddish brown, clayey, fine to medium sand with gravel, loose, saturated. ▼	2 2 5		
-10			
558.30			
WEATHERED SHALE - augered through	50/3"		
555.50			
Borehole continued with rock coring.			
-15			
-20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/28/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION LOCATION (N=564749.647, E=2459344.727), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. [redacted]
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.30 ft
Begin Core Elev. 555.50 ft

BORING NO. VIAIL-105
Station
Offset
Ground Surface Elev. 569.30 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SHALE - medium gray, sandy, laminated chips, rock-like to clay-shale, hard clay to very soft rock, dry. 555.50					
[Drilling produced alternating light gray (sandstone) and dark gray (shale or coal) drill water return.] 554.20	Run 1	48	0	1.5	
-15					
SANDSTONE - light brownish gray to gray, fine grained, uniform, well sorted, well rounded, soft, porous, moderately well to moderately cemented, generally not friable when wet, with black banding, non-distinct horizontal planar sandy rough fractures at thin to medium bedding spacing, no high angle fractures encountered, slightly to locally moderately weathered.	Run 2	83	18		306.4
- 9" thick layer of friable, iron-stained sandstone at 17.1' to 17.8'.					
-20					
	Run 3	93	69	0.6	
- a series of thin (1/8" to 1/2" thick) interporous black or brown staining within the sandstone at 22.5', 23.6', 24.4'-24.7', and 27.8'.					
-25					
[Inexplicable core loss (typically 4" to 6") in Run 3 to Run 6. Drilled steadily throughout. No seams noted, no change in drill water return color; must have been poorly cemented and washed away or ground up]	Run 4	88	26	0.8	
-30					
538.50					179.5
SANDSTONE - light gray, fine to medium grained, trace coarse grained, soft, moderately well cemented, few thin black bands, non-distinct bedding at thin bedded spacing, fresh.	Run 5	90	35	1.2	

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/28/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION LOCATION (N=564749.647, E=2459344.727), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. [redacted]
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.30 ft
Begin Core Elev. 555.50 ft

BORING NO. VIAIL-105
Station
Offset
Ground Surface Elev. 569.30 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SANDSTONE - light gray, fine to medium grained, trace coarse grained, soft, moderately well cemented, few thin black bands, non-distinct bedding at thin bedded spacing, fresh. *(continued)*					
-35					
533.80					
SANDSTONE - light gray, fine grained, trace black banding, trace gray shale pods, porous, soft, slightly friable, moderately cemented, horizontal non-distinct planar sandy rough fractures at thin to medium bedded spacing, fresh.	Run 6	93	59	0.8	
-40					
	Run 7	99	84	0.7	
525.50					
End of Boring					
-45					
-50					

Color pictures of the cores Yes
Cores will be stored for examination until
The "Strength" column represents the unlaxial compressive strength of the core sample (ASTM D-2938)

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-105
Station: 30+74.16
Offset: 59.46' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-110-Soil Boring Logs - Pier 1.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL = Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 1
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S110 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	879
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 8/30/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION LOCATION (N=564459.202, E=2459256.895, SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-108
Station _____
Offset _____
Ground Surface Elev. 570.70 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 563.7 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
570.70 TOPSOIL - (grass roots, silt) 2" thick			
569.70 SILT - brown to dark brown, little to some clay, moist	2		
CLAY - reddish brown, little grading to and silt, trace fine sand grading to sandy clay, medium to high plastic, very stiff to soft, moist	4 3	2.6 B	17.5
	2		
	3 3	0.4 B	22.0
-5 [Upon completion, offset 7' and drilled to 4' depth for Shelby tube sample.]	2		
563.70 ▼	2 4	0.4 B	18.8
CLAY - reddish brown, sandy, saturated, grading downward to clayey sand with gravel			
[shelby tube recovery unsuccesful at 8.5'-10']			
-10 [driller reported sand blow-in after pulling out the shelby tube]			
558.70 WEATHERED SANDSTONE - augered through	25 50/1"		
556.60 Borehole continued with rock coring.			
-15			
-20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/30/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION LOCATION (N=564459.202, E=2459256.895, SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.70 ft
Begin Core Elev. 556.60 ft

BORING NO. VIAIL-108
Station _____
Offset _____
Ground Surface Elev. 570.70 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
556.60 SANDSTONE - brownish gray to mostly red brown, fine grained, iron-pigmented, uniform, well sorted, soft, moderately well cemented, non-distinct bedding at very thin to thin bedded spacing, horizontal fractures, slightly to moderately weathered	Run 1	91	29	1	
-15					
	Run 2	77	0	1.2	
552.10 SANDSTONE - gray, fine grained, with occasional light gray shale pods and localized bandings, uniform, well sorted, porous, moderately well to well cemented, soft, non-distinct bedding with primarily horizontal sandy planar to slightly undulating fractures ranging from very thin to thin bedded spacing, fresh					
-20	Run 3	96	15	0.8	139.6
-25	Run 4	93	42	1.2	
-30	Run 5	100	25	1.2	

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/30/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION LOCATION (N=564459.202, E=2459256.895, SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.70 ft
Begin Core Elev. 556.60 ft

BORING NO. VIAIL-108
Station _____
Offset _____
Ground Surface Elev. 570.70 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SANDSTONE - gray, fine grained, with occasional light gray shale pods and localized bandings, uniform, well sorted, porous, moderately well to well cemented, soft, non-distinct bedding with primarily horizontal sandy planar to slightly undulating fractures ranging from very thin to thin bedded spacing, fresh *(continued)*					
-35					
	Run 6	100	27	1	
531.60 End of Boring					
-40					
-45					
-50					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-108
Station: 33+40.00
Offset: 86.84' Rt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-111-Soil Boring Logs - Pier 2.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 2
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S111 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	880
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 8/31/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB/SL

SECTION LOCATION (N=564386.963, E=2459373.735), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-109
Station _____
Offset _____
Ground Surface Elev. 579.40 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 560.9 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
TOPSOIL - (roots) 2" thick 579.20			
EMBANKMENT FILL - mixture of brown, yellowish brown, and gray clay with little to some silt, and Silt with little clay, slightly to medium plastic, stiff to medium stiff, moist (FILL)	4		
	6 5	1.4 B	12.4
	5		
-5	4 4	1.3 B	12.6
	3		
	3 6	0.6 B	
- medium stiff to very stiff			
570.90			
SILT - yellowish brown and black, little clay, with black cinders or slag, granular, trace brick, medium plastic, medium stiff, moist (FILL)	6		
-10	12 6	1.0 P	10.1
	3		
	2 3	0.7 B	18.2
566.40			
CLAY - gray and brown, sandy, little to some fine to medium sand, medium stiff to stiff, moist	2		
	2 2	1.0 B	15.5
-15			
563.40			
CLAY - greenish gray and gray and black, mottled, little to some silt, medium plastic, stiff, moist	1		
	1 3	1.0 B	32.5
560.70 ▼			
SAND - brown, fine to medium, trace silt, trace clay grading to clayey sand and gravel, saturated	7		
-20	20 25		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
558.40			
WEATHERED SANDSTONE - augered through			
	50/2"		
555.20			
Borehole continued with rock coring.			
-25			
-30			
-35			
-40			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/31/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB/SL

SECTION LOCATION (N=564386.963, E=2459373.735), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.40 ft
Begin Core Elev. 555.20 ft

BORING NO. VIAIL-109
Station _____
Offset _____
Ground Surface Elev. 579.40 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SANDSTONE - gray to pinkish gray, fine grained, uniform grain size, well sorted, porous, moderately to well cemented, soft, with occasional shale seams, partings or pods, minor black banding, non-distinct massive bedding with core pieces broken at thin to medium bedded spacing, primarily horizontal sandy rough planar to slightly irregular fractures with only occasional low (10°) to mid (30°-45°) angled fractures, no high angle fractures, primarily fresh to occasionally slightly weathered 555.20					
-25	Run 1	100	19	1.7	
- 12" thick layer of gray and brown splotched sandstone at 26'-27'					
	Run 2	96	65	1.2	
-30					114.6
- concentrated shale pods in sandstone between 32.3' and 33.8'	Run 3	100	89	0.8	
- thin 1/4" to 1" shale seams at 24.5' (1/4"), 25.5' (1/2"), 34.4' (1/2"), 37.2' (1"), 40.5' (1/2")					
-35					
	Run 4	100	91	0.8	
-40					
	Run 5	98	98	0.8	

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 8/31/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB/SL

SECTION LOCATION (N=564386.963, E=2459373.735), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.40 ft
Begin Core Elev. 555.20 ft

BORING NO. VIAIL-109
Station _____
Offset _____
Ground Surface Elev. 579.40 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
-45					
533.10					
LIMESTONE - gray, fine to coarse, clastic, dense, hard, thin to medium bedded, with mid angle (40° to 45°) fractures, fresh	Run 6	100	83	2.3	
- 40° planar fracture without tight fit with overlying sandstone at 46.3'					
530.40					
End of Boring					
-50					
-55					
-60					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-109
Station: 34+34.95
Offset: 12.43' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-112-Soil Boring Logs - Pier 3.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 3
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S112 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	881
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/5/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL/KJB

SECTION _____ LOCATION (N=564219.363, E=2459424.945), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 55 HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-111
Station _____
Offset _____
Ground Surface Elev. 573.10 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

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

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
PAVEMENT - asphalt concrete 572.50			
SILT - dark brown, some to little clay, medium plastic, medium stiff, moist	4		
	3 2	0.5 B	
	2		
-5	2 2	0.5 B	21.8
567.10			
SILT - light gray with dark brown and orange mottling, some to and clay, medium to high plastic, medium stiff to soft, moist	WOH		
	2 2	0.7 B	26.4
- highly plastic **- [Dry unit weight = 89.9 pcf]**		0.7 B	28.8
-10	WOH		
561.10	1	0.4	44.8
SILT - dark brown, little clay, slightly to medium plastic, soft, moist	1	B	
558.60	6		
-15 WEATHERED SANDY SHALE AND SANDSTONE - augered through 557.20	50/5"	2.5 P	
Borehole continued with rock coring.			
-20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/5/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL/KJB

SECTION _____ LOCATION (N=564219.363, E=2459424.945), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.60 ft
Begin Core Elev. 557.20 ft

BORING NO. VIAIL-111
Station _____
Offset _____
Ground Surface Elev. 573.10 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SANDSTONE - gray, fine grained, uniform grain size, well sorted, moderately well cemented, soft, horizontal sandy rough fractures, slightly weathered 557.20	Run 1	89	65	0.8	
SANDSTONE - gray, fine to medium grained, porous, very soft, very weak, poorly to moderately cemented, moderately weathered 554.40					
-20	Run 2	74	15	0.8	
LIMESTONE - gray, fine grained to clastic, with some green gray shale seams and infilling, hard, thin to medium bedded, slightly weathered 551.20					
SANDSTONE - brown and gray, fine to medium to some coarse grained, very soft, poorly cemented, moderately weathered to weathered. (Possible 15" core loss - probably washed away during drilling). 549.10					
-25					
LIMESTONE - gray, fine, stylolitic, several small clastic collapse zones, moderately hard, strong to moderately strong, horizontal fractures with some mid to high angle fractures, fresh to slightly weathered 547.10	Run 3	95	53	1.2	251.7
-30					
- near-vertical joint at 31.3'-32.2' with 1/2 "birdseye" texture limestone and 1/2 gray fine limestone 540.90	Run 4	100	72	1	
LIMESTONE - medium gray, fine grained, "birdseye" texture, moderately hard, thin to medium bedded, horizontal to 45° fractures, planar to irregular, slightly rough to rough, fresh to slightly weathered					
-35					

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/5/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL/KJB

SECTION _____ LOCATION (N=564219.363, E=2459424.945), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 558.60 ft
Begin Core Elev. 557.20 ft

BORING NO. VIAIL-111
Station _____
Offset _____
Ground Surface Elev. 573.10 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - medium gray, fine grained, "birdseye" texture, moderately hard, thin to medium bedded, horizontal to 45° fractures, planar to irregular, slightly rough to rough, fresh to slightly weathered *(continued)* 535.60	Run 5	100	93	1	
LIMESTONE - gray to pinkish gray, fine to coarse, dense to clastic, with some shale bands, hard, thin bedded, primarily horizontal to 30° planar to irregular fractures, closely fractured with several healed fractures, moderately strong rock, slightly weathered to fresh					
-40					
End of Boring 529.40					
-45					
-50					
-55					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-111
Station: 36+09.54
Offset: 27.68' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-113-Soil Boring Logs - Pier 4.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 4
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S113 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	882
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/7/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION _____ LOCATION (N=564002.901, E=2459488.588), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 55 HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-113
Station _____
Offset _____
Ground Surface Elev. 575.40 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

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

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
PAVEMENT - asphaltic concrete (4" thick) and base course	574.60			
SILT - dark brown, with brick, trace to little clay, slightly plastic, soft, crumbly, dry to moist (FILL)		4 5 4	2.0 P	
	571.90			
SILT - yellowish brown and dark brown mottled, little to some clay, slightly to medium plastic, stiff, crumbly, moist		2 1 1	1.2 B	28.8
	569.40			
SILT - dark brown, little clay, organic odor, medium plastic, medium stiff, moist		WOH 1 1	0.9 B	33.8
	566.90			
SILT - dark brown and green-gray, some to and clay to silty Clay, medium plastic, medium stiff, rubbery texture, moist		WOH WOH WOH	0.6 B	27.4
		WOH WOH WOH	0.5 B	41.8
	561.60			
WEATHERED LIMESTONE - augered through		40		
	560.50	50/3"		
Borehole continued with rock coring.				

