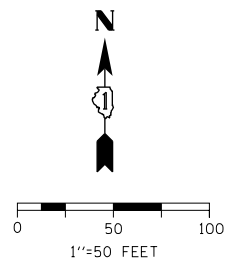
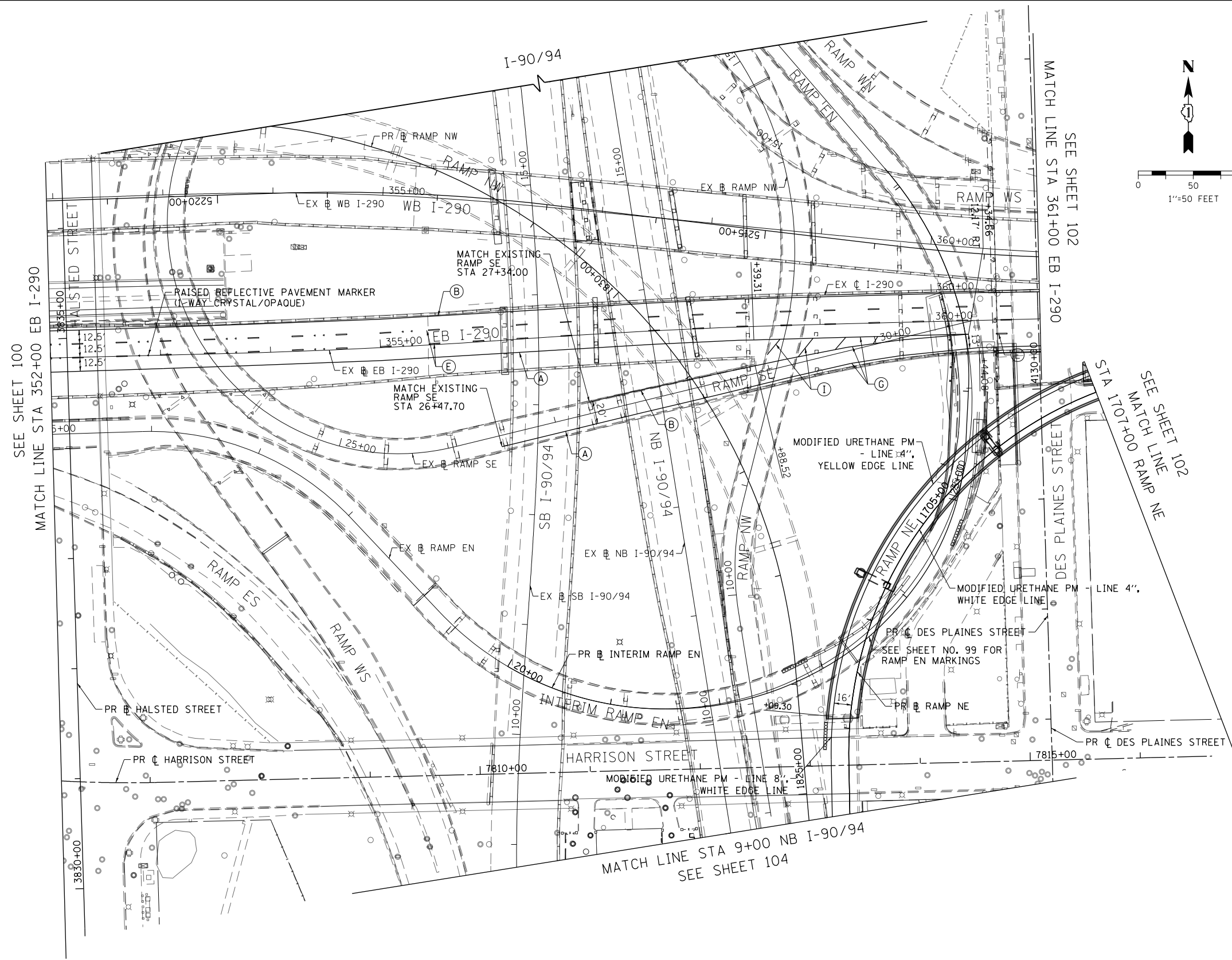


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**LEGEND**

**PAVEMENT MARKING MATERIAL**

- EPOXY PAVEMENT MARKING
- THERMOPLASTIC PAVEMENT MARKING
- △ POLYUREA PAVEMENT MARKING TYPE I

**PAVEMENT MARKING TYPE**

- A - 4" WHITE EDGE LINE
- B - 4" YELLOW EDGE LINE
- C - 4" DOUBLE YELLOW LINE (8" C-C)
- D - 4" WHITE LINE (6' DASH, 18' SKIP)
- E - 5" WHITE (10' DASH, 30' SKIP)
- F - 6" WHITE (2' DASH, 6' SKIP)
- G - 8" WHITE EDGE LINE
- H - 12" WHITE CHEVRONS SPACED @ 30' CENTERS
- I - 12" WHITE 45° DIAGONALS SPACED @ 30' CENTERS
- J - 24" WHITE STOP BAR
- K - 24" WHITE CROSSWALK, 6' WIDTH, SPACED @ 4' CENTERS
- L - 8" WHITE (3' DASH, 9' SKIP)
- M - 12" WHITE 45° DIAGONALS SPACED @ 20' CENTERS

**PAVEMENT MARKING NOTES**

1. ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON PCC PAVEMENT SHALL BE POLYUREA TYPE I EXCEPT WHERE NOTED IN THE PLANS.
2. ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON BITUMINOUS PAVEMENT SHALL BE THERMOPLASTIC EXCEPT WHERE NOTED IN THE PLANS.
3. ALL FINAL PAVEMENT MARKING SYMBOLS SHALL BE OF SMALL SIZE.
4. ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE OF THE IMPROVEMENT LIMITS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING PAVEMENT MARKINGS AND MARKERS FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE DIRECTED BY THE ENGINEER.
6. THE RESIDENT ENGINEER SHALL CONTACT EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT 847-705-4155 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
7. PROPOSED MARKINGS SHALL BE LAID OUT IN ORDER TO UTILIZE EXISTING RAISED REFLECTIVE MARKERS LOCATIONS. PROPOSED RAISED REFLECTIVE MARKER LOCATIONS ARE CALLED OUT IN THE PLANS ACCORDINGLY.
8. ALL REMOVED, DAMAGE, OR BROKEN RAISED REFLECTIVE MARKER REFLECTORS SHALL BE REPLACED AT THE DIRECTION OF THE RESIDENT ENGINEER AND PAID FOR AS REPLACEMENT REFLECTOR
9. SEE PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.
10. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED FOR AN INTERIM PERIOD FOLLOWING COMPLETION OF THE ROADWAY'S CONCRETE BASE, PRIOR TO THE PLACEMENT OF FINAL ASPHALT SURFACE PER THE DIRECTION OF THE ENGINEER. TEMPORARY CROSSWALK MARKINGS MAY BE PLACED WITH TWO 6-INCH LINES IN PLACE OF THE CONTINENTAL STYLE DURING THE INTERIM PERIOD.
11. FOR ADDITIONAL DETAILS, SEE CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS TC-11, TC-12, AND TC-24.
12. THE STATION OR OFFSET FOR STOP BAR LOCATIONS IS GIVEN AT THE MIDDLE OF THE STOP BAR.
13. A MINIMUM DISTANCE OF 4 FEET SHALL BE MAINTAINED BETWEEN THE EDGE OF THE CROSSWALK AND THE EDGE OF THE STOP BAR CLOSEST TO IT UNLESS OTHERWISE NOTED IN THE PLANS.
14. STATIONS AND OFFSETS ARE FROM THE BASELINE ALONG WHICH THE POINT LIES.



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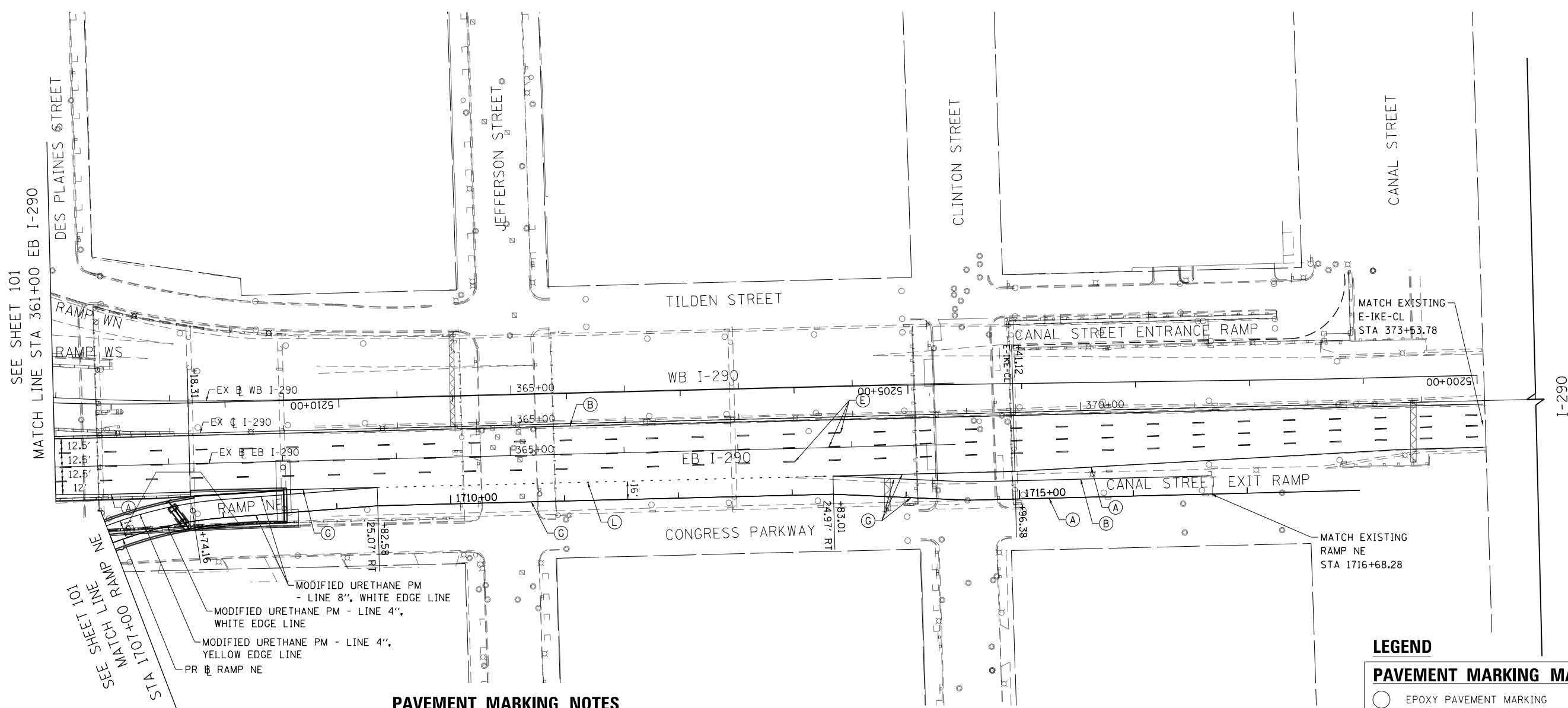
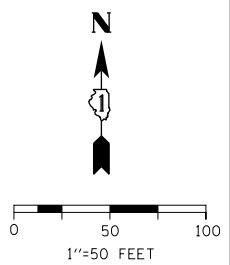
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS  
 INTERSTATES AND RAMPS**

SCALE: 1"=50' SHEET 4 OF 8 SHEETS STA. 352+00 TO STA. 361+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	101
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**PAVEMENT MARKING NOTES**

1. ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON PCC PAVEMENT SHALL BE POLYUREA TYPE I EXCEPT WHERE NOTED IN THE PLANS.
2. ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON BITUMINOUS PAVEMENT SHALL BE THERMOPLASTIC EXCEPT WHERE NOTED IN THE PLANS.
3. ALL FINAL PAVEMENT MARKING SYMBOLS SHALL BE OF SMALL SIZE.
4. ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE OF THE IMPROVEMENT LIMITS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING PAVEMENT MARKINGS AND MARKERS FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE DIRECTED BY THE ENGINEER.
6. THE RESIDENT ENGINEER SHALL CONTACT EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT 847-705-4155 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
7. PROPOSED MARKINGS SHALL BE LAID OUT IN ORDER TO UTILIZE EXISTING RAISED REFLECTIVE MARKERS LOCATIONS. PROPOSED RAISED REFLECTIVE MARKER LOCATIONS ARE CALLED OUT IN THE PLANS ACCORDINGLY.
8. ALL REMOVED, DAMAGE, OR BROKEN RAISED REFLECTIVE MARKER REFLECTORS SHALL BE REPLACED AT THE DIRECTION OF THE RESIDENT ENGINEER AND PAID FOR AS REPLACEMENT REFLECTOR
9. SEE PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.
10. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED FOR AN INTERIM PERIOD FOLLOWING COMPLETION OF THE ROADWAY'S CONCRETE BASE, PRIOR TO THE PLACEMENT OF FINAL ASPHALT SURFACE PER THE DIRECTION OF THE ENGINEER. TEMPORARY CROSSWALK MARKINGS MAY BE PLACED WITH TWO 6-INCH LINES IN PLACE OF THE CONTINENTAL STYLE DURING THE INTERIM PERIOD.
11. FOR ADDITIONAL DETAILS, SEE CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS TC-11, TC-12, AND TC-24.
12. THE STATION OR OFFSET FOR STOP BAR LOCATIONS IS GIVEN AT THE MIDDLE OF THE STOP BAR.
13. A MINIMUM DISTANCE OF 4 FEET SHALL BE MAINTAINED BETWEEN THE EDGE OF THE CROSSWALK AND THE EDGE OF THE STOP BAR CLOSEST TO IT UNLESS OTHERWISE NOTED IN THE PLANS.
14. STATIONS AND OFFSETS ARE FROM THE BASELINE ALONG WHICH THE POINT LIES.

**LEGEND**

**PAVEMENT MARKING MATERIAL**

- EPOXY PAVEMENT MARKING
- THERMOPLASTIC PAVEMENT MARKING
- △ POLYUREA PAVEMENT MARKING TYPE I

**PAVEMENT MARKING TYPE**

- A - 4" WHITE EDGE LINE
- B - 4" YELLOW EDGE LINE
- C - 4" DOUBLE YELLOW LINE (8" C-C)
- D - 4" WHITE LINE (6' DASH, 18' SKIP)
- E - 5" WHITE (10' DASH, 30' SKIP)
- F - 6" WHITE (2' DASH, 6' SKIP)
- G - 8" WHITE EDGE LINE
- H - 12" WHITE CHEVRONS SPACED @ 30' CENTERS
- I - 12" WHITE 45° DIAGONALS SPACED @ 30' CENTERS
- J - 24" WHITE STOP BAR
- K - 24" WHITE CROSSWALK, 6' WIDTH, SPACED @ 4' CENTERS
- L - 8" WHITE (3' DASH, 9' SKIP)
- M - 12" WHITE 45° DIAGONALS SPACED @ 20' CENTERS

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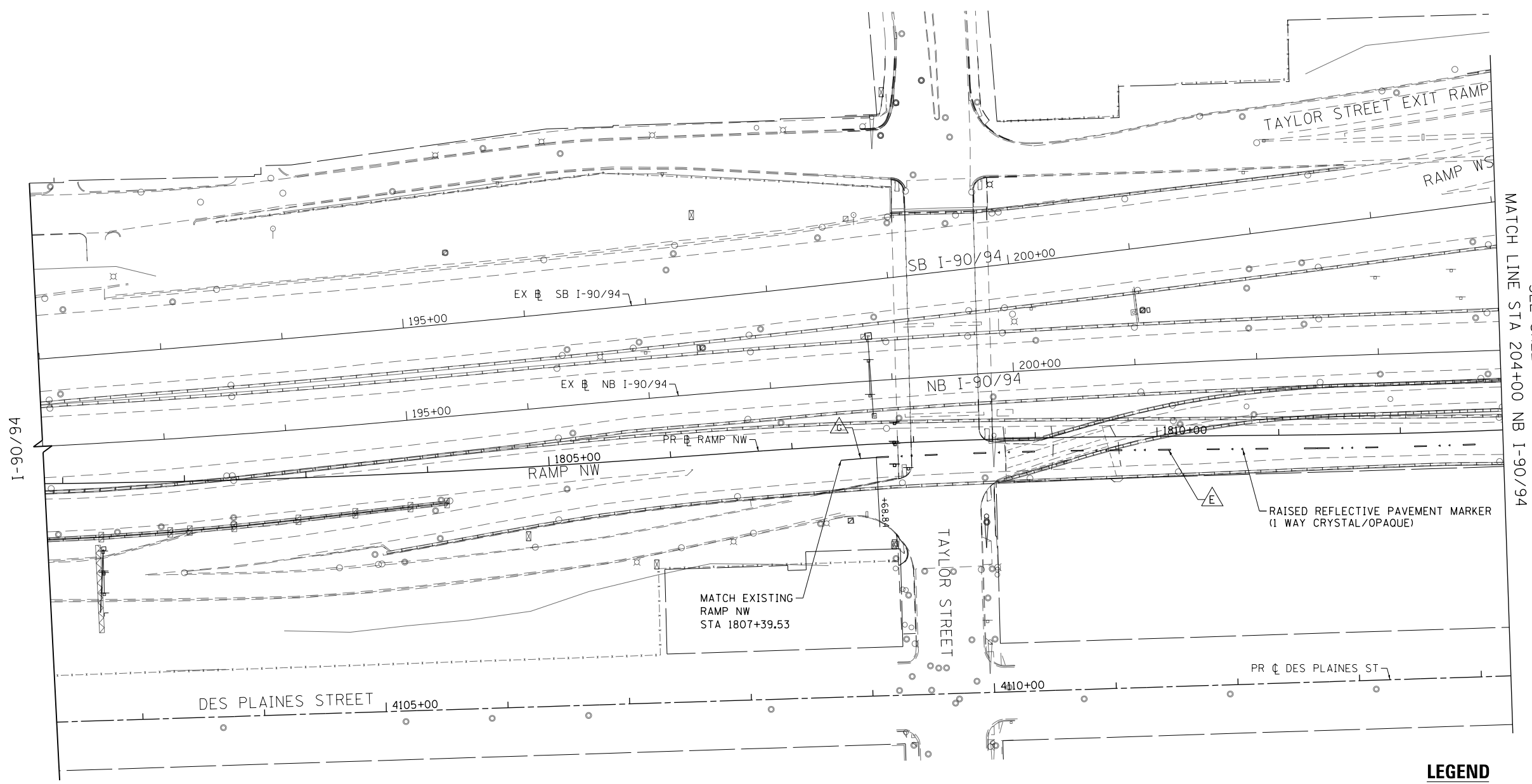
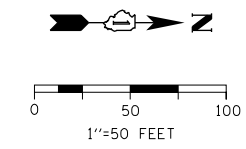
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS  
INTERSTATES AND RAMPS**

SCALE: 1"=50' SHEET 5 OF 8 SHEETS STA. 361+00 TO STA. 374+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	102
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



MATCH LINE STA 204+00 NB I-90/94  
SEE SHEET 104

**PAVEMENT MARKING NOTES**

1. ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON PCC PAVEMENT SHALL BE POLYUREA TYPE I EXCEPT WHERE NOTED IN THE PLANS.
2. ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON BITUMINOUS PAVEMENT SHALL BE THERMOPLASTIC EXCEPT WHERE NOTED IN THE PLANS.
3. ALL FINAL PAVEMENT MARKING SYMBOLS SHALL BE OF SMALL SIZE.
4. ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE OF THE IMPROVEMENT LIMITS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING PAVEMENT MARKINGS AND MARKERS FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE DIRECTED BY THE ENGINEER.
6. THE RESIDENT ENGINEER SHALL CONTACT EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT 847-705-4155 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
7. PROPOSED MARKINGS SHALL BE LAID OUT IN ORDER TO UTILIZE EXISTING RAISED REFLECTIVE MARKERS LOCATIONS. PROPOSED RAISED REFLECTIVE MARKER LOCATIONS ARE CALLED OUT IN THE PLANS ACCORDINGLY.
8. ALL REMOVED, DAMAGE, OR BROKEN RAISED REFLECTIVE MARKER REFLECTORS SHALL BE REPLACED AT THE DIRECTION OF THE RESIDENT ENGINEER AND PAID FOR AS REPLACEMENT REFLECTOR
9. SEE PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.
10. TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED FOR AN INTERIM PERIOD FOLLOWING COMPLETION OF THE ROADWAY'S CONCRETE BASE, PRIOR TO THE PLACEMENT OF FINAL ASPHALT SURFACE PER THE DIRECTION OF THE ENGINEER. TEMPORARY CROSSWALK MARKINGS MAY BE PLACED WITH TWO 6-INCH LINES IN PLACE OF THE CONTINENTAL STYLE DURING THE INTERIM PERIOD.
11. FOR ADDITIONAL DETAILS, SEE CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS TC-11, TC-12, AND TC-24.
12. THE STATION OR OFFSET FOR STOP BAR LOCATIONS IS GIVEN AT THE MIDDLE OF THE STOP BAR.
13. A MINIMUM DISTANCE OF 4 FEET SHALL BE MAINTAINED BETWEEN THE EDGE OF THE CROSSWALK AND THE EDGE OF THE STOP BAR CLOSEST TO IT UNLESS OTHERWISE NOTED IN THE PLANS.
14. STATIONS AND OFFSETS ARE FROM THE BASELINE ALONG WHICH THE POINT LIES.

**LEGEND**

**PAVEMENT MARKING MATERIAL**

- EPOXY PAVEMENT MARKING
- THERMOPLASTIC PAVEMENT MARKING
- △ POLYUREA PAVEMENT MARKING TYPE I

**PAVEMENT MARKING TYPE**

- A - 4" WHITE EDGE LINE
- B - 4" YELLOW EDGE LINE
- C - 4" DOUBLE YELLOW LINE (8" C-C)
- D - 4" WHITE LINE (6' DASH, 18' SKIP)
- E - 5" WHITE (10' DASH, 30' SKIP)
- F - 6" WHITE (2' DASH, 6' SKIP)
- G - 8" WHITE EDGE LINE
- H - 12" WHITE CHEVRONS SPACED @ 30' CENTERS
- I - 12" WHITE 45° DIAGONALS SPACED @ 30' CENTERS
- J - 24" WHITE STOP BAR
- K - 24" WHITE CROSSWALK, 6' WIDTH, SPACED @ 4' CENTERS
- L - 8" WHITE (3' DASH, 9' SKIP)
- M - 12" WHITE 45° DIAGONALS SPACED @ 20' CENTERS

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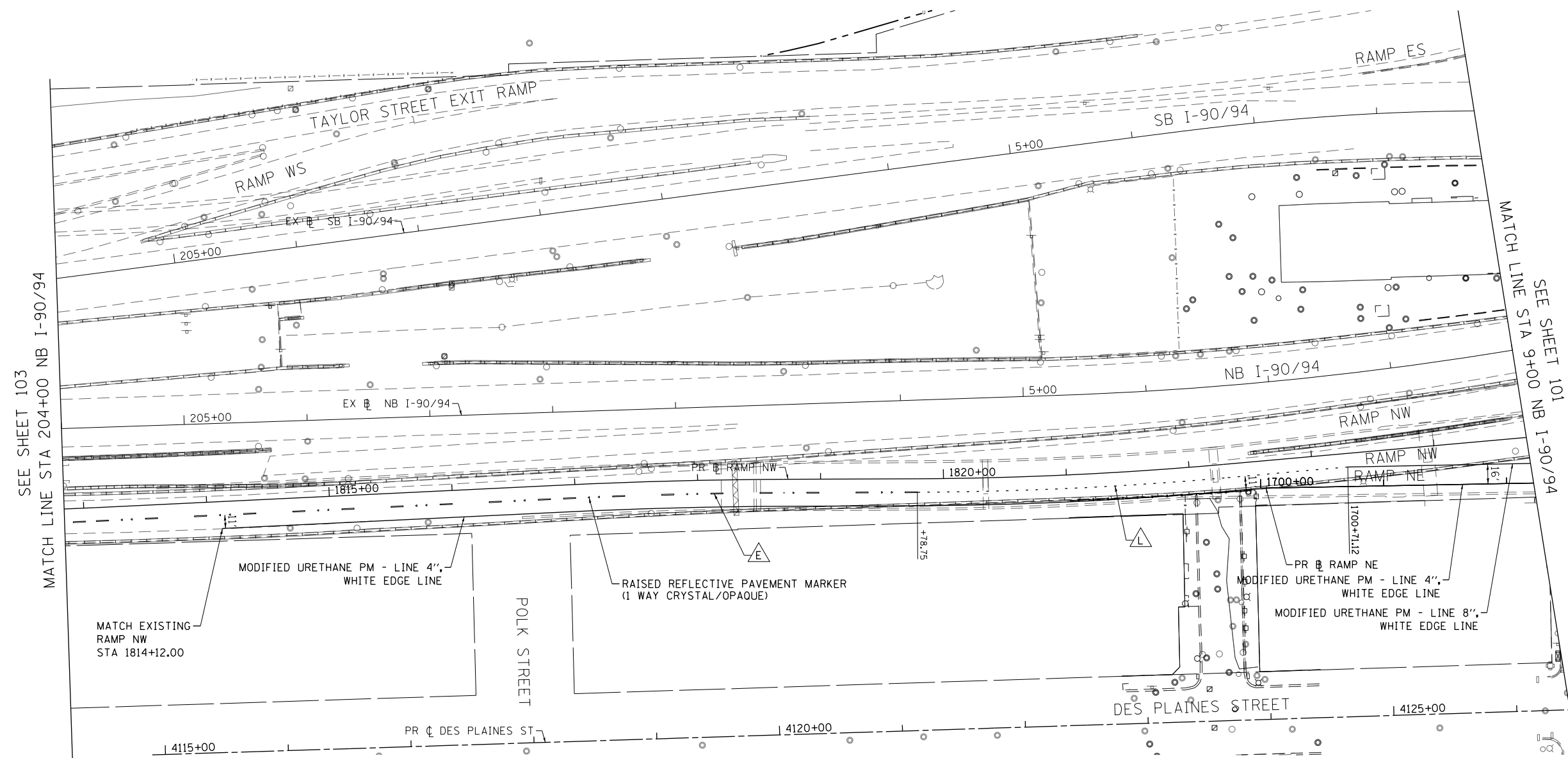
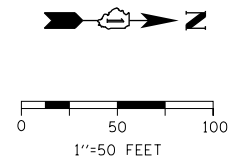
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS  
INTERSTATES AND RAMPS**

SCALE: 1"=50'    SHEET 6 OF 8 SHEETS    STA. 192+00 TO STA. 204+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	103
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



SEE SHEET 103  
MATCH LINE STA 204+00 NB I-90/94

MATCH LINE STA 9+00 NB I-90/94  
SEE SHEET 101

**PAVEMENT MARKING NOTES**

- ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON PCC PAVEMENT SHALL BE POLYUREA TYPE I EXCEPT WHERE NOTED IN THE PLANS.
- ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON BITUMINOUS PAVEMENT SHALL BE THERMOPLASTIC EXCEPT WHERE NOTED IN THE PLANS.
- ALL FINAL PAVEMENT MARKING SYMBOLS SHALL BE OF SMALL SIZE.
- ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE OF THE IMPROVEMENT LIMITS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING PAVEMENT MARKINGS AND MARKERS FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL PAVEMENT MARKINGS SHALL BE DIRECTED BY THE ENGINEER.
- THE RESIDENT ENGINEER SHALL CONTACT EXPRESSWAY TRAFFIC CONTROL SUPERVISOR AT 847-705-4155 A MINIMUM OF 2 WEEKS PRIOR TO PLACEMENT OF PERMANENT PAVEMENT MARKINGS.
- PROPOSED MARKINGS SHALL BE LAID OUT IN ORDER TO UTILIZE EXISTING RAISED REFLECTIVE MARKERS LOCATIONS. PROPOSED RAISED REFLECTIVE MARKER LOCATIONS ARE CALLED OUT IN THE PLANS ACCORDINGLY.

- ALL REMOVED, DAMAGE, OR BROKEN RAISED REFLECTIVE MARKER REFLECTORS SHALL BE REPLACED AT THE DIRECTION OF THE RESIDENT ENGINEER AND PAID FOR AS REPLACEMENT REFLECTOR
- SEE PAVEMENT MARKING DETAIL SHEETS FOR ADDITIONAL INFORMATION.
- TEMPORARY PAVEMENT MARKINGS SHALL BE INSTALLED FOR AN INTERIM PERIOD FOLLOWING COMPLETION OF THE ROADWAY'S CONCRETE BASE, PRIOR TO THE PLACEMENT OF FINAL ASPHALT SURFACE PER THE DIRECTION OF THE ENGINEER. TEMPORARY CROSSWALK MARKINGS MAY BE PLACED WITH TWO 6-INCH LINES IN PLACE OF THE CONTINENTAL STYLE DURING THE INTERIM PERIOD.
- FOR ADDITIONAL DETAILS, SEE CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS TC-11, TC-12, AND TC-24.
- THE STATION OR OFFSET FOR STOP BAR LOCATIONS IS GIVEN AT THE MIDDLE OF THE STOP BAR.
- A MINIMUM DISTANCE OF 4 FEET SHALL BE MAINTAINED BETWEEN THE EDGE OF THE CROSSWALK AND THE EDGE OF THE STOP BAR CLOSEST TO IT UNLESS OTHERWISE NOTED IN THE PLANS.
- STATIONS AND OFFSETS ARE FROM THE BASELINE ALONG WHICH THE POINT LIES.

**LEGEND**

**PAVEMENT MARKING MATERIAL**

- EPOXY PAVEMENT MARKING
- THERMOPLASTIC PAVEMENT MARKING
- △ POLYUREA PAVEMENT MARKING TYPE I

**PAVEMENT MARKING TYPE**

- A - 4" WHITE EDGE LINE
- B - 4" YELLOW EDGE LINE
- C - 4" DOUBLE YELLOW LINE (8" C-C)
- D - 4" WHITE LINE (6' DASH, 18' SKIP)
- E - 5" WHITE (10' DASH, 30' SKIP)
- F - 6" WHITE (2' DASH, 6' SKIP)
- G - 8" WHITE EDGE LINE
- H - 12" WHITE CHEVRONS SPACED @ 30' CENTERS
- I - 12" WHITE 45° DIAGONALS SPACED @ 30' CENTERS
- J - 24" WHITE STOP BAR
- K - 24" WHITE CROSSWALK, 6' WIDTH, SPACED @ 4' CENTERS
- L - 8" WHITE (3' DASH, 9' SKIP)
- M - 12" WHITE 45° DIAGONALS SPACED @ 20' CENTERS

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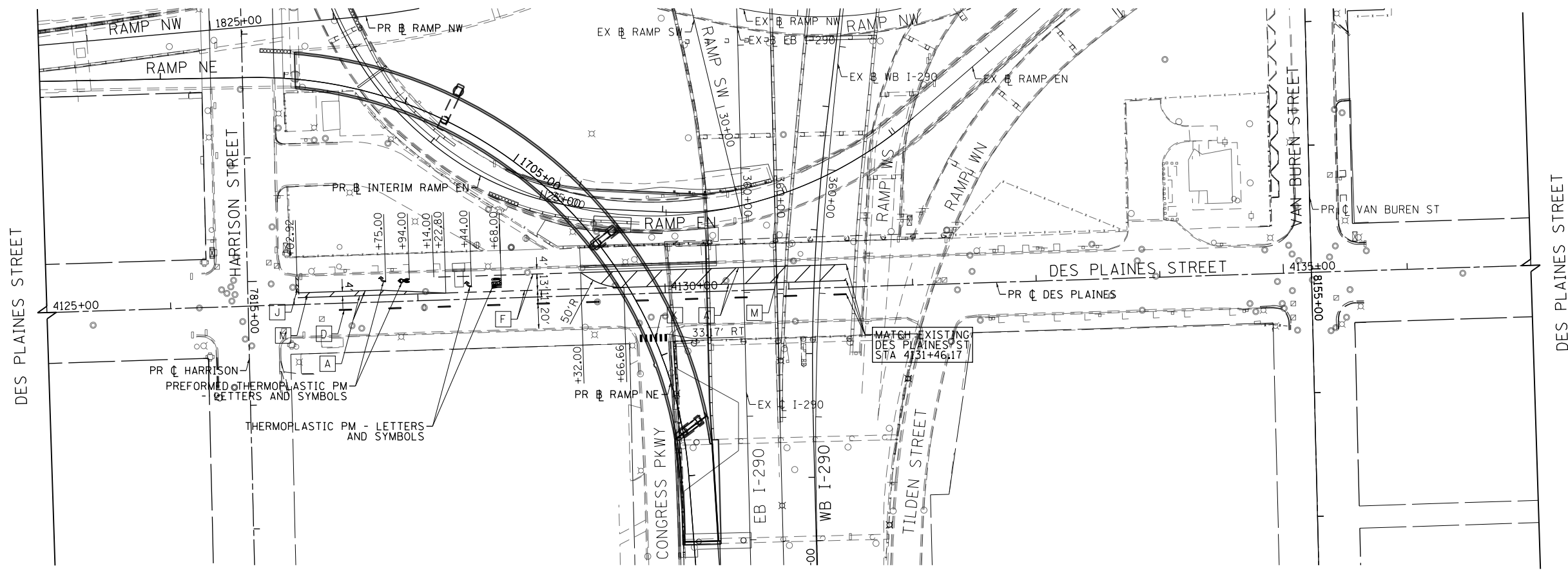
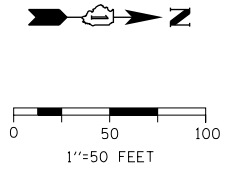
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS  
INTERSTATES AND RAMPS**

SCALE: 1"=50' SHEET 7 OF 8 SHEETS STA. 204+00 TO STA. 9+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	104
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



**PAVEMENT MARKING NOTES**

- ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON PCC PAVEMENT SHALL BE POLYUREA TYPE I EXCEPT WHERE NOTED IN THE PLANS.
- ALL FINAL PAVEMENT MARKING MATERIALS PLACED ON BITUMINOUS PAVEMENT SHALL BE THERMOPLASTIC EXCEPT WHERE NOTED IN THE PLANS.
- ALL FINAL PAVEMENT MARKING SYMBOLS SHALL BE OF SMALL SIZE.
- ALL DAMAGE TO EXISTING PAVEMENT MARKINGS OR RAISED REFLECTIVE PAVEMENT MARKERS OUTSIDE OF THE IMPROVEMENT LIMITS SHOWN ON THE PLANS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
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- FOR ADDITIONAL DETAILS, SEE CITY OF CHICAGO TYPICAL PAVEMENT MARKINGS TC-11, TC-12, AND TC-24.
- THE STATION OR OFFSET FOR STOP BAR LOCATIONS IS GIVEN AT THE MIDDLE OF THE STOP BAR.
- A MINIMUM DISTANCE OF 4 FEET SHALL BE MAINTAINED BETWEEN THE EDGE OF THE CROSSWALK AND THE EDGE OF THE STOP BAR CLOSEST TO IT UNLESS OTHERWISE NOTED IN THE PLANS.
- STATIONS AND OFFSETS ARE FROM THE BASELINE ALONG WHICH THE POINT LIES.

**LEGEND**

**PAVEMENT MARKING MATERIAL**

- EPOXY PAVEMENT MARKING
- THERMOPLASTIC PAVEMENT MARKING
- △ POLYUREA PAVEMENT MARKING TYPE I

**PAVEMENT MARKING TYPE**

- A - 4" WHITE EDGE LINE
- B - 4" YELLOW EDGE LINE
- C - 4" DOUBLE YELLOW LINE (8" C-C)
- D - 4" WHITE LINE (6' DASH, 18' SKIP)
- E - 5" WHITE (10' DASH, 30' SKIP)
- F - 6" WHITE (2' DASH, 6' SKIP)
- G - 8" WHITE EDGE LINE
- H - 12" WHITE CHEVRONS SPACED @ 30' CENTERS
- I - 12" WHITE 45° DIAGONALS SPACED @ 30' CENTERS
- J - 24" WHITE STOP BAR
- K - 24" WHITE CROSSWALK, 6' WIDTH, SPACED @ 4' CENTERS
- L - 8" WHITE (3' DASH, 9' SKIP)
- M - 12" WHITE 45° DIAGONALS SPACED @ 20' CENTERS

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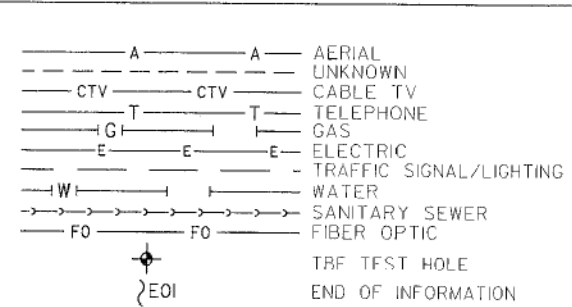
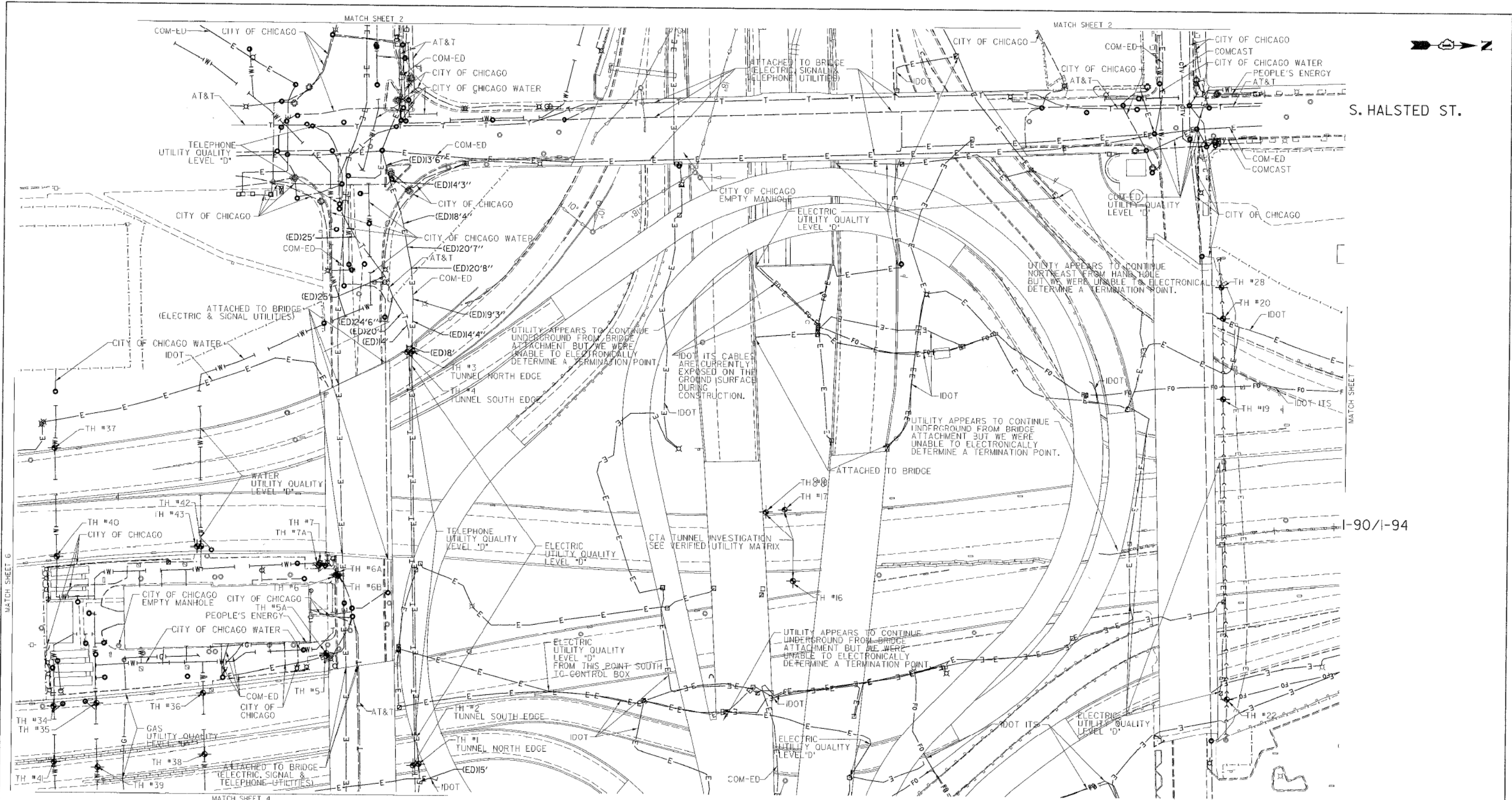
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PAVEMENT MARKING PLANS  
DES PLAINES STREET**

SCALE: 1"=50' SHEET 8 OF 8 SHEETS STA. 4125+00 TO STA. 4137+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	105
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				



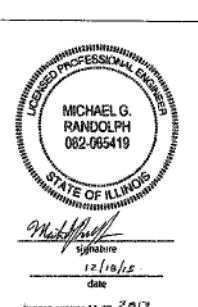
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AT&T = TELEPHONE  
 COM-ED = ELECTRIC  
 CITY OF CHICAGO = ELECTRIC  
 CITY OF CHICAGO WATER = WATER  
 IDOT = ELECTRIC  
 IDOT ITS = FIBER OPTIC  
 PEOPLE'S ENERGY = GAS

NOTE: ALL ELECTRONIC DEPTHS MARKED AS (ED) WERE OBTAINED UTILIZING A SONDE DEVICE. DEPTHS ON THE AT&T DUCT WERE RECORDED FROM AN AT&T CONTRACTOR. DEPTHS ON THE COMED DUCT WERE RECORDED BY A CARDNO CREW. CARDNO CAN NOT VERIFY THE ACCURACY OF THESE DEPTHS AND SHOULD BE USED AS APPROXIMATE AND AS INFORMATION ONLY.

UTILITIES SHOWN ON THESE PLANS AS DEPICTED IN THE LEGEND HAVE BEEN INVESTIGATED BY CARDNO IN ACCORDANCE WITH SUE INDUSTRY STANDARDS. ALL OTHER INFORMATION SHOWN HAS BEEN PROVIDED TO CARDNO BY OTHERS. CARDNO SUE FIELD INVESTIGATION WAS PERFORMED 3/14/13 THROUGH 10/21/15. CHANGES TO UTILITIES MAY HAVE BEEN MADE AND THEREFORE MAY RESULT IN VARIANCES FROM THIS PLAN. CONSIDERATION SHOULD BE GIVEN TO UPDATING THIS PLAN IF DEEMED ADVISABLE PRIOR TO FINAL DESIGN AND CONSTRUCTION.

ALL UTILITIES SHOWN QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.



Utility Quality Level "A": Visually Verified Test Hole  
 Utility Quality Level "B": Designating/non Visually Verified Test Hole  
 Utility Quality Level "C": Research with Survey  
 Utility Quality Level "D": Records Research

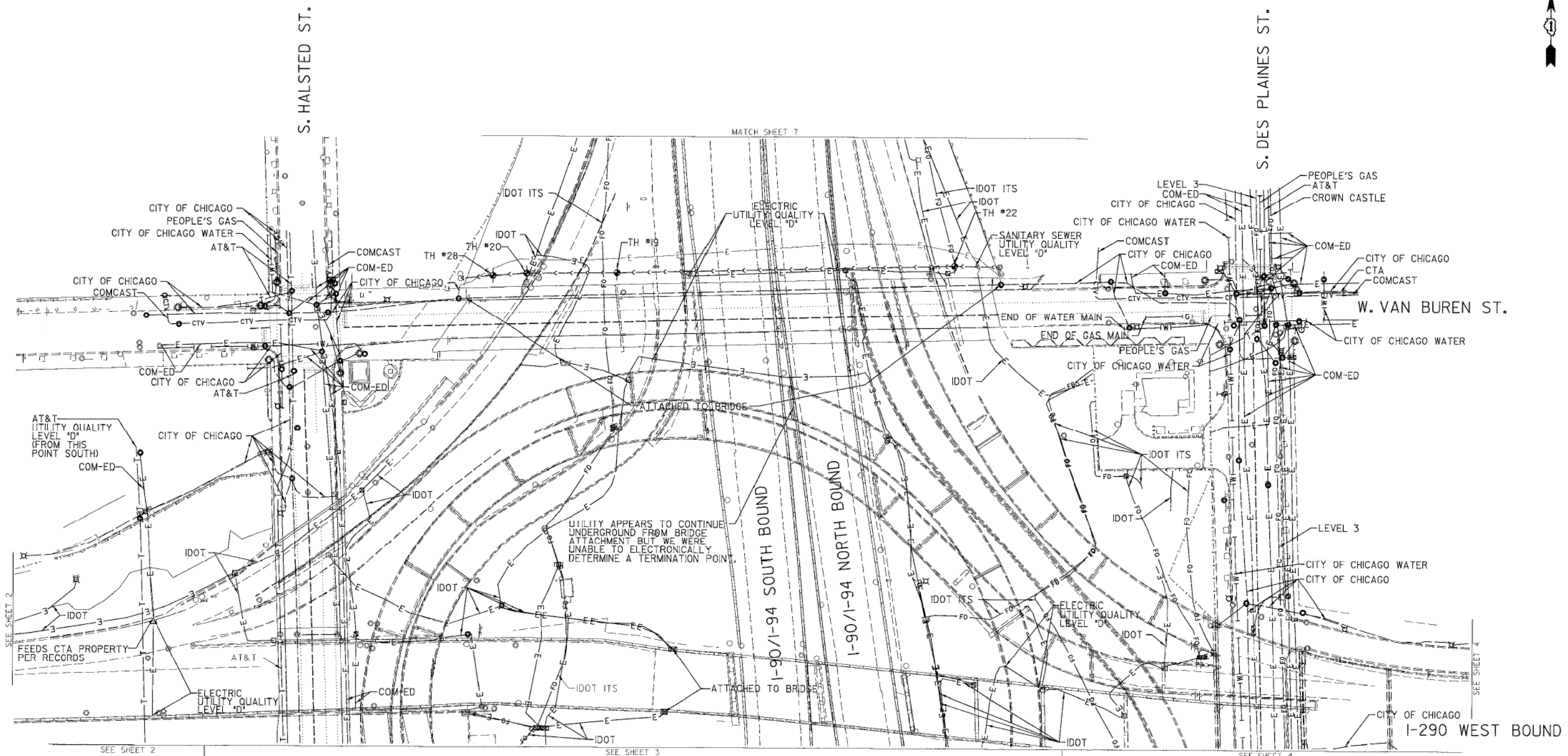
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DRAWN	SRK	REVISED
CHECKED	MGR	REVISED
DATE	12/18/15	REVISED

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

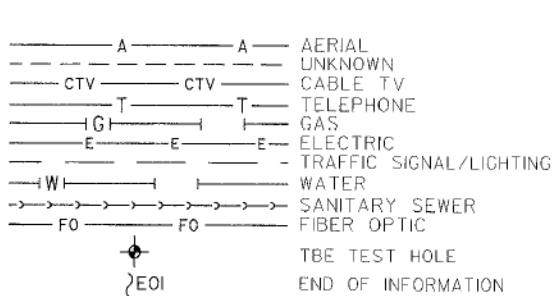
**I-94-I-90-290 (Circle Interchange)  
 Chicago, Illinois**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	106
Contract No. N/A			62B76	
FED. ROAD DIST. NO. ILLINOIS IDOT Project No. P-9-259-12				

TBE Job No. IL0950531, 563, 647  
 SUE Plan Page: 3 of 12



NOTE:  
 THE CITY OF CHICAGO LINES (OTHER THAN THE WATER LINES), ARE MULTI-DUCT SYSTEMS, AND MAY CONTAIN ELECTRIC, TRAFFIC SIGNAL, CPS FIBER OPTICS, OEMC FIBER OPTICS, OTHER CITY COMMUNICATION LINES, AND OCCASIONALLY 3RD PARTY LINES. CARDNO HAS NOT ATTEMPTED TO DETERMINE THE NUMBER, SIZE, CONFIGURATION, OR OWNERSHIP OF THESE DUCT SYSTEMS. SUCH DETERMINATION SHOULD BE MADE BY OTHERS DURING THE UTILITY COORDINATION PROCESS.

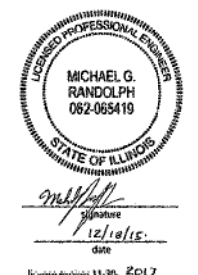


UTILITY OWNERS

AT&T - TELEPHONE  
 CITY OF CHICAGO = ELECTRIC  
 CITY OF CHICAGO = FIBER OPTIC  
 CITY OF CHICAGO WATER = WATER  
 COMCAST = CABLE TV  
 COM-ED = ELECTRIC  
 CROWN CASTLE = FIBER OPTIC  
 CTA = ELECTRIC  
 IDOT = ELECTRIC  
 IDOT ITS = FIBER OPTIC  
 LEVEL 3 = FIBER OPTIC  
 PEOPLE'S GAS = GAS

UTILITIES SHOWN ON THESE PLANS AS DEPICTED IN THE LEGEND HAVE BEEN INVESTIGATED BY CARDNO IN ACCORDANCE WITH SUE INDUSTRY STANDARDS. ALL OTHER INFORMATION SHOWN HAS BEEN PROVIDED TO CARDNO BY OTHERS. CARDNO SUE FIELD INVESTIGATION WAS PERFORMED 6/30/14 THROUGH 8/07/14. CHANGES TO UTILITIES MAY HAVE BEEN MADE AND THEREFORE MAY RESULT IN VARIANCES FROM THIS PLAN. CONSIDERATION SHOULD BE GIVEN TO UPDATING THIS PLAN IF DEEMED ADVISABLE PRIOR TO FINAL DESIGN AND CONSTRUCTION.

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Utility Quality Level 'A': Visually Verified Test Hole  
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 Utility Quality Level 'C': Research with Survey  
 Utility Quality Level 'D': Records Research

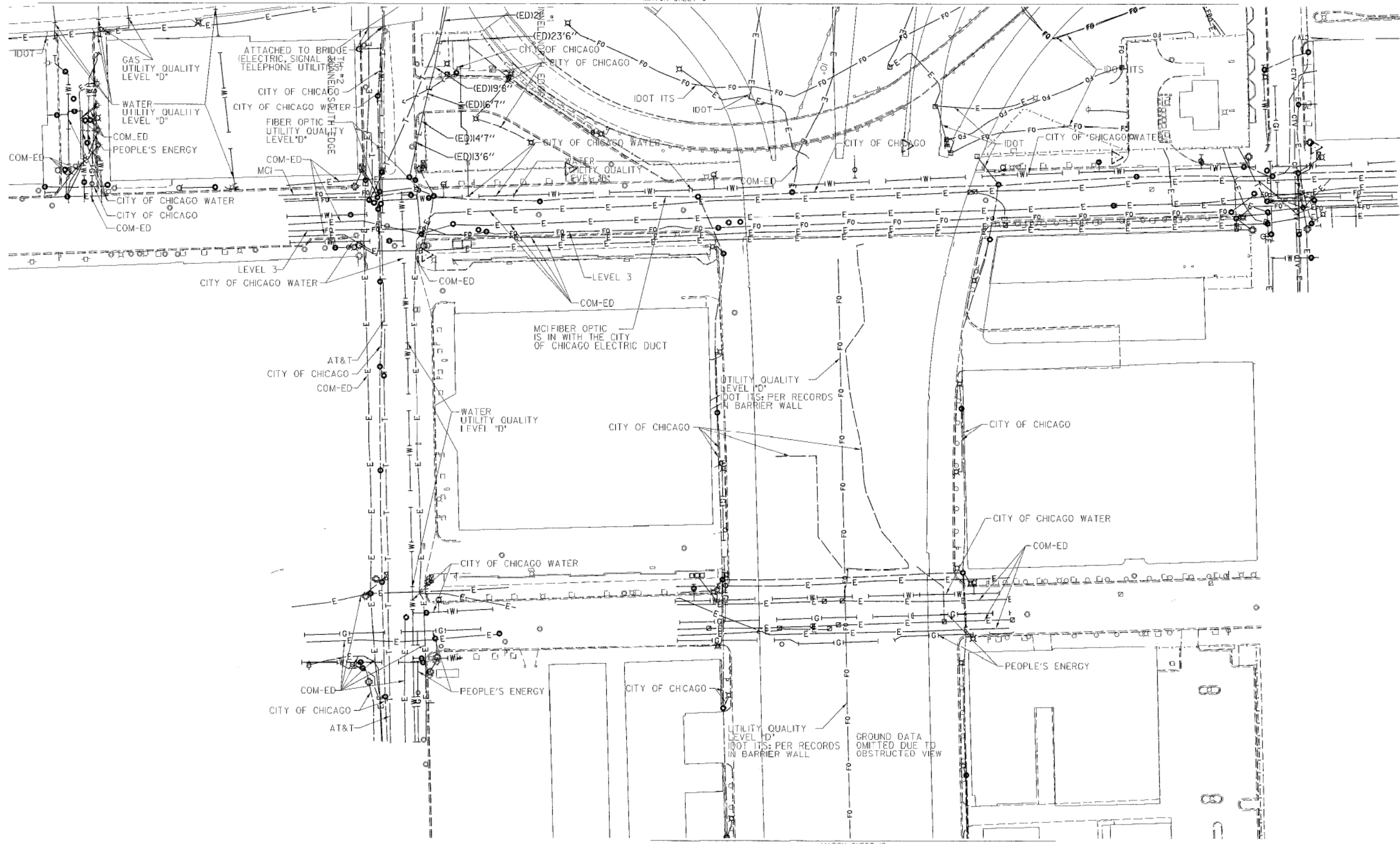
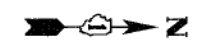
DESIGNED JP	REVISED
DRAWN SRK	REVISED
CHECKED MGR	REVISED
DATE 12/18/15	REVISED

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

I-94-901-290 (Circle Interchange)  
 Chicago, Illinois

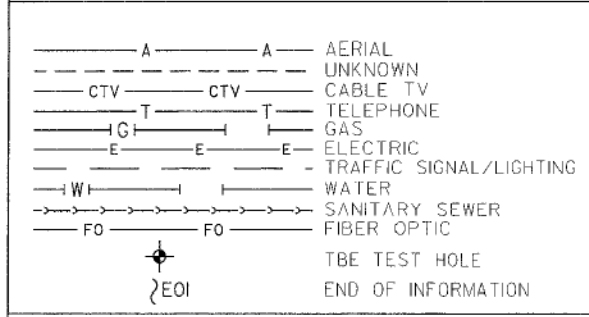
F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 107
Contract No. N/A			62B76	
FED. ROAD DIST. NO. ILLINOIS IDOT Project No. P-91-259-12				

TBC Job No. IL0950531, 563, 647  
 SUE Plan Page 3A of 12



S. DES PLAINES ST.

S. JEFFERSON ST.

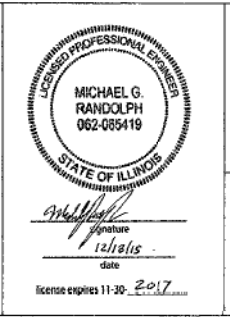


UTILITY OWNERS	
AT&T	= TELEPHONE
COM-ED	= ELECTRIC
CITY OF CHICAGO	= ELECTRIC
CITY OF CHICAGO	= SANITARY SEWER
CITY OF CHICAGO WATER	= WATER
IDOT	= ELECTRIC
IDOT SURVEILLANCE	= FIBER OPTIC
LEVEL 3	= FIBER OPTIC
MCI	= FIBER OPTIC
PEOPLE'S ENERGY	= GAS

NOTE: ALL ELECTRONIC DEPTHS MARKED AS (ED) WERE OBTAINED UTILIZING A SONDE DEVICE. DEPTHS ON THE AT&T DUCT WERE RECORDED FROM AN AT&T CONTRACTOR. DEPTHS ON THE COMED DUCT WERE RECORDED BY A CARDNO CREW. CARDNO CAN NOT VERIFY THE ACCURACY OF THESE DEPTHS AND SHOULD BE USED AS APPROXIMATE AND AS INFORMATION ONLY.

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ALL UTILITIES SHOWN QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.



TBE Job No. IL0950534 563, 647  
SUE Plan Page 4 of 12

Utility Quality Level "A": Visually Verified Test Hole  
 Utility Quality Level "B": Designating/non Visually Verified Test Hole  
 Utility Quality Level "C": Research with Survey  
 Utility Quality Level "D": Records Research

DESIGNED	IP	REVISED
DRAWN	SRK	REVISED
CHECKED	MGR	REVISED
DATE	12/18/15	REVISED

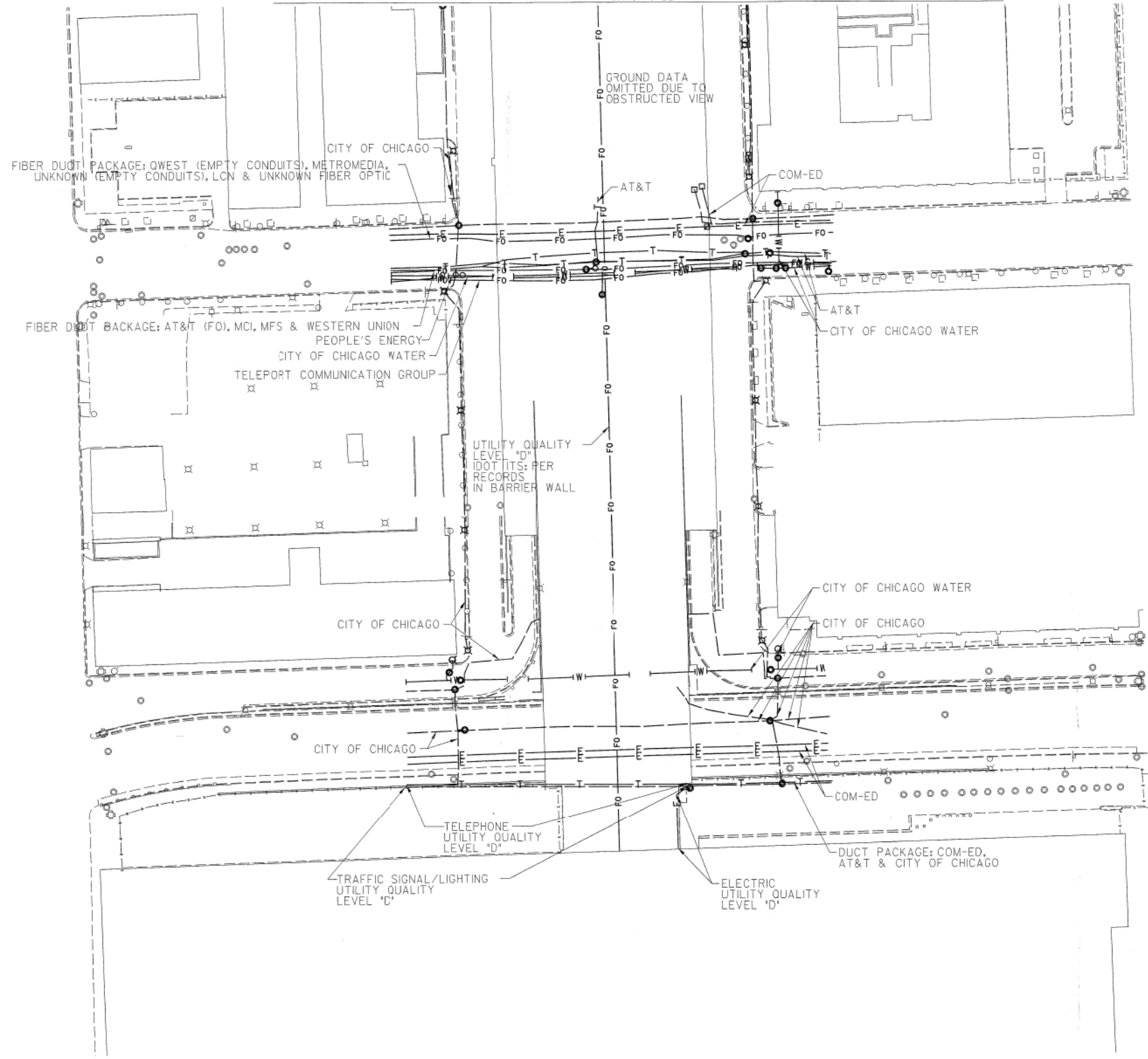
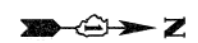
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

I-941-901-290 (Circle Interchange)  
 Chicago, Illinois

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	108

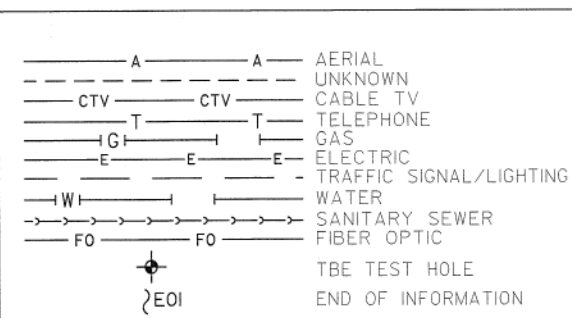
Contract No. N/A 62B76  
 FED. ROAD DIST. NO. ILLINOIS DOT Project No. P-91-259-12





S. CLINTON ST.

S. CANAL ST.

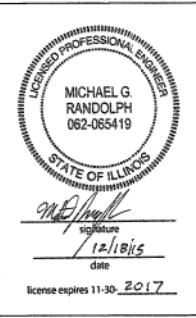


UTILITY OWNERS

AT&T = FIBER OPTIC  
 AT&T = TELEPHONE  
 COM-ED = ELECTRIC  
 CITY OF CHICAGO = ELECTRIC  
 CITY OF CHICAGO WATER = WATER  
 IDOT = ELECTRIC  
 LCN = FIBER OPTIC  
 MCI = FIBER OPTIC  
 METROMEDIA = FIBER OPTIC  
 MFS = FIBER OPTIC  
 PEOPLE'S ENERGY = GAS  
 TELEPORT COMM. GROUP = FIBER OPTIC  
 QWEST = FIBER OPTIC  
 WESTERN UNION = FIBER OPTIC

UTILITIES SHOWN ON THESE PLANS AS DEPICTED IN THE LEGEND HAVE BEEN INVESTIGATED BY CARDNO IN ACCORDANCE WITH SUE INDUSTRY STANDARDS. ALL OTHER INFORMATION SHOWN HAS BEEN PROVIDED TO CARDNO BY OTHERS. CARDNO SUE FIELD INVESTIGATION WAS PERFORMED 7/29/14 THROUGH 8/07/14. CHANGES TO UTILITIES MAY HAVE BEEN MADE AND THEREFORE MAY RESULT IN VARIANCES FROM THIS PLAN. CONSIDERATION SHOULD BE GIVEN TO UPDATING THIS PLAN IF DEEMED ADVISABLE PRIOR TO FINAL DESIGN AND CONSTRUCTION.

ALL UTILITIES SHOWN QUALITY LEVEL "B" UNLESS NOTED OTHERWISE.



TBE Job No. IL09510531, 563, 647  
 SUE Plan Page: 12 of 12

Utility Quality Level 'A': Visually Verified Test Hole  
 Utility Quality Level 'B': Designating/non Visually Verified Test Hole  
 Utility Quality Level 'C': Research with Survey  
 Utility Quality Level 'D': Records Research

DESIGNED IP	REVISED
DRAWN SRK	REVISED
CHECKED MGR	REVISED
DATE 12/18/15	REVISED

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**I-941-901-290 (Circle Interchange)**  
**Chicago, Illinois**

F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 108A
Contract No. N/A				62B76
FED. ROAD DIST. NO.	ILLINOIS	IDOT Project No. P-9-259-12		

**SIGNING SCHEDULE**


LOCATION	SIGN NO.	LEGEND /DESCRIPTION	CODE	ACTION	LOCATION (STATION /OFFSET)				EXISTING PANEL DIMENSIONS		PROPOSED PANEL DIMENSIONS		NUMBER OF POSTS	REMOVE SIGN PANEL - TYPE 1	SIGN PANEL - TYPE 1	SIGN PANEL - TYPE 2	RELOCATE SIGN PANEL - TYPE 2	RELOCATE SIGN PANEL ASSEMBLY - TYPE B	STEEL POSTS, SPECIAL	METAL POSTS - TYPE B	TELESCOPING STEEL SIGN SUPPORT
					EXISTING		PROPOSED		WIDTH (FT)	HEIGHT (FT)	WIDTH (FT)	HEIGHT (FT)									
DES PLAINES STREET	DP-01-ST	STREET SIGN -CONGRESS PKWY	D3-2	REMOVE AND RELOCATE SIGN	4129 + 68.53	26.04' LT	4129 + 72.90	27.36' LT	5.00	1.50	5.00	1.50	1								
	DP-02-ST	STREET SIGN -DES PLAINES STREET	D3-2	REMOVE AND RELOCATE SIGN	4129 + 68.53	26.04' LT	4129 + 72.90	27.36' LT	5.00	1.50	5.00	1.50						1	1		
CONGRESS PARKWAY	CON-01-LP	STREET SIGN -CONGRESS PKWY	D3-2	EXISTING TO REMAIN	4129 + 70.80	40.9' RT	-	-	5.00	1.50	-	-	1								
	CON-02-LP	STREET SIGN -DES PLAINES STREET	D3-2	EXISTING TO REMAIN	4129 + 70.80	40.9' RT	-	-	5.00	1.50	-	-									
	CON-03-LP	ONE WAY	R6-2	EXISTING TO REMAIN	4129 + 70.80	40.9' RT	-	-	3.00	4.00	-	-									
	CON-04-FM	NO PARKING (SYMBOL)	R7-1-4	REMOVE AND REPLACE SIGN	4130 + 07.78	127.59' RT	4130 + 07.78	127.59' RT	1.50	1.50	1.50	1.50		2.25	2.25						
	CON-05-FM	NO PARKING (SYMBOL)	R7-1-4	REMOVE AND REPLACE SIGN	4130 + 08.51	183.34' RT	4130 + 08.51	183.34' RT	1.50	1.50	1.50	1.50		2.25	2.25						
RAMP EN	EN-01-MP	RAMP SPEED LIMIT 20 MPH	W13-3	PROPOSED SIGN	-	-	15 + 61.93	22.13' RT	-	-	3.00	4.00	2			12			31		
	EN-02-MP	RAMP SPEED LIMIT 20 MPH	W13-3	PROPOSED SIGN	-	-	15 + 61.93	12.06' LT	-	-	3.00	4.00		2			12			31	
	EN-03-MP	RAMP NARROWS	W5-4	PROPOSED SIGN	-	-	16 + 50.13	16.62' RT	-	-	4.00	4.00		2			16			34	
RAMP NW	NB-01-OH	I-290 WEST EISENHOWER EXPWY WEST SUBURBS		UNCOVER	189 + 87.90	-	-	-	16.50	10.00	-	-	2								
	NB-02-OH	CONGRESS PKWY CHICAGO LOOP		UNCOVER	189 + 87.90	-	-	-	18.00	10.00	-	-									
	NB-03-OH	I-290 WEST EISENHOWER EXPWY WEST SUBURBS		UNCOVER	1807 + 83.86	-	-	-	16.50	10.00	-	-									
	NB-04-OH	CONGRESS PKWY CHICAGO LOOP		UNCOVER	1807 + 83.86	-	-	-	18.00	10.00	-	-									
	NB-05-OH	I-290 WEST EISENHOWER EXPWY AURORA		EXISTING TO REMAIN	1823 + 65.50	-	-	-	17.00	13.50	-	-									
	NB-06-OH	EXIT 51 I		UNCOVER	1823 + 65.50	-	-	-	13.00	2.50	-	-									
	NB-07-OH	CONGRESS PKWY, EXIT ONLY		UNCOVER	1823 + 65.50	-	-	-	16.50	7.00	-	-									
RAMP NE	NE-01-TS	MERGE	W4-1	REMOVE AND RELOCATE SIGN (SEE NOTE 1)	1706 + 39.80	71.45' LT	1707 + 74.82	22.88' LT	4.00	4.00	4.00	4.00	1				16			13	
I-290	EB-07-OH	WIDTH RESTRICTION	W12-I102	PROPOSED SIGN	-	-	324 + 95.92	-	-	-	4.00	4.00	2			16					
	EB-08-OH	WIDTH RESTRICTION	W12-I102	PROPOSED SIGN	-	-	339 + 12.18	-	-	-	4.00	4.00					16				
	EB-09-OH	WIDTH RESTRICTION	W12-I102	PROPOSED SIGN	-	-	348 + 76.10	-	-	-	4.00	4.00					16				
	EB-10-OH	WIDTH RESTRICTION	W12-I102	PROPOSED SIGN	-	-	351 + 55.73	-	-	-	4.00	4.00					16				
	EB-11-MP	WEST	M3-4	PROPOSED SIGN	-	-	297 + 20.00	30' RT	-	-	3.00	1.50			4.5						
	EB-12-MP	I-290	M1-1	PROPOSED SIGN	-	-	297 + 20.00	30' RT	-	-	3.75	3.00				11.25				40	
	EB-13-MP	MAX WIDTH	W12-I103	PROPOSED SIGN	-	-	297 + 20.00	30' RT	-	-	4.00	4.00					16				
	EB-14-MP	WEST	M3-4	PROPOSED SIGN	-	-	297 + 20.00	30' LT	-	-	3.00	1.50			4.5						
	EB-15-MP	I-290	M1-1	PROPOSED SIGN	-	-	297 + 20.00	30' LT	-	-	3.75	3.00				11.25				40	
	EB-16-MP	MAX WIDTH	W12-I103	PROPOSED SIGN	-	-	297 + 20.00	30' LT	-	-	4.00	4.00					16				

**OVERHEAD SIGN STRUCTURE SCHEDULE**

LOCATION	SIGN NO.	LEGEND /DESCRIPTION	CODE	ACTION	LOCATION (STATION /OFFSET)				EXISTING PANEL DIMENSIONS		PROPOSED PANEL DIMENSIONS		SIGN PANEL - TYPE 3	RELOCATE SIGN PANEL - TYPE 1	RELOCATE SIGN PANEL - TYPE 2	REMOVE OVERHEAD SIGN STRUCTURE - SPAN	REMOVE OVERHEAD SIGN STRUCTURE - WALKWAY
					EXISTING		PROPOSED		WIDTH (FT)	HEIGHT (FT)	WIDTH (FT)	HEIGHT (FT)					
I-290	EB-01-OH	FREEWAY ENDS		REMOVE AND REPLACE SIGN	372 + 92.11	-	373 + 21.98	-	20.00	6.00	20.00	6.00	120			1	54
	EB-02-OH	WACKER DR FRANKLIN ST 1/4 MILE		REMOVE AND REPLACE SIGN	372 + 92.11	-	373 + 21.98	-	15.00	10.00	15.00	10.00	150				
	EB-03-TM	STOP AHEAD WHEN FLASHING		REMOVE AND RELOCATE SIGN	372 + 92.11	-	373 + 21.98	-	2.00	3.00	2.00	3.00	6				
	EB-04-TM	DRAW BRIDGE AHEAD		REMOVE AND RELOCATE SIGN	372 + 92.11	-	373 + 21.98	-	3.50	3.50	3.50	3.50		12.25			
	EB-05-TM	STOP AHEAD WHEN FLASHING		REMOVE AND RELOCATE SIGN	372 + 92.11	-	373 + 21.98	-	2.00	3.00	2.00	3.00	6				
	EB-06-TM	DRAW BRIDGE AHEAD		REMOVE AND RELOCATE SIGN	372 + 92.11	-	373 + 21.98	-	3.50	3.50	3.50	3.50		12.25			


**NOTES**

- TELESCOPING STEEL SIGN SUPPORT TO BE MOUNTED TO THE END OF THE TEMPORARY CONCRETE BARRIER (TO REMAIN PERMANENTLY) ALONG EB I-290. THE HARDWARE USED TO MOUNT THE TELESCOPING STEEL SIGN SUPPORT SHALL BE INCLUDED IN THE COST OF THE TELESCOPING STEEL SIGN SUPPORT.




R7-1-4  
REFLECTIVE: NO  
MOUNT: CENTER  
(18"x18")

CON-04-FM  
CON-05-FM




W13-3  
REFLECTIVE: YES  
MOUNT: CENTER  
(36"x48")

EN-01-MP  
EN-02-MP




W5-4  
REFLECTIVE: YES  
MOUNT: CENTER  
(48"x48")

EN-03-MP




W12-I102-48  
REFLECTIVE: YES  
MOUNT: CENTER  
(48"x48")

EB-07-OH  
EB-08-OH  
EB-09-OH  
EB-10-OH



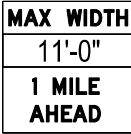
M3-4  
REFLECTIVE: YES  
MOUNT: CENTER  
(36"x18")

EB-11-MP  
EB-14-MP



M1-1  
REFLECTIVE: YES  
MOUNT: CENTER  
(45"x36")

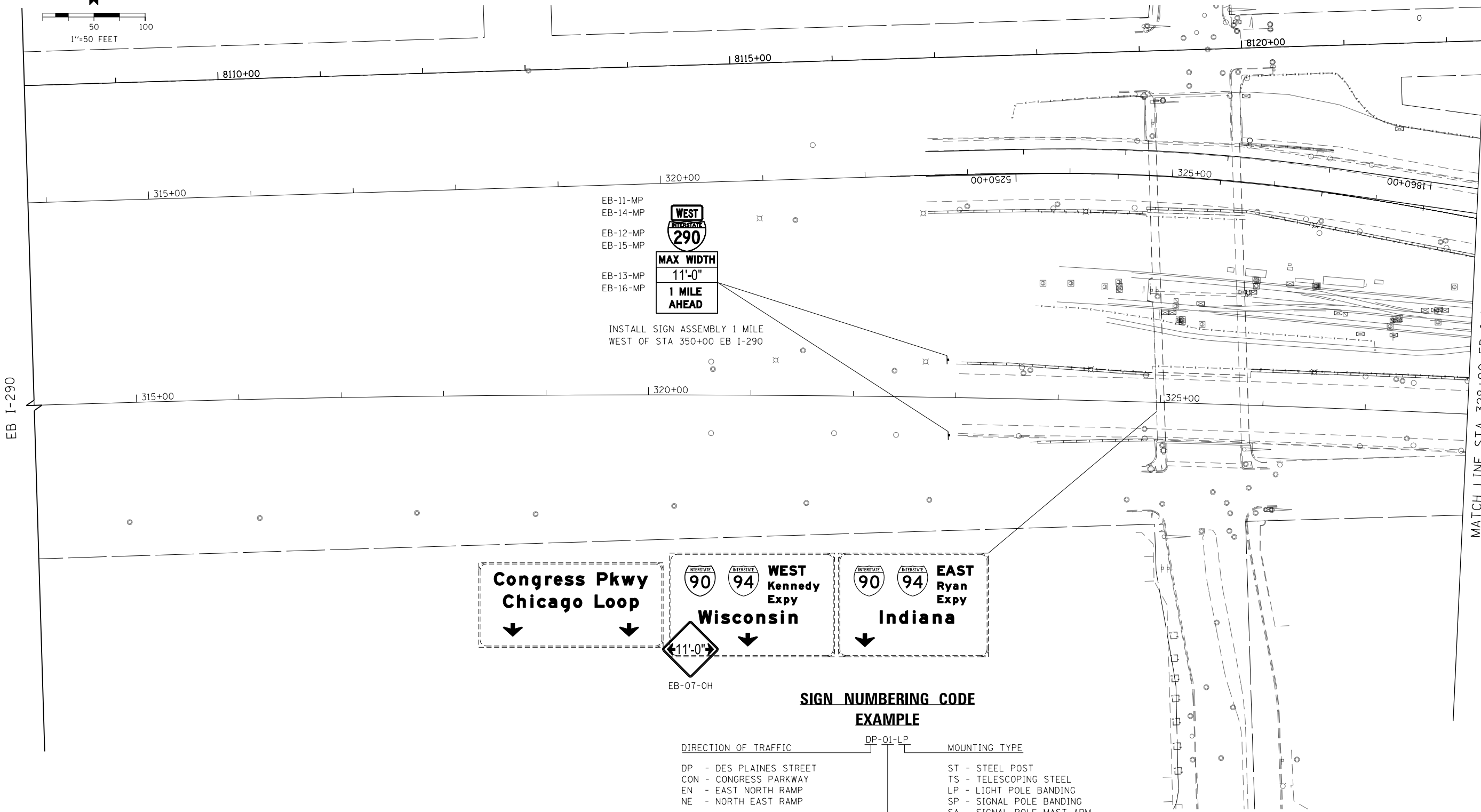
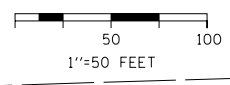
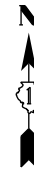
EB-12-MP  
EB-15-MP



W12-I103-48  
REFLECTIVE: YES  
MOUNT: CENTER  
(48"x48")

EB-13-MP  
EB-16-MP

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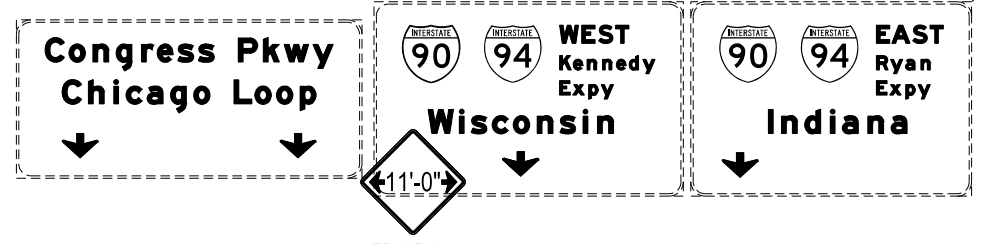


EB-11-MP  
 EB-14-MP  
 EB-12-MP  
 EB-15-MP  
 EB-13-MP  
 EB-16-MP

**WEST**  
**Interstate**  
**290**

**MAX WIDTH**  
**11'-0"**  
**1 MILE**  
**AHEAD**

INSTALL SIGN ASSEMBLY 1 MILE  
 WEST OF STA 350+00 EB I-290



EB-07-OH

**SIGN NUMBERING CODE  
 EXAMPLE**

DIRECTION OF TRAFFIC	DP-01-LP	MOUNTING TYPE
DP - DES PLAINES STREET		ST - STEEL POST
CON - CONGRESS PARKWAY		TS - TELESCOPING STEEL
EN - EAST NORTH RAMP		LP - LIGHT POLE BANDING
NE - NORTH EAST RAMP		SP - SIGNAL POLE BANDING
		SA - SIGNAL POLE MAST ARM
		BM - BRIDGE MOUNTED
		PP - PEDESTRIAN PUSH BUTTON
		BS - BREAKAWAY STEEL
		WP - WOOD POST
		OH - OVERHEAD
		TM - TRUSS SUPPORT MOUNTED
		FM - FENCE MOUNTED
		MP - METAL POST

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DI62276-Sht-Sign-01A.dgn	DESIGNED - MKW	REVISED -
USER NAME = BAW:tor t	DRAWN - BAW	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED - JLV	REVISED -
PLOT DATE = 5/6/2016	DATE - 5/6/2016	REVISED -

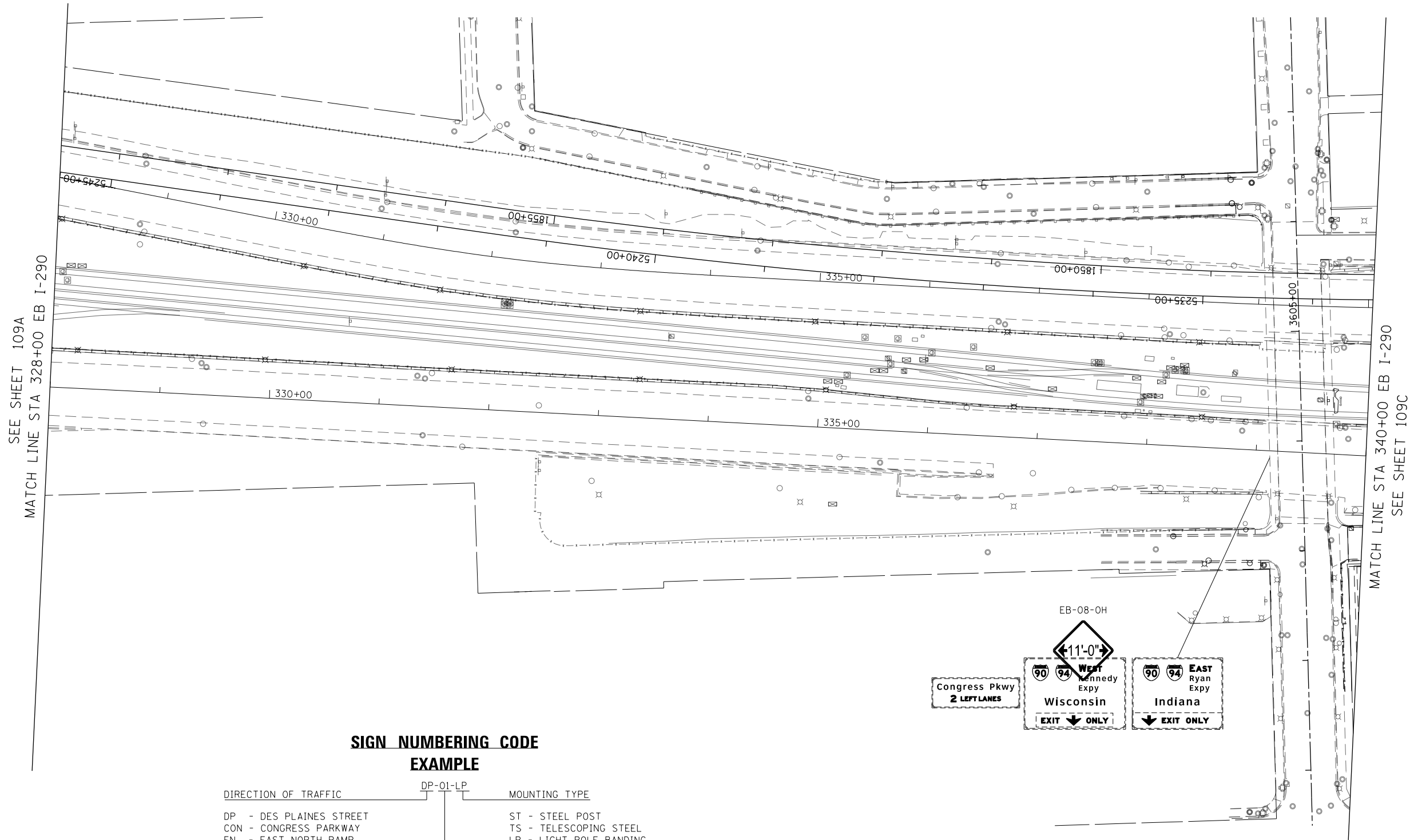
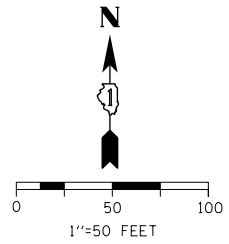
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SIGNING PLANS  
 I-290**

SCALE: 1"=50' SHEET 1A OF 19 SHEETS STA. 316+00 TO STA. 328+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-08OR&B	COOK	250	109A
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

MATCH LINE STA 328+00 EB I-290  
 SEE SHEET 109B



**SIGN NUMBERING CODE  
EXAMPLE**

DIRECTION OF TRAFFIC	DP-01-LP	MOUNTING TYPE
DP - DES PLAINES STREET		ST - STEEL POST
CON - CONGRESS PARKWAY		TS - TELESCOPING STEEL
EN - EAST NORTH RAMP		LP - LIGHT POLE BANDING
NE - NORTH EAST RAMP		SP - SIGNAL POLE BANDING
		SA - SIGNAL POLE MAST ARM
		BM - BRIDGE MOUNTED
		PP - PEDESTRIAN PUSH BUTTON
		BS - BREAKAWAY STEEL
		WP - WOOD POST
		OH - OVERHEAD
		TM - TRUSS SUPPORT MOUNTED
		FM - FENCE MOUNTED
		MP - METAL POST

SIGN PANEL NUMBER

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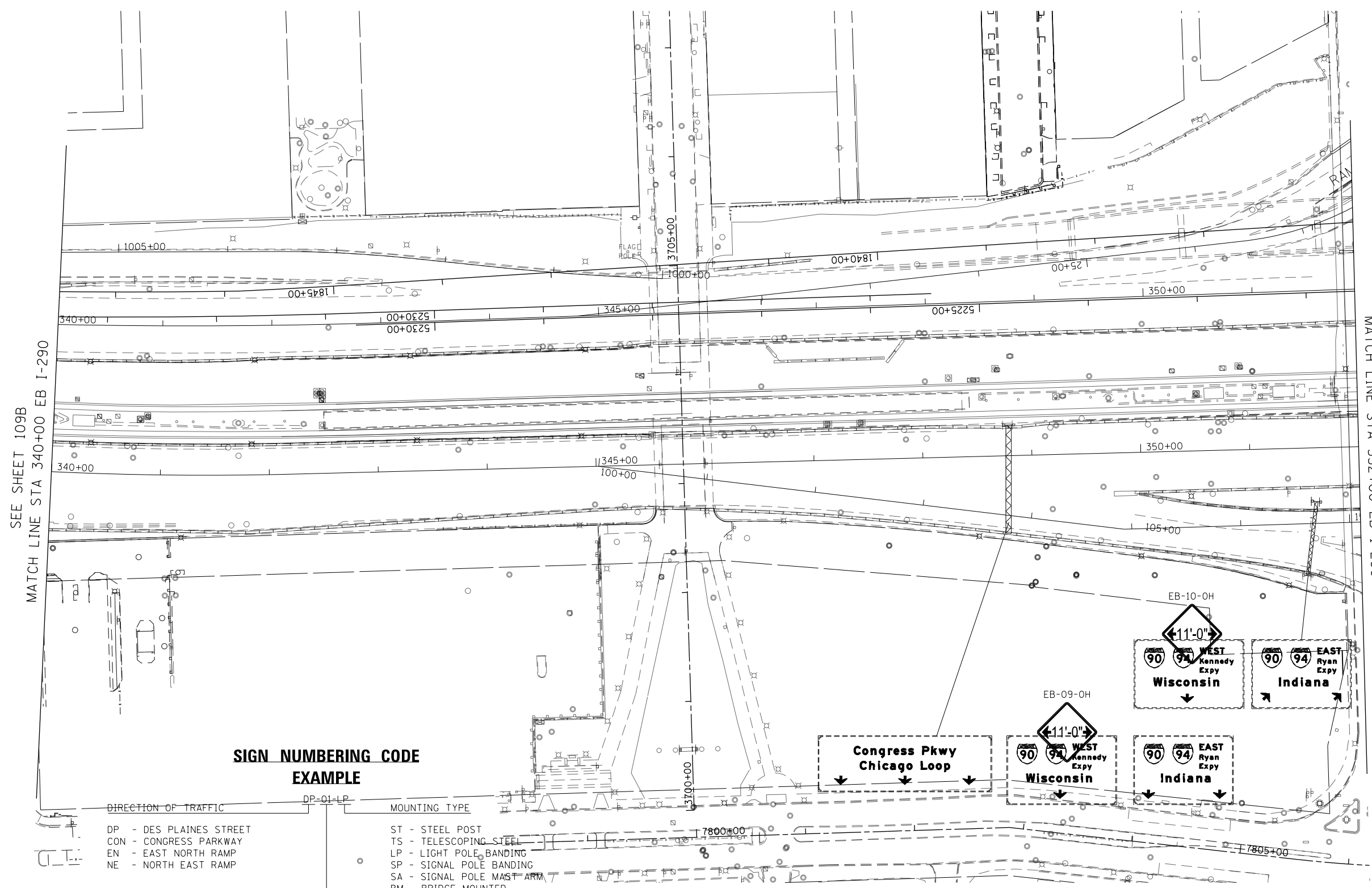
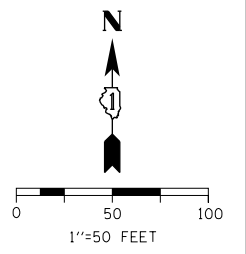


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PLOT DATE = 5/6/2016	DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SIGNING PLANS		
I-290		
SCALE: 1"=50'	SHEET 1B	OF 19 SHEETS
STA. 328+00	TO STA. 340+00	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-08OR&B	COOK	250	109B
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



SEE SHEET 109B  
MATCH LINE STA 340+00 EB I-290

SEE SHEET 109  
MATCH LINE STA 352+00 EB I-290

**SIGN NUMBERING CODE  
EXAMPLE**

DIRECTION OF TRAFFIC	DP-01-LP	MOUNTING TYPE
DP - DES PLAINES STREET	ST - STEEL POST	TS - TELESCOPING STEEL
CON - CONGRESS PARKWAY	LP - LIGHT POLE BANDING	SA - SIGNAL POLE MAST ARM
EN - EAST NORTH RAMP	SP - SIGNAL POLE BANDING	BM - BRIDGE MOUNTED
NE - NORTH EAST RAMP	SA - SIGNAL POLE MAST ARM	PP - PEDESTRIAN PUSH BUTTON
	BS - BREAKAWAY STEEL	WP - WOOD POST
	OH - OVERHEAD	TM - TRUSS SUPPORT MOUNTED
	FM - FENCE MOUNTED	MP - METAL POST

SIGN PANEL NUMBER

FILE PATH = p:\617479-P\MINT\recomon\line\local\BACOM\0502\_MN\Documents\01\_Americas\Transportation\62269938\_Circle\Phase\_11\000\_CAD\006\_Roadway\Sheets\62269938\_Contract\0162269938-Sht-Sign-01C.dgn



D162676-Sht-Sign-01C.dgn
USER NAME = BAWtor1
PLOT SCALE = 100.0000' / in.
PLOT DATE = 5/6/2016

DESIGNED - MKW	REVISED -
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CHECKED - JLV	REVISED -
DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

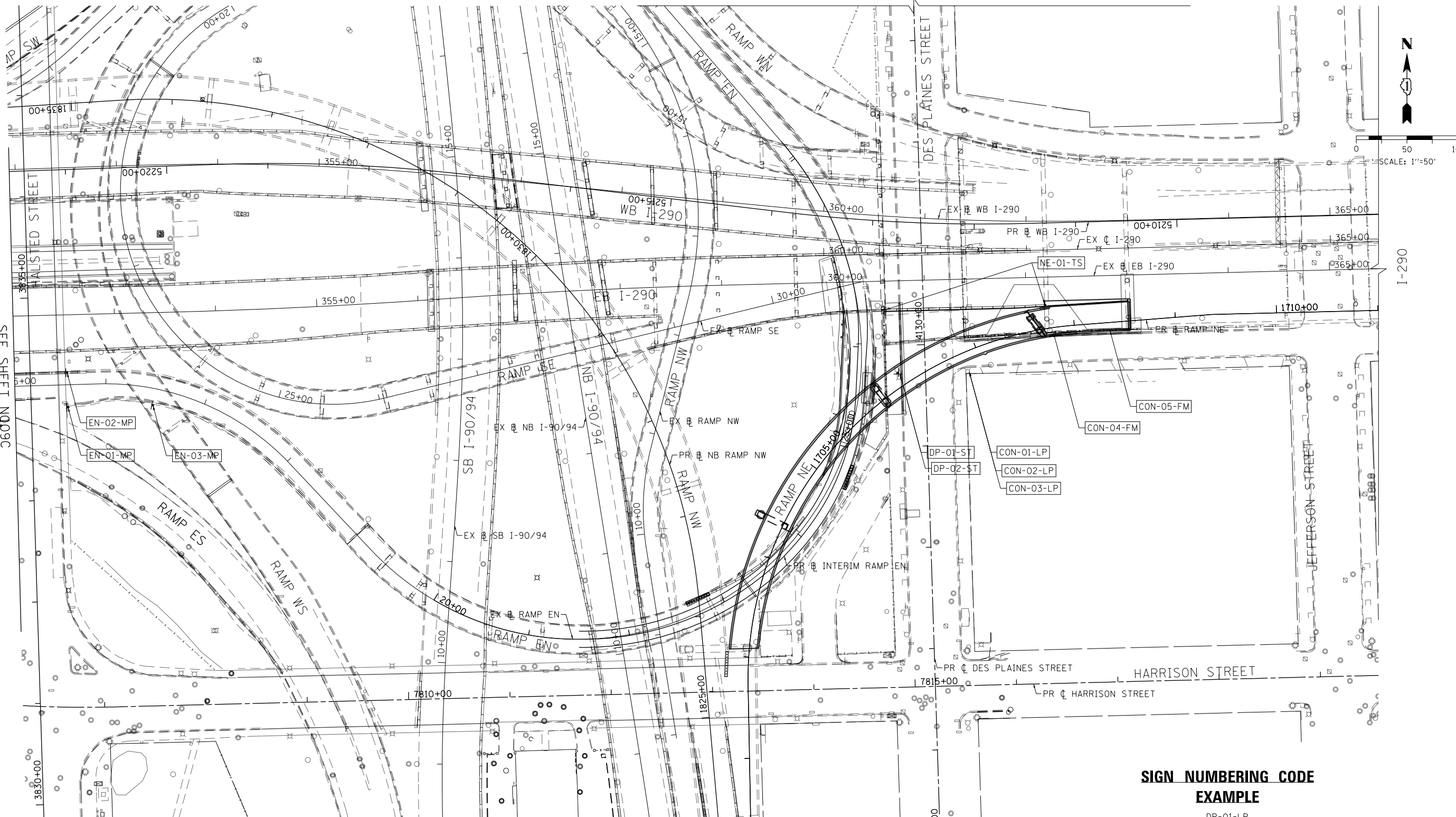
**SIGNING PLANS  
I-290**

SCALE: 1"=50' SHEET 1C OF 11 SHEETS STA. 340+00 TO STA. 352+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	109C
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

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MATCH LINE STA 352+00 EB I-290  
SEE SHEET N009C



**SIGN NUMBERING CODE EXAMPLE**

DIRECTION OF TRAFFIC	DP-01-LP	MOUNTING TYPE
DP - DES PLAINES STREET		ST - STEEL POST
CON - CONGRESS PARKWAY		TS - TELESCOPING STEEL
EN - EAST NORTH RAMP		LP - LIGHT POLE BANDING
NE - NORTH EAST RAMP		SP - SIGNAL POLE BANDING
		SA - SIGNAL POLE MAST ARM
		BM - BRIDGE MOUNTED
		PP - PEDESTRIAN PUSH BUTTON
		BS - BREAKAWAY STEEL
		WP - WOOD POST
		OH - OVERHEAD
		TM - TRUSS SUPPORT MOUNTED
		FM - FENCE MOUNTED
		MP - METAL POST

SIGN PANEL NUMBER



D162269938-Sht-Sign-01.dgn
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PLOT DATE = 5/6/2016

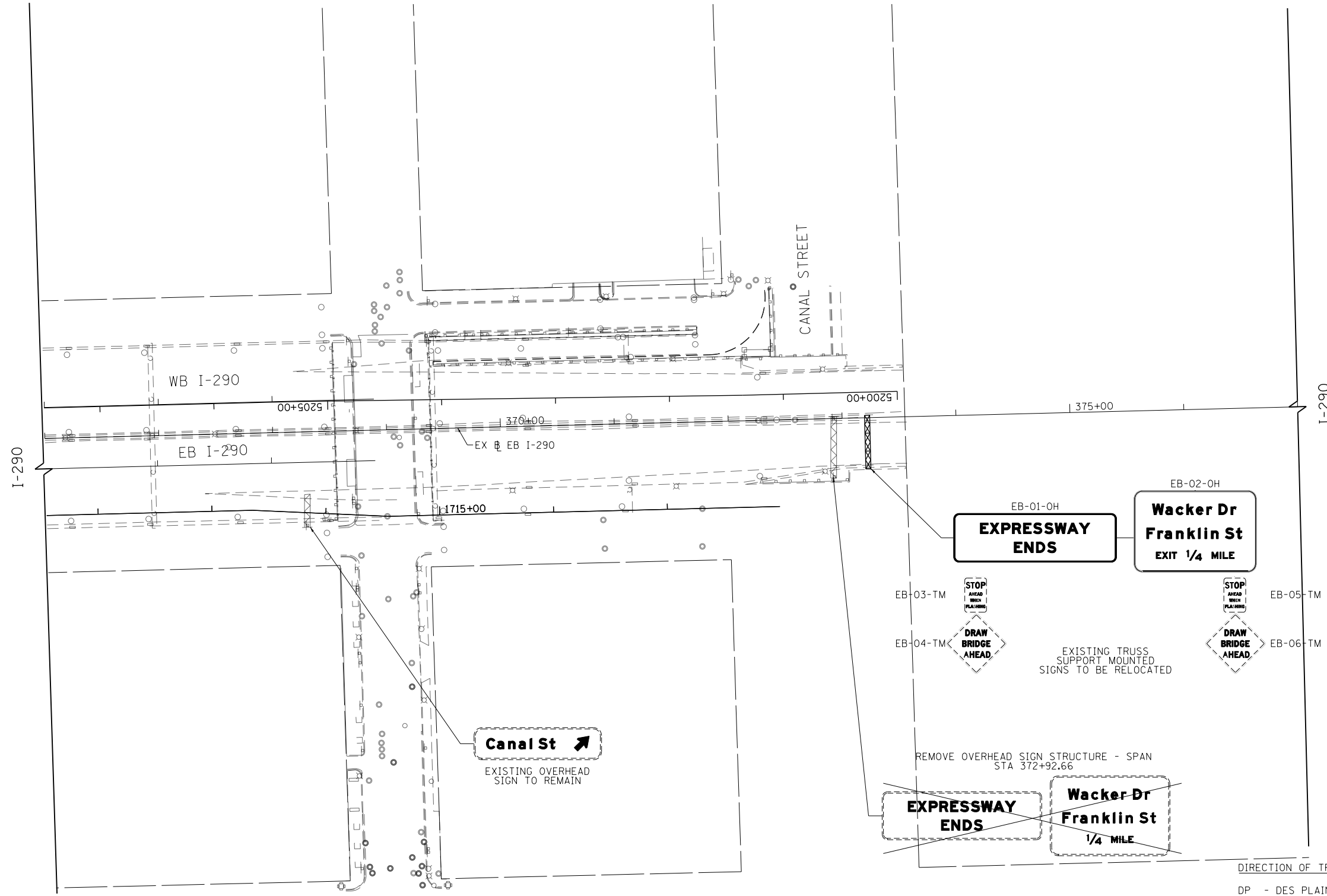
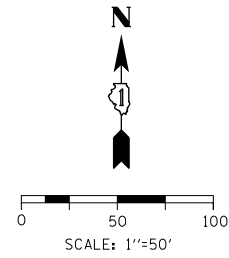
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DRAWN - CAT	REVISED -
CHECKED - JMG	REVISED -
DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLANS  
RAMP EN, DES PLAINES ST AND CONGRESS PKWY**

SCALE: 1"=50' SHEET 2 OF 19 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	110
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



**SIGN NUMBERING CODE EXAMPLE**

DIRECTION OF TRAFFIC	DP-01-LP	MOUNTING TYPE
DP - DES PLAINES STREET		ST - STEEL POST
CON - CONGRESS PARKWAY		TS - TELESCOPING STEEL
EN - EAST NORTH RAMP		LP - LIGHT POLE BANDING
		SP - SIGNAL POLE BANDING
		SA - SIGNAL POLE MAST ARM
		BM - BRIDGE MOUNTED
		PP - PEDESTRIAN PUSH BUTTON
		BS - BREAKAWAY STEEL
		WP - WOOD POST
		OH - OVERHEAD
		TM - TRUSS SUPPORT MOUNTED
		FM - FENCE MOUNTED
		MP - METAL POST



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USER NAME = BAW:tor t	DRAWN - CAT	REVISED -
PLOT SCALE = 100.0000' / in.	CHECKED - JMG	REVISED -
PLOT DATE = 5/6/2016	DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

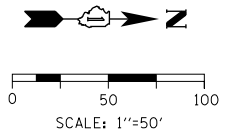
**SIGNING PLANS  
I-290**

SCALE: 1"=50' SHEET 3 OF 19 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	111
CONTRACT NO. 62B76				

ILLINOIS FED. AID PROJECT

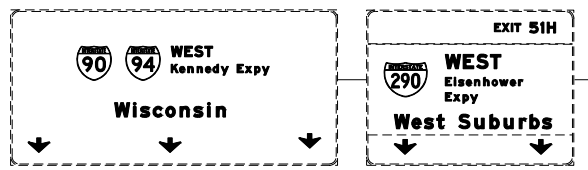
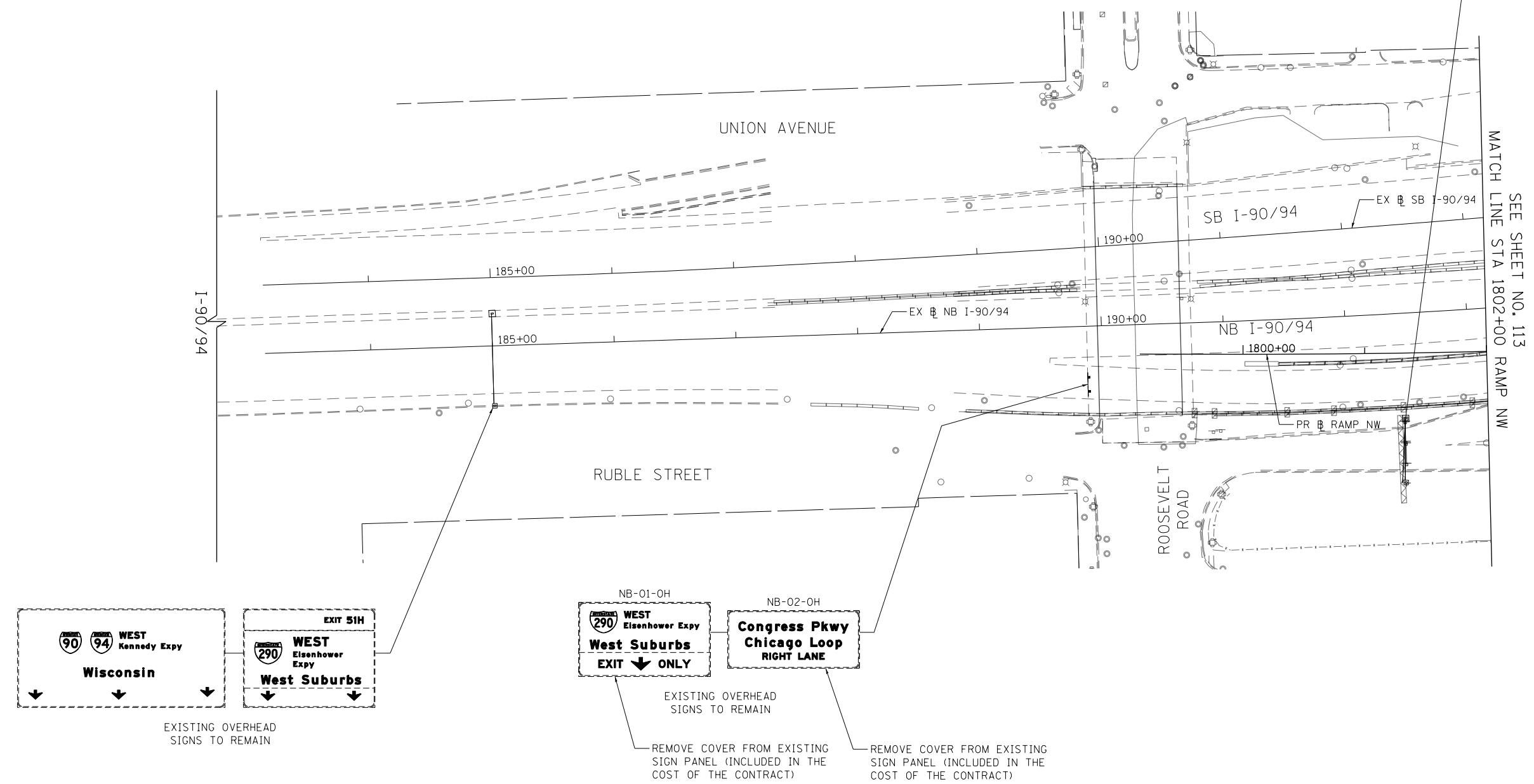
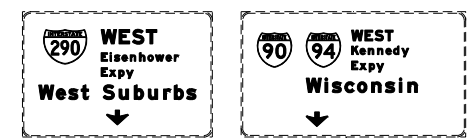
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**SIGNING NOTES**

1. SEE SIGN SCHEDULE FOR SIGN PANEL AND MOUNTING INFORMATION.
2. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING SIGN INFORMATION FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL SIGNS SHALL BE DIRECTED BY THE ENGINEER.

