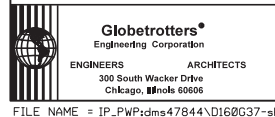


NOTE:
 1. EXISTING LIGHT POLE SHALL BE REMOVED AFTER ALL PROPOSED LIGHT POLES HAVE BEEN INSTALLED AND FULLY FUNCTIONAL OR AS DIRECT BY ENGINEER.



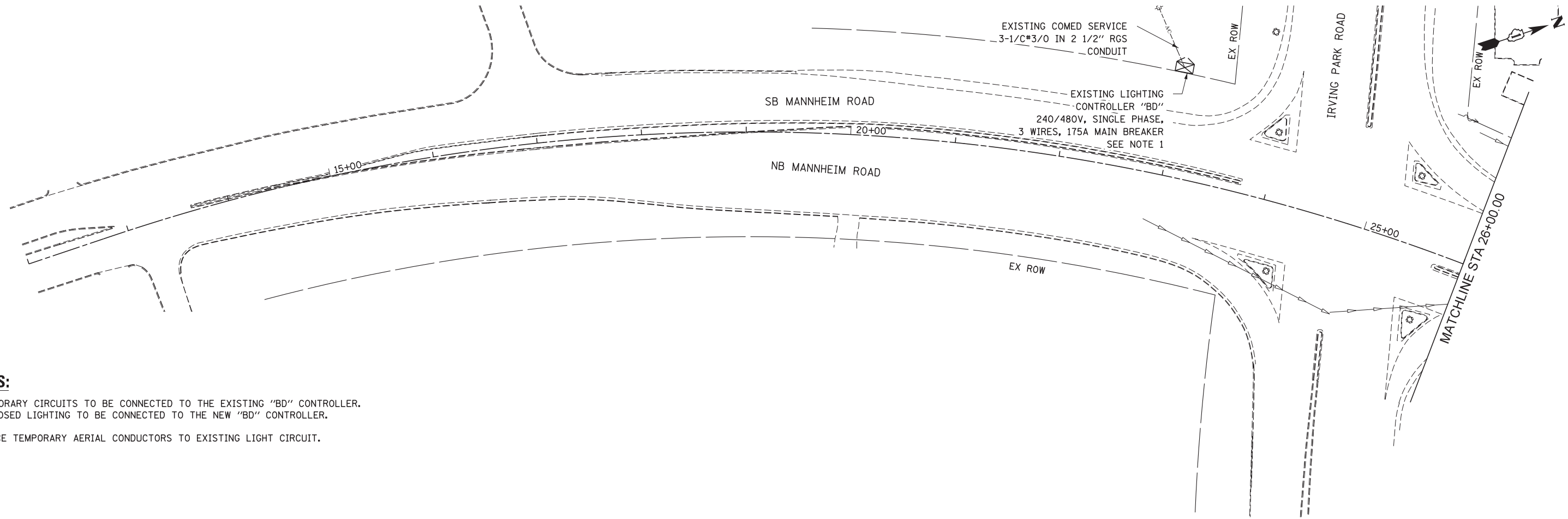
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DRAWN MMK/RL	CHECKED CD	REVISED -
PLOT SCALE = 50:1	DATE 10/19/12	REVISED -
PLOT DATE = 16-OCT-2012		

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**LIGHTING REMOVAL PLAN
 STAGE 3
 MANNHEIM ROAD**

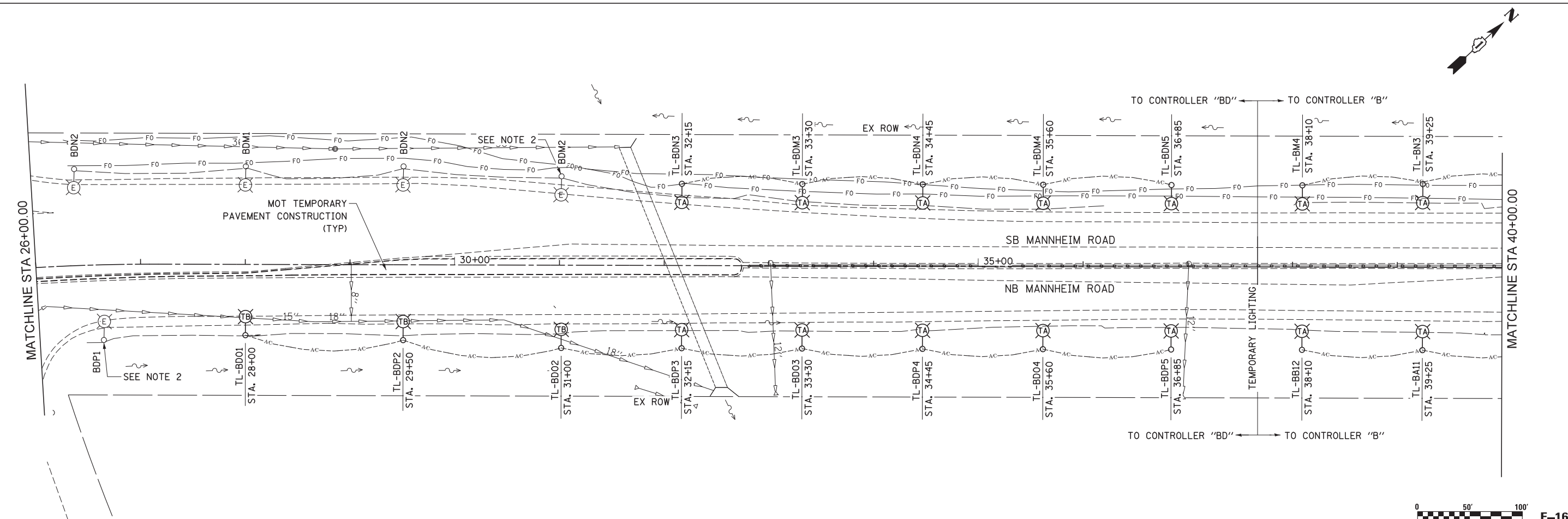
SCALE: 1" = 50' SHEET NO. 4 OF 5 SHEETS STA. 96+00.00 TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	301
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



NOTES:

1. TEMPORARY CIRCUITS TO BE CONNECTED TO THE EXISTING "BD" CONTROLLER. PROPOSED LIGHTING TO BE CONNECTED TO THE NEW "BD" CONTROLLER.
2. SPLICE TEMPORARY AERIAL CONDUCTORS TO EXISTING LIGHT CIRCUIT.



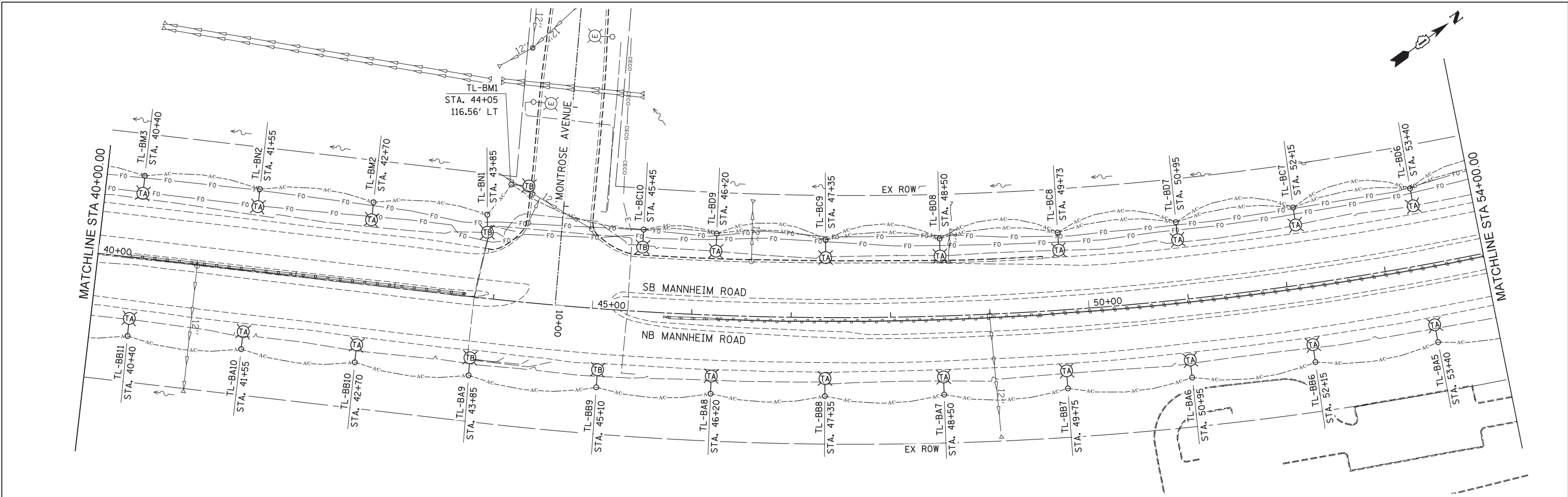
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PLOT DATE = 19-OCT-2012		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

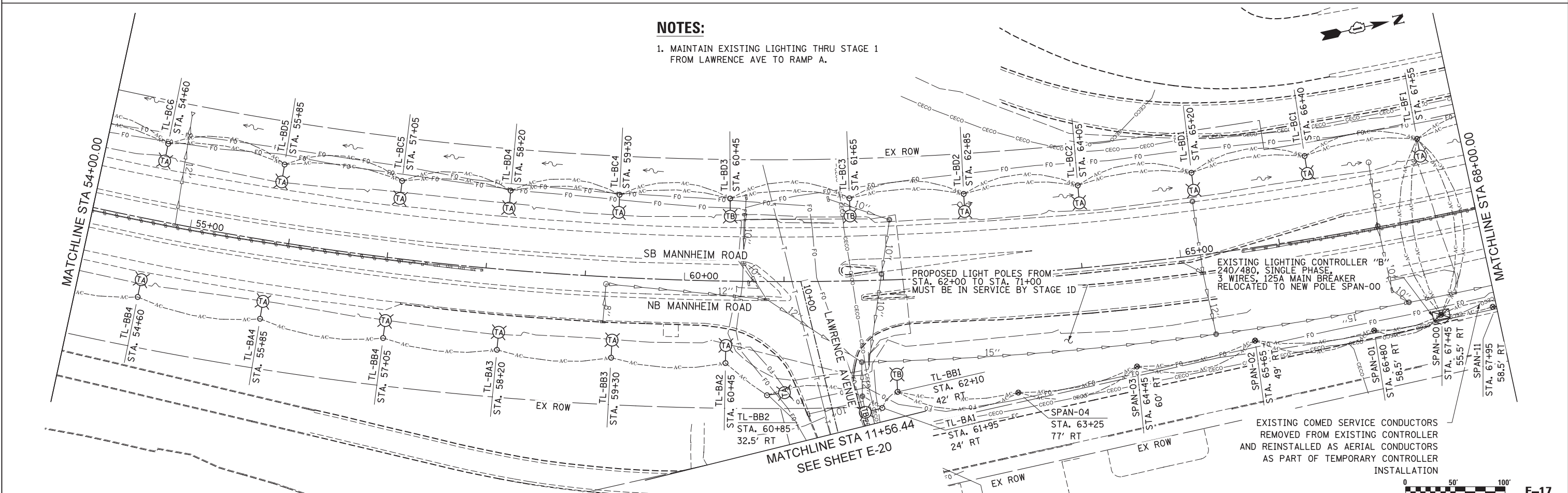
**TEMPORARY LIGHTING PLAN
PRESTAGE
MANNHEIM ROAD**

SCALE: 1" = 50' SHEET NO. 1 OF 5 SHEETS STA. BOP TO STA. 40+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	302
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



NOTES:
 1. MAINTAIN EXISTING LIGHTING THRU STAGE 1 FROM LAWRENCE AVE TO RAMP A.



USER NAME = mkosir
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

DESIGNED KA
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

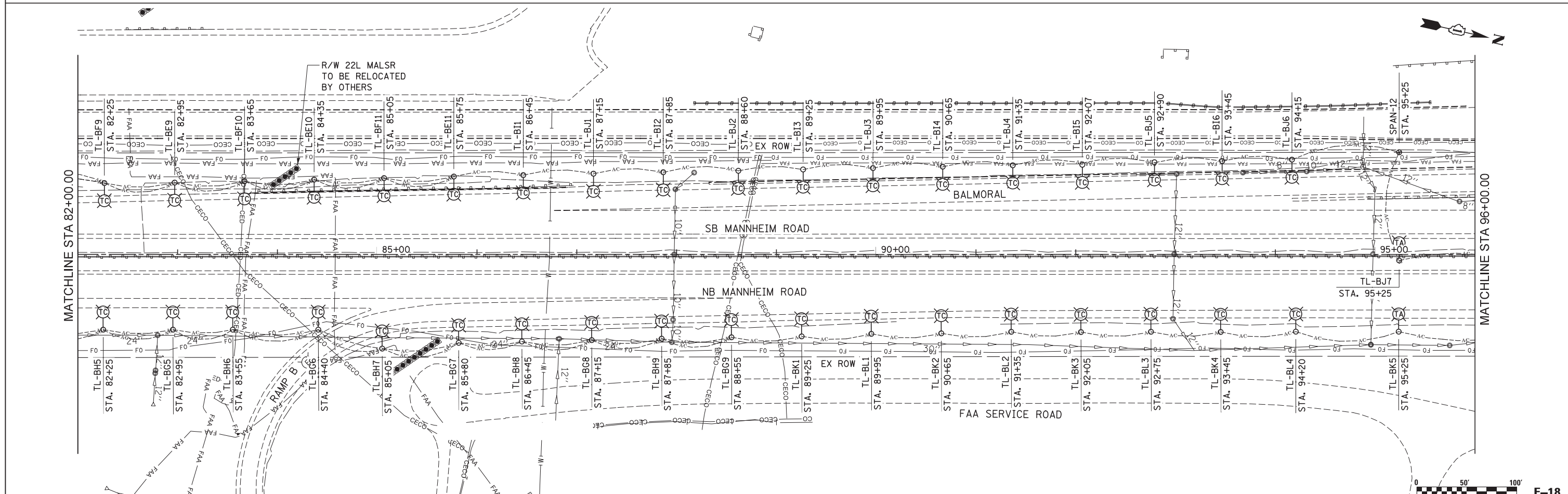
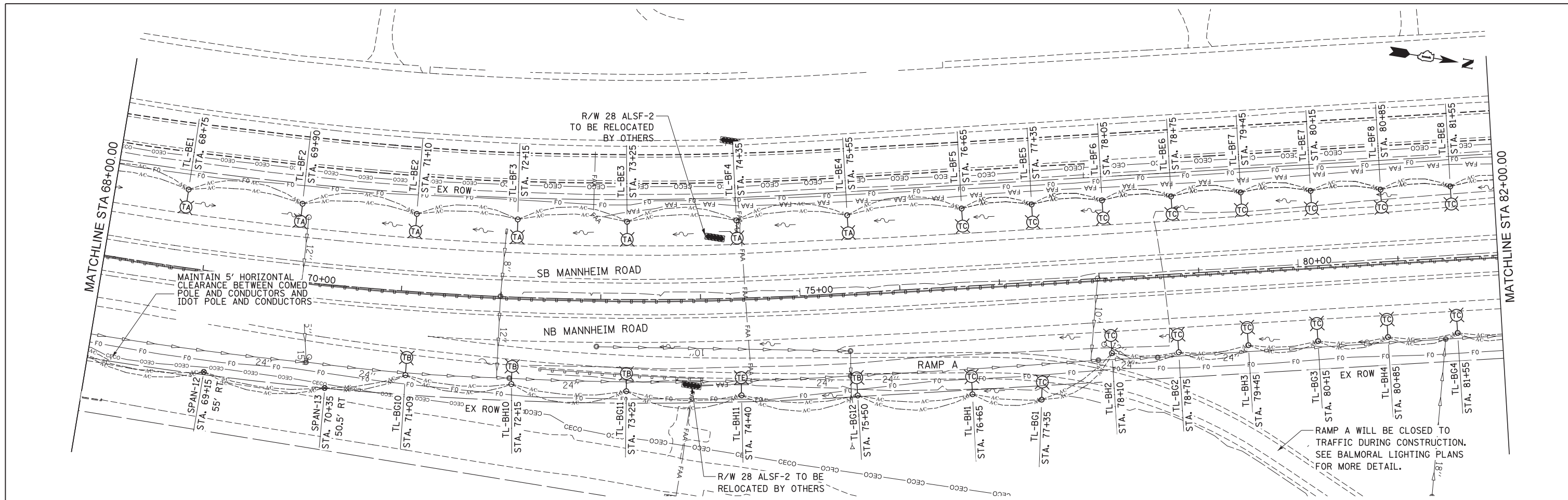
TEMPORARY LIGHTING PLAN
 PRESTAGE
 MANNHEIM ROAD

SCALE: 1" = 50' SHEET NO. 2 OF 5 SHEETS STA. 40+00.00 TO STA. 68+00.00

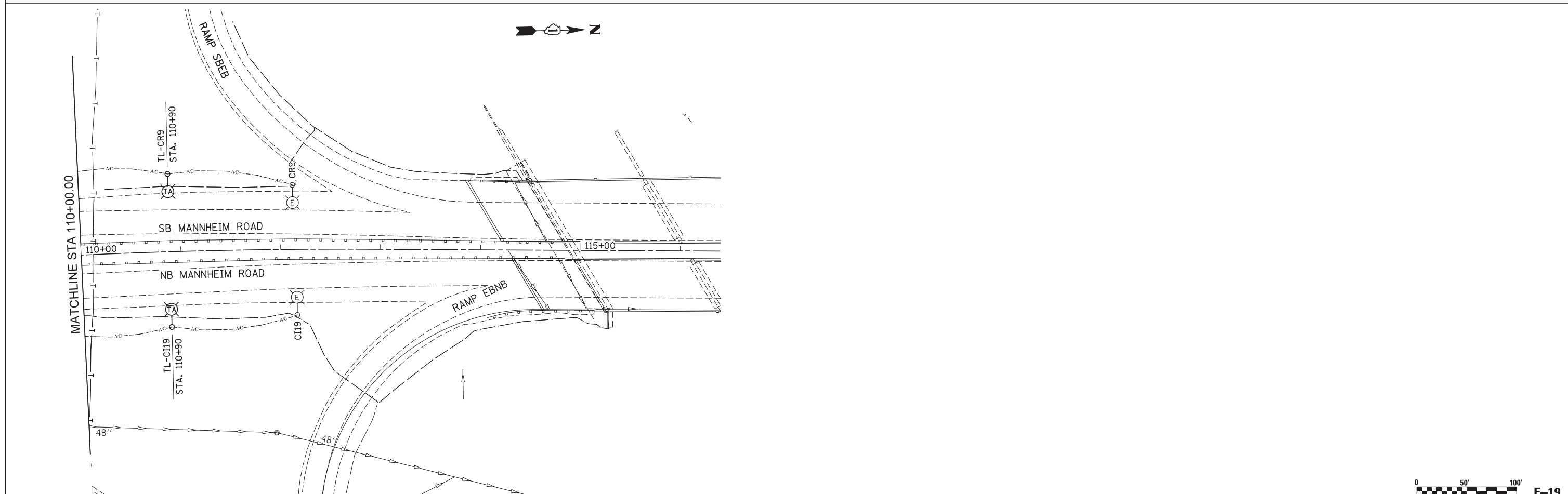
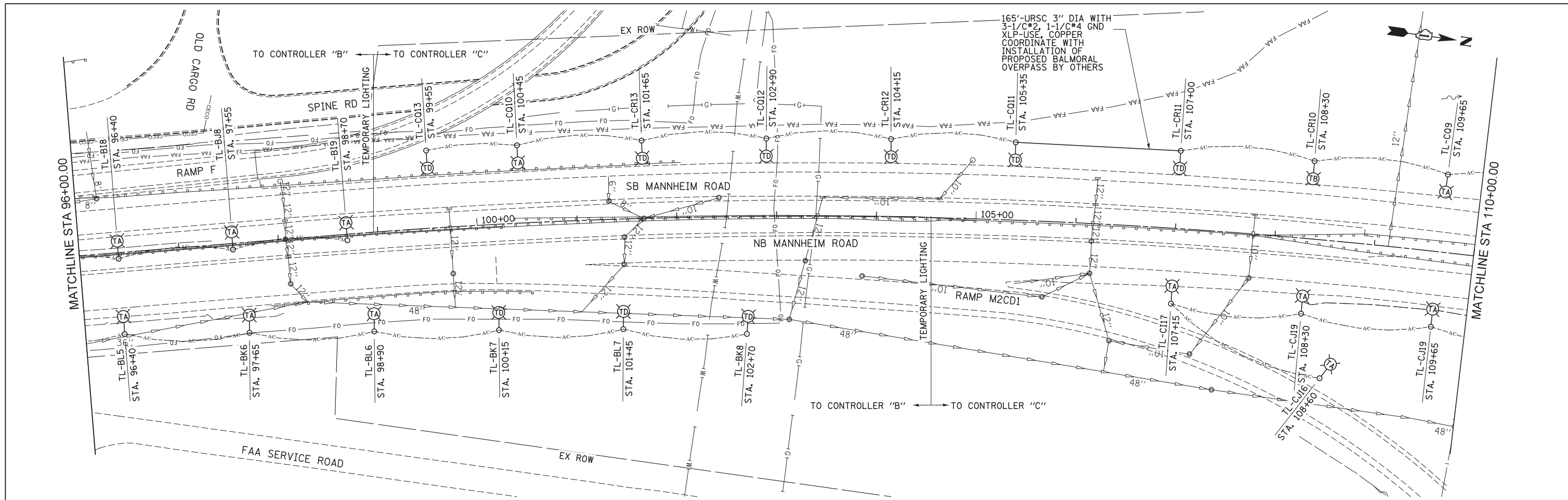
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	303
CONTRACT NO. 60G37				