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/7/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION _____ LOCATION (N=564002.901, E=2459488.588), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 561.60 ft
Begin Core Elev. 560.50 ft

BORING NO. VIAIL-113
Station _____
Offset _____
Ground Surface Elev. 575.40 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - light gray, fine grained, hard, locally stylolitic, thin to medium bedded, primarily horizontal to subhorizontal slightly rough to very rough fractures, occasional brown staining on fractures, occasional near-vertical fractures, slightly weathered to fresh	560.50	Run 1	100	37	3.6	
-localized vugs at 16', 20.2', 27.2'-27.5'	-20	Run 2	98	51	3	516.8
-moderately pitted "birdseye" texture layer with green shale infillings at 21.2'-21.6'	-25	Run 3	99	83	2.8	
	-30	Run 4	100	98	2.6	
	544.40					
LIMESTONE - medium gray, fine to medium grained, "birdseye" texture, minor pitting, moderately hard, thick bedded, slightly weathered with localized vugs at 34.1' and 35.2'		Run 5	100	98	2	

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/7/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY KJB

SECTION _____ LOCATION (N=564002.901, E=2459488.588), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 561.60 ft
Begin Core Elev. 560.50 ft

BORING NO. VIAIL-113
Station _____
Offset _____
Ground Surface Elev. 575.40 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - medium gray, fine to medium grained, "birdseye" texture, minor pitting, moderately hard, thick bedded, slightly weathered with localized vugs at 34.1' and 35.2' *(continued)* -soft, crumbly, partially solutioned weak limestone at 35.8'-36.1'	538.40					
LIMESTONE - gray, fine grained, hard, dense, thin to medium bedded, fresh to vuggy						
-pitted and vuggy limestone layer at 39.4'-39.8	535.40					
End of Boring	-45 -50					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-113
Station: 38+34.50
Offset: 44.92' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-114-Soil Boring Logs - Pier 5.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 5
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S114 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	883
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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1/18/2017

Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/6/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563831.028, E=2459496.962), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-115
Station _____
Offset _____
Ground Surface Elev. 575.30 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 563.3 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

	DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
PAVEMENT - asphalt, concrete and base course 574.30		2		
CLAY - black, some silt, medium to highly plastic, medium stiff, moist		1 2	0.6 B	
-dark green gray to black, little silt	-5	0 2 2	0.9 B	22.8
- slightly plastic **- [Dry unit weight = 101.6 pcf]**			1.4 B	21.8
-orange to greenish gray, soft	-10	0 1 2	0.5 B	47.6
- soft 563.80		2		
SAND - orange, medium to coarse grained, conglomeratic with fine grained gravel, loose, damp to wet	-15	9 9 6 7 2	0.4 B	8.3
-conglomeratic with gravel (1-inch minus), mixed rock types (subrounded to subangular limestone and gravel pieces) 559.30		50/4"		
WEATHERED SANDSTONE - augered through 556.40				
Borehole continued with rock coring.	-20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/6/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563831.028, E=2459496.962), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 559.30 ft
Begin Core Elev. 556.40 ft

BORING NO. VIAIL-115
Station _____
Offset _____
Ground Surface Elev. 575.30 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SANDSTONE - medium to dark gray, fine grained, black banding, silty, moderately well cemented, soft, occasional shale parting with fractures along partings; thin to medium bedded, horizontal to very low angle fractures, smooth to sandy rough, fresh (Transition). 556.40	-20	Run 1	86	22	1.8	
- (desiccation cracks in shale layers at 20.6' and 21' upon drying)		Run 2	75	26	1.2	
- swirled to mottled, 45° shale laminates with bedding offsets; deformed bedding at 22.0'-25.6'	-25					
LIMESTONE - gray, fine grained, locally stylolitic, hard, very thin to thin bedded, horizontal to low angle fractures, fractures at stylolites are planar to slightly irregular and slightly rough to rough, fractures in limestone are horizontal to very low angle, smooth, and planar to slightly irregular, fresh. 549.70		Run 3	100	76	1.2	813.1
	-30					
- fine to medium grained, occasional stylolites		Run 4	92	70	1	
- minor pitting, very occasional "birdseye" texture, occasional clay-like shale partings	-35					
		Run 5	98	83	1	

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/6/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563831.028, E=2459496.962), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 559.30 ft
Begin Core Elev. 556.40 ft

BORING NO. VIAIL-115
Station _____
Offset _____
Ground Surface Elev. 575.30 ft

	DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - gray, fine grained, locally stylolitic, hard, very thin to thin bedded, horizontal to low angle fractures, fractures at stylolites are planar to slightly irregular and slightly rough to rough, fractures in limestone are horizontal to very low angle, smooth, and planar to slightly irregular, fresh. *(continued)*	-40					
- 4" thick dark gray calcarenite bed at 40.3'-40.6'		Run 6	100	75	1.2	
- light brownish gray limestone with several soft green clay-like shale partings, stringers, and occasional shale clasts - 6" thick layer of green soft rock-like shale at 42.5'-43'						
SHALE - dark gray, rock-like, soft, thin bedded, horizontal to very low angle smooth planar fractures, fresh with some moderate weathering. 529.70	-45					
End of Boring						
	-50					
	-55					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-115
Station: 40+04.36
Offset: 17.37' Rt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-115-Soil Boring Logs - Pier 6.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 6
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S115 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	884
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/7/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563600.167, E=2459483.23), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-118
Station _____
Offset _____
Ground Surface Elev. 578.50 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 567.5 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY - dark greenish gray, with some orange brown clay, some silt, slightly to medium plastic, stiff to medium stiff, moist	3		
	4 4	1.6 B	
-brown orange	3		
	3 3	1.9 B	16.7
-brown orange to green gray	3		
	4 4	1.2 B	17.2
-little silt	2		
	2 2	0.8 B	31.6
-some sand, slightly plastic, soft, saturated	1		
566.10	2 6	0.3 B	24.8
CONGLOMERATE - red brown, poorly sorted with sand, silty clay and gravel (0.5 inch minus) 565.00			
WEATHERED LIMESTONE - augered through	50/4"		
562.40			
Borehole continued with rock coring.			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/7/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563600.167, E=2459483.23), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 565.00 ft
Begin Core Elev. 562.40 ft

BORING NO. VIAIL-118
Station _____
Offset _____
Ground Surface Elev. 578.50 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - grayish brown, fine to medium grained, with occasional to some green shale partings and clasts, hard to moderately hard, thin to medium bedded, primarily horizontal planar fractures, occasional stylolites, smooth to slightly rough, slightly to moderately weathered in upper 6' grading to fresh to slightly weathered. (Note: core loss in Run #1 assumed to be between 16.1' and 19.5' in fractured limestone containing abundant shale clasts). - 6-inch clay seam at 16.1'-16.7', moderately weathered - highly fractured with abundant green gray shale and partings to 19.5'	Run 1	53	9	2.1	
-20					647.8
- fine to coarse grained, with several clay-like green shale partings at 20.9'-21.6'	Run 2	96	67	1.2	
- minor pitting, occasional stylolites					
-25					
- very minor pitting, fractures primarily along smooth horizontal planar surfaces	Run 3	100	93	1	
- abundant pitting, with several green clay-like shale clasts ranging up to 2" in length					
-30					
- light to medium gray, fine grained, occasional stylolites	Run 4	100	80	1	
-35					

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/7/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563600.167, E=2459483.23), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 565.00 ft
Begin Core Elev. 562.40 ft

BORING NO. VIAIL-118
Station _____
Offset _____
Ground Surface Elev. 578.50 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - grayish brown, fine to medium grained, with occasional to some green shale partings and clasts, hard to moderately hard, thin to medium bedded, primarily horizontal planar fractures, occasional stylolites, smooth to slightly rough, slightly to moderately weathered in upper 6' grading to fresh to slightly weathered. (Note: core loss in Run #1 assumed to be between 16.1' and 19.5' in fractured limestone containing abundant shale clasts). *(continued)* - abundant stylolites, very thinly bedded 539.40	Run 5	100	79	1.4	
-40					
LIMESTONE - light to medium gray, fine to medium grained, minor to abundant pitting, "birdseye" texture, occasional stylolites, moderately hard, medium to thick bedded, horizontal rough jagged fractures, fresh to slightly weathered.					
535.60					
End of Boring					
-45					
-50					
-55					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-118
Station: 42+27.32
Offset: 44.06' Rt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-116-Soil Boring Logs - Pier 7.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 7
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S116 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	885
		CONTRACT NO. 64C08		
	ILLINOIS	FED. AID PROJECT		

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/10/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563527.191, E=2459618.972), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-119
Station _____
Offset _____
Ground Surface Elev. 579.20 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 565.7 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY - black, some silt, medium to highly plastic, medium stiff, moist.	2		
	2 3	1.1 B	24.2
-[Dry unit weight = 100.6 pcf]			
-5 - orange brown		2.1 B	22.4
	1		
	2 3	0.9 B	27.1
- reddish brown to green-gray			
570.20	1		
SAND - brown orange, very fine to fine, some silt, trace clay, loose, moist. -10	2 4	0.7 B	25.9
567.20		0.5 P	26.4
CLAY - red brown, some silt, slightly to medium plastic, soft, moist.			
565.70 ▼ -[Dry unit weight = 99.5 pcf]			
WEATHERED LIMESTONE	43		
-15	50/5"		
563.00			
Borehole continued with rock coring. -20			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/10/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563527.191, E=2459618.972), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 565.70 ft
Begin Core Elev. 563.00 ft

BORING NO. VIAIL-119
Station _____
Offset _____
Ground Surface Elev. 579.20 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - light to medium brownish gray, fine to medium grained, very thin to thin bedded, occasional stylolites, several vertical fractures at 16.2'-17.5', otherwise most fractures are horizontal, planar and slightly rough, occasional shale clasts and partings, moderately weathered to fresh. 563.00	Run 1	78	30	5.5	
- highly fractured (partially mechanical) at 16.2'-17.7' and at 17.9'-18.2'					
- moderately weathered at 16.2'-17.0'; fresh below 17.0'					
-20 [Note: lost drill water circulation at 18'; core barrel jammed at 19.5']					
- occasional stylolites, minor pitting, fractures primarily along stylolites	Run 2	96	54	0.8	
- very thin bedded, no pitting or stylolites					
-25					
- fractures are horizontal to 20°, planar to slightly irregular, smooth to slightly rough, clay-like shale seam at 25.4'	Run 3	100	88	1.2	478.9
- locally minor pitting, occasional stylolite, fractures locally to 45°, clay-like shale clasts at 29.6'					
-30					
	Run 4	100	91	1.4	
-35					

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/10/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563527.191, E=2459618.972), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 565.70 ft
Begin Core Elev. 563.00 ft

BORING NO. VIAIL-119
Station _____
Offset _____
Ground Surface Elev. 579.20 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - light to medium brownish gray, fine to medium grained, very thin to thin bedded, occasional stylolites, several vertical fractures at 16.2'-17.5', otherwise most fractures are horizontal, planar and slightly rough, occasional shale clasts and partings, moderately weathered to fresh. *(continued)*	Run 5	100	93	1.4	
-40 - fine to coarse grained, minor pitting, "birdseye" texture at 40.2'-41.1'					
538.10 End of Boring					
-45					
-50					
-55					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-119
Station: 43+26.92
Offset: 73.55' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-117-Soil Boring Logs - Pier 8.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 8
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S117 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	886
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/10/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563387.138, E=2459641.783), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-121
Station _____
Offset _____
Ground Surface Elev. 581.00 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 569.5 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY - black to greenish gray, little to some silt, slightly to medium plastic, stiff, moist.	3		
	3 4	1.2 B	18.9
	3		
-5	2 3	2.1 B	17.1
	2		
	2 3	1.6 B	21.3
- greenish gray, silty, slightly plastic clay, with a 2" thick sand seam at 8.9'-9.1'	2		
-10	2 2	0.5 P	24.5
- medium stiff clay at 11'-11.4'; brown, fine to medium grained sand seam, loose, saturated at 11.4'-12.1'	1		
	2 2	0.5 P	26.7
- red brown conglomerate seam at 13.4'-13.6'	0		
- red brown, medium plastic, soft clay	2 8	0.0 P	25.3
-15			
565.00 SAND - red brown, fine grained, some silt, trace black organic matter, loose to medium dense, saturated.	2		
	4 8		
562.70 - brown, fine to medium grained, clean, loose	40		
WEATHERED SHALE - medium gray, severely weathered.	50/3"		
-20			

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
WEATHERED SHALE - medium gray, severely weathered. *(continued)* 560.00			
Borehole continued with rock coring.			
-25			
-30			
-35			
-40			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/10/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563387.138, E=2459641.783), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 562.70 ft
Begin Core Elev. 560.00 ft

BORING NO. VIAIL-121
Station _____
Offset _____
Ground Surface Elev. 581.00 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
SHALE - medium gray to greenish gray, alternating hard clay-like to soft rock-like, occasional clasts, locally black organic material, thin to medium bedded, horizontal to 45° fractures, fractures are planar to slightly irregular, smooth to slightly rough, severely to moderately weathered. Shale is typically clay-like from 18.3'-22.5', rock-like from 22.5'-25', and clay-like to soft rock-like with several clasts at 25'-27'. 560.00	Run 1	80	11	2.2	
-25					
554.00 LIMESTONE - medium brownish gray, fine to medium grained, hard, localized pitting, locally stylolitic, thin to medium bedded, fractures range from predominantly horizontal to occasionally 80°, fracture surfaces are slightly irregular to planar and smooth to moderately rough, fresh to very slightly weathered.	Run 2	95	53	1.2	
- 80° jagged fracture with pyrite at 28.1'-28.9'					
-30					
- minor pitting at 29.0'-31.5'	Run 3	100	97	1	593.7
-35					
- 45° planar, smooth to rough fracture at 36.3'	Run 4	100	94	1	
- 65° fracture along shale parting at 39.3'-39.6'					
- moderately pitted with "birdseye" texture at 40'-41'					
-40					

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/10/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563387.138, E=2459641.783), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 562.70 ft
Begin Core Elev. 560.00 ft