EXISTING OVERHEAD SIGNS TO REMAIN



EXISTING OVERHEAD SIGNS TO REMAIN

EXISTING OVERHEAD SIGNS TO REMAIN

REMOVE COVER FROM EXISTING SIGN PANEL (INCLUDED IN THE COST OF THE CONTRACT)

REMOVE COVER FROM EXISTING SIGN PANEL (INCLUDED IN THE COST OF THE CONTRACT)

SEE SHEET NO. 113  
MATCH LINE STA 1802+00 RAMP NW

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DI62676-SHT-Sign-03.dgn
USER NAME = BAW:tor t
PLOT SCALE = 100.0000' / in.
PLOT DATE = 5/6/2016

DESIGNED - OPS	REVISED -
DRAWN - NSA	REVISED -
CHECKED - KCF	REVISED -
DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SIGNING PLANS  
RAMP NW**

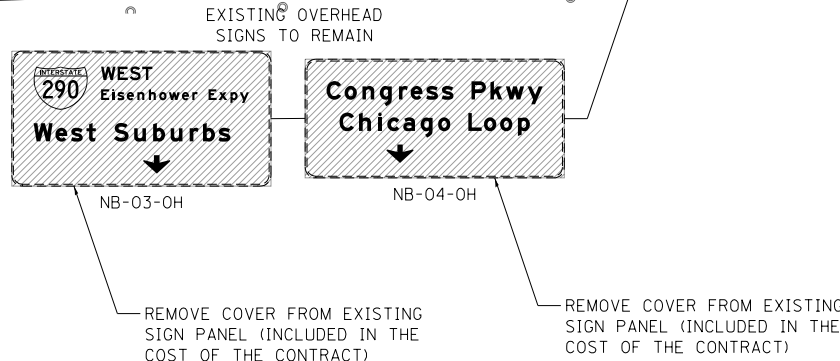
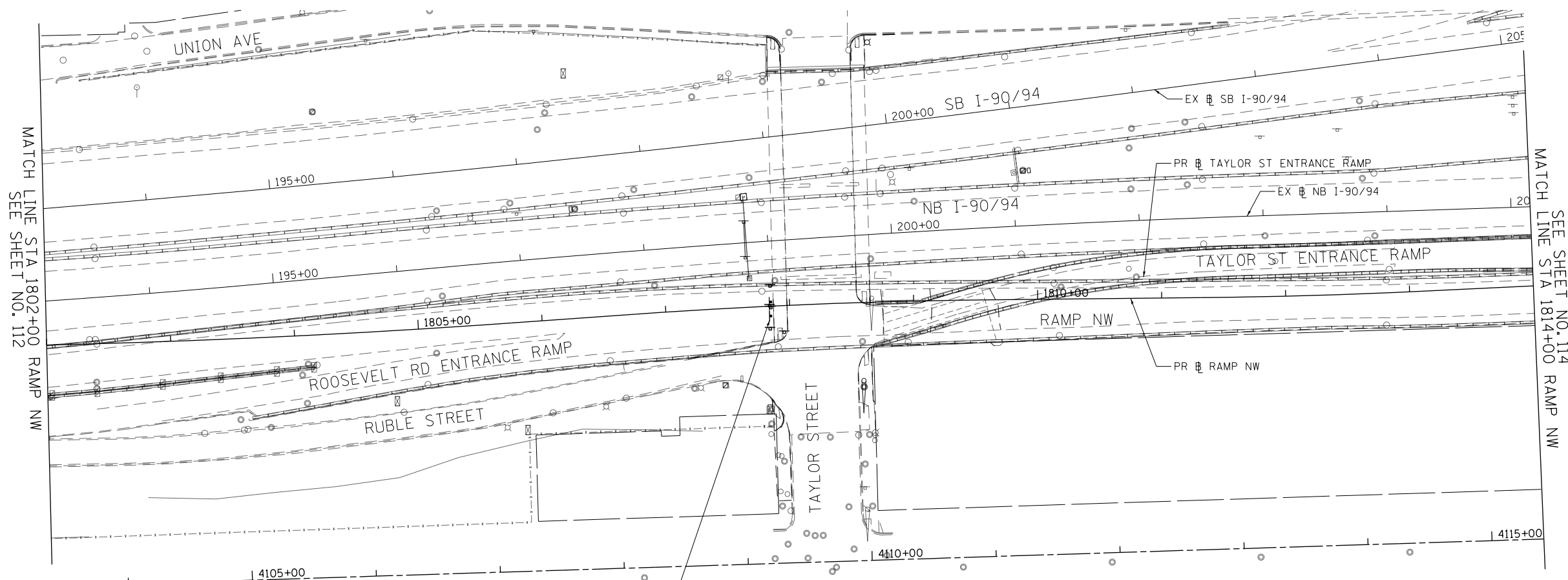
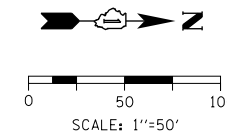
SCALE: 1"=50' SHEET 4 OF 19 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	112
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



**SIGNING NOTES**

1. SEE SIGN SCHEDULE FOR SIGN PANEL AND MOUNTING INFORMATION.
2. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING SIGN INFORMATION FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL SIGNS SHALL BE DIRECTED BY THE ENGINEER.



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DI62676-SHT-Sign-04.dgn  
 USER NAME = BAW:tor t  
 PLOT SCALE = 100.0000' / in.  
 PLOT DATE = 5/6/2016

DESIGNED - OPS	REVISED -
DRAWN - NSA	REVISED -
CHECKED - KCF	REVISED -
DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

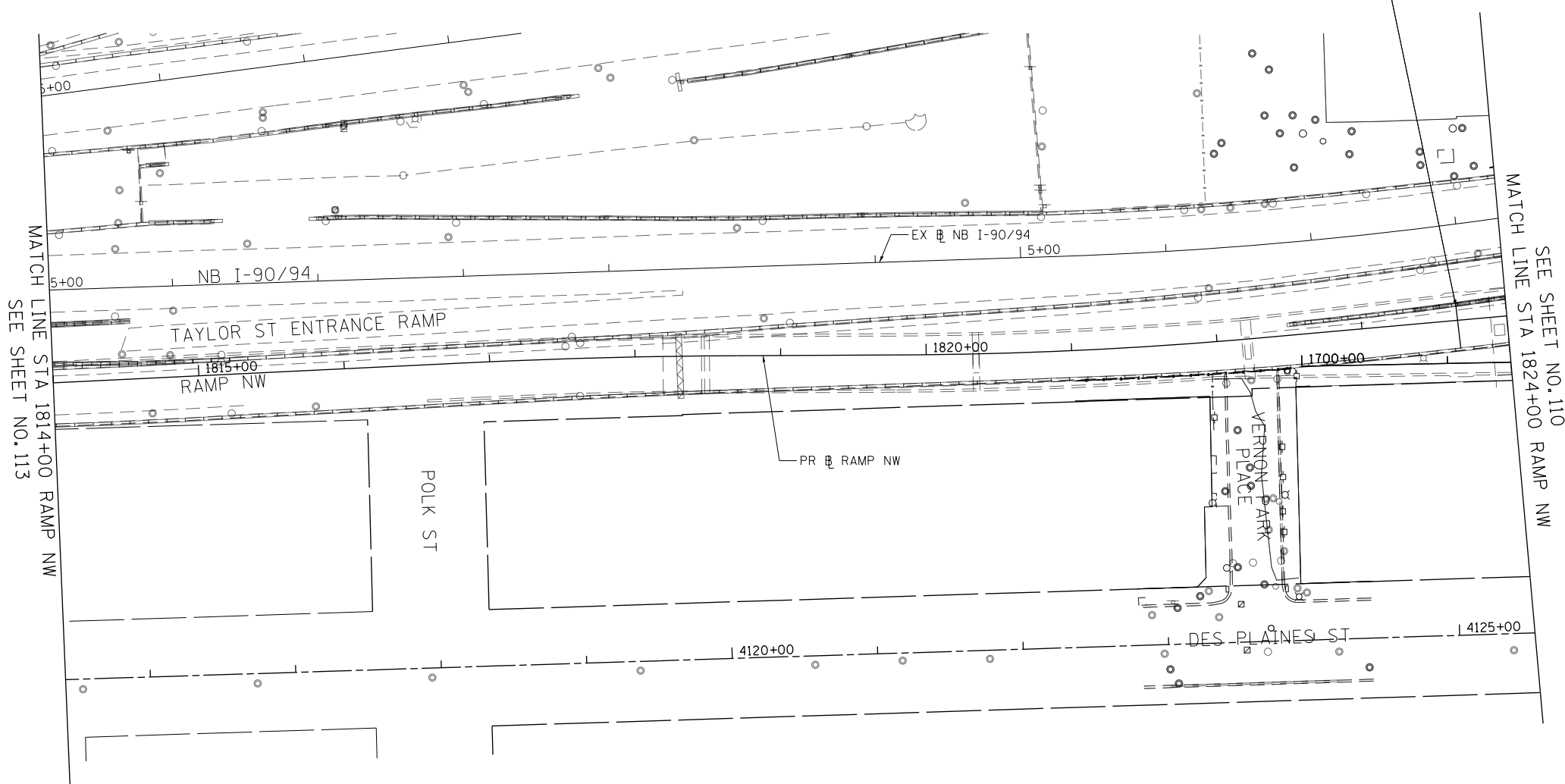
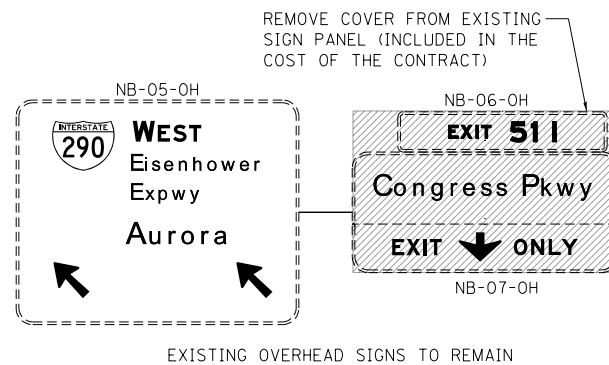
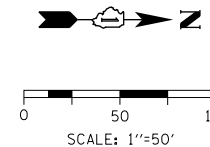
**SIGNING PLANS  
 RAMP NW**

SCALE: 1"=50' SHEET 5 OF 19 SHEETS STA. 1802+00 TO STA. 1814+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	113
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

**SIGNING NOTES**

1. SEE SIGN SCHEDULE FOR SIGN PANEL AND MOUNTING INFORMATION.
2. BEFORE BEGINNING ANY WORK, THE CONTRACTOR SHALL RECORD AND RETAIN ALL EXISTING SIGN INFORMATION FOR FUTURE REFERENCE. EXACT LOCATIONS OF ALL SIGNS SHALL BE DIRECTED BY THE ENGINEER.



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D162676-SHT-Sign-05.dgn  
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DATE - 5/6/2016	REVISED -

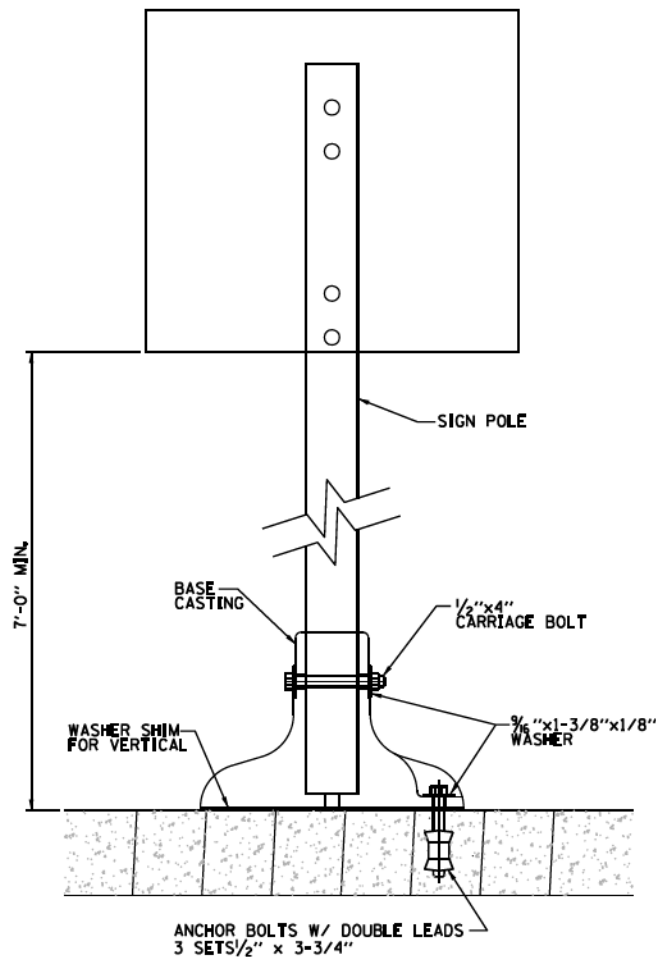
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**SIGNING PLANS  
 RAMP NW**

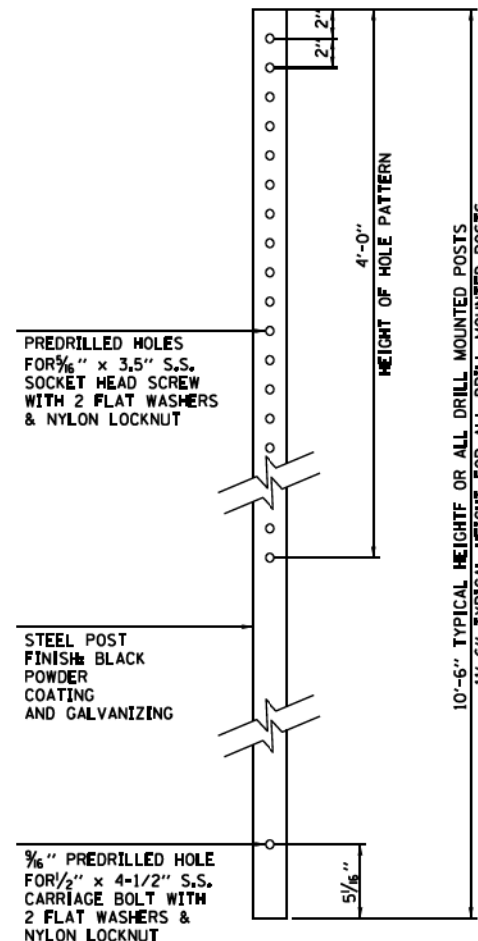
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	114
				CONTRACT NO. 62B76
ILLINOIS FED. AID PROJECT				

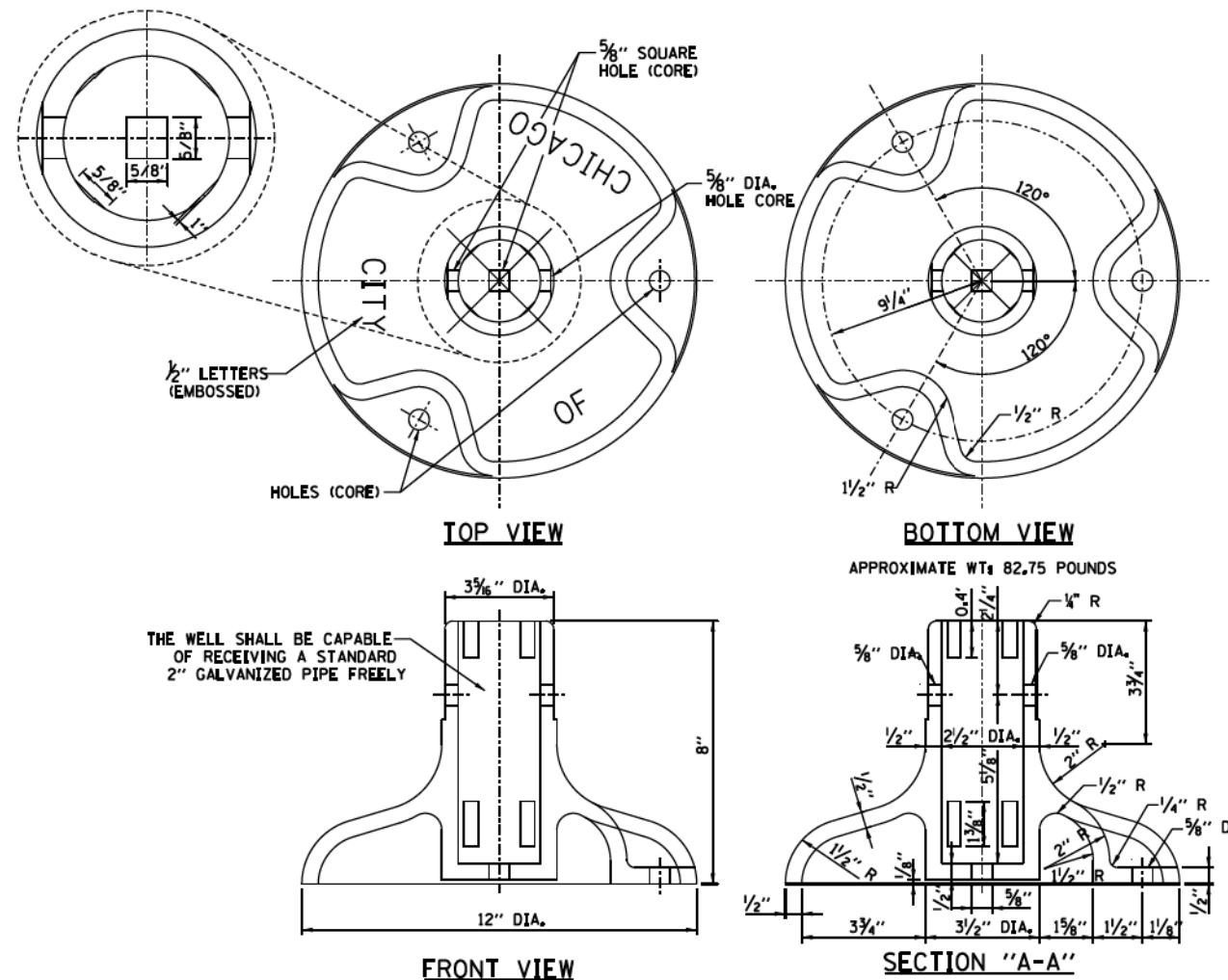
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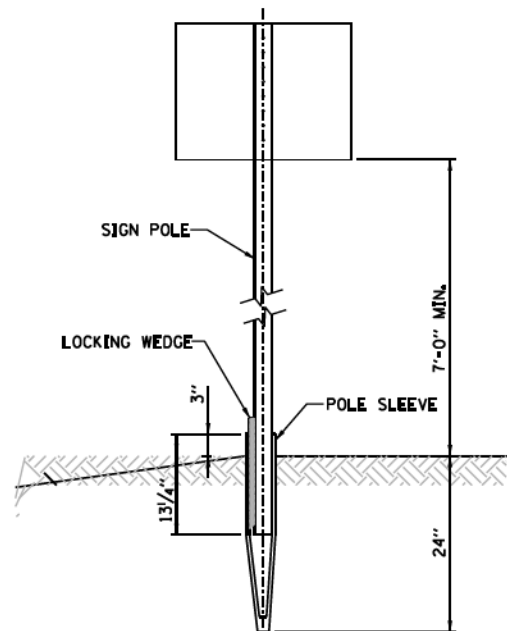
**DRILL MOUNTED INSTALLATION DETAIL**  
NOT TO SCALE



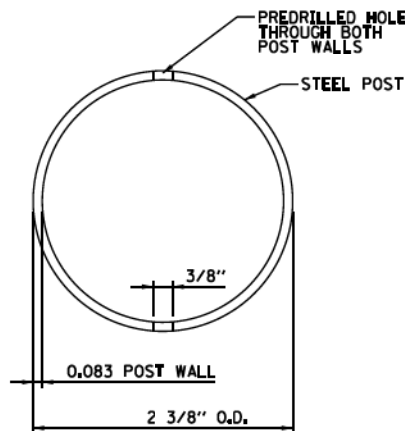
**1 ELEVATION: DRILLED SIGN POST**  
NOT TO SCALE



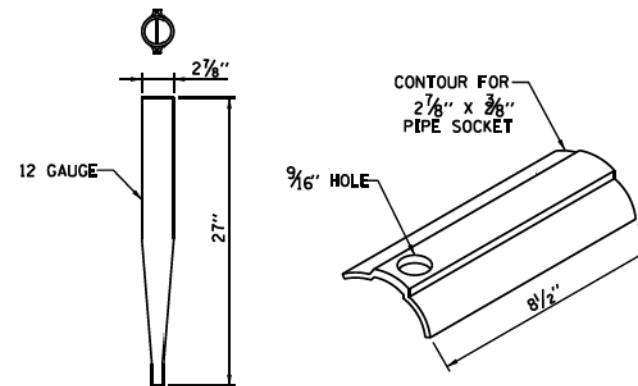
**SIGN POLE BASE DETAIL**  
NOT TO SCALE



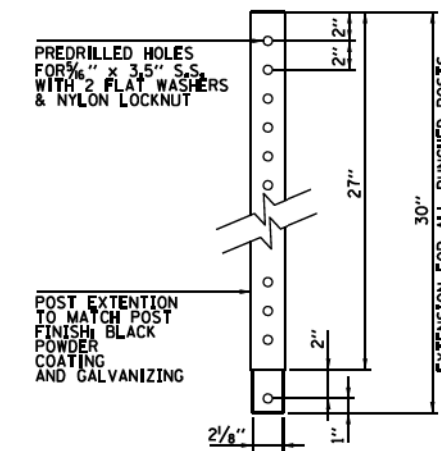
**GROUND DIG INSTALLATION DETAIL**  
NOT TO SCALE



**2 ELEVATION: DRILLED POST**  
NOT TO SCALE



**PIPE SOCKET AND WEDGE DETAIL**  
NOT TO SCALE



**SECTION: DRILLED POST EXTENSION**  
NOT TO SCALE

**NOTE:**  
PROVIDE ADDITIONAL TWO SETS OF PREDRILLED HOLES ON EXTENSION. HOLES SHALL BE LOCATED AT 30° ANGLE TO HOLES SHOWN IN SECTION 3. HOLES SHALL ACCOMMODATE 5/8\"/>



D162676-sht-Sign-Det-01.dgn  
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PLOT SCALE = 20.0000' / in.  
PLOT DATE = 5/6/2016

DESIGNED - JDT  
DRAWN - BAW  
CHECKED - JMG  
DATE - 5/6/2016

REVISED -  
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REVISED -

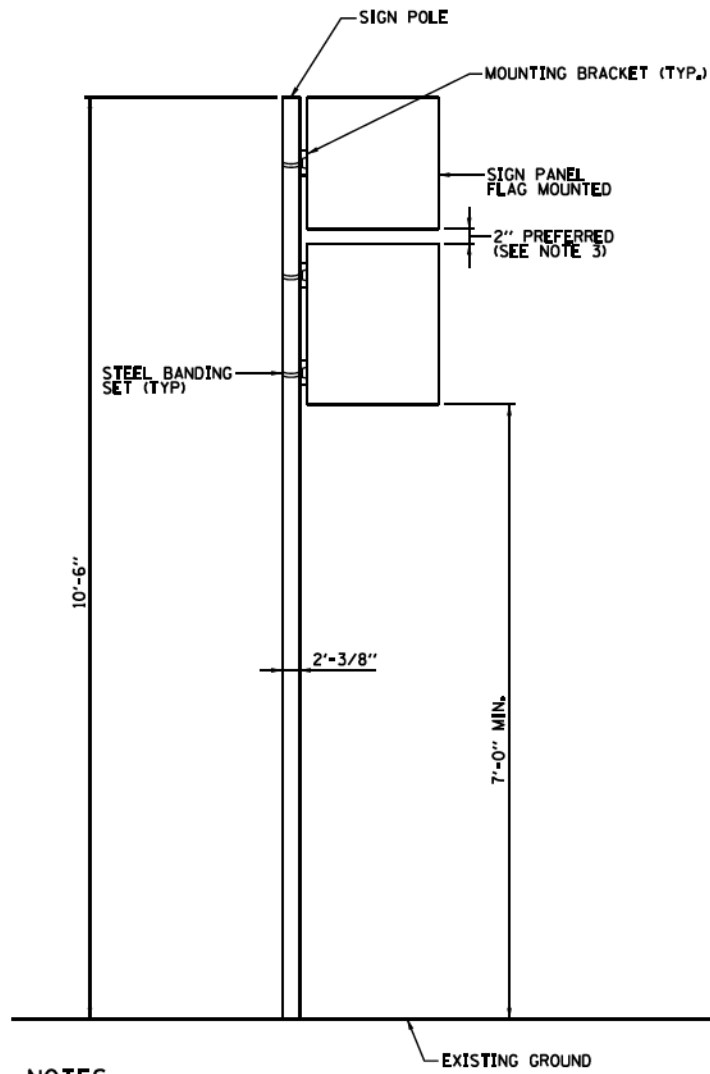
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

SCALE: NONE SHEET 7 OF 19 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	115
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

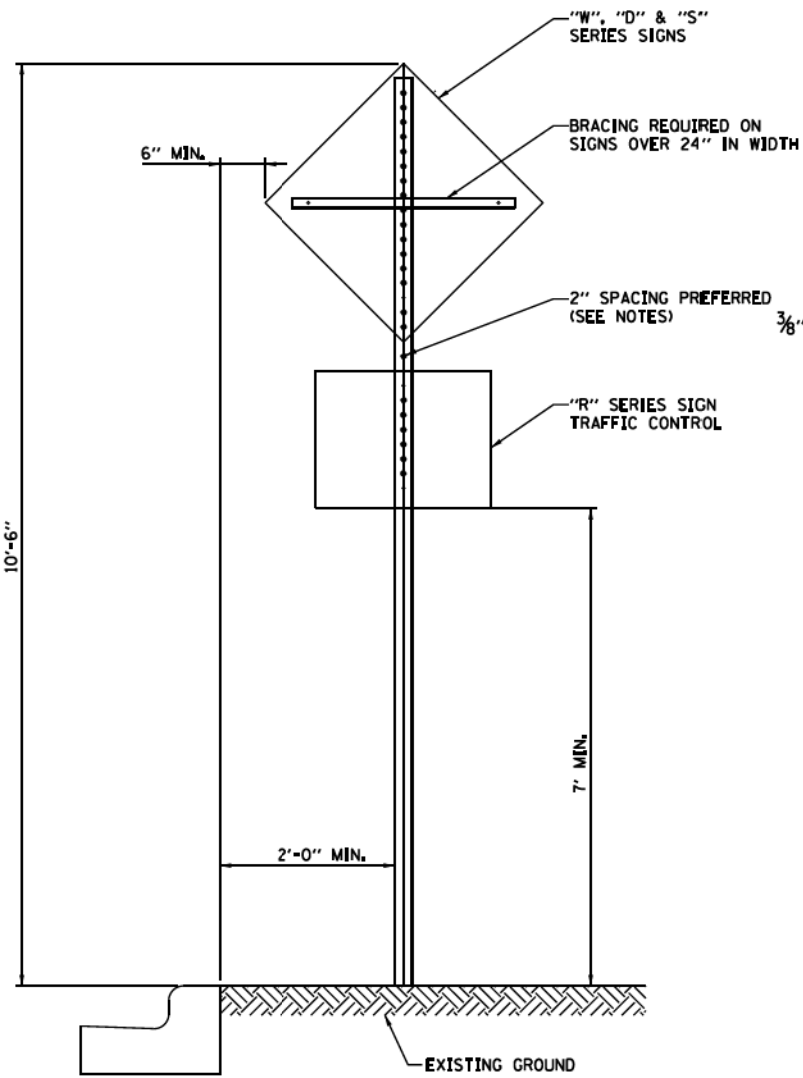
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**NOTES:**

1. PROVIDE ONE MOUNTING BRACKET FOR SIGNS 18" AND UNDER.
2. PROVIDE TWO MOUNTING BRACKETS FOR SIGNS OVER 18".
3. REDUCE SPACING IF REQUIRED TO MAINTAIN MIN. 7'-0" CLEARANCE TO BOTTOM OF SIGN.
4. FLAG MOUNT SIGNS TOWARD SIDEWALK ALONG ARTERIAL STREETS.
5. FLAG MOUNT ALL PARKING REGULATIONS SIGNS.

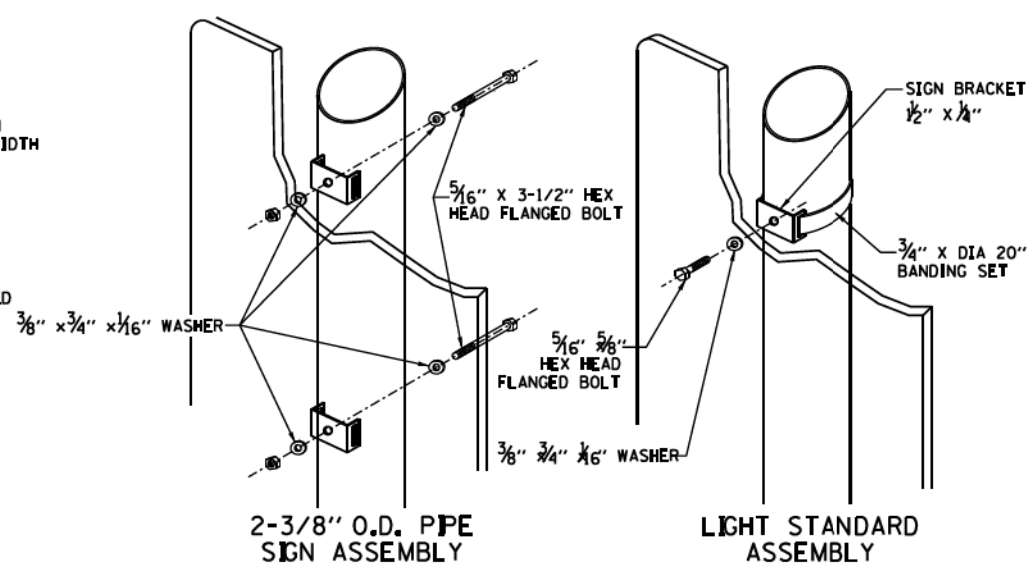
**FLAG MOUNTED SIGN INSTALLATION DETAIL**  
NOT TO SCALE



**NOTE:**

2" SPACING MAY BE REDUCED IF REQUIRED TO MAINTAIN MIN. 7'-0" CLEARANCE TO BASE OF SIGN.

**CENTER MOUNTED SIGN INSTALLATION**  
NOT TO SCALE



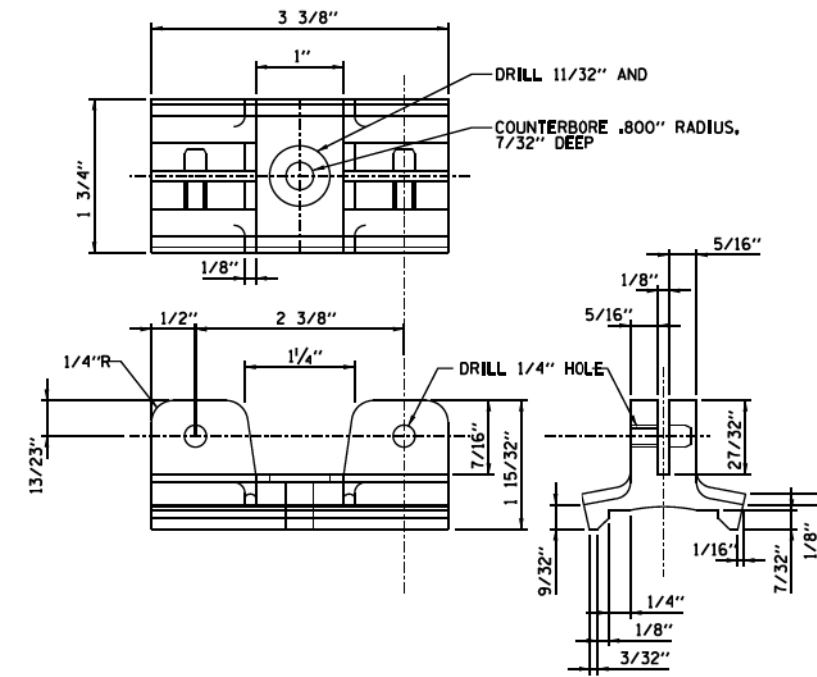
**NOTE:**

SIGN INSTALLATION STARTS AT 10'-6". PROVIDE MINIMUM 7'-0" CLEARANCE BETWEEN GROUND AND BOTTOM OF SIGN. RAISE INITIAL INSTALLATION HEIGHT IF REQ'D TO MAINTAIN 7' CLEAR.

**REQUIREMENT**

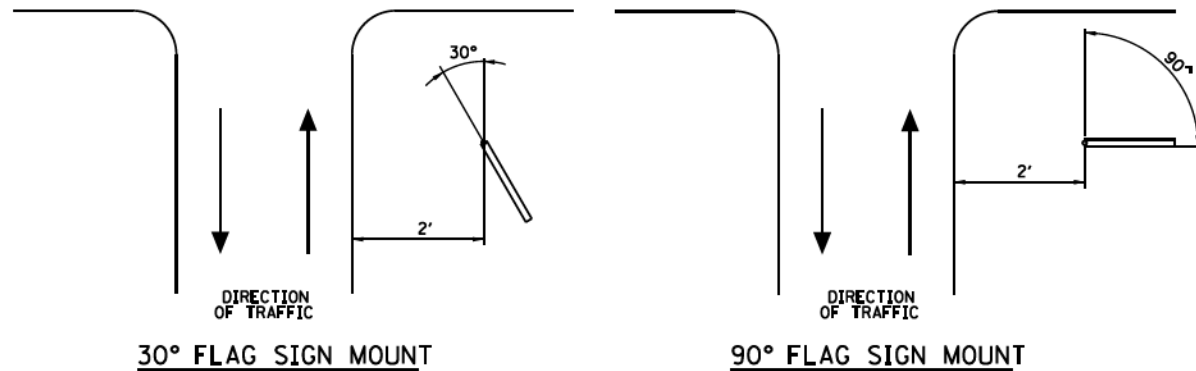
- 2 BANDS PER SIGN UNDER 6'
- 3 BANDS PER SIGN OVER 6'

**CENTER MOUNTED SIGN ASSEMBLY**  
NOT TO SCALE



SIGN MOUNTING MATERIAL: ALUMINUM-ZINC ALLOY TENZALLOY

**SIGN MOUNTING BRACKET DETAIL**  
NOT TO SCALE (VERSION 2A)



**SIGN MOUNTING DETAILS**  
NOT TO SCALE



D162676-sht-Sign-Det-02.dgn  
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PLOT SCALE = 20.0000' / in.  
PLOT DATE = 5/6/2016

DESIGNED - JDT  
DRAWN - BAW  
CHECKED - JMG  
DATE - 5/6/2016

REVISED -  
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REVISED -

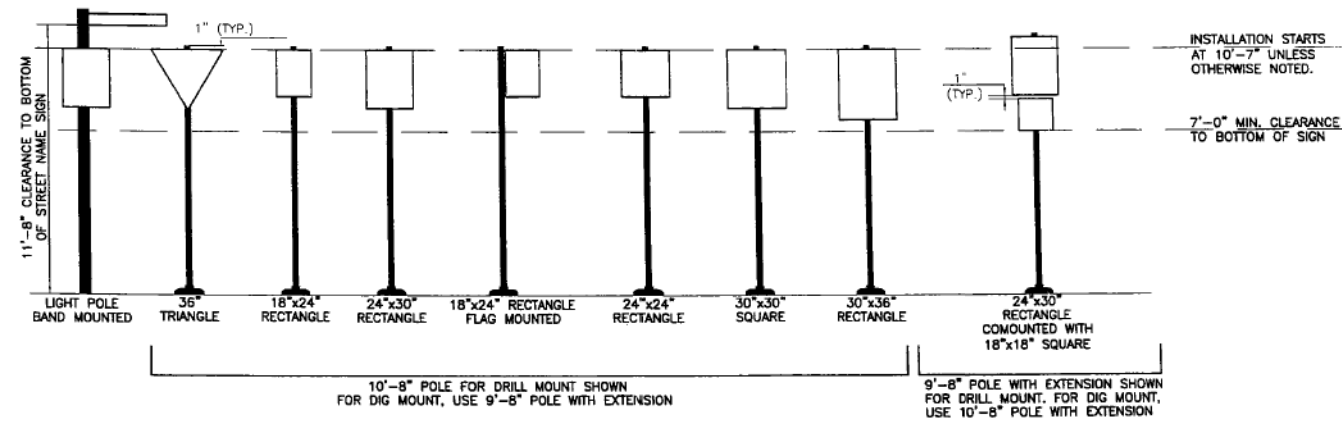
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

SCALE: NONE SHEET 8 OF 19 SHEETS STA. TO STA.

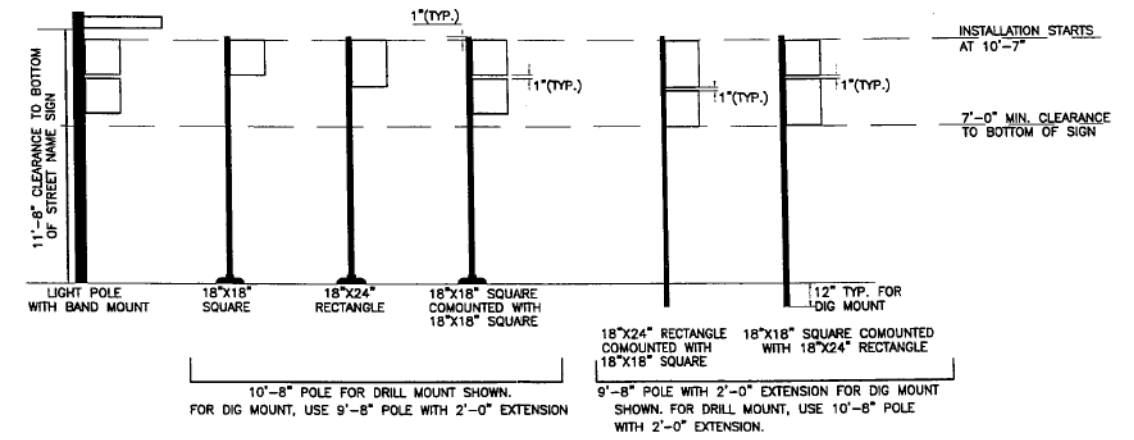
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	116
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

REGULATORY TRAFFIC SIGNS  
(CHICAGO STYLE)



TYPICAL LAYOUT  
NOT TO SCALE

REGULATORY PARKING SIGNS  
(CHICAGO STYLE)



TYPICAL LAYOUT  
NOT TO SCALE

FILE PATH = p:\61779-PMINT\secomon\line\local\BECOM\_0502\_NA\Documents\01\_Americas\Transportation\60269938\_Circle\Phase\_1\000\_CAD\006\_Roadway\Sheets\62876\_Contract\0162876-sht-Sign-Det-03.dgn



D162876-sht-Sign-Det-03.dgn
USER NAME = BAWtor t
PLOT SCALE = 20.0000' / in.
PLOT DATE = 5/6/2016

DESIGNED - JDT	REVISED -
DRAWN - BAW	REVISED -
CHECKED - JMG	REVISED -
DATE - 5/6/2016	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SIGNING DETAILS

SCALE: NONE SHEET 9 OF 19 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2014-017B	COOK	250	117
CONTRACT NO. 60X99			ILLINOIS FED. AID PROJECT	

**GENERAL NOTES**

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

DESIGN STRESSES:  
Field Units  
f<sub>c</sub> = 3,500 p.s.i.  
f<sub>y</sub> = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications.

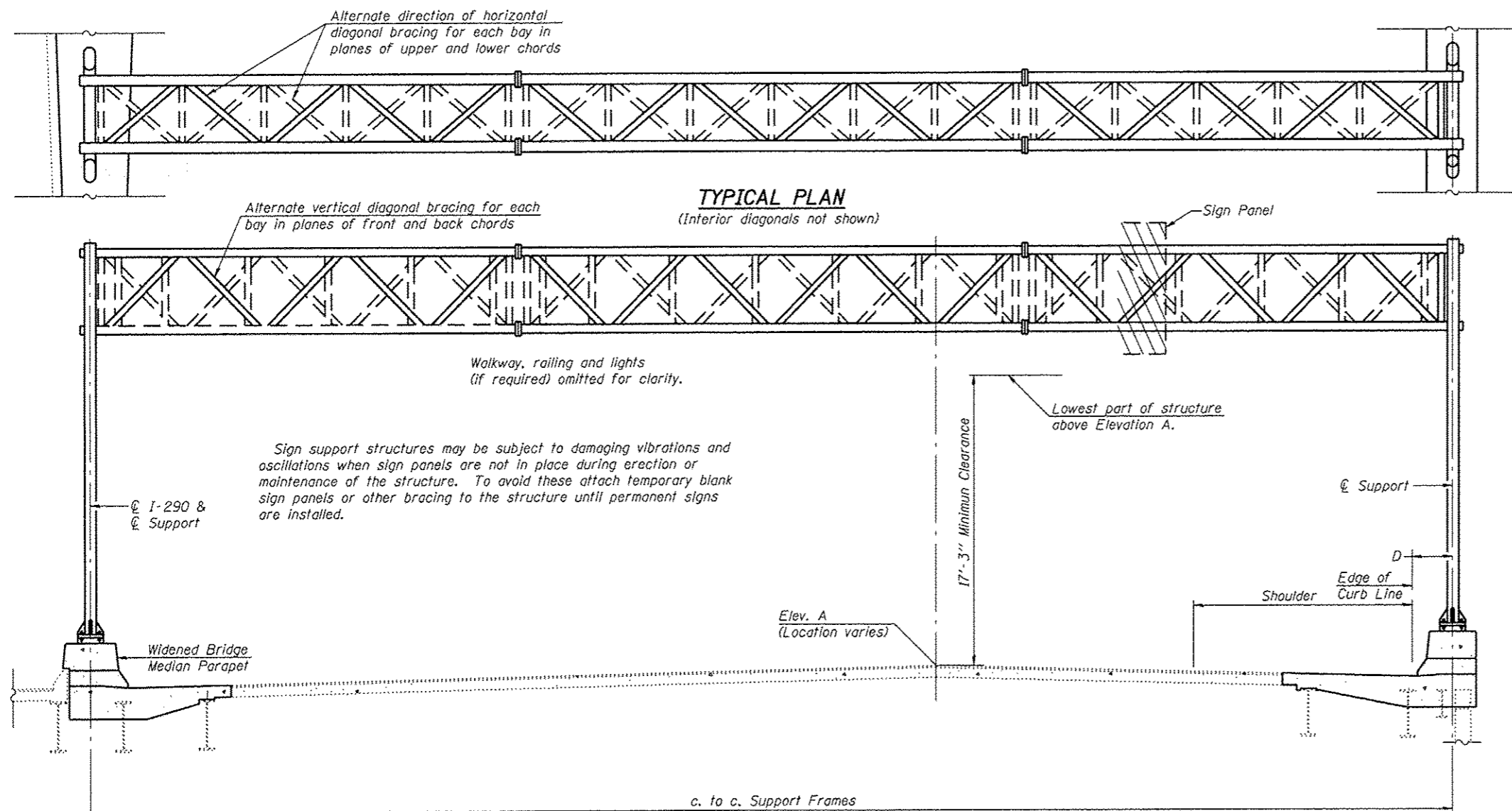
MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W\*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

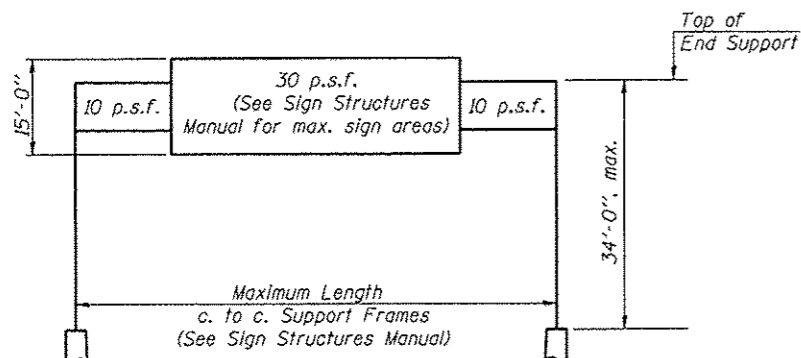
GALVANIZING: All Steel Grating, Plates, Anchor Rods, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.



**TYPICAL ELEVATION**  
(Looking East of Face of Signs)

Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D at Left Support	Dim. D at Right Support	Height of Tallest Sign	Total Sign Area
ISO161290R000.0-004	5173+29.39	III-A	44'-2"	610.72	Var. 2'-1 1/4" to 2'-5"	2'-3"	10'-0"	270 SQ FT



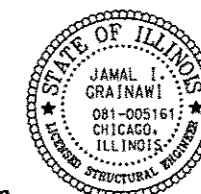
**DESIGN WIND LOADING DIAGRAM**

Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

\* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

**APPROVED**  
For Structural Adequacy Only  
*[Signature]*  
Engineer of Bridges & Structures

Signed *[Signature]*  
JAMAL I. GRAINAWI, S.E. Il. Lic. No. 081-005161  
Expires 11-30-2016  
Date 5/2/2016



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	45

62B76\_SignStructure\_Sheet1.dgn

**PARSONS BRINCKERHOFF**

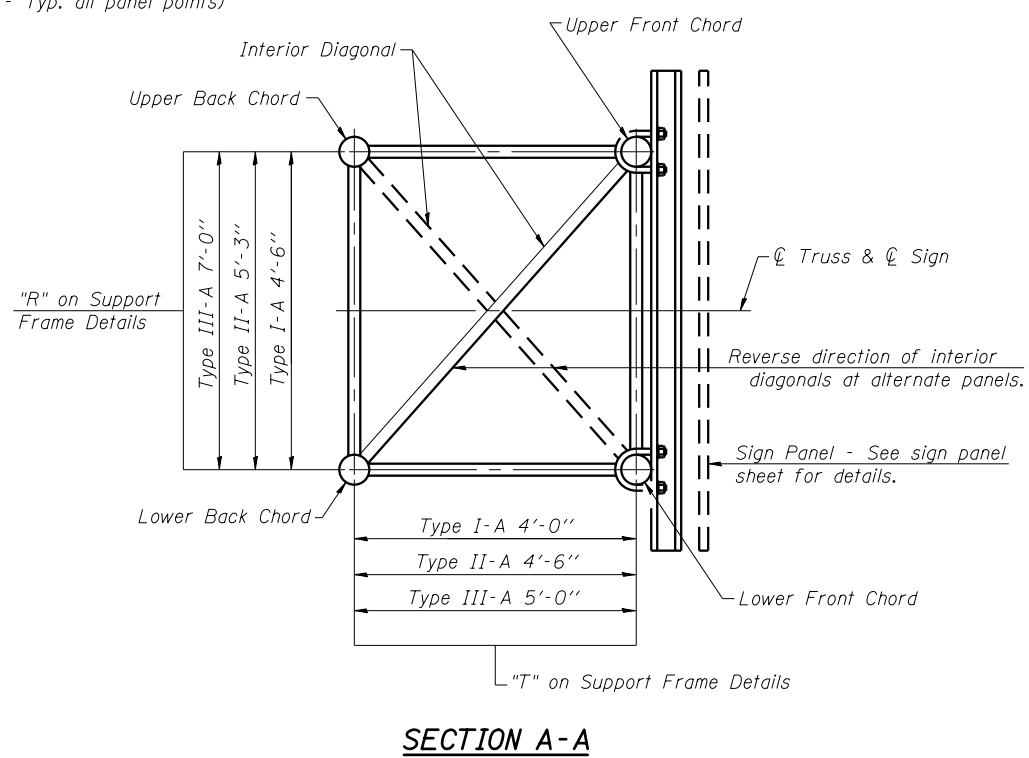
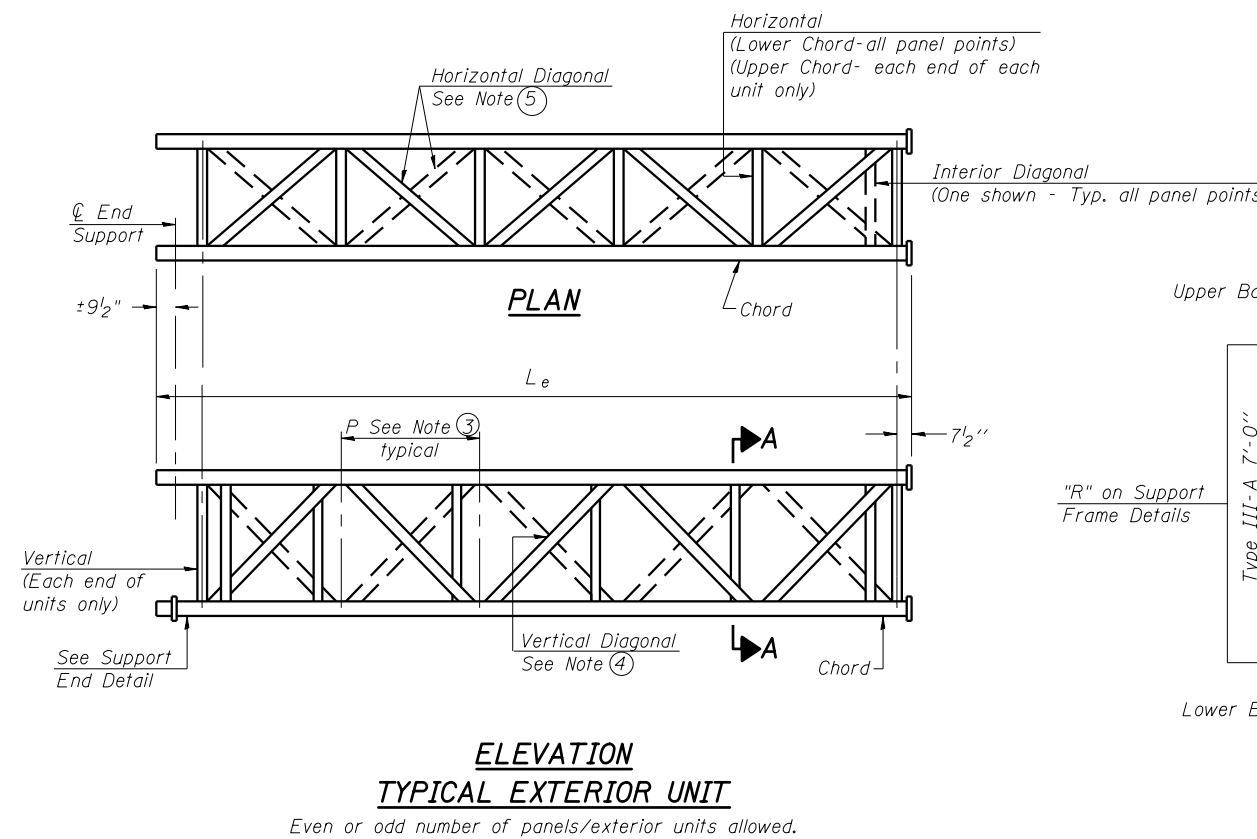
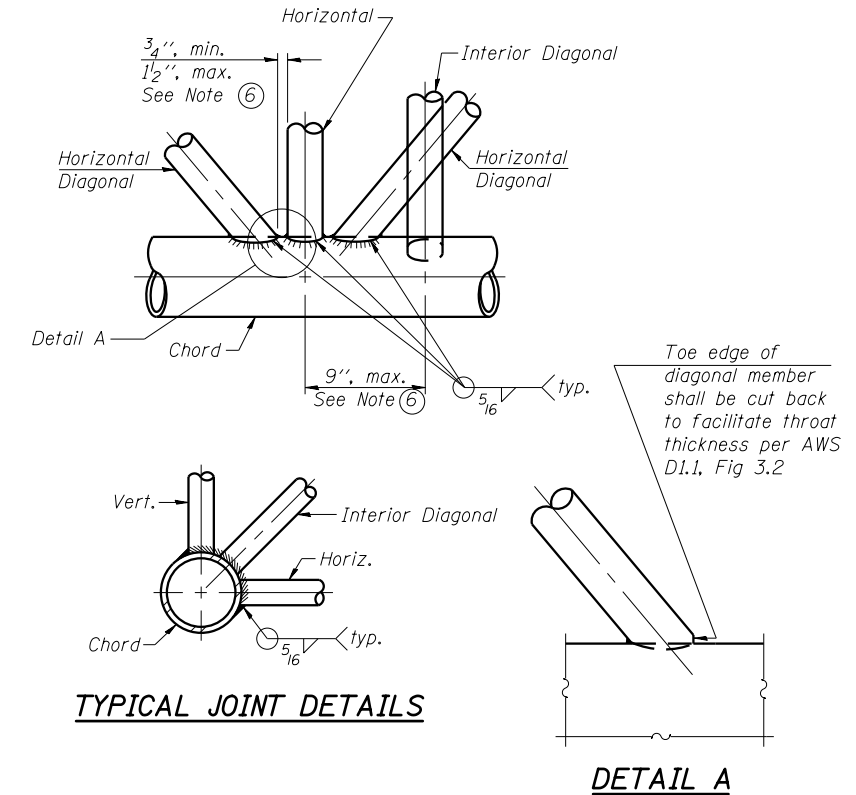
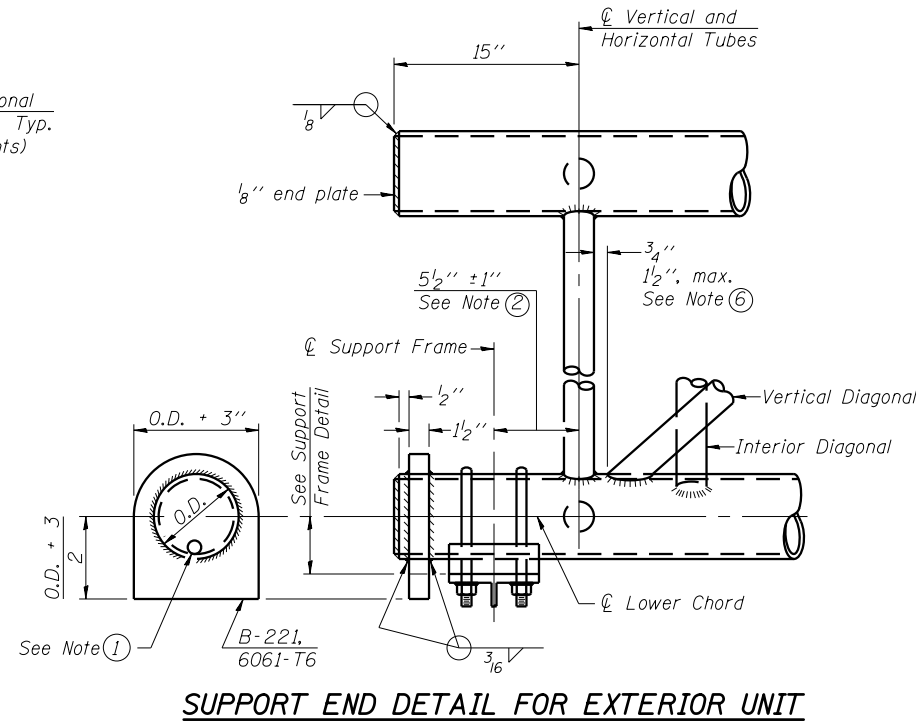
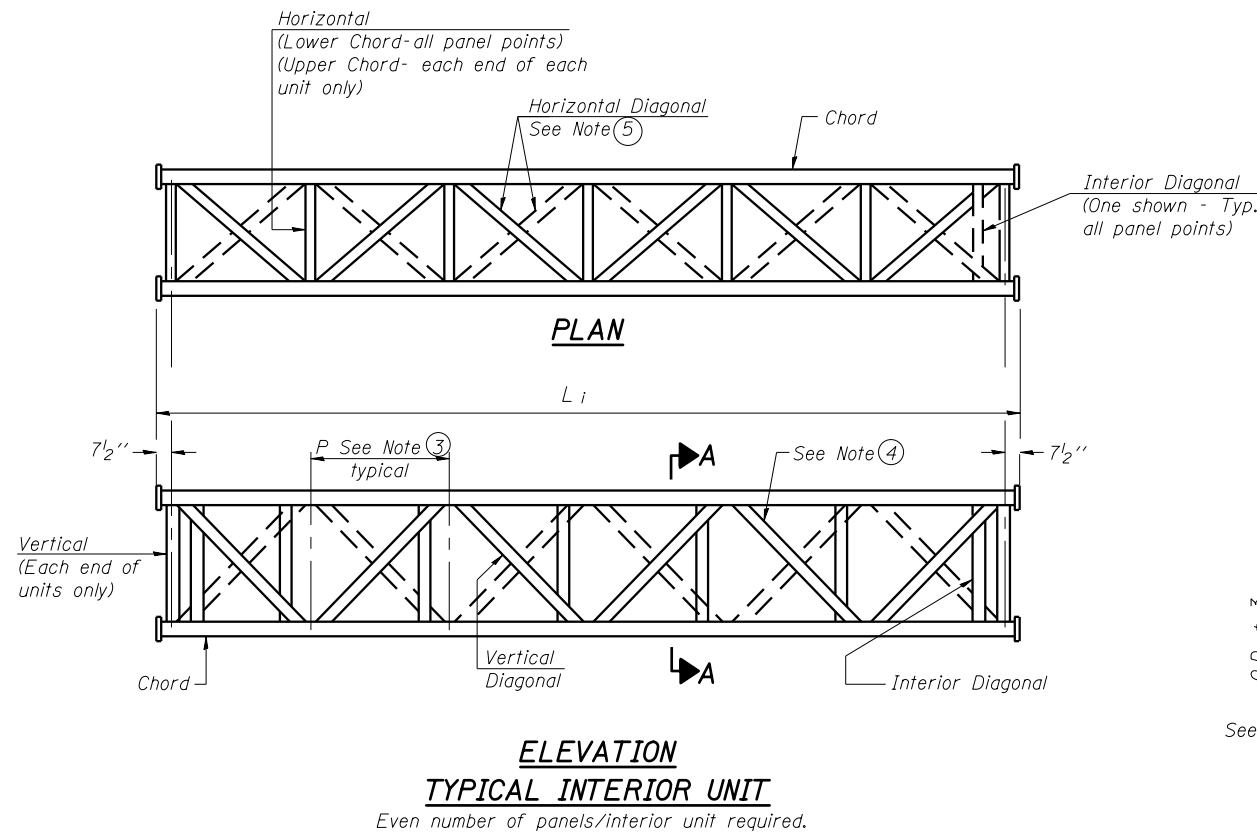
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PLOT DATE * 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES - GENERAL PLAN &  
ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS

SHEET NO. 01-1 OF 08-B SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	118
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				



- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" φ drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A or 4'-0" and 5'-6" for Types II-A and III-A.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.

62B76\_SignStructure\_Sheet2.dgn

**PARSONS  
BRINCKERHOFF**

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PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

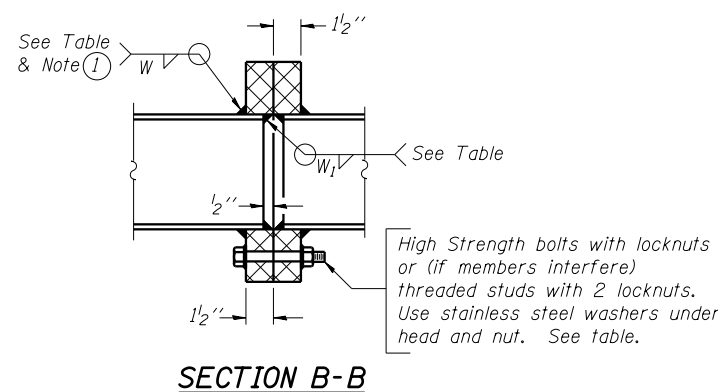
**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS  
DETAILS FOR TRUSS TYPES I-A, II-A AND III-A**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	119
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

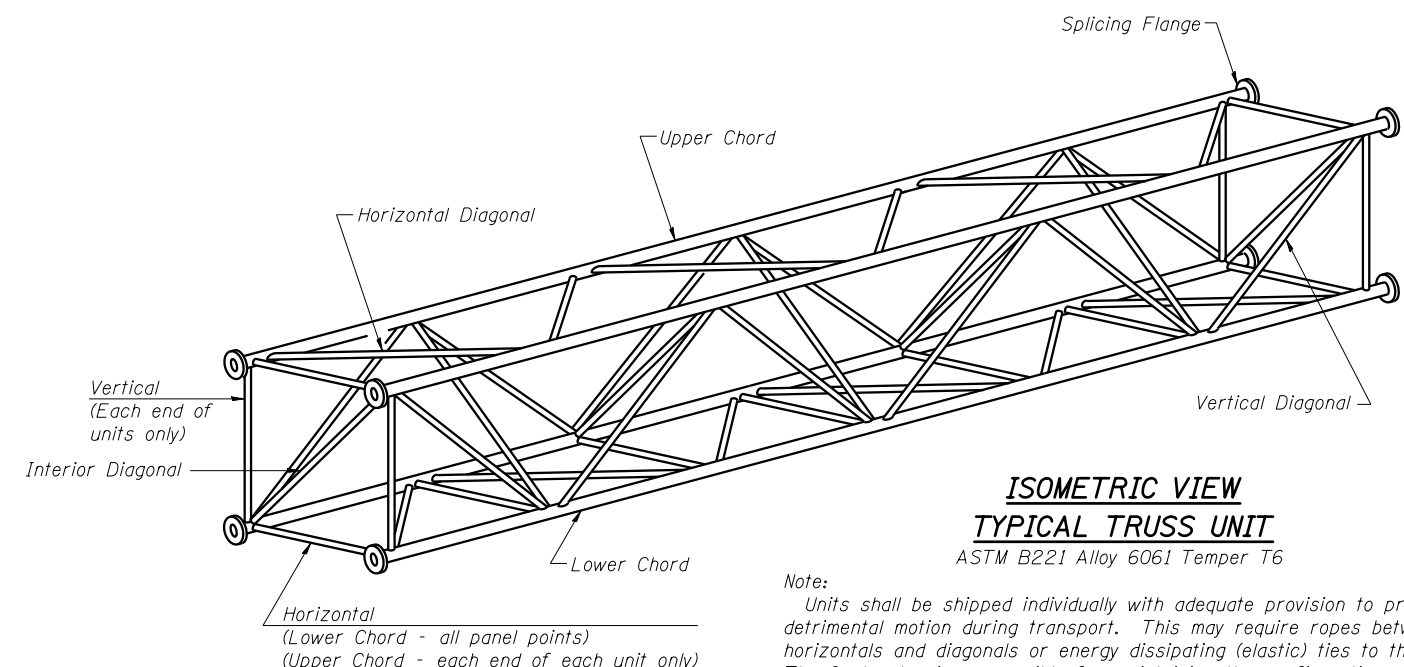
SHEET NO. 0H-2 OF 0H-8 SHEETS

**TRUSS UNIT TABLE**

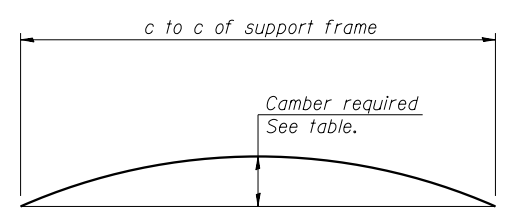
Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontals; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange					
			No. Panels per Unit	Unit Lgth.(L <sub>e</sub> )	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(L <sub>i</sub> )	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	W <sub>1</sub>		
ISO161290R000.0-004	5173+29.39	III-A	4	22'-10 1/2"	5'-3"	0	-	-	-	7"	5/16"	3 1/4"	5/16"	0"	6	1"	7/16"	5/16"	11 1/2"	15"



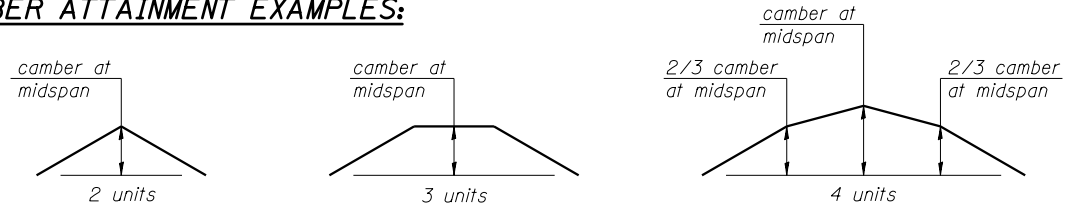
① Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.



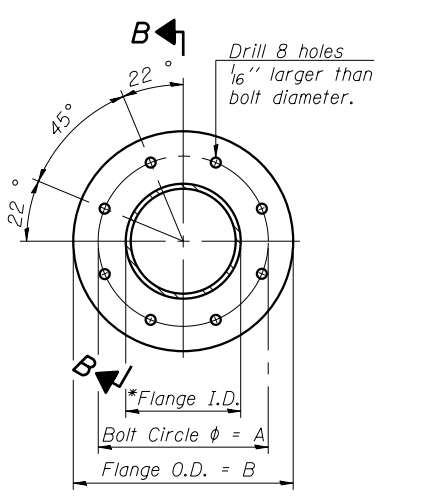
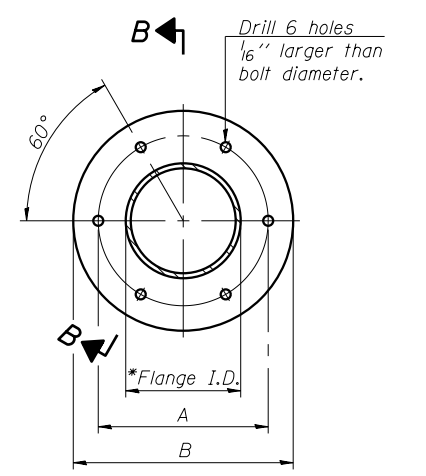
Note: Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection of the units.



**CAMBER ATTAINMENT EXAMPLES:**



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



**SPLICING FLANGES**  
ASTM B221, Alloy 6061-T6 or ASTM B209, Alloy 6061-T651  
\*To fit O.D. of Chord with maximum gap of 1/16".

62B76\_SignStructure\_Sheet3.dgn

**PARSONS BRINCKERHOFF**

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PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -

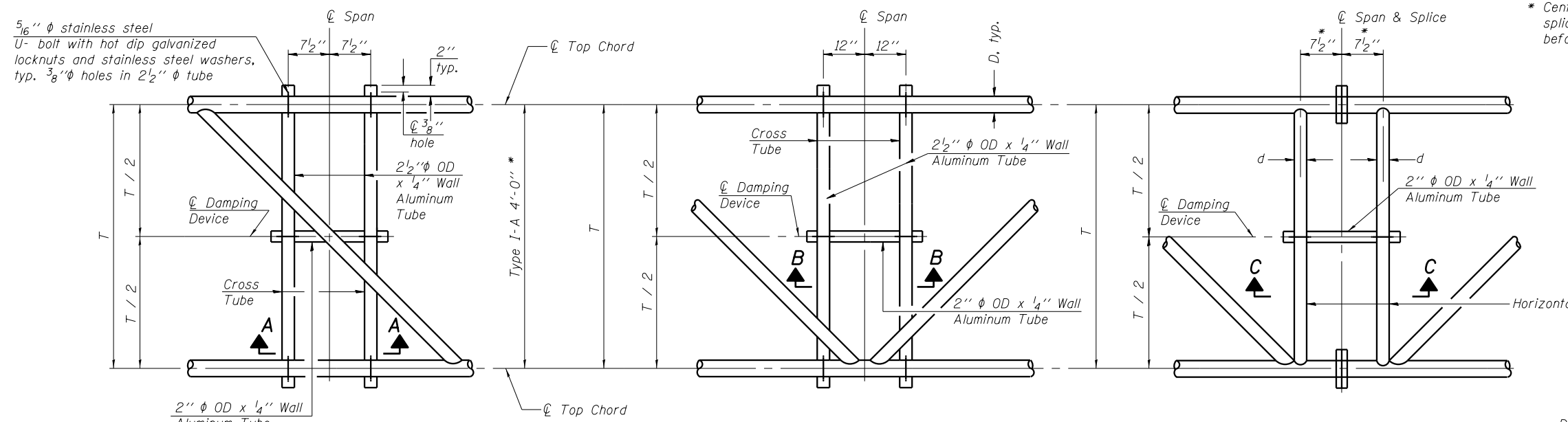
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS DETAILS  
FOR TRUSS TYPES I-A, II-A AND III-A**

SHEET NO. 0H-3 OF 0H-8 SHEETS

F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 120
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	





\* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

**PLAN DETAIL "A"**  
 ☉ Span between Panel Points

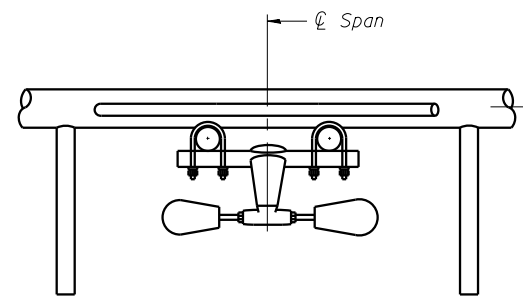
**PLAN DETAIL "B"**  
 ☉ Span at Panel Point

**PLAN DETAIL "C"**  
 ☉ Span at ☉ Chord Splice

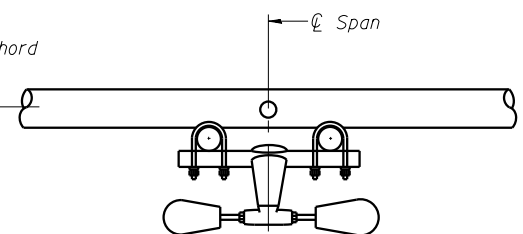
**NOTES**

Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29" minimum between ends of weights) Cost included in Overhead Sign Structure Span Type III-A.

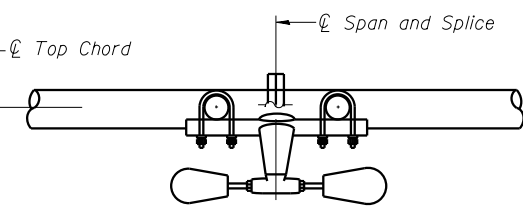
Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure Span Type III-A.



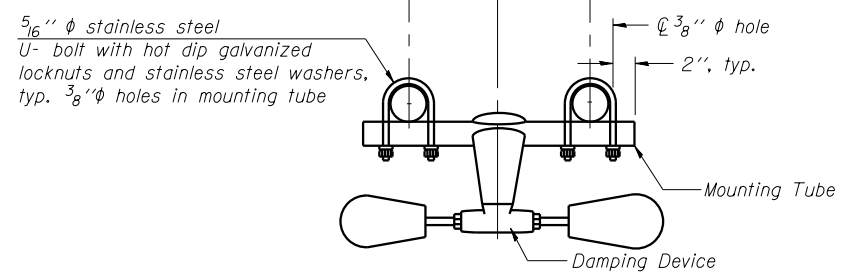
**SECTION A-A**



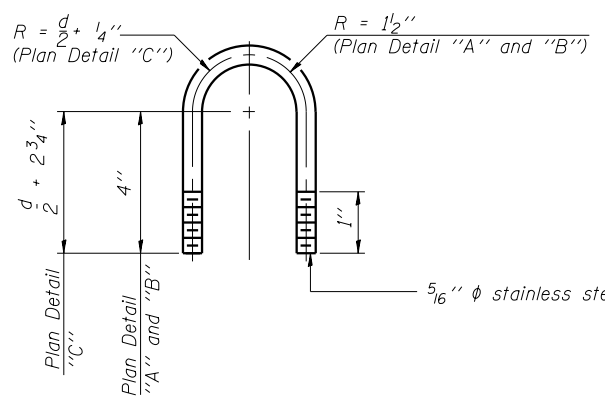
**SECTION B-B**



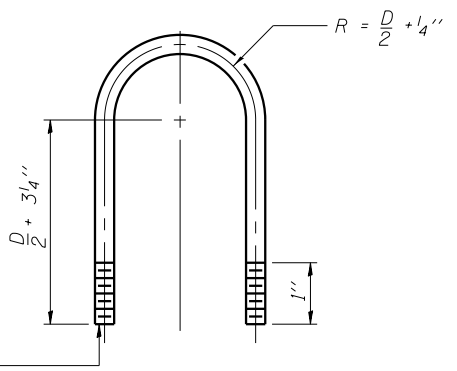
**SECTION C-C**



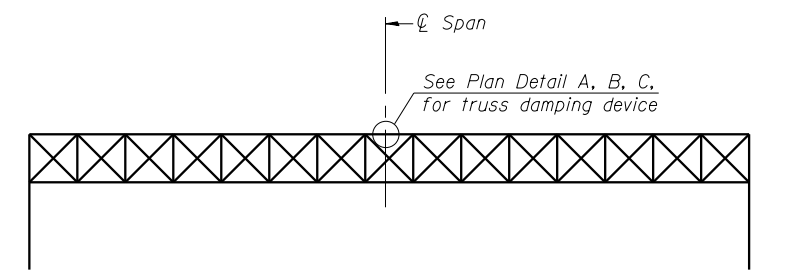
**TRUSS DAMPING DEVICE CONNECTION DETAIL**  
 (Typical)



**DAMPING DEVICE MOUNTING TUBE U-BOLT DETAIL**  
 (Typical)



**TOP CHORD TO CROSS TUBE U-BOLT DETAIL**  
 (Typical - Detail "A" and "B")



**ELEVATION**  
 Aluminum Overhead Sign Truss

62B76\_SignStructure\_Sheet4.dgn

**PARSONS BRINCKERHOFF**

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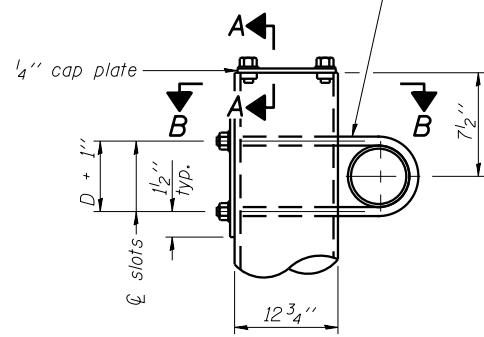
**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURE DAMPING DEVICE**

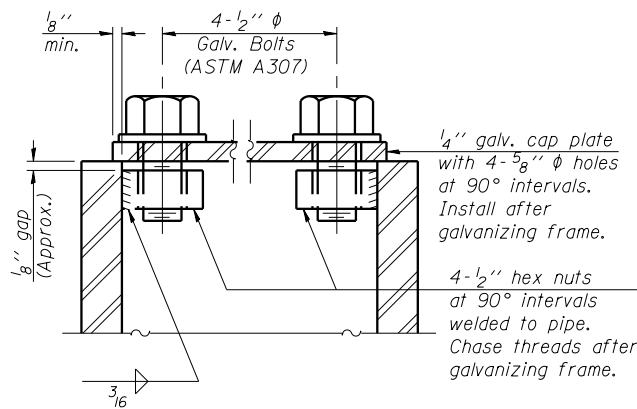
SHEET NO. 0H-4 OF 0H-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	121
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

3/4" φ stainless steel U-bolt.  
Provide two washers and two hexagon locknuts. (4)  
1 3/16" x 2" slots on 12" φ pipe.  
(4 slots required per pipe)

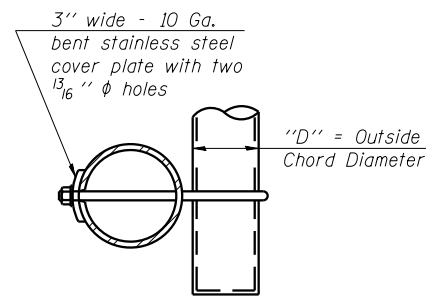


**DETAIL A**

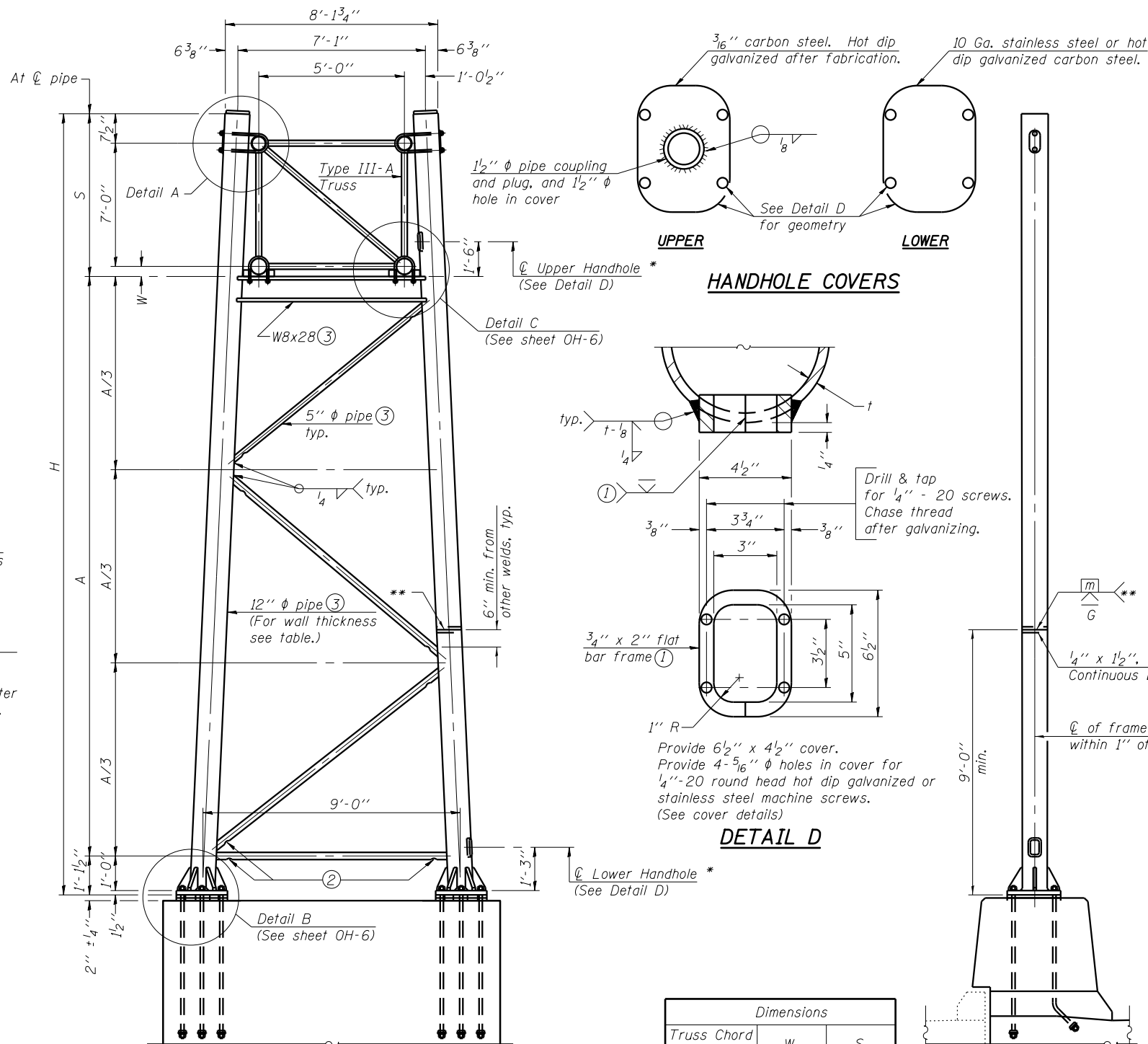


**SECTION A-A**

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.



**SECTION B-B**



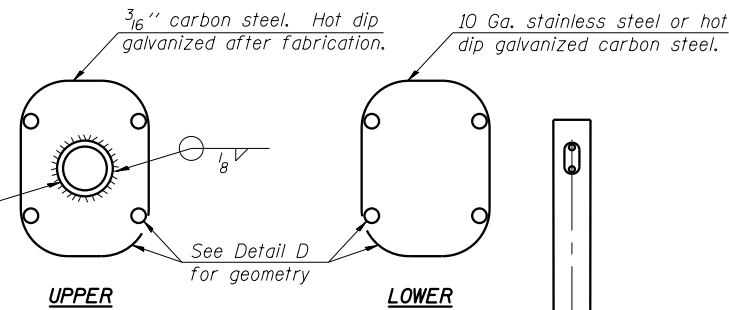
**SIDE ELEVATION**

Dimensions		
Truss Chord Nominal Dia.	W	S
7"	4 3/4"	8'-0 1/4"
8 1/2"	5 1/2"	8'-1"
9"	5 3/4"	8'-1 1/4"

**DETAIL D**

Provide 6 1/2" x 4 1/2" cover. Provide 4-5/16" φ holes in cover for 1/4"-20 round head hot dip galvanized or stainless steel machine screws. (See cover details)

**HANDHOLE COVERS**



**END ELEVATION**

Support Design Loads: See sheet OH-1 for design and loading criteria.  
Load combinations checked include deadload plus:  
a) 100% wind normal to sign, 20% parallel to sign  
b) 60% wind normal to sign, 30% parallel to sign

- In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500 μin or less.
- Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See sheet OH-1.
- See General Notes for fasteners.
- Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- "H" based on 15'-0" or actual sign height, whichever is greater.

\* For dynamic message sign installations, provide upper and lower handholes in both legs of each support frame.

**TRUSS SUPPORT DETAILS**

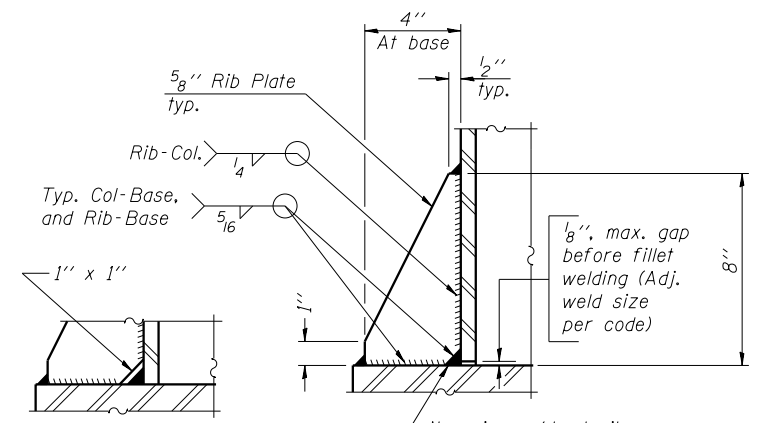
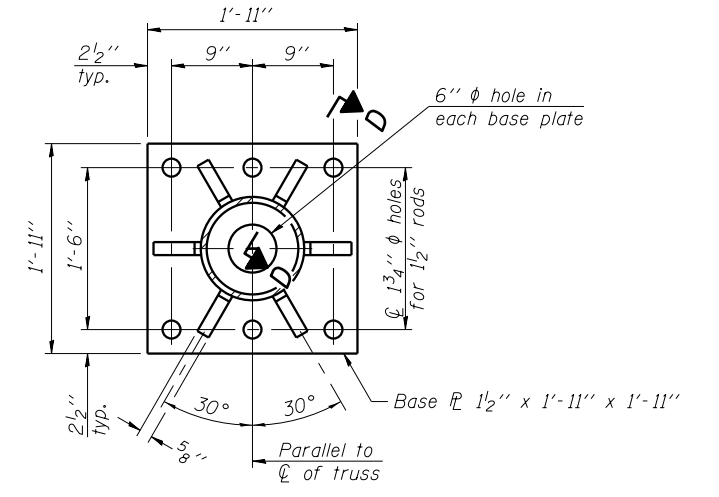
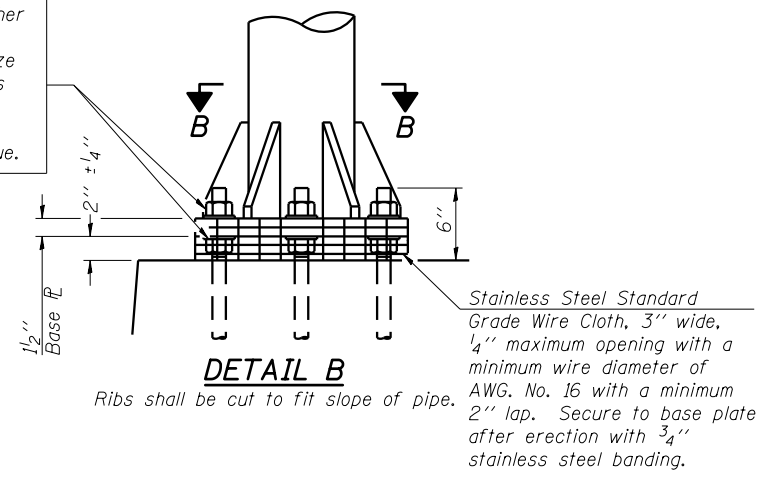
(12" φ Pipe-Type III-A Truss)

\*\* One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

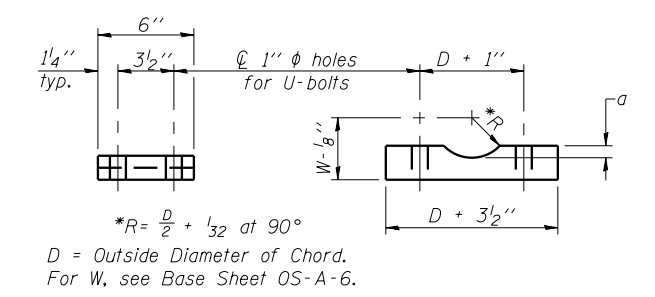
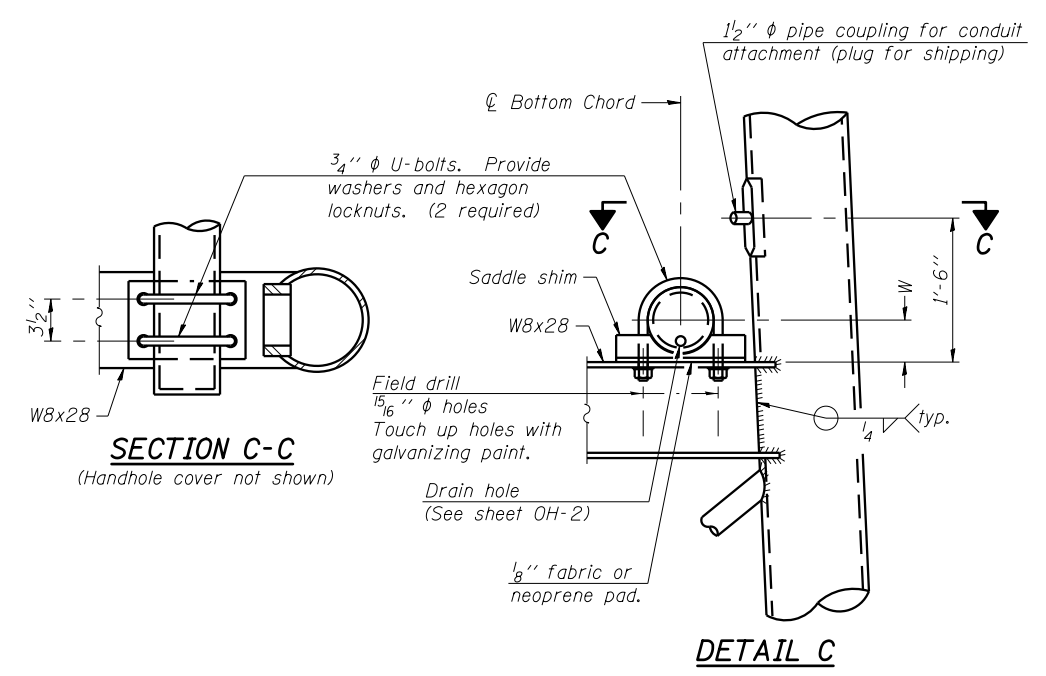
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	CHECKED - JIG	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	122
CONTRACT NO. 62B76				

Hexagon locknut and washer (top), leveling nut and washer (bottom). Galvanize per AASHTO M232. Nuts shall each be tightened against base plate with 200 lb.-ft. minimum torque.



