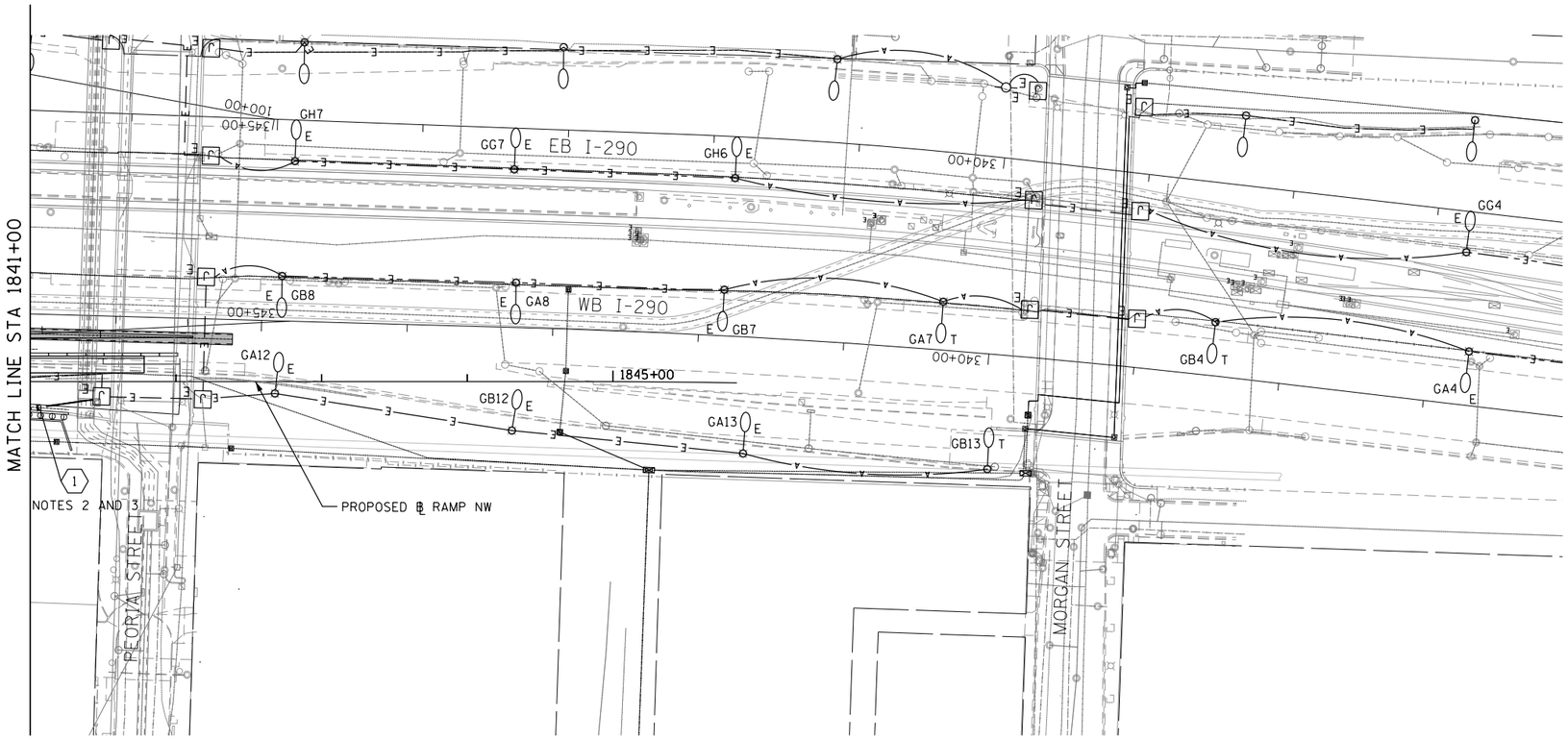

1 CKTS GA & GB: 3-1/C NO. 2 & 1-1/C NO. 4 GROUND XLP TYPE USE CABLES IN 1 1/2" POLYETHYLENE UNIT DUCT NOTE 4

NOTES:

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. PROVIDE A NEW LIGHTING FEED FROM THE EXISTING JUNCTION BOX ATTACHED TO THE PEORIA STREET BRIDGE TO THE TEMPORARY LIGHTING UNIT, GB11 AS SHOWN. ROUTE THE UNIT DUCT THROUGH EXISTING CONDUIT ATTACHED TO STRUCTURE TO THE EXISTING JUNCTION BOX.
3. THE UNIT DUCT INSTALLATION AND ROUTING SHALL BE COORDINATED WITH THE NOISE WALL RECONSTRUCTION WORK. THE UNIT DUCT FOR THE ROADWAY LIGHTING FEED SHALL BE ROUTED BETWEEN THE CAISSONS FOR THE NEW NOISE WALL, UNLESS OTHERWISE DIRECTED.
4. EXISTING IDOT LIGHTING CONTROLLER 'G' IS LOCATED ON THE NORTH SIDE OF WB I-290 JUST EAST OF RACINE AVE. SEE DRAWING E-14 FOR IDOT CONTROLLER 'G' WIRING DIAGRAM.

N

GRAPHIC SCALE
0 50 100
FEET

E-11

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

D160W28-sht-Light-11	DESIGNED - WDS	REVISED -	
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PLOT SCALE = 50.0000 ' / in.	CHECKED - WDS	REVISED -	
PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAMP NORTHWEST
PROPOSED LIGHTING PLAN

SCALE: 1"=50' | SHEET 11 OF 17 SHEETS | STA. 1841+00 | TO STA. 1846+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	301
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

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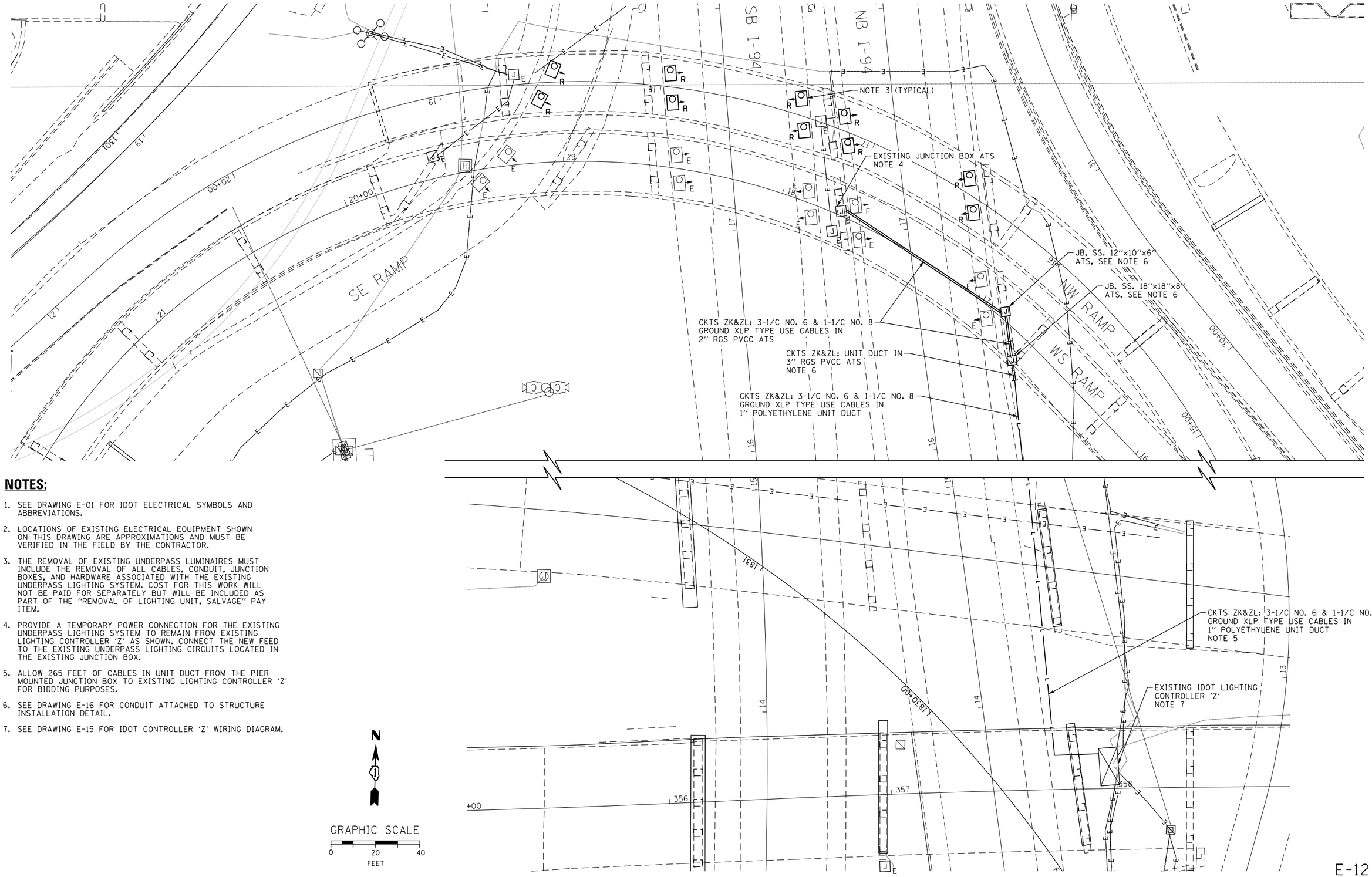

NOTES:

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. LOCATIONS OF EXISTING ELECTRICAL EQUIPMENT SHOWN ON THIS DRAWING ARE APPROXIMATIONS AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
3. THE REMOVAL OF EXISTING UNDERPASS LUMINAIRES MUST INCLUDE THE REMOVAL OF ALL CABLES, CONDUIT, JUNCTION BOXES, AND HARDWARE ASSOCIATED WITH THE EXISTING UNDERPASS LIGHTING SYSTEM. COST FOR THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED AS PART OF THE "REMOVAL OF LIGHTING UNIT, SALVAGE" PAY ITEM.
4. PROVIDE A TEMPORARY POWER CONNECTION FOR THE EXISTING UNDERPASS LIGHTING SYSTEM TO REMAIN FROM EXISTING LIGHTING CONTROLLER 'Z' AS SHOWN. CONNECT THE NEW FEED TO THE EXISTING UNDERPASS LIGHTING CIRCUITS LOCATED IN THE EXISTING JUNCTION BOX.
5. ALLOW 265 FEET OF CABLES IN UNIT DUCT FROM THE PIER MOUNTED JUNCTION BOX TO EXISTING LIGHTING CONTROLLER 'Z' FOR BIDDING PURPOSES.
6. SEE DRAWING E-16 FOR CONDUIT ATTACHED TO STRUCTURE INSTALLATION DETAIL.
7. SEE DRAWING E-15 FOR IDOT CONTROLLER 'Z' WIRING DIAGRAM.

N

GRAPHIC SCALE
0 20 40
FEET

E-12

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

D160W28-sht-Light-12	DESIGNED - WDS	REVISED -	
USER NAME = myersc	DRAWN - CAM	REVISED -	
PLOT SCALE = 20.0000 ' / in.	CHECKED - WDS	REVISED -	
PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAMP NORTHWEST EXISTING/TEMPORARY UNDERPASS LIGHTING PLAN

SCALE: 1"=20' | SHEET 12 OF 17 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	302
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		

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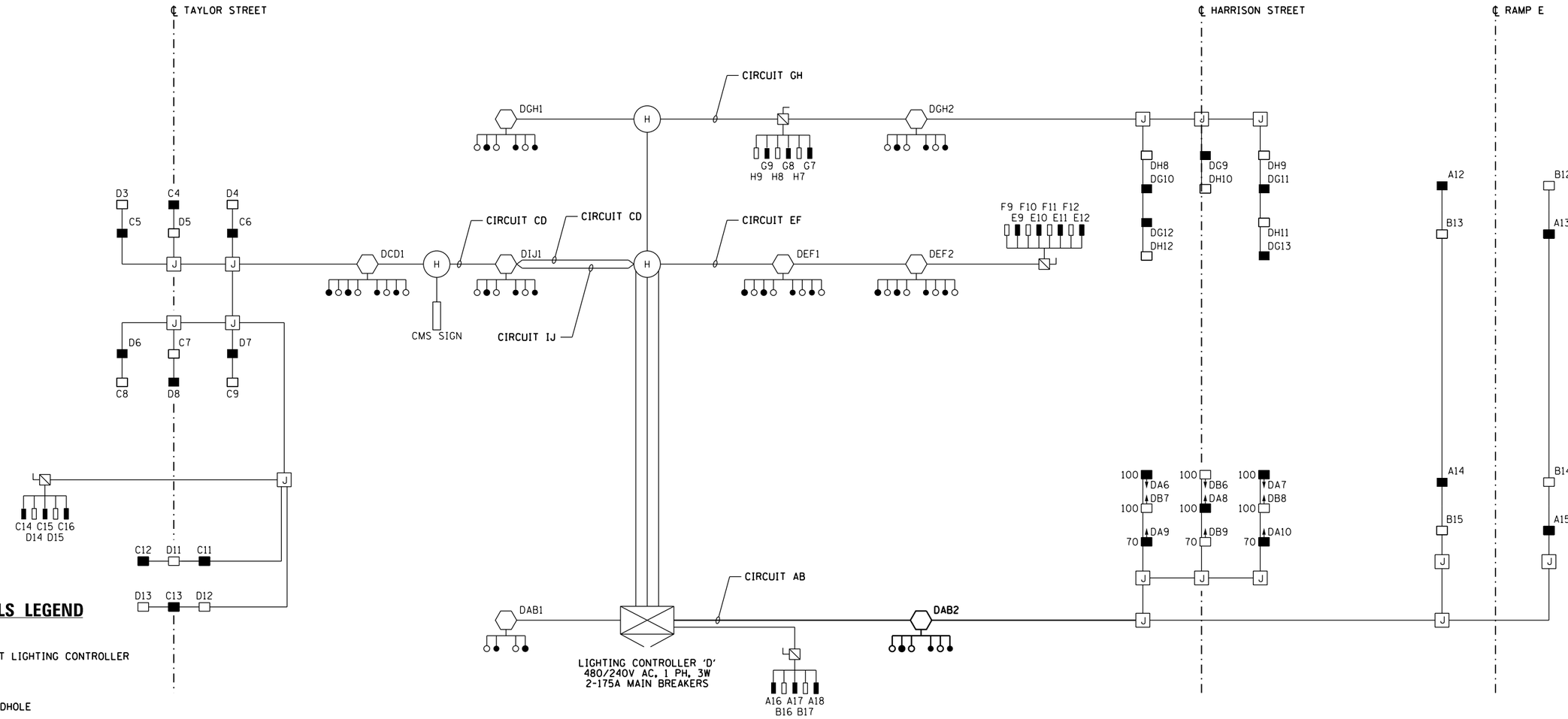

SYMBOLS LEGEND

- IDOT LIGHTING CONTROLLER
- H — HANDHOLE
- J — JUNCTION BOX
- HH — HANDHOLE
- CMS SIGN
- UNDERPASS LIGHTING UNIT 55 WATT HPS LUMINAIRE (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)
- HIGH MAST LIGHT TOWER 400 WATT HPS LUMINAIRE (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)
- LIGHTED OVERHEAD SIGN STRUCTURE WITH 170 WATT FLUORESCENT LUMINAIRES, QUANTITY OF LUMINAIRES AS REQUIRED (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)
- 100 — UNDERPASS LIGHTING UNIT 70 OR 100 WATT HPS LUMINAIRE (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)

LOAD TABLE
LIGHTING CONTROLLER ''D''

CIRCUIT	BLACK PHASE		CIRCUIT	RED PHASE	
	AMPS	WATTS		AMPS	WATTS
A	18.6	4,466	B	17.7	4,243
C	20.2	4,841	D	19.7	4,721
E	17.2	4,128	F	17.2	4,128
G	19.1	4,572	H	19.1	4,572
I	5.7	1,368	J	5.7	1,368
K	-	-	L	-	-
M	-	-	N	-	-
O	-	-	P	-	-
TOTAL	80.7	19,375	TOTAL	79.3	19,032

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D160W28-sht-Light-13	DESIGNED - WDS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
USER NAME = myersc	DRAWN - CAM	REVISED -	
PLOT SCALE = 20.0000 ' / in.	CHECKED - WDS	REVISED -	
PLOT DATE = 3/21/2014	DATE - 03/28/14	REVISED -	

IDOT LIGHTING CONTROLLER 'D' WIRING DIAGRAM

SCALE: N.T.S. | SHEET 13 OF 17 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	303
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

SYMBOLS LEGEND

IDOT LIGHTING CONTROLLER

J — JUNCTION BOX

HIGH MAST LIGHT TOWER
400 WATT HPS LUMINAIRE

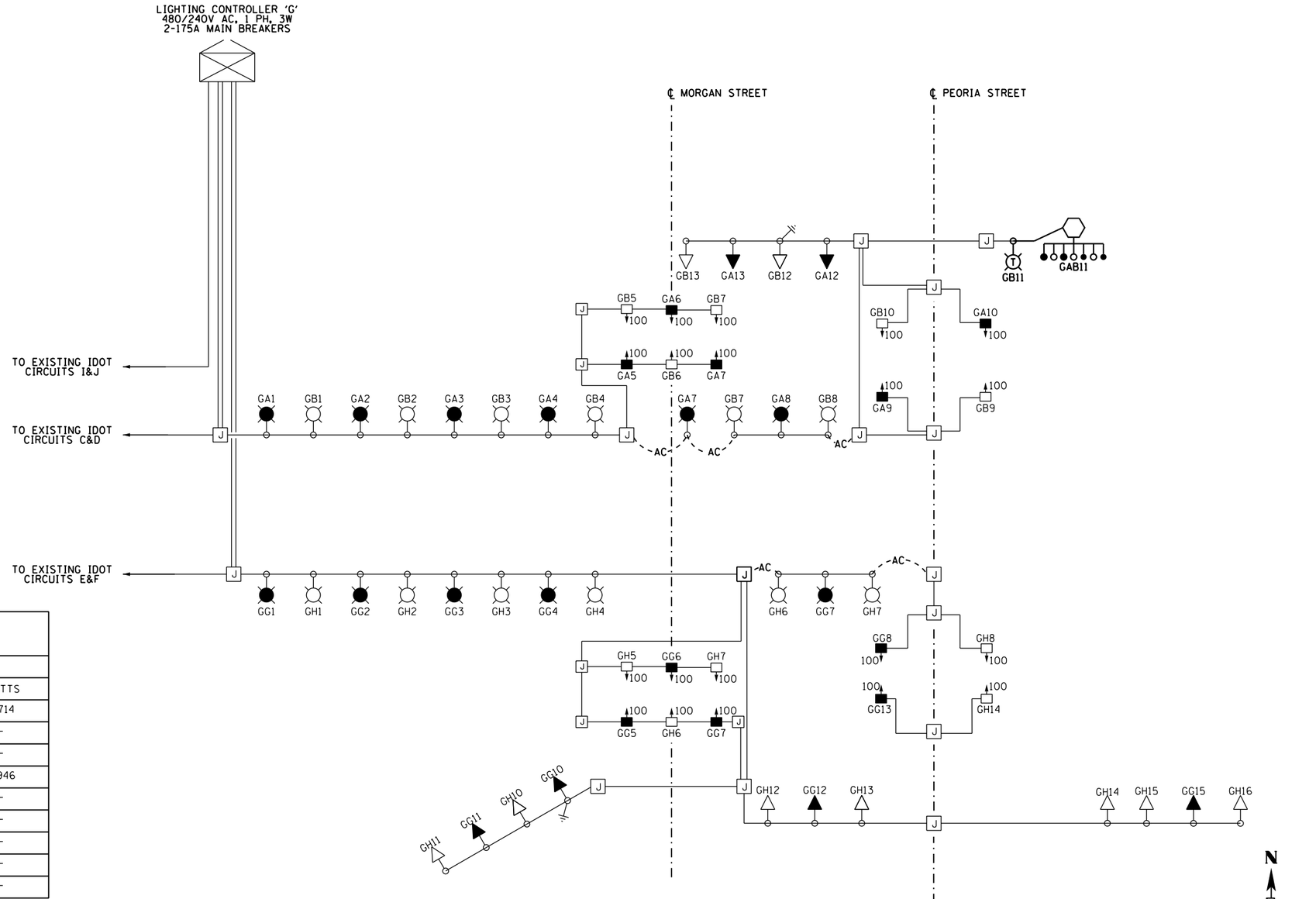
LIGHTING UNIT (400W LUMINAIRE)
(BLACK PHASE - SOLID SYMBOL
RED PHASE - OPEN SYMBOL)

T — TEMPORARY LIGHTING UNIT (400W LUMINAIRE)
(BLACK PHASE - SOLID SYMBOL
RED PHASE - OPEN SYMBOL)

LIGHTING UNIT (150W LUMINAIRE)
(BLACK PHASE - SOLID SYMBOL
RED PHASE - OPEN SYMBOL)

100 — UNDERPASS LIGHTING UNIT
100 WATT HPS LUMINAIRE
(BLACK PHASE - SOLID SYMBOL
RED PHASE - OPEN SYMBOL)

AC — TEMPORARY AERIAL CABLE



LOAD TABLE
LIGHTING CONTROLLER "G" (PARTIAL)

CIRCUIT	BLACK PHASE		CIRCUIT	RED PHASE	
	AMPS	WATTS		AMPS	WATTS
A	23.8	5,714	B	23.8	5,714
C	-	-	D	-	-
E	-	-	F	-	-
G	16.1	3,857	H	20.6	4,946
I	-	-	J	-	-
K	-	-	L	-	-
M	-	-	N	-	-
O	-	-	P	-	-
TOTAL	-	-	TOTAL	-	-

E-14

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

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PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IDOT LIGHTING CONTROLLER 'G'
WIRING DIAGRAM (PARTIAL)

SCALE: N.T.S. | SHEET 14 OF 17 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	304
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

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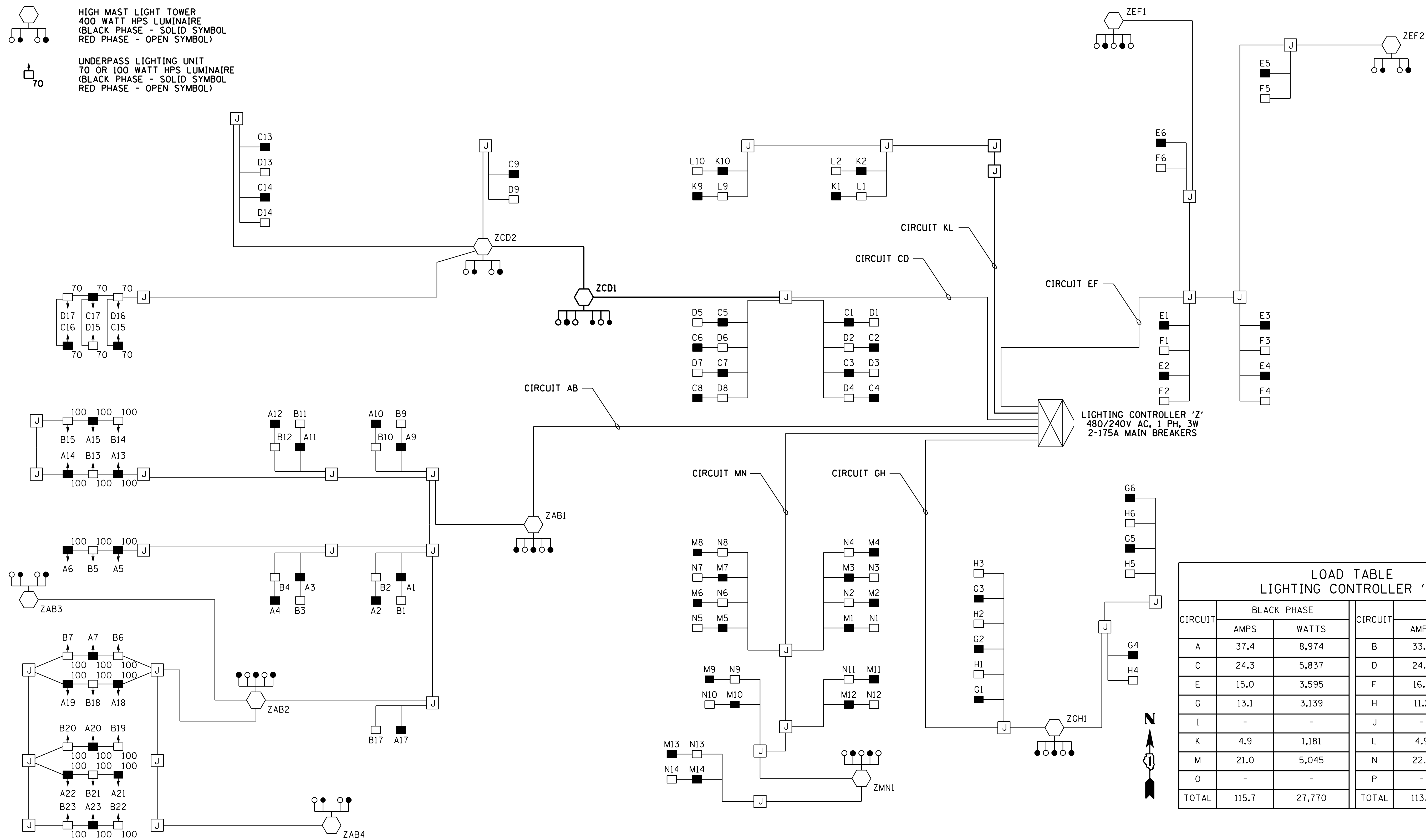
SYMBOLS LEGEND

- IDOT LIGHTING CONTROLLER
- JUNCTION BOX
- UNDERPASS LIGHTING UNIT 55 WATT LPS LUMINAIRE (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)
- HIGH MAST LIGHT TOWER 400 WATT HPS LUMINAIRE (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)
- UNDERPASS LIGHTING UNIT 70 OR 100 WATT HPS LUMINAIRE (BLACK PHASE - SOLID SYMBOL RED PHASE - OPEN SYMBOL)



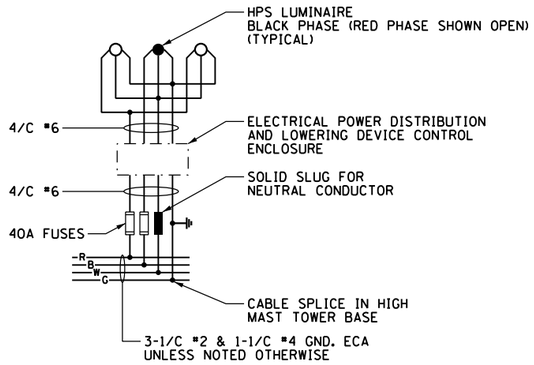
CIRCUIT	BLACK PHASE AMPS	BLACK PHASE WATTS	CIRCUIT	RED PHASE AMPS	RED PHASE WATTS
A	37.4	8,974	B	33.6	8,062
C	24.3	5,837	D	24.3	5,837
E	15.0	3,595	F	16.9	4,051
G	13.1	3,139	H	11.2	2,683
I	-	-	J	-	-
K	4.9	1,181	L	4.9	1,181
M	21.0	5,045	N	22.9	5,501
O	-	-	P	-	-
TOTAL	115.7	27,770	TOTAL	113.8	27,314

Table title: LOAD TABLE LIGHTING CONTROLLER "Z"

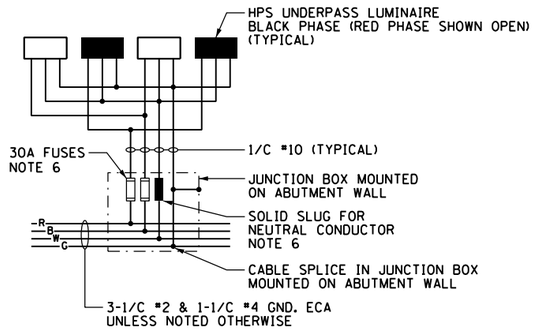
E-15

HIGH MAST LIGHT TOWER FOUNDATION SCHEDULE

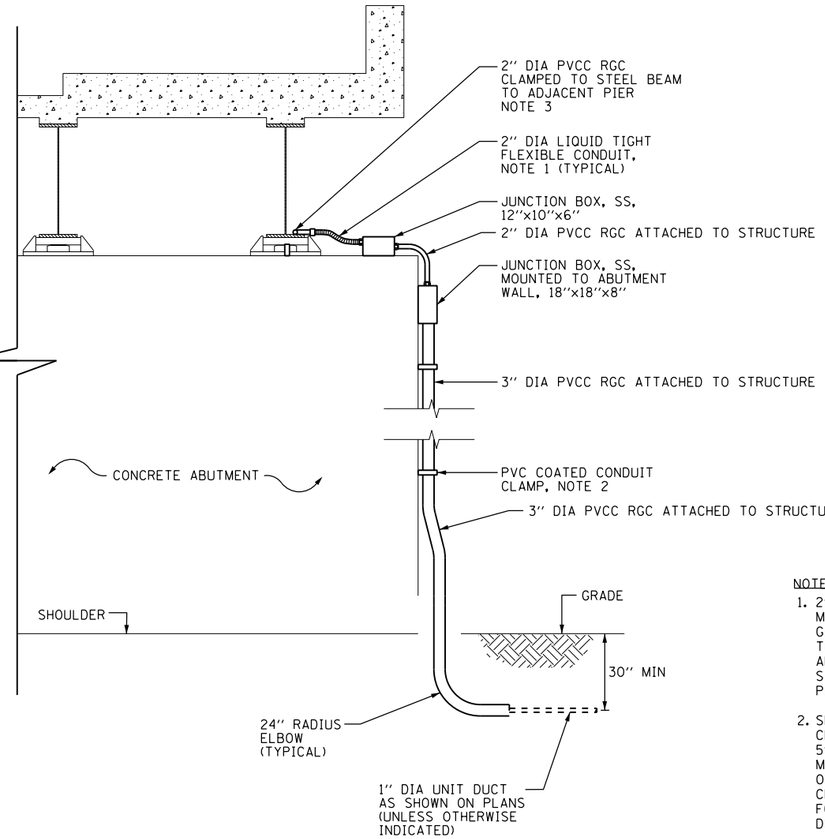
HIGH MAST LIGHT TOWER IDENTIFICATION	HIGH MAST LIGHT TOWER FOUNDATION LOCATION			HIGH MAST LIGHT TOWER FOUNDATION ELEVATIONS			HIGH MAST TOWER HEIGHT	REMARKS AND NOTES
	STATION	OFFSET (NOTE 4)	BASELINE	TOP ELEVATION	BOTTOM ELEVATION	DESIGN DEPTH (FT)		
DAB2	1822+13.00	35.50' RT	NW RAMP	594.02	519.02	75.0	130'	SEE NOTES 4 AND 5.
ZCD1	1832+82.91	95.20' RT	NW RAMP	584.59	508.59	76.0	150'	SEE NOTES 4 AND 5.
GAB11	1836+75.00	55.00' RT	NW RAMP	593.81			150'	SEE NOTES 4 AND 5.



TYPICAL HIGH MAST LIGHT TOWER WIRING DIAGRAM
NOT TO SCALE



TYPICAL UNDERPASS LIGHTING UNIT WIRING DIAGRAM
NOT TO SCALE



CONDUIT ATTACHED TO STRUCTURE DETAIL
NOT TO SCALE

NOTES:

1. 2" DIAMETER LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 3'-0". PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED. LIQUID TIGHT FLEXIBLE METAL CONDUIT WILL BE MEASURED AND PAID FOR UNDER THE "CONDUIT ATTACHED TO STRUCTURE, 2" DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
2. SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTIONS. ALL PVC COATED CONDUIT CLAMPS OR BEAM CLAMPS WILL BE MEASURED AND PAID FOR UNDER THE "CONDUIT ATTACHED TO STRUCTURE, 3" DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
3. SEE DRAWING E-12 FOR THE ROUTING OF THE CONDUIT ATTACHED TO STRUCTURE.
4. SEE IDOT STANDARDS BE-506 AND BE-511 FOR LIGHT TOWER FOUNDATION DETAILS.
5. THE SCHEDULE ON THIS DRAWING REPLACES THE "SHAFT LENGTH (D) TABLE" SHOWN ON IDOT STANDRDS BE-506 AND BE-511.
6. THE FUSES, FUSE HOLDERS, AND SOLID SLUGS SHALL BE PROVIDED ACCORDING TO ARTICLE 1065.01 OF THE IDOT STANDARDS. THE COST OF PROVIDING THE FUSES, FUSE HOLDERS, AND SOLID SLUGS IN THE JUNCTION BOX WILL NOT BE PAID FOR SEPARATELY AND WILL BE INCLUDED IN THE COST OF THE JUNCTION BOX IN WHICH THEY ARE INSTALLED.

AECOM
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D160W28-sht-Light-16	DESIGNED - WDS	REVISED -	
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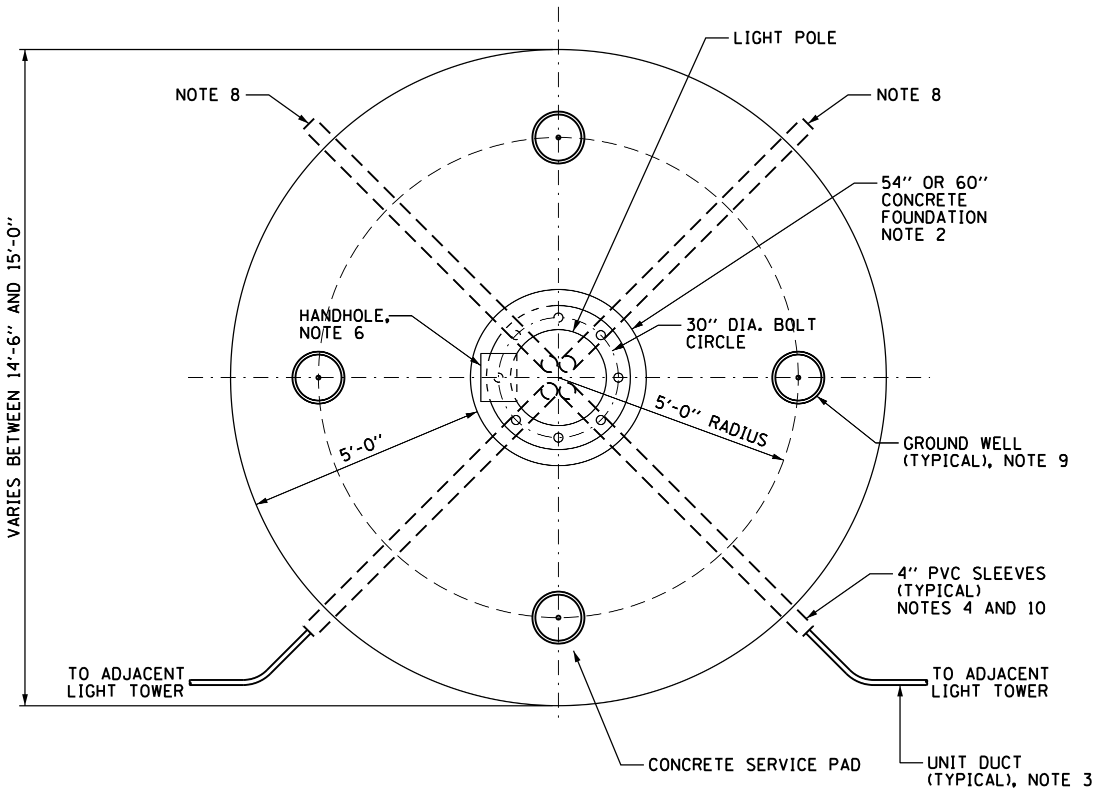
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

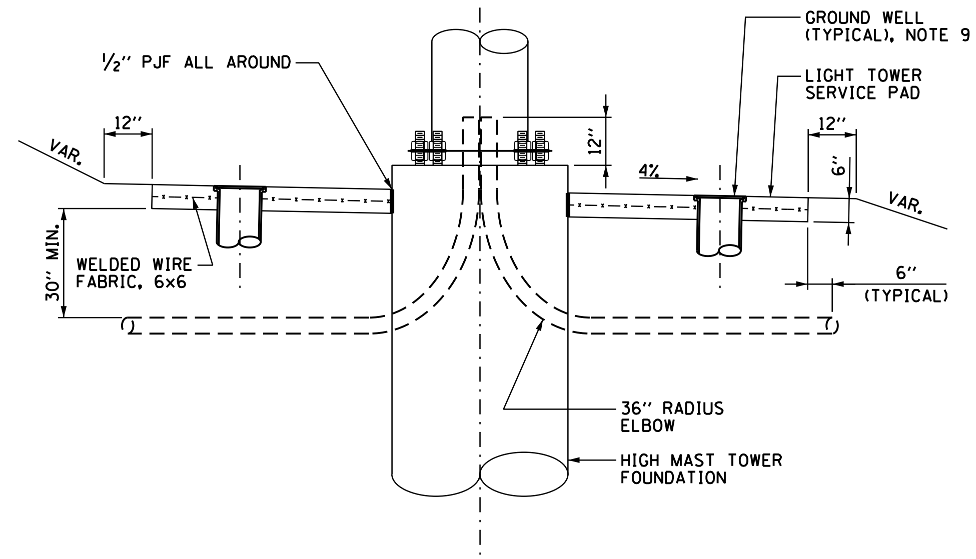
MISCELLANEOUS ELECTRICAL DETAILS

SCALE: N.T.S. | SHEET 16 OF 17 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	306
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



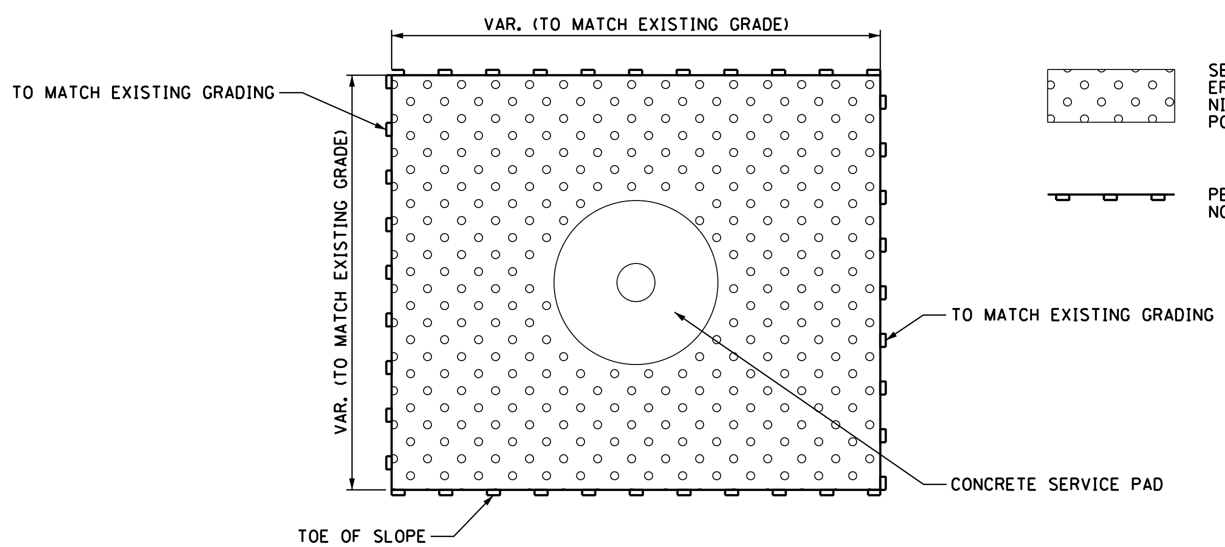
PLAN

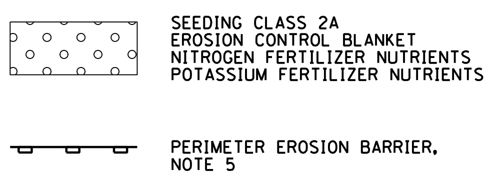


ELEVATION - SHOWN WITHOUT CURB

GROUND MOUNTED HIGH MAST TOWER SERVICE PAD, GROUNDING AND CONDUIT INSTALLATION DETAILS

NOT TO SCALE





LANDSCAPING SURROUNDING GROUND MOUNTED HIGH MAST TOWER FOUNDATION ZCD1 AND GAB11

NOT TO SCALE - NOTE 7

NOTES:

1. SEE DRAWINGS E-01 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. SEE IDOT STANDARD DRAWING BE-506 AND BE-511 FOR ADDITIONAL HIGH MAST LIGHT TOWER FOUNDATION AND GROUND WELL DETAILS.
3. SEE PLAN DRAWINGS FOR QUANTITY, SIZE, AND TYPE OF RACEWAY AND LIGHTING CIRCUITS ROUTED TO EACH HIGH MAST LIGHT TOWER FOUNDATION.
4. PVC SLEEVES MUST BE EXTENDED 6 INCHES BEYOND THE EDGE OF THE CONCRETE PAD.
5. THE PERIMETER EROSION BARRIER IS TO BE PLACED AROUND THE WORK ZONE AREA OR AS DIRECTED BY THE ENGINEER.
6. THE HANDHOLE FOR THE HIGH MAST LIGHTING UNIT MUST BE ORIENTED SUCH THAT IT IS MOUNTED ON THE SIDE OF THE POLE THAT IS OPPOSITE THE DIRECTION OF TRAFFIC.
7. SEE THE CIVIL CROSS SECTION PLANS FOR THE PROPOSED GRADING AROUND THE LIGHT TOWER FOUNDATION AND PAD.
8. EMPTY PVC SLEEVE FOR FUTURE USE. ALL EMPTY SLEEVES MUST BE CAPPED UNLESS NOTED OTHERWISE ON THE PLANS.
9. INSTALL GROUND WELLS 5'-0" AS MEASURED FROM THE CENTER LINE OF THE HIGH MAST TOWER TO THE CENTER LINE OF THE WELL.
10. PVC CONDUIT SLEEVES SHALL BE INCLUDED IN THE COST OF THE LIGHT TOWER FOUNDATION AND SHALL NOT BE PAID FOR SEPARATELY.

E-17

AECOM
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CHICAGO, IL 60601-5276
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PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT TOWER SERVICE PAD DETAILS

SCALE: N.T.S. | SHEET 17 OF 17 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	307

CONTRACT NO. 60W28

ILLINOIS FED. AID PROJECT

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SB I-90/94

NB I-90/94

195+00

190+00

1800+00

1805+00

1250+00

EXISTING CONDUIT, 96 SMF, NO. 19 200/C IN BARRIER WALL

EXISTING JUNCTION BOX

EXISTING NO. 19 6/C

EXISTING 2" G.S. CONDUIT, NO. 19 200/C

EXISTING LOOPS

EXISTING P-DUCT, NO. 14 3/C

EXISTING HANDHOLE

EXISTING 2" P-DUCT, NO. 19 6/C, NO. 6 2/C, NO. 8 1/C

EXISTING LOOP

EXISTING P-DUCT, NO. 14 3/C

EXISTING P-DUCT, NO. 12 3/C

EXISTING FLASHER/SIGN

EXISTING ITS CABINET C6

(4) EXISTING CONDUITS, 2" P-DUCT

EXISTING RAMP METER SIGNAL

EXISTING CABINET C6A

WALL

WALL

ROOSEVELT ROAD

RUBLE STREET

DES PLAINES STREET

MATCH LINE STA. 1806+00

N

0 30 60

SCALE: 1"=30'

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D160W28-sht-ITS-01	DESIGNED - GWS	REVISED -	
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PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

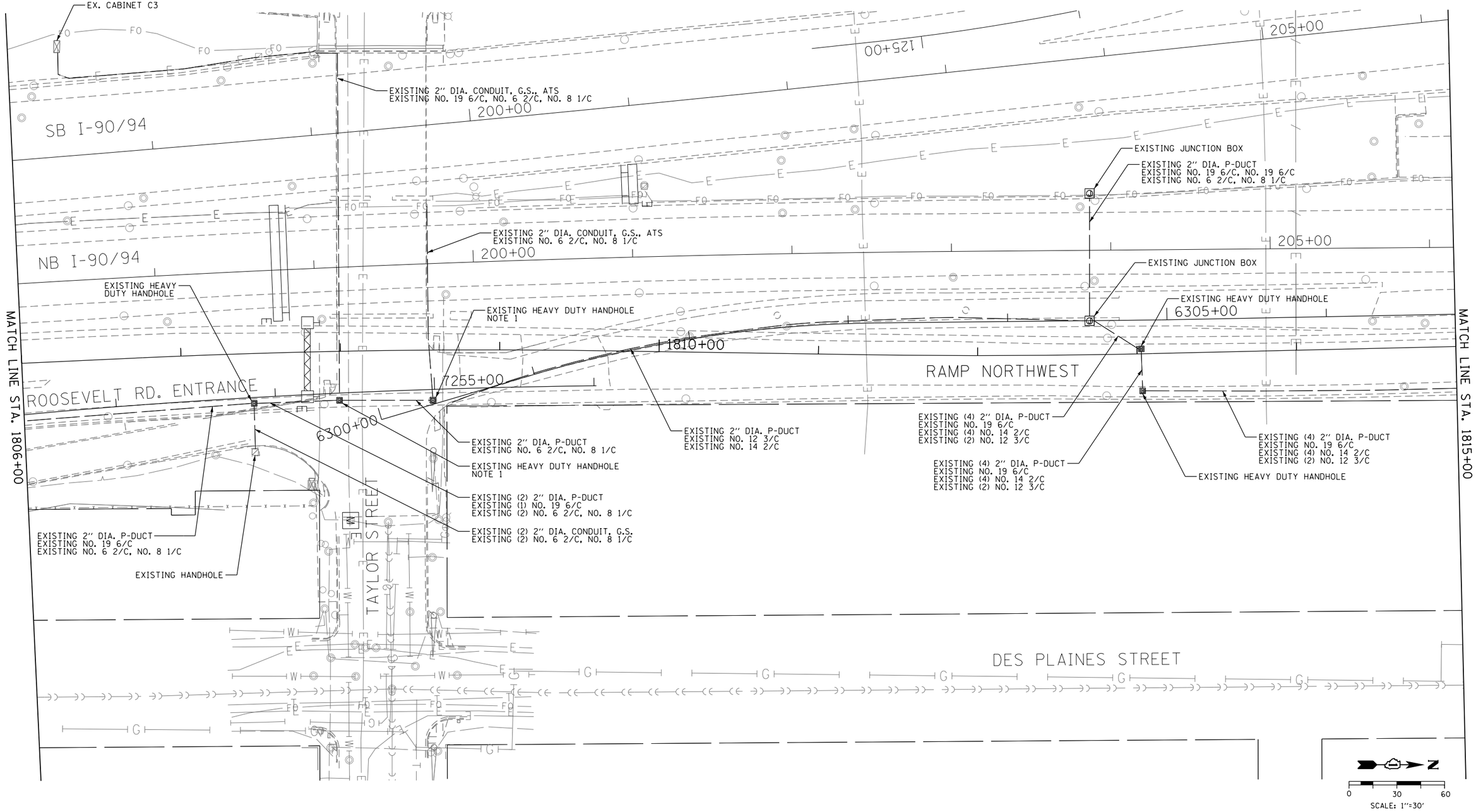
EXISTING ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 1 OF 9 SHEETS | STA. | TO STA. 1806+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	308
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. EXISTING 2" DIA. CONDUIT, G.S. IS ATTACHED TO EXISTING RETAINING WALL 2 UNDER THE TAYLOR ST. STRUCTURE.



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USER NAME = myersc	DRAWN - CAM	REVISED -
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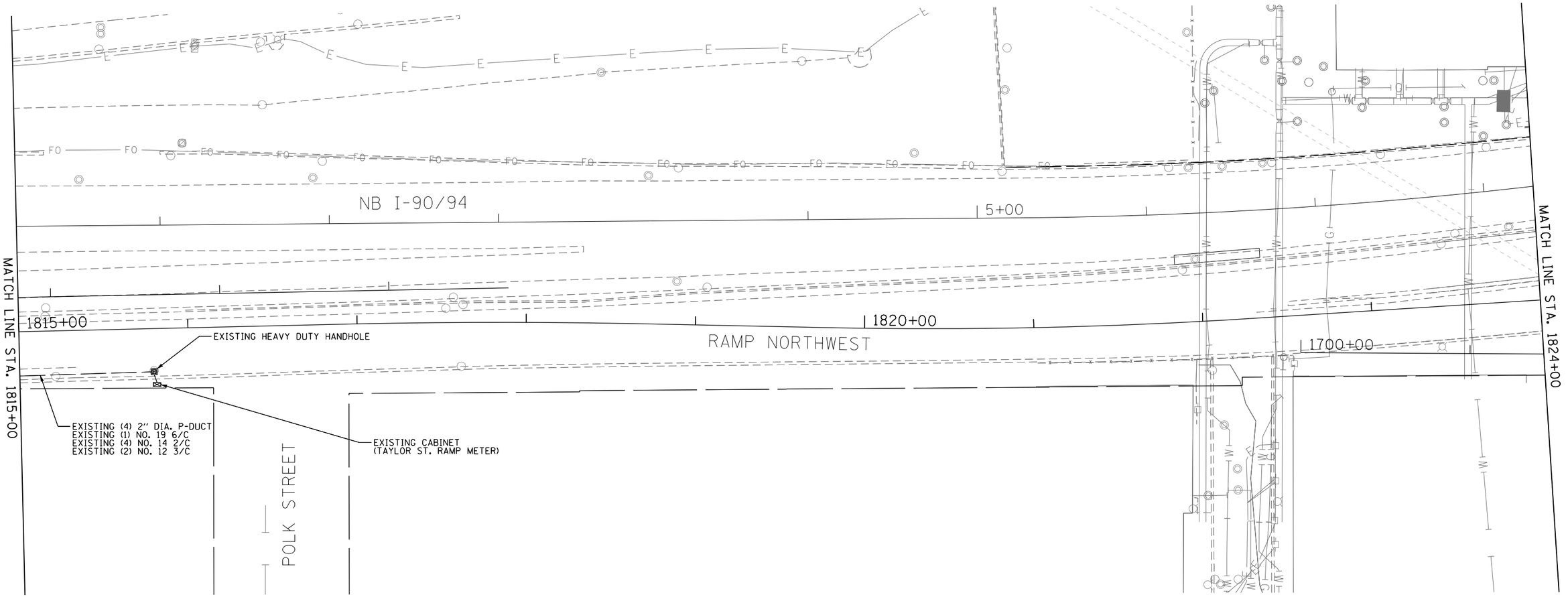
PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 3A OF 9 SHEETS | STA. 1806+00 TO STA. 1815+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	308A
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



N

0 30 60

SCALE: 1"=30'

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AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 3B OF 9 SHEETS | STA. 1815+00 | TO STA. 1824+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	308B
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		

SB I-90/94

NB I-90/94

190+00

195+00

1800+00

1805+00

MATCH LINE STA. 1806+00

WALL

WALL

ROOSEVELT ROAD

RUBLE ST.

DES PLAINES STREET

MAINTAIN EXISTING ITS
NOTE 1

MAINTAIN EXISTING ITS
NOTE 1

MAINTAIN EXISTING ITS
NOTE 1

(1) 110 FT. UNDERGROUND CONDUIT, PVC, 2" DIA.

DRILL EXISTING FOUNDATION
(1) 5 FT. UNDERGROUND CONDUIT,
PVC, 2" DIA.

DRILL EXISTING FOUNDATION
(1) 5 FT. UNDERGROUND CONDUIT, PVC, 2" DIA.
(1) 5 FT. ELECTRIC CABLE IN CONDUIT,
NO. 6 2/C, NO. 8 1/C GROUND

7250+00

(1) HANDHOLE

(1) HANDHOLE

(1) HANDHOLE

(1) HANDHOLE

(1) HANDHOLE

(1) 25 FT. UNDERGROUND CONDUIT SLEEVE, PVC, 4" DIA., SCH. 80
(1) 40 FT. UNDERGROUND CONDUIT, PVC, 2" DIA.
(1) 40 FT. ELECTRIC CABLE IN CONDUIT, NO. 6 2/C,
NO. 8 1/C GROUND

(1) 105 FT. UNDERGROUND CONDUIT, PVC, 2" DIA.
(1) 105 FT. ELECTRIC CABLE IN CONDUIT,
NO. 6 2/C, NO. 8 1/C GROUND

DRILL EXISTING FOUNDATION
(1) 5 FT. UNDERGROUND CONDUIT, PVC, 2" DIA.
(1) 5 FT. ELECTRIC CABLE IN CONDUIT,
NO. 6 2/C, NO. 8 1/C GROUND

NOTES:

1. MAINTAIN THE EXISTING IDOT DETECTION SYSTEMS (ITS) AFFECTED BY THE NW FLYOVER CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE COST OF THE 'MAINTAINING ITS DURING CONSTRUCTION' PAY ITEM. SEE THE 'OPERATION OF EXISTING TRAFFIC SURVEILLANCE/SPEED/COUNT SYSTEMS' SPECIAL PROVISION FOR MORE DETAILS.

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SCALE: 1"=30'

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

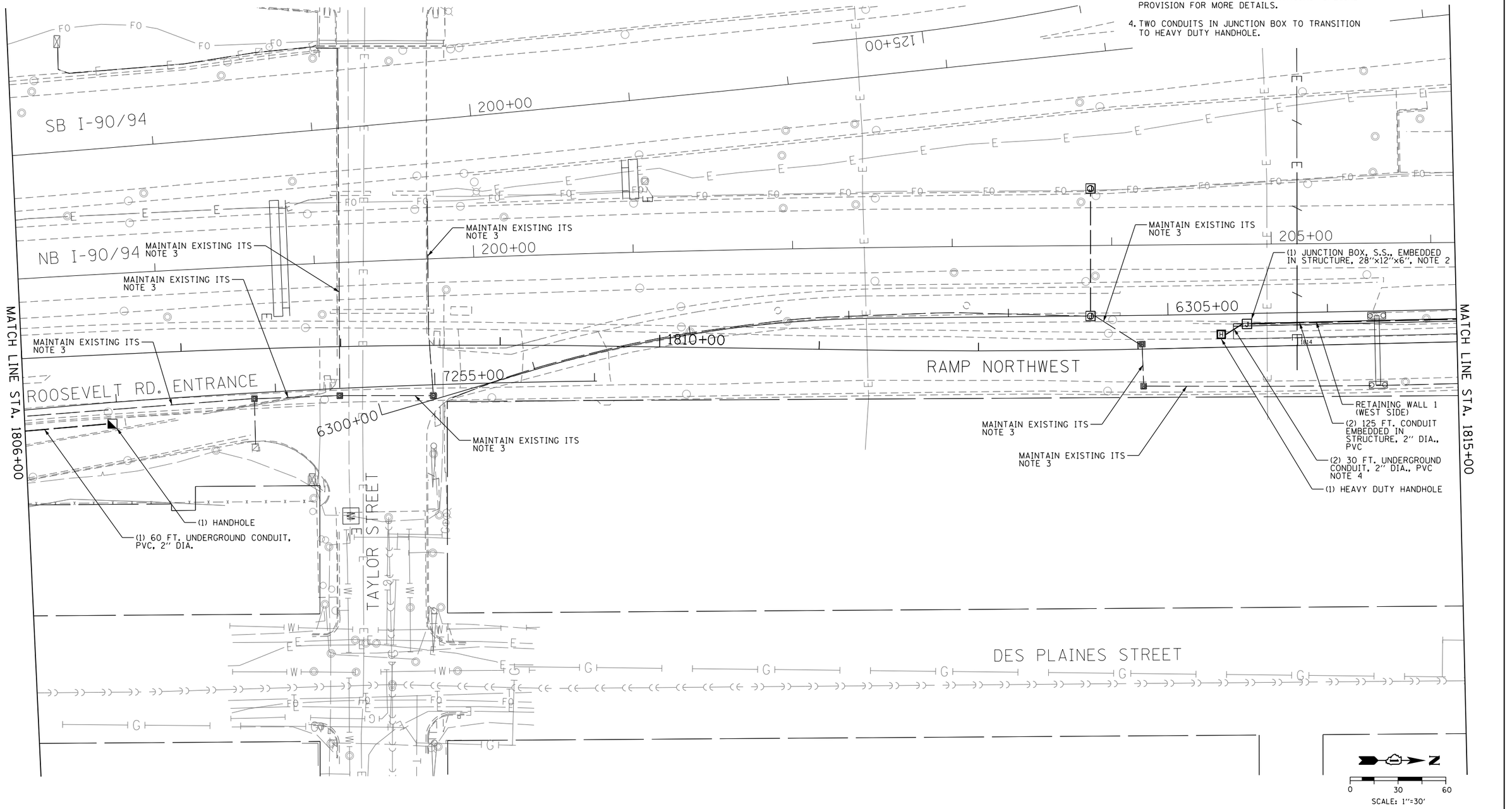
PROPOSED ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 2 OF 9 SHEETS | STA. TO STA. 1806+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	309
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. TWO 2" DIAMETER CONDUITS TO BE INSTALLED IN THE BARRIER RAIL OF THE RETAINING WALL.
2. JUNCTION BOX TO BE INSTALLED IN THE BARRIER RAIL OF THE RETAINING WALL.
3. MAINTAIN THE EXISTING IDOT DETECTION SYSTEM (ITS) AFFECTED BY THE NW FLYOVER CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE COST OF THE 'MAINTAINING ITS DURING CONSTRUCTION' PAY ITEM. SEE THE 'OPERATION OF EXISTING TRAFFIC SURVEILLANCE/SPEED/COUNT STATIONS' SPECIAL PROVISION FOR MORE DETAILS.
4. TWO CONDUITS IN JUNCTION BOX TO TRANSITION TO HEAVY DUTY HANDHOLE.



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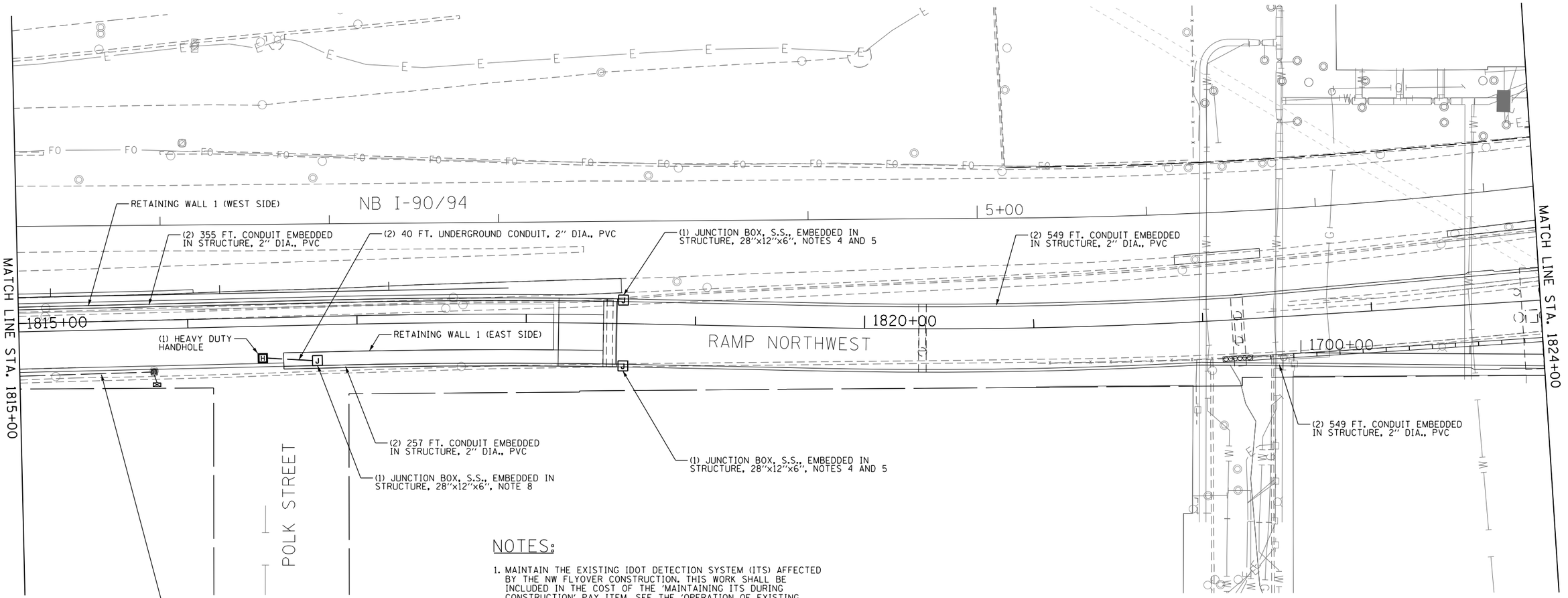
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 3 OF 9 SHEETS | STA. 1806+00 TO STA. 1815+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	310
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. MAINTAIN THE EXISTING IDOT DETECTION SYSTEM (ITS) AFFECTED BY THE NW FLYOVER CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE COST OF THE 'MAINTAINING ITS DURING CONSTRUCTION' PAY ITEM. SEE THE 'OPERATION OF EXISTING TRAFFIC SURVEILLANCE/SPEED/COUNT STATIONS' SPECIAL PROVISION FOR MORE DETAILS.
2. THE EXISTING CONDUIT AND ELECTRIC CABLES ARE TO BE MAINTAINED THROUGH CONSTRUCTION. CONDUIT AND HANHOLES WILL NOT BE RELOCATED.
3. TWO 2" DIAMETER CONDUITS TO BE INSTALLED IN THE PARAPET WALL ON EACH SIDE OF THE STRUCTURE.
4. JUNCTION BOX INSTALLED IN PARAPET WALLS.
5. SEE ABUTMENT WALL DETAIL.
6. CONDUITS IN PARAPET WALL WILL CONTINUE INTO THE RETAINING WALL BARRIER RAIL.
7. TWO 2" DIAMETER CONDUITS TO BE INSTALLED IN THE BARRIER RAIL IN EACH RETAINING WALL.
8. JUNCTION BOX INSTALLED IN BARRIER RAILS.
9. TWO 2" DIA. CONDUITS IN BARRIER RAIL TO TRANSITION TO HEAVY DUTY HANDHOLE.

N

0 30 60

SCALE: 1"=30'

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

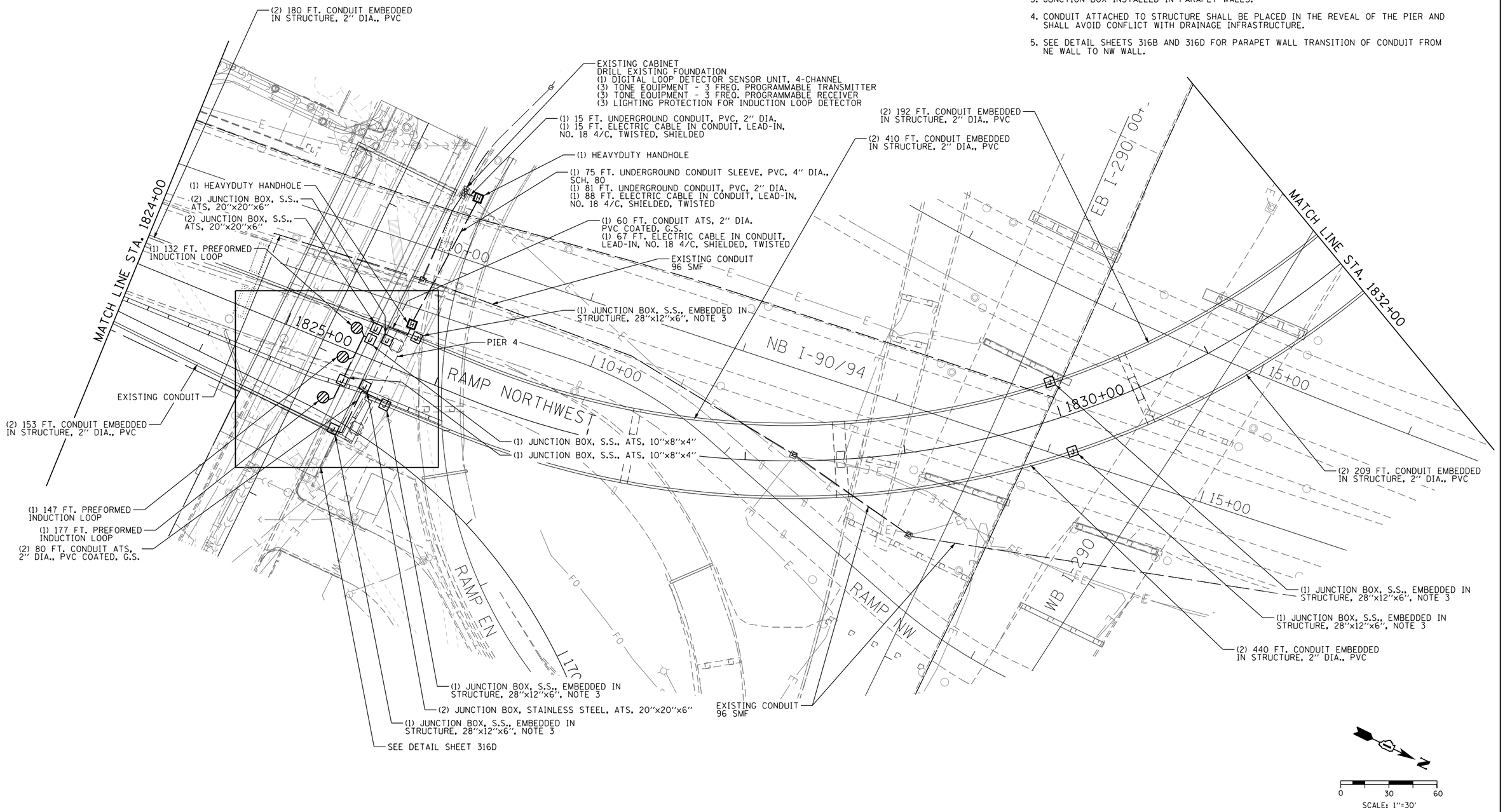
PROPOSED ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 4 OF 9 SHEETS | STA. 1815+00 TO STA. 1824+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	311
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. MAINTAIN THE EXISTING IDOT DETECTION SYSTEMS (ITS) AFFECTED BY THE NW FLYOVER CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE COST OF THE 'MAINTAINING ITS DURING CONSTRUCTION' PAY ITEM. SEE THE 'OPERATION OF EXISTING TRAFFIC SURVEILLANCE/SPEED/COUNT STATIONS' SPECIAL PROVISION FOR MORE DETAILS.
2. TWO 2" DIAMETER CONDUITS TO BE INSTALLED IN THE PARAPET WALL ON EACH SIDE OF THE STRUCTURE.
3. JUNCTION BOX INSTALLED IN PARAPET WALLS.
4. CONDUIT ATTACHED TO STRUCTURE SHALL BE PLACED IN THE REVEAL OF THE PIER AND SHALL AVOID CONFLICT WITH DRAINAGE INFRASTRUCTURE.
5. SEE DETAIL SHEETS 316B AND 316D FOR PARAPET WALL TRANSITION OF CONDUIT FROM NE WALL TO NW WALL.



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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

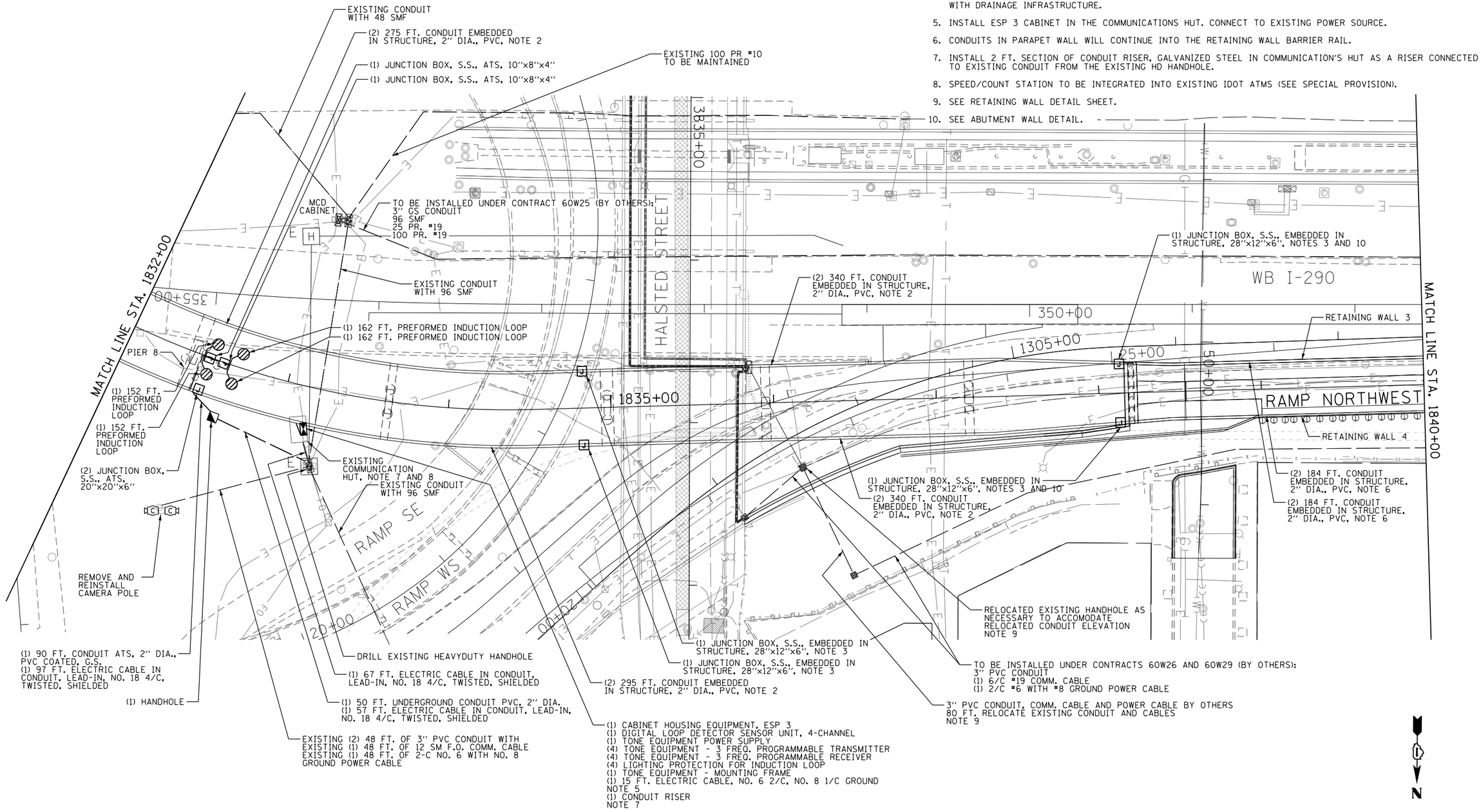
PROPOSED ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 5 OF 9 SHEETS | STA. 1824+00 | TO STA. 1832+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	312
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. MAINTAIN THE EXISTING IDOT DETECTION SYSTEMS (ITS) AFFECTED BY THE NW FLYOVER CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE COST OF THE 'MAINTAINING ITS DURING CONSTRUCTION' PAY ITEM. SEE THE 'OPERATION OF EXISTING TRAFFIC SURVEILLANCE/SPEED/COUNT STATIONS' SPECIAL PROVISION FOR MORE DETAILS.
2. TWO 2" DIAMETER CONDUITS TO BE INSTALLED IN THE PARAPET WALL ON EACH SIDE OF THE STRUCTURE.
3. JUNCTION BOX INSTALLED IN PARAPET WALLS.
4. CONDUIT ATTACHED TO STRUCTURE SHALL BE PLACED IN THE REVEAL OF THE PIER AND SHALL AVOID CONFLICT WITH DRAINAGE INFRASTRUCTURE.
5. INSTALL ESP 3 CABINET IN THE COMMUNICATIONS HUT. CONNECT TO EXISTING POWER SOURCE.
6. CONDUITS IN PARAPET WALL WILL CONTINUE INTO THE RETAINING WALL BARRIER RAIL.
7. INSTALL 2 FT. SECTION OF CONDUIT RISER, GALVANIZED STEEL IN COMMUNICATION'S HUT AS A RISER CONNECTED TO EXISTING CONDUIT FROM THE EXISTING HD HANDHOLE.
8. SPEED/COUNT STATION TO BE INTEGRATED INTO EXISTING IDOT ATMS (SEE SPECIAL PROVISION).
9. SEE RETAINING WALL DETAIL SHEET.
10. SEE ABUTMENT WALL DETAIL.



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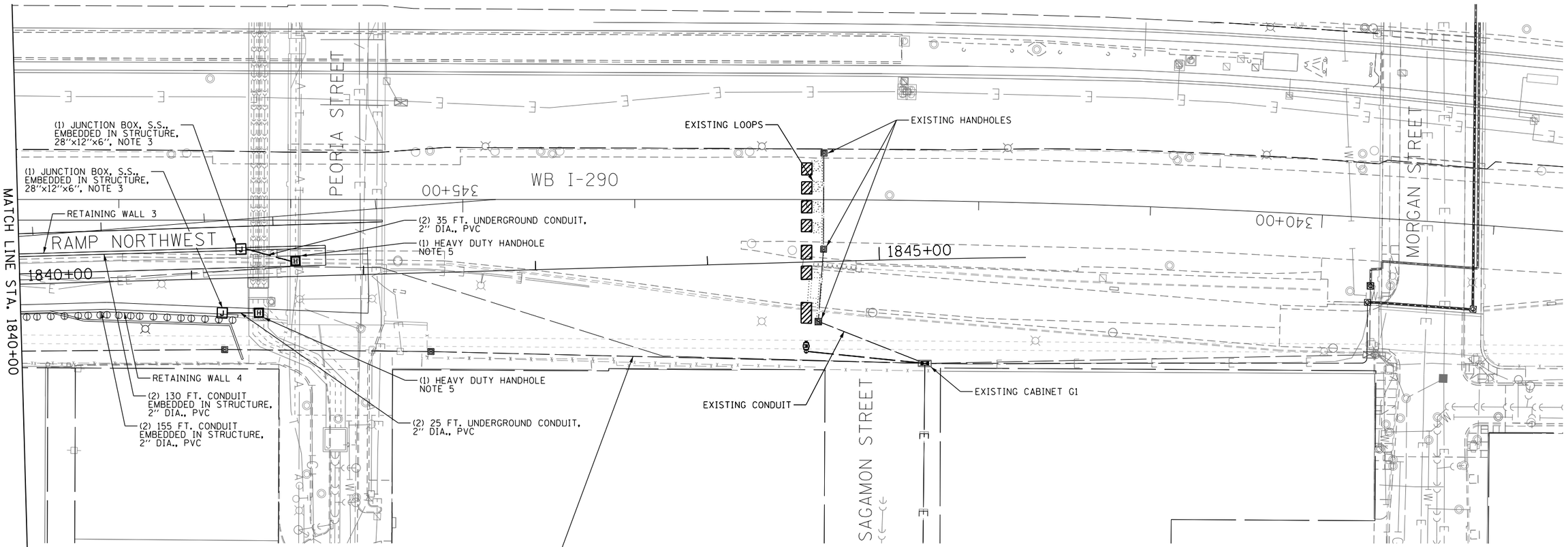
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 6 OF 9 SHEETS | STA. 1832+00 TO STA. 1840+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	313
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		



NOTES:

1. MAINTAIN THE EXISTING IDOT DETECTION SYSTEMS (ITS) AFFECTED BY THE NW FLYOVER CONSTRUCTION. THIS WORK SHALL BE INCLUDED IN THE COST OF THE 'MAINTAINING ITS DURING CONSTRUCTION' PAY ITEM. SEE THE 'OPERATION OF EXISTING TRAFFIC SURVEILLANCE/ SPEED/COUNT STATIONS' SPECIAL PROVISION FOR ADDITIONAL DETAILS.
2. TWO 2" DIAMETER CONDUITS TO BE INSTALLED IN THE BARRIER WALL OF THE RETAINING WALL.
3. JUNCTION BOX TO BE INSTALLED IN BARRIER RAILS OF RETAINING WALL.
4. TWO 2" DIAMETER CONDUITS IN BARRIER RAIL TO TRANSITION TO HEAVY DUTY HANDHOLE.
5. HEAVY DUTY HANDHOLES AT THE END OF WALL 3 AND WALL 4 TO BE INSTALLED IN THE SHOULDER OF THE NW RAMP.

N

0 30 60

SCALE: 1"=30'

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED ITS PLAN
RAMP NORTHWEST

SCALE: 1"=30' | SHEET 7 OF 9 SHEETS | STA. 1840+00 TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	314
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

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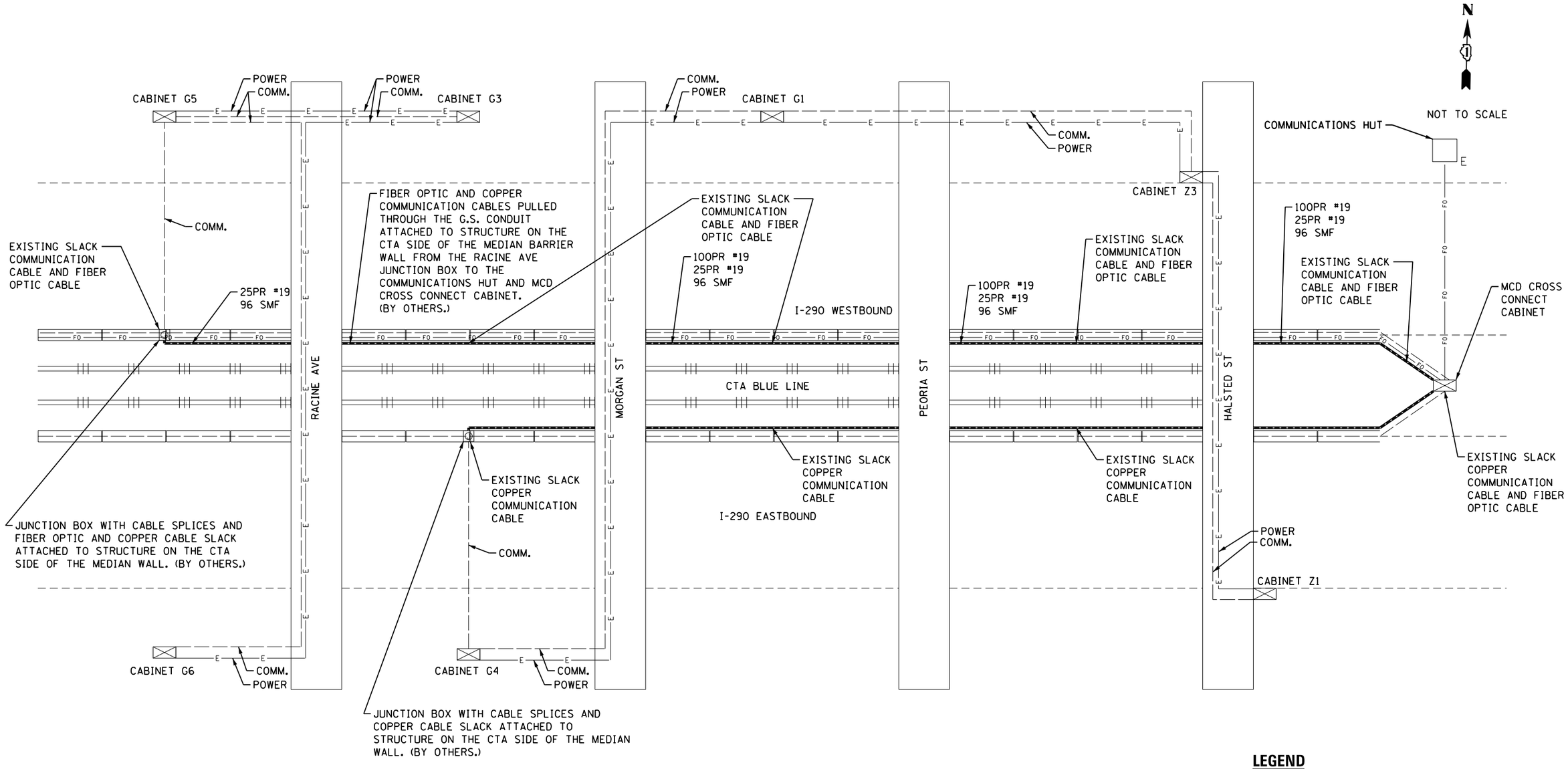

NOTES

1. THE ITS COMMUNICATION CABLES HAVE BEEN REROUTED BY OTHERS TO ALLOW SUFFICIENT SLACK TO MAINTAIN THE ITS CONNECTIONS DURING PIER REMOVAL ACTIVITIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE REROUTED ITS INFRASTRUCTURE IN CONDUIT ATTACHED TO STRUCTURE.
3. THE CONTRACTOR SHALL COORDINATE MAINTAINING ITS ACTIVITIES WITH ADJACENT IDOT PROJECTS.
4. SEE THE MAINTAINING ITS DURING CONSTRUCTION SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
5. THIS DRAWING IS DIAGRAMMATICAL AND FOR INFORMATIONAL PURPOSES ONLY.