BORING NO. VIAIL-121
Station _____
Offset _____
Ground Surface Elev. 581.00 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - medium brownish gray, fine to medium grained, hard, localized pitting, locally stylolitic, thin to medium bedded, fractures range from predominantly horizontal to occasionally 80°, fracture surfaces are slightly irregular to planar and smooth to moderately rough, fresh to very slightly weathered. *(continued)*	Run 5	93	81	1.1	
- medium to coarse grained, moderately pitted limestone with occasional shale partings and low (20°) to medium (50°) angled fractures at 41.0'-47.2'					
-45					
- medium grayish brown vuggy limestone with slightly irregular to planar horizontal to 20° fractures at 48.1'-49.8'					
-50					
- clastic limestone with shale partings and seams at 49.8'-50.3' 530.00 End of Boring					
-55					
-60					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-121
Station: 44+68.65
Offset: 66.74' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-118-Soil Boring Logs - Pier 9.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 9
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S118 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	887
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/12/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563211.417, E=2459665.249), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-123
Station _____
Offset _____
Ground Surface Elev. 584.50 ft

Surface Water Elev. _____ ft
Stream Bed Elev. _____ ft

Groundwater Elev.:
First Encounter 572.4 ft ▼
Upon Completion _____ ft
After _____ Hrs. _____ ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
CLAY - black, some to and silt, occasional sand seams, non to medium plastic, medium stiff, slightly moist.	3		
	2	0.5	
	3	P	
- green gray to brown, medium plastic, moist	1		
	2	0.4	18.6
-5	3	B	
- medium to highly plastic	2		
	2	0.8	22.9
	2	B	
- [Dry unit weight = 107.2 pcf]		0.8	21.1
-10		B	
	0		
- sand seams at 11.6' and 13.5'; medium gray to brown orange, fine grained, wet ▼	1	0.7	23.9
	2	B	
	0		
	1	0.5	26.4
-15	2	B	
- greenish gray to reddish brown/maroon, high plasticity	0		
	1	0.5	28.4
	2	B	
	1		
	3	0.4	29.5
-20	8	B	

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)
563.00	15		
SHALE - medium to dark gray, rock-like	26		
	38		
- medium gray, very soft rock-like, severely weathered	13		
	50/5"		
-25			
558.60			
Borehole continued with rock coring.			
-30			
-35			
-40			

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/12/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563211.417, E=2459665.249), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-123
Station _____
Offset _____
Ground Surface Elev. 584.50 ft

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 563.00 ft
Begin Core Elev. 558.60 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - medium brownish gray, fine to medium grained, hard, thin to medium bedded, occasional stylolites, occasional to abundant pitting, isolated "birdseye" texture, occasionally vuggy, several green clay-like shale partings, fractures including those along shale partings are horizontal, planar and slightly rough, slightly weathered to fresh. 558.60	Run 1	98	82	1.2	
-30					
	Run 2	100	97	1	652.4
-35					
	Run 3	98	94	1	
544.90					
LIMESTONE - medium gray, fine to medium grained, hard, thin to medium bedding, occasional stylolites, numerous "birdseye" texture, occasionally vuggy, several green clay-like shale partings, fractures are horizontal, irregular and rough to jagged, fresh to slightly weathered. - gray-green clay-like to very soft rock-like shale interbed with limestone inclusions at 42.1'-43.2'					
-40					
	Run 4	93	56	1.4	
-45					

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/12/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=563211.417, E=2459665.249), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. _____
Station [redacted]

BORING NO. VIAIL-123
Station _____
Offset _____
Ground Surface Elev. 584.50 ft

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 563.00 ft
Begin Core Elev. 558.60 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)
LIMESTONE - medium gray, fine to medium grained, hard, thin to medium bedding, occasional stylolites, numerous "birdseye" texture, occasionally vuggy, several green clay-like shale partings, fractures are horizontal, irregular and rough to jagged, fresh to slightly weathered. *(continued)* - vuggy with occasional green shale in-filling of voids at 47.6'-50.2'	Run 5	92	69	1	
-50					
533.50					
End of Boring					
-55					
-60					
-65					

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-123
Station: 46+45.41
Offset: 53.16' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-119-Soil Boring Logs - Pier 10.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – PIER 10
STRUCTURE NO. 081–0177 (WESTBOUND)
SHEET NO. S119 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	888
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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Illinois Department of Transportation
Division of Highways
JCI

SOIL BORING LOG

Date 9/13/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=562983.081, E=2459718.225), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island DRILLING METHOD HSA, CME 550X HAMMER TYPE CME AUTOMATIC

STRUCT. NO. [redacted]
Station [redacted]

BORING NO. VIAIL-125
Station
Offset
Ground Surface Elev. 585.80 ft

Surface Water Elev. ft
Stream Bed Elev. ft

Groundwater Elev.:
First Encounter 573.8 ft ▼
Upon Completion ft
After Hrs. ft

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
584.80				CONCRETE + Base Course
	4			CLAY - black to dark brown, some silt, slightly to medium plastic, medium stiff to very stiff, moist
	3	0.9		
	2	B		
	2			
	2	0.7		
-5	2	B		
	2			- brownish orange to greenish gray, with a black clay seam at 8.5'
	2	0.7		
	3	B		
	2			
	2	0.7		
-10	2	B		
	1			
	2	0.7		- orange brown fine grained sand interbed in a silt and clay matrix, saturated at 12.3'
▼	2	B		- slightly plastic
		0.8	35.1	
-15		P		
	0			
	2	0.4		
	1	B		
	1			- maroon, little silt, medium plastic
566.60	5	0.5		
-20	7	B		

DEPTH (ft)	BLOWS (/6")	UCS Qu (tsf)	MOIST (%)	Description
564.50				SAND - maroon to bright greenish yellow, fine to medium grained, conglomeratic with fine gravel. *(continued)* - olive, fine grained sand, moist at 21'
	13			
	25			
	13			
	13			WEATHERED SHALE - medium gray, clay-like to soft rock-like, severely weathered.
	11			
-25	13			
	15			
	18			
558.30	50/5"			
				Borehole continued with rock coring.
-30				
-35				
-40				

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

BBS, from 137 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/13/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=562983.081, E=2459718.225), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. [redacted]
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 564.50 ft
Begin Core Elev. 558.30 ft

BORING NO. VIAIL-125
Station
Offset
Ground Surface Elev. 585.80 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
558.30	Run 1	100	41	1.5		LIMESTONE - medium to light brownish gray, occasional pitting and locally vuggy, with partings, seams, and clasts of green clay-like shale, hard to moderately hard, thin to medium bedded, primarily horizontal to very low angle fractures with localized high angle fractures, fracture surfaces are planar to irregular and slightly rough to rough, fresh to slightly weathered.
-30						
	Run 2	98	40	1.2	933.4	- clay-like shale interbed at 30.9'-31.7'
						- mixed shale and limestone layer with high angle to vertical fractures at 31.9' - 33.4'
						- light to medium gray, locally pitted and vuggy at 33.3', clay-like to soft rock-like green shale partings and inclusions in irregular patterns at 45° to vertical at 36.4' -36.9'
-35						
	Run 3	100	98	1.2		- light gray, stylolitic
-40						
	Run 4	100	75	1.2		- very light gray, fine grained, fresh, very minor pitting and occasional stylolites
-45						
	Run 5	100	88	0.8		- very thin bedded, occasional shale partings, moderate pitting and vuggy at 44.3'-45.9'

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

BBS, form 138 (Rev. 8-99)

Illinois Department of Transportation
Division of Highways
JCI

ROCK CORE LOG

Date 9/13/07

ROUTE I-74 DESCRIPTION New I-74 Bridge Over Mississippi River - Illinois Approach LOGGED BY SL

SECTION LOCATION (N=562983.081, E=2459718.225), SEC. 32, TWP. 18N, RNG. 1W, 4th PM

COUNTY Rock Island CORING METHOD NQ Core

STRUCT. NO. [redacted]
Station [redacted]

CORING BARREL TYPE & SIZE NQ Wireline
Core Diameter 1.8 in
Top of Rock Elev. 564.50 ft
Begin Core Elev. 558.30 ft

BORING NO. VIAIL-125
Station
Offset
Ground Surface Elev. 585.80 ft

DEPTH (ft)	CORE (#)	RECOVERY (%)	R.Q.D. (%)	CORE TIME (min/ft)	STRENGTH (tsf)	Description
537.60						LIMESTONE - medium gray, fine to medium, pitted, "birdseye" texture, occasional shale partings, medium bedded, fractures range from medium (45°) to high (80°) angled, fresh to slightly weathered. Pitting and "birdseye" texture diminish with depth.
-50						
	Run 6	100	100	0.8		
529.90						End of Boring
-55						
-60						
-65						

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

BBS, form 138 (Rev. 8-99)

BORING NO. VIAIL-125
Station: 48+79.09
Offset: 57.73' Lt.
(Measured from ℄ I-74)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILENAME = 081-0177-C00AB-120-Soil Boring Logs - N. Abutment.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL = Default	PLOT SCALE =	DRAWN - KMS	REVISED -
	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS – S. ABUTMENT
STRUCTURE NO. 081-0177 (WESTBOUND)
SHEET NO. S120 OF S120 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	(81-1)R & 81-1(HVBR)	ROCK ISLAND	1504	889
		CONTRACT NO. 64C08		
	ILLINOIS	FED. AID PROJECT		

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Bench Mark: Chiseled "X" in base of traffic light at southeast corner of intersection of 19th Street and 7th Avenue. Elevation NAVD 88 = 589.227

Existing Structures: The existing structures were built in 1975 as F.A.I. Route 74. S.N. 081-0142 and S.N. 081-0143. The existing dual structures consisted of 26 spans of reinforced concrete deck on mutiple steel plate girders. The total length of existing structures is ±2860'. The deck width is variable with Typical width of 42'-0" for each structure. Structures to be removed and replaced. A minimum of 2 lanes in each direction shall be maintained during stage construction.
No salvage.

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1})=0.06g
Design Spectral Acceleration at 0.2 sec. (S_{DS})=0.10g
Soil Site Class=C

LOADING HL-93

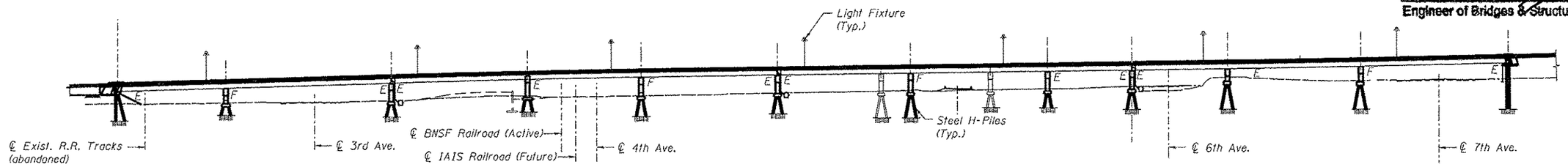
Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

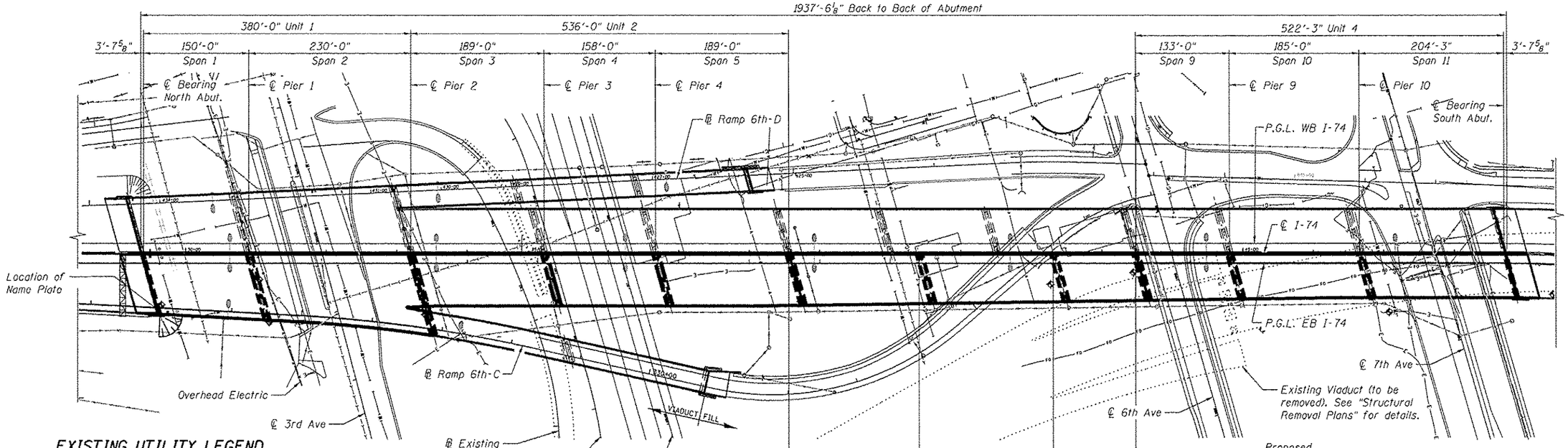
FIELD UNITS

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

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures



ELEVATION



EXISTING UTILITY LEGEND

- Underground Sanitary Sewer
- Underground Storm Sewer
- Underground Telephone
- Underground Gas Line
- Underground Fiber Optic
- Underground Water
- Overhead Electric

Note: See roadway and lighting plans for existing and proposed utilities

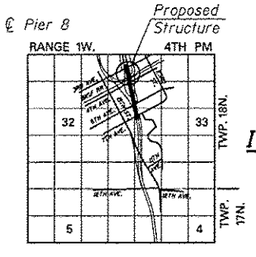
benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

ANDREW J. KEASCHALL 081-006764 LICENSED STRUCTURAL ENGINEER STATE OF ILLINOIS
EXPIRATION DATE 11-30-2018
DATE: 3/10/2017

STATION 36+16.49
BUILT BY
STATE OF ILLINOIS
F.A.I. RT. 74 SEC 81-1HVB
LOADING HL-93
STRUCTURE NO. 081-0178

NAME PLATE
See Std. 515001

PLAN



LOCATION SKETCH

GENERAL PLAN - SHEET 1 OF 5
I-74 OVER IL. RTE. 92 AND BNSF R.R.
FAI-74 SECTION (81-1HVB)
ROCK ISLAND COUNTY
STATION 36+16.49
STRUCTURE NO. 081-0178 (E.B.)