\*\* Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4" from snip.



Truss Chord Nominal Dia.	a
7"	1"
8 1/2"	1 1/4"
9"	1 3/8"

**SADDLE SHIM DETAIL**  
 ASTM B26 Alloy 356-F  
 or  
 ASTM B209 Alloy 6061-T651  
 (4 required per sign truss)

Note:  
 For Anchor Rod Details and Positioning Plates, see structural plans sheet S2-15 of S2-22

**TYPE III-A TRUSS**  
**12"  $\phi$  PIPE SUPPORT FRAME DETAILS**

62B76\_SignStructure\_Sheet6.dgn

**PARSONS BRINCKERHOFF**

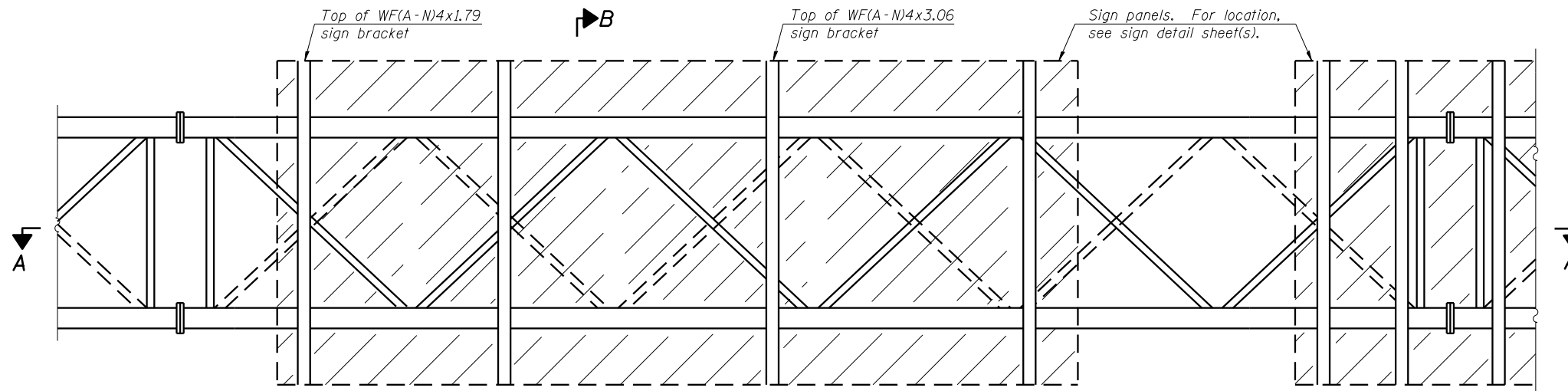
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STATE OF ILLINOIS  
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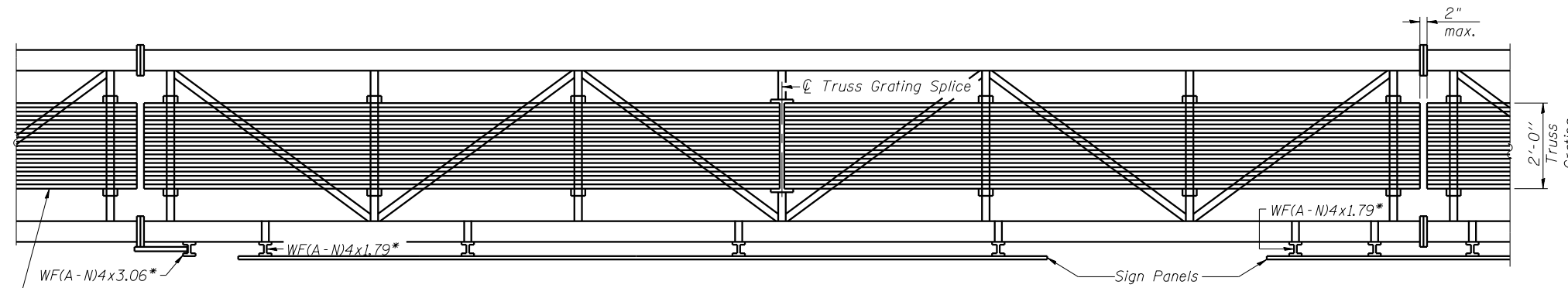
OVERHEAD SIGN STRUCTURES  
 SUPPORT FRAME FOR TYPE III-A ALUMINUM TRUSS

F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 123
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				

SHEET NO. OH-6 OF OH-8 SHEETS



**TYPICAL FRONT ELEVATION**



**SECTION A-A**

Notes:  
 For Details T, Section B-B and Grating Splice Details see sheet OH-8.  
 Truss grating to facilitate inspection shall run full length (center to center of support frames) ±12" on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure Span Type III-A".  
 Truss Grating width dimensions are nominal and may vary ±½" based on available standard widths.

62B76\_SignStructure\_Sheet7.dgn

**PARSONS  
BRINCKERHOFF**

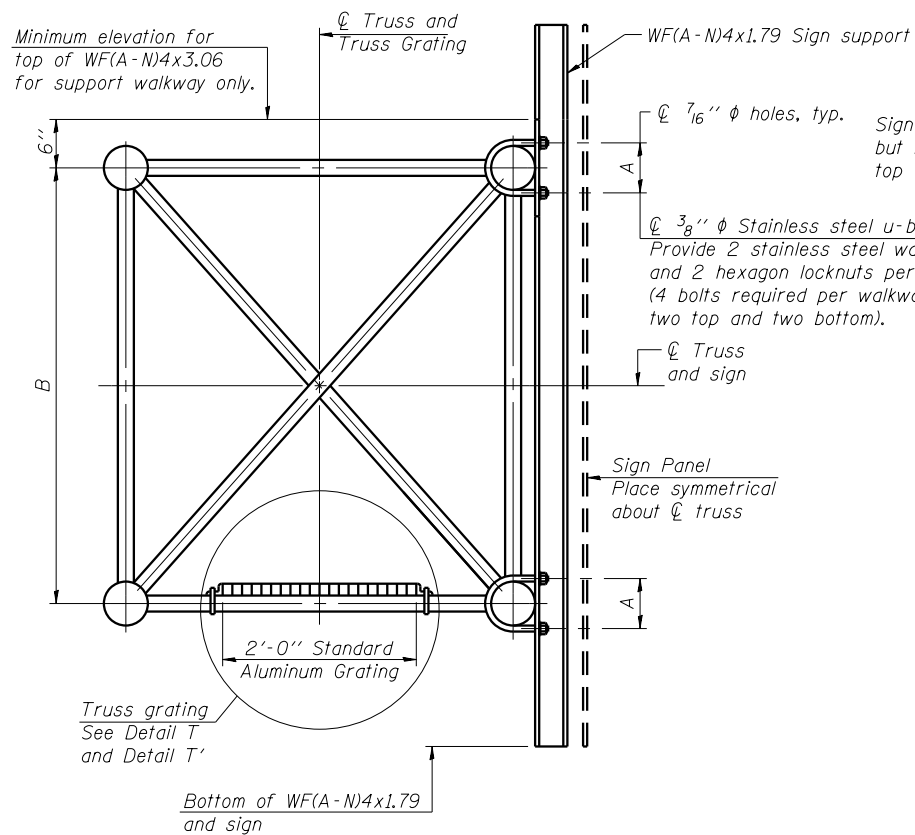
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**STATE OF ILLINOIS  
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**OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS**

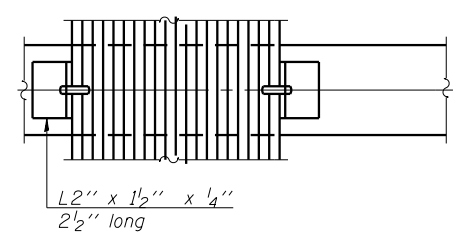
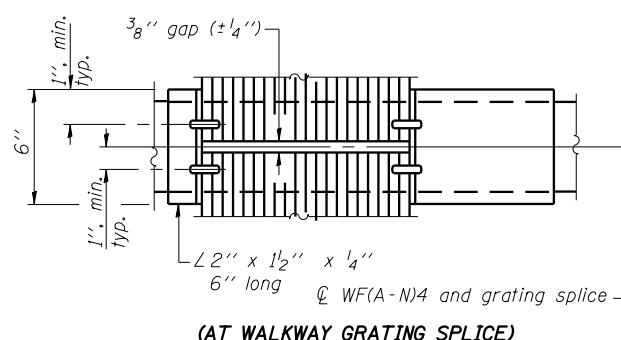
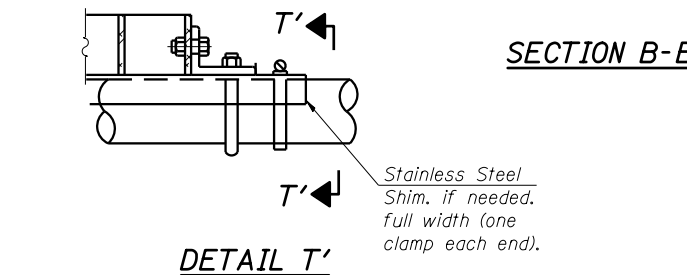
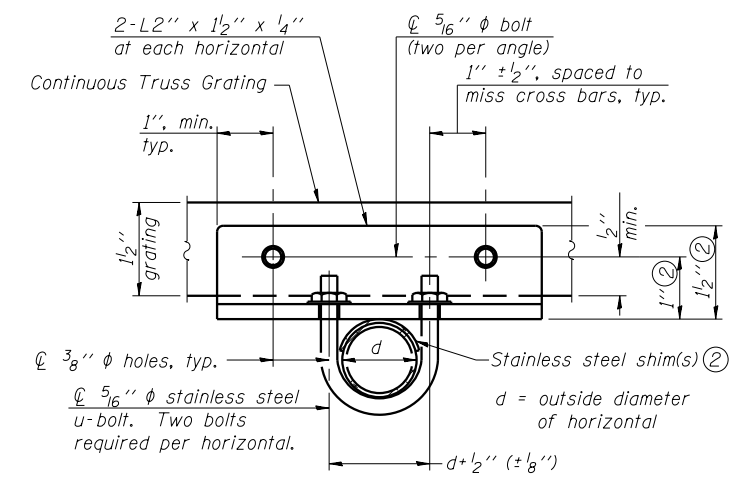
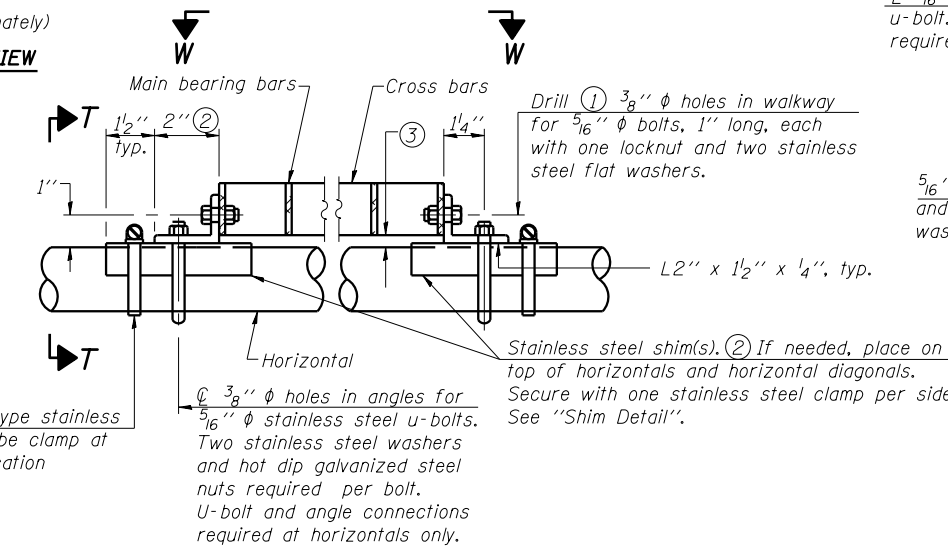
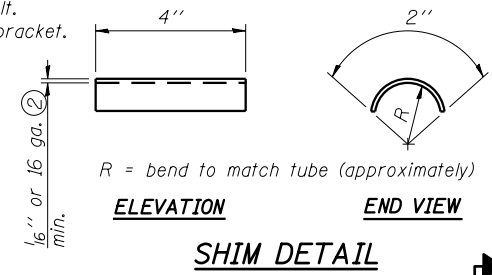
SHEET NO. OH-7 OF OH-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	124
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



Sign shall be even with the top of the bracket, but it may extend no more than 6" above the top of the bracket for field adjustments.

Provide 2 stainless steel washers and 2 hexagon locknuts per bolt. (4 bolts required per walkway bracket, two top and two bottom).



**SPECIFICATIONS FOR STANDARD ALUMINUM GRATING**

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.  
 Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.

**OR**

Aluminum Grating with modified "4" sections for main bearing bars shall meet the following requirements:  
 Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.<sup>3</sup> per bar, a depth of 1 1/2", spaced on 1 3/16" centers.  
 Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	B
IS0161290R000.0-004	5173+29.39	8"	7'-0"

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.

62B76\_SignStructure\_Sheet8.dgn

**PARSONS BRINCKERHOFF**

USER NAME = pateld	DESIGNED - PJL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - JIG	REVISED -
PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

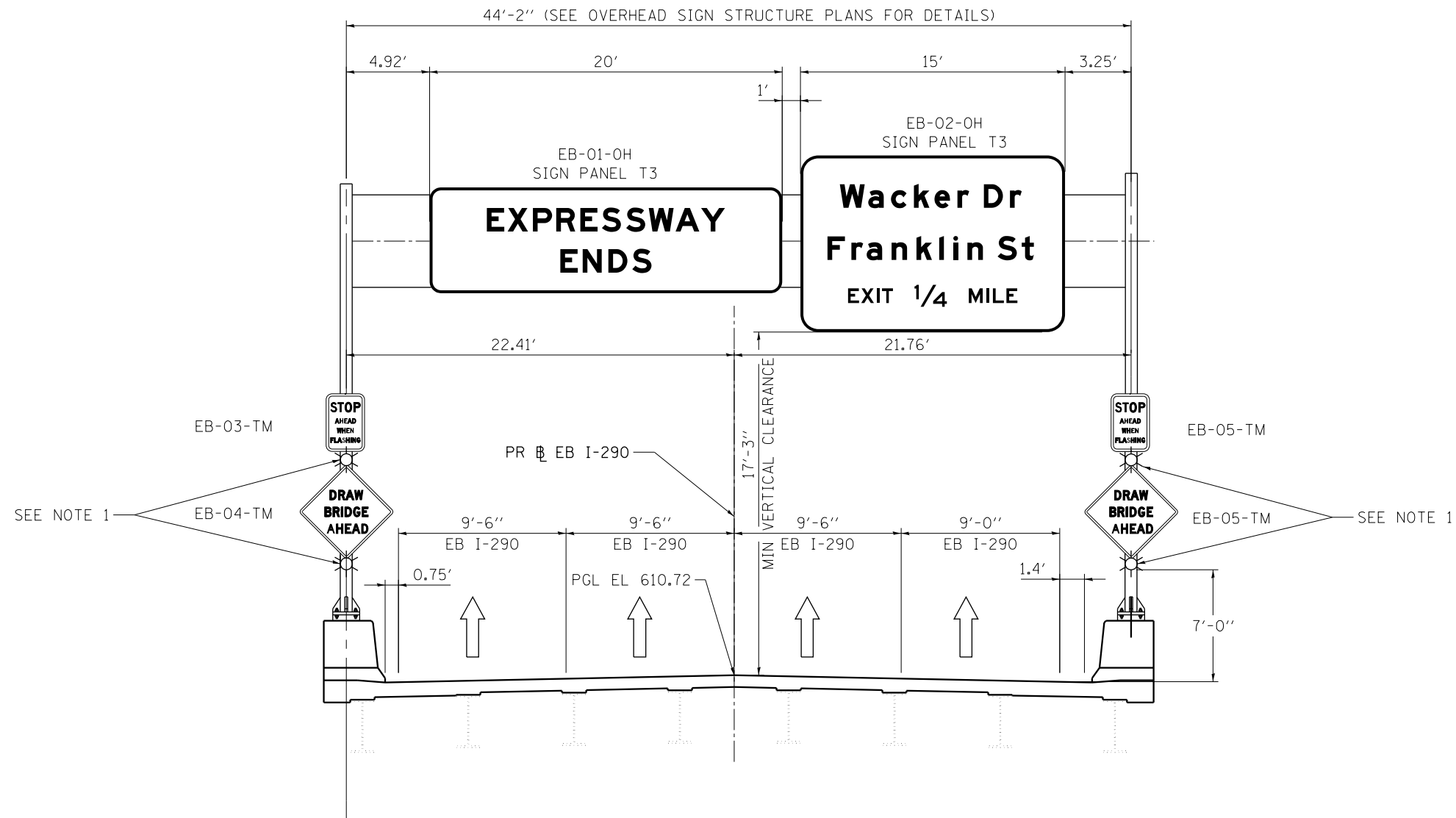
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES  
ALUMINUM WALKWAY DETAILS**

SHEET NO. OH-8 OF OH-8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	125
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

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**OVERHEAD SIGN STRUCTURE SN 1S016I290R000.0-004**  
**STA 5173+29.39**  
**PR EB I-290 (CONGRESS PARKWAY)**  
**(LOOKING EAST)**

**NOTE**  
 1. FLASHING BEACON INSTALLATION - SEE LIGHTING PLAN FOR LIGHTING DETAILS



D162676-SHT-Sign-06.dgn	DESIGNED - OPS	REVISED -
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PLOT SCALE = 8.0000' / in.	CHECKED - DBM	REVISED -
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

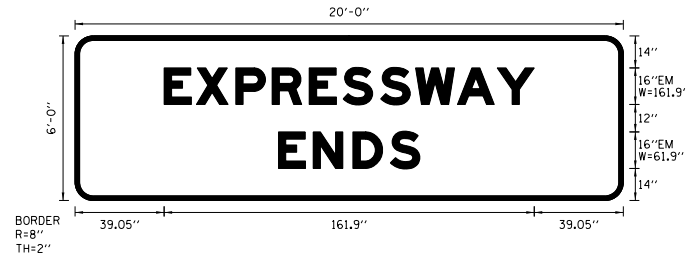
**OVERHEAD SIGN STRUCTURES**  
**SIGN PLACEMENT DETAILS**

SCALE: N.T.S. SHEET 18 OF 19 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	126
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

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**SIGN DETAIL**  
1:70



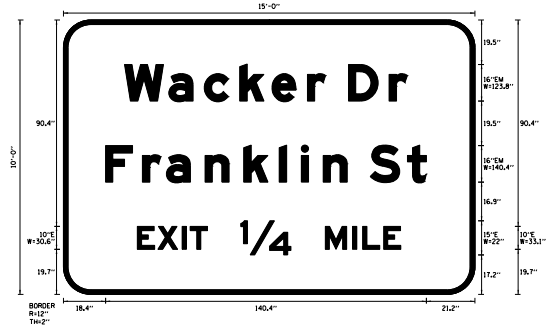
SIGN NUMBER	name
WIDTH x HGHT.	20'-0" x 6'-0"
BORDER WIDTH	2"
CORNER RADIUS	8"
MOUNTING	Overhead
BACKGROUND	TYPE: ZZ Retro Reflective COLOR: Yellow
LEGEND/BORDER	TYPE: ZZ Retro Reflective COLOR: Black/Black

SYMBOL	ROT	X	Y	WID	HT

Panel Style: warning\_Rectangular Mod.ssi  
Dimensions are in inches.tenths  
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIESSIZE
E	X	P	R	E	S	S	W	A	Y			EM 2000
39	53.1	70.4	86.2	102.6	117.3	133.8	149.1	167.4	184.8			161.9 16
E	N	D	S									EM 2000
89	104.2	121.7	138									61.9 16

**SIGN DETAIL**  
1:70



SIGN NUMBER	Odgen-1
WIDTH x HGHT.	15'-0" x 10'-0"
BORDER WIDTH	2"
CORNER RADIUS	12"
MOUNTING	Overhead
BACKGROUND	TYPE: ZZ Retro Reflective COLOR: Green
LEGEND/BORDER	TYPE: ZZ Retro Reflective COLOR: White/White

SYMBOL	ROT	X	Y	WID	HT

Panel Style: Street Name 12-9in\_Overhead Mod.ssi  
Dimensions are in inches.tenths  
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)											LENGTH	SERIESSIZE
W	a	c	k	e	r		D	r				EM 2000
26.8	46.1	61.6	77.2	91.2	106.8	114.8	124.8	142.5				123.8 1612
F	r	a	n	k	l	i	n	S	t			EM 2000
18.4	34.6	45	62	78.9	94.4	104	113.6	124.2	134.2	150.5		140.4 1612
E	X	I	T									E 2000
32.4	41.3	52	55.5									30.6 10
M	I	L	E									E 2000
114.5	126.5	130.9	140.1									33.1 10
14												E 2000
77.6												22 15



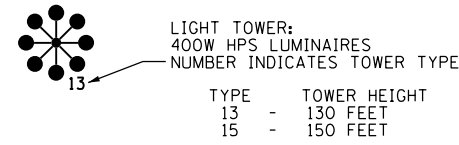
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

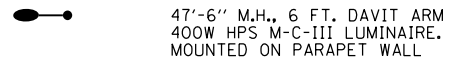
<b>OVERHEAD SIGN STRUCTURES</b>			
<b>SIGN PANEL DETAILS</b>			
SCALE: NONE	SHEET 19	OF 19 SHEETS	STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	127
CONTRACT NO. 62B76				ILLINOIS FED. AID PROJECT

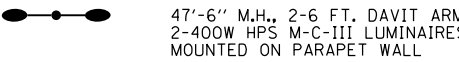
## ELECTRICAL SYMBOLS FOR PROPOSED WORK



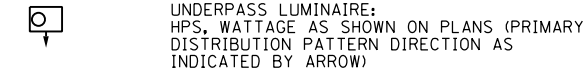
LIGHTING UNIT: TYPE AS INDICATED



47'-6" M.H., 12 FT. DAVIT ARM  
400W HPS M-C-III LUMINAIRE.  
MOUNTED ON PARAPET WALL



TEMPORARY LUMINAIRE AND POLE; 80 FOOT WOOD POLE



MANHOLE

ELECTRIC HANDHOLE: TYPE AS INDICATED

TYPE E1: PRECAST CONCRETE, 21.5"x21.5"x30",  
IDOT STANDARD 814001

TYPE E2: PRECAST CONCRETE-HEAVY DUTY,  
22"x22"x30", IDOT STANDARD 814001

TYPE C1: COMMUNICATIONS VAULT, 49 5/8"x32 1/8"x57"

TYPE S1: PRECAST CONCRETE-HEAVY DUTY,  
22"x22"x36"

TYPE S2: PRECAST CONCRETE-HEAVY DUTY SPECIAL,  
30"x30"x36"

JUNCTION BOX: TYPE AND SIZE AS INDICATED  
ON PLANS

PULL BOX: TYPE AND SIZE AS INDICATED  
ON PLANS

TELEPHONE CONNECTION

FIBER OPTIC COMMUNICATIONS HUT



EXISTING LIGHTING UNIT, TWIN LUMINAIRE

EXISTING LIGHTING UNIT

EXISTING TEMPORARY LIGHTING UNIT

EXISTING CDOT LIGHTING UNIT

EXISTING UNDERPASS LUMINAIRE

EXISTING ELECTRIC MANHOLE

EXISTING ELECTRIC HANDHOLE

EXISTING JUNCTION BOX

EXISTING PULL BOX

EXISTING TELEPHONE CONNECTION

EXISTING FIBER OPTIC COMMUNICATIONS HUT

EXISTING ELECTRIC HANDHOLE/MANHOLE

EXISTING CDOT SURVEILLANCE CABINET

LIGHTED SIGN STRUCTURE-CANTILEVER TYPE  
(NUMBER OF FLUORESCENT FIXTURES AS  
INDICATED - TYP.)

LIGHTED SIGN STRUCTURE-TRUSS TYPE

LIGHTED SIGN STRUCTURE-BRIDGE MOUNT TYPE

DYNAMIC MESSAGE SIGN

FLASHING BEACON SIGN

CLOSED CIRCUIT TELEVISION CAMERA

MICROWAVE DETECTOR

DETECTOR LOOP

CONTROLLER CABINET: LIGHTING, RADIO CONTROL  
DUPLEX TYPE WITH SCADA (DOOR SIDE AS  
INDICATED)

CONTROLLER CABINET: SURVEILLANCE

CONTROLLER CABINET: SURVEILLANCE, TYPE 334

RAMP METER SIGNAL POLE/HEAD

RAMP METER FLASHER POST

TEMPORARY WOOD POLE, LENGTH AS  
INDICATED ON THE PLANS

HIGHWAY ADVISORY RADIO ANTENNA

ELECTRIC UTILITY POLE

CCTV CAMERA POLE

POLE MOUNTED ELECTRIC UTILITY TRANSFORMER(S)

## ELECTRICAL SYMBOLS FOR EXISTING CONDITIONS

EXISTING CDOT ELECTRIC HANDHOLE/MANHOLE

EXISTING LIGHTED SIGN STRUCTURE-  
CANTILEVER TYPE

EXISTING LIGHTED SIGN STRUCTURE-TRUSS TYPE

EXISTING LIGHTED SIGN STRUCTURE-  
BRIDGE MOUNT TYPE

EXISTING DYNAMIC MESSAGE SIGN

EXISTING FLASHING BEACON SIGN

EXISTING CLOSED CIRCUIT TELEVISION CAMERA

EXISTING MICROWAVE DETECTOR

EXISTING DETECTOR LOOP

EXISTING LIGHTING CONTROLLER, DUPLEX

EXISTING CONTROLLER CABINET

PAD MOUNTED ELECTRIC UTILITY TRANSFORMER

GROUND ROD

MAIN SERVICE FUSED DISCONNECT SWITCH  
(RATING AS INDICATED)

PHOTOCELL

AERIAL CABLE

FLEXIBLE CONDUIT

RACEWAY EMBEDDED IN STRUCTURE

EXPOSED CONDUIT

RACEWAY OR DIRECT BURIAL CABLE  
UNDERGROUND WITHOUT ENCASEMENT

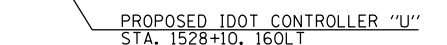
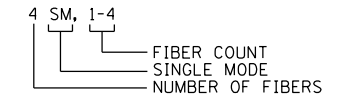
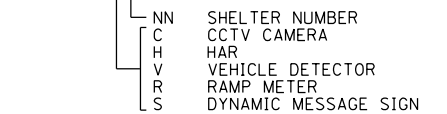
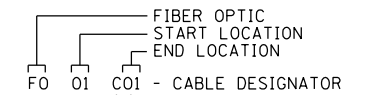
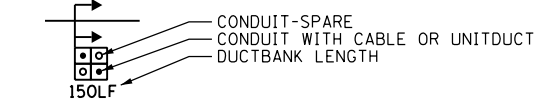
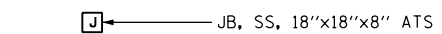
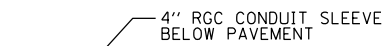
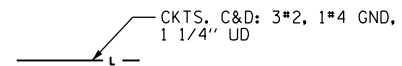
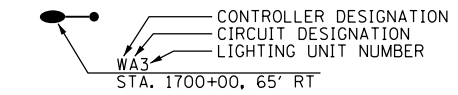
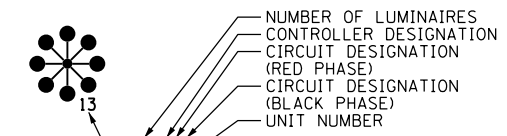
RIGID GALVANIZED STEEL CONDUIT  
SLEEVE, INSTALLED BELOW PAVEMENT

UNDERGROUND REINFORCED CONCRETE ENCASED  
CONDUIT DUCTBANK, UNLESS NOTED OTHERWISE.  
(NUMBER, TYPE, AND SIZE OF DUCTS AS SHOWN)

CONDUIT TURNED DOWN

CONDUIT TURNED UP

## GENERAL ELECTRICAL CALLOUTS



## TYPICAL EXISTING TO BE REMOVED SYMBOLS

EXISTING LIGHTING UNIT TO BE REMOVED

EXISTING UNDERPASS LUMINAIRE TO BE REMOVED

EXISTING JUNCTION BOX TO BE REMOVED

EXISTING LIGHTED SIGN STRUCTURE-  
CANTILEVER TYPE TO BE REMOVED

DYNAMIC MESSAGE SIGN TO BE REMOVED

FLASHING BEACON SIGN TO BE REMOVED

EXISTING LIGHTING CONTROLLER, DUPLEX  
TO BE REMOVED

EXISTING CONTROLLER CABINET TO BE REMOVED

EXISTING DETECTOR LOOP TO BE REMOVED

EXISTING RAMP METER SIGNAL POLE/HEAD TO BE  
REMOVED

EXISTING RAMP METER FLASHER TO BE REMOVED

EXISTING POLE MOUNTED UTILITY SERVICE CONNECTION  
TO BE REMOVED

EXISTING LIGHT TOWER, PAD, AND FOUNDATION TO  
BE REMOVED

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

IDOT ELECTRICAL SYMBOLS

SCALE: N.T.S.

SHEET 1 OF 8 SHEETS

STA.

TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	128
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

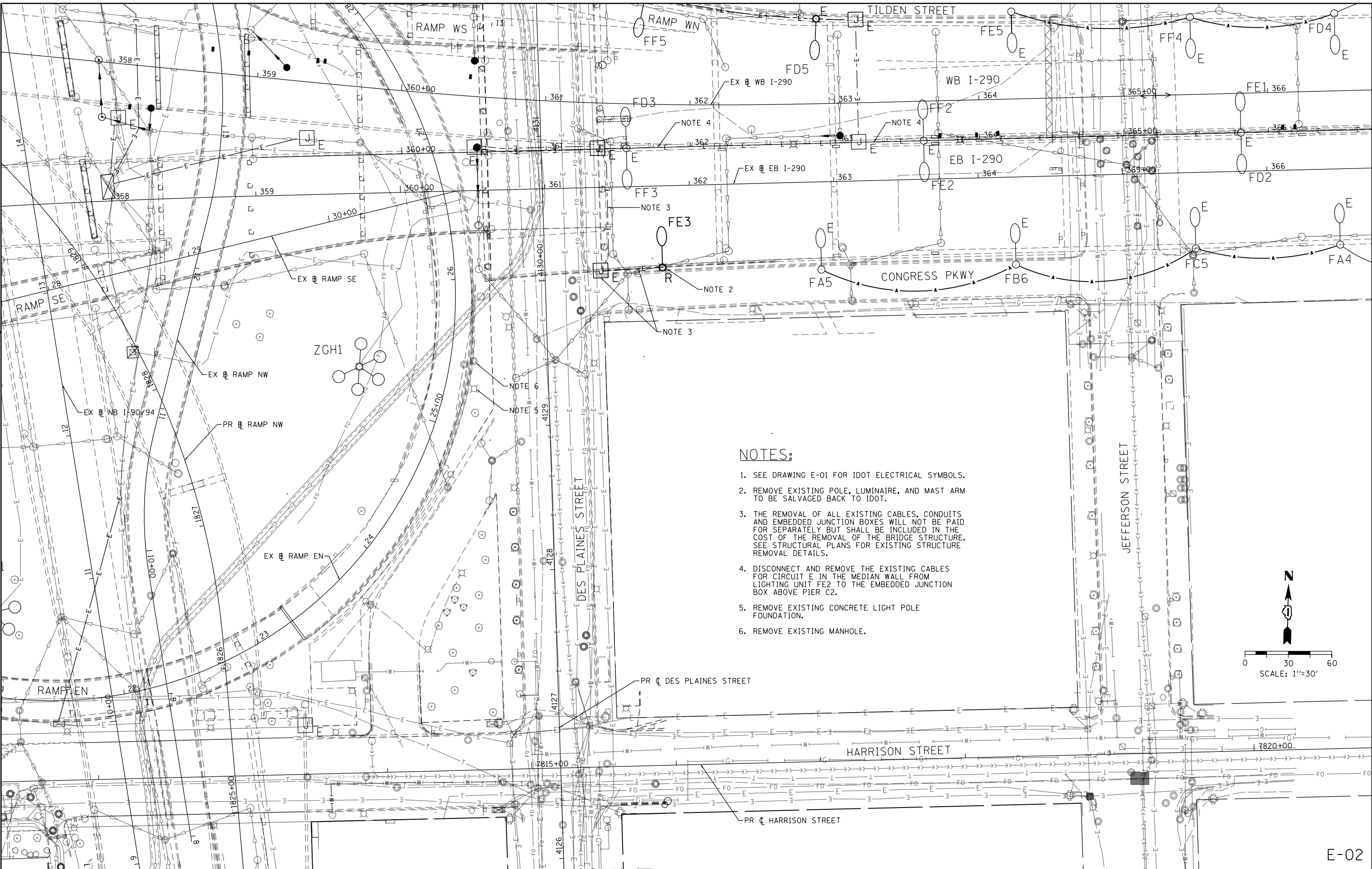
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0162876-sht-Light-01	DESIGNED - PFD	REVISED -
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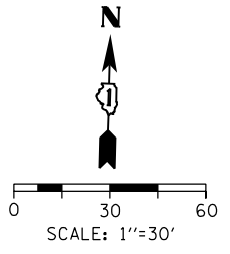


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**NOTES:**

1. SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
2. REMOVE EXISTING POLE, LUMINAIRE, AND MAST ARM TO BE SALVAGED BACK TO IDOT.
3. THE REMOVAL OF ALL EXISTING CABLES, CONDUITS AND EMBEDDED JUNCTION BOXES WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE REMOVAL OF THE BRIDGE STRUCTURE. SEE STRUCTURAL PLANS FOR EXISTING STRUCTURE REMOVAL DETAILS.
4. DISCONNECT AND REMOVE THE EXISTING CABLES FOR CIRCUIT E IN THE MEDIAN WALL FROM LIGHTING UNIT FE2 TO THE EMBEDDED JUNCTION BOX ABOVE PIER C2.
5. REMOVE EXISTING CONCRETE LIGHT POLE FOUNDATION.
6. REMOVE EXISTING MANHOLE.



E-02



D162876-sht-Light-02
USER NAME = myersc
PLOT SCALE = 60.0000' / in.
PLOT DATE = 5/5/2016

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE - 5/6/2016	REVISED -

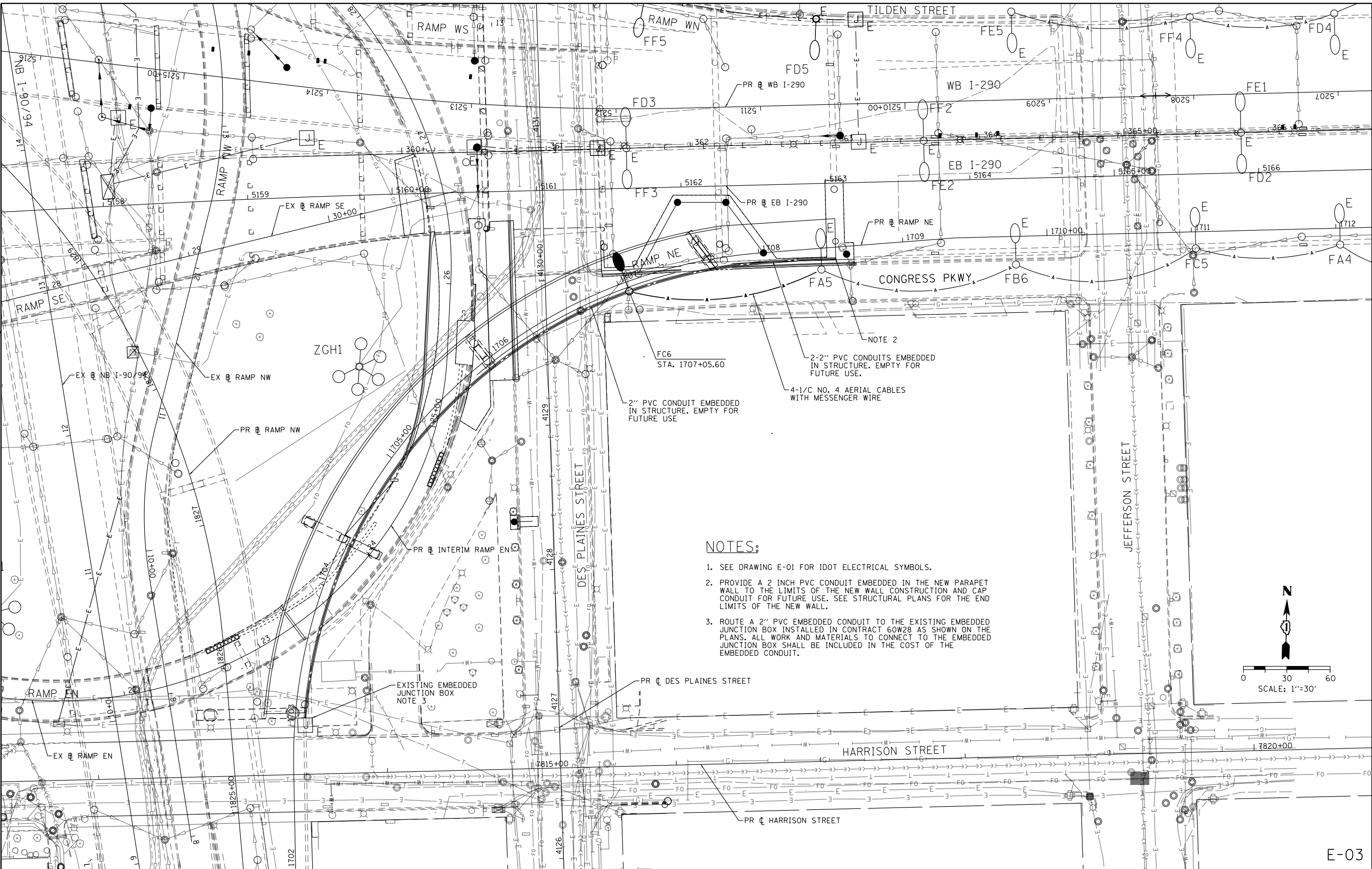
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING /TEMPORARY LIGHTING PLAN  
RAMP NE

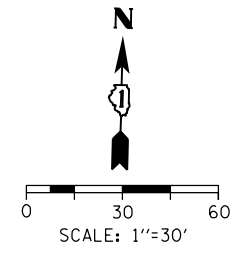
SCALE: 1"=30' SHEET 2 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	129
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

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- NOTES:**
- SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
  - PROVIDE A 2 INCH PVC CONDUIT EMBEDDED IN THE NEW PARAPET WALL TO THE LIMITS OF THE NEW WALL CONSTRUCTION AND CAP CONDUIT FOR FUTURE USE. SEE STRUCTURAL PLANS FOR THE END LIMITS OF THE NEW WALL.
  - ROUTE A 2" PVC EMBEDDED CONDUIT TO THE EXISTING EMBEDDED JUNCTION BOX INSTALLED IN CONTRACT 60W28 AS SHOWN ON THE PLANS. ALL WORK AND MATERIALS TO CONNECT TO THE EMBEDDED JUNCTION BOX SHALL BE INCLUDED IN THE COST OF THE EMBEDDED CONDUIT.



E-03



0162876-shr-Light-03  
 USER NAME = myersc  
 PLOT SCALE = 60.0000' / in.  
 PLOT DATE = 5/3/2016

DESIGNED - PFD	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 5/6/2016	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

PROPOSED LIGHTING PLAN  
 RAMP NE

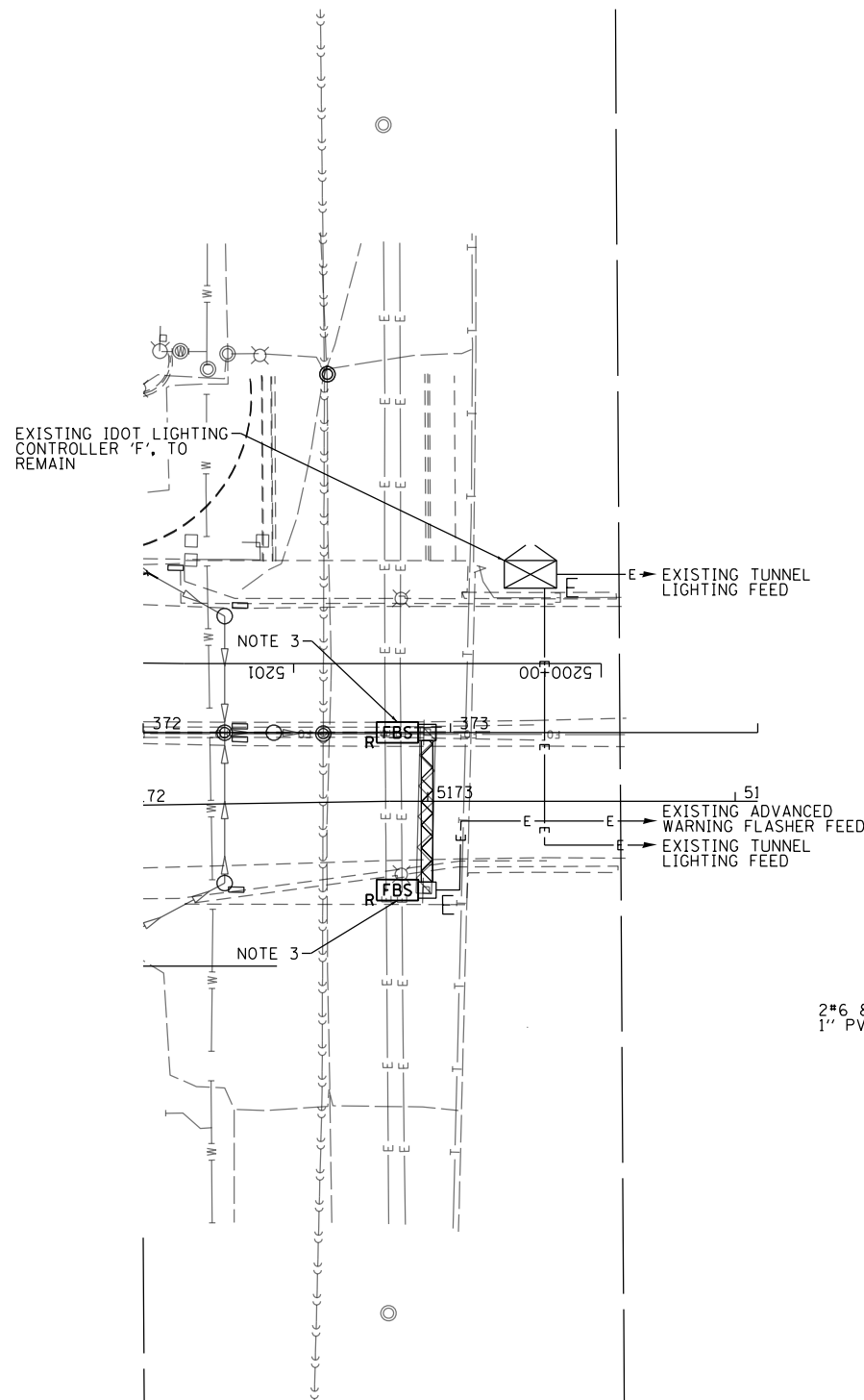
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F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-08OR&B	COOK	250	130
CONTRACT NO. 62876				

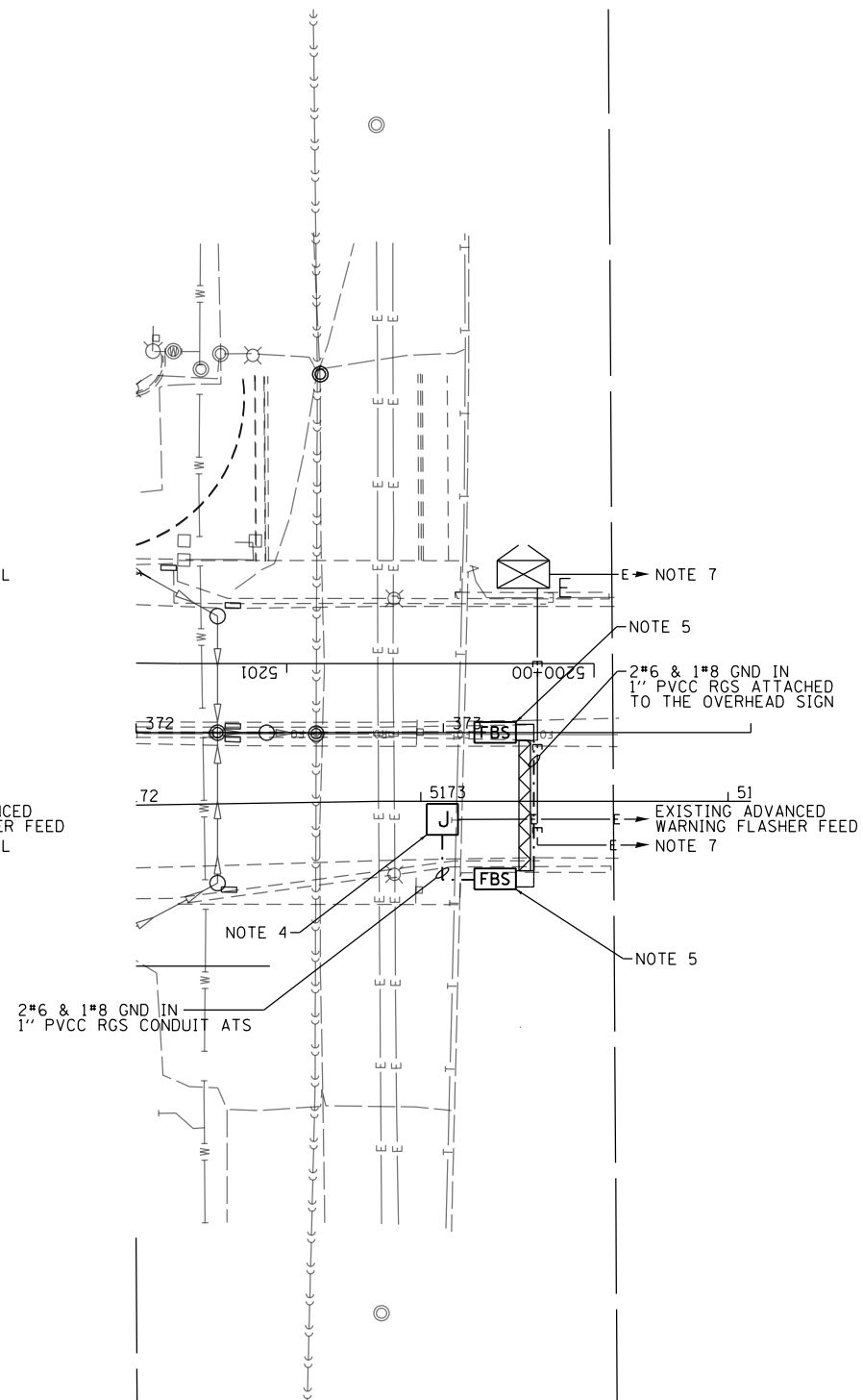
ILLINOIS FED. AID PROJECT

**NOTES:**

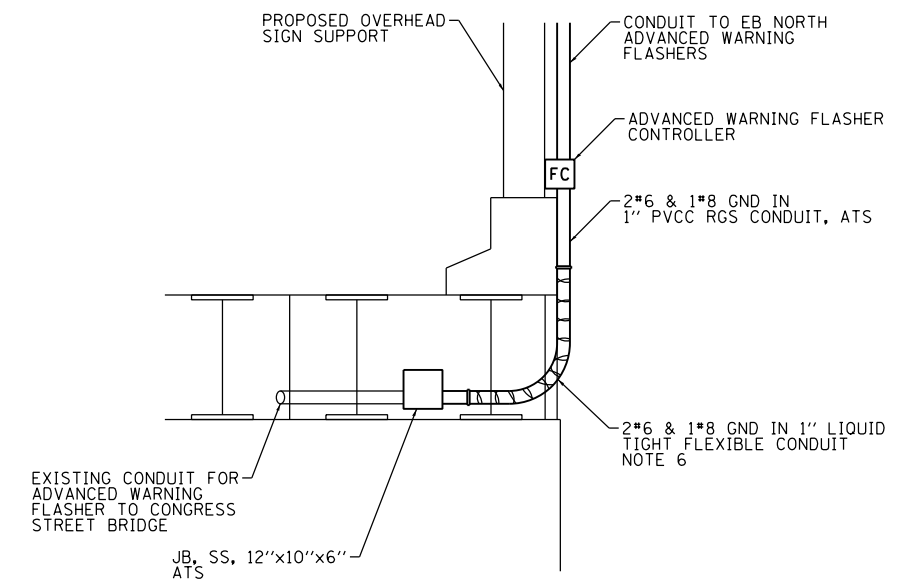
- SEE DRAWING E-01 FOR IDOT ELECTRICAL SYMBOLS.
- LOCATIONS OF EQUIPMENT SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS IN THE FIELD.
- REMOVE THE FLASHING BEACONS ATTACHED TO THE EXISTING SIGN STRUCTURE AND SALVAGE BACK TO IDOT, PULL THE EXISTING CABLES BACK TO THE NEAREST SPLICE POINT UNAFFECTED BY CONSTRUCTION FOR RE-USE. ALL WORK PERFORMED WILL BE INCLUDED IN THE COST OF THE "REMOVE EXISTING FLASHING BEACON INSTALLATION COMPLETE" PAY ITEM.
- INTERCEPT THE EXISTING ADVANCED WARNING FLASHER BEACON FEED WITH A 12"x10"x6" JUNCTION BOX ATTACHED TO STRUCTURE. PULL THE EXISTING CABLES THROUGH THE EXISTING CONDUIT TO THE NEW JUNCTION BOX LOCATION AND CONNECT THE NEW 2\*6 & 1\*8 GND CABLES TO THE EXISTING FEED IN THE PROPOSED JUNCTION BOX. ROUTE THE NEW CONDUITS AND CABLES TO THE PROPOSED FLASHING BEACON DISCONNECT SWITCH. SEE DETAIL A, THIS SHEET.
- INSTALL TWO AMBER ADVANCED WARNING FLASHING BEACONS ON BOTH THE NORTH AND SOUTH SUPPORT LEGS OF THE EB I-290 OVERHEAD SIGN STRUCTURE. ALL CABLES, CONDUITS, FLASHER CONTROLLERS, MOUNTING HARDWARE AND OTHER APPURTENANCES REQUIRED FOR A COMPLETE INSTALLATION SHALL BE INCLUDED IN THE COST OF THE "FLASHING BEACON INSTALLATION" PAY ITEM. SEE THE SIGNING PLANS FOR THE LOCATION OF THE FLASHER.
- THE 1" LIQUID TIGHT FLEXIBLE CONDUIT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE 1" PVC COATED RIGID GALVANIZED STEEL CONDUIT ATTACHED TO STRUCTURE PAY ITEM.
- THE EXISTING LIGHTING FEEDS IN THE VAULTED AREA AND ATTACHED TO THE STEEL BEAMS FOR THE TUNNEL LIGHTING EAST OF CANAL SHALL BE PROTECTED AND MAINTAINED THROUGHOUT CONSTRUCTION. ALL CABLES, CONDUITS, AND NECESSARY CONNECTIONS TO ENSURE 24 HOUR OPERATION OF THE TUNNEL LIGHTING SYSTEM SHALL BE INCLUDED IN THE COST OF THE "MAINTENANCE OF LIGHTING SYSTEM" PAY ITEM.



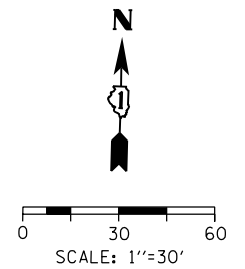
**EXISTING ADVANCED WARNING FLASHER PLAN**



**PROPOSED ADVANCED WARNING FLASHER PLAN**



**DETAIL A**  
N.T.S.



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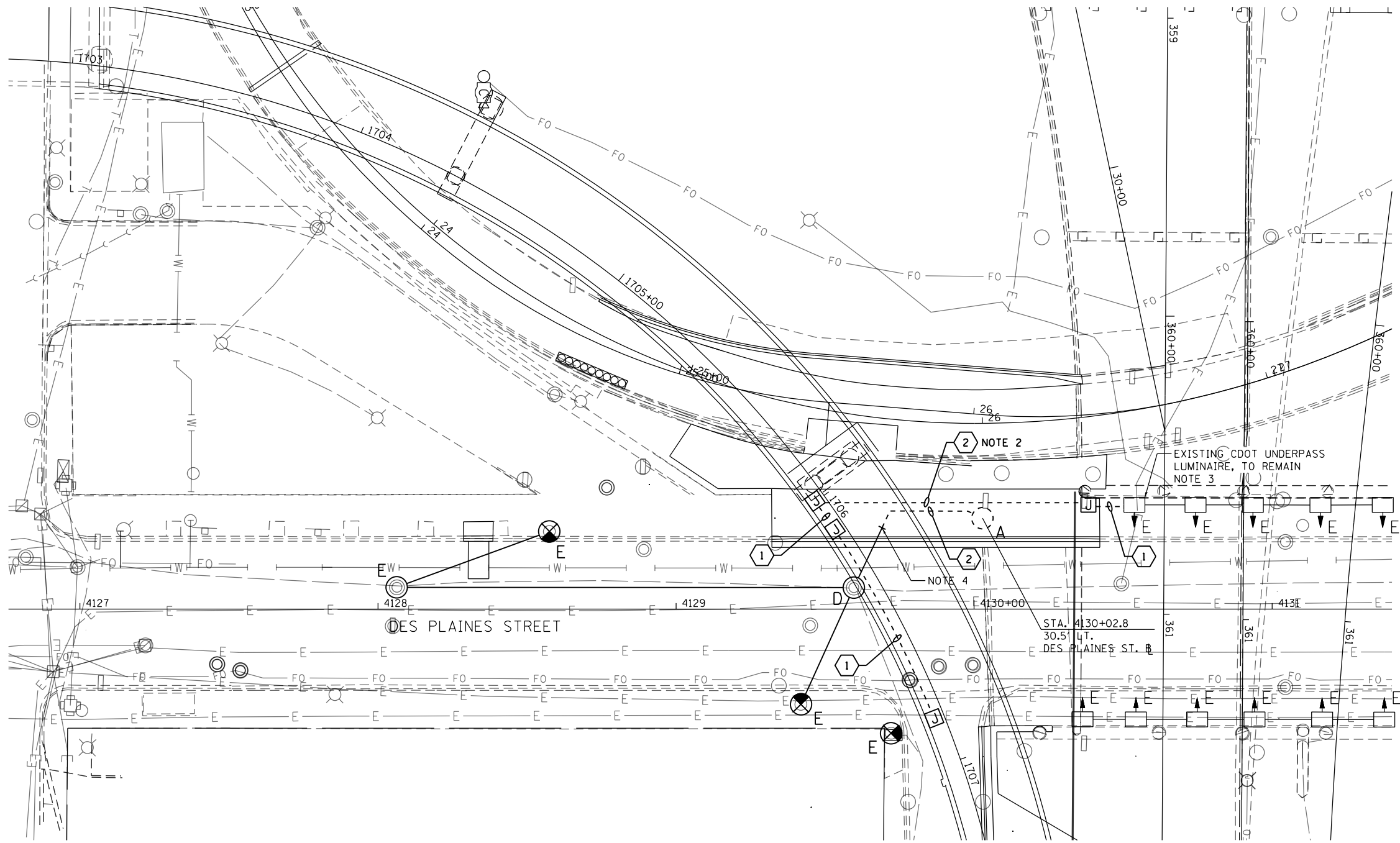
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PLOT DATE = 5/3/2016

DESIGNED - PFD	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>CONGRESS STREET BRIDGE ADVANCED WARNING FEED PLAN</b>	
SCALE: 1"=30'	SHEET 4 OF 8 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	131
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

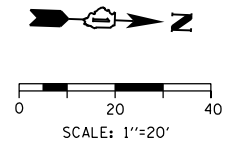


**NOTES:**

1. SEE DRAWING E-08 FOR CDOT ELECTRICAL SYMBOLS.
2. ALL CONDUIT UNDERGROUND SHALL BE PVC SCHEDULE 80. THE PORTIONS OF THE CONDUIT ATTACHED TO STRUCTURE SHALL BE RIGID GALVANIZED CONDUIT.
3. ROUTE 3/4" RIGID GALVANIZED STEEL CONDUIT FROM THE SOUTHERN MOST CDOT UNDERPASS LUMINAIRE ON THE WEST PIER TO A PROPOSED JUNCTION BOX AS SHOWN. ALL WORK TO MAKE THIS CONNECTION SHALL BE INCLUDED IN THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, 3/4" DIA., GALVANIZED STEEL" PAY ITEM.
4. INTERCEPT EXISTING CONDUIT BELOW THE SIDEWALK AND ROUTE A 2" PVC (SCH. 80) CONDUIT TO THE PROPOSED FOUNDATION AS SHOWN, AVOIDING THE EXISTING FIRE HYDRANT.
5. CONTRACTOR TO VERIFY EXISTING CONCRETE FOUNDATION, ANCHOR BOLT AND BOLT CIRCLE DIAMETERS TO ENSURE THEY MATCH THE DETAILS SHOWN ON DWG. 818 PRIOR TO BEGINNING ANY WORK.

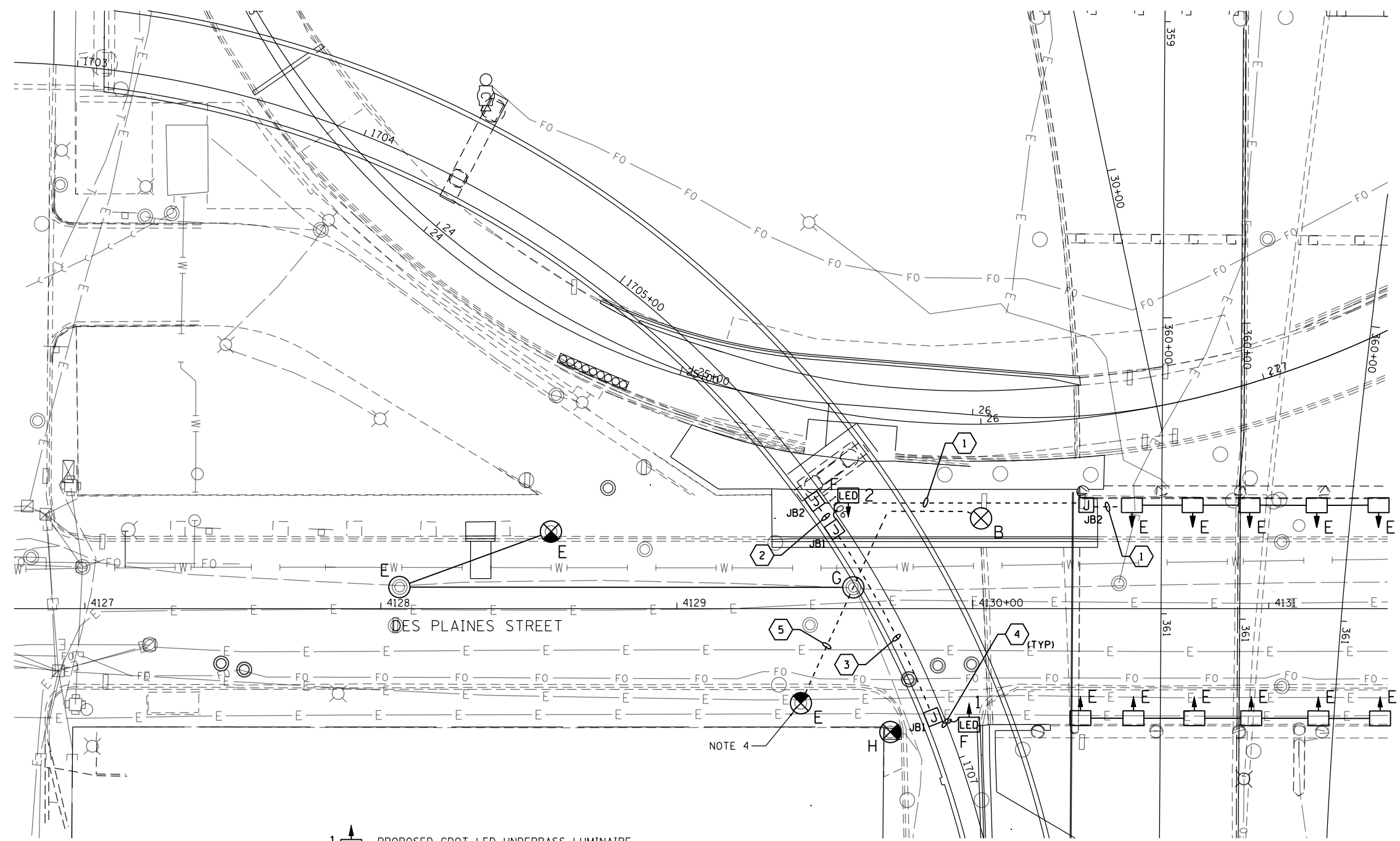
"A" PROVIDE 24"x7", 1-1/4" A.R., 15" B.C. FOUNDATION FOR RELOCATED LIGHT POLE PER DWG. 818. NOTE 5  
 "D" CLEAN EXISTING MANHOLE  
 "E" EXISTING TO REMAIN

CABLE / CONDUIT SCHEDULE	
1	3/4" DIA. RIGID GALVANIZED STEEL CONDUIT, ATS
2	2" DIA., PVC, SCHEDULE 80, UNDERGROUND



DATE	REVISION
<b>CITY OF CHICAGO</b>	
DEPARTMENT OF TRANSPORTATION DIVISION OF ENGINEERING	
CONSULTANT:	
<b>AECOM</b> <small>303 EAST WACKER DRIVE, SUITE 1400 CHICAGO, IL 60601-5276 PHONE: (312) 373-7700 FAX: (312) 373-6800</small>	
WORK ORDER NO.	DATE
COST ALLOCATION ACCOUNT	
APPROPRIATION ACCOUNT	MATERIAL LABOR
<b>CDOT LIGHTING CONDUIT AND FOUNDATION PLAN</b>	
CITY OF CHICAGO DEPT. OF TRANSPORTATION DIVISION OF ELECTRICAL OPERATIONS	
DRAFTSMAN: CAM	ENGINEER: PFD
SUPERVISING ENGINEER: WDS	ELEC. DESIGN ENGR.
ENGINEER OF ELECTRICITY:	
GEN'L SUPT. OF ELECTRICITY:	
DEPUTY COMMISSIONER:	
SIZE: 22"   34"	SCALE: 1" = 20'
DATE: 5/6/2016	DATE: 5/6/2016
C.D.O.T. PROJECT NO.:	DWG. NO.: <b>5 OF 8</b>

E-05



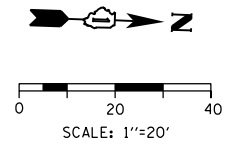
- NOTES:**
- SEE DRAWING E-08 FOR CDOT ELECTRICAL SYMBOLS.
  - THE PROPOSED CDOT LED UNDERPASS LUMINAIRE SHALL BE SUSPENDED, CENTERED BETWEEN GIRDERS OF THE RAMP STRUCTURE, AS SHOWN ON THE PLANS.
  - ALL CABLES AND CONDUITS FROM THE NEAREST JUNCTION BOX TO THE SUSPENDED MOUNT LED UNDERPASS LUMINAIRE WILL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF THE "UNDERPASS LUMINAIRE (SPECIAL)" PAY ITEM.
  - SPLICE NEW CABLES TO EXISTING LIGHTING CIRCUITS LOCATED IN EXISTING POLE. NO UNDERGROUND SPLICES ALLOWED.
  - INSTALL A NEW 4' STEEL MAST ARM AND LUMINAIRE PER DWG. 661 & 724 ON EXISTING CDOT LIGHT POLE.

1 LED PROPOSED CDOT LED UNDERPASS LUMINAIRE WITH LIGHTING CIRCUIT NUMBER SHOWN

- "B" INSTALL RELOCATED STEEL POLE, LUMINAIRE AND MAST ARM ON A PROPOSED FOUNDATION.
- "E" EXISTING TO REMAIN
- "F" INSTALL SUSPENDED MOUNT UNDERPASS LUMINAIRE AS SPECIFIED IN THE SPECIAL PROVISIONS. NOTE 2
- "G" RACK CABLES IN EXISTING MANHOLE
- "H" INSTALL MAST ARM AND LUMINAIRE. NOTE 5

CABLE / CONDUIT SCHEDULE	
1	3*8 & 1*10 GND CABLES IN CONDUIT
2	3*10 & 1*10 GND CABLES IN CONDUIT
3	2*10 & 1*10 GND CABLES IN CONDUIT
4	2*10 & 1*10 GND CABLES IN 3/4" DIA. LIQUID TIGHT, NON-METALLIC FLEXIBLE CONDUIT. NOTE 3
5	2*6 & 1*8 GND CABLES IN EXISTING CONDUIT

JUNCTION BOX SCHEDULE		
NO.	SIZE	DESCRIPTION
JB1	6"X6"X4"	STAINLESS STEEL, ATTACHED TO STRUCTURE, UNDERPASS LIGHTING
JB2	12"X10"X6"	STAINLESS STEEL, ATTACHED TO STRUCTURE, UNDERPASS LIGHTING



**CITY OF CHICAGO**  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING

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

WORK ORDER NO. \_\_\_\_\_ DATE \_\_\_\_\_  
COST ALLOCATION ACCOUNT \_\_\_\_\_

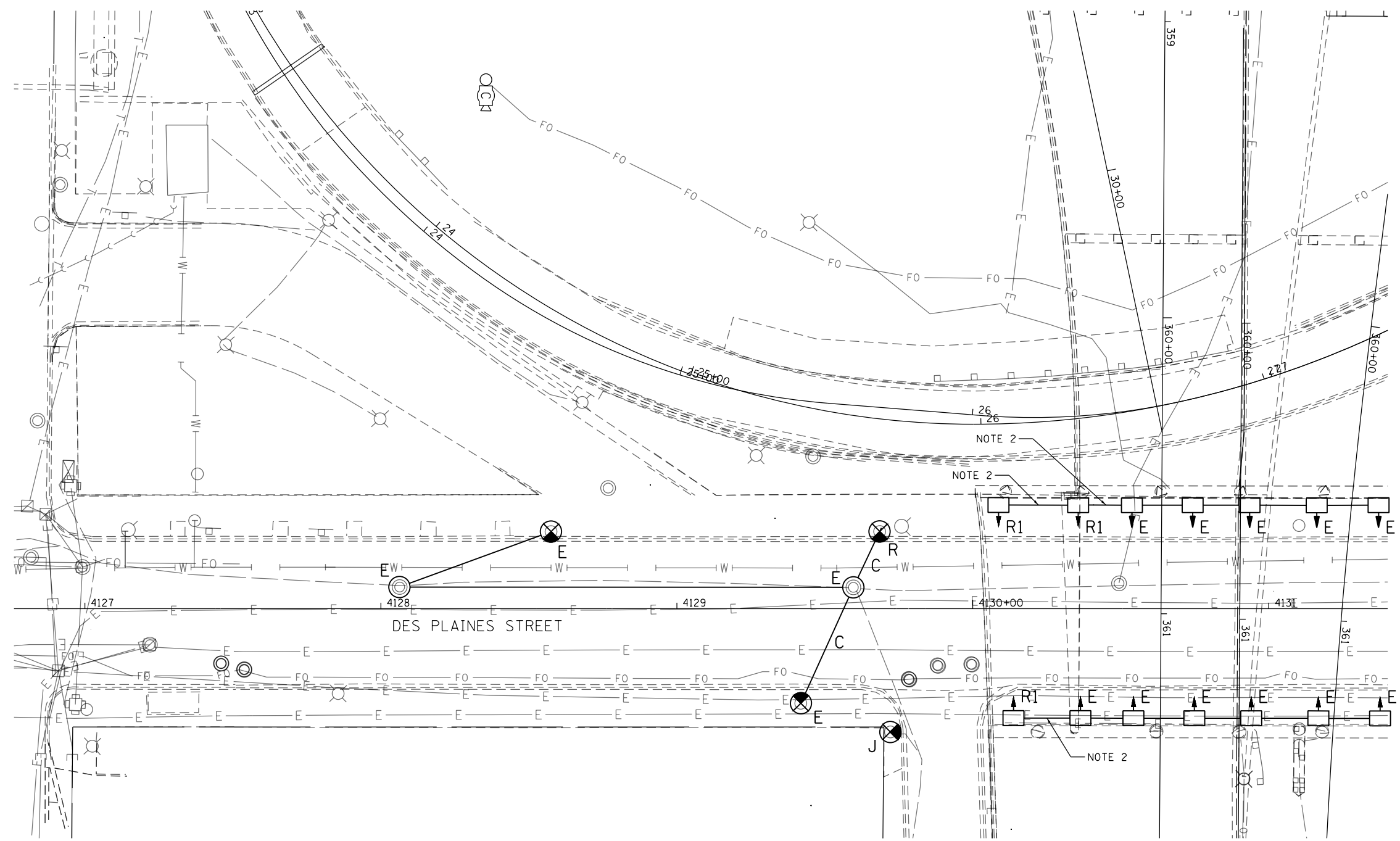
APPROPRIATION ACCOUNT MATERIAL \_\_\_\_\_ LABOR \_\_\_\_\_

**LIGHTING CABLE AND EQUIPMENT PLAN**

**CITY OF CHICAGO**  
DEPT. OF TRANSPORTATION  
DIVISION OF ELECTRICAL OPERATIONS

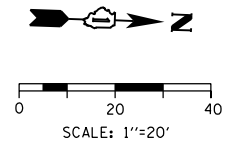
DRAFTSMAN: CAM	CHIEF DRAFTSMAN: WDS	ENGINEER: PFD
SUPERVISING ENGINEER/ELEC. DESIGN ENGR. WDS		<b>E-06</b>
ENGINEER OF ELECTRICITY:		
GEN'L SUPT. OF ELECTRICITY:		
DEPUTY COMMISSIONER:		

SIZE: 22" | 34" SCALE: 1" = 20' DATE: 5/6/2016  
DATE: 5/6/2016 DWG. NO.: 6 OF 8  
C.D.O.T. PROJECT NO.:



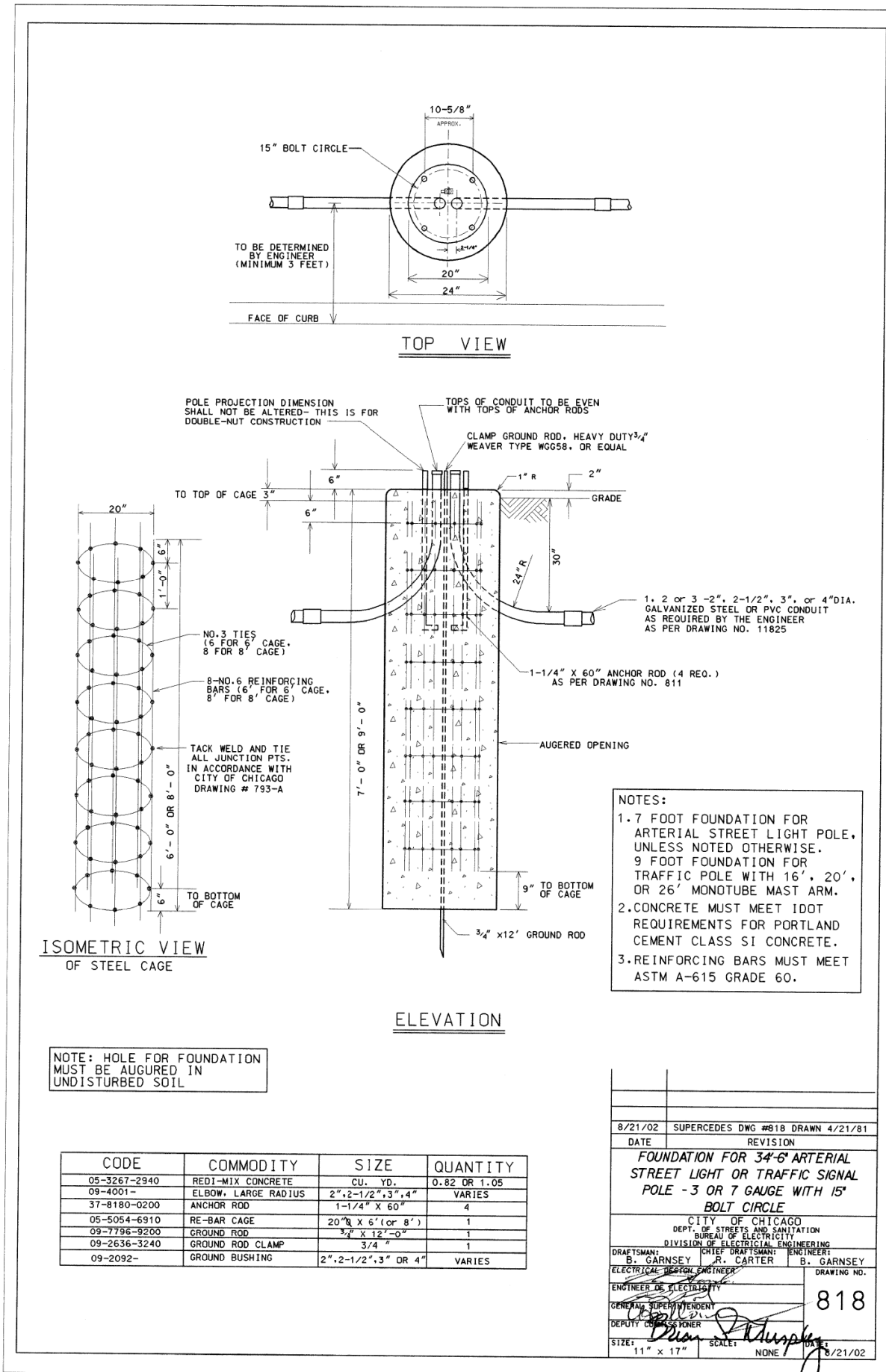
- NOTES:**
- SEE DRAWING E-08 FOR CDOT ELECTRICAL SYMBOLS.
  - THE EXISTING CABLES AND CONDUITS ATTACHED TO STRUCTURE SHALL BE REMOVED. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE REMOVAL OF THE UNDERPASS LUMINAIRE PAY ITEM.

- "C" REMOVE EXISTING CABLES, ROD AND CLEAN EXISTING CONDUIT.
- "E" EXISTING TO REMAIN
- "J" REMOVE AND SALVAGE EXISTING MAST ARM AND LUMINAIRE.
- "R" REMOVE AND RELOCATE EXISTING STEEL POLE, LUMINAIRE AND MAST ARM. BREAKDOWN FOUNDATION COMPLETE.
- "R1" REMOVE AND SALVAGE EXISTING UNDERPASS LUMINAIRE TO CDOT.



DATE	REVISION
<b>CITY OF CHICAGO</b>	
DEPARTMENT OF TRANSPORTATION DIVISION OF ENGINEERING	
CONSULTANT: <b>AECOM</b> <small>303 EAST WACKER DRIVE, SUITE 1400 CHICAGO, IL 60601-5276 PHONE: (312) 373-7700 FAX: (312) 373-6800</small>	
WORK ORDER NO. _____	DATE _____
COST ALLOCATION ACCOUNT _____	
APPROPRIATION ACCOUNT _____	MATERIAL _____ LABOR _____
<b>LIGHTING REMOVAL PLAN</b>	
<b>CITY OF CHICAGO</b> DEPT. OF TRANSPORTATION DIVISION OF ELECTRICAL OPERATIONS	
DRAFTSMAN: CAM	ENGINEER: PFD
SUPERVISING ENGINEER: WDS	ELEC. DESIGN ENGR.
ENGINEER OF ELECTRICITY:	
GEN'L SUPT. OF ELECTRICITY:	
DEPUTY COMMISSIONER:	
SIZE: 22"   34"	SCALE: 1" = 20'
DATE: 5/6/2016	DATE: 5/6/2016
C.D.O.T. PROJECT NO.:	DWG. NO.: <b>7 OF 8</b>

E-07



D162876-sht-Light-08  
USER NAME = myersc  
PLOT SCALE = 2.0000' / in.  
PLOT DATE = 5/3/2016

DESIGNED - PFD  
DRAWN - CAM  
CHECKED - WDS  
DATE - 5/6/2016

REVISED -  
REVISED -  
REVISED -  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCALE: N.T.S. SHEET 8 OF 8 SHEETS STA. TO STA.

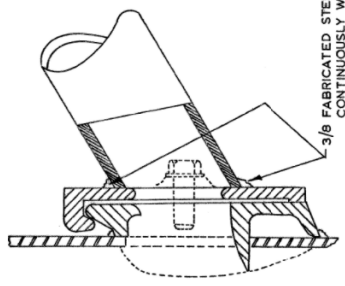
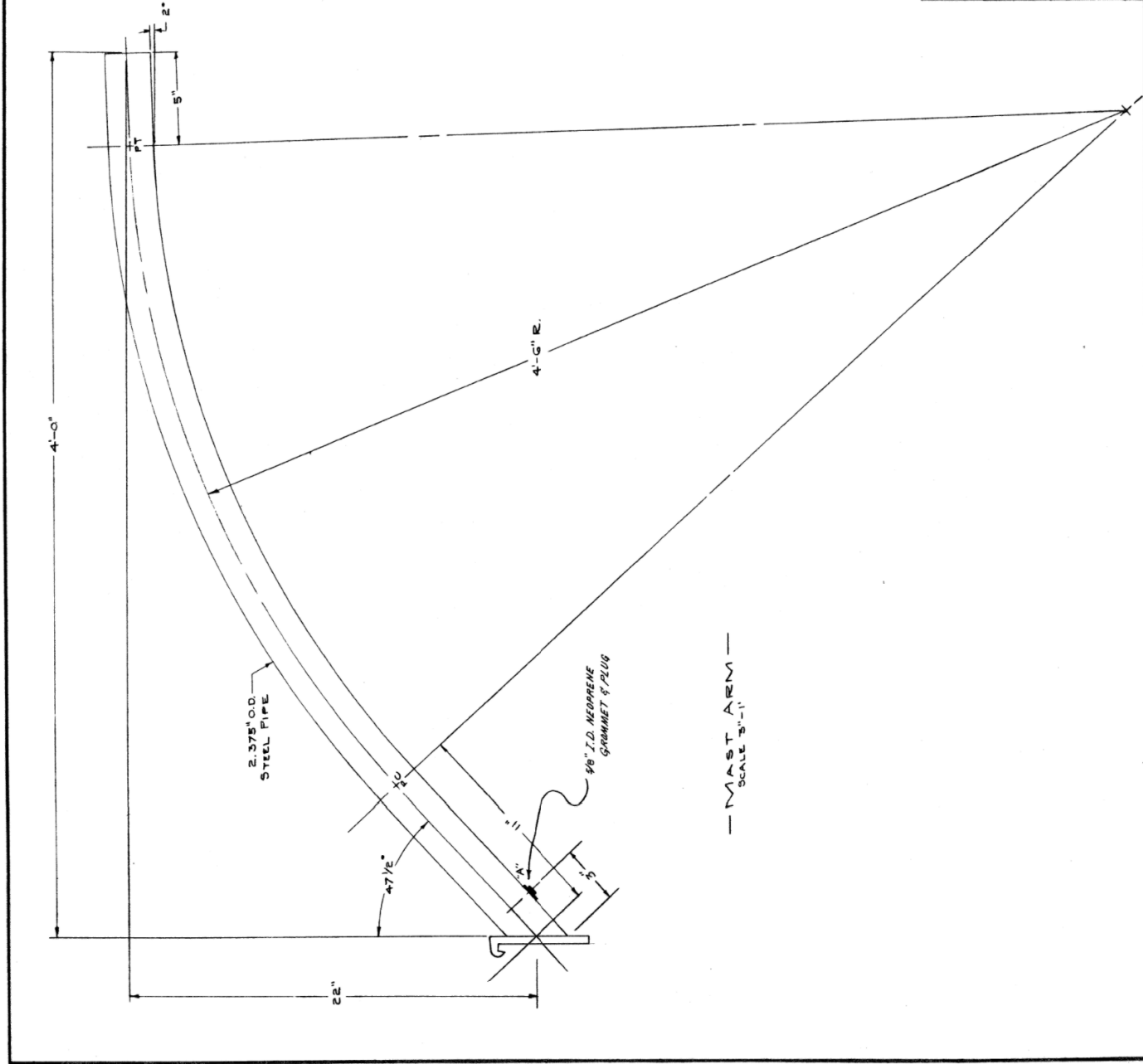
MISCELLANEOUS ELECTRICAL DETAILS

PROPOSED	PRESENT	DESCRIPTION
⊕	⊕	HANDHOLE, HEAVY DUTY, 36" I.D. (DWG.#866)
⊙	⊙	HANDHOLE, CIRCULAR WITH 24" FRAME & COVER, 30" I.D. (#867)
⊚	⊚	MANHOLE, CITY 3' X 4' X 4' DWG.#729 OR 730; 4' X 6' X 6' DWG.#732 OR 733.
⊛	⊛	FOUNDATION, CONTROLLER OR PEDestal, 13" B.C., 20" X 5' (DWG.#709)
⊜	⊜	FOUNDATION, CONTROLLER DWG.#854, F.A. TERMINAL FND. DWG.#11972
⊝	⊝	FOUNDATION, TRAFFIC TYPE "P", BASE MOUNT. (DWG.#888)
⊞	⊞	FOUNDATION, CONTROLLER STREET LIGHT - SPECIAL, 100A & 200A. (DWG.#876 & #880)
⊟	⊟	FOUNDATION, TRANSCLOSURE HOUSING. (DWG.# 583 & #891)
⊠	⊠	CONTROLLER, UNDERPASS LIGHTING 120V. & 240V. (DWG.#860 & #861)
⊡	⊡	MANHOLE, WITH 15" B.C. AND 15" DIA. IN 15" B.C. WITH 15" DIA. BELL JUNCTION BOX, IN PAVEMENT (DWG.#815)
⊢	⊢	CONDUIT OR P.V.C., NUMBER, SIZE & TYPE. (AS NOTED)
⊣	⊣	CONDUIT OR P.V.C., ENCASED IN CONCRETE. (SECTION OF NUMBER OF CONDUIT INDICATED)
⊤	⊤	LUMINAIRE, H.P.S.V., 400W LAMP, 240V. SEMI-CUTOFF
⊥	⊥	LUMINAIRE, H.P.S.V., 310W LAMP, 240V. CUTOFF
⊦	⊦	LUMINAIRE, H.P.S.V., 310W LAMP, 240V. CUTOFF
⊧	⊧	LUMINAIRE, H.P.S.V., 150W LAMP, 120V
⊨	⊨	LUMINAIRE, H.P.S.V., 150W LAMP, 120V (VALLEY LIGHT)
⊩	⊩	LUMINAIRE, H.P.S.V., 250W LAMP, 120V
⊪	⊪	TERMINAL, CABINET F.A. & P.C.
⊫	⊫	FIRE ALARM BOX, MOUNTED
⊬	⊬	FIRE ALARM BOX, POLE MOUNTED
⊭	⊭	CABLE, TRAFFIC SIGNAL, COMMUNICATION, 1-PAIR #14 SHIELDED, IN CONDUIT
⊮	⊮	CABLE, TRAFFIC SIGNAL POWER SUPPLY, 2/C-#14, 600 V. EPR, IN CONDUIT
⊯	⊯	CABLE, TRAFFIC SIGNAL POWER SUPPLY, 2 1/C-#12 OR #10/600V. EPR IN CONDUIT
⊰	⊰	CABLE, TRAFFIC SIGNAL POWER SUPPLY, 2/C-#10 OR #6, 600V NSRI, IN CONDUIT
⊱	⊱	CABLE, TRAFFIC SIGNAL, 7/C-#12 OR #14, 600V. EPR IN CONDUIT
⊲	⊲	CABLE, TRAFFIC SIGNAL, 10/C-#12 OR #14, 600V. EPR IN CONDUIT
⊳	⊳	CABLE, TRAFFIC SIGNAL, 14/C-#12 600V. EPR IN CONDUIT
⊴	⊴	CABLE, TRAFFIC SIGNAL, 19/C-#12 OR #14, 600V. EPR IN CONDUIT
⊵	⊵	CABLE, STREET LIGHT, 2 1/C-#6, 600V. RINS IN PARKWAY
⊶	⊶	CABLE, STREET LIGHT, 2 1/C-#6, 600V. RINS IN CONDUIT
⊷	⊷	CABLE, STREET LIGHT, 2 1/C-#6 EPRN 600V. & 1 1/C-#8 GREEN, TRIPLEXED IN CONDUIT
⊸	⊸	CABLE, STREET LIGHT, 3 1/C-#17/0, OR #2/0, OR #1, 600V. EPR IN CONDUIT
⊹	⊹	WIRE, STREET LIGHT, 2 1/C-#6, HDNS. AERIAL
⊺	⊺	WIRE, STREET LIGHT, 2 1/C-#6 & 1 1/C-#8, HDNS. AERIAL
⊻	⊻	WIRE, STREET LIGHT AERIAL, 3 1/C-#4 OR #2 SELF SUPPORTING, 600V EPR
⊼	⊼	WIRE, F.A. & P.C. AERIAL, 1/C-#10, NUMERICAL DENOTES QUANTITY
⊽	⊽	CABLE, F.A. & P.C. AERIAL, W/ MESSENGER #19-(NUMBER OF PAIRS AS INDICATED)
⊾	⊾	CABLE, F.A. & P.C. AERIAL, SELF SUPPORTING, #19-(NUMBER OF PAIRS AS INDICATED)
⊿	⊿	CABLE, F.A. & P.C., IN CONDUIT, #19-(NUMBER OF PAIRS AS INDICATED)
⋄	⋄	DOWNLIGHT ASSEMBLY. (DWG.#850)
⋅	⋅	LIGHT, TRAFFIC SAFETY ISLAND
⋆	⋆	FLASHING BEACON & DOWNLIGHT

C104-01-02	REVISED/RETRAW	R. POOL/R.C.M.T.
B172-4-01	ADDED ORNAMENTAL SYMBOLS	
A 8-6-96	REDRAWN	
DATE	REVISION	
STANDARD CODE FOR TRAFFIC SIGNALS/ STREET LIGHTING		
CITY OF CHICAGO		
DESIGNED BY: R. IVY	DRAWN BY: R. CARTER	DWG. NO. 826
CHECKED BY: R. CARTER	DATE: 8/21/02	
DATE: 8/21/02	SCALE: 36" = 1'-0"	

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	135
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

FILE PATH = p:\61779-PMINT\ecomonline\local\AECOM\5902\_NA\Documents\01\_Americas\Transportation\62876\62876\_Electrical\Sheets\62876\_Contract\0162876-sht-Light-09



3/8\"/>

4' STEEL MAST ARM WITH 2 BOLT MAST ARM ATTACHMENT	
REVISED	CITY OF CHICAGO DEPT. OF STREETS AND SANITATION DIVISION OF ELECTRICAL ENGINEERING
A	DESIGNED BY: M. DEPARTOLO 1/2/06
B	DRAWN BY: [Signature] 1/2/06
C	CHECKED BY: [Signature] 1/2/06
D	DATE: 1/2/06
E	DWG. NO. 661
F	SCALE: 1/8\"/>
G	DATE: 10-26-06



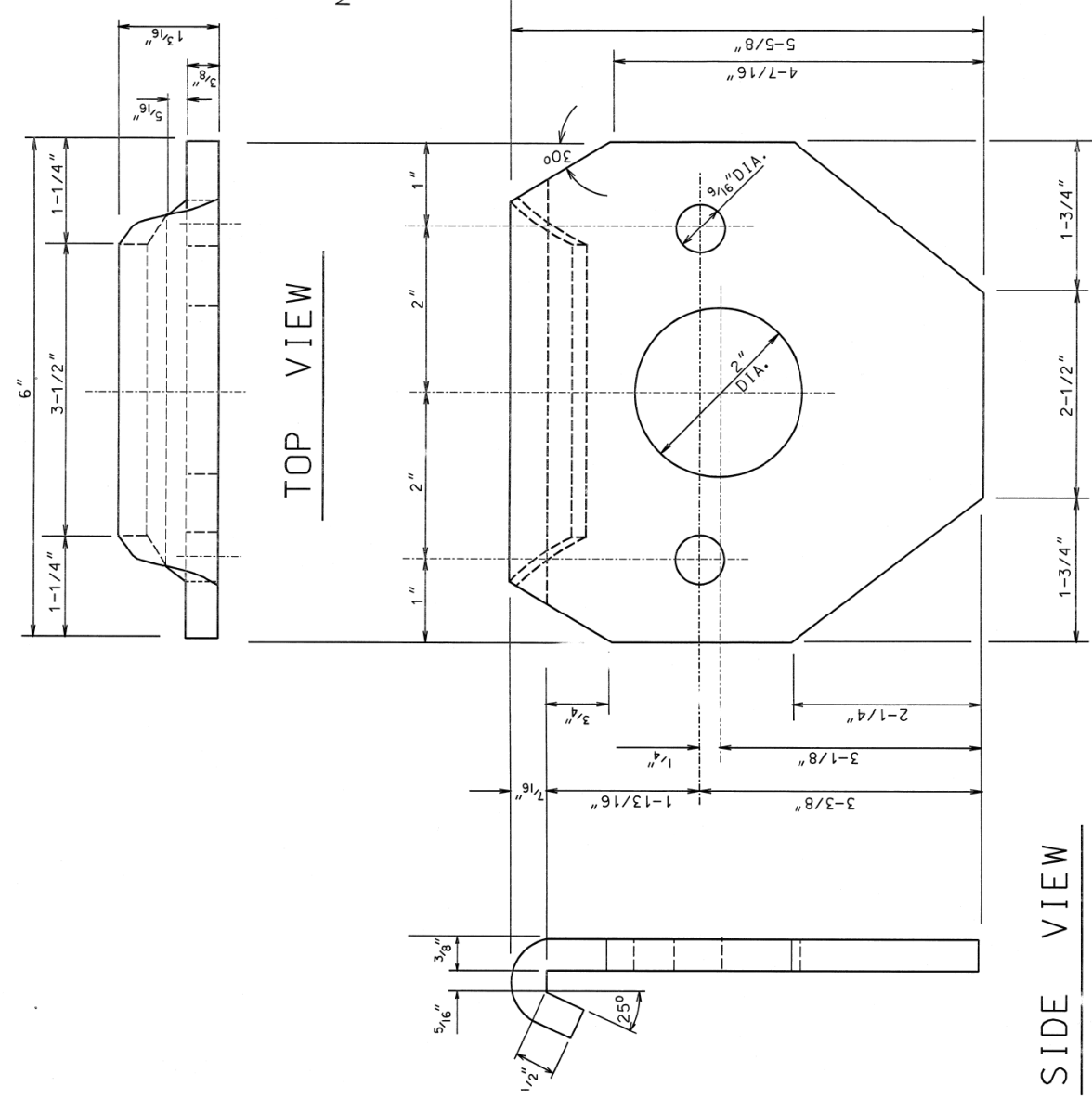
D162876-sht-Light-09  
 USER NAME = myersc  
 PLOT SCALE = 2.0000' / in.  
 PLOT DATE = 5/4/2016

DESIGNED -	REVISED -
DRAWN - CAM	REVISED -
CHECKED - WDS	REVISED -
DATE - 5/6/2016	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MISCELLANEOUS ELECTRICAL DETAILS  
 SCALE: N.T.S. SHEET 8A OF 8 SHEETS STA. TO STA.