E-17



	USER NAME = mksosr	DESIGNED KA	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHTING PLAN PRESTAGE MANNHEIM ROAD		F.A.P. RTE. 330	SECTION 0105 WRS&HB	COUNTY COOK	TOTAL SHEETS 605	SHEET NO. 304	
	PLOT SCALE = 50:1	CHECKED MCD	REVISED -		SCALE: 1" = 50'	SHEET NO. 3 OF 5 SHEETS	STA. 68+00.00 TO STA. 96+00.00	CONTRACT NO. 60G37				
	PLOT DATE = 19-OCT-2012	DATE 10/19/12	REVISED -		ILLINOIS FED. AID PROJECT							
	<p>FILE NAME = IP_PWP\dms47844\DI68G37-shr-temp1ight-prestage-03.dgn</p>											



USER NAME = mikosir
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

DESIGNED KA
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

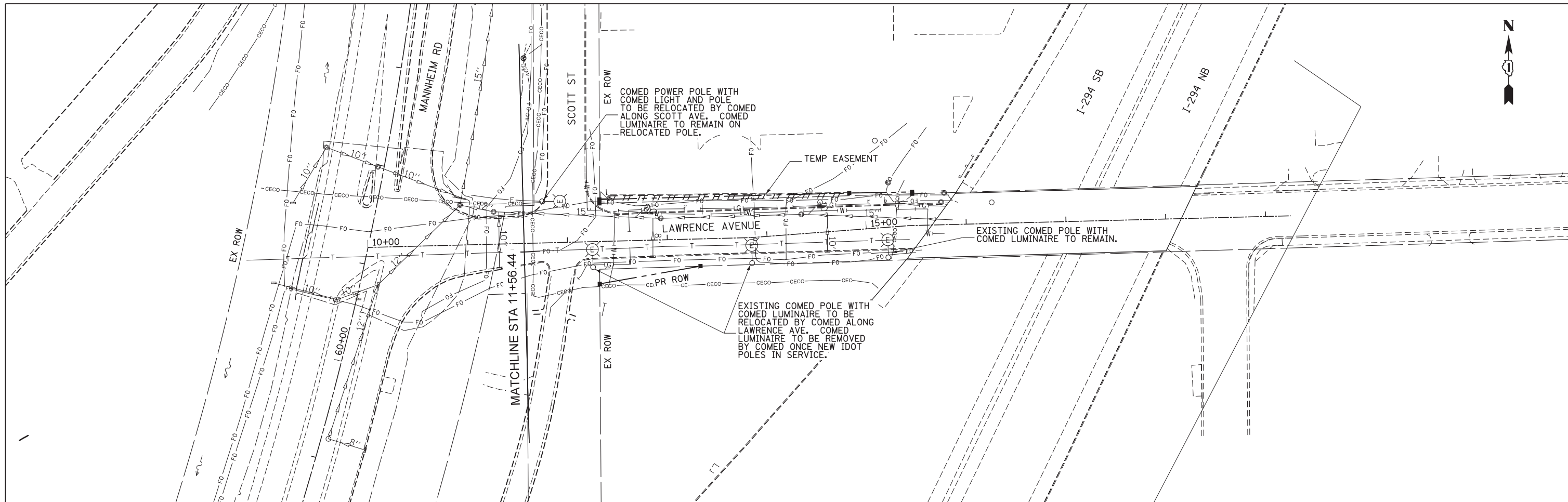
TEMPORARY LIGHTING PLAN
 PRESTAGE
 MANNHEIM ROAD

SCALE: 1" = 50' SHEET NO. 4 OF 5 SHEETS STA. 96+00.00 TO STA. EOP

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	305
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



E-19



NOTES:

- COORDINATION WITH AND FEES TO COMED FOR WORK SHOWN ON THIS SHEET SHALL BE PAID FOR UNDER THE RELOCATE ELECTRIC SERVICE LUMP SUM PAY ITEM.



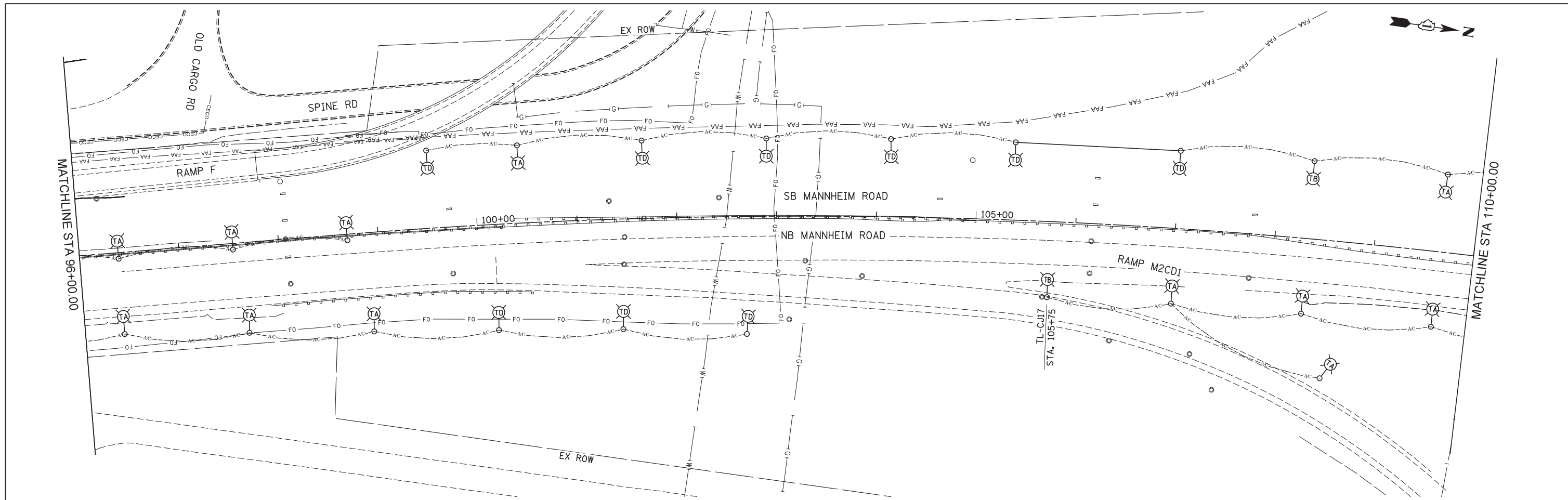
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PLOT SCALE = 50:1	CHECKED MCD	REVISED -
PLOT DATE = 19-OCT-2012	DATE 10/19/12	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY LIGHTING PLAN
PRESTAGE
LAWRENCE AVENUE

SCALE: 1" = 50' SHEET NO. 5 OF 5 SHEETS STA. BOP TO STA. EOP

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	306
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



USER NAME = mkosir	DESIGNED KA	REVISED -
DRAWN MMK	REVISED -	
PLOT SCALE = 50:1	CHECKED MCD	REVISED -
PLOT DATE = 19-OCT-2012	DATE 10/19/12	REVISED -

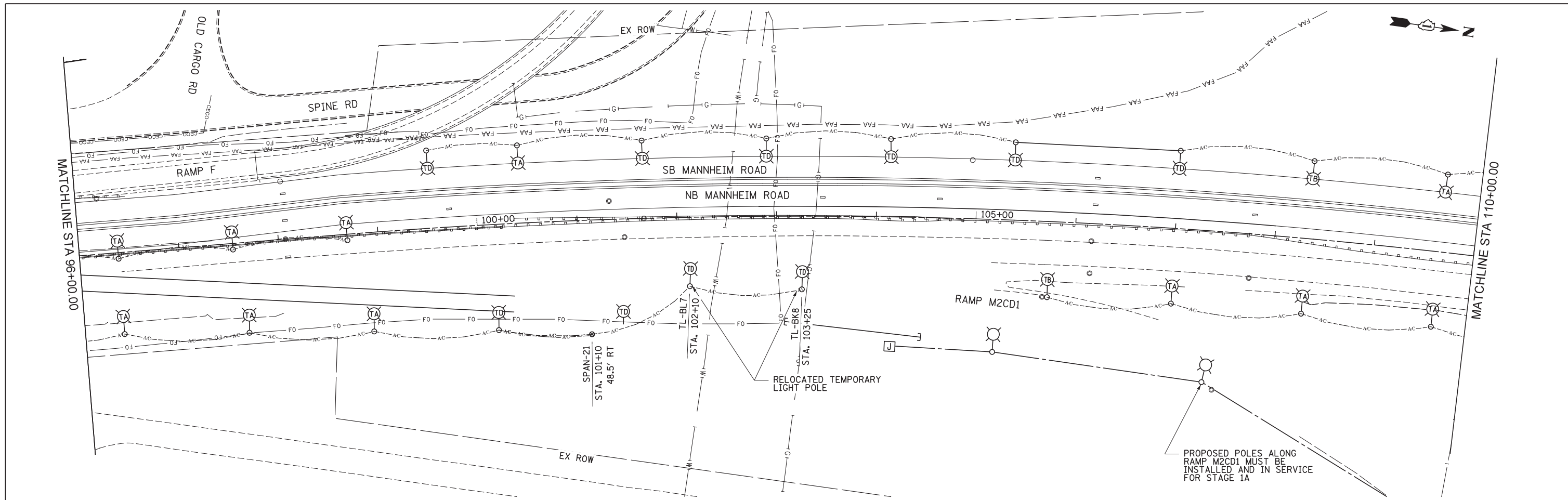
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY LIGHTING PLAN
STAGE 1
MANNHEIM ROAD**

SCALE: 1" = 50' SHEET NO. 4 OF 5 SHEETS STA. 96+00.00 TO STA. EOP

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	307
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

FILE NAME = IP_PWP\dms47844\0160G37-sh1-temp1ight-stage1-04.dgn



PROPOSED POLES ALONG RAMP M2CD1 MUST BE INSTALLED AND IN SERVICE FOR STAGE 1A



**TEMPORARY LIGHTING PLAN
STAGE 1 – SUB STAGE 1A
MANNHEIM ROAD**

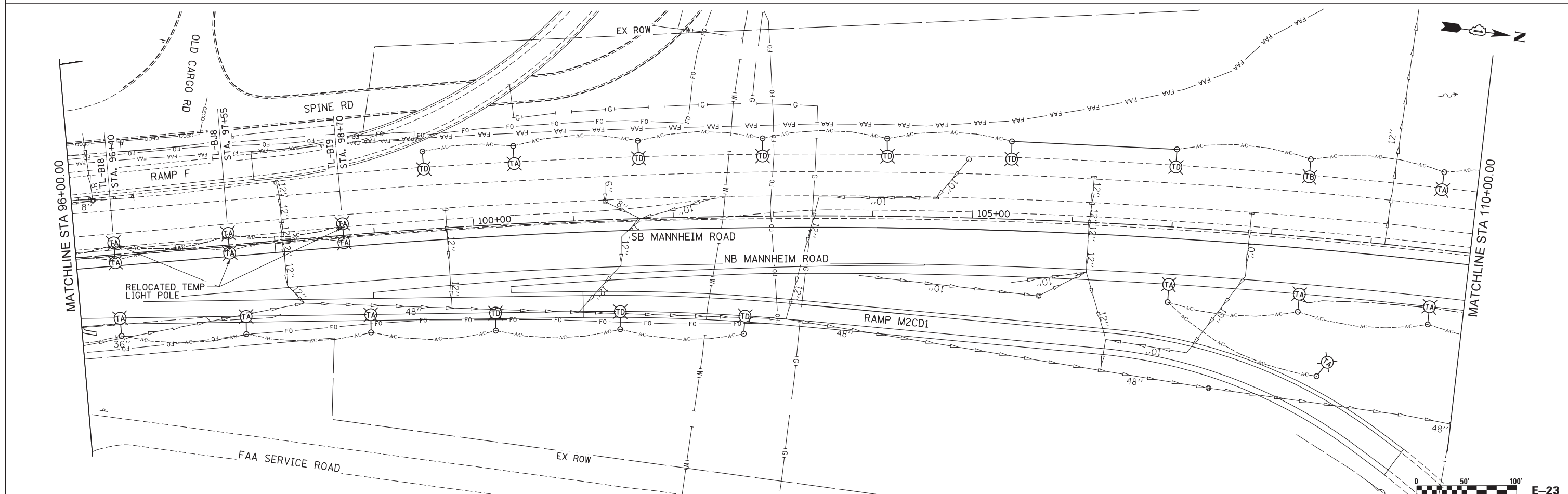
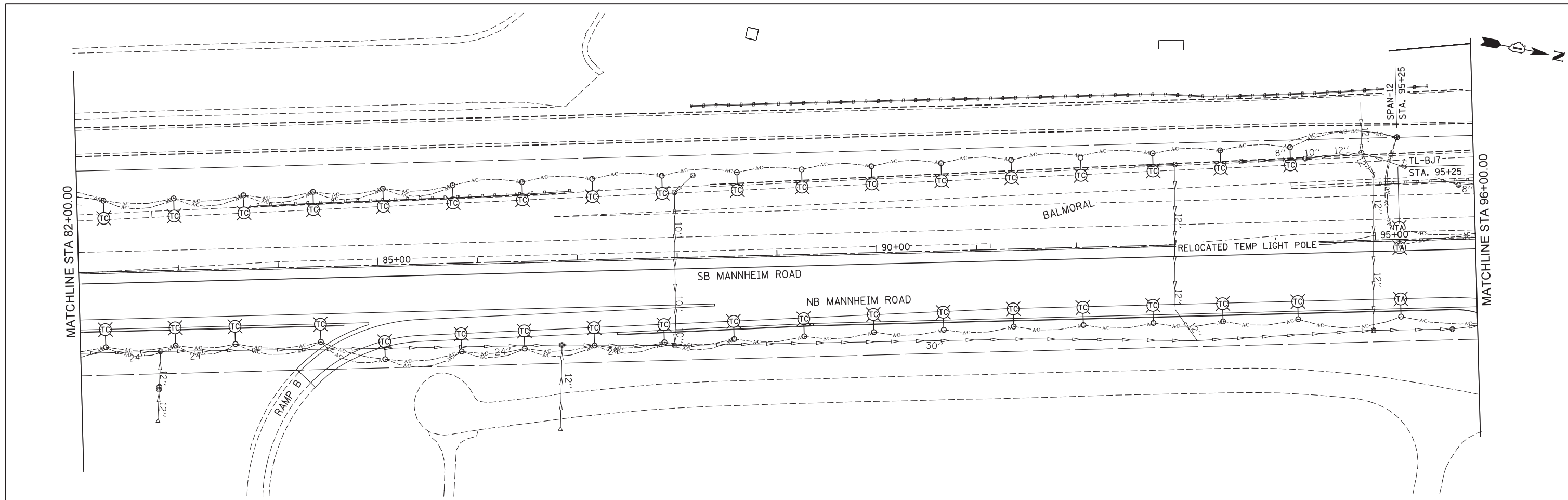
SCALE: 1" = 50' SHEET NO. 4 OF 5 SHEETS STA. 96+00.00 TO STA. EOP

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	308
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

USER NAME = mkosir	DESIGNED KA	REVISED -
PLOT SCALE = 50:1	DRAWN MMK	REVISED -
PLOT DATE = 19-OCT-2012	CHECKED MCD	REVISED -
	DATE 10/19/12	REVISED -





USER NAME = mkosir
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

DESIGNED KA
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

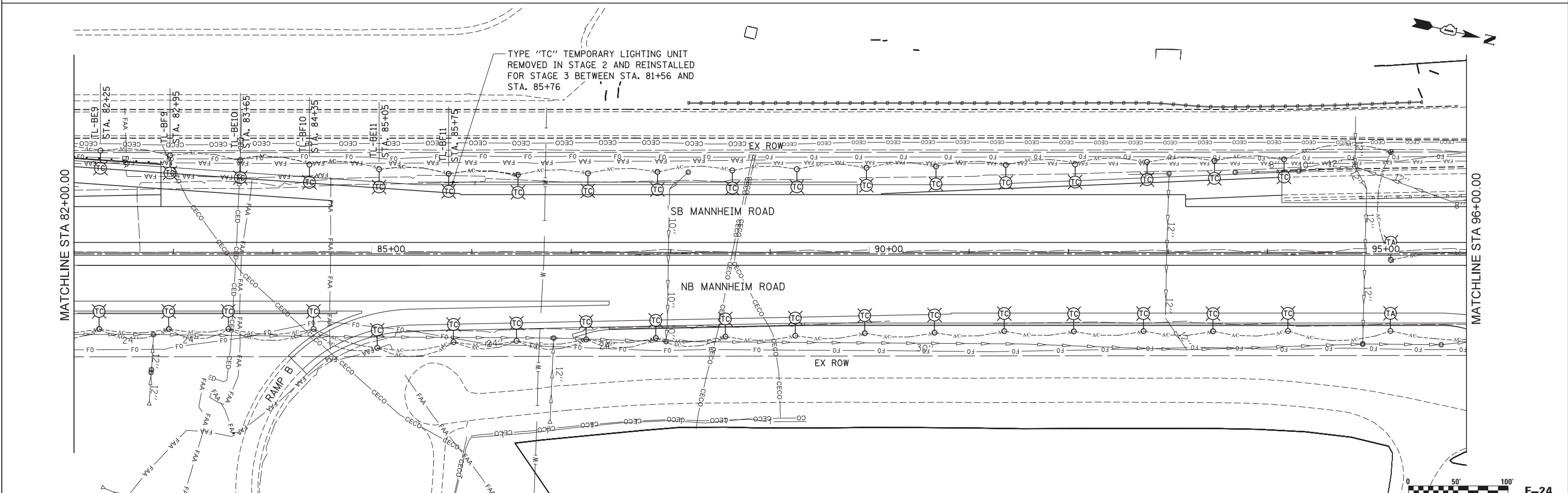
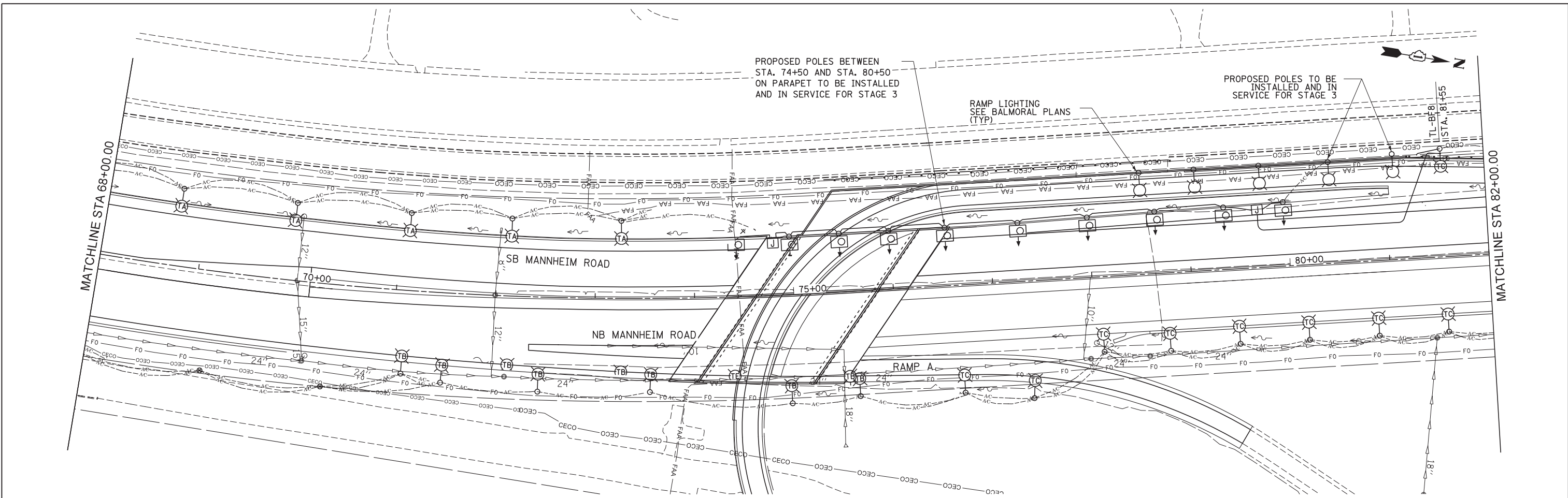
REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY LIGHTING PLAN
 STAGE 2
 MANNHEIM ROAD