FILE NAME = 081-0178-C00AB-001-General Plan and Elevation.dgn	USER NAME = kanidar	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
MODEL: Plan1	PLOT SCALE =	DRAWN - VH	REVISED -
	PLOT DATE = 1/20/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERALL GENERAL PLAN AND ELEVATION
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. 51 OF 5138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	890
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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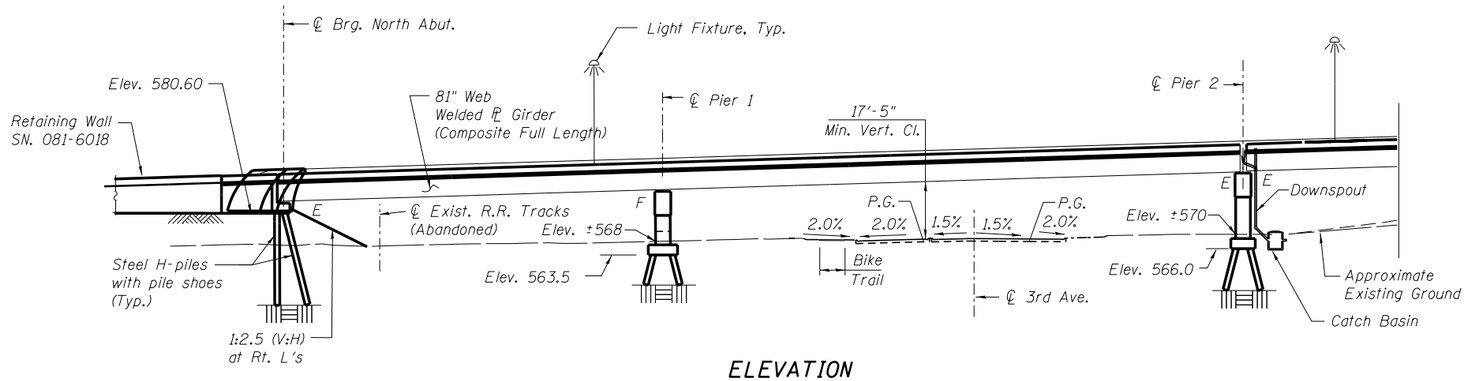
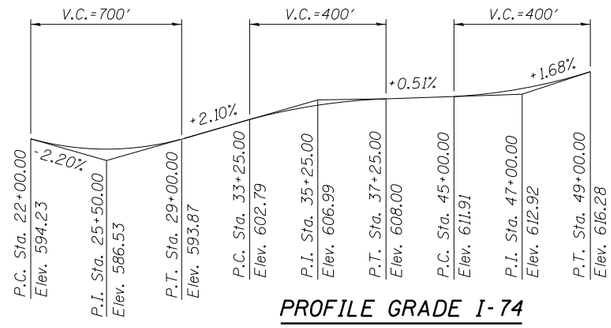
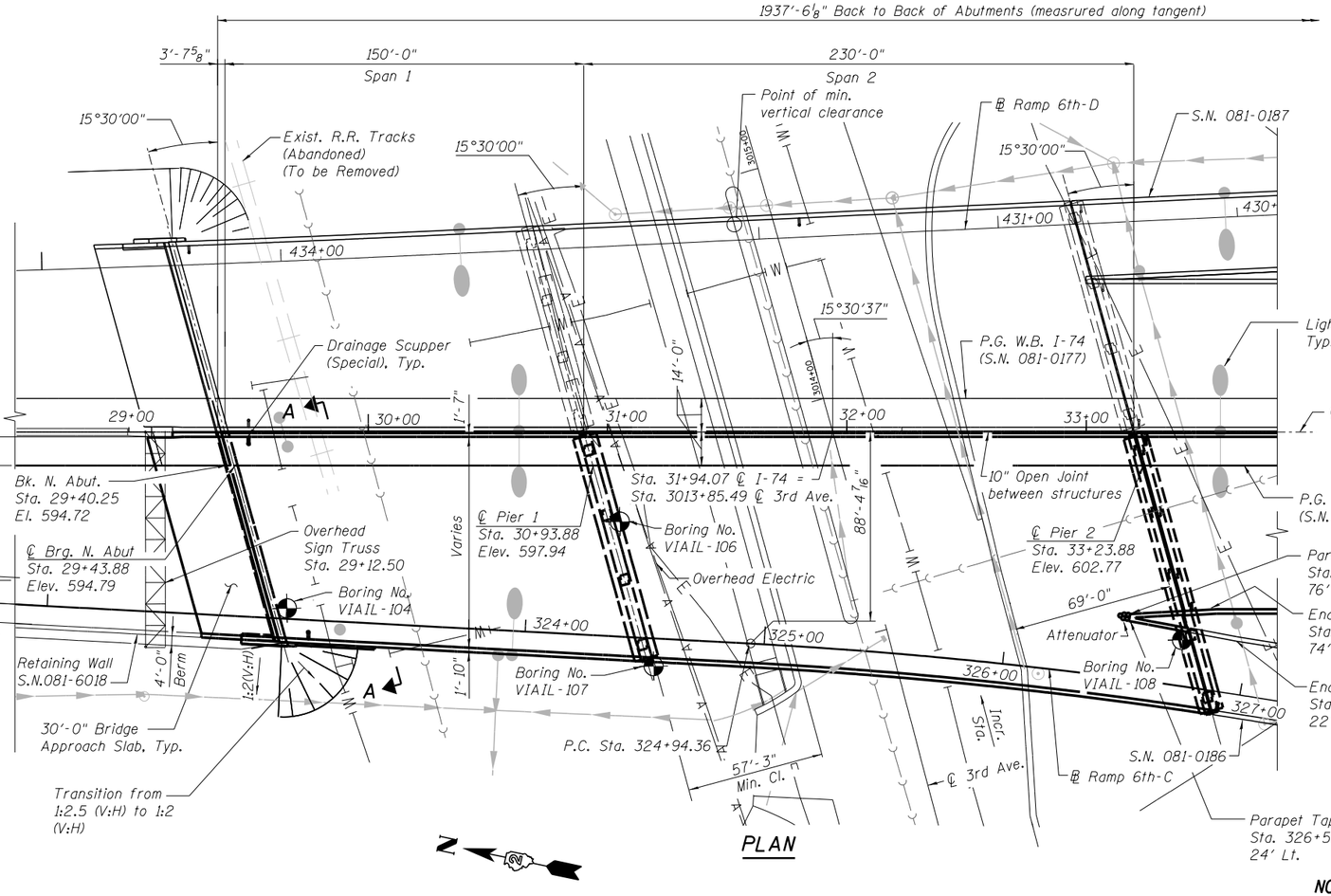


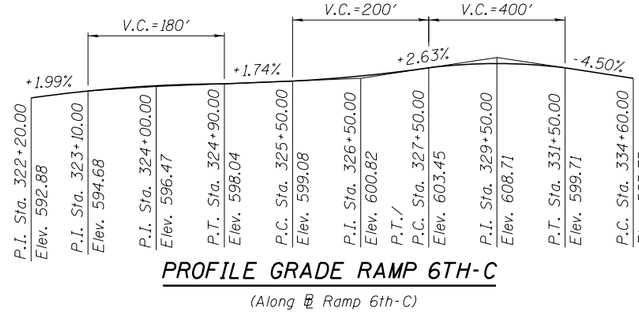
ELEVATION



PROFILE GRADE I-74

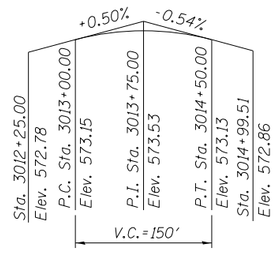


PLAN



PROFILE GRADE RAMP 6TH-C

(Along ℄ Ramp 6th-C)



PROFILE GRADE 3RD AVE.

CURVE DATA
R 6TH-C-2

Δ = 9° 34' 14" (RT)
D = 2° 51' 53"
T = 167.43'
L = 334.07'
E = 7.00'
R = 2.000.00'
P.C. = Sta. 324+94.36
P.T. = Sta. 328+28.43
P.I. = Sta. 326+61.78
Normal Crown = Sta. 324+69
2.0% to 4.3% S.E. = Sta. 324+69 to 325+35
4.3% S.E. = Sta. 325+35 to 327+87
4.3% to 0% S.E. = Sta. 327+87 to 329+32
0% to -6.0% = 329+32 to 331+35

NOTES:

1. See Civil Plans for Drainage and Utility information.
2. For Section A-A, see sheet S7.

GENERAL PLAN - SHEET 2 OF 5
I-74 OVER IL. RTE. 92 AND BNSF R.R.
FAI-74 SECTION (81-1HVB)
ROCK ISLAND COUNTY
STATION 36+16.49
STRUCTURE NO. 081-0178 (E.B.)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILE NAME = 081-0178-C00AB-002-General Plan and Elevation - Unit 1-3.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - VH	REVISED -
MODEL: 1 Plan	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION – UNIT 1
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S2 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	891
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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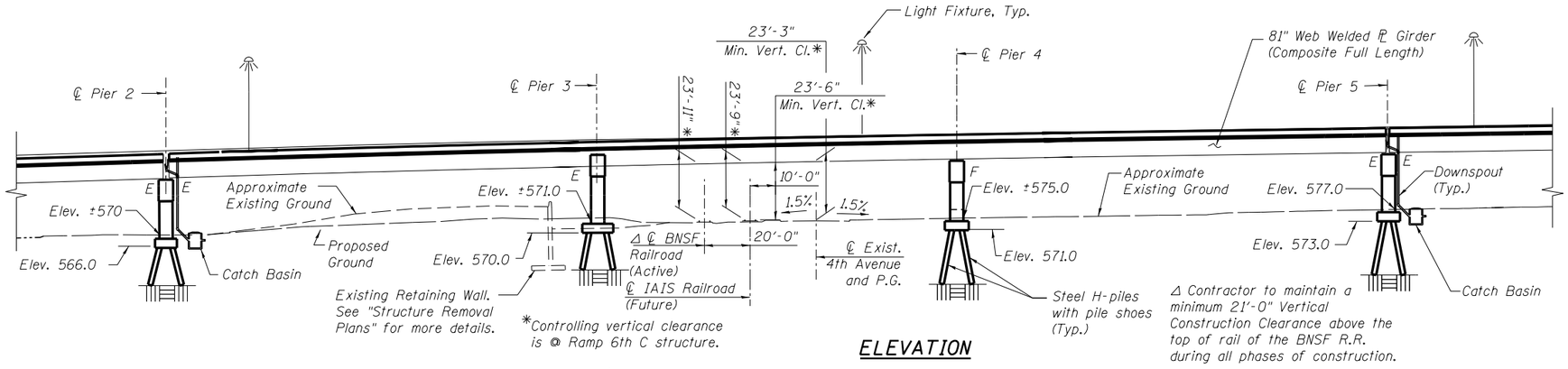
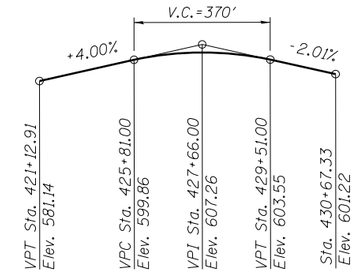


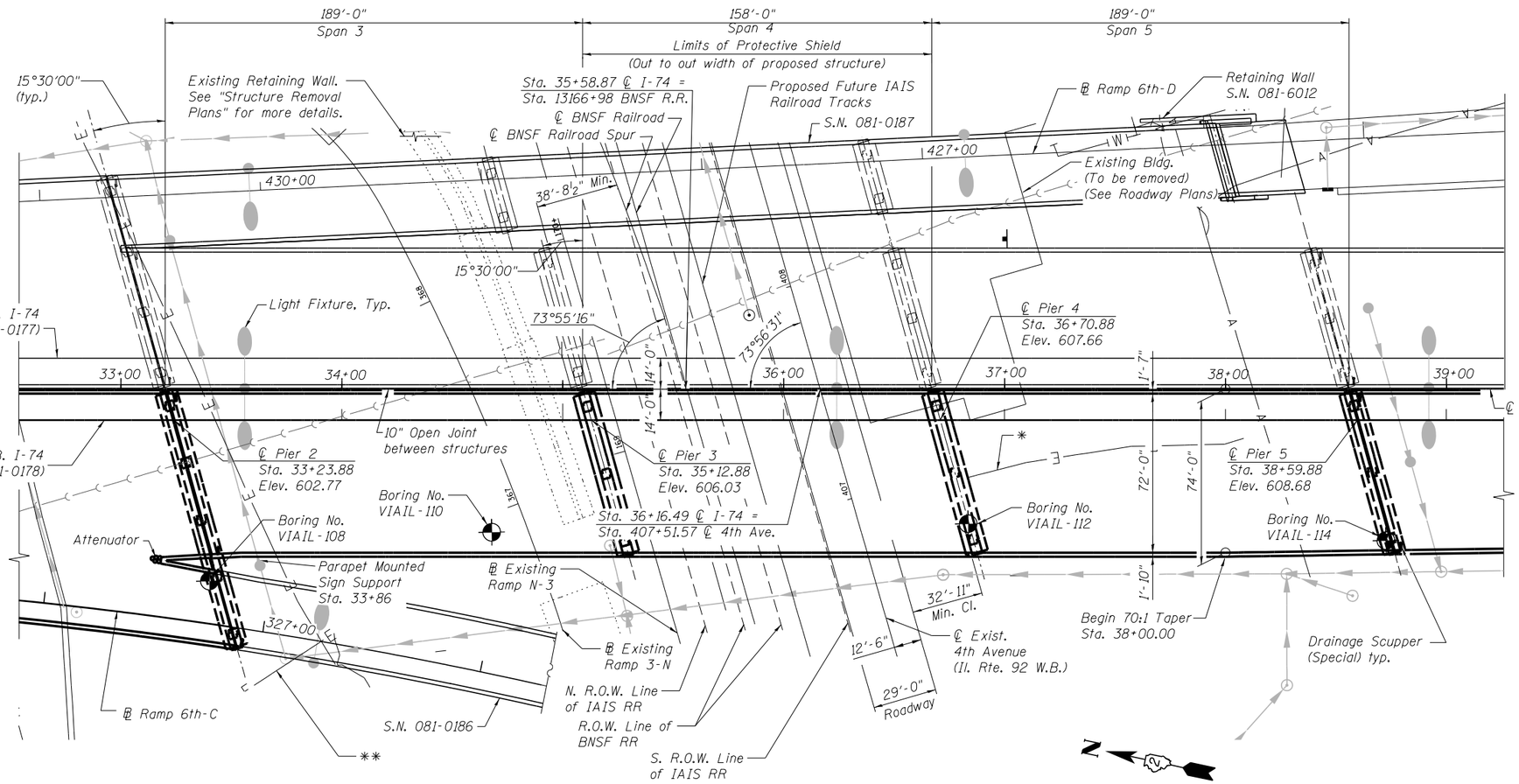
ELEVATION

1937'-6⅛" Back to Back of Abutments (measured along tangent)