F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 135A
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



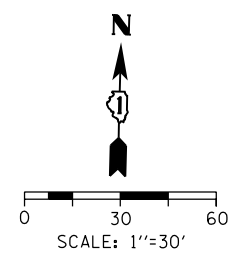
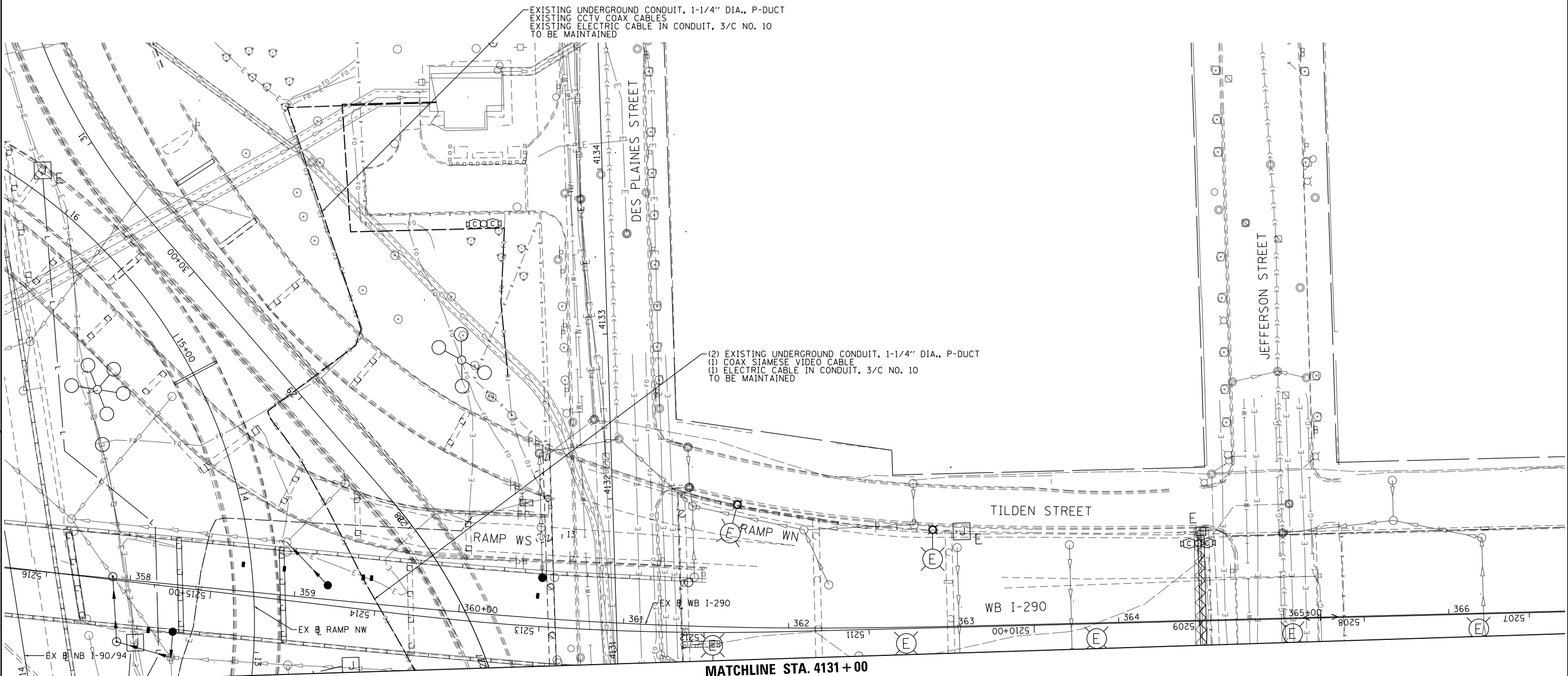
NOTE: REMOVE ALL SHARP EDGES  
 MATERIAL: HOT ROLLED STEEL  
 ASTM A-36

03-01-02	REDRAWN
TWO BOLT MAST ARM ATTACHMENT (BRACKET DETAILS)	
CITY OF CHICAGO DEPT. OF STREETS AND SANITATION DIVISION OF ELECTRICAL ENGINEERING	
DRAFTSMAN: ROBERT IVY	ENGINEER: RON POOL
SUPERVISING ENGINEER: [Signature]	ELEC. DESIGN ENGR. [Signature]
ENGINEER OF ELECTRICITY: [Signature]	
DEPT. CHIEF DRAFTSMAN: [Signature]	
DEPT. SUPERVISING ENGINEER: [Signature]	
DEPT. ENGINEER OF ELECTRICITY: [Signature]	
DEPT. DEPUTY COMMISSIONER: [Signature]	
DWG. NO. 724	DATE: 03-01-73
SCALE: NONE	

E-08A



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ITS-01



D162876-sht-ITS-01  
 USER NAME = myersc  
 PLOT SCALE = 60.0000' / in.  
 PLOT DATE = 5/3/2016

DESIGNED - GWS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - JDG	REVISED -
DATE - 5/6/2016	REVISED -

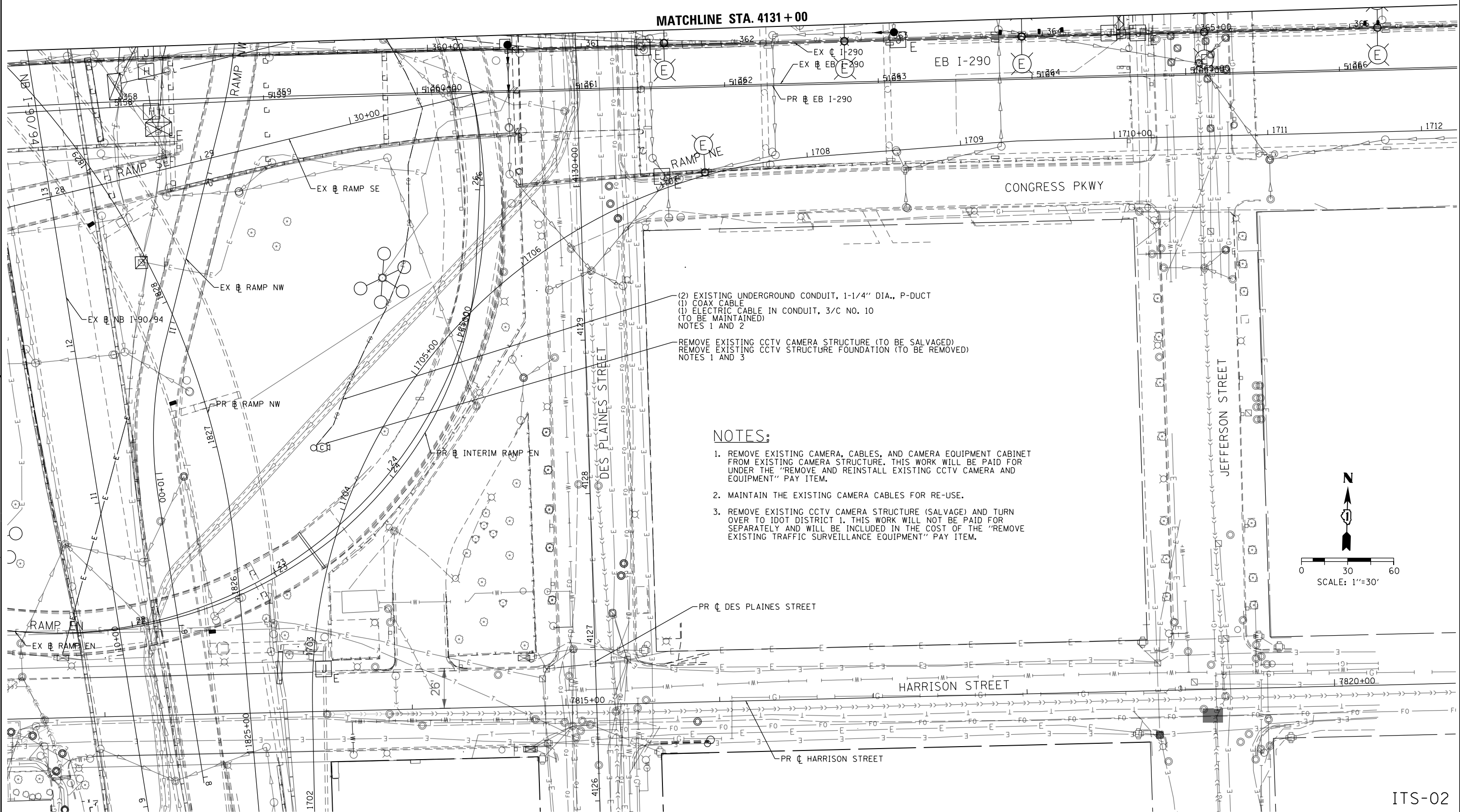
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

ITS EXISTING /MAINTAINING PLAN  
 I-90 /94 RAMP NE

SCALE: 1"=30' SHEET 1 OF 4 SHEETS STA. 4131+00 TO STA. -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	136
CONTRACT NO. 62876				
ILLINOIS FED. AID PROJECT				

MATCHLINE STA. 4131 + 00

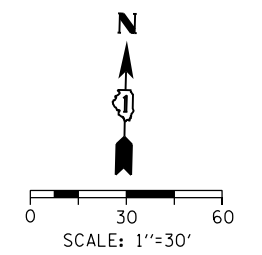


(2) EXISTING UNDERGROUND CONDUIT, 1-1/4" DIA., P-DUCT  
 (1) COAX CABLE  
 (1) ELECTRIC CABLE IN CONDUIT, 3/C NO. 10  
 (TO BE MAINTAINED)  
 NOTES 1 AND 2

REMOVE EXISTING CCTV CAMERA STRUCTURE (TO BE SALVAGED)  
 REMOVE EXISTING CCTV STRUCTURE FOUNDATION (TO BE REMOVED)  
 NOTES 1 AND 3

**NOTES:**

1. REMOVE EXISTING CAMERA, CABLES, AND CAMERA EQUIPMENT CABINET FROM EXISTING CAMERA STRUCTURE. THIS WORK WILL BE PAID FOR UNDER THE "REMOVE AND REINSTALL EXISTING CCTV CAMERA AND EQUIPMENT" PAY ITEM.
2. MAINTAIN THE EXISTING CAMERA CABLES FOR RE-USE.
3. REMOVE EXISTING CCTV CAMERA STRUCTURE (SALVAGE) AND TURN OVER TO IDOT DISTRICT 1. THIS WORK WILL NOT BE PAID FOR SEPARATELY AND WILL BE INCLUDED IN THE COST OF THE "REMOVE EXISTING TRAFFIC SURVEILLANCE EQUIPMENT" PAY ITEM.



FILE PATH = p:\617479-P\INT\pcon\line\loc\AECOM\_D592\_MIA\Documents\01\_Americas\T\engor\station\62876\Roadway\Sheets\62876\_Contract\0162876-sht-ITS-02



D162876-sht-ITS-02  
 USER NAME = myersc  
 PLOT SCALE = 60.0000' / in.  
 PLOT DATE = 5/3/2016

DESIGNED - GWS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - JDG	REVISED -
DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ITS EXISTING /MAINTAINING PLAN**  
**I-90 /94 RAMP NE**

SCALE: 1"=30'    SHEET 2 OF 4 SHEETS    STA. -    TO STA. 4131+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	137
CONTRACT NO. 62876				

ITS-02

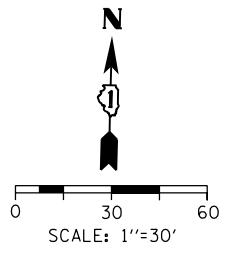
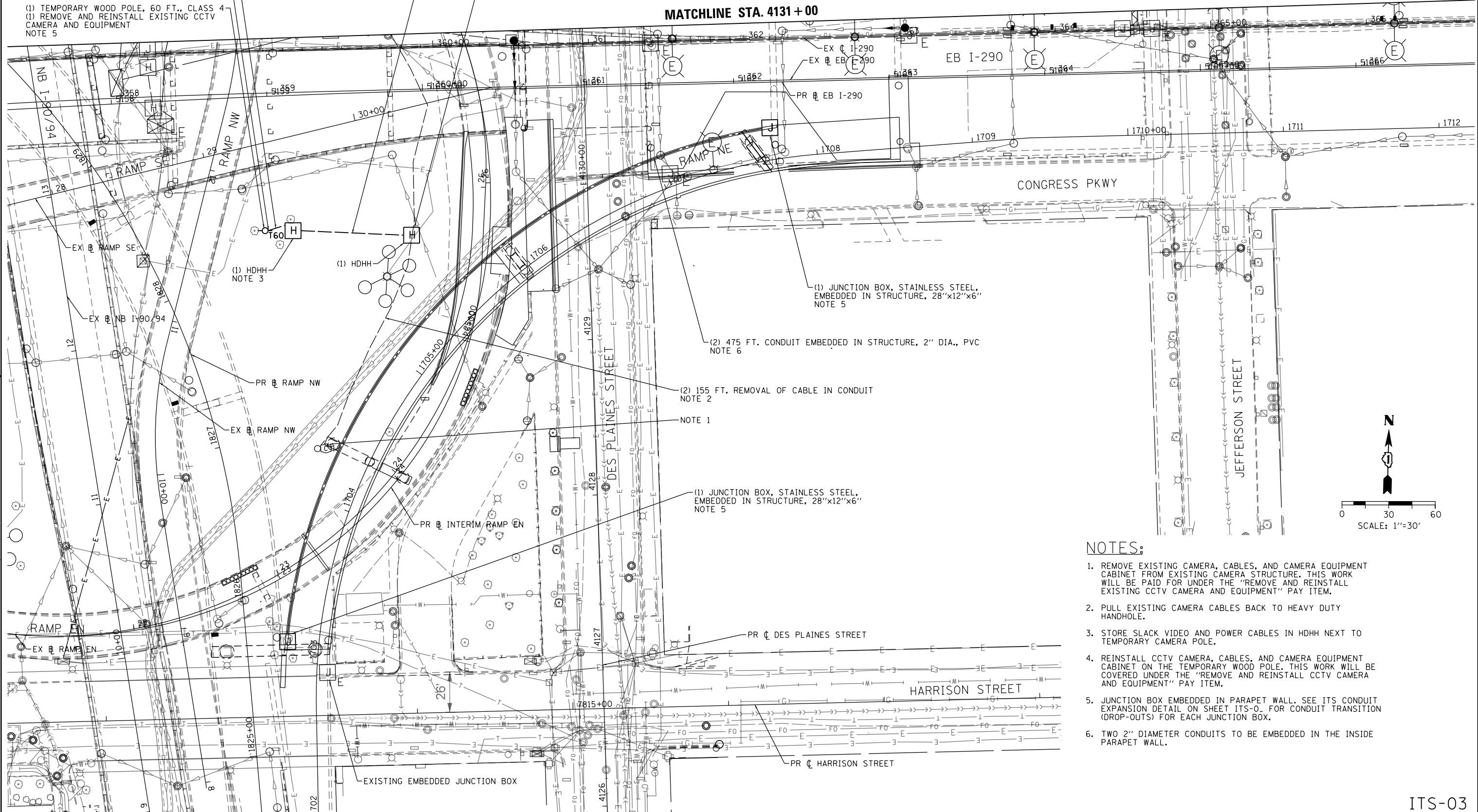
ILLINOIS FED. AID PROJECT

(2) 10 FT. CONDUIT ATTACHED TO STRUCTURE, 2" DIA., PVC COATED GALVANIZED STEEL  
 (2) 10 FT. REINSTALLATION OF CABLE IN CONDUIT  
 (1) 50 FT. CONDUIT ATTACHED TO STRUCTURE, 2" DIA., PVC COATED GALVANIZED STEEL  
 (1) TEMPORARY WOOD POLE, 60 FT., CLASS 4  
 (1) REMOVE AND REINSTALL EXISTING CCTV CAMERA AND EQUIPMENT  
 NOTE 5

(2) 81 FT. UNDERGROUND CONDUIT, PVC, 2" DIA.  
 (2) 81 FT. REINSTALLATION OF CABLE IN CONDUIT

(2) INTERCEPT EXISTING CONDUIT

MATCHLINE STA. 4131 + 00



**NOTES:**

1. REMOVE EXISTING CAMERA, CABLES, AND CAMERA EQUIPMENT CABINET FROM EXISTING CAMERA STRUCTURE. THIS WORK WILL BE PAID FOR UNDER THE "REMOVE AND REINSTALL EXISTING CCTV CAMERA AND EQUIPMENT" PAY ITEM.
2. PULL EXISTING CAMERA CABLES BACK TO HEAVY DUTY HANDHOLE.
3. STORE SLACK VIDEO AND POWER CABLES IN HDHH NEXT TO TEMPORARY CAMERA POLE.
4. REINSTALL CCTV CAMERA, CABLES, AND CAMERA EQUIPMENT CABINET ON THE TEMPORARY WOOD POLE. THIS WORK WILL BE COVERED UNDER THE "REMOVE AND REINSTALL CCTV CAMERA AND EQUIPMENT" PAY ITEM.
5. JUNCTION BOX EMBEDDED IN PARAPET WALL. SEE ITS CONDUIT EXPANSION DETAIL ON SHEET ITS-0. FOR CONDUIT TRANSITION (DROP-OUTS) FOR EACH JUNCTION BOX.
6. TWO 2" DIAMETER CONDUITS TO BE EMBEDDED IN THE INSIDE PARAPET WALL.

FILE PATH = p:\617479-P\INT\pccom\line\local\AECOM\_D592\_NA\Documents\01\_Americas\Tranporation\62876\Roadway\Sheets\62876\_Contract\012876-sh-175-03



D162876-sh-175-03  
 USER NAME = myersc  
 PLOT SCALE = 60.0000' / in.  
 PLOT DATE = 5/3/2016

DESIGNED - GWS	REVISED -
DRAWN - CAM	REVISED -
CHECKED - JDC	REVISED -
DATE - 5/6/2016	REVISED -

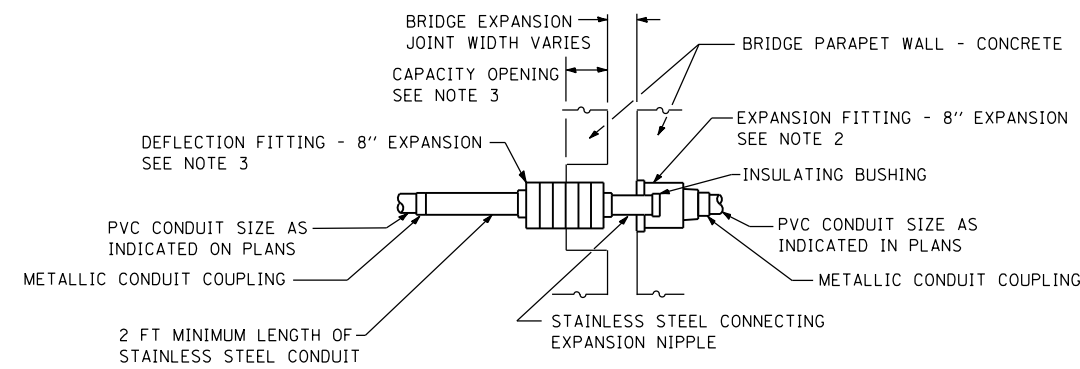
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED ITS PLAN  
 I-90 /94 RAMP NE**

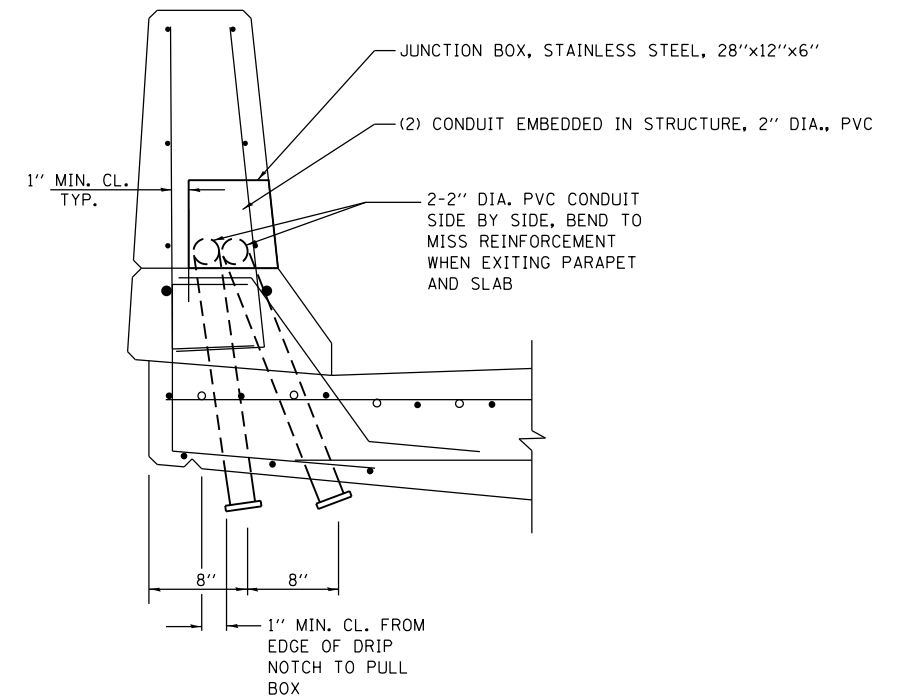
SCALE: 1"=30' SHEET 3 OF 4 SHEETS STA. - TO STA. 4131+00

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	138
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

ITS-03



**EXPANSION/DEFLECTION CONDUIT COUPLING DETAIL**  
NOTES 1 AND 6



**DROP-OUT AT PIER**

**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 ENGINEER. 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 TEMPERATURES SHALL BE COORDINATED WITH THE SELECTION AND INSTALLATION OF THE COUPLING TO ENSURE THE RANGE OF MOVEMENT OF THE COUPLING IS NOT EXCEEDED 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 METAL CONDUIT FOR ALL EXPANSION JOINTS. THIS SUBSTITUTION SHALL BE MADE AT NO ADDITIONAL COST TO THE DEPARTMENT.
8. EXPANSION/DEFLECTION COUPLINGS ARE INCIDENTAL TO THE COST OF THE CONDUIT.
9. CONDUIT DROP-OUTS AT PIERS ARE INCIDENTAL TO THE COST OF THE TYPE J EMBEDDED JUNCTION BOX.

FILE PATH = p:\61779-PMINT.docomonline\local\AECOM\0902\_NA\Documents\01\_Americas\T-engineering\station\60269938\_Circle\Phase\_11\000\_CAD\006\_Roadway\Sheets\62876\_Contract\0128276-sht-115-04



D162876-sht-115-04	DESIGNED - GWS	REVISED -
USER NAME = myersc	DRAWN - CAM	REVISED -
PLOT SCALE = 2.0000' / in.	CHECKED - JDG	REVISED -
PLOT DATE = 5/3/2016	DATE - 5/6/2016	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**ITS DETAILS - ITS CONDUIT EXPANSION DETAIL**

SCALE: N.T.S. SHEET 4 OF 4 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	139
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

ITS-04

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 X 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. 016-2451 was originally built in 1960 under section 01016-1P and F.A.I. Route Number 94 carries NB I-90/94 traffic to EB I-290.  
 The existing three (3) span structure has an overall length of approx. 180'-0" and out to out width of 29'-0". The existing superstructure consists of simple span wide flange beams with 7 1/2" thick concrete deck with 2" overlay. The existing substructure consists of reinforced concrete abutment and multi-columns piers. Existing substructure units are supported on caissons. The existing structure is to be removed and replaced.

Traffic Control: Ramp NE and Ramp EN will be closed during construction and traffic will be detoured via local roads.

No Salvage.

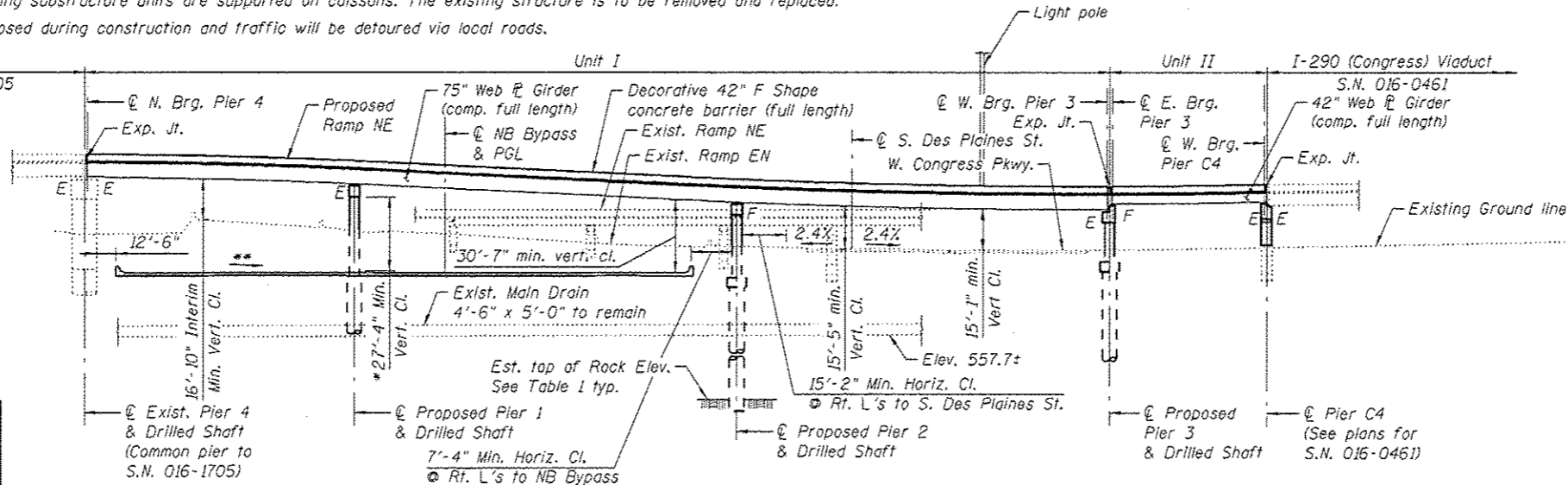
Notes:  
 1. Span lengths are measured along @ & PGL Ramp NE.  
 2. All piers are oriented perpendicular to @ & PGL unless noted otherwise.

**SCUPPER LOCATION**

Station	Offset
1704+13.94	6.0 Rt.
1705+82.94	6.0 Rt.
1707+14.54	6.0 Rt.
1707+27.34	6.0 Rt.
1707+40.14	6.0 Rt.

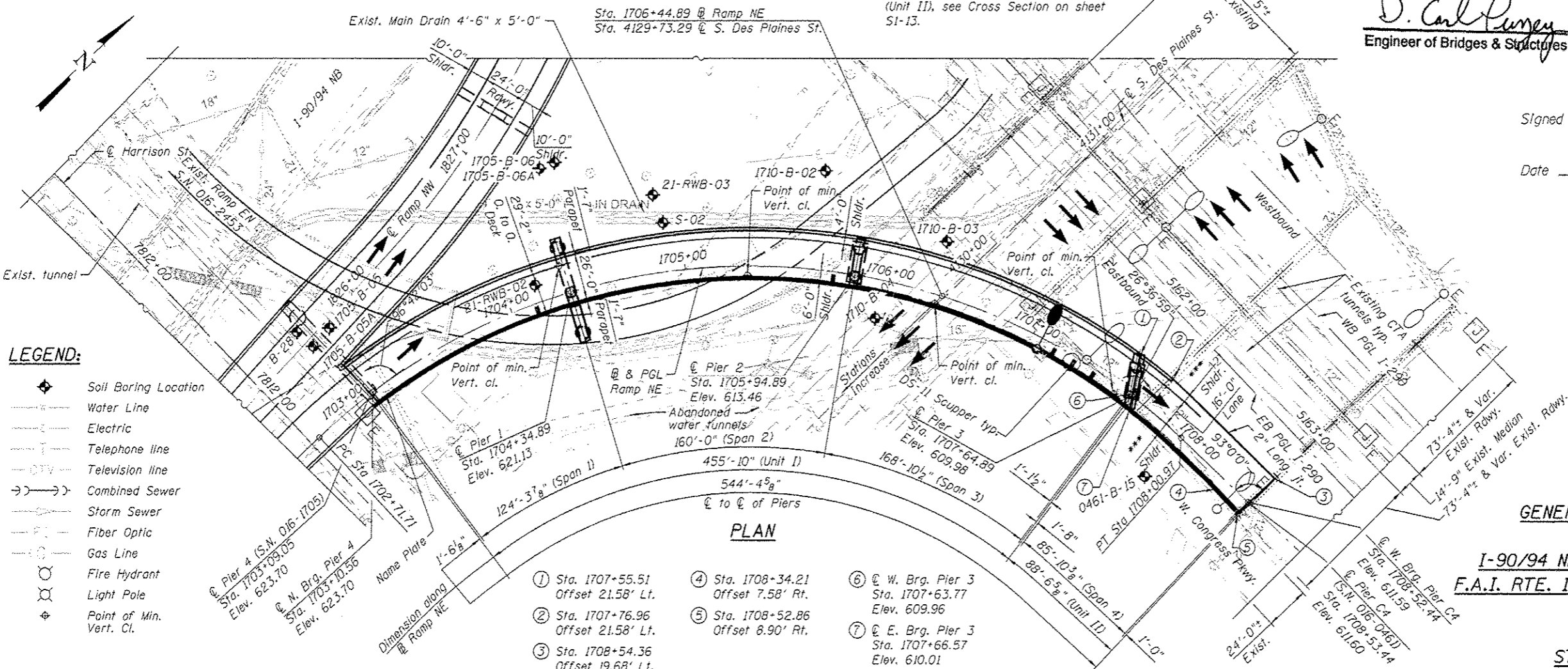
**TABLE 1**

Pier	Estimated T/Ground Elev.	Estimated T/Rock Elev.
1 W. Col.	594.55	490.0
1 E. Col.	597.16	490.0
2	588.35	485.5
3	587.55	488.9



**ELEVATION**

\* Vert. Cl. to the bottom of pier cap  
 \*\* For cross slope, see curve data on sheet S1-3.  
 \*\*\* For Out to Out Deck and Shoulder (Unit II), see Cross Section on sheet S1-13.



**PLAN**

- ① Sta. 1707+55.51  
Offset 21.58' Lt.
- ② Sta. 1707+76.96  
Offset 21.58' Lt.
- ③ Sta. 1708+54.36  
Offset 19.68' Lt.
- ④ Sta. 1708+34.21  
Offset 7.58' Rt.
- ⑤ Sta. 1708+52.86  
Offset 8.90' Rt.
- ⑥ @ W. Brg. Pier 3  
Sta. 1707+63.77  
Elev. 609.96
- ⑦ @ E. Brg. Pier 3  
Sta. 1707+66.57  
Elev. 610.01

**LEGEND:**

- ◆ Soil Boring Location
- Water Line
- Electric
- Telephone line
- Television line
- Combined Sewer
- Storm Sewer
- Fiber Optic
- Gas Line
- Fire Hydrant
- Light Pole
- ◆ Point of Min. Vert. Cl.

**DESIGN SPECIFICATIONS**

2014 AASHTO LRFD Bridge Design Specifications  
 7th Edition

**LOADING HL-93**

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

**DESIGN STRESSES**

**FIELD UNITS**

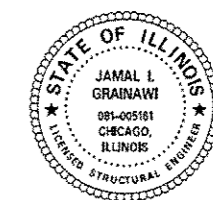
f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)  
 fy = 50,000 psi (M270 Grade 50)

**SEISMIC DATA**

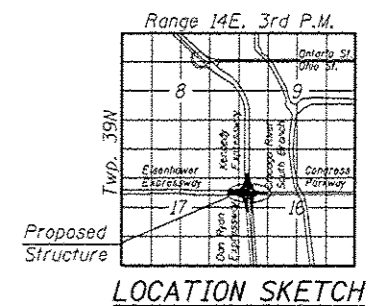
Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.085g  
 Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.144g  
 Soil Site Class = D

**APPROVED**  
 For Structural Adequacy Only

*D. Carl Pungey JFS*  
 Engineer of Bridges & Structures



Signed *Jamal I. Grainawi*  
 JAMAL I. GRAINAWI, S.E. II Lic. No. 081-005161  
 Expires 11-30-2016.  
 Date 4/28/2016



**GENERAL PLAN AND ELEVATION**  
**RAMP NE OVER**  
**I-90/94 NB BYPASS/S. DES PLAINES ST.**  
**F.A.I. RTE. I-90/94 - SECTION 2015-080 R&B**  
**COOK COUNTY**  
**STATION 1704+73.63**  
**STRUCTURE NO. 016-1710**

0161710-62B76-5001-DPE.dgn

**PARSONS BRINCKERHOFF**

USER NAME = l0p0zq0n2c0z  
 PLOT SCALE = N.T.S.  
 PLOT DATE = 5/6/2016

DESIGNED - IJL  
 CHECKED - MS  
 DRAWN - DCP  
 CHECKED - JIC

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET NO. S1-1 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
80/94/290	2015-080R&B	COOK	250	140

CONTRACT NO. 62B76  
 ILLINOIS FED. AID PROJECT

**GENERAL NOTES:**

- Fasteners shall be ASTM A325 Type I, mechanically galvanized bolts. Bolts 7/8" φ, holes 15/16" φ, unless otherwise noted.
- Calculated weight of Structural Steel = 947,980 lbs.
- All structural steel shall be AASHTO M270 Grade 50.
- All structural steel shall be metalized (thermal spraying) (see special provisions).
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8" (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete Sealer shall be applied to the designated areas of the Piers.
- Slipforming of the parapet is not allowed.
- 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.
- 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".
- 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.
- 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.
- Limited groundwater elevation data is available in the boring logs. In addition, groundwater may also be present in deeper granular layers. The groundwater may rise in the shafts to an elevation above the top of granular layers. The Contractor shall consider this information when choosing construction methods. The Contractor will not be compensated for issues related to the groundwater elevation.
- Temporary Soil Retention System shall be as per Std. Spec. Section 522.07 and as modified herein. Temporary Soil Retention System shall be installed without the use of impact-type pile drivers. The proposed equipment and procedures used for the installation of Temporary Soil Retention 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 Temporary Soil Retention System. No additional costs shall be paid for this effort.

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- S1-1 General Plan & Elevation
- S1-2 General Data
- S1-3 Curve Data & Geometric Layout
- S1-4 Substructure Layout
- S1-5 Temporary Soil Retention System Details
- S1-6 Top of Slab Elevation Plan - Unit I
- S1-7 Top of Slab Elevation I - Unit I
- S1-8 Top of Slab Elevation II - Unit I
- S1-9 Top of Slab Elevation Plan - Unit II
- S1-10 Top of Slab Elevation - Unit II
- S1-11 Deck Plan I - Unit I
- S1-12 Deck Plan II - Unit I
- S1-13 Deck Plan III - Unit II
- S1-14 Deck Details I - Unit I
- S1-15 Deck Details II - Unit II
- S1-16 Deck Details III
- S1-17 Deck Details IV
- S1-18 Drainage Scupper Details, DS-II
- S1-19 Drainage System Details
- S1-20 Modular Expansion Joint - Pier 4
- S1-21 Modular Expansion Joint Details
- S1-22 Preformed Joint Strip Seal - Piers 3 & C4
- S1-23 Framing Plan - Unit I
- S1-24 Superstructure Steel Details I - Unit I
- S1-25 Superstructure Steel Details II - Unit I
- S1-26 Superstructure Steel Details III - Unit I
- S1-27 Superstructure Steel Details IV - Unit I
- S1-28 Superstructure Steel Details V - Unit I
- S1-29 Superstructure Steel Details VI - Unit I
- S1-30 Framing Plan - Unit II
- S1-31 Superstructure Steel Details I - Unit II
- S1-32 Superstructure Steel Details II - Unit II
- S1-33 Bearing Layout - Unit I
- S1-34 Bearing Details I - Unit I
- S1-35 Bearing Details II - Unit I
- S1-36 Bearing Details III - Unit I
- S1-37 Bearing Details I - Unit II
- S1-38 Pier 1
- S1-39 Pier 1 Details
- S1-40 Pier 2
- S1-41 Pier 2 Details
- S1-42 Pier 3
- S1-43 Pier 3 Details
- S1-44 Architectural Details I
- S1-45 Architectural Details II
- S1-46 Boring Logs I
- S1-47 Boring Logs II
- S1-48 Boring Logs III
- S1-49 Boring Logs IV
- S1-50 Boring Logs V
- S1-51 Boring Logs VI
- S1-52 Boring Logs VII
- S1-53 Boring Logs VIII

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.	-	602	602
Concrete Structures	Cu. Yd.	-	309.4	309.4
Concrete Superstructure	Cu. Yd.	569.9	-	569.9
Bridge Deck Grooving	Sq. Yd.	1,503	-	1,503
Form Liner Textured Surface	Sq. Ft.	-	968	968
Rubbed Finish	Sq. Ft.	-	3,113	3,113
Protective Coat	Sq. Yd.	1,859	-	1,859
Furnishing and Erecting Structural Steel	L. Sum	0.9	-	0.9
Stud Shear Connectors	Each	4,998	-	4,998
Reinforcement Bars	Pound	-	131,120	131,120
Reinforcement Bars, Epoxy Coated	Pound	161,370	71,970	233,340
Name Plates		1	-	1
Drilled Shaft in Soil	Cu. Yd.	-	592.6	592.6
Drilled Shaft in Rock	Cu. Yd.	-	10.9	10.9
Preformed Joint Strip Seal	Foot	62	-	62
Elastomeric Bearing Assembly, Type I	Each	-	4	4
Anchor Bolts, 1"	Each	-	48	48
Anchor Bolts, 1 1/4"	Each	-	32	32
Temporary Soil Retention System	Sq. Ft.	-	2,667	2,667
Concrete Sealer	Sq. Ft.	-	4,320	4,320
Crosshole Sonic Logging	Each	-	4	4
Bar Splicers, Special	Each	-	22	22
High Load Multi-Rotational Bearings, Guided Expansion, 250k	Each	4	-	4
High Load Multi-Rotational Bearings, Guided Expansion, 400k	Each	4	-	4
High Load Multi-Rotational Bearings, Guided Expansion, 450k	Each	4	-	4
High Load Multi-Rotational Bearings, Fixed - 600k	Each	4	-	4
Drainage Scuppers, DS-II	Each	5	-	5
Drainage System	L. Sum	0.5	-	0.5
Modular Expansion Joint-Swivel 9"	Foot	28	-	28

STATION 1704+73.63  
SECTION 2015-080R&B  
BUILT BY  
STATE OF ILLINOIS  
F.A.I. ROUTE 90/94  
LOADING HL-93  
STRUCTURE NO. 016-1710

**NAME PLATE**  
See Std. 515001

0161710-62B76-S002-1NX.dgn

<b>PARSONS BRINCKERHOFF</b>	USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL DATA STRUCTURE NO. 016-1710</b>	F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 141
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -			CONTRACT NO. 62B76				
	PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -	SHEET NO. S1-2 OF S1-53 SHEETS		ILLINOIS FED. AID PROJECT				

**CURVE DATA**

(Ramp NE)  
 PROP. CURVE P-CIR-NE-1  
 P.I. Sta. = 1706+01.77  
 $\Delta = 86^\circ 38' 23''$  (RT.)  
 D = 16° 22' 13"  
 R = 350.00'  
 T = 330.05'  
 L = 529.25'  
 E = 131.08'  
 e = 5.60%  
 T.R. = 48'  
 S.E. Run = 136'  
 P.C. Sta. = 1702+71.71  
 P.T. Sta. = 1708+00.97  
 DS = 30  
 PS = 30

**CURVE DATA**

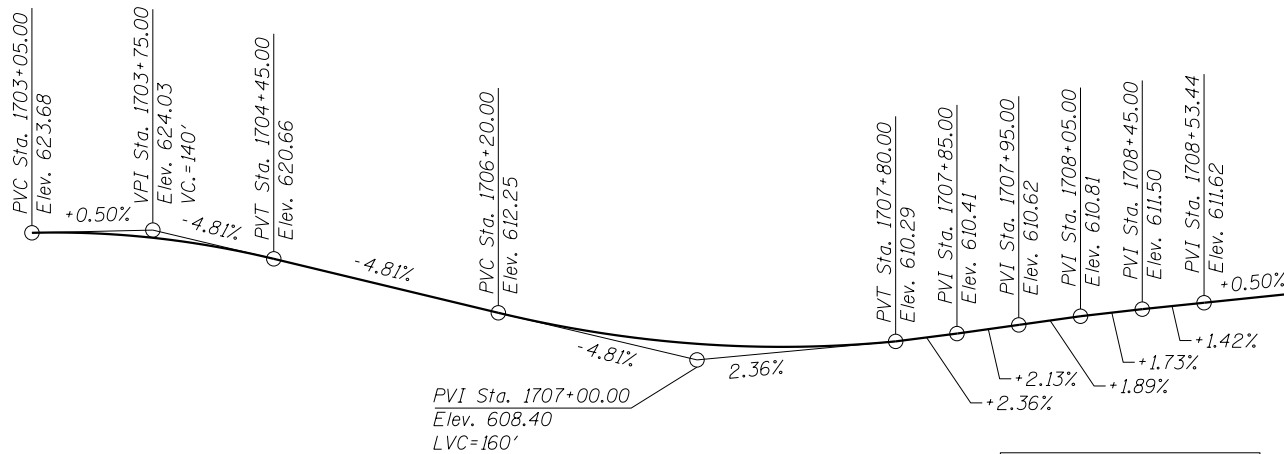
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 PROP. CURVE P-NCD-NX-2  
 PI STA. = 6323+25.02  
 $\Delta = 8^\circ 04' 05''$  (RT)  
 D = 7° 17' 22"  
 R = 786.00'  
 T = 55.43'  
 L = 110.68'  
 E = 1.95'  
 e = 5.20%  
 T.R. = NA  
 S.E. RUN = 101'  
 P.C. STA. = 6322+69.59  
 P.T. STA. = 6323+80.27  
 DS = 35  
 PS = 30

**CURVE DATA**

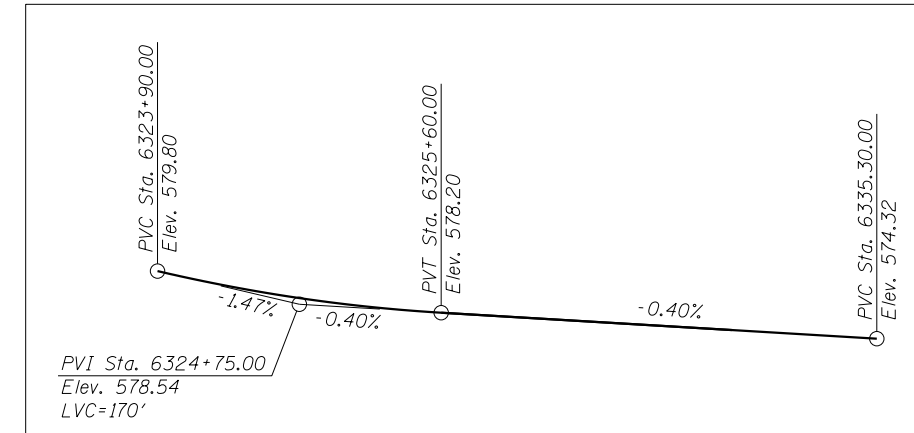
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 PI STA. = 6324+41.27  
 $\Delta = 20^\circ 56' 44''$  (RT)  
 D = 17° 21' 44"  
 R = 330.00'  
 T = 61.00'  
 L = 120.64'  
 E = 5.59'  
 e = 5.20%  
 T.R. = NA  
 S.E. RUN = 95'  
 P.C. STA. = 6323+80.27  
 P.T. STA. = 6325+00.91  
 DS = 30  
 PS = 30

**CURVE DATA**

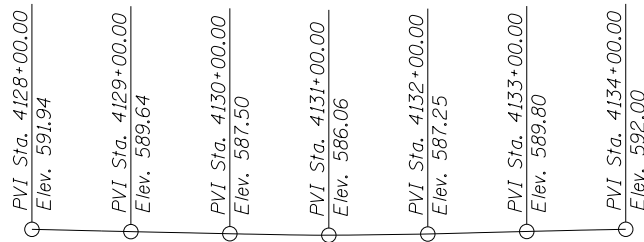
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 $\Delta = 59^\circ 05' 41''$  (LT)  
 D = 14° 08' 50"  
 R = 405.00'  
 T = 229.58'  
 L = 417.72'  
 E = 60.54'  
 e = 5.40%  
 T.R. = 36'  
 S.E. RUN = 98'  
 P.C. STA. = 6326+47.20  
 P.T. STA. = 6330+64.91  
 DS = 30  
 PS = 30



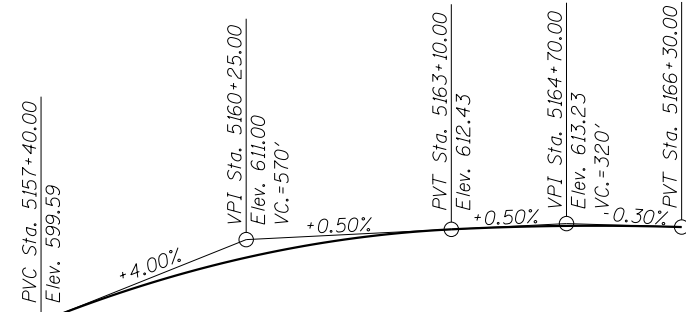
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 (Along Ramp NE)



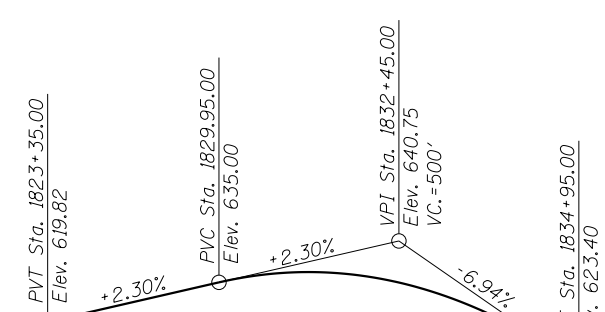
**PROFILE GRADE**  
 (Along NB Bypass)



**EXISTING PROFILE GRADE**  
 (Along S. Des Plaines St.)

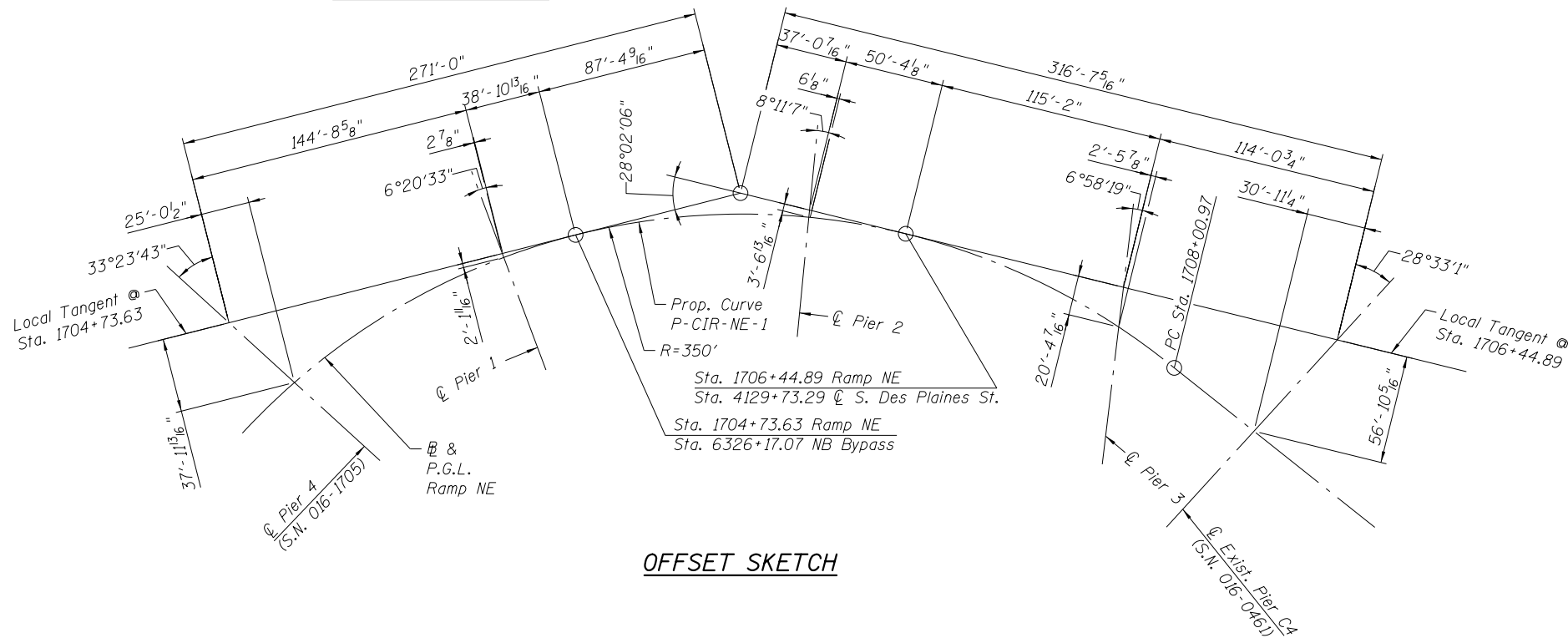


**PROFILE GRADE**  
 (Along EB I-290 (Congress))



**PROFILE GRADE**  
 (Along Ramp NW)

For information only,  
 part of future contract



**OFFSET SKETCH**

0161710-62B76-S003-DET.dgn

**PARSONS  
 BRINCKERHOFF**

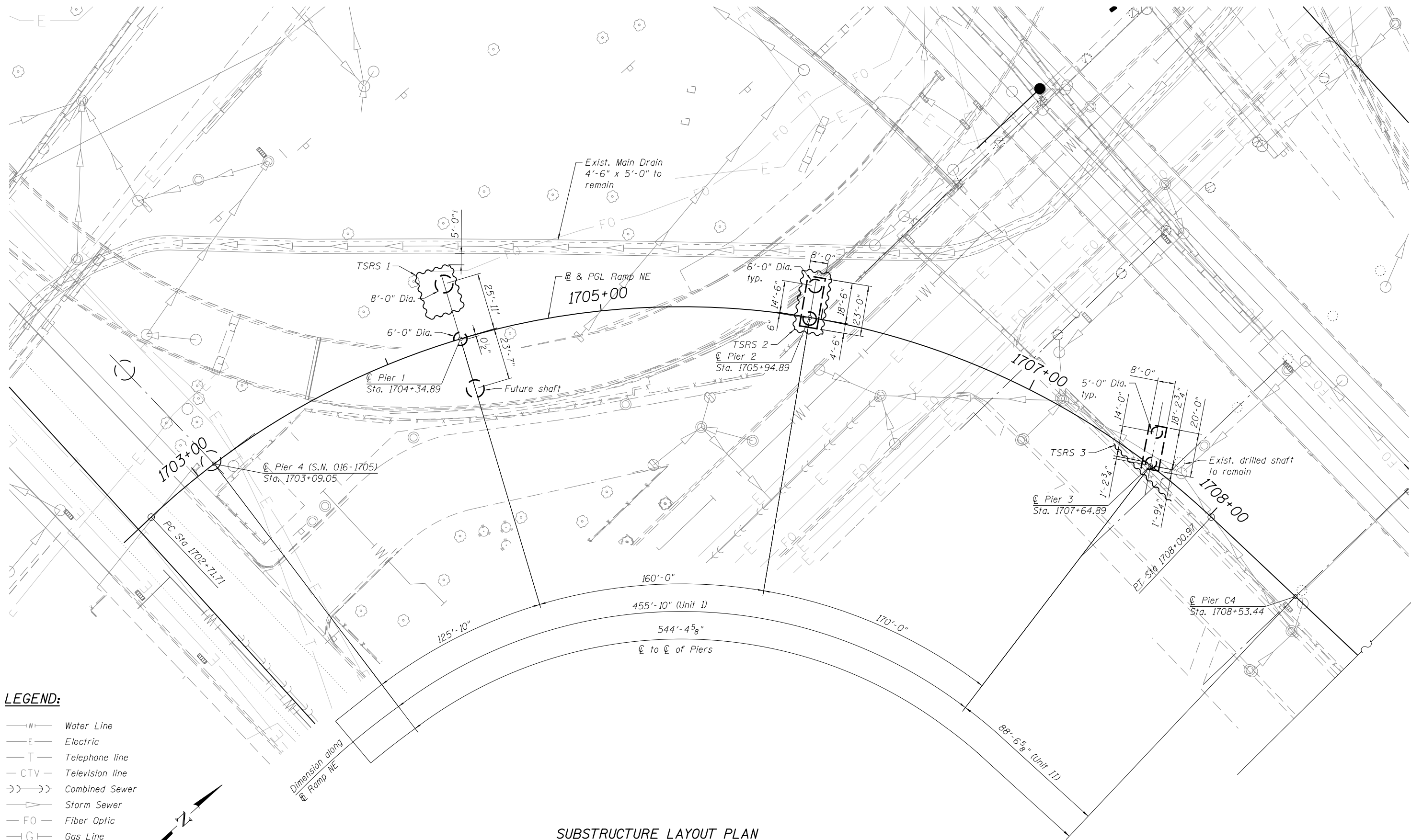
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PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**CURVE DATA & GEOMETRIC LAYOUT  
 STRUCTURE NO. 016-1710**

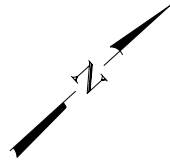
SHEET NO. S1-3 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	142
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**LEGEND:**

- W— Water Line
- E— Electric
- T— Telephone line
- CTV— Television line
- Combined Sewer
- S— Storm Sewer
- FO— Fiber Optic
- G— Gas Line
- Fire Hydrant
- Light Pole



**SUBSTRUCTURE LAYOUT PLAN**

Notes:  
1. For Temporary Soil Retention System limits, See sheet S1-05.

0161710-62B76-S004-LAY.dgn

**PARSONS  
BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - JZ	REVISED -
PLLOT SCALE = N.T.S.	CHECKED - AH	REVISED -
PLLOT DATE = 5/6/2016	DRAWN - JZ	REVISED -
	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

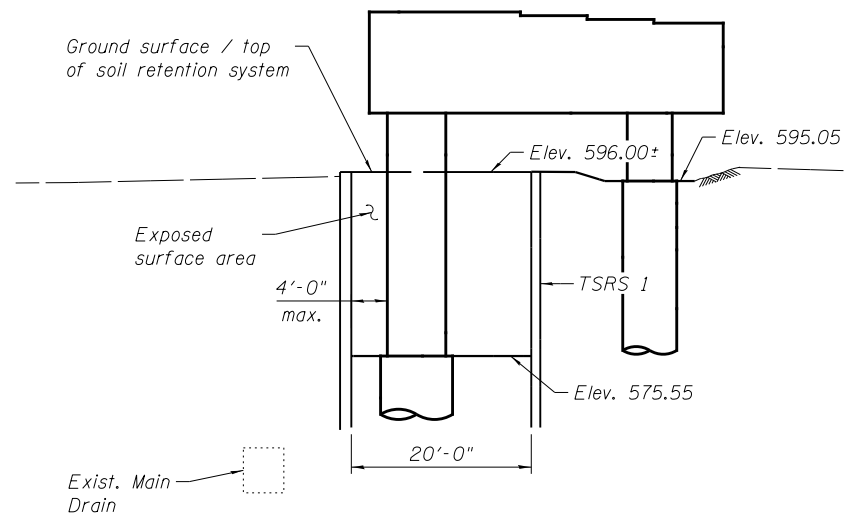
**SUBSTRUCTURE LAYOUT  
STRUCTURE NO. 016-1710**

SHEET NO. S1-4 OF S1-53 SHEETS

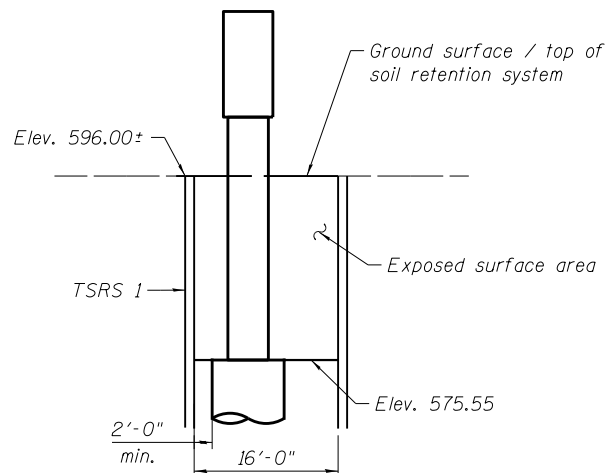
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	143
CONTRACT NO. 62B76				

ILLINOIS FED. AID PROJECT

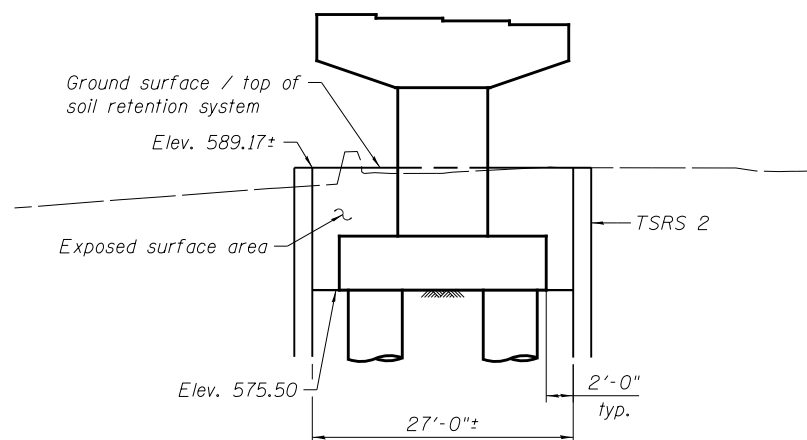




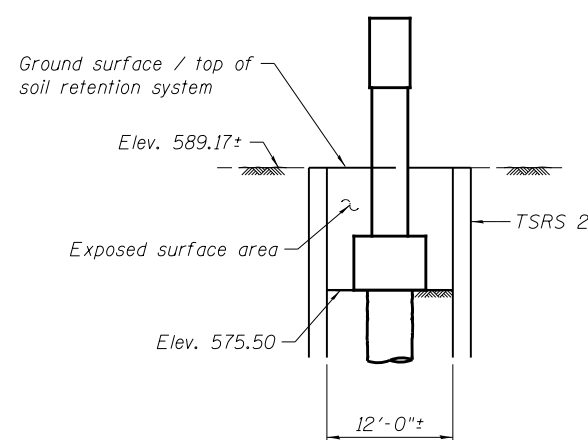
**ELEVATION - PIER 1**



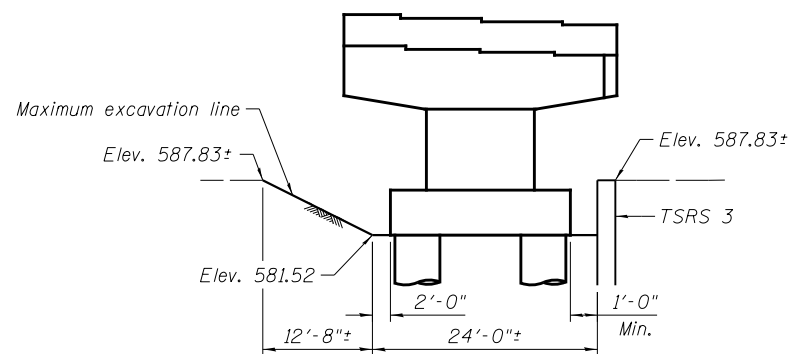
**END VIEW - PIER 1**  
(Looking East)



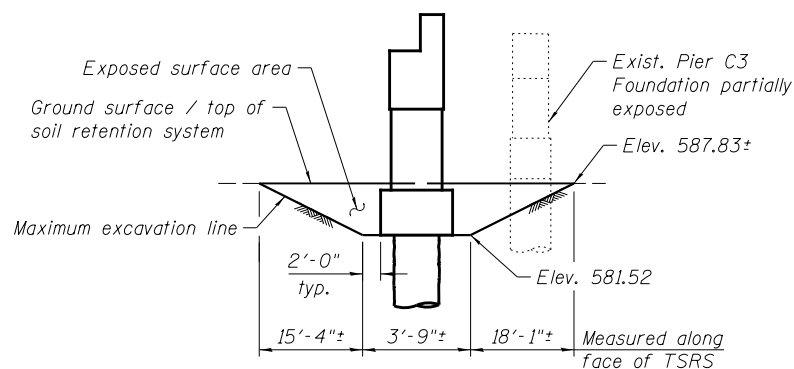
**ELEVATION - PIER 2**



**END VIEW - PIER 2**



**ELEVATION - PIER 3**



**END VIEW - PIER 3**

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	2,667

**Notes:**

1. Impact driving of piles and temporary sheet piling is not allowed.
2. The maximum allowable excavation slope is 1:2 (V:H)
3. 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.
4. The Contractor shall take precautions to protect existing utilities and foundations during construction of the bridge. The utilities were located based on SUE and utility supplier information available at design.

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**PARSONS  
BRINCKERHOFF**

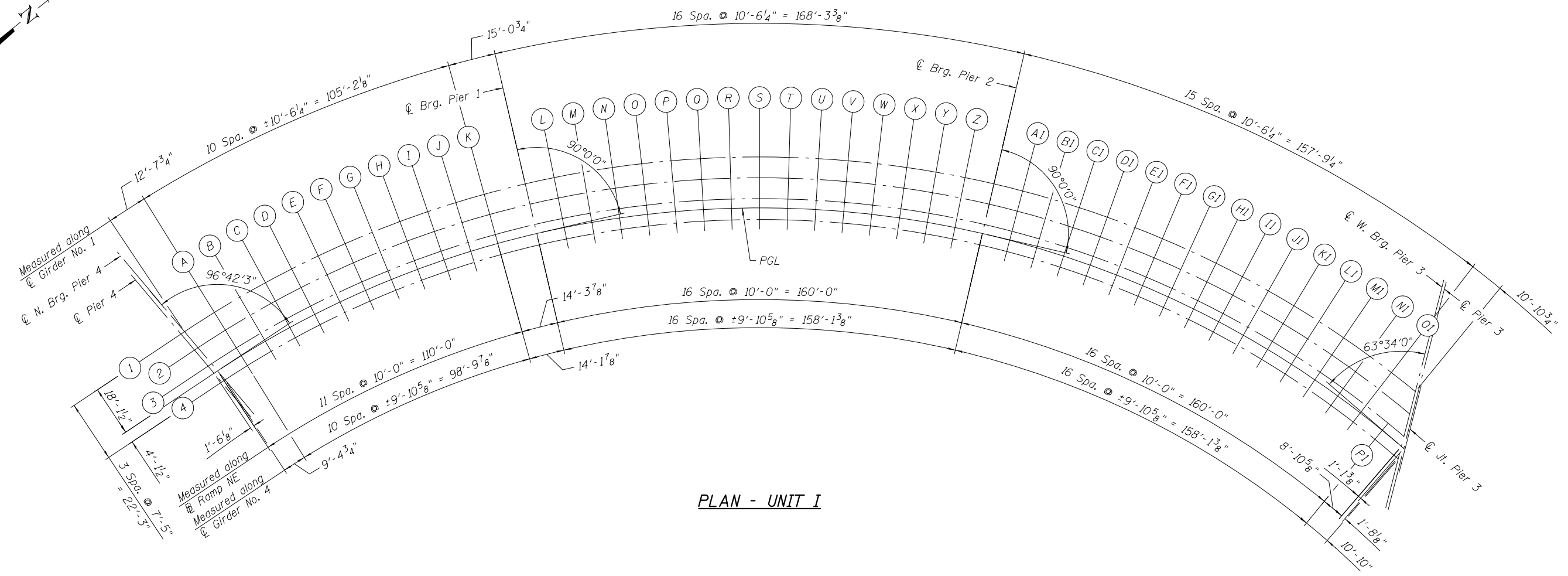
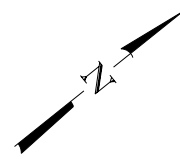
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	CHECKED - AH	REVISED -
PLOT SCALE = N.T.S.	DRAWN - JZ	REVISED -
PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

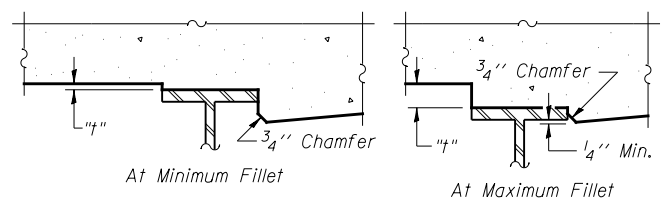
**TEMPORARY SOIL RETENTION SYSTEM DETAILS  
STRUCTURE NO. 016-1710**

SHEET NO. S1-5 OF S1-53 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	144
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				

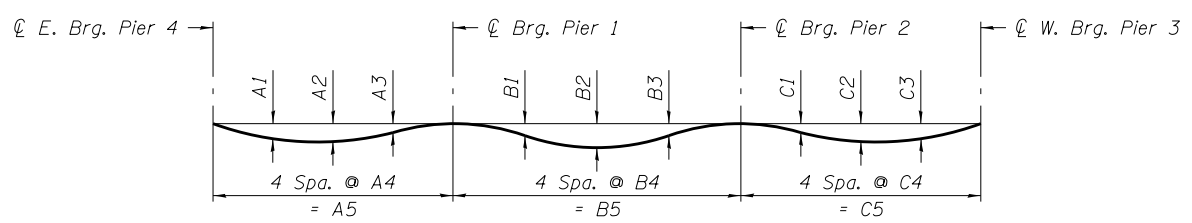


PLAN - UNIT I



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals in tables, see sheet S1-7 thru S1-8. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note:  
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in tables, see sheet S1-7 & S1-8.

Girder No.	Span 1					Span 2					Span 3				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5
1	2 1/4"	2 3/4"	1 5/8"	+33'-2 5/8"	132'-10 5/8"	-7/8"	-1 1/4"	-1 1/4"	+42'-0 7/8"	168'-3 3/8"	3 1/4"	5 5/8"	4 3/8"	42'-2"	168'-8"
2	1 5/8"	2"	1 1/8"	+32'-4 1/8"	129'-4 5/8"	-1/2"	-5/8"	-3/4"	+41'-2 5/8"	164'-10 3/4"	2 1/2"	4 1/4"	3 1/4"	42'-2 1/4"	168'-9"
3	1 1/8"	1 3/8"	3/4"	31'-5 5/8"	125'-10 1/2"	-1/8"	-1/8"	-1/4"	40'-4 1/2"	161'-6"	1 3/4"	2 7/8"	2 1/8"	42'-2 1/2"	168'-10"
4	5/8"	3/4"	3/8"	30'-7 1/8"	122'-4 1/2"	1/4"	1/2"	1/4"	+39'-6 3/8"	158'-1 3/8"	7/8"	1 5/8"	1 1/4"	+42'-2 7/8"	168'-11 3/8"

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**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez  
DESIGNED - P.J.L.  
CHECKED - I.J.L.  
PLOT SCALE = N.T.S.  
DRAWN - P.J.L.  
PLOT DATE = 5/6/2016  
CHECKED - J.I.G.

REVISED -  
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REVISED -  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATION PLAN - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-6 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	145
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 4	1703+09.05	0.00	623.70	623.70
CL. E.Brg. Pier 4	1703+10.56	0.00	623.70	623.70
A	1703+20.56	0.00	623.71	623.74
B	1703+30.56	0.00	623.68	623.74
C	1703+40.56	0.00	623.62	623.71
D	1703+50.56	0.00	623.51	623.61
E	1703+60.56	0.00	623.37	623.48
F	1703+70.56	0.00	623.19	623.31
G	1703+80.56	0.00	622.98	623.08
H	1703+90.56	0.00	622.72	622.81
I	1704+00.56	0.00	622.43	622.50
J	1704+10.56	0.00	622.09	622.15
K	1704+20.56	0.00	621.73	621.76
CL. Brg. Pier 1	1704+34.89	0.00	621.13	621.13
L	1704+44.89	0.00	620.67	620.67
M	1704+54.89	0.00	620.19	620.18
N	1704+64.89	0.00	619.71	619.70
O	1704+74.89	0.00	619.23	619.22
P	1704+84.89	0.00	618.75	618.74
Q	1704+94.89	0.00	618.27	618.26
R	1705+04.89	0.00	617.78	617.77
S	1705+14.89	0.00	617.30	617.29
T	1705+24.89	0.00	616.82	616.81
U	1705+34.89	0.00	616.34	616.33
V	1705+44.89	0.00	615.86	615.84
W	1705+54.89	0.00	615.38	615.36
X	1705+64.89	0.00	614.90	614.88
Y	1705+74.89	0.00	614.42	614.41
Z	1705+84.89	0.00	613.94	613.93
CL. Brg. Pier 2	1705+94.89	0.00	613.46	613.46
A1	1706+04.89	0.00	612.97	613.01
B1	1706+14.89	0.00	612.49	612.56
C1	1706+24.89	0.00	612.02	612.12
D1	1706+34.89	0.00	611.58	611.72
E1	1706+44.89	0.00	611.19	611.35
F1	1706+54.89	0.00	610.84	611.03
G1	1706+64.89	0.00	610.54	610.75
H1	1706+74.89	0.00	610.28	610.51
I1	1706+84.89	0.00	610.07	610.30
J1	1706+94.89	0.00	609.90	610.12
K1	1707+04.89	0.00	609.78	609.98
L1	1707+14.89	0.00	609.70	609.89
M1	1707+24.89	0.00	609.67	609.83
N1	1707+34.89	0.00	609.68	609.80
O1	1707+44.89	0.00	609.74	609.81
P1	1707+54.89	0.00	609.84	609.87
CL. W.Brg. Pier 3	1707+63.77	0.00	609.96	609.96
CL. Pier 3	1707+64.89	0.00	609.98	609.98
CL. Jt. Pier 3	1707+65.45	0.00	609.99	609.99

**GIRDER NO. 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 4	1703+09.54	4.13	623.48	623.48
CL. E.Brg. Pier 4	1703+11.05	4.13	623.48	623.48
A	1703+20.56	4.13	623.48	623.50
B	1703+30.56	4.13	623.45	623.49
C	1703+40.56	4.13	623.39	623.44
D	1703+50.56	4.13	623.28	623.34
E	1703+60.56	4.13	623.14	623.20
F	1703+70.56	4.13	622.96	623.02
G	1703+80.56	4.13	622.74	622.80
H	1703+90.56	4.13	622.49	622.53
I	1704+00.56	4.13	622.20	622.23
J	1704+10.56	4.13	621.86	621.89
K	1704+20.56	4.13	621.49	621.51
CL. Brg. Pier 1	1704+34.89	4.13	620.90	620.90
L	1704+44.89	4.13	620.44	620.44
M	1704+54.89	4.13	619.96	619.97
N	1704+64.89	4.13	619.48	619.49
O	1704+74.89	4.13	619.00	619.02
P	1704+84.89	4.13	618.52	618.54
Q	1704+94.89	4.13	618.03	618.07
R	1705+04.89	4.13	617.55	617.59
S	1705+14.89	4.13	617.07	617.11
T	1705+24.89	4.13	616.59	616.63
U	1705+34.89	4.13	616.11	616.14
V	1705+44.89	4.13	615.63	615.66
W	1705+54.89	4.13	615.15	615.17
X	1705+64.89	4.13	614.67	614.68
Y	1705+74.89	4.13	614.19	614.20
Z	1705+84.89	4.13	613.71	613.71
CL. Brg. Pier 2	1705+94.89	4.13	613.22	613.22
A1	1706+04.89	4.13	612.74	612.76
B1	1706+14.89	4.13	612.26	612.30
C1	1706+24.89	4.13	611.79	611.84
D1	1706+34.89	4.13	611.35	611.42
E1	1706+44.89	4.13	610.96	611.04
F1	1706+54.89	4.13	610.61	610.71
G1	1706+64.89	4.13	610.31	610.42
H1	1706+74.89	4.13	610.05	610.18
I1	1706+84.89	4.13	609.84	609.97
J1	1706+94.89	4.13	609.67	609.80
K1	1707+04.89	4.13	609.55	609.66
L1	1707+14.89	4.13	609.47	609.58
M1	1707+24.89	4.13	609.44	609.53
N1	1707+34.89	4.13	609.45	609.52
O1	1707+44.89	4.13	609.50	609.55
P1	1707+54.89	4.13	609.61	609.63
CL. W.Brg. Pier 3	1707+65.85	4.13	609.79	609.79
CL. Pier 3	1707+66.98	4.13	609.81	609.81
CL. Jt. Pier 3	1707+67.55	4.13	609.82	609.82

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**PARSONS  
BRINCKERHOFF**

USER NAME =	lopezgonzalez	DESIGNED -	PJL	REVISED -	
		CHECKED -	IJL	REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	PJL	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS II - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-8 OF S1-53 SHEETS

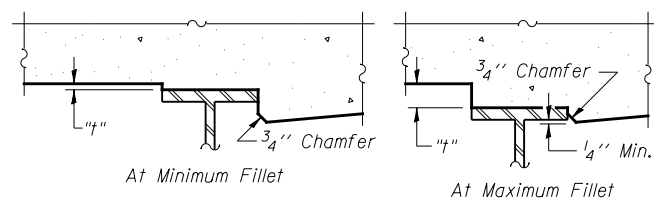
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	147
			CONTRACT NO. 62B76	
			ILLINOIS FED. AID PROJECT	

**GIRDER NO. 1**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 3	1707+55.34	-20.30	610.98	610.98
CL. Jt. Pier 3	1707+55.89	-20.22	610.98	610.98
CL. E.Brg. Pier 3	1707+57.01	-20.07	610.98	610.98
P1	1707+66.57	-18.94	610.99	611.07
Q1	1707+76.57	-18.05	611.07	611.24
R1	1707+86.57	-17.47	611.20	611.44
S1	1707+96.57	-17.18	611.33	611.60
T1	1708+06.57	-17.16	611.45	611.74
U1	1708+16.57	-17.16	611.56	611.82
V1	1708+26.57	-17.16	611.66	611.89
W1	1708+36.57	-17.16	611.77	611.92
X1	1708+46.57	-17.16	611.87	611.93
CL. W.Brg. Pier C4	1708+53.33	-17.16	611.96	611.96
CL. Pier C4	1708+54.34	-17.16	611.98	611.98

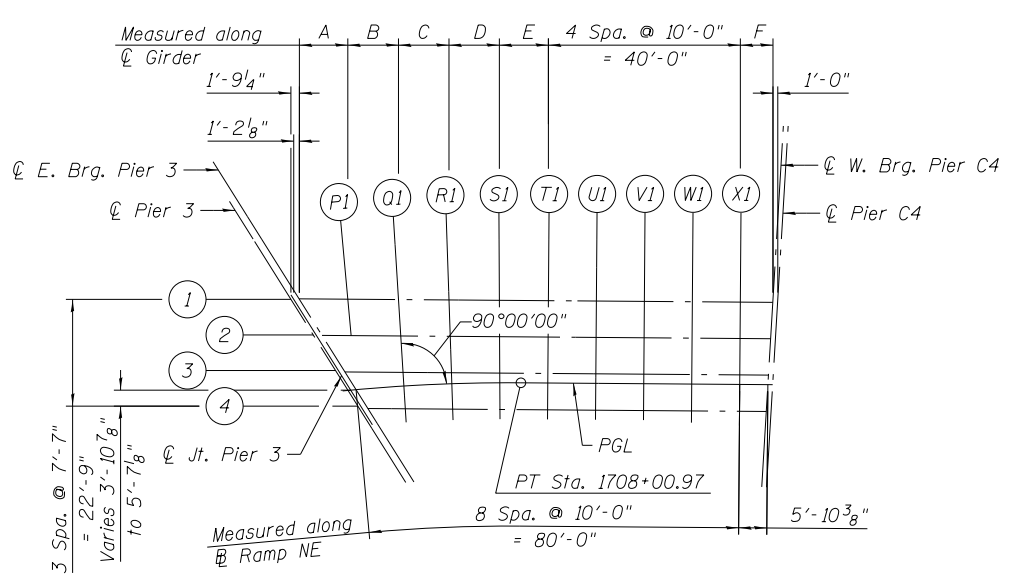
**GIRDER NO. 2**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 3	1707+59.02	-12.17	610.56	610.56
CL. Jt. Pier 3	1707+59.59	-12.10	610.56	610.56
CL. E.Brg. Pier 3	1707+60.73	-11.96	610.56	610.56
P1	1707+66.57	-11.36	610.60	610.64
Q1	1707+76.57	-10.45	610.70	610.83
R1	1707+86.57	-9.88	610.87	611.06
S1	1707+96.57	-9.60	611.03	611.24
T1	1708+06.57	-9.57	611.17	611.42
U1	1708+16.57	-9.57	611.30	611.52
V1	1708+26.57	-9.57	611.44	611.62
W1	1708+36.57	-9.57	611.57	611.69
X1	1708+46.57	-9.57	611.70	611.75
CL. W.Brg. Pier C4	1708+52.94	-9.57	611.79	611.79
CL. Pier C4	1708+53.94	-9.57	611.80	611.80

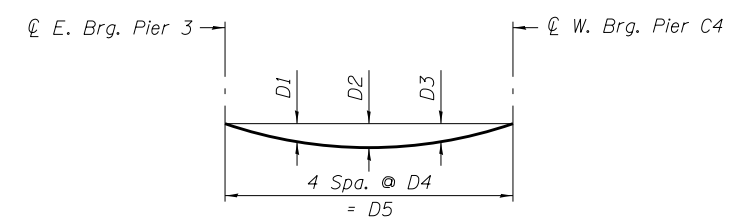


To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals in tables, see this sheet & sheet S1-10. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

**FILLET HEIGHTS**



**PLAN - UNIT II**



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of concrete only.)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown in tables, see this sheet & sheet S1-10.

Girder No.	Span 4					
	A	B	C	D	E	F
1	10'-1 7/8"	10'-6 3/4"	10'-6 1/4"	10'-6"	10'-2 5/8"	6'-9 1/4"
2	6'-0 7/8"	10'-4 1/8"	10'-3 5/8"	10'-3 3/8"	10'-1 1/2"	6'-4 3/8"
3	-	12'-1 3/8"	10'-1"	10'-0 3/4"	10'-0 1/4"	5'-11 5/8"
4	-	7'-9 5/8"	9'-10 1/2"	9'-10 1/8"	9'-11 1/8"	5'-6 7/8"

Girder No.	Span 4				
	D1	D2	D3	D4	D5
1	2 1/2"	3 5/8"	2 5/8"	+20'-9 1/4"	83'-0 3/4"
2	2 1/8"	3"	2 1/8"	+22'-0 3/4"	88'-3 1/4"
3	1 5/8"	2 1/4"	1 5/8"	+23'-4 1/2"	93'-5 3/4"
4	1 1/8"	1 5/8"	1 1/8"	+24'-8 1/8"	98'-8 3/8"

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**PARSONS BRINCKERHOFF**

USER NAME =	lopezgonzalez	DESIGNED -	PJL	REVISED -	
		CHECKED -	IJL	REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	PJL	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATION PLAN - UNIT II  
STRUCTURE NO. 016-1710**

SHEET NO. S1-9 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	148
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

**GIRDER NO. 3**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 3	1707+62.87	-4.08	610.17	610.17
CL. Jt. Pier 3	1707+63.45	-4.02	610.17	610.17
CL. E.Brg. Pier 3	1707+64.62	-3.90	610.18	610.18
P1	-	-	-	-
Q1	1707+76.57	-2.85	610.34	610.42
R1	1707+86.57	-2.29	610.54	610.68
S1	1707+96.57	-2.02	610.73	610.89
T1	1708+06.57	-1.99	610.91	611.09
U1	1708+16.57	-1.99	611.07	611.24
V1	1708+26.57	-1.99	611.24	611.38
W1	1708+36.57	-1.99	611.40	611.50
X1	1708+46.57	-1.99	611.56	611.60
CL. W.Brg. Pier C4	1708+52.54	-1.99	611.64	611.64
CL. Pier C4	1708+53.44	-1.99	611.66	611.66

**PROFILE GRADE LINE**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 3	1707+64.89	0.00	609.98	609.98
CL. Jt. Pier 3	1707+65.45	0.00	609.99	609.99
CL. E.Brg. Pier 3	1707+66.57	0.00	610.01	610.01
P1	-	-	-	-
Q1	1707+76.57	0.00	610.21	610.28
R1	1707+86.57	0.00	610.44	610.58
S1	1707+96.57	0.00	610.65	610.81
T1	1708+06.57	0.00	610.84	611.02
U1	1708+16.57	0.00	611.01	611.18
V1	1708+26.57	0.00	611.18	611.33
W1	1708+36.57	0.00	611.35	611.45
X1	1708+46.57	0.00	611.52	611.56
CL. W.Brg. Pier C4	1708+52.43	0.00	611.61	611.61
CL. Pier C4	1708+53.44	0.00	611.62	611.62

**GIRDER NO. 4**

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
CL. Pier 3	1707+66.90	3.96	609.81	609.81
CL. Jt. Pier 3	1707+67.49	4.01	609.82	609.82
CL. E.Brg. Pier 3	1707+68.69	4.12	609.84	609.84
P1	-	-	-	-
Q1	1707+76.57	4.76	609.98	610.02
R1	1707+86.57	5.30	610.21	610.29
S1	1707+96.57	5.57	610.43	610.54
T1	1708+06.57	5.59	610.64	610.77
U1	1708+16.57	5.59	610.84	610.96
V1	1708+26.57	5.59	611.03	611.14
W1	1708+36.57	5.59	611.23	611.30
X1	1708+46.57	5.59	611.42	611.44
CL. W.Brg. Pier C4	1708+52.14	5.59	611.50	611.50
CL. Pier C4	1708+53.14	5.59	611.52	611.52

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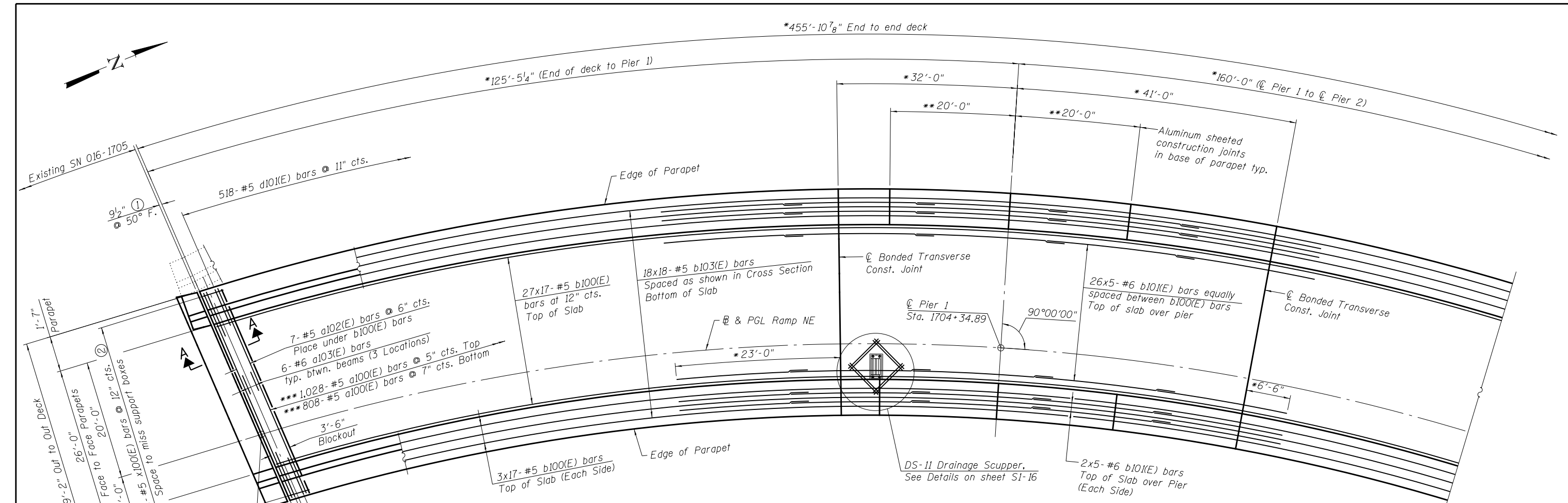
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PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATIONS - UNIT II  
STRUCTURE NO. 016-1710**

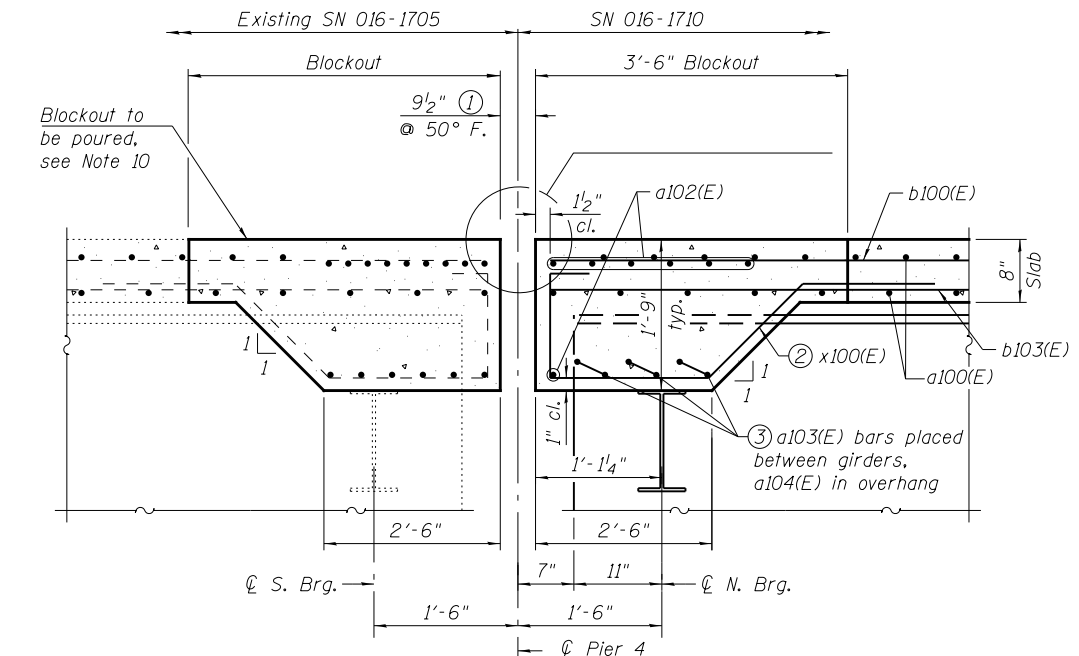
SHEET NO. S1-10 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	149
ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B76	



**PARTIAL DECK PLAN - UNIT I**

- ① Actual dimension may vary depending on Manufacturer's design
- ② x100(E) bars to be placed at 12" cts. between beams and adjusted in field to miss support boxes
- ③ Bars to be adjusted and/or cut in field to miss support boxes and beam webs, as allowed by the Engineer. The Contractor shall reference and coordinate rebar installation with the approved modular joint shop drawings.



**SECTION A-A**  
(Horiz. Dims. @ RT L's to C. Brg.)

**Notes:**

1. Stations are along @ & PGL Ramp NE unless noted otherwise.
2. Dimensions radial from @ & PGL Ramp NE unless noted otherwise.
3. Bars indicated thus: 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
4. Bend longitudinal reinforcement bars as required to fit in the field.
5. See sheet S1-12, for deck cross section.
6. See sheet S1-14, for parapet reinforcement.
7. See sheet S1-17, for deck pouring sequence and Bill of Material.
8. Reinforcement bars shall not pass thru aluminum sheets and cork joint filler.
9. 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 S1-22.
10. Contractor shall verify that all reinforcement bar are present in Unit II of S.N. 016-1705 expansion joint breakout at Pier 4 as per 60W28 Contract plans. Contractor shall supplement any missing reinforcement. See existing plans of S.N. 016-1705 for expansion joint breakout details. Cost included with Concrete Superstructure.

- \* Dimensions along @ & PGL Ramp NE.
- \*\* Dimensions along inside face of parapet.
- \*\*\* Dimensions along inside face of left parapet.

**MINIMUM BAR LAP**

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

0161710-62B76-S011-DEK.dgn

**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - HA	REVISED -
PLOT SCALE = N.T.S.	CHECKED - JIG	REVISED -
PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

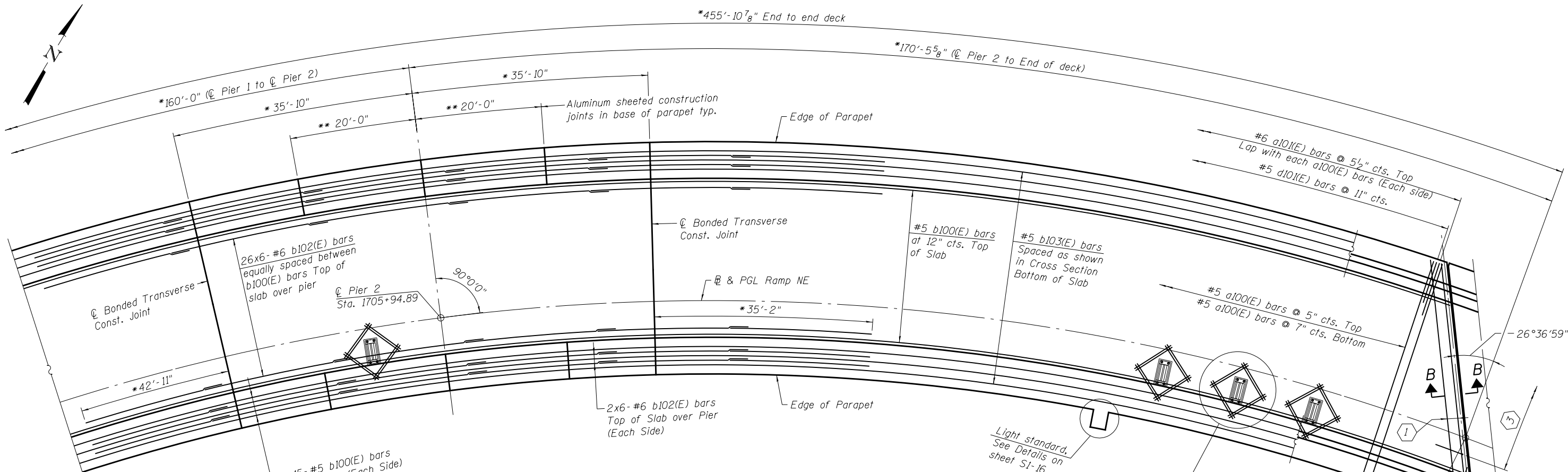
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK PLAN I - UNIT I  
STRUCTURE NO. 016-1710**

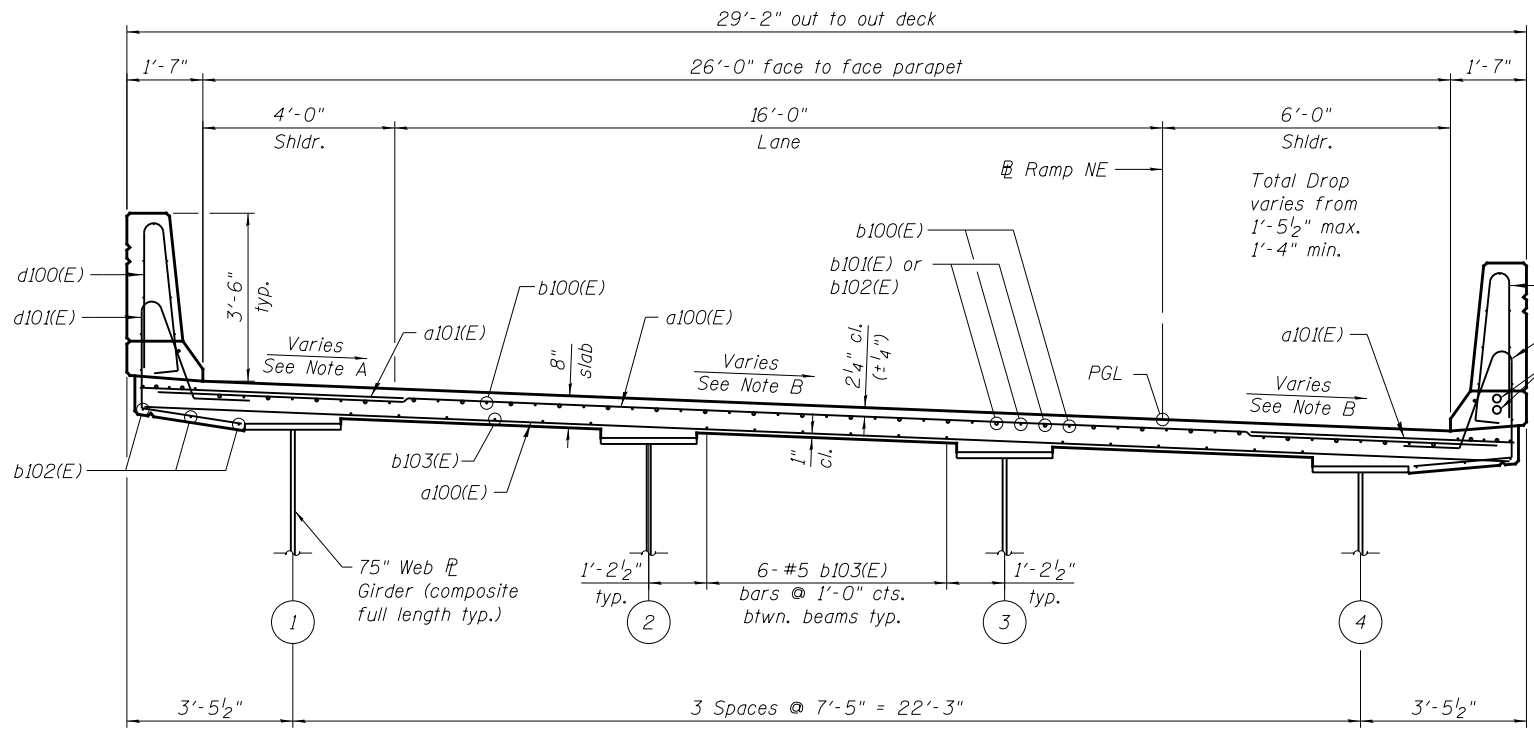
SHEET NO. S1-11 OF S1-53 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	150
CONTRACT NO. 62B76				

ILLINOIS FED. AID PROJECT



**PARTIAL DECK PLAN - UNIT I**



**CROSS SECTION - UNIT I**  
(Looking upstation)

- ① 4-#6 a106(E) bars @ 6" cts. Top  
3-#6 a105(E) bars @ 6" cts.  
Bottom between beams (3 locations)  
1-#6 a107(E) bar Bot.
- ② 33-#5 a108(E) bars @ 5 1/2" cts. Top  
21-#5 a108(E) bars @ 9" cts. Bottom.  
Cut to fit skew and use remainder of  
bars on opposite side of joint in  
Unit II.