SCALE: 1" = 50' SHEET NO. 1 OF 1 SHEETS STA. 82+00.00 TO STA. 110+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	309
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



USER NAME = mikosir
 PLOT SCALE = 50:1
 PLOT DATE = 19-OCT-2012

DESIGNED KA
 DRAWN MMK
 CHECKED MCD
 DATE 10/19/12

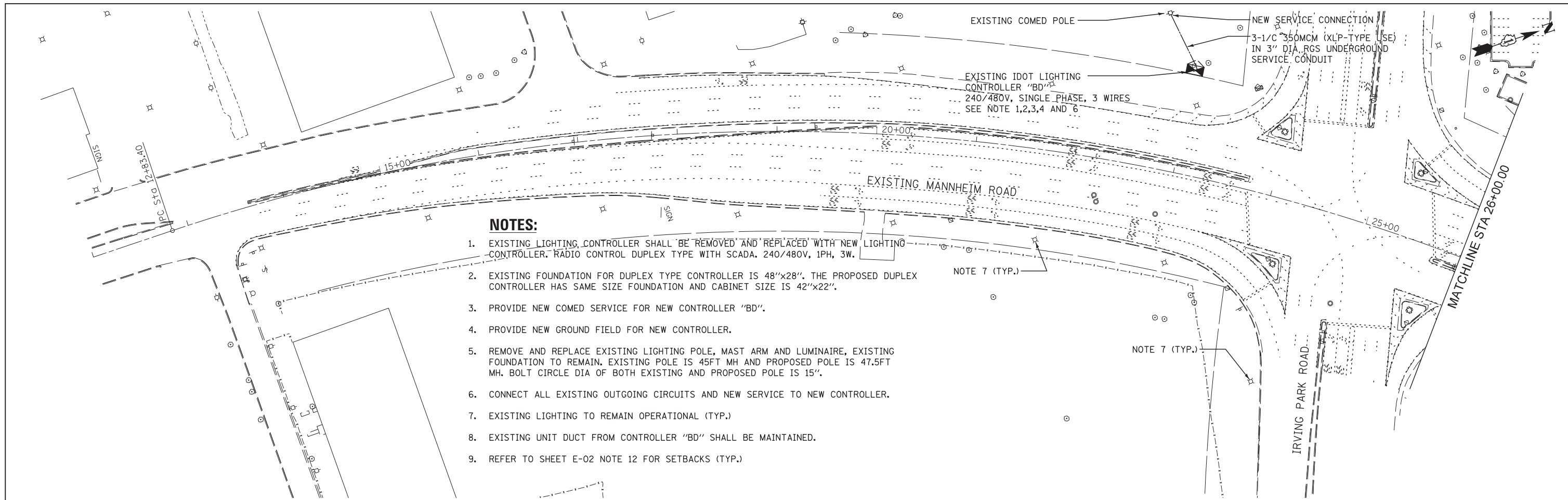
REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

TEMPORARY LIGHTING PLAN
 STAGE 3
 MANNHEIM ROAD

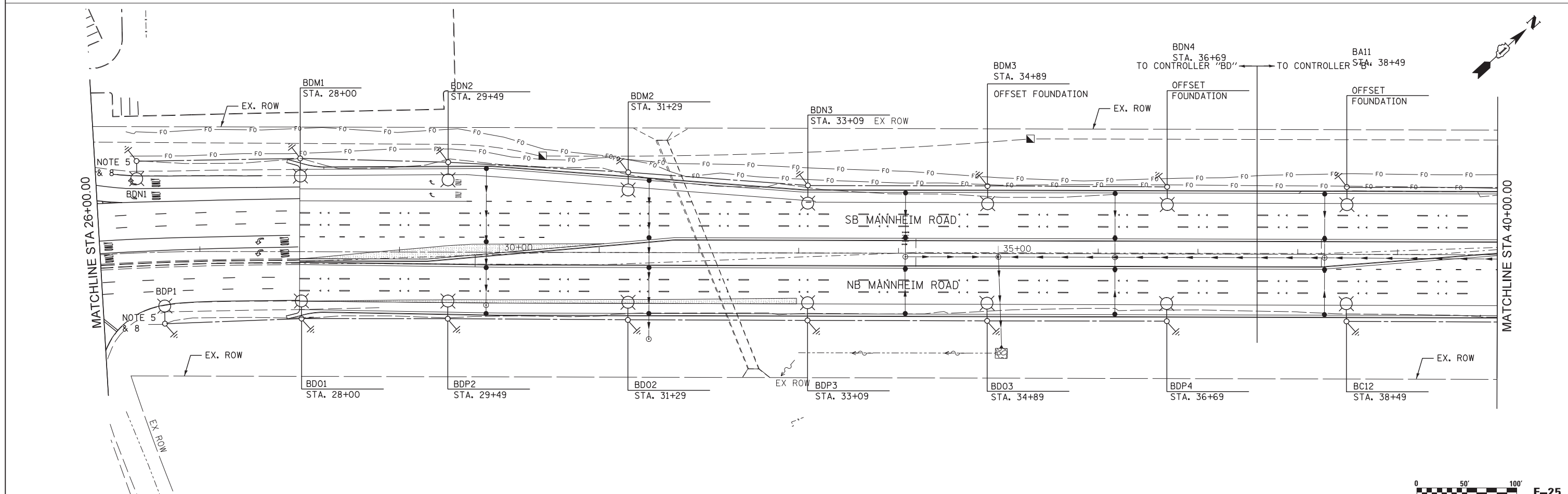
SCALE: 1" = 50' SHEET NO. 3 OF 5 SHEETS STA. 68+00.00 TO STA. 96+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	310
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



NOTES:

1. EXISTING LIGHTING CONTROLLER SHALL BE REMOVED AND REPLACED WITH NEW LIGHTING CONTROLLER. RADIO CONTROL DUPLEX TYPE WITH SCADA. 240/480V, 1PH, 3W.
2. EXISTING FOUNDATION FOR DUPLEX TYPE CONTROLLER IS 48"x28". THE PROPOSED DUPLEX CONTROLLER HAS SAME SIZE FOUNDATION AND CABINET SIZE IS 42"x22".
3. PROVIDE NEW COMED SERVICE FOR NEW CONTROLLER "BD".
4. PROVIDE NEW GROUND FIELD FOR NEW CONTROLLER.
5. REMOVE AND REPLACE EXISTING LIGHTING POLE, MAST ARM AND LUMINAIRE, EXISTING FOUNDATION TO REMAIN. EXISTING POLE IS 45FT MH AND PROPOSED POLE IS 47.5FT MH. BOLT CIRCLE DIA OF BOTH EXISTING AND PROPOSED POLE IS 15".
6. CONNECT ALL EXISTING OUTGOING CIRCUITS AND NEW SERVICE TO NEW CONTROLLER.
7. EXISTING LIGHTING TO REMAIN OPERATIONAL (TYP.)
8. EXISTING UNIT DUCT FROM CONTROLLER "BD" SHALL BE MAINTAINED.
9. REFER TO SHEET E-02 NOTE 12 FOR SETBACKS (TYP.)



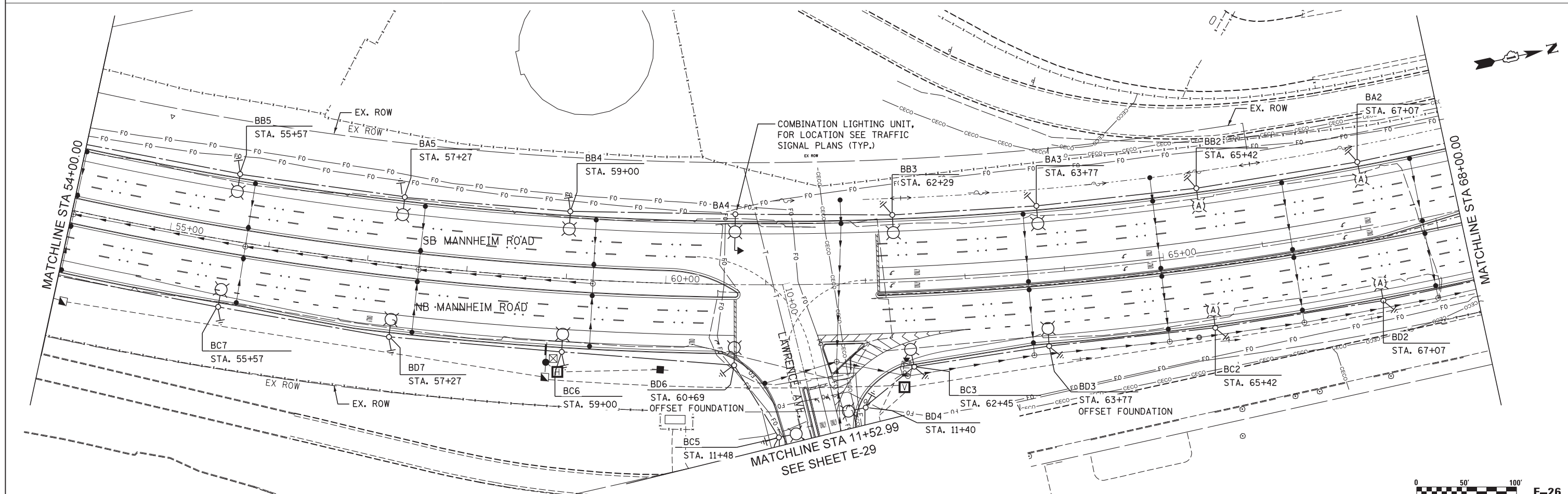
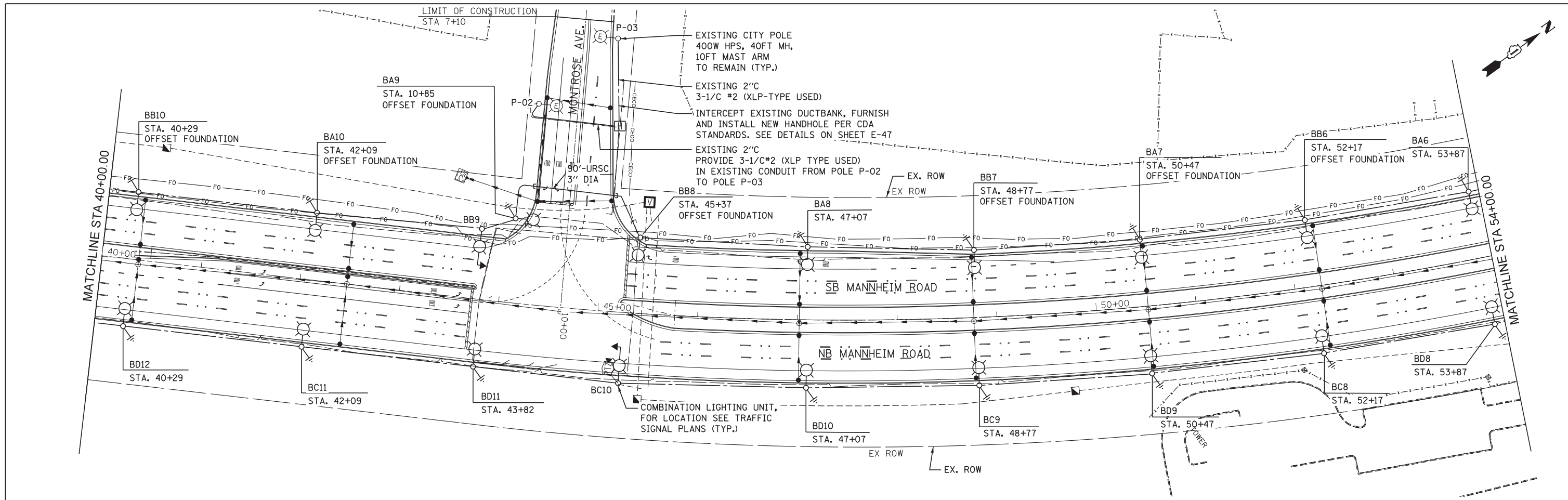
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PLOT DATE = 10/16/2012	CHECKED HS	REVISED -
	DATE 10/19/12	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

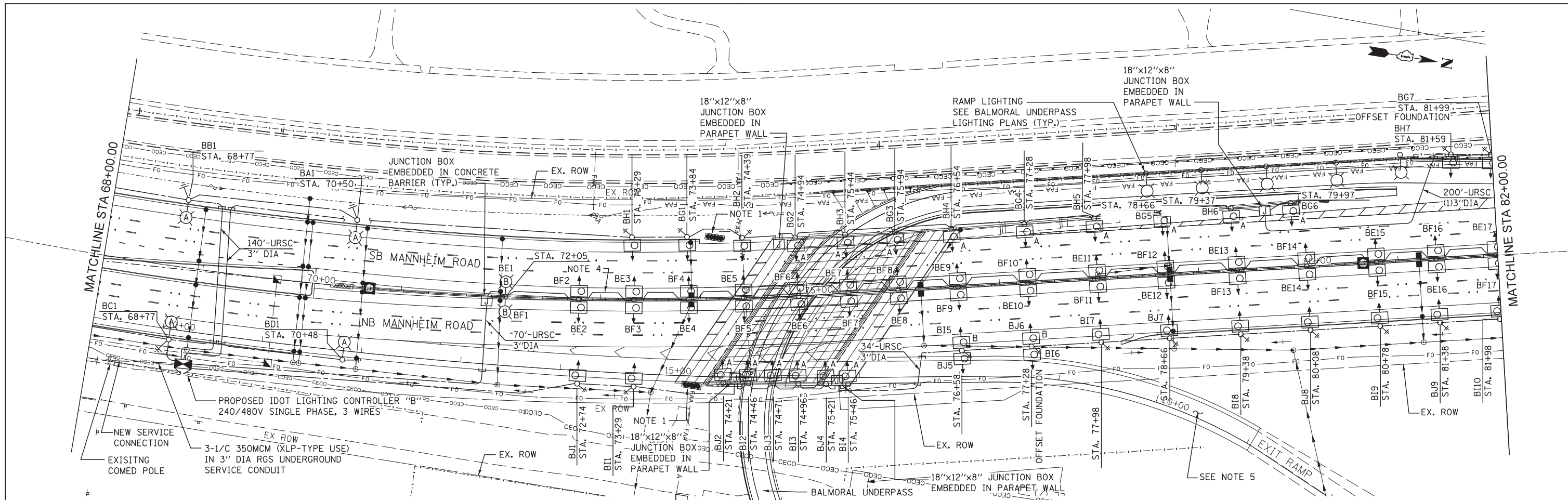
PROPOSED LIGHTING PLAN MANNHEIM ROAD	
SCALE: 1" = 50'	SHEET NO. OF SHEETS STA. 26+00.00 TO STA. 40+00.00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	311
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

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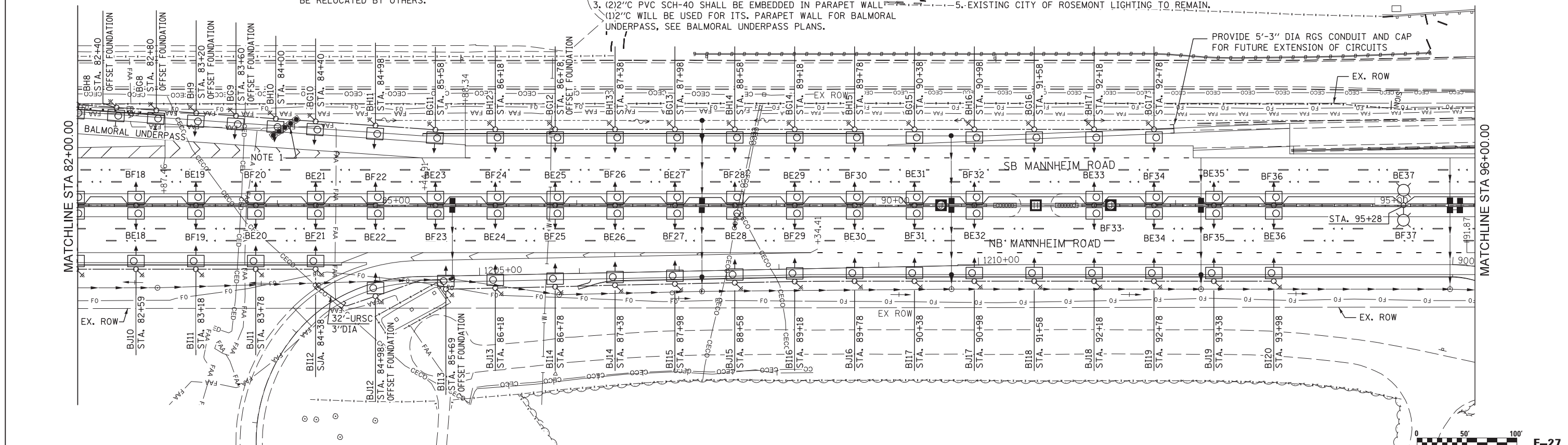


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	SCALE: 1" = 50' SHEET NO. OF SHEETS STA. 40+00.00 TO STA. 68+00.00				CONTRACT NO. 60G37 ILLINOIS FED. AID PROJECT			



NOTES:

1. EXISTING ALSF-2 AND MALS-R SYSTEM LIGHT TOWERS SHALL BE RELOCATED BY OTHERS.
2. LIGHTING UNIT MOUNTED ON CONCRETE BARRIER HAS SAME STATION AS THAT OF LIGHTING UNITS MOUNTED OPPOSITE TO IT (TYP.)
3. (1) 2" PVC SCH-40 SHALL BE EMBEDDED IN PARAPET WALL (1) 2" WILL BE USED FOR ITS. PARAPET WALL FOR BALMORAL UNDERPASS, SEE BALMORAL UNDERPASS PLANS.
4. (3) 1/2" PVC SCH-40 SHALL BE EMBEDDED IN CONCRETE BARRIER. (1) FOR ITS, (1) FOR LIGHTING AND (1) SPARE.
5. EXISTING CITY OF ROSEMONT LIGHTING TO REMAIN.