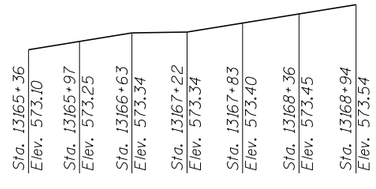
PROFILE GRADE

(Along ℙ Ramp 6th-D)



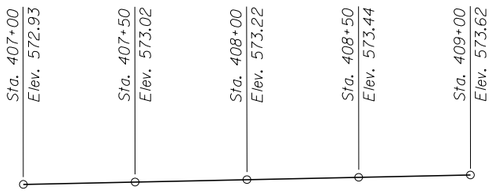
PLAN

** Existing Electrical Conduit to be abondoned. Remove as necessary to install Pier. Cost of removal included with "Structure Excavation"



TOP OF RAIL BNSF R.R

BNSF Sta. 13166+98 = Mile Post 249.37



EXISTING PROFILE GRADE 4TH AVE.

NOTES:

1. See Civil Plans for Drainage and Utility information.
2. See Civil Removal Plans for removal information.

GENERAL PLAN - SHEET 3 OF 5
I-74 OVER IL. RTE. 92 AND BNSF R.R.
FAI-74 SECTION (81-1HVB)
ROCK ISLAND COUNTY
STATION 36+16.49
STRUCTURE NO. 081-0178 (E.B.)

benesch
Alfred Benesch & Company
205 North Michigan Avenue, Suite 2400
Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILE NAME = 081-0178-C00AB-002-General Plan and Elevation - Unit 1-3.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
		CHECKED - AJK	REVISED -
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MODEL: 2 Plan	PLOT DATE = 1/18/2017	CHECKED - AAY	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION – UNIT 2
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S3 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	892
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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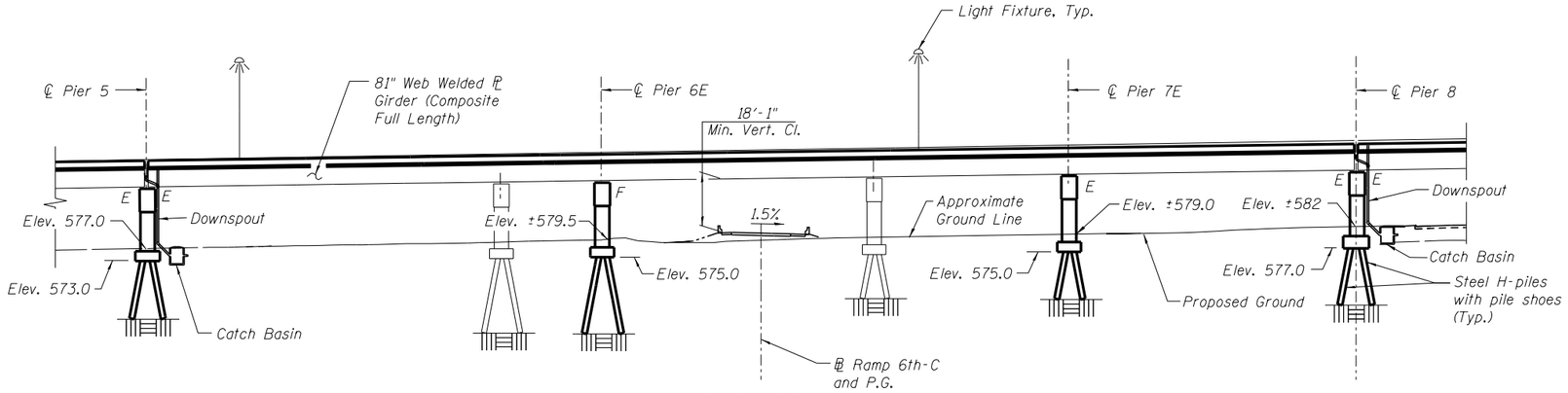
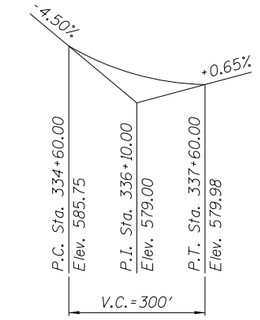


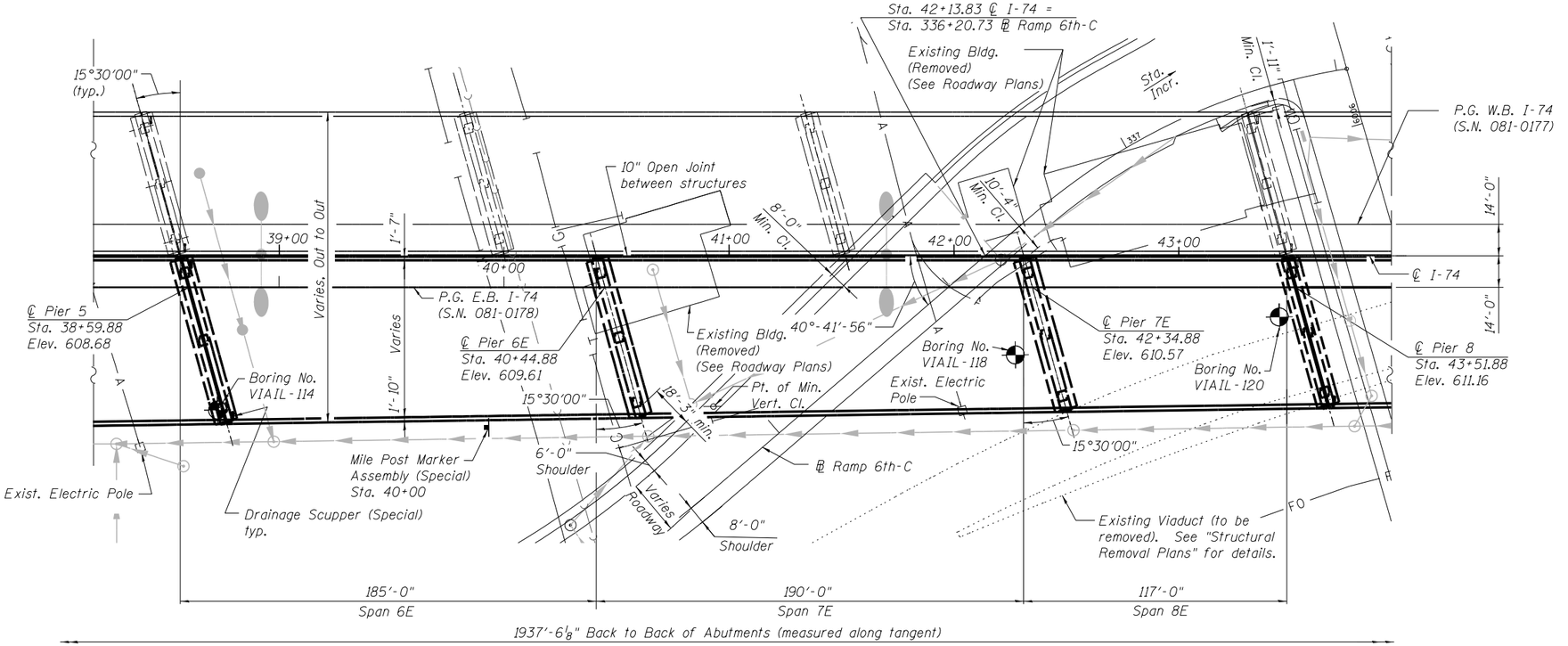
ELEVATION

CURVE DATA RAMP 6th-C-4

Δ = 31° 43′ 31" (RT)
D = 20° 27′ 46"
R = 280.00′
T = 79.56′
L = 155.04′
E = 11.08′
P.C. = Sta. 336+49.59
P.T. = Sta. 338+04.63
P.I. = Sta. 337+29.15
S.E. = Normal Crown



PROFILE GRADE RAMP 6TH-C



PLAN

NOTES:

1. See Civil Plans for Drainage and Utility information.
2. See Civil Removal Plans for removal information.

GENERAL PLAN - SHEET 4 OF 5
I-74 OVER IL. RTE. 92 AND BNSF R.R.
FAI-74 SECTION (81-1HVB)
ROCK ISLAND COUNTY
STATION 36+16.49
STRUCTURE NO. 081-0178 (E.B.)

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Alfred Benesch & Company
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Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILE NAME = 081-0178-C00AB-002-General Plan and Elevation - Unit 1-3.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
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	PLOT SCALE =	DRAWN - VH	REVISED -
MODEL: 3 Plan	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION – UNIT 3
STRUCTURE NO. 081–0178 (EASTBOUND)
SHEET NO. S4 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	893
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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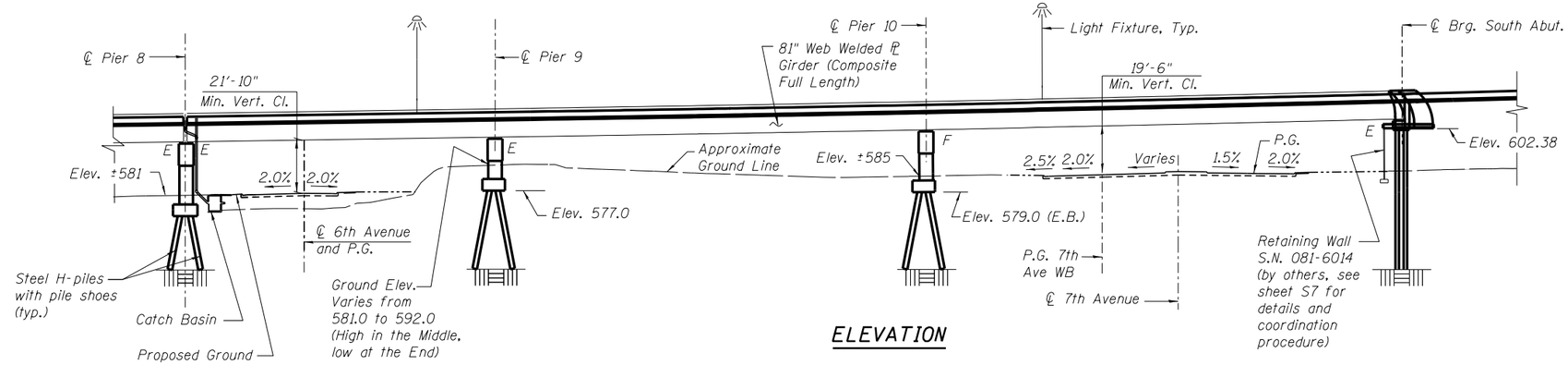
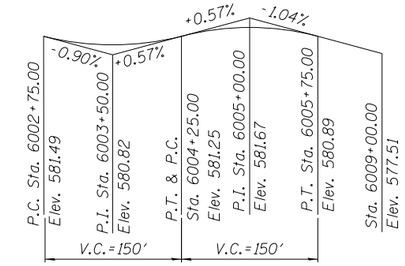
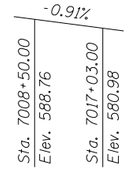