LEGEND

- EXISTING ITS COPPER COMMUNICATION CABLE
- EXISTING ITS FIBER OPTIC COMMUNICATION CABLE
- EXISTING ITS POWER CABLE
- PROPOSED TEMPORARY CONDUIT
- EXISTING ITS MEDIAN WALL JUNCTION BOX
- EXISTING ITS CABINET
- EXISTING FIBER OPTIC COMMUNICATIONS HUT

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS PLANS – RAMP NORTHWEST
MAINTAINING ITS DURING CONSTRUCTION

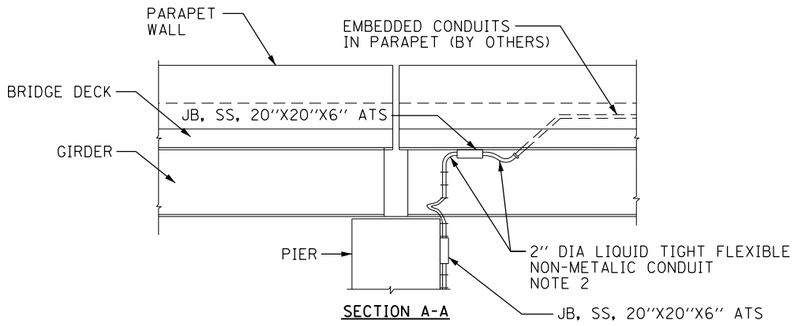
SCALE: NO SCALE | SHEET 8 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	315
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

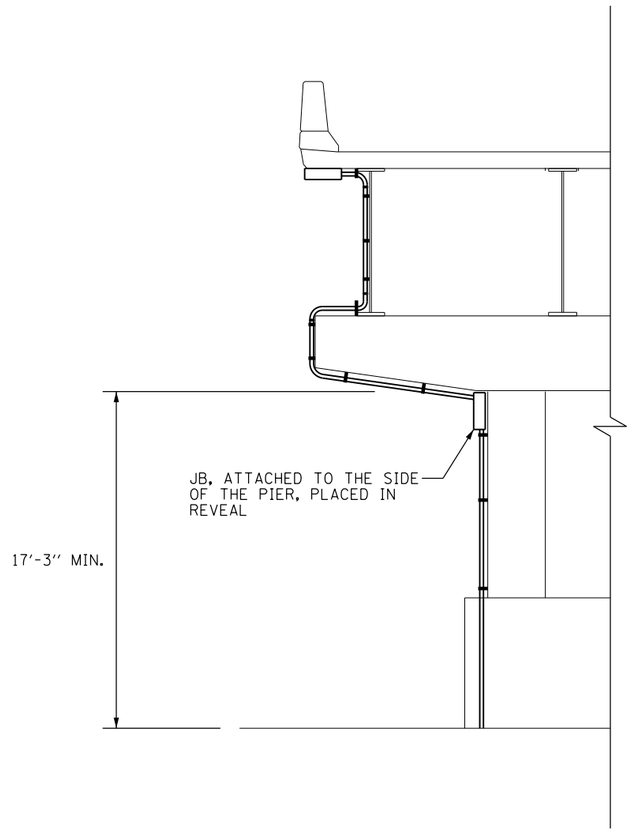
NOTES:

1. THE FLEXIBLE CONDUIT WILL BE MEASURED AND PAID FOR UNDER THE "CONDUIT ATTACHED TO STRUCTURE, 2" DIA., PVC COATED, GALVANIZED STEEL" PAY ITEMS.

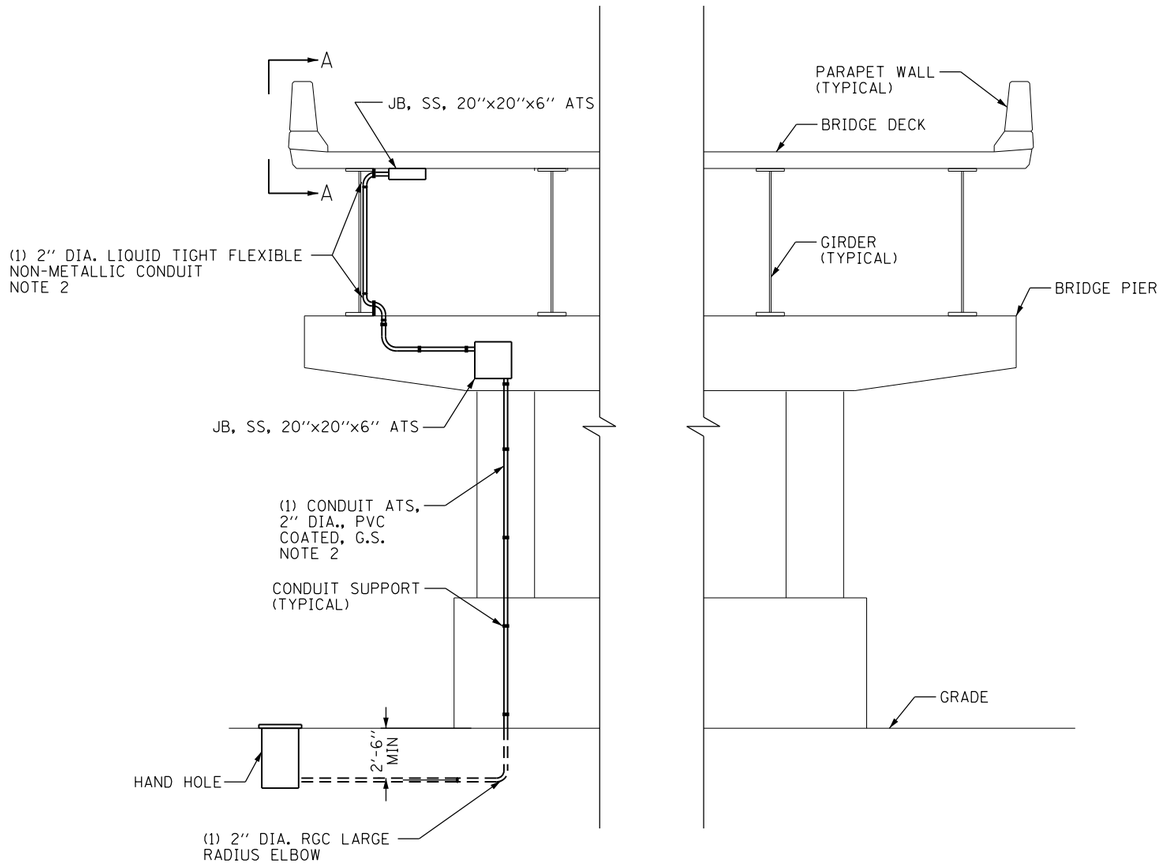
2. AT ALL LOCATIONS WHERE 17'-3" MINIMUM CLEARANCE UNDER PIER CAP CAN BE PROVIDED, CONDUIT ATTACHED TO THE STRUCTURE SHALL BE PLACED IN THE REVEAL OF THE PIER AND SHALL NOT CONFLICT WITH DRAINAGE INFRASTRUCTURE.



SECTION A-A



CONDUIT ATTACHED TO THE SIDE OF THE PIER, PLACE IN REVEAL - INSTALLATION DETAIL



CONDUIT ATTACHED TO PIER INSTALLATION DETAIL
AT LOCATIONS WHERE REGULAR CLEARANCE CANNOT BE PROVIDED IF CONDUIT IS PLACED ON THE SIDE OF PIER

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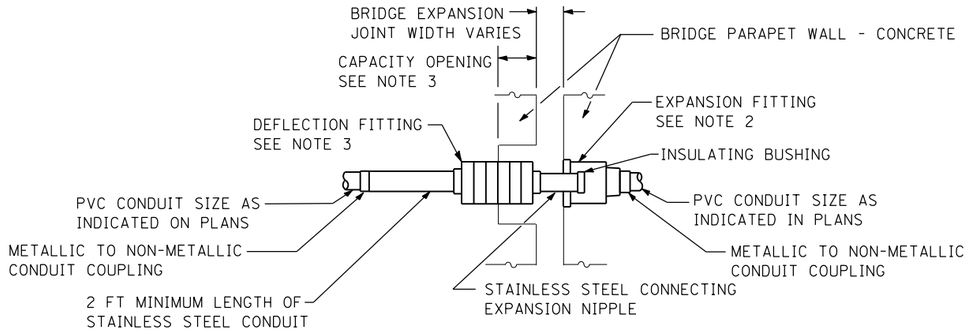
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT ATTACHED TO PIER DETAIL

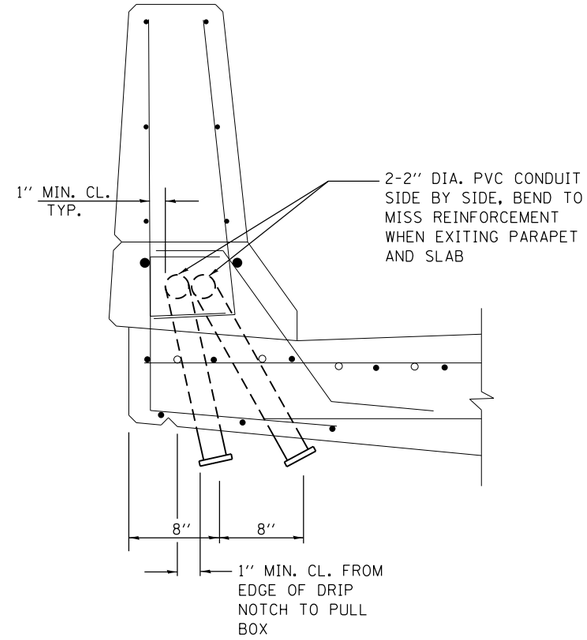
SCALE: NO SCALE | SHEET 9 OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	316
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		



EXPANSION/DEFLECTION CONDUIT COUPLING DETAIL

NOTES 1 AND 6



VIEW B-B

NOTES:

1. THE CONTRACTOR SHALL INSTALL A CONDUIT EXPANSION/DEFLECTION COUPLING AT THE JOINT LOCATIONS IN THE CONCRETE PARAPET ON THE BRIDGE CAPABLE OF ACCEPTING THE LONGITUDINAL MOVEMENT. ALL METALLIC PARTS OF THE COUPLING SHALL BE MADE OF STAINLESS STEEL OR AS APPROVED BY THE ENGINERR. ANY NON-STAINLESS METAL SHALL BE HOT DIP GALVANIZED AND COATED TO PREVENT REACTION WITH THE CONCRETE. THE COST OF THE COUPLING SHALL BE PART OF AND INCIDENTAL TO THE CONDUIT SYSTEM.

2. THE BARREL IN THE EXPANSION FITTING SHALL BE IN THE CONCRETE ON ONE SIDE OF THE EXPANSION JOINT. ONE HALF THE LENGTH OF THE DEFLECTION FITTING SHALL BE EMBEDDED IN THE CONCRETE ON THE OTHER SIDE OF THE COUPLING.

3. A CAVITY OPENING 3'' LARGER IN DIAMETER THAN THE DEFLECTION FITTING SHALL BE PROVIDED IN THE CONCRETE TO ENSURE PROPER PERFORMANCE OF THE COUPLING.

4. CAREFUL ATTENTION TO JOINT MOVEMENT OVER A RANGE OF OF TEMPERATURES SHALL BE COORDINATED WITH THE SELECTION AND INSTALLATION OF THE COUPLING TO ENSURE THE RANGE OF MOVEMENT OF THE COUPLING IS NOT EXEEDED AT TEMPERATURE EXTREMES.

5. ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE CAREFULLY FOLLOWED TO ENSURE OPTIMUM PERFORMANCE OF THE EXPANSION/DEFLECTION COUPLING.

6. THE CONTRACTOR SHALL INSTALL COUPLINGS AT ALL BRIDGE EXPANSION JOINTS AND SHALL BE RESPONSIBLE TO DETERMINE THE PROPER NUMBER OF COUPLINGS REQUIRED. SEE STRUCTURAL DRAWINGS FOR THE EXPANSION JOINT LOCATIONS.

7. WITH THE APPROVAL OF THE ENGINEER, THE CONTRACTOR MAY SUBSTITUTE TWO (2) STAINLESS STEEL JUNCTION BOXES ATTACHED TO THE BACK OF THE WALL AND CONNECTED BY A HIGH GRADE OF FLEXIBLE NON-METALLIC CONDUIT FOR ALL EXPANSION JOINTS. THIS SUBSTITUTION SHALL BE MADE AT NO ADDITIONAL COST TO THE DEPARTMENT.

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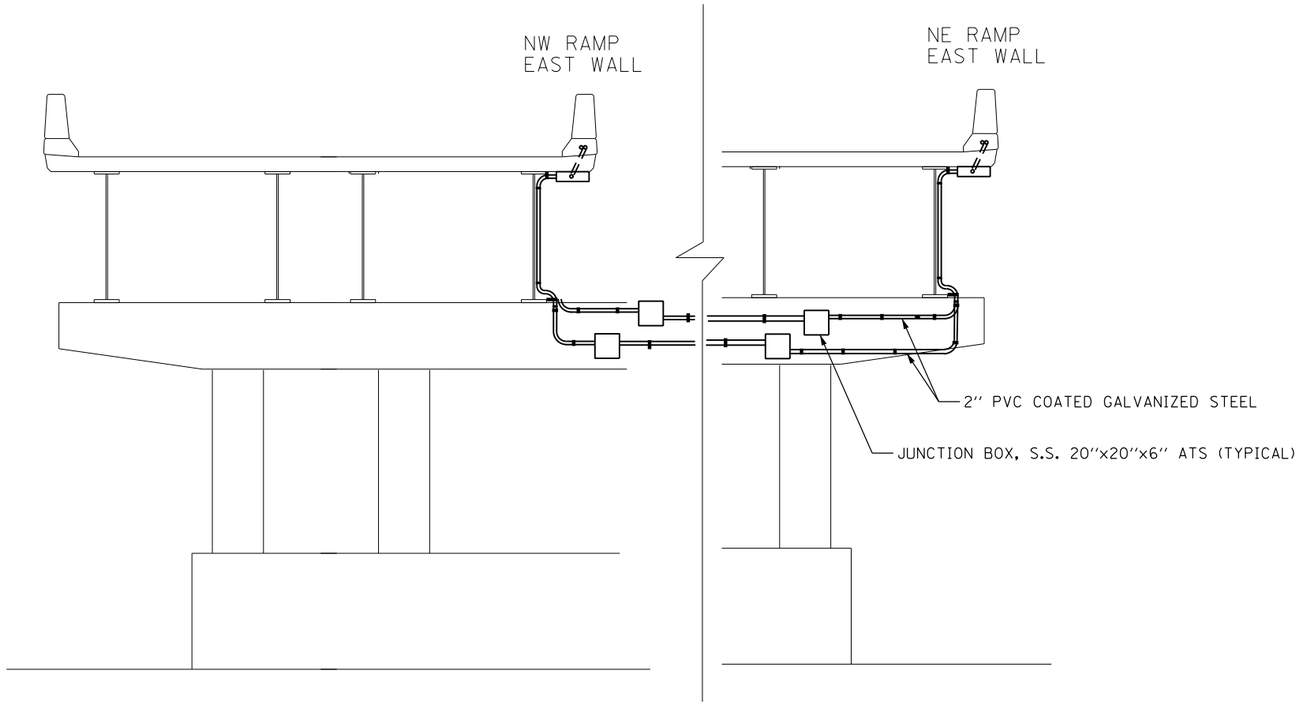
DEPARTMENT OF TRANSPORTATION

ITS CONDUIT EXPANSION DETAIL

SCALE: NO SCALE | SHEET 9A OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	316A
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



SOUTH FACE OF PIER 4
STRUCTURE NO. 016-1705

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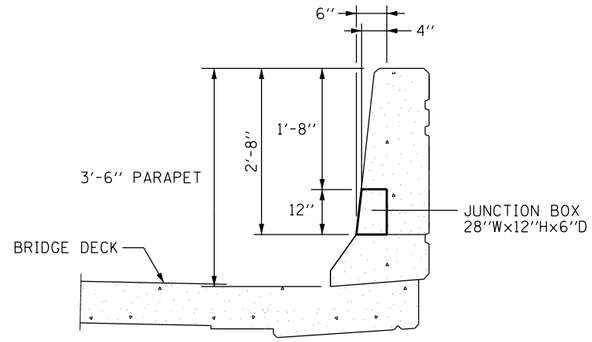
DEPARTMENT OF TRANSPORTATION

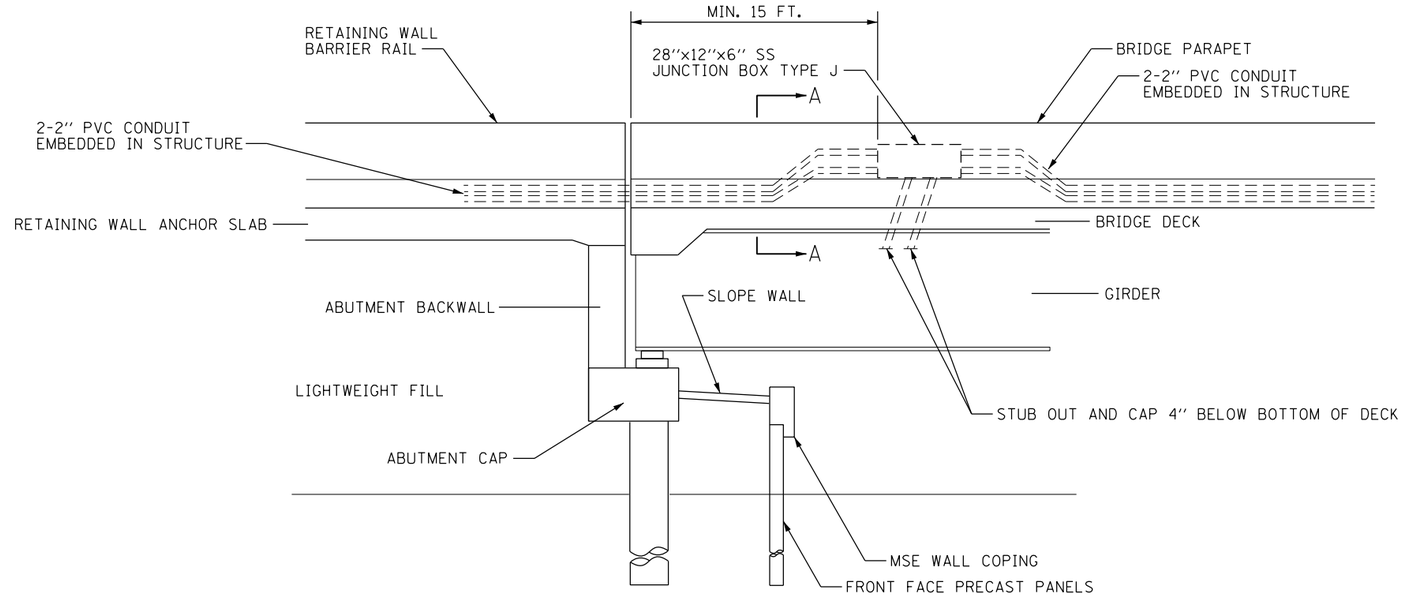
PIER TRANSITION DETAIL

SCALE: NO SCALE | SHEET 9B OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	316B
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		



SECTION A-A



ABUTMENT WALL DETAIL

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

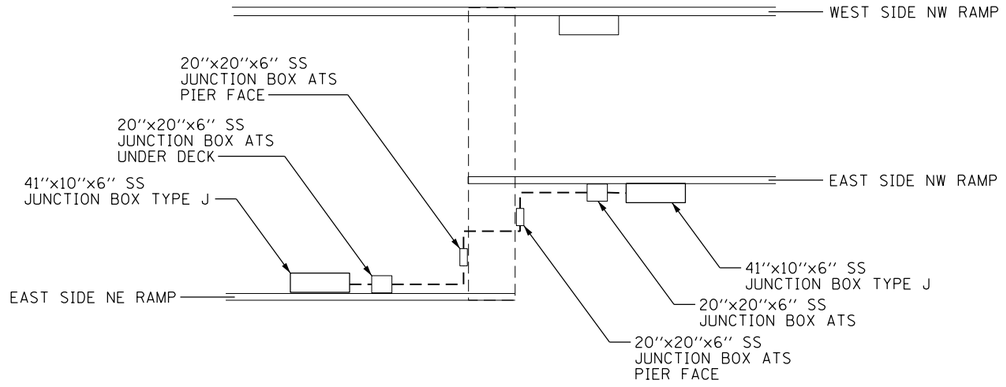
D160W28-sht-ITS-09C	DESIGNED - GWS	REVISED -
USER NAME = myersc	DRAWN - CAM	REVISED -
PLOT SCALE = 308.5710 ' / in.	CHECKED - JDG	REVISED -
PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS
ABUTMENT WALL DETAIL

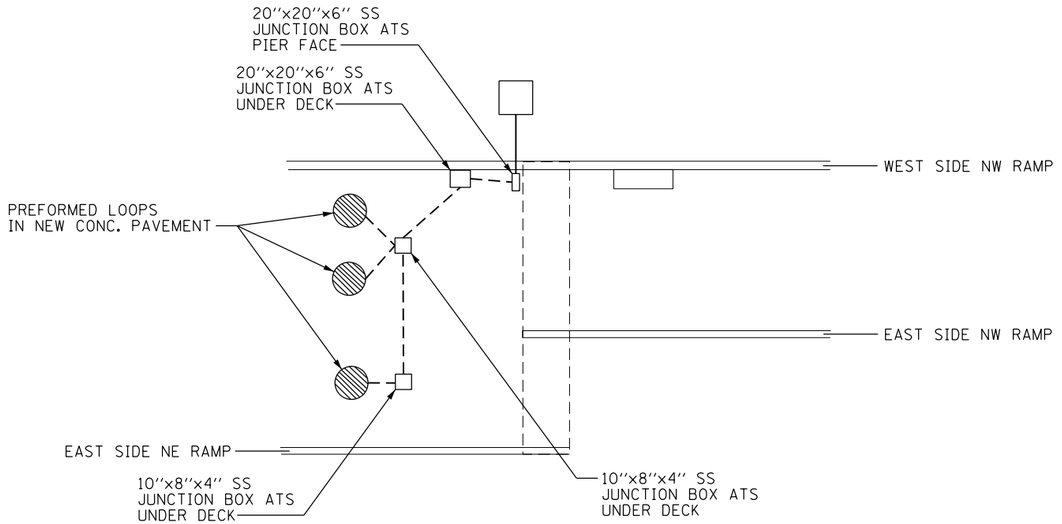
SCALE: NO SCALE | SHEET 9C OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	316C
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



ALSO SEE DETAIL SHEET 316B

CONDUIT TRANSITION DETAIL



ALSO SEE DETAIL SHEET 316

LOOP DETAIL

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

D160W28-sht-ITS-09D	DESIGNED - GWS	REVISED -	
USER NAME = myersc	DRAWN - CAM	REVISED -	
PLOT SCALE = 308.5710 ' / in.	CHECKED - JDG	REVISED -	
PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS
PIER 4 DETAIL

SCALE: NO SCALE | SHEET 9D OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	316D
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

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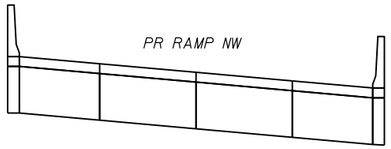
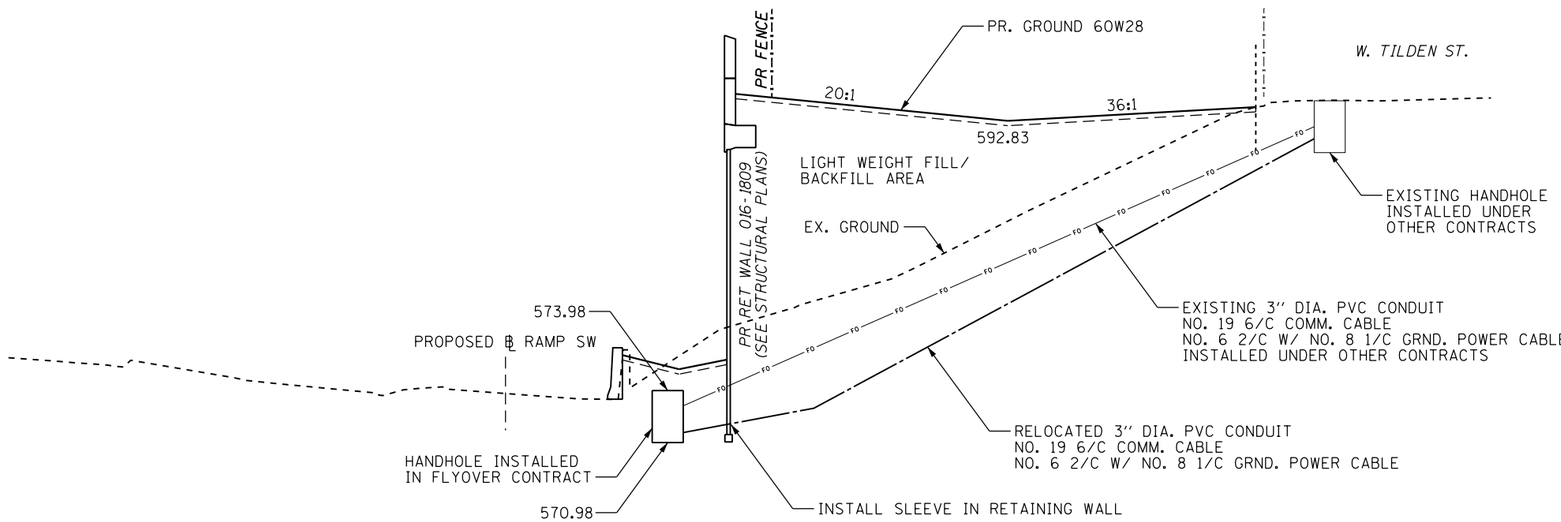


STA. 1836+23



RETAINING WALL DETAIL

AECOM
303 EAST WACKER DRIVE, SUITE 1400
CHICAGO, IL 60601-5276
PHONE: (312) 373-7700 FAX: (312) 373-6800

D160W28-sht-ITS-09E	DESIGNED - GWS	REVISED -
USER NAME = myersc	DRAWN - CAM	REVISED -
PLOT SCALE = 308.5710 ' / in.	CHECKED - JDG	REVISED -
PLOT DATE = 4/24/2014	DATE - 04/28/14	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ITS DETAILS
RETAINING WALL DETAIL

SCALE: NO SCALE | SHEET 9E OF 9 SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	316E
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

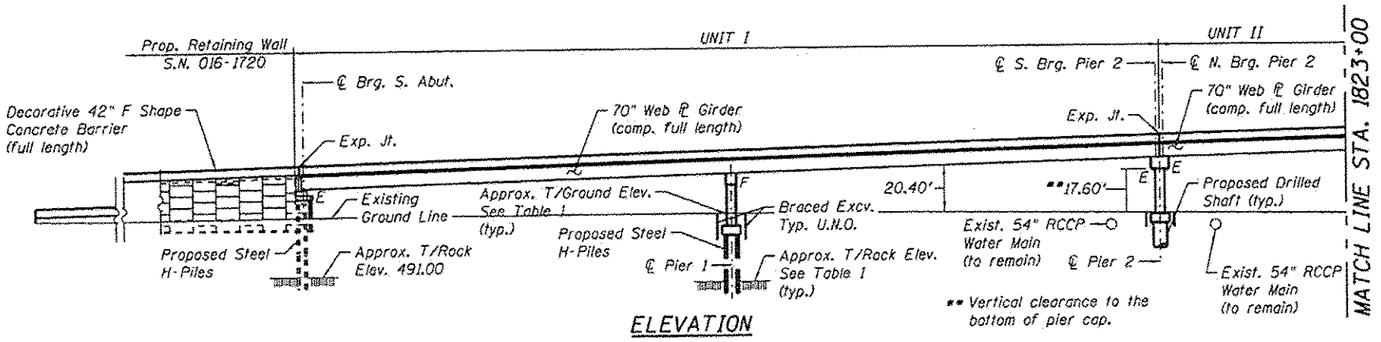
Bench Mark: Cut square at center of door entrance to 707 W. Harrison St; South side of Harrison St. ±90' west of west line of Des Plaines. Elevation 597.47.
A t cut in the SE anchor bolt at the 11th street light N. of Roosevelt on the W. side of Halsted. Elev. = 594.06

Existing Structure: S.N. 016-2449 was built in 1960 & carries NB I-90/94 traffic to WB I-290 over I-90/94 (Dan Ryan Expressway) & a ramp from I-90/94 SB to I-290 WB. The existing seven (7) span structure has an overall length of approx. 455'-7". The existing superstructure consists of simple span wide-flange beams with 7" thick concrete deck with 1 ½" overlay. The existing substructure consists of reinforced concrete abutment and multi-column piers. Existing substructure units are supported on caissons. No Salvage.

Traffic Control: Traffic to be maintained on existing SN 016-2449 (NB I-90/94 to WB I-290) during construction.

SCUPPER LOCATION

Station	Offset
1818+56.67	13.00' L
1819+61.67	13.00' L
1820+41.42	13.00' L
1820+91.42	13.00' L
1821+60.00	13.00' L
1822+28.75	13.23' L
1822+28.75	26.18' R
1822+80.00	14.54' L
1823+30.00	15.96' L
1824+04.67	17.67' L
1824+09.67	17.80' L
1824+37.13	41.63' R
1825+78.67	22.00' L
1827+35.42	22.00' L
1828+68.42	22.00' L
1832+31.92	22.00' L
1834+83.92	22.00' L
1834+88.92	22.00' L
1835+21.78	22.00' L
1838+13.67	17.71' R



ELEVATION

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications
6th Edition with 2013 Interim Revisions

LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
f'c = 5,000 psi (Pier 3 & 8 - see Gen. Note 16)
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50)

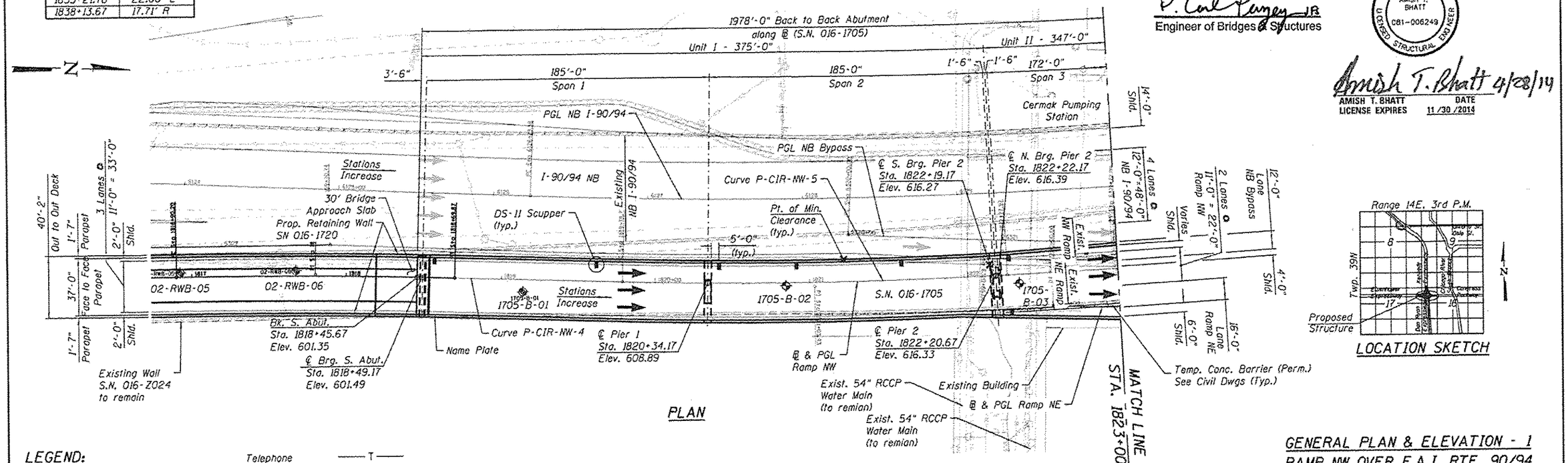
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.085g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.144g
Soil Site Class = D

APPROVED
For Structural Adequacy Only
P. Carl Purgey JR
Engineer of Bridges & Structures

STATE OF ILLINOIS
AMISH T. BHATT
061-006249
LICENSED STRUCTURAL ENGINEER

Amish T. Bhatt 4/28/14
AMISH T. BHATT DATE
LICENSE EXPIRES 11/30/2014



PLAN

LOCATION SKETCH

LEGEND:

Combined Sewer		Telephone	—T—
Electric	—E—	Gas Line	—G—
Fiber Optic	—FO—	Fire Hydrant	
Storm Sewer		Light Pole	
Water Line	—W—	Point of Min. Clearance	×
		Soil Boring Location	

TABLE 1

Pier	Approx. T/Ground Elev.	Approx. T/Rock Elev.
1	586.98	497.10
2	584.10	497.00

NOTES:

1. Span lengths are measured along ℄ & P.G.L. Ramp NW.
2. All Substructure are oriented 90° to ℄ & P.G.L. Ramp NW unless noted otherwise.

GENERAL PLAN & ELEVATION - 1
RAMP NW OVER F.A.I. RTE. 90/94
(DAN RYAN EXPRESSWAY)
F.A.I. RTE. 90/94 - SECTION 2013-010R
COOK COUNTY
STATION 1829+59.43
STRUCTURE NO. 016-1705

AECOM

USER NAME = floresg	DESIGNED - DD		REVISED
	CHECKED - ATB		REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK		REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB		REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. S-1 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	317
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

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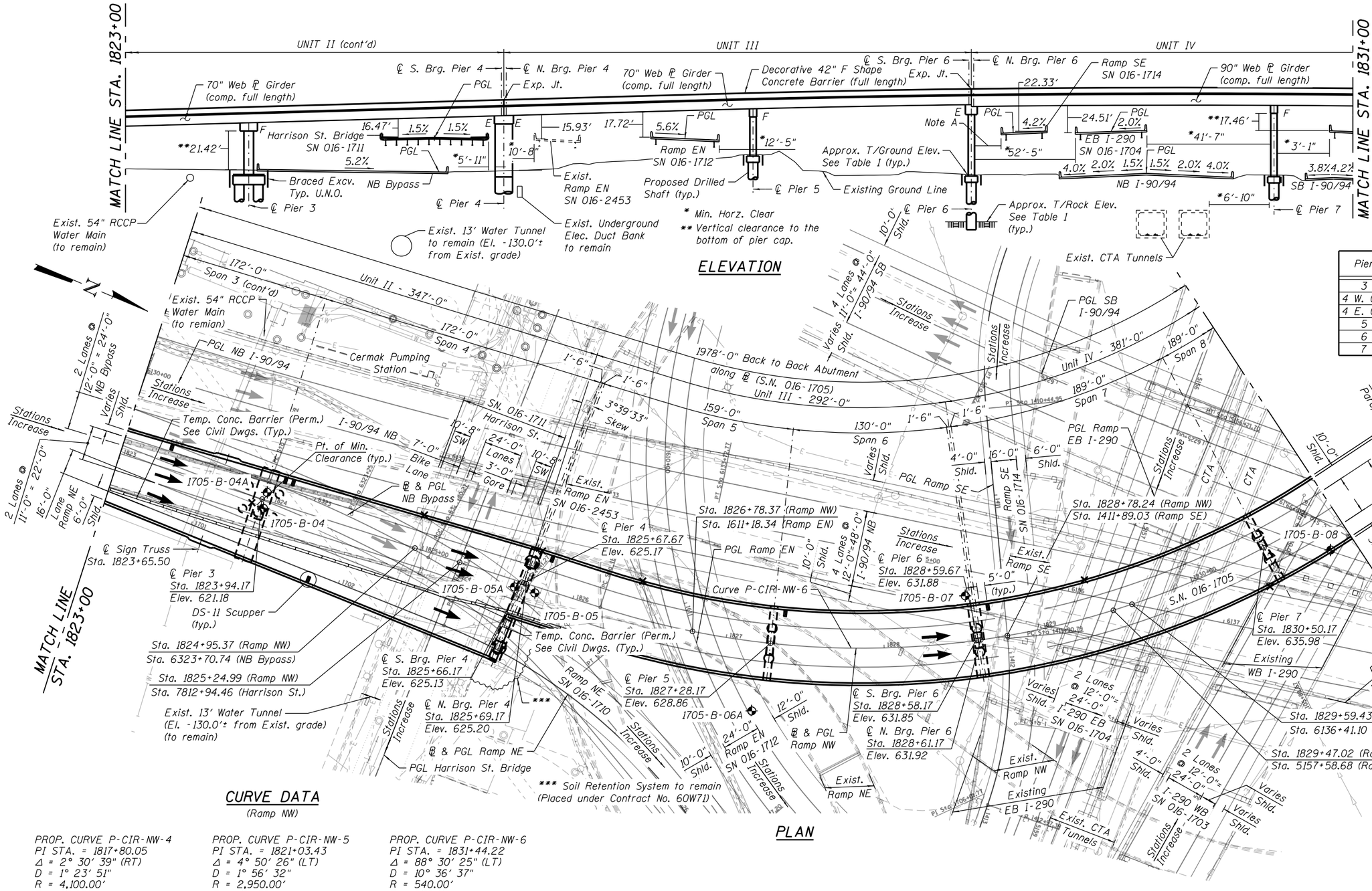


TABLE 1

Pier	Approx. T/Ground Elev.	Approx. T/Rock Elev.
3	581.28	494.90
4 W. Col.	582.43	497.00
4 E. Col.	578.30	497.00
5	579.69	490.00
6	575.90	481.20
7	575.53	479.00

CURVE DATA

(Ramp NW)

PROP. CURVE P-CIR-NW-4
PI STA. = 1817+80.05
Δ = 2° 30′ 39" (RT)
D = 1° 23′ 51"
R = 4,100.00′
T = 89.85′
L = 179.68′
E = 0.98′
e = NC
T.R. = NA
S.E. RUN = NA
P.C. STA. = 1816+90.20
P.T. STA. = 1818+69.87
DS = 35

PROP. CURVE P-CIR-NW-5
PI STA. = 1821+03.43
Δ = 4° 50′ 26" (LT)
D = 1° 56′ 32"
R = 2,950.00′
T = 124.68′
L = 249.22′
E = 2.63′
e = NC
T.R. = NA
S.E. RUN = NA
P.C. STA. = 1819+78.75
P.T. STA. = 1822+27.97
DS = 35

PROP. CURVE P-CIR-NW-6
PI STA. = 1831+44.22
Δ = 88° 30′ 25" (LT)
D = 10° 36′ 37"
R = 540.00′
T = 526.11′
L = 834.16′
E = 213.92′
e = 5.40%
T.R. = NA
S.E. RUN = 66′
P.C. STA. = 1826+18.11
P.T. STA. = 1834+52.27
DS = 35

0161705-60W28-S002-GPE.dgn

AECOM

USER NAME = floresg	DESIGNED - DD	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION II
STRUCTURE NO. 016-1705
SHEET NO. S-2 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	318
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

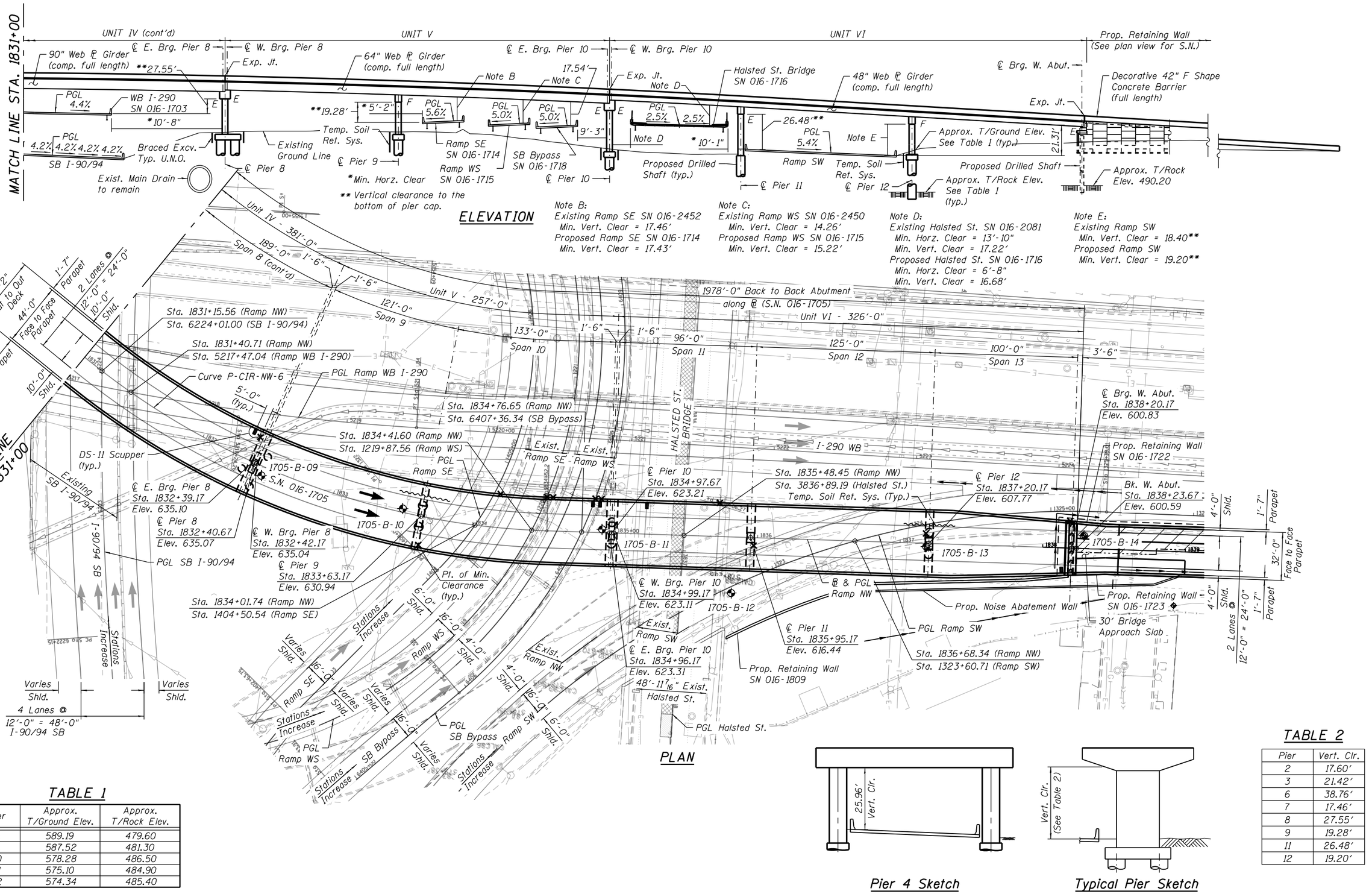


TABLE 1

Pier	Approx. T/Ground Elev.	Approx. T/Rock Elev.
8	589.19	479.60
9	587.52	481.30
10	578.28	486.50
11	575.10	484.90
12	574.34	485.40

TABLE 2

Pier	Vert. Clr.
2	17.60'
3	21.42'
6	38.76'
7	17.46'
8	27.55'
9	19.28'
11	26.48'
12	19.20'

AECOM

USER NAME = floresg	DESIGNED - DD	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION III
STRUCTURE NO. 016-1705
SHEET NO. S-3 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	319
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S003-GPE.dgn

GENERAL NOTES:

1. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts $\frac{7}{8}$" ϕ, holes $\frac{15}{16}$" ϕ, unless otherwise noted.

2. Calculated weight of Structural Steel = 4,814,600 lbs.

3. All structural steel shall be AASHTO M 270 Grade 50.

4. All structural steel shall be metalized (thermal spraying). See special provision for "Metallizing Structural Steel".

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

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

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

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

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

10. Concrete Sealer shall be applied to the designated areas of the abutments and pier.

11.. Slipforming of the parapet is not allowed.

12. Structural steel erection shall be accomplished by an steel erection contractor or subcontractor certified as an Advanced Certified Steel Erector (ACSE) by the American Institute of Steel Construction (AISC). See special provision for "Erection of Complex Steel Structures".

13. Contractor shall provide equipment, labor and materials as required to install drilled shafts thru existing known obstruction. Obstruction mitigation shall be as per Special Provision Foundation Construction at Existing Obstructions.

14. The Contractor shall install protective sheild system to protect travelling public from falling objects during the removal of existing S.N. 016-2449 (NW Ramp) & S.N. 016-2451 (EN Ramp). See sheet 470 for location and limits of Protective Shield.

15. The Drilled Shaft quantities and reinforcement detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft locations and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.

16. Concrete for the Pier 3 & Pier 8 shall be in accordance with Section 503 of Standard Specifications, except that the mix design of concrete shall attain a compressive strength of 5,000 psi at 14 days.

17. The Contractor shall field verify location of existing utilities prior to construction. The Contractor shall take precautions not to damage existing utilities. Any such damage shall be repaired by the Contractor at no additional cost.

18. The bracing system for Braced Excavation shall be installed without the use of impact-type pile drivers. The proposed equipment and procedures used for the installation of bracing system shall be submitted to the Engineer for approval prior to their use. If vibratory equipment utilized, the Contractor shall also submit documentation regarding the operating noise levels and operating vibration characteristics of the equipment proposed. The approval of the equipment and procedure by the Engineer does not guarantee the performance in the field of the equipment will be acceptable. If in the judgment of the Engineer, the noise and/or vibration effects exceed those required by the local residents, then the Contractor must halt production and find a remedy suitable to the Engineer. Threshold values for vibration monitoring are included in the special provision "CONSTRUCTION VIBRATION MONITORING". The costs incurred finding suitable equipment and procedures shall be included in the cost of Braced Excavation. No additional costs shall be paid for this effort.

STATION 1829+59.43
BUILT BY
STATE OF ILLINOIS
F.A.I. RTE.90/94 - SECTION 2013-010R
LOADING HL-93
STRUCTURE NO. 016-1705

NAME PLATE S.N. 016-1705
See Std. 515001

INDEX OF SHEETS

0161705-60W28-S004-GenNote.dgn

AECOM

USER NAME = floresg	DESIGNED - ATB	REVISED	
	CHECKED - EJO	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND INDEX OF SHEETS
STRUCTURE NO. 016-1705
SHEET NO. S-4 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	320
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
REMOVAL OF EXISTING STRUCTURE No. 1	EACH	1		1
REMOVAL OF EXISTING STRUCTURE No. 2	EACH	1		1
PROTECTIVE SHIELD	SQ. YD.	2,654		2,654
STRUCTURE EXCAVATION	CU. YD.		263	263
CONCRETE STRUCTURES	CU. YD.		2,646	2,646
CONCRETE SUPERSTRUCTURE	CU. YD.	3,172		3,172
BRIDGE DECK GROOVING (SPECIAL)	SQ. YD.	9,202		9,202
FORM LINER TEXTURED SURFACE	SQ. FT.		8,844	8,844
RUBBED FINISH	SQ. FT.		14,936	14,936
PROTECTIVE COAT	SQ. YD.	11,869		11,869
FURNISHING AND ERECTING STRUCTURAL STEEL	L. SUM	1		1
STUD SHEAR CONNECTORS	EACH	38,436		38,436
REINFORCEMENT BARS, EPOXY COATED	POUND	975,000	644,620	1,619,620
REINFORCEMENT BARS	POUND		707,240	707,240
NAME PLATES	EACH	1		1
PERMANENT CASING	FOOT		178	178
DRILLED SHAFT IN SOIL	CU. YD.		2,708	2,708
DRILLED SHAFT IN ROCK	CU. YD.		74	74
PREFORMED JOINT STRIP SEAL	FOOT	76		76
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	18		18
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	6		6
ANCHOR BOLTS, 3/4"	EACH	72		72
ANCHOR BOLTS, 1"	EACH	192		192
ANCHOR BOLTS, 1 1/4"	EACH	168		168
ANCHOR BOLTS, 1 1/2"	EACH	24		24
CONCRETE SEALER	SQ. FT.		30,394	30,394
TEMPORARY SOIL RETENTION SYSTEM	SQ. FT.		872	872
BAR SPLICERS	EACH		78	78
MECHANICAL SPLICERS	EACH		724	724
DRAINAGE SYSTEM	L. SUM		1	1
DRAINAGE SCUPPERS, DS-11	EACH	20		20
HIGH LOAD MULTI-ROTATION BEARINGS, GUIDED EXPANSION 200K	EACH	18		18
HIGH LOAD MULTI-ROTATION BEARINGS, GUIDED EXPANSION 250K	EACH	21		21
HIGH LOAD MULTI-ROTATION BEARINGS, GUIDED EXPANSION 300K	EACH	12		12
HIGH LOAD MULTI-ROTATION BEARINGS, GUIDED EXPANSION 400K	EACH	6		6
HIGH LOAD MULTI-ROTATION BEARINGS, FIXED 500K	EACH	6		6
HIGH LOAD MULTI-ROTATION BEARINGS, FIXED 600K	EACH	6		6
HIGH LOAD MULTI-ROTATION BEARINGS, FIXED 650K	EACH	8		8
HIGH LOAD MULTI-ROTATION BEARINGS, FIXED 850K	EACH	6		6
MODULAR EXPANSION JOINT-SWIVEL 6"	FOOT	224		224
CROSSHOLE SONIC LOGGING	EACH		13	13
EARTH EXCAVATION (SPECIAL)	CU. YD.		76	76
BRACED EXCAVATION	CU. YD.		1,229	1,229
FOUNDATION CONSTRUCTION AT EXISTING OBSTRUCTIONS	EACH		2	2
FURNISHING STEEL PILES HP 12x84	FOOT		2,967	2,967
SETTING PILES IN ROCK	EACH		31	31

STRUCTURAL ASSESSMENT OF EXISTING STRUCTURE NOTES:

1. In order to construct proposed superstructure & substructure elements, Contractor may elect to support temporary construction material and/or equipment, on the existing structures in the vicinity of the proposed structure. The Contractor shall submit Structural Assessment Report(s) for approval prior to beginning the work. See Special Provision.

2. An Existing Structure Information Package (ESIP) will be provided by the Department to the Contractor upon request.

3. The Contractor shall retain the services of an engineering firm, prequalified in the IDOT consultant selection category of Highway Bridge (Complex), for preparation of the Structural Assessment Report(s). Contractor's pre-approval shall not be applicable for this project. See Special Provision.

   Current Ratings on File for Existing Structures are as follows:

   S.N. 016-1029 (EB I-290 over I-90/94)
   Inventory: HS 17.2
   Operating: HS 28.7
   Live Load Restrictions: None

   S.N. 016-1030 (WB I-290 over I-90/94)
   Inventory: HS 14.7
   Operating: HS 24.5
   Live Load Restrictions: None

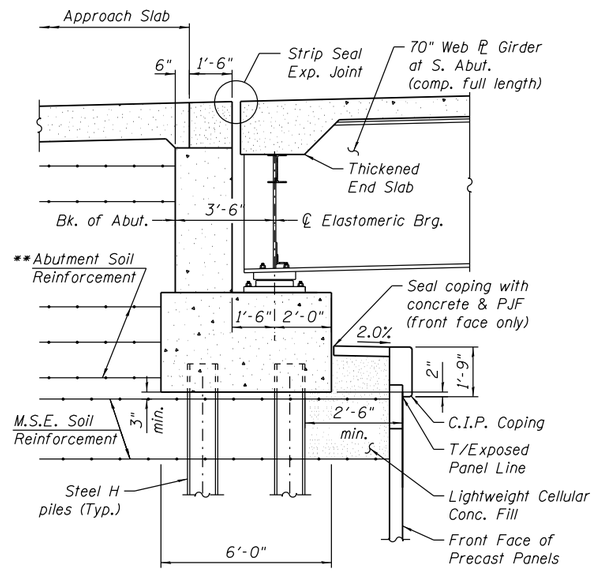
   S.N. 016-2452 (Ramp I-94 SB to I-290 EB over I-290 & I-94/94)
   Inventory: HS 13.4
   Operating: HS 22.2
   Live Load Restrictions: None

4. Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois legal loads and configurations. The Ratings and Live load Restrictions are not necessarily representative of capacities to support the Contractor's equipment.

5. The contractor is advised that the existing structures may contain members in deteriorated conditions with reduced load carrying capacities. It is the Contractor's responsibility to account for the condition of existing structures when developing construction procedures for using them to support construction loads.

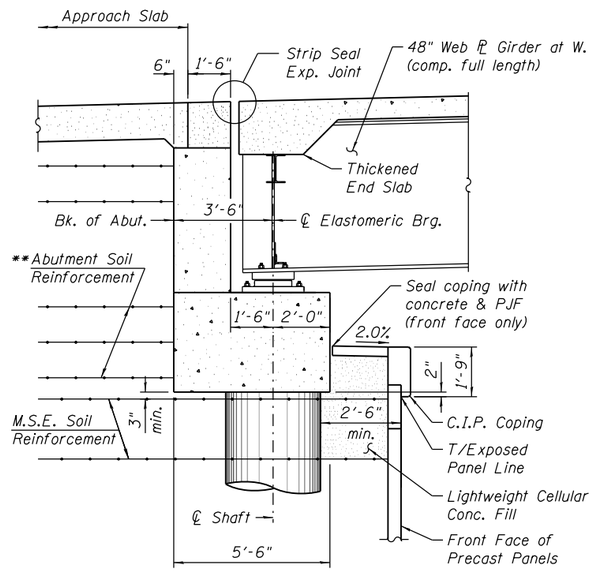
6. The contractor shall verify that the structural demands of the applied loads due to the Contractor's means and methods will not exceed the available capacity of the structure at the time loads are applied. Most likely, the Contractor will be required to provide additional shoring under the existing bridges (or other methods of retrofitting) to support construction loads. Design, installation and subsequent removal of such shoring system will be the responsibility of the Contractor and will not be paid separately.

7. The Contractor shall use caution and not damage any component of the existing structure. Upon completion of work and prior to allowing traffic back on the existing structure the contractor must restore existing structure in its original condition.



SECTION THRU S. ABUTMENT
(Horiz. Dims. @ Rt. L's to ℄ Brg.)

**Abutment Soil Reinforcement to resist lateral loads in lieu of drilled shafts



SECTION THRU W. ABUTMENT
(Horiz. Dims. @ Rt. L's to ℄ Brg.)

0161705-60W28-S005-GenNote.dgn

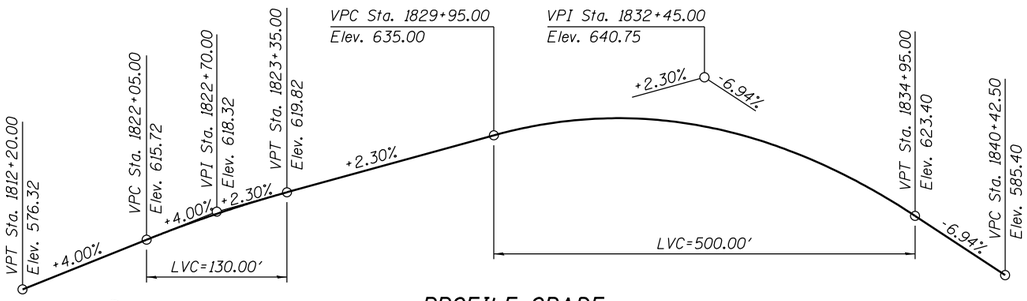
AECOM

USER NAME = floresg	DESIGNED - ATB	REVISED	
	CHECKED - DD	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOTAL BILL OF MATERIAL AND ABUTMENT SECTION
STRUCTURE NO. 016-1705
SHEET NO. S-5 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	321
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			



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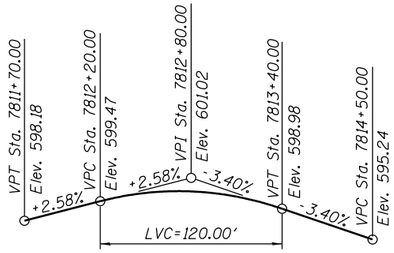

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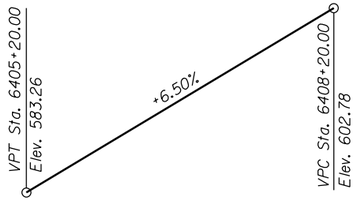

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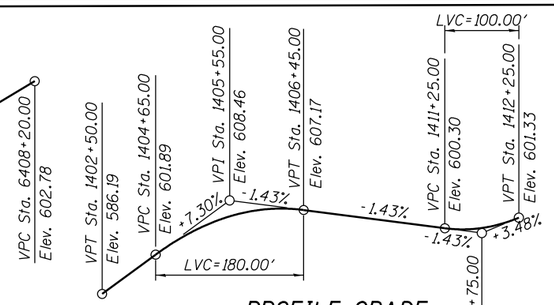

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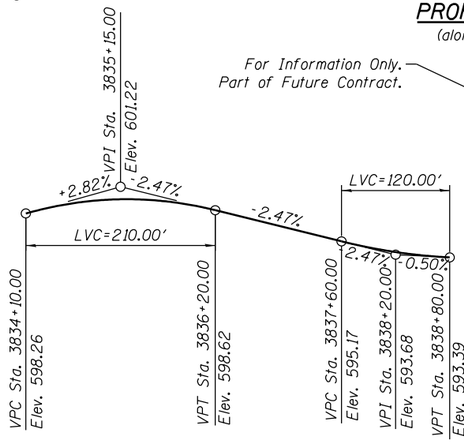
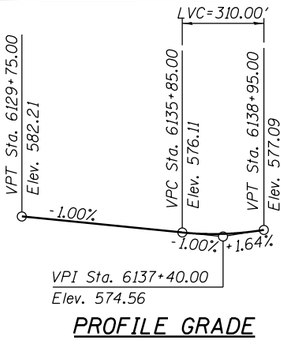
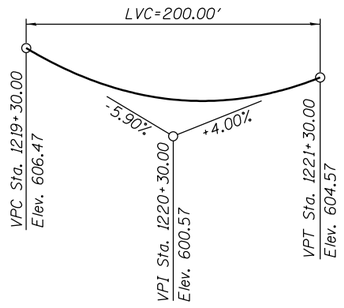


PROFILE GRADE
(along ℄ Halsted)

For Information Only.
Part of Future Contract.



PROFILE GRADE
(along ℄ NB I-90/94)



PROFILE GRADE
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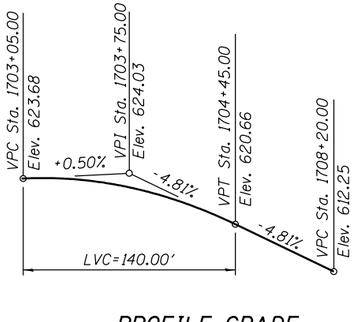

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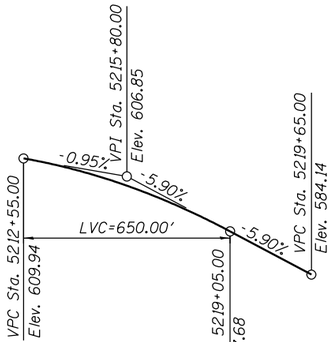
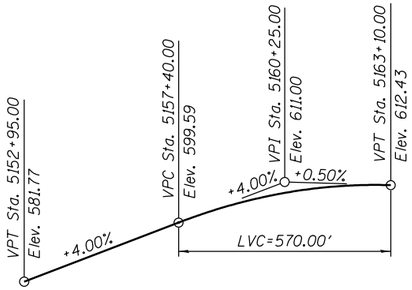
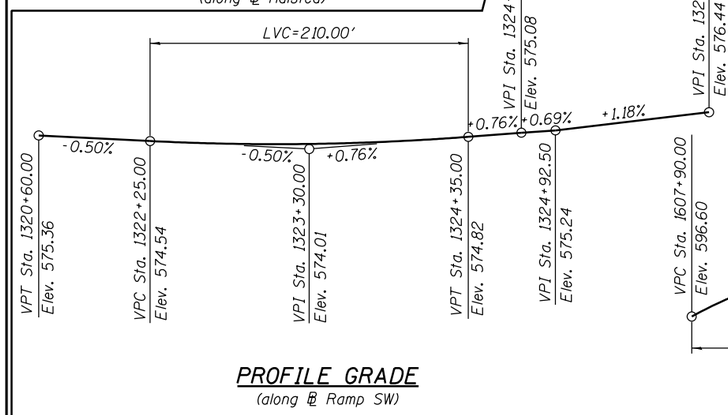


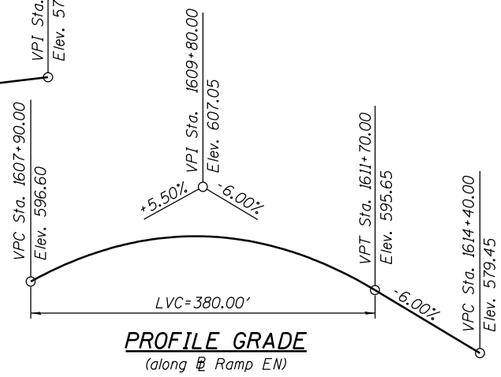
PROFILE GRADE
(along ℄ WB I-290)



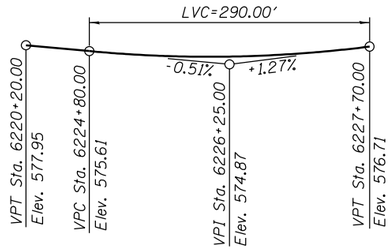
PROFILE GRADE
(along ℄ EB I-290)



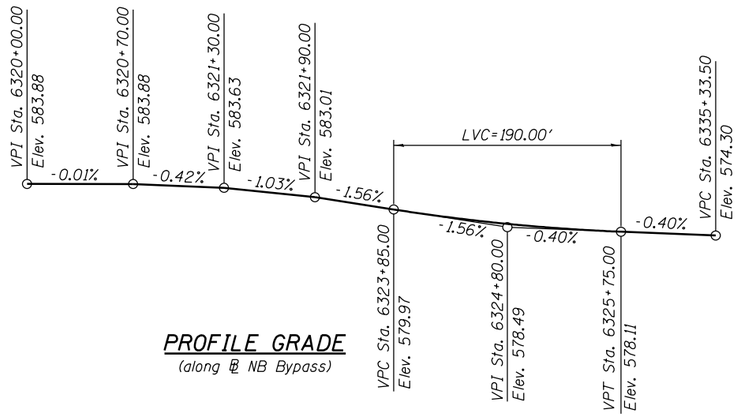
PROFILE GRADE
(along ℄ Ramp SW)



PROFILE GRADE
(along ℄ Ramp EN)



PROFILE GRADE
(along ℄ SB I-90/94)



PROFILE GRADE
(along ℄ NB Bypass)

CURVE DATA
(Ramp EN)

PROP. CURVE P-CIR-EN-2
PI STA. = 1624+72.31
Δ = 158° 53′ 11" (LT)
D = 16° 51′ 06"
R = 340.00′
T = 1,824.37′
L = 942.85′
E = 1,515.78′
e = 5.60%
T.R. = 36′ (REM)
S.E. RUN = 102′
P.C. STA. = 1606+47.94
P.T. STA. = 1615+90.79
DS = 30

CURVE DATA
(Ramp SE)

PROP. CURVE P-CIR-SE-2
PI STA. = 1415+83.08
Δ = 157° 44′ 18" (LT)
D = 24° 48′ 12"
R = 231.00′
T = 1,174.08′
L = 635.96′
E = 965.59′
e = 5.60%
T.R. = NA
S.E. RUN = 128′
P.C. STA. = 1404+09.00
P.T. STA. = 1410+44.95
DS = 25

CURVE DATA
(F.A.I. Rte. SB 90/94)

PROP. CURVE P-CIR-SE-3
PI STA. = 1412+44.91
Δ = 24° 25′ 53" (RT)
D = 22° 55′ 06"
R = 250.00′
T = 54.12′
L = 106.60′
E = 5.79′
e = 5.40%
T.R. = NA
S.E. RUN =123′(ATN),78′(REM)
P.C. STA. = 1411+90.79
P.T. STA. = 1412+97.39
DS = 25

CURVE DATA
(F.A.I. Rte. WB 290)

PROP. CURVE P-KDR-SB-3
PI STA. = 6224+30.06
Δ = 11° 28′ 39" (RT)
D = 2° 41′ 06"
R = 2,134.00′
T = 214.46′
L = 427.48′
E = 10.75′
e = 4.20%
T.R. = NA
S.E. RUN = 203′
P.C. STA. = 6222+15.60
P.T. STA. = 6226+43.08
DS = 50

CURVE DATA
(Ramp WS)

PROP. CURVE P-CON-WB-2
PI STA. = 5218+24.26
Δ = 8° 42′ 22" (LT)
D = 3° 29′ 14"
R = 1,643.00′
T = 125.07′
L = 249.65′
E = 4.75′
e = 4.40%
T.R. = NA
S.E. RUN =80′(ATN, REM-LN1&2), 97′(REM-LN3)
P.C. STA. = 5216+99.19
P.T. STA. = 5219+48.84
DS = 45

CURVE DATA
(SB Bypass)

PROP. CURVE P-CIR-WS-2
PI STA. = 1222+12.72
Δ = 135° 15′ 55" (LT)
D = 19° 21′ 24"
R = 296.00′
T = 719.31′
L = 698.80′
E = 481.83′
e = 5.00%
T.R. = 46′ (REM)
S.E. RUN =69′(ATN), 114′(REM)
P.C. STA. = 1214+93.41
P.T. STA. = 1221+92.21
DS = 25

CURVE DATA
(Ramp SW)

PROP. CURVE P-TAY-SX-2
PI STA. = 6408+06.27
Δ = 65° 55′ 10" (LT)
D = 17° 28′ 06"
R = 328.00′
T = 212.68′
L = 377.37′
E = 62.92′
e = 5.00%
T.R. = 46′ (REM)
S.E. RUN = 108′(ATN), 114′(REM)
P.C. STA. = 6405+93.59
P.T. STA. = 6409+70.96
DS = 25

CURVE DATA
(Ramp NE)

PROP. CURVE P-CIR-SW-3
PI STA. = 1322+16.98
Δ = 83° 35′ 08" (RT)
D = 10° 03′ 07"
R = 570.00′
T = 509.51′
L = 831.54′
E = 194.53′
e = 5.40%
T.R. = NA
S.E. RUN = 88′ (ATN), 101′ (REM)
P.C. STA. = 1317+07.47
P.T. STA. = 1325+39.01
DS = 35

PROP. CURVE P-CIR-NE-1
PI STA. = 1706+01.77
Δ = 86° 38′ 23" (RT)
D = 16° 22′ 13"
R = 350.00′
T = 330.05′
L = 529.25′
E = 131.08′
e = 5.60%
T.R. = 48′ (ATN)
S.E. RUN = 136′ (ATN), 87′ (REM)
P.C. STA. = 1702+71.71
P.T. STA. = 1708+00.97
DS = 30

AECOM

USER NAME = floresg	DESIGNED - ATB	REVISED	
	CHECKED - DD	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - DD	REVISED	

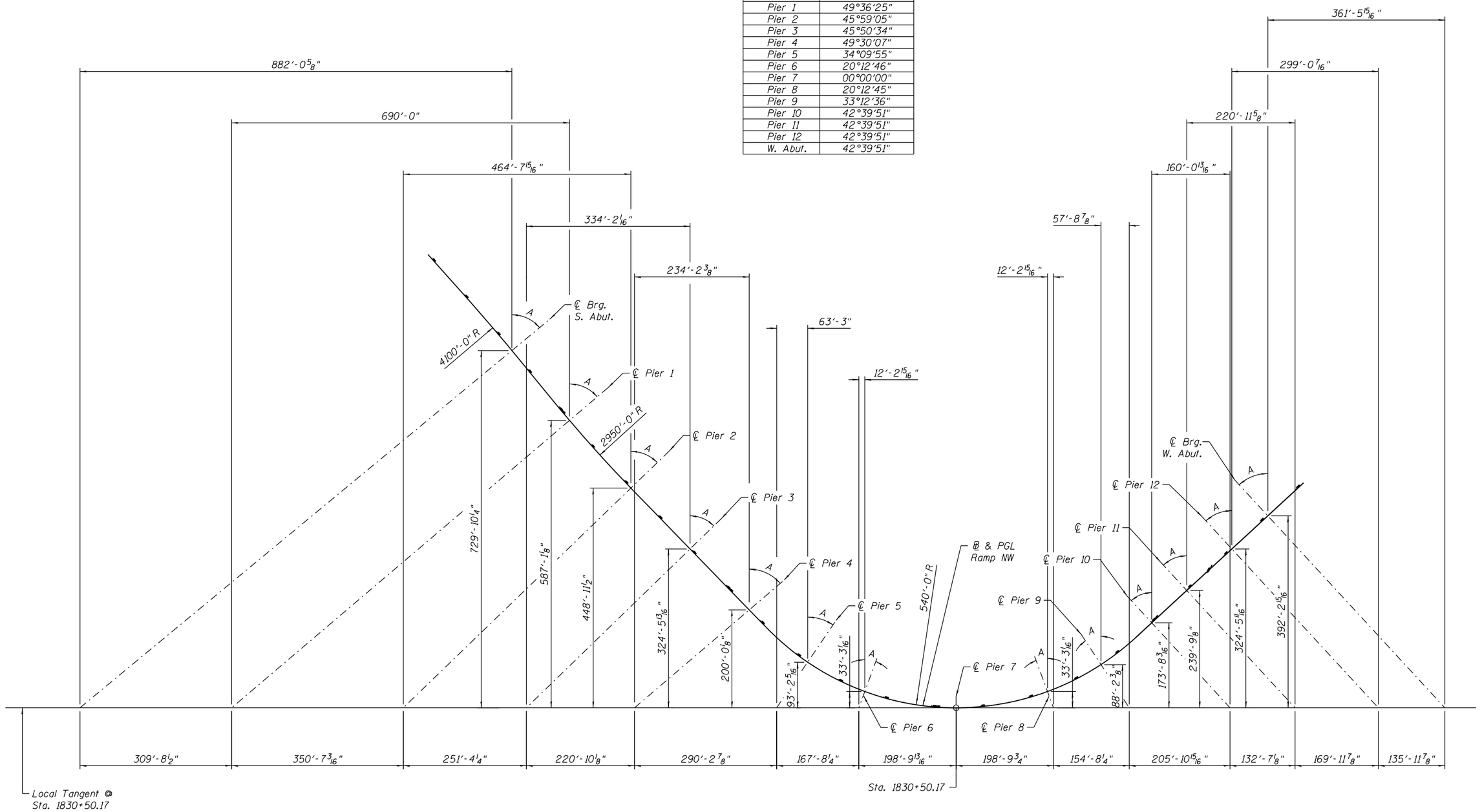
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROFILES & CURVE DATA
STRUCTURE NO. 016-1705
SHEET NO. S-6 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	322
		CONTRACT NO.		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S006-Profile.dgn

Location	A
S. Abut.	50°23'38"
Pier 1	49°36'25"
Pier 2	45°59'05"
Pier 3	45°50'34"
Pier 4	49°30'07"
Pier 5	34°09'55"
Pier 6	20°12'46"
Pier 7	00°00'00"
Pier 8	20°12'45"
Pier 9	33°12'36"
Pier 10	42°39'51"
Pier 11	42°39'51"
Pier 12	42°39'51"
W. Abut.	42°39'51"



OFFSET SKETCH

0161705-60W28-S007-Offset.dgn

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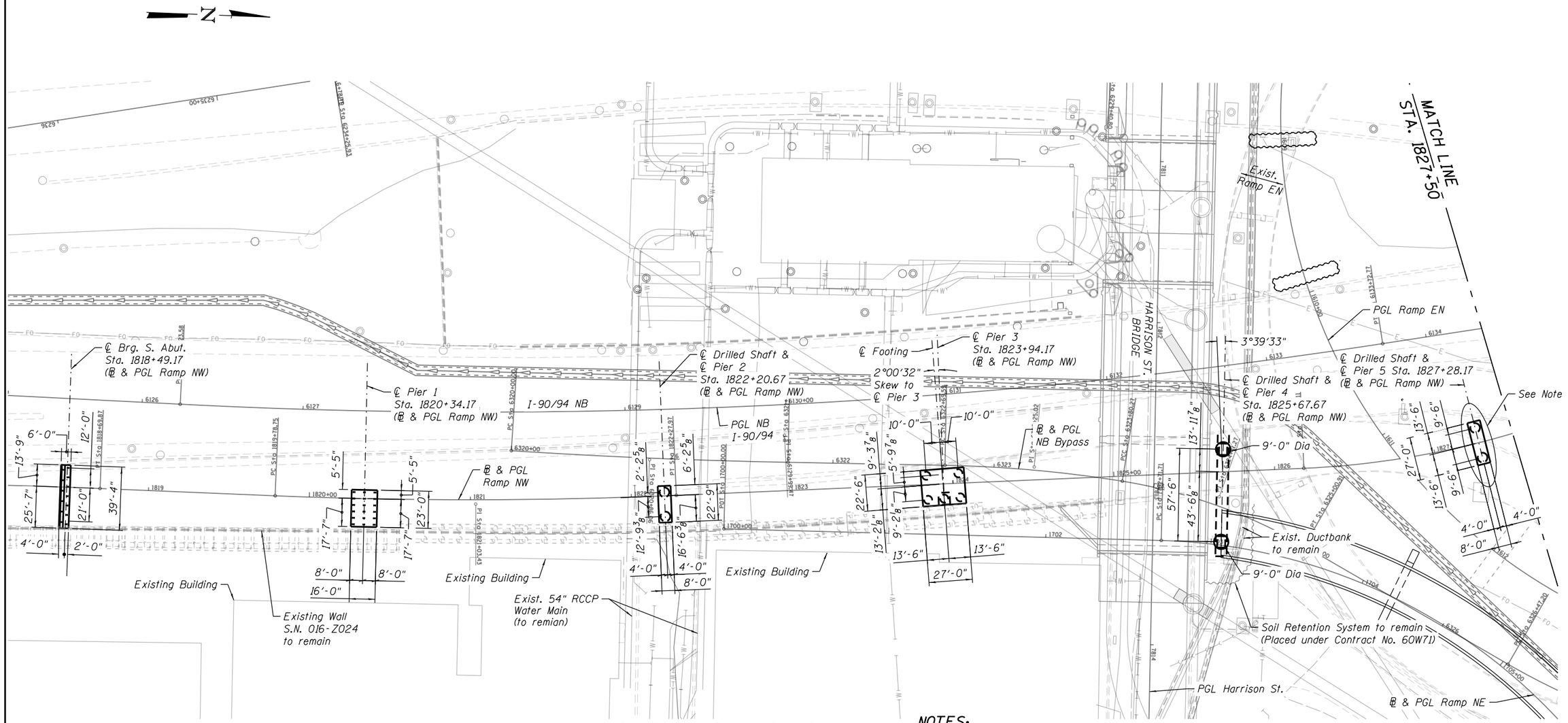
		CHECKED - ATB	REVISED
	PLOT SCALE = N.T.S.	DRAWN - DD	REVISED
	PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OFFSET SKETCH
STRUCTURE NO. 016-1705
SHEET NO. S-7 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	323
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		



SUBSTRUCTURE LAYOUT PLAN

NOTES:

1. All Substructure are oriented 90° to ℄ & PGL Ramp NW unless noted otherwise.
2. The Contractor shall take precautions to not to damage existing retaining wall S.N. 016-Z024 during construction. The Contractor is responsible for the structural integrity and stability of the existing wall. Any damage to existing retaining wall shall be repaired by the Contractor at no additional cost.
3. The Contractor shall field locate existing retaining wall (S.N. 016-Z024) piles near the S. Abutment and Pier 1 prior to drilling and installing the proposed steel H-piles. The contractor may need to field adjust the proposed pile locations to avoid conflict with existing retaining wall piles. The spacing between two adjacent piles, in any direction within the pile group, shall not be greater than 8'-0" and shall not be less than 3'-0". If field adjustment is required, the Contractor shall submit a revised foundation layout plan depicting the location of all piles to the Engineer for approval prior to constructing the proposed foundations.
4. It is anticipated that existing Ramp NE approach wall foundation conflicts with installation of drilled shafts at Pier 5. The Contractor shall provide necessary equipment, labor and materials as required to construct proposed the proposed drilled shafts. This work shall be completed in accordance with the Special Provision Foundation Construction at Existing Obstructions.
5. See sheet S-11 for Braced Excavation details at Pier 1, 2, 3 & 5.

LEGEND:

Combined Sewer		Telephone	T
Electric	E	Water Line	W
Fiber Optic	FO	Gas Line	G
Storm Sewer		Fire Hydrant	
		Light Pole	

0161705-60W28-S008-SubStruct.dgn

AECOM

USER NAME = floresg	DESIGNED - ATB	REVISED
	CHECKED - DD	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBSTRUCTURE LAYOUT I
STRUCTURE NO. 016-1705
SHEET NO. S-8 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	324
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. All Substructure are oriented 90° to ℄ & PGL Ramp NW unless noted otherwise.
2. For Pier 7 Drilled Shaft and Footing construction details, see sheet S-10.
3. Construction of Pier 8 Drilled Shafts shall not start until exploratory Drilled Shaft Test Hole is performed to confirm that the proposed drilled shafts are not in conflict with existing main drain. Contractor shall notify the Engineer immediately if such conflicts exist. Contractor shall take precautions to not to damage existing main drain during the construction. Any damage shall be repaired by the Contractor at no additional cost. See Special Provision for Drilled Shaft Test Hole.
4. It is anticipated that existing light tower foundation conflicts with the instalation of the Pier 9 drilled shafts. The Contractor shall provide the necessary equipment, labor and materials as required to construct proposed drilled shafts. This work shall be completed in accordance with the Special Provision Foundation Construction at Existing Obstructions.
5. See sheet S-11 for Braced Excavation details at Pier 6, 7, 8 & 10.

MATCH LINE STA. 1827+50

PGL NB I-90/94

PGL Ramp SE

PGL Ramp WS

PGL SB Bypass

PGL Halsted St.

℄ Drilled Shaft & ℄ Pier 6 Sta. 1828+59.67 (℄ & PGL Ramp NW)

23'-0" 11'-6" 11'-6" 4'-0" 4'-0" 8'-0" 7'-6" 7'-6"

PGL Ramp EB I-290

Exist. EB I-290

CTA

CTA

℄ Drilled Shaft & ℄ Pier 7 Sta. 1830+50.17 (℄ & PGL Ramp NW)

25'-0" 12'-6" 12'-6" 8'-0" 8'-0" 4'-6" 4'-6" 9'-0"

PGL Ramp WB I-290

Exist. WB I-290

℄ Pier 8 Sta. 1832+40.67 (℄ & PGL Ramp NW)

42°13'40" Skew to ℄ Pier 8

℄ Shaft

10'-0" 10'-0" 6'-9" 24'-0" 20'-0" 27'-0" 13'-9"

Exist. Main Drain to remain

Temp. Soil Ret. Sys. (Typ.)