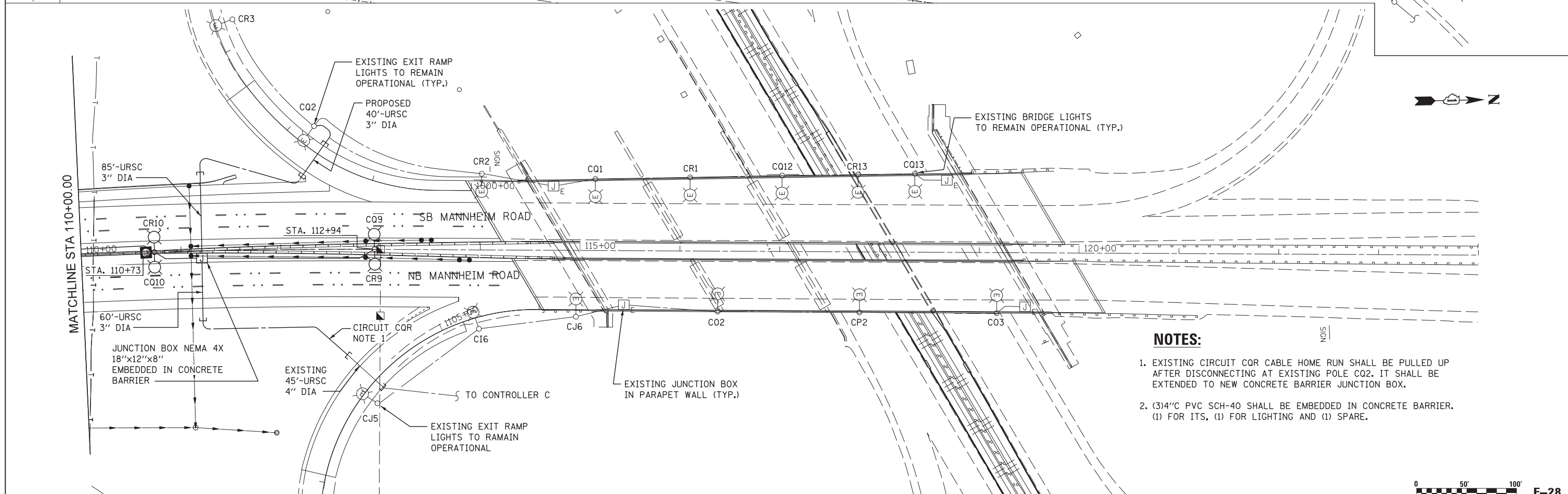
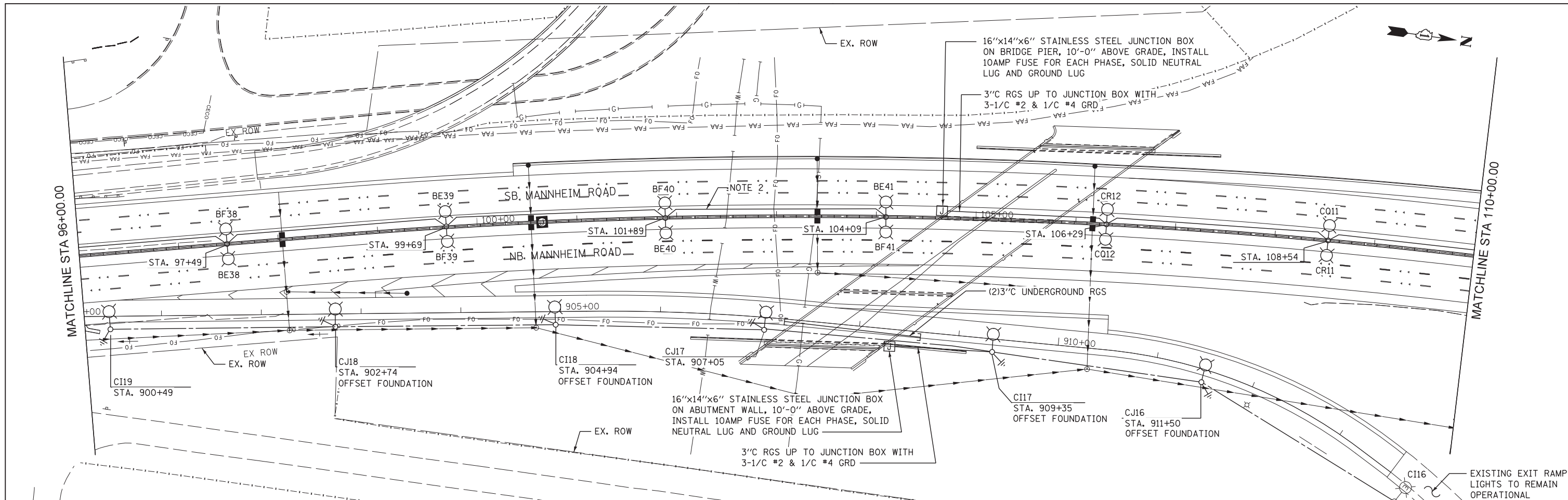
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PLOT SCALE = *SCALE*	DRAWN KK	REVISED -
PLOT DATE = 10/16/2012	CHECKED HS	REVISED -
DATE 10/19/2012	DATE	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN
 MANNHEIM ROAD**

SCALE: 1" = 50' SHEET NO. OF SHEETS STA. 68+00.00 TO STA. 96+00.00

F.A.P. RTE. 330	SECTION 0105 WRS&HB	COUNTY COOK	TOTAL SHEETS 605	SHEET NO. 313
ILLINOIS FED. AID PROJECT				CONTRACT NO. 60G37



- NOTES:**
- EXISTING CIRCUIT CQR CABLE HOME RUN SHALL BE PULLED UP AFTER DISCONNECTING AT EXISTING POLE CQ2. IT SHALL BE EXTENDED TO NEW CONCRETE BARRIER JUNCTION BOX.
 - (3)4" PVC SCH-40 SHALL BE EMBEDDED IN CONCRETE BARRIER. (1) FOR ITS, (1) FOR LIGHTING AND (1) SPARE.

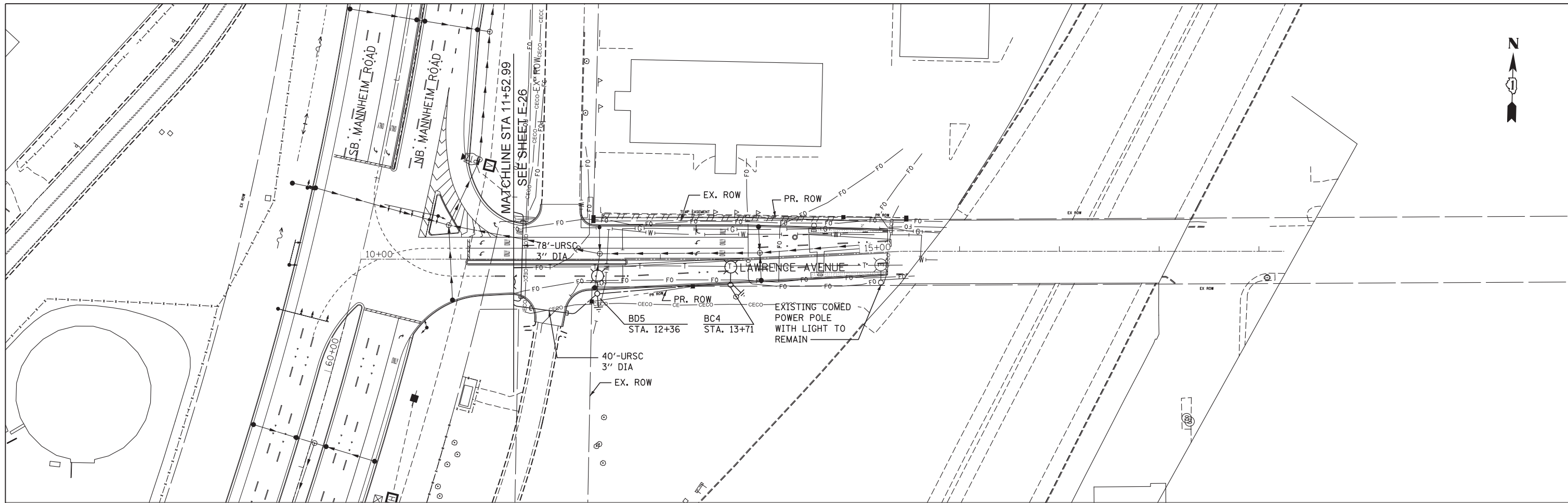


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PLOT DATE = 10/16/2012	CHECKED HS	REVISED -
DATE 10/19/12	DATE 10/19/12	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN MANNHEIM ROAD			
SCALE: 1" = 50'	SHEET NO. OF SHEETS	STA. 96+00.00 TO STA. 114+78.89	

F.A.P. RTE. 330	SECTION 0105 WRS&HB	COUNTY COOK	TOTAL SHEETS 605	SHEET NO. 314
ILLINOIS FED. AID PROJECT				CONTRACT NO. 60G37



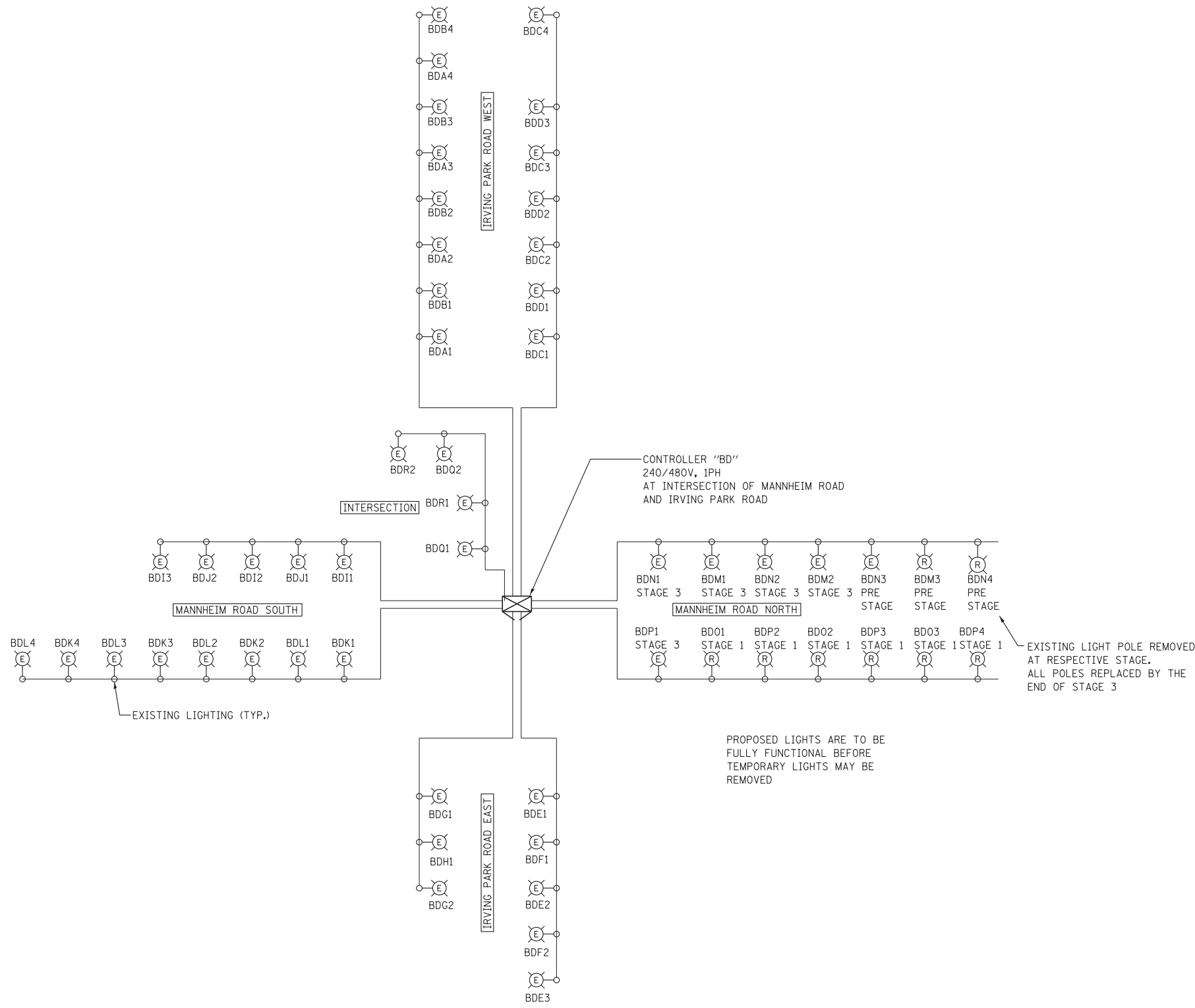

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PLOT DATE = 19-OCT-2012	DATE 10/19/2012	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED LIGHTING PLAN			
LAWRENCE AVENUE			
SCALE: 1" = 50'	SHEET NO. OF SHEETS	STA. 11+25.99 TO STA. 15+27.93	

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	315
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



<p>Globetrotters[®] Engineering Corporation ENGINEERS ARCHITECTS 300 South Wacker Drive Chicago, Illinois 60606</p>	USER NAME = mkosir	DESIGNED -	REVISED -
	PLOT SCALE = 5/8"=1'	CHECKED -	REVISED -
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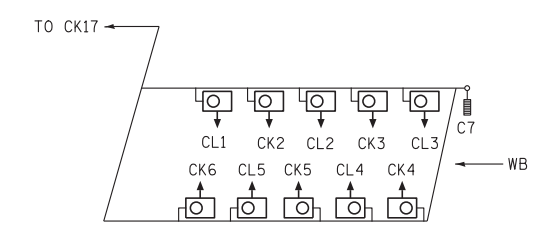
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CHECKED -	REVISED -
DATE 10/19/2011	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

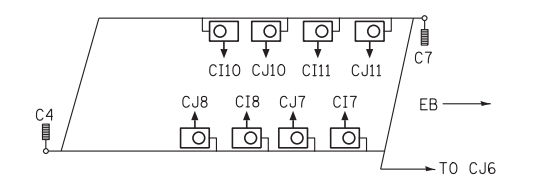
**SINGLE LINE DIAGRAM FOR CONTROLLER BD - REMOVAL
MANNHEIM ROAD**

SCALE: AS NOTED SHEET NO. 4 OF 5 SHEETS STA. - TO STA.

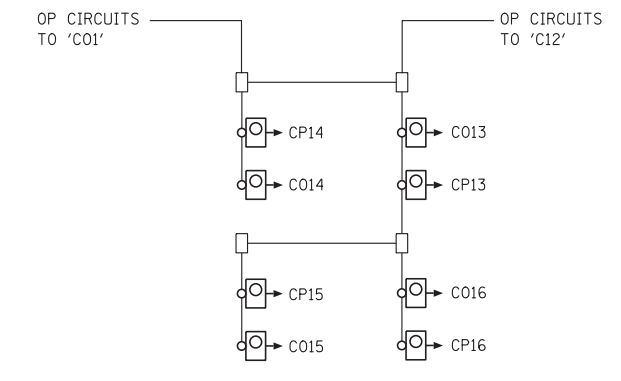
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ILLINOIS FED. AID PROJECT				CONTRACT NO. 60G37



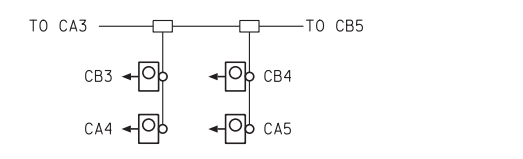
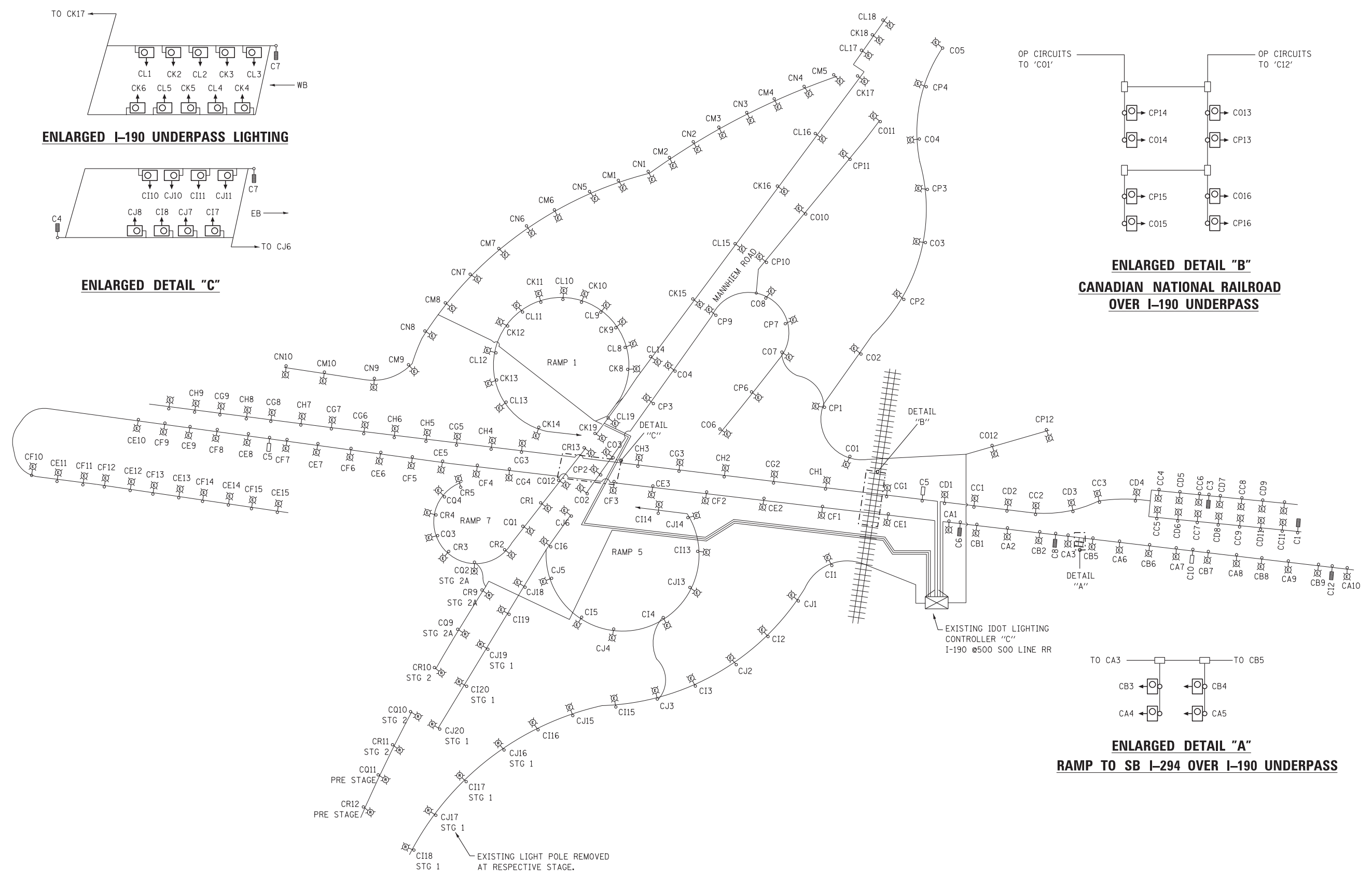
ENLARGED I-190 UNDERPASS LIGHTING



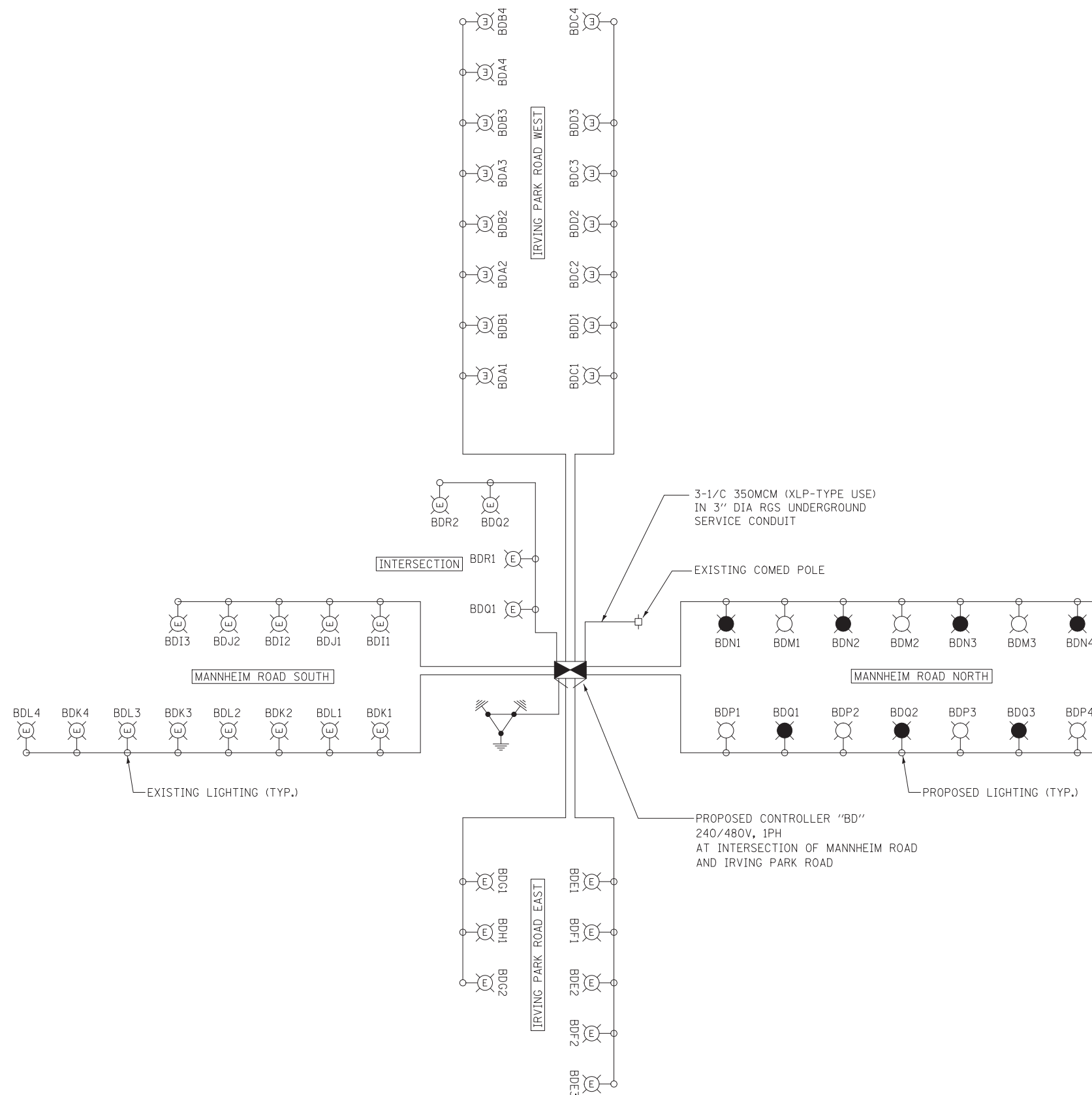
ENLARGED DETAIL "C"