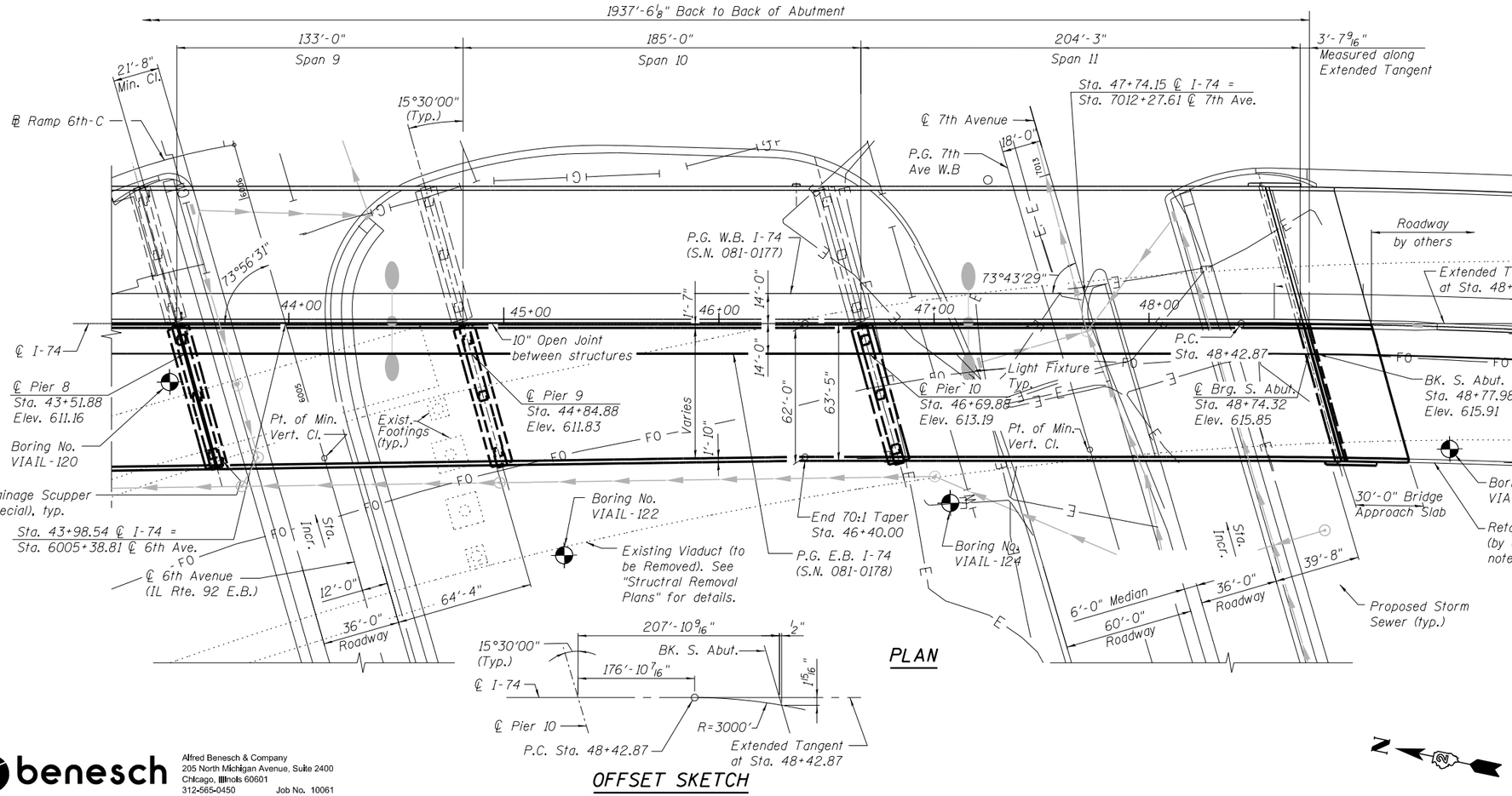
ELEVATION



PROFILE GRADE 6TH AVE. (IL RTE. 92 E.B.)



PROFILE GRADE 7TH AVE.



PLAN

OFFSET SKETCH

NOTES:

1. See Civil Plans for Drainage and Utility information.
2. See sheet S1 for Existing Utility Legend.

GENERAL PLAN - SHEET 5 OF 5
I-74 OVER IL. RTE. 92 AND BNSF R.R.
FAI-74 SECTION (81-1HVB)
ROCK ISLAND COUNTY
STATION 36+16.49
STRUCTURE NO. 081-0178

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FILE NAME = 081-0178-C00AB-005-General Plan and Elevation - Unit 4.dgn	USER NAME = ksnider	DESIGNED - AAY	REVISED -
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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

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DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION – UNIT 4
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S5 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	894
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts. Bolts $^{7}/_{8}$", open holes $^{15}/_{16}$", unless otherwise noted.

2. Calculated weight of Structural Steel = 6,811,000 lbs
   M 270 Grade 36: 281,000 lbs
   M 270 Grade 50: 6,530,000 lbs

   The Contractor may substitute Grade 50 for Grade 36 at no additional cost to the Contract.

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

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

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

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

7. Concrete Sealer shall be applied to the exposed faces of Piers 2, 5 and 8 and the North and South Abutments.

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

   The exterior and bottom flange of the fascia beams and fascia bearings shall be finish coated with a fluoropolymer paint. The color of the final finish coat for the exterior and bottom flange of the fascia beams and bearings shall be Federal Standard 595C Color 26099 (gray-blue). See Special Provision for "Cleaning and Painting Structural Steel".

9. See Civil Plans for limits of special waste.

10. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

11. Slip forming of the median parapet is not allowed. Slip forming of the West Traffic Barrier is allowed.

12. The Contractor shall use self-consolidating concrete (SCC) in all the pier columns. The self-consolidating concrete shall conform to all requirements as specified in Section 1020 of the Standard Specifications. Cost of SCC shall be included with the cost of Concrete Structures.

INDEX OF SHEETS

TOTAL BILL OF MATERIAL

	ITEM	UNIT	SUPER	SUB	TOTAL
	Protective Shield	Sq Yd	1,324	-	1,324
	Structure Excavation	Cu Yd	-	2,367	2,367
	Concrete Structures	Cu Yd	-	2,207.3	2,207.3
	Concrete Superstructure	Cu Yd	4,754.3	-	4,754.3
	Bridge Deck Grooving	Sq Yd	15,829	-	15,829
	Concrete Encasement	Cu Yd	-	7.6	7.6
	Protective Coat	Sq Yd	18,131	-	18,131
*	Furnishing and Erecting Structural Steel	L Sum	0.50	-	0.50
	Stud Shear Connectors	Each	49,291	-	49,291
	Reinforcement Bars, Epoxy Coated	Pound	1,315,680	501,820	1,817,500
	Bar Splicers	Each	150	17	167
	Slope Wall 4 Inch	Sq Yd	-	420	420
	Furnishing Steel Piles HP14x73	Foot	-	3,293	3,293
	Furnishing Steel Piles HP14x89	Foot	-	2,612	2,612
	Driving Piles	Foot	-	5,905	5,905
	Test Pile Steel HP14x73	Each	-	7	7
	Test Pile Steel HP14x89	Each	-	5	5
	Pile Shoes	Each	-	320	320
	Name Plates	Each	1	-	1
	Preformed Joint Strip Seal	Foot	153.5	-	153.5
	Finger Plate Expansion Joint, 3"	Foot	74.0	-	74.0
	Finger Plate Expansion Joint, 4"	Foot	76.0	-	76.0
	Finger Plate Expansion Joint, 5"	Foot	66.5	-	66.5
	Elastomeric Bearing Assembly, Type I	Each	31	-	31
	Elastomeric Bearing Assembly, Type II	Each	34	-	34
	Anchor Bolts, 1"	Each	-	442	442
	Concrete Sealer	Sq Ft	-	12,523	12,523
	Geocomposite Wall Drain	Sq Yd	-	111	111
	High Load Multi-Rotational Bearings, Guided Expansion, 300K	Each	13	-	13
	High Load Multi-Rotational Bearings, Guided Expansion, 500K	Each	17	-	17
	High Load Multi-Rotational Bearings, Guided Expansion, 600K	Each	9	-	9
	High Load Multi-Rotational Bearings, Fixed - 600K	Each	9	-	9
	High Load Multi-Rotational Bearings, Fixed - 650K	Each	22	-	22
	High Load Multi-Rotational Bearings, Fixed - 700K	Each	8	-	8
	Granular Backfill For Structures	Cu Yd	-	266	266
	Steel Railing (Special)	Foot	1,972	-	1,972
	Drainage Scuppers (Special)	Each	9	-	9
*	Drainage System	L Sum	-	0.4	0.4
	Modular Expansion Joint-Swivel 6"	Foot	34.0	-	34.0
	Pipe Underdrains For Structures 4"	Foot	-	106.0	106.0

* Remainder of this item installed with other structures in the Contract

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS AND TOTAL BILL OF MATERIAL
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S6 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	895
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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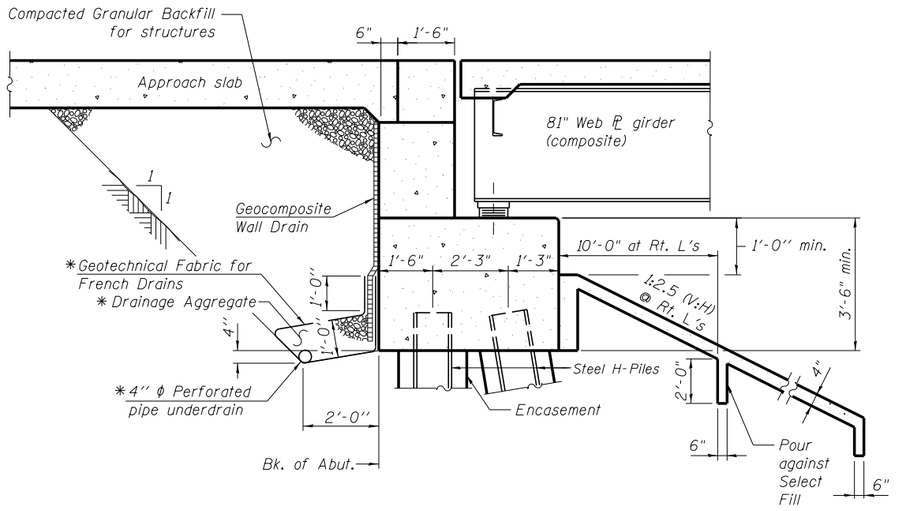


SECTION THRU PILE SUPPORTED STUB ABUTMENT (NORTH ABUTMENT)

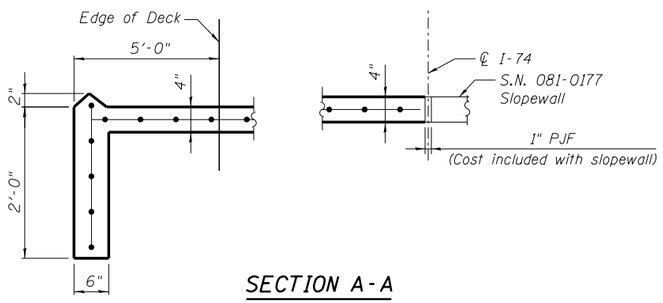
(Horiz. dim. at Rt. L's)

*Included in the cost of Pipe Underdrain Structures. (See Special Provisions)

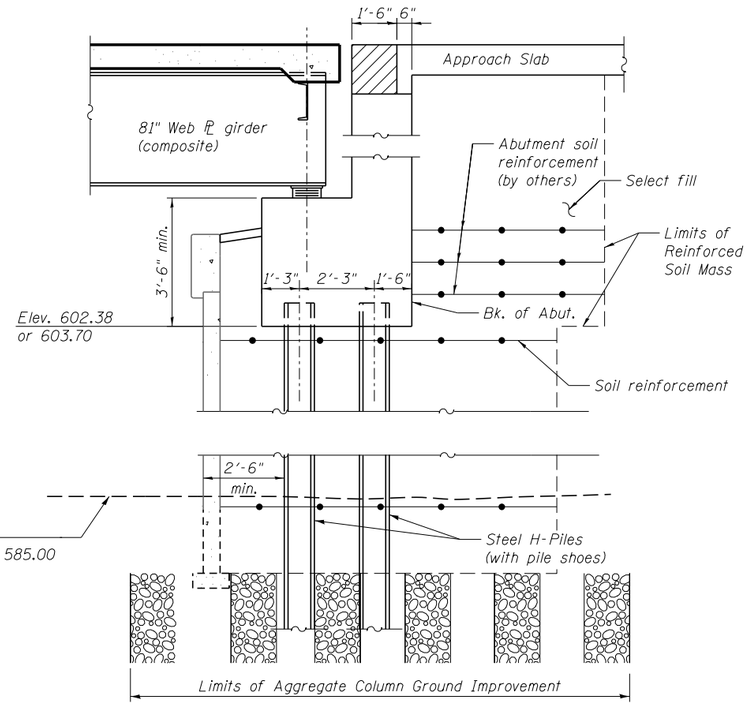
NOTES:

1. All drainage system components shall extend parallel to the abutment back wall until they intersect the wingwalls or 2'-0" from the end of the wingwalls when the wings are parallel to the abutment. The pipe shall extend under the wingwall, if necessary, until intersecting the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).

2. Slopewall shall be reinforced with welded wire fabric. 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.) Cost included with slopewall.



SECTION A-A



TYPICAL WALL SECTION THRU SOUTH ABUTMENT

(Horizontal dimensions at Rt. L's)

CONTRACTOR COORDINATION REQUIREMENTS AT SOUTH ABUTMENT

"Contractor" (responsible for construction of SN 081-0178) shall coordinate with "Wall Contractor" (responsible for construction of SN 081-6014 in a separate contract). Construction at the South Abutment shall follow the steps outlined below:

CONSTRUCTION SEQUENCE

1. Wall Contractor shall construct Aggregate Column Ground Improvement beneath South Abutment. Aggregate columns will be located such that they do not interfere with the proposed pile locations.
2. Contractor shall drive piles.
3. Wall Contractor shall construct MSE wall and place backfill up to the elevation of the bottom of abutment.
4. Contractor shall construct the abutment. Contractor is responsible for coordinating the type and location of abutment soil reinforcement straps with the Wall Contractor. Wall Contractor is responsible for placing all components of the abutment soil reinforcement straps.
5. See note on sheet S104 regarding maskwall construction sequence.
6. Wall Contractor shall resume and complete construction of MSE Walls and placement of backfill.
7. Contractor shall grade sub-base to proper elevation and construct approach slab.