- ③ 18-#5 x10(E) bars @ 12" cts.  
between beams. See sheet S1-16.

**Note A:**  
Transition (4.71% to 5.6%)  
Sta. 1702+78.27 to Sta. 1703+23.07  
Constant cross slope (5.6%)  
Sta. 1703+23.07 to Sta. 1707+55.72  
Transition (5.6% to 4.77%)  
Sta. 1707+55.72 to Sta. 1707+75.81

**Note B:**  
Transition (2.0% to 5.6%)  
Sta. 1701+39.07 to Sta. 1703+23.07  
Constant cross slope (5.6%)  
Sta. 1703+23.07 to Sta. 1707+55.72  
Transition (5.6% to 1.75%)  
Sta. 1707+55.72 to Sta. 1708+48.72

**Notes:**

1. Stations are along B & PGL Ramp NE unless noted otherwise.
2. Dimensions radial from B & PGL Ramp NE unless noted otherwise.
3. Bars indicated thus: 20x3-#6 etc. indicates 20 lines of bars with 3 lengths per line.
4. Bend longitudinal reinforcement bars as required to fit in the field.
5. See sheet S1-14, for parapet reinforcement.
6. See sheet S1-16, for Section B-B.
7. See sheet S1-17, for deck pouring sequence and Bill of Material.
8. Reinforcement bars shall not pass thru aluminum sheets and cork joint filler.
9. 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 S1-22.

\* Dimensions along B & PGL Ramp NE.  
\*\* Dimensions along inside face of parapet.

**MINIMUM BAR LAP**  
#5 bar = 3'-3"  
#6 bar = 3'-10"

0161710-62B76-S012-DEK.dgn

**PARSONS  
BRINCKERHOFF**

USER NAME =	lopezgonzalez	DESIGNED -	HA	REVISED -	
CHECKED -	JIG	REVISOR -		REVISOR -	
PLOT SCALE =	N.T.S.	DRAWN -	DCP	REVISOR -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISOR -	

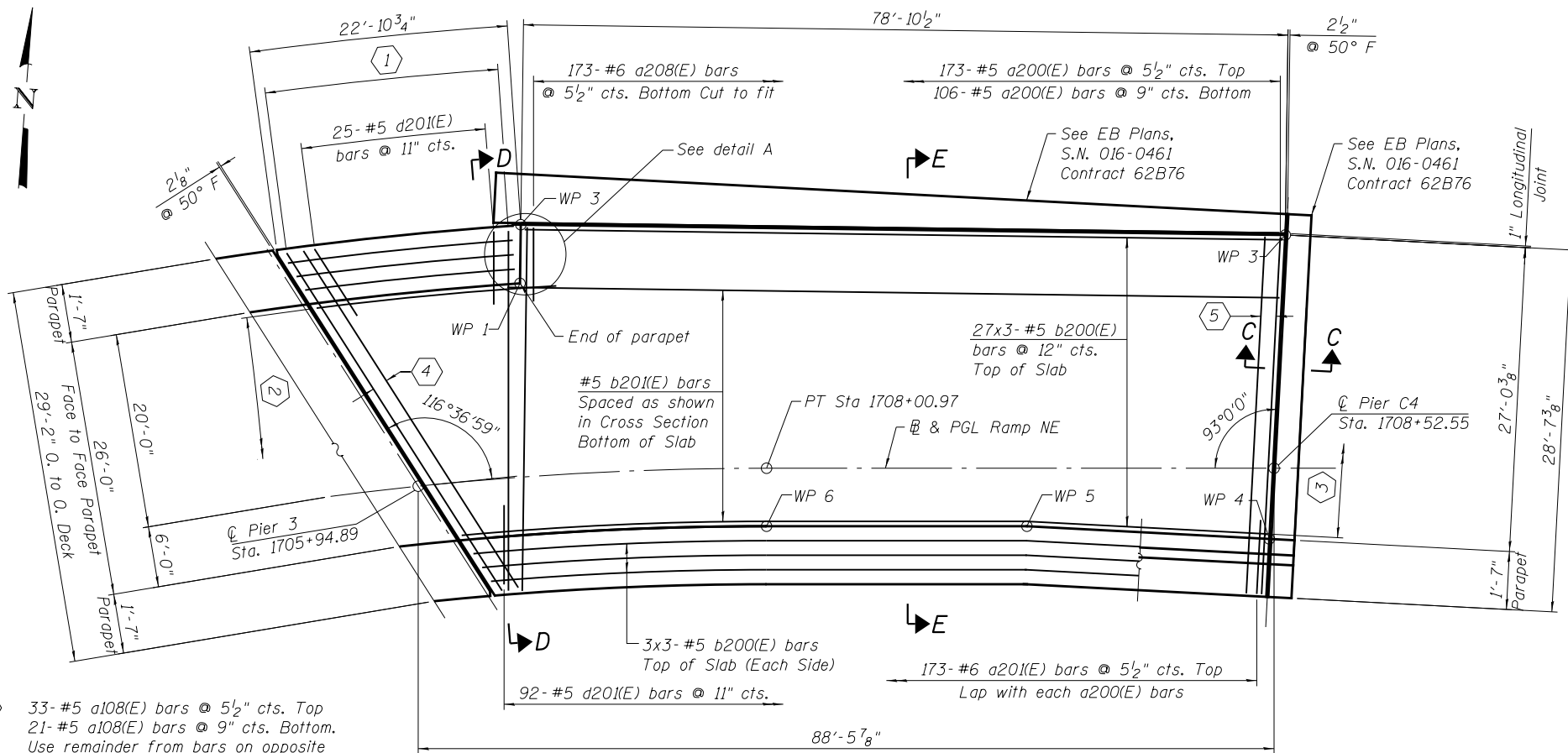
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK PLAN II - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-12 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	151
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



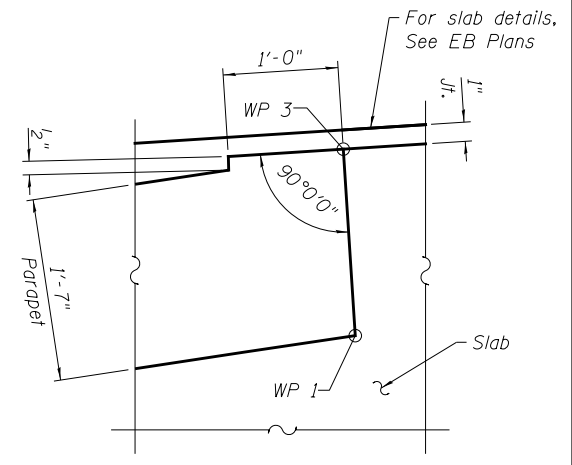


- ① 33-#5 a108(E) bars @ 5 1/2" cts. Top  
21-#5 a108(E) bars @ 9" cts. Bottom.  
Use remainder from bars on opposite side of joint in Unit I.  
50-#6 a201(E) bars @ 5 1/2" cts. Top
- ② 21-#5 x200(E) bars @ 12" cts. between beams. See sheet S1-16.
- ③ 21-#5 x201(E) bars @ 12" cts. between beams. See sheet S1-16.

- ④ 4-#5 a204(E) bars @ 6" cts. Top  
3-#5 a202(E) bars @ 6" cts. Bottom between beams
- ⑤ 4-#5 a207(E) bars @ 6" cts. Top  
3-#5 a205(E) bars @ 6" cts. Bottom between beams

**WORK POINT TABLE**

WP No.	Station	Offset
1	1707+76.77	20.00' Lt.
2	1707+76.96	21.62' Lt.
3	1708+54.54	21.84' Lt.
4	1708+55.53	7.45' Rt.
5	1708+27.88	6.00' Rt.
6	1708+00.97	6.00' Rt.



Note A:  
Transition (5.6% to 4.77%)  
Sta. 1707+55.72 to Sta. 1707+75.81

Note B:  
Transition (5.6% to 1.75%)  
Sta. 1707+55.72 to Sta. 1708+48.72  
Constant cross slope (1.75%)  
Sta. 1708+48.72 to Sta. 1708+51.26  
Transition (1.75% to 1.84%)  
1708+51.26 to 1708+54.37

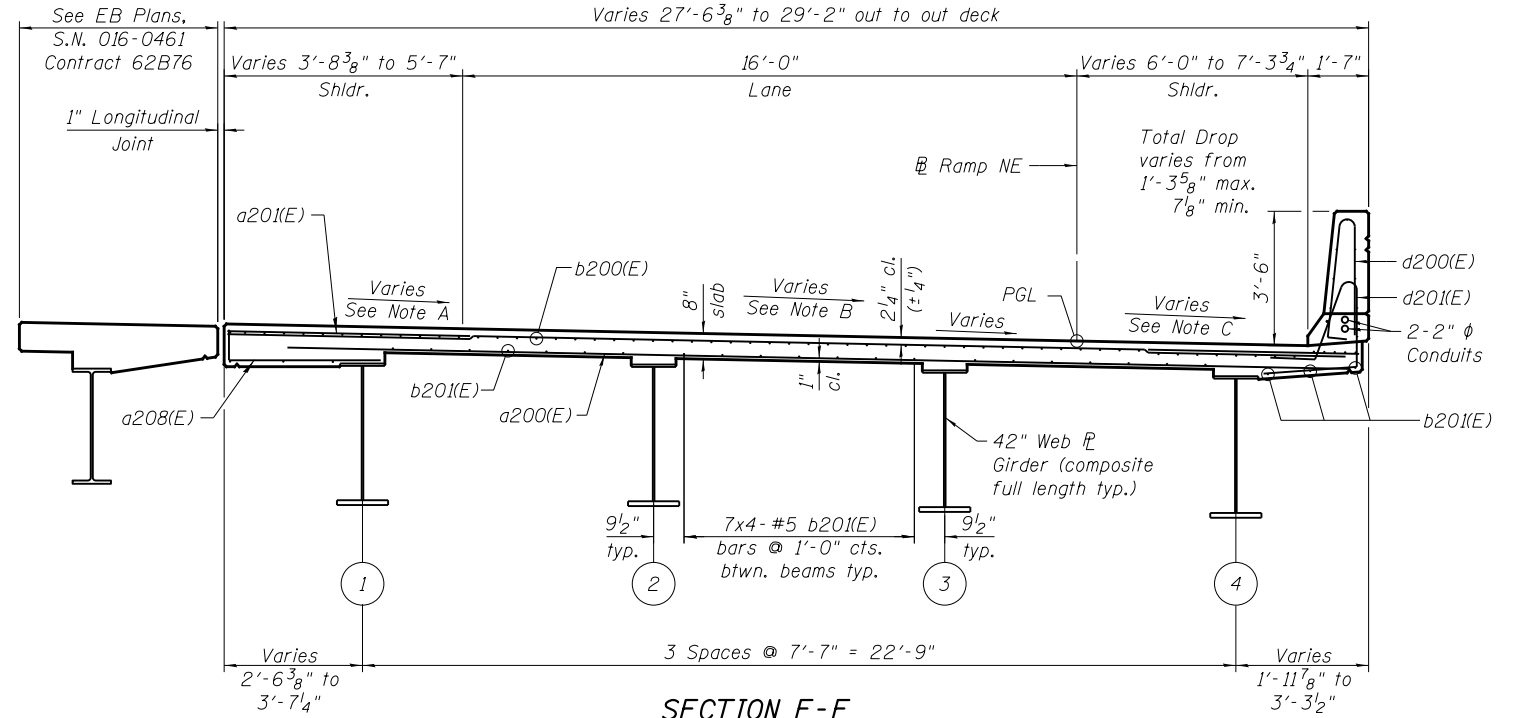
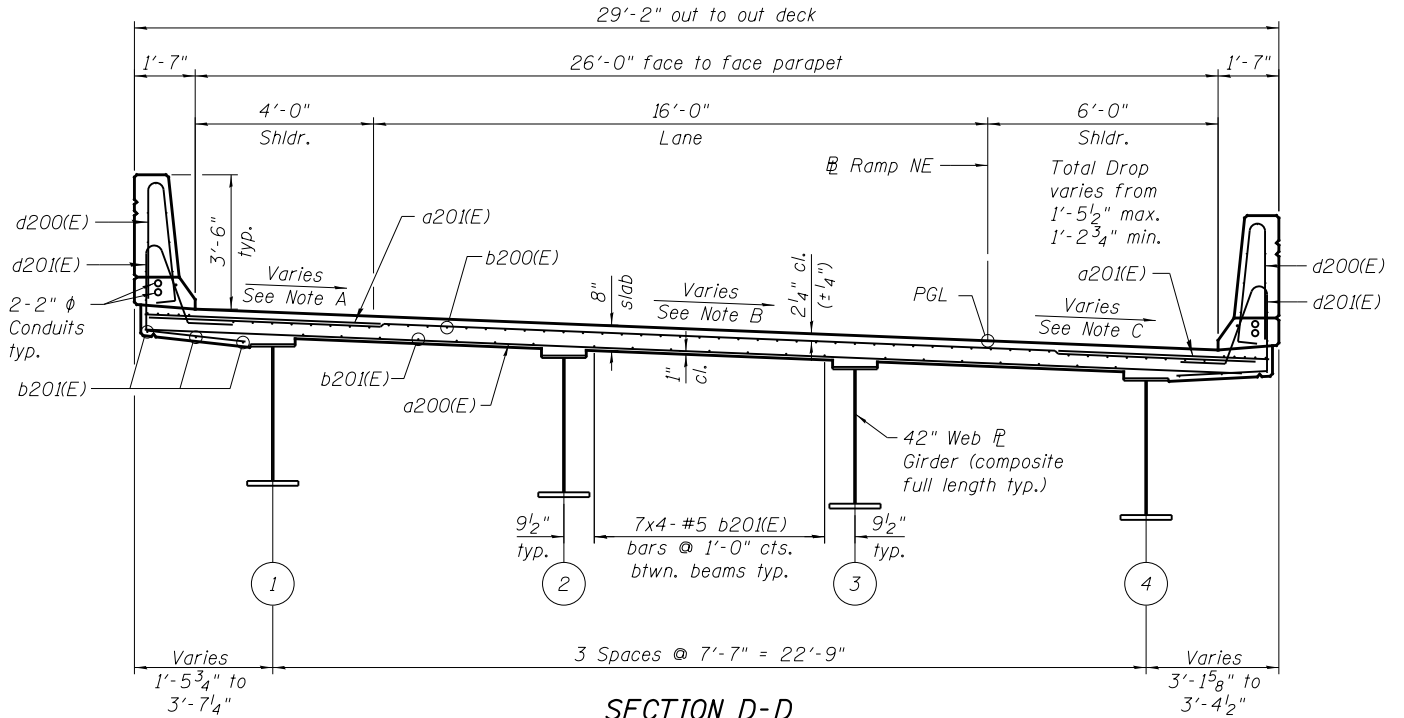
Note C:  
Transition (5.6% to 1.75%)  
Sta. 1707+55.72 to Sta. 1708+48.72  
Constant cross slope (1.75%)  
Sta. 1708+48.72 to Sta. 1708+53.44  
Transition (1.75% to 1.84%)  
1708+53.44 to 1708+54.37

**MINIMUM BAR LAP**

#5 bar = 3'-3"

#6 bar = 3'-10"

- Notes:
- See sheet S1-17, for deck details and Bill of Material.
  - Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
  - See sheet S1-15, for parapet reinforcement.
  - See sheet S1-16, for Section C-C.



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**PARSONS BRINCKERHOFF**

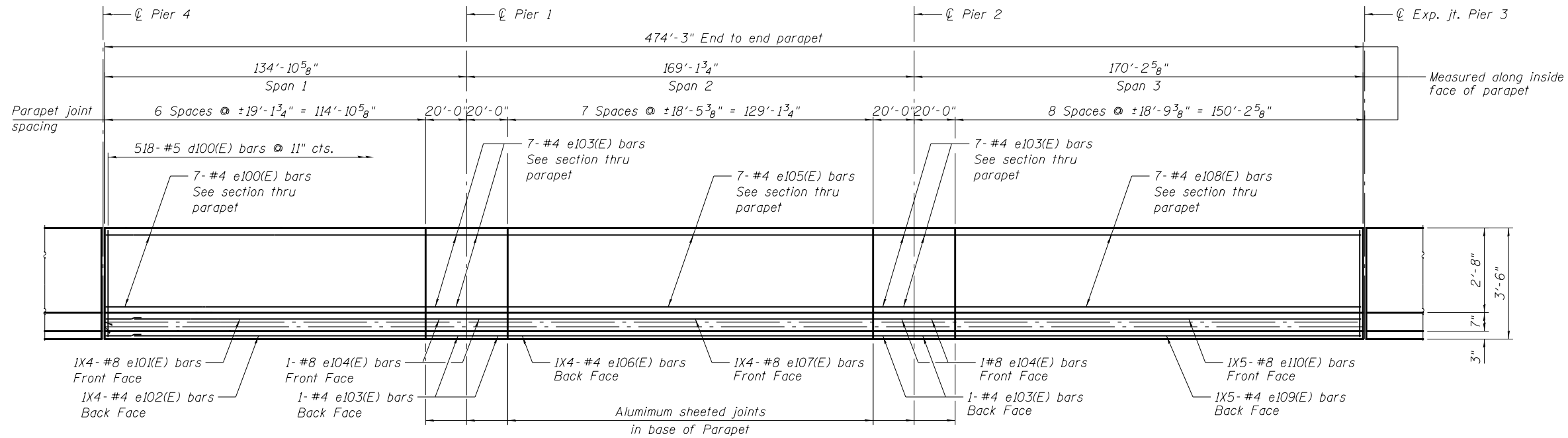
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PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

STATE OF ILLINOIS  
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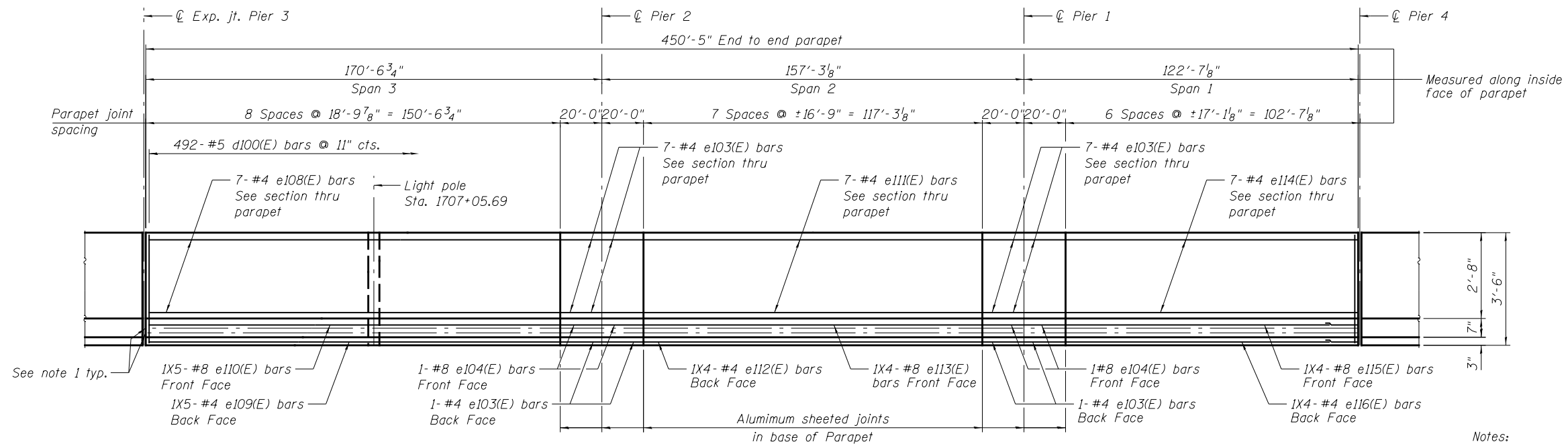
DECK PLAN III - UNIT I  
STRUCTURE NO. 016-1710

SHEET NO. S1-13 OF S1-53 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	152
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**INSIDE ELEVATION OF LEFT PARAPET - UNIT I**



**INSIDE ELEVATION OF RIGHT PARAPET - UNIT I**

Notes:

- Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See lighting plans for expansion/deflection fitting installation details.
- Bars indicated thru 20x3-#5 etc., indicates 20 lines of bars with 3 lengths per line.
- For Section thru Parapet Details, See sheet S1-16.

**MINIMUM BAR LAP**

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

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**PARSONS  
BRINCKERHOFF**

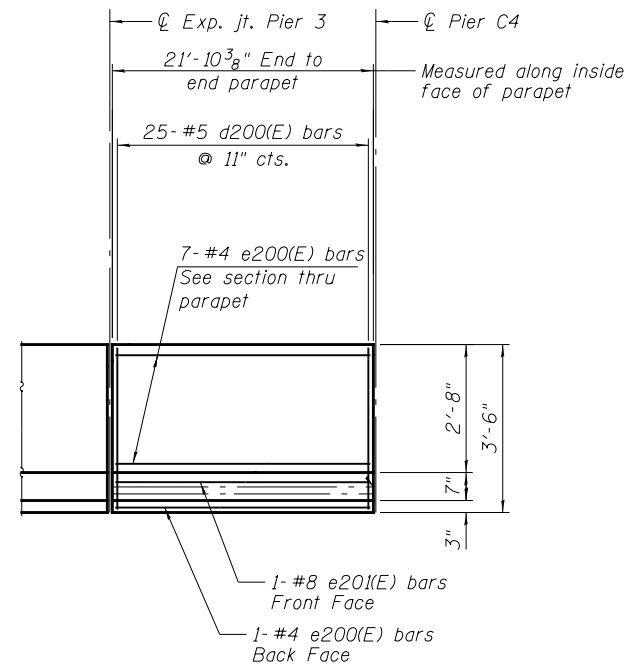
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		CHECKED -	PJL	REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	DDE/DCP	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

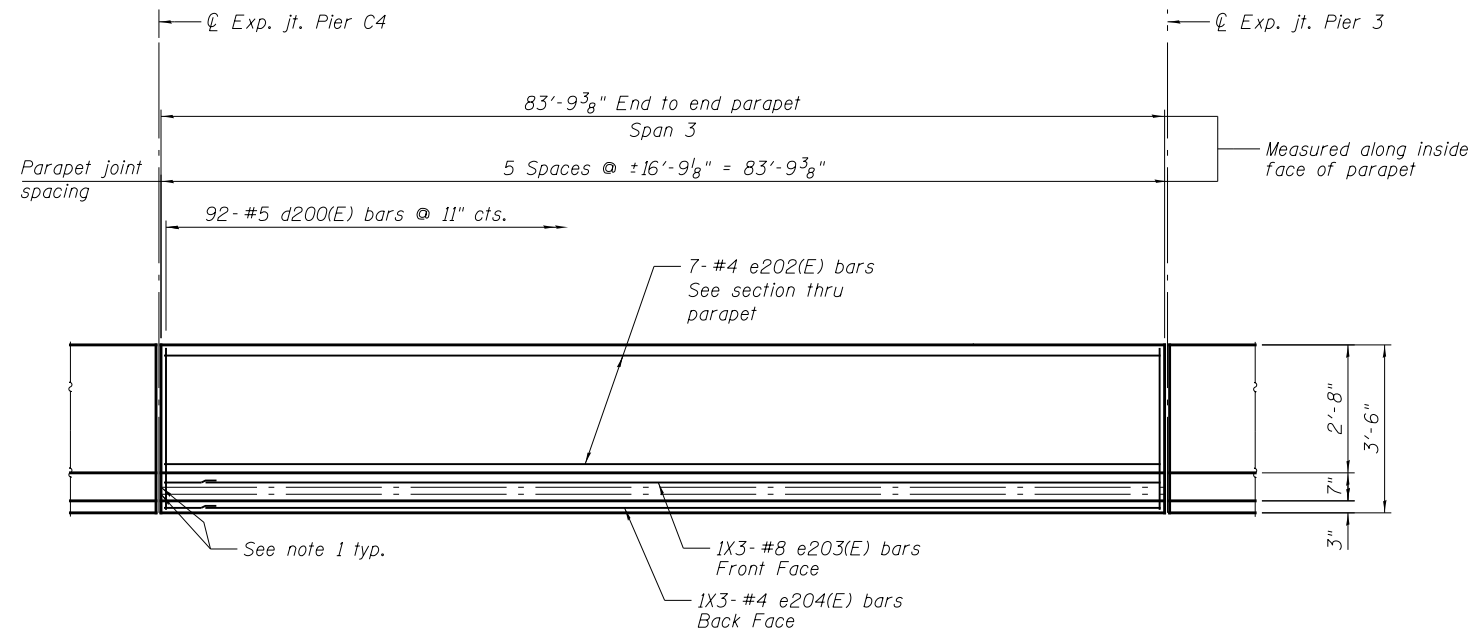
**DECK DETAILS I - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-14 OF S1-53 SHEETS

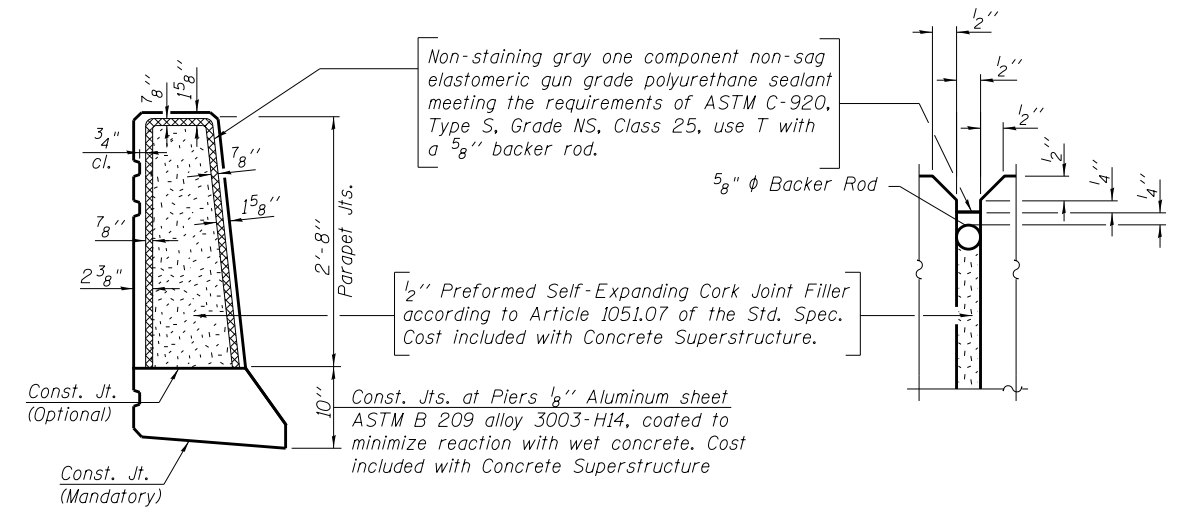
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	153
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**INSIDE ELEVATION OF LEFT PARAPET - UNIT II**



**INSIDE ELEVATION OF RIGHT PARAPET - UNIT II**



**PARAPET JOINT DETAILS**

**Notes:**

- Contractor to provide expansion/deflection conduit fittings at all structural expansion joints. See lighting plans for expansion/deflection fitting installation details.
- Bars indicated thru 20x3-#5 etc., indicates 20 lines of bars with 3 lengths per line.
- For Section thru Parapet Details, See sheet S1-16.

**MINIMUM BAR LAP**

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

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**PARSONS  
BRINCKERHOFF**

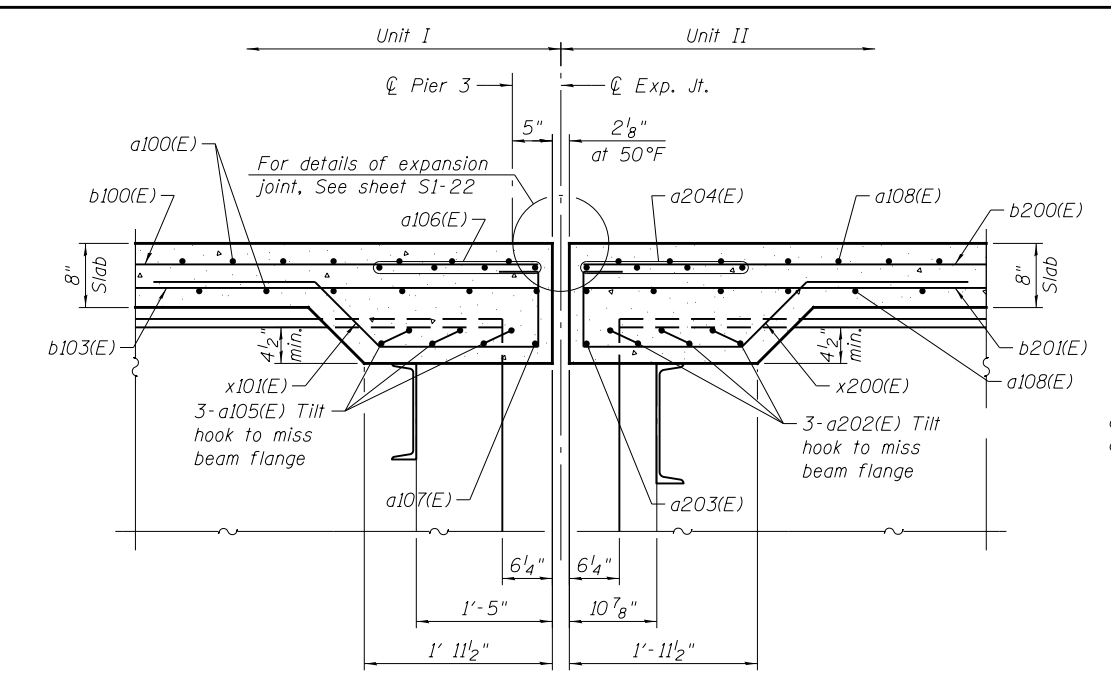
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	CHECKED - PJL	REVISED -
PLOT SCALE = N.T.S.	DRAWN - DDE/DCP	REVISED -
PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
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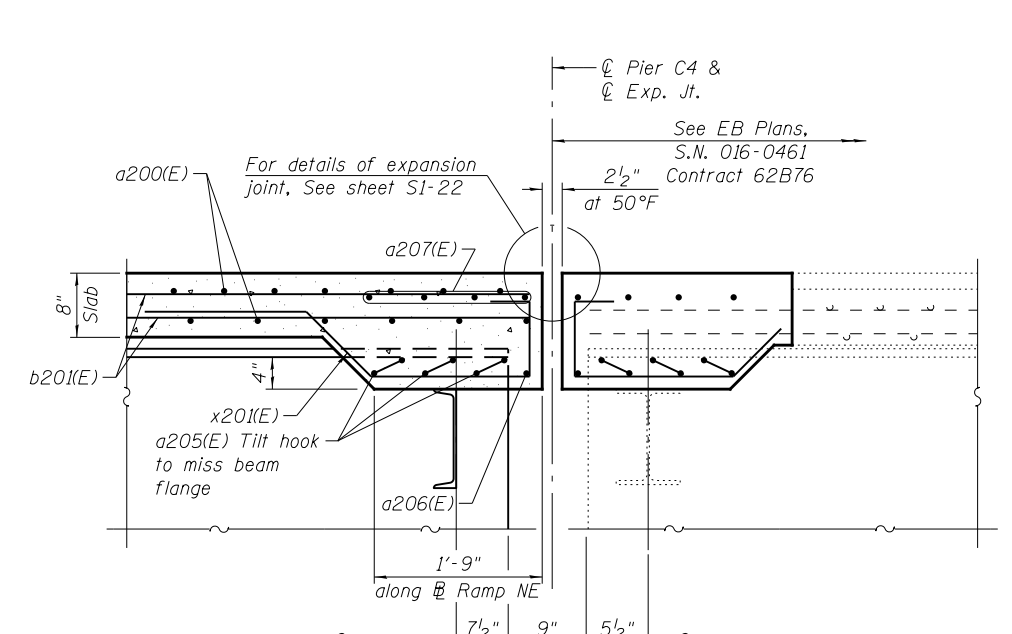
**DECK DETAILS II - UNIT II  
STRUCTURE NO. 016-1710**

SHEET NO. S1-15 OF S1-53 SHEETS

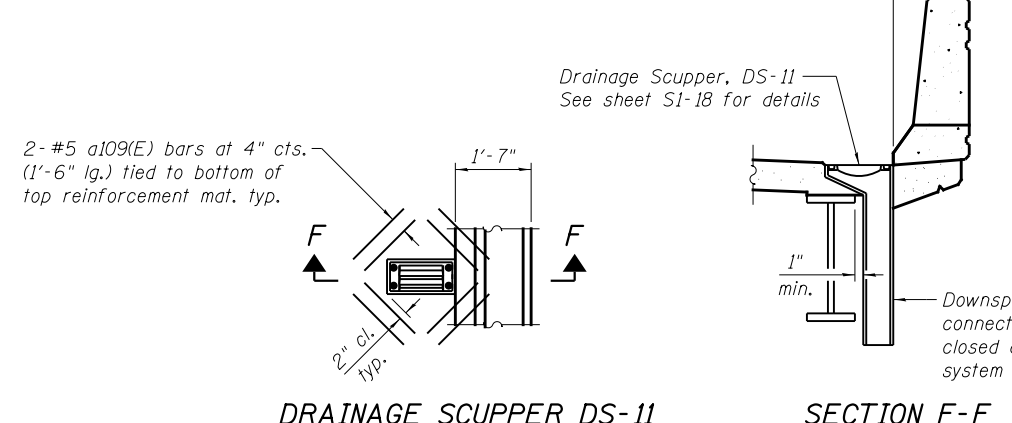
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	154
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



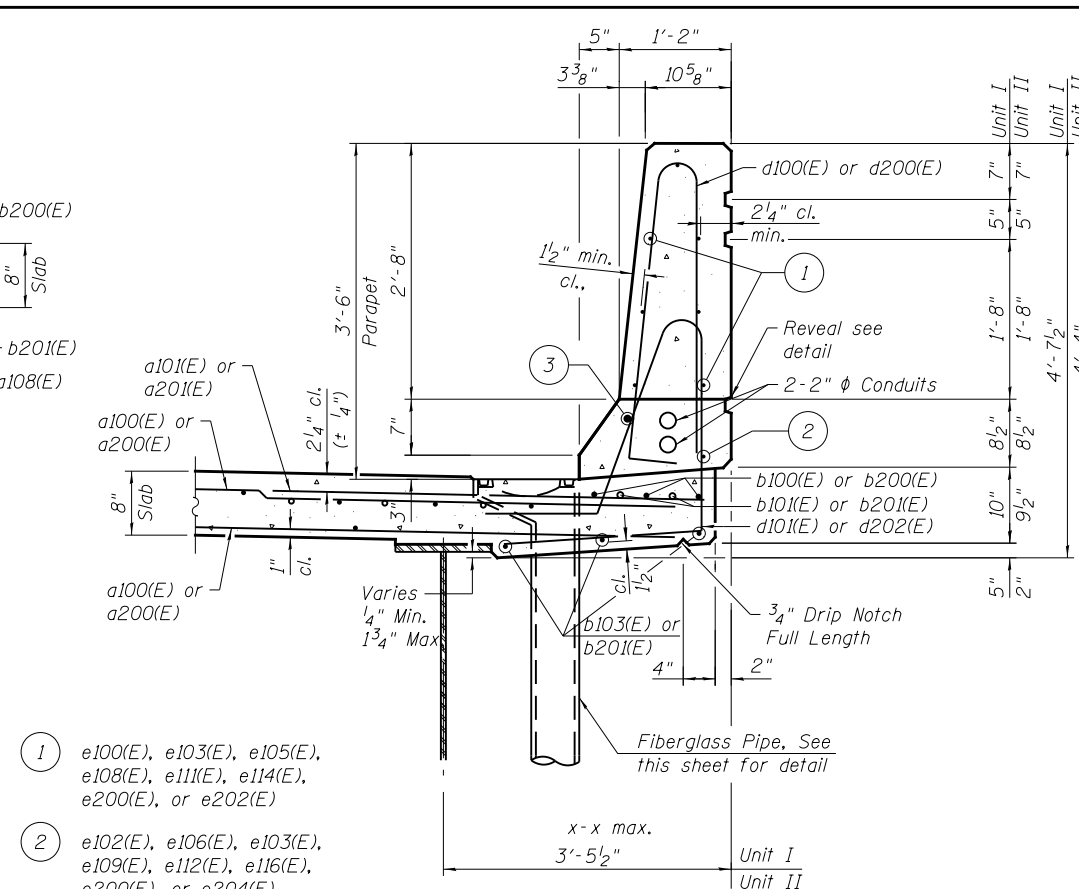
**SECTION B-B**  
(Dimensions L's to  $\varnothing$  Pier 3)



**SECTION C-C**

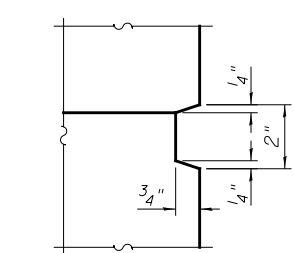


**DRAINAGE SCUPPER DS-11**      **SECTION F-F**

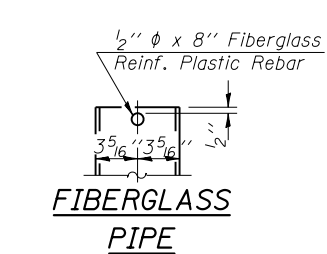


**SECTION THRU PARAPET**  
(Drainage Scupper, DS-11 right parapet only)

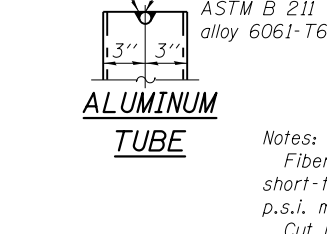
- 1 e100(E), e103(E), e105(E), e108(E), e111(E), e114(E), e200(E), or e202(E)
- 2 e102(E), e106(E), e103(E), e109(E), e112(E), e116(E), e200(E), or e204(E)
- 3 e101(E), e104(E), e107(E), e110(E), e113(E), e115(E), e201(E), or e203(E)



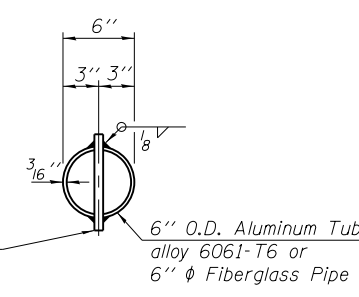
**REVEAL DETAIL**



**FIBERGLASS PIPE**

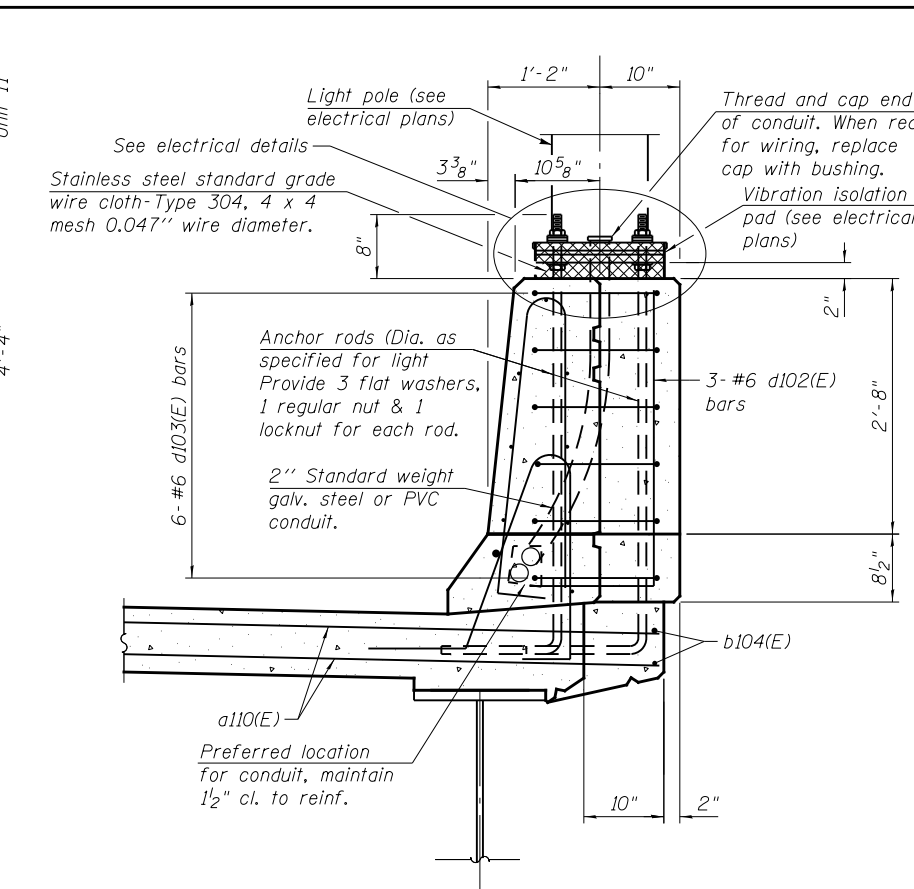


**ALUMINUM TUBE**

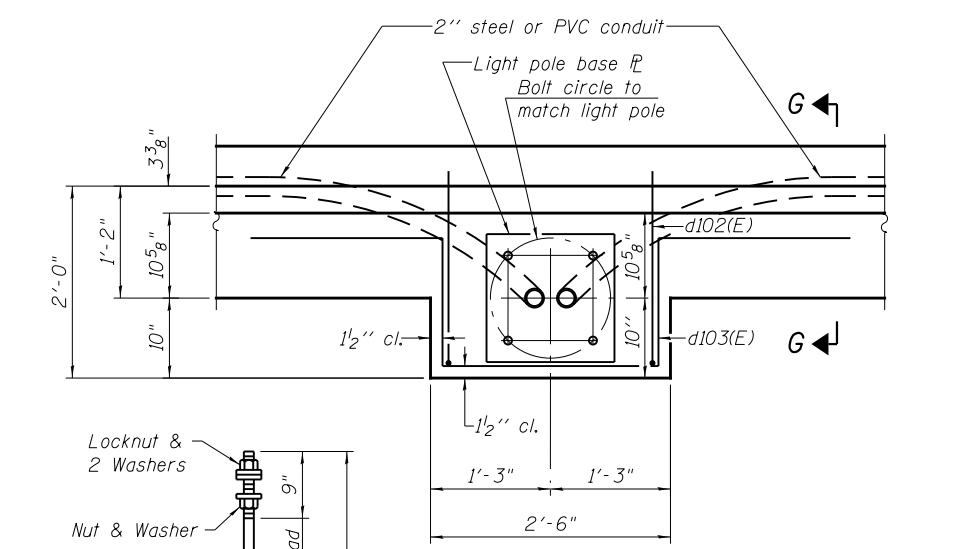


**TOP PLAN**  
(Showing Aluminum Tube)

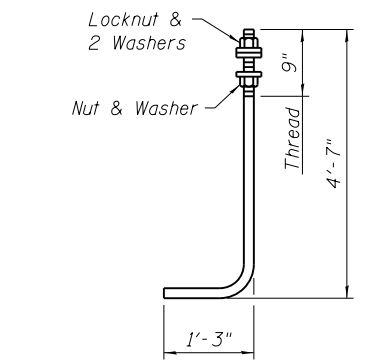
**Notes:**  
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.  
Cut longitudinal reinforcement to clear drainage scuppers.



**SECTION G-G**



**PLAN**



**ANCHOR ROD**

Diameter as specified for light poles. (ASTM F 1554 Grade 105) full length hot dipped galvanized. Cost included with cost of Concrete Superstructure

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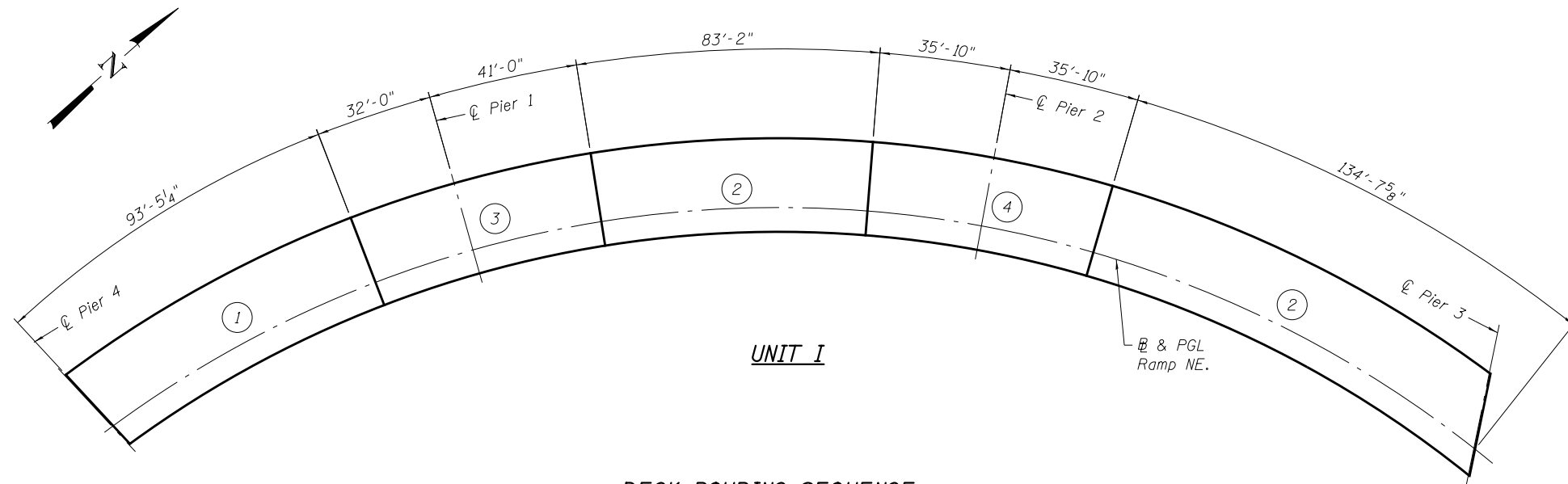
**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - HA	REVISIONS -
PLOT SCALE = N.T.S.	CHECKED - JIG	REVISIONS -
PLOT DATE = 5/6/2016	DRAWN - DCP	REVISIONS -
	CHECKED - JIG	REVISIONS -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**DECK DETAILS III**  
**STRUCTURE NO. 016-1710**  
SHEET NO. S1-16 OF S1-53 SHEETS

F.A.I. R.E. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 155
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



**DECK POURING SEQUENCE**

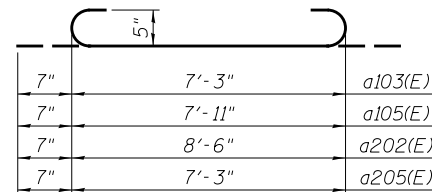
**Pouring Sequence Notes:**

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:

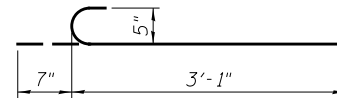
1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum flexural strength of 650 psi or a minimum compressive strength of 3500 psi.

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.

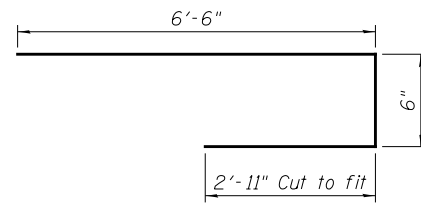
Longitudinal dimensions are measured along  $\bar{B}$  & PGL Ramp NE.



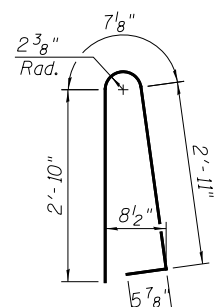
**BARS a103(E), a105(E)  
a202(E) & a205(E)**



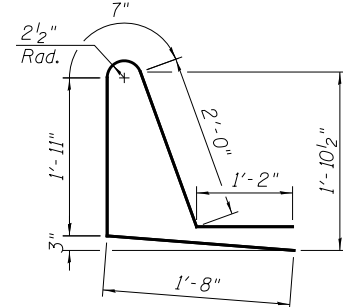
**BAR a104(E)**



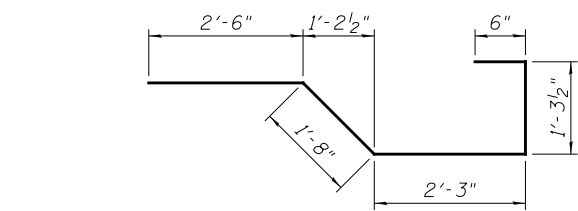
**BAR a208(E)**



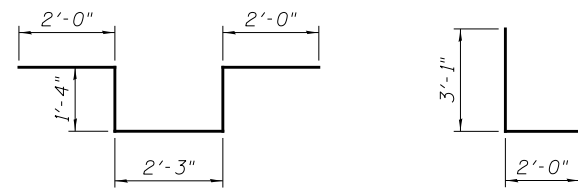
**BARS d100(E)  
& d200(E)**



**BARS d101(E)  
& d201(E)**

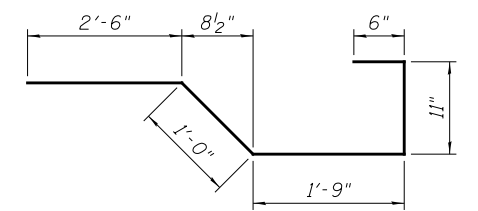


**BAR x100(E)**

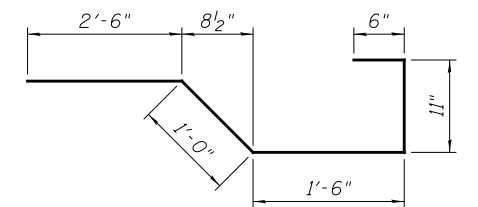


**BAR d103(E)**

**BAR d102(E)**



**BARS x101(E) & x200(E)**



**BAR x201(E)**

**UNIT I  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a100(E)	1,836	#5	28'-7"	—
a101(E)	2,064	#6	6'-6"	—
a102(E)	7	#5	28'-11"	—
a103(E)	18	#6	8'-5"	—
a104(E)	12	#6	3'-8"	—
a105(E)	9	#6	9'-1"	—
a106(E)	4	#5	32'-1"	—
a107(E)	1	#6	24'-10"	—
a108(E)	54	#5	29'-8"	—
a109(E)	40	#5	1'-6"	—
a110(E)	2	#5	2'-8"	—
b100(E)	561	#5	28'-1"	—
b101(E)	150	#6	23'-5"	—
b102(E)	180	#6	27'-3"	—
b103(E)	324	#5	28'-10"	—
b104(E)	2	#5	2'-3"	—
d100(E)	1,010	#5	6'-10"	—
d101(E)	1,010	#5	7'-4"	—
d102(E)	3	#6	5'-1"	—
d103(E)	6	#6	8'-11"	—
x100(E)	28	#5	8'-3"	—
x101(E)	18	#5	6'-8"	—
e100(E)	42	#4	18'-10"	—
e101(E)	4	#8	32'-6"	—
e102(E)	4	#4	30'-2"	—
e103(E)	64	#4	19'-8"	—
e104(E)	8	#8	19'-8"	—
e105(E)	49	#4	18'-1"	—
e106(E)	4	#4	33'-8"	—
e107(E)	4	#8	36'-1"	—
e108(E)	112	#4	18'-5"	—
e109(E)	10	#4	31'-7"	—
e110(E)	10	#8	34'-1"	—
e111(E)	49	#4	16'-5"	—
e112(E)	4	#4	30'-9"	—
e113(E)	4	#8	33'-1"	—
e114(E)	42	#4	16'-9"	—
e115(E)	4	#8	29'-5"	—
e116(E)	4	#4	27'-1"	—
Reinforcement Bars, Epoxy Coated		Pound	139,240	
Concrete Superstructure		Cu. Yds.	482.9	
Protective Coat		Sq. Yd.	1,530	
Bridge Deck Grooving		Sq. Yd.	1,235	

**UNIT II  
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a200(E)	279	#5	27'-2"	—
a201(E)	223	#6	6'-6"	—
a202(E)	9	#5	9'-8"	—
a203(E)	1	#5	24'-10"	—
a204(E)	4	#5	32'-1"	—
a205(E)	9	#5	8'-5"	—
a206(E)	1	#5	22'-5"	—
a207(E)	4	#5	28'-3"	—
a208(E)	173	#6	9'-11"	—
b200(E)	81	#5	35'-6"	—
b201(E)	108	#5	27'-4"	—
d100(E)	117	#5	6'-10"	—
d101(E)	117	#5	7'-4"	—
x200(E)	21	#5	8'-3"	—
x201(E)	21	#5	6'-8"	—
e200(E)	8	#4	21'-6"	—
e201(E)	1	#8	21'-6"	—
e202(E)	35	#4	16'-5"	—
e203(E)	3	#8	31'-3"	—
e204(E)	3	#4	29'-2"	—
Reinforcement Bars, Epoxy Coated		Pound	22,130	
Concrete Superstructure		Cu. Yds.	87.0	
Protective Coat		Sq. Yd.	329	
Bridge Deck Grooving		Sq. Yd.	268	

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**PARSONS  
BRINCKERHOFF**

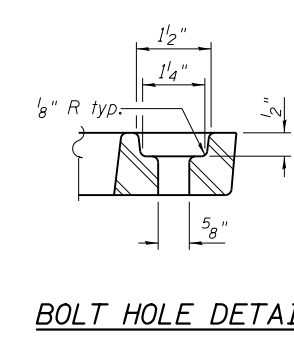
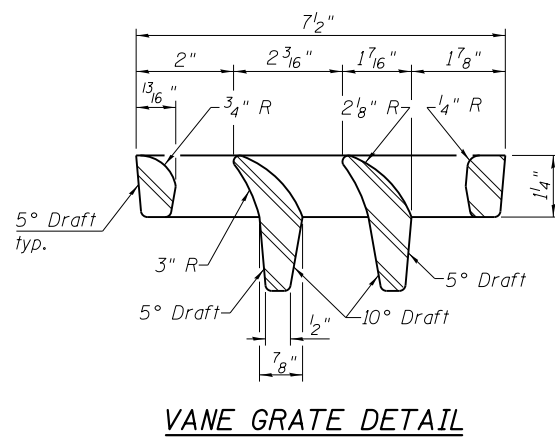
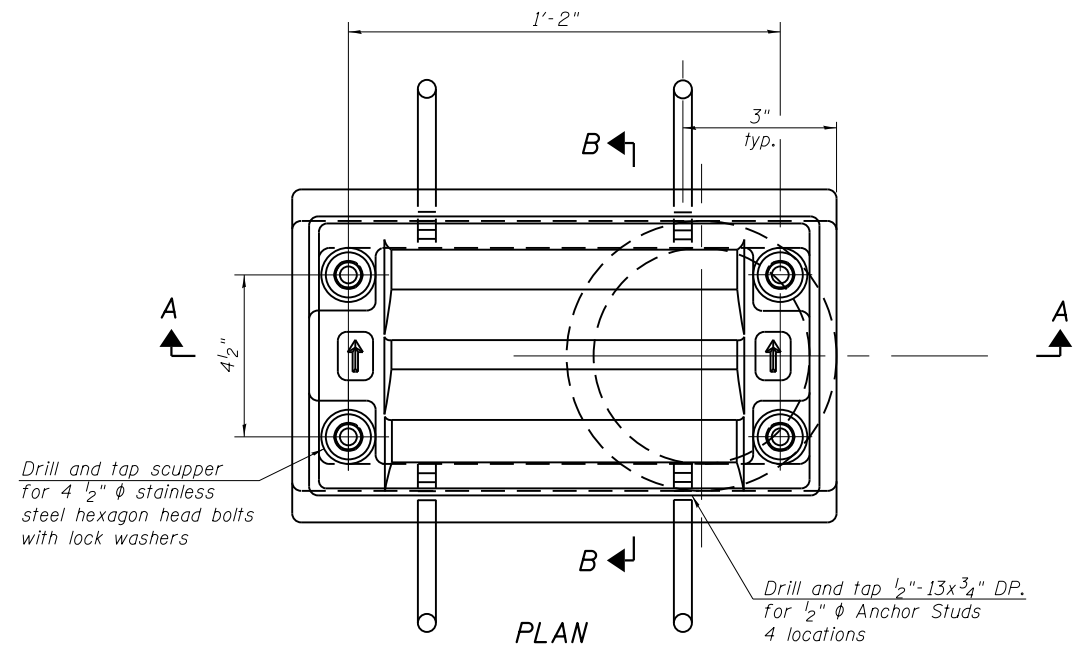
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DECK DETAILS IV  
STRUCTURE NO. 016-1710**

SHEET NO. S1-17 OF S1-53 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	156
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



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.

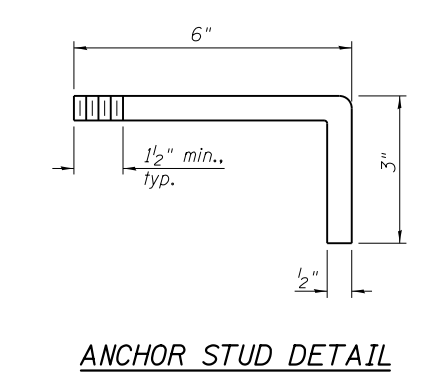
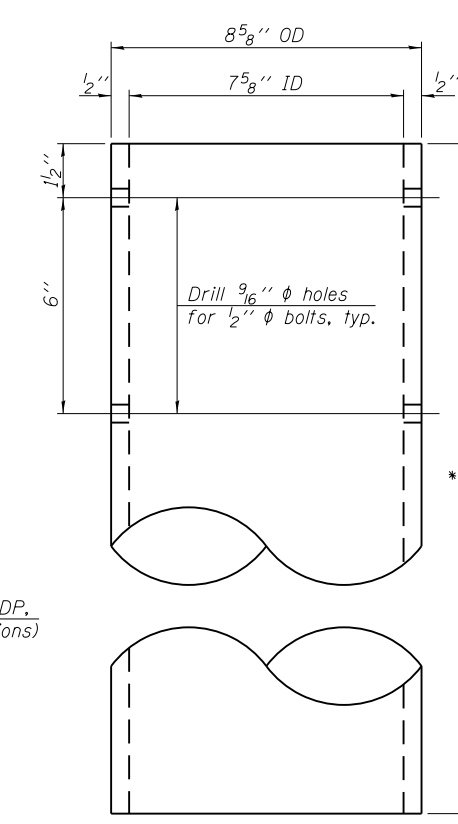
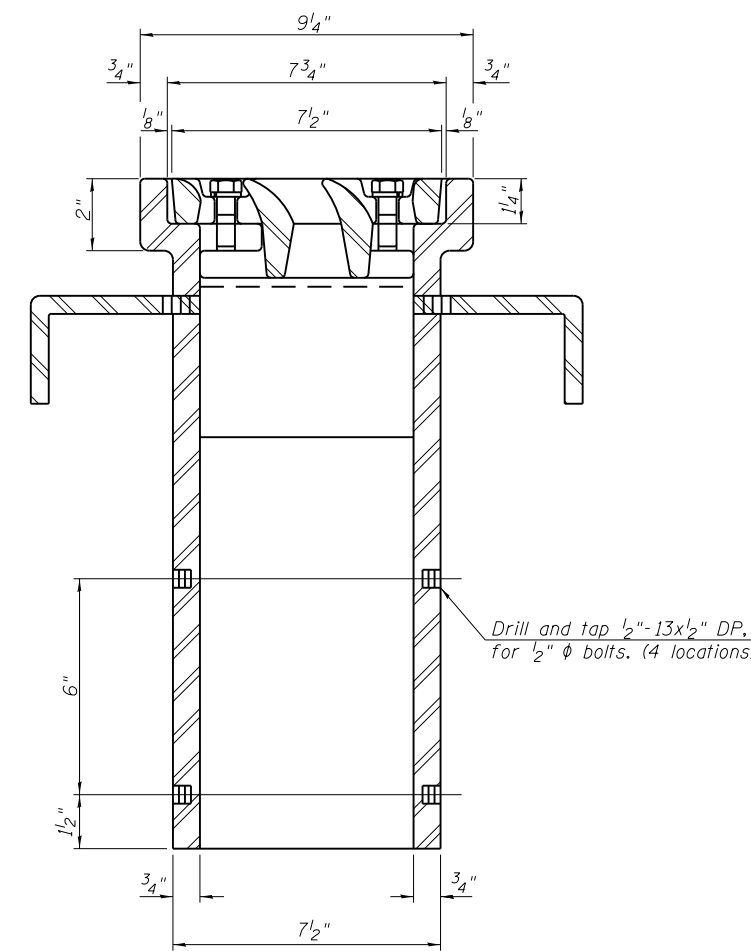
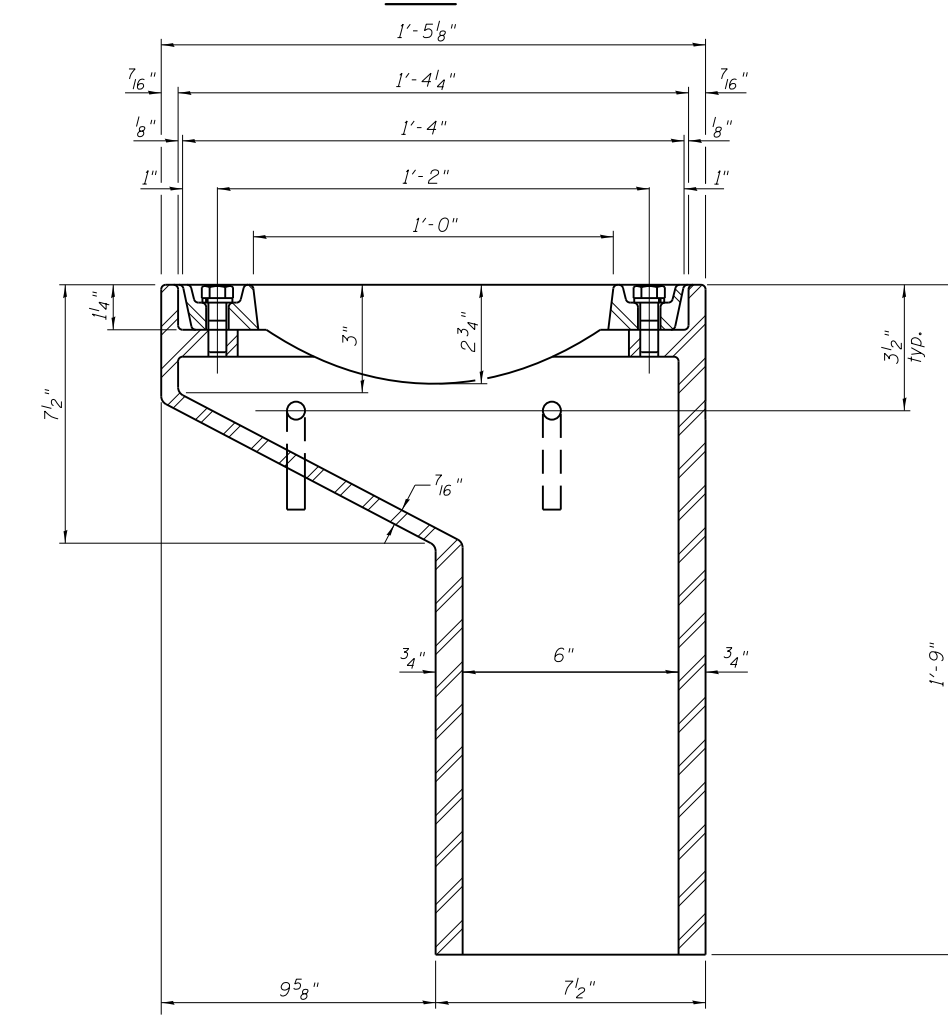
Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted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

\* Length of downspout to be coordinated with Drainage System



See sheet S1-1, scupper location relative to parapet.

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	5

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DS-11 7-1-10

**PARSONS BRINCKERHOFF**

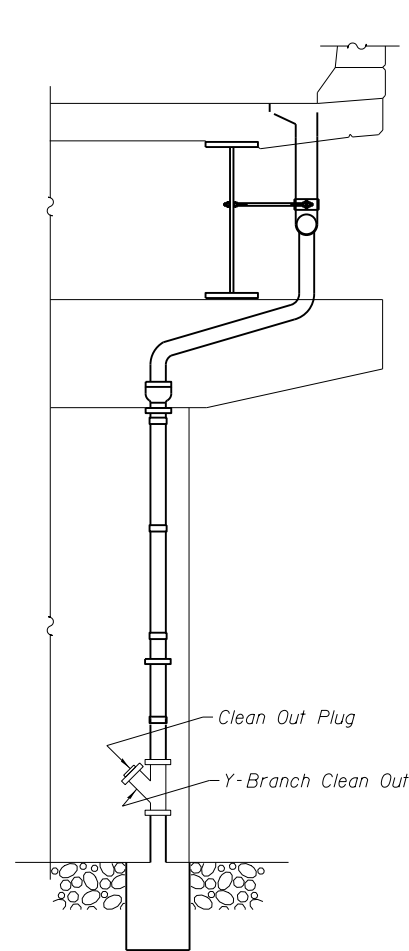
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

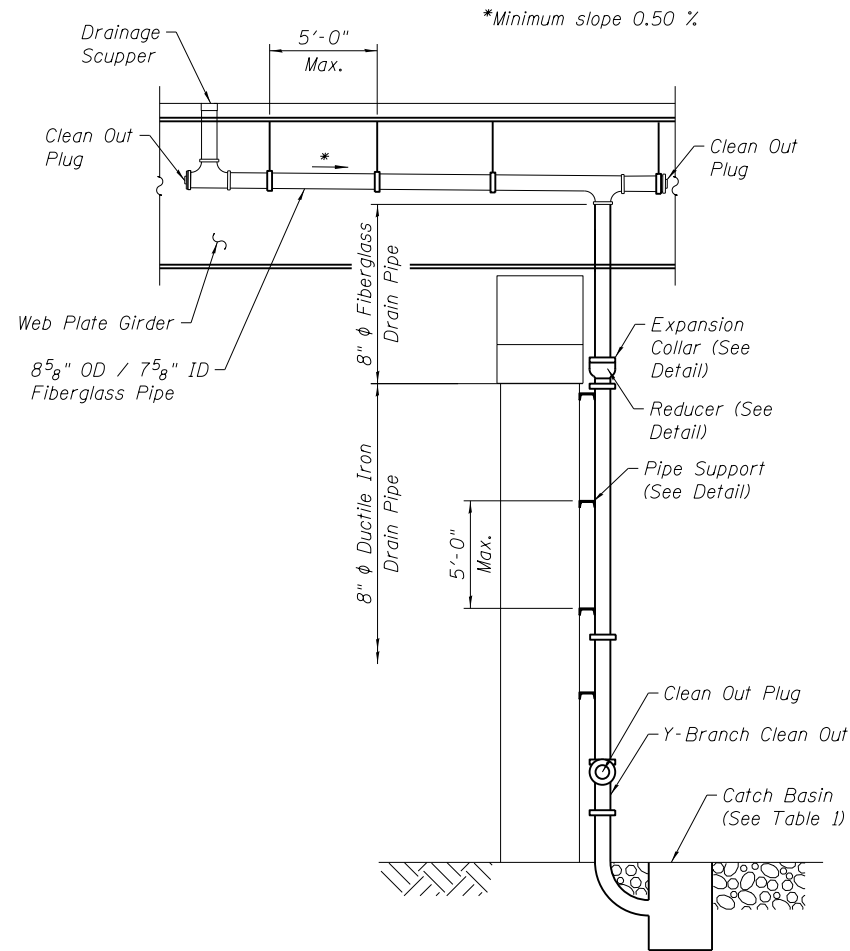
DRAINAGE SCUPPER DETAILS, DS-11  
STRUCTURE NO. 016-1710

SHEET NO. S1-18 OF S1-53 SHEETS

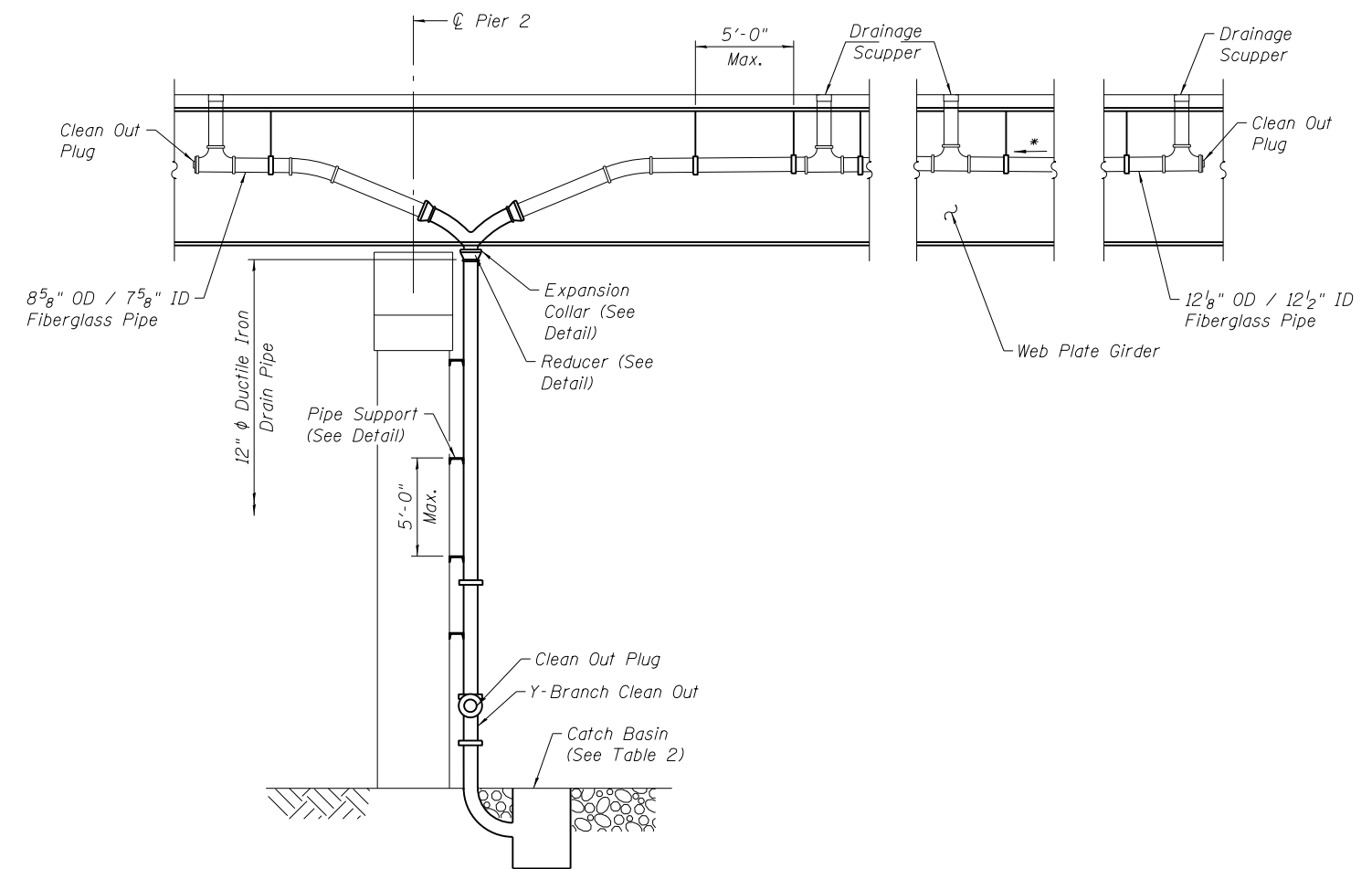
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				CONTRACT NO. 62B76
ILLINOIS FED. AID PROJECT				



TYPICAL ELEVATION VIEW



Pier 1 END VIEW  
(Looking North)



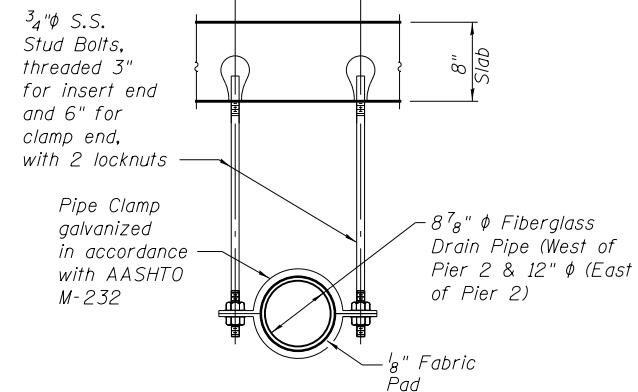
Pier 2 END VIEW  
(Looking North)

TABLE 1

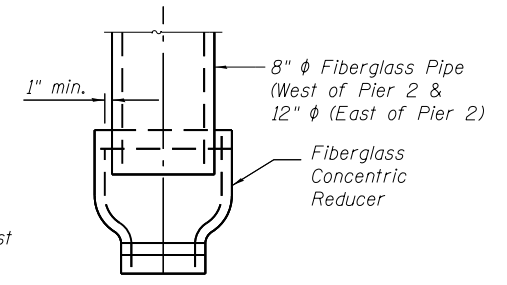
Catch Basin Location	Structure Number
Pier 1	S-01
Pier 2	S-02

DRAINAGE SYSTEM

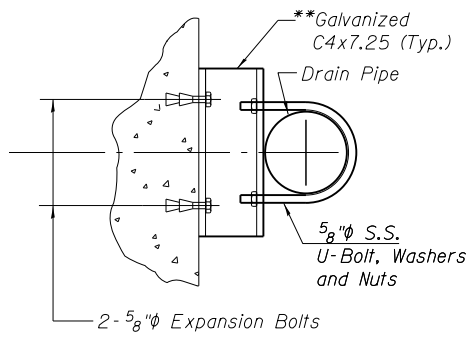
Single coil, flared loop inserts cast in deck for 3/4" stud bolts



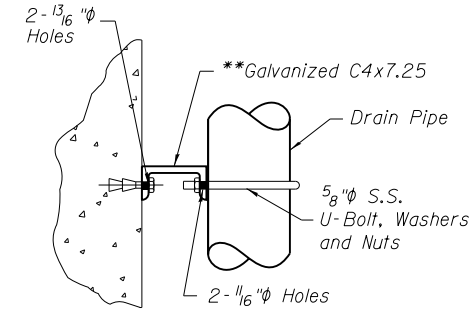
PIPE SUPPORT DETAIL



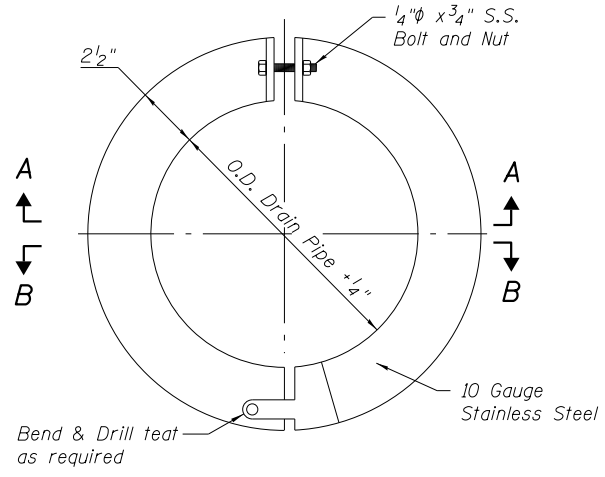
REDUCER DETAIL



PLAN

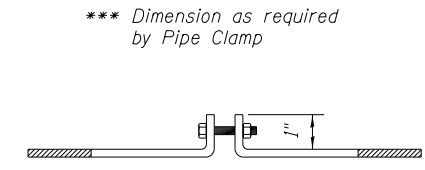


ELEVATION



SECTION B-B

DETAIL OF EXPANSION COLLAR



SECTION A-A

BILL OF MATERIAL

Item	Unit	Quantity
Drainage System	L. Sum	0.5

Note:  
1. S.S. denotes Stainless Steel.

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**PARSONS BRINCKERHOFF**

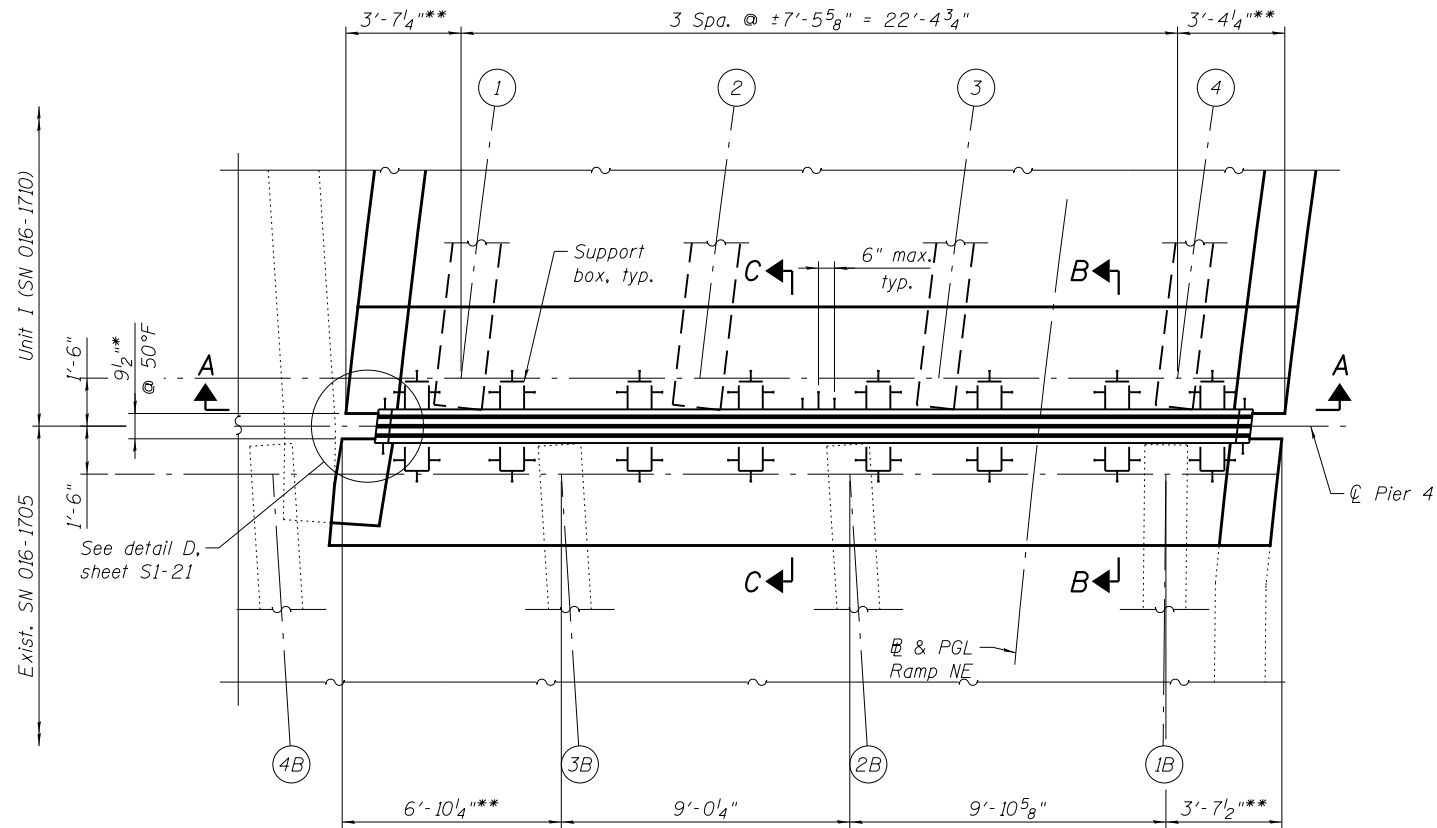
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DRAINAGE SYSTEM DETAILS  
STRUCTURE NO. 016-1710

SHEET NO. S1-19 OF S1-53 SHEETS

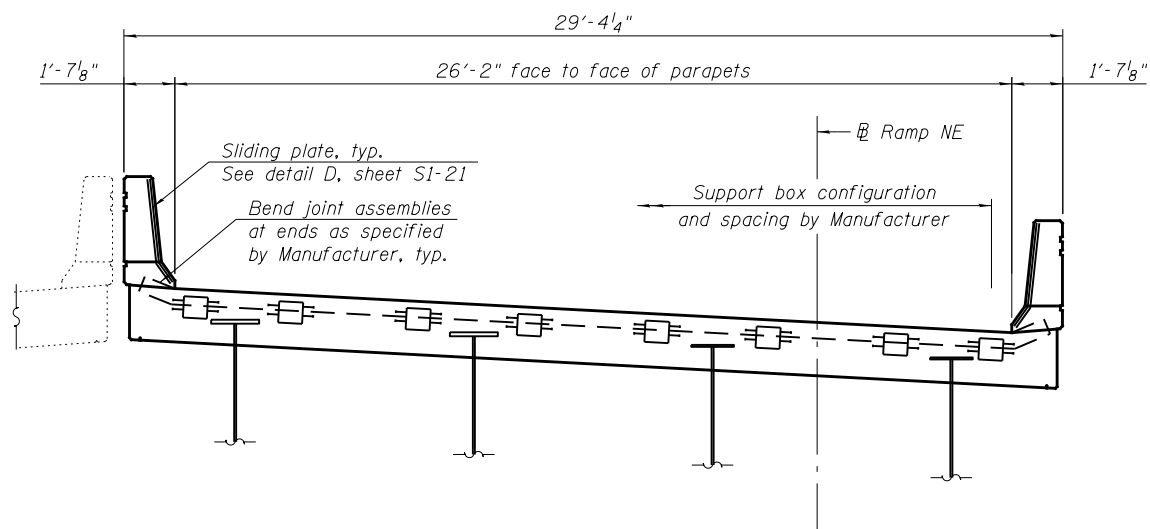
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				CONTRACT NO. 62B76
ILLINOIS FED. AID PROJECT				



PLAN

\* Actual dimension may vary depending on Manufacturer's design

\*\* Measured to edge of deck



SECTION A-A

Notes:

1. Modular expansion joint shall be designed according to Section 14 of the 2014 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 provisions for a modular joint system and as approved by the Engineer.
4. Joint shall be fabricated to conform to the roadway profile and cross-slope.
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. The expansion joint assembly shall be hot dip galvanized in accordance with AASHTO M111 or M232 after fabrication.
7. Modular expansion joints shall be shipped in one piece unless noted.
8. 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 anchor studs shall be included with Modular Expansion Joint-Swivel, 9". Number and spacing of concrete anchor studs shall be determined by Joint Manufacturer in accordance with Note 1 above.
9. No aluminum components shall be allowed.
10. All splices of center beams and edge beams located in the roadway shall be full penetration welds. (Upturn splices may be partial penetration welds)
11. See deck reinforcement plan sheet for bar size, designation and blackout dimensions.
12. Sliding plate assemblies as shown shall be provided for the parapets. The cost of furnishing and installing sliding plate assemblies shall be included with Modular Expansion Joint-Swivel, 9".
13. Coordinate blackout dimensions and pocket locations and reinforcement bar layout with Joint Manufacturer. Blackout area to be poured after expansion assemblies have been adjusted.
14. Modular expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
15. The manufacturer's recommended installation methods shall be followed.
16. Modular Expansion Joint-Swivel 9" shall provide a minimum total movement of 6 3/8".
17. See sheet S1-21 for sections B-B and C-C.

BILL OF MATERIAL

Item	Unit	Total
Modular Expansion Joint-Swivel, 9"	Foot	28

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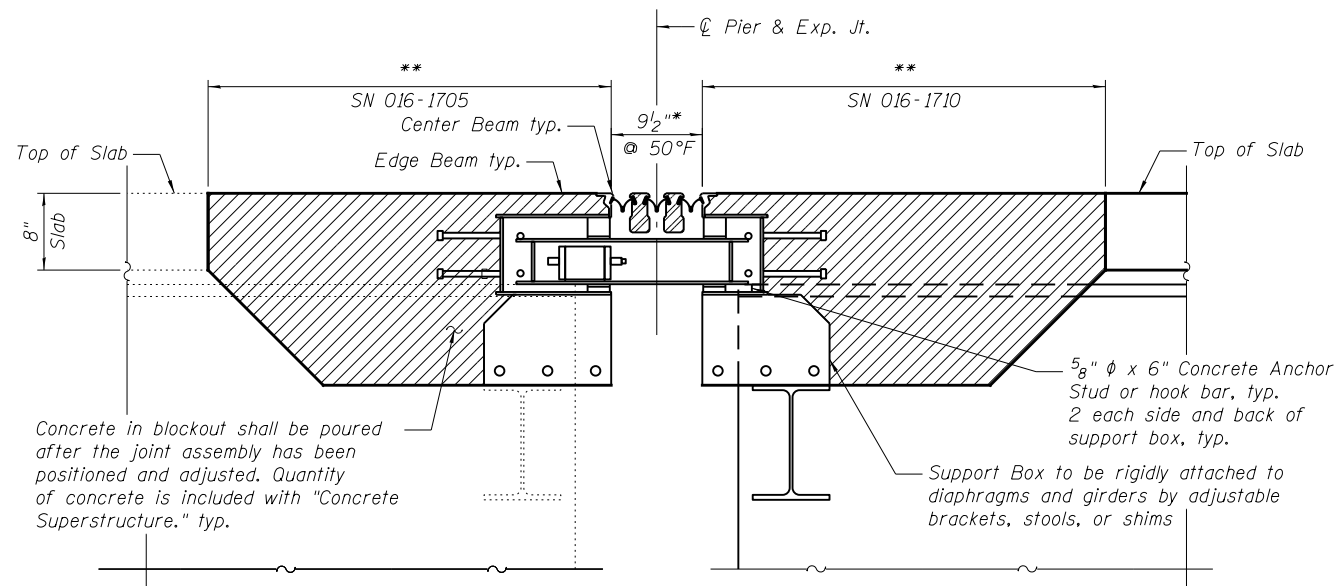
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

MODULAR EXPANSION JOINT - PIER 4  
STRUCTURE NO. 016-1710

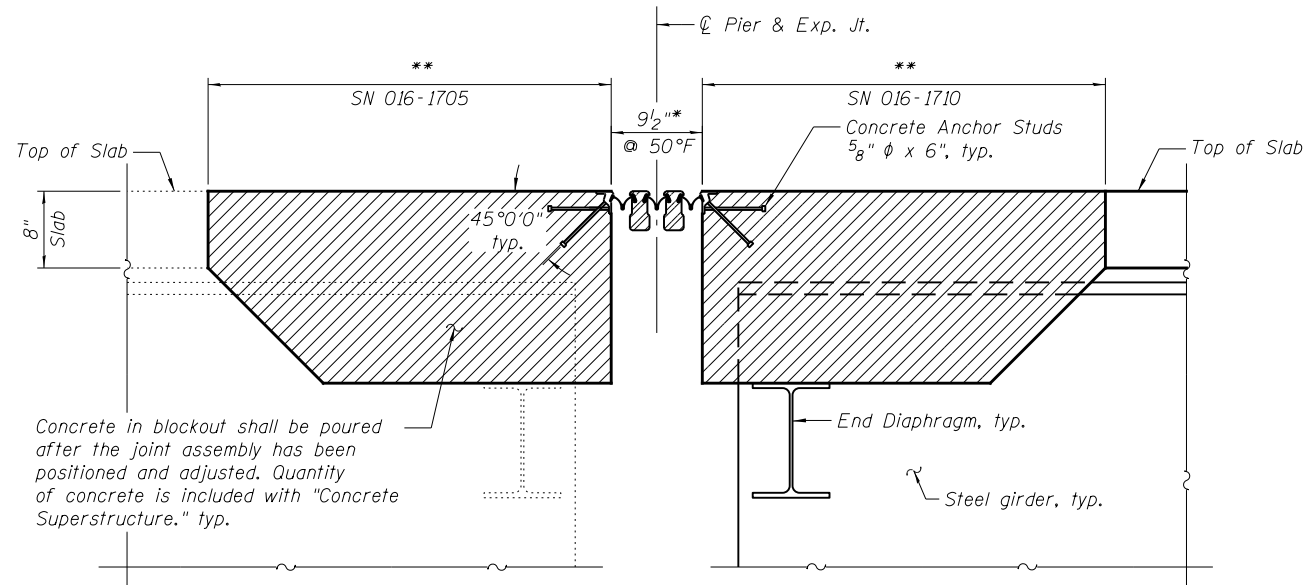
SHEET NO. S1-20 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 62B76	



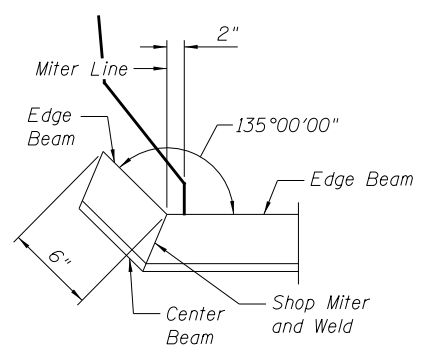


**SECTION B-B**

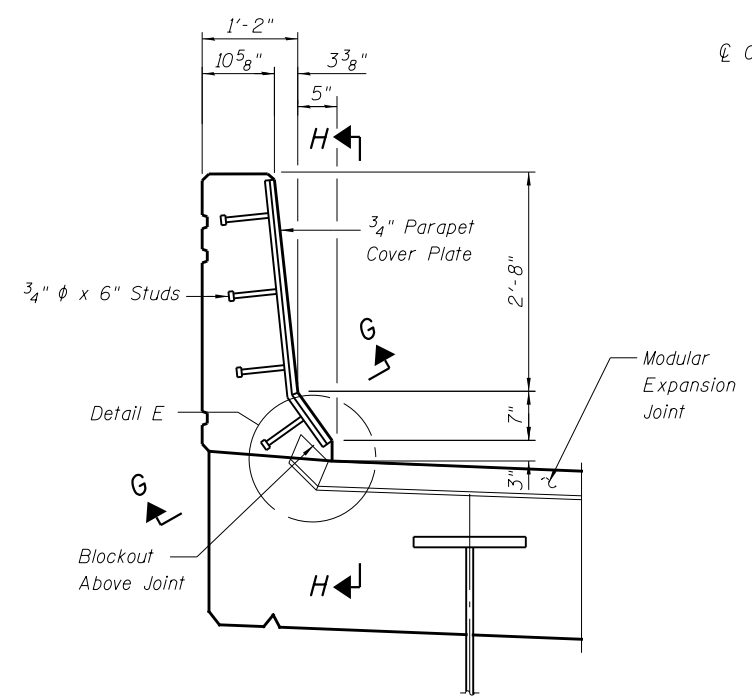


**SECTION C-C**

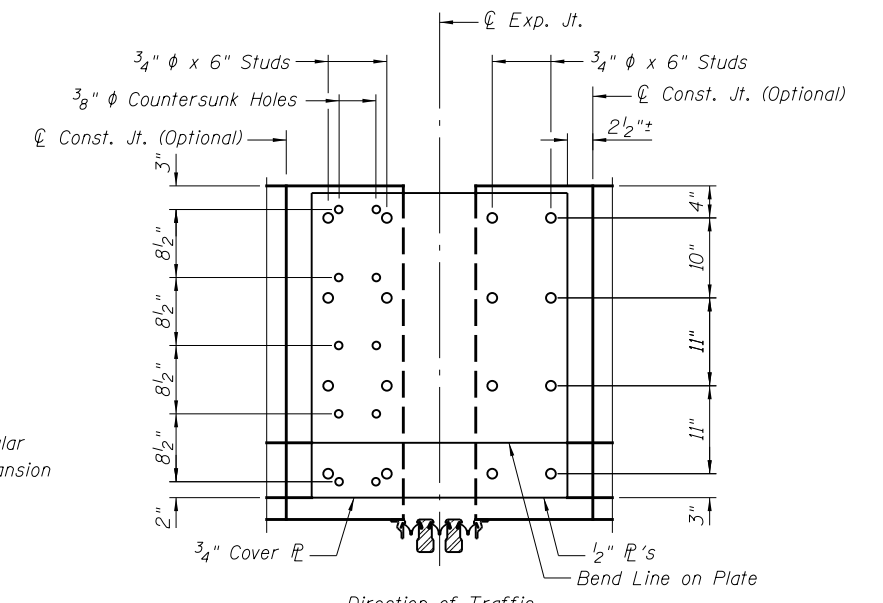
\* Number of beams and seals determined by manufacturer  
 \*\* Blockout dimensions to be verified by Contractor with Joint Manufacturer. See sheet S1-11 for blockout dimensions and additional details of edge beam at Pier 4.