ENLARGED DETAIL "B"
CANADIAN NATIONAL RAILROAD
OVER I-190 UNDERPASS



ENLARGED DETAIL "A"
RAMP TO SB I-294 OVER I-190 UNDERPASS



**LOAD TABLE
CONTROLLER "BD"
240/480V, 1PH, 3W**

CKT. TAG	PHASE A	PHASE B	LUMINAIRES
A	8.13	----	4-400W HPS
B	----	6.09	3-400W HPS
C	6.09	----	3-400W HPS
D	----	6.09	3-400W HPS
E	6.09	----	3-400W HPS
F	----	4.06	2-400W HPS
G	4.06	----	2-400W HPS
H	----	2.03	1-400W HPS
I	6.09	----	3-400W HPS
J	----	4.06	2-400W HPS
K	8.13	----	4-400W HPS
L	----	8.13	4-400W HPS
M	4.72	----	3-310W HPS
N	----	6.30	4-310W HPS
O	4.72	----	3-310W HPS
P	----	6.30	4-310W HPS
Q	4.06	----	2-400W HPS
R	----	4.06	2-400W HPS

TOTAL AMPS AT 240V	52.14 A	47.16 A
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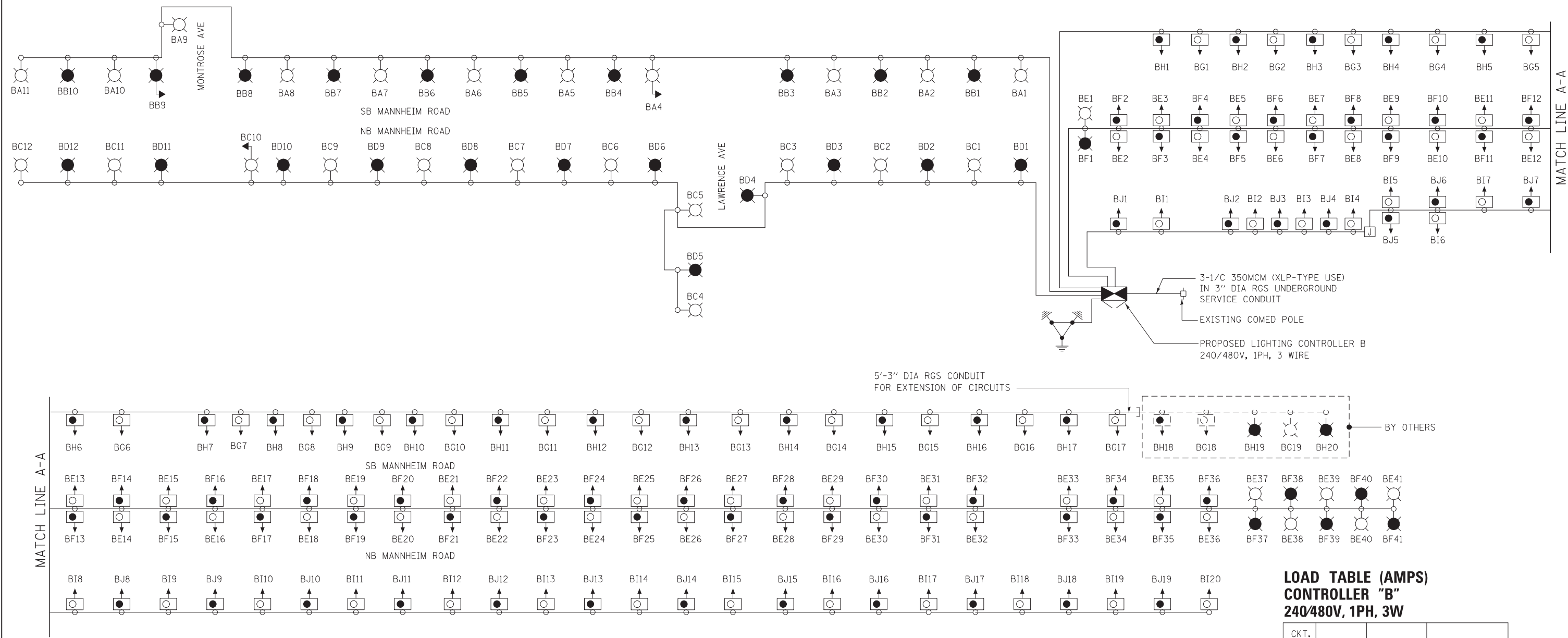
**LOAD TABLE
EXISTING CONTROLLER "C"
240/480V, 1PH, 3W**

CKT. TAG	PHASE A	PHASE B	LUMINAIRES
A	28.10	----	7-400W HPS 2-55W LPS 30-85W FLUD (SIGN)
B	----	27.10	8-400W HPS 2-55W LPS 24-85W FLUD (SIGN)
C	30.98	----	11-400W HPS 20-85W FLUD (SIGN)
D	----	22.33	11-400W HPS
E	28.17	----	7-400W HPS 8-250W HPS 10-85W FLUD (SIGN)
F	----	32.97	7-400W HPS 8-250W HPS 20-85W FLUD (SIGN)
G	20.00	----	8-400W HPS 3-250W HPS
H	----	18.00	7-400W HPS 3-250W HPS
I	28.97	----	10-400W HPS 3-310W HPS 7-70W HPS
J	----	27.54	10-400W HPS 3-310W HPS 6-70W HPS
K	29.07	----	7-310W HPS 6-250W HPS 2-200W HPS 6-70W HPS
L	----	27.03	7-310W HPS 7-250W HPS 6-70W HPS
M	12.70	----	10-250W HPS
N	----	12.70	10-250W HPS
O	19.71	----	9-400W HPS 4-70W HPS
P	----	15.61	7-400W HPS 4-70W HPS
Q	19.11	----	3-400W HPS 4-310W HPS 1-250W HPS 6-70W HPS
R	----	19.11	3-400W HPS 4-310W HPS 1-250W HPS 6-70W HPS

TOTAL AMPS AT 240V	216.81 A	202.39 A
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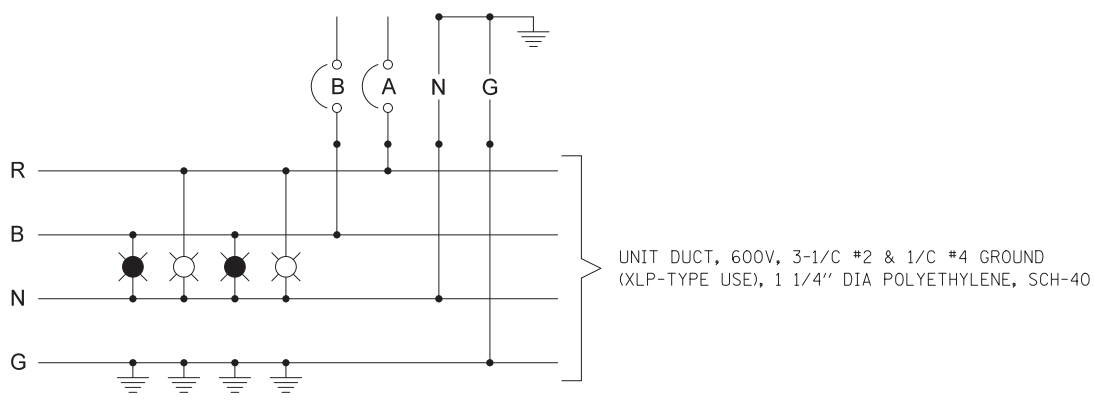
NOTE:

1. LOADING ASSUMES 22% BALLAST FACTOR.



MATCH LINE A-A

MATCH LINE A-A

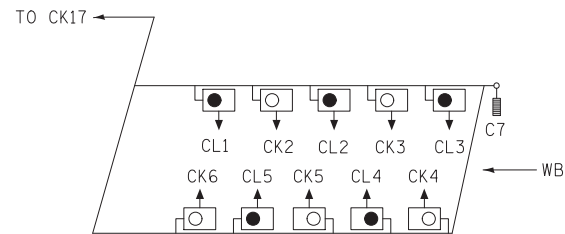


LUMINAIRE WIRING DETAIL (TYPICAL)

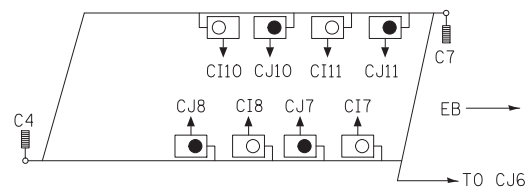
**LOAD TABLE (AMPS)
CONTROLLER "B"
240/480V, 1PH, 3W**

CKT. TAG	PHASE A	PHASE B	LUMINAIRES
A	17.33	----	11-310W HPS
B	----	15.76	10-310W HPS
C	18.91	----	12-310W HPS
D	----	18.91	12-310W HPS
E	28.30	----	7-310W HPS 34-100W HPS
F	----	28.30	7-310W HPS 34-100W HPS
G	10.72	----	17-100W HPS 1-310W HPS
H	----	12.29	18-100W HPS 2-310W HPS
I	10.15	----	20-100W HPS
J	----	9.64	19-100W HPS

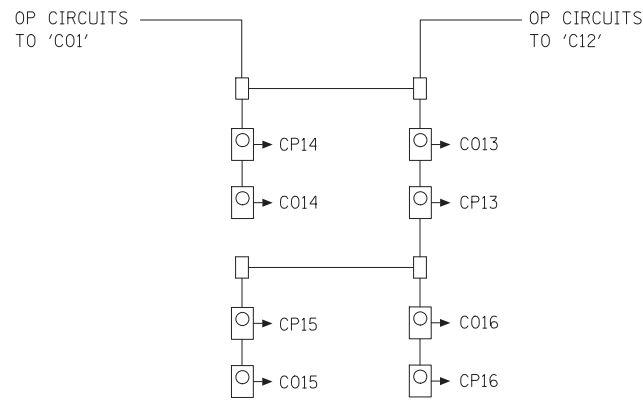
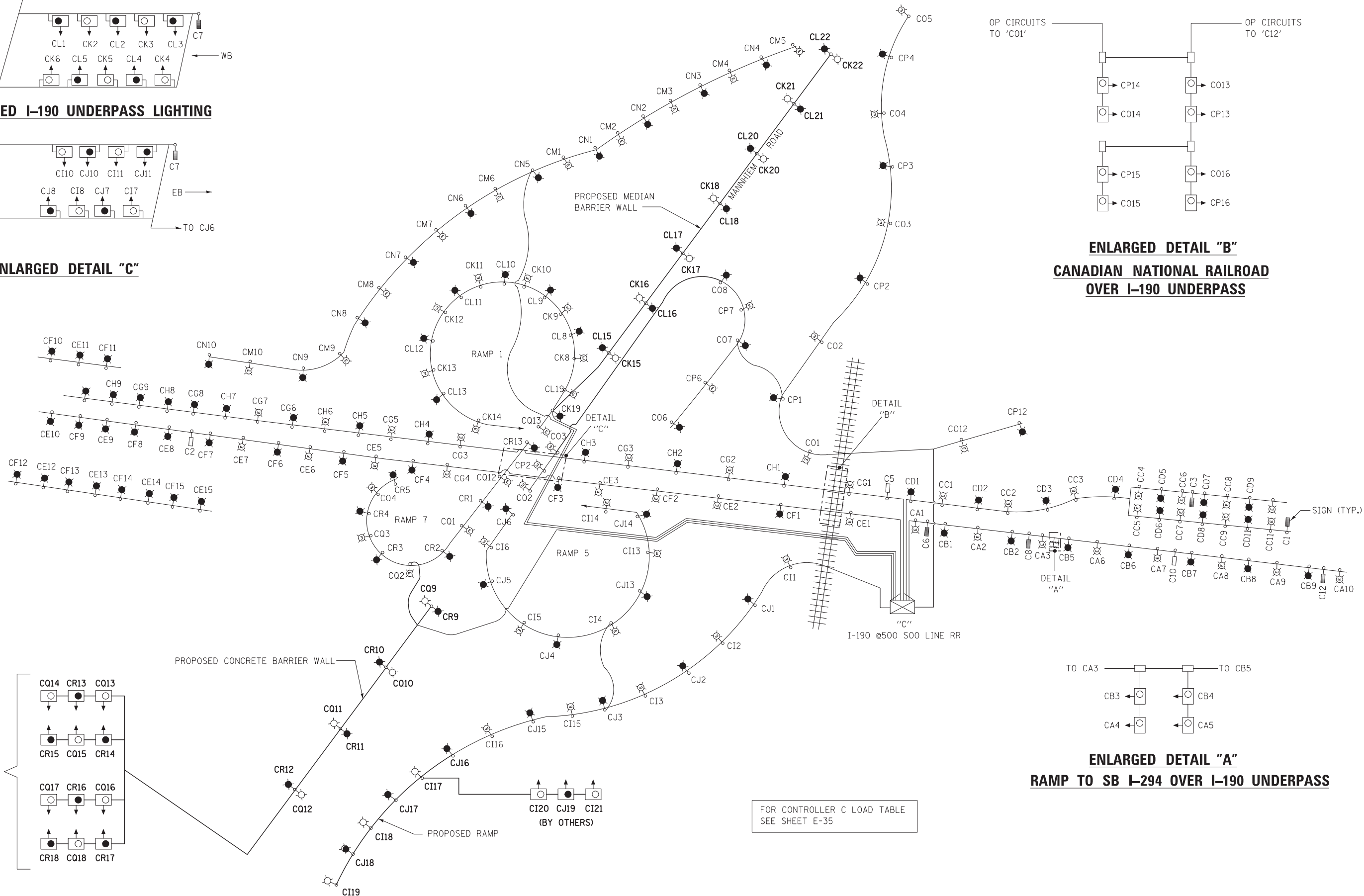
TOTAL AMPS AT 240V	85.41 A	84.90 A
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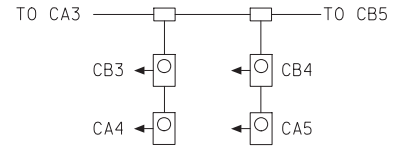
ENLARGED I-190 UNDERPASS LIGHTING



ENLARGED DETAIL "C"



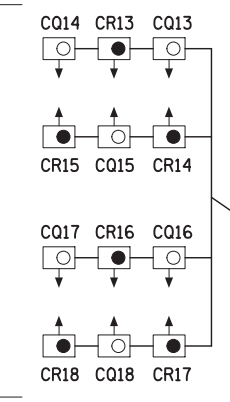
ENLARGED DETAIL "B"
CANADIAN NATIONAL RAILROAD
OVER I-190 UNDERPASS



ENLARGED DETAIL "A"
RAMP TO SB I-294 OVER I-190 UNDERPASS

FOR CONTROLLER C LOAD TABLE
SEE SHEET E-35

(BY OTHERS)



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SINGLE LINE DIAGRAM FOR EXISTING
CONTROLLER C

E-34

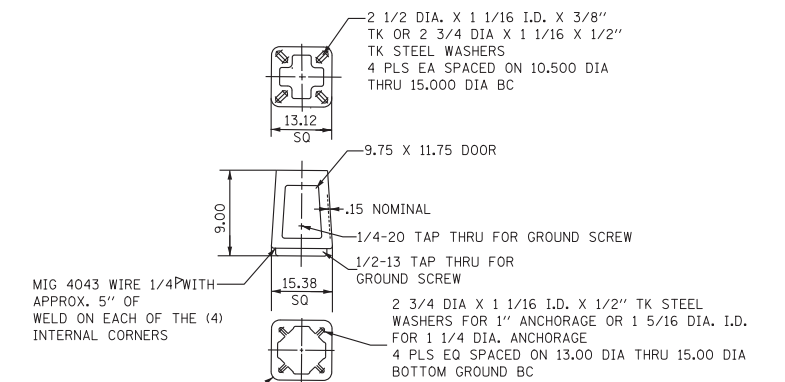
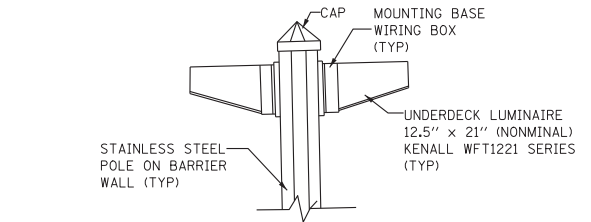
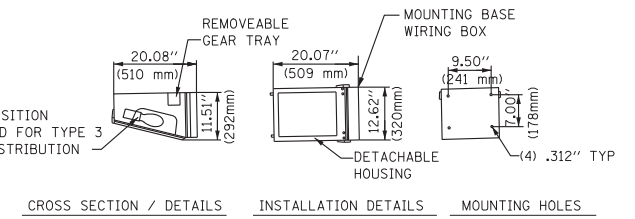
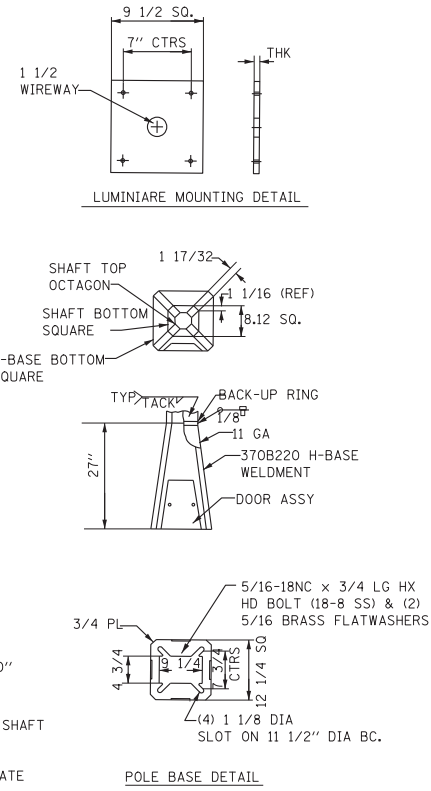
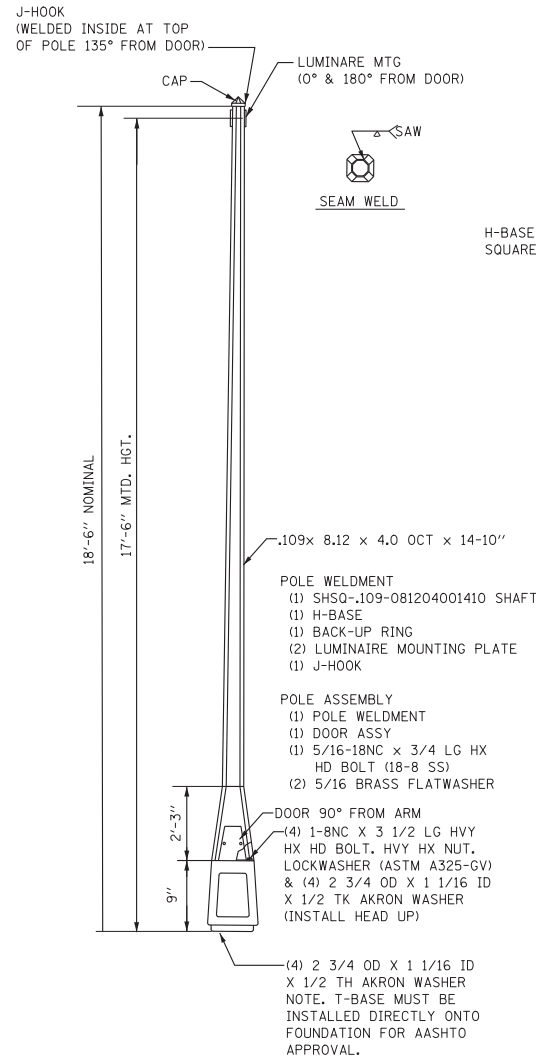
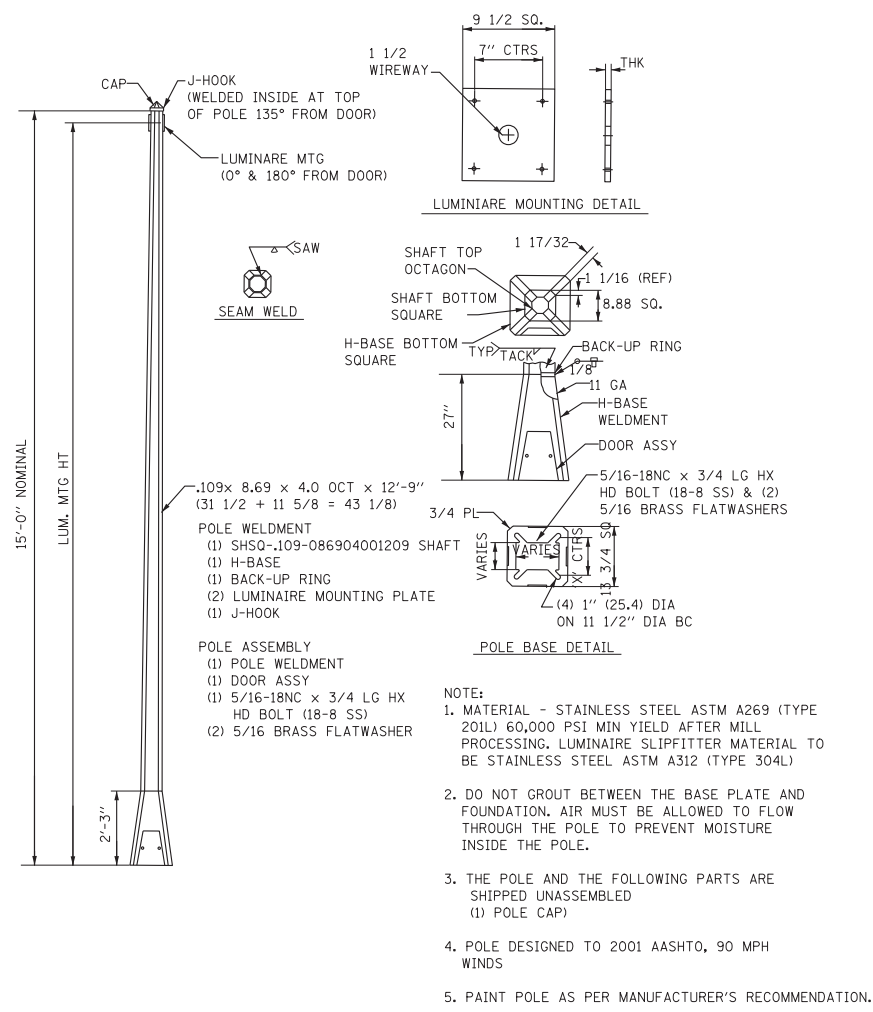
DELTA ENGINEERING GROUP, LLC
FILE NAME = c:\cadd\lib\p\k\khan\p\p\great Lakes\dms47844\0160G37-sht-light-34.dgn