℄ Drilled Shaft & ℄ Pier 9 Sta. 1833+63.17 (℄ & PGL Ramp NW)

11'-6" 11'-6" 23'-0" 11'-6" 7'-6" 7'-6" 4'-0" 4'-0" 8'-0"

℄ & PGL Ramp NW

Exist. Light Tower

See Note 4

PGL SB I-90/94

Exist. Ramp SE

Exist. Ramp WS

HALSTED ST. BRIDGE

℄ Drilled Shaft & ℄ Pier 10 Sta. 1834+97.67 (℄ & PGL Ramp NW)

11'-6" 11'-6" 23'-0" 9'-0" 7'-6" 4'-0" 4'-0" 8'-0"

℄ Drilled Shaft & ℄ Pier 11 Sta. 1835+95.17 (℄ & PGL Ramp NW)

9'-0" Dia

I-290 WB

PGL Ramp SW

℄ Drilled Shaft & ℄ Brg. W. Abut. Sta. 1838+20.17 (℄ & PGL Ramp NW)

℄ Drilled Shaft & ℄ Pier 12 Sta. 1837+20.17 (℄ & PGL Ramp NW)

11'-6" 11'-6" 23'-0" 7'-6" 7'-6" 4'-0" 4'-0" 8'-0"

37'-3" 18'-2½" 19'-0½" 5'-6" 15'-9" 15'-10⅞" 2'-0" 3'-6"

LEGEND:

Combined Sewer		Telephone	T
Electric	E	Water Line	W
Fiber Optic	FO	Gas Line	G
Storm Sewer		Fire Hydrant	
		Light Pole	

SUBSTRUCTURE LAYOUT PLAN

AECOM

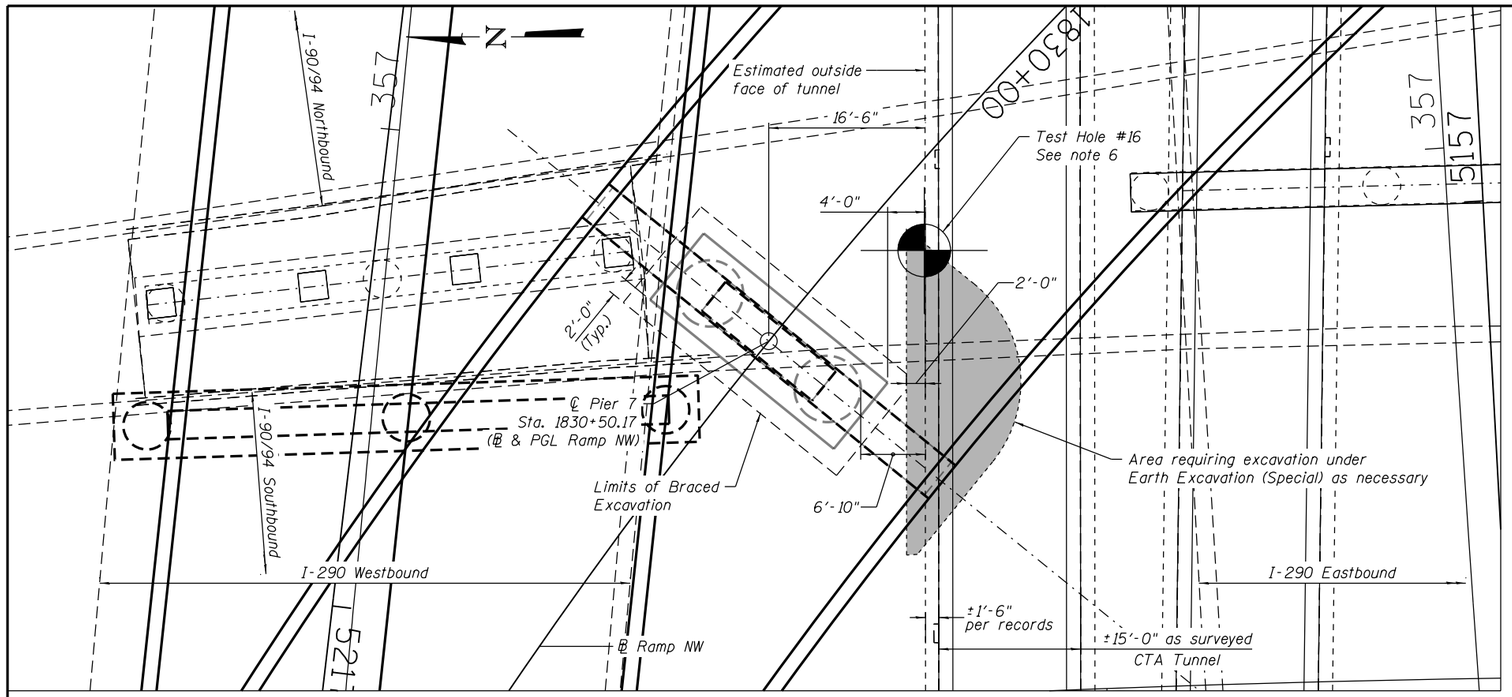
USER NAME = floresg	DESIGNED - ATB	REVISED	
	CHECKED - DD	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

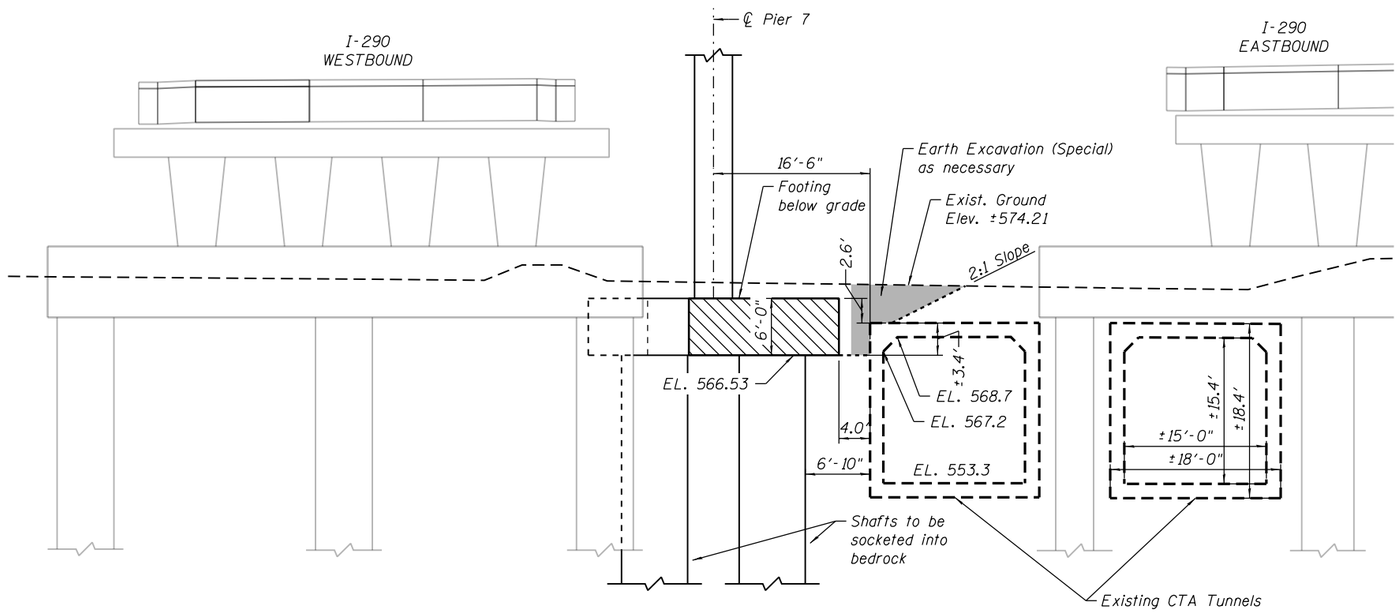
SUBSTRUCTURE LAYOUT II
STRUCTURE NO. 016-1705
SHEET NO. S-9 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	325
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S009-SubStruct.dgn



PLAN



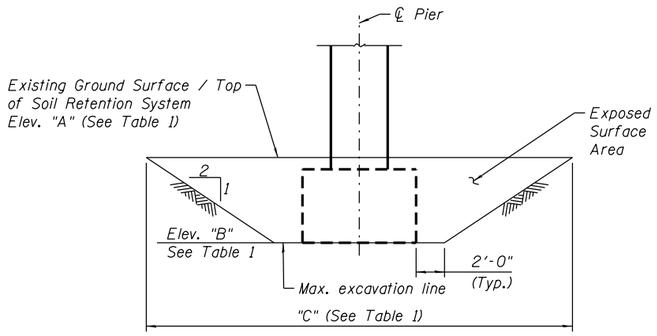
ELEVATION

NOTES:

1. The location of the CTA tunnel has been identified using a combination of record drawings, survey within the tunnel and test holes at the tunnel. The combination of the test holes and the survey confirmed the top slab and wall thicknesses of ±18" for the tunnel structure shown in record drawings.
2. Prior to the start of installation of braced excavation system, the Contractor shall locate outside edge of the CTA tunnel.
3. Excavation within 2'-0" of outside edge of CTA tunnel shall be performed per special provision Earth Excavation (Special) using only hand excavation or approved methods that would cause minimal risk of damage to the CTA tunnel. The limits of excavation work shall be identified prior to start of work. All planned excavation is subject to approval by the Engineer and CTA.
4. Braced Excavation shall be designed considering a minimum offset to the CTA tunnel of 2'-0". All braced excavation designs shall consider the age of the tunnel and the unknown condition of the tunnel. Installation methods shall minimize the risk of damage to the tunnel and conform to the requirements of the Construction Vibration Monitoring special provision.
5. All work adjacent to and over the CTA tunnel shall conform to requirements identified within the CTA Flagging And Coordination special provision.
6. See Utility Location Plans for test hole data provided by SUE contractor.
7. Quantity shown for Earth Excavation (Special) is approximate. Actual quantity shall be measured per Special Provision Earth Excavation (Special).

BILL OF MATERIAL

Item	Unit	Total
Earth Excavation (Special)	Cu. Yd.	76



ELEVATION - TEMP. SOIL RETENTION SYSTEM AT PIER 9 & PIER 12

TABLE 1

Structure	Elev. "A"	Elev. "B"	Length "C" (ft.)
Pier 9	±588.32	±580.52	±44
Pier 12	±574.66	±565.34	±52

BILL OF MATERIAL

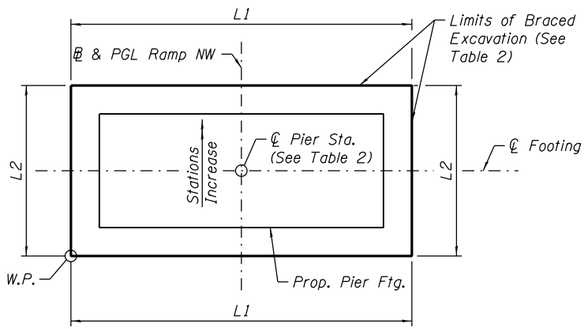
Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	872

NOTES

1. A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.
2. Braced Excavation shall be completed in accordance with Special Provision Braced Excavation
3. The bracing system for Braced Excavation shall be installed without the use of impact-type pile drivers. The proposed equipment and procedures used for the installation of bracing system shall be submitted to the Engineer for approval prior to their use. If vibratory equipment utilized, the Contractor shall also submit documentation regarding the operating noise levels and operating vibration characteristics of the equipment proposed. The approval of the equipment and procedure by the Engineer does not guarantee the performance in the field of the equipment will be acceptable. If in the judgment of the Engineer, the noise and/or vibration effects exceed those required by the local residents, then the Contractor must halt production and find a remedy suitable to the Engineer. Threshold values for vibration monitoring are included in the special provision "CONSTRUCTION VIBRATION MONITORING". The costs incurred finding suitable equipment and procedures shall be included in the cost of Braced Excavation. No additional costs shall be paid for this effort..

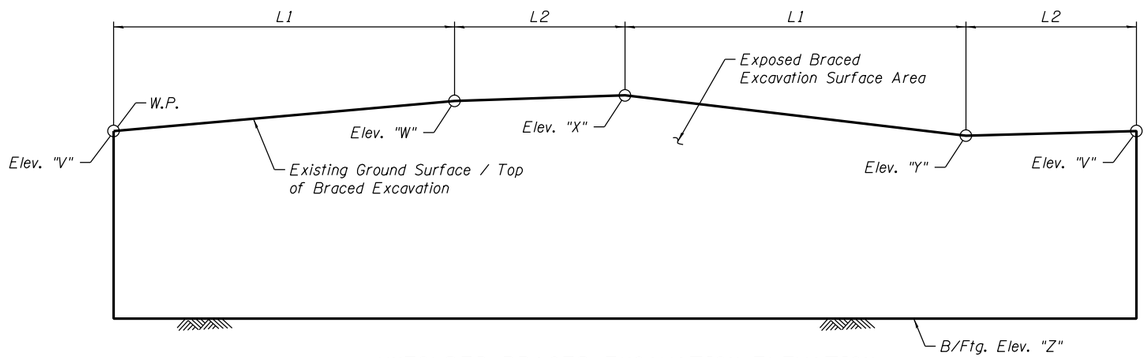
TABLE 2

Pier	Sta.	L1 (ft)	L2 (ft)	Elevation				
				V	W	X	Y	Z
1	1820+34.17	27	20	± 583.11	± 582.91	± 582.94	± 583.2	580.98
2	1822+20.67	25	12	± 582.15	± 582.37	± 582.27	± 582.04	576.10
3	1823+94.17	24.75	31	± 580.45	± 580.9	± 580.49	± 580.14	571.28
5	1827+28.17	31	12	± 579.06	± 579.01	± 579.09	± 579.05	571.69
6	1828+59.67	27	12	± 577.98	± 577.84	± 577.81	± 578	566.90
7	1830+50.17	29	13	± 574.21	± 577.36	± 577.26	± 574.14	566.53
8	1832+40.67	31	28	± 588.93	± 590.3	± 590.33	± 589.75	579.19
10	1834+97.67	27	12	± 580.09	± 579.42	± 578.25	± 579.32	572.28



BRACED EXCAVATION PLAN

(Typ. For All Piers)



UNFOLDED BRACED EXCAVATION ELEVATION

(Looking Upstation)

0161705-60W28-S011-SoilRetSys.dgn

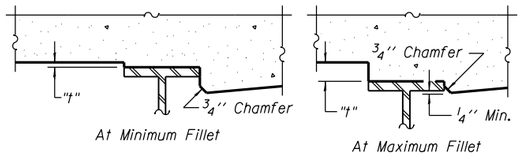
AECOM

USER NAME = floresg	DESIGNED - ABT	REVISED	
	CHECKED - EJO	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ABT	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMP. SOIL RETENTION SYSTEM & BRACED EXCAVATION DETAILS
STRUCTURE NO. 016-1705
SHEET NO. S-11 OF S-165 SHEETS

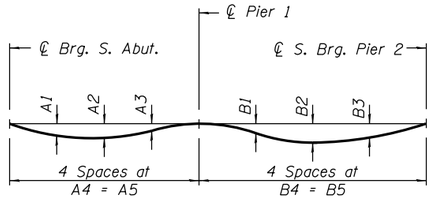
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	327
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-13 and S-14, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

Girder No.	DEAD LOAD DEFLECTIONS									
	Span 1					Span 2				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
1	2 1/2"	2 3/4"	1 1/8"	46'-4"	185'-3 7/8"	1 1/8"	2 3/4"	2 1/2"	46'-7 1/2"	186'-5 7/8"
2	2 5/8"	2 7/8"	1 1/8"	46'-3 5/8"	185'-2 3/4"	1 1/8"	2 7/8"	2 5/8"	46'-6 1/8"	186'-0 5/8"
3	2 5/8"	2 7/8"	1 1/8"	46'-3 3/8"	185'-1 5/8"	1 1/8"	2 7/8"	2 5/8"	46'-4 7/8"	185'-7 1/4"
4	2 3/4"	3"	1 1/4"	46'-3 1/8"	185'-0 3/8"	1 1/4"	3"	2 3/4"	46'-3 1/2"	185'-2"
5	2 3/4"	3"	1 1/4"	46'-2 7/8"	184'-11 1/4"	1 1/4"	3"	2 3/4"	46'-2 1/8"	184'-8 5/8"
6	2 3/4"	3"	1 1/4"	46'-2 1/2"	184'-10 1/8"	1 1/4"	3"	2 3/4"	46'-0 7/8"	184'-3 3/8"

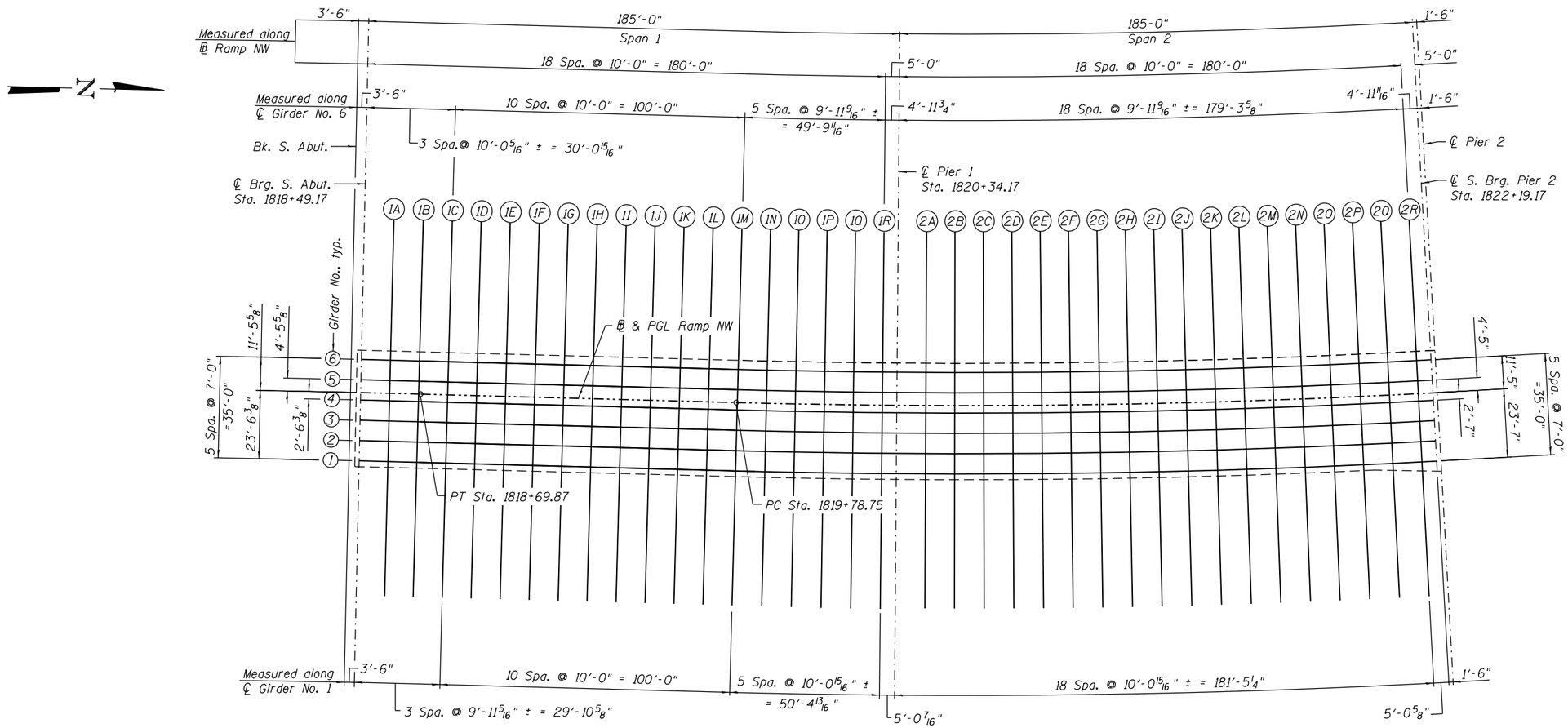


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S-13 and S-14.



PLAN

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.65	23.58	601.82	601.82
℄ Brg. S. Abut.	1818+49.17	23.58	601.96	601.96
1A	1818+59.17	23.58	602.36	602.41
1B	1818+69.17	23.58	602.76	602.86
1C	1818+79.17	23.58	603.16	603.31
1D	1818+89.17	23.58	603.56	603.75
1E	1818+99.17	23.58	603.96	604.18
1F	1819+09.17	23.58	604.36	604.60
1G	1819+19.17	23.58	604.76	605.00
1H	1819+29.17	23.58	605.16	605.40
1I	1819+39.17	23.58	605.56	605.79
1J	1819+49.17	23.58	605.96	606.17
1K	1819+59.17	23.58	606.36	606.55
1L	1819+69.17	23.58	606.76	606.91
1M	1819+79.17	23.58	607.16	607.28
1N	1819+89.17	23.58	607.56	607.65
1O	1819+99.17	23.58	607.96	608.02
1P	1820+09.17	23.58	608.36	608.39
1Q	1820+19.17	23.58	608.76	608.77
1R	1820+29.17	23.58	609.16	609.16
℄ Pier 1	1820+34.17	23.58	609.36	609.36
2A	1820+44.17	23.58	609.76	609.77
2B	1820+54.17	23.58	610.16	610.18
2C	1820+64.17	23.58	610.56	610.60
2D	1820+74.17	23.58	610.96	611.03
2E	1820+84.17	23.58	611.36	611.46
2F	1820+94.17	23.58	611.76	611.90
2G	1821+04.17	23.58	612.16	612.33
2H	1821+14.17	23.58	612.56	612.76
2I	1821+24.17	23.58	612.96	613.18
2J	1821+34.17	23.58	613.36	613.60
2K	1821+44.17	23.58	613.76	614.00
2L	1821+54.17	23.58	614.16	614.40
2M	1821+64.17	23.58	614.56	614.79
2N	1821+74.17	23.58	614.96	615.16
2O	1821+84.17	23.58	615.36	615.53
2P	1821+94.17	23.58	615.76	615.89
2Q	1822+04.17	23.58	616.16	616.24
2R	1822+14.17	23.58	616.55	616.58
℄ S. Brg. Pier 2	1822+19.17	23.58	616.74	616.74
℄ Pier 2	1822+20.67	23.58	616.80	616.80

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.65	16.58	601.68	601.68
℄ Brg. S. Abut.	1818+49.17	16.58	601.82	601.82
1A	1818+59.17	16.58	602.22	602.27
1B	1818+69.17	16.58	602.62	602.73
1C	1818+79.17	16.58	603.02	603.17
1D	1818+89.17	16.58	603.42	603.61
1E	1818+99.17	16.58	603.82	604.04
1F	1819+09.17	16.58	604.22	604.46
1G	1819+19.17	16.58	604.62	604.87
1H	1819+29.17	16.58	605.02	605.27
1I	1819+39.17	16.58	605.42	605.66
1J	1819+49.17	16.58	605.82	606.04
1K	1819+59.17	16.58	606.22	606.41
1L	1819+69.17	16.58	606.62	606.78
1M	1819+79.17	16.58	607.02	607.15
1N	1819+89.17	16.58	607.42	607.51
1O	1819+99.17	16.58	607.82	607.88
1P	1820+09.17	16.58	608.22	608.25
1Q	1820+19.17	16.58	608.62	608.63
1R	1820+29.17	16.58	609.02	609.02
℄ Pier 1	1820+34.17	16.58	609.22	609.22
2A	1820+44.17	16.58	609.62	609.63
2B	1820+54.17	16.58	610.02	610.04
2C	1820+64.17	16.58	610.42	610.46
2D	1820+74.17	16.58	610.82	610.89
2E	1820+84.17	16.58	611.22	611.33
2F	1820+94.17	16.58	611.62	611.76
2G	1821+04.17	16.58	612.02	612.20
2H	1821+14.17	16.58	612.42	612.63
2I	1821+24.17	16.58	612.82	613.05
2J	1821+34.17	16.58	613.22	613.47
2K	1821+44.17	16.58	613.62	613.87
2L	1821+54.17	16.58	614.02	614.27
2M	1821+64.17	16.58	614.42	614.65
2N	1821+74.17	16.58	614.82	615.03
2O	1821+84.17	16.58	615.22	615.39
2P	1821+94.17	16.58	615.62	615.75
2Q	1822+04.17	16.58	616.02	616.10
2R	1822+14.17	16.58	616.41	616.44
℄ S. Brg. Pier 2	1822+19.18	16.58	616.60	616.60
℄ Pier 2	1822+20.67	16.58	616.66	616.66

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.66	9.58	601.54	601.54
℄ Brg. S. Abut.	1818+49.17	9.58	601.68	601.68
1A	1818+59.17	9.58	602.08	602.14
1B	1818+69.17	9.58	602.48	602.59
1C	1818+79.17	9.58	602.88	603.04
1D	1818+89.17	9.58	603.28	603.48
1E	1818+99.17	9.58	603.68	603.91
1F	1819+09.17	9.58	604.08	604.33
1G	1819+19.17	9.58	604.48	604.74
1H	1819+29.17	9.58	604.88	605.14
1I	1819+39.17	9.58	605.28	605.53
1J	1819+49.17	9.58	605.68	605.90
1K	1819+59.17	9.58	606.08	606.28
1L	1819+69.17	9.58	606.48	606.64
1M	1819+79.17	9.58	606.88	607.01
1N	1819+89.17	9.58	607.28	607.37
1O	1819+99.17	9.58	607.68	607.74
1P	1820+09.17	9.58	608.08	608.11
1Q	1820+19.17	9.58	608.48	608.49
1R	1820+29.17	9.58	608.88	608.88
℄ Pier 1	1820+34.17	9.58	609.08	609.08
2A	1820+44.17	9.58	609.48	609.49
2B	1820+54.17	9.58	609.88	609.90
2C	1820+64.17	9.58	610.28	610.33
2D	1820+74.17	9.58	610.68	610.76
2E	1820+84.17	9.58	611.08	611.19
2F	1820+94.17	9.58	611.48	611.63
2G	1821+04.17	9.58	611.88	612.06
2H	1821+14.17	9.58	612.28	612.49
2I	1821+24.17	9.58	612.68	612.92
2J	1821+34.17	9.58	613.08	613.33
2K	1821+44.17	9.58	613.48	613.74
2L	1821+54.17	9.58	613.88	614.14
2M	1821+64.17	9.58	614.28	614.52
2N	1821+74.17	9.58	614.68	614.90
2O	1821+84.17	9.58	615.08	615.26
2P	1821+94.17	9.58	615.48	615.62
2Q	1822+04.17	9.58	615.88	615.96
2R	1822+14.17	9.58	616.27	616.30
℄ S. Brg. Pier 2	1822+19.17	9.58	616.46	616.46
℄ Pier 2	1822+20.67	9.58	616.52	616.52

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.67	2.58	601.40	601.40
℄ Brg. S. Abut.	1818+49.17	2.58	601.54	601.54
1A	1818+59.17	2.58	601.94	602.00
1B	1818+69.17	2.58	602.34	602.45
1C	1818+79.17	2.58	602.74	602.90
1D	1818+89.17	2.58	603.14	603.34
1E	1818+99.17	2.58	603.54	603.77
1F	1819+09.17	2.58	603.94	604.19
1G	1819+19.17	2.58	604.34	604.60
1H	1819+29.17	2.58	604.74	605.00
1I	1819+39.17	2.58	605.14	605.39
1J	1819+49.17	2.58	605.54	605.77
1K	1819+59.17	2.58	605.94	606.14
1L	1819+69.17	2.58	606.34	606.51
1M	1819+79.17	2.58	606.74	606.87
1N	1819+89.17	2.58	607.14	607.23
1O	1819+99.17	2.58	607.54	607.60
1P	1820+09.17	2.58	607.94	607.97
1Q	1820+19.17	2.58	608.34	608.35
1R	1820+29.17	2.58	608.74	608.74
℄ Pier 1	1820+34.17	2.58	608.94	608.94
2A	1820+44.17	2.58	609.34	609.35
2B	1820+54.17	2.58	609.74	609.76
2C	1820+64.17	2.58	610.14	610.19
2D	1820+74.17	2.58	610.54	610.62
2E	1820+84.17	2.58	610.94	611.05
2F	1820+94.17	2.58	611.34	611.49
2G	1821+04.17	2.58	611.74	611.92
2H	1821+14.17	2.58	612.14	612.36
2I	1821+24.17	2.58	612.54	612.78
2J	1821+34.17	2.58	612.94	613.20
2K	1821+44.17	2.58	613.34	613.60
2L	1821+54.17	2.58	613.74	614.00
2M	1821+64.17	2.58	614.14	614.39
2N	1821+74.17	2.58	614.54	614.76
2O	1821+84.17	2.58	614.94	615.12
2P	1821+94.17	2.58	615.34	615.48
2Q	1822+04.17	2.58	615.74	615.83
2R	1822+14.17	2.58	616.13	616.16
℄ S. Brg. Pier 2	1822+19.17	2.58	616.32	616.32
℄ Pier 2	1822+20.67	2.58	616.38	616.38

℄ & PGL RAMP NW

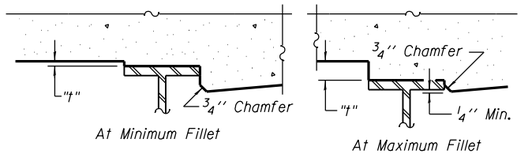
Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.67	0.00	601.35	601.35
℄ Brg. S. Abut.	1818+49.17	0.00	601.49	601.49
1A	1818+59.17	0.00	601.89	601.95
1B	1818+69.17	0.00	602.29	602.40
1C	1818+79.17	0.00	602.69	602.85
1D	1818+89.17	0.00	603.09	603.29
1E	1818+99.17	0.00	603.49	603.72
1F	1819+09.17	0.00	603.89	604.14
1G	1819+19.17	0.00	604.29	604.55
1H	1819+29.17	0.00	604.69	604.95
1I	1819+39.17	0.00	605.09	605.34
1J	1819+49.17	0.00	605.49	605.72
1K	1819+59.17	0.00	605.89	606.09
1L	1819+69.17	0.00	606.29	606.46
1M	1819+79.17	0.00	606.69	606.82
1N	1819+89.17	0.00	607.09	607.18
1O	1819+99.17	0.00	607.49	607.55
1P	1820+09.17	0.00	607.89	607.92
1Q	1820+19.17	0.00	608.29	608.30
1R	1820+29.17	0.00	608.69	608.69
℄ Pier 1	1820+34.17	0.00	608.89	608.89
2A	1820+44.17	0.00	609.29	609.29
2B	1820+54.17	0.00	609.69	609.71
2C	1820+64.17	0.00	610.09	610.13
2D	1820+74.17	0.00	610.49	610.57
2E	1820+84.17	0.00	610.89	611.00
2F	1820+94.17	0.00	611.29	611.44
2G	1821+04.17	0.00	611.69	611.87
2H	1821+14.17	0.00	612.09	612.30
2I	1821+24.17	0.00	612.49	612.73
2J	1821+34.17	0.00	612.89	613.15
2K	1821+44.17	0.00	613.29	613.55
2L	1821+54.17	0.00	613.69	613.95
2M	1821+64.17	0.00	614.09	614.33
2N	1821+74.17	0.00	614.49	614.71
2O	1821+84.17	0.00	614.89	615.07
2P	1821+94.17	0.00	615.29	615.43
2Q	1822+04.17	0.00	615.69	615.77
2R	1822+14.17	0.00	616.08	616.11
℄ S. Brg. Pier 2	1822+19.17	0.00	616.27	616.27
℄ Pier 2	1822+20.67	0.00	616.33	616.33

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.67	-4.42	601.26	601.26
℄ Brg. S. Abut.	1818+49.17	-4.42	601.40	601.40
1A	1818+59.17	-4.42	601.80	601.86
1B	1818+69.17	-4.42	602.20	602.31
1C	1818+79.17	-4.42	602.60	602.76
1D	1818+89.17	-4.42	603.00	603.20
1E	1818+99.17	-4.42	603.40	603.64
1F	1819+09.17	-4.42	603.80	604.06
1G	1819+19.17	-4.42	604.20	604.47
1H	1819+29.17	-4.42	604.60	604.87
1I	1819+39.17	-4.42	605.00	605.25
1J	1819+49.17	-4.42	605.40	605.63
1K	1819+59.17	-4.42	605.80	606.00
1L	1819+69.17	-4.42	606.20	606.37
1M	1819+79.17	-4.42	606.60	606.73
1N	1819+89.17	-4.42	607.00	607.09
1O	1819+99.17	-4.42	607.40	607.46
1P	1820+09.17	-4.42	607.80	607.83
1Q	1820+19.17	-4.42	608.20	608.21
1R	1820+29.17	-4.42	608.60	608.60
℄ Pier 1	1820+34.17	-4.42	608.80	608.80
2A	1820+44.17	-4.42	609.20	609.21
2B	1820+54.17	-4.42	609.60	609.62
2C	1820+64.17	-4.42	610.00	610.05
2D	1820+74.17	-4.42	610.40	610.48
2E	1820+84.17	-4.42	610.80	610.91
2F	1820+94.17	-4.42	611.20	611.35
2G	1821+04.17	-4.42	611.60	611.79
2H	1821+14.17	-4.42	612.00	612.22
2I	1821+24.17	-4.42	612.40	612.64
2J	1821+34.17	-4.42	612.80	613.06
2K	1821+44.17	-4.42	613.20	613.47
2L	1821+54.17	-4.42	613.60	613.86
2M	1821+64.17	-4.42	614.00	614.25
2N	1821+74.17	-4.42	614.40	614.62
2O	1821+84.17	-4.42	614.80	614.98
2P	1821+94.17	-4.42	615.20	615.34
2Q	1822+04.17	-4.42	615.60	615.69
2R	1822+14.17	-4.42	615.99	616.02
℄ S. Brg. Pier 2	1822+19.17	-4.42	616.18	616.18
℄ Pier 2	1822+20.67	-4.42	616.24	616.24

GIRDER 6

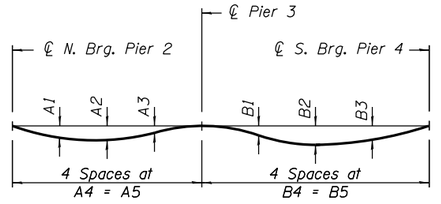
Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
Bk. S. Abut.	1818+45.68	-11.42	601.12	601.12
℄ Brg. S. Abut.	1818+49.17	-11.42	601.26	601.26
1A	1818+59.17	-11.42	601.66	601.72
1B	1818+69.17	-11.42	602.06	602.17
1C	1818+79.17	-11.42	602.46	602.62
1D	1818+89.17	-11.42	602.86	603.07
1E	1818+99.17	-11.42	603.26	603.50
1F	1819+09.17	-11.42	603.66	603.92
1G	1819+19.17	-11.42	604.06	604.33
1H	1819+29.17	-11.42	604.46	604.73
1I	1819+39.17	-11.42	604.86	605.11
1J	1819+49.17	-11.42	605.26	605.49
1K	1819+59.17	-11.42	605.66	605.86
1L	1819+69.17	-11.42	606.06	606.23
1M	1819+79.17	-11.42	606.46	606.59
1N	1819+89.17	-11.42	606.86	606.96
1O	1819+99.17	-11.42	607.26	607.32
1P	1820+09.17	-11.42	607.66	607.69
1Q	1820+19.17	-11.42	608.06	608.07
1R	1820+29.17	-11.42	608.46	608.46
℄ Pier 1	1820+34.17	-11.42	608.66	608.66
2A	1820+44.17	-11.42	609.06	609.07
2B	1820+54.17	-11.42	609.46	609.48
2C	1820+64.17	-11.42	609.86	609.91
2D	1820+74.17	-11.42	610.26	610.34
2E	1820+84.17	-11.42	610.66	610.77
2F	1820+94.17	-11.42	611.06	611.21
2G	1821+04.17	-11.42	611.46	611.65
2H	1821+14.17	-11.42	611.86	612.08
2I	1821+24.17	-11.42	612.26	612.50
2J	1821+34.17	-11.42	612.66	612.92
2K	1821+44.17	-11.42	613.06	613.33
2L	1821+54.17	-11.42	613.46	613.73
2M	1821+64.17	-11.42	613.86	614.11
2N	1821+74.17	-11.42	614.26	614.48
2O	1821+84.17	-11.42	614.66	614.85
2P	1821+94.17	-11.42	615.06	615.20
2Q	1822+04.17	-11.42	615.46	615.55
2R	1822+14.17	-11.42	615.85	615.88
℄ S. Brg. Pier 2	1822+19.16	-11.42	616.04	616.04
℄ Pier 2	1822+20.67	-11.42	616.10	616.10



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-16 and S-17, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

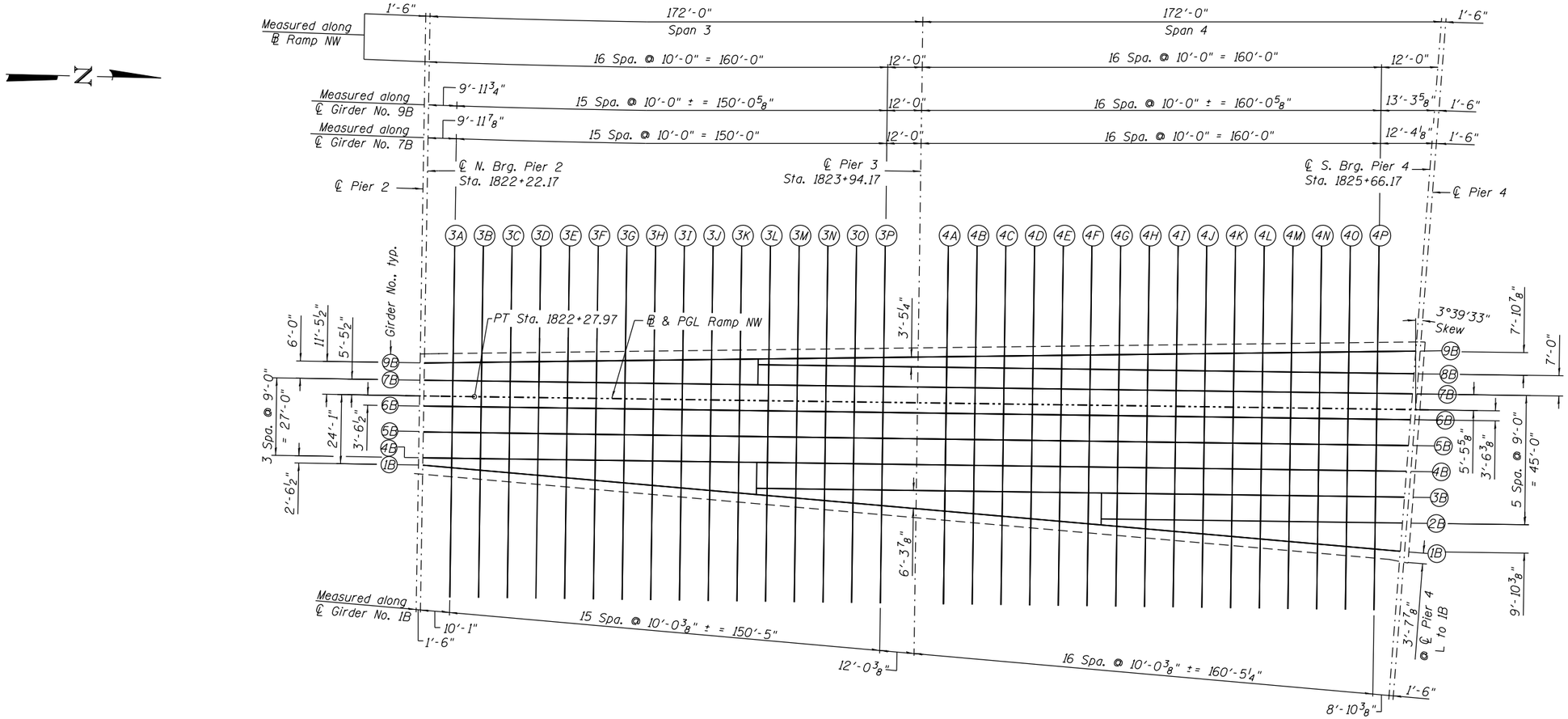
Girder No.	DEAD LOAD DEFLECTIONS									
	Span 3					Span 4				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
1B	1 1/4"	1 1/8"	0 1/8"	43'-1 5/8"	172'-6 3/8"	1 1/2"	2 7/8"	2 3/8"	42'-3 7/8"	169'-3 5/8"
2B	-	-	-	-	-	2 7/8"	2 5/8"	1 5/8"	26'-2 7/8"	104'-11 5/8"
3B	0 1/8"	0"	-0 1/8"	13'-11 1/8"	55'-8 3/4"	1 3/8"	2 3/4"	2 3/8"	42'-6 1/8"	170'-0 5/8"
4B	1 3/8"	1 1/2"	0 3/8"	43'-0 1/8"	172'-0 5/8"	1 1/4"	2 5/8"	2 3/8"	42'-7 7/8"	170'-7 1/2"
5B	1 5/8"	1 3/4"	0 5/8"	43'-0 1/8"	172'-0 3/8"	1 1/4"	2 5/8"	2 1/4"	42'-9 5/8"	171'-2 3/8"
6B	1 3/4"	1 7/8"	0 5/8"	43'-0"	172'-0 1/8"	1 1/8"	2 1/2"	2 1/4"	42'-11 3/8"	171'-9 1/4"
7B	1 3/4"	1 3/4"	0 5/8"	43'-0"	171'-11 7/8"	1"	2 3/8"	2 1/8"	43'-1"	172'-4 1/4"
8B	0 1/2"	0 1/4"	0"	13'-11 1/8"	55'-8 3/4"	1"	2 3/8"	2 1/8"	43'-2 3/8"	172'-9 5/8"
9B	1 5/8"	1 5/8"	0 1/2"	43'-0 1/8"	172'-0 3/8"	1"	2 1/4"	2"	43'-4 1/8"	173'-4 3/8"



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S-16 and S-17.



PLAN

AECOM	USER NAME = floresg	DESIGNED - VP	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS PLAN – UNIT II STRUCTURE NO. 016–1705
		CHECKED - MK	REVISED		
	PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED		SHEET NO. S-15 OF S-165 SHEETS
	PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED		

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	331
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S015-TopSlab.dgn

GIRDER 1B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	23.98	616.81	616.81
℄ N. Brg. Pier 2	1822+22.16	24.09	616.87	616.87
3A	1822+32.17	24.83	617.26	617.29
3B	1822+42.17	25.57	617.63	617.69
3C	1822+52.17	26.31	617.99	618.07
3D	1822+62.17	27.06	618.37	618.47
3E	1822+72.17	27.80	618.70	618.81
3F	1822+82.17	28.54	619.02	619.14
3G	1822+92.17	29.28	619.33	619.44
3H	1823+02.17	30.03	619.62	619.72
3I	1823+12.17	30.77	619.91	619.99
3J	1823+22.17	31.51	620.17	620.24
3K	1823+32.17	32.25	620.43	620.47
3L	1823+42.17	33.00	620.68	620.70
3M	1823+52.17	33.74	620.92	620.93
3N	1823+62.17	34.48	621.17	621.16
3O	1823+72.17	35.22	621.42	621.40
3P	1823+82.17	35.97	621.66	621.65
℄ Pier 3	1823+94.17	36.86	621.89	621.89
4A	1824+04.17	37.60	622.03	622.05
4B	1824+14.17	38.34	622.16	622.21
4C	1824+24.17	39.09	622.28	622.36
4D	1824+34.17	39.83	622.40	622.52
4E	1824+44.17	40.57	622.51	622.66
4F	1824+54.17	41.31	622.61	622.80
4G	1824+64.17	42.06	622.71	622.92
4H	1824+74.17	42.80	622.80	623.04
4I	1824+84.17	43.54	622.88	623.13
4J	1824+94.17	44.28	622.96	623.21
4K	1825+04.17	45.03	623.04	623.28
4L	1825+14.17	45.77	623.11	623.33
4M	1825+24.17	46.51	623.19	623.37
4N	1825+34.17	47.25	623.26	623.41
4O	1825+44.17	48.00	623.33	623.43
4P	1825+54.17	48.74	623.41	623.45
℄ S. Brg. Pier 4	1825+63.01	49.41	623.47	623.47
℄ Pier 4	1825+64.50	49.51	623.48	623.48

GIRDER 2B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
4G	1824+64.17	39.54	622.73	622.95
4H	1824+74.17	39.54	622.85	623.08
4I	1824+84.17	39.54	622.96	623.20
4J	1824+94.17	39.54	623.07	623.32
4K	1825+04.17	39.54	623.19	623.42
4L	1825+14.17	39.54	623.31	623.52
4M	1825+24.17	39.54	623.43	623.61
4N	1825+34.17	39.54	623.56	623.71
4O	1825+44.17	39.54	623.69	623.79
4P	1825+54.17	39.54	623.84	623.88
℄ S. Brg. Pier 4	1825+63.64	39.54	623.92	623.92
℄ Pier 4	1825+65.14	39.54	624.00	624.00

GIRDER 3B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
3L	1823+42.17	30.54	620.62	620.65
3M	1823+52.17	30.54	620.85	620.87
3N	1823+62.17	30.54	621.08	621.09
3O	1823+72.17	30.54	621.31	621.31
3P	1823+82.17	30.54	621.53	621.52
℄ Pier 3	1823+94.17	30.54	621.77	621.77
4A	1824+04.17	30.54	621.93	621.95
4B	1824+14.17	30.54	622.08	622.12
4C	1824+24.17	30.54	622.23	622.30
4D	1824+34.17	30.54	622.38	622.48
4E	1824+44.17	30.54	622.53	622.66
4F	1824+54.17	30.54	622.68	622.85
4G	1824+64.17	30.54	622.82	623.02
4H	1824+74.17	30.54	622.97	623.20
4I	1824+84.17	30.54	623.12	623.36
4J	1824+94.17	30.54	623.27	623.51
4K	1825+04.17	30.54	623.43	623.66
4L	1825+14.17	30.54	623.58	623.80
4M	1825+24.17	30.54	623.75	623.93
4N	1825+34.17	30.54	623.91	624.06
4O	1825+44.17	30.54	624.07	624.18
4P	1825+54.17	30.54	624.25	624.30
℄ S. Brg. Pier 4	1825+64.21	30.54	624.40	624.40
℄ Pier 4	1825+65.72	30.54	624.46	624.46

GIRDER 4B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	21.55	616.76	616.76
℄ N. Brg. Pier 2	1822+22.16	21.54	616.82	616.82
3A	1822+32.17	21.54	617.19	617.22
3B	1822+42.17	21.54	617.55	617.61
3C	1822+52.17	21.54	617.89	617.99
3D	1822+62.17	21.54	618.24	618.36
3E	1822+72.17	21.54	618.56	618.69
3F	1822+82.17	21.54	618.87	619.00
3G	1822+92.17	21.54	619.16	619.30
3H	1823+02.17	21.54	619.44	619.57
3I	1823+12.17	21.54	619.70	619.82
3J	1823+22.17	21.54	619.96	620.05
3K	1823+32.17	21.54	620.20	620.27
3L	1823+42.17	21.54	620.43	620.48
3M	1823+52.17	21.54	620.66	620.69
3N	1823+62.17	21.54	620.89	620.91
3O	1823+72.17	21.54	621.12	621.12
3P	1823+82.17	21.54	621.35	621.35
℄ Pier 3	1823+94.17	21.54	621.61	621.61
4A	1824+04.17	21.54	621.79	621.80
4B	1824+14.17	21.54	621.98	622.01
4C	1824+24.17	21.54	622.16	622.22
4D	1824+34.17	21.54	622.35	622.44
4E	1824+44.17	21.54	622.54	622.66
4F	1824+54.17	21.54	622.72	622.88

GIRDER 4B CONT.

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
4G	1824+64.17	21.54	622.91	623.10
4H	1824+74.17	21.54	623.10	623.31
4I	1824+84.17	21.54	623.28	623.51
4J	1824+94.17	21.54	623.47	623.71
4K	1825+04.17	21.54	623.66	623.89
4L	1825+14.17	21.54	623.86	624.07
4M	1825+24.17	21.54	624.05	624.24
4N	1825+34.17	21.54	624.25	624.41
4O	1825+44.17	21.54	624.45	624.56
4P	1825+54.17	21.54	624.65	624.71
℄ S. Brg. Pier 4	1825+64.79	21.54	624.88	624.88
℄ Pier 4	1825+66.29	21.54	624.90	624.90

GIRDER 5B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	12.55	616.58	616.58
℄ N. Brg. Pier 2	1822+22.16	12.54	616.64	616.64
3A	1822+32.17	12.54	617.01	617.05
3B	1822+42.17	12.54	617.37	617.44
3C	1822+52.17	12.54	617.71	617.82
3D	1822+62.17	12.54	618.04	618.17
3E	1822+72.17	12.54	618.36	618.51
3F	1822+82.17	12.54	618.67	618.82
3G	1822+92.17	12.54	618.96	619.12
3H	1823+02.17	12.54	619.24	619.39
3I	1823+12.17	12.54	619.51	619.64
3J	1823+22.17	12.54	619.76	619.88
3K	1823+32.17	12.54	620.00	620.10
3L	1823+42.17	12.54	620.24	620.31
3M	1823+52.17	12.54	620.47	620.51
3N	1823+62.17	12.54	620.69	620.72
3O	1823+72.17	12.54	620.92	620.94
3P	1823+82.17	12.54	621.14	621.14
℄ Pier 3	1823+94.17	12.54	621.43	621.43
4A	1824+04.17	12.54	621.65	621.66
4B	1824+14.17	12.54	621.87	621.90
4C	1824+24.17	12.54	622.10	622.15
4D	1824+34.17	12.54	622.32	622.41
4E	1824+44.17	12.54	622.54	622.66
4F	1824+54.17	12.54	622.77	622.92
4G	1824+64.17	12.54	622.99	623.17
4H	1824+74.17	12.54	623.21	623.42
4I	1824+84.17	12.54	623.44	623.66
4J	1824+94.17	12.54	623.66	623.89
4K	1825+04.17	12.54	623.89	624.11
4L	1825+14.17	12.54	624.12	624.33
4M	1825+24.17	12.54	624.36	624.54
4N	1825+34.17	12.54	624.59	624.74
4O	1825+44.17	12.54	624.82	624.93
4P	1825+54.17	12.54	625.05	625.11
℄ S. Brg. Pier 4	1825+65.37	12.54	625.32	625.32
℄ Pier 4	1825+66.87	12.54	625.36	625.36

GIRDER 6B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	3.54	616.40	616.40
℄ N. Brg. Pier 2	1822+22.16	3.54	616.46	616.46
3A	1822+32.17	3.54	616.83	616.87
3B	1822+42.17	3.54	617.19	617.27
3C	1822+52.17	3.54	617.53	617.64
3D	1822+62.17	3.54	617.86	618.00
3E	1822+72.17	3.54	618.18	618.34
3F	1822+82.17	3.54	618.49	618.65
3G	1822+92.17	3.54	618.78	618.95
3H	1823+02.17	3.54	619.06	619.22
3I	1823+12.17	3.54	619.33	619.47
3J	1823+22.17	3.54	619.58	619.71
3K	1823+32.17	3.54	619.82	619.92
3L	1823+42.17	3.54	620.05	620.13
3M	1823+52.17	3.54	620.28	620.33
3N	1823+62.17	3.54	620.51	620.54
3O	1823+72.17	3.54	620.74	620.75
3P	1823+82.17	3.54	620.97	620.97
℄ Pier 3	1823+94.17	3.54	621.25	621.25
4A	1824+04.17	3.54	621.48	621.49
4B	1824+14.17	3.54	621.71	621.73
4C	1824+24.17	3.54	621.94	621.99
4D	1824+34.17	3.54	622.17	622.25
4E	1824+44.17	3.54	622.40	622.51
4F	1824+54.17	3.54	622.63	622.77
4G	1824+64.17	3.54	622.86	623.03
4H	1824+74.17	3.54	623.09	623.28
4I	1824+84.17	3.54	623.32	623.53
4J	1824+94.17	3.54	623.55	623.77
4K	1825+04.17	3.54	623.78	624.00
4L	1825+14.17	3.54	624.01	624.21
4M	1825+24.17	3.54	624.24	624.42
4N	1825+34.17	3.54	624.47	624.62
4O	1825+44.17	3.54	624.70	624.81
4P	1825+54.17	3.54	624.93	624.99
℄ S. Brg. Pier 4	1825+65.94	3.54	625.20	625.20
℄ Pier 4	1825+67.44	3.54	625.23	625.23

0161705-60W28-S016-TopSlab.dgn

AECOM

USER NAME = floresg	DESIGNED - VP	REVISED	
	CHECKED - MK	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I – UNIT II
STRUCTURE NO. 016–1705
SHEET NO. S-16 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	332
		CONTRACT NO. 60W28		
ILLINOIS FED. AID PROJECT				

℄ & PGL RAMP NW

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	0.00	616.33	616.33
℄ N. Brg. Pier 2	1822+22.17	0.00	616.39	616.39
3A	1822+32.17	0.00	616.76	616.80
3B	1822+42.17	0.00	617.12	617.19
3C	1822+52.17	0.00	617.46	617.57
3D	1822+62.17	0.00	617.79	617.93
3E	1822+72.17	0.00	618.11	618.27
3F	1822+82.17	0.00	618.42	618.58
3G	1822+92.17	0.00	618.71	618.87
3H	1823+02.17	0.00	618.99	619.15
3I	1823+12.17	0.00	619.26	619.40
3J	1823+22.17	0.00	619.51	619.63
3K	1823+32.17	0.00	619.75	619.85
3L	1823+42.17	0.00	619.98	620.06
3M	1823+52.17	0.00	620.21	620.26
3N	1823+62.17	0.00	620.44	620.47
3O	1823+72.17	0.00	620.67	620.68
3P	1823+82.17	0.00	620.90	620.90
℄ Pier 3	1823+94.17	0.00	621.18	621.18
4A	1824+04.17	0.00	621.41	621.42
4B	1824+14.17	0.00	621.64	621.66
4C	1824+24.17	0.00	621.87	621.92
4D	1824+34.17	0.00	622.10	622.18
4E	1824+44.17	0.00	622.33	622.44
4F	1824+54.17	0.00	622.56	622.70
4G	1824+64.17	0.00	622.79	622.96
4H	1824+74.17	0.00	623.02	623.21
4I	1824+84.17	0.00	623.25	623.46
4J	1824+94.17	0.00	623.48	623.69
4K	1825+04.17	0.00	623.71	623.92
4L	1825+14.17	0.00	623.94	624.14
4M	1825+24.17	0.00	624.17	624.35
4N	1825+34.17	0.00	624.40	624.54
4O	1825+44.17	0.00	624.63	624.73
4P	1825+54.17	0.00	624.86	624.92
℄ S. Brg. Pier 4	1825+66.17	0.00	625.13	625.13
℄ Pier 4	1825+67.67	0.00	625.17	625.17

GIRDER 7B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	-5.45	616.22	616.22
℄ N. Brg. Pier 2	1822+22.17	-5.46	616.28	616.28
3A	1822+32.17	-5.46	616.65	616.69
3B	1822+42.17	-5.46	617.01	617.09
3C	1822+52.17	-5.46	617.35	617.46
3D	1822+62.17	-5.46	617.68	617.82
3E	1822+72.17	-5.46	618.00	618.15
3F	1822+82.17	-5.46	618.31	618.47
3G	1822+92.17	-5.46	618.60	618.76
3H	1823+02.17	-5.46	618.88	619.04
3I	1823+12.17	-5.46	619.15	619.29
3J	1823+22.17	-5.46	619.40	619.52

GIRDER 7B CONT.

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
3K	1823+32.17	-5.46	619.64	619.74
3L	1823+42.17	-5.46	619.87	619.94
3M	1823+52.17	-5.46	620.10	620.15
3N	1823+62.17	-5.46	620.33	620.36
3O	1823+72.17	-5.46	620.56	620.57
3P	1823+82.17	-5.46	620.79	620.79
℄ Pier 3	1823+94.17	-5.46	621.07	621.07
4A	1824+04.17	-5.46	621.30	621.31
4B	1824+14.17	-5.46	621.53	621.55
4C	1824+24.17	-5.46	621.76	621.81
4D	1824+34.17	-5.46	621.99	622.07
4E	1824+44.17	-5.46	622.22	622.33
4F	1824+54.17	-5.46	622.45	622.59
4G	1824+64.17	-5.46	622.68	622.84
4H	1824+74.17	-5.46	622.91	623.10
4I	1824+84.17	-5.46	623.14	623.34
4J	1824+94.17	-5.46	623.37	623.58
4K	1825+04.17	-5.46	623.60	623.81
4L	1825+14.17	-5.46	623.83	624.03
4M	1825+24.17	-5.46	624.06	624.24
4N	1825+34.17	-5.46	624.29	624.43
4O	1825+44.17	-5.46	624.52	624.63
4P	1825+54.17	-5.46	624.75	624.81
℄ S. Brg. Pier 4	1825+66.52	-5.46	625.03	625.03
℄ Pier 4	1825+68.02	-5.46	625.06	625.06

GIRDER 8B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
3L	1823+42.17	-12.46	619.73	619.79
3M	1823+52.17	-12.46	619.96	620.00
3N	1823+62.17	-12.46	620.19	620.22
3O	1823+72.17	-12.46	620.42	620.43
3P	1823+82.17	-12.46	620.65	620.65
℄ Pier 3	1823+94.17	-12.46	620.93	620.93
4A	1824+04.17	-12.46	621.16	621.17
4B	1824+14.17	-12.46	621.39	621.41
4C	1824+24.17	-12.46	621.62	621.67
4D	1824+34.17	-12.46	621.85	621.92
4E	1824+44.17	-12.46	622.08	622.18
4F	1824+54.17	-12.46	622.31	622.44
4G	1824+64.17	-12.46	622.54	622.70
4H	1824+74.17	-12.46	622.77	622.95
4I	1824+84.17	-12.46	623.00	623.20
4J	1824+94.17	-12.46	623.23	623.44
4K	1825+04.17	-12.46	623.46	623.66
4L	1825+14.17	-12.46	623.69	623.88
4M	1825+24.17	-12.46	623.92	624.09
4N	1825+34.17	-12.46	624.15	624.29
4O	1825+44.17	-12.46	624.38	624.48
4P	1825+54.17	-12.46	624.61	624.67
℄ S. Brg. Pier 4	1825+66.96	-12.46	624.90	624.90
℄ Pier 4	1825+68.47	-12.46	624.94	624.94

GIRDER 9B

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 2	1822+20.67	-11.42	616.10	616.10
℄ N. Brg. Pier 2	1822+22.17	-11.46	616.16	616.16
3A	1822+32.17	-11.72	616.53	616.57
3B	1822+42.17	-11.98	616.88	616.95
3C	1822+52.17	-12.24	617.22	617.33
3D	1822+62.17	-12.50	617.54	617.68
3E	1822+72.17	-12.75	617.86	618.01
3F	1822+82.17	-13.01	618.16	618.31
3G	1822+92.17	-13.27	618.45	618.60
3H	1823+02.17	-13.53	618.72	618.86
3I	1823+12.17	-13.79	618.98	619.11
3J	1823+22.17	-14.04	619.23	619.34
3K	1823+32.17	-14.30	619.46	619.55
3L	1823+42.17	-14.56	619.69	619.75
3M	1823+52.17	-14.82	619.92	619.95
3N	1823+62.17	-15.08	620.14	620.16
3O	1823+72.17	-15.33	620.36	620.37
3P	1823+82.17	-15.59	620.59	620.59
℄ Pier 3	1823+94.17	-15.90	620.86	620.86
4A	1824+04.17	-16.16	621.08	621.09
4B	1824+14.17	-16.42	621.31	621.34
4C	1824+24.17	-16.68	621.53	621.58
4D	1824+34.17	-16.93	621.76	621.83
4E	1824+44.17	-17.19	621.98	622.09
4F	1824+54.17	-17.45	622.21	622.34
4G	1824+64.17	-17.71	622.43	622.59
4H	1824+74.17	-17.97	622.66	622.84
4I	1824+84.17	-18.22	622.88	623.08
4J	1824+94.17	-18.48	623.11	623.31
4K	1825+04.17	-18.74	623.33	623.53
4L	1825+14.17	-19.00	623.56	623.75
4M	1825+24.17	-19.26	623.78	623.95
4N	1825+34.17	-19.51	624.01	624.15
4O	1825+44.17	-19.77	624.23	624.34
4P	1825+54.17	-20.03	624.46	624.52
℄ S. Brg. Pier 4	1825+67.47	-20.37	624.76	624.76
℄ Pier 4	1825+69.98	-20.41	624.79	624.79

0161705-60W28-S017-TopSlab.dgn

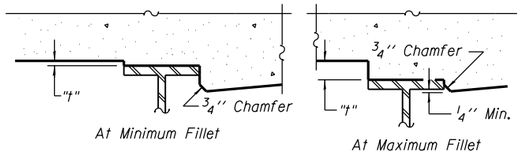
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-17 OF S-165 SHEETS

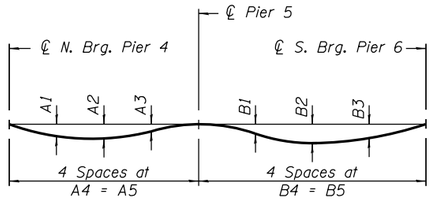
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	333
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-19 and S-20, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

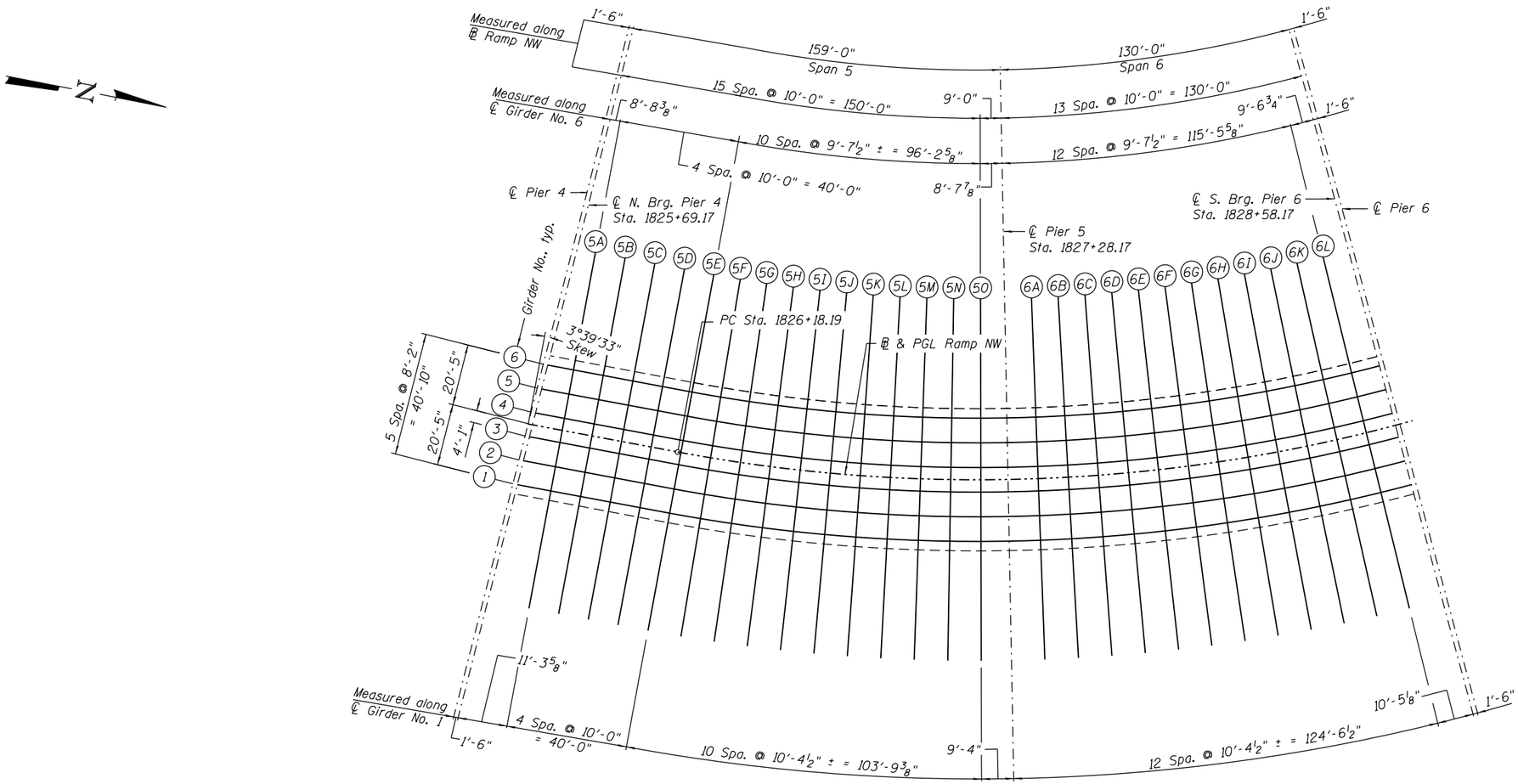
Girder No.	DEAD LOAD DEFLECTIONS									
	Span 5					Span 6				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
1	4"	4 3/4"	2 3/8"	41'-1 3/8"	164'-5 5/8"	-0 1/4"	0 1/4"	0 1/2"	33'-8 7/8"	134'-11 5/8"
2	3 5/8"	4 1/4"	2 1/8"	40'-6 7/8"	162'-3 3/8"	-0 1/4"	0 1/4"	0 1/2"	33'-3"	132'-11 3/4"
3	3 3/8"	3 7/8"	2"	40'-0 1/4"	160'-1 1/8"	-0 1/8"	0 3/8"	0 1/2"	32'-9"	130'-11 7/8"
4	3 1/8"	3 5/8"	1 3/4"	39'-5 3/4"	157'-10 7/8"	-0 1/8"	0 3/8"	0 5/8"	32'-3"	129'-0 1/8"
5	2 7/8"	3 1/4"	1 5/8"	38'-11 1/8"	155'-8 5/8"	0"	0 1/2"	0 5/8"	31'-9"	127'-0 1/4"
6	2 5/8"	3"	1 3/8"	38'-4 5/8"	153'-6 3/8"	0"	0 1/2"	0 5/8"	31'-3 1/8"	125'-0 3/8"



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S-19 and S-20.



PLAN

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+66.36	20.42	624.96	624.96
℄ N. Brg. Pier 4	1825+67.87	20.42	625.00	625.00
5A	1825+79.17	20.42	625.32	625.43
5B	1825+89.17	20.42	625.61	625.81
5C	1825+99.17	20.42	625.96	626.23
5D	1826+09.17	20.42	626.30	626.64
5E	1826+19.17	20.42	626.65	627.03
5F	1826+29.17	20.42	626.99	627.40
5G	1826+39.17	20.42	627.33	627.75
5H	1826+49.17	20.42	627.68	628.07
5I	1826+59.17	20.42	627.98	628.35
5J	1826+69.17	20.42	628.27	628.58
5K	1826+79.17	20.42	628.55	628.80
5L	1826+89.17	20.42	628.83	629.03
5M	1826+99.17	20.42	629.11	629.25
5N	1827+09.17	20.42	629.39	629.47
5O	1827+19.17	20.42	629.68	629.71
℄ Pier 5	1827+28.17	20.42	629.93	629.93
6A	1827+38.17	20.42	630.19	630.17
6B	1827+48.17	20.42	630.42	630.39
6C	1827+58.17	20.42	630.65	630.63
6D	1827+68.17	20.42	630.88	630.87
6E	1827+78.17	20.42	631.11	631.11
6F	1827+88.17	20.42	631.34	631.35
6G	1827+98.17	20.42	631.57	631.60
6H	1828+08.17	20.42	631.80	631.84
6I	1828+18.17	20.42	632.03	632.08
6J	1828+28.17	20.42	632.26	632.30
6K	1828+38.17	20.42	632.49	632.52
6L	1828+48.17	20.42	632.72	632.74
℄ S. Brg. Pier 6	1828+58.22	20.42	632.95	632.95
℄ Pier 6	1828+59.67	20.42	632.99	632.99

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+66.89	12.25	625.38	625.38
℄ N. Brg. Pier 4	1825+68.39	12.25	625.41	625.41
5A	1825+79.17	12.25	625.66	625.75
5B	1825+89.17	12.25	625.91	626.08
5C	1825+99.17	12.25	626.20	626.45
5D	1826+09.17	12.25	626.49	626.80
5E	1826+19.17	12.25	626.79	627.13
5F	1826+29.17	12.25	627.08	627.45
5G	1826+39.17	12.25	627.37	627.74
5H	1826+49.17	12.25	627.67	628.02
5I	1826+59.17	12.25	627.92	628.25
5J	1826+69.17	12.25	628.15	628.44
5K	1826+79.17	12.25	628.38	628.62
5L	1826+89.17	12.25	628.62	628.79
5M	1826+99.17	12.25	628.85	628.97
5N	1827+09.17	12.25	629.08	629.15
5O	1827+19.17	12.25	629.31	629.34
℄ Pier 5	1827+28.17	12.25	629.52	629.52
6A	1827+38.17	12.25	629.75	629.73
6B	1827+48.17	12.25	629.98	629.96
6C	1827+58.17	12.25	630.21	630.19
6D	1827+68.17	12.25	630.44	630.43
6E	1827+78.17	12.25	630.67	630.67
6F	1827+88.17	12.25	630.90	630.92
6G	1827+98.17	12.25	631.13	631.16
6H	1828+08.17	12.25	631.36	631.40
6I	1828+18.17	12.25	631.59	631.64
6J	1828+28.17	12.25	631.82	631.86
6K	1828+38.17	12.25	632.05	632.08
6L	1828+48.17	12.25	632.28	632.30
℄ S. Brg. Pier 6	1828+58.20	12.25	632.51	632.51
℄ Pier 6	1828+59.67	12.25	632.55	632.55

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+67.41	4.08	625.24	625.24
℄ N. Brg. Pier 4	1825+68.91	4.08	625.28	625.28
5A	1825+79.17	4.08	625.51	625.60
5B	1825+89.17	4.08	625.75	625.91
5C	1825+99.17	4.08	626.00	626.22
5D	1826+09.17	4.08	626.25	626.53
5E	1826+19.17	4.08	626.50	626.82
5F	1826+29.17	4.08	626.75	627.09
5G	1826+39.17	4.08	627.00	627.34
5H	1826+49.17	4.08	627.25	627.58
5I	1826+59.17	4.08	627.49	627.79
5J	1826+69.17	4.08	627.72	627.98
5K	1826+79.17	4.08	627.95	628.16
5L	1826+89.17	4.08	628.18	628.34
5M	1826+99.17	4.08	628.41	628.52
5N	1827+09.17	4.08	628.64	628.70
5O	1827+19.17	4.08	628.87	628.90
℄ Pier 5	1827+28.17	4.08	629.08	629.08
6A	1827+38.17	4.08	629.31	629.29
6B	1827+48.17	4.08	629.54	629.52
6C	1827+58.17	4.08	629.77	629.75
6D	1827+68.17	4.08	630.00	629.99
6E	1827+78.17	4.08	630.23	630.24
6F	1827+88.17	4.08	630.46	630.48
6G	1827+98.17	4.08	630.69	630.72
6H	1828+08.17	4.08	630.92	630.96
6I	1828+18.17	4.08	631.15	631.20
6J	1828+28.17	4.08	631.38	631.42
6K	1828+38.17	4.08	631.61	631.64
6L	1828+48.17	4.08	631.84	631.86
℄ S. Brg. Pier 6	1828+58.18	4.08	632.07	632.07
℄ Pier 6	1828+59.67	4.08	632.11	632.11

℄ & PGL RAMP NW

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+67.67	0.00	625.17	625.17
℄ N. Brg. Pier 4	1825+69.17	0.00	625.20	625.20
5A	1825+79.17	0.00	625.43	625.51
5B	1825+89.17	0.00	625.66	625.81
5C	1825+99.17	0.00	625.89	626.11
5D	1826+09.17	0.00	626.12	626.39
5E	1826+19.17	0.00	626.35	626.65
5F	1826+29.17	0.00	626.58	626.90
5G	1826+39.17	0.00	626.81	627.14
5H	1826+49.17	0.00	627.04	627.35
5I	1826+59.17	0.00	627.27	627.55
5J	1826+69.17	0.00	627.50	627.75
5K	1826+79.17	0.00	627.73	627.93
5L	1826+89.17	0.00	627.96	628.11
5M	1826+99.17	0.00	628.19	628.29
5N	1827+09.17	0.00	628.42	628.48
5O	1827+19.17	0.00	628.65	628.68
℄ Pier 5	1827+28.17	0.00	628.86	628.86
6A	1827+38.17	0.00	629.09	629.07
6B	1827+48.17	0.00	629.32	629.30
6C	1827+58.17	0.00	629.55	629.54
6D	1827+68.17	0.00	629.78	629.78
6E	1827+78.17	0.00	630.01	630.02
6F	1827+88.17	0.00	630.24	630.26
6G	1827+98.17	0.00	630.47	630.51
6H	1828+08.17	0.00	630.70	630.75
6I	1828+18.17	0.00	630.93	630.98
6J	1828+28.17	0.00	631.16	631.20
6K	1828+38.17	0.00	631.39	631.42
6L	1828+48.17	0.00	631.62	631.64
℄ S. Brg. Pier 6	1828+58.17	0.00	631.85	631.85
℄ Pier 6	1828+59.67	0.00	631.89	631.89

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AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I – UNIT III
STRUCTURE NO. 016–1705
SHEET NO. S-19 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	335
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+67.93	-4.08	625.09	625.09
℄ N. Brg. Pier 4	1825+69.43	-4.08	625.13	625.13
5A	1825+79.17	-4.08	625.35	625.42
5B	1825+89.17	-4.08	625.57	625.72
5C	1825+99.17	-4.08	625.78	625.99
5D	1826+09.17	-4.08	625.99	626.25
5E	1826+19.17	-4.08	626.20	626.49
5F	1826+29.17	-4.08	626.41	626.72
5G	1826+39.17	-4.08	626.62	626.93
5H	1826+49.17	-4.08	626.83	627.13
5I	1826+59.17	-4.08	627.05	627.32
5J	1826+69.17	-4.08	627.28	627.51
5K	1826+79.17	-4.08	627.51	627.70
5L	1826+89.17	-4.08	627.74	627.88
5M	1826+99.17	-4.08	627.97	628.07
5N	1827+09.17	-4.08	628.20	628.26
5O	1827+19.17	-4.08	628.43	628.45
℄ Pier 5	1827+28.17	-4.08	628.64	628.64
6A	1827+38.17	-4.08	628.87	628.86
6B	1827+48.17	-4.08	629.10	629.08
6C	1827+58.17	-4.08	629.33	629.32
6D	1827+68.17	-4.08	629.56	629.56
6E	1827+78.17	-4.08	629.79	629.80
6F	1827+88.17	-4.08	630.02	630.05
6G	1827+98.17	-4.08	630.25	630.29
6H	1828+08.17	-4.08	630.48	630.53
6I	1828+18.17	-4.08	630.71	630.76
6J	1828+28.17	-4.08	630.94	630.99
6K	1828+38.17	-4.08	631.17	631.20
6L	1828+48.17	-4.08	631.40	631.42
℄ S. Brg. Pier 6	1828+58.16	-4.08	631.63	631.63
℄ Pier 6	1828+59.67	-4.08	631.67	631.67

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+68.45	-12.25	624.94	624.94
℄ N. Brg. Pier 4	1825+69.96	-12.25	624.97	624.97
5A	1825+79.17	-12.25	625.19	625.25
5B	1825+89.17	-12.25	625.40	625.54
5C	1825+99.17	-12.25	625.57	625.76
5D	1826+09.17	-12.25	625.74	625.97
5E	1826+19.17	-12.25	625.90	626.17
5F	1826+29.17	-12.25	626.07	626.36
5G	1826+39.17	-12.25	626.24	626.52
5H	1826+49.17	-12.25	626.40	626.68
5I	1826+59.17	-12.25	626.61	626.86
5J	1826+69.17	-12.25	626.84	627.05
5K	1826+79.17	-12.25	627.07	627.24
5L	1826+89.17	-12.25	627.30	627.43
5M	1826+99.17	-12.25	627.53	627.62
5N	1827+09.17	-12.25	627.76	627.81
5O	1827+19.17	-12.25	627.99	628.01
℄ Pier 5	1827+28.17	-12.25	628.20	628.20
6A	1827+38.17	-12.25	628.43	628.42
6B	1827+48.17	-12.25	628.66	628.65
6C	1827+58.17	-12.25	628.89	628.88
6D	1827+68.17	-12.25	629.12	629.12
6E	1827+78.17	-12.25	629.35	629.37
6F	1827+88.17	-12.25	629.58	629.61
6G	1827+98.17	-12.25	629.81	629.85
6H	1828+08.17	-12.25	630.04	630.09
6I	1828+18.17	-12.25	630.27	630.32
6J	1828+28.17	-12.25	630.50	630.55
6K	1828+38.17	-12.25	630.73	630.77
6L	1828+48.17	-12.25	630.96	630.98
℄ S. Brg. Pier 6	1828+58.13	-12.25	631.19	631.19
℄ Pier 6	1828+59.67	-12.25	631.22	631.22

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 4	1825+68.98	-20.42	624.79	624.79
℄ N. Brg. Pier 4	1825+70.48	-20.42	624.82	624.82
5A	1825+79.17	-20.42	625.02	625.08
5B	1825+89.17	-20.42	625.23	625.35
5C	1825+99.17	-20.42	625.35	625.53
5D	1826+09.17	-20.42	625.48	625.70
5E	1826+19.17	-20.42	625.60	625.85
5F	1826+29.17	-20.42	625.73	625.99
5G	1826+39.17	-20.42	625.85	626.11
5H	1826+49.17	-20.42	625.98	626.22
5I	1826+59.17	-20.42	626.17	626.39
5J	1826+69.17	-20.42	626.40	626.59
5K	1826+79.17	-20.42	626.63	626.78
5L	1826+89.17	-20.42	626.86	626.97
5M	1826+99.17	-20.42	627.09	627.17
5N	1827+09.17	-20.42	627.32	627.36
5O	1827+19.17	-20.42	627.55	627.57
℄ Pier 5	1827+28.17	-20.42	627.76	627.76
6A	1827+38.17	-20.42	627.99	627.98
6B	1827+48.17	-20.42	628.22	628.21
6C	1827+58.17	-20.42	628.45	628.45
6D	1827+68.17	-20.42	628.68	628.69
6E	1827+78.17	-20.42	628.91	628.93
6F	1827+88.17	-20.42	629.14	629.18
6G	1827+98.17	-20.42	629.37	629.42
6H	1828+08.17	-20.42	629.60	629.65
6I	1828+18.17	-20.42	629.83	629.88
6J	1828+28.17	-20.42	630.06	630.11
6K	1828+38.17	-20.42	630.29	630.33
6L	1828+48.17	-20.42	630.52	630.54
℄ S. Brg. Pier 6	1828+58.11	-20.42	630.74	630.74
℄ Pier 6	1828+59.67	-20.42	630.78	630.78

0161705-60W28-S020-TopSlab.dgn

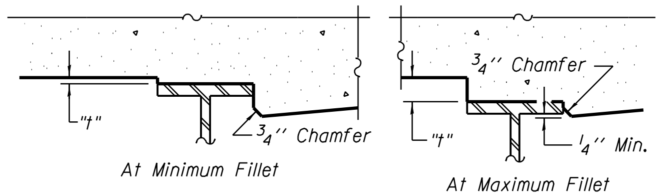
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II – UNIT III
STRUCTURE NO. 016-1705
SHEET NO. S-20 OF S-165 SHEETS

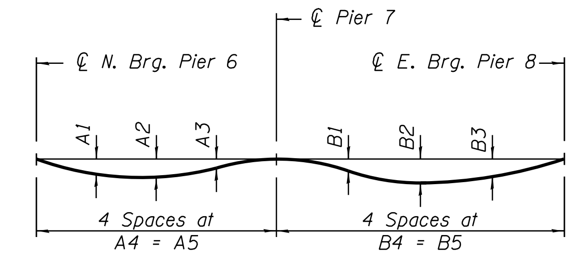
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	336
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-22 and S-23, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

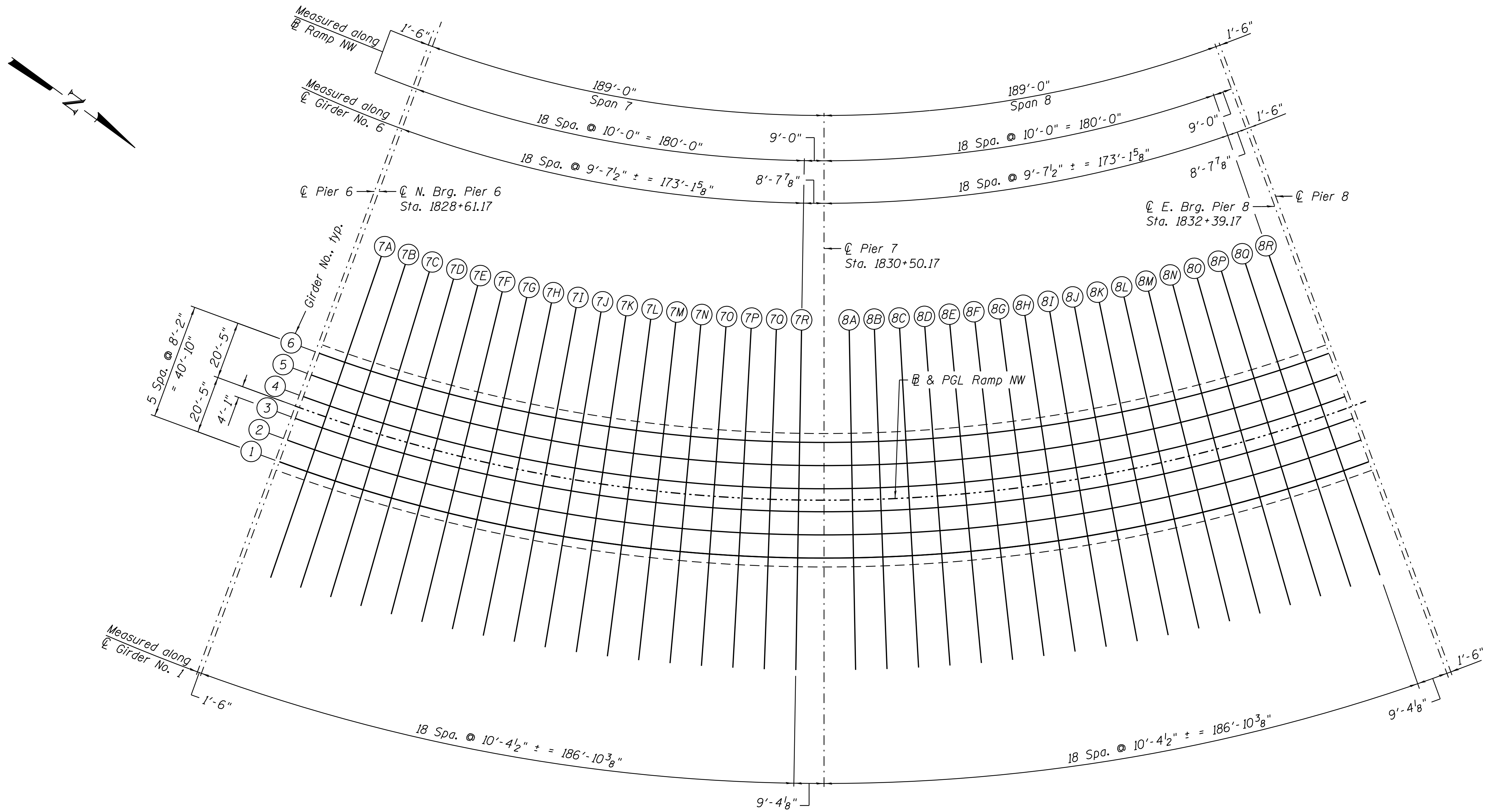
Girder No.	DEAD LOAD DEFLECTIONS									
	Span 7					Span 8				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
1	3"	3 1/8"	1 1/8"	49'-0 5/8"	196'-2 3/8"	1 1/8"	3 1/8"	3"	49'-0 5/8"	196'-2 3/8"
2	2 7/8"	3"	1 1/8"	48'-4"	193'-3 7/8"	1 1/8"	3"	2 7/8"	48'-4"	193'-3 7/8"
3	2 3/4"	2 7/8"	1 1/8"	47'-7 3/8"	190'-5 1/4"	1 1/8"	2 7/8"	2 3/4"	47'-7 3/8"	190'-5 1/4"
4	2 5/8"	2 3/4"	1 1/8"	46'-10 5/8"	187'-6 3/4"	1 1/8"	2 7/8"	2 5/8"	46'-10 5/8"	187'-6 3/4"
5	2 5/8"	2 3/4"	1 1/8"	46'-2"	184'-8 1/8"	1 1/8"	2 3/4"	2 5/8"	46'-2"	184'-8 1/8"
6	2 1/2"	2 3/4"	1 1/8"	45'-5 3/8"	181'-9 5/8"	1 1/8"	2 3/4"	2 1/2"	45'-5 3/8"	181'-9 5/8"



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S-22 and S-23.