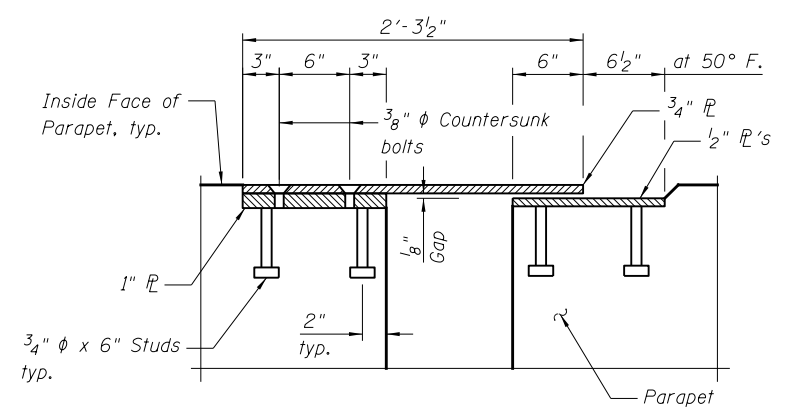
**DETAIL E**



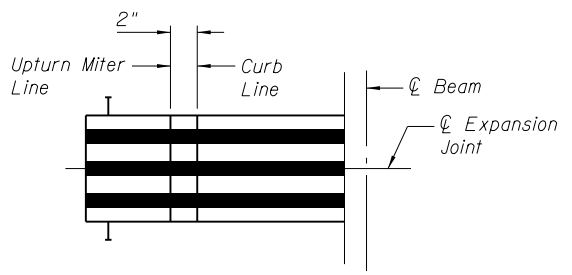
**DETAIL D**



**SECTION H-H**



**SECTION G-G**



**DETAIL F**

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**PARSONS BRINCKERHOFF**

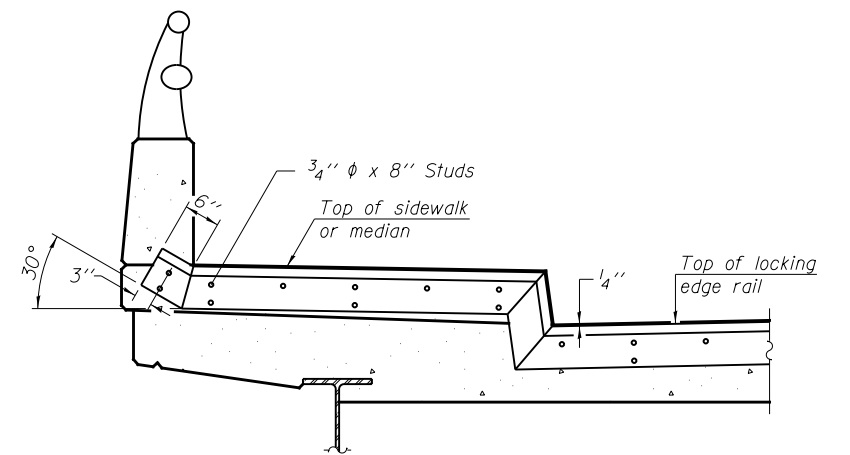
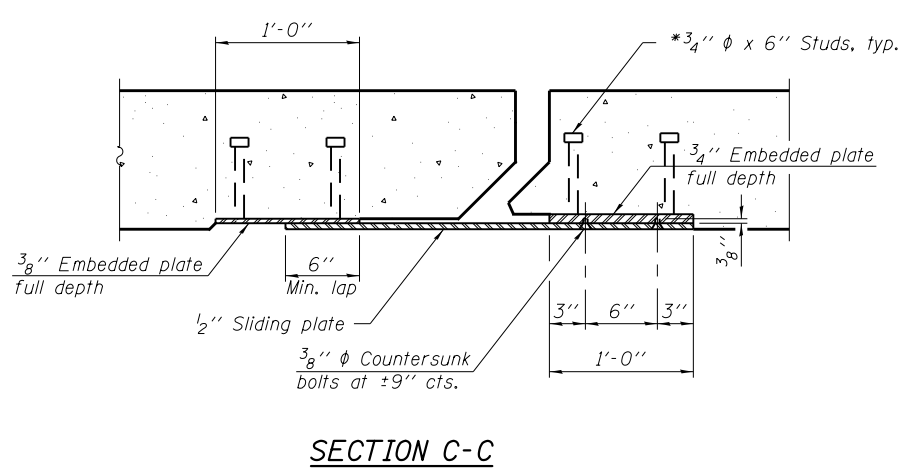
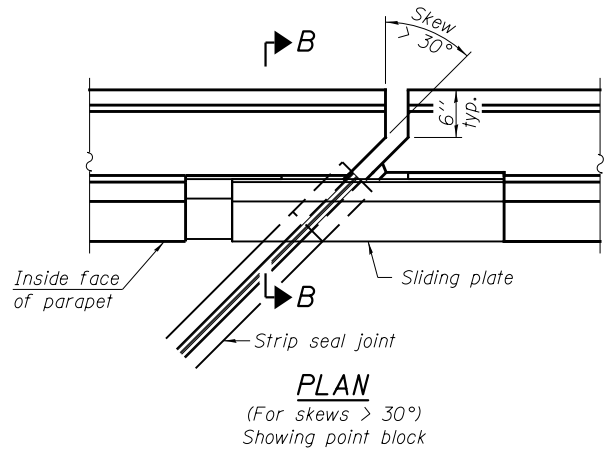
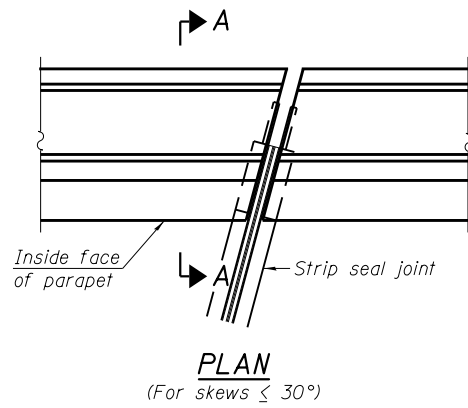
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

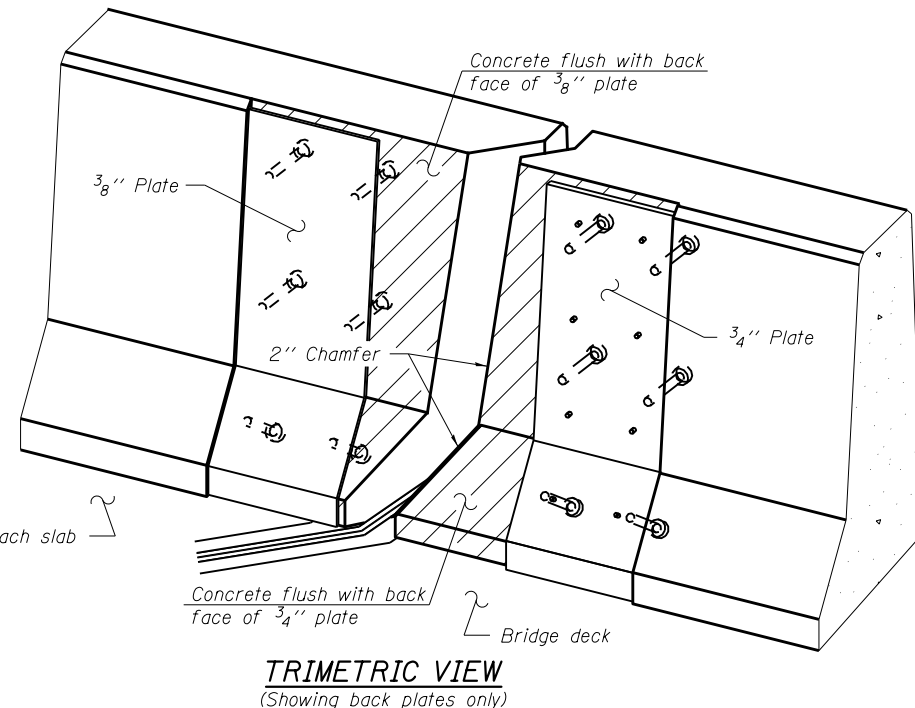
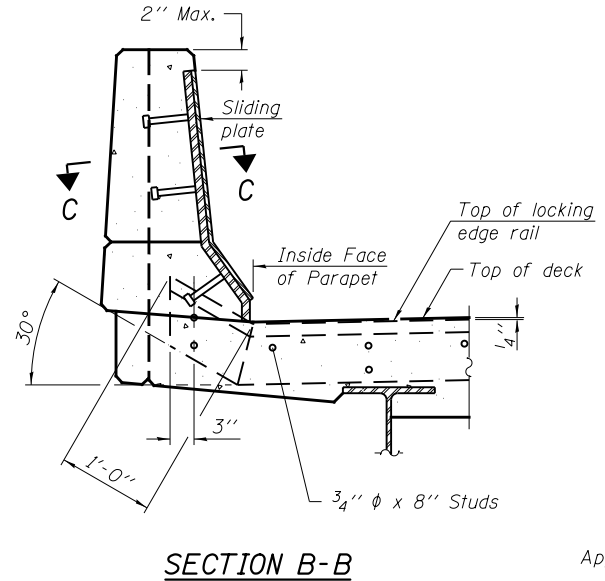
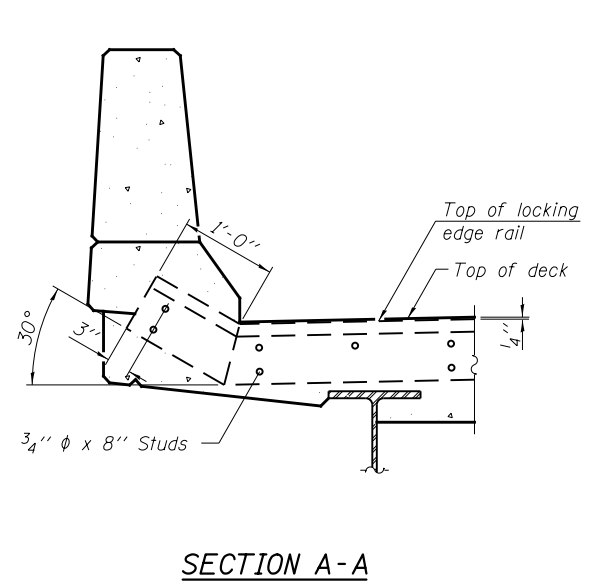
**MODULAR EXPANSION JOINT DETAILS  
 STRUCTURE NO. 016-1710**

SHEET NO. S1-21 OF S1-53 SHEETS

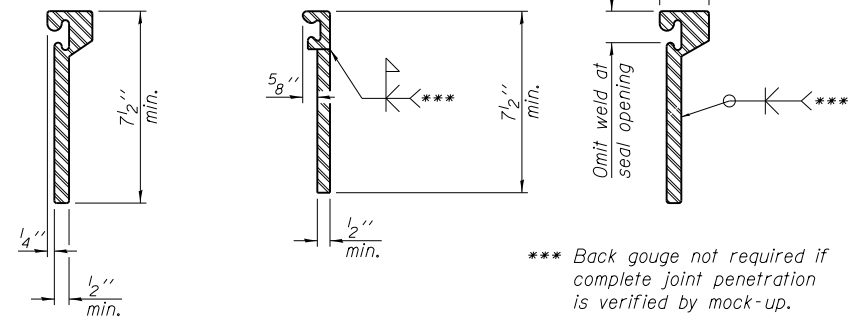
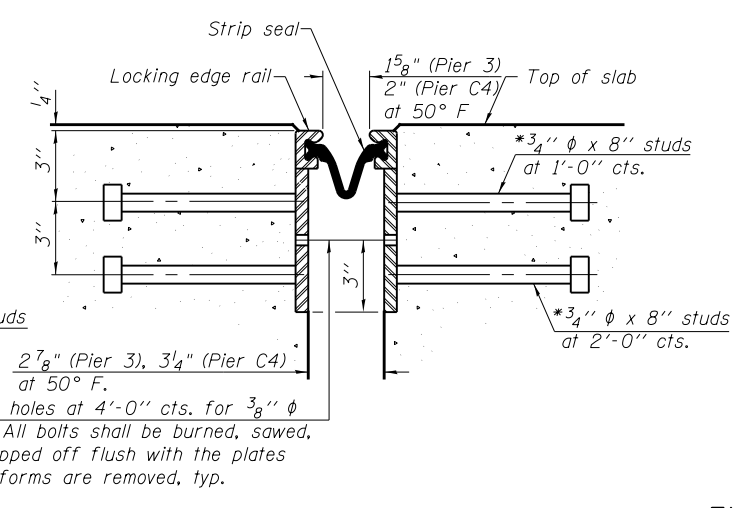
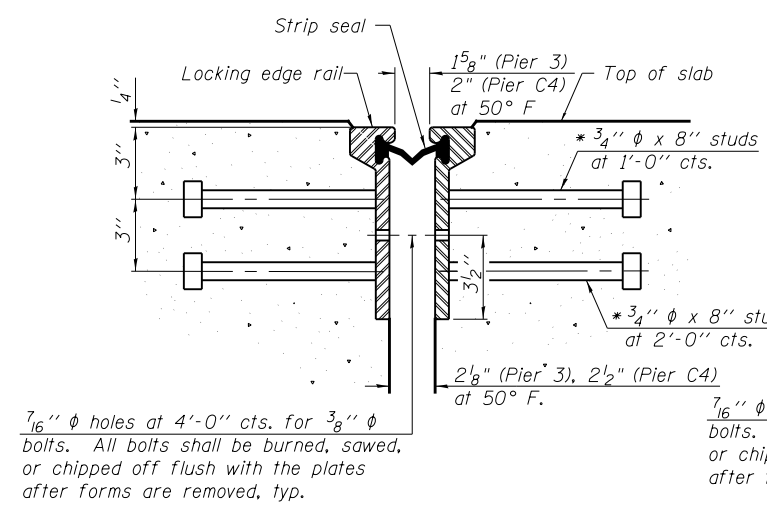
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90/94/290	2015-080R&B	COOK	250	160
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				



**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.



**Notes:**  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
The manufacturer's recommended installation methods shall be followed.  
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments shall be 3/16", sealed with a suitable sealant. Joints in rails within 10 ft. of curbs shall be welded.  
Parapet plates and anchorage studs for skews  $> 30^\circ$  included in the cost of Preformed Joint Strip Seal.



**SECTION THRU ROLLED RAIL JOINT**

**SECTION THRU WELDED RAIL JOINT**

**LOCKING EDGE RAILS**

**BILL OF MATERIAL**

Item	Unit	Total
Preformed Joint Strip Seal	Foot	62

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EJ-SSJ

1-27-12

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

**PARSONS BRINCKERHOFF**

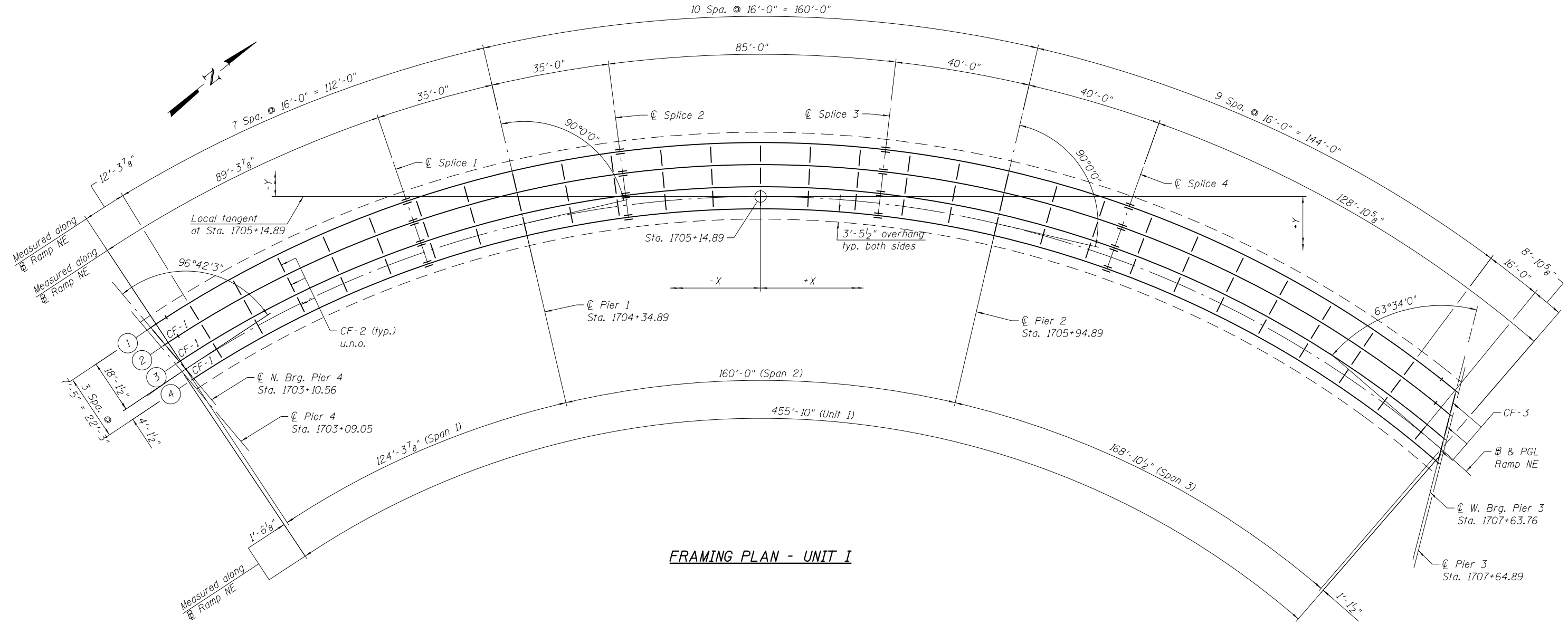
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**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**

**PREFORMED JOINT STRIP SEAL - PIERS 3 & C4  
STRUCTURE NO. 016-1710**

SHEET NO. S1-22 OF S1-53 SHEETS

F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 161
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**FRAMING PLAN - UNIT I**

**LAYOUT DIMENSIONS (in feet)**

Girder	C N. Brg. Pier 4		C Splice 1		C Pier 1		C Splice 2		C Splice 3		C Pier 2		C Splice 4		C W. Brg. Pier 3	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
1	-204.677	-44.021	-118.791	-1.568	-83.412	8.550	-47.200	15.087	41.980	15.724	83.412	8.550	123.756	-3.301	233.404	-65.327
2	-199.865	-49.726	-116.397	-8.588	-81.732	1.327	-46.249	7.731	41.134	8.355	81.732	1.327	121.263	-10.286	231.376	-73.277
3	-195.051	-55.432	-114.004	-15.608	-80.051	-5.897	-45.298	0.375	40.288	0.984	80.051	-5.897	118.769	-17.271	229.339	-81.265
4	-190.236	-61.140	-111.611	-22.628	-78.371	-13.121	-44.347	-6.980	39.442	-6.381	78.371	-13.121	116.276	-24.256	227.291	-89.293

**Notes:**

1. See Sheet S1-24 for girder elevation.
2. See Sheet S1-25 for camber, self-weight deflections & top of web elevations.
3. See Sheet S1-26 & S1-27 for moment tables & reaction tables.
4. See Sheet S1-28 for girder bolted field splice details.
5. See Sheets S1-29 for girder cross frame details.
6. Girder spacings and cross frame orientations are radial to the R Ramp NE, except at C N. Brg. Pier 4 & C W. Brg. Pier 3 supports where C Brg. and cross frame orientations are skewed along the centerline of supports.
7. Temporary lateral bracing for the top flanges in Span 2 will be required during steel erection and deck placement. This work will not be paid for separately, but shall be included in the Steel Erection plan.
8. The Contractor shall submit a comprehensive Steel Erection plan detailing the proposed methods, procedures, and plans for the erection of the structural steel to the desired lines, elevations, and geometry indicated in the Contract plans. Erection plans shall be complete in detail for all phases of the erection process and shall describe the erection procedures, sequences, geometry controls and adjustment procedures, temporary shoring or bracing, bearing and anchor bolt placement, bolt installation and tightening procedures, and shall include any necessary drawings and calculations. The Erection plan shall be prepared and sealed by an Illinois Licensed Structural Engineer and shall be submitted to the Engineer for review and acceptance.

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**PARSONS  
BRINCKERHOFF**

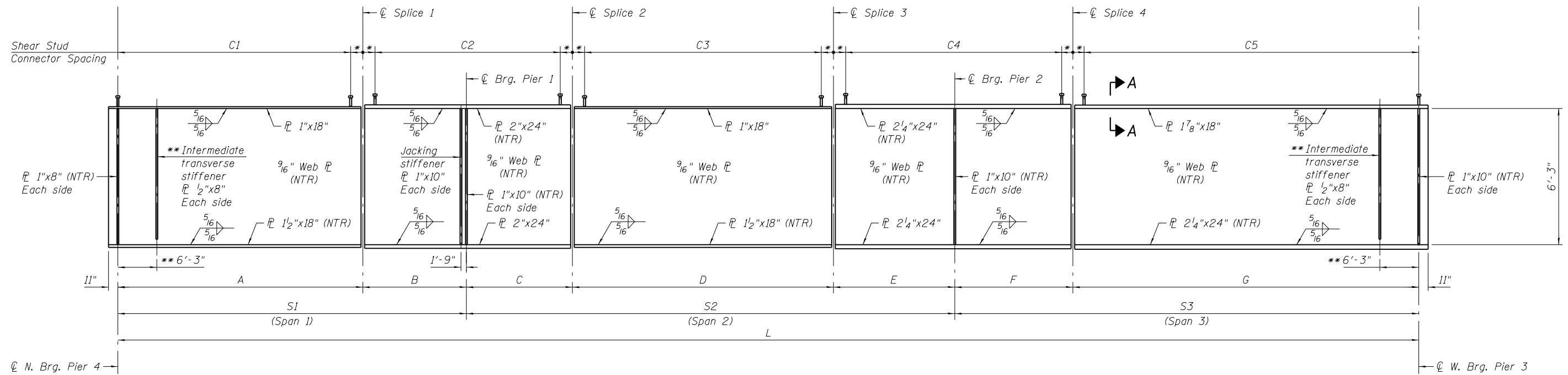
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PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**FRAMING PLAN - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-23 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	162
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**GIRDER ELEVATION - UNIT I**

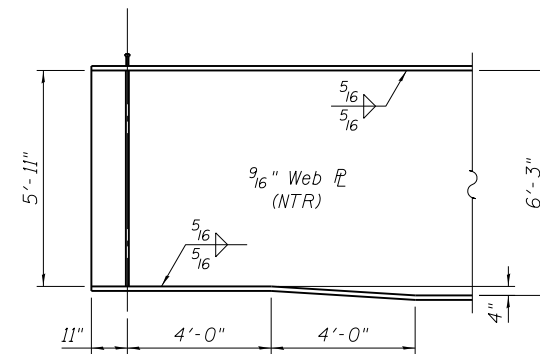
\* No shear connectors over splice plates.  
 \*\* Girders 1 and 2 only, see detail this sheet.

**GIRDER DIMENSIONS (in feet)**

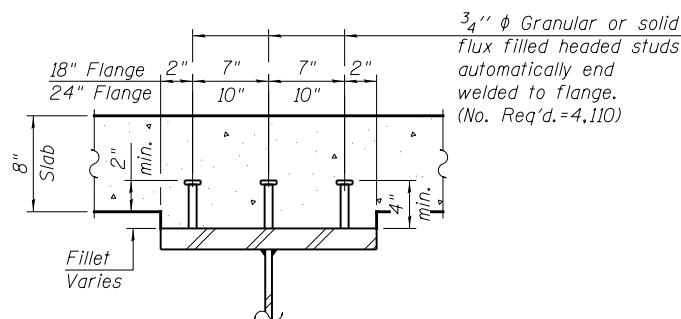
Girder	Radius	L	S1	S2	S3	A	B	C	D	E	F	G
1	368.125	469.847	132.890	168.286	168.671	96.078	36.812	36.812	89.402	42.072	42.072	126.599
2	360.708	463.025	129.385	164.895	168.745	93.314	36.071	36.071	87.600	41.224	41.224	127.521
3	353.292	456.220	125.879	161.505	168.836	90.550	35.328	35.328	85.799	40.376	40.376	128.460
4	345.875	449.433	122.374	158.114	168.946	87.786	34.588	34.588	83.998	39.529	39.529	129.417

**SHEAR STUD CONNECTOR SPACING**

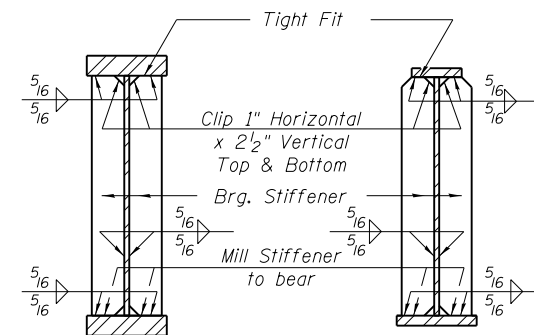
Girder	C1	C2	C3	C4	C5
1	71 Spa. @ 16"	53 Spa. @ 16"	65 Spa. @ 16"	61 Spa. @ 16"	94 Spa. @ 16"
2	69 Spa. @ 16"	52 Spa. @ 16"	63 Spa. @ 16"	59 Spa. @ 16"	94 Spa. @ 16"
3	67 Spa. @ 16"	52 Spa. @ 16"	63 Spa. @ 16"	59 Spa. @ 16"	96 Spa. @ 16"
4	65 Spa. @ 16"	50 Spa. @ 16"	62 Spa. @ 16"	58 Spa. @ 16"	97 Spa. @ 16"



**GIRDER 4 LINEAR HAUNCH DETAIL**

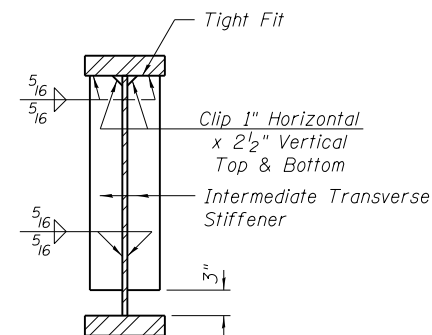


**SECTION A-A**



**SECTION AT PIERS 1 & 2**

**SECTION AT PIERS 3 & 4**



**SECTION AT INTERMEDIATE TRANSVERSE STIFFENER**

Notes:

- All structural steel shall be AASHTO M270 Grade 50.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- Intermediate transverse stiffeners shall use the same size clips & fillet welds as connection plates.

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**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - AH	REVISED -
PLOT DATE = 5/6/2016	DRAWN - IJL	REVISED -
	CHECKED - JIG	REVISED -

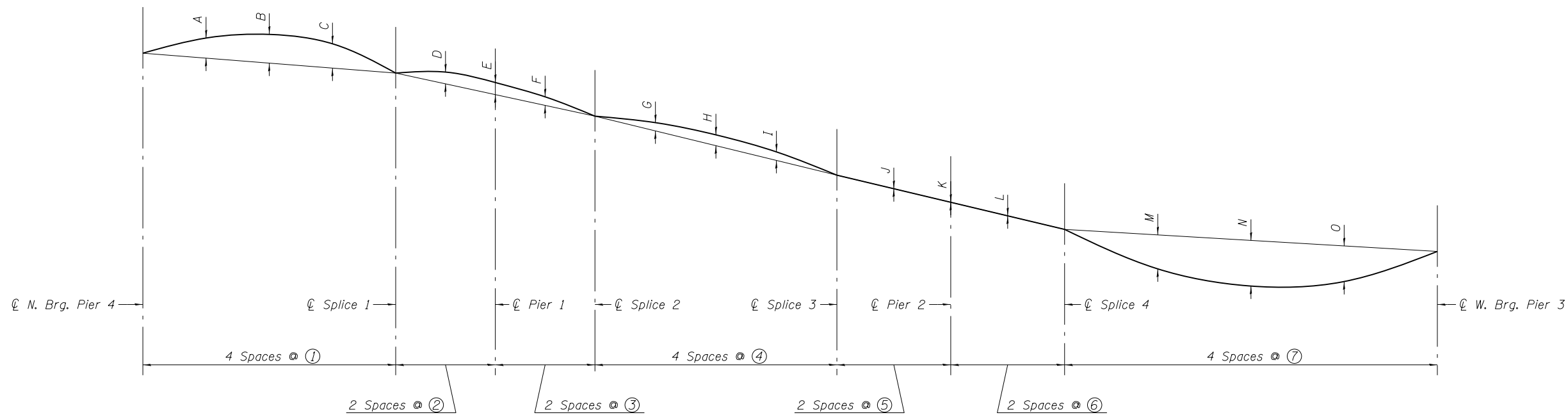
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE STEEL DETAILS I - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-24 OF S1-53 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	163
				CONTRACT NO. 62B76

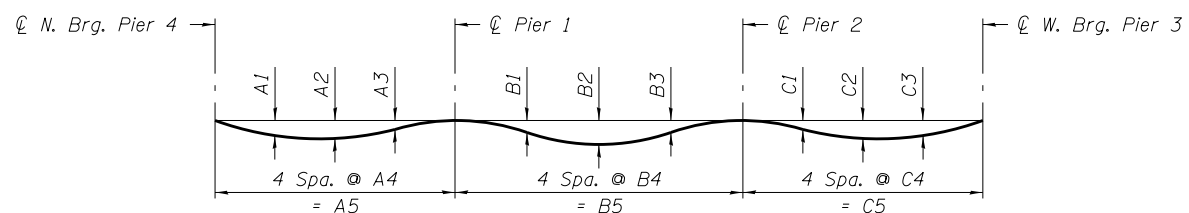
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**CAMBER DIAGRAM**

**CAMBER DIMENSIONS**

Girder	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	①	②	③	④	⑤	⑥	⑦
1	6"	8 1/4"	6 3/4"	2 1/4"	2 1/2"	1 3/4"	1 1/2"	1 3/4"	1 1/2"	0	0	0	2 1/2"	4"	3 1/2"	24.023'	18.406'	18.406'	22.350'	21.036'	21.036'	31.648'
2	5 1/4"	7 1/4"	6 3/4"	2 1/4"	2 1/2"	1 3/4"	1 1/4"	1 3/4"	1 1/4"	0	0	0	3 3/4"	5 3/4"	4 3/4"	23.333'	18.035'	18.035'	21.900'	20.612'	20.612'	31.887'
3	4 3/4"	6 3/4"	5 3/4"	2 1/2"	2 1/2"	1 3/4"	1 1/2"	2"	1 1/2"	0	0	0	5 3/4"	7 1/2"	6"	22.641'	17.665'	17.665'	21.450'	20.188'	20.188'	32.109'
4	4 1/4"	6"	5"	2 1/2"	2 1/2"	1 3/4"	1 3/4"	2 1/4"	1 3/4"	0	0	0	7"	9 1/2"	7 1/2"	21.948'	17.294'	17.294'	21.000'	19.764'	19.764'	32.354'



**DEAD LOAD DEFLECTION DIAGRAM**

(Includes weight of structural steel only.)

Note:

The calculated deflections of the primary girders under steel self-weight shall be used to detail the diaphragm, cross frame and lateral bracing connections, and to erect the structural steel such that the girders will be plumb within a tolerance of ± 1/8 in. per vertical ft. throughout when supporting their own weight.

**TOP OF WEB ELEVATIONS**

(For Fabrication only)

Girder	℄ N. Brg. Pier 4	℄ Splice 1	℄ Pier 1	℄ Splice 2	℄ Splice 3	℄ Pier 2	℄ Splice 4	℄ W. Brg. Pier 3
1	623.784	622.617	621.186	619.351	615.177	613.492	611.902	609.908
2	623.395	622.155	620.771	618.978	614.823	613.081	611.390	609.522
3	623.005	621.686	620.351	618.598	614.484	612.661	610.887	609.162
4	622.605	621.230	619.941	618.228	614.132	612.251	610.378	608.842

Girder No.	Span 1					Span 2					Span 3				
	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5
1	3/4"	1"	5/8"	±20'-9 1/4"	83'-0 3/4"	- 1/2"	- 7/8"	- 7/8"	±20'-9 1/4"	83'-0 3/4"	1 5/8"	2 3/4"	2 1/8"	±20'-9 1/4"	83'-0 3/4"
2	5/8"	3/4"	1/2"	±22'-0 3/4"	88'-3 1/4"	- 1/4"	- 1/2"	- 1/2"	±22'-0 3/4"	88'-3 1/4"	1 1/4"	2 1/8"	1 5/8"	±22'-0 3/4"	88'-3 1/4"
3	3/8"	1/2"	1/4"	±23'-4 1/2"	93'-5 3/4"	- 1/8"	- 1/8"	- 1/4"	±23'-4 1/2"	93'-5 3/4"	7/8"	1 3/8"	1"	±23'-4 1/2"	93'-5 3/4"
4	1/8"	1/4"	1/8"	±24'-8 1/8"	98'-8 3/8"	1/8"	1/8"	0	±24'-8 1/8"	98'-8 3/8"	1/2"	3/4"	5/8"	±24'-8 1/8"	98'-8 3/8"

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INTERIOR GIRDER 3 MOMENT TABLE						
	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3	
$I_s$	(in <sup>4</sup> )	83,882	162,103	83,882	180,945	145,449
$I_c(n)$	(in <sup>4</sup> )	181,867		181,867		276,002
$I_c(3n)$	(in <sup>4</sup> )	131,648		131,648		203,603
$I_c(cr)$	(in <sup>4</sup> )		177,008		196,081	
$S_s$	(in <sup>3</sup> )	2,397	4,104	2,397	4,552	4,319
$S_c(n)$	(in <sup>3</sup> )	3,132		3,132		5,193
$S_c(3n)$	(in <sup>3</sup> )	2,846		2,846		4,806
$S_c(cr)$	(in <sup>3</sup> )		4,220		4,666	
$S_{xc}$	(in <sup>3</sup> )	3,013	4,200	3,053	4,635	5,051
DC1	(k/')	1.076	1.262	1.076	1.303	1.221
M <sub>DC1</sub>	(k)	1,092	2,377	709	4,107	1,926
DC2	(k/')	0.290	0.290	0.290	0.290	0.290
M <sub>DC2</sub>	(k)	253.8	496.2	186.3	811.1	423.5
DW	(k/')	0.33	0.33	0.33	0.33	0.33
M <sub>DW</sub>	(k)	307.3	657.9	212.8	1013.9	493.8
$M\ddot{\epsilon} + IM$	(k)	1,549	2,106	1,451	2,416	1,918
$f_i$ (Strength I)	(ksi)	5.0	1.0	5.2	1.3	4.9
$M_u + \frac{1}{3} f_i S_{xc}$	(k)	5,272	8,380	4,419	12,064	7,721
$\phi_r M_n$	(k)					
$f_s$ DC1	(ksi)	5.5	7.0	3.6	10.9	5.4
$f_s$ DC2	(ksi)	1.1	1.5	0.8	2.1	1.1
$f_s$ DW	(ksi)	1.3	1.9	0.9	2.7	1.3
$f_s$ ( $\ddot{\epsilon} + IM$ )	(ksi)	6.0	6.0	5.6	6.3	4.5
$f_i$ (Service II)	(ksi)	3.8	0.8	4.0	1.1	3.8
$f_s + \frac{1}{2} f_i$ (Service II)	(ksi)	17.6	18.6	14.6	24.4	15.6
$0.95R_h F_{yr}$	(ksi)	47.5	47.5	47.5	47.5	47.5
$f_s + \frac{1}{3}$						
(Total)(Strength I)	(ksi)	22.0	24.2	18.0	31.7	19.2
$\phi_r F_n$	(ksi)	50	48.8	50	48.8	50
$V_f$	(k)		37.8		34.9	

INTERIOR GIRDER 3 REACTION TABLE					
	Pier 4	Pier 1	Pier 2	Pier 3	
R <sub>DC1</sub>	(k)	50.8	175.4	242.2	52.5
R <sub>DC2</sub>	(k)	9.0	29.7	40.8	6.3
R <sub>DW</sub>	(k)	15.2	51.2	63.6	14.7
$R\ddot{\epsilon} + IM$	(k)	81.2	133.4	140.9	83.3
R <sub>Total</sub>	(k)	156.2	389.7	487.5	156.8

EXTERIOR GIRDER 4 MOMENT TABLE						
	0.4 Sp. 1	Pier 1	0.5 Sp. 2	Pier 2	0.6 Sp. 3	
$I_s$	(in <sup>4</sup> )	83,882	162,103	83,882	180,945	145,449
$I_c(n)$	(in <sup>4</sup> )	180,100		180,100		273,226
$I_c(3n)$	(in <sup>4</sup> )	130,400		130,400		201,963
$I_c(cr)$	(in <sup>4</sup> )		176,531		195,595	
$S_s$	(in <sup>3</sup> )	2,397	4,104	2,397	4,552	4,319
$S_c(n)$	(in <sup>3</sup> )	3,123		3,123		5,181
$S_c(3n)$	(in <sup>3</sup> )	2,837		2,837		4,795
$S_c(cr)$	(in <sup>3</sup> )		4,217		4,664	
$S_{xc}$	(in <sup>3</sup> )	3,071	4,198	3,019	4,638	5,146
DC1	(k/')	1.116	1.302	1.116	1.343	1.261
M <sub>DC1</sub>	(k)	469	2,292	983	3,442	445
DC2	(k/')	0.290	0.290	0.290	0.290	0.290
M <sub>DC2</sub>	(k)	134.8	551.4	202.2	774.3	137.9
DW	(k/')	0.33	0.33	0.33	0.33	0.33
M <sub>DW</sub>	(k)	164	586.7	250	838.9	169
$M\ddot{\epsilon} + IM$	(k)	1,531	2,154	1,581	2,417	1,881
$f_i$ (Strength I)	(ksi)	3.6	0.5	7.1	0.2	4.2
$M_u + \frac{1}{3} f_i S_{xc}$	(k)	3,987	8,262	5,218	10,784	4,874
$\phi_r M_n$	(k)					
$f_s$ DC1	(ksi)	2.4	6.8	5.0	9.1	1.3
$f_s$ DC2	(ksi)	0.6	1.6	0.9	2.0	0.4
$f_s$ DW	(ksi)	0.7	1.7	1.1	2.2	0.5
$f_s$ ( $\ddot{\epsilon} + IM$ )	(ksi)	5.9	6.2	6.1	6.3	4.4
$f_i$ (Service II)	(ksi)	2.7	0.4	5.3	0.2	3.2
$f_s + \frac{1}{2} f_i$ (Service II)	(ksi)	12.7	18.4	17.6	21.6	9.5
$0.95R_h F_{yr}$	(ksi)	47.5	47.5	47.5	47.5	47.5
$f_s + \frac{1}{3}$						
(Total)(Strength I)	(ksi)	16.0	24.0	21.5	28.3	11.6
$\phi_r F_n$	(ksi)	50	48.9	50	48.9	50
$V_f$	(k)		47.9		49.1	

EXTERIOR GIRDER 4 REACTION TABLE					
	Pier 4	Pier 1	Pier 2	Pier 3	
R <sub>DC1</sub>	(k)	27.6	210.6	272.9	43.2
R <sub>DC2</sub>	(k)	9.0	56.2	67.8	17.3
R <sub>DW</sub>	(k)	7.0	50.2	63.6	10.3
$R\ddot{\epsilon} + IM$	(k)	78.3	142.1	150.3	74.0
R <sub>Total</sub>	(k)	121.9	459.1	554.6	144.8

$I_s, S_s$ : 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<sup>4</sup> and in<sup>3</sup>).

$I_c(n), S_c(n)$ : 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<sup>4</sup> and in<sup>3</sup>).

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

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

$S_{xc}$ : Section modulus about the major axis of section to the controlling flange, tension or compression, taken as yield moment with respect to the controlling flange over the yield strength of the controlling flange (in<sup>3</sup>).

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

M<sub>DC1</sub>: 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<sub>DC2</sub>: 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<sub>DW</sub>: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

$M\ddot{\epsilon} + IM$ : Un-factored live load moment plus dynamic load allowance (Impact)(kip-ft.).

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

$f_i$ : Factored calculated normal stress at edge of flange for controlling flange plate due to lateral bending, Strength I or Service II as applicable (ksi).

$\phi_r M_n$ : 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).  
 $M_{DC1} / S_{sc}$

$f_s$  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.

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

$f_s + \frac{1}{2}$  (Service II): Sum of stresses as computed below (ksi).  
 $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (\ddot{\epsilon} + IM) + \frac{1}{2}$

$0.95R_h F_{yf}$ : Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

$f_s + \frac{1}{3}$  (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).  
 $1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (\ddot{\epsilon} + IM) + \frac{1}{3}$

$\phi_r F_n$ : 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.

Note:  
 $M\ddot{\epsilon}$  and  $R\ddot{\epsilon}$  include the effects of centrifugal force and superelevation.

0161710-62B76-S027-DET.dgn

**PARSONS  
BRINCKERHOFF**

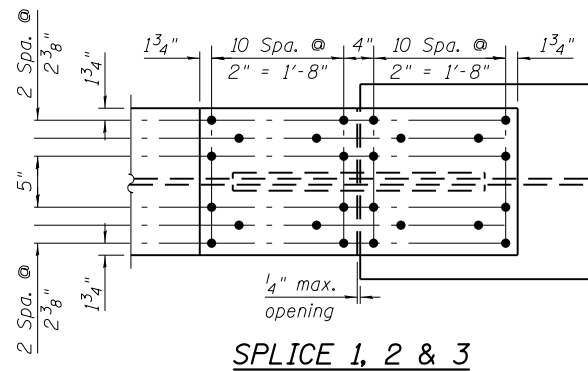
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

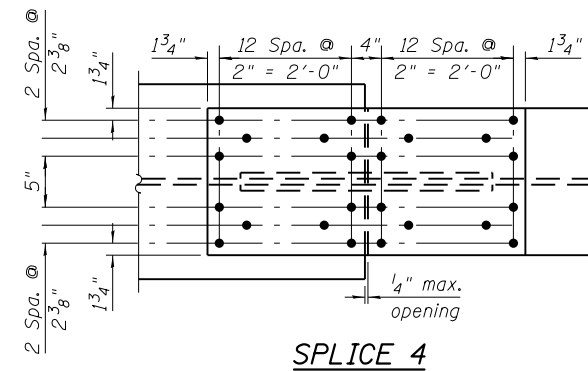
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STRUCTURE NO. 016-1710**

SHEET NO. S1-27 OF S1-53 SHEETS

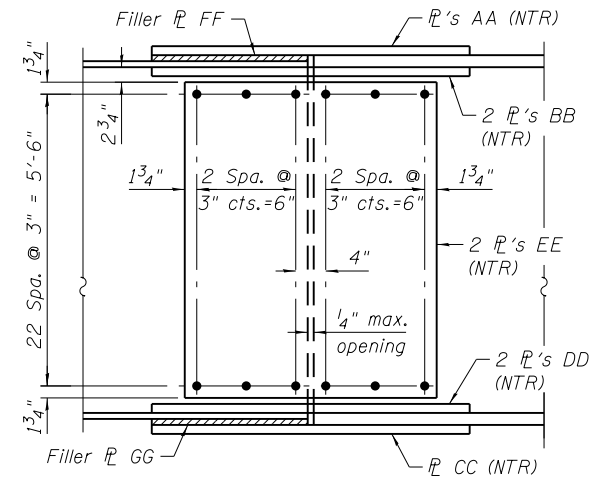
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90/94/290	2015-080R&B	COOK	250	166
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				



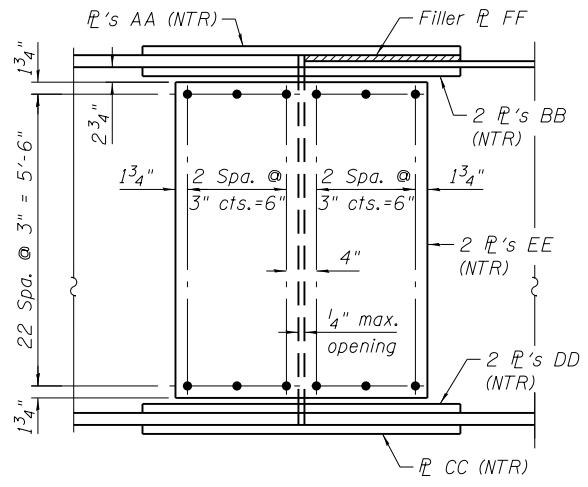
**SPLICE 1, 2 & 3**  
(Looking at top of top flange)



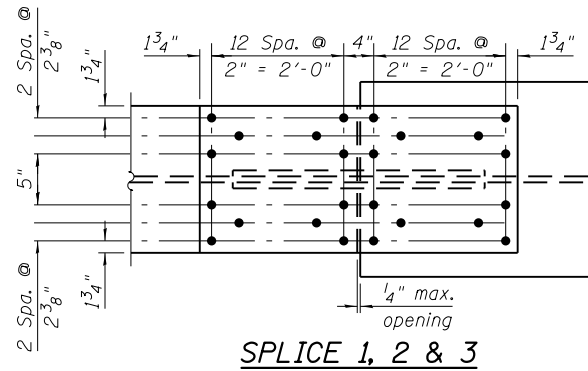
**SPLICE 4**  
(Looking at top of top flange)



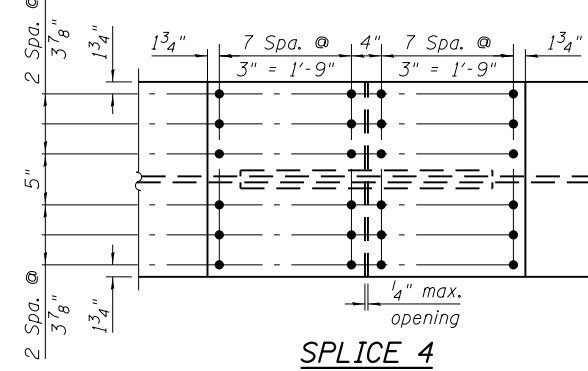
**SPLICE 1, 2 & 3**  
**ELEVATION**



**SPLICE 4**  
**ELEVATION**



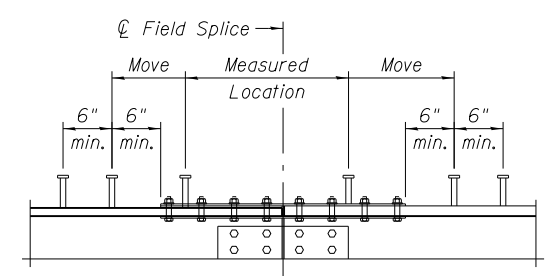
**SPLICE 1, 2 & 3**  
**PLAN**  
(Looking at bottom of bottom flange)



**SPLICE 4**  
**PLAN**  
(Looking at bottom of bottom flange)

**SPLICE PLATE DIMENSIONS**

Splice	R AA	R BB	R CC	R DD	R EE	Filler R FF	Filler R GG
1, 2	7/8"x1'-6"x3'-11 1/2"	1"x7 1/2"x3'-11 1/2"	1"x1'-6"x4'-7 1/2"	1 1/4"x7 1/2"x4'-7 1/2"	3/8"x1'-7 1/2"x5'-9 1/2"	1"x1'-6"x1'-11 5/8"	1/2"x1'-6"x2'-3 5/8"
3	7/8"x1'-6"x3'-11 1/2"	1"x7 1/2"x3'-11 1/2"	1"x1'-6"x4'-7 1/2"	1 1/4"x7 1/2"x4'-7 1/2"	3/8"x1'-7 1/2"x5'-9 1/2"	1 1/4"x1'-6"x1'-11 5/8"	3/4"x1'-6"x2'-3 5/8"
4	1"x1'-6"x4'-7 1/2"	1 1/4"x7 1/2"x4'-7 1/2"	1 1/4"x2'-0"x4'-1 1/2"	1 1/2"x10 1/2"x4'-1 1/2"	3/8"x1'-7 1/2"x5'-9 1/2"	3/8"x1'-6"x2'-3 5/8"	N/A



**SHEAR CONNECTOR DETAIL AT SPLICES**

DO NOT place shear connectors on splice plates. Move row of studs to 6" beyond nearest edge of splice plate from measured location.

- Notes:
- AASHTO M270 Grade 50 steel shall be used for all splice plates, except fill plates which may be AASHTO M270 Grade 36 or 50.
  - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2), including all flange and web splice plates (except fill plates).
  - Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8 in.  $\phi$ , holes 15/16 in.  $\phi$ , unless otherwise noted. Design assumes threads in shear plane and Class A slip surface.

0161710-62B76-S028-DET.dgn



USER NAME =	lopezgonzalez	DESIGNED -	IJL	REVISED -	
		CHECKED -	AH	REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	IJL	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

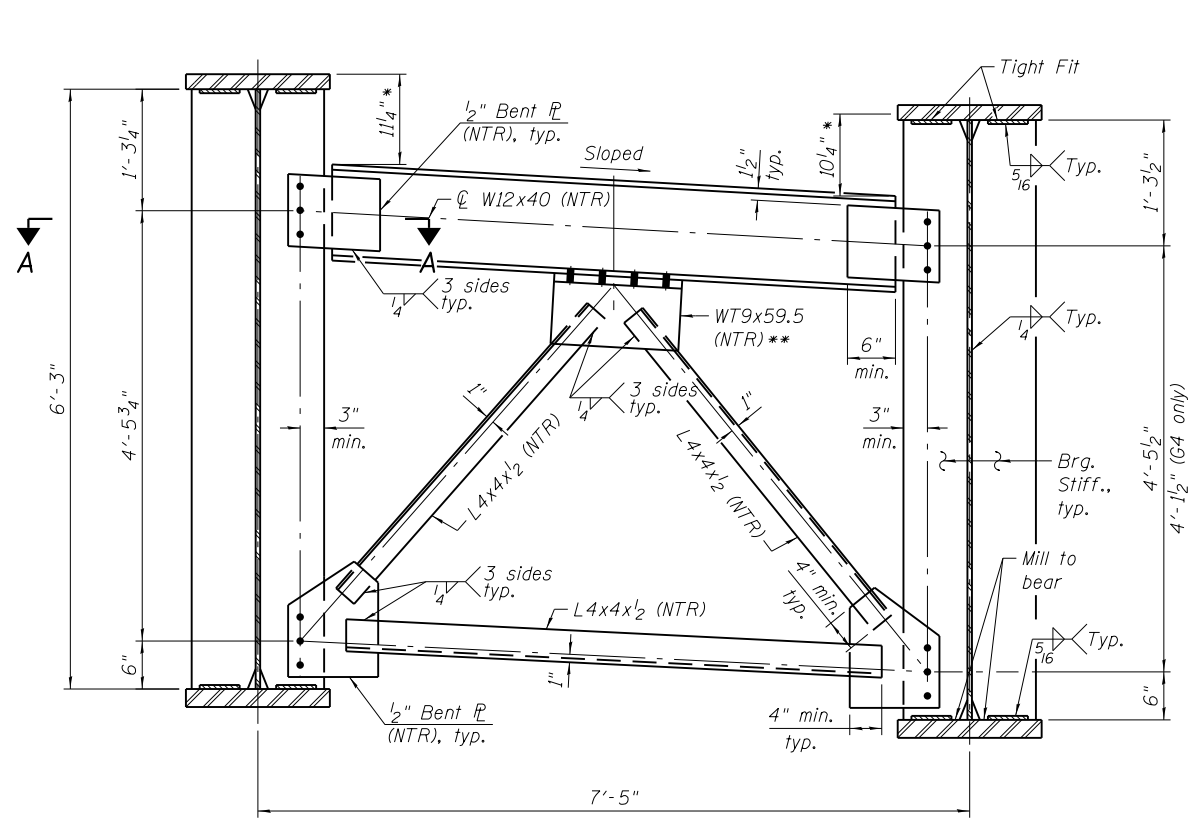
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE STEEL DETAILS V - UNIT I**  
**STRUCTURE NO. 016-1710**

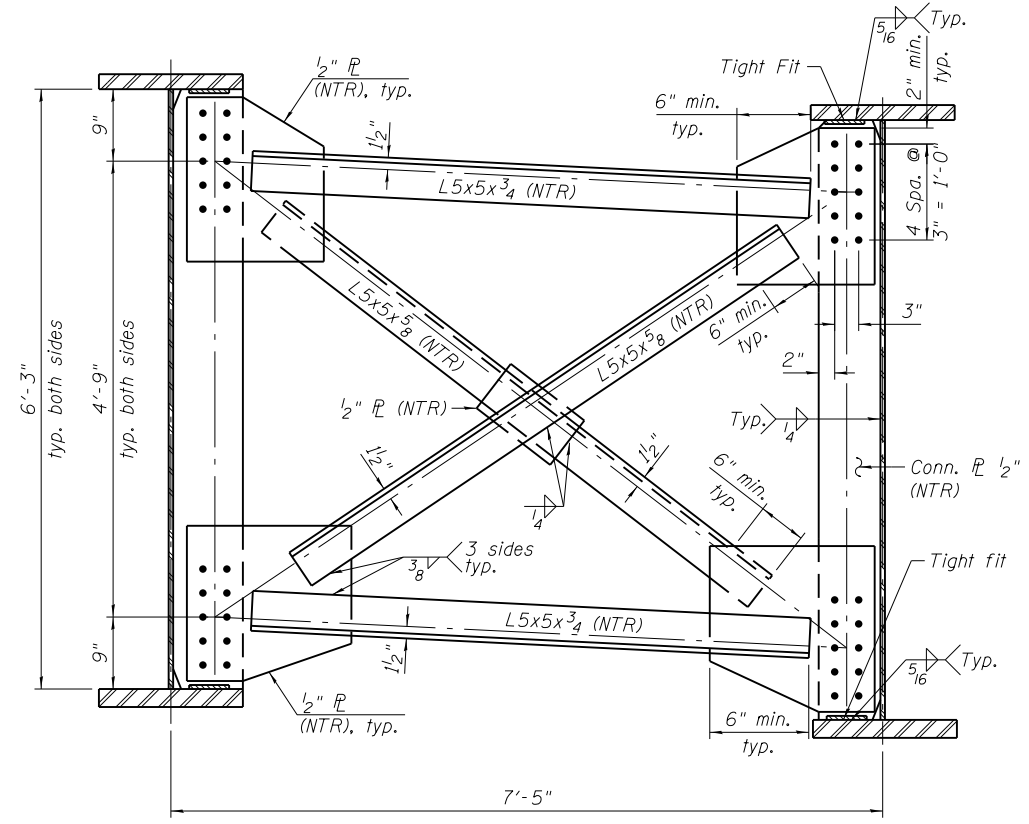
SHEET NO. S1-28 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				

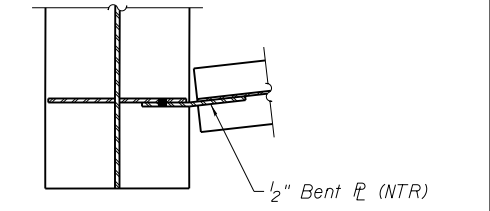




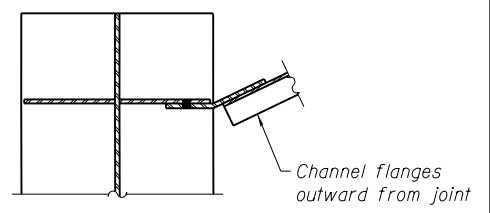
**END CROSS FRAME CF-1**  
(3 Required)



**INTERIOR CROSS FRAME CF-2**  
(55 Required)



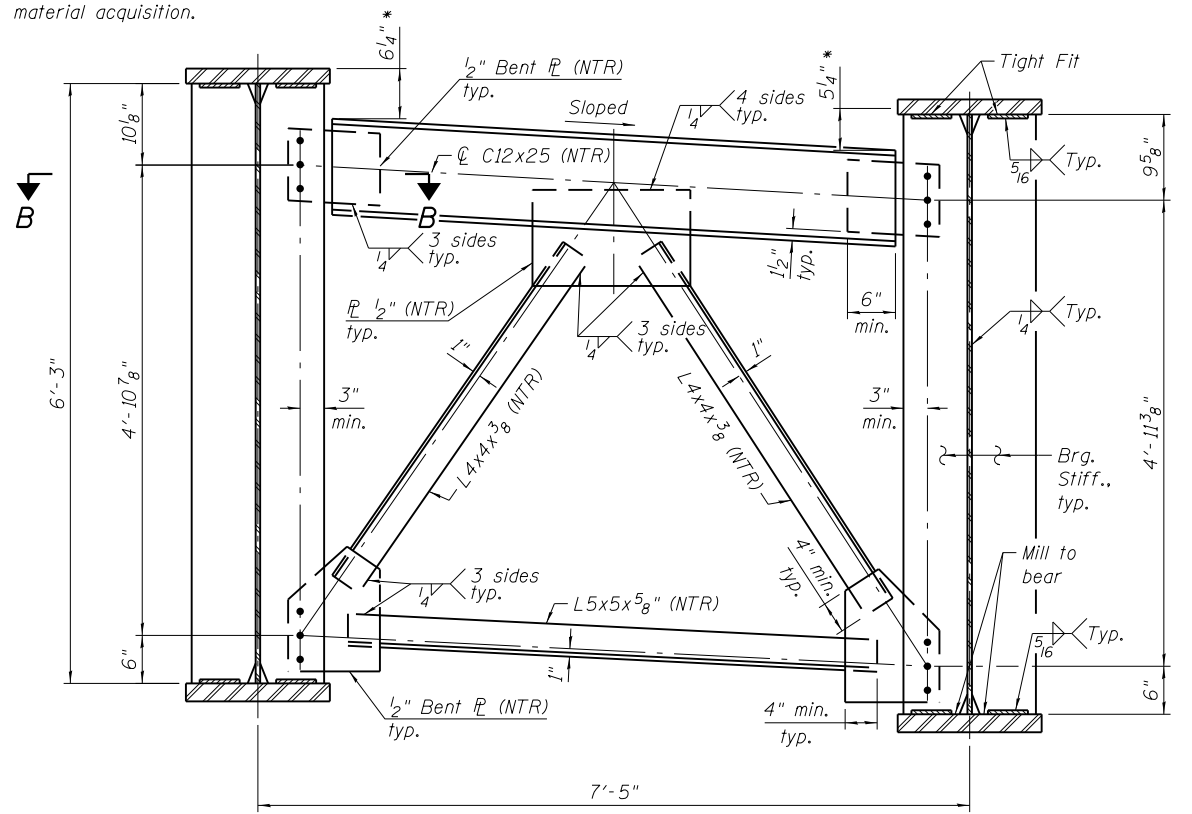
**SECTION A-A**



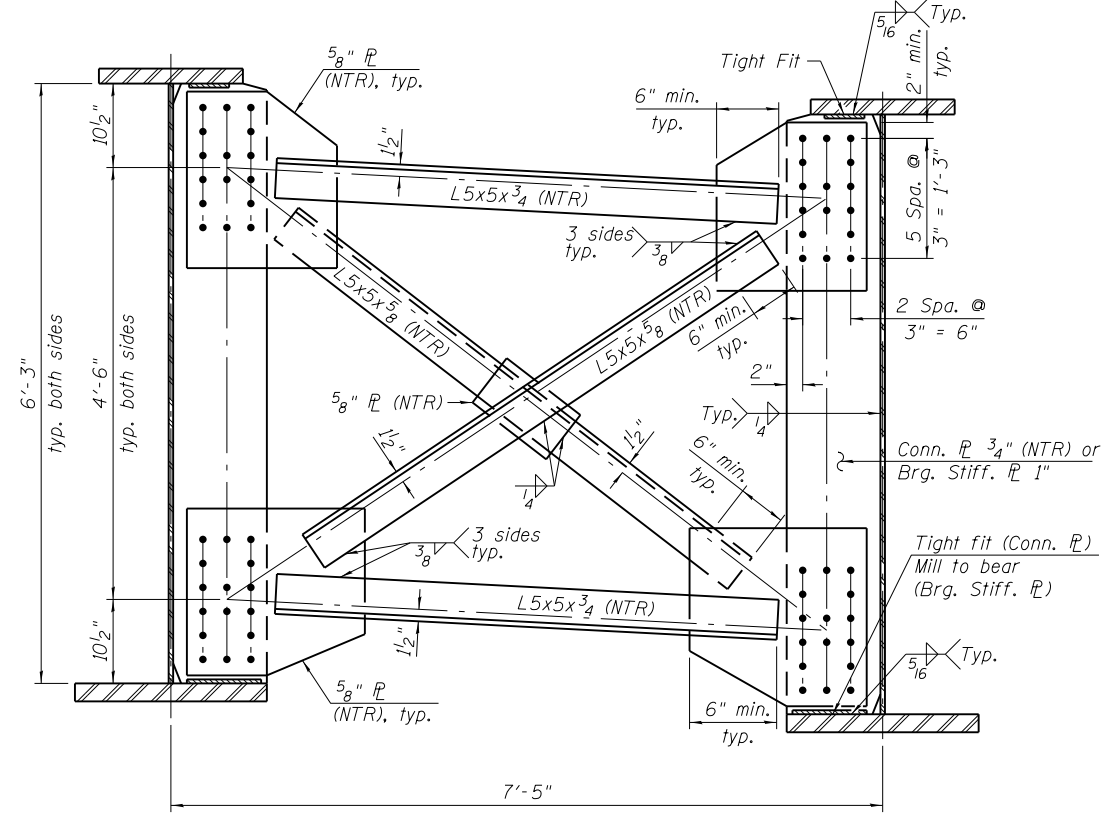
**SECTION B-B**

\* Contractor to coordinate with Modular Joint Manufacturer.

\*\* Alternate WT shapes utilizing 5/8" web thickness are permitted to facilitate material acquisition.



**END CROSS FRAME CF-3**  
(3 Required)



**INTERIOR CROSS FRAME CF-4**  
(21 Required)

Notes:

1. See sheet S1-23 for location of girder cross frames.
2. AASHTO M270 Grade 50 steel shall be used for all cross frames, connection plates, and bearing stiffeners, unless noted otherwise.
3. Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness (Zone 2), including all flange and web splice plates (except fill plates).
4. Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts 7/8 in.  $\phi$ , holes 15/16 in.  $\phi$ , unless otherwise noted. Two hardened washers required for each set of oversized holes.
5. Bolt spacing shall be 3" min. and edge distances shall be 2" min.
6. All cross frames or diaphragms between beams or girders shall be installed with erection pins and bolts in accordance with the erection plan approved by the Engineer. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
7. Erection shall be accomplished by a steel erection contractor or sub-contractor 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".
8. If any field reaming is required, two hardened washers are required for each oversized bolt hole.
9. The Contractor shall either:
  - a. Ream cross frame connection holes during shop assembly, or
  - b. Provide detailing fabrication controls acceptable to the Engineer which ensures accuracy such that field reaming will not exceed the amount permitted in Article 505.08(1) of the Standard Specifications.

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**PARSONS BRINCKERHOFF**

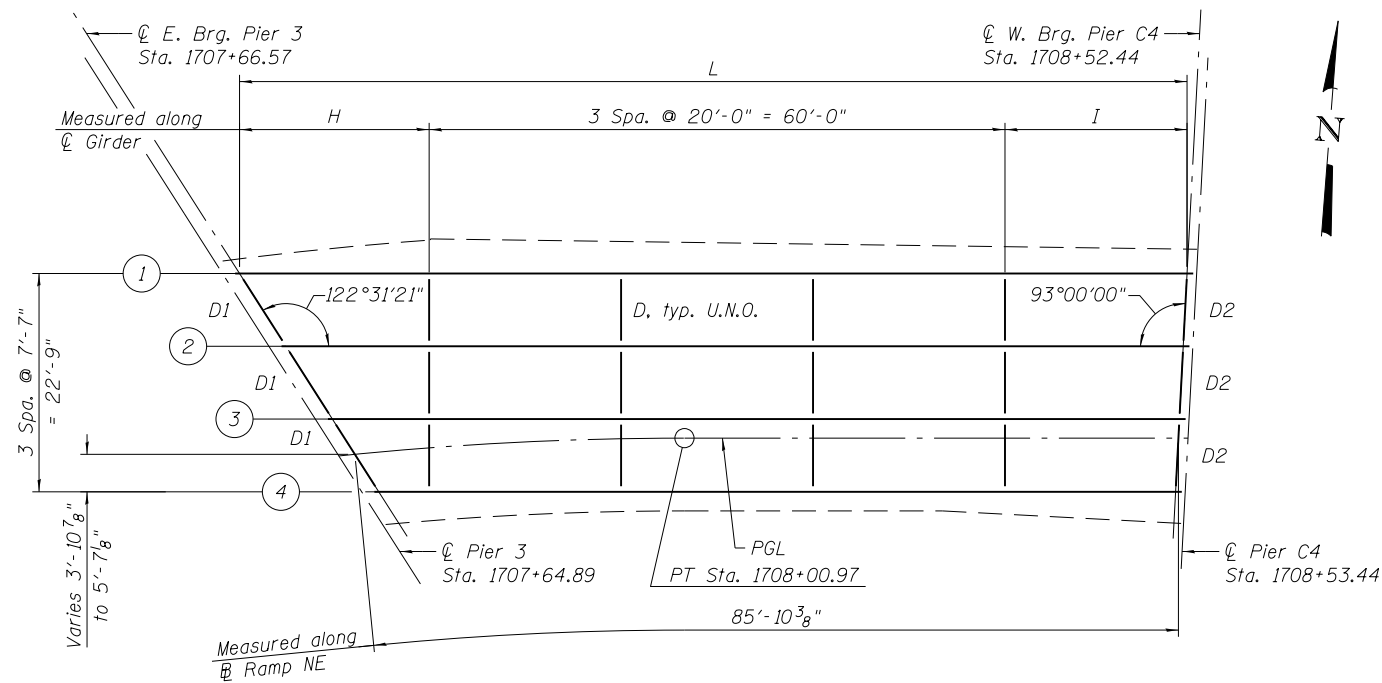
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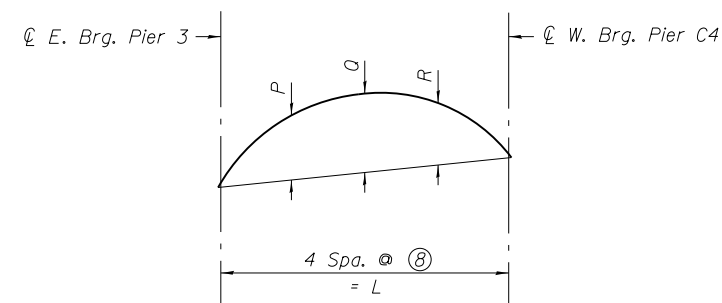
**SUPERSTRUCTURE STEEL DETAILS VI - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-29 OF S1-53 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	168
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



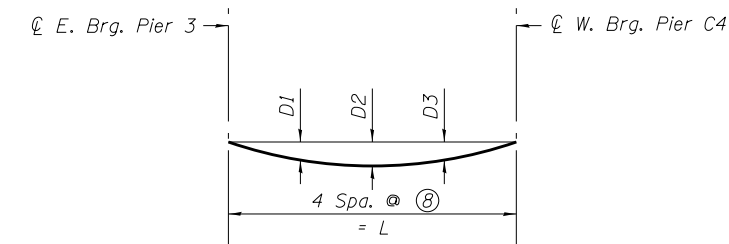
FRAMING PLAN - UNIT II



CAMBER DIAGRAM

CAMBER DIMENSIONS

Girder	P	Q	R
1	2"	3 1/2"	2 1/2"
2	1 3/4"	3 1/4"	2 1/4"
3	1 3/4"	3"	2"
4	1 1/2"	2 1/2"	1 3/4"



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of structural steel only.)

Girder No.	Span 4			
	D1	D2	D3	Ⓢ
1	5/8"	7/8"	5/8"	±20'-9 1/4"
2	1/2"	11/16"	1/2"	±22'-0 3/4"
3	3/8"	9/16"	3/8"	±23'-4 1/2"
4	5/16"	7/16"	5/16"	±24'-8 1/8"

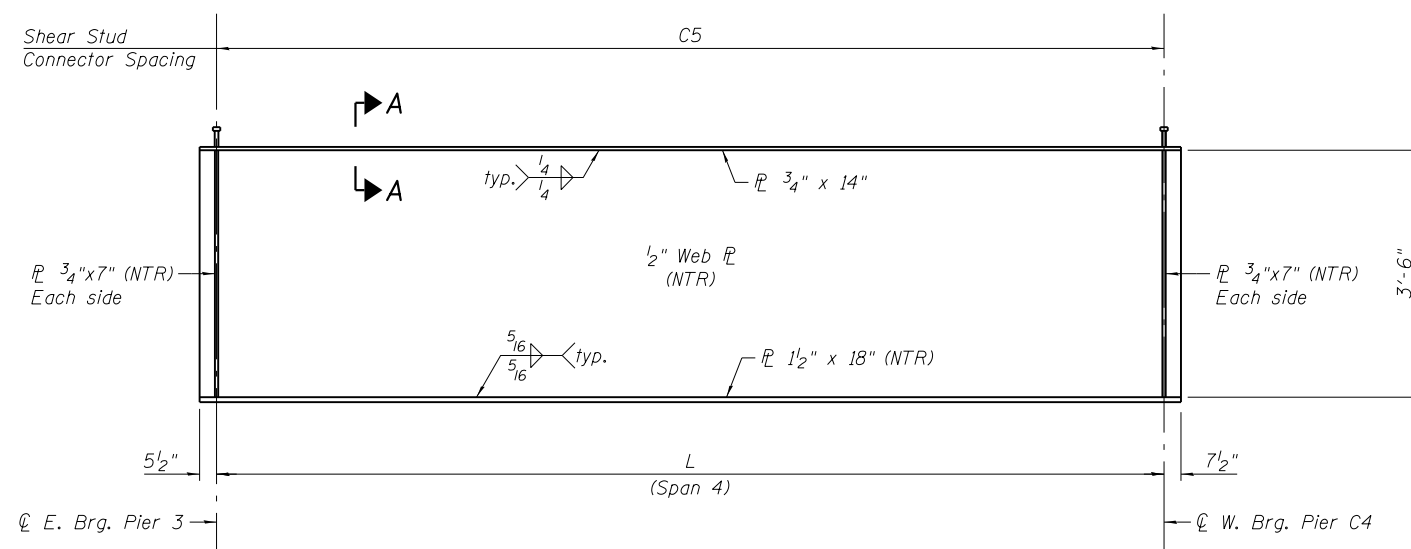
GIRDER DIMENSIONS & SHEAR STUD CONNECTOR SPACING

Girder	H	I	L	C5
1	19'-9 1/8"	18'-11 5/8"	98'-8 3/4"	79 Spa. @ ±15"
2	14'-11"	18'-6 3/8"	93'-5 3/8"	75 Spa. @ ±15"
3	10'-1 1/8"	18'-2 1/8"	88'-3 1/4"	71 Spa. @ ±14 7/8"
4	5'-3"	17'-9 3/8"	83'-0 3/8"	67 Spa. @ ±14 7/8"

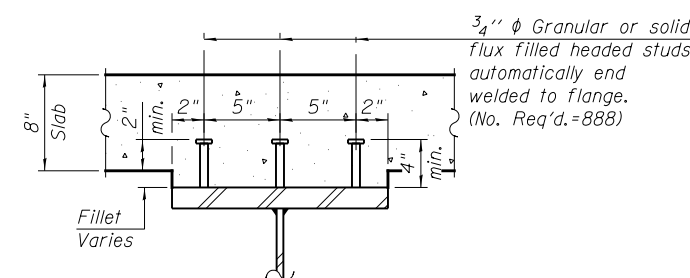
TOP OF WEB ELEVATIONS

(For Fabrication only)

Girder	℄ E. Brg. Pier 3	℄ W. Brg. Pier C4
1	609.96	610.92
2	609.71	610.91
3	609.33	610.77
4	608.99	610.63



GIRDER ELEVATION - UNIT II



SECTION A-A

Notes:

- See Sheets S1-31 for steel details.
- See Sheet S1-32 for moment tables & reaction tables.
- All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

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**PARSONS  
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PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -

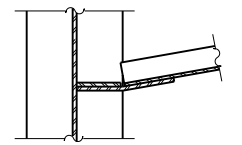
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FRAMING PLAN - UNIT II  
STRUCTURE NO. 016-1710

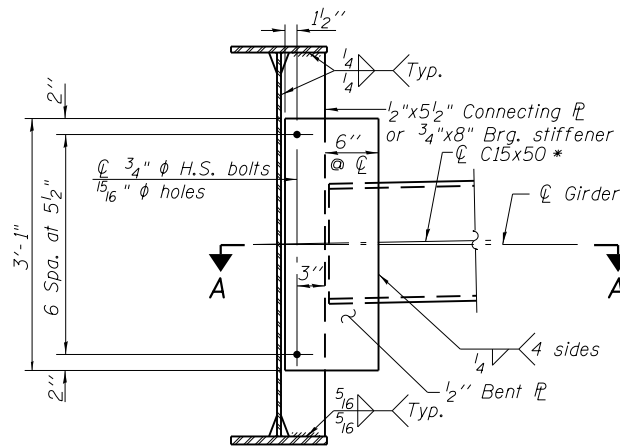
SHEET NO. S1-30 OF S1-53 SHEETS

F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	169
CONTRACT NO. 62B76				

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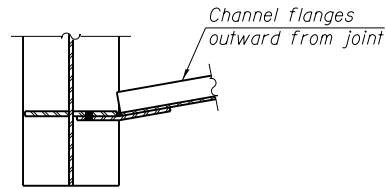
**SECTION A-A**



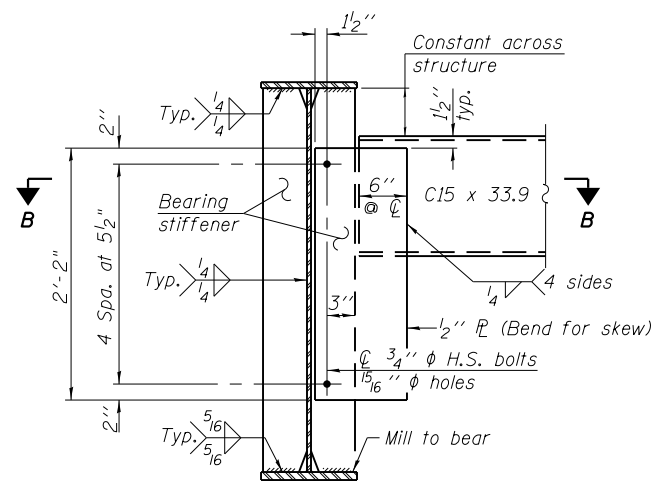
**INTERIOR DIAPHRAGM D**

(12 Required)

Note:  
Two hardened washers required for each set of oversized holes.

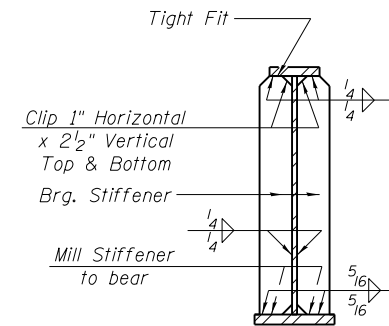


**SECTION B-B**



**END DIAPHRAGM**

Note: Two hardened washers required for each set of oversized holes.



**SECTION E. BRG. PIER 3  
& W. BRG. PIER C4**

Notes:

1. Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
2. All structural steel shall be AASHTO M 270 Grade 50.

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**PARSONS  
BRINCKERHOFF**

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DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE STEEL DETAILS I - UNIT II  
STRUCTURE NO. 016-1710**

SHEET NO. S1-31 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	170
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

EXTERIOR GIRDER 1 MOMENT TABLE		
	0.5 Sp. 4	
$I_s$	(in <sup>4</sup> )	18,412
$I_c(n)$	(in <sup>4</sup> )	56,601
$I_c(3n)$	(in <sup>4</sup> )	38,655
$I_c(cr)$	(in <sup>4</sup> )	
$S_s$	(in <sup>3</sup> )	1,130
$S_c(n)$	(in <sup>3</sup> )	1,603
$S_c(3n)$	(in <sup>3</sup> )	1,463
$S_c(cr)$	(in <sup>3</sup> )	
DC1	(k/')	1.00
$M_{DC1}$	('k)	1,206
DC2	(k/')	0.30
$M_{DC2}$	('k)	353
DW	(k/')	0.38
$M_{DW}$	('k)	447
$M_{\xi} + IM$	('k)	1,582
$M_u$ (Strength I)	('k)	5,388
$\phi_r M_n$	('k)	7,260
$f_s$ DC1	(ksi)	12.9
$f_s$ DC2	(ksi)	2.9
$f_s$ DW	(ksi)	3.7
$f_s$ ( $\xi + IM$ )	(ksi)	11.9
$f_s$ (Service II)	(ksi)	35.0
$0.95R_n F_y f$	(ksi)	47.5
$f_s$ (Total)(Strength I)	(ksi)	46.1
$\phi_r F_n$	(ksi)	
$V_f$	(k)	37.0

EXTERIOR GIRDER 1 REACTION TABLE			
		E. Brg. Pier 3	W. Brg. Pier C4
$R_{DC1}$	(k)	47.5	48.1
$R_{DC2}$	(k)	14.4	14.7
$R_{DW}$	(k)	18.3	18.6
$R_{\xi} + IM$	(k)	62.5	70.0
$R_{Total}$	(k)	142.7	151.4

INTERIOR GIRDER 2 MOMENT TABLE		
	0.5 Sp. 4	
$I_s$	(in <sup>4</sup> )	18,412
$I_c(n)$	(in <sup>4</sup> )	57,977
$I_c(3n)$	(in <sup>4</sup> )	39,831
$I_c(cr)$	(in <sup>4</sup> )	
$S_s$	(in <sup>3</sup> )	1,130
$S_c(n)$	(in <sup>3</sup> )	1,610
$S_c(3n)$	(in <sup>3</sup> )	1,475
$S_c(cr)$	(in <sup>3</sup> )	
DC1	(k/')	1.00
$M_{DC1}$	('k)	1,101
DC2	(k/')	0.30
$M_{DC2}$	('k)	333
DW	(k/')	0.38
$M_{DW}$	('k)	421
$M_{\xi} + IM$	('k)	1,543
$M_u$ (Strength I)	('k)	5,124
$\phi_r M_n$	('k)	7,359
$f_s$ DC1	(ksi)	11.7
$f_s$ DC2	(ksi)	2.8
$f_s$ DW	(ksi)	3.5
$f_s$ ( $\xi + IM$ )	(ksi)	11.5
$f_s$ (Service II)	(ksi)	33.0
$0.95R_n F_y f$	(ksi)	47.5
$f_s$ (Total)(Strength I)	(ksi)	43.5
$\phi_r F_n$	(ksi)	
$V_f$	(k)	46.0

INTERIOR GIRDER 2 REACTION TABLE			
		E. Brg. Pier 3	W. Brg. Pier C4
$R_{DC1}$	(k)	47.7	47.8
$R_{DC2}$	(k)	14.3	14.2
$R_{DW}$	(k)	18.1	18.0
$R_{\xi} + IM$	(k)	82.7	82.4
$R_{Total}$	(k)	162.8	162.4

- $I_s, S_s$ : 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.<sup>4</sup> and in.<sup>3</sup>).
- $I_c(n), S_c(n)$ : 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.<sup>4</sup> and in.<sup>3</sup>).
- $I_c(3n), S_c(3n)$ : Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing  $f_s$  (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).
- $I_c(cr), S_c(cr)$ : Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing  $f_s$  (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.<sup>4</sup> and in.<sup>3</sup>).
- 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.).
- $M_{\xi} + IM$ : Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- $M_u$  (Strength I): Factored design moment (kip-ft.).  
 $1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{\xi} + IM$
- $\phi_r M_n$ : Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- $f_s$  DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).  
 $M_{DC1} / S_{nc}$
- $f_s$  DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).  
 $M_{DC2} / S_c(3n)$  or  $M_{DC2} / S_c(cr)$  as applicable.
- $f_s$  DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).  
 $M_{DW} / S_c(3n)$  or  $M_{DW} / S_c(cr)$  as applicable.
- $f_s$  ( $\xi + IM$ ): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).  
 $M_{\xi} + IM / S_c(n)$  or  $M_{DW} / S_c(cr)$  as applicable.
- $f_s$  (Service II): Sum of stresses as computed below (ksi).  
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (\xi + IM)$
- $0.95R_n F_y f$ : 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).  
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s (\xi + IM)$
- $\phi_r F_n$ : 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.

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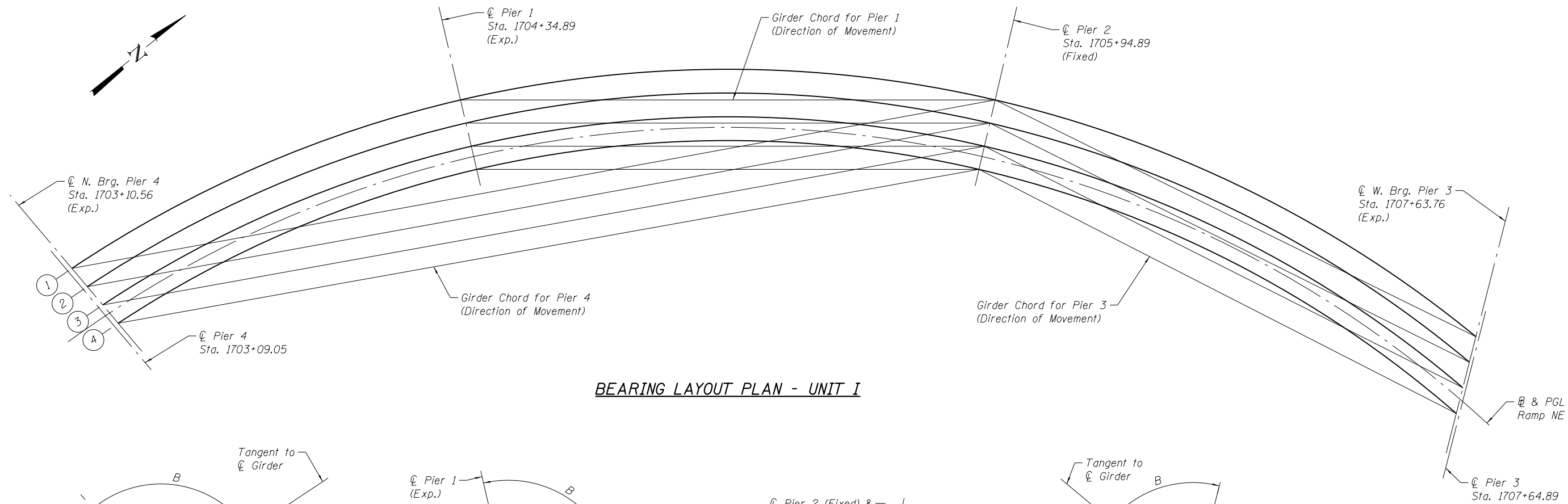
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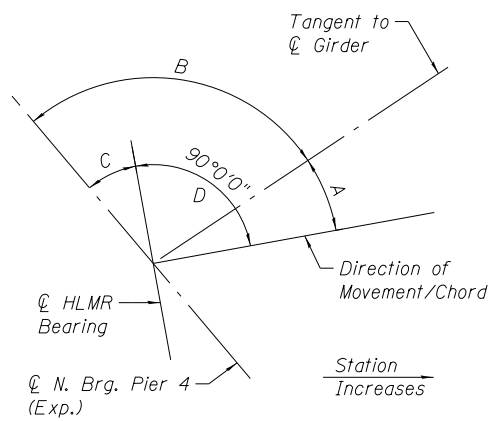
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STRUCTURE NO. 016-1710**

SHEET NO. S1-32 OF S1-53 SHEETS

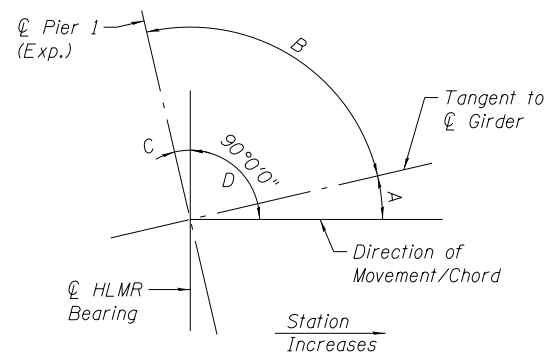
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90/94/290	2015-080R&B	COOK	250	171
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



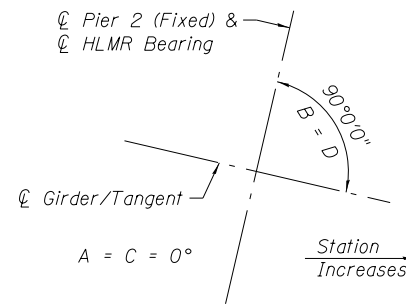
**BEARING LAYOUT PLAN - UNIT I**



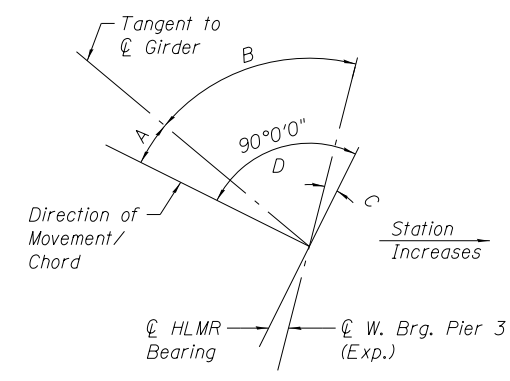
**PIER 4**



**PIER 1**



**PIER 2**



**PIER 3**

**BEARING ORIENTATION - UNIT I**

**BEARING ORIENTATION ANGLES**

Girder	Pier 4			Pier 1			Pier 3		
	A	B	C	A	B	C	A	B	C
1	23°13'55"	96°46'52"	30°0'47"	13°5'46"	90°0'0"	13°5'46"	13°59'36"	63°13'35"	12°46'49"
2	23°18'13"	96°38'17"	29°56'30"	13°5'46"	90°0'0"	13°5'46"	13°41'26"	63°49'54"	12°28'40"
3	23°22'20"	96°30'3"	29°52'23"	13°5'46"	90°0'0"	13°5'46"	13°24'7"	64°24'33"	12°11'20"
4	23°26'16"	96°22'10"	29°48'26"	13°5'46"	90°0'0"	13°5'46"	13°7'34"	64°57'39"	11°54'47"

A= Angle between Tangent to Girder and Direction of Movement/Chord.  
 B= Angle between Tangent to Girder and  $\mathcal{C}$  of Pier.  
 C= Setting angle between  $\mathcal{C}$  of Bearing Base Plate and  $\mathcal{C}$  of Pier.  
 D= Set Bearing Base Plates at right angles to the Direction of Movement/Chord.

Notes:

- Each Girder Chord is constructed as a straight line from  $\mathcal{C}$  bearing at a Fixed Pier, in the direction of expansion, to  $\mathcal{C}$  of bearing at each Expansion Pier.

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**PARSONS  
BRINCKERHOFF**

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 PLOT DATE = 5/6/2016

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 CHECKED - JZ  
 DRAWN - IJL  
 CHECKED - JIG

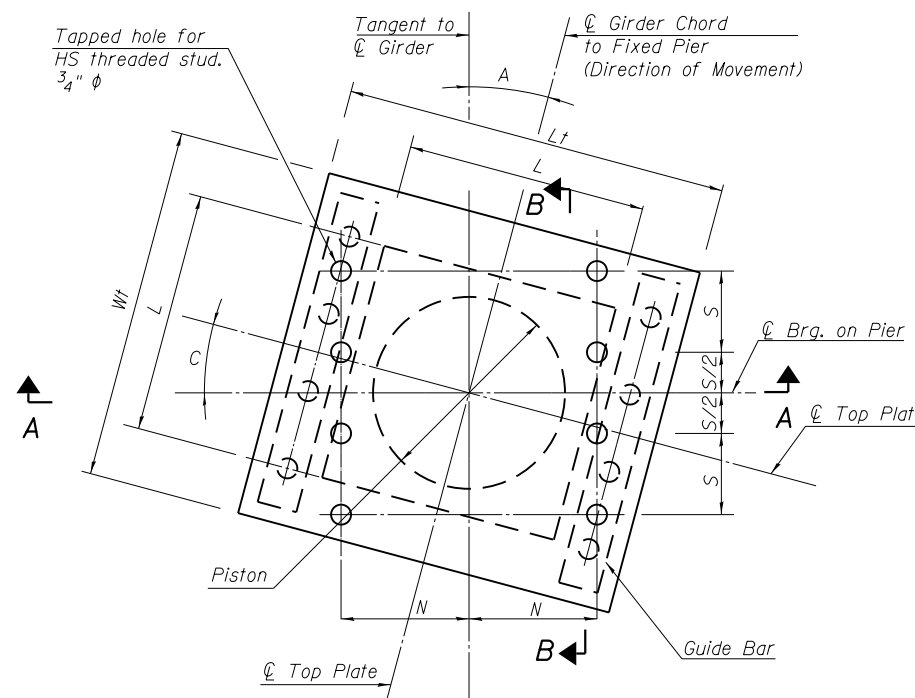
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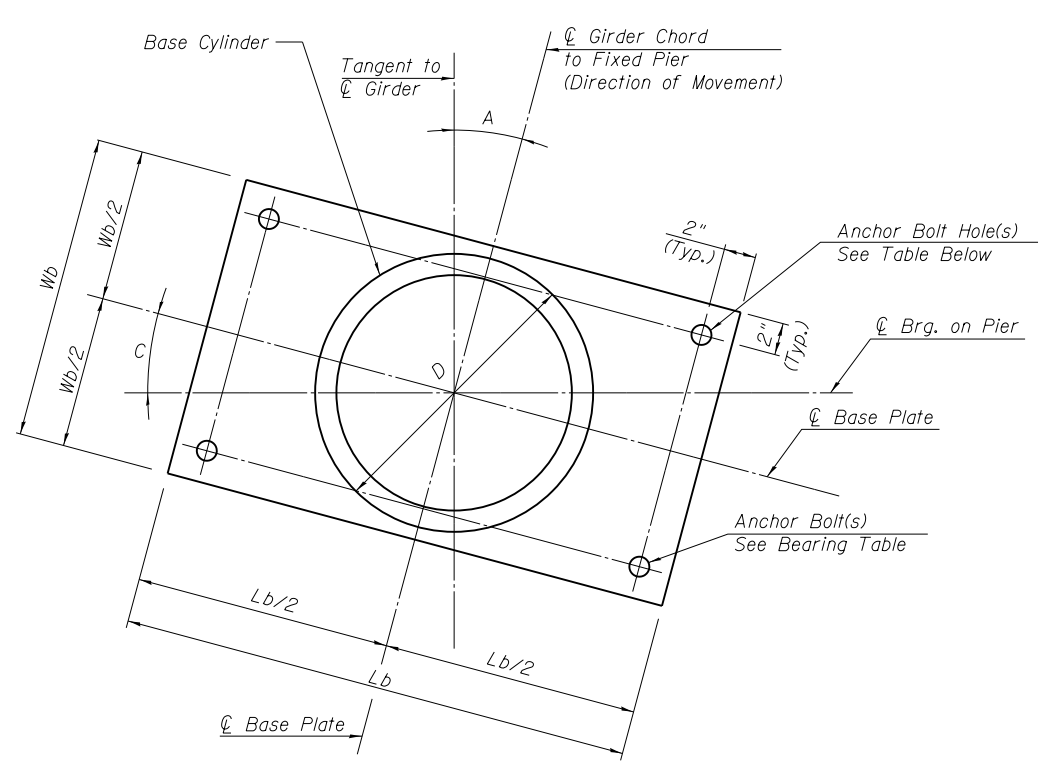
**BEARING LAYOUT - UNIT I  
STRUCTURE NO. 016-1710**

SHEET NO. S1-33 OF S1-53 SHEETS

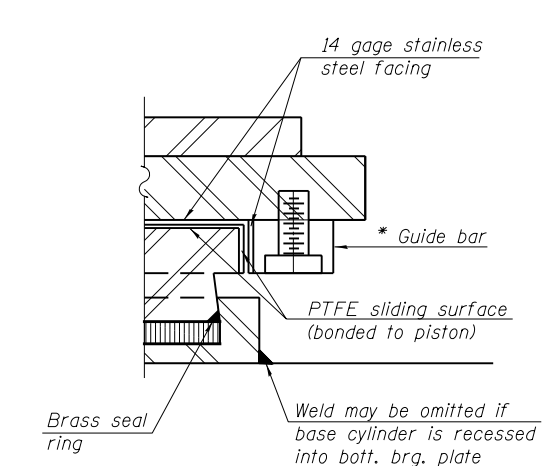
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90/94/290	2015-080R&B	COOK	250	172
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**TOP BEARING PLATE AND PISTON PLAN**

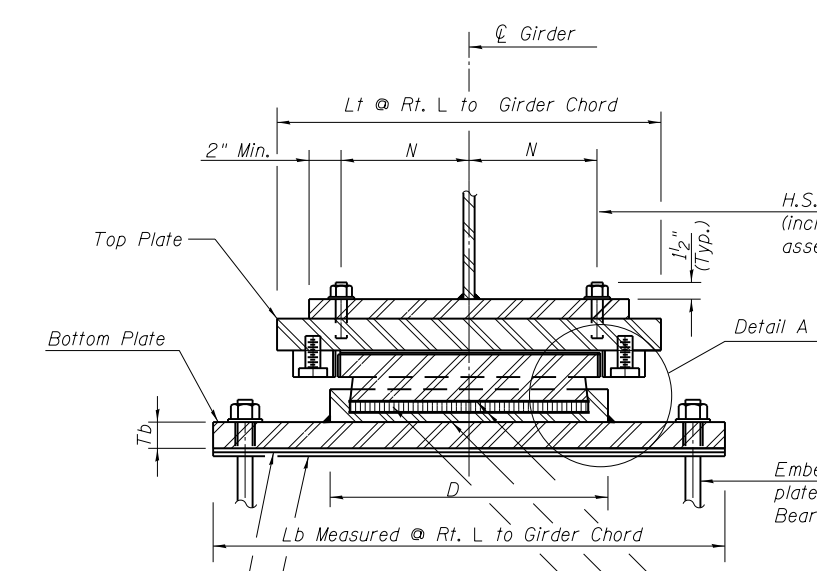


**BOTTOM BEARING PLATE AND BASE CYLINDER PLAN**

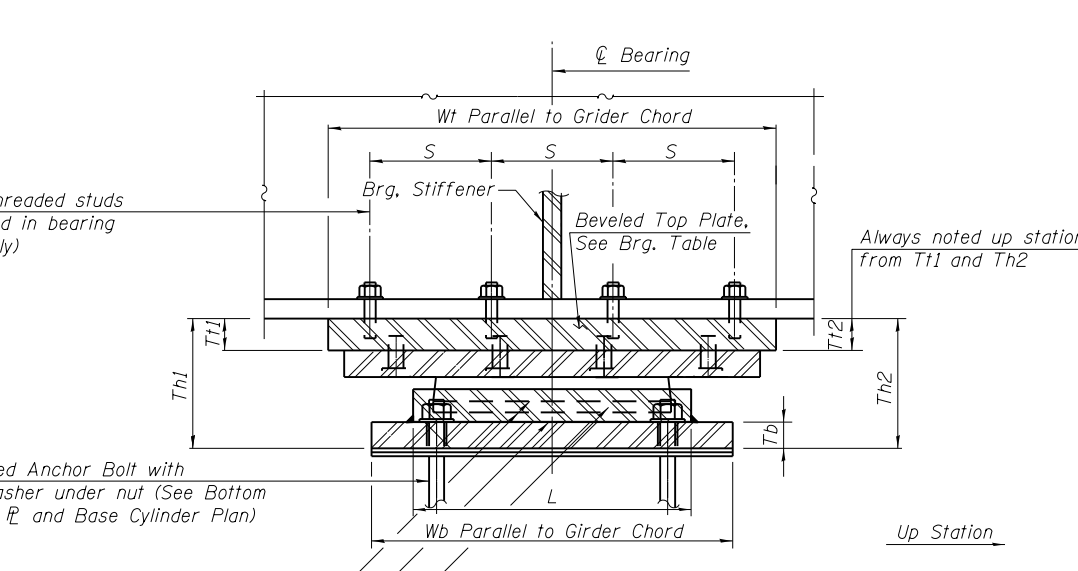


**DETAIL A**

\* As alternates to the bolted connection shown, the guide bars may be connected to the top bearing plate by groove welds or the guide bars and top bearing plate may be fabricated as a single piece. If bolted connection is used, maintain a minimum clearance of 3" from the centerline of the pintles to the bolts in the guide bar.