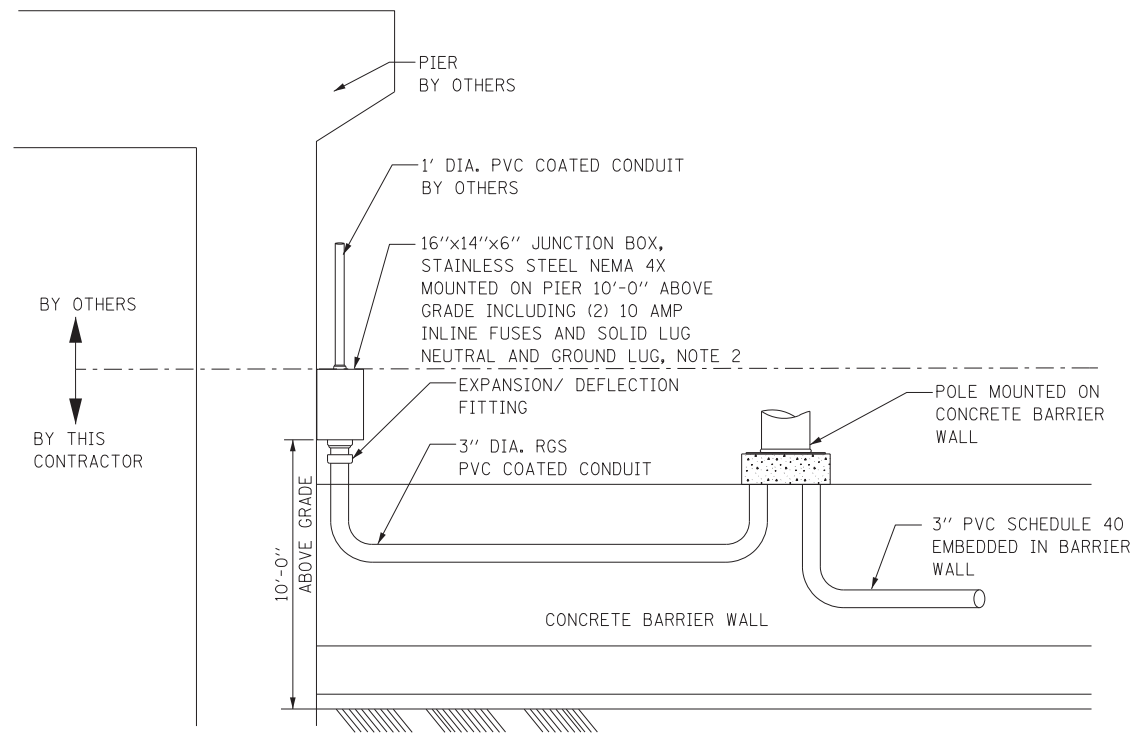
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PLOT DATE = 10/5/2012	CHECKED - HS	REVISED -
	DATE - 10-19-2012	REVISED -

DESIGNED - HS	REVISED -
DRAWN - KK	REVISED -
CHECKED - HS	REVISED -
DATE - 10-19-2012	REVISED -

SCALE: NONE	SHEET NO.	OF SHEETS	STA.	TO STA.
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F.A.P. RTE. 330	SECTION 0105 WRS&HB	COUNTY COOK	TOTAL SHEETS 605	SHEET NO. 320
CONTRACT NO. 60G37				ILLINOIS FED. AID PROJECT

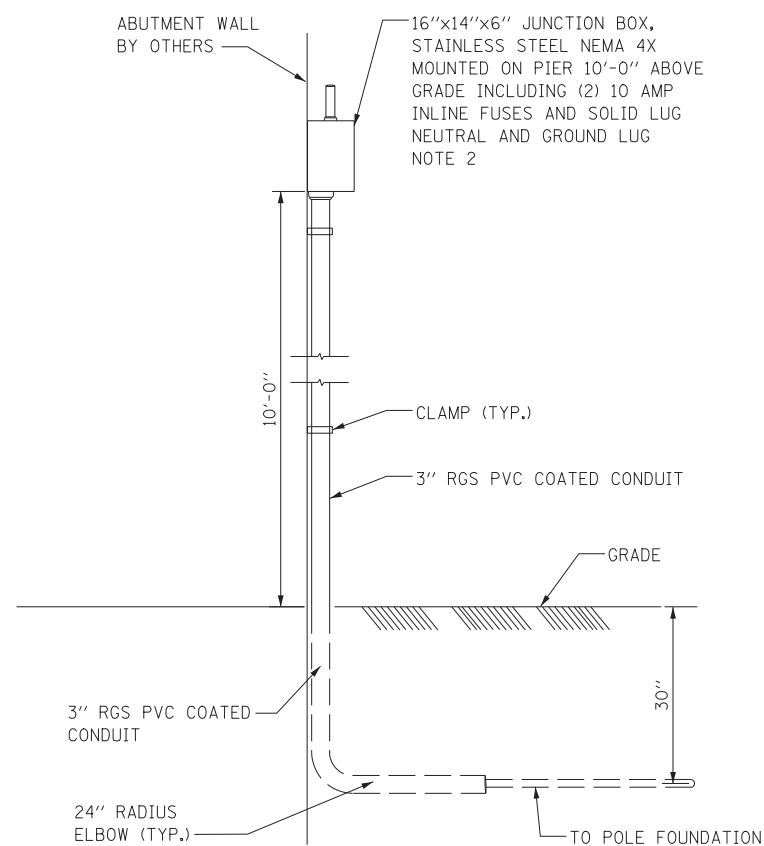




ELECTRIC CONNECTION TO UNDERPASS LIGHTING AT CONCRETE BARRIER
N.T.S.

NOTE:

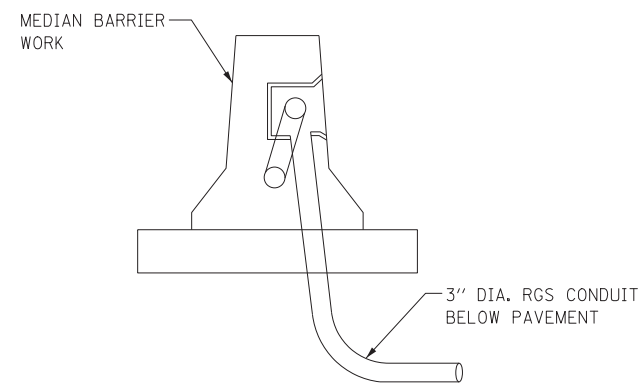
- 1. COORDINATE WITH BRIDGE STRUCTURAL WORK.



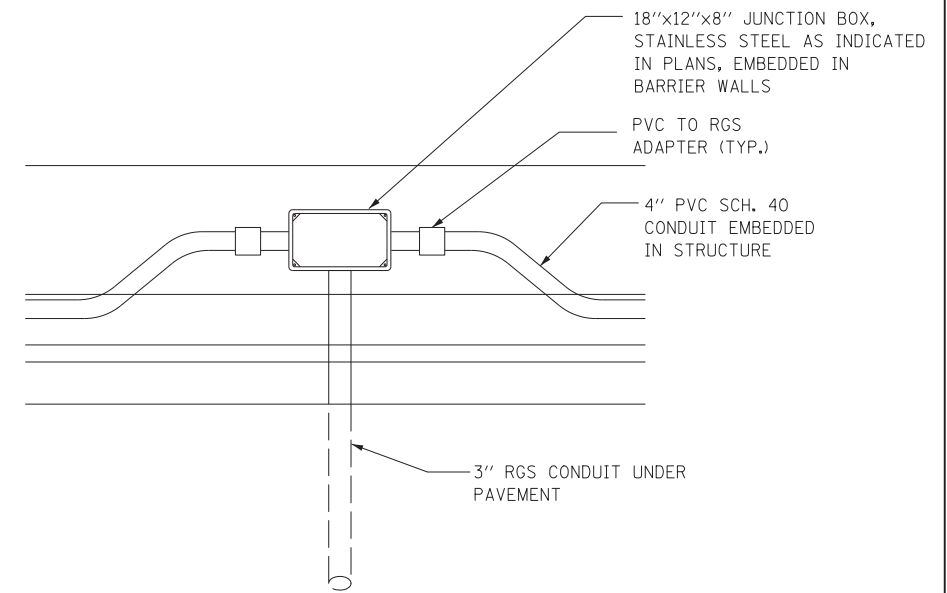
ELECTRIC CONNECTION TO UNDERPASS LIGHTING AT BRIDGE ABUTMENT
N.T.S.

NOTES:

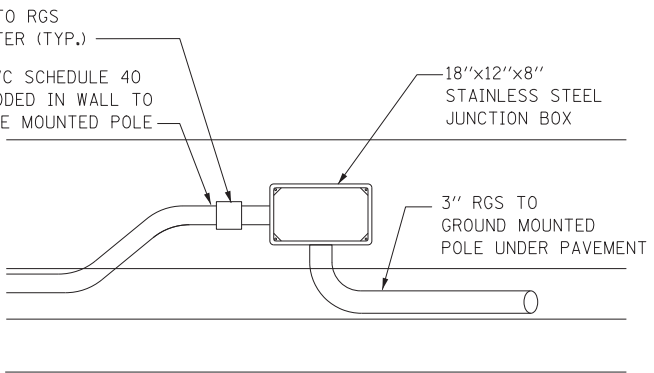
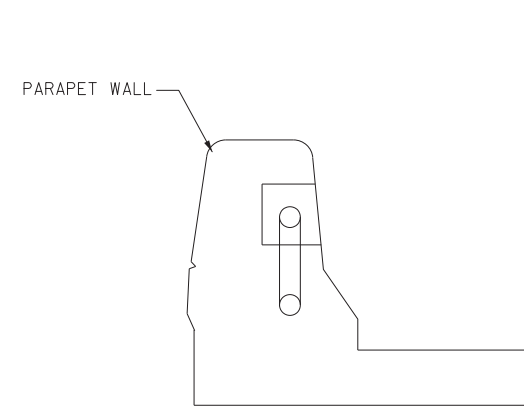
- 1. COORDINATE WITH BRIDGE STRUCTURAL WORK.
- 2. JUNCTION BOX ATTACHED TO PIER/ ABUTMENT WALL MUST BE ATTACHED WITH EXPANSION ANCHORS AS RECOMMENDED BY MANUFACTURER. EXPANSION ANCHORS POWDER ACTUATED FASTENERS WILL NOT BE ALLOWED.



SECTION
N.T.S.



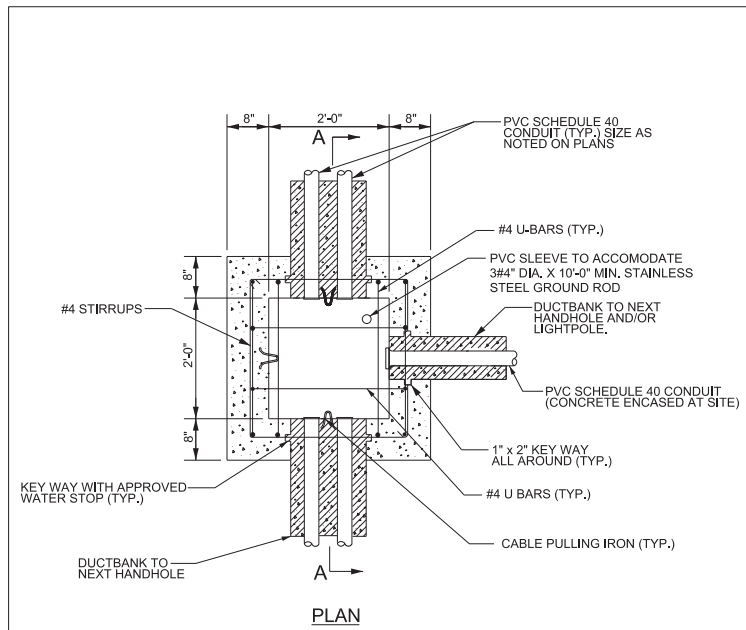
JUNCTION BOX EMBEDDED IN CONCRETE BARRIER
N.T.S.



ELEVATION
JUNCTION BOX DETAIL IN BRIDGE PARAPET WALL
N.T.S.

USER NAME = moi	DESIGNED - HS	REVISED -
	DRAWN - KK	REVISED -
PLOT SCALE = *SCALE*	CHECKED - HS	REVISED -
PLOT DATE = 10/5/2012	DATE - 10-19-2012	REVISED -

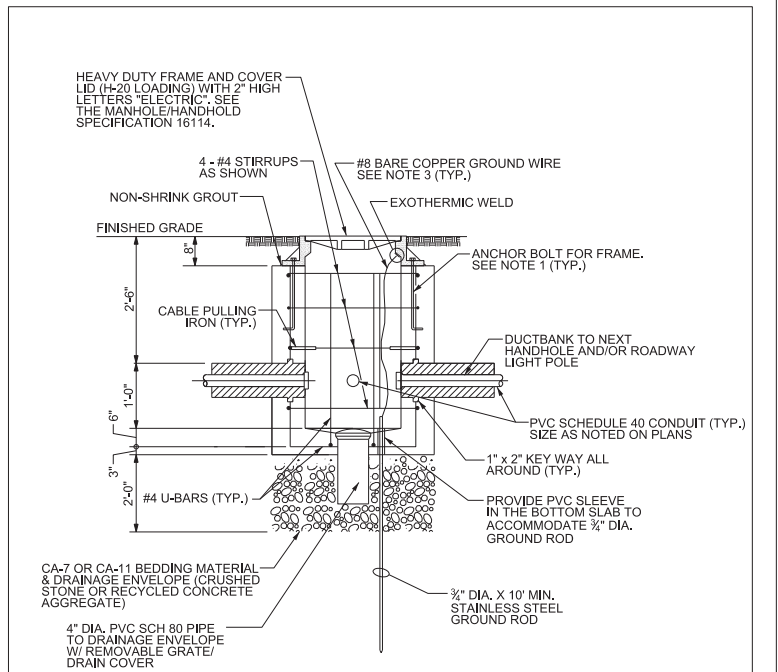
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	322
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



- NOTES:**
1. 3/4" DIA. X 16" LONG ANCHOR BOLTS FOR HANDHOLE FRAME. (4 REQUIRED) 2" PROJECTION AND 2" HOOK REQUIRED. FOR PLACEMENT, SEE DETAIL NO. 6-06-08R.
 2. USED FOR ELECTRIC POWER 600 VOLT OR LESS, COMMUNICATION AND CONTROL CIRCUITS (NOT APPLICABLE FOR R/W AND T/W AIRFIELD LIGHTING POWER/ CONTROL USE).
 3. FOR SECTION A-A, SEE DETAIL NO. 6-06-08R.

TYPICAL ROADWAY LIGHTING HANDHOLE PLAN
(NOT TO SCALE)

Computer Filename 06-06-07R.dgn	Chicago Department of Aviation/O'Hare Modernization Program Design and Construction Standards	Issue Date: 08/31/2009 Detail No.: 6-06-07R	REV 0
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- NOTES:**
1. 3/4" DIA. X 16" LONG ANCHOR BOLTS FOR HANDHOLE FRAME. (4 REQUIRED) 2" PROJECTION AND 2" HOOK REQUIRED.
 2. FRAME SHALL HAVE DRILLED HOLES FOR ANCHOR BOLTS. ACCEPTABLE FRAME AND COVER ARE NEENAH NO. R-1795-E, EAST JORDAN IRONWORKS NO. 8055 OR CAMPBELL FOUNDRY.
 3. BARE COPPER GROUND WIRE SHALL BE CONNECTED TO THE GROUND ROD AND HANDHOLE COVER FRAME VIA EXOTHERMIC WELDS.

SECTION A-A
TYPICAL ROADWAY LIGHTING HANDHOLE
(NOT TO SCALE)

Computer Filename 06-06-08R.dgn	Chicago Department of Aviation/O'Hare Modernization Program Design and Construction Standards	Issue Date: 9/30/2011 Detail No.: 6-06-08R	REV 3
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HANDHOLE DETAILS FOR CITY LIGHTS
N.T.S.