PLAN

AECOM	USER NAME = floresg	DESIGNED - VP	REVISED
		CHECKED - MK	REVISED
	PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
	PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN - UNIT IV
STRUCTURE NO. 016-1705
SHEET NO. S-21 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	337
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

0161705-60W28-S021-TopSlab.dgn

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	20.42	632.99	632.99
℄ N. Brg. Pier 6	1828+61.11	20.42	633.02	633.02
7A	1828+71.17	20.42	633.25	633.31
7B	1828+81.17	20.42	633.48	633.60
7C	1828+91.17	20.42	633.71	633.89
7D	1829+01.17	20.42	633.94	634.16
7E	1829+11.17	20.42	634.17	634.43
7F	1829+21.17	20.42	634.40	634.68
7G	1829+31.17	20.42	634.63	634.92
7H	1829+41.17	20.42	634.86	635.14
7I	1829+51.17	20.42	635.09	635.36
7J	1829+61.17	20.42	635.32	635.57
7K	1829+71.17	20.42	635.55	635.76
7L	1829+81.17	20.42	635.78	635.96
7M	1829+91.17	20.42	636.01	636.15
7N	1830+01.17	20.42	636.24	636.35
7O	1830+11.17	20.42	636.45	636.52
7P	1830+21.17	20.42	636.64	636.68
7Q	1830+31.17	20.42	636.81	636.83
7R	1830+41.17	20.42	636.97	636.97
℄ Pier 7	1830+50.17	20.42	637.09	637.09
8A	1830+60.17	20.42	637.21	637.22
8B	1830+70.17	20.42	637.31	637.33
8C	1830+80.17	20.42	637.39	637.44
8D	1830+90.17	20.42	637.45	637.53
8E	1831+00.17	20.42	637.50	637.61
8F	1831+10.17	20.42	637.53	637.67
8G	1831+20.17	20.42	637.53	637.72
8H	1831+30.17	20.42	637.52	637.74
8I	1831+40.17	20.42	637.49	637.74
8J	1831+50.17	20.42	637.45	637.72
8K	1831+60.17	20.42	637.38	637.67
8L	1831+70.17	20.42	637.30	637.59
8M	1831+80.17	20.42	637.19	637.47
8N	1831+90.17	20.42	637.07	637.33
8O	1832+00.17	20.42	636.93	637.15
8P	1832+10.17	20.42	636.77	636.95
8Q	1832+20.17	20.42	636.60	636.72
8R	1832+30.17	20.42	636.40	636.46
℄ E. Brg. Pier 8	1832+39.22	20.42	636.21	636.21
℄ Pier 8	1832+40.67	20.42	636.18	636.18

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	12.25	632.55	632.55
℄ N. Brg. Pier 6	1828+61.13	12.25	632.58	632.58
7A	1828+71.17	12.25	632.81	632.87
7B	1828+81.17	12.25	633.04	633.16
7C	1828+91.17	12.25	633.27	633.44
7D	1829+01.17	12.25	633.50	633.71
7E	1829+11.17	12.25	633.73	633.97
7F	1829+21.17	12.25	633.96	634.22
7G	1829+31.17	12.25	634.19	634.46
7H	1829+41.17	12.25	634.42	634.69
7I	1829+51.17	12.25	634.65	634.91
7J	1829+61.17	12.25	634.88	635.11
7K	1829+71.17	12.25	635.11	635.32
7L	1829+81.17	12.25	635.34	635.51
7M	1829+91.17	12.25	635.57	635.71
7N	1830+01.17	12.25	635.80	635.90
7O	1830+11.17	12.25	636.01	636.08
7P	1830+21.17	12.25	636.20	636.24
7Q	1830+31.17	12.25	636.37	636.39
7R	1830+41.17	12.25	636.53	636.53
℄ Pier 7	1830+50.17	12.25	636.65	636.65
8A	1830+60.17	12.25	636.77	636.78
8B	1830+70.17	12.25	636.87	636.89
8C	1830+80.17	12.25	636.95	636.99
8D	1830+90.17	12.25	637.01	637.09
8E	1831+00.17	12.25	637.06	637.17
8F	1831+10.17	12.25	637.08	637.23
8G	1831+20.17	12.25	637.09	637.27
8H	1831+30.17	12.25	637.08	637.29
8I	1831+40.17	12.25	637.05	637.29
8J	1831+50.17	12.25	637.01	637.27
8K	1831+60.17	12.25	636.94	637.21
8L	1831+70.17	12.25	636.86	637.13
8M	1831+80.17	12.25	636.75	637.02
8N	1831+90.17	12.25	636.63	636.87
8O	1832+00.17	12.25	636.49	636.70
8P	1832+10.17	12.25	636.33	636.50
8Q	1832+20.17	12.25	636.16	636.27
8R	1832+30.17	12.25	635.96	636.01
℄ E. Brg. Pier 8	1832+39.20	12.25	635.77	635.77
℄ Pier 8	1832+40.67	12.25	635.74	635.74

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	4.08	632.11	632.11
℄ N. Brg. Pier 6	1828+61.16	4.08	632.14	632.14
7A	1828+71.17	4.08	632.37	632.42
7B	1828+81.17	4.08	632.60	632.71
7C	1828+91.17	4.08	632.83	632.99
7D	1829+01.17	4.08	633.06	633.26
7E	1829+11.17	4.08	633.29	633.52
7F	1829+21.17	4.08	633.52	633.77
7G	1829+31.17	4.08	633.75	634.01
7H	1829+41.17	4.08	633.98	634.24
7I	1829+51.17	4.08	634.21	634.46
7J	1829+61.17	4.08	634.44	634.67
7K	1829+71.17	4.08	634.67	634.87
7L	1829+81.17	4.08	634.90	635.07
7M	1829+91.17	4.08	635.13	635.26
7N	1830+01.17	4.08	635.36	635.46
7O	1830+11.17	4.08	635.57	635.64
7P	1830+21.17	4.08	635.76	635.80
7Q	1830+31.17	4.08	635.93	635.95
7R	1830+41.17	4.08	636.09	636.09
℄ Pier 7	1830+50.17	4.08	636.21	636.21
8A	1830+60.17	4.08	636.33	636.33
8B	1830+70.17	4.08	636.43	636.45
8C	1830+80.17	4.08	636.51	636.55
8D	1830+90.17	4.08	636.57	636.65
8E	1831+00.17	4.08	636.62	636.72
8F	1831+10.17	4.08	636.64	636.78
8G	1831+20.17	4.08	636.65	636.83
8H	1831+30.17	4.08	636.64	636.85
8I	1831+40.17	4.08	636.61	636.84
8J	1831+50.17	4.08	636.56	636.82
8K	1831+60.17	4.08	636.50	636.76
8L	1831+70.17	4.08	636.41	636.68
8M	1831+80.17	4.08	636.31	636.56
8N	1831+90.17	4.08	636.19	636.42
8O	1832+00.17	4.08	636.05	636.25
8P	1832+10.17	4.08	635.89	636.05
8Q	1832+20.17	4.08	635.71	635.82
8R	1832+30.17	4.08	635.52	635.57
℄ E. Brg. Pier 8	1832+39.18	4.08	635.33	635.33
℄ Pier 8	1832+40.67	4.08	635.29	635.29

℄ & PGL RAMP NW

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	0.00	631.89	631.89
℄ N. Brg. Pier 6	1828+61.17	0.00	631.92	631.92
7A	1828+71.17	0.00	632.15	632.20
7B	1828+81.17	0.00	632.38	632.49
7C	1828+91.17	0.00	632.61	632.77
7D	1829+01.17	0.00	632.84	633.04
7E	1829+11.17	0.00	633.07	633.30
7F	1829+21.17	0.00	633.30	633.55
7G	1829+31.17	0.00	633.53	633.79
7H	1829+41.17	0.00	633.76	634.01
7I	1829+51.17	0.00	633.99	634.23
7J	1829+61.17	0.00	634.22	634.44
7K	1829+71.17	0.00	634.45	634.65
7L	1829+81.17	0.00	634.68	634.84
7M	1829+91.17	0.00	634.91	635.04
7N	1830+01.17	0.00	635.14	635.24
7O	1830+11.17	0.00	635.35	635.42
7P	1830+21.17	0.00	635.54	635.58
7Q	1830+31.17	0.00	635.71	635.73
7R	1830+41.17	0.00	635.86	635.87
℄ Pier 7	1830+50.17	0.00	635.99	635.99
8A	1830+60.17	0.00	636.11	636.11
8B	1830+70.17	0.00	636.21	636.23
8C	1830+80.17	0.00	636.29	636.33
8D	1830+90.17	0.00	636.35	636.42
8E	1831+00.17	0.00	636.40	636.50
8F	1831+10.17	0.00	636.42	636.56
8G	1831+20.17	0.00	636.43	636.60
8H	1831+30.17	0.00	636.42	636.62
8I	1831+40.17	0.00	636.39	636.62
8J	1831+50.17	0.00	636.34	636.59
8K	1831+60.17	0.00	636.28	636.54
8L	1831+70.17	0.00	636.19	636.45
8M	1831+80.17	0.00	636.09	636.34
8N	1831+90.17	0.00	635.97	636.20
8O	1832+00.17	0.00	635.83	636.02
8P	1832+10.17	0.00	635.67	635.83
8Q	1832+20.17	0.00	635.49	635.60
8R	1832+30.17	0.00	635.30	635.35
℄ E. Brg. Pier 8	1832+39.17	0.00	635.11	635.11
℄ Pier 8	1832+40.67	0.00	635.08	635.08

0161705-60W28-S022-TopSlab.dgn

AECOM

USER NAME = floresg	DESIGNED - VP	REVISED	
	CHECKED - MK	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I – UNIT IV
STRUCTURE NO. 016–1705
SHEET NO. S-22 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	338
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

GIRDER 4

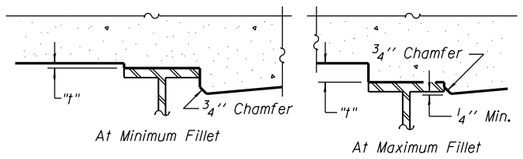
Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	-4.08	631.67	631.67
℄ N. Brg. Pier 6	1828+61.18	-4.08	631.70	631.70
7A	1828+71.17	-4.08	631.93	631.98
7B	1828+81.17	-4.08	632.16	632.27
7C	1828+91.17	-4.08	632.39	632.54
7D	1829+01.17	-4.08	632.62	632.81
7E	1829+11.17	-4.08	632.85	633.07
7F	1829+21.17	-4.08	633.08	633.32
7G	1829+31.17	-4.08	633.31	633.56
7H	1829+41.17	-4.08	633.54	633.79
7I	1829+51.17	-4.08	633.77	634.01
7J	1829+61.17	-4.08	634.00	634.22
7K	1829+71.17	-4.08	634.23	634.42
7L	1829+81.17	-4.08	634.46	634.62
7M	1829+91.17	-4.08	634.69	634.82
7N	1830+01.17	-4.08	634.92	635.02
7O	1830+11.17	-4.08	635.13	635.19
7P	1830+21.17	-4.08	635.32	635.36
7Q	1830+31.17	-4.08	635.49	635.51
7R	1830+41.17	-4.08	635.64	635.65
℄ Pier 7	1830+50.17	-4.08	635.77	635.77
8A	1830+60.17	-4.08	635.89	635.89
8B	1830+70.17	-4.08	635.99	636.01
8C	1830+80.17	-4.08	636.07	636.11
8D	1830+90.17	-4.08	636.13	636.20
8E	1831+00.17	-4.08	636.18	636.28
8F	1831+10.17	-4.08	636.20	636.34
8G	1831+20.17	-4.08	636.21	636.38
8H	1831+30.17	-4.08	636.20	636.40
8I	1831+40.17	-4.08	636.17	636.40
8J	1831+50.17	-4.08	636.12	636.37
8K	1831+60.17	-4.08	636.06	636.31
8L	1831+70.17	-4.08	635.97	636.23
8M	1831+80.17	-4.08	635.87	636.12
8N	1831+90.17	-4.08	635.75	635.97
8O	1832+00.17	-4.08	635.61	635.80
8P	1832+10.17	-4.08	635.45	635.60
8Q	1832+20.17	-4.08	635.27	635.38
8R	1832+30.17	-4.08	635.08	635.13
℄ E. Brg. Pier 8	1832+39.16	-4.08	634.88	634.88
℄ Pier 8	1832+40.67	-4.08	634.85	634.85

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	-12.25	631.22	631.22
℄ N. Brg. Pier 6	1828+61.20	-12.25	631.26	631.26
7A	1828+71.17	-12.25	631.49	631.54
7B	1828+81.17	-12.25	631.72	631.82
7C	1828+91.17	-12.25	631.95	632.10
7D	1829+01.17	-12.25	632.18	632.37
7E	1829+11.17	-12.25	632.41	632.63
7F	1829+21.17	-12.25	632.64	632.88
7G	1829+31.17	-12.25	632.87	633.11
7H	1829+41.17	-12.25	633.10	633.34
7I	1829+51.17	-12.25	633.33	633.56
7J	1829+61.17	-12.25	633.56	633.77
7K	1829+71.17	-12.25	633.79	633.98
7L	1829+81.17	-12.25	634.02	634.18
7M	1829+91.17	-12.25	634.25	634.37
7N	1830+01.17	-12.25	634.48	634.57
7O	1830+11.17	-12.25	634.69	634.75
7P	1830+21.17	-12.25	634.88	634.92
7Q	1830+31.17	-12.25	635.05	635.07
7R	1830+41.17	-12.25	635.20	635.21
℄ Pier 7	1830+50.17	-12.25	635.33	635.33
8A	1830+60.17	-12.25	635.44	635.45
8B	1830+70.17	-12.25	635.55	635.57
8C	1830+80.17	-12.25	635.63	635.67
8D	1830+90.17	-12.25	635.69	635.76
8E	1831+00.17	-12.25	635.74	635.84
8F	1831+10.17	-12.25	635.76	635.90
8G	1831+20.17	-12.25	635.77	635.94
8H	1831+30.17	-12.25	635.76	635.96
8I	1831+40.17	-12.25	635.73	635.95
8J	1831+50.17	-12.25	635.68	635.92
8K	1831+60.17	-12.25	635.62	635.87
8L	1831+70.17	-12.25	635.53	635.78
8M	1831+80.17	-12.25	635.43	635.67
8N	1831+90.17	-12.25	635.31	635.53
8O	1832+00.17	-12.25	635.17	635.36
8P	1832+10.17	-12.25	635.01	635.16
8Q	1832+20.17	-12.25	634.83	634.93
8R	1832+30.17	-12.25	634.64	634.69
℄ E. Brg. Pier 8	1832+39.13	-12.25	634.41	634.41
℄ Pier 8	1832+40.67	-12.25	634.41	634.41

GIRDER 6

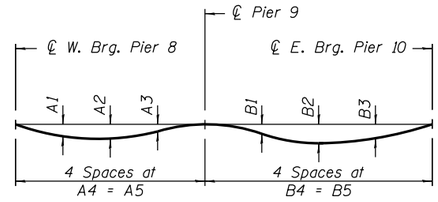
Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 6	1828+59.67	-20.42	630.78	630.78
℄ N. Brg. Pier 6	1828+61.23	-20.42	630.82	630.82
7A	1828+71.17	-20.42	631.04	631.10
7B	1828+81.17	-20.42	631.27	631.38
7C	1828+91.17	-20.42	631.50	631.65
7D	1829+01.17	-20.42	631.73	631.92
7E	1829+11.17	-20.42	631.96	632.18
7F	1829+21.17	-20.42	632.19	632.43
7G	1829+31.17	-20.42	632.42	632.67
7H	1829+41.17	-20.42	632.65	632.90
7I	1829+51.17	-20.42	632.88	633.12
7J	1829+61.17	-20.42	633.11	633.33
7K	1829+71.17	-20.42	633.34	633.53
7L	1829+81.17	-20.42	633.57	633.73
7M	1829+91.17	-20.42	633.80	633.93
7N	1830+01.17	-20.42	634.04	634.13
7O	1830+11.17	-20.42	634.25	634.31
7P	1830+21.17	-20.42	634.44	634.48
7Q	1830+31.17	-20.42	634.61	634.63
7R	1830+41.17	-20.42	634.76	634.77
℄ Pier 7	1830+50.17	-20.42	634.89	634.89
8A	1830+60.17	-20.42	635.00	635.01
8B	1830+70.17	-20.42	635.10	635.13
8C	1830+80.17	-20.42	635.19	635.23
8D	1830+90.17	-20.42	635.25	635.32
8E	1831+00.17	-20.42	635.29	635.40
8F	1831+10.17	-20.42	635.32	635.45
8G	1831+20.17	-20.42	635.33	635.49
8H	1831+30.17	-20.42	635.32	635.51
8I	1831+40.17	-20.42	635.29	635.51
8J	1831+50.17	-20.42	635.24	635.48
8K	1831+60.17	-20.42	635.18	635.42
8L	1831+70.17	-20.42	635.09	635.34
8M	1831+80.17	-20.42	634.99	635.22
8N	1831+90.17	-20.42	634.87	635.08
8O	1832+00.17	-20.42	634.73	634.91
8P	1832+10.17	-20.42	634.57	634.71
8Q	1832+20.17	-20.42	634.39	634.49
8R	1832+30.17	-20.42	634.20	634.24
℄ E. Brg. Pier 8	1832+39.11	-20.42	634.00	634.00
℄ Pier 8	1832+40.67	-20.42	633.97	633.97



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-25 and S-26, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS

Girder No.	DEAD LOAD DEFLECTIONS									
	Span 9					Span 10				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5
1	0 3/4"	0 3/4"	0 1/8"	31'-4 7/8"	125'-7 5/8"	1 1/4"	2 3/4"	2 1/2"	34'-1 1/8"	136'-4 3/8"
2	0 3/4"	0 3/4"	0 1/8"	30'-11 3/8"	123'-9 3/8"	1 1/8"	2 1/2"	2 1/8"	33'-9"	135'-0 1/4"
3	0 3/4"	0 3/4"	0 1/8"	30'-5 3/4"	121'-11 1/8"	1"	2 1/4"	2"	33'-5"	133'-8 1/8"
4	0 3/4"	0 3/4"	0 1/4"	30'-0 1/4"	120'-0 7/8"	0 7/8"	2"	1 3/4"	33'-1"	132'-3 7/8"
5	0 3/4"	0 3/4"	0 1/4"	29'-6 5/8"	118'-2 5/8"	0 3/4"	1 3/4"	1 1/2"	32'-8 7/8"	130'-11 3/4"
6	0 3/4"	0 3/4"	0 1/4"	29'-1 1/8"	116'-4 3/8"	0 3/4"	1 5/8"	1 3/8"	32'-4 7/8"	129'-7 5/8"

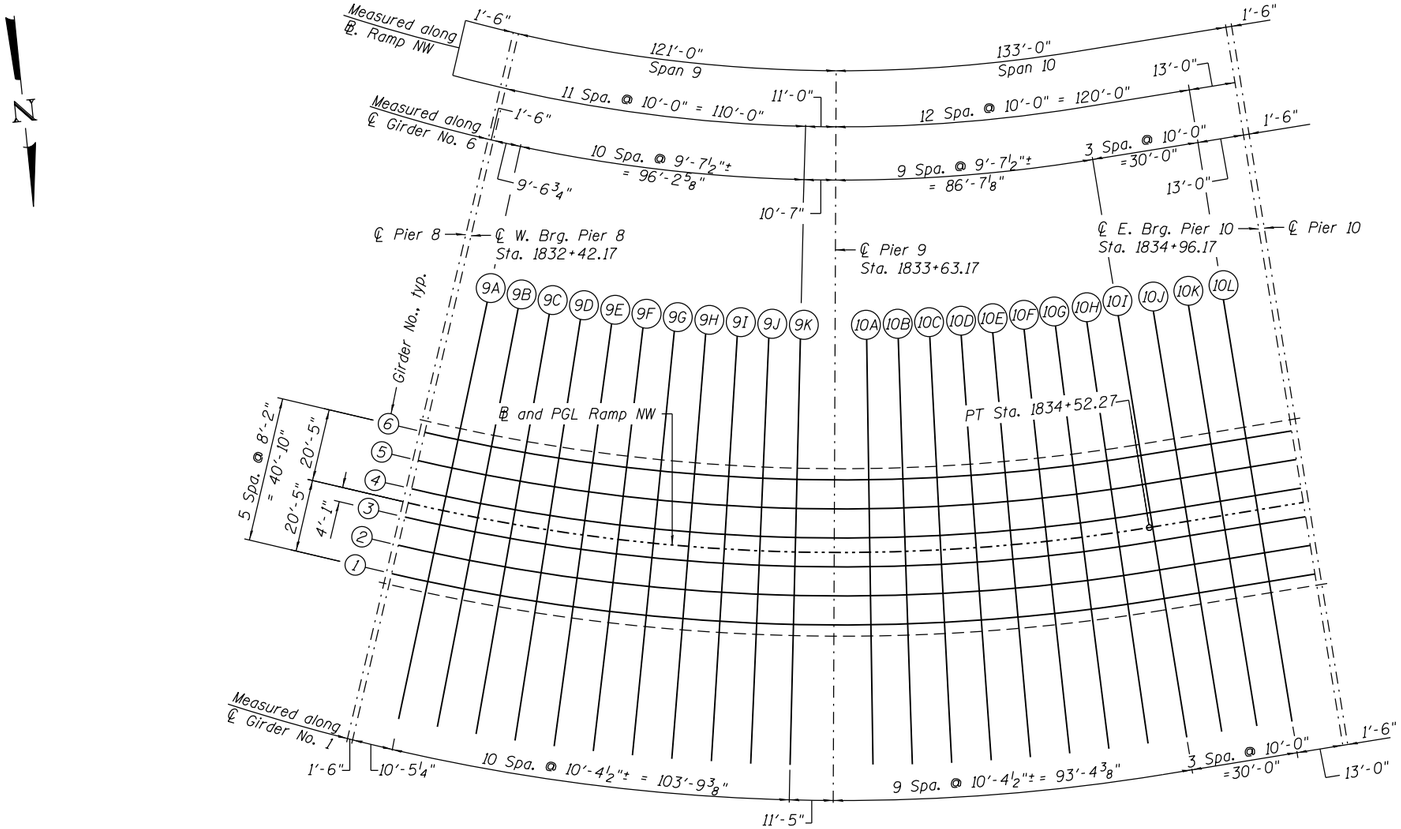


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Notes:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S-25 and S-26.



PLAN

AECOM	USER NAME = floresg	DESIGNED - VP	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS PLAN – UNIT V STRUCTURE NO. 016–1705
		CHECKED - MK	REVISED		
	PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED		
	PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED		SHEET NO. S-24 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	340
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S024-TopSlab.dgn

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	20.42	636.18	636.18
℄ W. Brg. Pier 8	1832+42.11	20.42	636.14	636.14
9A	1832+52.17	20.42	635.91	635.93
9B	1832+62.17	20.42	635.65	635.70
9C	1832+72.17	20.42	635.38	635.44
9D	1832+82.17	20.42	635.09	635.16
9E	1832+92.17	20.42	634.78	634.85
9F	1833+02.17	20.42	634.45	634.51
9G	1833+12.17	20.42	634.10	634.15
9H	1833+22.17	20.42	633.74	633.76
9I	1833+32.17	20.42	633.35	633.36
9J	1833+42.17	20.42	632.95	632.95
9K	1833+52.17	20.42	632.53	632.52
℄ Pier 9	1833+63.17	20.42	632.05	632.05
10A	1833+73.17	20.42	631.59	631.61
10B	1833+83.17	20.42	631.11	631.16
10C	1833+93.17	20.42	630.61	630.71
10D	1834+03.17	20.42	630.10	630.24
10E	1834+13.17	20.42	629.56	629.75
10F	1834+23.17	20.42	628.95	629.17
10G	1834+33.17	20.42	628.27	628.51
10H	1834+43.17	20.42	627.58	627.82
10I	1834+53.17	20.42	626.87	627.10
10J	1834+63.17	20.42	626.13	626.34
10K	1834+73.17	20.42	625.38	625.54
10L	1834+83.17	20.42	624.62	624.71
℄ E. Brg. Pier 10	1834+96.17	20.42	623.59	623.59
℄ Pier 10	1834+97.67	20.42	623.47	623.47

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	12.25	635.74	635.74
℄ W. Brg. Pier 8	1832+42.13	12.25	635.70	635.70
9A	1832+52.17	12.25	635.47	635.49
9B	1832+62.17	12.25	635.21	635.26
9C	1832+72.17	12.25	634.94	635.00
9D	1832+82.17	12.25	634.65	634.71
9E	1832+92.17	12.25	634.34	634.40
9F	1833+02.17	12.25	634.01	634.07
9G	1833+12.17	12.25	633.66	633.71
9H	1833+22.17	12.25	633.30	633.32
9I	1833+32.17	12.25	632.91	632.92
9J	1833+42.17	12.25	632.51	632.51
9K	1833+52.17	12.25	632.09	632.08
℄ Pier 9	1833+63.17	12.25	631.60	631.60
10A	1833+73.17	12.25	631.15	631.16
10B	1833+83.17	12.25	630.67	630.72
10C	1833+93.17	12.25	630.17	630.26
10D	1834+03.17	12.25	629.66	629.78
10E	1834+13.17	12.25	629.12	629.28
10F	1834+23.17	12.25	628.53	628.73
10G	1834+33.17	12.25	627.90	628.11
10H	1834+43.17	12.25	627.25	627.47
10I	1834+53.17	12.25	626.58	626.78
10J	1834+63.17	12.25	625.89	626.07
10K	1834+73.17	12.25	625.18	625.32
10L	1834+83.17	12.25	624.45	624.53
℄ E. Brg. Pier 10	1834+96.17	12.25	623.48	623.48
℄ Pier 10	1834+97.68	12.25	623.37	623.37

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	4.08	635.29	635.29
℄ W. Brg. Pier 8	1832+42.16	4.08	635.26	635.26
9A	1832+52.17	4.08	635.02	635.05
9B	1832+62.17	4.08	634.77	634.82
9C	1832+72.17	4.08	634.50	634.56
9D	1832+82.17	4.08	634.21	634.27
9E	1832+92.17	4.08	633.90	633.96
9F	1833+02.17	4.08	633.57	633.63
9G	1833+12.17	4.08	633.22	633.27
9H	1833+22.17	4.08	632.85	632.89
9I	1833+32.17	4.08	632.47	632.49
9J	1833+42.17	4.08	632.07	632.07
9K	1833+52.17	4.08	631.65	631.64
℄ Pier 9	1833+63.17	4.08	631.16	631.16
10A	1833+73.17	4.08	630.70	630.72
10B	1833+83.17	4.08	630.23	630.27
10C	1833+93.17	4.08	629.73	629.80
10D	1834+03.17	4.08	629.21	629.32
10E	1834+13.17	4.08	628.68	628.82
10F	1834+23.17	4.08	628.12	628.29
10G	1834+33.17	4.08	627.52	627.71
10H	1834+43.17	4.08	626.91	627.11
10I	1834+53.17	4.08	626.29	626.47
10J	1834+63.17	4.08	625.64	625.80
10K	1834+73.17	4.08	624.97	625.10
10L	1834+83.17	4.08	624.29	624.36
℄ E. Brg. Pier 10	1834+96.17	4.08	623.37	623.37
℄ Pier 10	1834+97.68	4.08	623.26	623.26

℄ & PGL RAMP NW

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	0.00	635.07	635.07
℄ W. Brg. Pier 8	1832+42.17	0.00	635.04	635.04
9A	1832+52.17	0.00	634.80	634.83
9B	1832+62.17	0.00	634.55	634.60
9C	1832+72.17	0.00	634.28	634.34
9D	1832+82.17	0.00	633.98	634.05
9E	1832+92.17	0.00	633.68	633.74
9F	1833+02.17	0.00	633.35	633.41
9G	1833+12.17	0.00	633.00	633.05
9H	1833+22.17	0.00	632.63	632.67
9I	1833+32.17	0.00	632.25	632.27
9J	1833+42.17	0.00	631.85	631.85
9K	1833+52.17	0.00	631.43	631.42
℄ Pier 9	1833+63.17	0.00	630.94	630.94
10A	1833+73.17	0.00	630.48	630.50
10B	1833+83.17	0.00	630.01	630.04
10C	1833+93.17	0.00	629.51	629.58
10D	1834+03.17	0.00	628.99	629.10
10E	1834+13.17	0.00	628.46	628.60
10F	1834+23.17	0.00	627.91	628.07
10G	1834+33.17	0.00	627.34	627.52
10H	1834+43.17	0.00	626.75	626.93
10I	1834+53.17	0.00	626.14	626.32
10J	1834+63.17	0.00	625.52	625.67
10K	1834+73.17	0.00	624.87	624.99
10L	1834+83.17	0.00	624.21	624.28
℄ E. Brg. Pier 10	1834+96.17	0.00	623.32	623.32
℄ Pier 10	1834+97.69	0.00	623.21	623.21

0161705-60W28-S025-TopSlab.dgn

AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I – UNIT V
STRUCTURE NO. 016–1705
SHEET NO. S-25 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	341
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	-4.08	634.85	634.85
℄ W. Brg. Pier 8	1832+42.18	-4.08	634.82	634.82
9A	1832+52.17	-4.08	634.58	634.61
9B	1832+62.17	-4.08	634.33	634.37
9C	1832+72.17	-4.08	634.06	634.12
9D	1832+82.17	-4.08	633.76	633.83
9E	1832+92.17	-4.08	633.45	633.52
9F	1833+02.17	-4.08	633.13	633.19
9G	1833+12.17	-4.08	632.78	632.83
9H	1833+22.17	-4.08	632.41	632.45
9I	1833+32.17	-4.08	632.03	632.05
9J	1833+42.17	-4.08	631.63	631.63
9K	1833+52.17	-4.08	631.21	631.20
℄ Pier 9	1833+63.17	-4.08	630.72	630.72
10A	1833+73.17	-4.08	630.26	630.28
10B	1833+83.17	-4.08	629.78	629.82
10C	1833+93.17	-4.08	629.29	629.35
10D	1834+03.17	-4.08	628.77	628.87
10E	1834+13.17	-4.08	628.24	628.37
10F	1834+23.17	-4.08	627.70	627.85
10G	1834+33.17	-4.08	627.15	627.32
10H	1834+43.17	-4.08	626.58	626.76
10I	1834+53.17	-4.08	626.00	626.16
10J	1834+63.17	-4.08	625.39	625.54
10K	1834+73.17	-4.08	624.77	624.88
10L	1834+83.17	-4.08	624.13	624.19
℄ E. Brg. Pier 10	1834+96.17	-4.08	623.26	623.26
℄ Pier 10	1834+97.69	-4.08	623.16	623.16

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	-12.25	634.41	634.41
℄ W. Brg. Pier 8	1832+42.20	-12.25	634.38	634.38
9A	1832+52.17	-12.25	634.14	634.17
9B	1832+62.17	-12.25	633.89	633.93
9C	1832+72.17	-12.25	633.61	633.68
9D	1832+82.17	-12.25	633.32	633.39
9E	1832+92.17	-12.25	633.01	633.08
9F	1833+02.17	-12.25	632.69	632.75
9G	1833+12.17	-12.25	632.34	632.39
9H	1833+22.17	-12.25	631.97	632.01
9I	1833+32.17	-12.25	631.59	631.61
9J	1833+42.17	-12.25	631.19	631.19
9K	1833+52.17	-12.25	630.77	630.77
℄ Pier 9	1833+63.17	-12.25	630.28	630.28
10A	1833+73.17	-12.25	629.82	629.83
10B	1833+83.17	-12.25	629.34	629.38
10C	1833+93.17	-12.25	628.85	628.90
10D	1834+03.17	-12.25	628.33	628.42
10E	1834+13.17	-12.25	627.80	627.91
10F	1834+23.17	-12.25	627.28	627.42
10G	1834+33.17	-12.25	626.78	626.93
10H	1834+43.17	-12.25	626.25	626.41
10I	1834+53.17	-12.25	625.71	625.86
10J	1834+63.17	-12.25	625.14	625.27
10K	1834+73.17	-12.25	624.56	624.66
10L	1834+83.17	-12.25	623.96	624.02
℄ E. Brg. Pier 10	1834+96.17	-12.25	623.16	623.16
℄ Pier 10	1834+97.70	-12.25	623.06	623.06

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 8	1832+40.67	-20.42	633.97	633.97
℄ W. Brg. Pier 8	1832+42.23	-20.42	633.94	633.94
9A	1832+52.17	-20.42	633.70	633.73
9B	1832+62.17	-20.42	633.45	633.49
9C	1832+72.17	-20.42	633.17	633.24
9D	1832+82.17	-20.42	632.88	632.95
9E	1832+92.17	-20.42	632.57	632.64
9F	1833+02.17	-20.42	632.24	632.31
9G	1833+12.17	-20.42	631.90	631.95
9H	1833+22.17	-20.42	631.53	631.57
9I	1833+32.17	-20.42	631.15	631.17
9J	1833+42.17	-20.42	630.75	630.76
9K	1833+52.17	-20.42	630.32	630.33
℄ Pier 9	1833+63.17	-20.42	629.84	629.84
10A	1833+73.17	-20.42	629.38	629.39
10B	1833+83.17	-20.42	628.90	628.93
10C	1833+93.17	-20.42	628.41	628.46
10D	1834+03.17	-20.42	627.89	627.97
10E	1834+13.17	-20.42	627.36	627.46
10F	1834+23.17	-20.42	626.87	626.99
10G	1834+33.17	-20.42	626.40	626.53
10H	1834+43.17	-20.42	625.92	626.06
10I	1834+53.17	-20.42	625.42	625.55
10J	1834+63.17	-20.42	624.90	625.01
10K	1834+73.17	-20.42	624.36	624.45
10L	1834+83.17	-20.42	623.80	623.85
℄ E. Brg. Pier 10	1834+96.17	-20.42	623.05	623.05
℄ Pier 10	1834+97.71	-20.42	622.96	622.96

0161705-60W28-S026-TopSlab.dgn

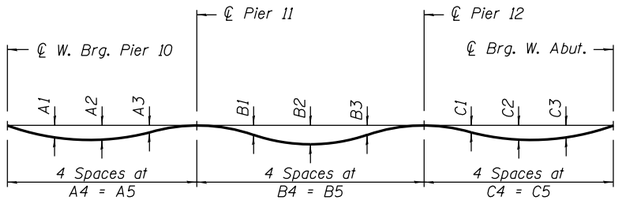
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II – UNIT V
STRUCTURE NO. 016-1705
SHEET NO. S-26 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	342
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

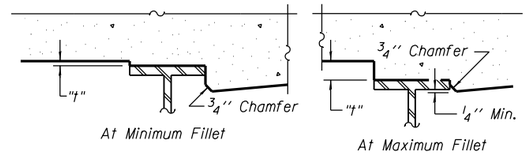


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

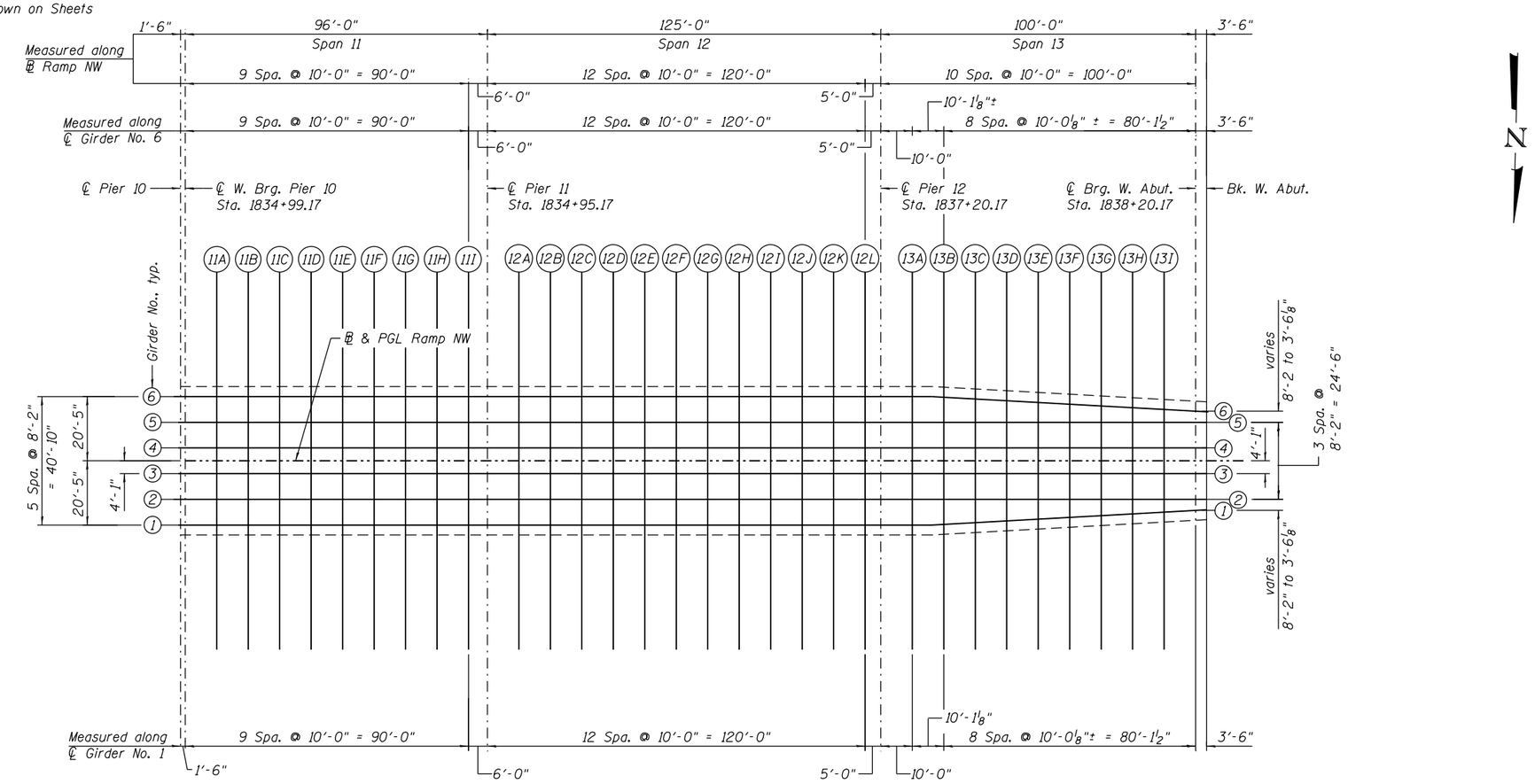
Notes:

The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on Sheets S-28 and S-29.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets S-28 and S-29, minus slab thickness, equals the fillet heights "t" above top flange of girders.

FILLET HEIGHTS



PLAN

Girder No.	DEAD LOAD DEFLECTIONS														
	Span 11					Span 12					Span 13				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5
1, 6	0 7/8"	1"	0 3/8"	24'-0"	96'-0"	0 5/8"	1 1/8"	0 5/8"	31'-3"	125'-0"	0 1/2"	1 1/8"	1"	25'-0 3/8"	100'-1 1/2"
2, 3, 4, 5	0 7/8"	1"	0 3/8"	24'-0"	96'-0"	0 5/8"	1 1/8"	0 5/8"	31'-3"	125'-0"	0 1/2"	1 1/8"	1"	25'-0"	100'-0"

AECOM	USER NAME = floresg	DESIGNED - VP	REVISED
		CHECKED - MK	REVISED
	PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
	PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS PLAN – UNIT VI
STRUCTURE NO. 016-1705
SHEET NO. S-27 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	343
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S027-TopSlab.dgn

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	20.42	623.47	623.47
℄ W. Brg. Pier 10	1834+99.17	20.42	623.35	623.35
11A	1835+09.17	20.42	622.55	622.58
11B	1835+19.17	20.42	621.75	621.81
11C	1835+29.17	20.42	620.95	621.03
11D	1835+39.17	20.42	620.15	620.23
11E	1835+49.17	20.42	619.35	619.43
11F	1835+59.17	20.42	618.55	618.61
11G	1835+69.17	20.42	617.84	617.88
11H	1835+79.17	20.42	617.15	617.16
11I	1835+89.17	20.42	616.45	616.46
℄ Pier 11	1835+95.17	20.42	616.04	616.04
12A	1836+05.17	20.42	615.34	615.35
12B	1836+15.17	20.42	614.65	614.68
12C	1836+25.17	20.42	613.96	614.01
12D	1836+35.17	20.42	613.26	613.34
12E	1836+45.17	20.42	612.57	612.66
12F	1836+55.17	20.42	611.87	611.97
12G	1836+65.17	20.42	611.18	611.27
12H	1836+75.17	20.42	610.49	610.57
12I	1836+85.17	20.42	609.79	609.85
12J	1836+95.17	20.42	609.10	609.13
12K	1837+05.17	20.42	608.40	608.42
12L	1837+15.17	20.42	607.71	607.71
℄ Pier 12	1837+20.17	20.42	607.36	607.36
13A	1837+30.17	20.42	606.67	606.68
13B	1837+40.17	20.21	605.98	606.01
13C	1837+50.17	19.65	605.29	605.35
13D	1837+60.17	19.09	604.61	604.69
13E	1837+70.17	18.54	603.93	604.03
13F	1837+80.17	17.98	603.25	603.35
13G	1837+90.17	17.43	602.56	602.66
13H	1838+00.17	16.87	601.88	601.95
13I	1838+10.17	16.31	601.20	601.24
℄ Brg. W. Abut.	1838+20.17	15.76	600.51	600.51
Bk. W. Abut.	1838+23.67	15.56	600.28	600.28

GIRDER 2

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	12.25	623.37	623.37
℄ W. Brg. Pier 10	1834+99.17	12.25	623.25	623.25
11A	1835+09.17	12.25	622.50	622.53
11B	1835+19.17	12.25	621.74	621.80
11C	1835+29.17	12.25	620.98	621.06
11D	1835+39.17	12.25	620.22	620.31
11E	1835+49.17	12.25	619.47	619.54
11F	1835+59.17	12.25	618.71	618.77
11G	1835+69.17	12.25	618.01	618.04
11H	1835+79.17	12.25	617.31	617.33
11I	1835+89.17	12.25	616.62	616.62
℄ Pier 11	1835+95.17	12.25	616.20	616.20
12A	1836+05.17	12.25	615.51	615.52
12B	1836+15.17	12.25	614.81	614.84
12C	1836+25.17	12.25	614.12	614.17
12D	1836+35.17	12.25	613.43	613.50
12E	1836+45.17	12.25	612.73	612.82
12F	1836+55.17	12.25	612.04	612.14
12G	1836+65.17	12.25	611.34	611.44
12H	1836+75.17	12.25	610.65	610.73
12I	1836+85.17	12.25	609.96	610.01
12J	1836+95.17	12.25	609.26	609.30
12K	1837+05.17	12.25	608.57	608.58
12L	1837+15.17	12.25	607.87	607.87
℄ Pier 12	1837+20.17	12.25	607.53	607.53
13A	1837+30.17	12.25	606.83	606.84
13B	1837+40.17	12.25	606.14	606.17
13C	1837+50.17	12.25	605.44	605.50
13D	1837+60.17	12.25	604.75	604.83
13E	1837+70.17	12.25	604.06	604.15
13F	1837+80.17	12.25	603.36	603.47
13G	1837+90.17	12.25	602.67	602.76
13H	1838+00.17	12.25	601.97	602.05
13I	1838+10.17	12.25	601.28	601.32
℄ Brg. W. Abut.	1838+20.17	12.25	600.59	600.59
Bk. W. Abut.	1838+23.67	12.25	600.34	600.34

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	4.08	623.26	623.26
℄ W. Brg. Pier 10	1834+99.17	4.08	623.16	623.16
11A	1835+09.17	4.08	622.44	622.48
11B	1835+19.17	4.08	621.73	621.79
11C	1835+29.17	4.08	621.01	621.09
11D	1835+39.17	4.08	620.30	620.38
11E	1835+49.17	4.08	619.58	619.66
11F	1835+59.17	4.08	618.87	618.92
11G	1835+69.17	4.08	618.17	618.21
11H	1835+79.17	4.08	617.48	617.49
11I	1835+89.17	4.08	616.78	616.78
℄ Pier 11	1835+95.17	4.08	616.37	616.37
12A	1836+05.17	4.08	615.67	615.68
12B	1836+15.17	4.08	614.98	615.00
12C	1836+25.17	4.08	614.28	614.33
12D	1836+35.17	4.08	613.59	613.66
12E	1836+45.17	4.08	612.89	612.98
12F	1836+55.17	4.08	612.20	612.30
12G	1836+65.17	4.08	611.51	611.60
12H	1836+75.17	4.08	610.81	610.89
12I	1836+85.17	4.08	610.12	610.18
12J	1836+95.17	4.08	609.42	609.46
12K	1837+05.17	4.08	608.73	608.74
12L	1837+15.17	4.08	608.04	608.04
℄ Pier 12	1837+20.17	4.08	607.69	607.69
13A	1837+30.17	4.08	607.00	607.00
13B	1837+40.17	4.08	606.30	606.33
13C	1837+50.17	4.08	605.61	605.66
13D	1837+60.17	4.08	604.91	604.99
13E	1837+70.17	4.08	604.22	604.32
13F	1837+80.17	4.08	603.53	603.63
13G	1837+90.17	4.08	602.83	602.93
13H	1838+00.17	4.08	602.14	602.21
13I	1838+10.17	4.08	601.44	601.48
℄ Brg. W. Abut.	1838+20.17	4.08	600.75	600.75
Bk. W. Abut.	1838+23.67	4.08	600.51	600.51

℄ & PGL RAMP NW

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	0.00	623.21	623.21
℄ W. Brg. Pier 10	1834+99.17	0.00	623.11	623.11
11A	1835+09.17	0.00	622.42	622.45
11B	1835+19.17	0.00	621.72	621.78
11C	1835+29.17	0.00	621.02	621.10
11D	1835+39.17	0.00	620.33	620.42
11E	1835+49.17	0.00	619.64	619.71
11F	1835+59.17	0.00	618.94	619.00
11G	1835+69.17	0.00	618.25	618.29
11H	1835+79.17	0.00	617.55	617.57
11I	1835+89.17	0.00	616.86	616.87
℄ Pier 11	1835+95.17	0.00	616.44	616.44
12A	1836+05.17	0.00	615.75	615.76
12B	1836+15.17	0.00	615.06	615.08
12C	1836+25.17	0.00	614.36	614.41
12D	1836+35.17	0.00	613.67	613.74
12E	1836+45.17	0.00	612.97	613.06
12F	1836+55.17	0.00	612.28	612.38
12G	1836+65.17	0.00	611.59	611.68
12H	1836+75.17	0.00	610.89	610.97
12I	1836+85.17	0.00	610.20	610.26
12J	1836+95.17	0.00	609.50	609.54
12K	1837+05.17	0.00	608.81	608.83
12L	1837+15.17	0.00	608.12	608.12
℄ Pier 12	1837+20.17	0.00	607.77	607.77
13A	1837+30.17	0.00	607.07	607.08
13B	1837+40.17	0.00	606.38	606.41
13C	1837+50.17	0.00	605.69	605.74
13D	1837+60.17	0.00	604.99	605.07
13E	1837+70.17	0.00	604.30	604.40
13F	1837+80.17	0.00	603.60	603.71
13G	1837+90.17	0.00	602.91	603.01
13H	1838+00.17	0.00	602.22	602.29
13I	1838+10.17	0.00	601.52	601.57
℄ Brg. W. Abut.	1838+20.17	0.00	600.83	600.83
Bk. W. Abut.	1838+23.67	0.00	600.59	600.59

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AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS I – UNIT VI
STRUCTURE NO. 016–1705
SHEET NO. S-28 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	344
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

GIRDER 4

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	-4.08	623.16	623.16
℄ W. Brg. Pier 10	1834+99.17	-4.08	623.06	623.06
11A	1835+09.17	-4.08	622.39	622.42
11B	1835+19.17	-4.08	621.72	621.78
11C	1835+29.17	-4.08	621.04	621.12
11D	1835+39.17	-4.08	620.37	620.45
11E	1835+49.17	-4.08	619.70	619.77
11F	1835+59.17	-4.08	619.02	619.08
11G	1835+69.17	-4.08	618.33	618.37
11H	1835+79.17	-4.08	617.64	617.65
11I	1835+89.17	-4.08	616.94	616.95
℄ Pier 11	1835+95.17	-4.08	616.53	616.53
12A	1836+05.17	-4.08	615.83	615.84
12B	1836+15.17	-4.08	615.14	615.17
12C	1836+25.17	-4.08	614.45	614.50
12D	1836+35.17	-4.08	613.75	613.83
12E	1836+45.17	-4.08	613.06	613.15
12F	1836+55.17	-4.08	612.36	612.46
12G	1836+65.17	-4.08	611.67	611.76
12H	1836+75.17	-4.08	610.98	611.06
12I	1836+85.17	-4.08	610.28	610.34
12J	1836+95.17	-4.08	609.59	609.62
12K	1837+05.17	-4.08	608.89	608.91
12L	1837+15.17	-4.08	608.20	608.20
℄ Pier 12	1837+20.17	-4.08	607.85	607.85
13A	1837+30.17	-4.08	607.16	607.17
13B	1837+40.17	-4.08	606.46	606.49
13C	1837+50.17	-4.08	605.77	605.83
13D	1837+60.17	-4.08	605.08	605.16
13E	1837+70.17	-4.08	604.38	604.48
13F	1837+80.17	-4.08	603.69	603.79
13G	1837+90.17	-4.08	602.99	603.09
13H	1838+00.17	-4.08	602.30	602.38
13I	1838+10.17	-4.08	601.61	601.65
℄ Brg. W. Abut.	1838+20.17	-4.08	600.91	600.91
Bk. W. Abut.	1838+23.67	-4.08	600.67	600.67

GIRDER 5

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	-12.25	623.06	623.06
℄ W. Brg. Pier 10	1834+99.17	-12.25	622.97	622.97
11A	1835+09.17	-12.25	622.34	622.37
11B	1835+19.17	-12.25	621.71	621.77
11C	1835+29.17	-12.25	621.07	621.15
11D	1835+39.17	-12.25	620.44	620.53
11E	1835+49.17	-12.25	619.81	619.89
11F	1835+59.17	-12.25	619.18	619.24
11G	1835+69.17	-12.25	618.50	618.53
11H	1835+79.17	-12.25	617.80	617.82
11I	1835+89.17	-12.25	617.11	617.11
℄ Pier 11	1835+95.17	-12.25	616.69	616.69
12A	1836+05.17	-12.25	616.00	616.01
12B	1836+15.17	-12.25	615.30	615.33
12C	1836+25.17	-12.25	614.61	614.66
12D	1836+35.17	-12.25	613.92	613.99
12E	1836+45.17	-12.25	613.22	613.31
12F	1836+55.17	-12.25	612.53	612.63
12G	1836+65.17	-12.25	611.83	611.93
12H	1836+75.17	-12.25	611.14	611.22
12I	1836+85.17	-12.25	610.45	610.50
12J	1836+95.17	-12.25	609.75	609.79
12K	1837+05.17	-12.25	609.06	609.07
12L	1837+15.17	-12.25	608.36	608.36
℄ Pier 12	1837+20.17	-12.25	608.02	608.02
13A	1837+30.17	-12.25	607.32	607.33
13B	1837+40.17	-12.25	606.63	606.66
13C	1837+50.17	-12.25	605.93	605.99
13D	1837+60.17	-12.25	605.24	605.32
13E	1837+70.17	-12.25	604.55	604.64
13F	1837+80.17	-12.25	603.85	603.96
13G	1837+90.17	-12.25	603.16	603.25
13H	1838+00.17	-12.25	602.46	602.54
13I	1838+10.17	-12.25	601.77	601.81
℄ Brg. W. Abut.	1838+20.17	-12.25	601.08	601.08
Bk. W. Abut.	1838+23.67	-12.25	600.83	600.83

GIRDER 6

Location	Station	Offset	Theoretical Grade Elevations	Elevations Adjusted for DL Deflections
℄ Pier 10	1834+97.67	-20.42	622.96	622.96
℄ W. Brg. Pier 10	1834+99.17	-20.42	622.87	622.87
11A	1835+09.17	-20.42	622.28	622.32
11B	1835+19.17	-20.42	621.69	621.76
11C	1835+29.17	-20.42	621.11	621.19
11D	1835+39.17	-20.42	620.52	620.60
11E	1835+49.17	-20.42	619.93	620.00
11F	1835+59.17	-20.42	619.34	619.40
11G	1835+69.17	-20.42	618.66	618.70
11H	1835+79.17	-20.42	617.97	617.98
11I	1835+89.17	-20.42	617.27	617.27
℄ Pier 11	1835+95.17	-20.42	616.86	616.86
12A	1836+05.17	-20.42	616.16	616.17
12B	1836+15.17	-20.42	615.47	615.49
12C	1836+25.17	-20.42	614.77	614.82
12D	1836+35.17	-20.42	614.08	614.15
12E	1836+45.17	-20.42	613.38	613.47
12F	1836+55.17	-20.42	612.69	612.79
12G	1836+65.17	-20.42	612.00	612.09
12H	1836+75.17	-20.42	611.30	611.38
12I	1836+85.17	-20.42	610.61	610.67
12J	1836+95.17	-20.42	609.91	609.95
12K	1837+05.17	-20.42	609.22	609.23
12L	1837+15.17	-20.42	608.53	608.53
℄ Pier 12	1837+20.17	-20.42	608.18	608.18
13A	1837+30.17	-20.42	607.49	607.49
13B	1837+40.17	-20.21	606.79	606.81
13C	1837+50.17	-19.65	606.08	606.14
13D	1837+60.17	-19.09	605.38	605.46
13E	1837+70.17	-18.54	604.67	604.77
13F	1837+80.17	-17.98	603.96	604.07
13G	1837+90.17	-17.43	603.26	603.36
13H	1838+00.17	-16.87	602.55	602.63
13I	1838+10.17	-16.31	601.85	601.89
℄ Brg. W. Abut.	1838+20.17	-15.76	601.14	601.14
Bk. W. Abut.	1838+23.67	-15.56	600.90	600.90

0161705-60W28-S029-TopSlab.dgn

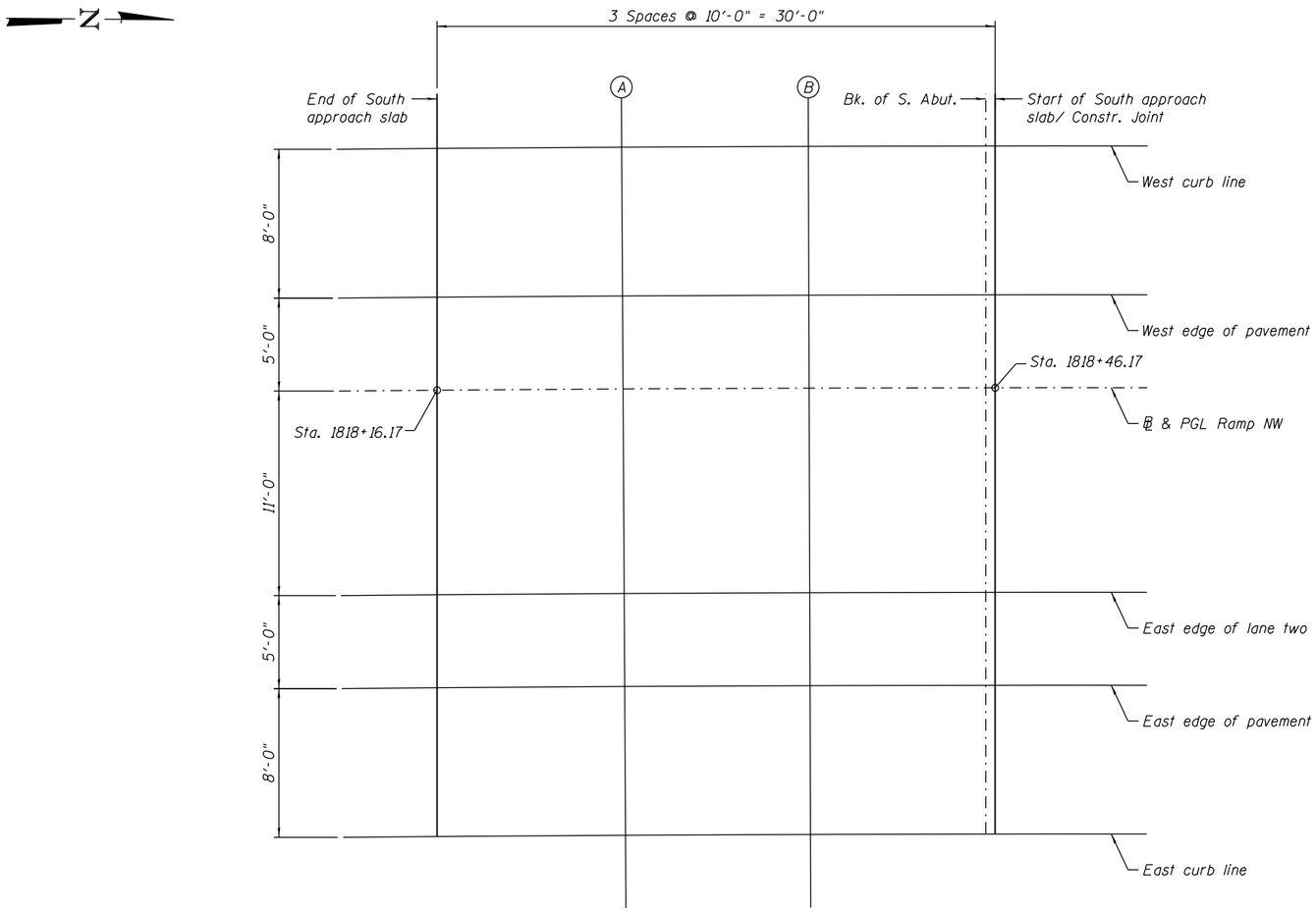
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - MK	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS II – UNIT VI
STRUCTURE NO. 016-1705
SHEET NO. S-29 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	345
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



PLAN

WEST CURB LINE

Locations	Station	Offset	Theoretical Grade Elevations
End S. Appr. Slab	1818+16.27	-13.00	599.91
A	1818+26.17	-13.00	600.31
B	1818+36.17	-13.00	600.71
Start S. Appr. Slab	1818+46.18	-13.00	601.11

EAST EDGE OF LANE 2

Locations	Station	Offset	Theoretical Grade Elevations
End S. Appr. Slab	1818+16.08	11.00	600.38
A	1818+26.17	11.00	600.79
B	1818+36.17	11.00	601.19
Start S. Appr. Slab	1818+46.16	11.00	601.59

WEST EDGE OF PAV'T

Locations	Station	Offset	Theoretical Grade Elevations
End S. Appr. Slab	1818+16.21	-5.00	600.07
A	1818+26.17	-5.00	600.47
B	1818+36.17	-5.00	600.87
Start S. Appr. Slab	1818+46.17	-5.00	601.27

EAST EDGE OF PAV'T

Locations	Station	Offset	Theoretical Grade Elevations
End S. Appr. Slab	1818+16.04	16.00	600.48
A	1818+26.17	16.00	600.89
B	1818+36.17	16.00	601.29
Start S. Appr. Slab	1818+46.16	16.00	601.69

℄ & PGL RAMP NW

Locations	Station	Offset	Theoretical Grade Elevations
End S. Appr. Slab	1818+16.17	0.00	600.17
A	1818+26.17	0.00	600.57
B	1818+36.17	0.00	600.97
Start S. Appr. Slab	1818+46.17	0.00	601.37

EAST CURB LINE

Locations	Station	Offset	Theoretical Grade Elevations
End S. Appr. Slab	1818+15.97	24.00	600.64
A	1818+26.17	24.00	601.05
B	1818+36.17	24.00	601.45
Start S. Appr. Slab	1818+46.15	24.00	601.85

0161705-60W28-S030-ApprSlab South.dgn

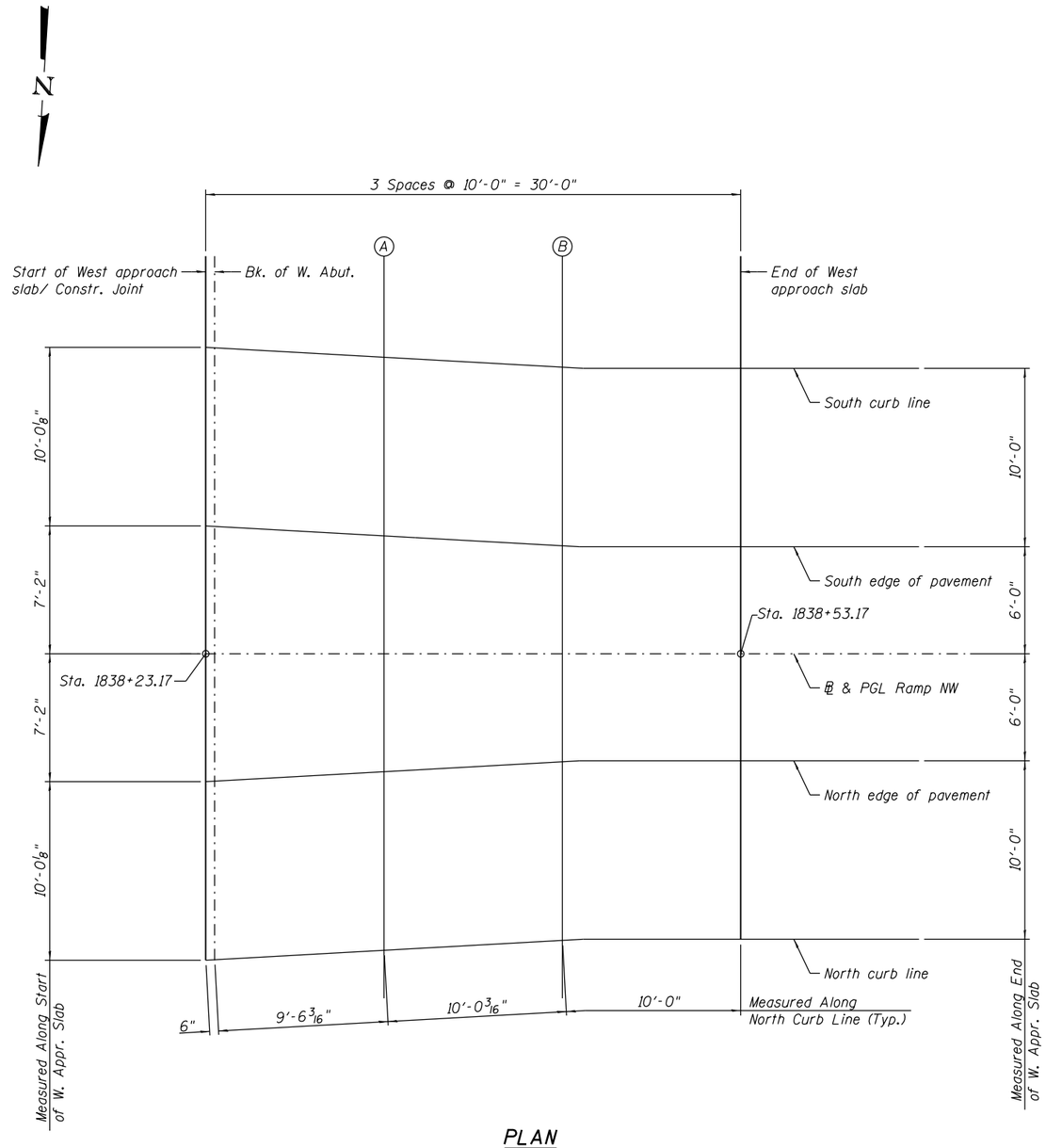
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED	
	CHECKED - MK	REVISED	
PLOT SCALE = N.T.S.	DRAWN - VP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SOUTH APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1705
SHEET NO. S-30 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	346
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



PLAN

SOUTH CURB LINE

Locations	Station	Offset	Theoretical Grade Elevations
Start W. Appr. Slab	1838+23.17	-17.18	600.96
A	1838+33.17	-16.62	600.26
B	1838+43.17	-16.06	599.55
End W. Appr. Slab	1838+53.17	-16.00	598.86

NORTH EDGE OF PAV'T

Locations	Station	Offset	Theoretical Grade Elevations
Start W. Appr. Slab	1838+23.17	7.16	600.48
A	1838+33.17	6.61	599.79
B	1838+43.17	6.05	599.11
End W. Appr. Slab	1838+53.17	6.00	598.42

SOUTH EDGE OF PAV'T

Locations	Station	Offset	Theoretical Grade Elevations
Start W. Appr. Slab	1838+23.17	-7.16	600.76
A	1838+33.17	-6.61	600.06
B	1838+43.17	-6.05	599.35
End W. Appr. Slab	1838+53.17	-6.00	598.66

NORTH CURB LINE

Locations	Station	Offset	Theoretical Grade Elevations
Start W. Appr. Slab	1838+23.17	17.18	600.28
A	1838+33.17	16.62	599.59
B	1838+43.17	16.06	598.91
End W. Appr. Slab	1838+53.17	16.00	598.22

℄ & PGL RAMP NW

Locations	Station	Offset	Theoretical Grade Elevations
Start W. Appr. Slab	1838+23.17	0.00	600.62
A	1838+33.17	0.00	599.93
B	1838+43.17	0.00	599.23
End W. Appr. Slab	1838+53.17	0.00	598.54

0161705-60W28-S031-ApprSlab West.dgn

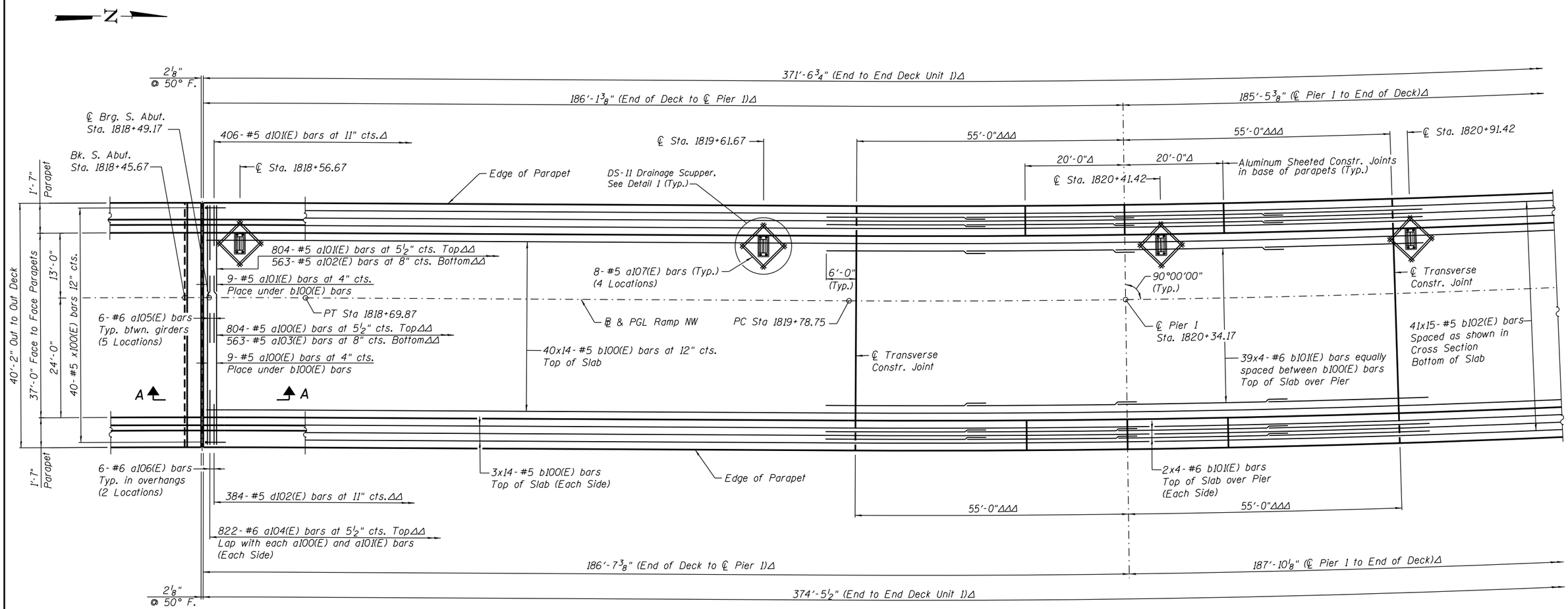
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED	
	CHECKED - MK	REVISED	
PLOT SCALE = N.T.S.	DRAWN - VP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF WEST APPROACH SLAB ELEVATIONS
STRUCTURE NO. 016-1705
SHEET NO. S-31 OF S-165 SHEETS

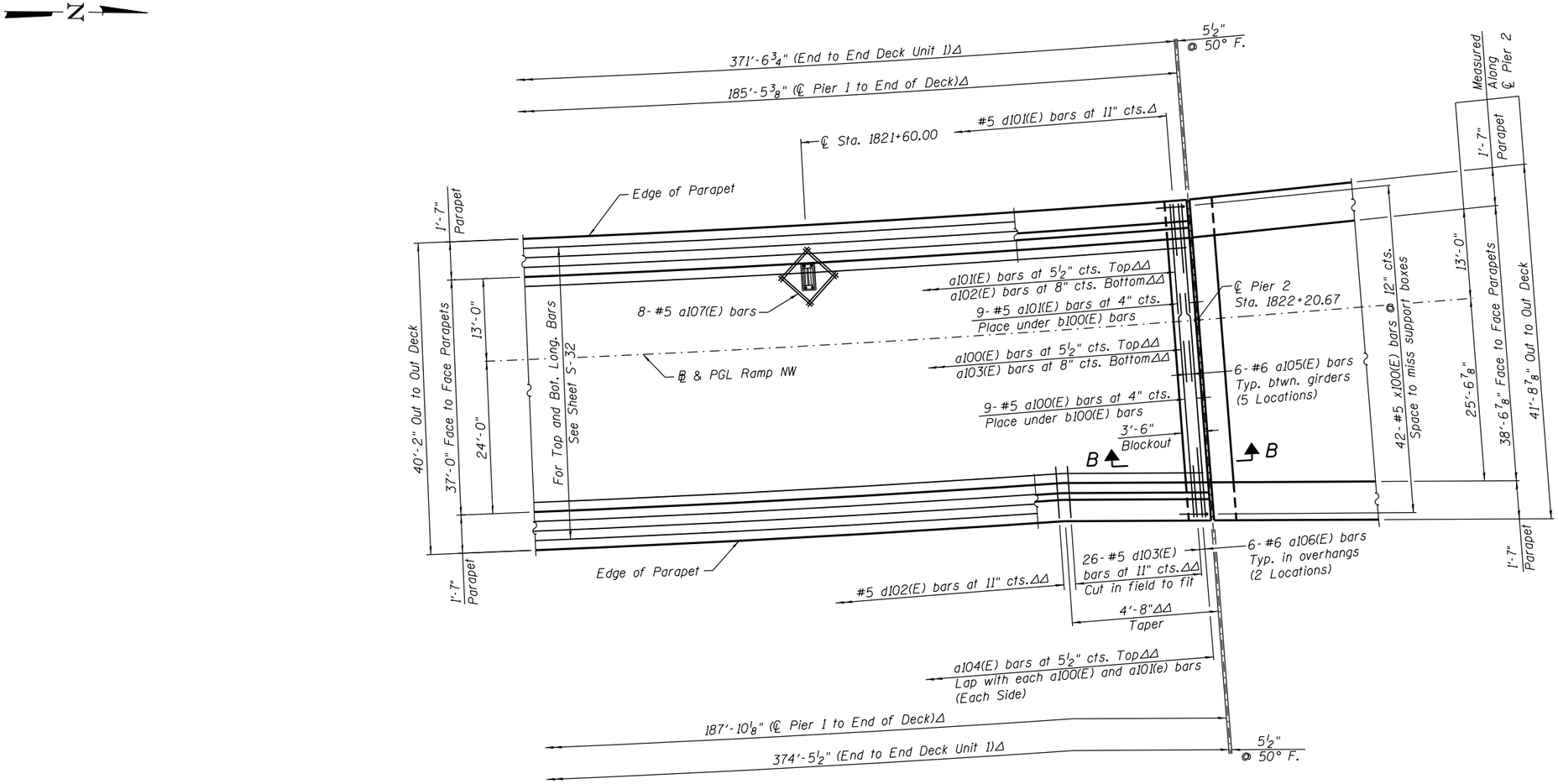
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	347
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN I - UNIT I

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-45 for parapet reinforcement.
7. See Sheet No. S-51 for deck cross section.
8. See Sheet No. S-51 for Bill of Material.
9. See Sheet No. S-51 for Section A-A.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.
14. ΔΔΔ Dimensions along ℄ & PGL Ramp NW.
15. Dimensions are based on a Rolled Rail Strip Seal Joint. If the contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the Details on Sheet No. S-64.



DECK PLAN II - UNIT I

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-45 for parapet reinforcement.
7. See Sheet No. S-51 for deck cross section.
8. See Sheet No. S-51 for Bill of Material.
9. See Sheet No. S-51 for Section B-B.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.

0161705-60W28-S033-Deck.dgn

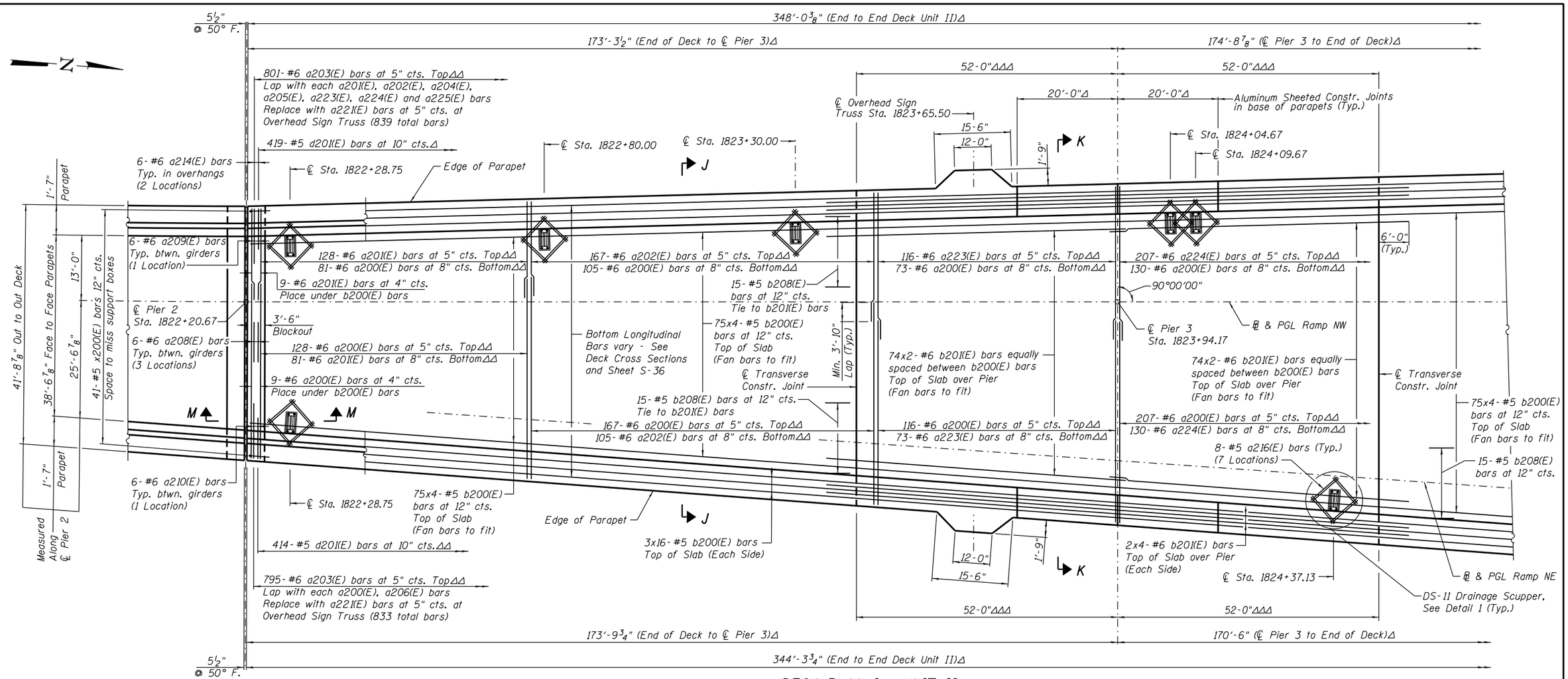
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

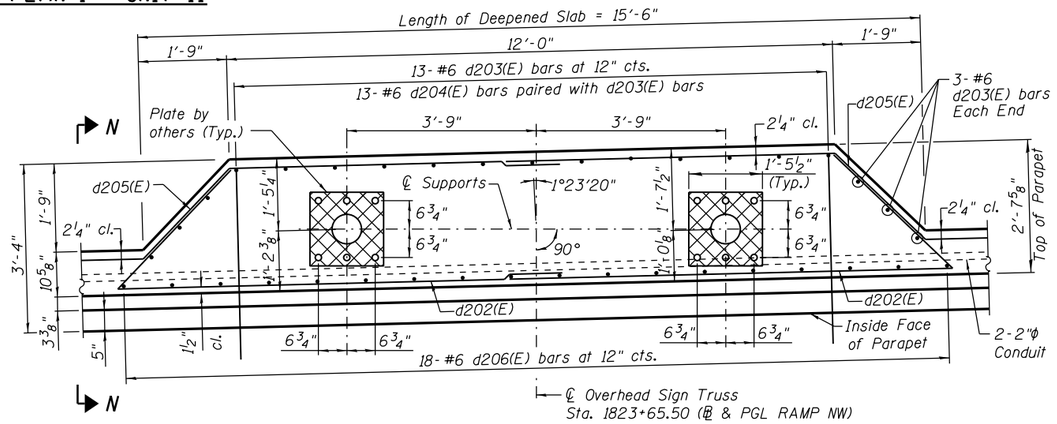
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN II – UNIT I
STRUCTURE NO. 016-1705
SHEET NO. S-33 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	349
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN I - UNIT II



PARAPET PLAN FOR OVERHEAD SIGN TRUSS - LEFT PARAPET

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-46 for parapet reinforcement.
7. See Sheet No. S-52 for Sections J-J and K-K.
8. See Sheet No. S-53 for Bill of Material.
9. See Sheet No. S-53 for Section M-M.
10. See Sheet No. S-58, Detail 1, Section N-N, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.
14. ΔΔΔ Dimensions along ℄ & PGL Ramp NW.
15. For additional parapet details at overhead sign truss see Sheets S-35, S-36 and S-58.