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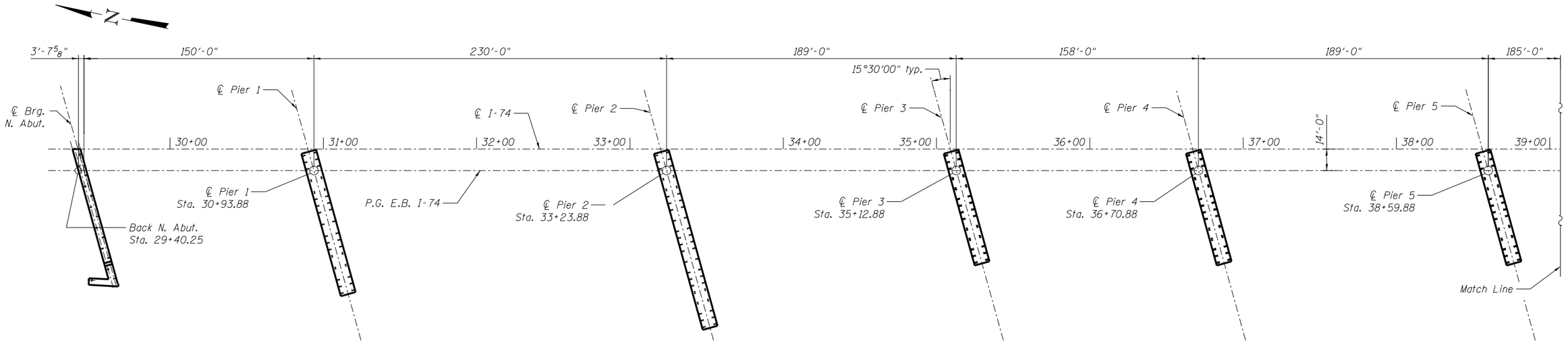
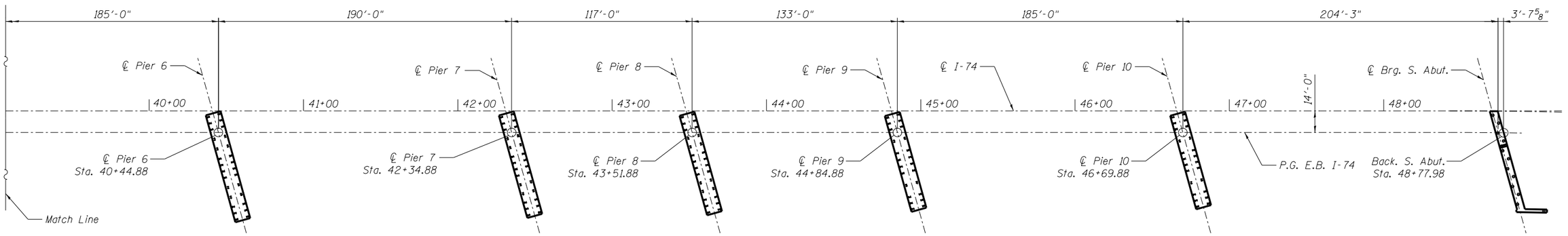
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DETAILS
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S7 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	896
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			





FOUNDATION LAYOUT

(S.N. 081-0177 not shown for clarity)

NOTES:

1. For pier details, see sheets S105 thru S123.
2. For abutment details, see sheets S95 thru S99.

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MODEL: Default	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERALL FOUNDATION LAYOUT
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S8 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	897
		CONTRACT NO. 64C08		
		ILLINOIS FED. AID PROJECT		

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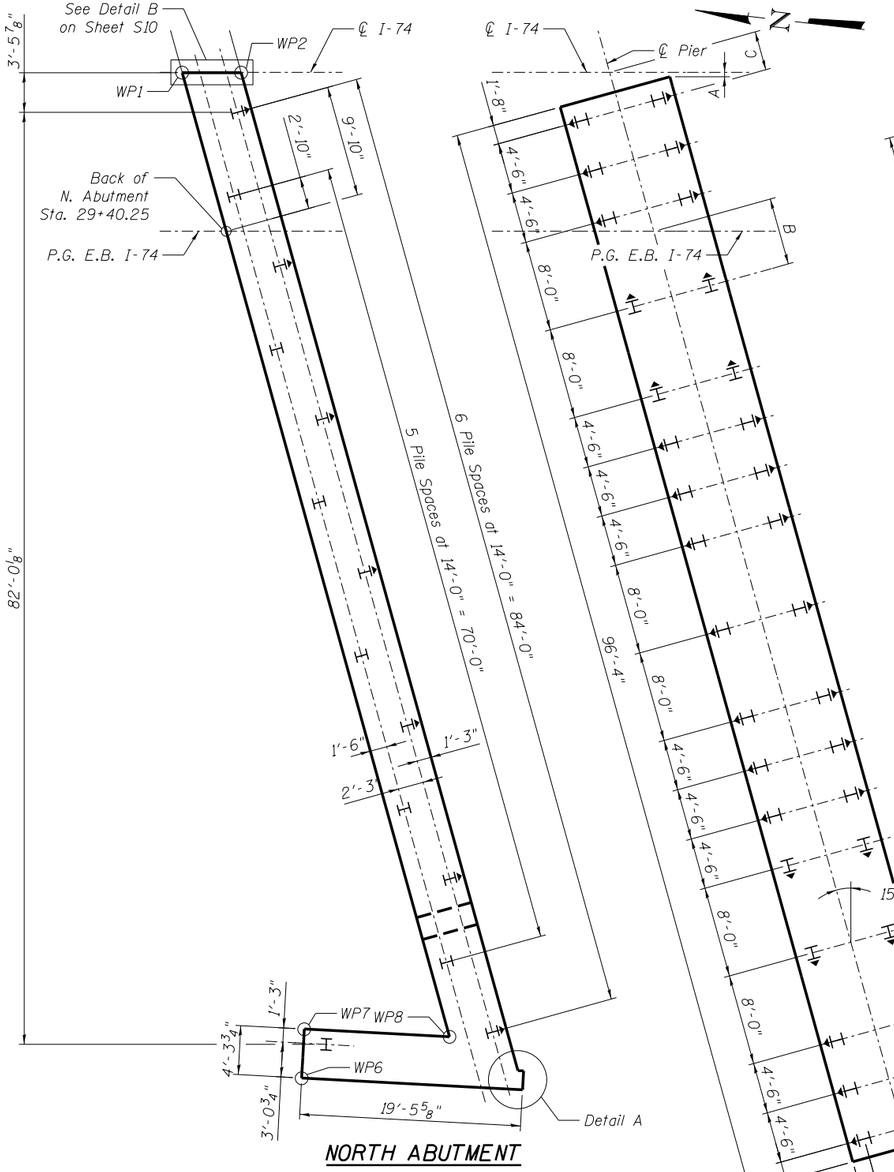
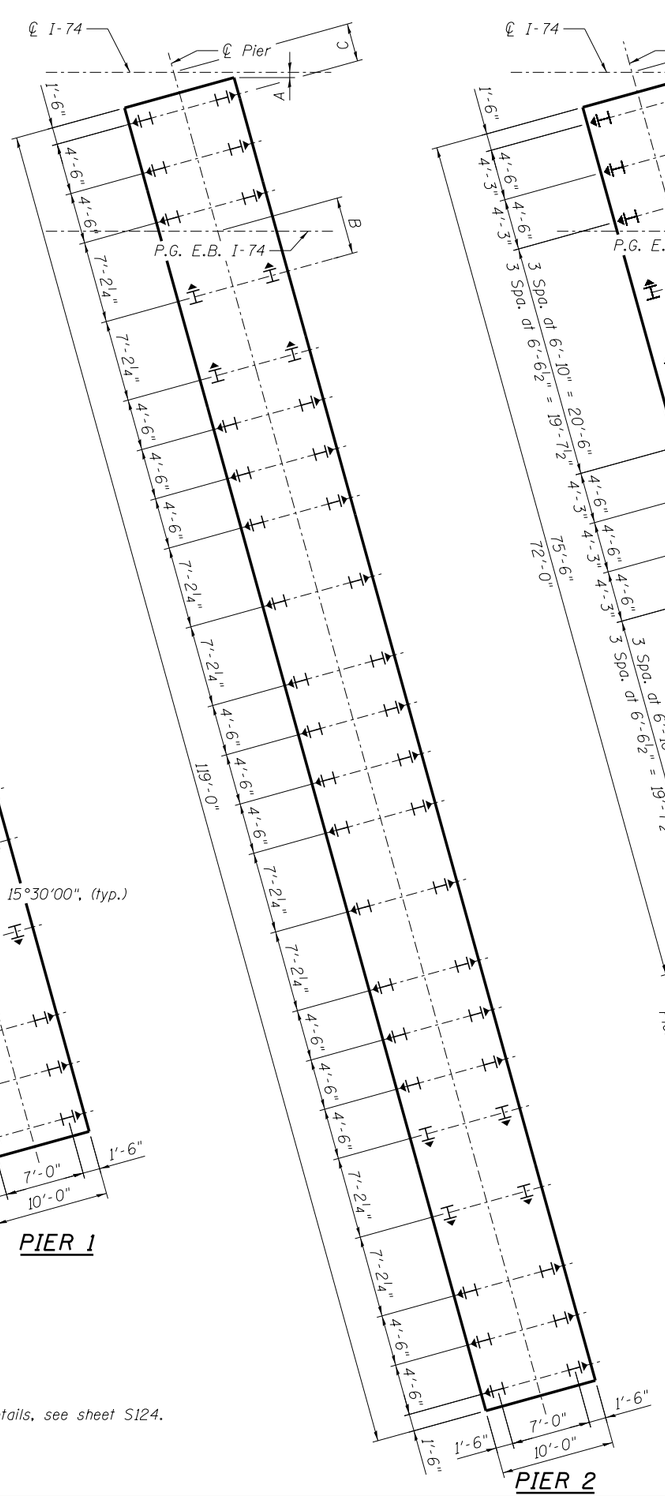


NORTH ABUTMENT

PIER 1



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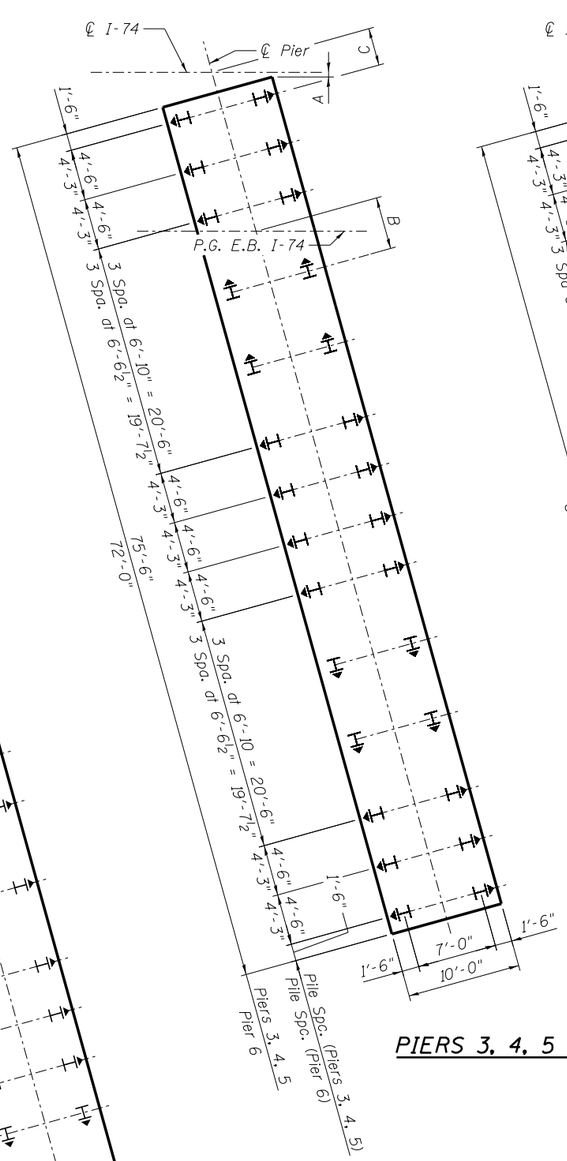
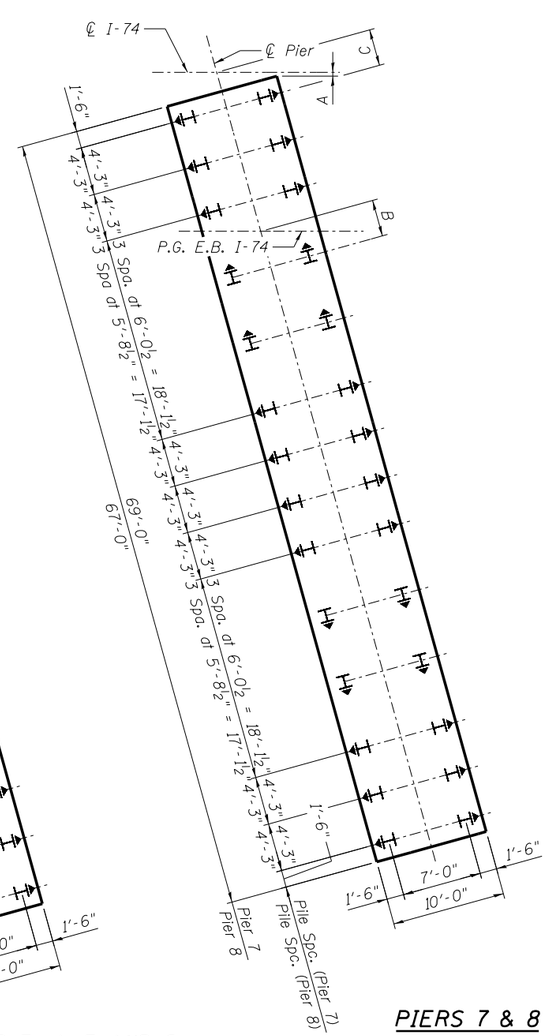


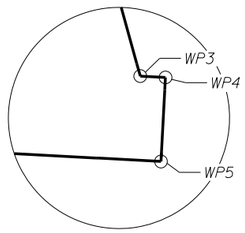
PIERS 3, 4, 5 AND 6



PIERS 7 & 8

Work Points

W.P.	Station	Offset
1	29+36.38	0.04' Rt.
2	29+41.56	0.04' Rt.
3	29+65.93	87.86' Rt.
4	29+66.42	87.89' Rt.
5	29+66.33	89.55' Rt.
6	29+46.90	88.51' Rt.
7	29+47.13	84.20' Rt.
8	29+59.91	84.89' Rt.



DETAIL A

NOTE:
For HP Pile Details, see sheet S124.