USER NAME = mol	DESIGNED - HS	REVISED -
PLOT SCALE = *SCALE*	DRAWN - KK	REVISED -
PLOT DATE = 10/5/2012	CHECKED - HS	REVISED -
	DATE - 10-19-2012	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	323
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

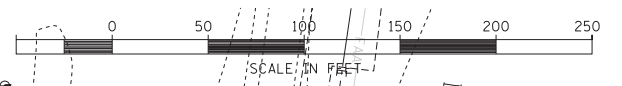
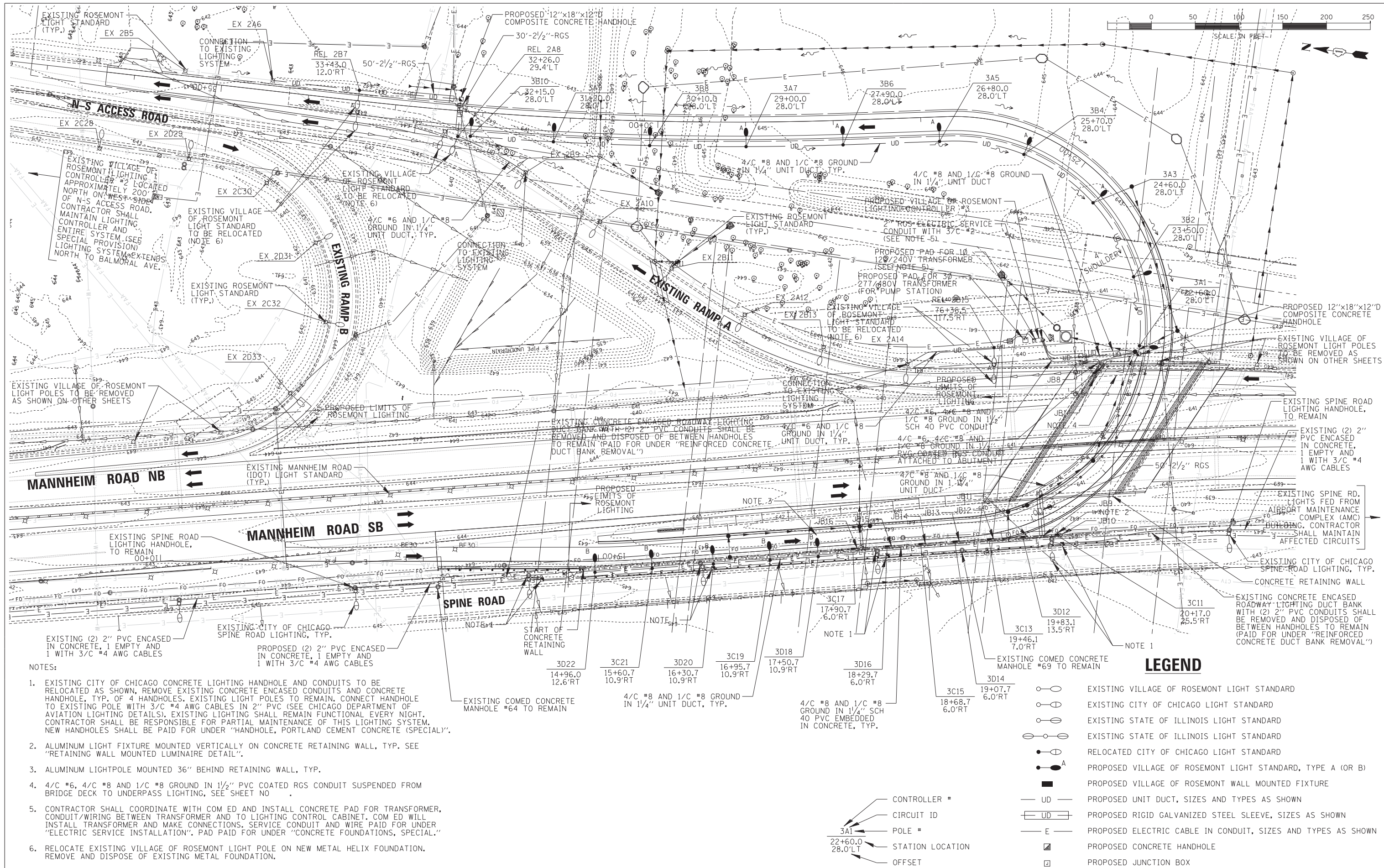
ROSEMONT LIGHTING BILL OF MATERIALS

ITEM	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
CONDUIT ENCASED, CONCRETE, 2" DIA., PVC 2 WIDE X 1 HIGH	FOOT	1200
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	130
UNDERGROUND CONDUIT, PVC, 1 1/2" DIA.	FOOT	125
UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 1 1/4" DIA.	FOOT	2750
CONDUIT ATTACHED TO STRUCTURE, 3/4" DIA., PVC COATED GALVANIZED STEEL	FOOT	1500
CONDUIT ATTACHED TO STRUCTURE, 1 1/2" DIA., PVC COATED GALVANIZED STEEL	FOOT	400
CONDUIT EMBEDDED IN STRUCTURE, 3/4" DIA. PVC	FOOT	110
CONDUIT EMBEDDED IN STRUCTURE, 1 1/4" DIA. PVC	FOOT	420
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12"x12"x8"	EACH	8
JUNCTION BOX, STAINLESS STEEL, EMBEDDED IN STRUCTURE 8"x8"x6"	EACH	8
HANDHOLE, COMPOSITE CONCRETE	EACH	2
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	1600
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	19800
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 6	FOOT	4500
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 4	FOOT	3900
UNDERPASS LUMINAIRE, 70 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	7
UNDERPASS LUMINAIRE, 400 WATT, HIGH PRESSURE SODIUM VAPOR	EACH	27
LIGHTING CONTROLLER, BASE MOUNTED, 240 VOLT, 100 AMP	EACH	1
LIGHT POLE FOUNDATION, METAL, 11 1/2" BOLT CIRCLE, 8 5/8" X 6'	EACH	18
BREAKAWAY DEVICE, TRANSFORMER BASE, 11.5 INCH BOLT CIRCLE	EACH	15
REMOVAL OF POLE FOUNDATION	EACH	3
RELOCATE EXISTING LIGHTING UNIT	EACH	3
REMOVE EXISTING HANDHOLE	EACH	4
REINFORCED CONCRETE DUCT BANK REMOVAL	FOOT	1200
HANDHOLE, PORTLAND CEMENT CONCRETE (SPECIAL)	EACH	4
LIGHTING UNIT COMPLETE, SPECIAL	EACH	7
LIGHT POLE, SPECIAL	EACH	15
MAINTENANCE OF LIGHTING SYSTEM	L SUM	1

GENERAL ROADWAY LIGHTING NOTES

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING SPECIFICATIONS, WHICH ARE HEREBY MADE A PART HEREOF:
 - "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS", AS PREPARED BY IDOT.
 - "THE NATIONAL ELECTRICAL CODE".
 - MUNICIPAL CODES & STANDARDS.
 - CHICAGO DEPARTMENT OF AVIATION STANDARDS.
- TO MAINTAIN THE STRUCTURAL INTEGRITY OF LIGHT POLES WITH MAST ARMS, THEY SHALL NOT BE ERECTED AND LEFT TO STAND WITHOUT LUMINAIRES. NOTE THAT THE CONTRACTOR SHALL NOT BE PAID FOR POLES UNTIL LUMINAIRES ARE INSTALLED.
- NO MATERIALS SHALL BE DELIVERED TO THE JOB SITE UNTIL ALL PERTINENT EQUIPMENT SUBMITTALS HAVE BEEN REVIEWED BY THE OWNER'S REPRESENTATIVE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATIONS OF ALL PROPOSED EQUIPMENT FOR EXAMINATION AND CONFIRMATION WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO AUGERING FOR LIGHT POLE FOUNDATIONS. THE EXACT LOCATIONS OF ALL PROPOSED ITEMS SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMELY NOTIFICATION AND COORDINATION WITH THE ELECTRICAL UTILITY COMPANY.
- THE CONTRACTOR SHALL LABEL ALL WIRES WITH WIRE MARKERS INDICATING THE CIRCUIT ID IN EVERY CONTROLLER, POLE BASE, HAND HOLE AND SPLICE/CONNECTION POINT. WIRE MARKERS SHALL BE MECHANICALLY FASTENED WITH WHITE PLASTIC, TYPE "PLM" AS MANUFACTURED BY PANDUIT OR APPROVED EQUAL.
- EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BONDED AT EACH LIGHT POLE OR OTHER PIECE OF EQUIPMENT.
- THE LIGHTING CONTROLLER SHALL BE CONSTRUCTED TO UL STANDARDS 508 AND 508A, AND BEAR THE LABEL "INDUSTRIAL CONTROL PANEL".
- ALL DISTURBED AREA WHERE RESTORATION IS NOT COVERED BY APPLICABLE SECTIONS OF THE SPECIAL PROVISIONS MUST BE RESTORED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. THE WORK WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT. SEPARATE PAYMENT WILL NOT BE MADE.
- THE EXACT LOCATIONS OF ALL UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE THE INSTALLATION OF ANY COMPONENTS OF THE LIGHTING SYSTEM. FOR THE LOCATIONS OF THE UTILITIES, CALL JULIE TOLL FREE AT 1-800-892-0123.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AS WELL AS SUPERVISION/DIRECTION AND MEANS/METHODS OF CONSTRUCTION.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH THREE SETS OF FULL SIZE RECORD DRAWINGS TO THE OWNER'S REPRESENTATIVE UPON COMPLETION OF THE LIGHTING AND ELECTRICAL IMPROVEMENTS. THE DRAWINGS SHALL SHOW THE INSTALLED LOCATIONS OF ALL LIGHT POLES, UNDERGROUND CONDUITS/WIRING, HANDHOLES, JUNCTION BOXES & CONTROLLER CABINETS. THE DRAWINGS WILL BE REVIEWED BY THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL PERFORM ELECTRICAL TESTING AND VERIFY THAT THE INSTALLATION COMPLIES WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS.
- ALL UNDERGROUND CONDUIT SHALL BE SCH 40 HDPE UNLESS OTHERWISE NOTED. ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID GALVANIZED STEEL UNLESS OTHERWISE NOTED. ALL WIRING SHALL BE XLP-TYPE USE RATED FOR 600 VOLTS UNLESS OTHERWISE NOTED.

 CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 923-0900	USER NAME = pmagnelli	DESIGNED <i>AJD</i>	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LIGHTING PLAN BALMORAL UNDERPASS GENERAL NOTES AND BILL OF MATERIAL	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1/8" = 1'-0"	CHECKED <i>AJD</i>	REVISED -			330	0105 WRS&HB	COOK	605	324
PLOT DATE = 10/17/2012	DATE = 1/17/2012	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA.	TO	STA.
						ILLINOIS FED. AID PROJECT				



NOTES:

- EXISTING CITY OF CHICAGO CONCRETE LIGHTING HANDHOLE AND CONDUITS TO BE RELOCATED AS SHOWN, REMOVE EXISTING CONCRETE ENCASED CONDUITS AND CONCRETE HANDHOLE, TYP. OF 4 HANDHOLES, EXISTING LIGHT POLES TO REMAIN, CONNECT HANDHOLE TO EXISTING POLE WITH 3/4 AWG CABLES IN 2" PVC (SEE CHICAGO DEPARTMENT OF AVIATION LIGHTING DETAILS), EXISTING LIGHTING SHALL REMAIN FUNCTIONAL EVERY NIGHT, CONTRACTOR SHALL BE RESPONSIBLE FOR PARTIAL MAINTENANCE OF THIS LIGHTING SYSTEM, NEW HANDHOLES SHALL BE PAID FOR UNDER "HANDHOLE, PORTLAND CEMENT CONCRETE (SPECIAL)".
- ALUMINUM LIGHT FIXTURE MOUNTED VERTICALLY ON CONCRETE RETAINING WALL, TYP. SEE "RETAINING WALL MOUNTED LUMINAIRE DETAIL".
- ALUMINUM LIGHTPOLE MOUNTED 36" BEHIND RETAINING WALL, TYP.
- 4/C #6, 4/C #8 AND 1/C #8 GROUND IN 1/2" PVC COATED RGS CONDUIT SUSPENDED FROM BRIDGE DECK TO UNDERPASS LIGHTING, SEE SHEET NO.
- CONTRACTOR SHALL COORDINATE WITH COM ED AND INSTALL CONCRETE PAD FOR TRANSFORMER, CONDUIT WIRING BETWEEN TRANSFORMER AND TO LIGHTING CONTROL CABINET, COM ED WILL INSTALL TRANSFORMER AND MAKE CONNECTIONS, SERVICE CONDUIT AND WIRE PAID FOR UNDER "ELECTRIC SERVICE INSTALLATION", PAD PAID FOR UNDER "CONCRETE FOUNDATIONS, SPECIAL".
- RELOCATE EXISTING VILLAGE OF ROSEMONT LIGHT POLE ON NEW METAL HELIX FOUNDATION, REMOVE AND DISPOSE OF EXISTING METAL FOUNDATION.

LEGEND

- EXISTING VILLAGE OF ROSEMONT LIGHT STANDARD
- EXISTING CITY OF CHICAGO LIGHT STANDARD
- EXISTING STATE OF ILLINOIS LIGHT STANDARD
- RELOCATED CITY OF CHICAGO LIGHT STANDARD
- PROPOSED VILLAGE OF ROSEMONT LIGHT STANDARD, TYPE A (OR B)
- PROPOSED VILLAGE OF ROSEMONT WALL MOUNTED FIXTURE
- PROPOSED UNIT DUCT, SIZES AND TYPES AS SHOWN
- PROPOSED RIGID GALVANIZED STEEL SLEEVE, SIZES AS SHOWN
- PROPOSED ELECTRIC CABLE IN CONDUIT, SIZES AND TYPES AS SHOWN
- PROPOSED CONCRETE HANDHOLE
- PROPOSED JUNCTION BOX

CBG CHRISTOPHER B. BURKE ENGINEERING, LTD.
 9575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 825-0590

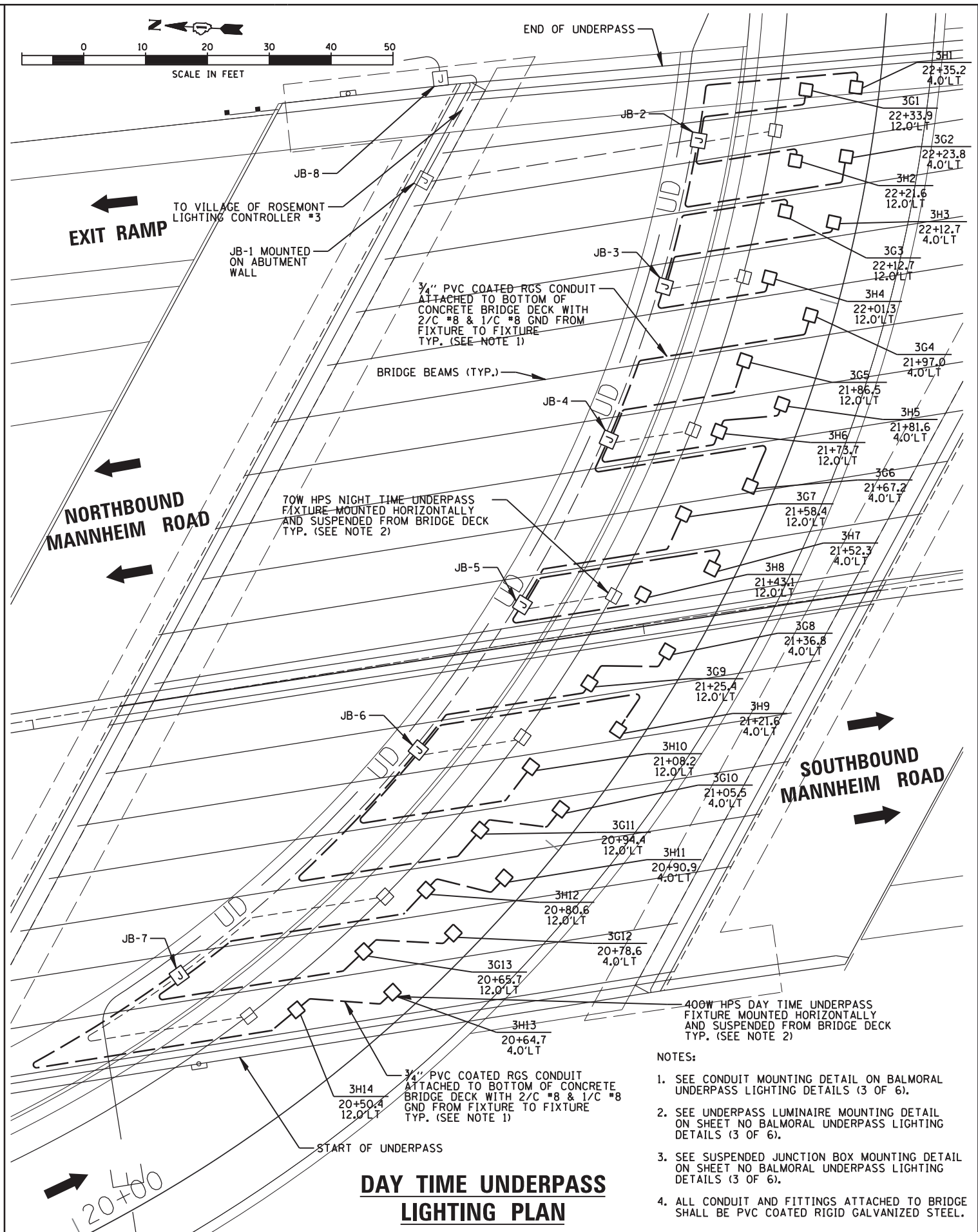
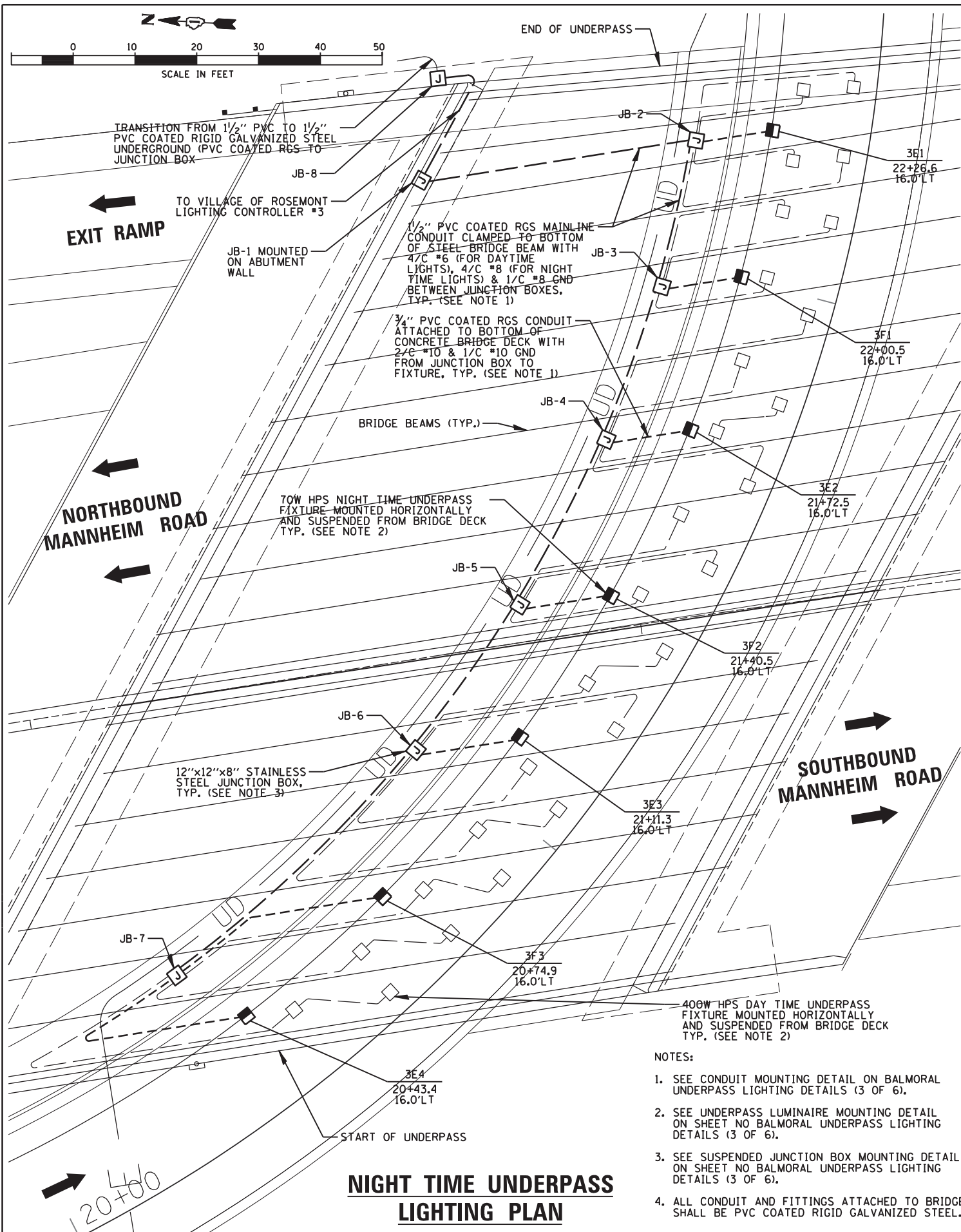
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	DATE = /13/2012	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**LIGHTING PLAN (1 OF 2)
 BALMORAL UNDERPASS / SPINE ROAD**

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	325
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



CBG CHRISTOPHER B. BURKE ENGINEERING, LTD.
 9575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 923-0900

USER NAME = pmagnelli	DESIGNED <i>AJD</i>	REVISED -
DRAWN <i>KWB</i>	REVISED -	
CHECKED <i>AJD</i>	REVISED -	
DATE - 10/17/2012	REVISED -	

DESIGNED <i>AJD</i>	REVISED -
DRAWN <i>KWB</i>	REVISED -
CHECKED <i>AJD</i>	REVISED -
DATE - 10/17/2012	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