0161705-60W28-S034-Deck.dgn

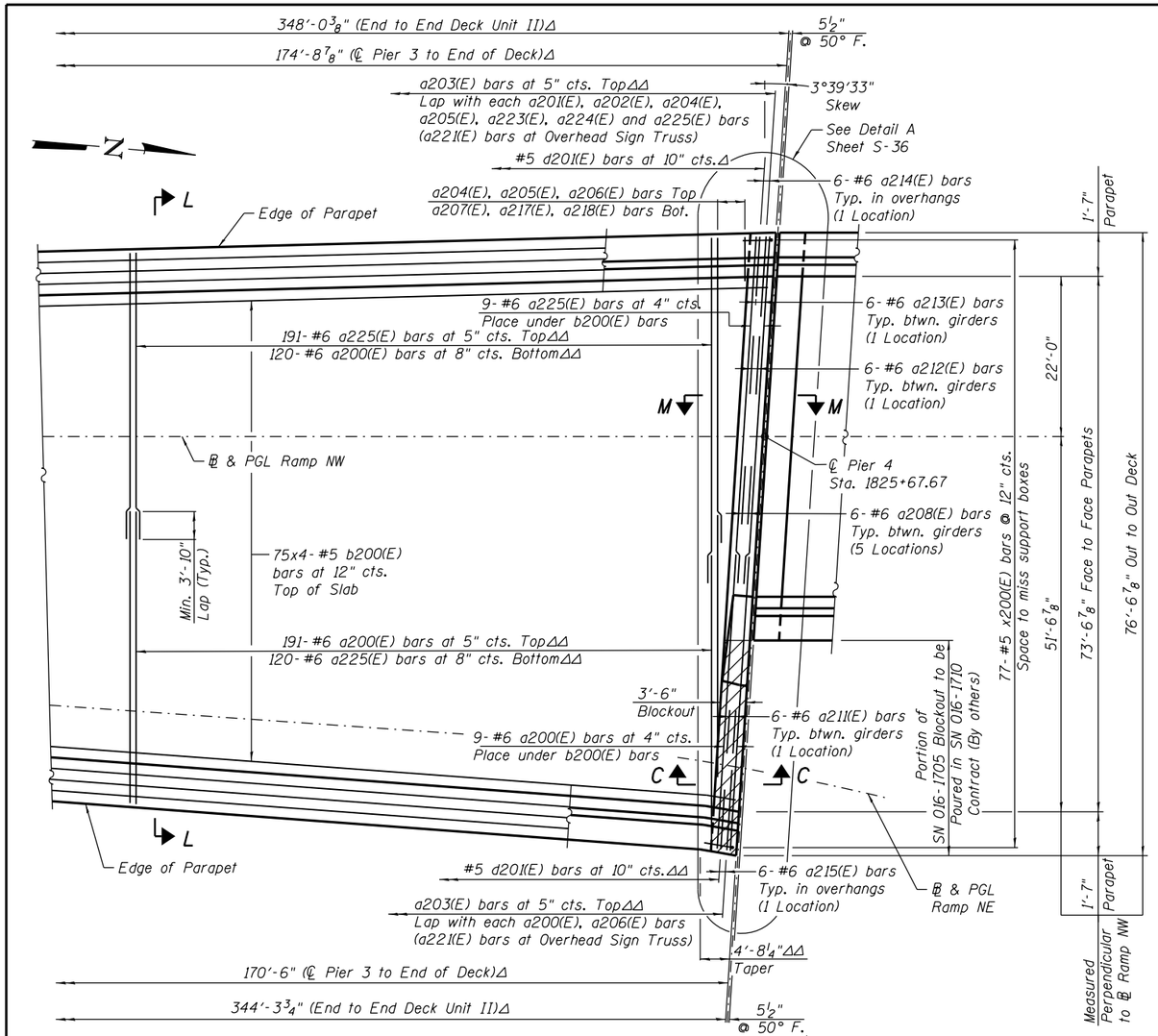
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

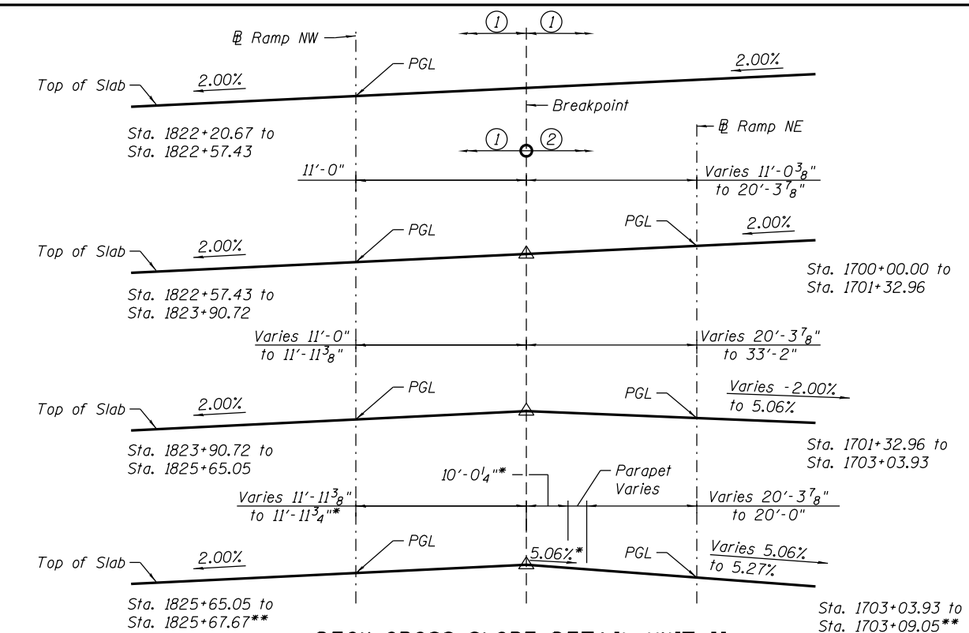
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN I – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-34 OF S-165 SHEETS

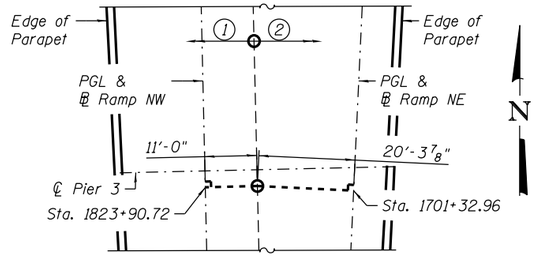
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	350
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN II - UNIT II



DECK CROSS SLOPE DETAIL UNIT II



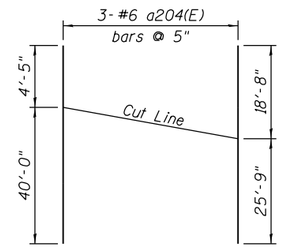
KEY PLAN

* Measured perpendicular to ℄ Ramp NW

** Station measured at intersection of ℄ Pier 4 & ℄ PGL

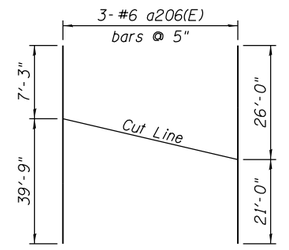
(1) Stations, offsets and x-slopes measured with respect to ℄ Ramp NW

(2) Stations, offsets and x-slopes measured with respect to ℄ Ramp NE



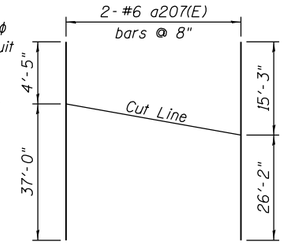
FIELD CUTTING DIAGRAM

Order a204(E) bars full length. Cut as shown and use remainder of bars at opposite end.



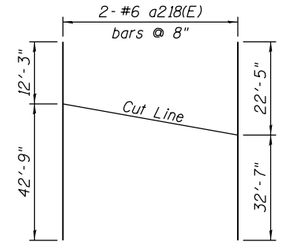
FIELD CUTTING DIAGRAM

Order a206(E) bars full length. Cut as shown and use remainder of bars at opposite end.



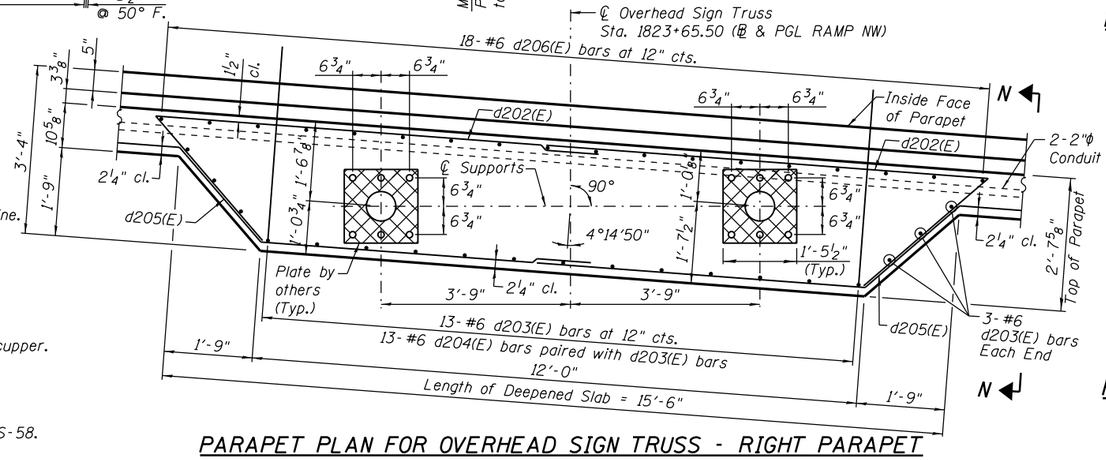
FIELD CUTTING DIAGRAM

Order a207(E) bars full length. Cut as shown and use remainder of bars at opposite end.



FIELD CUTTING DIAGRAM

Order a218(E) bars full length. Cut as shown and use remainder of bars at opposite end.



PARAPET PLAN FOR OVERHEAD SIGN TRUSS - RIGHT PARAPET

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-46 for parapet reinforcement.
7. See Sheet No. S-53 for Section L-L.
8. See Sheet No. S-53 for Bill of Material.
9. See Sheet No. S-53 for Section C-C and M-M.
10. See Sheet No. S-58, Detail 1, Section N-N, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.
14. For additional parapet details at overhead sign truss see Sheets S-34, S-36 and S-58.

0161705-60W28-S035-Deck.dgn

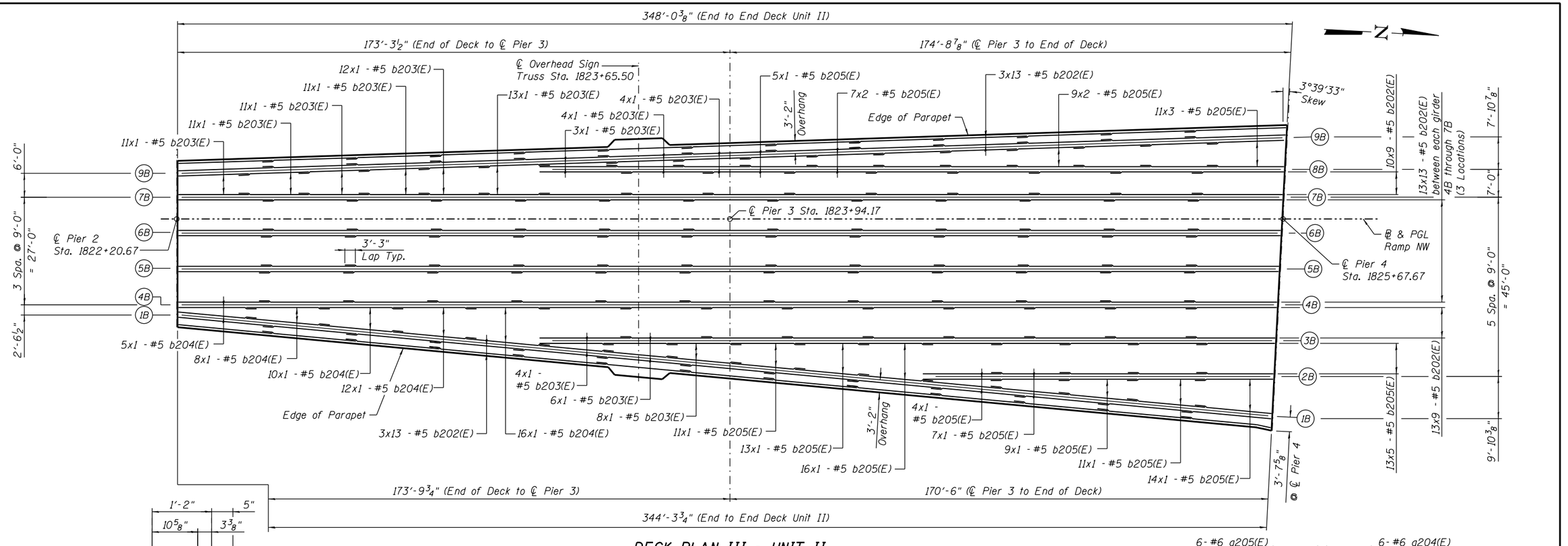
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

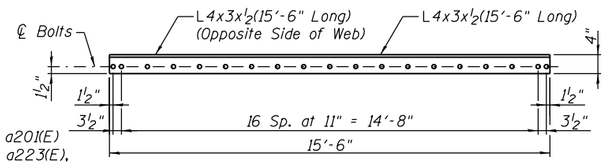
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN II – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-35 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	351
		CONTRACT NO. 60W28		
ILLINOIS FED. AID PROJECT				



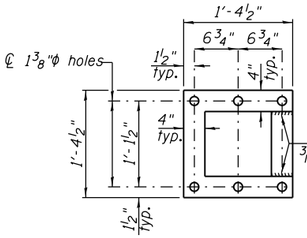
DECK PLAN III - UNIT II
BOTTOM LONGITUDINAL REINFORCEMENT



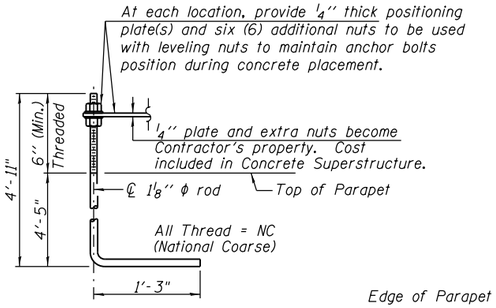
L4x3x1/2" DETAIL - LEFT AND RIGHT PARAPET

2 Angles and 19 Bolts Required each Parapet
Cost included in Concrete Superstructure

Note:
Fasteners shall be AASHTO M164 Type 1 mechanically galvanized bolts. Bolts 7/8"ϕ, holes 15/16"ϕ, unless noted otherwise.

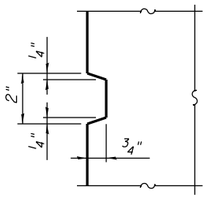


POSITIONING PLATE(S)

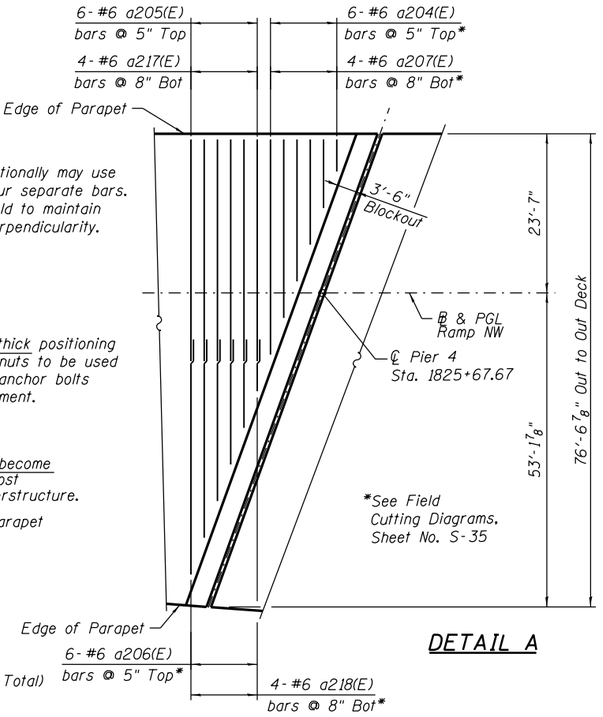


ANCHOR ROD DETAIL

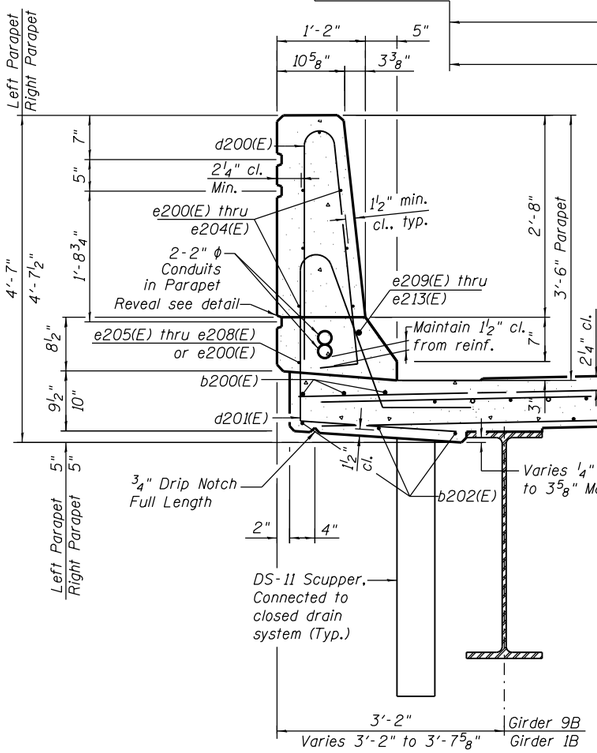
Cost included in Concrete Superstructure (24 Total)
(ASTM F 1554 Grade 105)
Full length hot dipped galvanized



REVEAL DETAIL



DETAIL A



SECTION THRU PARAPET

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. Work this Sheet with Sheet Nos. S-34, S-35, S-52, S-53, S-58.
7. (6B) indicates girder designations. See Deck Cross Sections and Framing Plan for Unit II.
8. For additional parapet details at overhead sign truss see Sheets S-34, S-35 and S-58.

0161705-60W28-S36-Deck.dgn

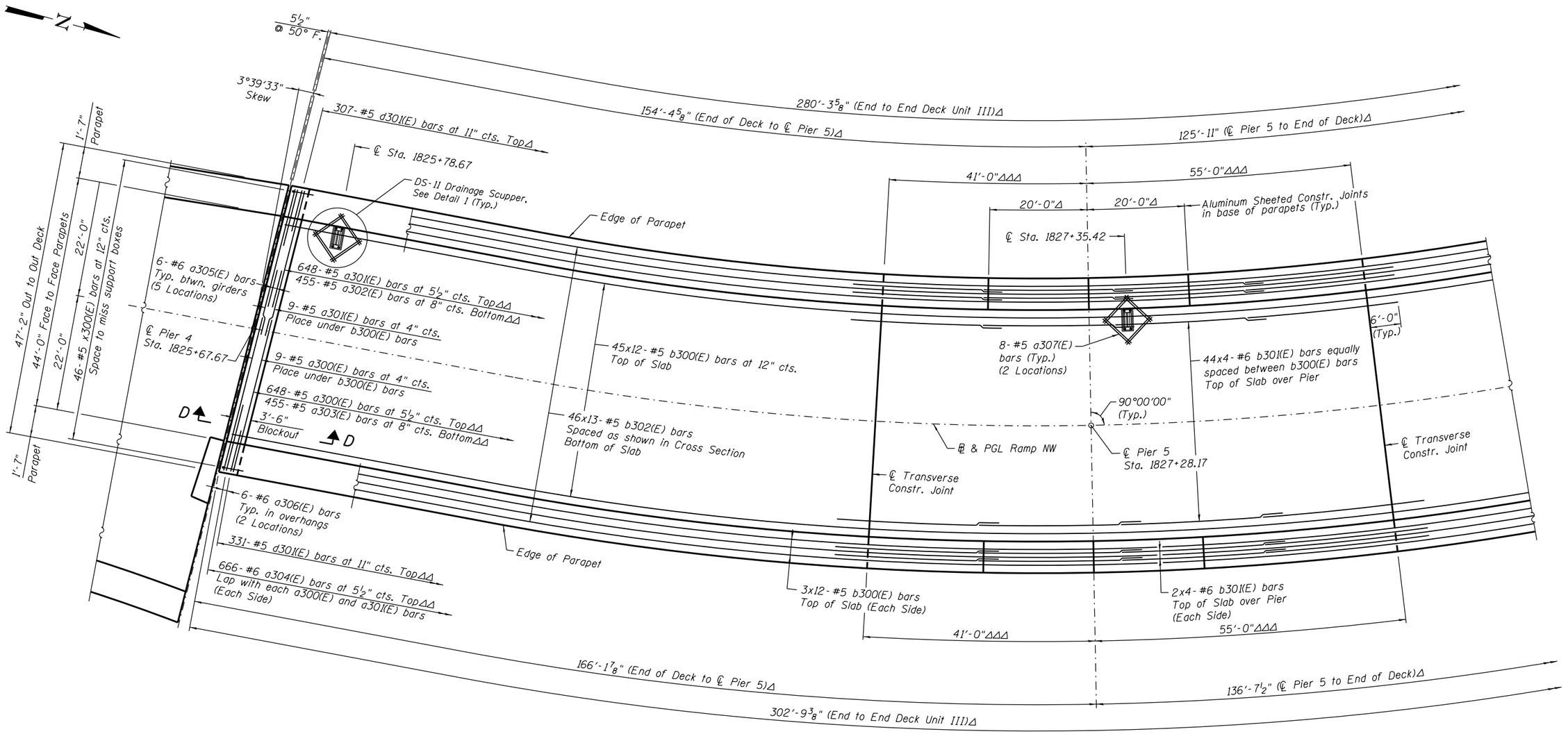
AECOM

USER NAME = floresg	DESIGNED - JPH	REVISED	
	CHECKED - JRE	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN III – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-36 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	352
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-47 for parapet reinforcement.
7. See Sheet No. S-54 for deck cross section.
8. See Sheet No. S-54 for Bill of Material.
9. See Sheet No. S-54 for Section D-D.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. △ Dimensions along inside face of parapet.
13. △△ Dimensions along inside face of right parapet.
14. △△△ Dimensions along ℄ & PGL Ramp NW.

DECK PLAN I - UNIT III

0161705-60W28-S037-Deck.dgn

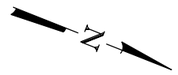
AECOM

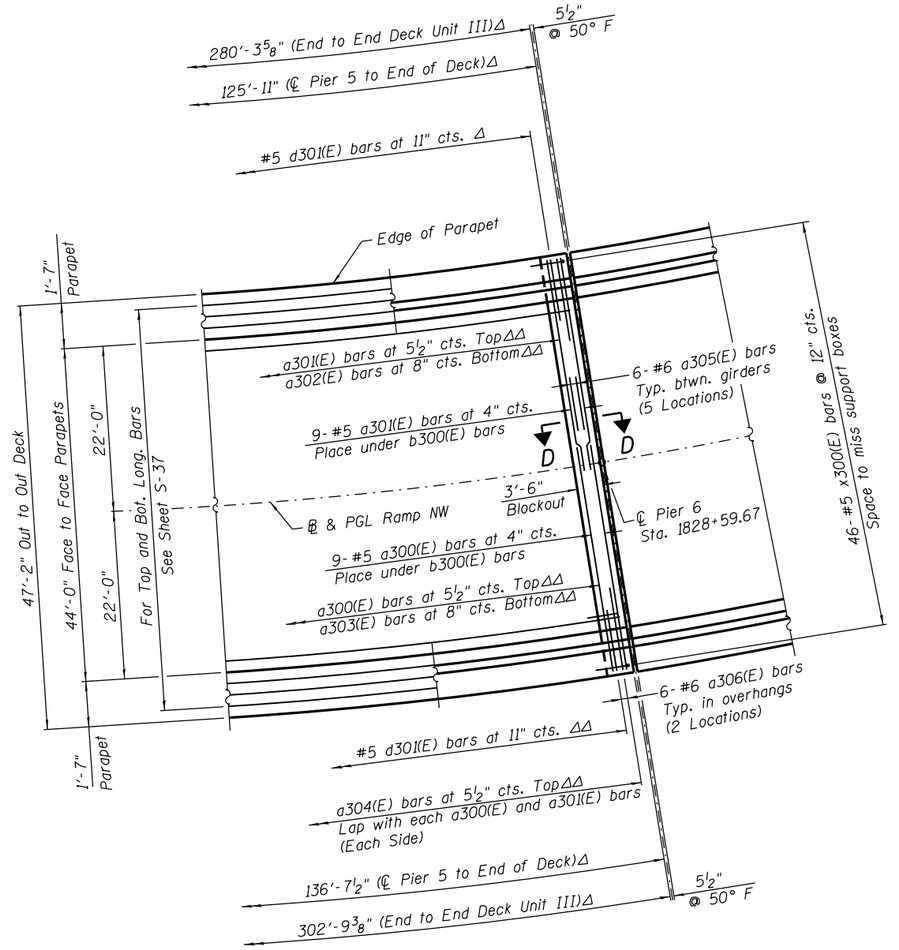
USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN I – UNIT III
STRUCTURE NO. 016–1705
SHEET NO. S-37 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	353
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			





DECK PLAN II - UNIT III

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-47 for parapet reinforcement.
7. See Sheet No. S-54 for deck cross section.
8. See Sheet No. S-54 for Bill of Material.
9. See Sheet No. S-54 for Section D-D.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.

0161705-60W28-S038-Deck.dgn

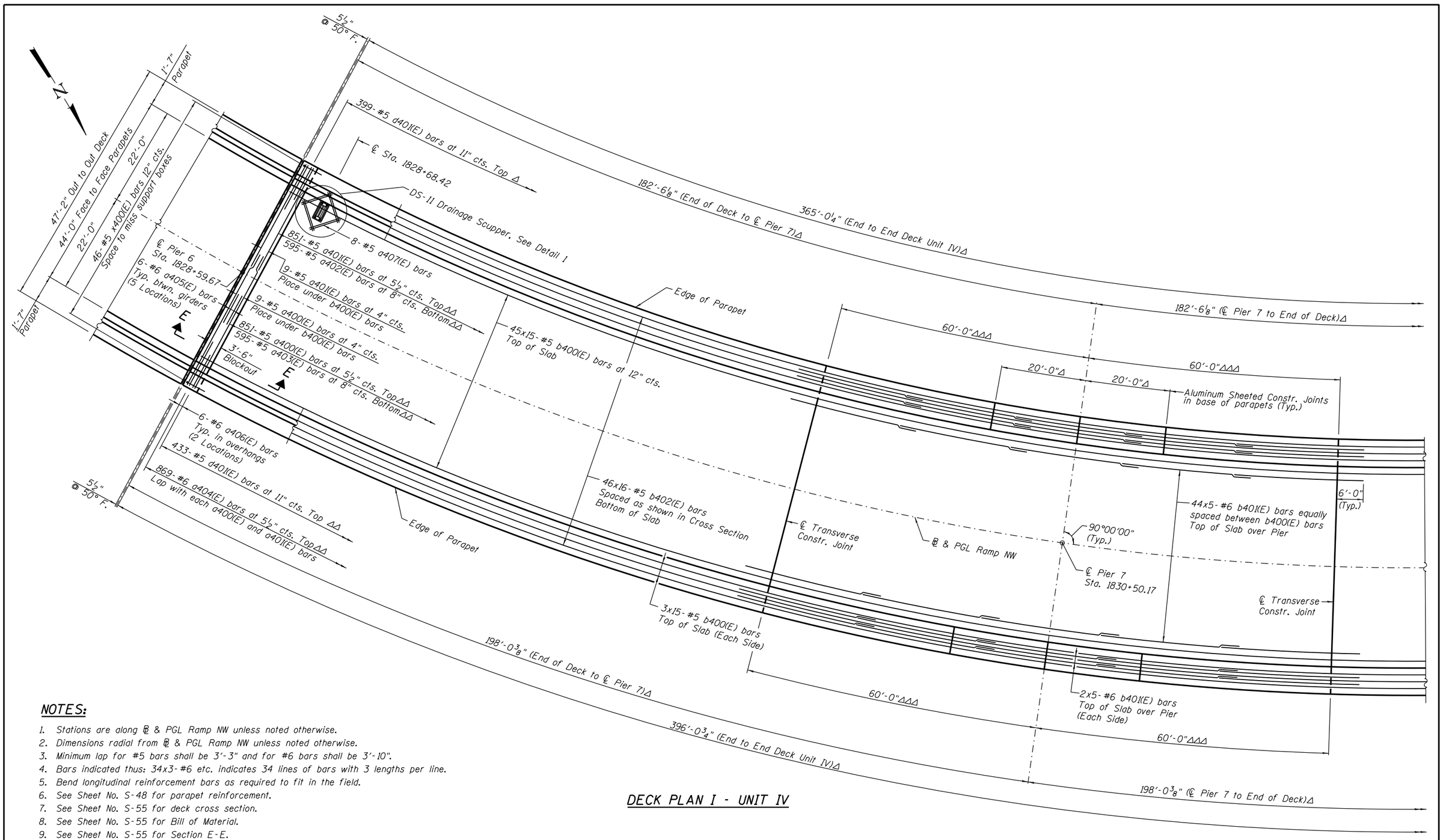
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN II – UNIT III
STRUCTURE NO. 016–1705
SHEET NO. S-38 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	354
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN I - UNIT IV

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-48 for parapet reinforcement.
7. See Sheet No. S-55 for deck cross section.
8. See Sheet No. S-55 for Bill of Material.
9. See Sheet No. S-55 for Section E-E.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.
14. ΔΔΔ Dimensions along ℄ & PGL Ramp NW.

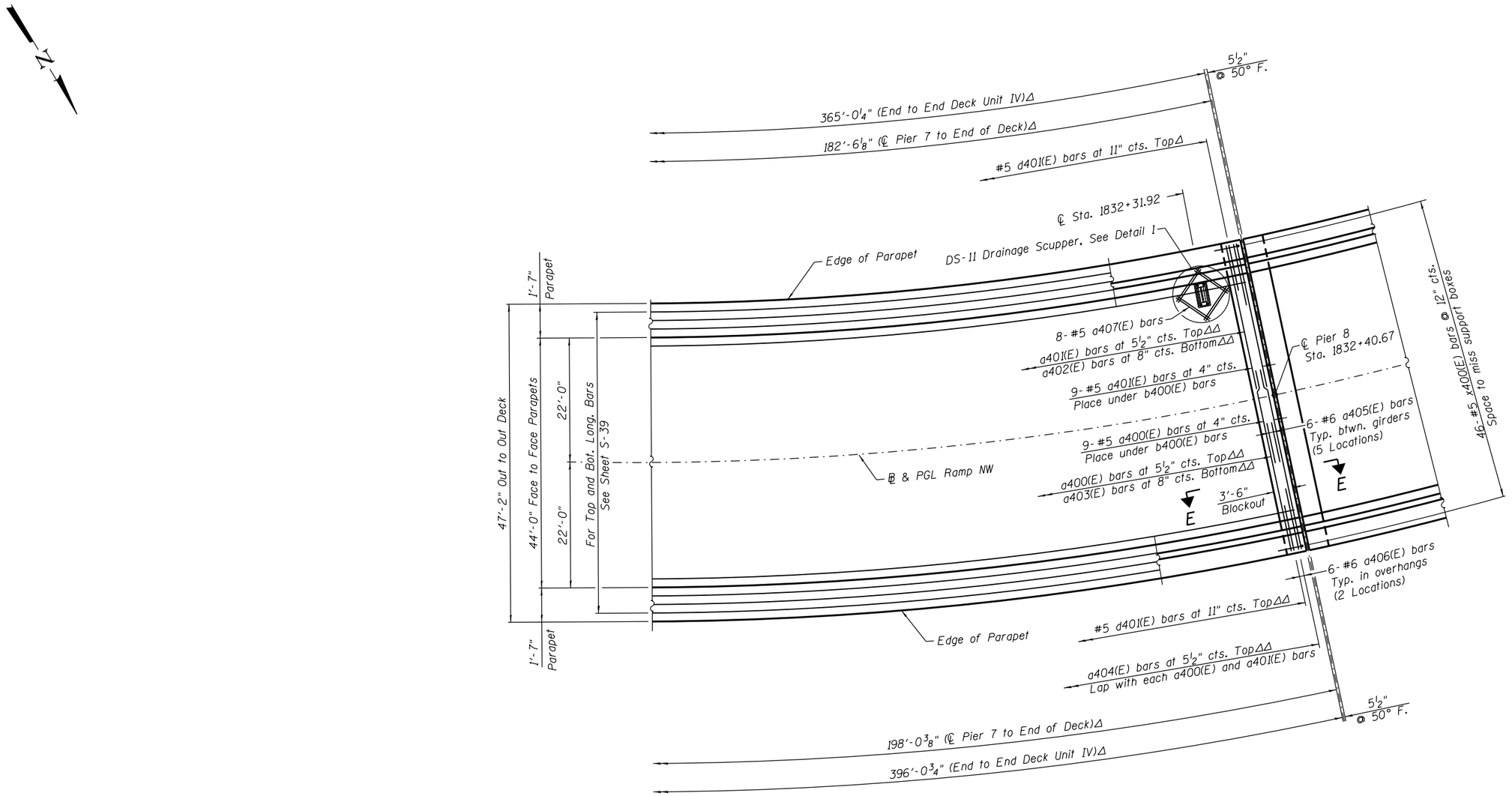
AECOM	USER NAME = floresg	DESIGNED - JRE	REVISED
		CHECKED - KMS	REVISED
	PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
	PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN I – UNIT IV
STRUCTURE NO. 016-1705
SHEET NO. S-39 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-01OR	COOK	747	355
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S039-Deck.dgn



DECK PLAN II - UNIT IV

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-48 for parapet reinforcement.
7. See Sheet No. S-55 for deck cross section.
8. See Sheet No. S-55 for Bill of Material.
9. See Sheet No. S-55 for Section E-E.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.

0161705-60W28-S040-Deck.dgn

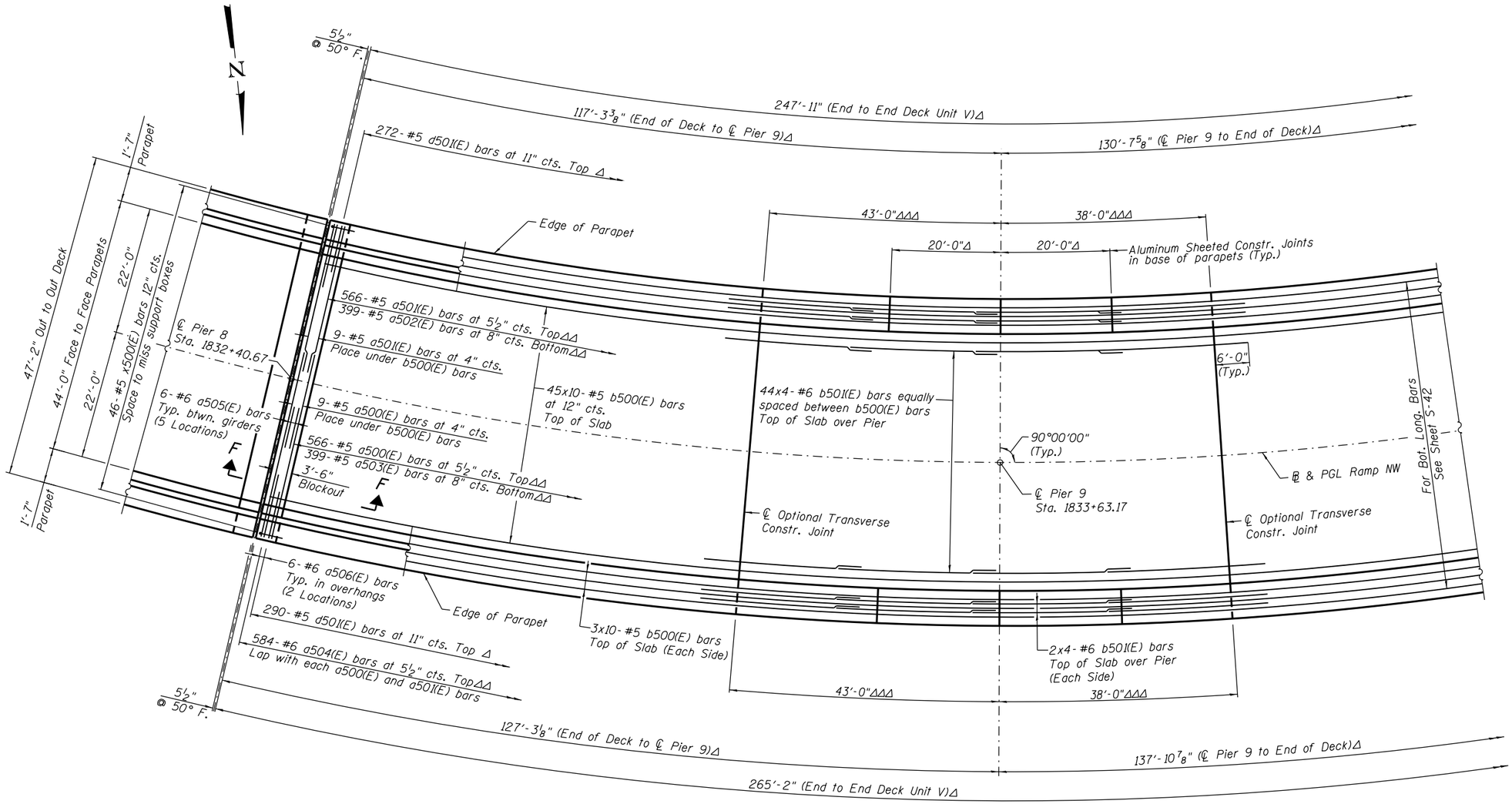
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN II – UNIT IV
STRUCTURE NO. 016-1705
SHEET NO. S-40 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	356
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN I - UNIT V

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-49 for parapet reinforcement.
7. See Sheet No. S-56 for deck cross section.
8. See Sheet No. S-56 for Bill of Material.
9. See Sheet No. S-56 for Section F-F.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.
14. ΔΔΔ Dimensions along ℄ & PGL Ramp NW.

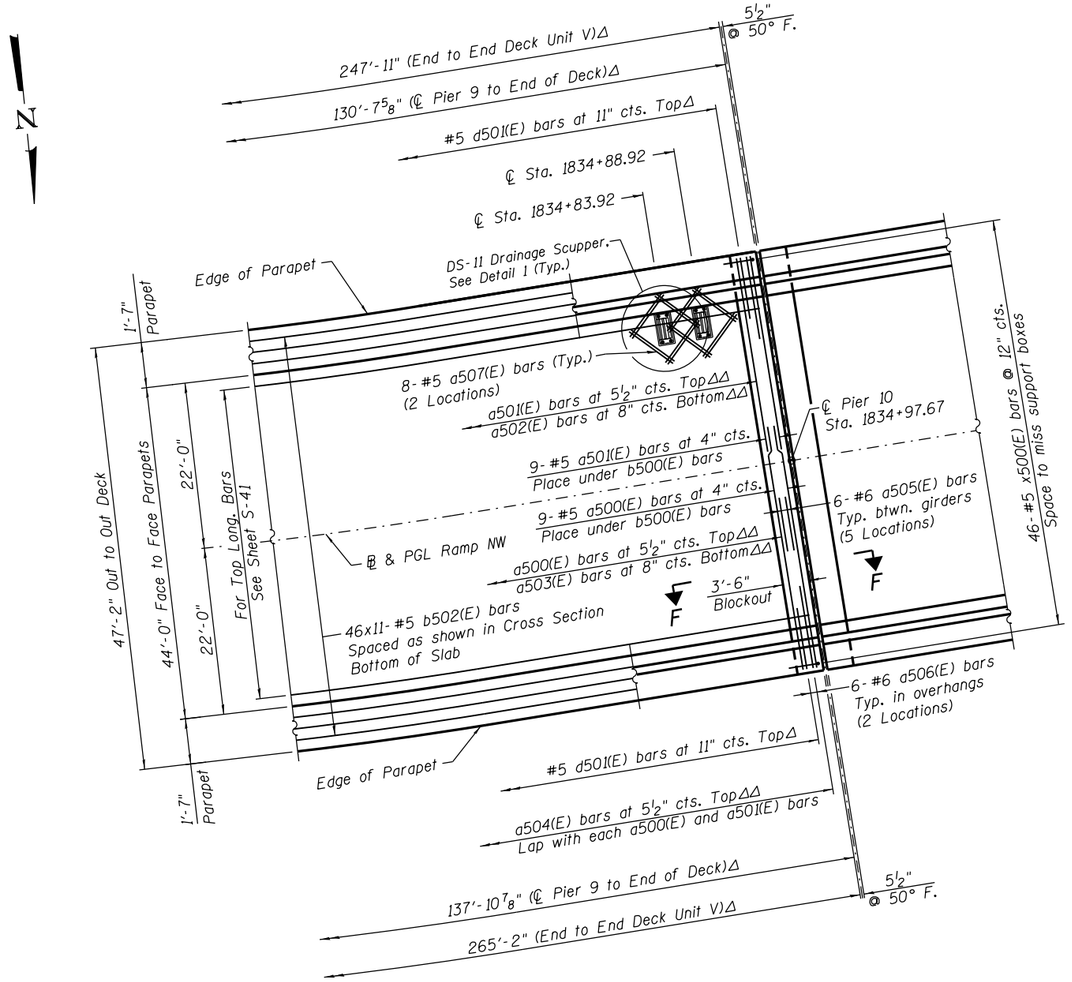
0161705-60W28-S041-Deck.dgn

AECOM	USER NAME = floresg	DESIGNED - JRE	REVISED
		CHECKED - JPH	REVISED
	PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
	PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN I– UNIT V
STRUCTURE NO. 016–1705
SHEET NO. S-41 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	357
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN II - UNIT V

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-49 for parapet reinforcement.
7. See Sheet No. S-56 for deck cross section.
8. See Sheet No. S-56 for Bill of Material.
9. See Sheet No. S-56 for Section F-F.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Δ Dimensions along inside face of parapet.
13. ΔΔ Dimensions along inside face of right parapet.

0161705-60W28-S042-Deck.dgn

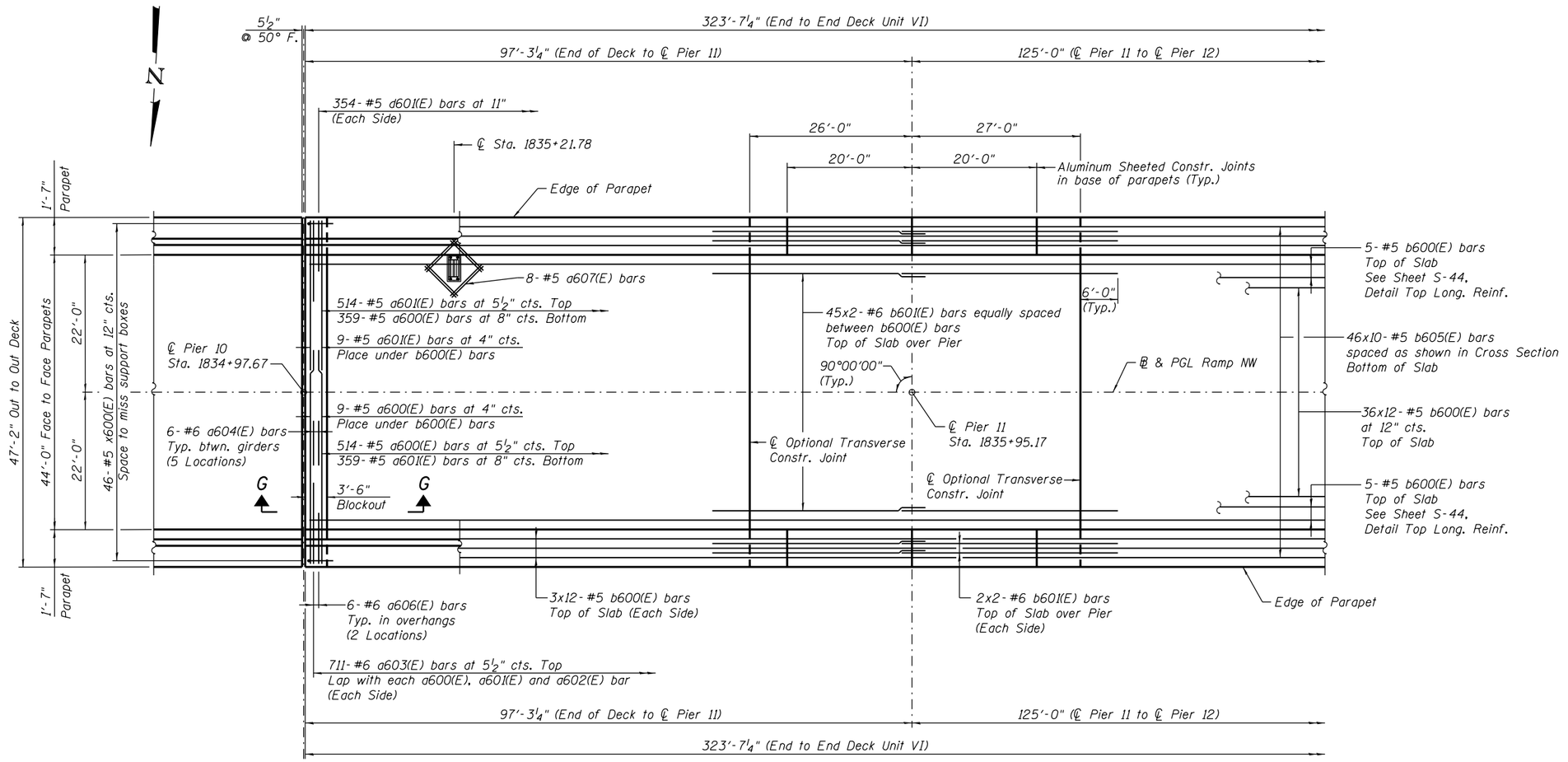
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN II – UNIT V
STRUCTURE NO. 016-1705
SHEET NO. S-42 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	358
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



DECK PLAN I - UNIT VI

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-50 for parapet reinforcement.
7. See Sheet No. S-57 for deck cross section.
8. See Sheet No. S-57 for Bill of Material.
9. See Sheet No. S-57 for Section G-G.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.

0161705-60W28-S043-Deck.dgn

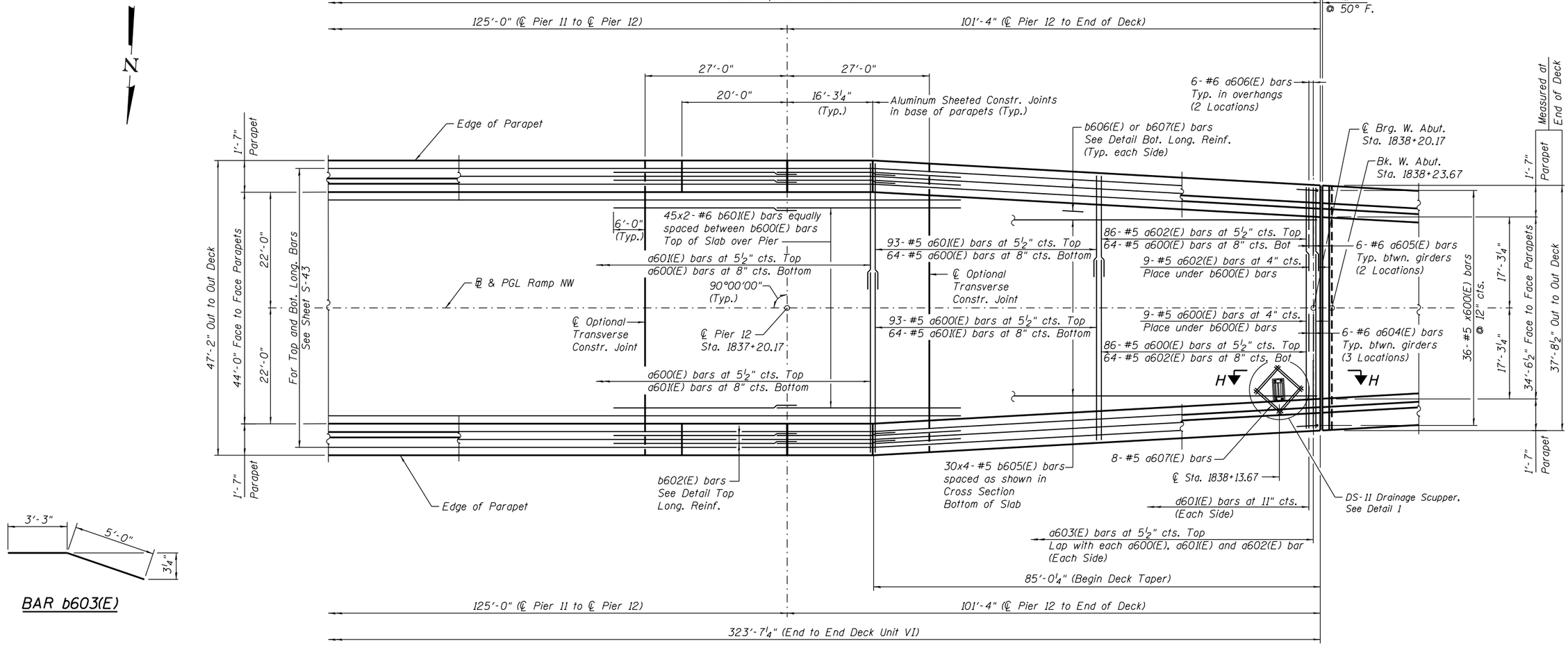
AECOM

USER NAME = floresg	DESIGNED - KMS	REVISED
	CHECKED - JRE	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

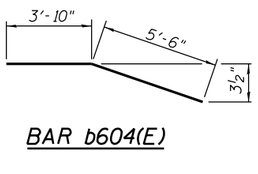
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN I – UNIT VI
STRUCTURE NO. 016-1705
SHEET NO. S-43 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	359
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

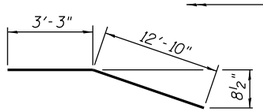


DECK PLAN II - UNIT VI



BAR b603(E)

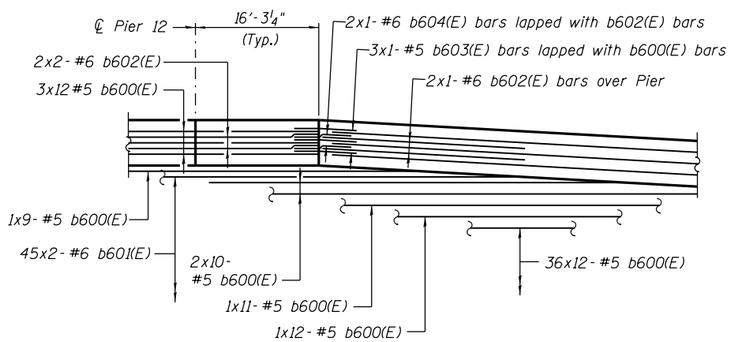
BAR b604(E)



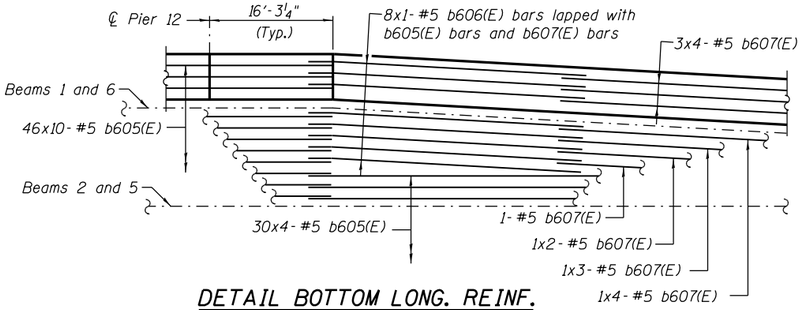
BAR b606(E)

NOTES:

1. Stations are along ℄ & PGL Ramp NW unless noted otherwise.
2. Dimensions radial from ℄ & PGL Ramp NW unless noted otherwise.
3. Minimum lap for #5 bars shall be 3'-3" and for #6 bars shall be 3'-10".
4. Bars indicated thus: 34x3-#6 etc. indicates 34 lines of bars with 3 lengths per line.
5. Bend longitudinal reinforcement bars as required to fit in the field.
6. See Sheet No. S-50 for parapet reinforcement.
7. See Sheet No. S-57 for deck cross section.
8. See Sheet No. S-57 for Bill of Material.
9. See Sheet No. S-57 for Section H-H.
10. See Sheet No. S-58, Detail 1, and Sheet S-72 for DS-11 Drainage Scupper.
11. See Sheet No. S-59 for Deck Pouring Sequence.
12. Dimensions are based on a Rolled Rail Strip Seal Joint. If the contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the Details on Sheet No. S-70.



DETAIL TOP LONG. REINF.
(Typ. Each Side)



DETAIL BOTTOM LONG. REINF.
(Typ. Each Side)

0161705-60W28-S044-Deck.dgn

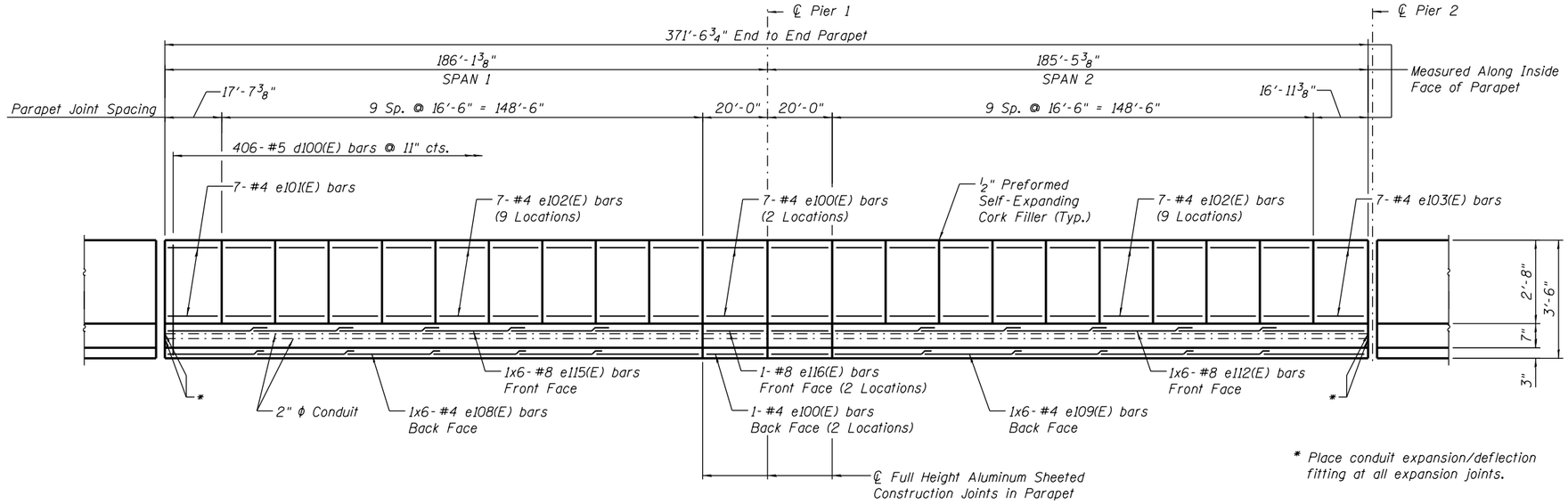
AECOM

USER NAME = floresg	DESIGNED - KMS	REVISED	
	CHECKED - JRE	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

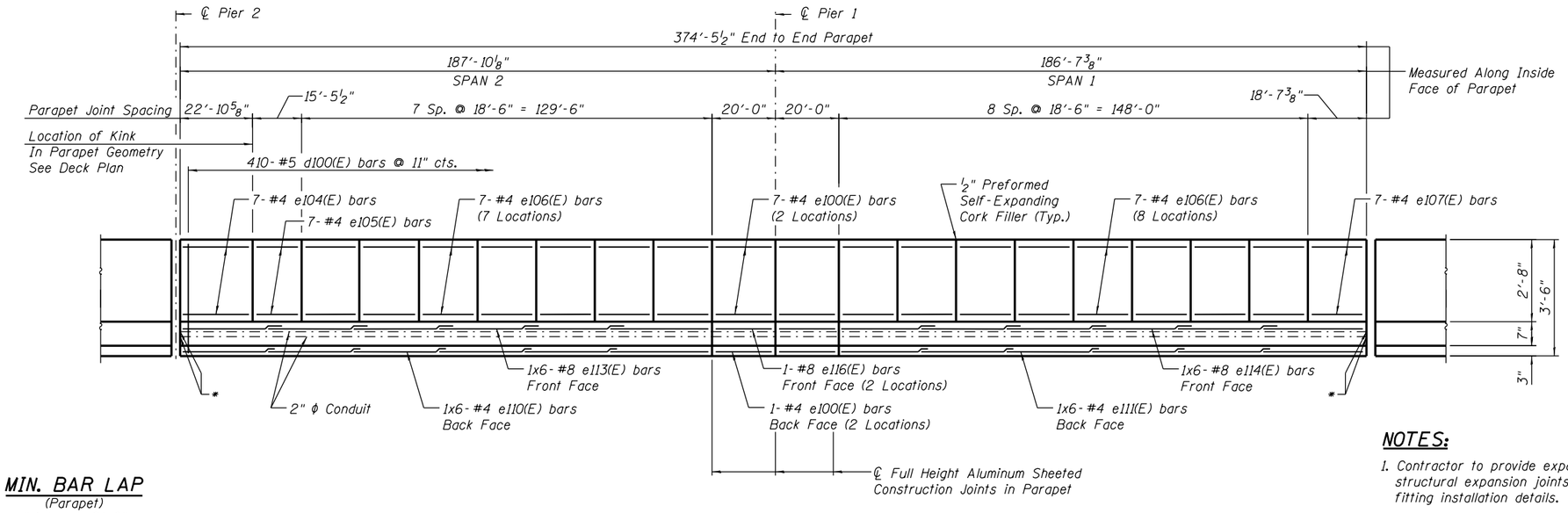
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK PLAN II–UNIT VI
STRUCTURE NO. 016–1705
SHEET NO. S-44 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	360
		CONTRACT NO. 60W28		
ILLINOIS FED. AID PROJECT				



INSIDE ELEVATION OF LEFT PARAPET - UNIT I



INSIDE ELEVATION OF RIGHT PARAPET - UNIT I

MIN. BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

NOTES:

1. Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See electrical plans for expansion/deflection fitting installation details.
2. Bars indicated Locations: 1x4-#8 etc., indicates one line of bars with 4 lengths per line.
3. For parapet details see Sheet S-58.
4. For electrical junction box locations and conduit stub out details see electrical plans.

0161705-60W28-S045-Parapet.dgn

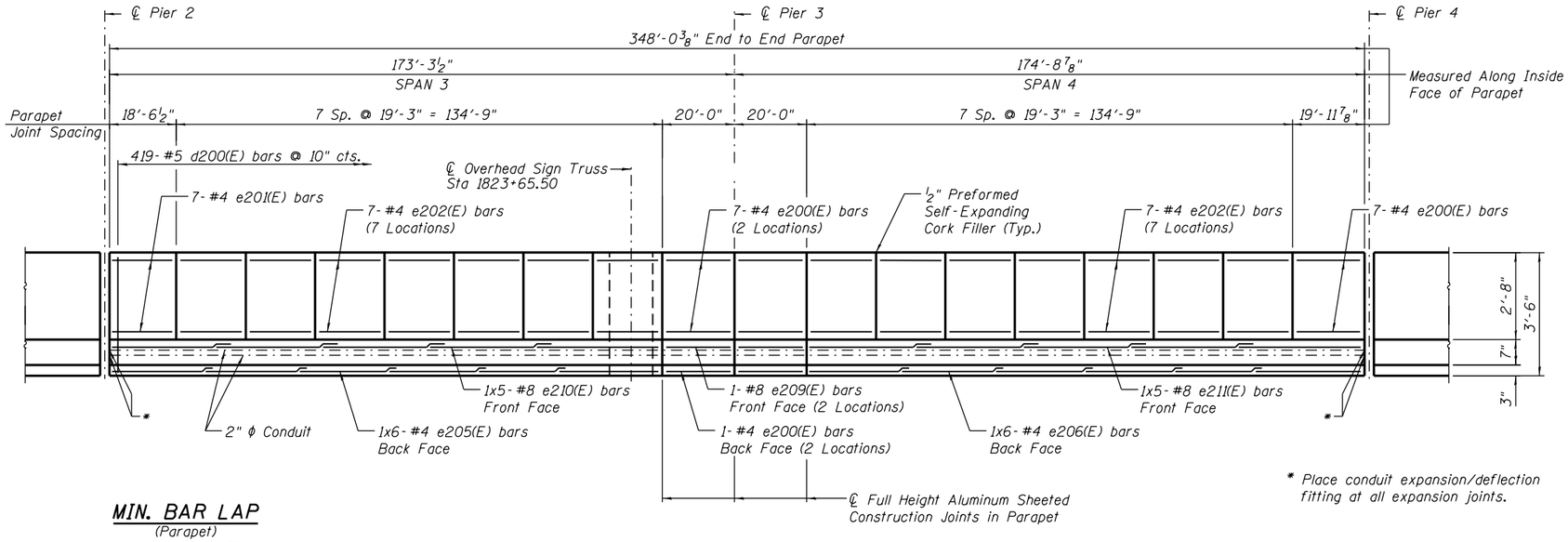
AECOM

USER NAME = floresg	DESIGNED - JPH	REVISED
	CHECKED - KMS	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – UNIT I
STRUCTURE NO. 016-1705
SHEET NO. S-45 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	361
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

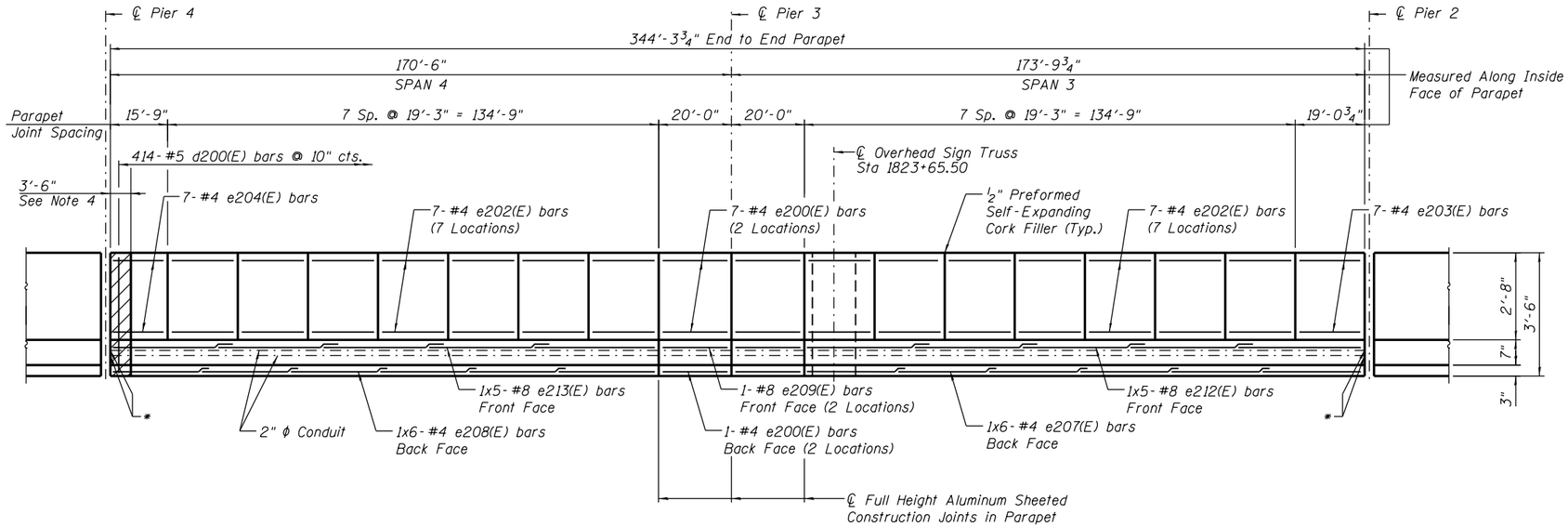


* Place conduit expansion/deflection fitting at all expansion joints.

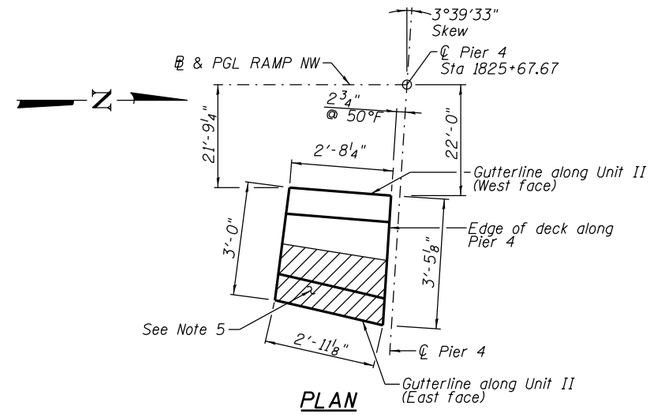
MIN. BAR LAP

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

INSIDE ELEVATION OF LEFT PARAPET - UNIT II

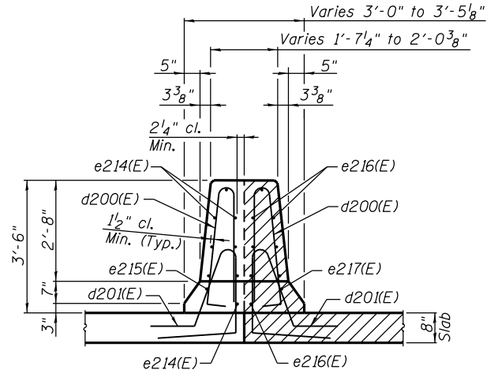


INSIDE ELEVATION OF RIGHT PARAPET - UNIT II



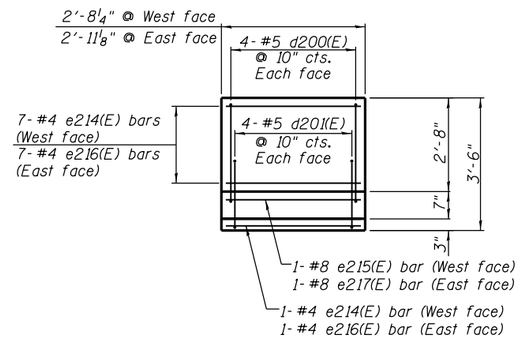
PLAN
PARAPET @ RAMP SPLIT UNIT II

NTS
(Reinf. not shown for clarity)



SECTION THRU PARAPET @ RAMP SPLIT UNIT II

NTS
(Looking Upstation)



INSIDE ELEVATION
PARAPET @ RAMP SPLIT UNIT II

NTS

NOTES:

1. Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See electrical plans for expansion/deflection fitting installation details.
2. Bars indicated Locations: 1x4-#8 etc., indicates one line of bars with 4 lengths per line.
3. For parapet details see Sheet S-58.
4. Do not pour parapet concrete in 3'-6" Block Out region. Install reinforcement bars for entire 15'-9" panel. 3'-6" Block Out and parapet concrete to be poured in future Contract for SN 016-1710 (Ramp NE) by Others.
5. Do not pour parapet concrete in the Ramp NE side of the parapet block. Install reinforcement bars for the entire parapet block. The Ramp NE parapet concrete to be poured in future Contract for SN 016-1710 by Others.
6. For overhead sign truss parapet details see Sheets S-34, S-35, S-36 and S-58.
7. For electrical junction box locations and conduit stub out details see electrical plans.

0161705-60W28-S046-Parapet.dgn

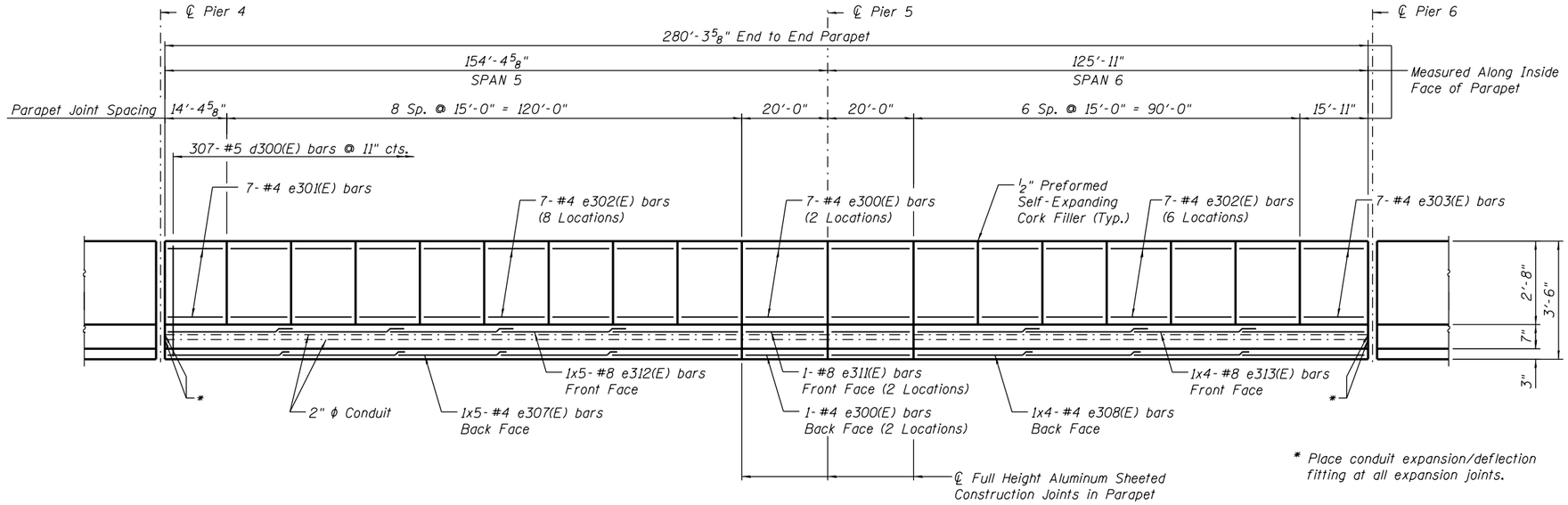
AECOM

USER NAME = floresg	DESIGNED - KMS	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

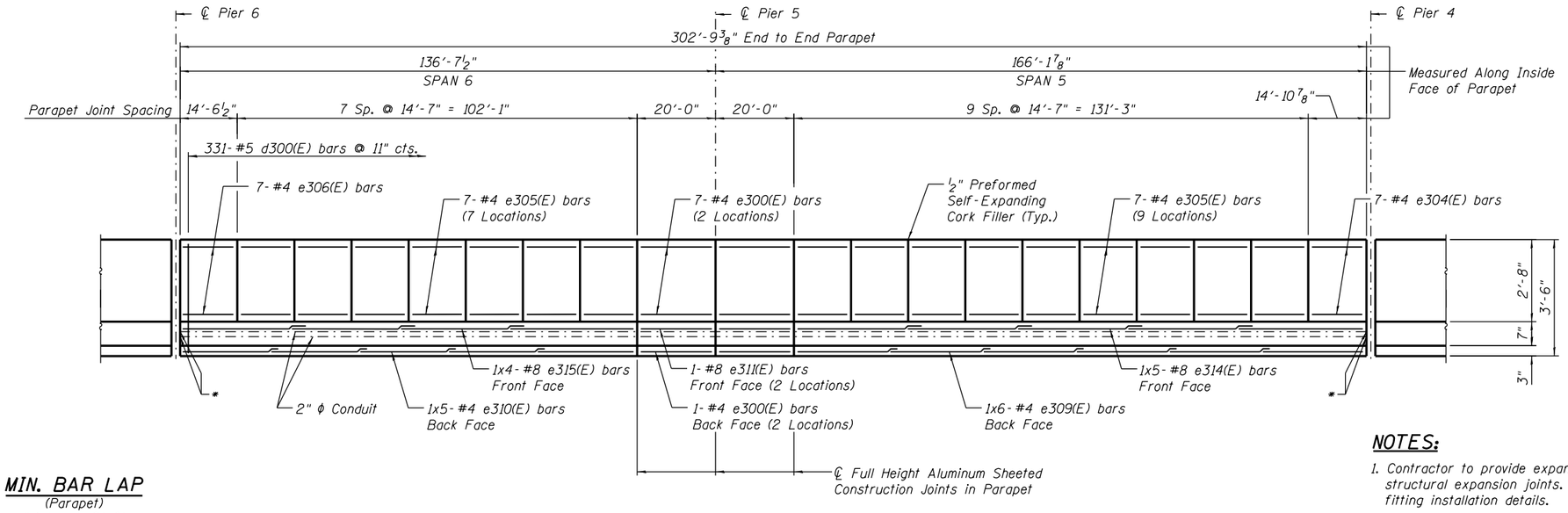
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – UNIT II
STRUCTURE NO. 016–1705
SHEET NO. S-46 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	362
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF LEFT PARAPET - UNIT III



INSIDE ELEVATION OF RIGHT PARAPET - UNIT III

MIN. BAR LAP
(Parapet)
#4 bar = 2′-0"
#8 bar = 5′-2"

NOTES:

1. Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See electrical plans for expansion/deflection fitting installation details.
2. Bars indicated Locations: 1x4-#8 etc., indicates one line of bars with 4 lengths per line.
3. For parapet details see Sheet S-58.
4. For electrical junction box locations and conduit stub out details see electrical plans.

0161705-60W28-S047-Parapet.dgn

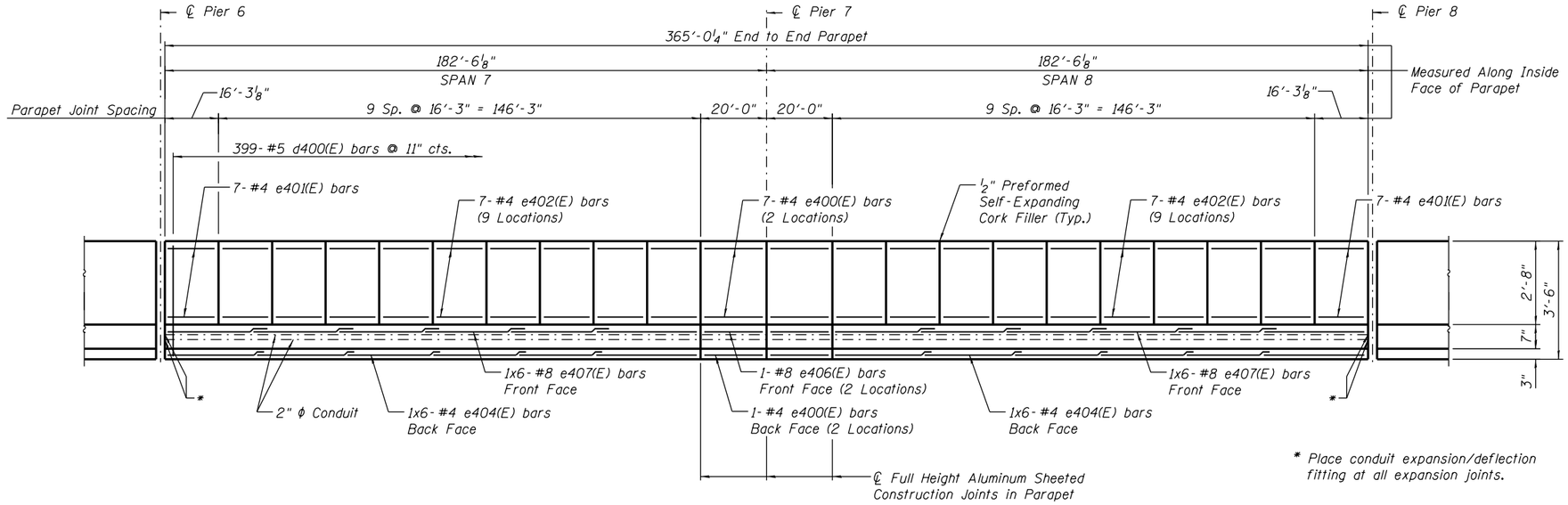
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - KMS	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

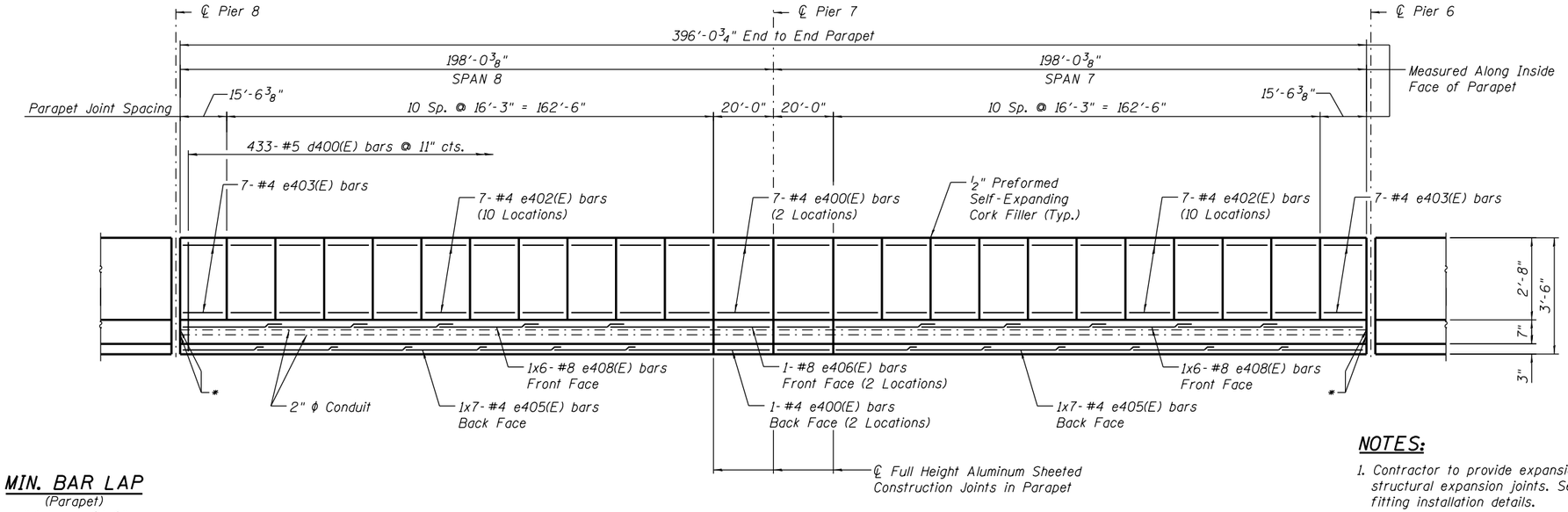
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – UNIT III
STRUCTURE NO. 016-1705
SHEET NO. S-47 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	363
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		



INSIDE ELEVATION OF LEFT PARAPET - UNIT IV



INSIDE ELEVATION OF RIGHT PARAPET - UNIT IV

MIN. BAR LAP
(Parapet)
#4 bar = 2'-0"
#8 bar = 5'-2"

NOTES:
1. Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See electrical plans for expansion/deflection fitting installation details.
2. Bars indicated Locations: 1x4-#8 etc., indicates one line of bars with 4 lengths per line.
3. For parapet details see Sheet S-58.
4. For electrical junction box locations and conduit stub out details see electrical plans.

0161705-60W28-S048-Parapet.dgn

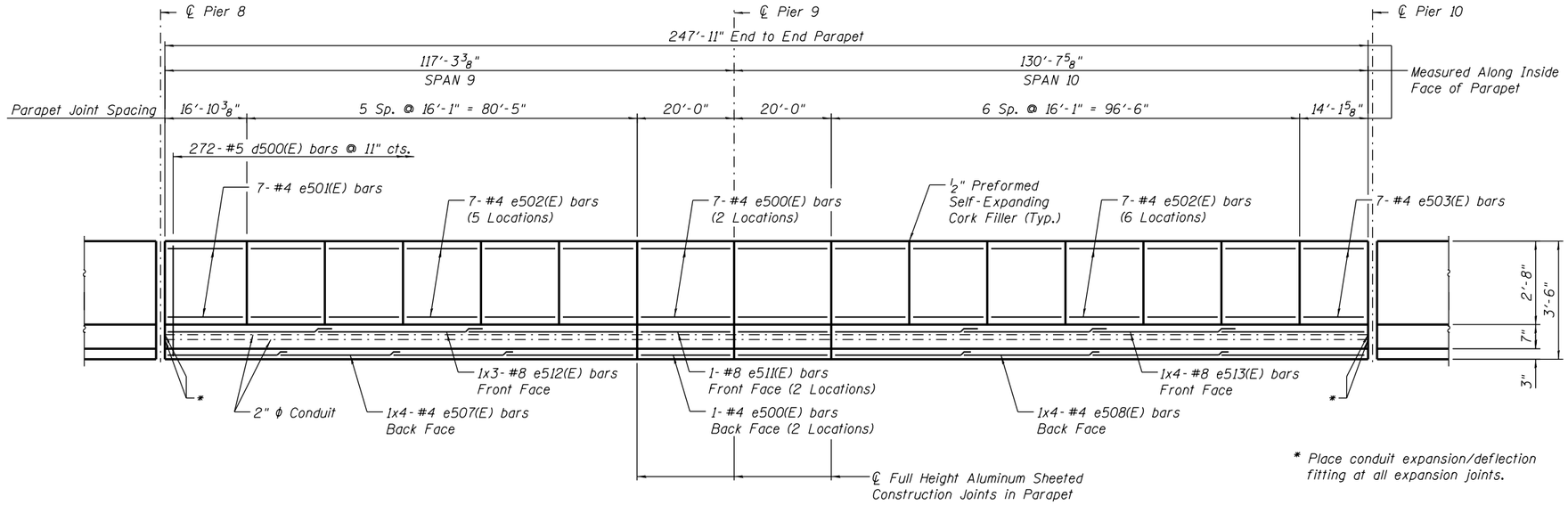
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - KMS	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

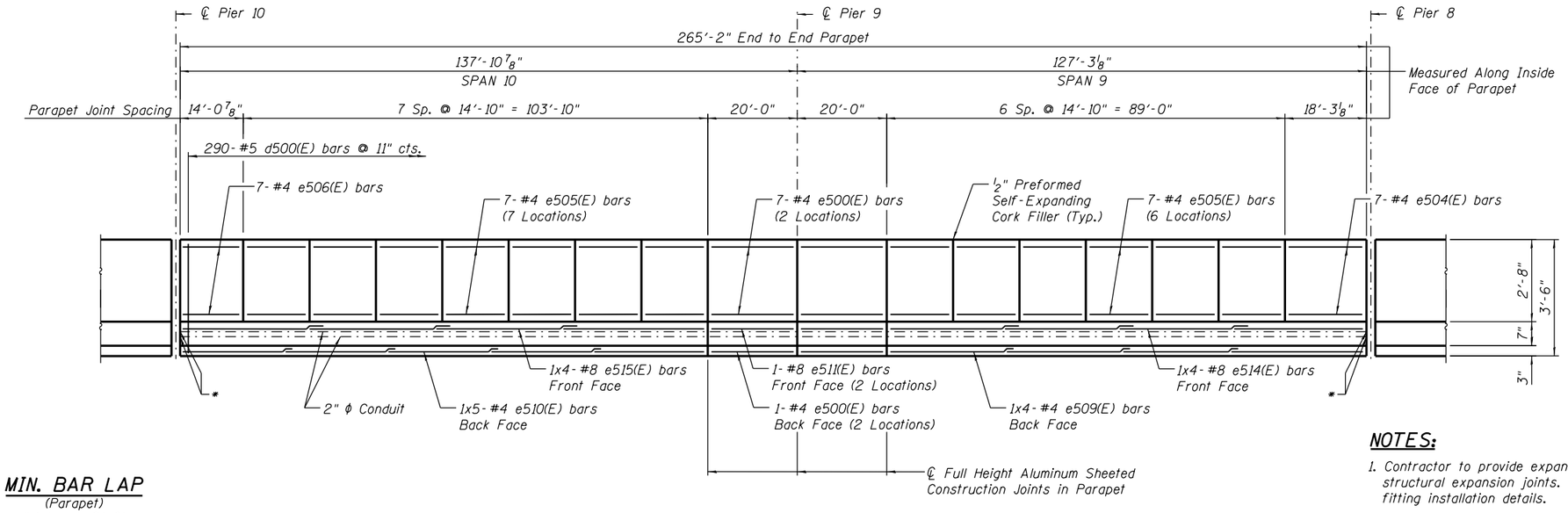
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – UNIT IV
STRUCTURE NO. 016-1705
SHEET NO. S-48 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	364
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF LEFT PARAPET - UNIT V



INSIDE ELEVATION OF RIGHT PARAPET - UNIT V

MIN. BAR LAP

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

NOTES:

1. Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See electrical plans for expansion/deflection fitting installation details.
2. Bars indicated Locations: 1x4-#8 etc., indicates one line of bars with 4 lengths per line.
3. For parapet details see Sheet S-58.
4. For electrical junction box locations and conduit stub out details see electrical plans.