Footing Dimensions

PIER	A	B	C
1	4⅝"	5'-11⅛"	3'-5½"
2	5½"	5'-0¼"	3'-4⅜"
3	4⅞"	4'-7⅜"	3'-3¾"
4	4⅞"	4'-7⅜"	3'-3¾"
5	4⅞"	4'-7⅜"	3'-3¾"
6	2⅞"	3'-7¾"	3'-1⅝"
7	4"	3'-3"	3'-2¾"
8	5⅝"	3'-0⅝"	3'-4⅜"

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	PLOT DATE = 1/18/2017	CHECKED - AJK	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT (1 OF 2)
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S9 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	898
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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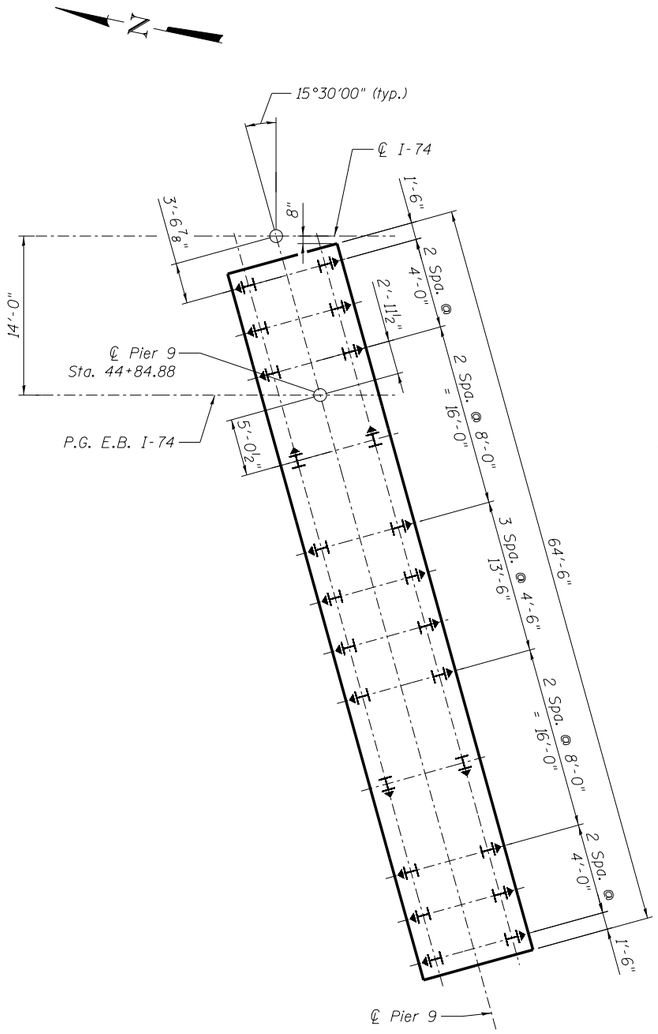
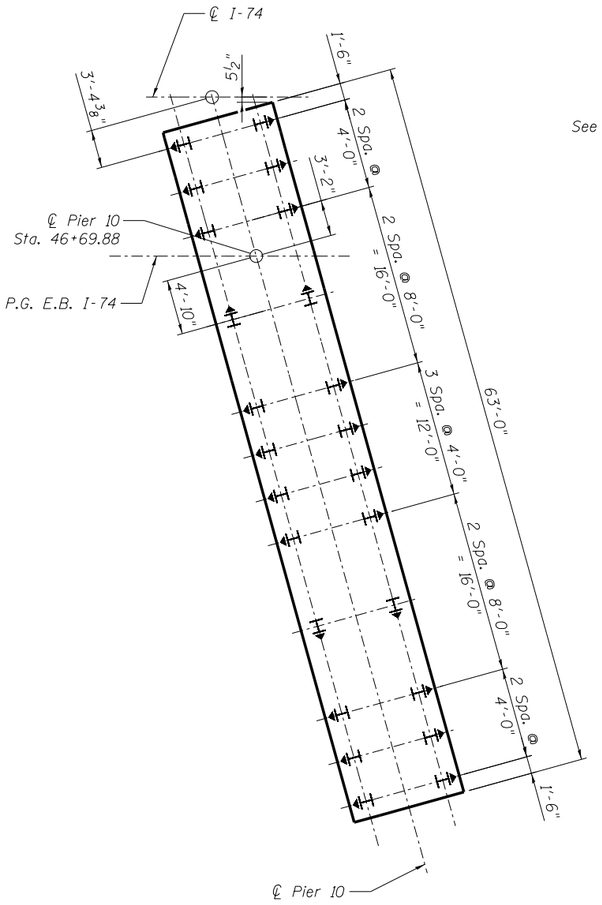
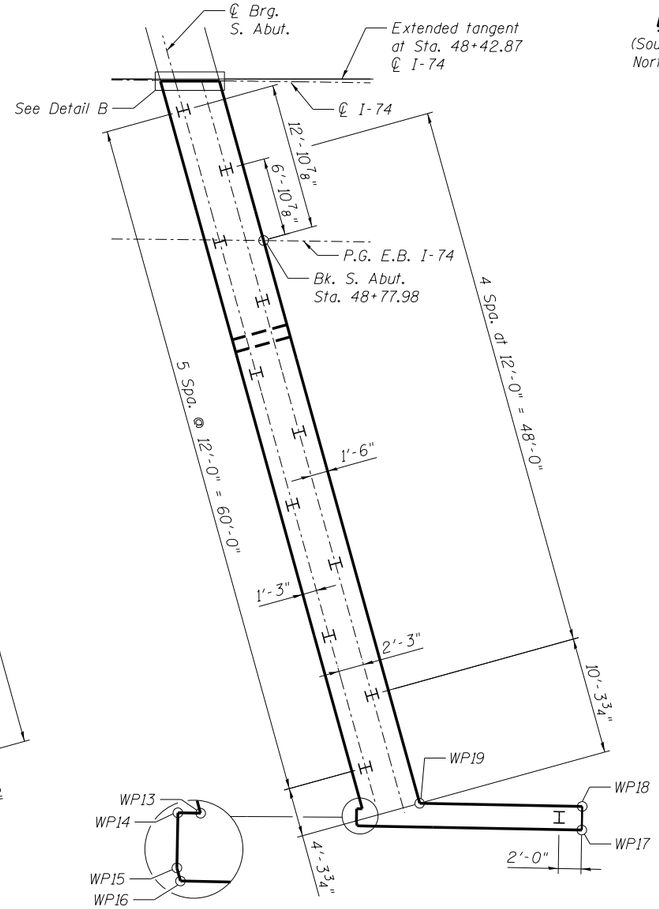


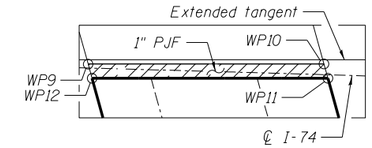
PIER 9



PIER 10



SOUTH ABUTMENT



DETAIL B

(South Abutment shown, North Abutment similar)
(Not to scale)

Work Points

W.P.	Station	Offset
9	48+68.72	0.02 Lt.
10	48+73.91	0.07 Lt.
11	48+73.93	0.02 Rt.
12	48+68.75	0.07 Rt.
13	48.87.46	63.91 Rt.
14	48+86.95	63.90 Rt.
15	48+86.95	65.12 Rt.
16	48+87.03	65.40 Rt.
17	49+07.24	65.42 Rt.
18	49+07.23	63.34 Rt.
19	48+92.61	63.34 Rt.

NOTE:
For HP Pile Details, see sheet S124.

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Chicago, Illinois 60601
312-565-0450 Job No. 10061

FILE NAME = 081-0178-C00AB-010-Foundation Layout (2 of 2).dgn	USER NAME = ksnider	DESIGNED - DTS	REVISED -
		CHECKED - AJK	REVISED -
	PLOT SCALE =	DRAWN - KMS/DMS	REVISED -
MODEL: Default	PLOT DATE = 1/18/2017	CHECKED - AWH	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT (2 OF 2)
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S10 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	899
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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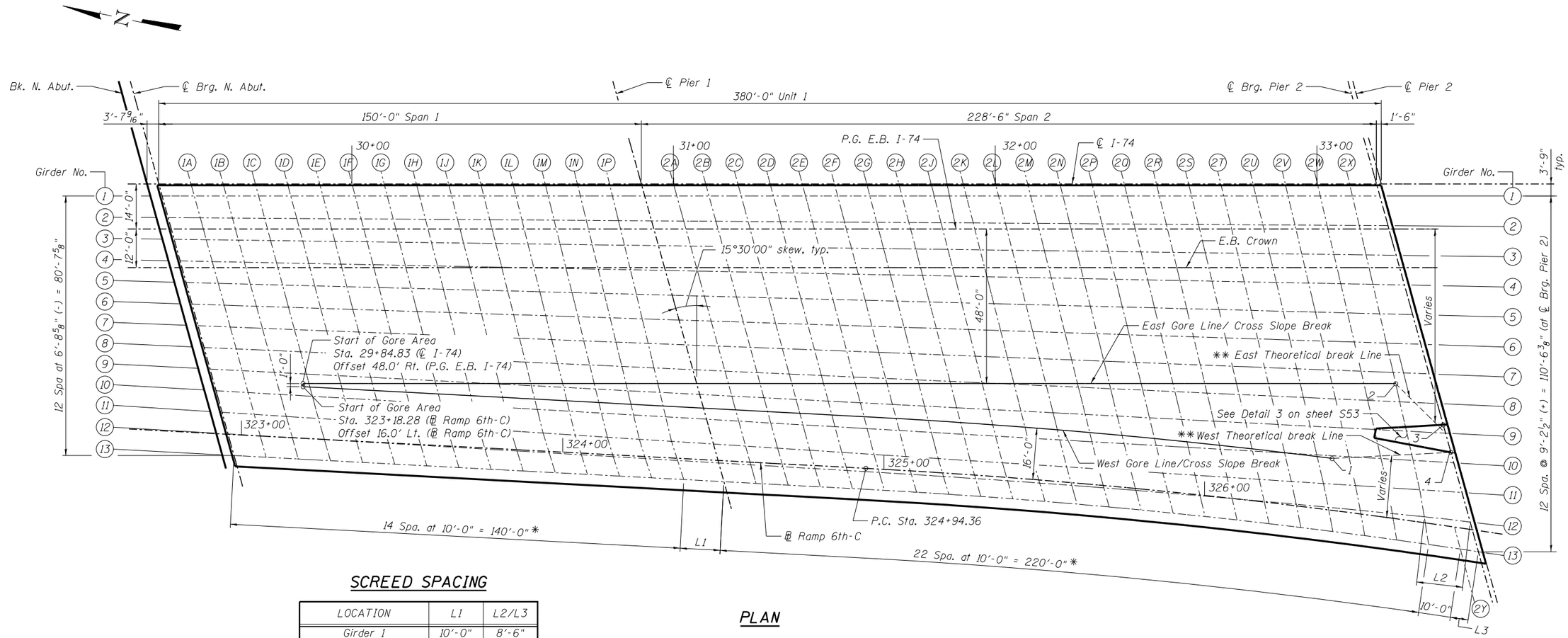

PLAN

SCREED SPACING

LOCATION	L1	L2/L3
Girder 1	10'-0"	8'-6"
Girder 2	10'-3 3/8"	8'-11 1/8"
P.G. E.B. I-74	10'-0"	8'-6"
Girder 3	10'-6 3/4"	9'-4 1/4"
Girder 4	10'-10 1/4"	9'-9 1/2"
Girder 5	11'-1 3/4"	10'-3"
Girder 6	11'-5 3/8"	10'-8 1/2"
Girder 7	11'-9 1/8"	11'-2 5/8"
Girder 8	12'-0 1/8"	11'-7 1/8"
Girder 9	12'-4 3/4"	12'-1 3/4"
Girder 10	12'-8 5/8"	12'-7 3/4"
Girder 11	13'-0 5/8"	13'-1 7/8"
Girder 12	12'-9 1/8"	14'-4 1/4"
℄ Ramp 6th-C	12'-5 5/8"	5'-6 3/4"
Girder 13	12'-5 5/8"	5'-7 1/8"

L2 = 10'-0" for ℄ Ramp 6th-C and Girder 13 Screed Line.

* Spacing measured along girder centerline.

NOTE:

1. No longitudinal construction joints will be permitted in the bridge deck. Contractor shall submit to engineer finishing operation that will be used. One acceptable bridge deck finishing operation is as follows:

   The Mainline portion of the deck, from the east edge of deck to the east gore, may be finished with a finishing machine. The Ramp 6th-C portion of the deck, from the west edge of deck to the west gore, may be finished with a vibratory screed or a finishing machine. The area between the gore lines may be finished by hand. These operations shall all be simultaneous.

CROSS SLOPE BREAK LINE DESCRIPTION:

** Dashed portion of line represents theoretical break in the cross slope of deck. See sheets S52, S64 & S66 for joint details. Location of specific points on line given below.

1. Begin of West Theoretical Break Line
   Sta. 33+07.20 ℄ I-74; Offset 71.60' Rt. P.G. E.B. I-74
   Sta. 326+40.36 ℄ Ramp 6th-C; Offset 16.00' Lt.
2. End of East Gore Line
   Sta. 33+27.20 ℄ I-74; Offset 48.00' Rt. P.G. E.B. I-74
3. West ML Parapet Toe of Barrier at ℄ Brg. Pier 2
   Sta. 33+39.26 ℄ I-74; Offset 60.84' Rt. P.G. E.B. I-74
   Elevation 602.35'
4. East Ramp Parapet Toe of Barrier at ℄ Brg. Pier 2
   Sta. 326+73.86 ℄ Ramp 6th-C; Offset 22.81' Lt.
   Elevation 602.56'

benesch
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312-565-0450 Job No. 10061

FILE NAME = 081-0178-C00AB-011-Deck Elevation Plan Unit 1.dgn	USER NAME = ksnider	DESIGNED - TJJ/DTS	REVISED -
		CHECKED - KWS	REVISED -
	PLOT SCALE =	DRAWN - KMS	REVISED -
MODEL: Default	PLOT DATE = 1/18/2017	CHECKED - KWS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK ELEVATION PLAN UNIT 1
STRUCTURE NO. 081-0178 (EASTBOUND)
SHEET NO. S11 OF S138 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
74	81-1HVBR	ROCK ISLAND	1504	900
		CONTRACT NO. 64C08		
	ILLINOIS FED. AID PROJECT			

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