**SECTION A-A**



**SECTION B-B**

See Shim Plate Thickness Table  
 1/8" Elastomeric neoprene mat according to Article 1052.02(a) of the Standard Specifications (Cost included with bearing)

**SHIM PLATE THICKNESS TABLE**

Pier 4, Girder 4	1/4"
Pier 4, Girder 3	1"

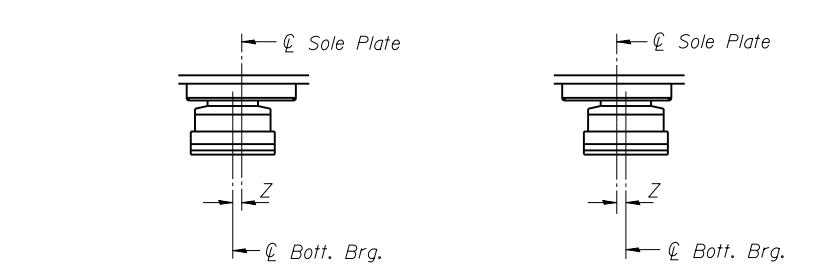
**ANCHOR BOLT DETAILS**

Bolt Dia. x Length**	Plate Washer
1" x 12"	2 1/4" x 2 1/4" x 5/16"
1 1/4" x 15"	2 3/4" x 2 3/4" x 5/16"

\*\*Length shown is minimum required embedment length.

**BASE PLATE HOLE TABLE**

Anchor Bolt $\phi$	Max. Hole $\phi$
1"	1 1/2"
1 1/4"	1 3/4"



**SETTING ANCHOR BOLTS AT EXP. BRG.**  
 Z = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50° F.

Notes:

- See Sheet S1-35 for Guided Expansion Bearing Dimensions Table.
- The Structural Steel for the top & bottom bearing plates shall be AASHTO M270 Grade 50.
- For anchor bolt type and details see Bearing Dimensions Table.
- Top & bottom plates, threaded studs, washers & shim plates are included in the cost of the Bearings.
- Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- The 1/8" PTFE sheet shall be bonded directly to the piston with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- All (embedded and separate) bearing plates, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be Tb plus the depth of the recess.
- Bearing dimensions and details shown are for a pot, type HLMR bearing. Disc type HLMR bearing dimensions and details will vary.

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**PARSONS BRINCKERHOFF**

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PLOT DATE = 5/6/2016	DRAWN - DDE	REVISED -
	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS I - UNIT I  
 STRUCTURE NO. 016-1710**

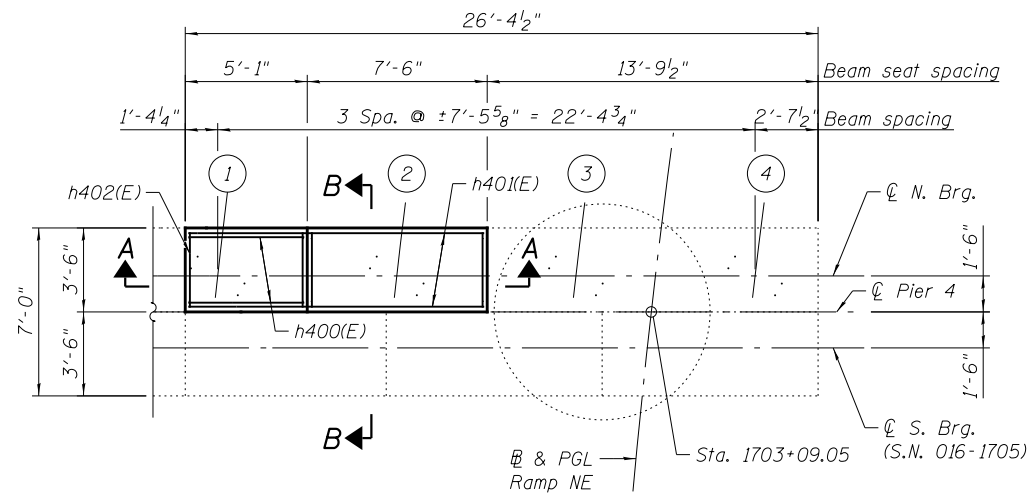
SHEET NO. S1-34 OF S1-53 SHEETS

F.A.I. RFE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	173
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

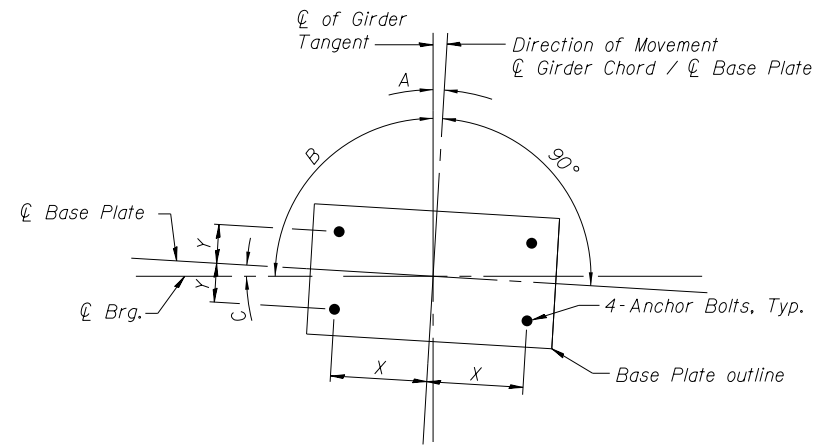
**GUIDED EXPANSION BEARING DIMENSIONS TABLE**

Brg. Location	Vertical Design Load (kips)	Lateral Design Load (kips)	Total Required Movement (inches)	Design Rotation (radians)	Bottom Bearing Plate			Top Bearing Plate						*Th1	*Th2	*L	*D	Anchor Bolt Dia.	Anchor Bolt Specification Grade
					Tb	Lb	Wb	Tt1	Tt2	Lt	Wt	N	S						
Pier 4	224.3	44.9	2"	0.0002	2 1/8"	2'-7"	1'-0 3/4"	2"	2"	1'-5"	1'-2"	5"	3"	8 1/2"	8 1/2"	1'-0"	11 3/4"	1"	F1554, Grade 36
Pier 1	442.2	88.4	1 1/4"	0.0001	2 1/2"	3'-0"	1'-4 3/4"	3 1/2"	2 3/4"	1'-10"	1'-5 3/4"	5"	4 3/4"	11 5/8"	10 7/8"	1'-8"	1'-3 3/4"	1 1/4"	F1554, Grade 36
Pier 3	377.5	75.5	1 1/4"	0.0001	2 1/2"	3'-0"	1'-4"	2 5/8"	2 7/8"	1'-8 1/2"	1'-5"	7"	4"	10 1/4"	10 1/2"	1'-3"	1'-3"	1"	F1554, Grade 36

\* Dimensions may vary depending on manufacturer's design



**PARTIAL TOP PLAN - PIER 4**



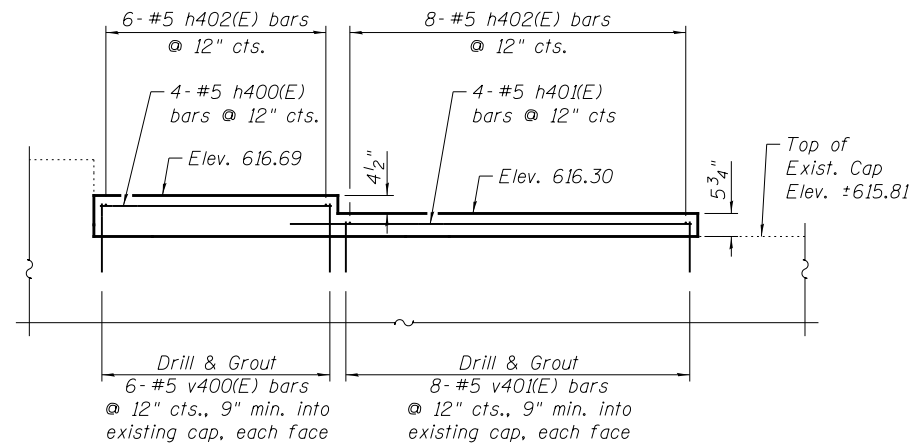
**ANCHOR BOLT LOCATION DETAIL**

Location	X	Y	A	B	C
Pier 4	1'-1 1/2"	3 3/8"	**	**	**
Pier 1	1'-4"	6 3/8"	13°05'46"	90°00'00"	13°05'46"
Pier 3	1'-4"	6"	**	**	**

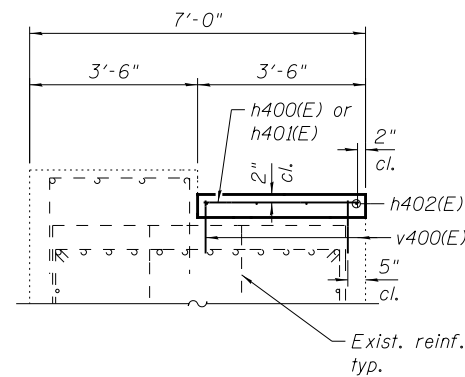
\*\* Angle varies by girder. See sheet S1-33 for Bearing Orientation Angles Table.

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h400(E)	4	#5	4'-9"	—
h401(E)	4	#5	12'-3"	—
h402(E)	14	#5	3'-2"	—
v400(E)	12	#5	1'-7"	—
v401(E)	16	#5	1'-3"	—
Concrete Structures			Cu. Yd.	1.0
Reinforcement Bars, Epoxy Coated			Pound	160
Concrete Sealer			Sq. Ft.	55
High Load Multi-Rotation Bearings, Guided Expansion, 250k.			Each	4
High Load Multi-Rotation Bearings, Guided Expansion, 400k.			Each	4
High Load Multi-Rotation Bearings, Guided Expansion, 450k.			Each	4
Anchor Bolts, 1"			Each	32
Anchor Bolts, 1 1/4"			Each	16



**SECTION A-A**



**SECTION B-B**

Notes:

- See Sheet S1-34 for Guided Expansion Bearing details.
- See Sheet S1-33 for bearing layout & orientation.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Space reinforcement in cap to miss anchor bolts.
- Drilling and grouting of bars into existing pier cap shall be done in accordance with Art. 584 of the Std. Specs. Drilled and grouted bars shall maintain 5" clearance from an existing face of concrete and shall be installed such that they miss existing pier cap reinforcement. Cost included with Reinforcement Bars, Epoxy Coated.

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**PARSONS BRINCKERHOFF**

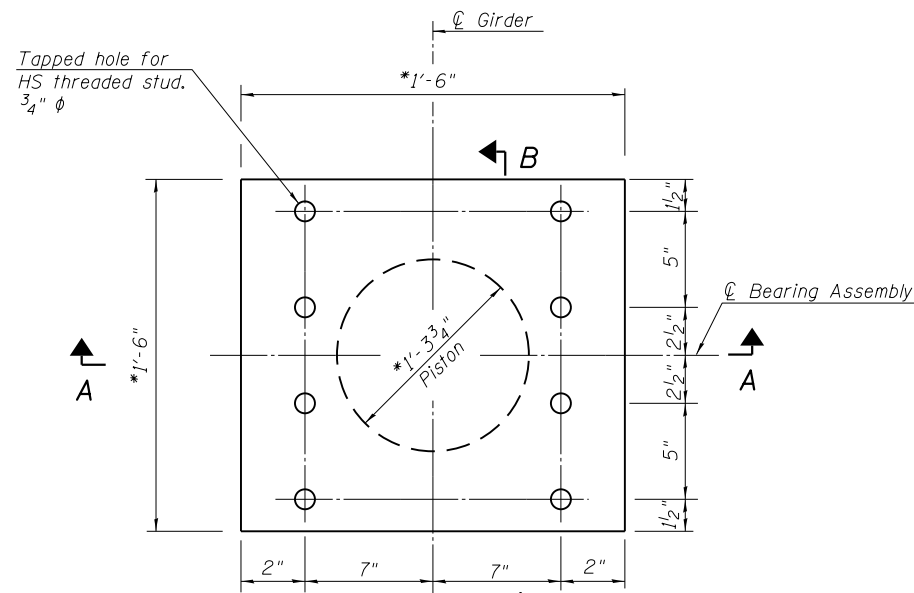
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	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS II - UNIT I  
STRUCTURE NO. 016-1710**

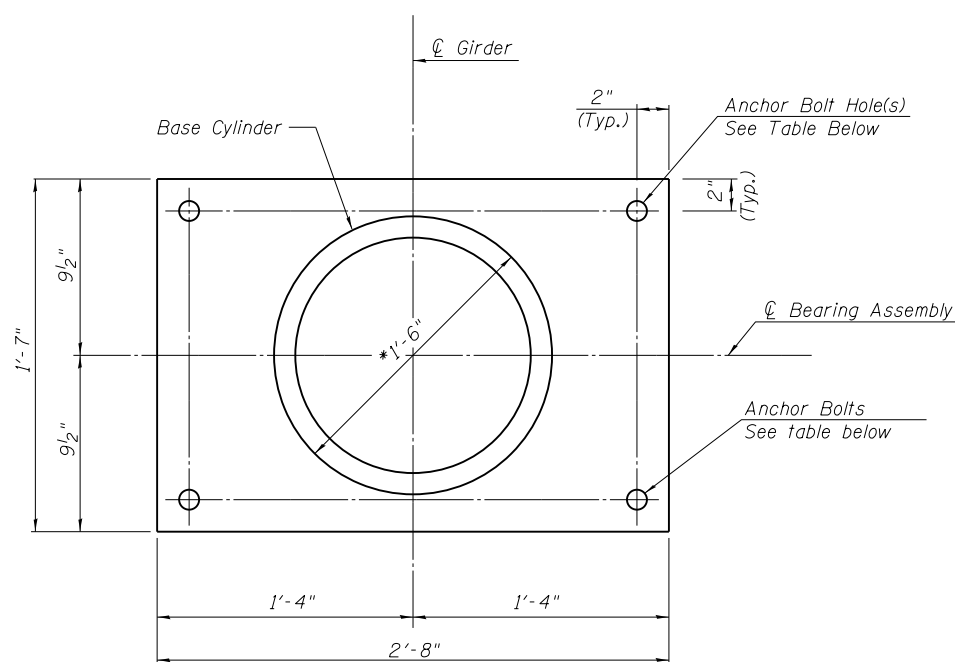
SHEET NO. S1-35 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				

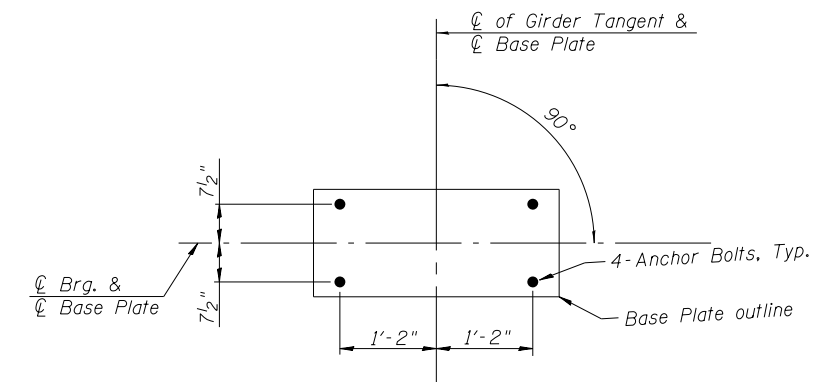


**TOP BEARING PLATE AND PISTON PLAN**

\* Dimensions may vary depending on Manufacturer's design.



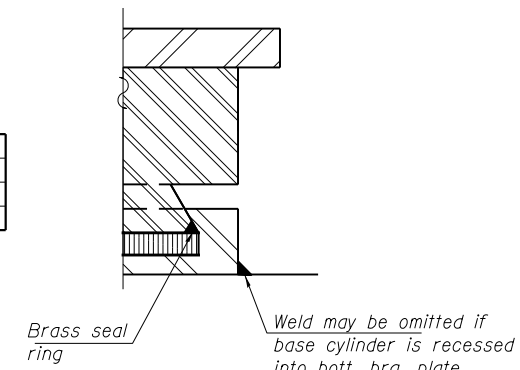
**BOTTOM BEARING PLATE AND BASE CYLINDER PLAN**



**ANCHOR BOLT LOCATION DETAIL**

**DESIGN DATA**

Bearing Manufacturer Design Criteria	Pier 2
Vertical Design Load (kips)	544.5
Horizontal Design Load (kips), $H_u$	108.9
Design Rotation (rad), $\theta_u$	0.0002



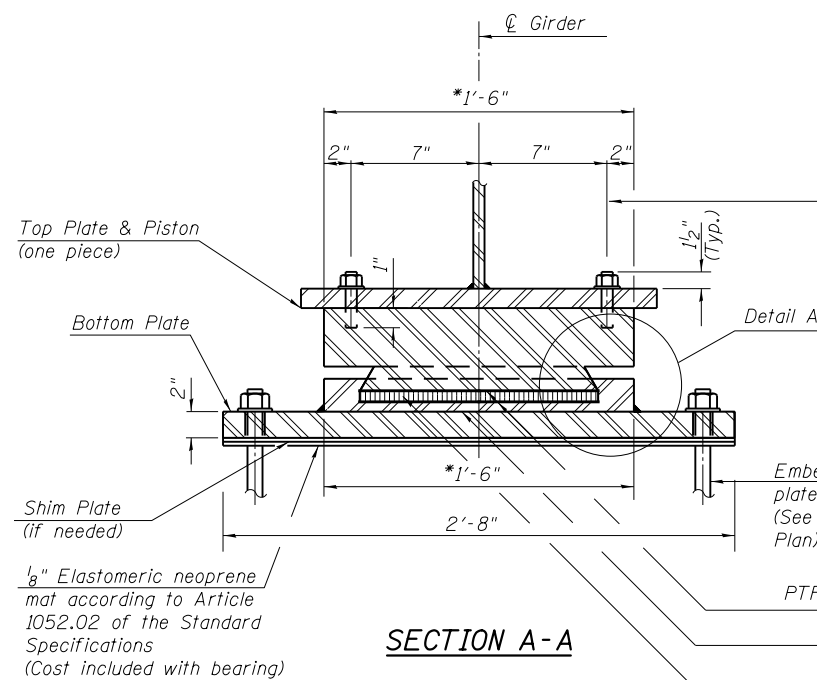
**DETAIL A**

**BILL OF MATERIAL**

Item	Unit	Total
High Load Multi-Rotation Bearings, Fixed 600k.	Each	4
Anchor Bolts, 1/4"	Each	16

**Notes:**

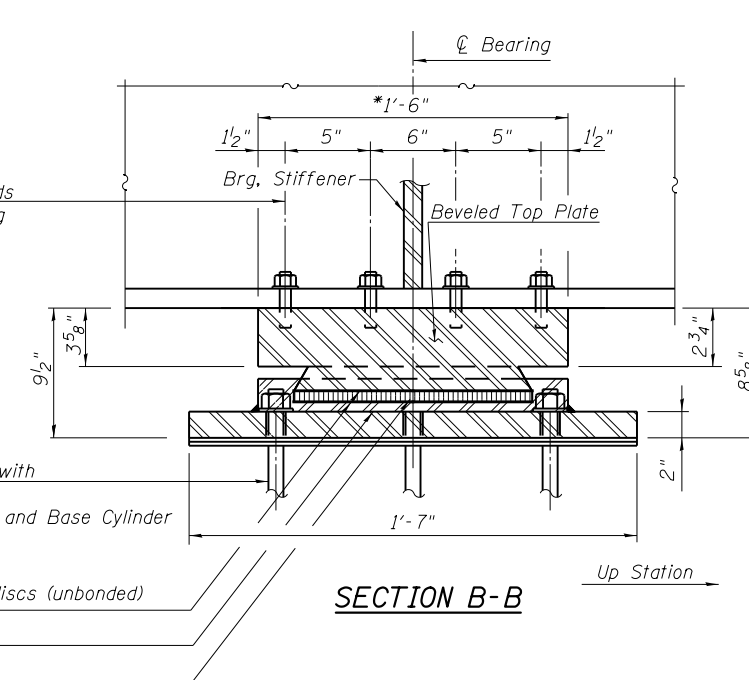
- The Structural Steel for the top & bottom bearing plates shall be AASHTO M270 Grade 50.
- For anchor bolt type and details see Bearing Dimensions Table.
- Top & bottom plates, threaded studs, washers & shim plates are included in the cost of the Bearings.
- Anchor bolts for bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
- All (embedded and separate) bearing plates, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.
- If base cylinder is recessed into the bottom bearing plate, the thickness of the bottom plate shall be  $T_b$  plus the depth of the recess.
- See Sheets S1-XX for bearing layout & orientation.
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.



**SECTION A-A**

**ANCHOR BOLT DETAILS**

Bolt Dia. x Length	Plate Washer
1/4" x 15"	2 3/4" x 2 3/4" x 5/16"



**SECTION B-B**

**BASE PLATE HOLE TABLE**

Anchor Bolt $\phi$	Max. Hole $\phi$
1/4"	1 3/4"

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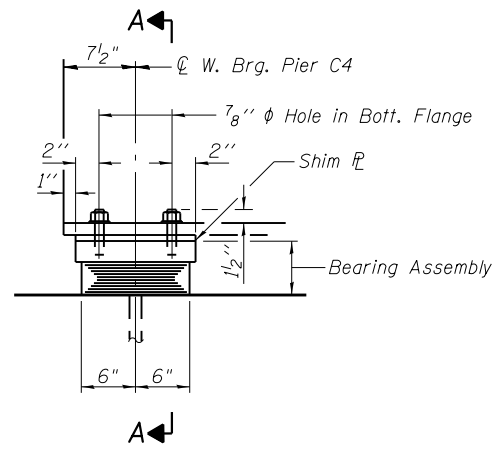
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**BEARING DETAILS III - UNIT I  
STRUCTURE NO. 016-1710**

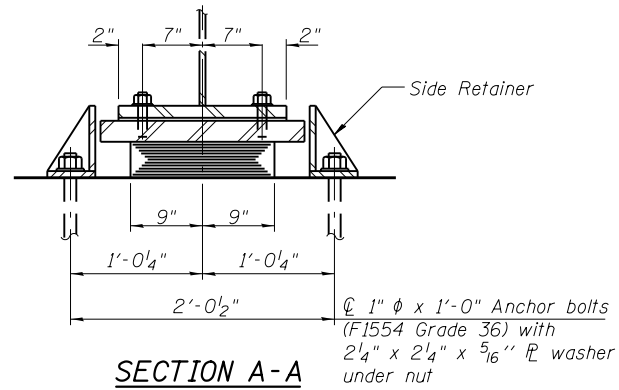
SHEET NO. S1-36 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

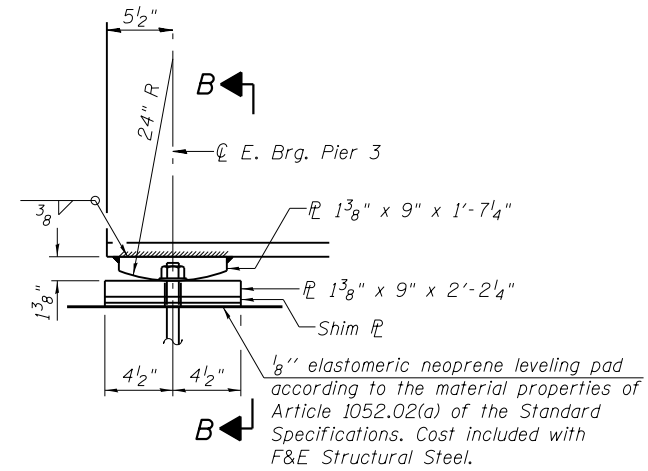




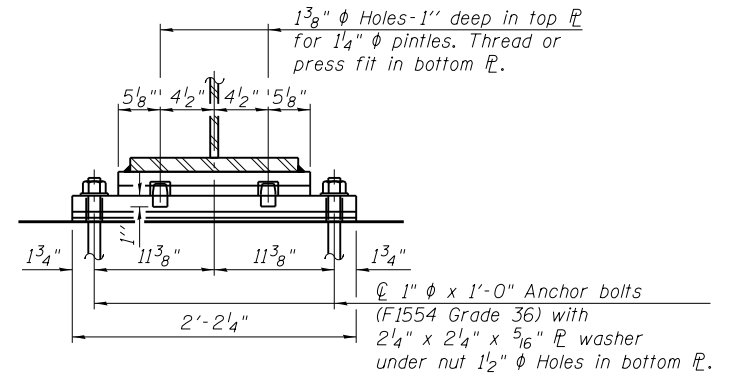
ELEVATION AT W. BRG. PIER C4



SECTION A-A



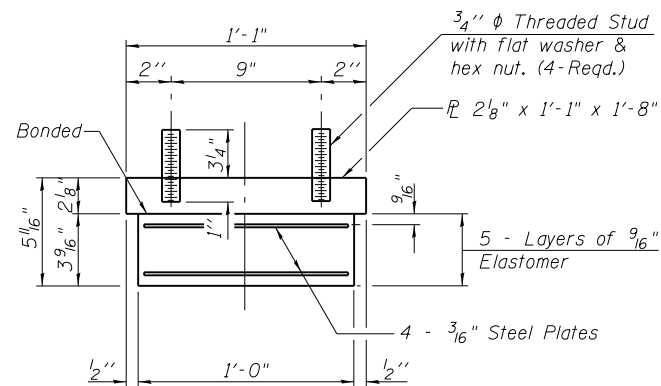
ELEVATION AT E. BRG. PIER 3



SECTION B-B

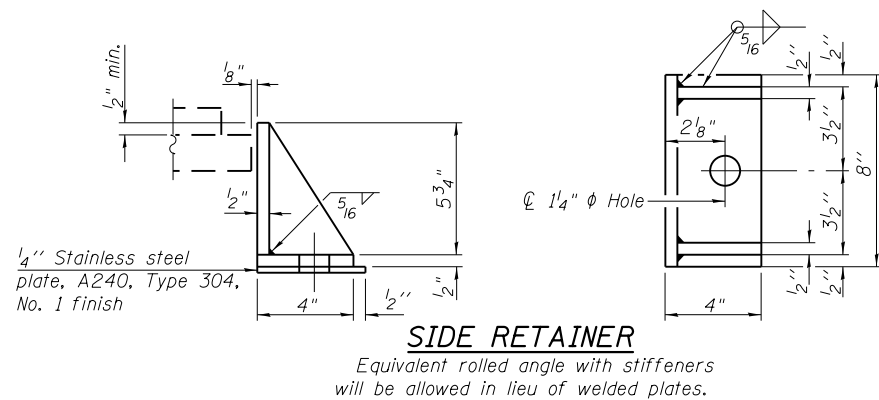
**TYPE I ELASTOMERIC EXP. BRG. AT W. BRG. PIER C4**

(4 Required)



**BEARING ASSEMBLY**

Note:  
Shim plates shall not be placed under Bearing Assembly.

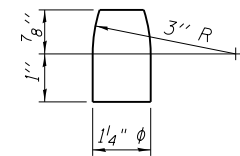


**SIDE RETAINER**

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

**FIXED BEARING AT E. BRG. PIER 3**

(4 Required)



**PINTLE**

**Notes:**  
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.  
Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.  
Anchor bolts for side retainers may be cast in place or installed in holes drilled before or after members are in place.  
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.  
Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.  
Fixed Bearing Assembly included in the cost of Furnishing and Erecting Structural Steel.  
Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.  
All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

**BILL OF MATERIAL**

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	4
Anchor Bolts 1"	Each	16

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**PARSONS BRINCKERHOFF**

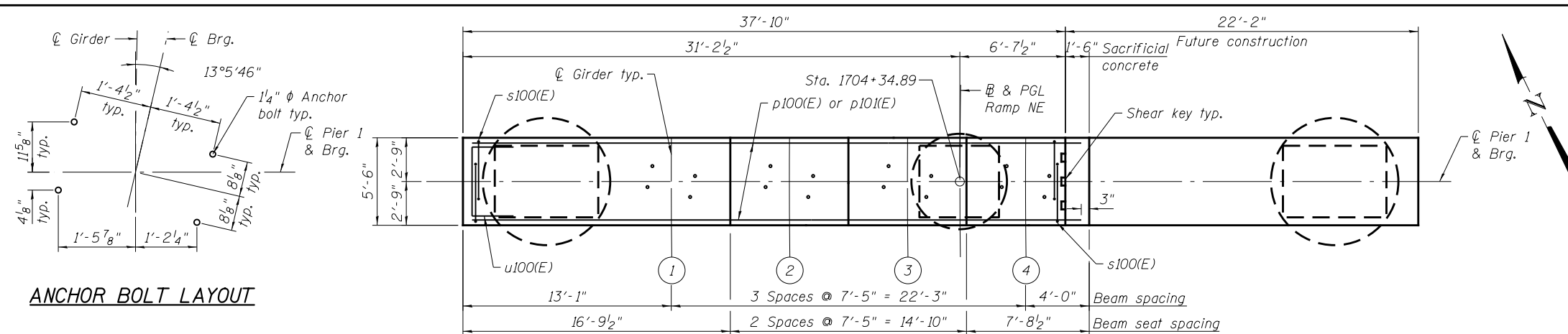
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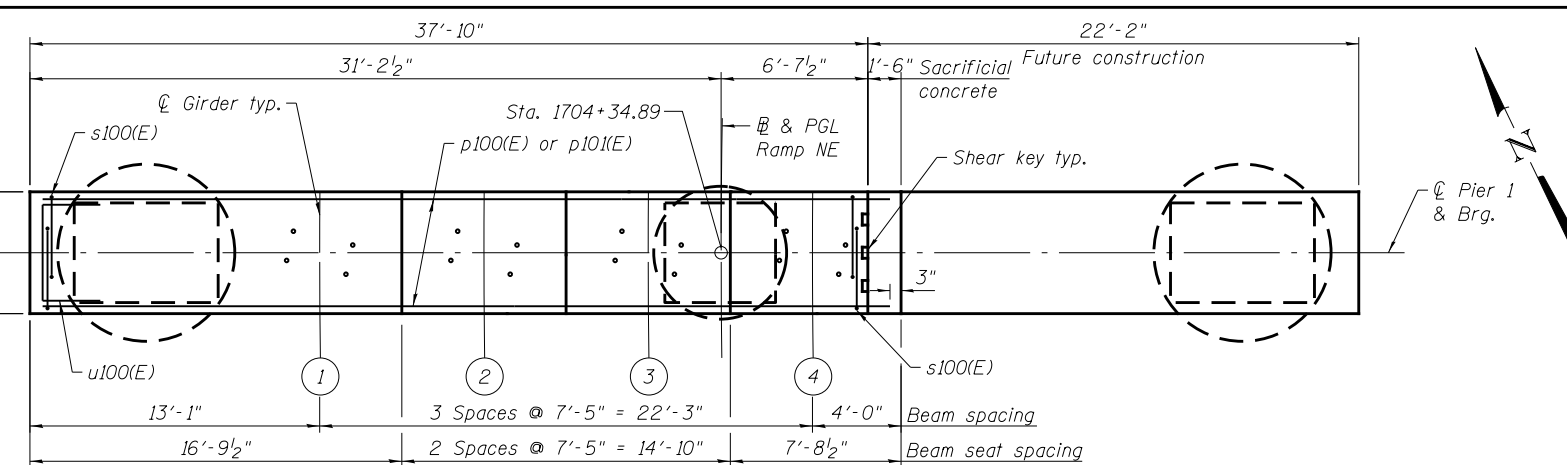
**BEARING DETAILS I - UNIT II  
STRUCTURE NO. 016-1710**

SHEET NO. S1-37 OF S1-53 SHEETS

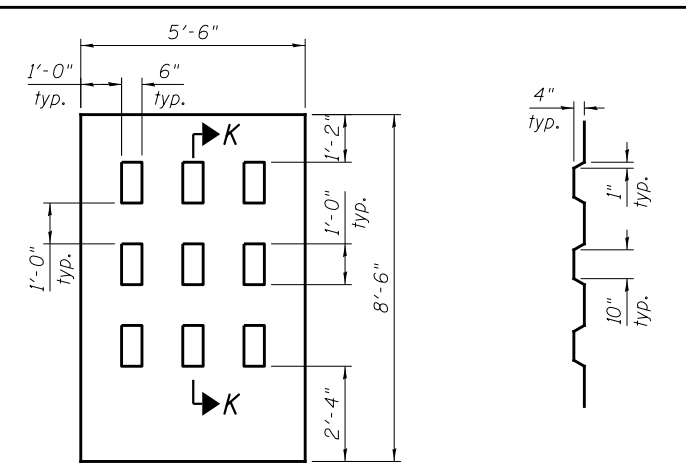
F.A.I. R.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	176
CONTRACT NO. 62B76				ILLINOIS FED. AID PROJECT



**ANCHOR BOLT LAYOUT**

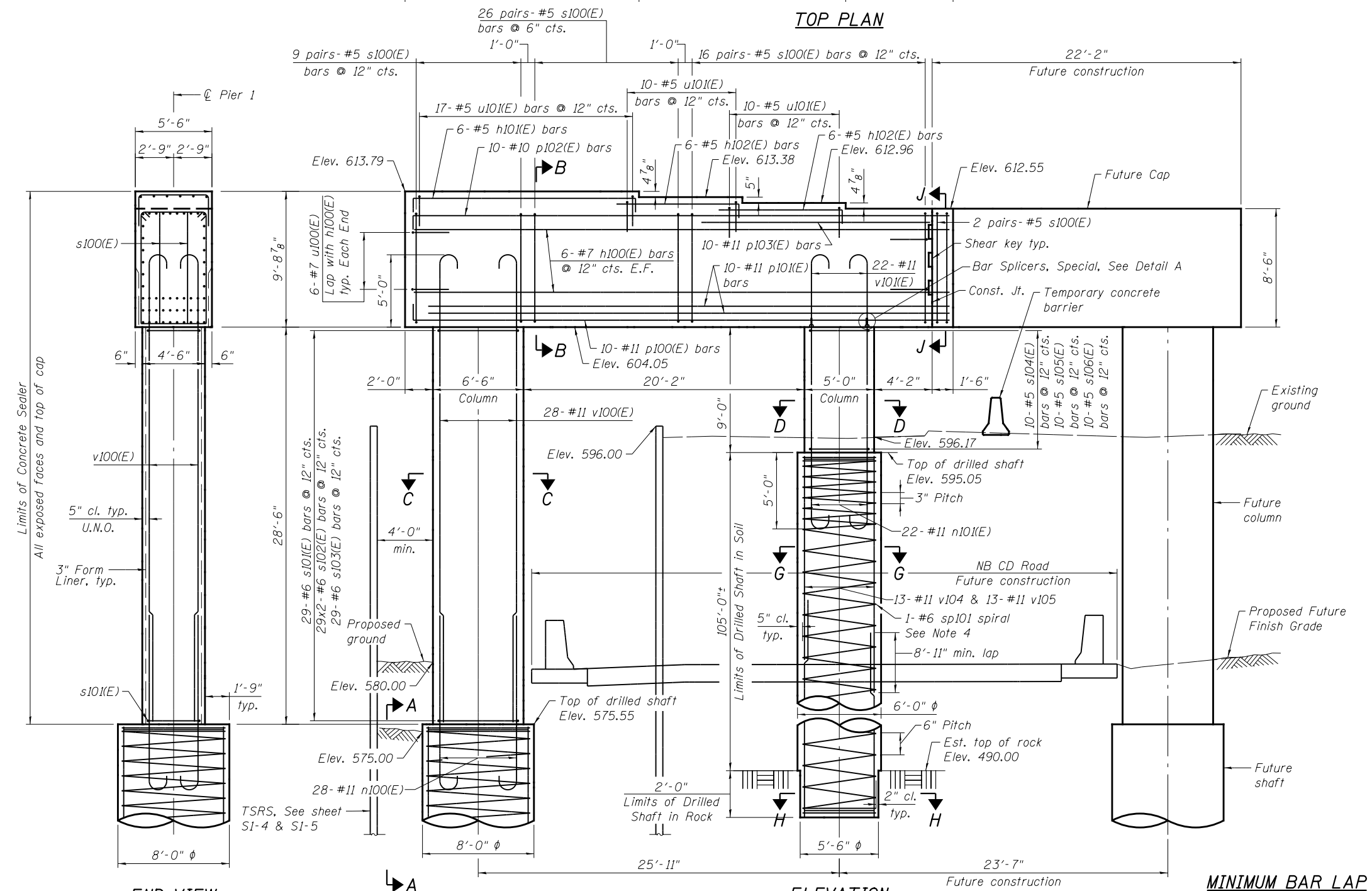


**TOP PLAN**

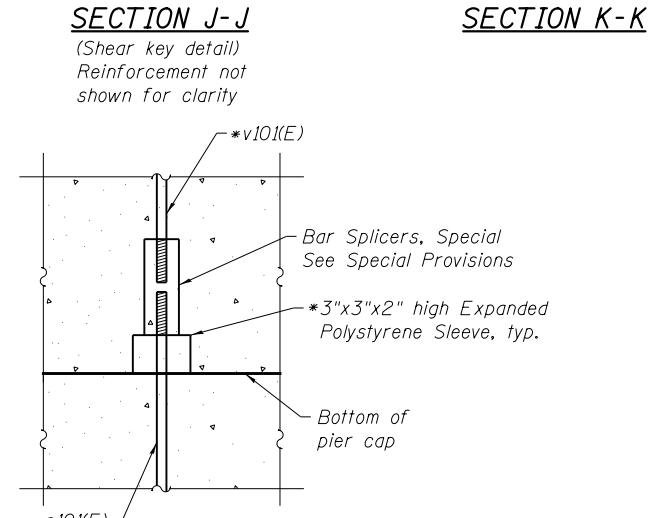


**SECTION J-J**

**SECTION K-K**



**ELEVATION**  
(Looking upstation)



**DETAIL A**  
Showing Bar Splicers, Special

\* Cost of threading and expanded polystyrene sleeve shall be included in "Reinforcement Bars, Epoxy Coated".

**Notes:**

1. See sheet S1-39 for section A-A, B-B, C-C, D-D, G-G, and H-H.
2. Space reinforcement in cap to miss anchor bolts.
3. Pour steps monolithically with cap.
4. #6 sp100 & #6 sp101 spiral
  1. Provide 1/2 extra turns top and bottom. Provide 4-#4 spacers or equivalent.
  2. When splicing spiral reinforcement is necessary, the spiral shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.
5. Due to closely spaced spirals in the top 5'-0" of Drilled Shafts, special attention shall be given during concrete pour to avoid any voids between steel cage and side walls of shafts.
6. End of bars n101(E) and v101(E) shall be threaded to receive the bar splicer coupler.
7. Drilled Shafts shall be tested in accordance with Special Provisions for Crosshole Sonic Logging.
8. Bars equally spaced, unless otherwise noted.
9. All edges shall have standard 3/4" chamfer.
10. The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock elevations encountered at each shaft and the final top of shaft elevation.
11. Bottom portion of North column will be embedded in the ground that shall be protected from damage. The protection system shall be approved by the Engineer and shall remain in place until the future contract. The cost is included in the cost of Concrete Structures.

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**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - MS	REVISED -
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PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
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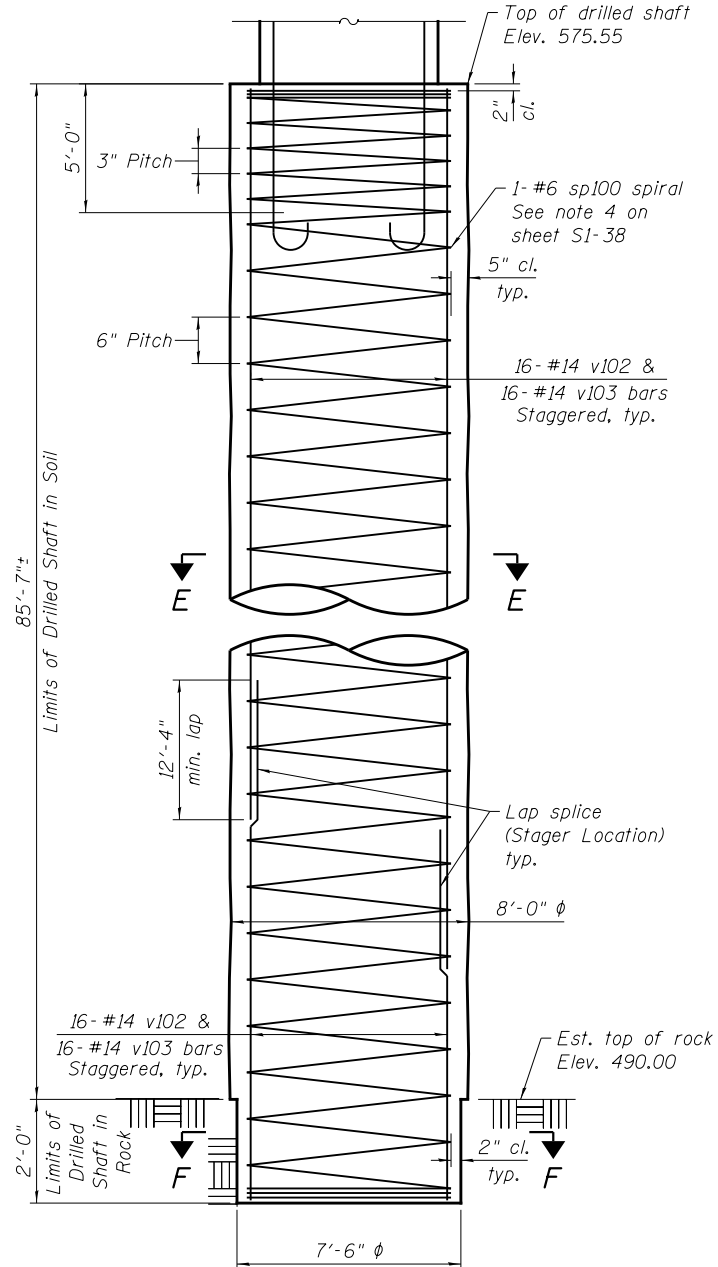
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PIER 1**  
**STRUCTURE NO. 016-1710**

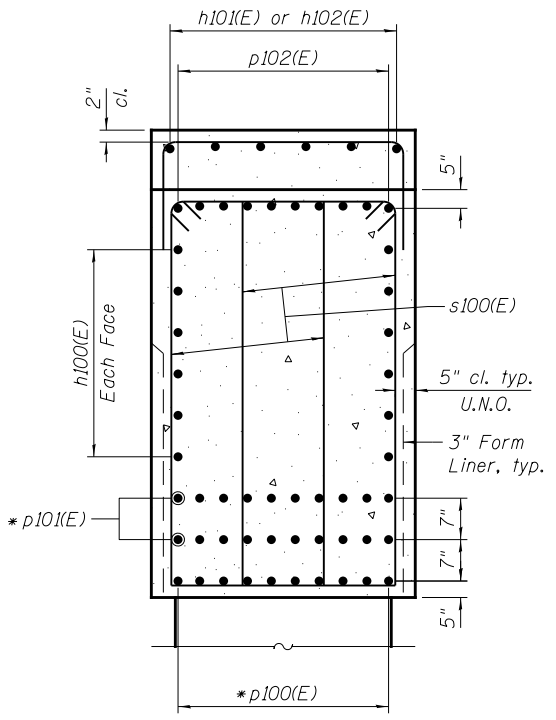
SHEET NO. S1-38 OF S1-53 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	177
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

85'-7"±  
Limits of Drilled Shaft in Soil

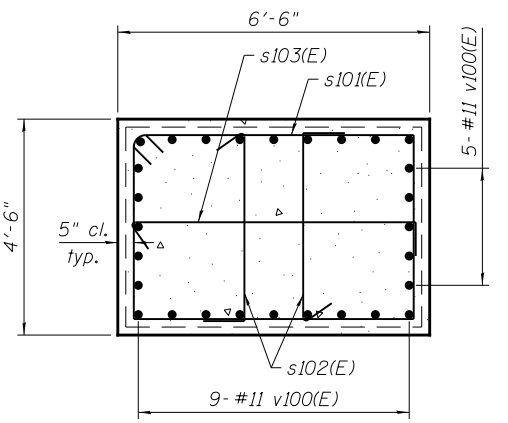


**SECTION A-A**

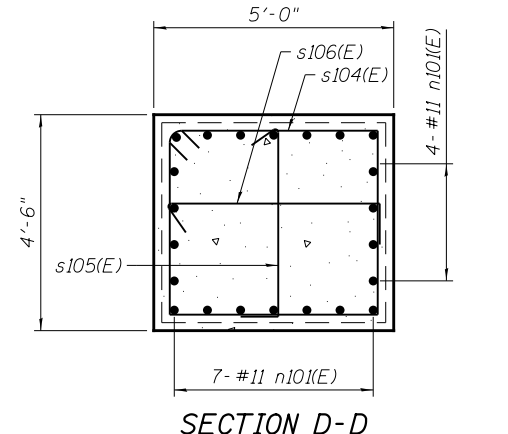


**SECTION B-B**

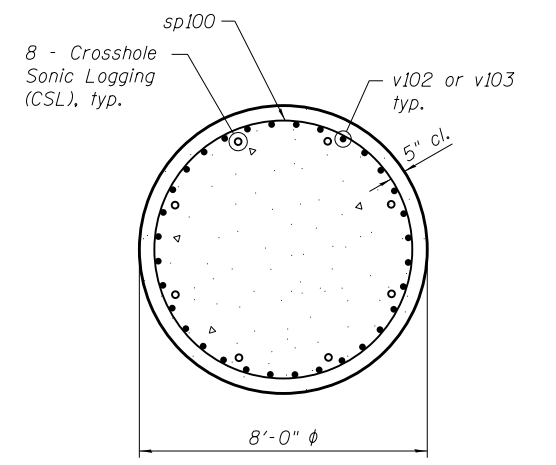
\*Space to avoid column bars



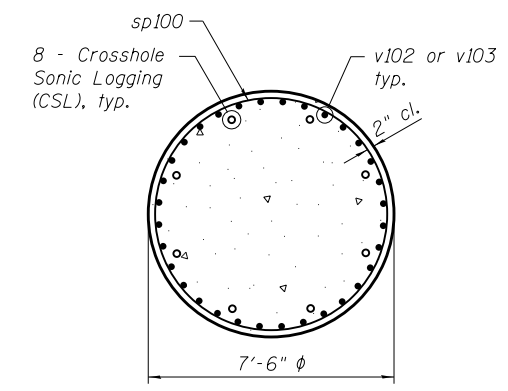
**SECTION C-C**



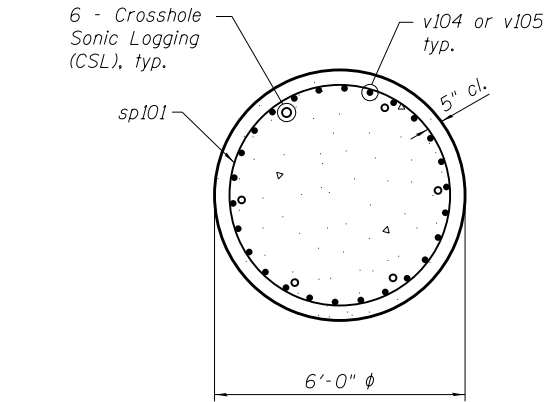
**SECTION D-D**



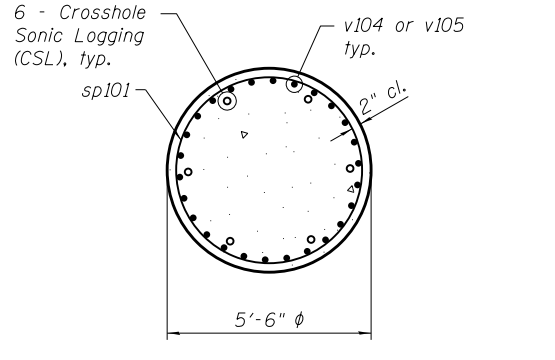
**SECTION E-E**



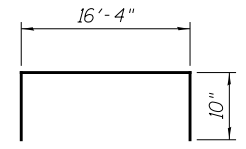
**SECTION F-F**



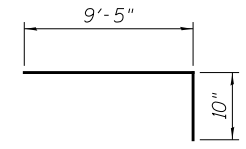
**SECTION G-G**



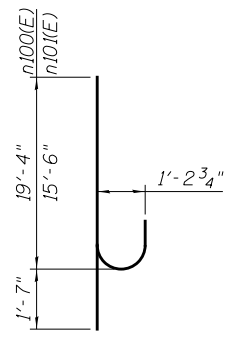
**SECTION H-H**



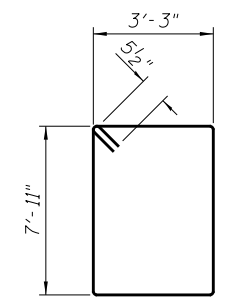
**BAR h101(E)**



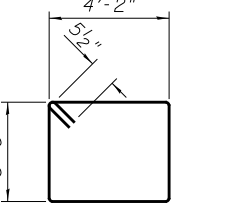
**BAR h102(E)**



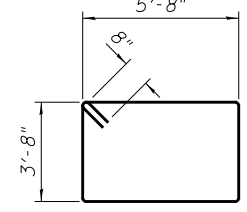
**BARS n100(E) & n101(E)**



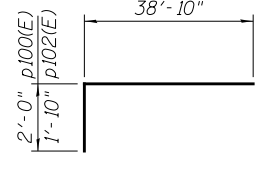
**BAR s100(E)**



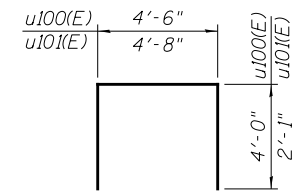
**BAR s104(E)**



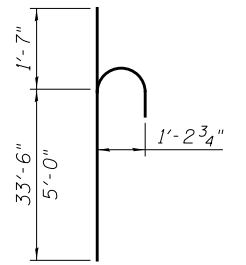
**BAR s101(E)**



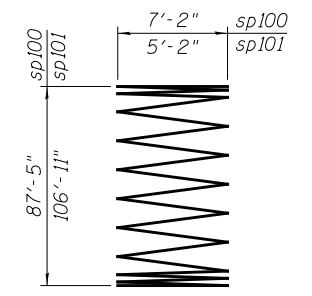
**BARS p100(E) & p102(E)**



**BARS u100(E) & u101(E)**



**BARS v100(E) & v101(E)**

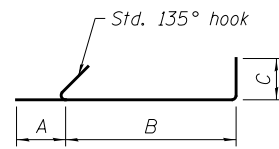


**BARS sp100 & sp101**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h100(E)	12	#7	38'-4"	—
h101(E)	6	#5	18'-0"	—
h102(E)	12	#5	10'-3"	—
n100(E)	28	#11	20'-11"	—
n101(E)	22	#11	17'-1"	—
p100(E)	10	#11	40'-10"	—
p101(E)	20	#11	37'-1"	—
p102(E)	10	#10	40'-8"	—
p103(E)	10	#11	16'-5"	—
s100(E)	106	#5	23'-3"	—
s101(E)	29	#6	20'-0"	—
s102(E)	58	#6	5'-4"	—
s103(E)	29	#6	7'-4"	—
s104(E)	10	#5	16'-7"	—
s105(E)	10	#5	4'-8"	—
s106(E)	10	#5	5'-2"	—
sp100	1	#6	87'-5"	—
sp101	1	#6	106'-11"	—
u100(E)	12	#7	12'-6"	—
u101(E)	37	#5	8'-10"	—
v100(E)	28	#11	35'-1"	—
v101(E)	22	#11	6'-7"	—
v102	32	#14	60'-0"	—
v103	32	#14	39'-11"	—
v104	39	#11	58'-0"	—
v105	26	#11	33'-5"	—
Structure Excavation		Cu. Yd.	243	
Concrete Structures		Cu. Yd.	112.5	
Reinforcement Bars		Pound	52,980	
Reinforcement Bars, Epoxy Coated		Pound	26,160	
Bar Splicers, Special		Each	22	
Drilled Shaft in Soil		Cu. Yd.	269.4	
Drilled Shaft in Rock		Cu. Yd.	5.0	
Concrete Sealer		Sq. Ft.	1931	
Crosshole Sonic Logging		Each	2	

\* Length is height of spiral



Bar	A	B	C
s102(E)	8"	3'-8"	1'-0"
s103(E)	8"	5'-8"	1'-0"
s105(E)	5 1/2"	3'-8"	6"
s106(E)	5 1/2"	4'-2"	6"

0161710-62B76-S039-DET.dgn

**PARSONS BRINCKERHOFF**

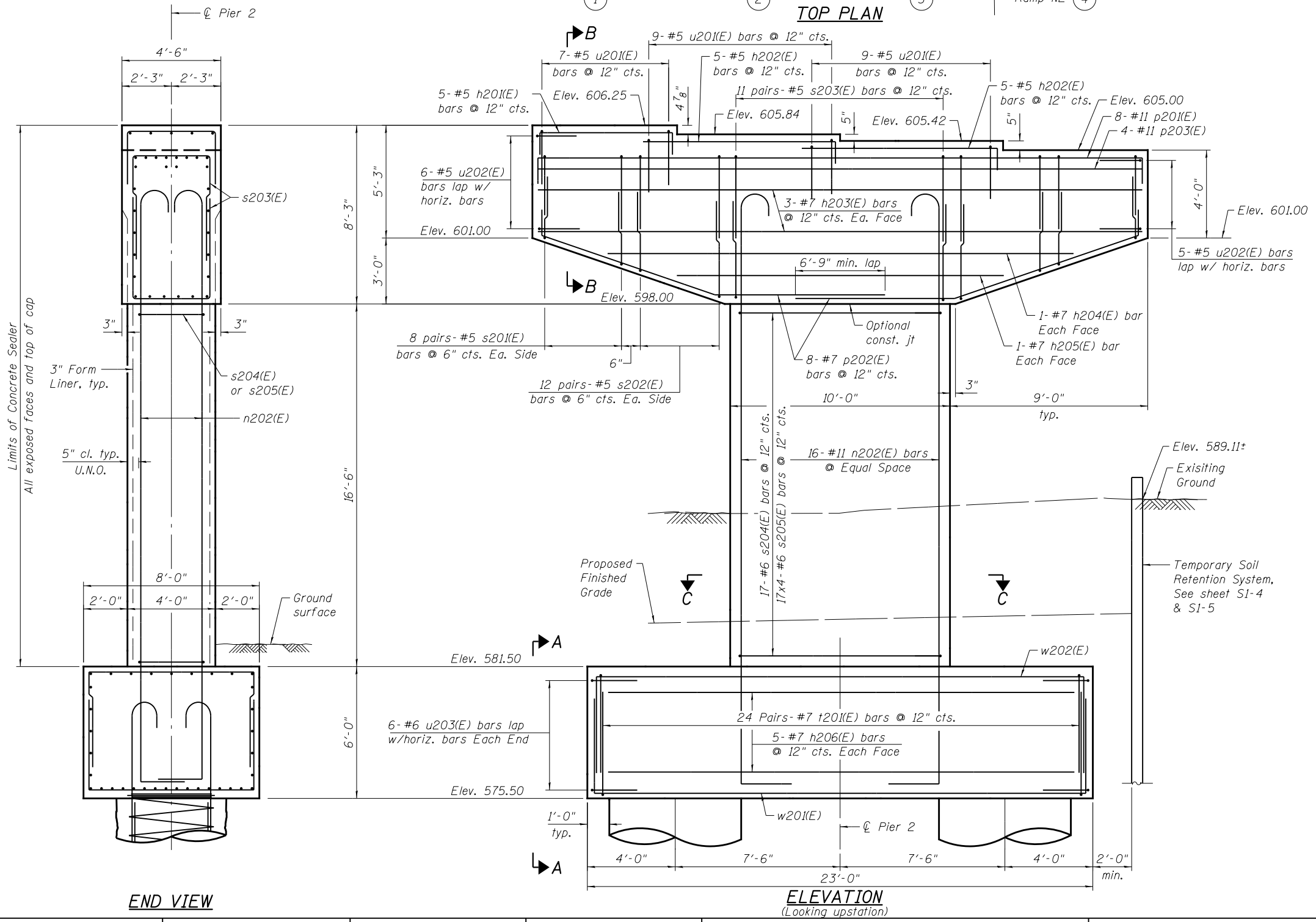
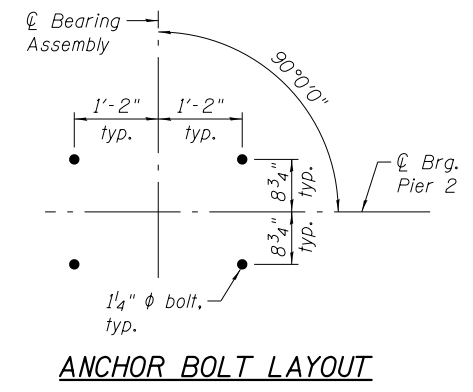
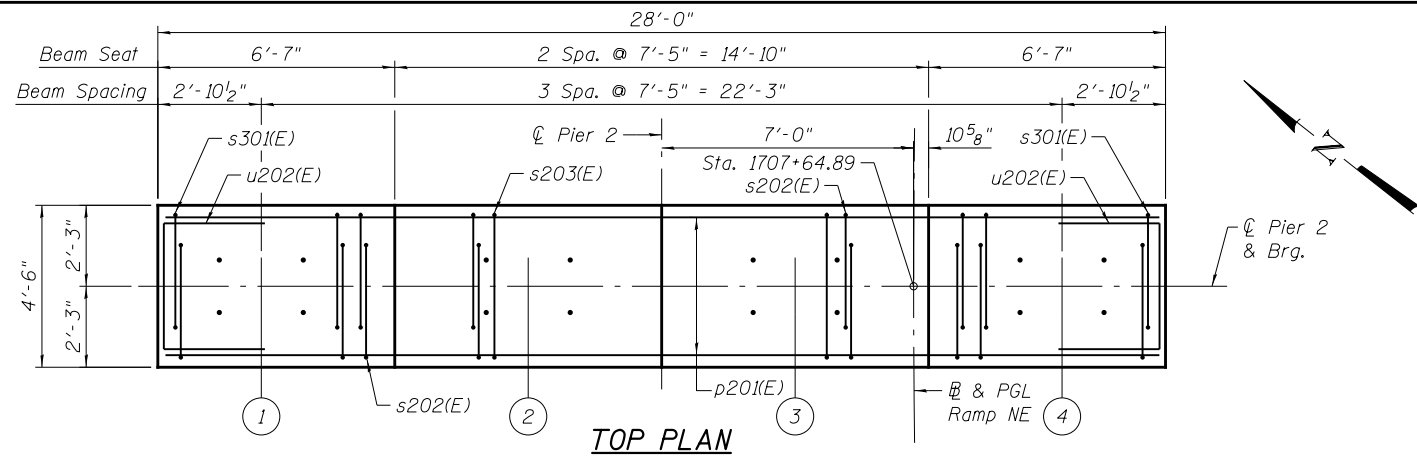
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CHECKED -	JZ	REVISOR -		REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	DCP	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 1 DETAILS  
STRUCTURE NO. 016-1710**

SHEET NO. S1-39 OF S1-53 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	178
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



- Notes:
1. See sheet S1-41 for section A-A, B-B, and C-C.
  2. Space reinforcement in cap to miss anchor bolts.
  3. Pour steps monolithically with cap.
  4. A Drilled Shafts, shall be tested in accordance with Special Provisions for Crosshole Sonic Logging.
  5. Bars equally spaced, unless otherwise noted.
  6. All edges shall have standard 3/4" chamfer.

0161710-62B76-S040-PR2.dgn

**PARSONS  
BRINCKERHOFF**

USER NAME =	lopezgonzalez	DESIGNED -	MS	REVISED -	
CHECKED -	JZ	REVISOR -		REVISION -	
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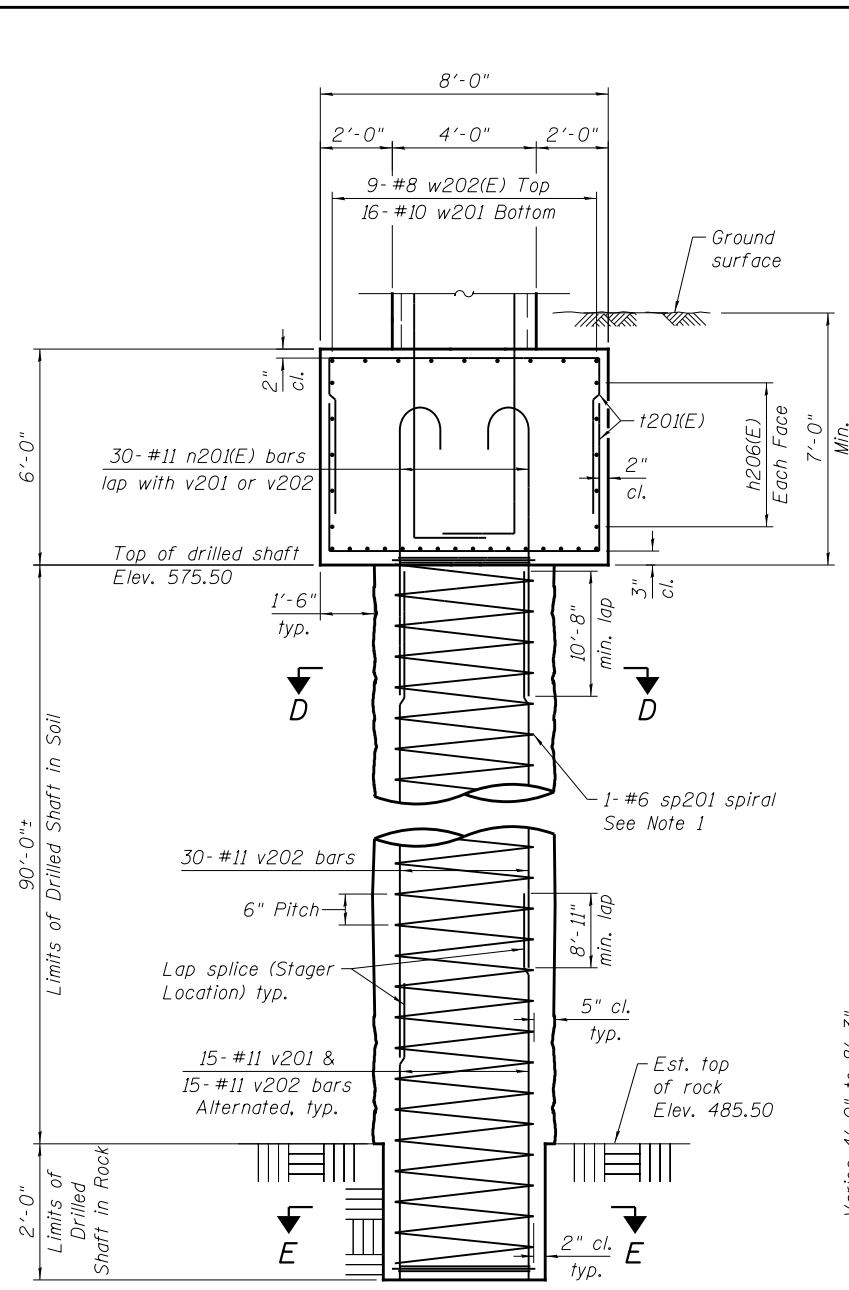
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PIER 2  
STRUCTURE NO. 016-1710**

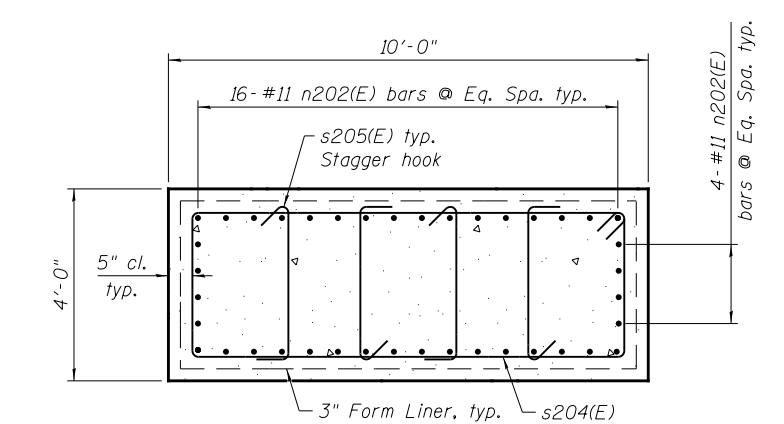
SHEET NO. S1-40 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	179
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

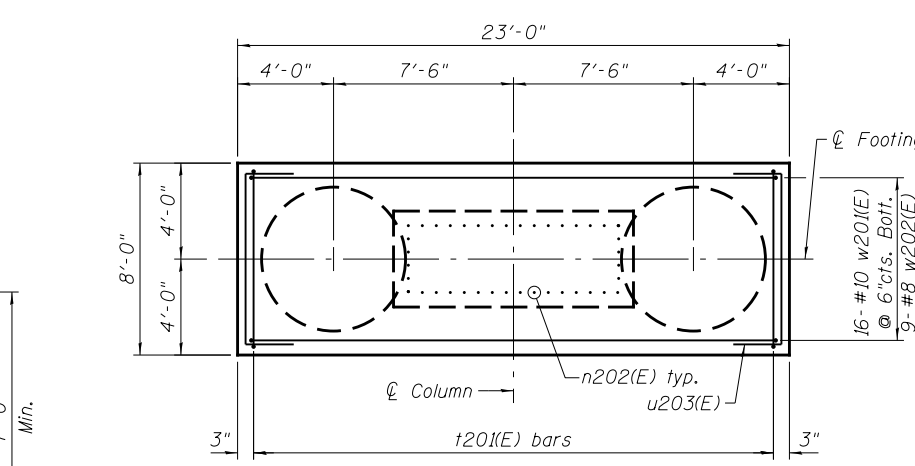
0161710-62B76-S041-DET.dgn



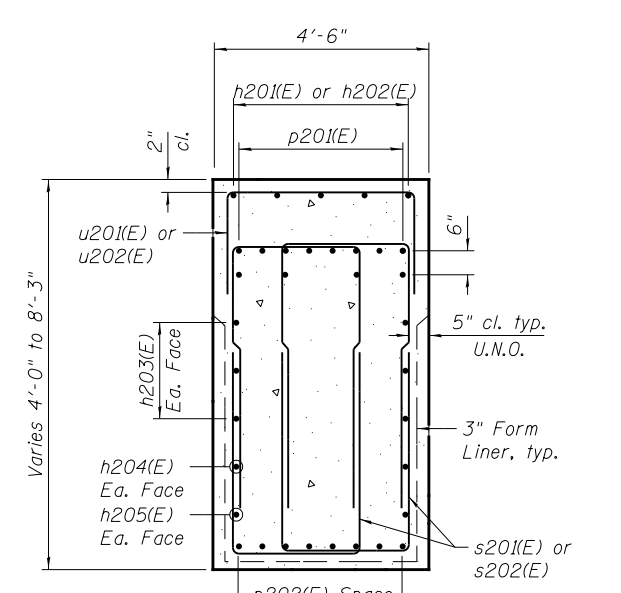
**SECTION A-A**



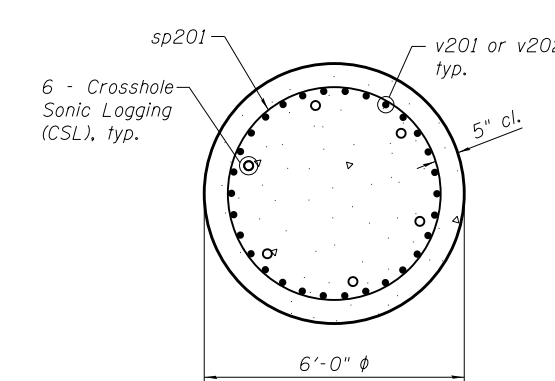
**SECTION C-C**



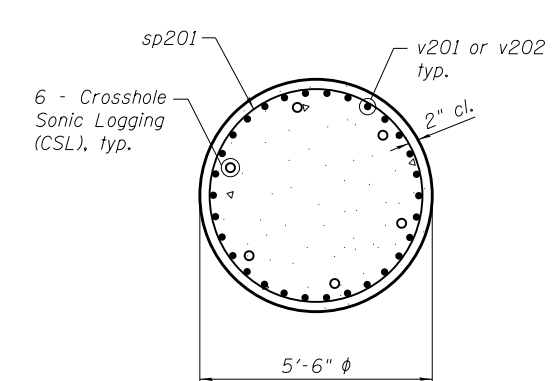
**FOOTING PLAN**



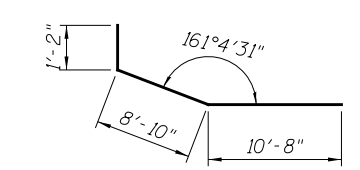
**SECTION B-B**



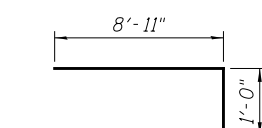
**SECTION D-D**



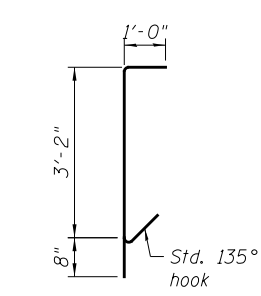
**SECTION E-E**



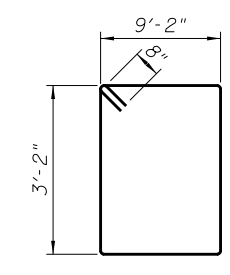
**BAR p202(E)**



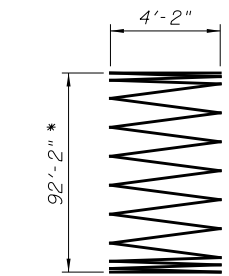
**BAR h202(E)**



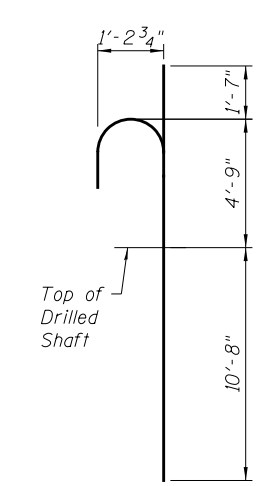
**BAR s205(E)**



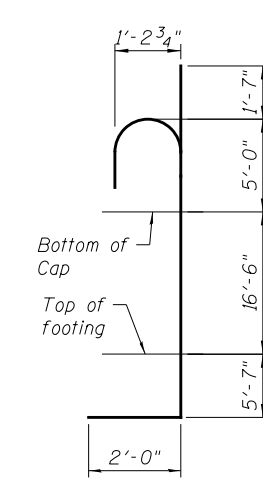
**BAR s204(E)**



**BAR sp201**



**BAR n201(E)**



**BAR n202(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h201(E)	5	#5	8'-0"	U
h202(E)	10	#5	9'-11"	U
h203(E)	6	#7	27'-2"	U
h204(E)	2	#7	21'-4"	U
h205(E)	2	#7	15'-6"	U
h206(E)	10	#7	22'-8"	U
n201(E)	60	#11	17'-0"	U
n202(E)	40	#11	30'-8"	U
p201(E)	8	#11	31'-2"	U
p202(E)	16	#7	20'-8"	U
p203(E)	4	#11	26'-10"	U
s201(E)	64	#5	9'-3"	U
s202(E)	96	#5	10'-11"	U
s203(E)	22	#5	13'-4"	U
s204(E)	17	#6	26'-0"	U
s205(E)	68	#6	4'-10"	U
sp201	2	#6	92'-2"	WWW
t201(E)	48	#8	18'-10"	U
u201(E)	25	#5	8'-6"	U
u202(E)	11	#5	10'-2"	U
u203(E)	12	#6	16'-8"	U
v201	60	#11	42'-0"	U
v202	120	#11	34'-0"	U
w201(E)	16	#10	26'-4"	U
w202(E)	9	#8	25'-4"	U
Structure Excavation		Cu. Yd.	165	
Concrete Structures		Cu. Yd.	92.2	
Reinforcement Bars		Pound	44,210	
Reinforcement Bars, Epoxy Coated		Pound	24,250	
Drilled Shaft in Soil		Cu. Yd.	188.5	
Drilled Shaft in Rock		Cu. Yd.	3.5	
Concrete Sealer		Sq. Ft.	1065	
Crosshole Sonic Logging		Each	1	

**A & B DIMENSIONS**

Bar	A	B
h201(E)	1'-0"	6'-0"
p201(E)	2'-0"	27'-2"
p203(E)	1'-10"	21'-8"
s201(E)	4'-0"	1'-3"
s202(E)	4'-10"	1'-3"
s203(E)	4'-10"	3'-8"
s206(E)	5'-7"	7'-8"
u201(E)	2'-5"	3'-8"
u202(E)	3'-3"	3'-8"
u203(E)	4'-6"	7'-8"
w200(E)	1'-4"	22'-8"
w201(E)	1'-7"	22'-8"

\* Length is height of spiral

- Notes:
- #6 sp201(E) spiral, each drilled shaft
    - Provide 1/2 extra turns, top and bottom. Extend spiral 2" into pile cap. Provide 4-#4 spacers or equivalent.
    - When splicing spiral reinforcement is necessary, the spiral shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.
  - The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock elevations encountered at each shaft and the final top of shaft elevation.



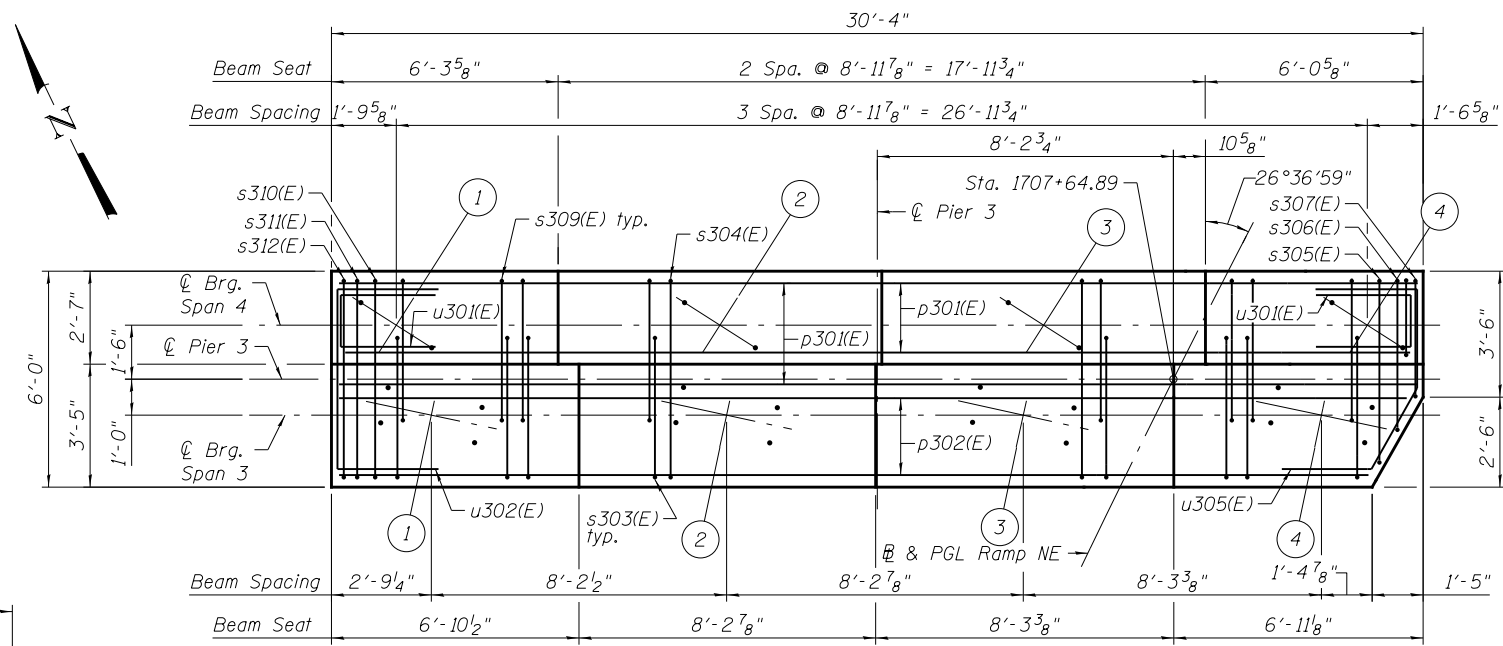
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CHECKED -	JZ	REVISOR -		REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	JZ/DCP	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

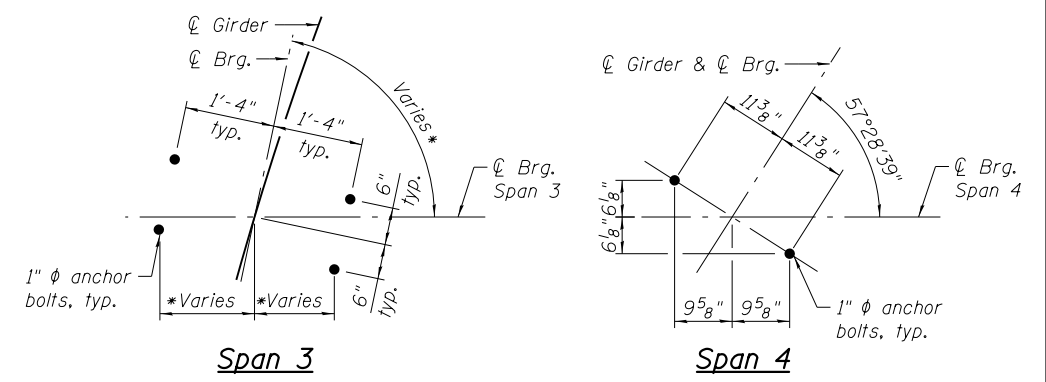
**PIER 2 DETAILS  
STRUCTURE NO. 016-1710**

SHEET NO. S1-41 OF S1-53 SHEETS

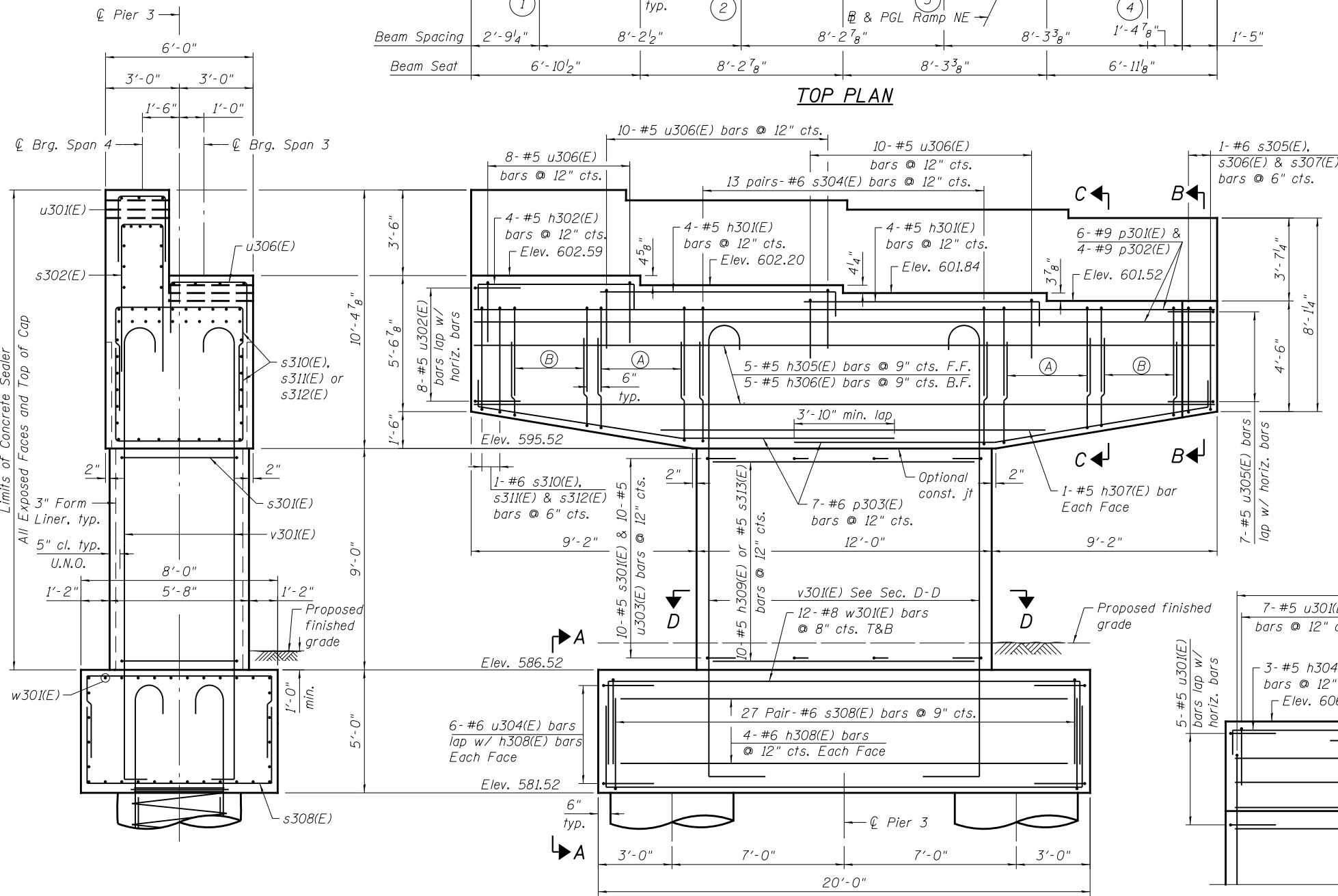
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	180
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



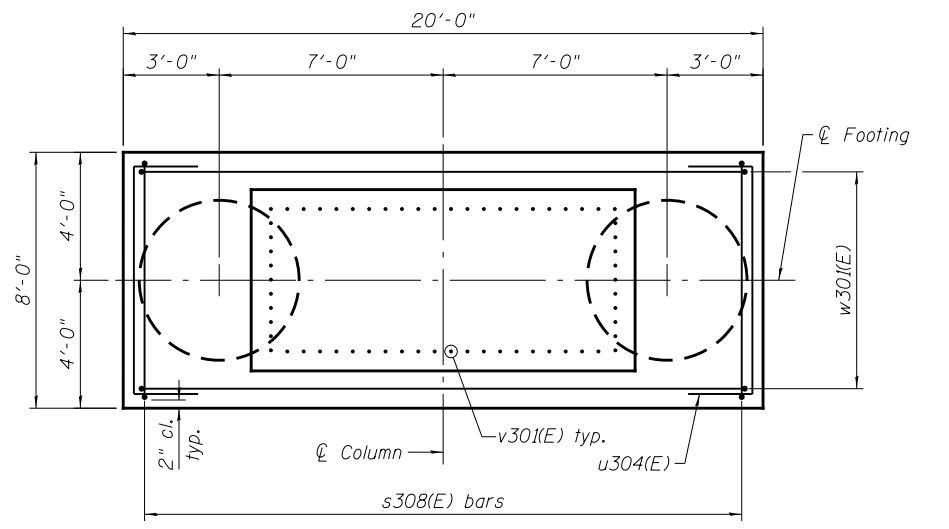
**TOP PLAN**



**ANCHOR BOLT LAYOUT**



**ELEVATION**  
(Looking upstation)

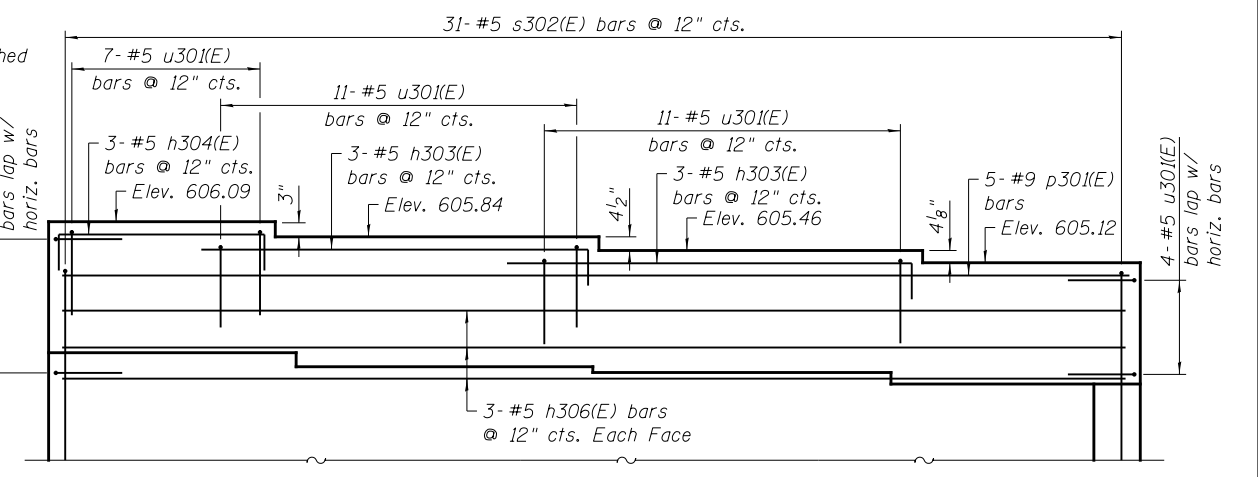


**FOOTING PLAN**

Limits of Concrete Sealer  
All Exposed Faces and Top of Cap

- Notes:
- See sheet S1-43 for section A-A, B-B, C-C, and D-D.
  - Space reinforcement in cap to miss anchor bolts.
  - Pour steps monolithically with cap.
- (A): 9 pairs-#6 s303(E) bars @ 6" cts.  
(B): 6 pairs-#6 s309(E) bars @ 6" cts.

**END VIEW**



**PARTIAL CAP ELEVATION**

0161710-62B76-S042-PR3.dgn

**PARSONS  
BRINCKERHOFF**

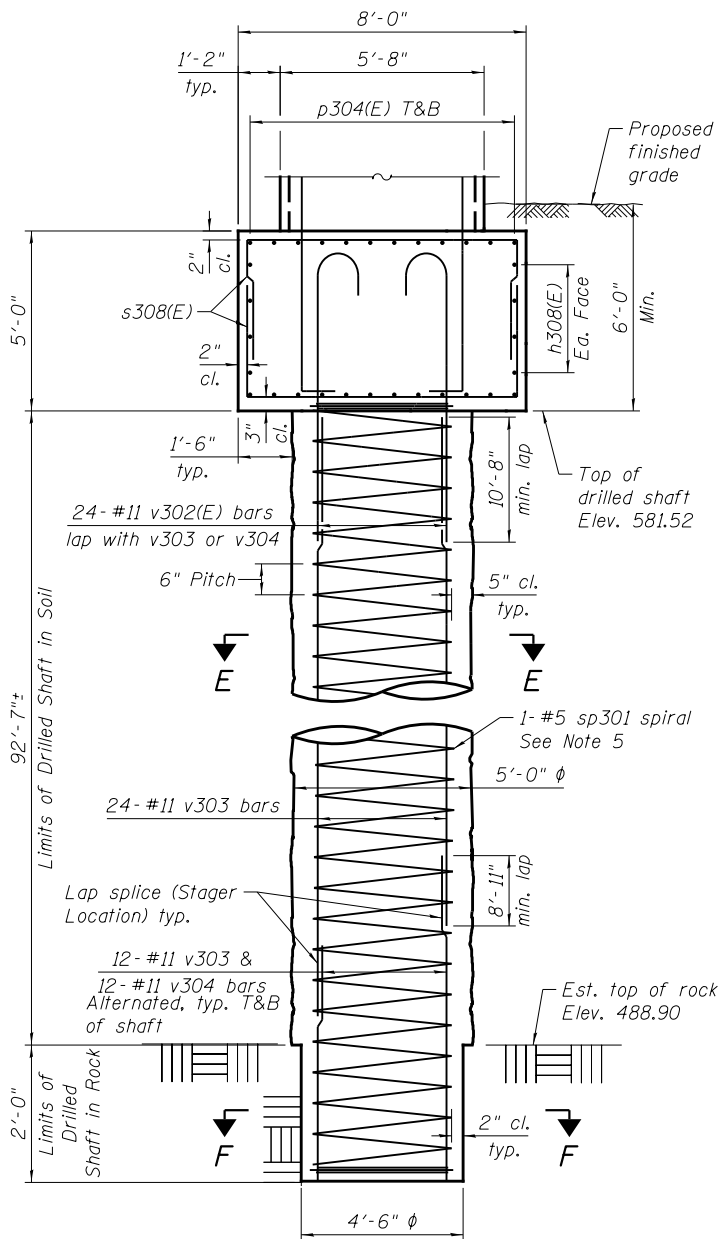
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

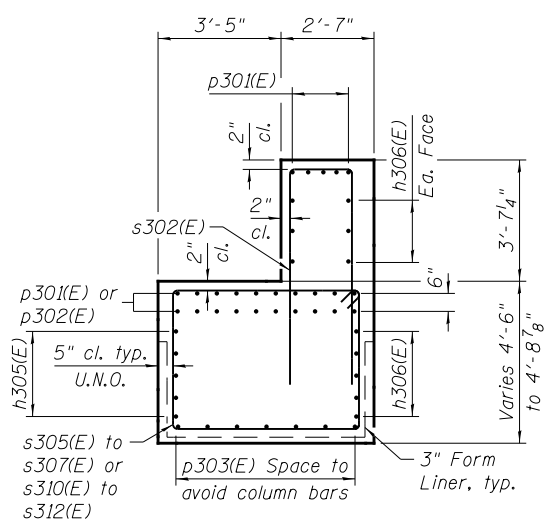
**PIER 3  
STRUCTURE NO. 016-1710**

SHEET NO. S1-42 OF S1-53 SHEETS

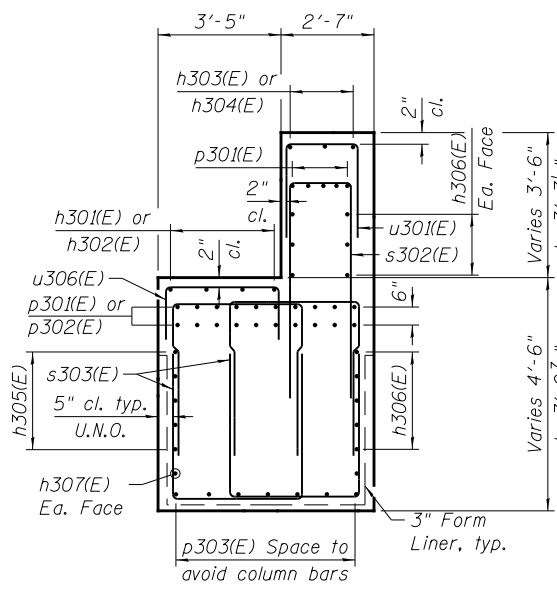
F.A.I. R.T.E. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 181
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



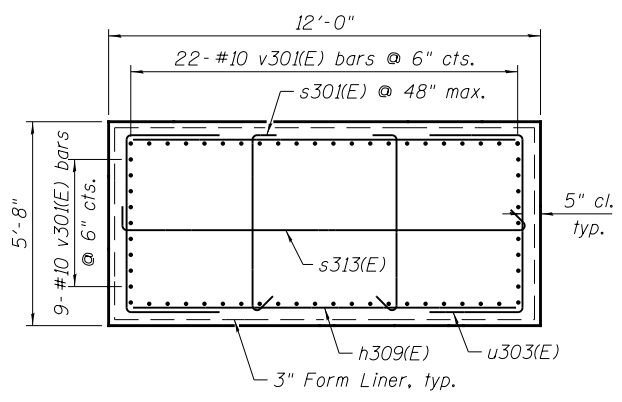
**SECTION A-A**  
(Bars not called out similar to Section C-C)



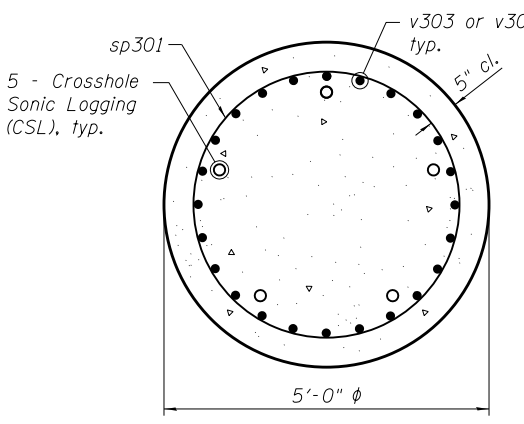
**SECTION B-B**



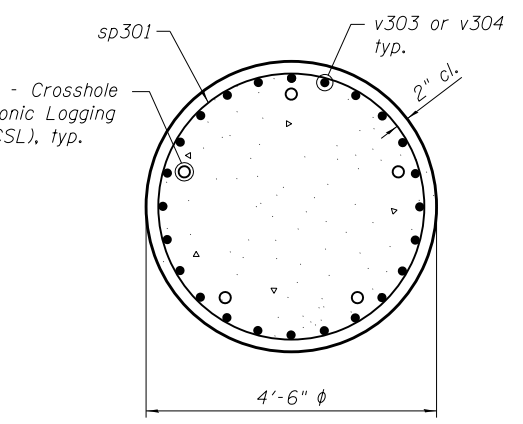
**SECTION C-C**



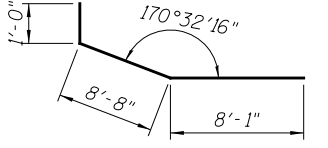
**SECTION D-D**



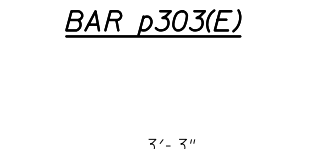
**SECTION E-E**



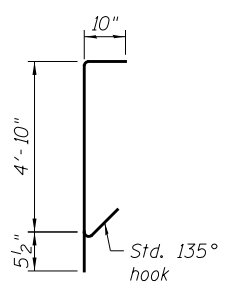
**SECTION F-F**



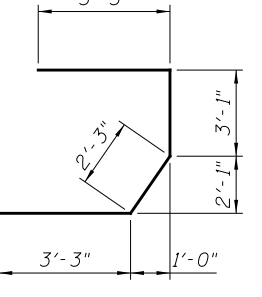
**BAR h301(E) & h303(E)**



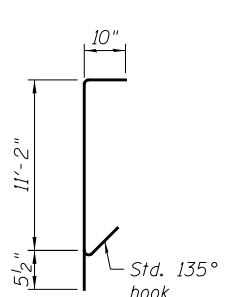
**BAR p303(E)**



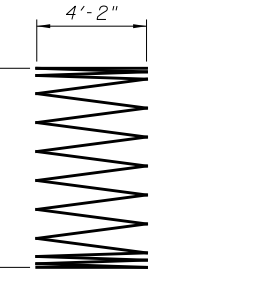
**BAR s301(E)**



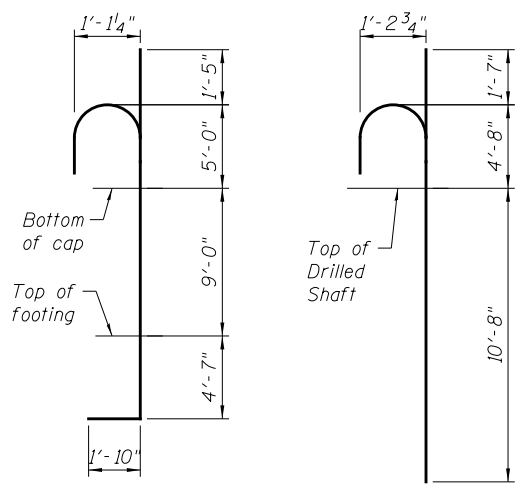
**BAR u305(E)**



**BAR s313(E)**

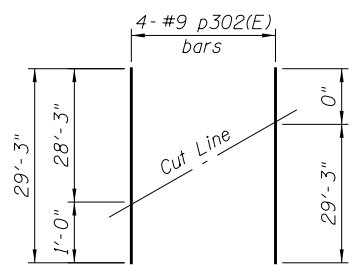


**BAR sp301**



**BAR v301(E)**

**BAR v302(E)**



**CUTTING DIAGRAM**

Order bars full length. Cut as shown. Discard the remainder.