0161705-60W28-S049-Parapet.dgn

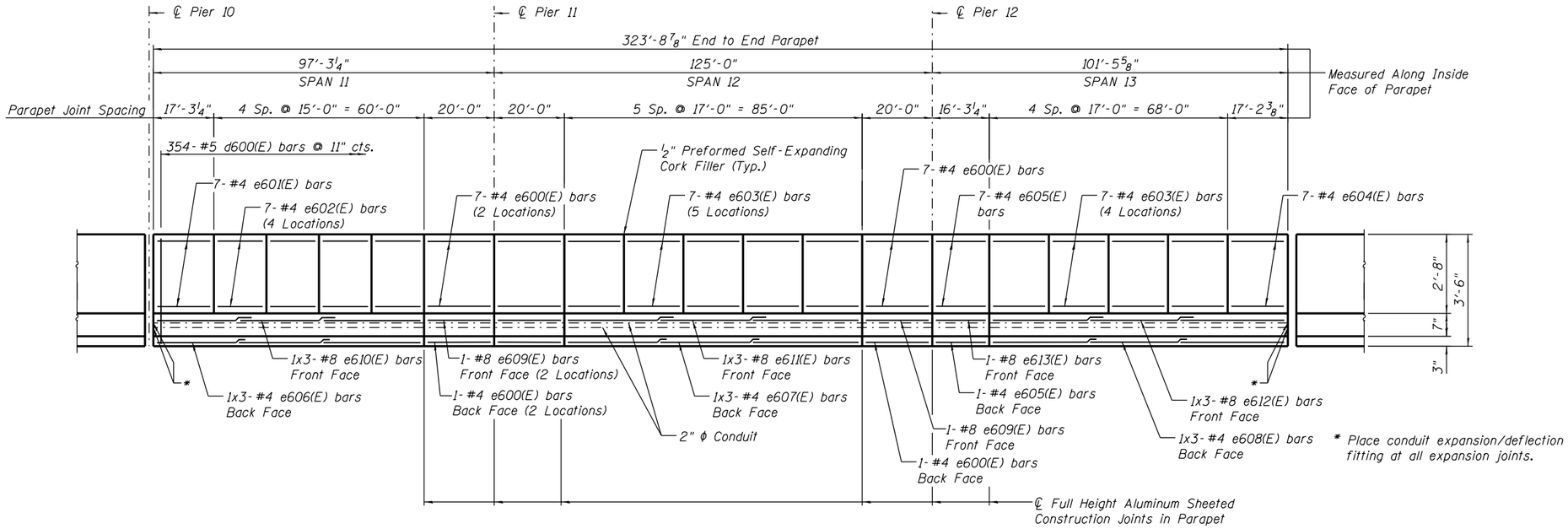
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - KMS	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

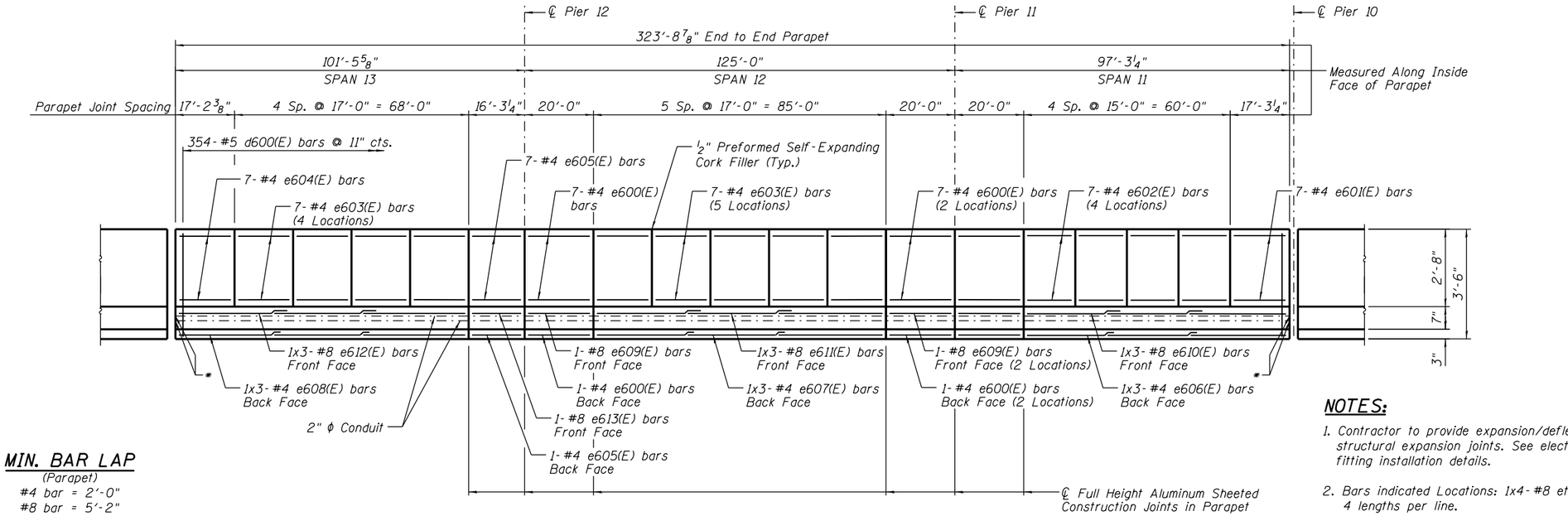
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PARAPET ELEVATIONS – UNIT V
STRUCTURE NO. 016-1705
SHEET NO. S-49 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	365
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



INSIDE ELEVATION OF LEFT PARAPET - UNIT VI



INSIDE ELEVATION OF RIGHT PARAPET - UNIT VI

MIN. BAR LAP

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

NOTES:

1. Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See electrical plans for expansion/deflection fitting installation details.
2. Bars indicated Locations: 1x4-#8 etc., indicates one line of bars with 4 lengths per line.
3. For parapet details see Sheet S-58.
4. For electrical junction box locations and conduit stub out details see electrical plans.

0161705-60W28-S050-Parapet.dgn

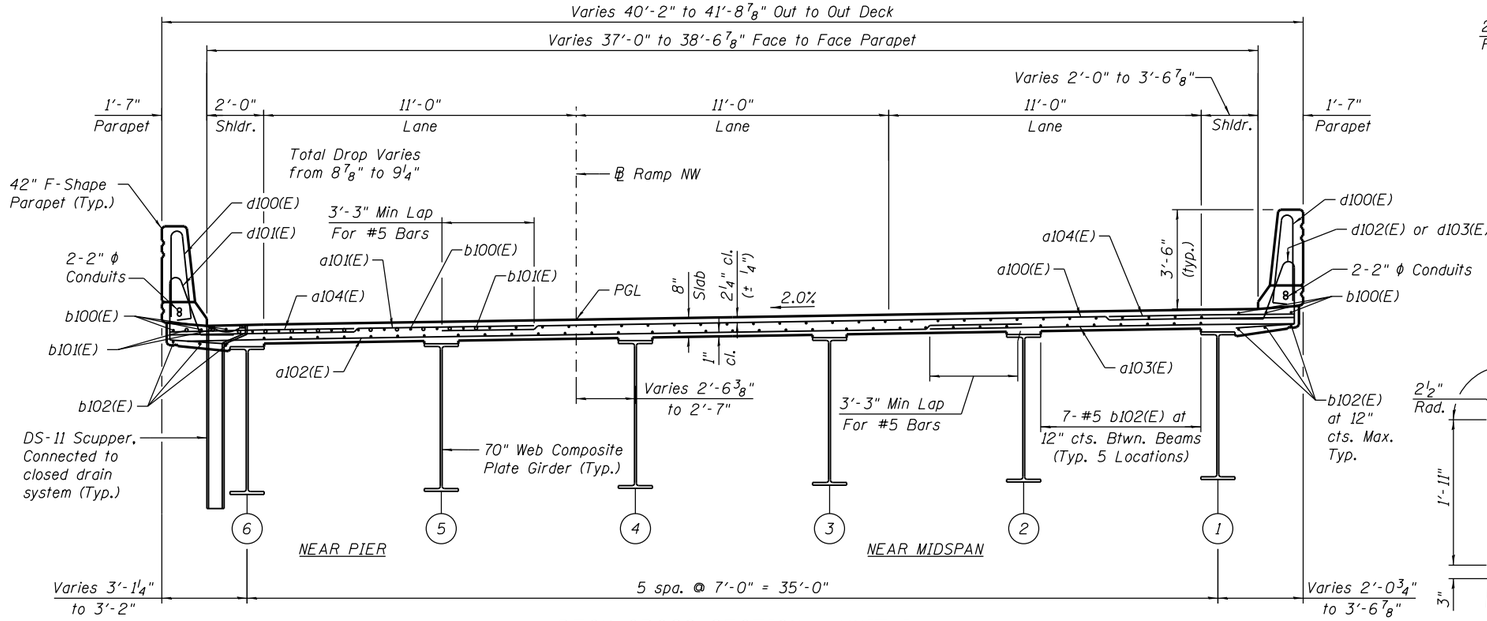
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - KMS	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

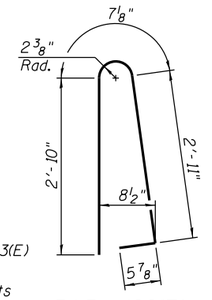
PARAPET ELEVATIONS – UNIT VI
STRUCTURE NO. 016-1705
SHEET NO. S-50 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	366
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

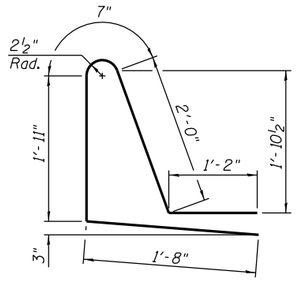


DECK CROSS SECTION - UNIT I

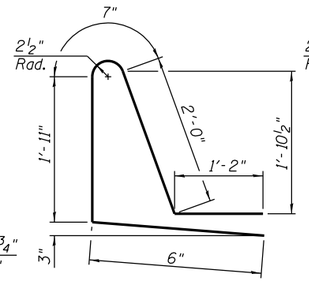
(Looking Upstation)
(Dimensions measured perpendicular to baseline)



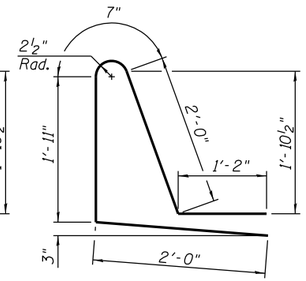
BAR d100(E)



BAR d101(E)



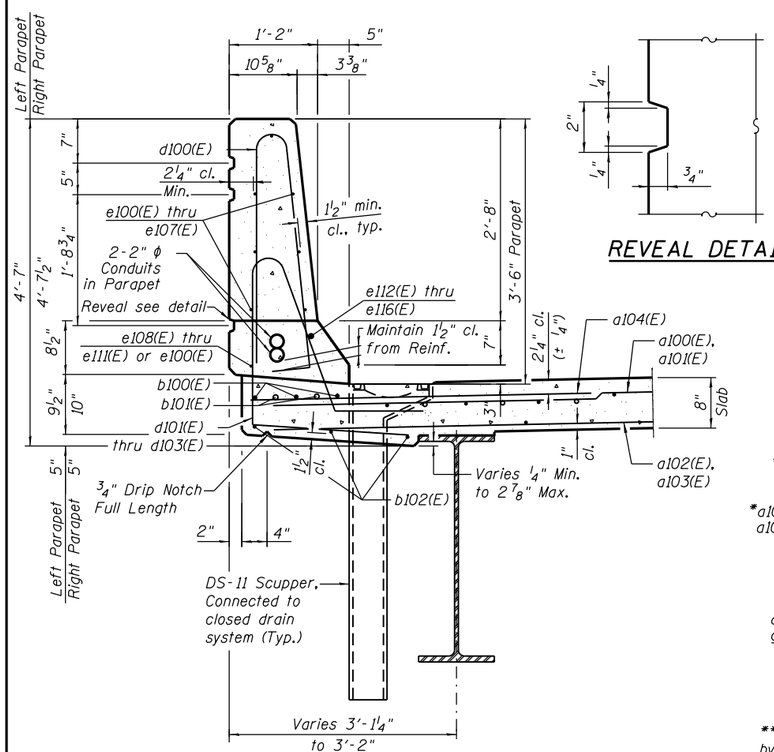
BAR d102(E)



BAR d103(E)

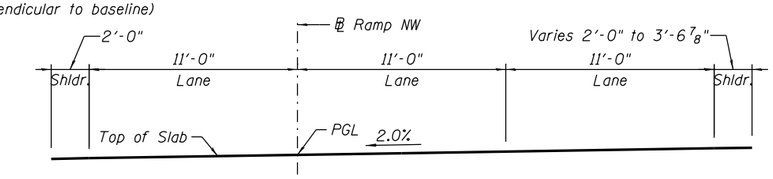
SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100(E)	822	#5	30'-0"	
a101(E)	822	#5	14'-5"	
a102(E)	563	#5	30'-0"	
a103(E)	563	#5	14'-5"	
a104(E)	1644	#6	6'-6"	
a105(E)	60	#6	6'-8"	
a106(E)	12	#6	2'-8"	
a107(E)	40	#5	1'-6"	
b100(E)	644	#5	29'-9"	
b101(E)	172	#6	17'-3"	
b102(E)	615	#5	28'-0"	
d100(E)	816	#5	6'-10"	
d101(E)	406	#5	7'-4"	
d102(E)	384	#5	6'-2"	
d103(E)	26	#5	7'-8"	
e100(E)	32	#4	19'-8"	
e101(E)	7	#4	17'-3"	
e102(E)	126	#4	16'-2"	
e103(E)	7	#4	16'-8"	
e104(E)	7	#4	22'-7"	
e105(E)	7	#4	15'-2"	
e106(E)	105	#4	18'-2"	
e107(E)	7	#4	18'-3"	
e108(E)	6	#4	29'-4"	
e109(E)	6	#4	29'-3"	
e110(E)	6	#4	29'-8"	
e111(E)	6	#4	29'-5"	
e112(E)	6	#8	31'-11"	
e113(E)	6	#8	32'-3"	
e114(E)	6	#8	32'-1"	
e115(E)	6	#8	32'-0"	
e116(E)	4	#8	19'-8"	
x100(E)	82	#5	8'-2 1/2"	
Reinforcement Bars, Epoxy Coated		Pound	146,170	
Concrete Superstructure		Cu. Yd.	511	
Bridge Deck Grooving (Special)		Sq. Yd.	1442	
Protective Coat		Sq. Yd.	1906	



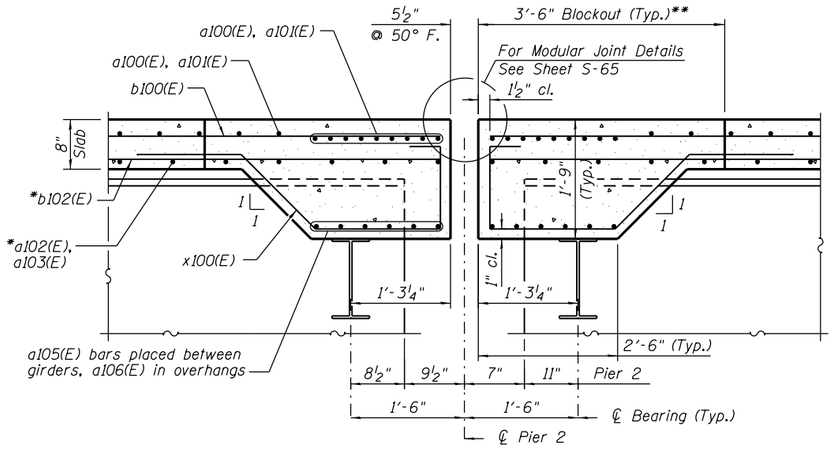
SECTION THRU PARAPET

REVEAL DETAIL



Sta. 1818+45.67 to Sta. 1822+20.67

DECK CROSS SLOPE DETAIL UNIT I

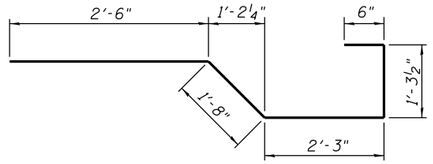


**Blockout dimensions to be verified by Contractor with Joint Manufacturer

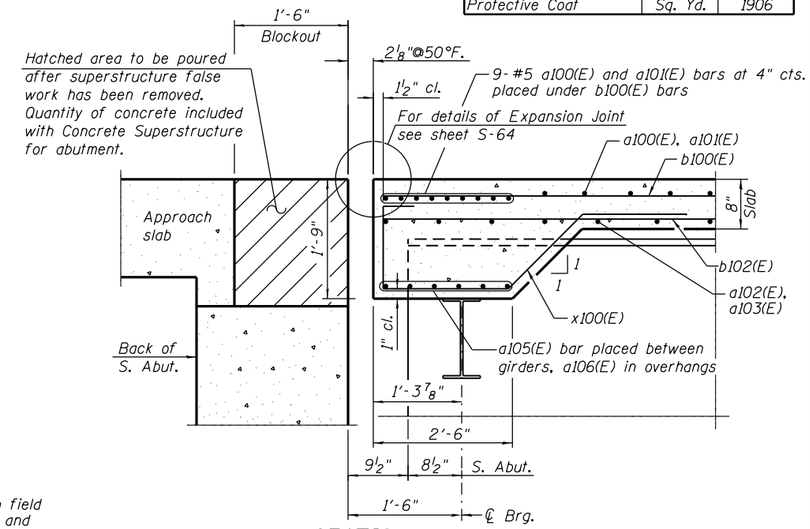
SECTION B-B

(Horiz. Dims. @ RT L's to ℄ Brg.)

*Bars to be adjusted in field to miss support boxes and beam webs



BAR x100(E)



SECTION A-A

(Horiz. Dims. @ RT L's to ℄ Brg.)

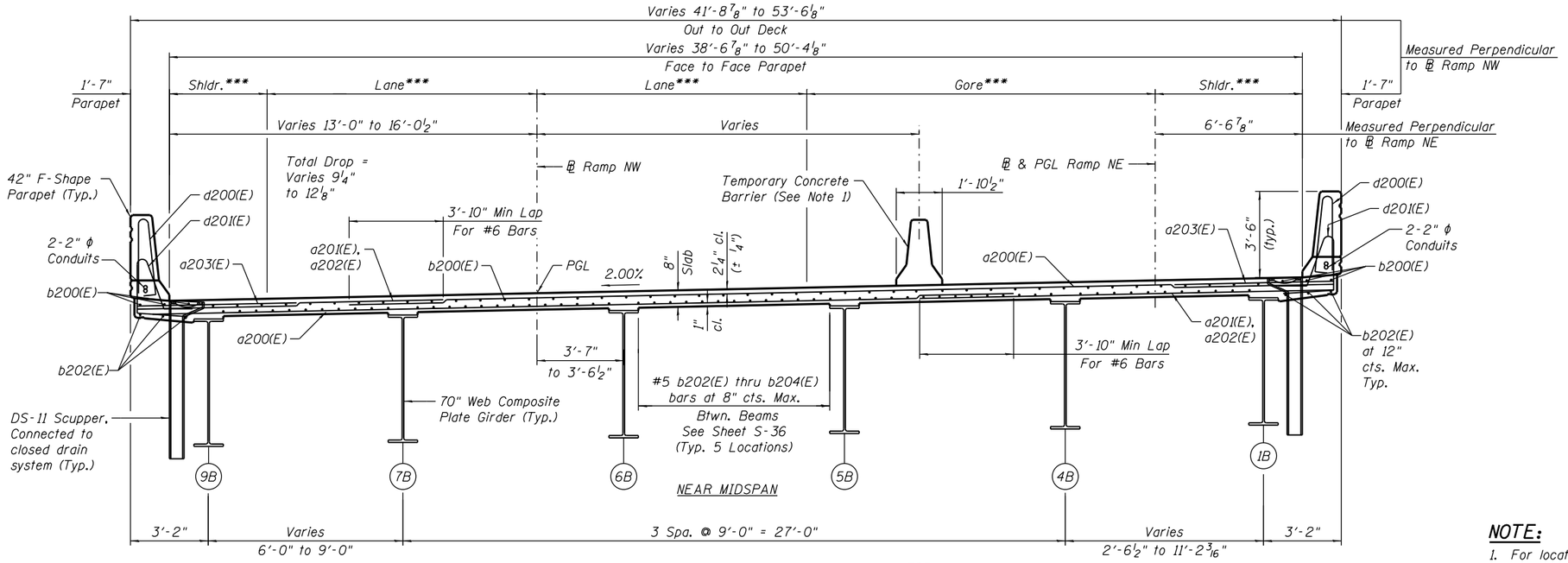
AECOM	USER NAME = floresg	DESIGNED - JRE	REVISED
		CHECKED - JPH	REVISED
	PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
	PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION – UNIT I
STRUCTURE NO. 016-1705
SHEET NO. S-51 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	367
		CONTRACT NO. 60W28		
ILLINOIS FED. AID PROJECT				

0161705-60W28-S051-Xsect.dgn



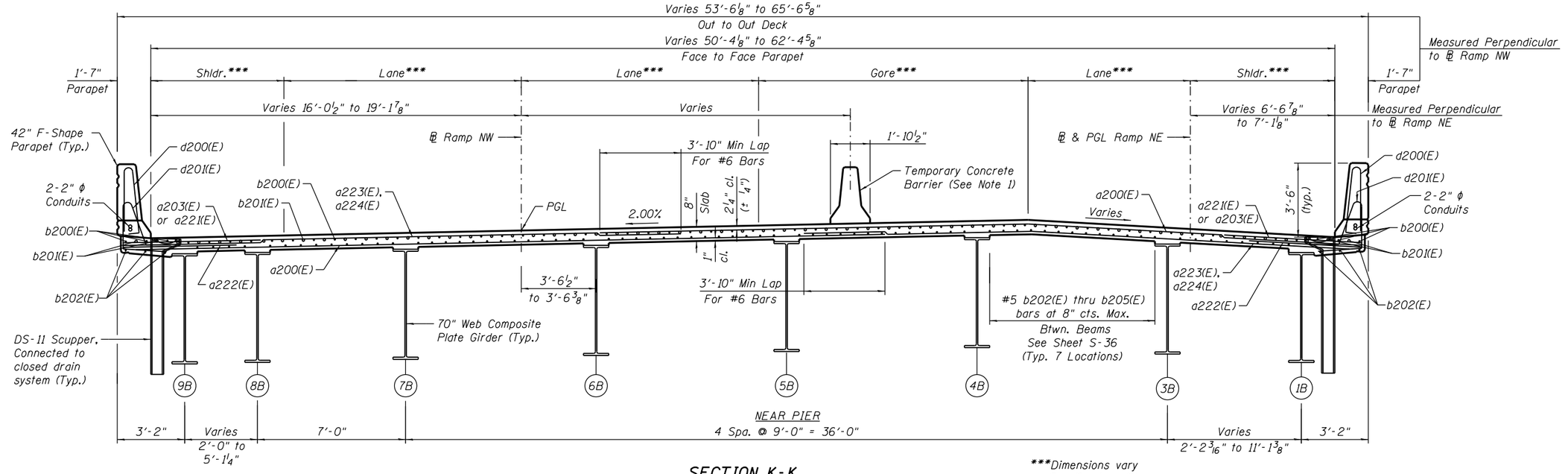
***Dimensions vary
See Roadway Plans

SECTION J-J

(Looking Upstation)
Sta. 1822+20.67 to Sta. 1823+38.44
(Dimensions measured perpendicular to baseline)

NOTE:

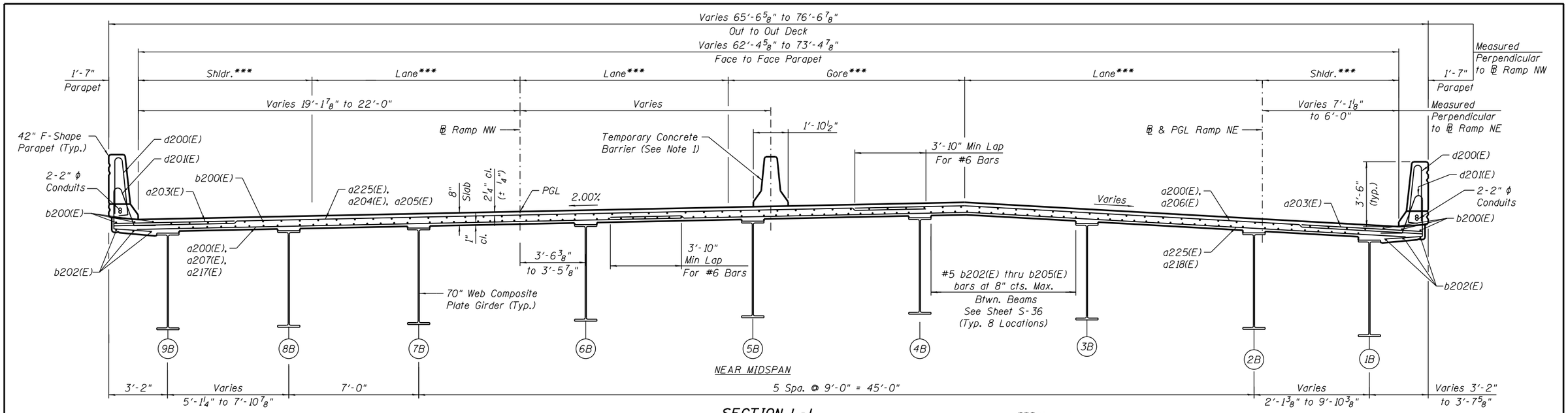
1. For location of Temporary Concrete Barrier see Civil sheets. For barrier connection details see Sheet S-58.
2. See Sheet S-35 for Deck Cross Slope detail.



***Dimensions vary
See Roadway Plans

SECTION K-K

(Looking Upstation)
Sta. 1823+38.44 to Sta. 1824+58.67
(Dimensions measured perpendicular to baseline)



***Dimensions vary See Roadway Plans

SUPERSTRUCTURE BILL OF MATERIAL

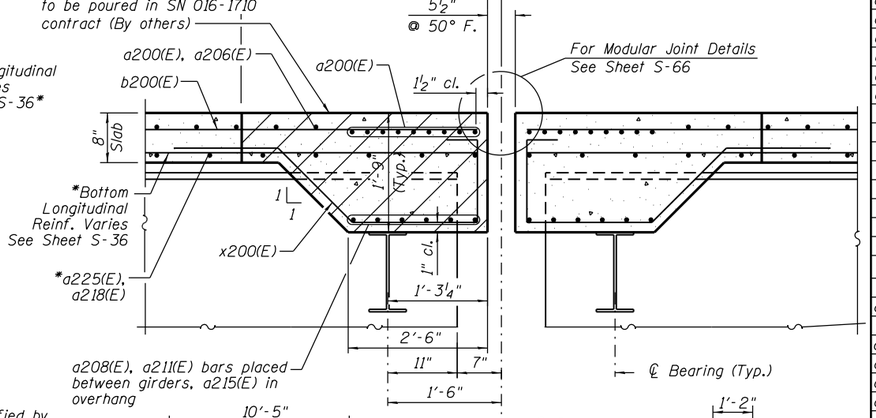
Bar	No.	Size	Length	Shape
a200(E)	1334	#6	36'-0"	
a201(E)	218	#6	15'-6"	
a202(E)	272	#6	22'-0"	
a203(E)	1596	#6	6'-6"	
a204(E)	3	#6	44'-5"	
a205(E)	6	#6	40'-0"	
a206(E)	3	#6	47'-0"	
a207(E)	2	#6	41'-5"	
a208(E)	48	#6	8'-8"	
a209(E)	6	#6	5'-8"	
a210(E)	6	#6	2'-2"	
a211(E)	6	#6	9'-6"	
a212(E)	6	#6	6'-8"	
a213(E)	6	#6	7'-7"	
a214(E)	18	#6	2'-8"	
a215(E)	6	#6	3'-1"	
a216(E)	56	#5	1'-6"	
a217(E)	4	#6	37'-0"	
a218(E)	2	#6	55'-0"	
a219(E)	17	#5	2'-9"	
a220(E)	17	#5	4'-7"	
a221(E)	76	#8	9'-3"	
a222(E)	48	#7	8'-3"	
a223(E)	189	#6	26'-9"	
a224(E)	337	#6	32'-9"	
a225(E)	320	#6	43'-9"	
b200(E)	1296	#5	25'-6"	
b201(E)	312	#6	32'-6"	
b202(E)	792	#5	29'-10"	
b203(E)	98	#5	22'-8"	
b204(E)	51	#5	27'-0"	
b205(E)	220	#5	25'-3"	
b206(E)	2	#5	15'-0"	
b207(E)	14	#5	15'-3"	
b208(E)	45	#5	30'-0"	

Bar	No.	Size	Length	Shape
d200(E)	841	#5	6'-10"	
d201(E)	841	#5	7'-4"	
d202(E)	24	#6	13'-7"	
d203(E)	38	#6	5'-10"	
d204(E)	26	#6	7'-3"	
d205(E)	24	#6	15'-0"	
d206(E)	36	#6	6'-10"	
d207(E)	12	#6	10'-5"	
e200(E)	39	#4	19'-8"	
e201(E)	7	#4	18'-3"	
e202(E)	196	#4	18'-11"	
e203(E)	7	#4	18'-9"	
e204(E)	7	#4	15'-5"	
e205(E)	6	#4	27'-3"	
e206(E)	6	#4	27'-5"	
e207(E)	6	#4	27'-4"	
e208(E)	6	#4	26'-9"	
e209(E)	4	#8	19'-8"	
e210(E)	5	#8	34'-9"	
e211(E)	5	#8	35'-1"	
e212(E)	5	#8	34'-11"	
e213(E)	5	#8	34'-3"	
e214(E)	8	#4	2'-4"	
e215(E)	1	#8	2'-4"	
e216(E)	8	#4	2'-7"	
e217(E)	1	#8	2'-7"	
x200(E)	118	#5	8'-2 1/2"	

Reinforcement Bars, Epoxy Coated	Pound	259,150
Concrete Superstructure	Cu. Yd.	675
Bridge Deck Grooving (Special)	Sq. Yd.	1984
Protective Coat	Sq. Yd.	2505

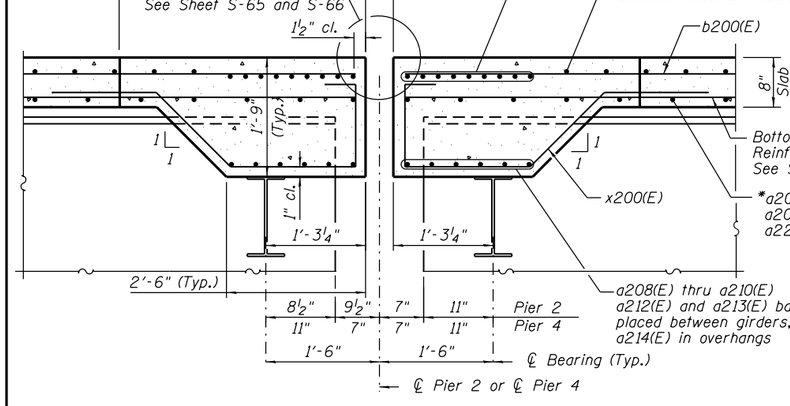
SECTION L-L

(Looking Upstation)
Sta. 1824+58.67 to Sta. 1825+67.67
(Dimensions measured perpendicular to baseline)



SECTION C-C

(Horiz. Dims. @ RT L's to ℄ Brg.)

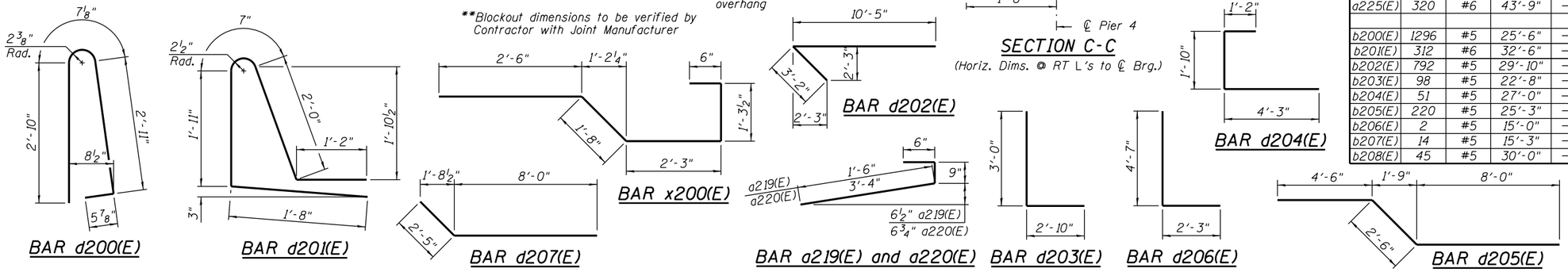


SECTION M-M

(Horiz. Dims. @ RT L's to ℄ Brg.)

*Bars to be adjusted in field to miss support boxes and beam webs

**Blockout dimensions to be verified by Contractor with Joint Manufacturer



NOTE:

1. For location of Temporary Concrete Barrier see Civil sheets. For barrier connection details see Sheet S-58.
2. See Sheet S-35 for Deck Cross Section detail.

USER NAME = floresg	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

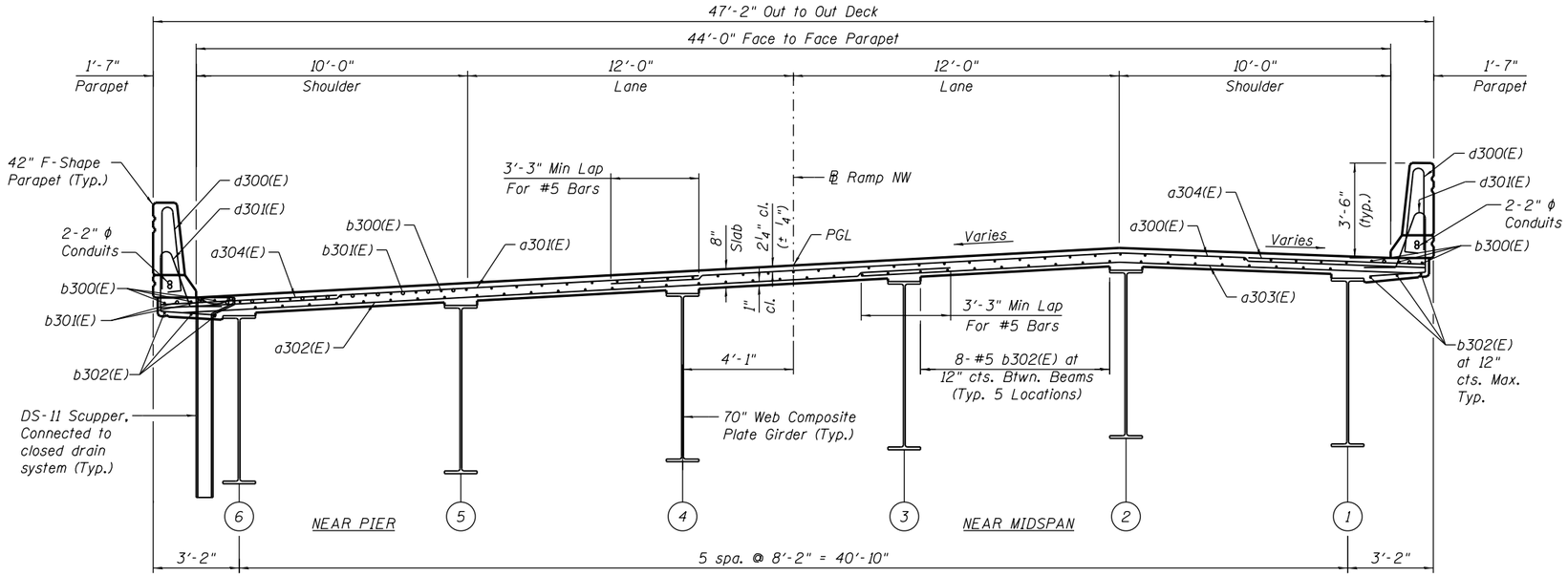
AECOM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION II – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-53 OF S-165 SHEETS

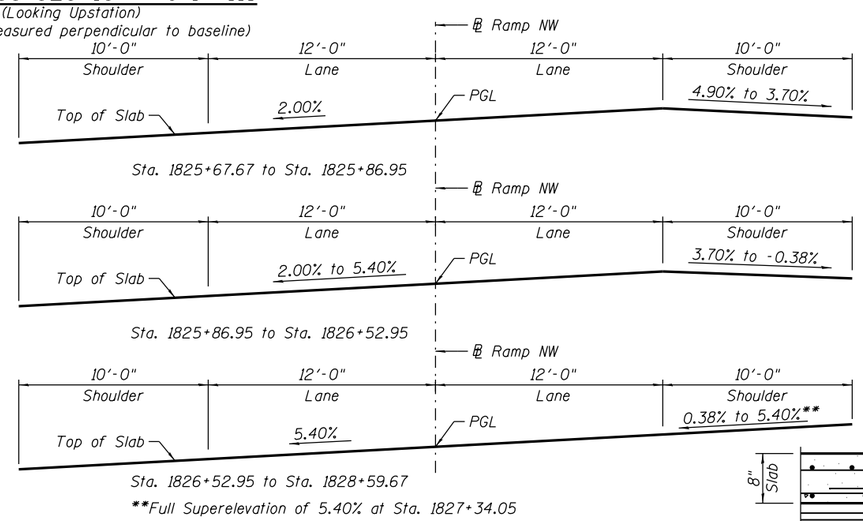
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	369
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

0161705-60W28-S053-Xsect.dgn



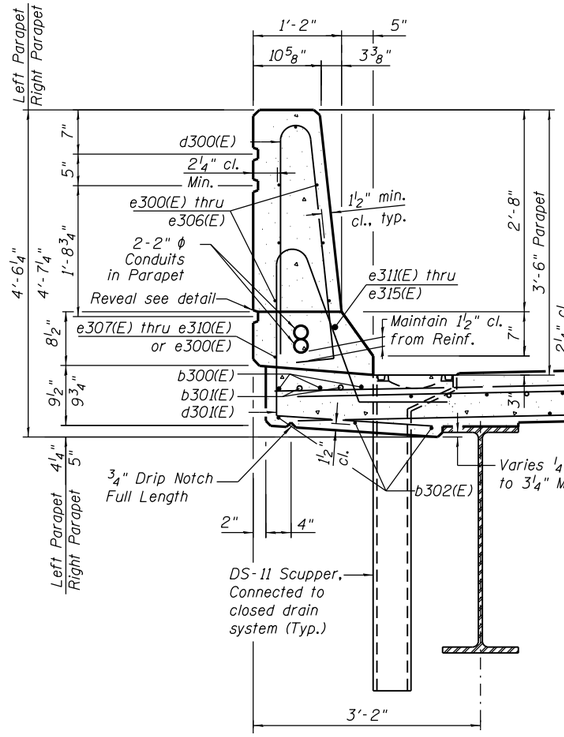
DECK CROSS SECTION - UNIT III

(Looking Upstation)
(Dimensions measured perpendicular to baseline)

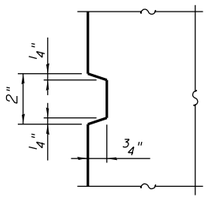


**Full Superelevation of 5.40% at Sta. 1827+34.05

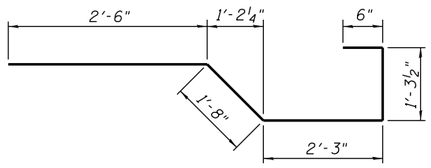
DECK CROSS SLOPE DETAIL UNIT III



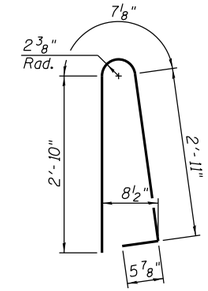
SECTION THRU PARAPET



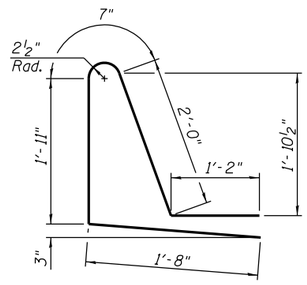
REVEAL DETAIL



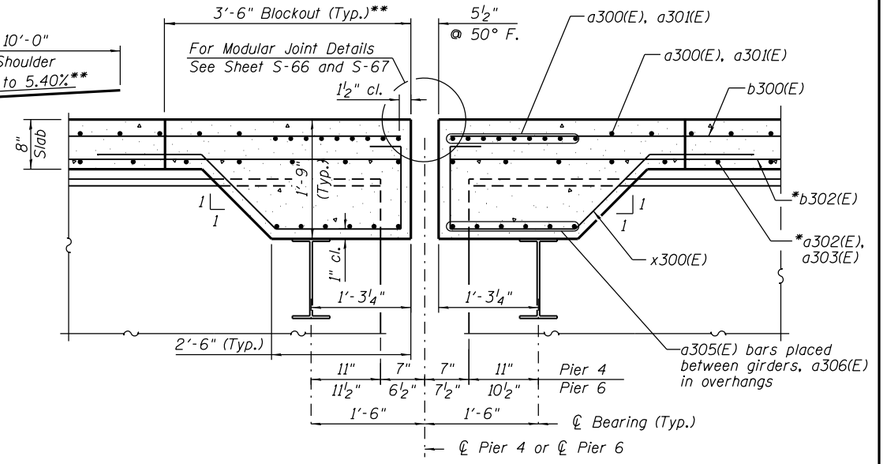
BAR x300(E)



BAR d300(E)



BAR d301(E)



**Blockout dimensions to be verified by Contractor with Joint Manufacturer

SECTION D-D

(Horiz. Dims. @ RT L's to ℄ Brg.)

*Bars to be adjusted in field to miss support boxes and beam webs

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a300(E)	666	#5	30'-0"	
a301(E)	666	#5	19'-10"	
a302(E)	455	#5	30'-0"	
a303(E)	455	#5	19'-10"	
a304(E)	1332	#6	6'-6"	
a305(E)	60	#6	7'-10"	
a306(E)	24	#6	2'-8"	
a307(E)	16	#5	1'-6"	
b300(E)	612	#5	28'-3"	
b301(E)	192	#6	31'-6"	
b302(E)	598	#5	26'-4"	
d300(E)	638	#5	6'-10"	
d301(E)	638	#5	7'-4"	
e300(E)	32	#4	19'-8"	
e301(E)	7	#4	14'-1"	
e302(E)	98	#4	14'-8"	
e303(E)	7	#4	15'-7"	
e304(E)	7	#4	14'-7"	
e305(E)	112	#4	14'-3"	
e306(E)	7	#4	14'-3"	
e307(E)	5	#4	28'-6"	
e308(E)	4	#4	27'-11"	
e309(E)	6	#4	26'-0"	
e310(E)	5	#4	24'-11"	
e311(E)	4	#8	19'-8"	
e312(E)	5	#8	31'-0"	
e313(E)	4	#8	30'-4"	
e314(E)	5	#8	33'-4"	
e315(E)	4	#8	33'-0"	
x300(E)	92	#5	8'-2½"	
Reinforcement Bars, Epoxy Coated		Pound	130,680	
Concrete Superstructure		Cu. Yd.	453	
Bridge Deck Grooving (Special)		Sq. Yd.	1329	
Protective Coat		Sq. Yd.	1720	

AECOM

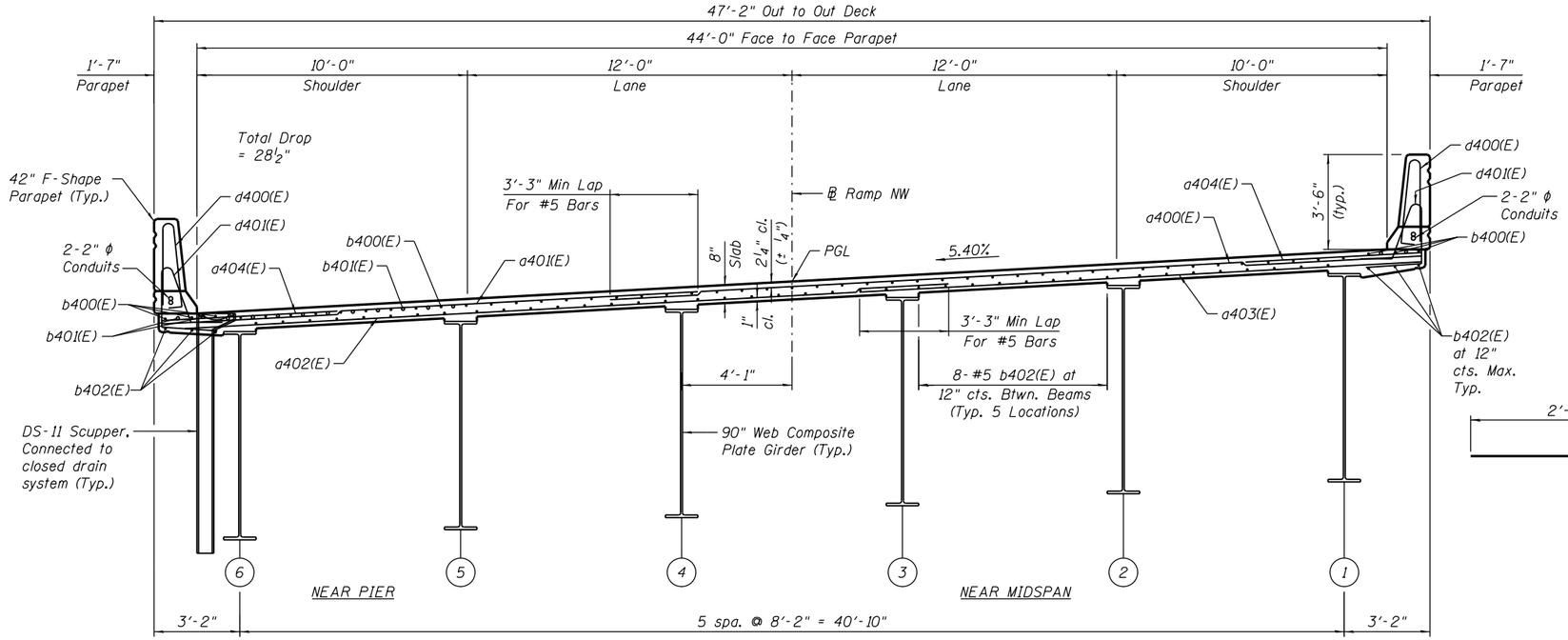
USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK CROSS SECTION – UNIT III
STRUCTURE NO. 016-1705
SHEET NO. S-54 OF S-165 SHEETS

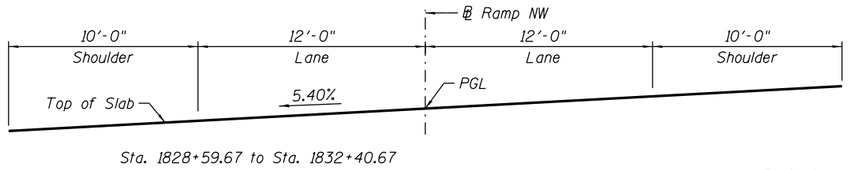
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	370
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S054-Xsect.dgn



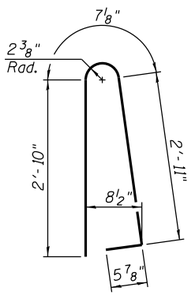
DECK CROSS SECTION - UNIT IV

(Looking Upstation)
(Dimensions measured perpendicular to baseline)

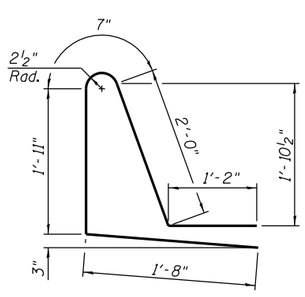


Sta. 1828+59.67 to Sta. 1832+40.67

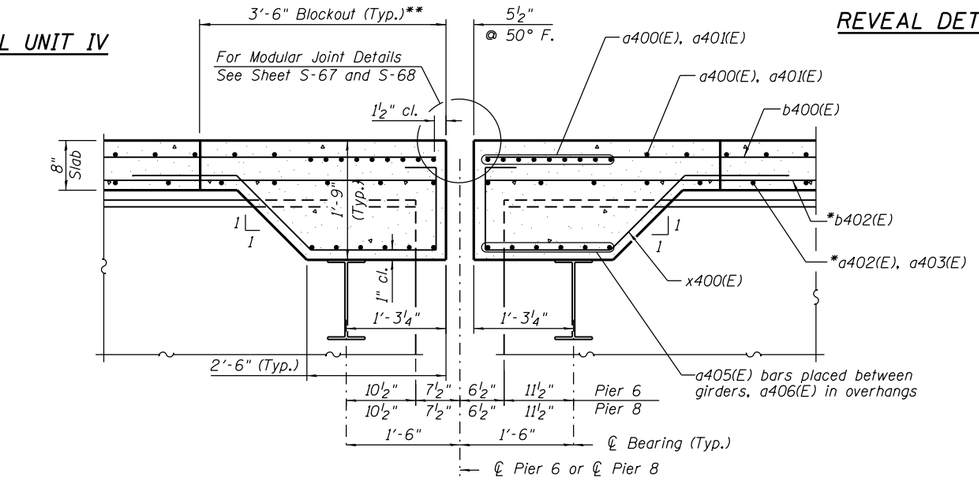
DECK CROSS SLOPE DETAIL UNIT IV



BAR d400(E)



BAR d401(E)

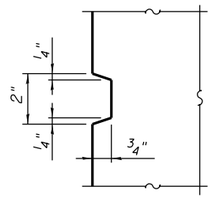


**Blockout dimensions to be verified by Contractor with Joint Manufacturer

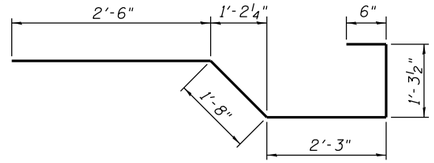
SECTION E-E

(Horiz. Dims. @ RT L's to ℄ Brg.)

*Bars to be adjusted in field to miss support boxes and beam webs



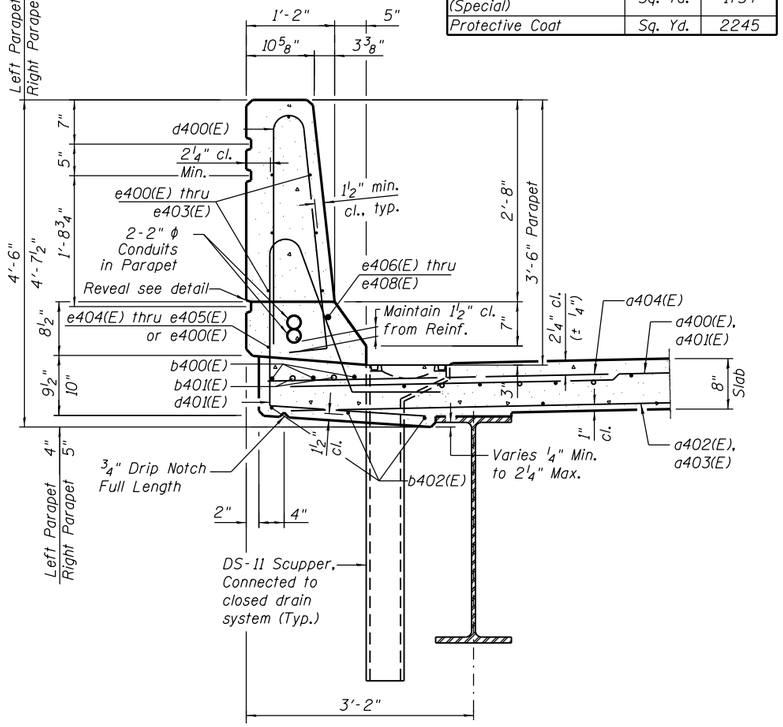
REVEAL DETAIL



BAR x400(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a400(E)	869	#5	30'-0"	
a401(E)	869	#5	19'-10"	
a402(E)	595	#5	30'-0"	
a403(E)	595	#5	19'-10"	
a404(E)	1738	#6	6'-6"	
a405(E)	60	#6	7'-10"	
a406(E)	24	#6	2'-8"	
a407(E)	16	#5	1'-6"	
b400(E)	765	#5	29'-6"	
b401(E)	240	#6	31'-0"	
b402(E)	736	#5	27'-10"	
d400(E)	832	#5	6'-10"	
d401(E)	832	#5	7'-4"	
e400(E)	32	#4	19'-8"	
e401(E)	14	#4	15'-11"	
e402(E)	266	#4	15'-11"	
e403(E)	14	#4	15'-3"	
e404(E)	12	#4	28'-9"	
e405(E)	14	#4	27'-2"	
e406(E)	4	#8	19'-8"	
e407(E)	12	#8	31'-5"	
e408(E)	12	#8	34'-0"	
x400(E)	92	#5	8'-2½"	
Reinforcement Bars, Epoxy Coated			Pound	169,380
Concrete Superstructure			Cu. Yd.	591
Bridge Deck Grooving (Special)			Sq. Yd.	1734
Protective Coat			Sq. Yd.	2245



SECTION THRU PARAPET

0161705-60W28-S055-Xsect.dgn

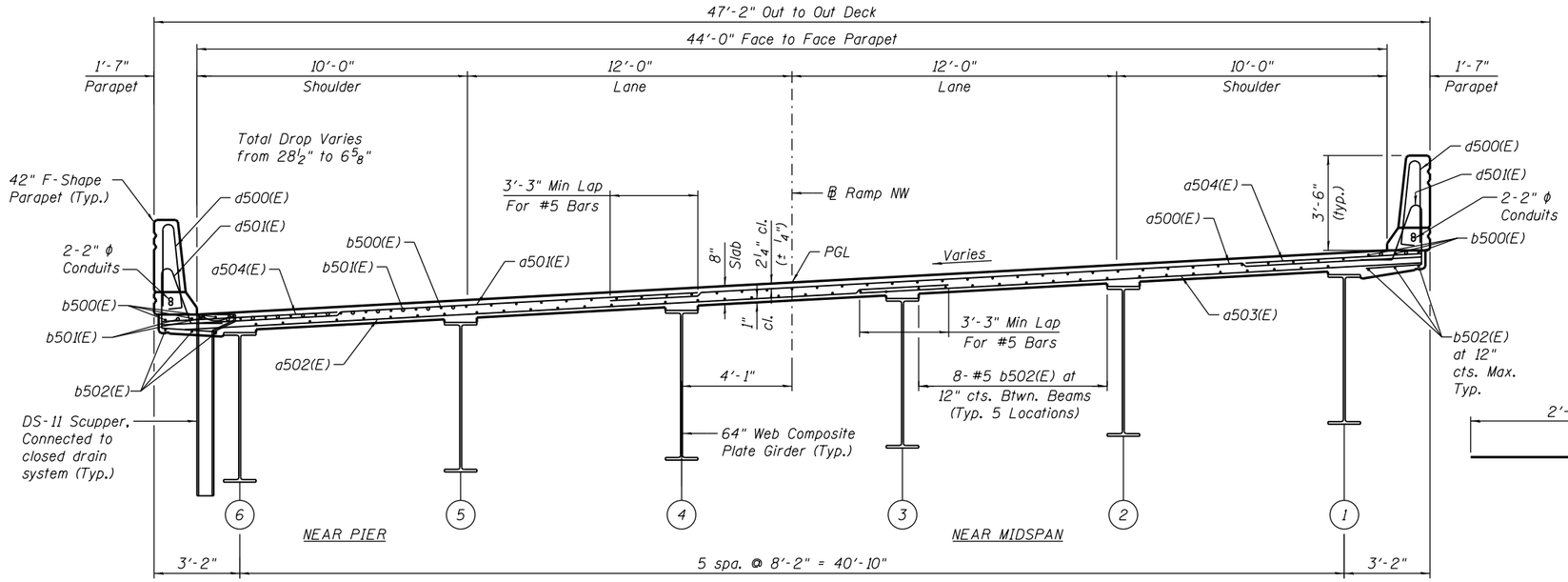
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

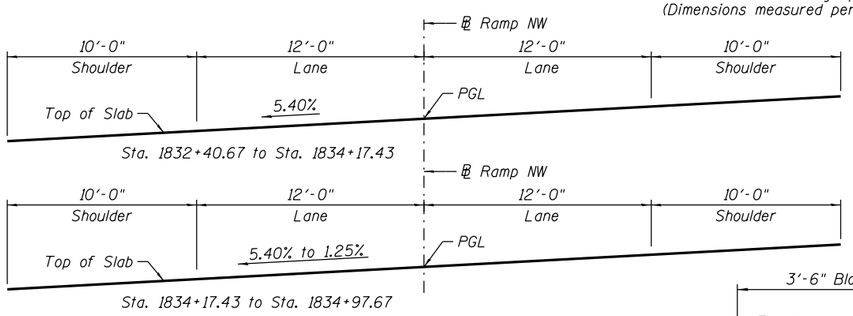
DECK CROSS SECTION – UNIT IV
STRUCTURE NO. 016-1705
SHEET NO. S-55 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	371
		CONTRACT NO. 60W28		
ILLINOIS FED. AID PROJECT				

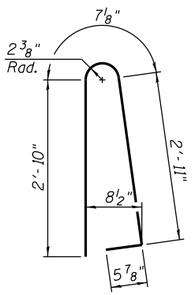


DECK CROSS SECTION - UNIT V

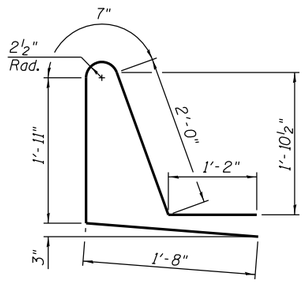
(Looking Upstation)
(Dimensions measured perpendicular to baseline)



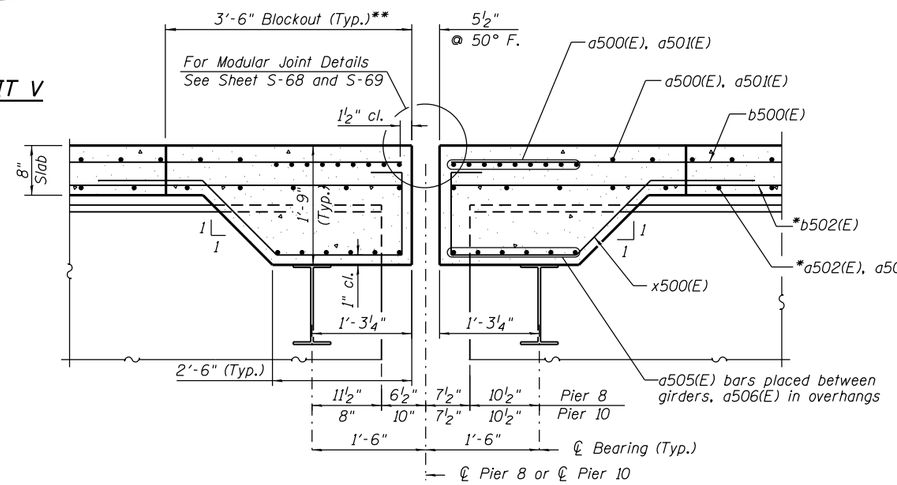
DECK CROSS SLOPE DETAIL UNIT V



BAR d500(E)



BAR d501(E)

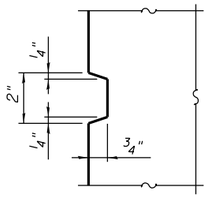


**Blockout dimensions to be verified by Contractor with Joint Manufacturer

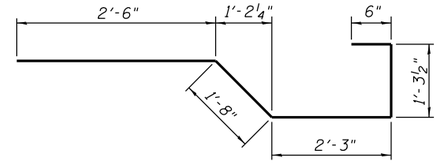
SECTION F-F

(Horiz. Dims. @ RT L's to ℄ Brg.)

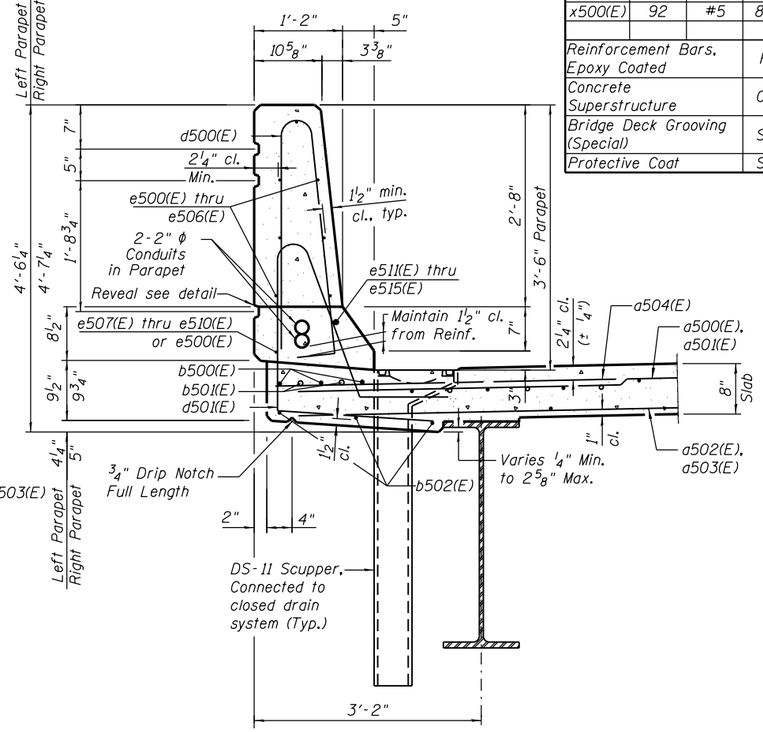
*Bars to be adjusted in field to miss support boxes and beam webs



REVEAL DETAIL



BAR x500(E)



SECTION THRU PARAPET

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a500(E)	584	#5	30'-0"	
a501(E)	584	#5	19'-10"	
a502(E)	399	#5	30'-0"	
a503(E)	399	#5	19'-10"	
a504(E)	1168	#6	6'-6"	
a505(E)	60	#6	7'-10"	
a506(E)	24	#6	2'-8"	
a507(E)	16	#5	1'-6"	
b500(E)	510	#5	29'-5"	
b501(E)	192	#6	27'-0"	
b502(E)	506	#5	27'-1"	
d500(E)	562	#5	6'-10"	
d501(E)	562	#5	7'-4"	
e500(E)	32	#4	19'-8"	
e501(E)	7	#4	16'-7"	
e502(E)	77	#4	15'-9"	
e503(E)	7	#4	13'-10"	
e504(E)	7	#4	17'-11"	
e505(E)	91	#4	14'-6"	
e506(E)	7	#4	13'-9"	
e507(E)	4	#4	25'-10"	
e508(E)	4	#4	29'-2"	
e509(E)	4	#4	28'-4"	
e510(E)	5	#4	25'-2"	
e511(E)	4	#8	19'-8"	
e512(E)	3	#8	35'-10"	
e513(E)	4	#8	31'-6"	
e514(E)	4	#8	30'-8"	
e515(E)	4	#8	33'-4"	
x500(E)	92	#5	8'-2½"	
Reinforcement Bars, Epoxy Coated		Pound	114,370	
Concrete Superstructure		Cu. Yd.	399	
Bridge Deck Grooving (Special)		Sq. Yd.	1169	
Protective Coat		Sq. Yd.	1515	

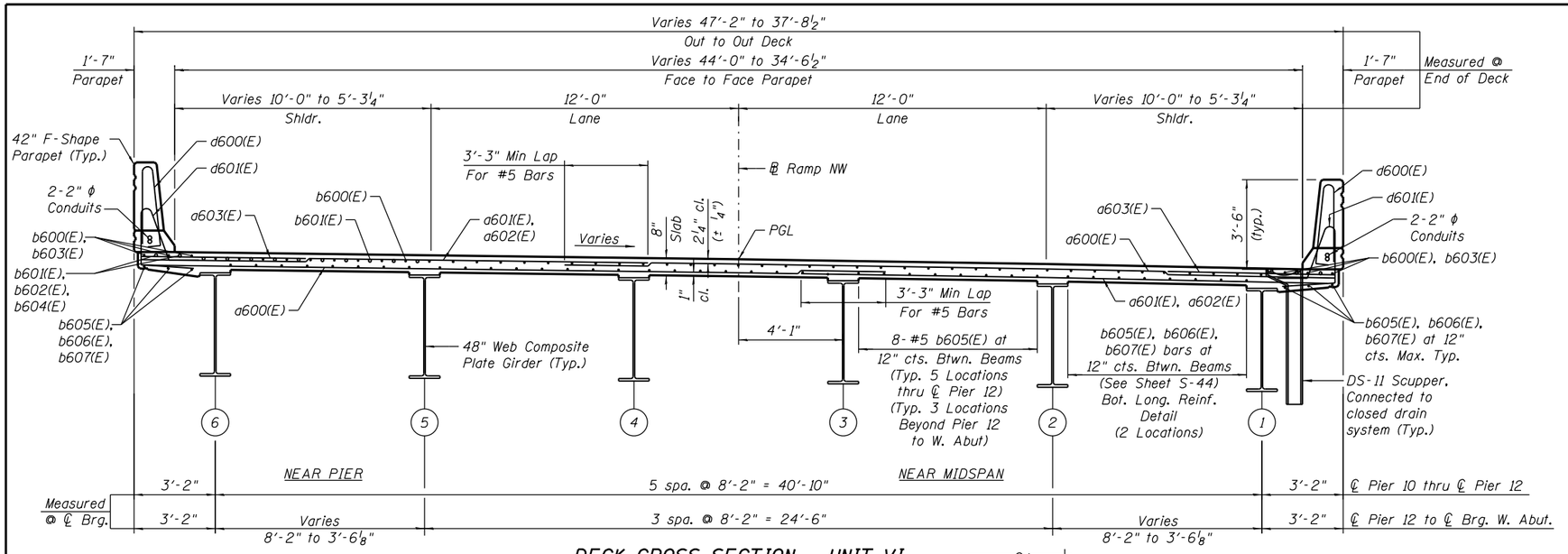
0161705-60W28-S056-Xsect.dgn

AECOM	USER NAME = floresg	DESIGNED - JRE	REVISED
		CHECKED - JPH	REVISED
	PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
	PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

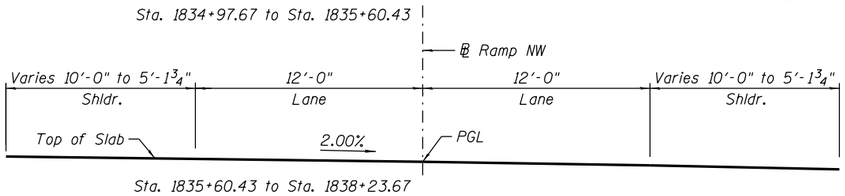
DECK CROSS SECTION – UNIT V
STRUCTURE NO. 016-1705
SHEET NO. S-56 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	372
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

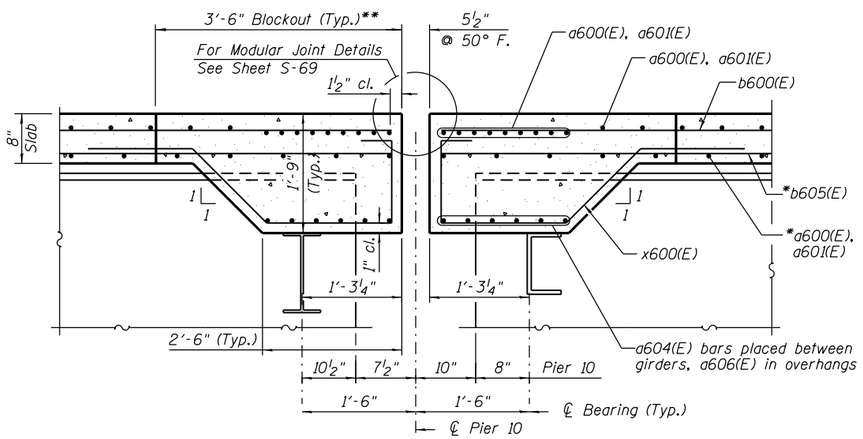


DECK CROSS SECTION - UNIT VI

(Looking Upstation)
(Dimensions measured perpendicular to baseline)



DECK CROSS SLOPE DETAIL UNIT VI

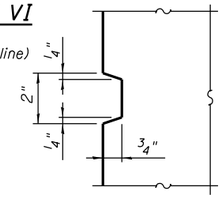


**Blockout dimensions to be verified by Contractor with Joint Manufacturer

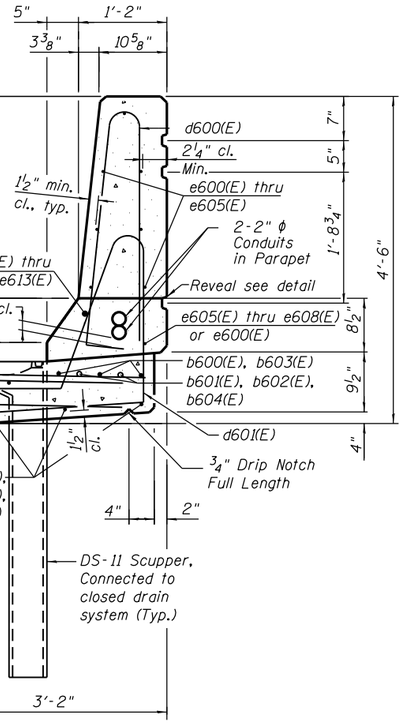
SECTION G-G

(Horiz. Dims. @ RT L's to ℄ Brg.)

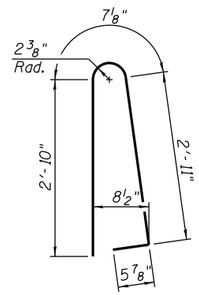
*Bars to be adjusted in field to miss support boxes and beam webs



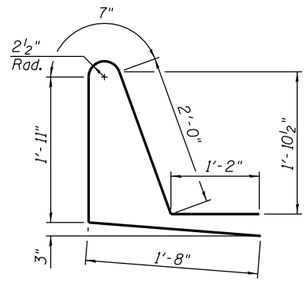
REVEAL DETAIL



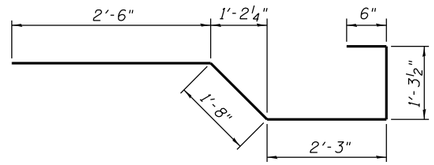
SECTION THRU PARAPET



BAR d600(E)



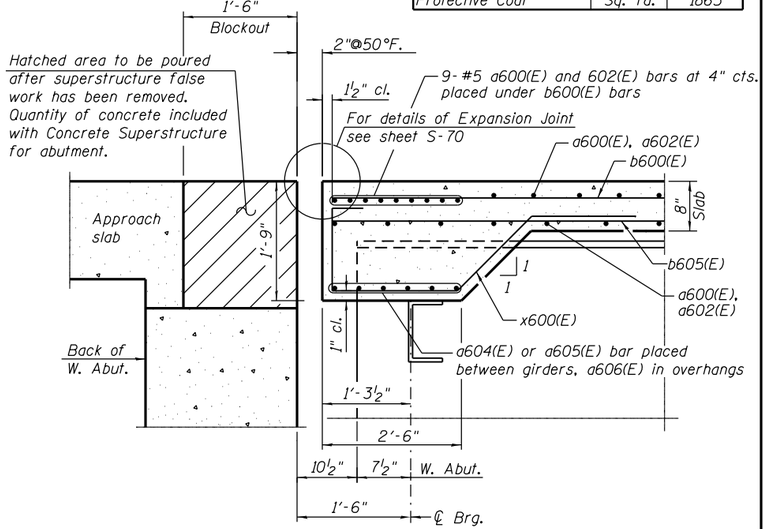
BAR d601(E)



BAR x600(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a600(E)	1198	#5	30'-0"	
a601(E)	1039	#5	19'-10"	
a602(E)	159	#5	15'-2"	
a603(E)	1422	#6	6'-6"	
a604(E)	48	#6	7'-9"	
a605(E)	12	#6	3'-1"	
a606(E)	24	#6	2'-8"	
a607(E)	16	#5	1'-6"	
b600(E)	608	#5	30'-0"	
b601(E)	188	#6	35'-0"	
b602(E)	12	#6	28'-0"	
b603(E)	6	#5	8'-3"	
b604(E)	4	#6	9'-4"	
b605(E)	580	#5	27'-3"	
b606(E)	16	#5	16'-1"	
b607(E)	44	#5	21'-6"	
d600(E)	708	#5	6'-10"	
d601(E)	708	#5	7'-4"	
e600(E)	48	#4	19'-8"	
e601(E)	14	#4	17'-0"	
e602(E)	56	#4	14'-8"	
e603(E)	126	#4	16'-8"	
e604(E)	14	#4	16'-11"	
e605(E)	16	#4	15'-11"	
e606(E)	6	#4	27'-1"	
e607(E)	6	#4	29'-7"	
e608(E)	6	#4	29'-8"	
e609(E)	6	#8	19'-8"	
e610(E)	6	#8	29'-2"	
e611(E)	6	#8	31'-9"	
e612(E)	6	#8	31'-10"	
e613(E)	2	#8	15'-11"	
x600(E)	82	#5	8'-2½"	
Reinforcement Bars, Epoxy Coated			Pound	139,840
Concrete Superstructure			Cu. Yd.	492
Bridge Deck Grooving (Special)			Sq. Yd.	1430
Protective Coat			Sq. Yd.	1865



SECTION H-H

(Horiz. Dims. @ RT L's to ℄ Brg.)

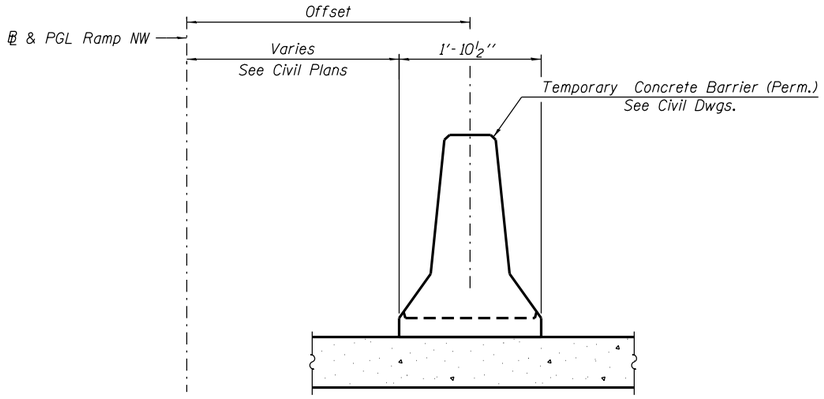
AECOM	USER NAME = floresg	DESIGNED - JRE	REVISED
		CHECKED - JPH	REVISED
	PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
	PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

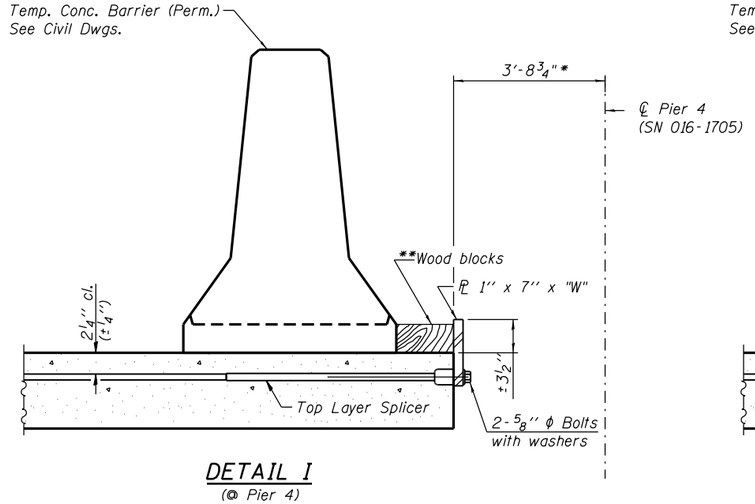
DECK CROSS SECTION – UNIT VI
STRUCTURE NO. 016–1705
SHEET NO. S-57 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	373
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

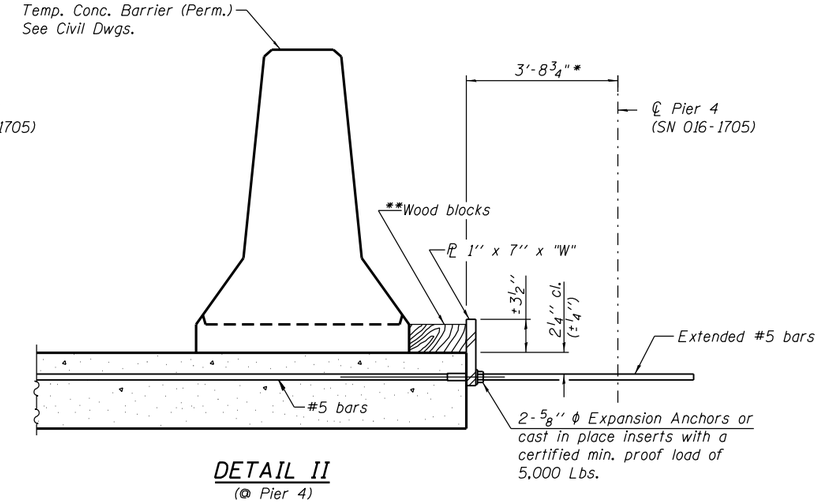
0161705-60W28-S057-Xsect.dgn



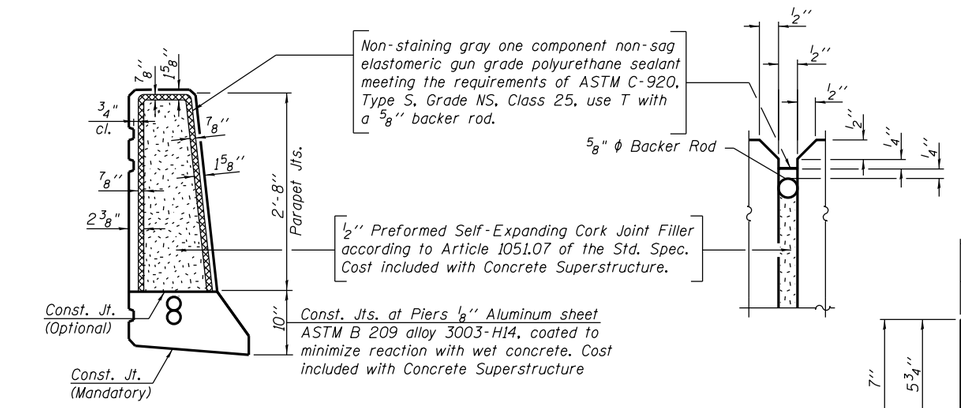
SECTION THRU SLAB ALONG UNIT II



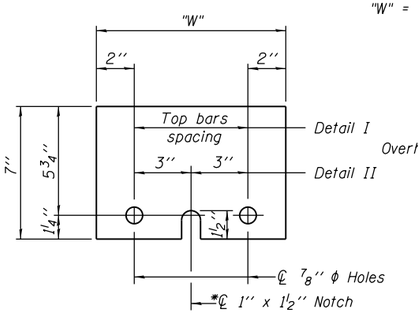
DETAIL I
(@ Pier 4)



DETAIL II
(@ Pier 4)

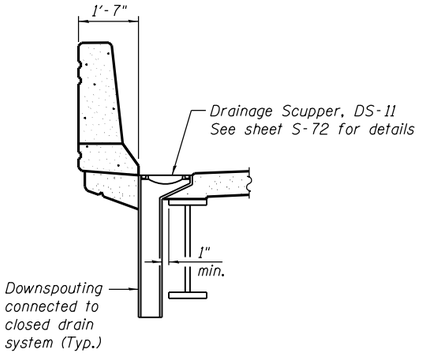


PARAPET JOINT DETAILS

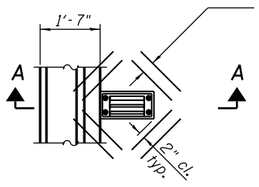


STEEL RETAINER PL 1'' x 7'' x "W"

* Required only with Detail II



SECTION A-A



DETAIL 1
DRAINAGE SCUPPER DS-11

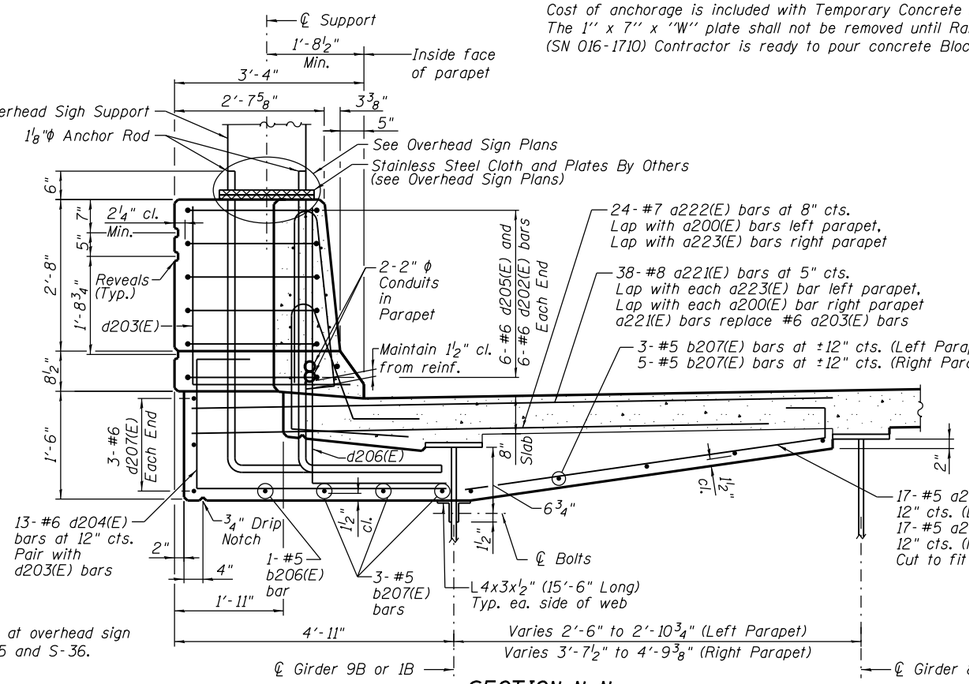
Note:
Reinforcement bars designated (E) shall be epoxy coated.
Cut longitudinal reinforcement to clear drainage scuppers.

SECTION THRU SLAB @ Pier 4

* 3'-6" concrete block out not poured in this region. Block Out concrete to be poured in Future Contract for SN 016-1710 (Ramp NE) by others.

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

"W" = Top bars spacing + 4''



SECTION N-N

NOTES:

1. For additional parapet details at overhead sign truss see Sheets S-34, S-35 and S-36.

NOTES

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

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

Cost of anchorage is included with Temporary Concrete Barrier (Perm.)
The 1'' x 7'' x ''W'' plate shall not be removed until Ramp NE (SN 016-1710) Contractor is ready to pour concrete Block Out.

0161705-60W28-S058-Deck

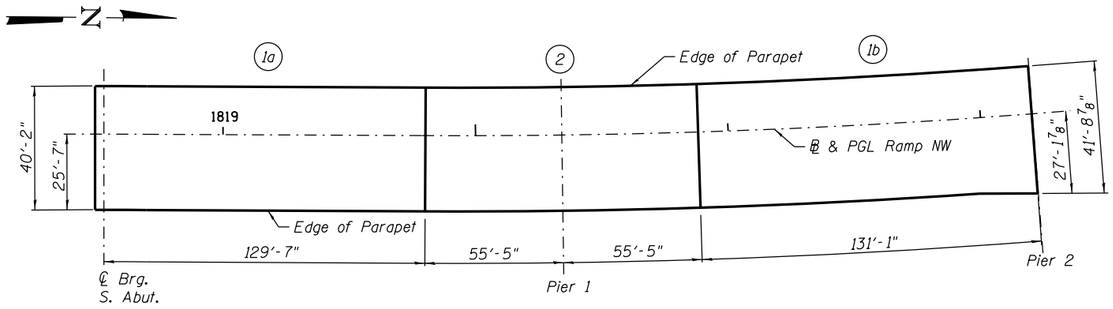
AECOM

USER NAME = patelvl	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/9/2014	CHECKED - EJO	REVISED	

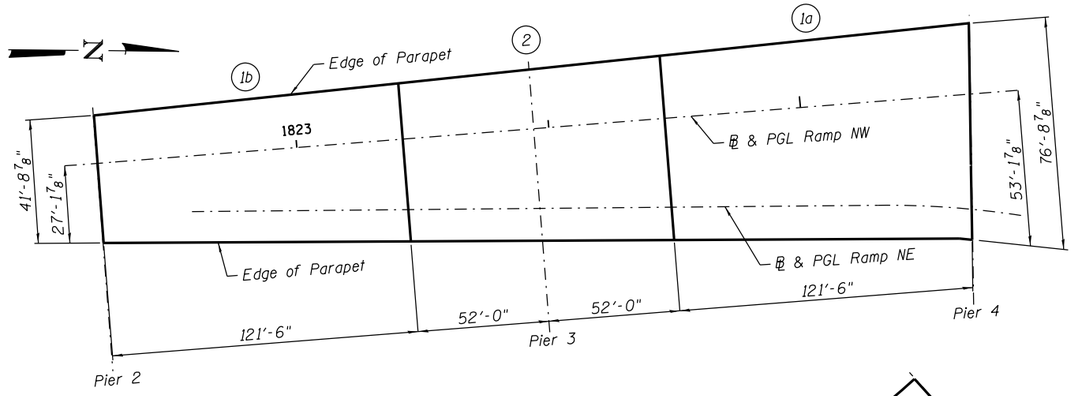
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK DETAILS
STRUCTURE NO. 016-1705
SHEET NO. S-58 OF S-165 SHEETS

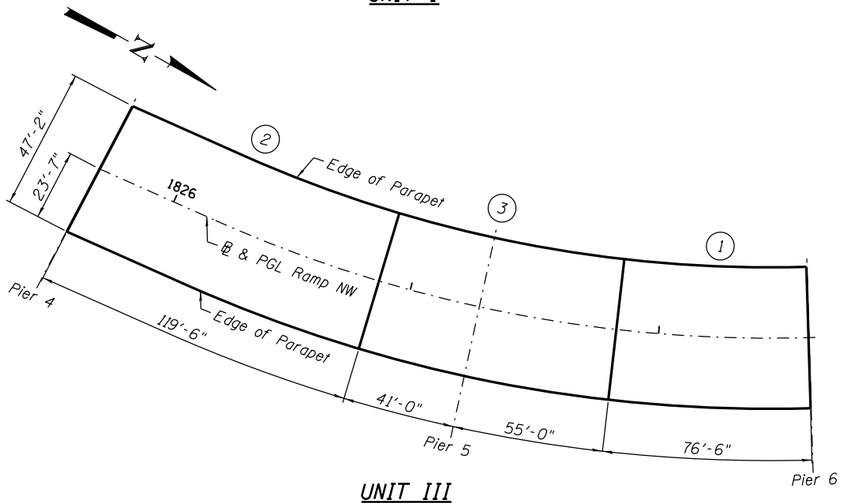
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	374
		CONTRACT NO. 60W28		
ILLINOIS	FED. AID PROJECT			



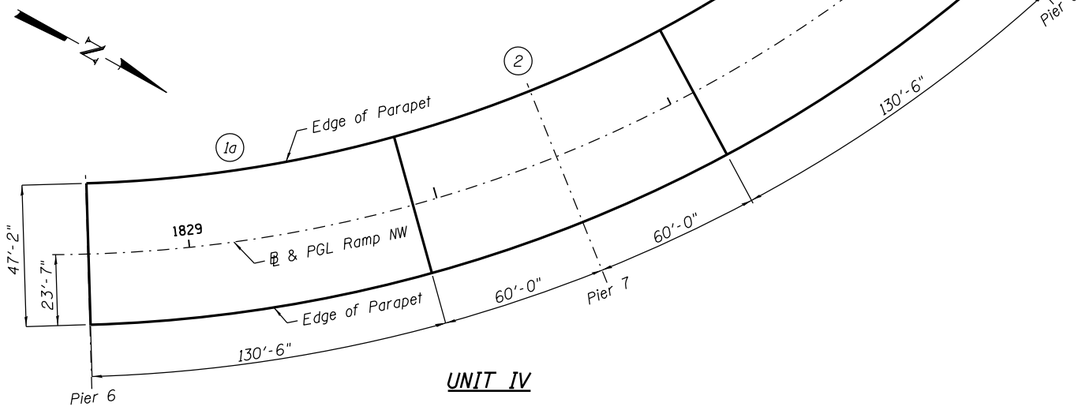
UNIT I



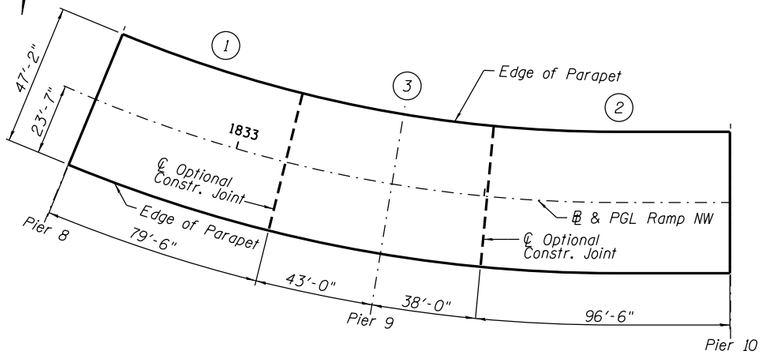
UNIT II



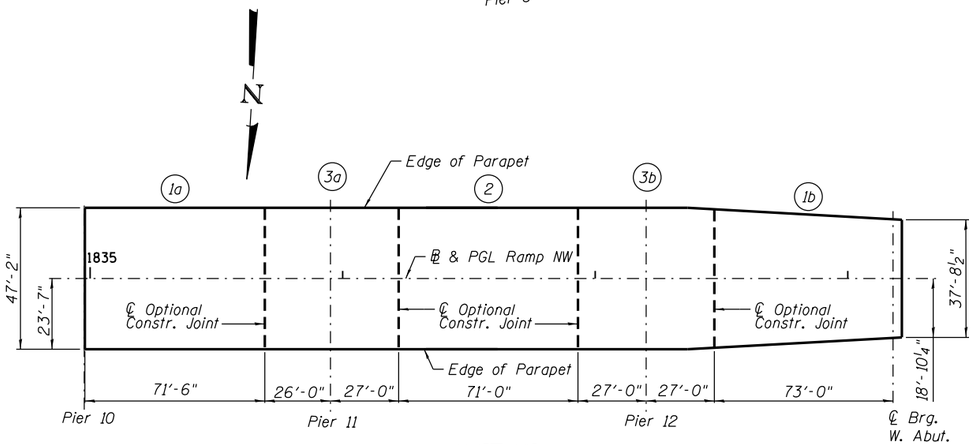
UNIT III



UNIT IV



UNIT V



UNIT VI

DECK POURING SEQUENCE

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 requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.

2. The concrete strength shall have attainined a mimimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

Numbers within the deck pouring sequence indicate the minimum number of group pours required for each unit. Letters next to the group pour numbers indicate the order if pour groups are further subdivided into individual pours. If the Contractor wishes to revise the deck pouring sequence, then the revised deck pouring sequence and calculations shall be submitted to the Engineer for review & approval. The calculations shall be prepared by and sealed by an Illinois Licensed Structural Engineer.

Longitudinal dimensions are measured along ℄ & PGL Ramp NW.

0161705-60W28-S059-Deck Pour Sequence.dgn

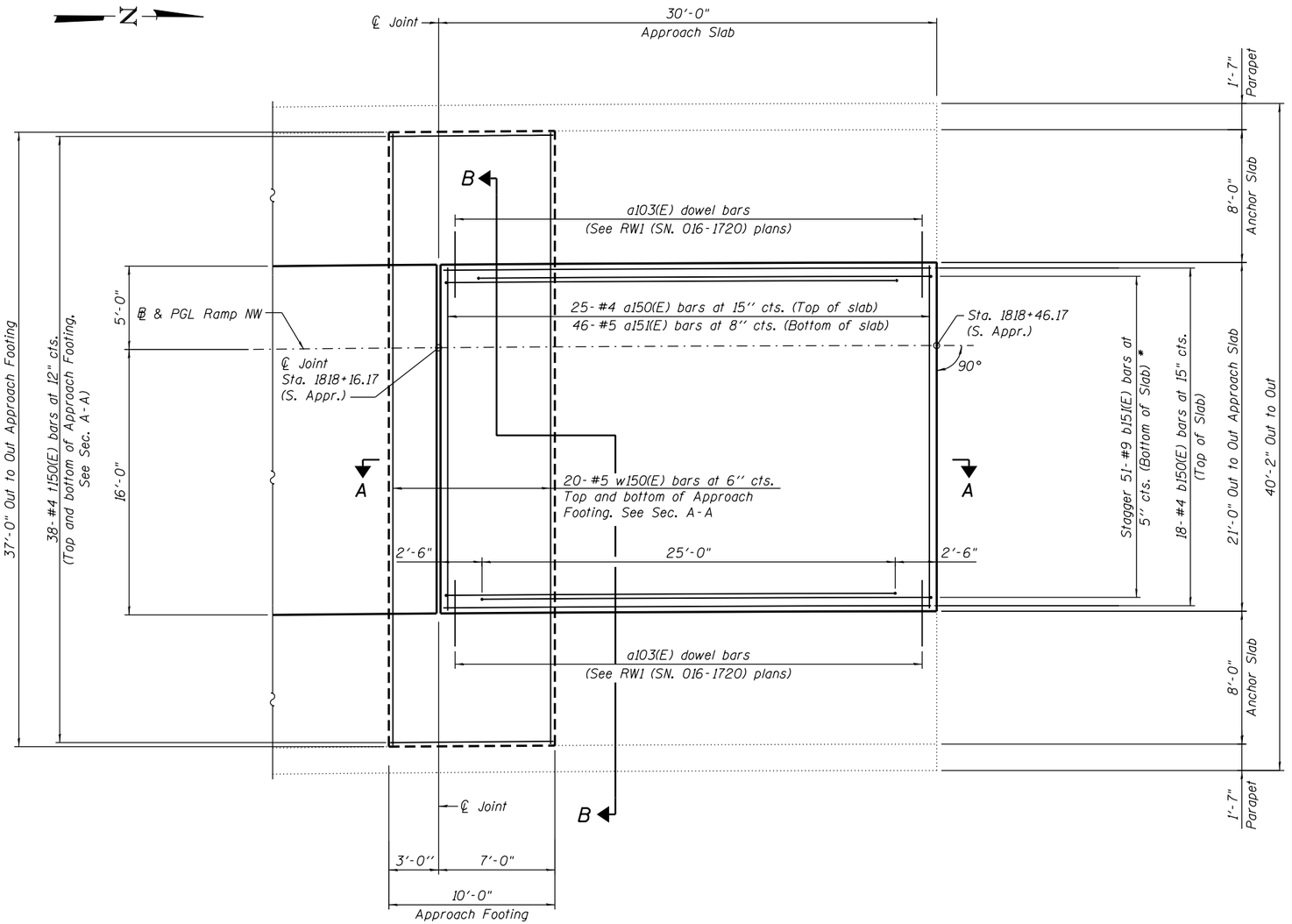
AECOM

USER NAME = floresg	DESIGNED - ATB	REVISED
	CHECKED - EJO	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK POURING SEQUENCE
STRUCTURE NO. 016-1705
SHEET NO. S-59 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	375
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



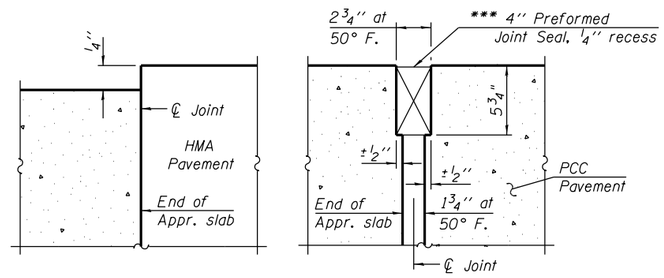
SOUTH APPROACH SLAB PLAN

* Tilt #9 b151(E) bars as required to maintain clearance.

NOTES:

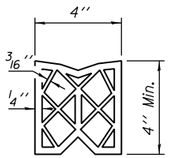
1. See sheet S-61 for Sections A-A & B-B.

*** Cost included with Concrete Superstructure.



FLEXIBLE PAVEMENT — RIGID PAVEMENT

DETAIL A



PREFORMED JOINT SEAL

USER NAME = floresg	DESIGNED - JRE	REVISED	
	CHECKED - JPH	REVISED	
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

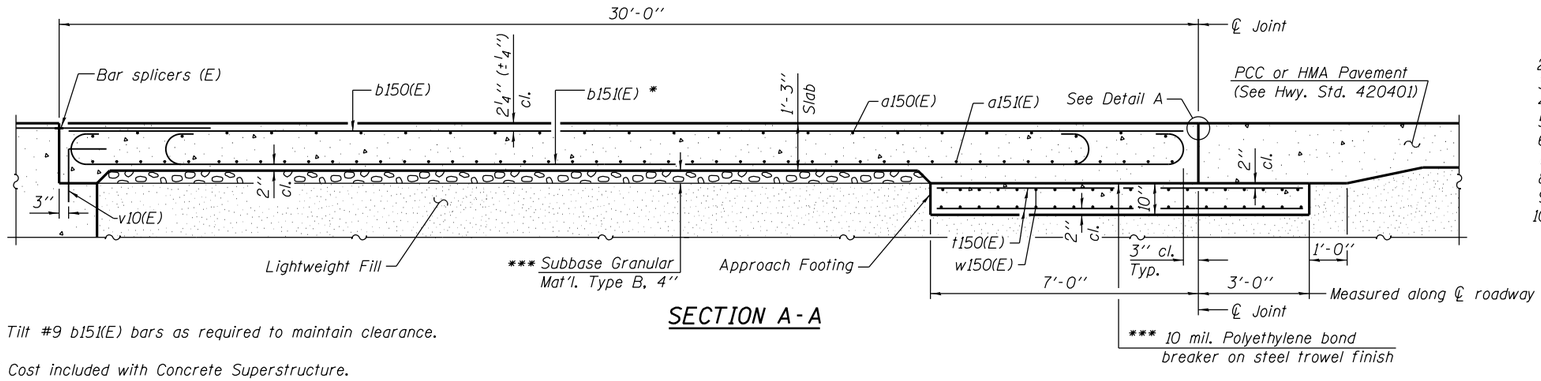
AECOM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH APPROACH SLAB PLAN
STRUCTURE NO. 016-1705
SHEET NO. S-60 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	376
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S060-ApprSlab.dgn



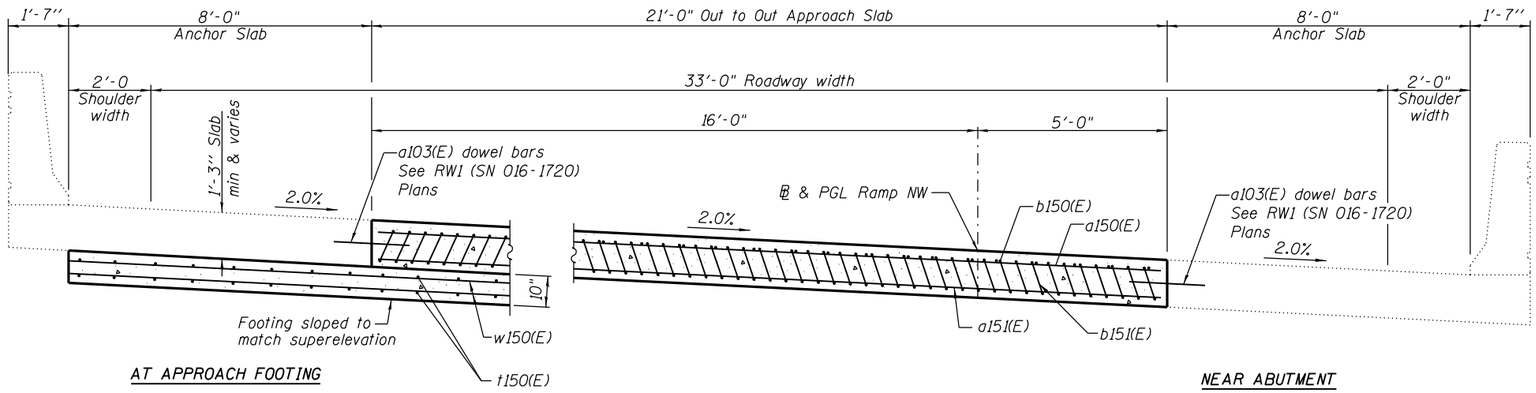
SECTION A-A

* Tilt #9 b151(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

NOTES:

1. See sheet S-60 for Detail A.
2. Approach slab concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v10(E) bar details, see sheet S-114.
6. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
7. Cost of excavation for approach footing included with Concrete Structures.
8. For bar splicer details, see sheet S-146.
9. For lightweight fill details, see Retaining Wall 1 (SN 016-1720), sheet RW1-07.
10. For Anchor Slab Details see Retaining Wall 1 (SN 016-1720) plans.

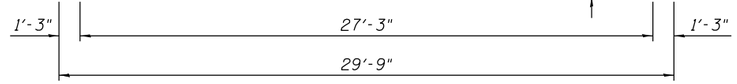


AT APPROACH FOOTING

NEAR ABUTMENT

SECTION B-B

(See Plan for dimensions not shown)



BAR b151(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a150(E)	25	#4	20'-8"	
a151(E)	46	#5	20'-8"	
b150(E)	18	#4	29'-8"	
b151(E)	51	#9	29'-9"	
t150(E)	76	#4	9'-8"	
w150(E)	40	#5	36'-8"	
Concrete Superstructure			Cu. Yd.	32
Concrete Structures			Cu. Yd.	12
Reinforcement Bars, Epoxy Coated			Pound	8,880
Bridge Deck Grooving (Special)			Sq. Yd.	70
Protective Coat			Sq. Yd.	70

0161705-60W28-S061-ApprSlabDetails.dgn

AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

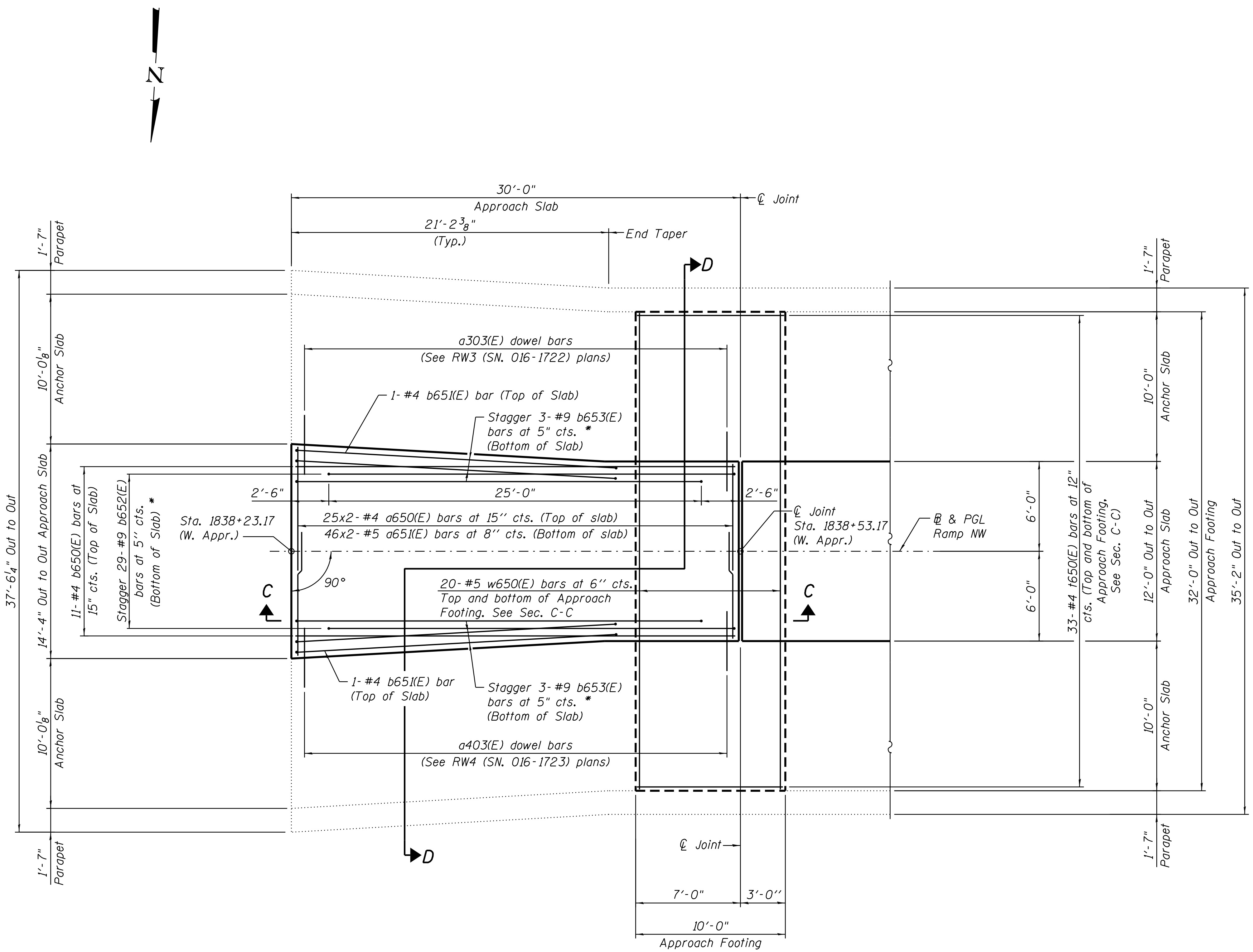
SOUTH APPROACH SLAB DETAILS
STRUCTURE NO. 016-1705
SHEET NO. S-61 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	377
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

NOTES:

1. See sheet S-63 for Sections C-C & D-D.

*** Cost included with Concrete Superstructure.

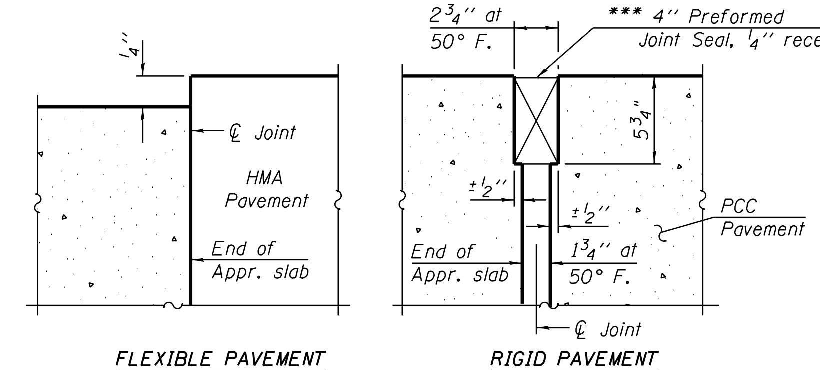


WEST APPROACH SLAB PLAN

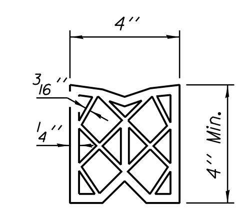
* Tilt #9 b652(E) and b653(E) bars as required to maintain clearance.

MIN. BAR LAPS

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



DETAIL A



PREFORMED JOINT SEAL

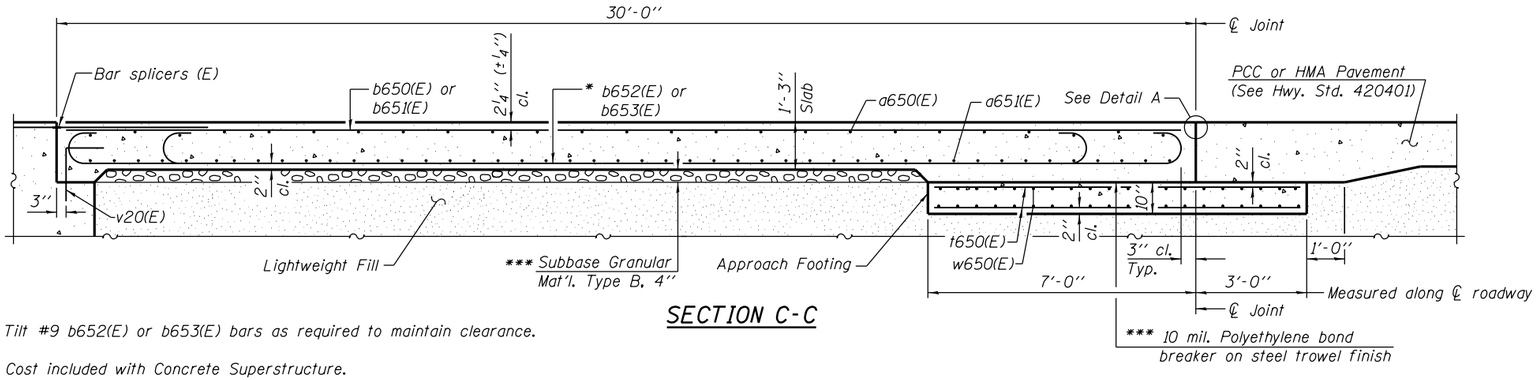
AECOM	USER NAME = floresg	DESIGNED - JRE	REVISED
		CHECKED - JPH	REVISED
	PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
	PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH SLAB PLAN
STRUCTURE NO. 016-1705
SHEET NO. S-62 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	378
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

0161705-60W28-S062-ApprSlab.dgn



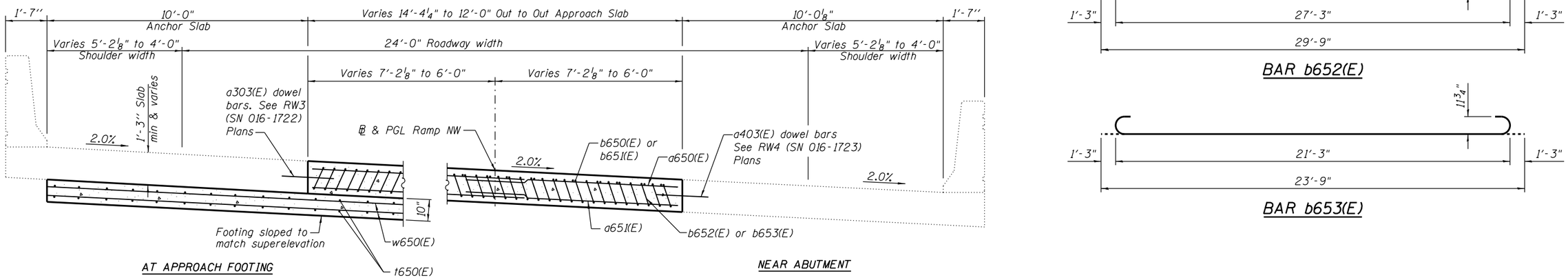
SECTION C-C

* Tilt #9 b652(E) or b653(E) bars as required to maintain clearance.

*** Cost included with Concrete Superstructure.

NOTES:

1. See sheet S-62 for Detail A.
2. Approach slab concrete shall be paid for as Concrete Superstructure.
3. Approach footing concrete shall be paid for as Concrete Structures.
4. Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
5. For v20(E) bar details, see sheet S-117.
6. The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
7. Cost of excavation for approach footing included with Concrete Structures.
8. For bar splicer details, see sheet S-146.
9. For lightweight fill details, see Retaining Wall 3 (SN 016-1722), sheet RW3-05.
10. For Anchor Slab Details see Retaining Wall 3 (SN 016-1722) and Retaining Wall 4 (SN 016-1723) plans.

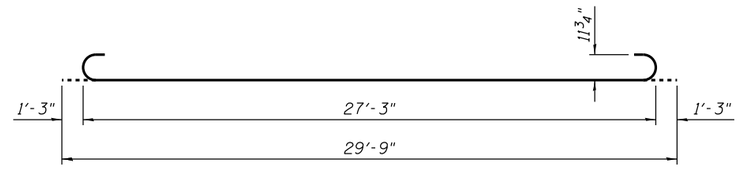


AT APPROACH FOOTING

NEAR ABUTMENT

SECTION D-D

(See Plan for dimensions not shown)



BAR b652(E)

BAR b653(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a650(E)	50	#4	8'-4"	———
a651(E)	92	#5	8'-8"	———
b650(E)	11	#4	29'-8"	———
b651(E)	2	#4	21'-3"	———
b652(E)	29	#9	29'-9"	⊂——⊃
b653(E)	6	#9	23'-9"	⊂——⊃
t650(E)	66	#4	9'-8"	———
w650(E)	40	#5	31'-8"	———
Concrete Superstructure			Cu. Yd.	19
Concrete Structures			Cu. Yd.	10
Reinforcement Bars, Epoxy Coated			Pound	6,530
Bridge Deck Grooving (Special)			Sq. Yd.	43
Protective Coat			Sq. Yd.	43

0161705-60W28-S063-ApprSlabDetails.dgn

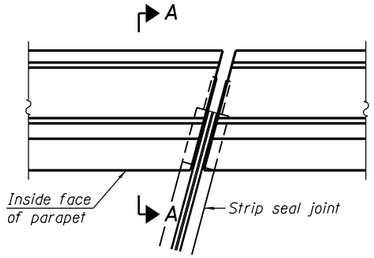
AECOM

USER NAME = floresg	DESIGNED - JRE	REVISED
	CHECKED - JPH	REVISED
PLOT SCALE = N.T.S.	DRAWN - TNP	REVISED
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED

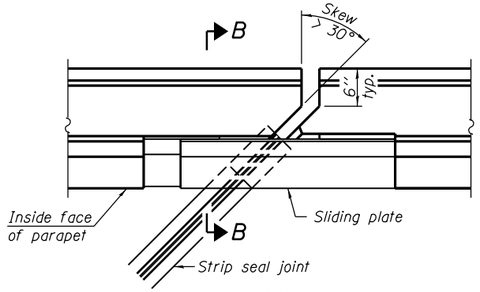
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST APPROACH SLAB DETAILS
STRUCTURE NO. 016-1705
SHEET NO. S-63 OF S-165 SHEETS

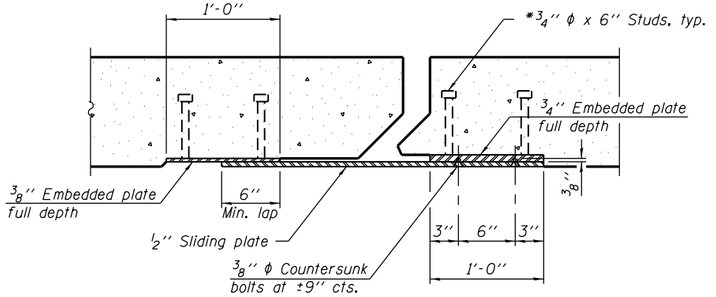
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	379
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



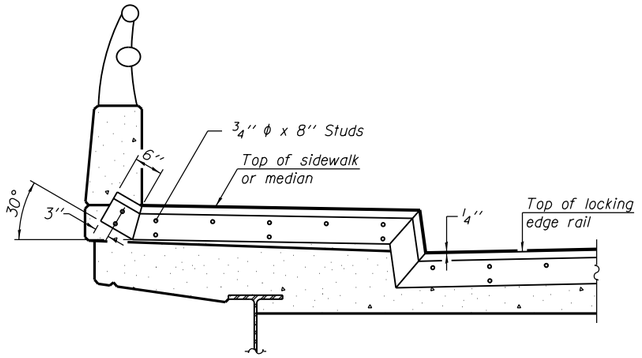
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

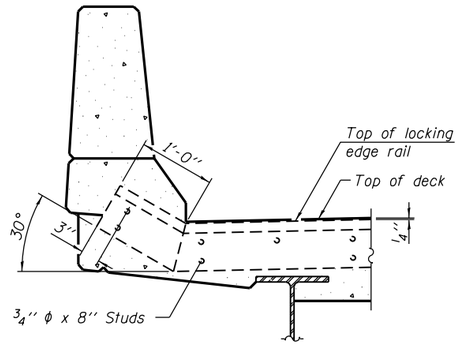


SECTION C-C

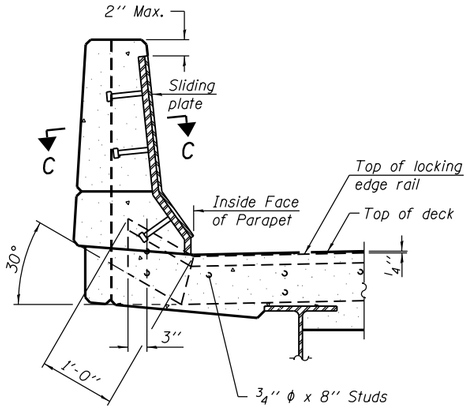


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

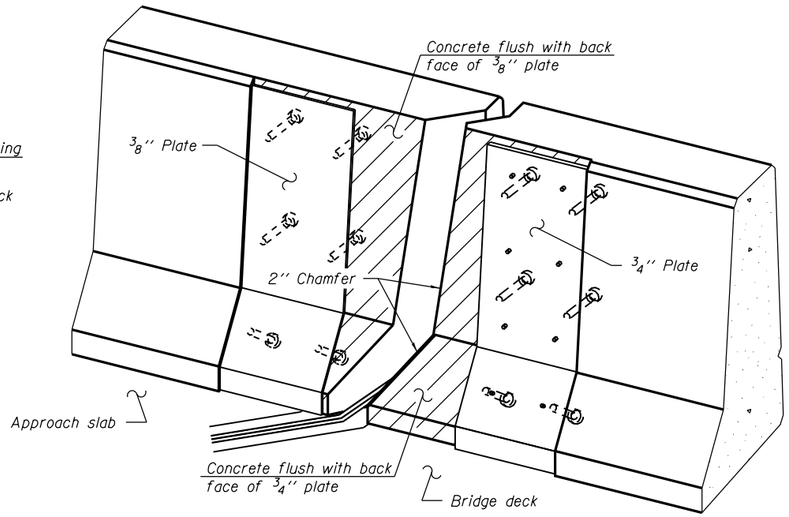
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

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.

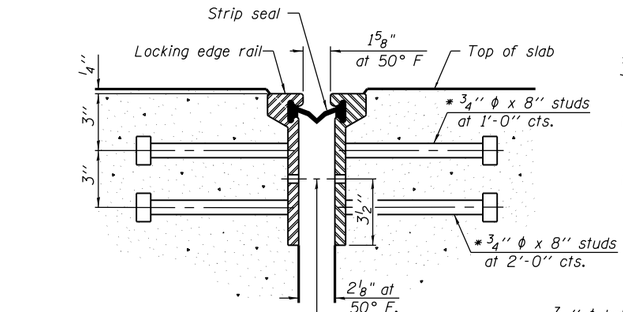
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

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.

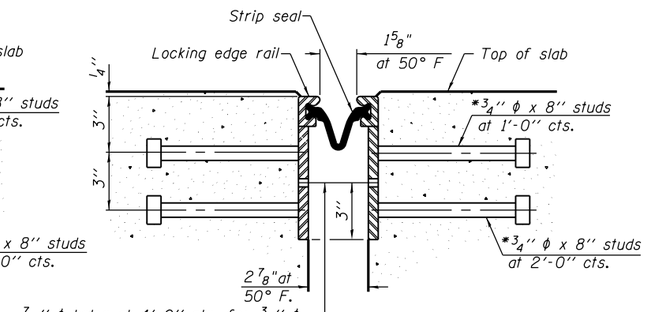
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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.



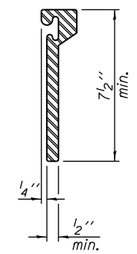
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT

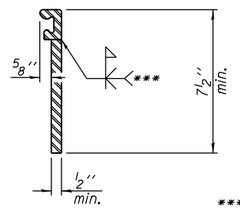


7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

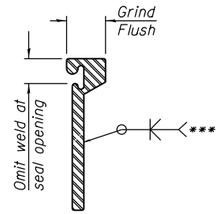
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



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

LOCKING EDGE RAIL SPLICE

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

Rolled rail shown, welded rail similar.

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

LOCKING EDGE RAILS

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	39.0

EJ-SSJ

1-27-12

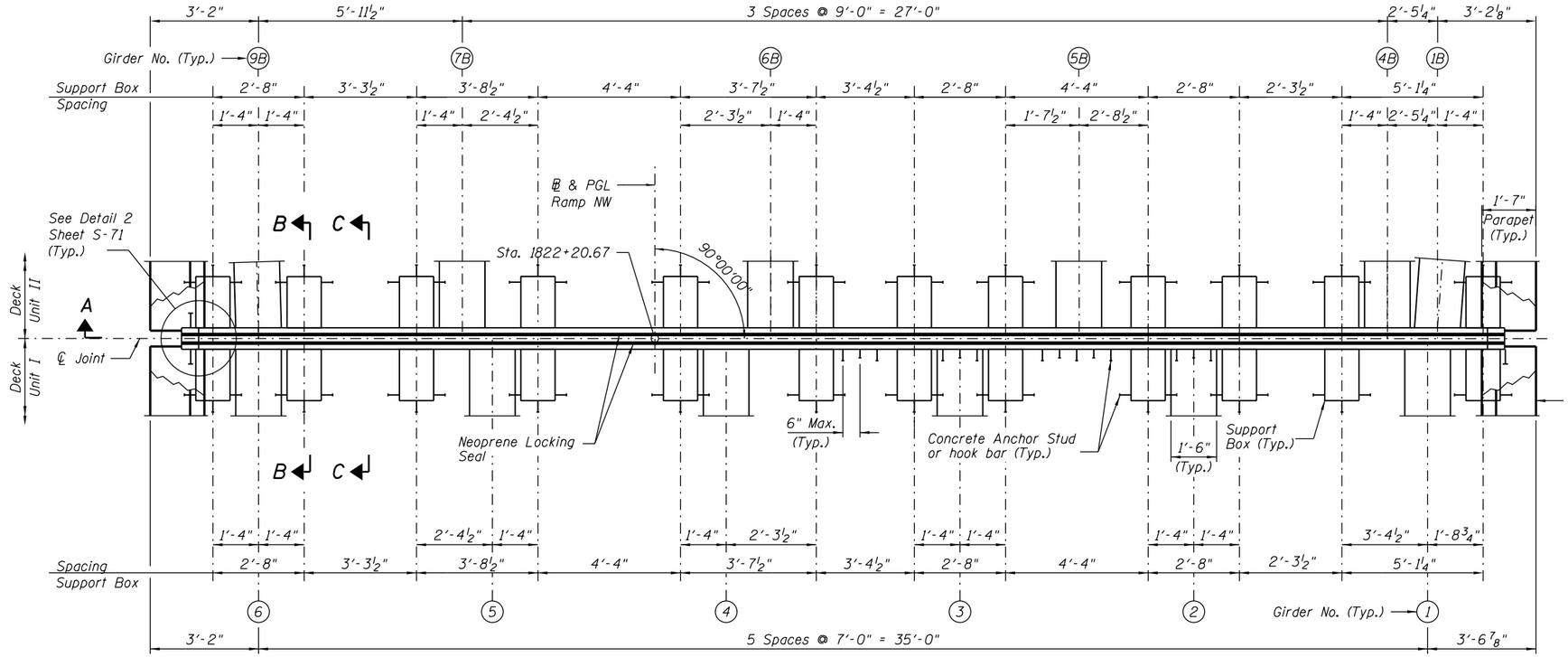
USER NAME = floresg	DESIGNED - VP	REVISED	
	CHECKED - EJO	REVISED	
PLOT SCALE = N.T.S.	DRAWN - VP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT – SOUTH ABUTMENT
STRUCTURE NO. 016-1705
SHEET NO. S-64 OF S-165 SHEETS

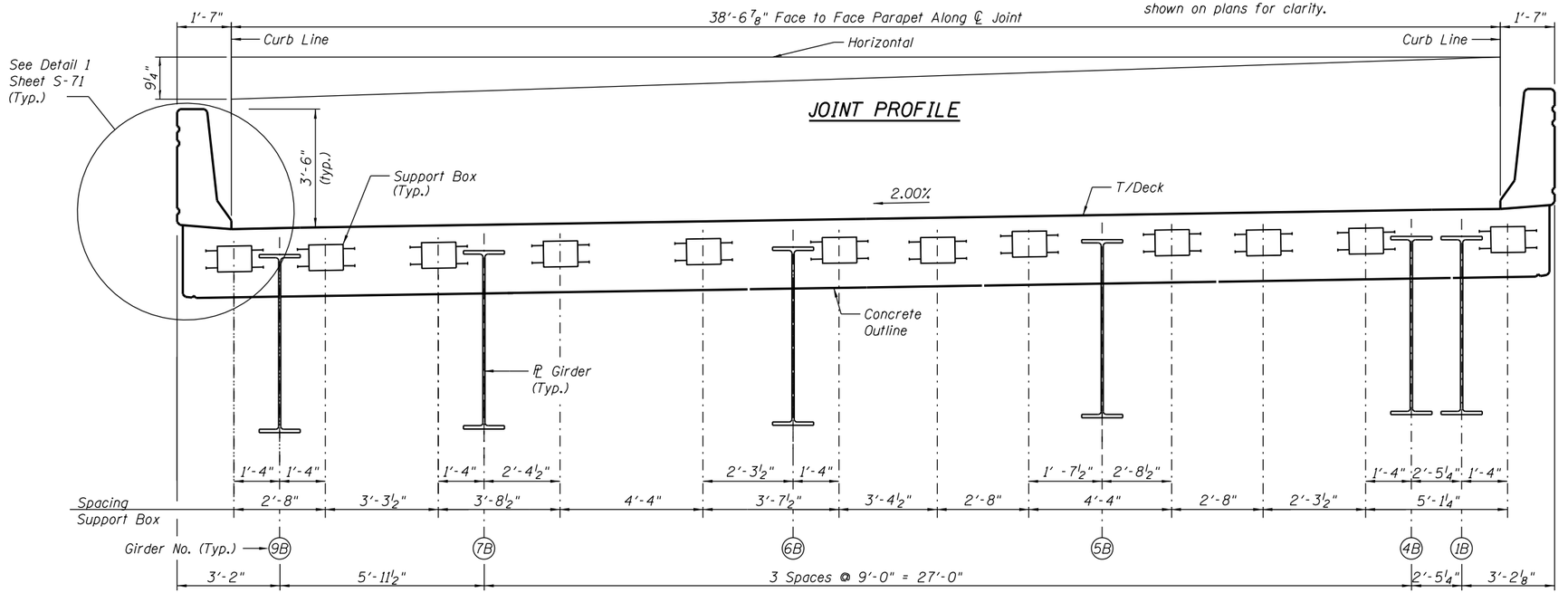
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	380
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S064-ExpJoint.dgn



PLAN

Note:
All Concrete Anchor Studs required are not shown on plans for clarity.



JOINT PROFILE

SECTION A-A
(Looking Upstation)

GENERAL NOTES:

1. Modular expansion joint shall be designed according to Section 14 of the 2012 AASHTO specifications for HL-93 truck loading with impact and the Special Provision.
2. The joint shall be a shop-fabricated modular assembly with multiple support bars, edge and separation beams and transverse neoprene seals, providing a continuous seal across the deck.
3. Joint shall be fabricated and installed according to the manufacturer's recommendations and as specified in the special provision for a modular joint system and as approved the the Engineer.
4. Joint shall be fabricated to conform to the roadway profile and cross-slopes.
5. All exposed structural steel elements such as separation beams, edge beams, support bars, sliding plate assemblies and cover plates shall be fabricated with AASHTO M270 Grade 50 ksi steel.
6. Modular expansion joints shall be shipped in one piece unless noted.
7. Concrete anchor studs attached to the modular expansion joint shall conform to the requirements of Article 1006.32 of the Standard Specifications. The cost of the Concrete Anchor Studs shall be included with Modular Expansion Joint-Swivel, 6".
8. No aluminum components shall be allowed.
9. All splices of center beams and edge beams located in the roadway shall be full penetration welds. (Upturn splices may be partial penetration welds)
10. See deck reinforcement plan sheet for bar size, designation and blockout dimensions.
11. The swivel modular expansion joint system shall be limited to pre-approved systems as indicated in special provision for Modular Expansion Joint. The joint shall provide the movement as shown in Table A.
12. For Sections B-B and C-C, see Sheet S-71.
13. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
14. Dimensions are measured along ℄ of Joint.
15. Support box dimensions and spacing shown are conceptual only and subject to refinement by joint manufacturer.

TABLE A

Location	Longitudinal Movement (Inch)	Size (Inch)
Pier 2	4.5	6

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint-Swivel, 6"	Foot	40

0161705-60W28-S065-ExpJoint.dgn

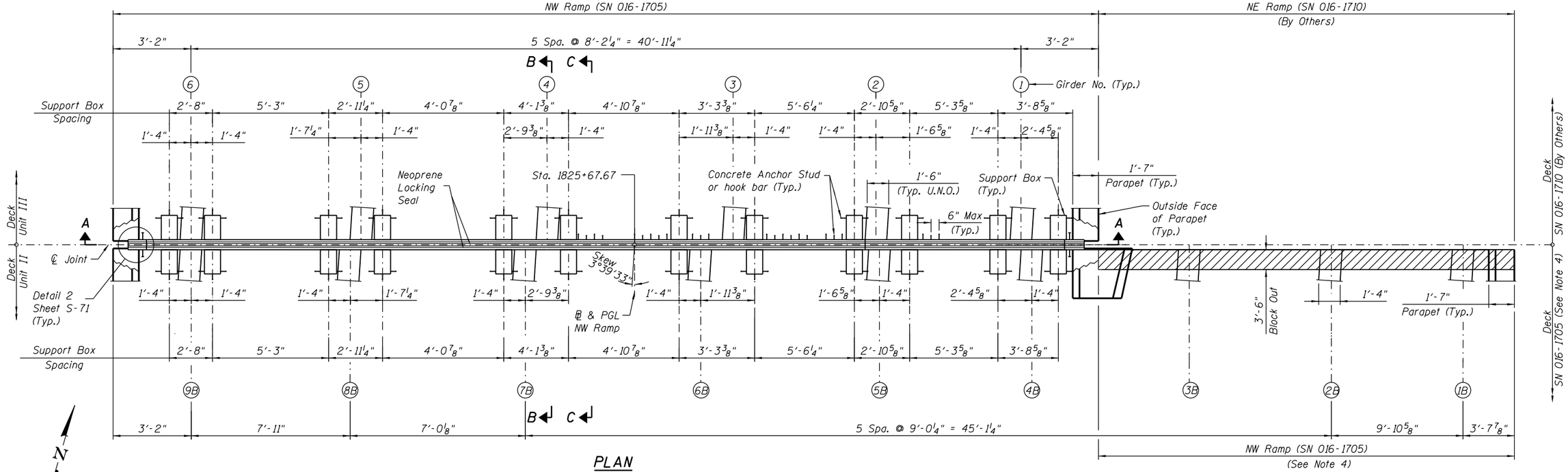
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - EJO	REVISED
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

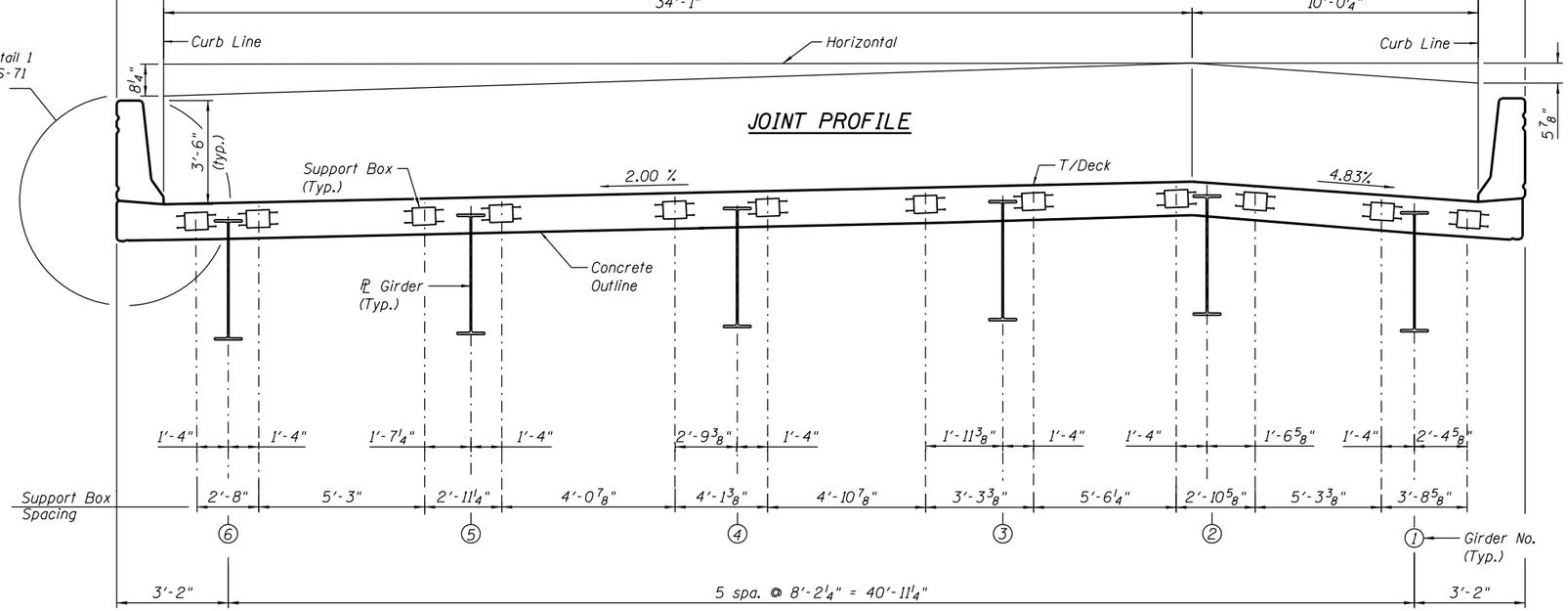
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODULAR EXPANSION JOINT – PIER 2
STRUCTURE NO. 016-1705
SHEET NO. S-65 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	381
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



PLAN



JOINT PROFILE

SECTION A-A

(Looking Upstation)

Note:
All Concrete Anchor Studs required are not shown on plans for clarity.

TABLE A

Location	Longitudinal Movement (Inch)	Size (Inch)
Pier 4	4.2	6

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint-Swivel, 6"	Foot	46

NOTES:

1. For General Notes, see Sheet S-65.
2. For Sections B-B and C-C, see Sheet S-71.
3. The swivel modular expansion joint system shall be limited to pre-approved systems as indicated in special provision for Modular Expansion Joint. The joint shall provide the movement as shown in Table A.
4. Modular Expansion Joint-Swivel to be built in future Contract for SN 016-1710 (NE Ramp) by Others. Do not pour Concrete Block Out in this region.
5. Dimensions are measured along ℄ of Joint.
6. Support box dimensions and spacing shown are conceptual only and subject to refinement by joint manufacturer.

AECOM

USER NAME = floresg	DESIGNED - VJ	REVISED	
	CHECKED - EJO	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

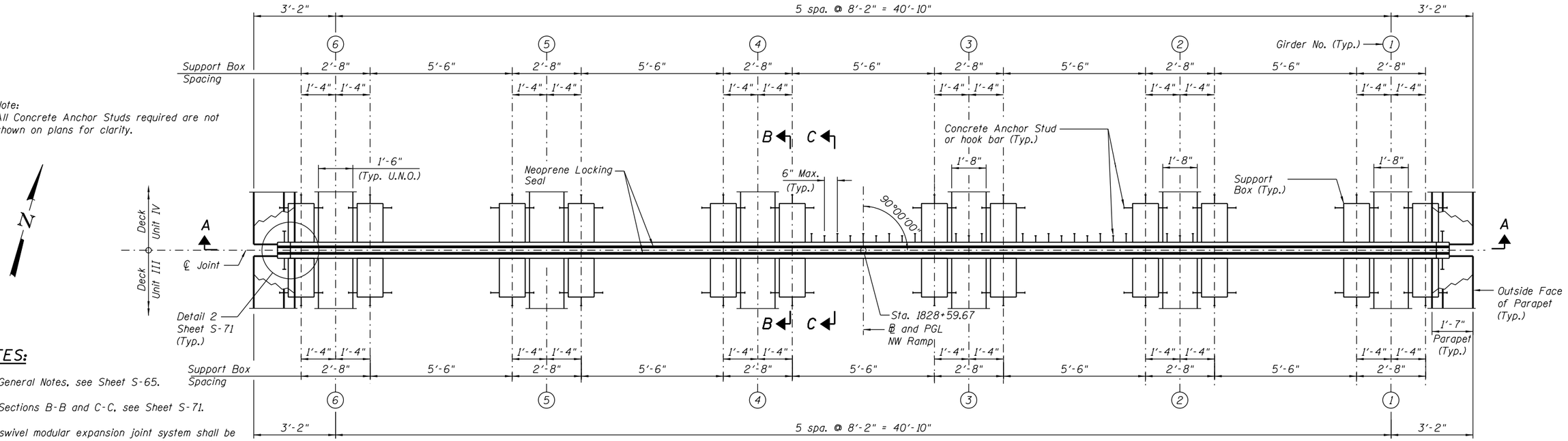
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODULAR EXPANSION JOINT – PIER 4
STRUCTURE NO. 016-1705
SHEET NO. S-66 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	382
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S066-ExpJoint.dgn

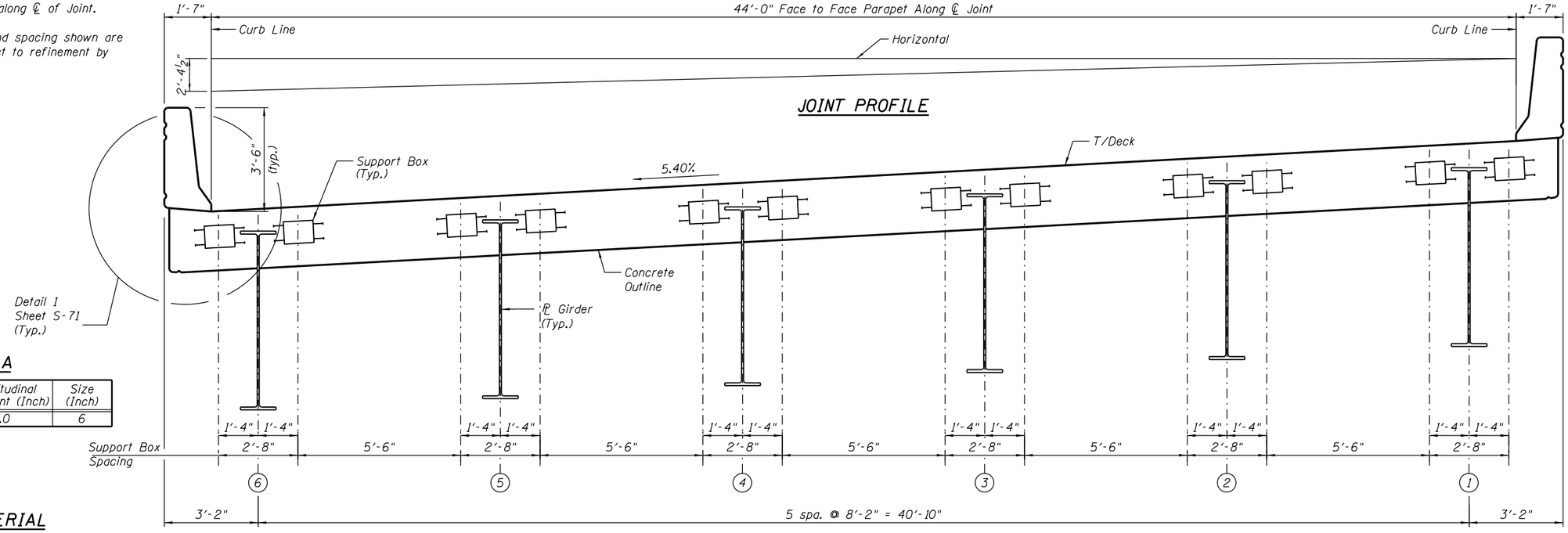
Note:
All Concrete Anchor Studs required are not shown on plans for clarity.



PLAN

NOTES:

1. For General Notes, see Sheet S-65.
2. For Sections B-B and C-C, see Sheet S-71.
3. The swivel modular expansion joint system shall be limited to pre-approved systems as indicated in special provision for Modular Expansion Joint. The joint shall provide the movement as shown in Table A.
4. Dimensions are measured along ℄ of Joint.
5. Support box dimensions and spacing shown are conceptual only and subject to refinement by joint manufacturer.



JOINT PROFILE

TABLE A

Location	Longitudinal Movement (Inch)	Size (Inch)
Pier 6	4.0	6

BILL OF MATERIAL

Item	Unit	Total
Pier 6 Modular Exp. Jt.-Swivel, 6"	Foot	46

SECTION A-A
(Looking Upstation)

0161705-60W28-S067-ExpJoint.dgn

AECOM

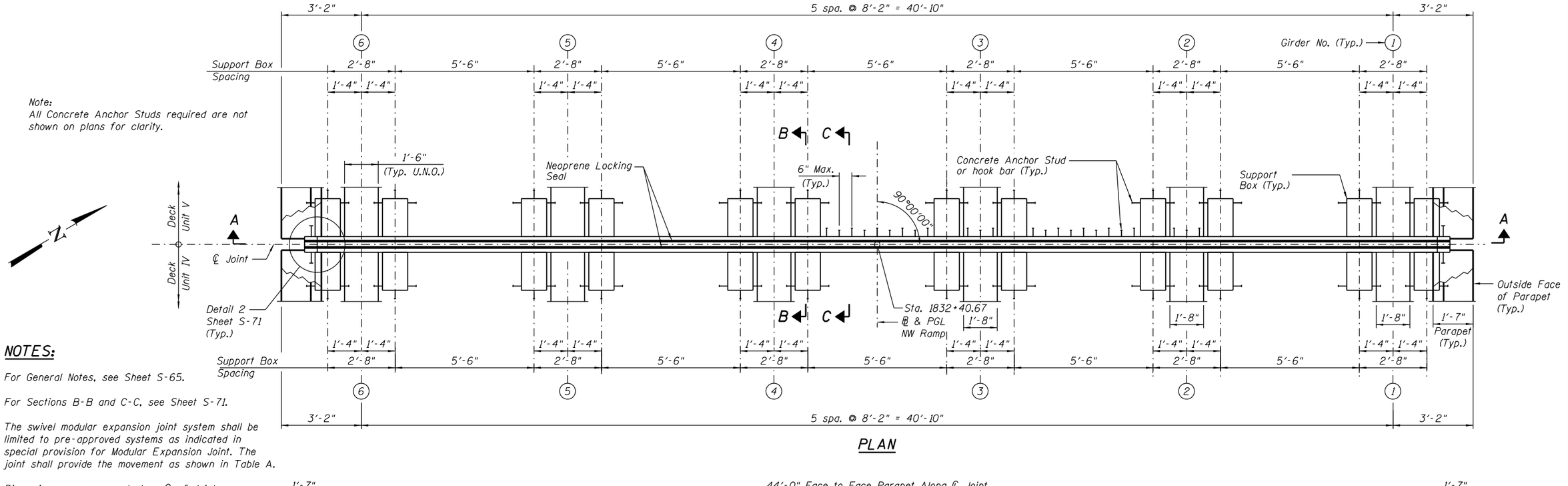
USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - EJO	REVISED
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MODULAR EXPANSION JOINT – PIER 6
STRUCTURE NO. 016-1705
SHEET NO. S-67 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	383
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

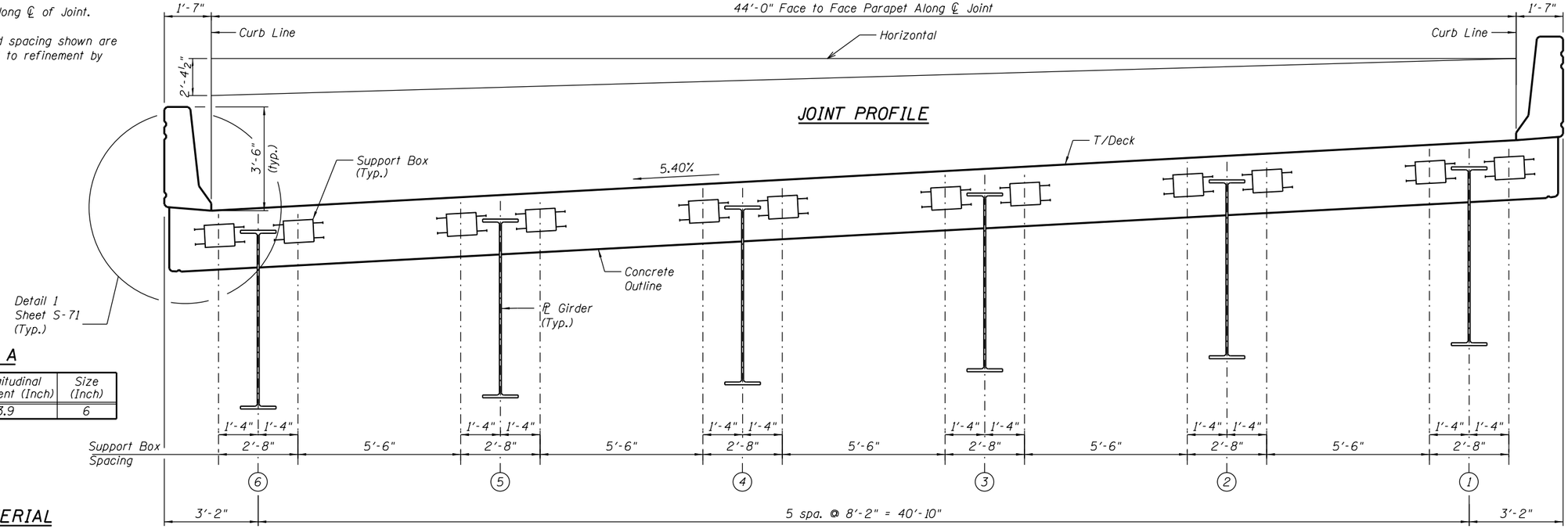
Note:
All Concrete Anchor Studs required are not shown on plans for clarity.



PLAN

NOTES:

1. For General Notes, see Sheet S-65.
2. For Sections B-B and C-C, see Sheet S-71.
3. The swivel modular expansion joint system shall be limited to pre-approved systems as indicated in special provision for Modular Expansion Joint. The joint shall provide the movement as shown in Table A.
4. Dimensions are measured along ℄ of Joint.
5. Support box dimensions and spacing shown are conceptual only and subject to refinement by joint manufacturer.



JOINT PROFILE

SECTION A-A
(Looking Upstation)

TABLE A

Location	Longitudinal Movement (Inch)	Size (Inch)
Pier 8	3.9	6

BILL OF MATERIAL

Item	Unit	Total
Pier 6 Modular Exp. Jt.-Swivel, 6"	Foot	46

0161705-60W28-S068-ExpJoint.dgn

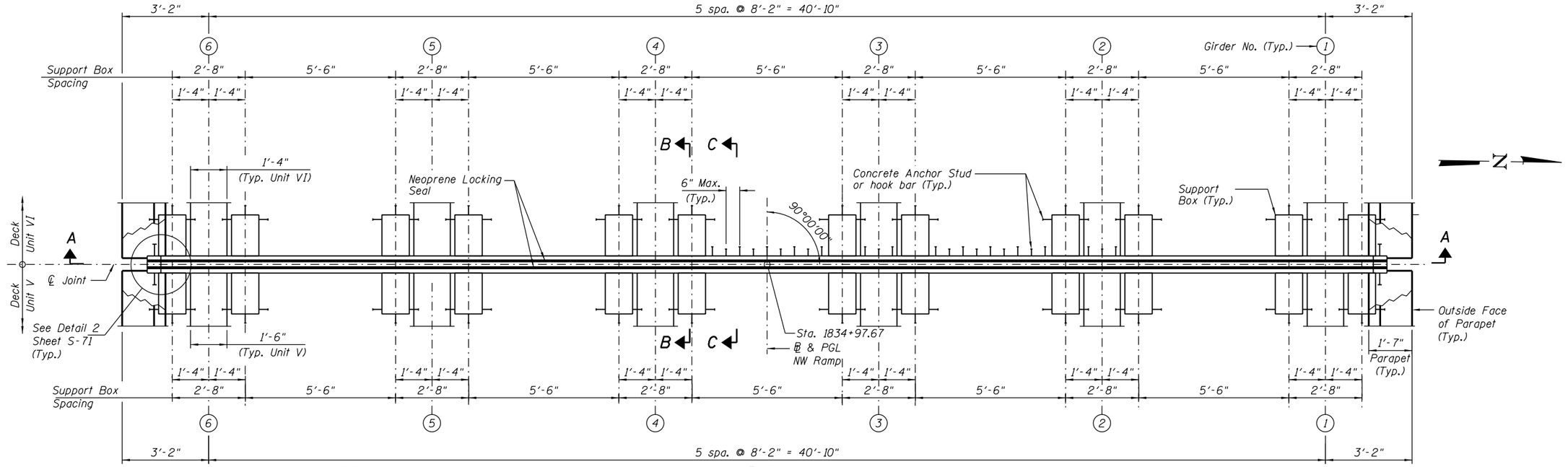
AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - EJO	REVISED
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

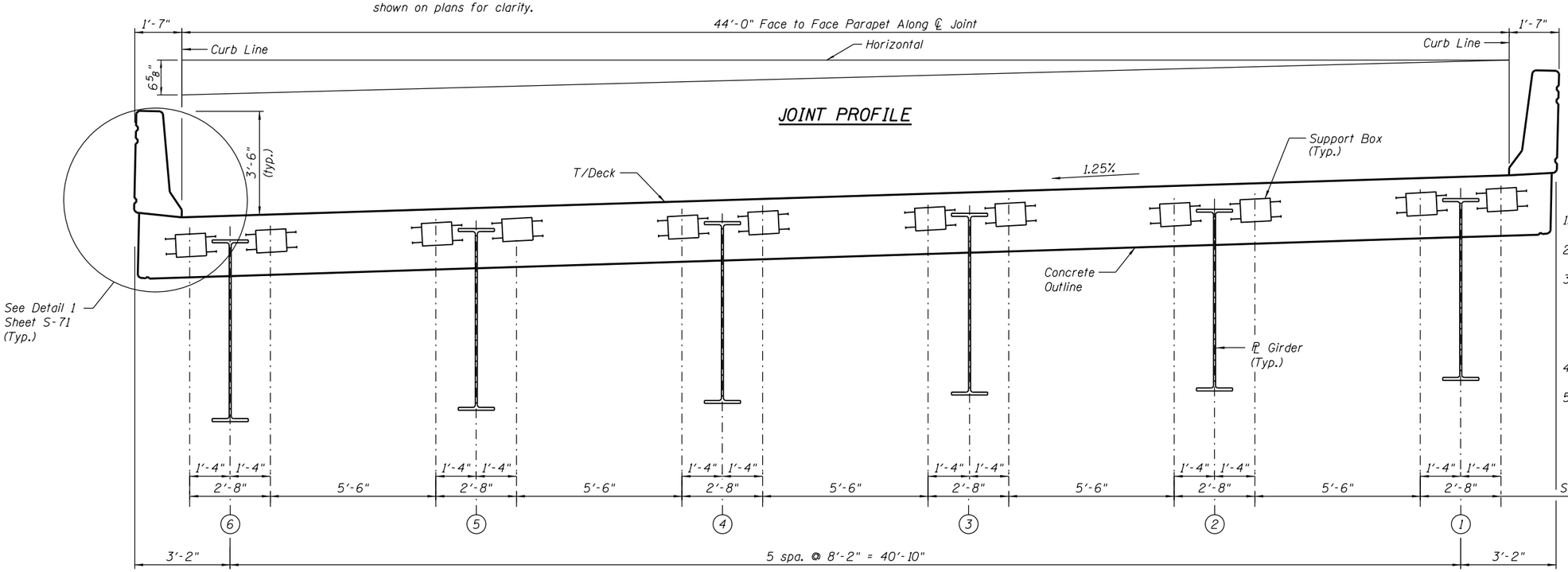
MODULAR EXPANSION JOINT – PIER 8
STRUCTURE NO. 016-1705
SHEET NO. S-68 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	383
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



Note:
All Concrete Anchor Studs required are not shown on plans for clarity.

PLAN



SECTION A-A
(Looking Upstation)

NOTES:

1. For General Notes, see Sheet S-65.
2. For Sections B-B and C-C, see Sheet S-71.
3. The swivel modular expansion joint system shall be limited to pre-approved systems as indicated in special provision for Modular Expansion Joint. The joint shall provide the movement as shown in Table A.
4. Dimensions are measured along ℄ of Joint.
5. Support box dimensions and spacing shown are conceptual only and subject to refinement by joint manufacturer.

TABLE A

Location	Longitudinal Movement (Inch)	Size (Inch)
Pier 10	4.5	6

BILL OF MATERIAL

Item	Unit	Total
Modular Exp. Jt.-Swivel, 6"	Foot	46

AECOM

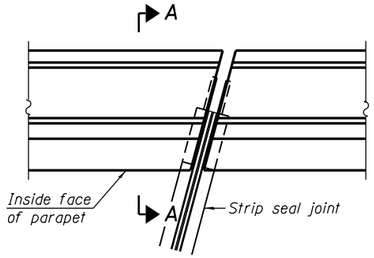
USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - EJO	REVISED
PLOT SCALE = N.T.S.	DRAWN - MK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

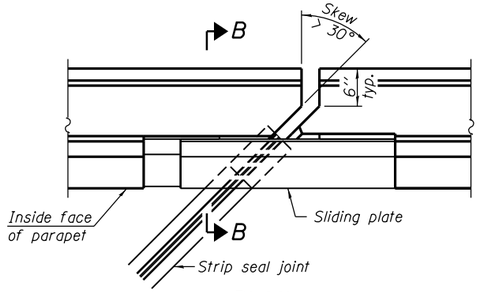
MODULAR EXPANSION JOINT – PIER 10
STRUCTURE NO. 016-1705
SHEET NO. S-69 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	384
		CONTRACT NO. 60W28		
		ILLINOIS FED. AID PROJECT		

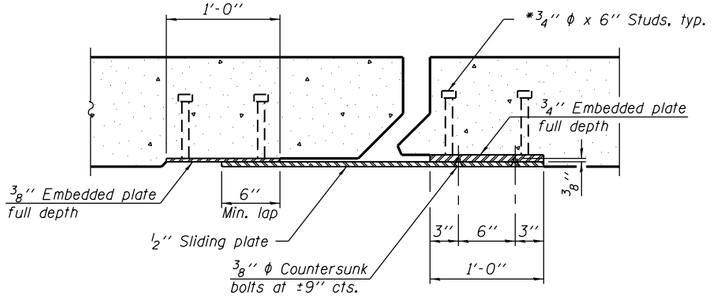
0161705-60W28-S069-ExpJoint.dgn



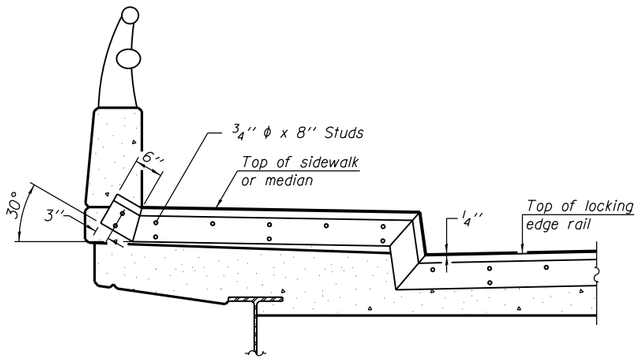
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

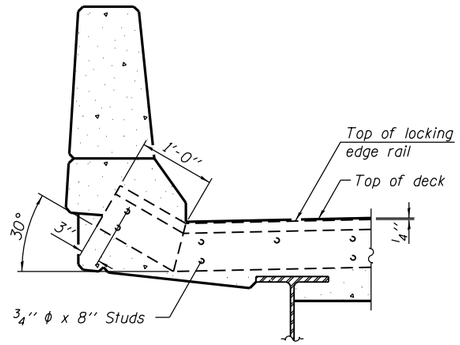


SECTION C-C

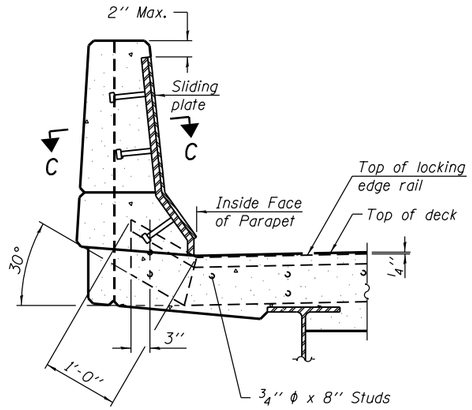


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

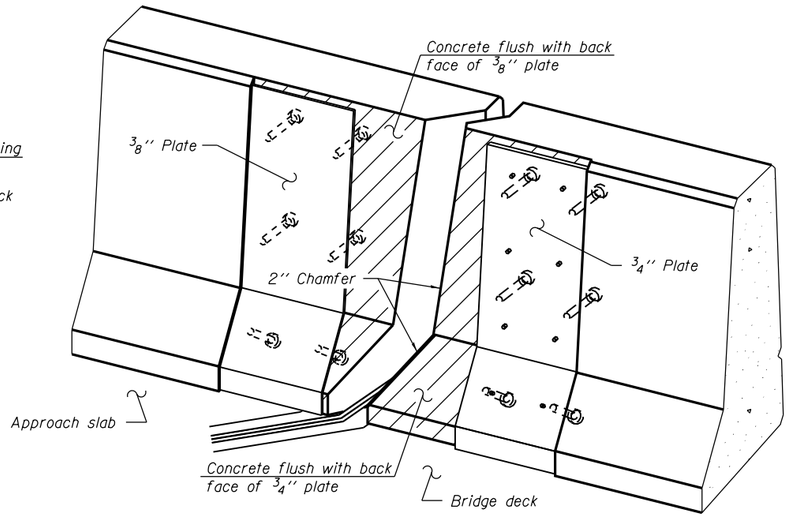
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

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.

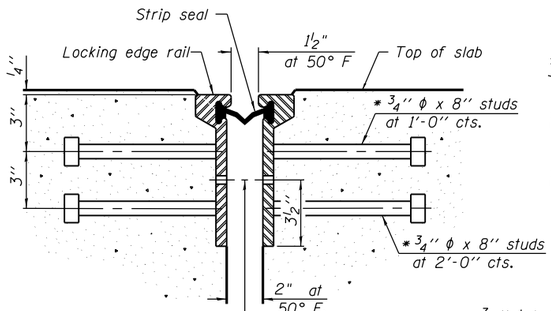
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

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.

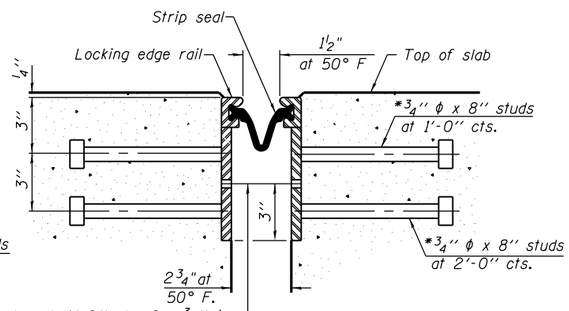
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

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.