**A & B DIMENSIONS**

Bar	A	B
h302(E)	2'-0"	6'-3"
h304(E)	1'-0"	5'-8"
s302(E)	6'-7"	2'-0"
s303(E)	4'-6"	4'-0"
s304(E)	4'-3"	5'-2"
s308(E)	4'-3"	7'-8"
s309(E)	4'-3"	4'-0"
u301(E)	3'-3"	2'-0"
u302(E)	3'-3"	5'-2"
u303(E)	3'-3"	4'-10"
u304(E)	3'-10"	7'-8"
u306(E)	3'-3"	3'-0"

**A, B & C DIMENSIONS**

Bar	A	B	C
s305(E)	4'-2"	5'-2"	8"
s306(E)	4'-0"	3'-11"	8"
s307(E)	3'-11"	2'-8"	8"
s310(E)	4'-2"	5'-2"	8"
s311(E)	4'-0"	5'-2"	8"
s312(E)	3'-11"	5'-2"	8"

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h301(E)	8	#5	10'-6"	
h302(E)	4	#5	8'-3"	
h303(E)	6	#5	11'-0"	
h304(E)	3	#5	7'-8"	
h305(E)	5	#5	28'-1"	
h306(E)	11	#5	29'-6"	
h307(E)	2	#5	20'-6"	
h308(E)	8	#6	19'-8"	
h309(E)	20	#5	11'-2"	
p301(E)	12	#9	29'-6"	
p302(E)	8	#9	29'-3"	
p303(E)	14	#6	17'-9"	
s301(E)	20	#5	6'-2"	
s302(E)	31	#5	15'-2"	
s303(E)	72	#6	13'-4"	
s304(E)	26	#6	13'-8"	
s305(E)	1	#6	20'-0"	
s306(E)	1	#6	17'-2"	
s307(E)	1	#6	14'-6"	
s308(E)	54	#6	16'-2"	
s309(E)	48	#6	12'-6"	
s310(E)	1	#6	20'-0"	
s311(E)	1	#6	19'-8"	
s312(E)	1	#6	19'-6"	
s313(E)	10	#5	12'-6"	
sp301	2	#5	94'-10"	WWW
u301(E)	38	#5	8'-6"	
u302(E)	8	#5	11'-8"	
u303(E)	20	#5	11'-4"	
u304(E)	12	#6	15'-4"	
u305(E)	7	#5	11'-10"	
u306(E)	28	#5	9'-6"	
v301(E)	62	#10	21'-10"	
v302(E)	48	#11	16'-11"	
v303	96	#11	34'-6"	
v304	48	#11	43'-5"	
w301(E)	24	#8	19'-8"	
Structure Excavation		Cu. Yd.	194	
Concrete Structures		Cu. Yd.	103.7	
Reinforcement Bars		Pound	33,930	
Reinforcement Bars, Epoxy Coated		Pound	21,400	
Drilled Shaft in Soil		Cu. Yd.	134.7	
Drilled Shaft in Rock		Cu. Yd.	2.4	
Concrete Sealer		Sq. Ft.	1269	
Crosshole Sonic Logging		Each	1	

\* Length is height of spiral

**Notes:**

- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- Bars equally spaced, unless otherwise noted.
- All edges shall have standard 3/4" chamfer.
- #5 sp301 spiral, each drilled shaft
  - Provide 1/2 extra turns, top and bottom. Extend spiral 2" into pile cap. Provide 4-#4 spacers or equivalent.
  - When splicing spiral reinforcement is necessary, the spiral shall be provided with 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4 or shall both terminate with a 135° standard hook.
- The quantities and reinforcement detailing are based on the top of shaft and the estimated top of rock elevations shown and may change based on the actual top of rock elevations encountered at each shaft and the final top of shaft elevation.
- A Drilled Shafts shall be tested in accordance with Special Provisions For Crosshole Sonic Logging.

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**PARSONS BRINCKERHOFF**

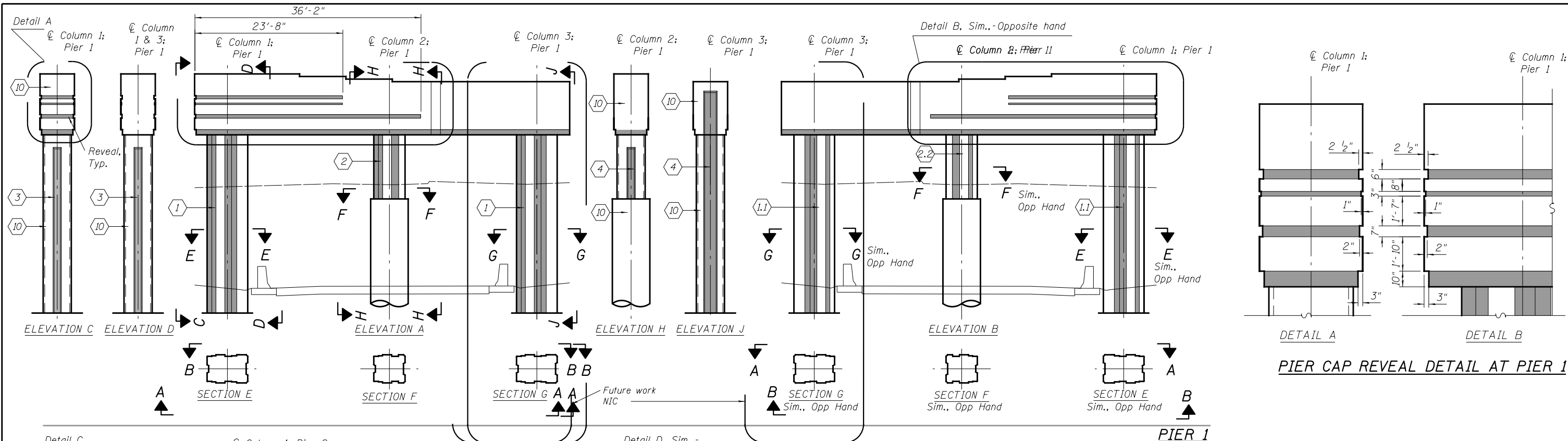
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CHECKED - MS	REVISOR -	
PLOT SCALE = N.T.S.	DRAWN - JZ	REVISOR -
PLOT DATE = 5/6/2016	CHECKED - JIG	REVISOR -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

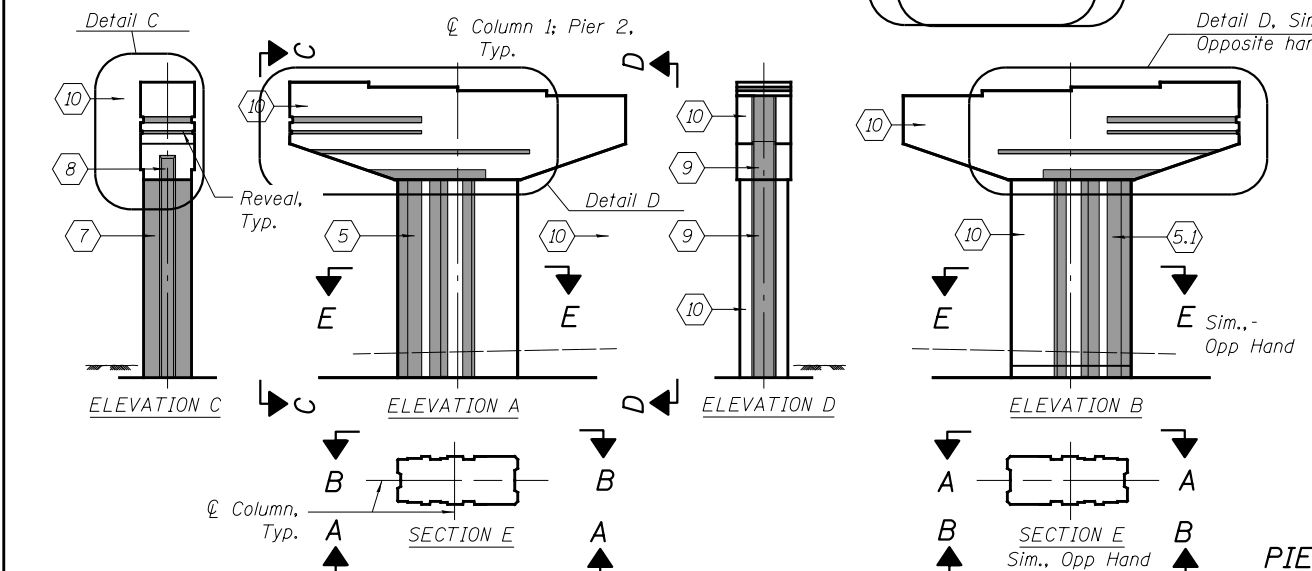
**PIER 3 DETAILS  
STRUCTURE NO. 016-1710**

SHEET NO. S1-43 OF S1-53 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	182
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



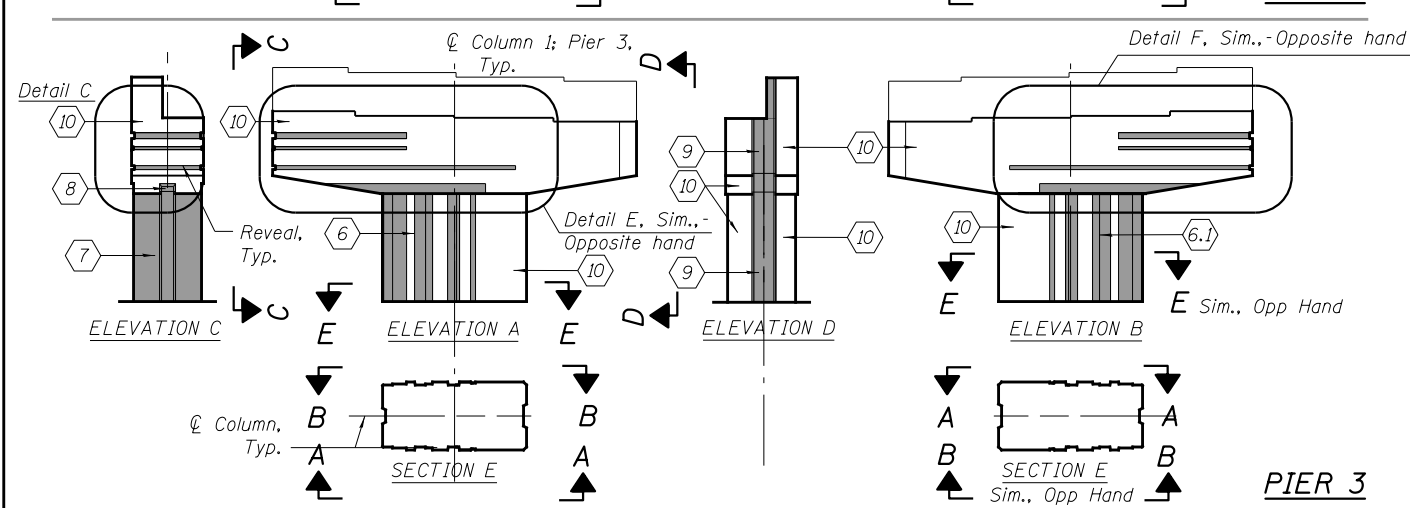
PIER CAP REVEAL DETAIL AT PIER 1



**NOTES:**  
 1. For Pier and Pier Cap dimensions see structural drawings: S1-38 to S1-43  
 2. For Formliner details see drawing S1-45  
 3. All reveals to be receive Texture A

**LEGEND:**  
 1 (1.1) 2 (2.2) 3 4  
 5 (5.1) 6 7 8 9 Textured Formliner  
 10 Contractor's Form  
 (A) Texture: Light Sandblast  
 (B) Texture: Smooth

PIER CAP REVEAL DETAIL AT PIER 2

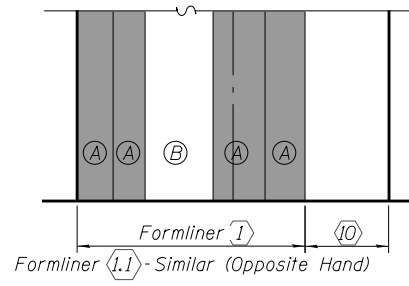


PIER CAP REVEAL DETAIL AT PIER 3

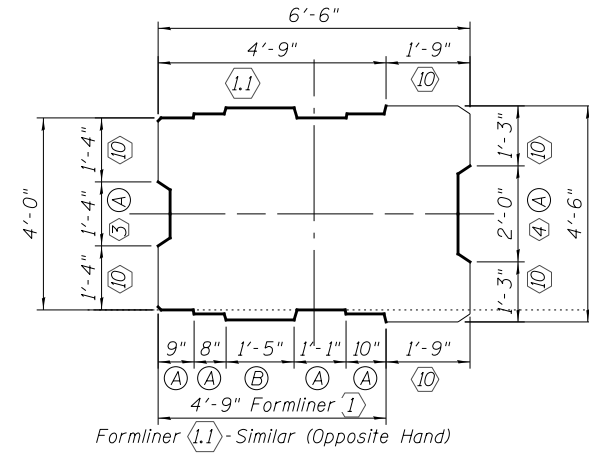
0161710-62B76-S044-ADT.dgn

<b>PARSONS BRINCKERHOFF</b>	USER NAME = lopezgonzalez	DESIGNED - HA	REVISED -	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>ARCHITECTURAL DETAILS I</b> <b>STRUCTURE NO. 016-1710</b>	F.A.I. R.T.E. = 90/94/290	SECTION = 2015-080R&B	COUNTY = COOK	TOTAL SHEETS = 250	SHEET NO. = 183
	PLOT SCALE = N.T.S.	DRAWN - DCP	REVISED -			CONTRACT NO. 62B76				
	PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -			ILLINOIS FED. AID PROJECT				

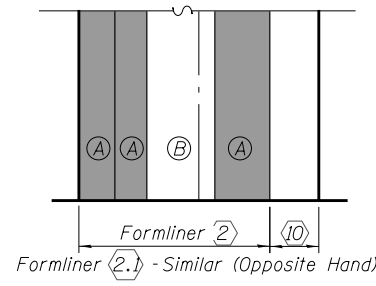




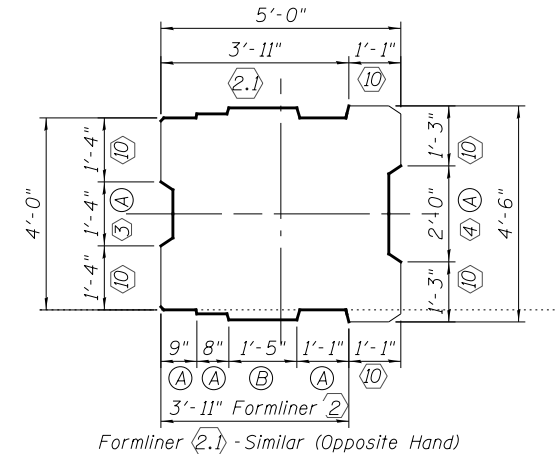
**FORMLINER 1**



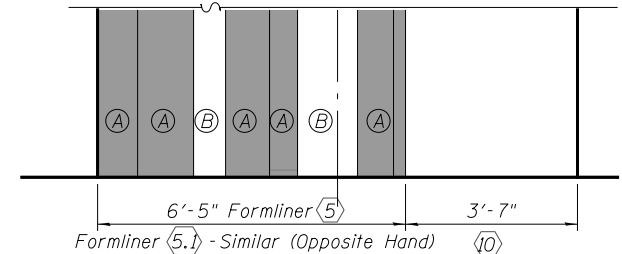
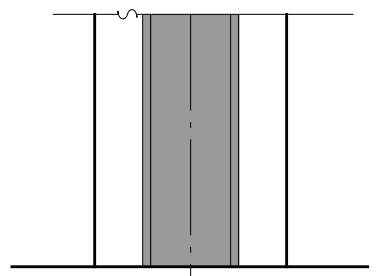
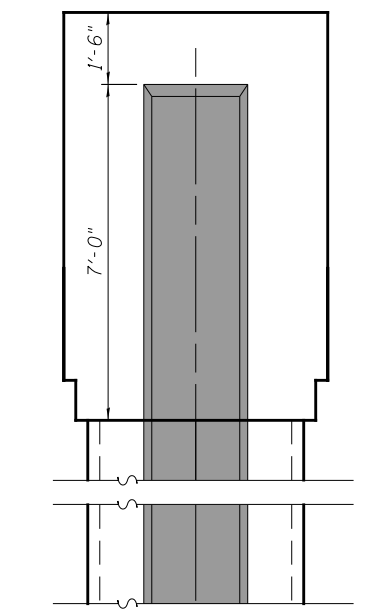
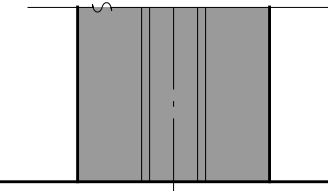
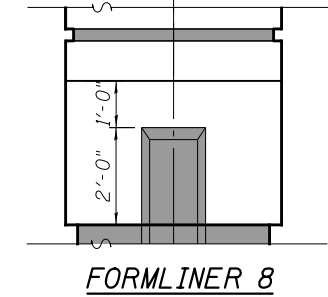
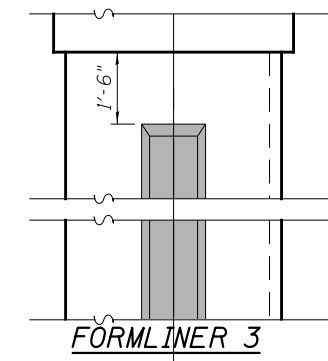
**FORMLINER LAYOUT - COLUMN 1 & 3 AT PIER 1**



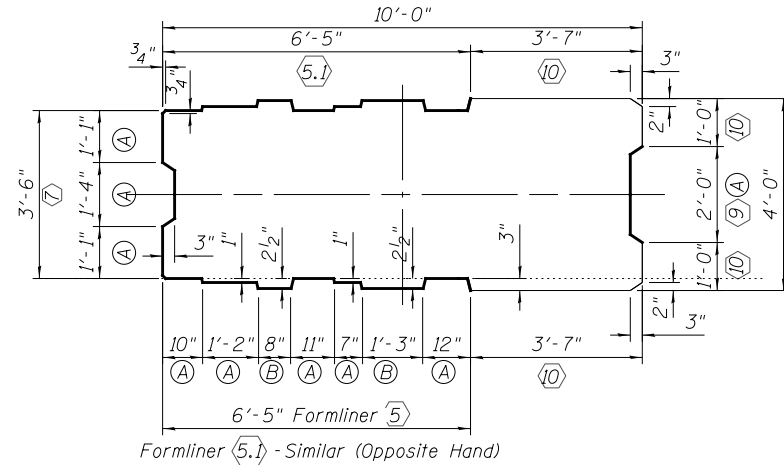
**FORMLINER 2**



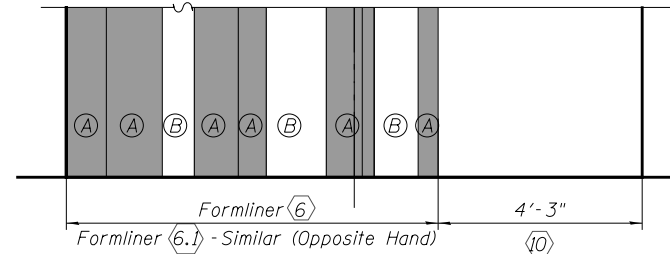
**FORMLINER LAYOUT - COLUMN 2 AT PIER 1**



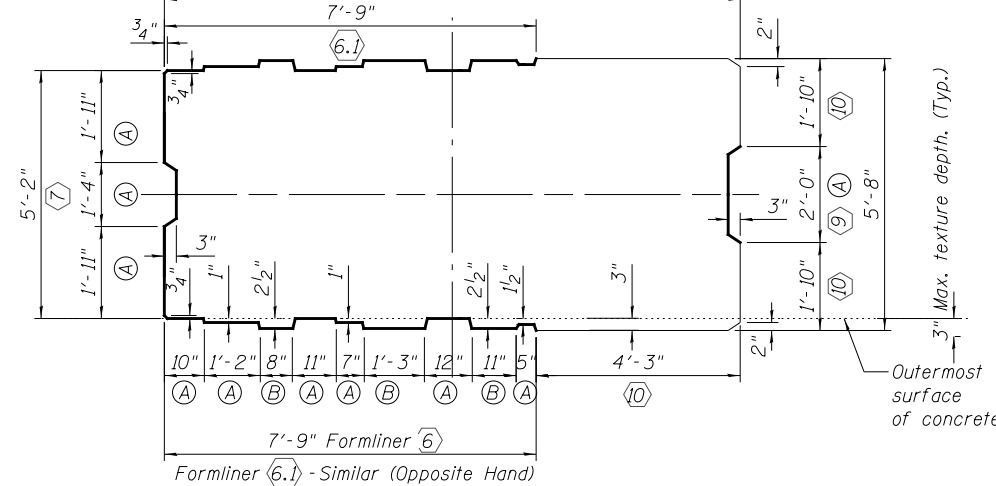
**FORMLINER 5**



**FORMLINER LAYOUT - COLUMN 1 AT PIER 2**

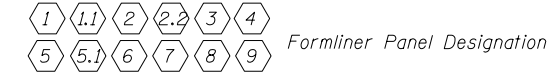


**FORMLINER 6**



**FORMLINER LAYOUT - COLUMN 1 AT PIER 3**

**LEGEND:**



- (10) Contractor's form: Rubbed Finish at all concrete surface on columns and pier caps, exposed to view and not indicated as textured formliner or textured reveal.
- (A) Texture: Light Sandblast: Min Depth: 0.0625" - Max Deth: 0.100"
- (B) Texture: Smooth

**NOTES:**

1. Verify / coordinate pier dimensions with structural drawings.
2. Unless otherwise noted on plans, draft at formliner will be 1/4" per inch depth, typ.
3. Maximum depth of formliner texture at columns and maximum depth of reveals at pier caps is 3".
4. Work for reveals at pier cap shell not be paid separately. This work is included in Pay Item: Concrete Structures.

**TABLE 1**

Pier	Formliner Quantity (Sq.Ft.)	Rubbed Finish Quantity (Sq.Ft.)
1	482	1,694
2	290	637
3	196	782

**BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Form Liner Textured Surface	Sq. Ft.	968
Rubbed Finish	Sq. Ft.	3,113

0161710-62B76-S045-ADT.dgn

















**Wang Engineering**  
 wangeng@wangeng.com  
 1145 N Main Street  
 Lombard, IL 60148  
 Telephone: 630 953-9928  
 Fax: 630 953-9938

**BORING LOG 0461-B-15**

Page 3 of 3

WEI Job No.: 1100-04-01

Client: **AECOM**  
 Project: **Circle Interchange Reconstruction**  
 Location: **Section 17, T39N, R14E of 3rd PM**

Datum: NAVD 88  
 Elevation: 587.87 ft  
 North: 1897885.92 ft  
 East: 1172158.86 ft  
 Station: 1708+00.83  
 Offset: 29.1344 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu	Moisture Content (%)
478.9	DOLOSTONE, up to 18-inch beds, 10-inch joints spacing, horizontal joints with none to less than 0.2-inch infilling, hard joint wall, with stylolitic surfaces, and moderately vuggy porosity  --Run 1 - RECOVERY=100%-- --RQD=75%--	105		1		m z c									
	Boring terminated at 109.00 ft	110													
		115													
		120													
		125													

**GENERAL NOTES**

**WATER LEVEL DATA**

Begin Drilling: 03-26-2014      Complete Drilling: 03-26-2014  
 Drilling Contractor: Wang Testing Services      Drill Rig: B-57 TMR  
 Driller: P&P      Logger: D. Kolpacki      Checked by: C. Marin  
 Drilling Method: 3.25" HSA to 10', mud rotary thereafter, boring backfilled upon completion

While Drilling: 3.00 ft  
 At Completion of Drilling: 87.00 ft  
 Time After Drilling: NA  
 Depth to Water: NA

The stratification lines represent the approximate boundary between soil types. The actual transition may be gradual.

0161710-62B76-S053-BOR.dgn

**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - P.JL	REVISED -
PLOT DATE = 5/6/2016	DRAWN - IJL	REVISED -
	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS VIII  
 STRUCTURE NO. 016-1710**

SHEET NO. S1-53 OF S1-53 SHEETS

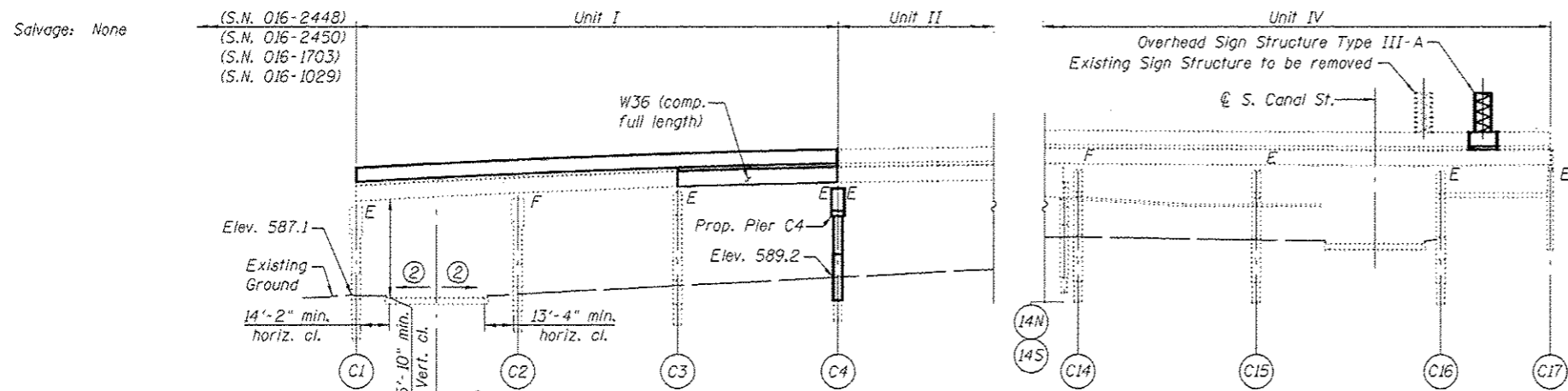
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	192
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

Bench Mark: Square cut 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 + cut in the SE anchor bolt of the 11th street light N. of Roosevelt on the W. side of Halsted. Elev. = 594.06.

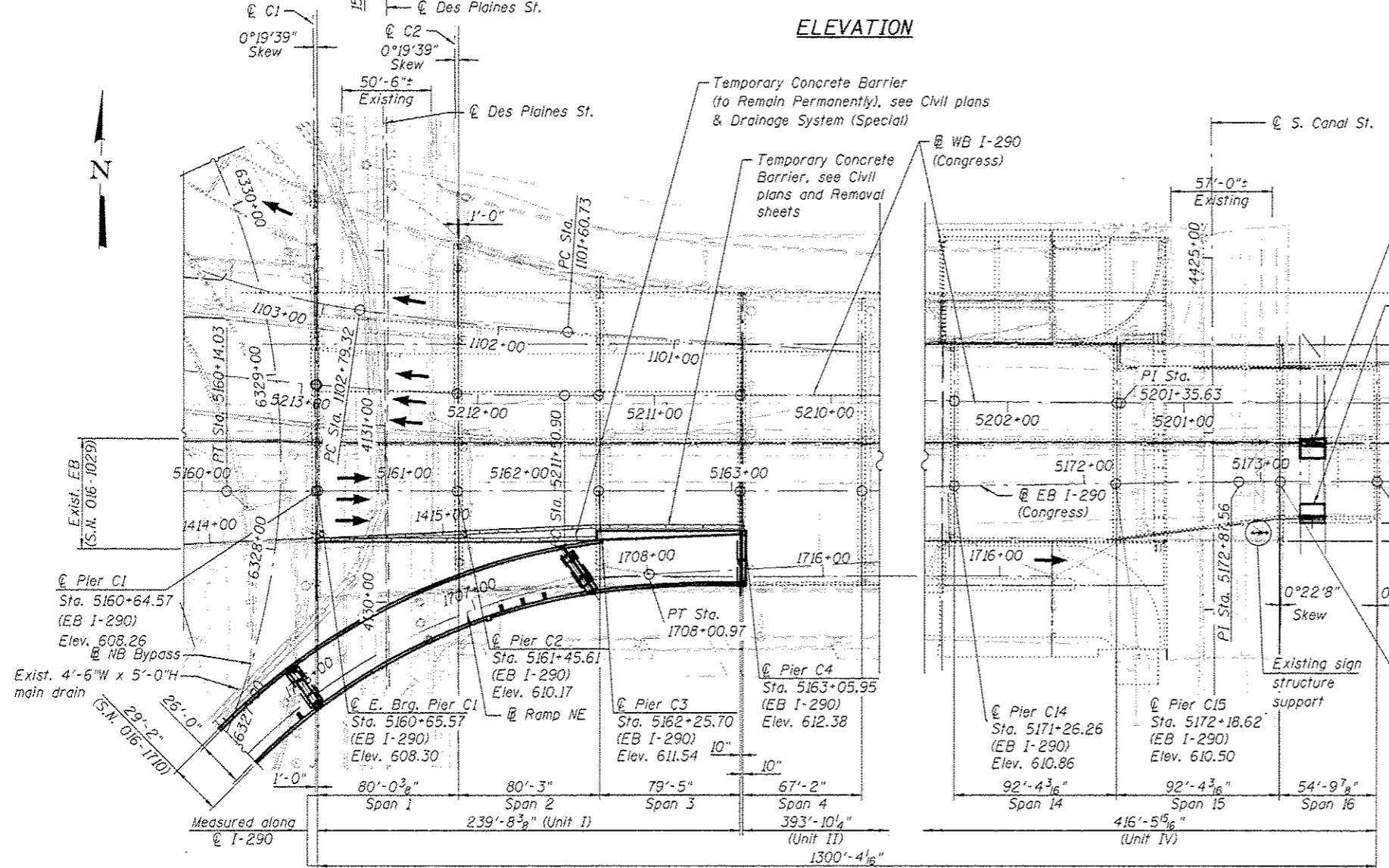
Existing Structure: S.N. 016-0461 was originally built in 1952 as F.A. Route Number 131, Section 062-2424.4. The existing structure consists of 16 main spans of multi-unit steel continuous multi-beam superstructures with additional entrance and exit ramp spans along Spans 12 and 13. The existing structure has an overall length of approximately 1301'-4" and an average out-to-out width of approximately 162'-0" for the main spans and 25'-0" for the ramp spans. The substructure units are founded on drilled shafts and consist of 17 multi column piers. The existing bridge is to be rehabilitated through a combination of partial removal and replacement.

Traffic Control: Three lanes of mainline traffic will be maintained during construction.

Salvage: None



ELEVATION



PLAN

- ① Line perpendicular to @ I-290
- ② Varies 1.4% to 3.6%

**SCOPE OF WORK**

1. Partially remove existing deck as shown in Spans 1 thru 3 and at expansion joint in Span 4.
2. Partially remove steel beams within deck removal limits.
3. Provide Temporary Shoring at existing beams in Span 4.
4. Provide Temporary Support (to Remain in Place) existing portion of Pier C4 cap.
5. Partially remove Piers C1, C2, C3 & C4.
6. Partially apply Concrete Sealer to Pier C2 cap & column outside edge of deck limits.
7. Reconstruct Pier C4.
8. Furnish and erect steel beam in Span 4 and construct deck at joint with Ramp NE (SN 016-1710).
9. Partially remove existing concrete deck as shown in span 16 and reconstruct deck & parapet to support sign structure.
10. Remove existing sign structure at Sta. 5172+99.08.
11. Install New sign structure, Type III-A at Sta. 5173+29.39.

**Notes:**

1. For profile grades see sheet S2-2.
2. For Protective Shield limits, see sheet S2-09 thru S2-11.
3. Skew is taken from a line normal to @ I-290.
4. Existing utilities attached to structure will be maintained/relocated during construction.

**DESIGN SPECIFICATIONS**  
 2014 AASHTO LRFD Bridge Design Specifications  
 7th Edition (Spans 1-3)  
 2002 AASHTO Standard Specifications  
 for Highway Bridges (Spans 4-16)

**DESIGN STRESSES**

**FIELD UNITS (New Construction)**  
 f'c = 3,500 psi  
 fy = 60,000 psi (Reinforcement)  
 fy = 50,000 psi (M270 Grade 50)

**FIELD UNITS (Exlst. Construction)**  
 f'c = 3,500 psi  
 fy = 60,000 psi (Deck Reinforcement)  
 fy = 40,000 psi (Pier Reinforcement)  
 fy = 33,000 psi (ASTM A7)

**LOADING HL-93**

(SPANS 1-3 & PIER C1 THRU C4)

**LOADING HS20-44 &**

**ALT. MILITARY (SPANS 4-16)**

Allow 25#/sq. ft. for future wearing surface

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.085  
 Design Spectral Acceleration at 0.2 sec. (S<sub>Ds</sub>) = 0.144  
 Soil Site Class = D



Signed

*Jamal I. Grainawi*

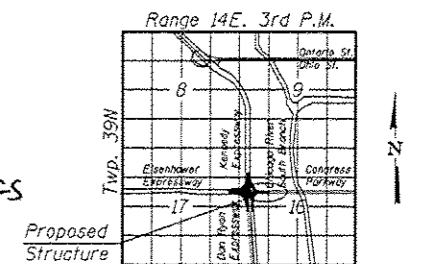
JAMAL I. GRAINAWI, S.E. II. Lic. No. 081-005161  
 Expires 11-30-2016.

Date

4/28/2016

**APPROVED**  
 For Structural Adequacy Only

*P. Carl Purney*  
 Engineer of Bridges & Structures



LOCATION SKETCH

**GENERAL PLAN & ELEVATION**  
**I-290 (CONGRESS) VIADUCT OVER**  
**DES PLAINES ST. TO CANAL ST.**

**F.A.I. ROUTE 90/94/290**

**SECTION 2015-080 R&B**

**COOK COUNTY**

**STATION 5165+03.09**

**STRUCTURE NO. 016-0461**

**LEGEND:**

- Water Line
- Electric
- Telephone line
- Television line
- Combined Sewer
- Storm Sewer

**PARSONS BRINCKERHOFF**

USER NAME = 10d9zgonz210z	DESIGNED - P.JL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - JIG	REVISED -
PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET NO. S2-1 OF S2-22 SHEETS

F.A.I. RTE. 90/94/290	SECTION 2015-080R&B	COUNTY COOK	TOTAL SHEETS 250	SHEET NO. 193
CONTRACT NO. 62576			ILLINOIS FED. AID PROJECT	

0160461-52876-S001-GPE.dgn

**GENERAL NOTES:**

- Fasteners shall be ASTM A325 Type 1, hot dipped galvanized bolts. Bolts  $\frac{7}{8}$ "  $\phi$ , holes  $\frac{15}{16}$ "  $\phi$ , unless otherwise noted.
- Calculated weight of Structural Steel = 12,867 lbs. (Gr. 50)  
= 1,200 lbs. (Gr. 36)
- All structural steel except for steel in Temporary Support System shall be metallized (thermal spraying. See special provision for "Metallizing Structural Steel").
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- If the Contractor elects to use cantilever forming brackets on the exterior beams or girders, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
- Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of  $\frac{1}{8}$ " (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete Sealer shall be applied to the designated areas of Pier C2 and Pier C4.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- Temporary Soil Retention System shall be as per Std. Spec. Section 522.07 and as modified herein. Temporary Soil Retention System shall be installed without the use of impact-type pile drivers. The proposed equipment and procedures used for the installation of Temporary Soil Retention 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 Temporary Soil Retention System. No additional costs shall be paid for this effort.

**INDEX OF SHEETS**

- S2-1 General Plan & Elevation
- S2-2 General Data
- S2-3 Substructure Layout
- S2-4 Temporary Concrete Barrier
- S2-5 Temporary Support Details I
- S2-6 Temporary Support Details II
- S2-7 Temporary Support Details III
- S2-8 Existing Structure Removal Details I
- S2-9 Existing Structure Removal Details II
- S2-10 Existing Structure Removal Details III
- S2-11 Top of Slab Elevation Plan
- S2-12 Deck Plan - Unit I
- S2-13 Deck Details I - Unit I
- S2-14 Deck Plan - Unit IV
- S2-15 Deck Details - Unit IV
- S2-16 Drainage System
- S2-17 Framing Plan
- S2-18 Bearing Details I
- S2-19 Bearing Details II
- S2-20 Pier C4
- S2-21 Pier C4 Details
- S2-22 Bar Splicer Assembly and Mechanical Splicer Details

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.		74.7	74.7
Removal of Existing Concrete Deck	Each	1		1
Protective Shield	Sq. Yd.	975		975
Structure Excavation	Cu. Yd.		99	99
Concrete Structures	Cu. Yd.		76.1	76.1
Concrete Superstructure	Cu. Yd.	28.3		28.3
Bridge Deck Grooving	Sq. Yd.	52		52
Protective Coat	Sq. Yd.	66		66
Furnishing and Erecting Structural Steel	L. Sum	0.1		0.1
Stud Shear Connectors	Each	261		261
Reinforcement Bars, Epoxy Coated	Pound	4,840	14,950	19,790
Bar Splicers	Each		41	41
Elastomeric Bearing Assembly, Type I	Each	7		7
Anchor Bolts, 3/4"	Each	4		4
Anchor Bolts, 1"	Each	10		10
Temporary Soil Retention System	Sq. Ft.		742	742
Concrete Sealer	Sq. Ft.		744	744
Drainage System (Special)	L. Sum	1		1
Jack and Remove Existing Bearings	Each	5		5
Drainage System	L. Sum	0.5		0.5
Silicone Joint Sealer, 1"	Foot	82		82
Temporary Shoring	Each	1		1
Temporary Support System (to Remain in Place)	Each		1	1

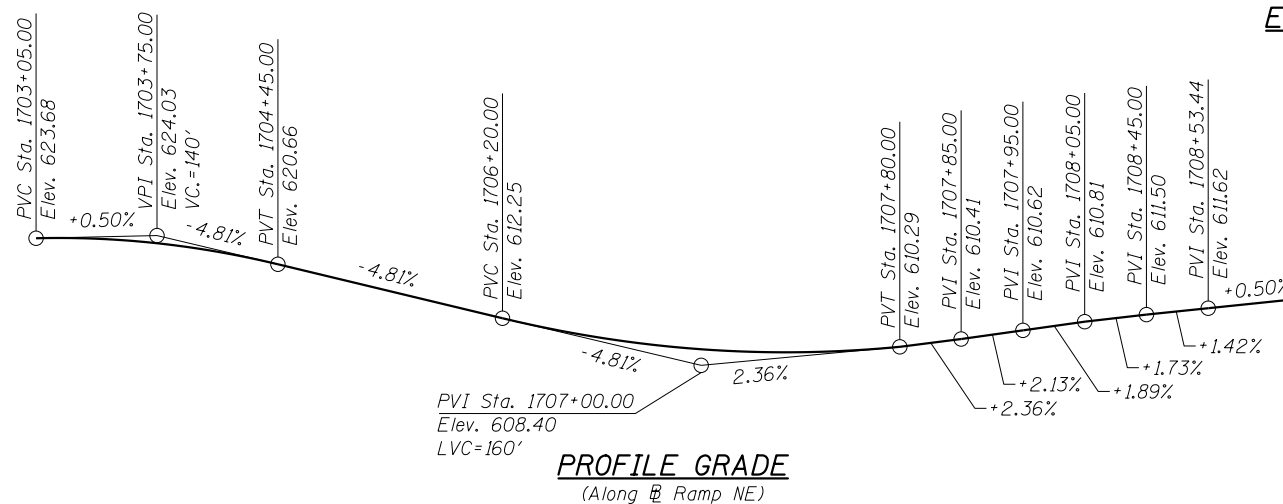
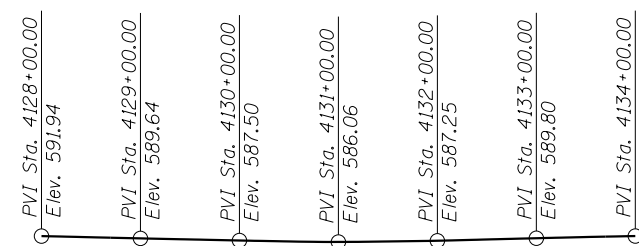
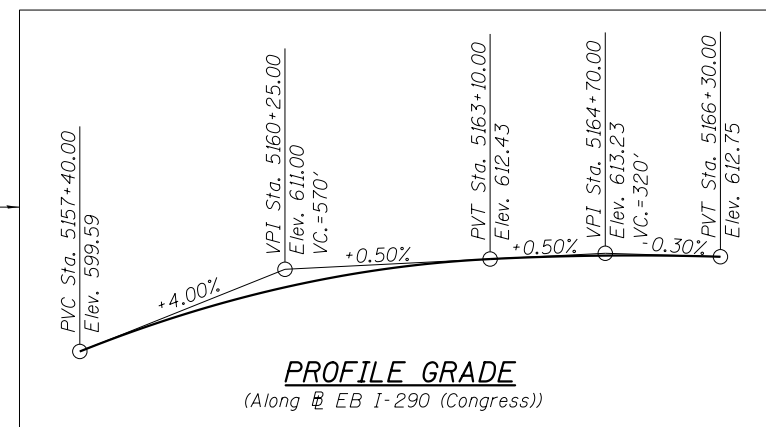
**STRUCTURAL ASSESSMENT OF EXISTING STRUCTURE NOTES:**

- 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.
- An Existing Structure Information Package (ESIP) will be provided by the Department to the Contractor upon request.
- 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. 016-0461 (I-290 (Congress) Viaduct over Des Plaines St. to Canal St.)  
Inventory: HS 21.3  
Operating: HS 34.3  
Live Load Restrictions: None
- S.N. 016-1029 (EB I-290 over I-90/94)  
Inventory: HS 17.2  
Operating: HS 28.7  
Live Load Restrictions: None

- 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.
- 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 and for the complete or partial removal or replacement of the structure.
- 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.
- 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.



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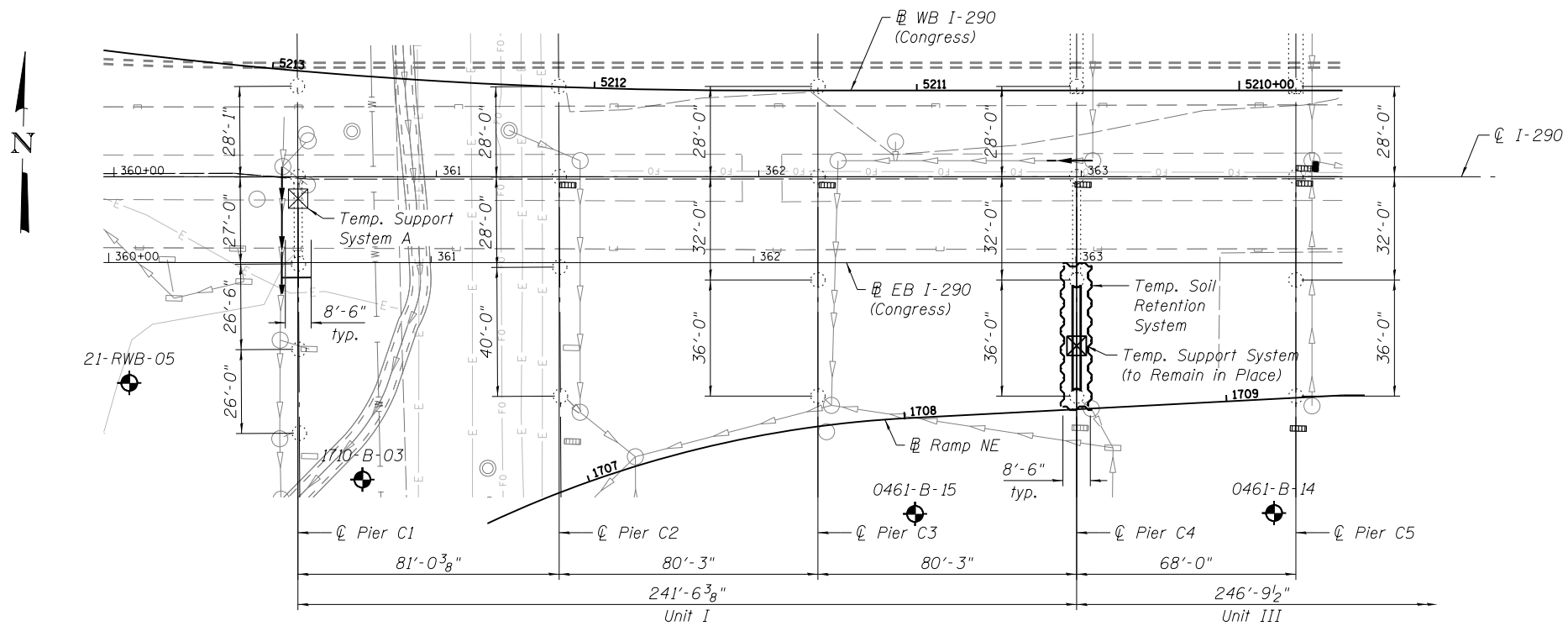
**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - AH	REVISED -
PLOT DATE = 5/6/2016	DRAWN - DCP	REVISED -
	CHECKED - JIG	REVISED -

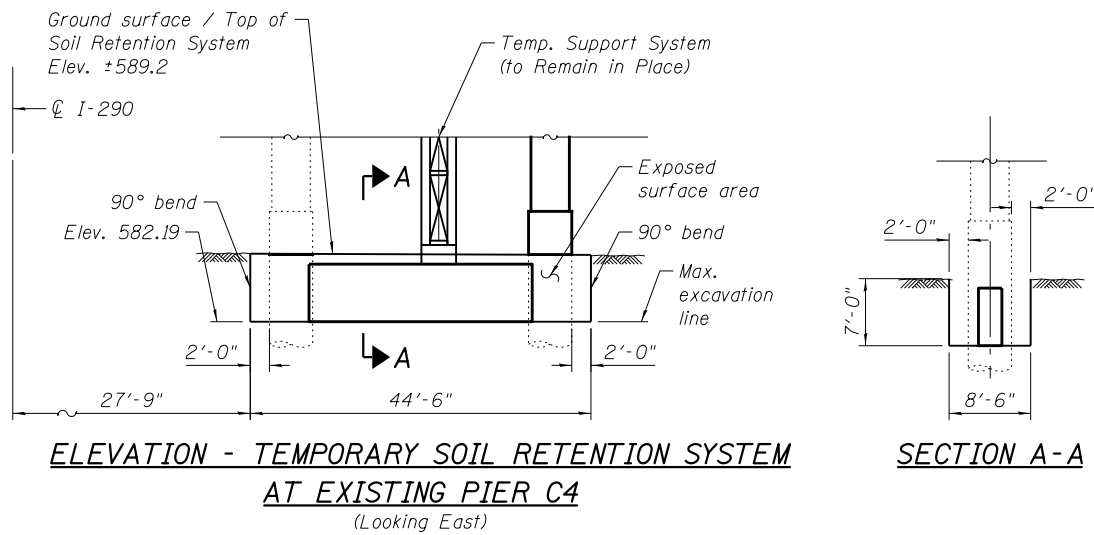
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA**  
**STRUCTURE NO. 016-0461**  
SHEET NO. S2-2 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	194
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	



**SUBSTRUCTURE LAYOUT PLAN**



**LEGEND:**

- W— Water Line
- E— Electric
- G— Gas
- T— Telephone line
- CTV— Television line
- CS— Combined Sewer
- SS— Storm Sewer
- ⊕ Soil Boring Location
- ⊠ Temporary support system or temporary shoring

**Notes:**

1. Temporary Soil Retention System required for existing pier removal and Temporary Support System. See sheets S2-5 thru S2-7.
2. Temporary Soil Retention System to be left in place. Required for Temporary Support System. To be removed in future contract (by others).
3. A cantilever 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.
4. The Contractor shall take precautions to protect existing utilities and foundations during construction of the bridge. The utilities were located based on SUE and utility supplier information available at design.
5. Temporary soil retention system shall avoid existing roadway drainage.

**BILL OF MATERIAL**

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	742

0160461-62B76-5003-LAY.dgn

**PARSONS  
BRINCKERHOFF**

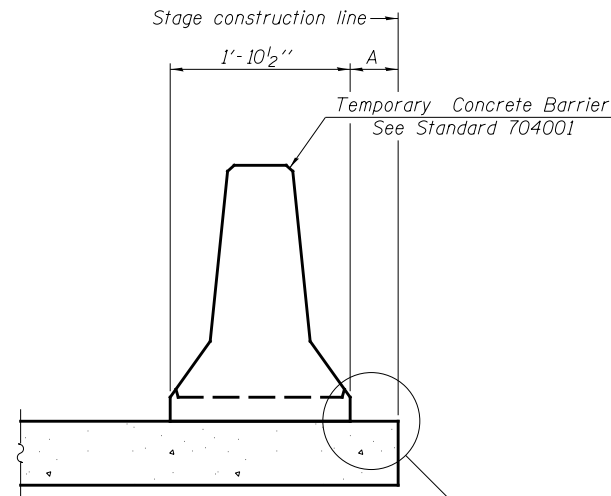
USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - PJL	REVISED -
PLOT DATE = 5/6/2016	DRAWN - PJL	REVISED -
	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUBSTRUCTURE LAYOUT  
STRUCTURE NO. 016-0461**

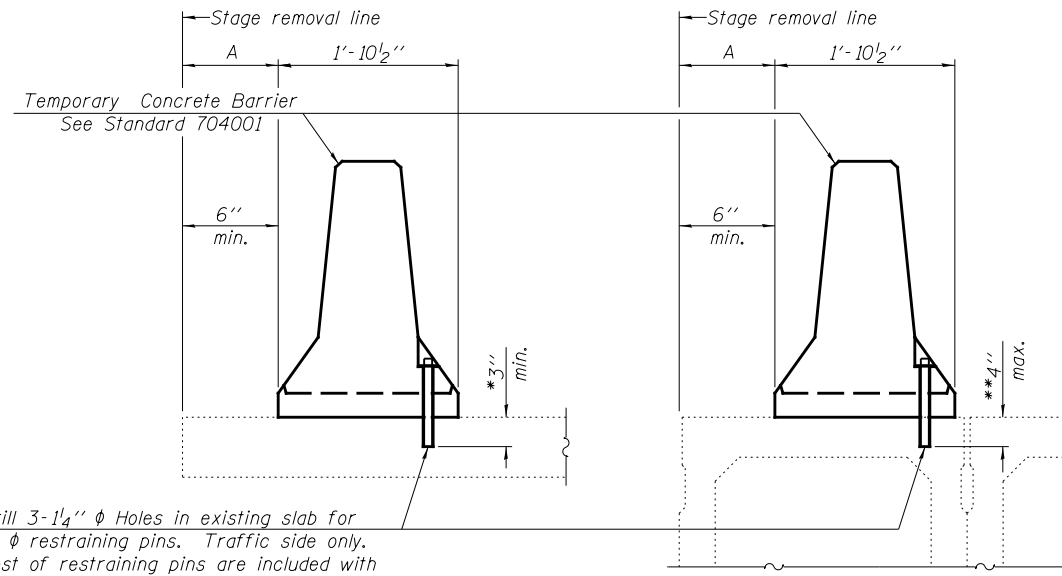
SHEET NO. S2-3 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	195
CONTRACT NO. 62B76				
ILLINOIS FED. AID PROJECT				



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I or Detail II. No restraint is required when "A" is greater than 3'-1".

**NEW SLAB**

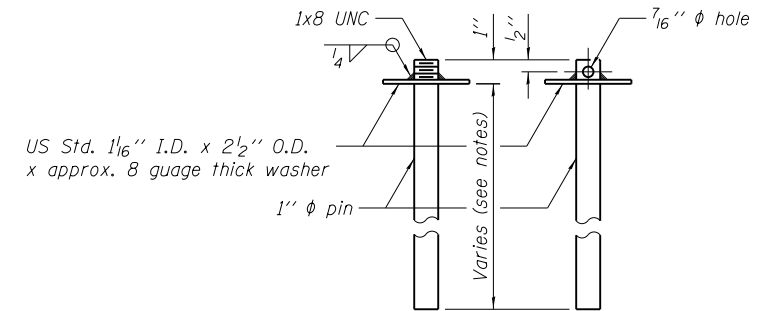


Drill 3-1/4"  $\phi$  Holes in existing slab for 1"  $\phi$  restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

**EXISTING SLAB**

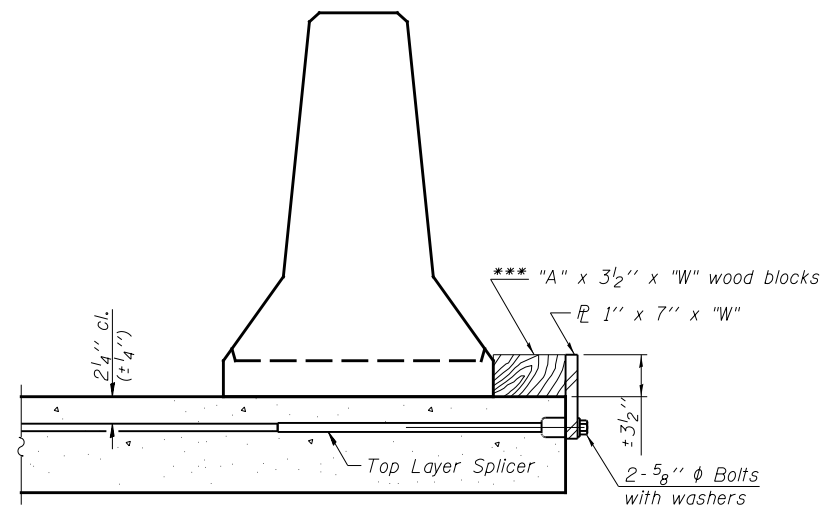
**EXISTING DECK BEAM**

\* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.  
 \*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.

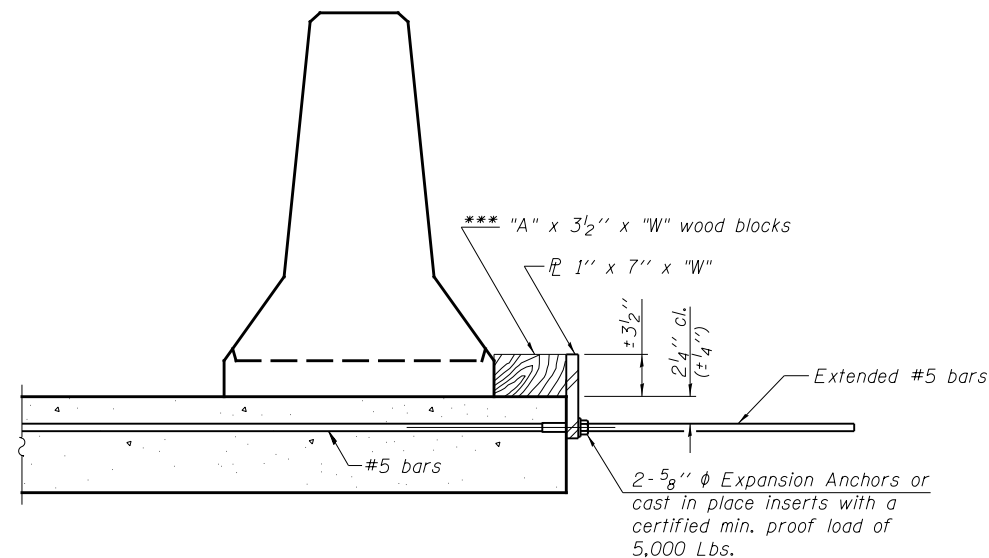


**RESTRAINING PIN**

**SECTIONS THRU SLAB OR DECK BEAM**



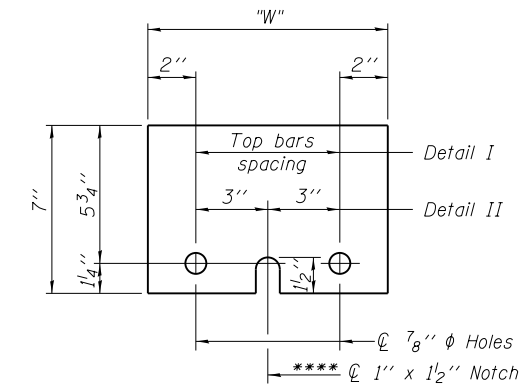
**DETAIL I**



**DETAIL II**

**RETAINER ASSEMBLY**

\*\*\* 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.



**STEEL RETAINER 1" x 7" x "W"**

\*\*\*\* Required only with Detail II

**NOTES**

Detail I - With Bar Splicer or Couplers:  
 Connect one (1) 1" x 7" x "W" steel  $\mathbb{R}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\mathbb{C}$  of each barrier panel.  
 Detail II - With Extended Reinforcement Bars:  
 Connect one (1) 1" x 7" x "W" steel  $\mathbb{R}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\mathbb{C}$  of each barrier panel.  
 Cost of retainer assembly is included with Temporary Concrete Barrier. The 1" x 7" x "W" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

R-27

2-19-16

**PARSONS BRINCKERHOFF**

USER NAME =	lopezgonzalez	DESIGNED -	IJL	REVISED -	
CHECKED -	PJL	REVISIED -			
PLOT SCALE =	N.T.S.	DRAWN -	IJL	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

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 DEPARTMENT OF TRANSPORTATION**

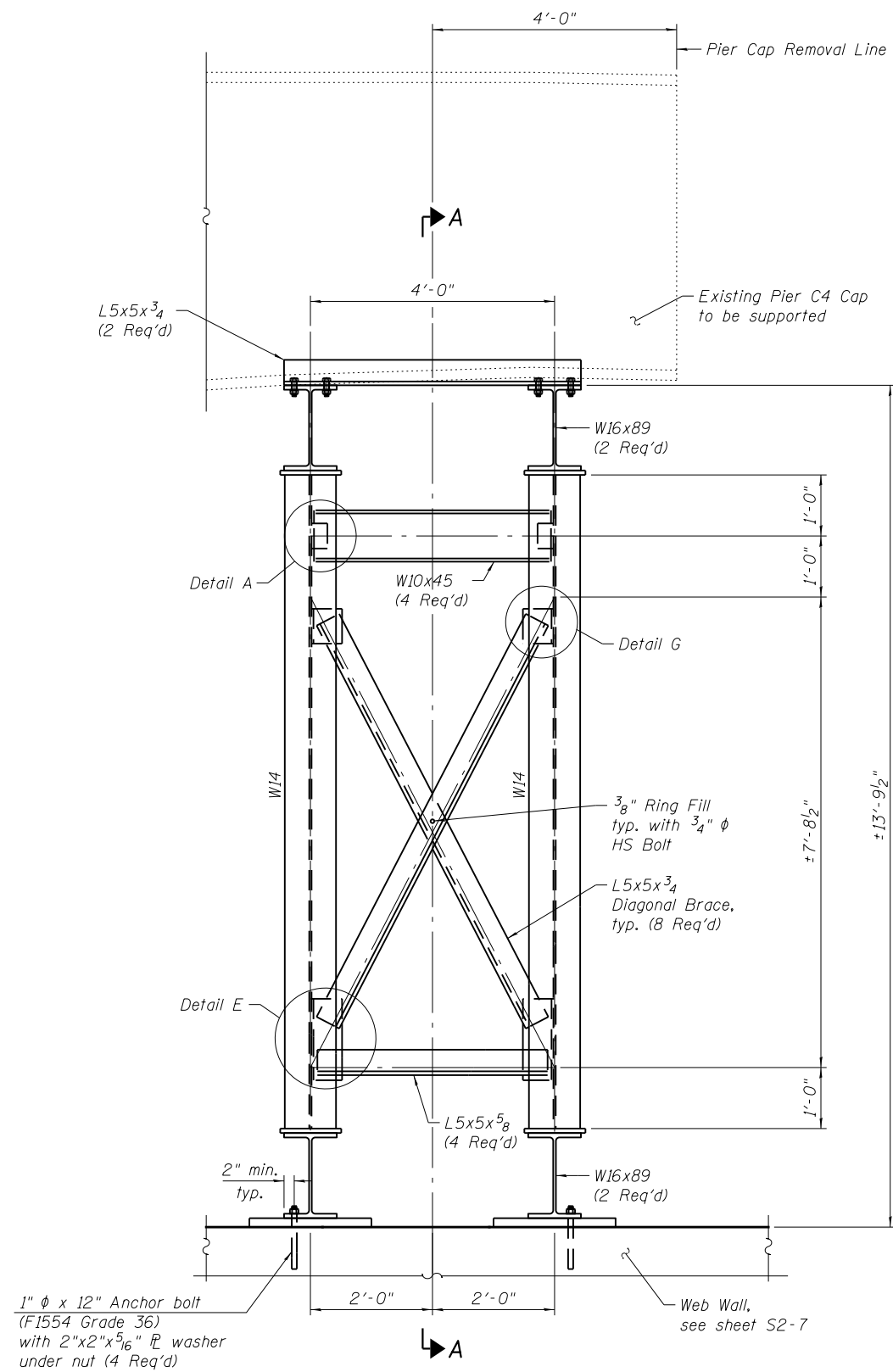
**TEMPORARY CONCRETE BARRIER  
 STRUCTURE NO. 016-0461**

SHEET NO. S2-4 OF S2-22 SHEETS

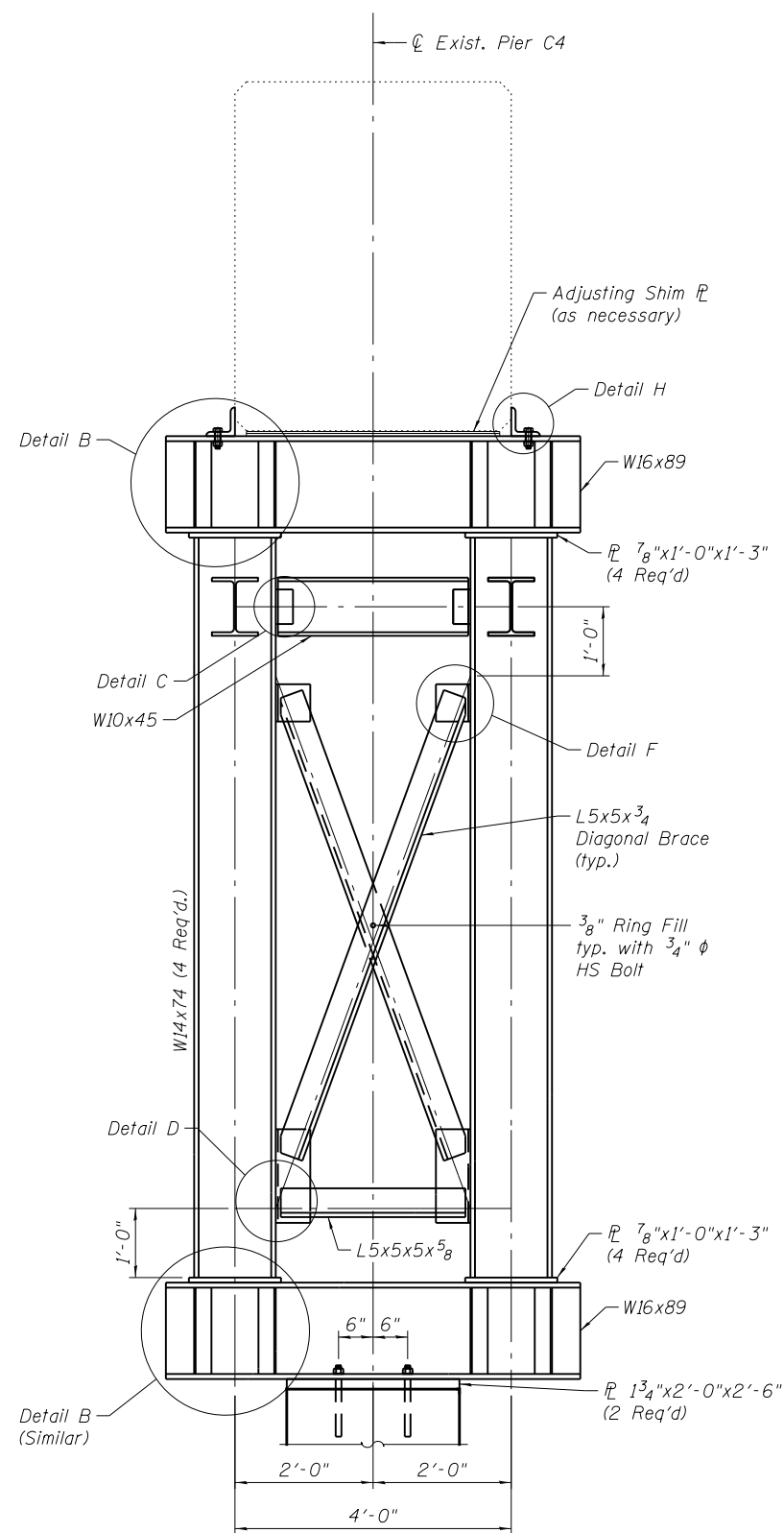
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	196
			CONTRACT NO. 62B76	

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**TEMPORARY SUPPORT ELEVATION**  
(Looking East)



**SECTION A-A**

SERVICE REACTION TABLE FOR TEMPORARY SUPPORT SYSTEM (TO REMAIN IN PLACE)		
$\bar{D}$	(k)	101.0
$\bar{L}$	(k)	81.0
Total	(k)	182.0

**Notes:**

- See sheet S2-7 for location of temporary support system.
- See sheet S2-6, for Detail A thru Detail G.
- All structural steel for temporary supports shall be AASHTO M270 Grade 50. Cost of structural steel included with Temporary Support System (to Remain in Place).
- Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade and diameter specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- The Contractor may elect to use bolted connections with oversized holes in lieu of shop welding. Prior to ordering of materials any changes to the temporary support system shall be submitted for approval of the Engineer. Details and calculations of such changes shall be prepared and sealed by an Illinois Licensed Structural Engineer.

**BILL OF MATERIAL**

Item	Unit	Quantity
Temporary Support System (to Remain in Place)	Each	1

0160461-62B76-5005-S0F.dgn

**PARSONS  
BRINCKERHOFF**

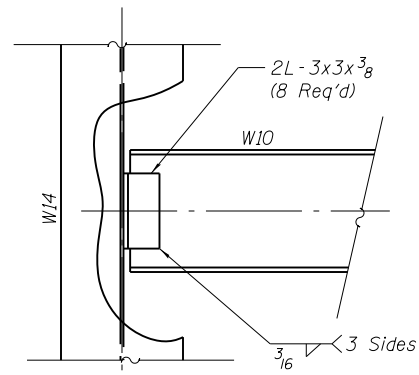
USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -
	CHECKED - JIG	REVISED -
PLOT SCALE = N.T.S.	DRAWN - IJL	REVISED -
PLOT DATE = 5/6/2016	CHECKED - JIG	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

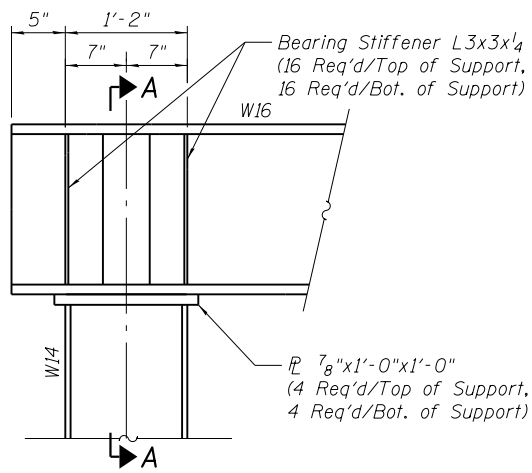
**TEMPORARY SUPPORT DETAILS I  
STRUCTURE NO. 016-0461**

SHEET NO. S2-5 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	197
			CONTRACT NO. 62B76	
ILLINOIS FED. AID PROJECT				

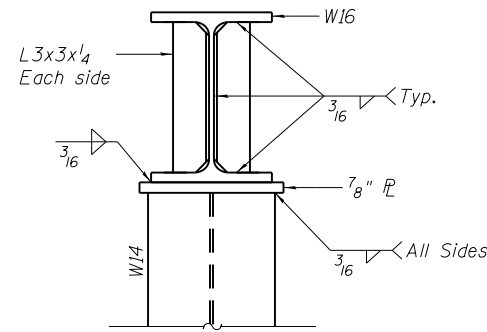


**DETAIL A**

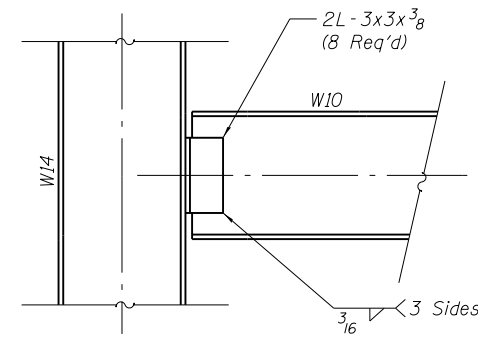


**DETAIL B**

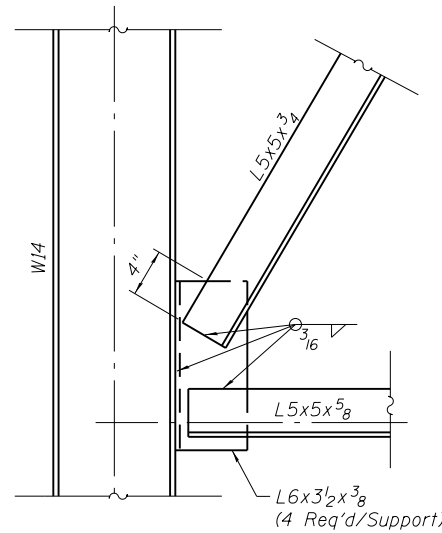
(Beam on top of column shown, Bottom similar)



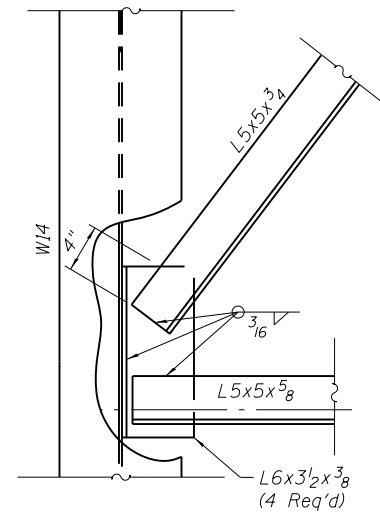
**SECTION A-A**



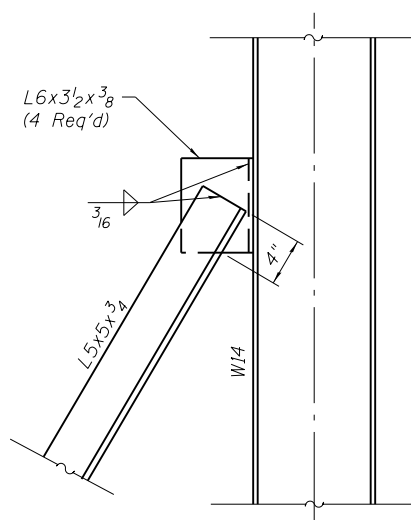
**DETAIL C**



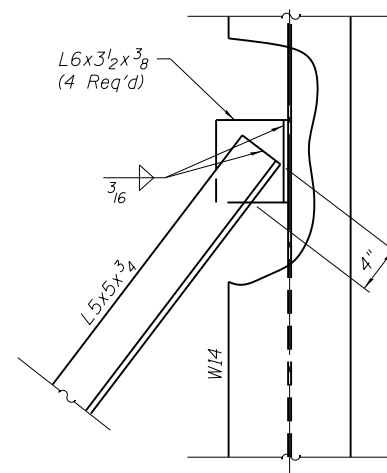
**DETAIL D**



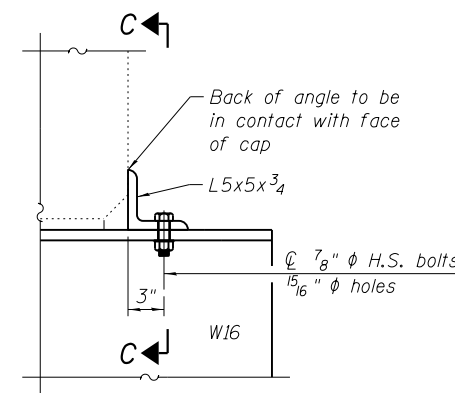
**DETAIL E**



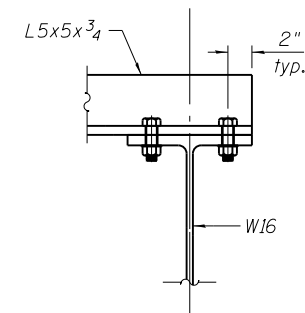
**DETAIL F**



**DETAIL G**



**DETAIL H**



**SECTION C-C**

0160461-62B76-S006-S0F.dgn

**PARSONS  
BRINCKERHOFF**

USER NAME =	lopezgonzalez	DESIGNED -	IJL	REVISED -	
		CHECKED -	JIG	REVISED -	
PLOT SCALE =	N.T.S.	DRAWN -	IJL	REVISED -	
PLOT DATE =	5/6/2016	CHECKED -	JIG	REVISED -	

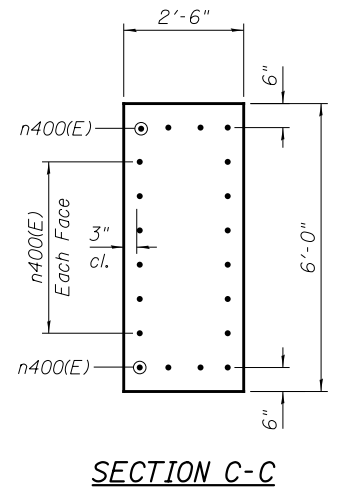
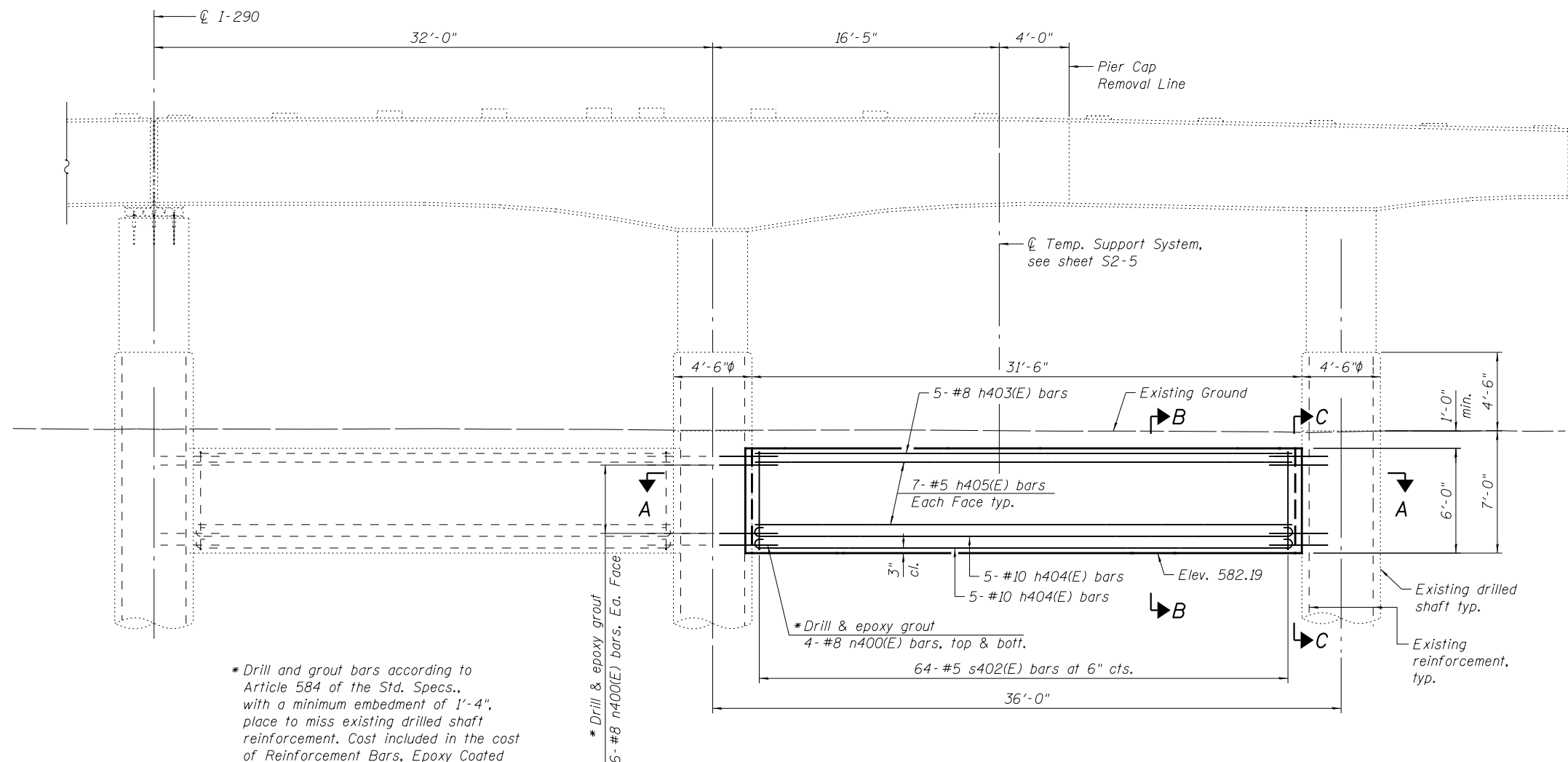
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SUPPORT DETAILS II  
STRUCTURE NO. 016-0461**

SHEET NO. S2-6 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	198
CONTRACT NO. 62B76				

ILLINOIS FED. AID PROJECT

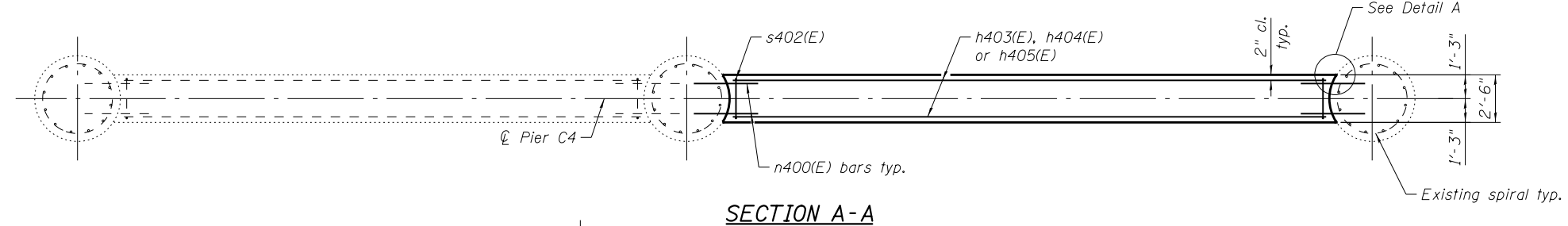
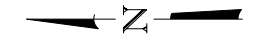


**BILL OF MATERIAL**

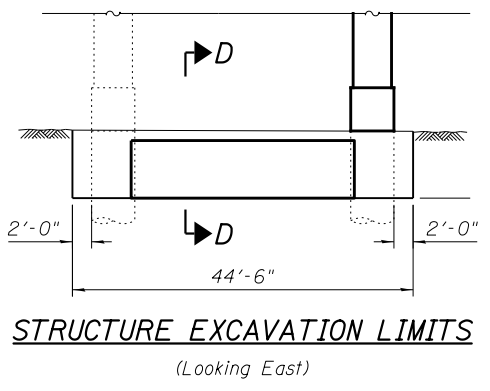
Bar	No.	Size	Length	Shape
h403(E)	5	#8	31'-2"	—
h404(E)	10	#10	34'-0"	—
h405(E)	14	#5	31'-2"	—
n400(E)	40	#8	3'-4"	—
s402(E)	64	#5	14'-5"	□
Concrete Structures			Cu. Yd.	17.7
Reinforcement Bars, Epoxy Coated			Pound	3,660
Structure Excavation			Cu. Yd.	99

\*Drill and grout bars according to Article 584 of the Std. Specs., with a minimum embedment of 1'-4", place to miss existing drilled shaft reinforcement. Cost included in the cost of Reinforcement Bars, Epoxy Coated

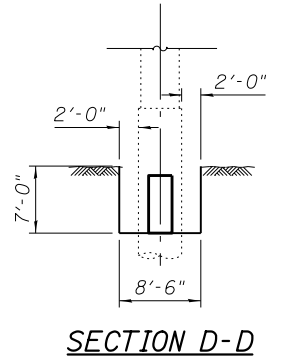
**WEB WALL ELEVATION - PIER C4**  
(Looking East)



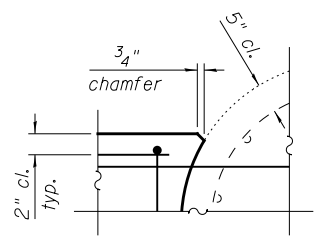
**SECTION A-A**



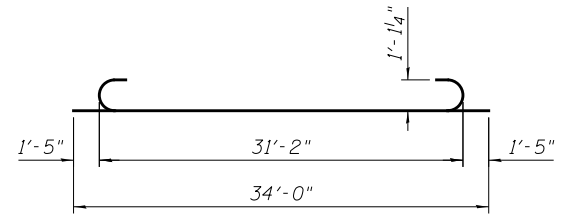
**STRUCTURE EXCAVATION LIMITS**  
(Looking East)



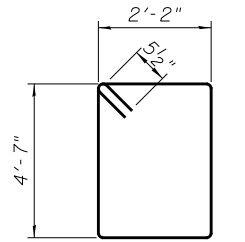
**SECTION D-D**



**DETAIL A**



**h404(E) BAR**



**s402(E) BAR**

- Note:
- Reinforcement bars designated (E) shall be epoxy coated.
  - Any reinforcement bars that are damaged during concrete removal operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost incidental to Temporary Support System (to Remain in Place).

0160461-62B76-S007-S0R.dgn

**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - IJL	REVISED -
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PLOT DATE = 5/6/2016	DRAWN - IJL	REVISED -
	CHECKED - JIG	REVISED -

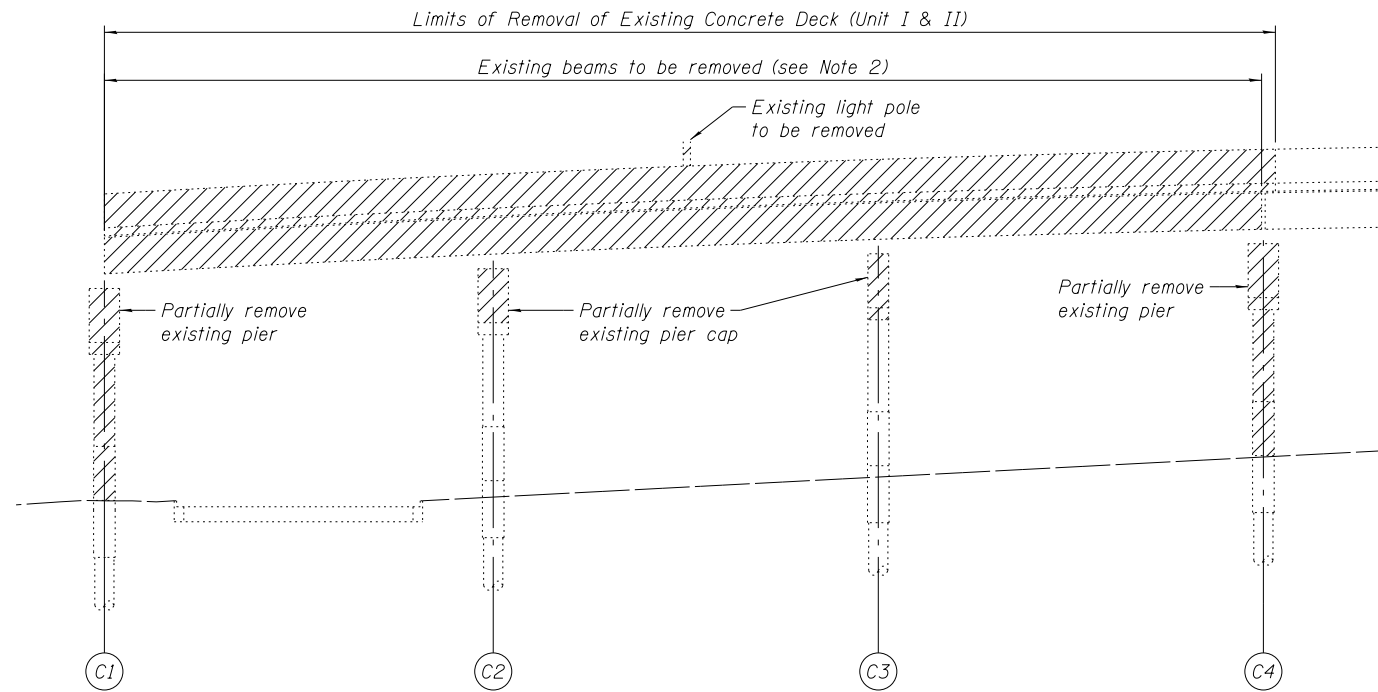
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY SUPPORT DETAILS III  
STRUCTURE NO. 016-0461**

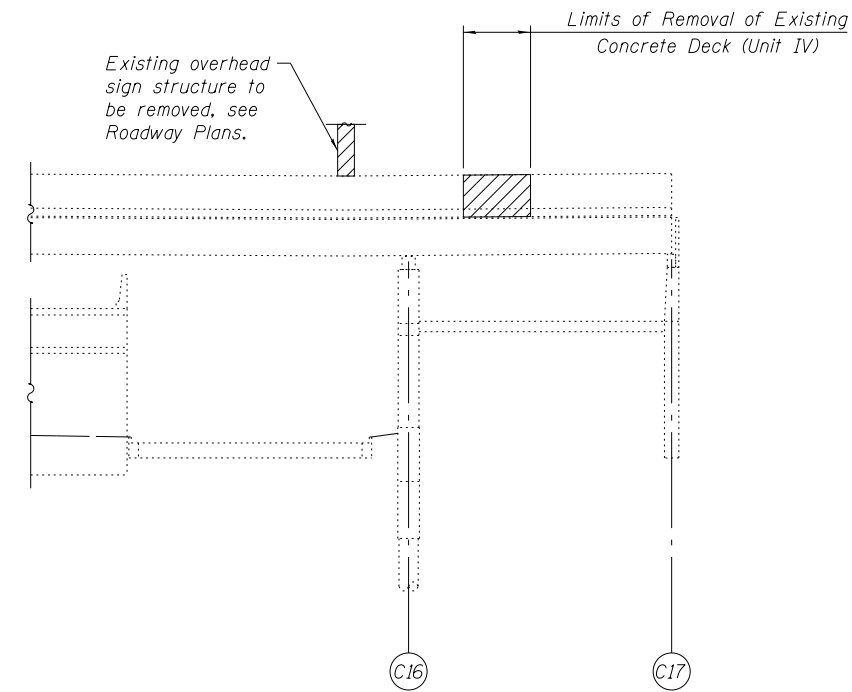
SHEET NO. S2-7 OF S2-22 SHEETS

F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	199
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	

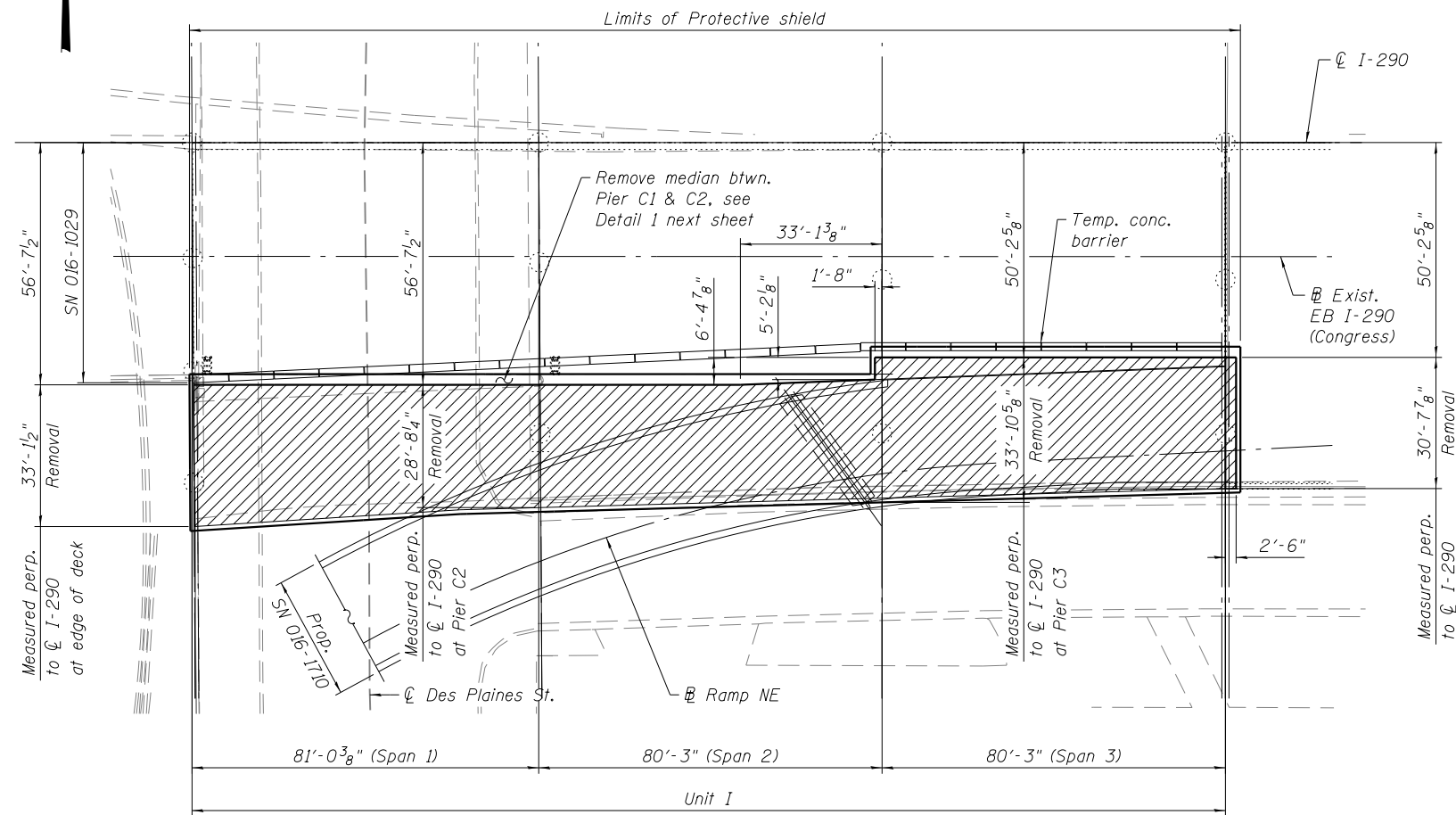




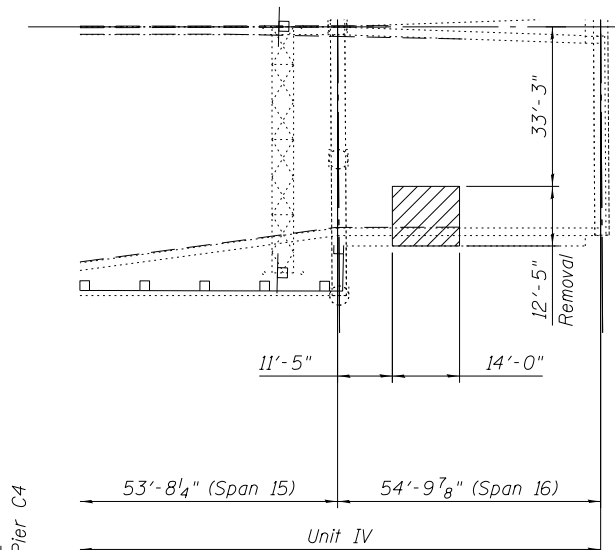
ELEVATION - UNIT I



PARTIAL ELEVATION - UNIT IV



PLAN - UNIT I



PARTIAL PLAN - UNIT IV

Notes:

- See sheet S2-9 & S2-10, for additional removal details and quantities.
- All superstructure removal shall be included in the cost of Removal of Existing Concrete Deck.
- All substructure removal shall be included in the cost of Concrete Removal.
- Removal lines are different for the superstructure and substructure.
- Contractor shall provide support and/or Support systems for the existing pier caps. The support and/or Support systems shall be approved by the Engineer. Such approval will not relieve the Contractor of responsibility for the safety of the structure. See Special Provisions.
- For quantity of Temporary Concrete Barrier, see Roadway Plans.

LEGEND:

- Removal
- Protective Shield

BILL OF MATERIAL

Item	Unit	Quantity
Removal of Existing Concrete Deck	Each	1
Protective Shield	Sq Yd	975

0160461-62B76-5008-ESR.dgn

**PARSONS BRINCKERHOFF**

USER NAME = lopezgonzalez	DESIGNED - PJL	REVISED -
PLOT SCALE = N.T.S.	CHECKED - JIG	REVISED -
PLOT DATE = 5/6/2016	DRAWN - PJL	REVISED -
	CHECKED - JIG	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE REMOVAL DETAILS I  
STRUCTURE NO. 016-0461

SHEET NO. S2-8 OF S2-22 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94/290	2015-080R&B	COOK	250	200
CONTRACT NO. 62B76			ILLINOIS FED. AID PROJECT	