7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

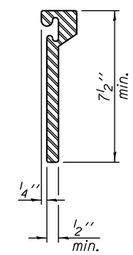
SECTION THRU ROLLED RAIL JOINT



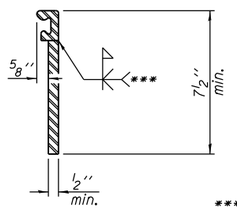
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

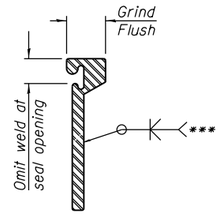
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	37.0

EJ-SSJ

1-27-12

USER NAME = floresg	DESIGNED - VP	REVISED	
	CHECKED - EJO	REVISED	
PLOT SCALE = N.T.S.	DRAWN - VP	REVISED	
PLOT DATE = 5/7/2014	CHECKED - EJO	REVISED	

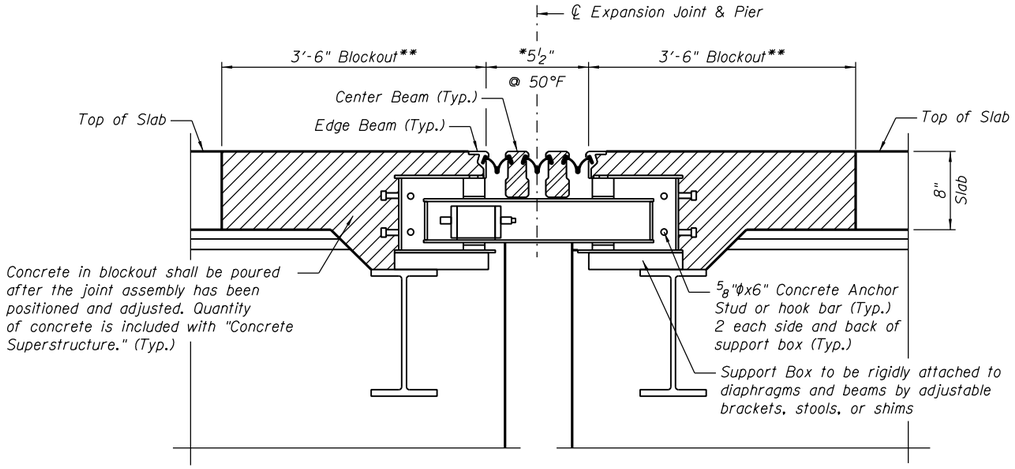
AECOM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

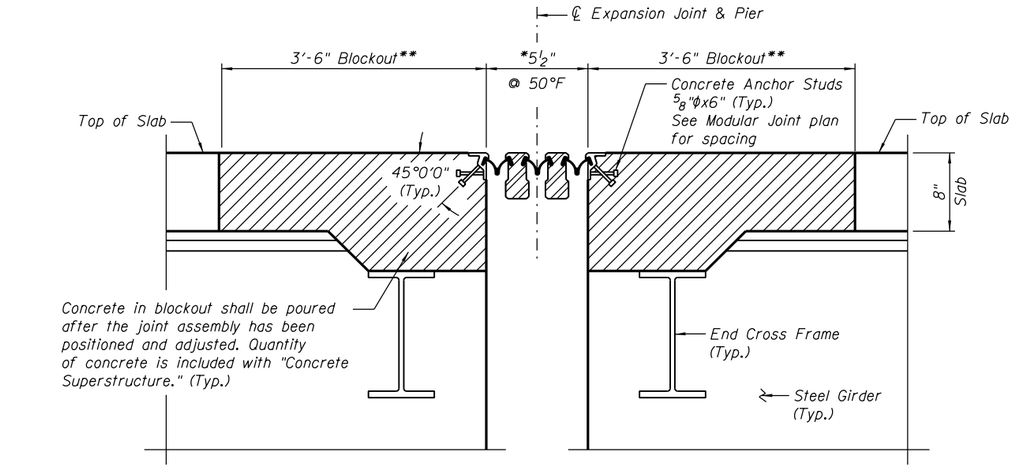
EXPANSION JOINT – WEST ABUTMENT
STRUCTURE NO. 016–1705
SHEET NO. S-70 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	385
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		

0161705-60W28-S070-ExpJoint.dgn



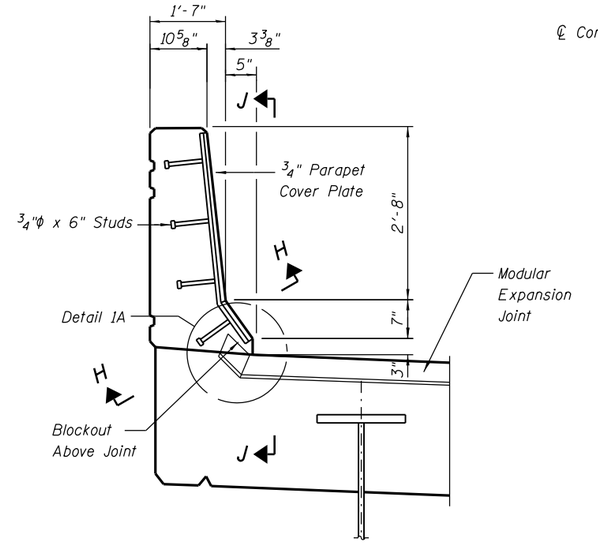
SECTION B-B



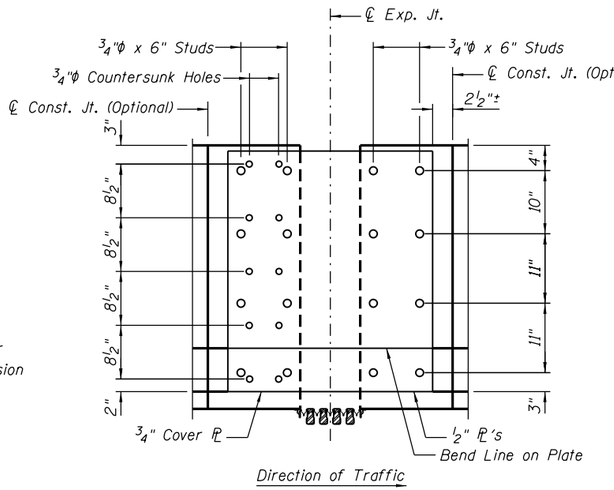
SECTION C-C

*Number of beams and seals determined by manufacturer

** Blockout dimensions to be verified by Contractor with Joint Manufacturer.



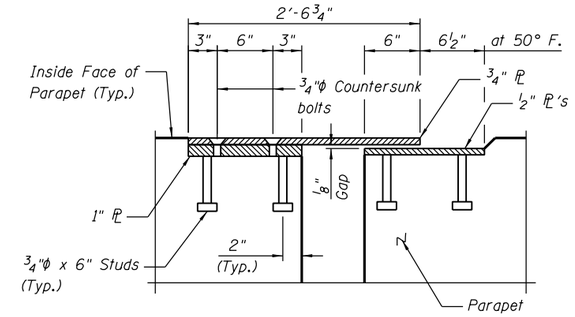
DETAIL 1



SECTION J-J

DETAIL 1A

DETAIL 2



SECTION H-H

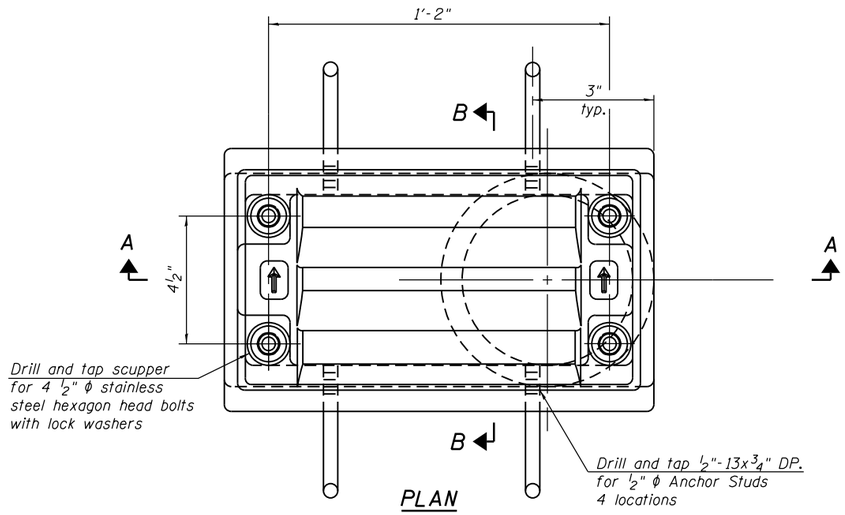
AECOM	USER NAME = floresg	DESIGNED - ABT	REVISED
		CHECKED - EJO	REVISED
	PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
	PLOT DATE = 5/7/2014	CHECKED - ABT	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

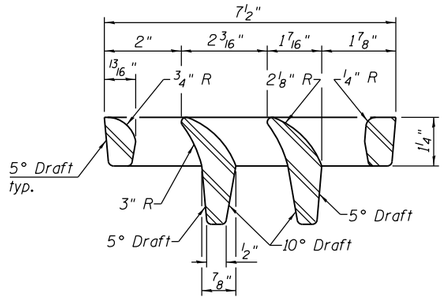
MODULAR EXPANSION JOINT DETAILS
STRUCTURE NO. 016-1705
SHEET NO. S-71 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	387
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		

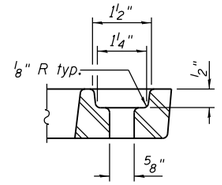
0161705-60W28-S071-ExpJoint.dgn



PLAN



VANE GRATE DETAIL



BOLT HOLE DETAIL

Notes:

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

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

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

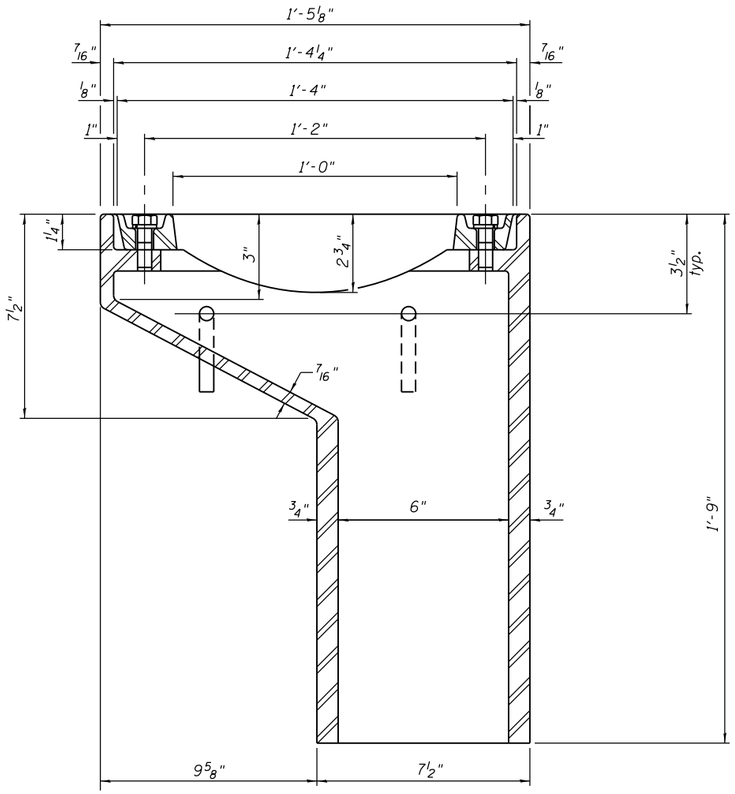
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

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.

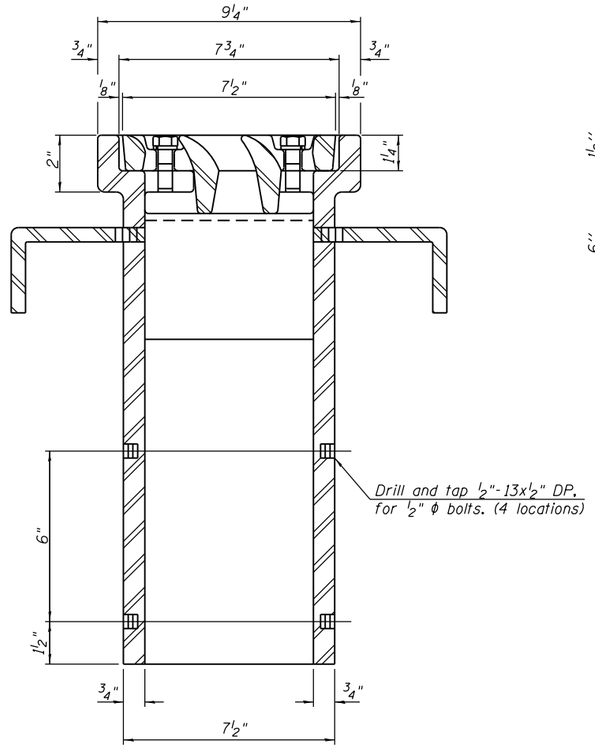
Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-11.

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

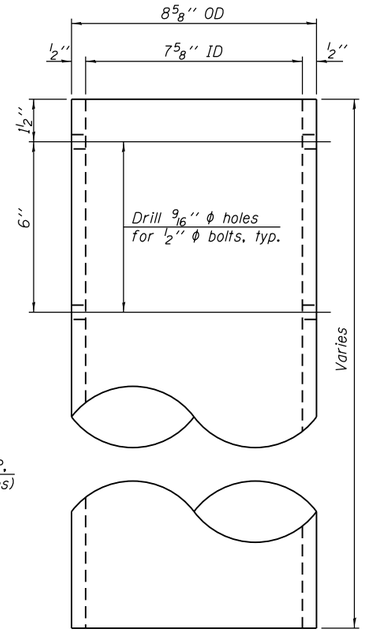


SECTION A-A

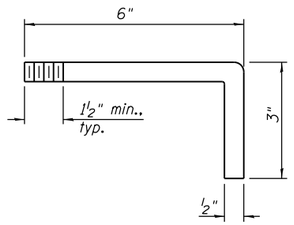
See sheet S-1 through S-3 for scupper location.



SECTION B-B



DOWNSPOUT



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	20

DS-11

7-1-10

USER NAME = floresg	DESIGNED - ATB	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

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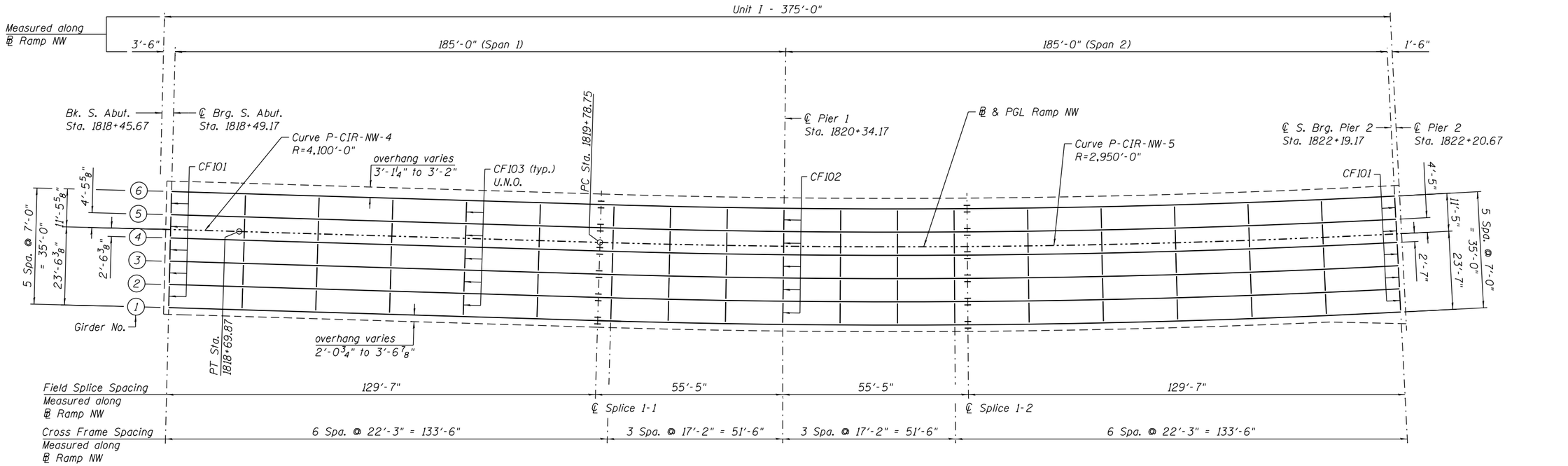
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

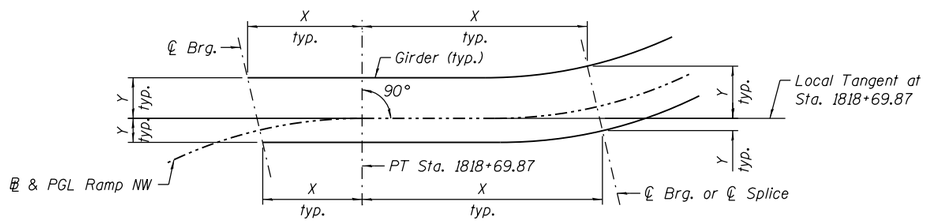
DRAINAGE SCUPPER DETAILS
STRUCTURE NO. 016-1705
SHEET NO. S-72 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	388
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

0161705-60W28-S072-Drainage.dgn



GIRDER FRAMING PLAN - UNIT I



CURVED GIRDER LAYOUT

(X Measured along Local Tangent)

GIRDER COORDINATES - UNIT I

(All Dimensions in Feet)

Girder	℄ Brg. S. Abutment		℄ Pier 1		℄ Splice 1-2		℄ S. Brg. Pier 2	
	X	Y	X	Y	X	Y	X	Y
1	-20.586	-23.583	164.734	-23.059	220.570	-21.485	350.961	-13.713
2	-20.621	-16.583	164.603	-16.060	220.308	-14.490	350.387	-6.736
3	-20.656	-9.583	164.471	-9.061	220.045	-7.495	349.814	0.240
4	-20.692	-2.583	164.340	-2.062	219.782	-0.500	349.241	7.217
5	-20.727	4.417	164.208	4.936	219.519	6.495	348.667	14.193
6	-20.762	11.417	164.077	11.935	219.256	13.490	348.093	21.170

NOTES:

1. See Sheet S-74 for girder elevation.
2. See Sheet S-75 for cabmer & top of web elevations.
3. See Sheet S-76 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. Girder spacings and cross frame orientations are radial to the ℄ Ramp NW, except at ℄ Brg. S. Abut. & ℄ S. Brg. Pier 2 supports where ℄ Brg. and cross frame orientations are parallel to the respective centerline of supports.

0161705-60W28-S073-FramePlan.dgn

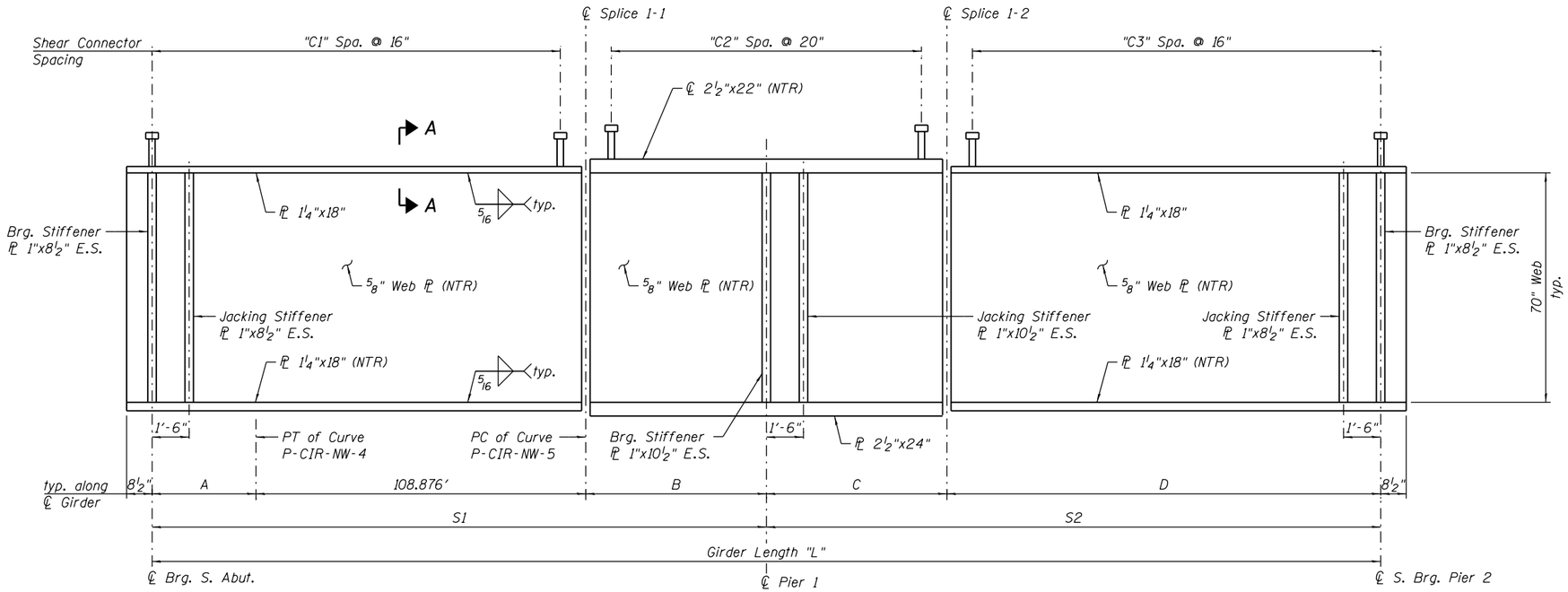
AECOM

USER NAME = floresg	DESIGNED - DD	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - DD	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

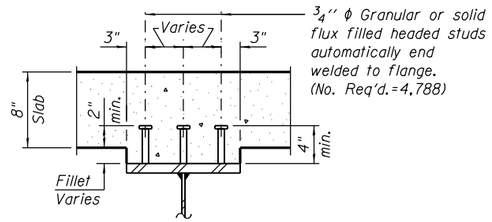
GIRDER FRAMING PLAN – UNIT I
STRUCTURE NO. 016-1705
SHEET NO. S-73 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	389
		CONTRACT NO. 60W28		
ILLINOIS	FED. AID PROJECT			



GIRDER ELEVATION - UNIT I

(Connection and Splice ℄'s not shown for clarity)



¾" ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.=4,788)

SECTION A-A

GIRDER DIMENSIONS - UNIT 1

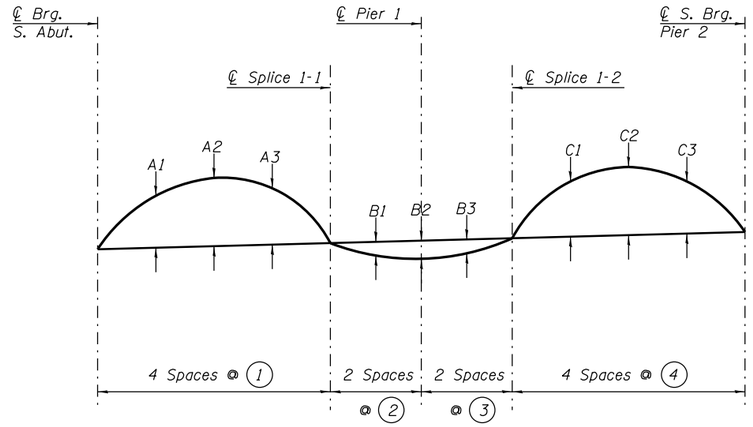
(All Dimensions in Feet)

Girder	Radius 1	L*	S1	S2	A	B	C	D	C1	C2	C3
1	2,973.583	371.815	185.324	186.491	20.586	55.862	55.862	130.629	98	68	98
2	2,966.583	371.276	185.227	186.049	20.621	55.730	55.731	130.318	98	67	98
3	2,959.583	370.737	185.131	185.606	20.656	55.599	55.599	130.007	98	67	98
4	2,952.583	370.199	185.035	185.164	20.692	55.467	55.468	129.696	98	67	98
5	2,945.583	369.660	184.939	184.721	20.727	55.336	55.336	129.385	98	67	98
6	2,938.583	369.121	184.842	184.279	20.762	55.204	55.205	129.074	98	67	97

* Girder Length "L" excludes girder ends beyond first & last bearings.

NOTES:

1. See Sheet S-73 for girder framing plan.
2. See Sheet S-75 for cabmer & top of web elevations.
3. See Sheet S-76 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. All structural steel shall be AASHTO M270 Grade 50.
7. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.



CAMBER DIAGRAM - UNIT I

TOP OF WEB ELEVATIONS* - UNIT I					
Girder	℄ Brg. S. Abut.	℄ Splice 1-1	℄ Pier 1	℄ Splice 1-2	℄ S. Brg. Pier 2
1	601.06	606.26	608.36	610.69	615.85
2	600.92	606.12	608.22	610.56	615.71
3	600.78	605.99	608.08	610.42	615.57
4	600.64	605.85	607.94	610.28	615.43
5	600.50	605.71	607.80	610.14	615.29
6	600.36	605.57	607.66	610.00	615.15

*For fabrication use only.

CAMBER ORDINATES - UNIT I												
Girder	A1	A2	A3	B1	B2	B3	C1	C2	C3	①	②	③	④
1	2 3/4"	4 1/4"	3 3/4"	0 3/4"	1 1/2"	0 3/4"	3 3/4"	4 1/4"	2 3/4"	32.366	27.931	27.931	32.657
2	2 3/4"	4 1/4"	3 3/4"	0 3/4"	1 1/2"	0 3/4"	3 3/4"	4 1/4"	3"	32.374	27.865	27.866	32.580
3	2 3/4"	4 1/4"	3 3/4"	0 3/4"	1 1/2"	0 3/4"	3 3/4"	4 1/4"	3"	32.383	27.800	27.800	32.502
4	2 3/4"	4 1/4"	3 3/4"	0 3/4"	1 1/2"	0 3/4"	3 3/4"	4 1/2"	3"	32.392	27.734	27.734	32.424
5	2 3/4"	4 1/4"	3 3/4"	0 3/4"	1 1/2"	0 3/4"	4"	4 1/2"	3"	32.401	27.668	27.668	32.346
6	3"	4 1/4"	3 3/4"	0 3/4"	1 1/2"	0 3/4"	4"	4 1/2"	3"	32.410	27.602	27.603	32.269

NOTES:

1. See Sheet S-73 for girder framing plan.
2. See Sheet S-74 for girder elevations.
3. See Sheet S-76 for girder moment & reaction tables.
4. See Sheet S-99 for girder splice details.
5. See Sheet S-100 thru S-102 for girder cross frame details and erection notes.

0161705-60W28-S075-GirderCamber.dgn

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	CHECKED - DD	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER CAMBER AND TOP OF WEB ELEVATIONS – UNIT I
STRUCTURE NO. 016-1705
SHEET NO. S-75 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	391
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

INTERIOR GIRDER MOMENT TABLE - UNIT I				
		0.4 Sp. 1	Pier 1	0.6 Sp. 2
I_s	(in^4)	74,982	168,835	74,982
$I_c(n)$	(in^4)	150,235	-	150,235
$I_c(3n)$	(in^4)	111,931	-	111,931
$I_c(cr)$	(in^4)	-	181,683	-
S_s	(in^3)	2,068	4,644	2,068
$S_c(n)$	(in^3)	2,662	-	2,662
$S_c(3n)$	(in^3)	2,424	-	2,424
$S_c(cr)$	(in^3)	-	4,760	-
DC1	(k/')	1.06	1.30	1.06
M_{DC1}	('k)	2,087	5,944	2,087
DC2	(k/')	0.19	0.19	0.19
M_{DC2}	('k)	392	990	392
DW	(k/')	0.35	0.35	0.35
M_{DW}	('k)	659	1,677	659
M_{L+IM}	('k)	2,621	3,424	2,621
M_U (Strength I)	('k)	8,674	17,175	8,674
$\phi_f M_n$	('k)	13,257	20,683	13,257
f_s DC1	(ksi)	12.11	15.36	12.11
f_s DC2	(ksi)	1.94	2.50	1.94
f_s DW	(ksi)	3.26	4.23	3.26
f_s (L+IM)	(ksi)	11.82	8.63	11.82
f_s (Service II)	(ksi)	32.67	33.31	32.67
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	-	-
$\phi_f F_n$	(ksi)	-	-	-
V_f	(k)	50.30	52.70	50.30

EXTERIOR GIRDER MOMENT TABLE - UNIT I				
		0.4 Sp. 1	Pier 1	0.6 Sp. 2
I_s	(in^4)	74,982	168,835	74,982
$I_c(n)$	(in^4)	148,331	-	148,331
$I_c(3n)$	(in^4)	110,573	-	110,573
$I_c(cr)$	(in^4)	-	181,095	-
S_s	(in^3)	2,068	4,644	2,068
$S_c(n)$	(in^3)	2,652	-	2,652
$S_c(3n)$	(in^3)	2,413	-	2,413
$S_c(cr)$	(in^3)	-	4,755	-
DC1	(k/')	1.02	1.27	1.02
M_{DC1}	('k)	2,103	5,958	2,103
DC2	(k/')	0.19	0.19	0.19
M_{DC2}	('k)	392	988	392
DW	(k/')	0.25	0.25	0.25
M_{DW}	('k)	632	1,565	632
M_{L+IM}	('k)	3,111	4,167	3,111
M_U (Strength I)	('k)	9,511	18,322	9,511
$\phi_f M_n$	('k)	13,216	20,637	13,216
f_s DC1	(ksi)	12.20	15.40	12.20
f_s DC2	(ksi)	1.95	2.49	1.95
f_s DW	(ksi)	3.14	3.95	3.14
f_s (L+IM)	(ksi)	14.08	10.52	14.08
f_s (Service II)	(ksi)	35.59	35.51	35.59
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	-	-
$\phi_f F_n$	(ksi)	-	-	-
V_f	(k)	56.80	62.40	56.80

INTERIOR GIRDER REACTION TABLE - UNIT I				
		S. Abut.	Pier 1	Pier 2-S
R_{DC1}	(k)	68.7	280.8	68.7
R_{DC2}	(k)	12.4	46.2	12.4
R_{DW}	(k)	21.3	79.2	21.3
R_{L+IM}	(k)	83.9	179.0	83.9
R_{Total}	(k)	186.3	585.2	186.3

EXTERIOR GIRDER REACTION TABLE - UNIT I				
		S. Abut.	Pier 1	Pier 2-S
R_{DC1}	(k)	68.4	279.4	68.4
R_{DC2}	(k)	12.4	46.1	12.4
R_{DW}	(k)	19.1	70.6	19.1
R_{L+IM}	(k)	86.8	188.0	86.8
R_{Total}	(k)	186.6	584.2	186.6

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 (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 (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_s

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 $M_{L+IM} / S_c(cr)$ 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.

0161705-60W28-SO76-SuperStruct.dgn

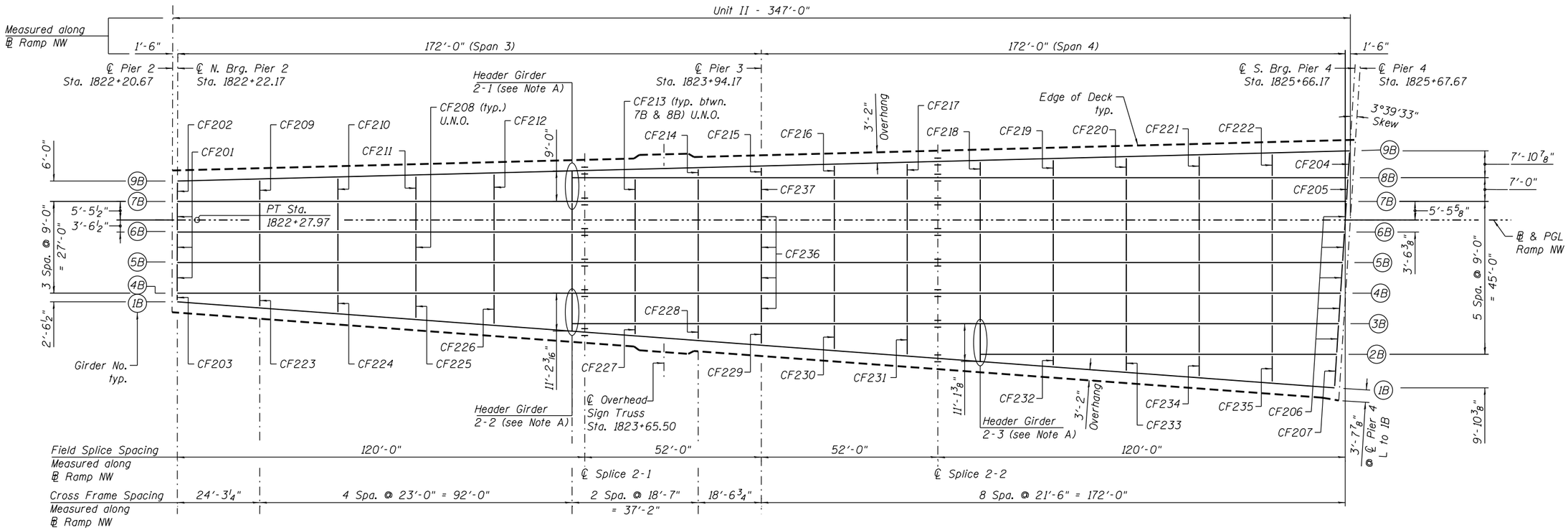
AECOM

USER NAME = floresg	DESIGNED - DD	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - DD	REVISED	

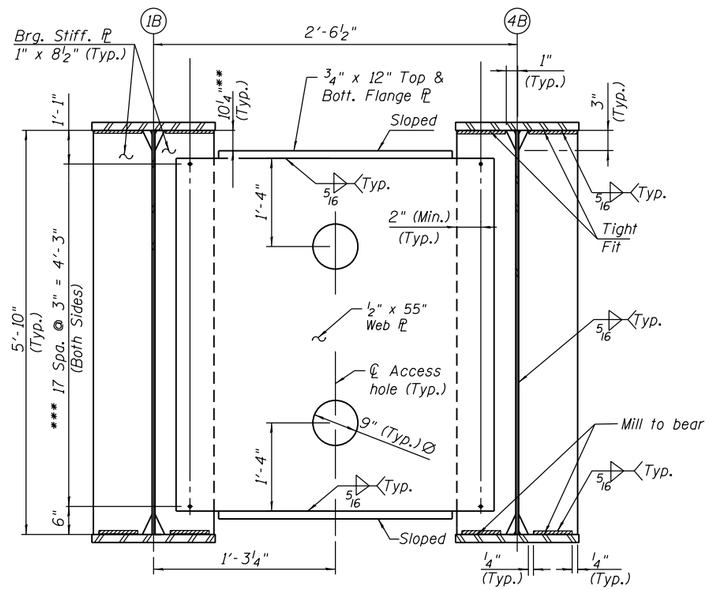
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT AND REACTION TABLES – UNIT I
STRUCTURE NO. 016–1705
SHEET NO. S-76 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	392
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

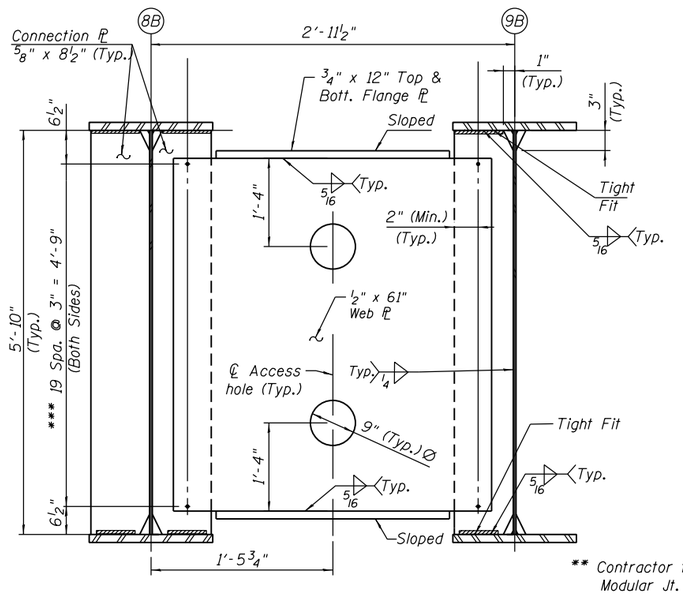


GIRDER FRAMING PLAN - UNIT II



END CROSS FRAME - CF203

(1 Required)



INTERIOR CROSS FRAME - CF214

(1 Required)

** Contractor to coordinate with Modular Jt. Manufacturer

*** 3/4" ϕ HS bolts, 15/16" ϕ holes with two hardened washers

NOTE A:

Header girders 2-1, 2-2 & 2-3 shall be treated as System Redundant Member (SRM) and shall be fabricated as per AWS Chapter 12.

NOTES:

1. See Sheets S-78 & S-79 for girder elevation.
2. See Sheet S-80 for cabmer & top of web elevations.
3. See Sheets S-81 & S-82 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. Girder spacings and cross frame orientations are perpendicular to the ℄ Ramp NW, except at ℄ N. Brg. Pier 2 & ℄ S. Brg. Pier 4 supports where ℄ Brg. and cross frame orientations are parallel to the respective centerline of supports.

AECOM

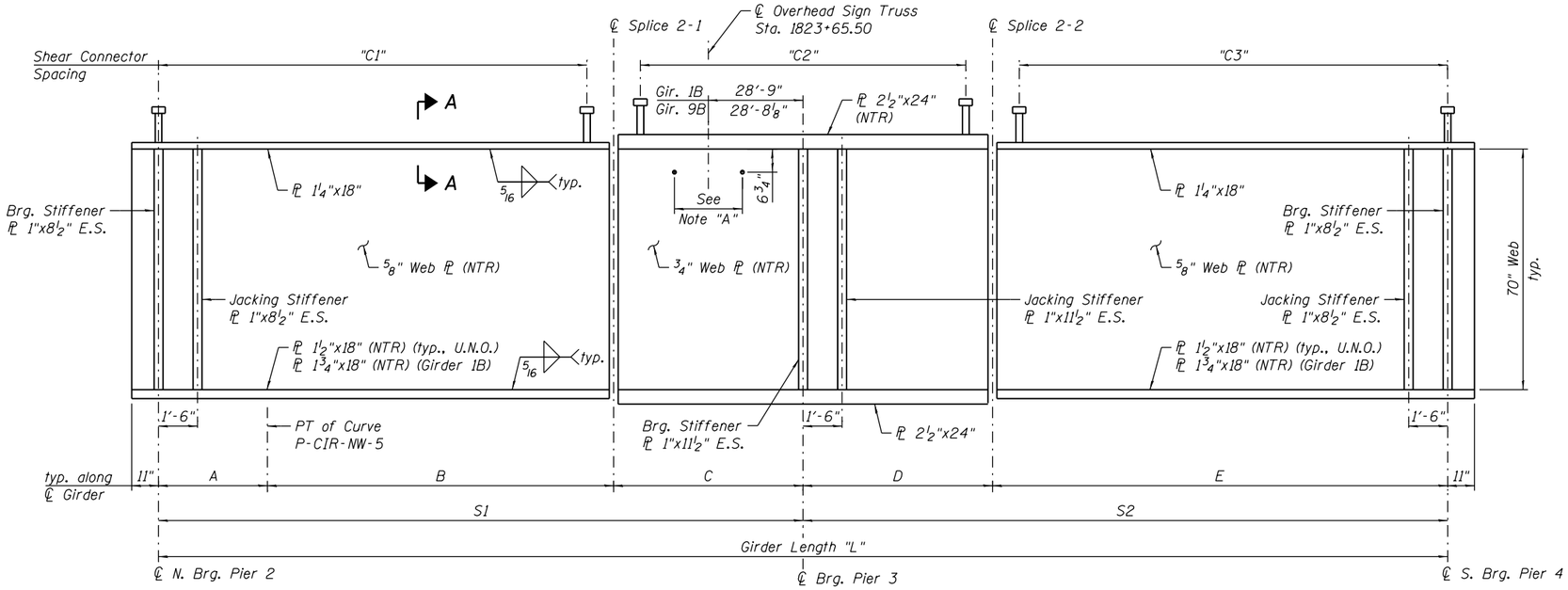
USER NAME = floresg	DESIGNED - DD	REVISED
	CHECKED - ATB	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - DD	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER FRAMING PLAN – UNIT II
STRUCTURE NO. 016–1705
SHEET NO. S-77 OF S-165 SHEETS

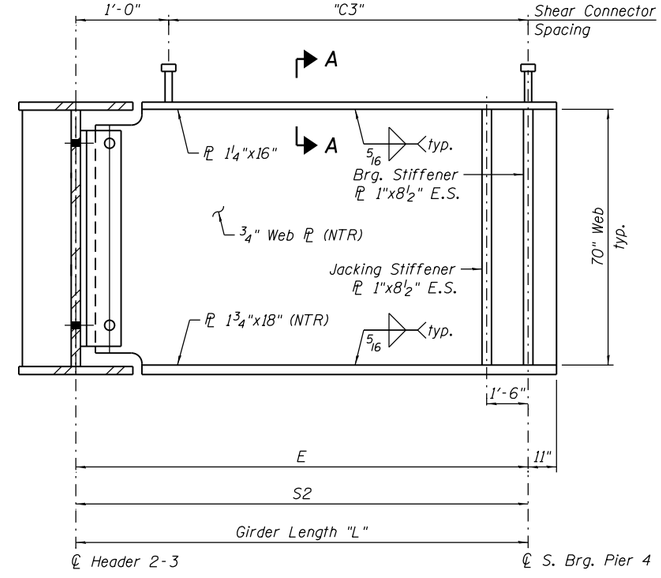
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	393
		CONTRACT NO. 60W28		
ILLINOIS FED. AID PROJECT				

0161705-60W28-S077-FramePlan.dgn

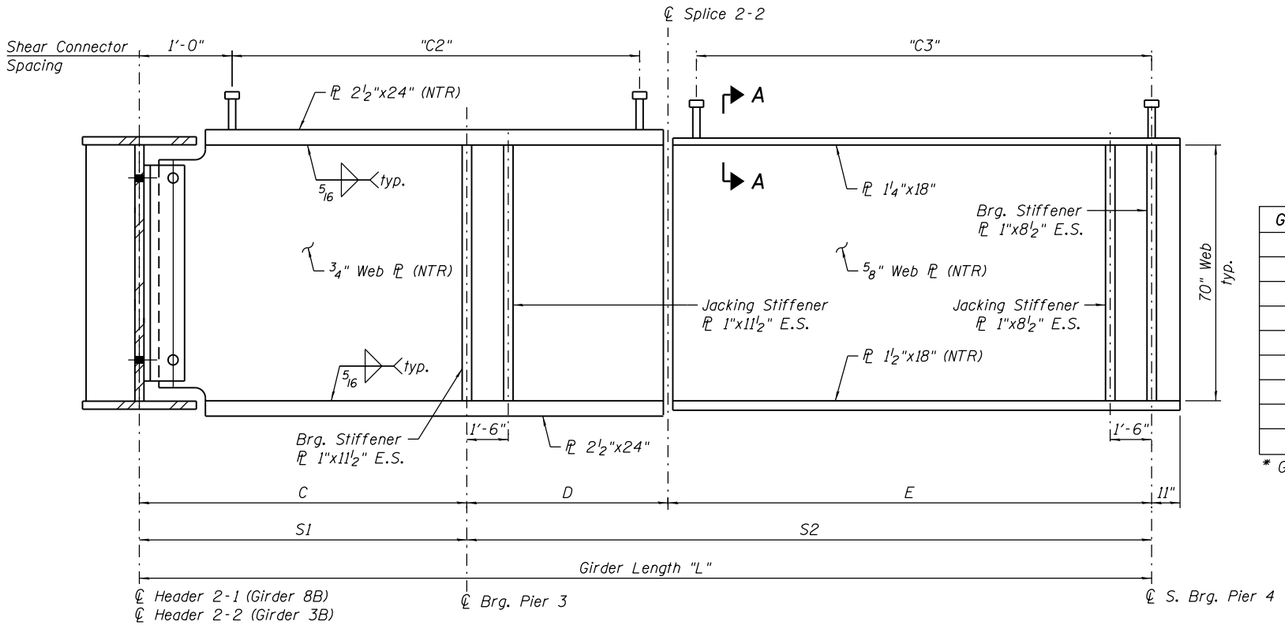


GIRDER ELEVATION (GIRDERS 1B, 4B thru 7B & 9B) - UNIT II

(Connection and Splice ℄'s not shown for clarity)



GIRDER ELEVATION (GIRDER 2B) - UNIT II



GIRDER ELEVATION (GIRDERS 3B & 8B) - UNIT II

(Connection and Splice ℄'s not shown for clarity)

Note A

5/16" ϕ hole for 19 - ⅞" ϕ bolts. See sheet S-36 & S-58 for details of L4x3x½ bolted to Girder 1B & 9B only (near face and far face) for overhead sign truss support. Cost included in Furnishing and Erecting Structural Steel.

GIRDER DIMENSIONS - UNIT II

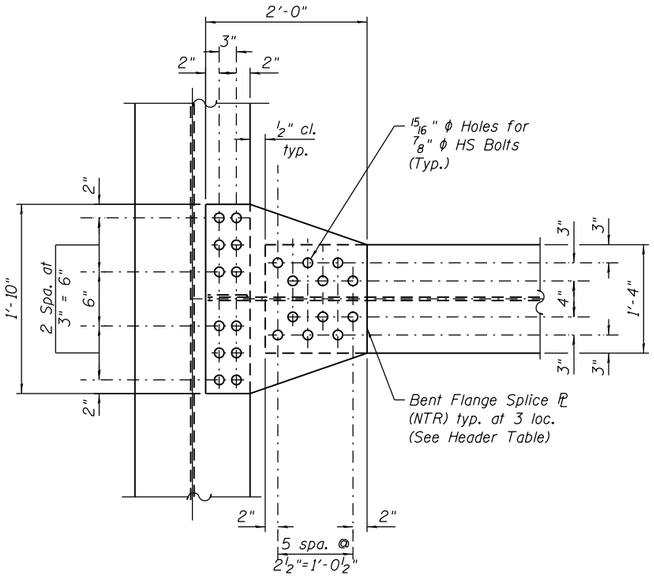
(All Dimensions in Feet)

Girder	L*	S1	S2	A	B	C	D	E	C1	C2	C3
1B	341.838	172.533	169.305	5.878	114.512	52.143	52.143	117.162	145 Spa at 10"	84 Spa at 15"	141 Spa at 10"
2B	104.971	-	104.971	-	-	-	-	104.971	-	-	210 Spa at 6"
3B	225.776	55.729	170.047	-	-	55.729	52.000	118.047	-	87 Spa at 15"	158 Spa at 9"
4B	342.675	172.053	170.622	5.856	114.197	52.000	52.000	118.622	160 Spa at 9"	104 Spa at 12"	159 Spa at 9"
5B	343.229	172.031	171.198	5.834	114.197	52.000	52.000	119.198	160 Spa at 9"	104 Spa at 12"	159 Spa at 9"
6B	343.781	172.008	171.773	5.811	114.197	52.000	52.000	119.773	160 Spa at 9"	104 Spa at 12"	160 Spa at 9"
7B	344.335	171.986	172.349	5.789	114.197	52.000	52.000	120.349	160 Spa at 9"	104 Spa at 12"	161 Spa at 9"
8B	228.526	55.729	172.797	-	-	55.729	52.000	120.797	-	87 Spa at 15"	162 Spa at 9"
9B	345.389	172.029	173.360	5.776	114.236	52.017	52.017	121.343	145 Spa at 10"	105 Spa at 12"	146 Spa at 10"

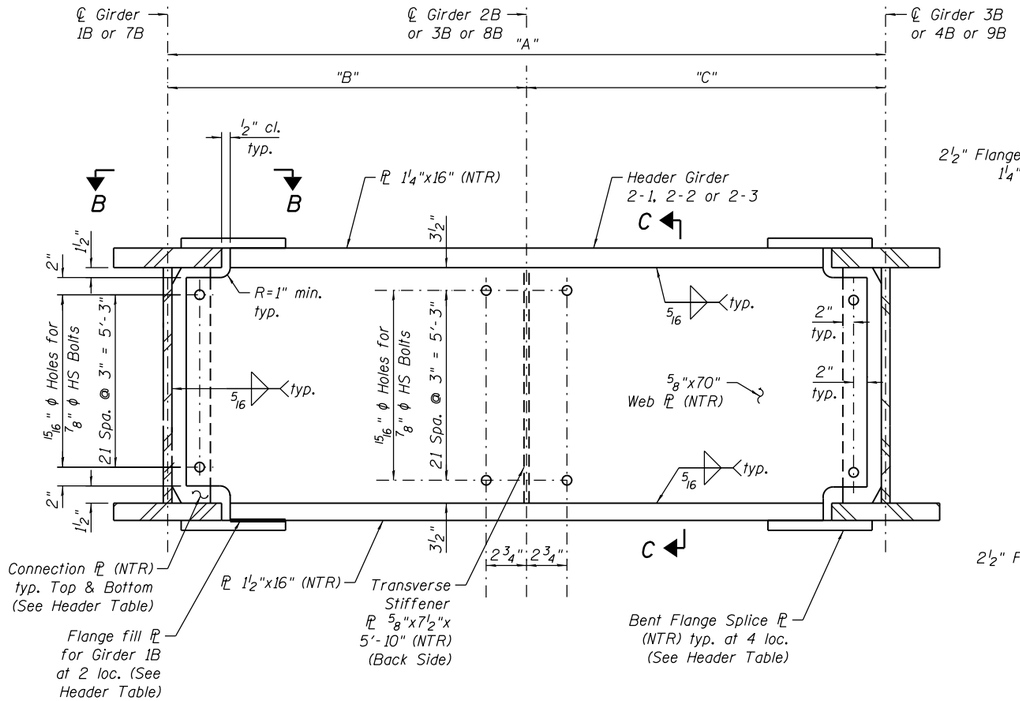
* Girder Length "L" excludes girder ends beyond first & last bearings.

NOTES:

1. See Sheet S-77 for girder framing plan.
2. See Sheet S-80 for cabmer & top of web elevations.
3. See Sheets S-81 & S-82 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. All structural steel shall be AASHTO M270 Grade 50.
7. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
8. See Sheet S-79 for Section A-A.

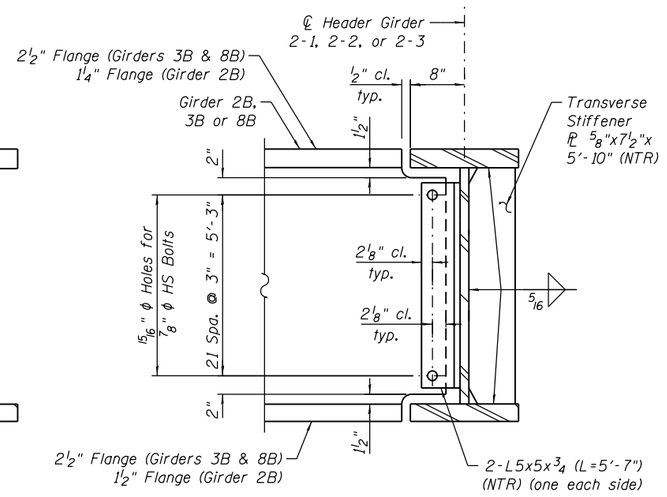


SECTION B-B

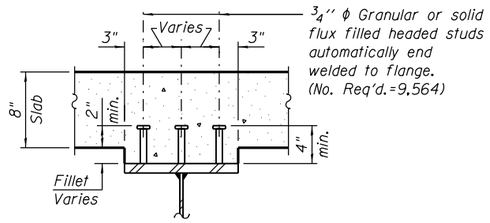


HEADER GIRDER ELEVATION

Looking downstation (Center Girders 2B, 3B & 8B not shown for clarity).



SECTION C-C



SECTION A-A

HEADER GIRDER TABLE

Header Girder	Longitudinal Girders			Girder Spacing			Connection Plate	Bent Flange Splice Plate*	Flange Fill Plate
	Left	Center	Right	"A"	"B"	"C"			
2-1	7B	8B	9B	9'-0"	7'-0"	2'-0"	1" x 8 1/2" x 5'-10"	1" x 1'-10" x 2'-0"	None
2-2	1B	3B	4B	11'-2 3/16"	9'-0"	2'-2 3/16"	1" x 8 1/2" x 5'-10"	1" x 1'-10" x 2'-0"	1/4" x 1'-4" x 1'-4 1/2"
2-3	1B	2B	3B	11'-1 3/8"	9'-0"	2'-1 3/8"	1" x 8 1/2" x 5'-10"	1" x 1'-10" x 2'-0"	1/4" x 1'-4" x 1'-4 1/2"

* Flange Splice Plate to be bent at edge of flange to accommodate slope of Header Girder.

NOTES:

1. See Sheet S-77 for girder framing plan.
2. See Sheet S-80 for cabmer & top of web elevations.
3. See Sheets S-81 & S-82 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. All structural steel shall be AASHTO M270 Grade 50.
7. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

0161705-60W28-S079-GirderElev II.dgn

AECOM

USER NAME = floresg	DESIGNED - DD	REVISED	
	CHECKED - ATB	REVISED	
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - DD	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

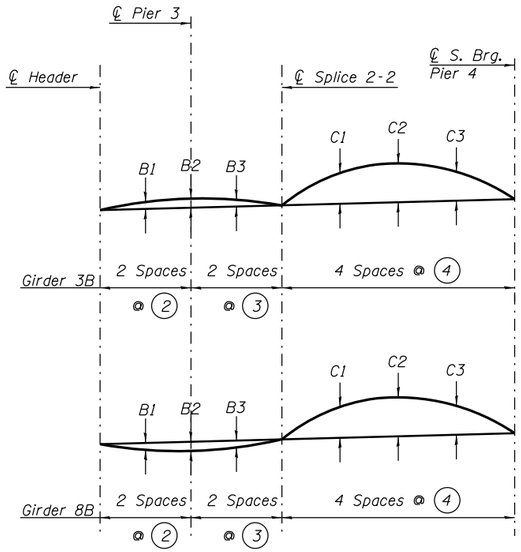
GIRDER ELEVATIONS 2 – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-79 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	395
		CONTRACT NO. 60W28		
	ILLINOIS	FED. AID PROJECT		

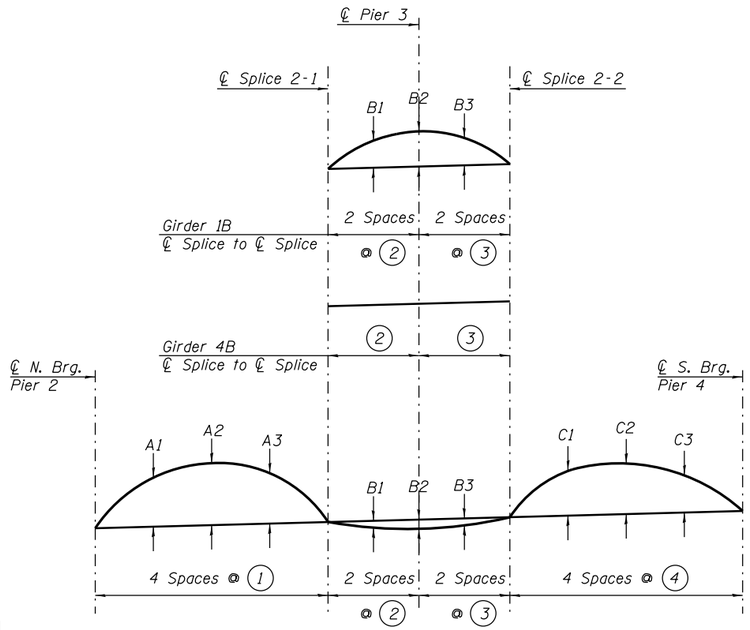
TOP OF WEB ELEVATIONS* - UNIT II				
Girder	℄ Header	℄ Pier 3	℄ Splice 2-2	℄ S. Brg. Pier 4
3B	619.60	620.77	621.70	623.54
8B	618.76	619.93	621.22	624.00

*For fabrication use only.

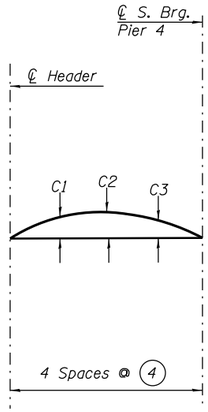
CAMBER ORDINATES - UNIT II									
Girder	B1	B2	B3	C1	C2	C3	②	③	④
3B	0 1/2"	1"	0 3/4"	3 1/4"	3 1/4"	2"	27.865	26.000	29.512
8B	1"	1 1/4"	0 1/2"	3 1/2"	3 3/4"	2 1/2"	27.865	26.000	30.199



CAMBER DIAGRAM - UNIT II
(Girders 3B & 8B)



CAMBER DIAGRAM - UNIT II
(Girders 1B, 4B-7B, 9B)



CAMBER DIAGRAM - UNIT II
(Girder 2B)

TOP OF WEB ELEVATIONS* - UNIT II		
Girder	℄ Header	℄ S. Brg. Pier 4
2B	622.08	623.08

*For fabrication use only.

CAMBER ORDINATES - UNIT II				
Girder	C1	C2	C3	④
2B	1 1/4"	1 1/2"	1"	26.243

TOP OF WEB ELEVATIONS* - UNIT II					
Girder	℄ N. Brg. Pier 2	℄ Splice 2-1	℄ Pier 3	℄ Splice 2-2	℄ S. Brg. Pier 4
1B	615.97	619.64	620.89	621.69	622.57
4B	615.92	619.44	620.57	621.70	623.99
5B	615.74	619.28	620.41	621.70	624.43
6B	615.56	619.10	620.25	621.55	624.31
7B	615.38	618.92	620.07	621.37	624.14
9B	615.26	618.72	619.86	621.12	623.86

*For fabrication use only.

CAMBER ORDINATES - UNIT II													
Girder	A1	A2	A3	B1	B2	B3	C1	C2	C3	①	②	③	④
1B	4"	6"	5"	1 3/4"	2 3/4"	2"	4 1/4"	4 1/2"	2 3/4"	30.098	26.072	26.072	29.291
4B	4"	6"	5"	0"	0"	0"	3 1/4"	3 1/2"	2 1/4"	30.013	52.000	52.000	29.656
5B	4 1/4"	6"	5 1/4"	0 1/4"	1"	0 1/4"	3 1/2"	3 1/2"	2 1/4"	30.008	26.000	26.000	29.800
6B	4 1/4"	6 1/4"	5 1/4"	0 1/2"	1"	0 1/4"	3 1/2"	3 3/4"	2 1/2"	30.002	26.000	26.000	29.943
7B	4 1/4"	6 1/4"	5 1/4"	0 1/2"	1"	0 1/4"	3 1/2"	3 3/4"	2 1/2"	29.997	26.000	26.000	30.087
9B	4 1/4"	6 1/4"	5 1/4"	0 1/4"	0 3/4"	0 1/4"	3 1/2"	3 3/4"	2 1/2"	30.003	26.009	26.009	30.336

NOTES:

1. See Sheet S-77 for girder framing plan.
2. See Sheet S-78 & S-79 for girder elevations.
3. See Sheet S-81 & S-82 for girder moment & reaction tables.
4. See Sheet S-99 for girder splice details.
5. See Sheet S-100 thru S-102 for girder cross frame details and erection notes.

0161705-60W28-S080-GirderCamber.dgn

AECOM

USER NAME = floresg	DESIGNED - VP	REVISED
	CHECKED - DD	REVISED
PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED
PLOT DATE = 5/7/2014	CHECKED - ATB	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER CAMBER AND TOP OF WEB ELEVATIONS – UNIT II
STRUCTURE NO. 016-1705
SHEET NO. S-80 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	396
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

INTERIOR GIRDER 6B MOMENT TABLE - UNIT II				
		0.4 Sp. 3	Pier 3	0.6 Sp. 4
I_s	(in^4)	80,649	179,188	80,649
$I_c(n)$	(in^4)	169,080	-	169,080
$I_c(3n)$	(in^4)	126,315	-	126,315
$I_c(cr)$	(in^4)	-	193,702	-
S_s	(in^3)	2,321	4,778	2,321
$S_c(n)$	(in^3)	2,957	-	2,957
$S_c(3n)$	(in^3)	2,725	-	2,725
$S_c(cr)$	(in^3)	-	4,903	-
DC1	(k/')	1.27	1.55	1.27
M_{DC1}	('k)	1,815	5,938	2,267
DC2	(k/')	0.08	0.08	0.08
M_{DC2}	('k)	242	337	75
DW	(k/')	0.45	0.45	0.45
M_{DW}	('k)	640	1,811	828
M_{L+IM}	('k)	3,306	4,192	3,246
M_u (Strength I)	('k)	9,317	17,896	9,850
$\phi_f M_n$	('k)	-	22,287	-
f_s DC1	(ksi)	9.38	14.91	11.72
f_s DC2	(ksi)	1.07	0.82	0.33
f_s DW	(ksi)	2.82	4.43	3.65
f_s (L+IM)	(ksi)	13.42	10.26	13.17
f_s (Service II)	(ksi)	30.71	33.51	32.82
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	40.77	-	43.58
$\phi_f F_n$	(ksi)	50.00	-	50.00
V_f	(k)	90.60	103.00	92.10

INTERIOR GIRDER 6B REACTION TABLE - UNIT II				
		Pier 2-N	Pier 3	Pier 4-S
R_{DC1}	(k)	70.0	305.2	77.9
R_{DC2}	(k)	5.3	13.4	2.7
R_{DW}	(k)	24.1	94.3	27.3
R_{L+IM}	(k)	151.2	276.6	155.2
R_{Total}	(k)	250.5	689.6	263.1

EXTERIOR GIRDER 9B MOMENT TABLE - UNIT II				
		0.4 Sp. 3	Pier 3	0.6 Sp. 4
I_s	(in^4)	80,649	179,188	80,649
$I_c(n)$	(in^4)	158,951	-	153,811
$I_c(3n)$	(in^4)	118,709	-	115,178
$I_c(cr)$	(in^4)	-	187,422	-
S_s	(in^3)	2,321	4,778	2,321
$S_c(n)$	(in^3)	2,910	-	2,885
$S_c(3n)$	(in^3)	2,672	-	2,646
$S_c(cr)$	(in^3)	-	4,851	-
DC1	(k/')	1.08	1.14	0.99
M_{DC1}	('k)	1,791	4,617	1,875
DC2	(k/')	0.19	0.19	0.19
M_{DC2}	('k)	439	1,121	255
DW	(k/')	0.27	0.17	0.23
M_{DW}	('k)	526	1,049	532
M_{L+IM}	('k)	3,907	4,429	3,660
M_u (Strength I)	('k)	10,414	16,497	9,866
$\phi_f M_n$	('k)	-	22,181	-
f_s DC1	(ksi)	9.26	11.59	9.69
f_s DC2	(ksi)	1.97	2.77	1.16
f_s DW	(ksi)	2.36	2.59	2.41
f_s (L+IM)	(ksi)	16.11	10.96	15.23
f_s (Service II)	(ksi)	34.54	31.21	33.06
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	45.78	-	43.83
$\phi_f F_n$	(ksi)	50.00	-	50.00
V_f	(k)	81.00	98.90	78.30

EXTERIOR GIRDER 9B REACTION TABLE - UNIT II				
		Pier 2-N	Pier 3	Pier 4-S
R_{DC1}	(k)	65.8	223.1	64.7
* R_{DC2}	(k)	12.5	71.6	10.6
R_{DW}	(k)	17.7	46.6	17.1
R_{L+IM}	(k)	136.1	258.3	131.3
R_{Total}	(k)	232.1	599.5	223.7

EXTERIOR GIRDER 1B MOMENT TABLE - UNIT II				
		0.4 Sp. 3	Pier 3	0.6 Sp. 4
I_s	(in^4)	85,868	179,188	85,868
$I_c(n)$	(in^4)	171,714	-	150,273
$I_c(3n)$	(in^4)	127,050	-	113,721
$I_c(cr)$	(in^4)	-	190,034	-
S_s	(in^3)	2,572	4,778	2,572
$S_c(n)$	(in^3)	3,214	-	3,103
$S_c(3n)$	(in^3)	2,954	-	2,850
$S_c(cr)$	(in^3)	-	4,873	-
DC1	(k/')	1.09	1.28	0.82
M_{DC1}	('k)	1,618	5,340	2,415
DC2	(k/')	0.19	0.19	0.19
M_{DC2}	('k)	218	1,378	643
DW	(k/')	0.27	0.24	0.14
M_{DW}	('k)	450	1,246	728
M_{L+IM}	('k)	3,952	4,606	3,748
M_u (Strength I)	('k)	9,886	18,327	11,474
$\phi_f M_n$	('k)	-	22,227	-
f_s DC1	(ksi)	7.55	13.41	11.27
f_s DC2	(ksi)	0.89	3.39	2.71
f_s DW	(ksi)	1.83	3.07	3.07
f_s (L+IM)	(ksi)	14.75	11.34	14.50
f_s (Service II)	(ksi)	29.44	34.62	35.89
$0.95R_hF_{yf}$	(ksi)	47.50	47.50	47.50
f_s (Total)(Strength I)	(ksi)	39.11	-	47.44
$\phi_f F_n$	(ksi)	50.00	-	50.00
V_f	(k)	80.30	102.30	62.10

EXTERIOR GIRDER 1B REACTION TABLE - UNIT II				
		Pier 2-N	Pier 3	Pier 4-S
R_{DC1}	(k)	62.4	276.3	73.4
* R_{DC2}	(k)	9.0	80.9	19.1
R_{DW}	(k)	15.7	62.4	18.8
R_{L+IM}	(k)	140.9	266.6	98.6
R_{Total}	(k)	228.0	686.2	209.9

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 (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 (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_s

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 $M_{L+IM} / S_c(cr)$ 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.

* Includes Overhead Sign Structure dead load

0161705-60W28-SO81-SuperStruct.dgn

AECOM

USER NAME = floresg	DESIGNED - DD	REVISED	
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PLOT SCALE = N.T.S.	DRAWN - MRK	REVISED	
PLOT DATE = 5/7/2014	CHECKED - DD	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT AND REACTION TABLES 1 – UNIT II
STRUCTURE NO. 016–1705
SHEET NO. S-81 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	397
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			

INTERIOR GIRDER 3B MOMENT TABLE - UNIT II			
		Pier 3	0.6 Sp. 4
I_s	(in^4)	179,188	80,649
$I_c(n)$	(in^4)	-	169,079
$I_c(3n)$	(in^4)	-	126,315
$I_c(cr)$	(in^4)	192,121	-
S_s	(in^3)	4,778	2,321
$S_c(n)$	(in^3)	-	2,957
$S_c(3n)$	(in^3)	-	2,725
$S_c(cr)$	(in^3)	4,890	-
DC1	(k/')	1.42	1.27
M_{DC1}	('k)	5,325	2,289
DC2	(k/')	0.19	0.19
M_{DC2}	('k)	796	382
DW	(k/')	0.38	0.45
M_{DW}	('k)	1,425	795
M_{L+IM}	('k)	3,545	2,659
M_u (Strength I)	('k)	15,993	9,185
$\phi_f M_n$	('k)	22,269	-
f_s DC1	(ksi)	13.37	11.83
f_s DC2	(ksi)	1.95	1.68
f_s DW	(ksi)	3.50	3.50
f_s (L+IM)	(ksi)	8.70	10.79
f_s (Service II)	(ksi)	30.13	31.04
$0.95R_hF_{yf}$	(ksi)	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	41.03
$\phi_f F_n$	(ksi)	-	50.00
V_f	(k)	89.90	79.20

INTERIOR GIRDER 3B REACTION TABLE - UNIT II			
		Pier 3	Pier 4-S
R_{DC1}	(k)	288.1	78.6
R_{DC2}	(k)	44.4	10.8
R_{DW}	(k)	79.2	26.5
R_{L+IM}	(k)	233.7	128.2
R_{Total}	(k)	645.4	244.1

INTERIOR GIRDER 2B MOMENT TABLE - UNIT II		
		0.6 Sp. 4
I_s	(in^4)	85,695
$I_c(n)$	(in^4)	177,481
$I_c(3n)$	(in^4)	129,265
$I_c(cr)$	(in^4)	-
S_s	(in^3)	2,618
$S_c(n)$	(in^3)	3,376
$S_c(3n)$	(in^3)	3,066
$S_c(cr)$	(in^3)	-
DC1	(k/')	1.12
M_{DC1}	('k)	2,409
DC2	(k/')	0.19
M_{DC2}	('k)	597
DW	(k/')	0.36
M_{DW}	('k)	766
M_{L+IM}	('k)	3,597
M_u (Strength I)	('k)	11,201
$\phi_f M_n$	('k)	-
f_s DC1	(ksi)	11.04
f_s DC2	(ksi)	2.34
f_s DW	(ksi)	3.00
f_s (L+IM)	(ksi)	12.79
f_s (Service II)	(ksi)	33.00
$0.95R_hF_{yf}$	(ksi)	47.50
f_s (Total)(Strength I)	(ksi)	43.60
$\phi_f F_n$	(ksi)	50.00
V_f	(k)	146.10

INTERIOR GIRDER 2B REACTION TABLE - UNIT II		
		Pier 4-S
R_{DC1}	(k)	80.3
* R_{DC2}	(k)	12.9
R_{DW}	(k)	26.5
R_{L+IM}	(k)	158.3
R_{Total}	(k)	278.0

INTERIOR GIRDER 8B MOMENT TABLE - UNIT II			
		Pier 3	0.6 Sp. 4
I_s	(in^4)	179,188	80,649
$I_c(n)$	(in^4)	-	155,928
$I_c(3n)$	(in^4)	-	116,607
$I_c(cr)$	(in^4)	187,955	-
S_s	(in^3)	4,778	2,321
$S_c(n)$	(in^3)	-	2,895
$S_c(3n)$	(in^3)	-	2,657
$S_c(cr)$	(in^3)	4,855	-
DC1	(k/')	1.17	1.03
M_{DC1}	('k)	4,993	2,002
DC2	(k/')	0.19	0.19
M_{DC2}	('k)	960	199
DW	(k/')	0.26	0.33
M_{DW}	('k)	1,219	624
M_{L+IM}	('k)	3,600	3,382
M_u (Strength I)	('k)	15,570	9,606
$\phi_f M_n$	('k)	22,188	-
f_s DC1	(ksi)	12.54	10.35
f_s DC2	(ksi)	2.37	0.90
f_s DW	(ksi)	3.01	2.82
f_s (L+IM)	(ksi)	8.90	14.02
f_s (Service II)	(ksi)	29.49	32.29
$0.95R_hF_{yf}$	(ksi)	47.50	47.50
f_s (Total)(Strength I)	(ksi)	-	42.82
$\phi_f F_n$	(ksi)	-	50.00
V_f	(k)	79.70	85.90

INTERIOR GIRDER 8B REACTION TABLE - UNIT II			
		Pier 3	Pier 4-S
R_{DC1}	(k)	253.8	69.9
* R_{DC2}	(k)	57.8	8.6
R_{DW}	(k)	61.2	21.7
R_{L+IM}	(k)	260.4	144.8
R_{Total}	(k)	633.1	245.1

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 (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 (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_s

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 $M_{L+IM} / S_c(cr)$ 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.

* Includes Overhead Sign Structure dead load

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PLOT DATE = 5/7/2014	CHECKED - DD	REVISED	

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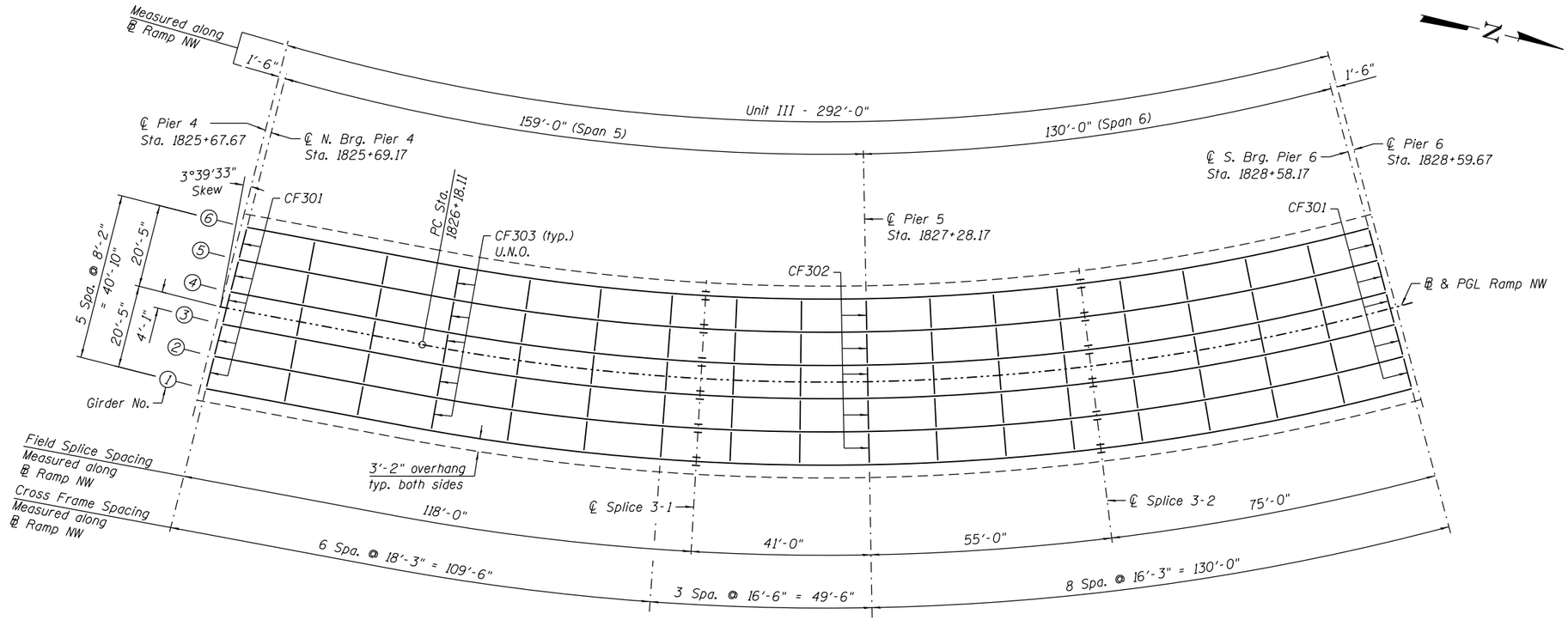
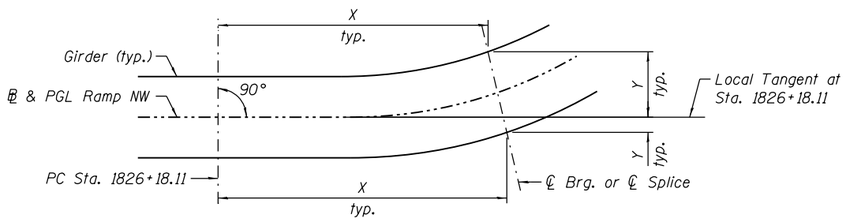
DEPARTMENT OF TRANSPORTATION

GIRDER MOMENT AND REACTION TABLES 2 – UNIT II
STRUCTURE NO. 016–1705
SHEET NO. S-82 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	398
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



GIRDER FRAMING PLAN - UNIT III



CURVED GIRDER LAYOUT

(X Measured along Local Tangent)

GIRDER COORDINATES - UNIT III

(All Dimensions in Feet)

Girder	℄ Splice 3-1		℄ Pier 5		℄ Splice 3-2		℄ S. Brg. Pier 6	
	X	Y	X	Y	X	Y	X	Y
1	71.476	-15.840	113.432	-8.817	168.646	5.561	241.062	34.079
2	70.434	-7.740	111.779	-0.819	166.188	13.349	237.530	41.442
3	69.393	0.360	110.126	7.178	163.730	21.137	233.997	48.805
4	68.351	8.460	108.473	15.176	161.273	28.925	230.464	56.169
5	67.310	16.560	106.820	23.174	158.815	36.713	226.932	63.532
6	66.268	24.660	105.167	31.171	156.358	44.501	223.399	70.895

NOTES:

1. See Sheet S-84 for girder elevation.
2. See Sheet S-85 for cabmer & top of web elevations.
3. See Sheet S-86 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. Girder spacings and cross frame orientations are radial to the ℄ Ramp NW, except at ℄ N. Brg. Pier 4 & ℄ S. Brg. Pier 6 supports where ℄ Brg. and cross frame orientations are parallel to the respective centerline of supports.

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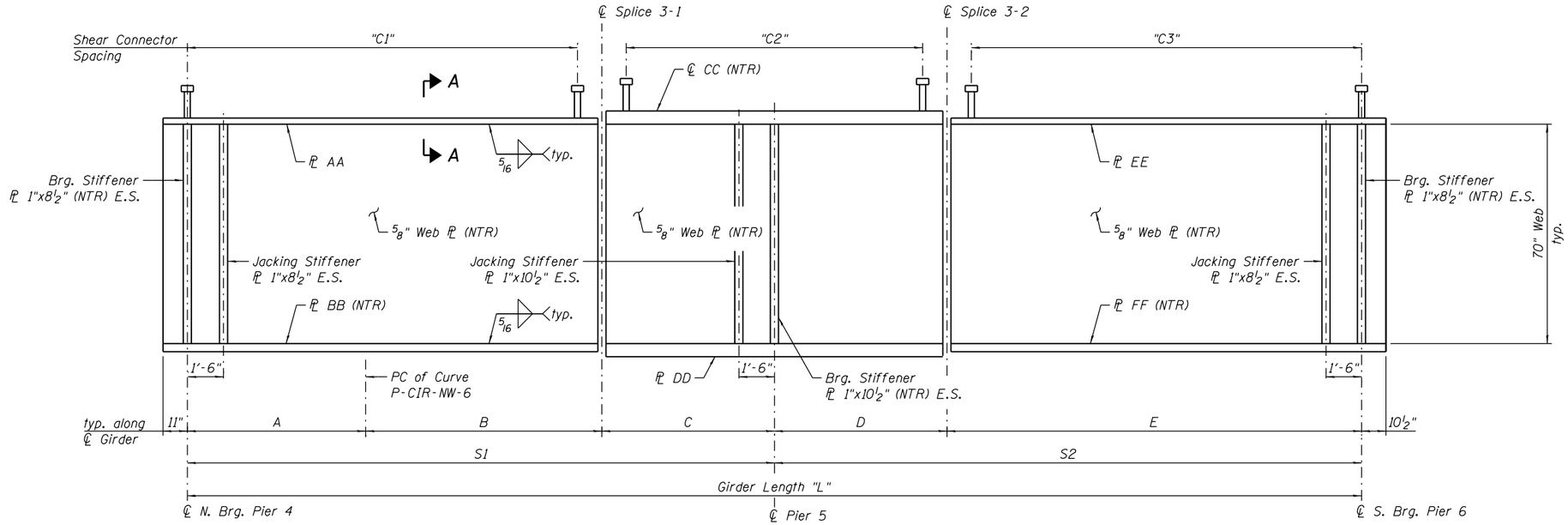
GIRDER FRAMING PLAN – UNIT III
STRUCTURE NO. 016-1705
SHEET NO. S-83 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	399
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			



GIRDER ELEVATION - UNIT III

(Connection and Splice ℄'s not shown for clarity)

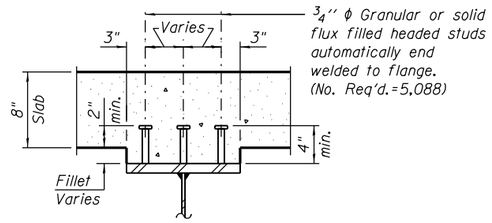
Girder	AA	BB	CC	DD	EE	FF
1, 2, 3	1"x18"	1 1/2"x22"	2"x24"	2"x24"	1"x18"	1 1/2"x18"
4, 5, 6	1"x18"	1"x18"	2"x22"	2"x22"	1"x18"	1"x18"

GIRDER DIMENSIONS - UNIT III

(All Dimensions in Feet)

Girder	Radius	L*	S1	S2	A	B	C	D	E	C1	C2	C3
1	560.417	299.438	164.467	134.972	50.246	71.671	42.550	57.080	77.892	147 Spa at 10"	80 Spa at 15"	94 Spa at 10"
2	552.250	295.263	162.280	132.983	49.723	70.626	41.930	56.248	76.736	121 Spa at 12"	74 Spa at 16"	77 Spa at 12"
3	544.083	291.088	160.093	130.994	49.201	69.583	41.310	55.416	75.579	119 Spa at 12"	73 Spa at 16"	76 Spa at 12"
4	535.917	286.912	157.907	129.006	48.679	68.538	40.690	54.584	74.421	118 Spa at 12"	72 Spa at 16"	82 Spa at 11"
5	527.750	282.737	155.720	127.017	48.157	67.494	40.069	53.752	73.265	116 Spa at 12"	81 Spa at 14"	80 Spa at 11"
6	519.583	278.561	153.533	125.028	47.634	66.449	39.450	52.921	72.107	115 Spa at 12"	80 Spa at 14"	73 Spa at 12"

* Girder Length "L" excludes girder ends beyond first & last bearings.



3/4" ϕ Granular or solid flux filled headed studs automatically end welded to flange. (No. Req'd.=5,088)

SECTION A-A

NOTES:

1. See Sheet S-83 for girder framing plan.
2. See Sheet S-85 for cabmer & top of web elevations.
3. See Sheet S-86 for moment tables & reaction tables.
4. See Sheet S-99 for girder bolted field splice details.
5. See Sheets S-100 thru S-102 for girder cross frame details.
6. All structural steel shall be AASHTO M270 Grade 50.
7. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

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GIRDER ELEVATIONS – UNIT III
STRUCTURE NO. 016-1705
SHEET NO. S-84 OF S-165 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2013-010R	COOK	747	400
		CONTRACT NO. 60W28		
	ILLINOIS FED. AID PROJECT			