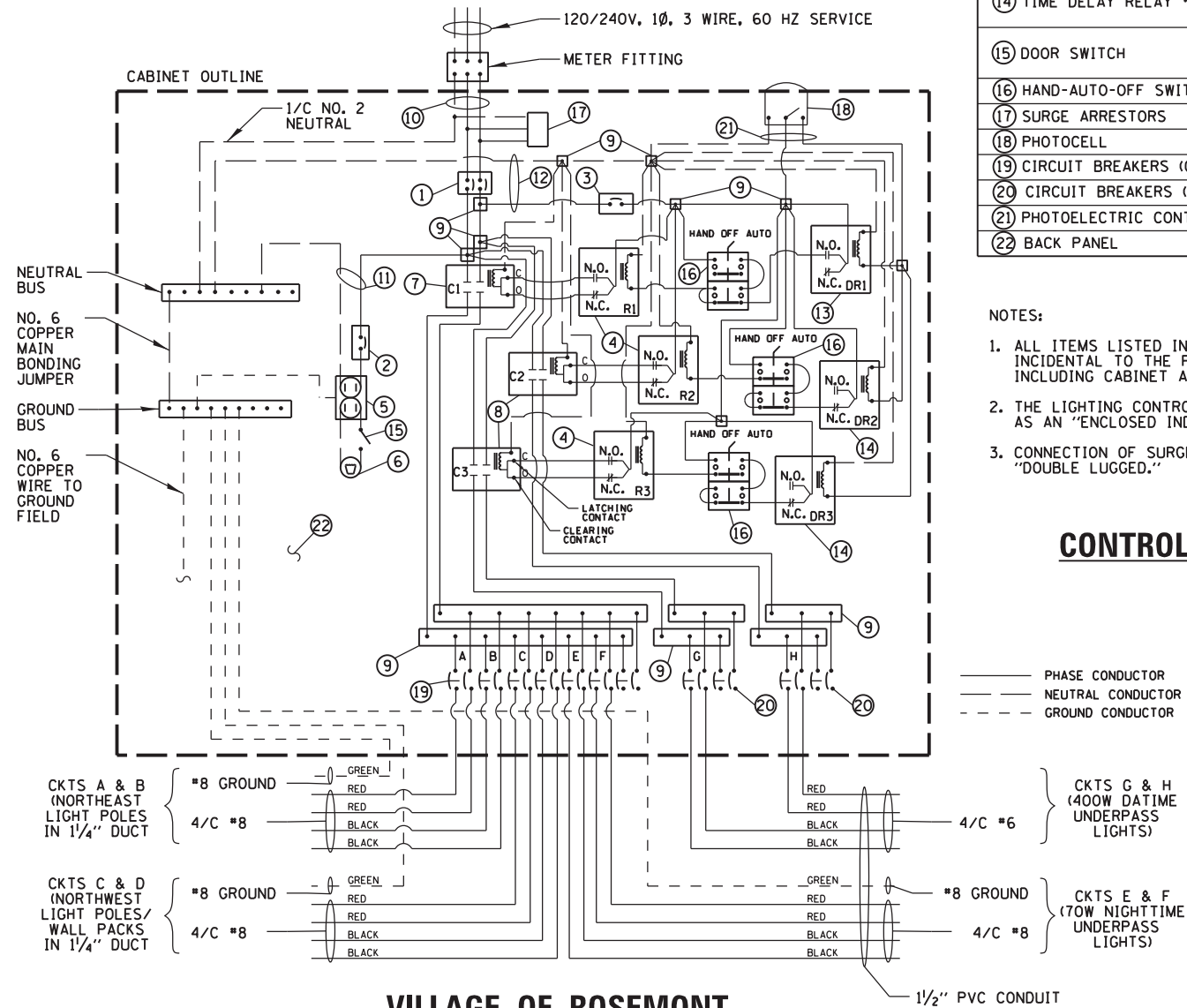
**LIGHTING PLAN (2 OF 2)
 BALMORAL UNDERPASS**

SCALE:	SHEET NO. OF SHEETS	STA. TO STA.
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	326
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

VILLAGE OF ROSEMONT LIGHTING CONTROLLER #3 CIRCUIT WATTAGE LOADS

CIRCUIT ID	70W HPS 240V LIGHT	LOAD (WATTS)	100W HPS 240V LIGHT	LOAD (WATTS)	400W HPS 240V LIGHT	LOAD (WATTS)	TOTAL CIRCUIT LOAD (WATTS)
A	-	-	5 • 120 W	600 W	-	-	600 W
B	-	-	5 • 120 W	600 W	-	-	600 W
C	4 • 87 W	348 W	2 • 120 W	240 W	-	-	588 W
D	3 • 87 W	261 W	3 • 120 W	360 W	-	-	621 W
E	4 • 87 W	348 W	-	-	-	-	348 W
F	3 • 87 W	261 W	-	-	-	-	261 W
G	-	-	-	-	13 • 475 W	6,175 W	6,175 W
H	-	-	-	-	14 • 475 W	6,650 W	6,650 W
TOTAL							15,873 W



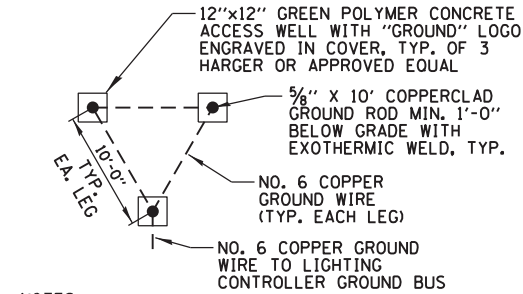
**VILLAGE OF ROSEMONT
LIGHTING CONTROLLER #3 WIRING DETAIL**
N.T.S.

ITEM	SPECIFICATION OR EQUAL
1 MAIN CIRCUIT BREAKER	100 AMPERE, 2P, 240 V RATING, 22K AIC
2 LAMPHOLDER CIRCUIT BREAKER	15 AMPERE, 1P, 120 V RATING, 22K AIC
3 PHOTOELECTRIC CONTROL CIRCUIT BREAKER	15 AMPERE, 1P, 120 V RATING, 22K AIC
4 AUXILIARY RELAYS #1, #2, #3	120 V / 25 AMP DPDT WITH 2 N.O. AND 2 N.C. CONTACTS
5 CABINET RECEPTACLE AND BOX	COMMERCIAL GRADE GFCI 20A/120V, MOUNTED IN A WEATHERPROOF CAST ALUMINUM SINGLE GANG BOX WITH WEATHERPROOF COVER
6 CABINET LIGHT AND BOX	120V WEATHERPROOF LAMPHOLDER MOUNTED IN A CAST ALUMINUM BOX & EXT. GRADE 100W LAMP
7 CONTACTOR #1 (NIGHTTIME LIGHTS)	100 AMPERE, 2P, 240 V, MECHANICALLY HELD
8 CONTACTOR #2 & #3 (DAYTIME LIGHTS)	60 AMPERE, 2P, 240 V, MECHANICALLY HELD
9 POWER DISTRIBUTION BLOCK	600 VOLT, INSULATED, SIZE AS REQUIRED
10 SERVICE CABLES	3-600V (XLP-TYPE USE) NO. 2
11 LAMPHOLDER/RECEPTACLE WIRE	2-600V XLP NO. 12
12 CONTROL WIRE	2-600V XLP NO. 12
13 TIME DELAY RELAY #1	25A-120 V, DPDT, NO & 2 NC CONTACTS DELAY OFF TYPE TIMER WITH DELAY SET TO 10 MINUTES
14 TIME DELAY RELAY #2 & #3	25A-120 V, DPDT, NO & 2 NC CONTACTS DELAY ON TYPE WITH DELAY SET #2 TO 10 MINUTES & #3 TO 5 MINUTES
15 DOOR SWITCH	20A/120V, DOOR MOUNTED SNAP ACTION TYPE PLUNGER SWITCH
16 HAND-AUTO-OFF SWITCH #1, #2, #3	20 AMPERE, 3 POSITION, 600 V
17 SURGE ARRESTORS	10 K AMPERE RATING
18 PHOTOCCELL	120V, MTD. ON CABINET, DELAY TYPE, SPST-NC
19 CIRCUIT BREAKERS (CONTACTOR #1)	7- 20 AMPERE, 2P, 240 V RATING, 22K AIC
20 CIRCUIT BREAKERS (CONTACTOR #2, #3)	4- 40 AMPERE, 2P, 240 V RATING, 22K AIC
21 PHOTOELECTRIC CONTROL WIRE	3-600V XLP NO. 12
22 BACK PANEL	1/2" THICK SOLID PHENOLIC LAMINATE

NOTES:

- ALL ITEMS LISTED IN LIGHTING CONTROLLER COMPONENT SCHEDULE SHALL BE CONSIDERED INCIDENTAL TO THE PRICE BID FOR "LIGHTING CONTROLLER, BASE MOUNTED, 240V, 100 AMP" INCLUDING CABINET AND FOUNDATION.
- THE LIGHTING CONTROLLER TOGETHER WITH ALL OF ITS COMPONENTS SHALL BE UL LISTED AS AN "ENCLOSED INDUSTRIAL CONTROL PANEL" UNDER UL508A.
- CONNECTION OF SURGE ARRESTOR TO LINE SIDE OF MAIN CIRCUIT BREAKER SHALL NOT BE "DOUBLE LUGGED."

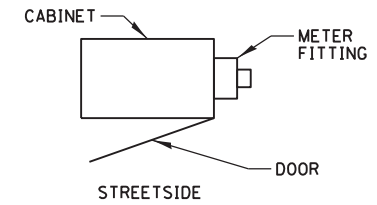
VILLAGE OF ROSEMONT CONTROL CENTER #3 COMPONENT SCHEDULE



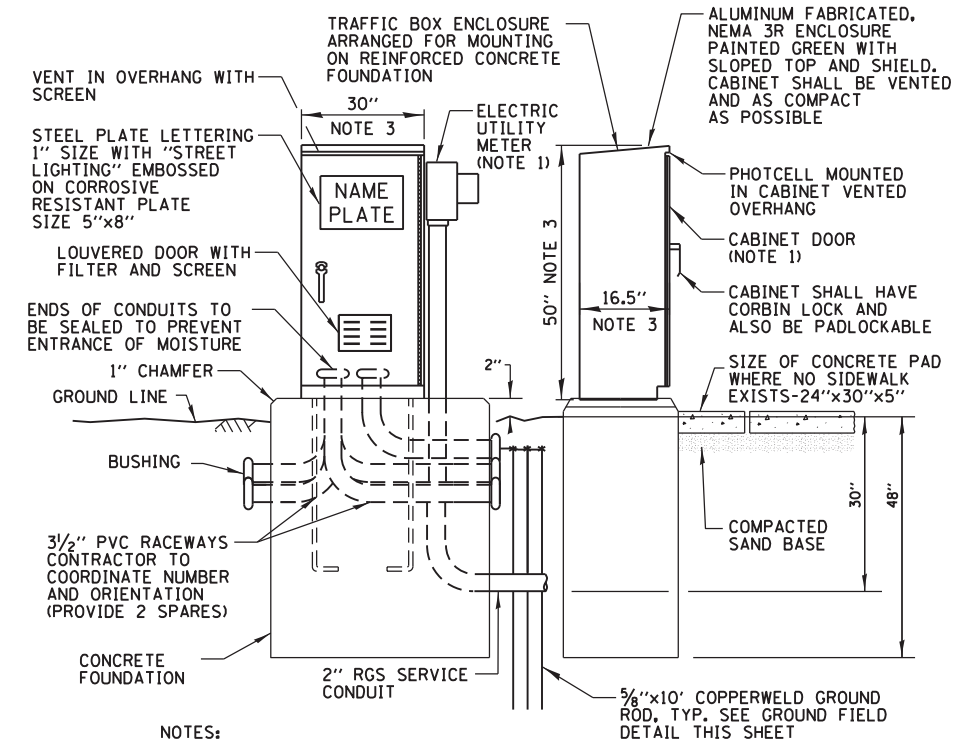
NOTES:

- ACCESS WELLS SHALL BE INCLUDED IN THE LIGHTING CONTROLLER PAY ITEM.

GROUND FIELD DETAIL (TYP.)
N.T.S.



CABINET METER FITTING & DOOR ORIENTATION
N.T.S.



NOTES:

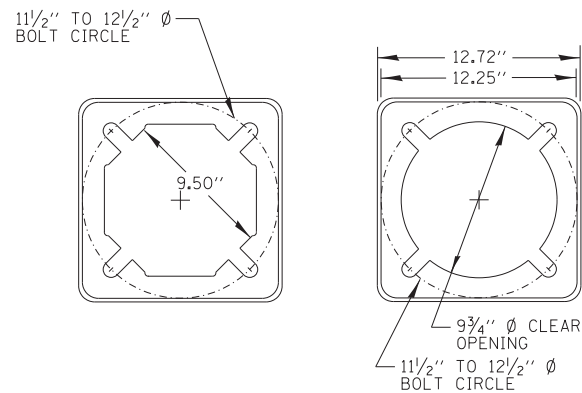
- SEE DETAIL THIS SHEET FOR CABINET METER FITTING & DOOR ORIENTATION.
- ALL ITEMS SHOWN ABOVE (INCLUDING FOUNDATION & GROUND FIELD) SHALL BE INCLUDED IN THE PRICE BID FOR "LIGHTING CONTROLLER, BASE MOUNTED, 240V, 100 AMP", EXCEPT FOR THE SERVICE CONDUIT/WIRE WHICH WILL BE PAID FOR UNDER "ELECTRIC SERVICE INSTALLATION".
- CABINET DIMENSIONS SHOWN ARE APPROXIMATE, CABINET SHALL BE AS COMPACT AS POSSIBLE, CONTRACTOR TO COORDINATE.

VILLAGE OF ROSEMONT - LIGHTING CONTROLLER #3 CABINET AND FOUNDATION

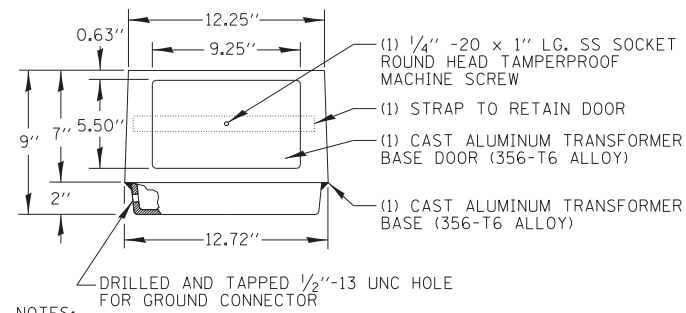
N.T.S.

CKT	ITEM	TIME OF DAY				
		DAY	SUNSET	NIGHT	SUNRISE	DAY
A,B,C,D	LIGHT POLES	OFF	ON	ON	OFF	OFF
C,D	WALL PACKS	OFF	ON	ON	OFF	OFF
E, F	70W NIGHT UNDERPASS LIGHTS	OFF	ON	ON	10 MIN DELAY OFF	OFF
G	400W DAY UNDERPASS LIGHTS	ON	5 MIN DELAY OFF	OFF	ON	ON
H	400W DAY UNDERPASS LIGHTS	ON	10 MIN DELAY OFF	OFF	ON	ON

SEQUENCE OF OPERATION

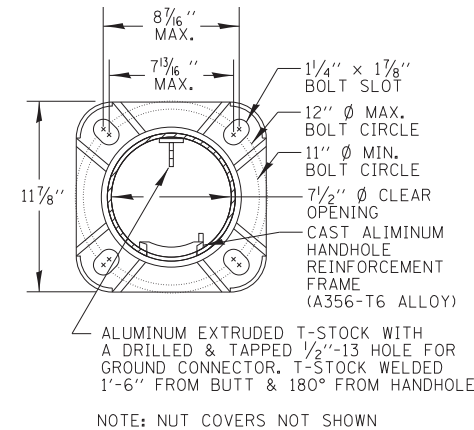


TRANSFORMER BASE BOTTOM VIEW
TRANSFORMER BASE TOP VIEW



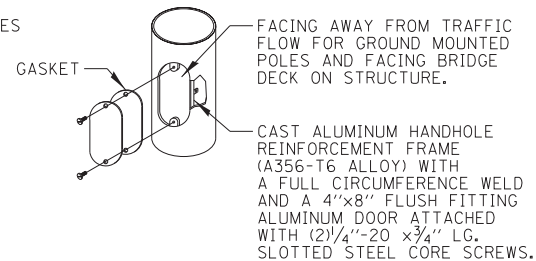
NOTES:
1. BEFORE INSTALLATION OF BREAKAWAY BASE, USER SHOULD CONSULT WITH AUTHORIZED DISTRIBUTOR REGARDING USERS PROPOSED APPLICATION, LOAD REQUIREMENTS AND INSTALLATION METHODS. FAILURES CAN RESULT FROM USERS MISAPPLICATION OR IMPROPER INSTALLATION. TO APPROACH OPTIMUM STATIC LOADS, USE THE LARGEST POSSIBLE BOLT CIRCLES AND USE STEEL WASHER SIZES SPECIFIED BELOW. FOR 12" Ø TOP & BOT. BOLT CIRCLES USE 2 3/4" Ø x 1/2" THK. WASHER. TORQUE GROUND MOUNTING NUTS TO 150 FT.-LBS. SHIMS SHALL NOT BE USED.

2. TRANSFORMER BASES SHALL BE USED FOR POLE TYPE "A", POLES

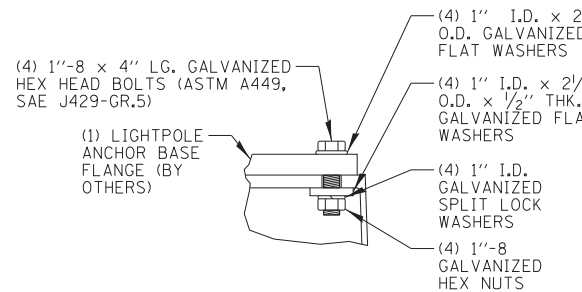


NOTE: NUT COVERS NOT SHOWN

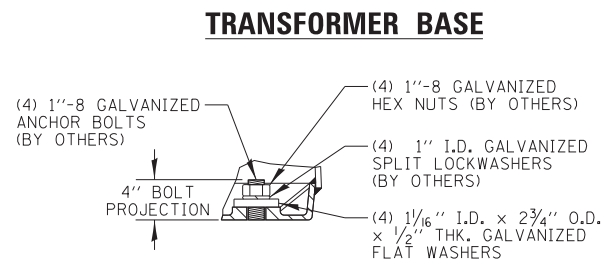
SECTION B-B



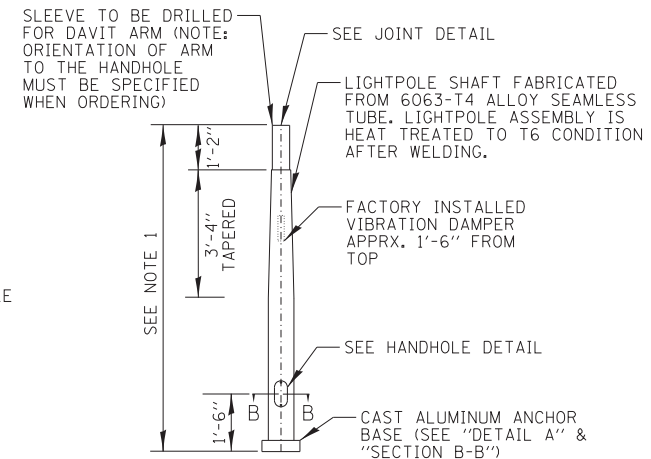
HANDHOLE DETAIL



TRANSFORMER BASE TO LIGHTPOLE CONNECTION DETAIL



TRANSFORMER BASE TO FOUNDATION CONNECTION DETAIL

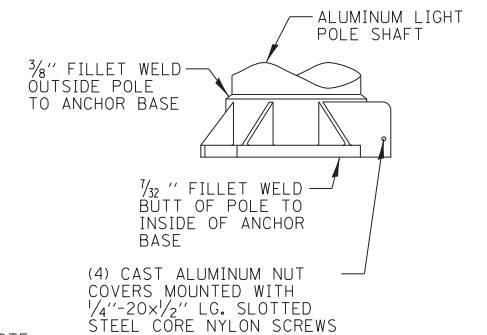


NOTES:

- OVERALL POLE BASE HEIGHT IS 8'-6" FOR PROPOSED POLE TYPE "A", & 6'-6" FOR PROPOSED POLE TYPE "B".
- PROPOSED POLE TYPE "A" SHALL BE USED WITH TRANSFORMER BASES AND MOUNTED AT GRADE USING HELIX FOUNDATIONS.
- SEE POLE DAVIT ARM DETAIL FOR DAVIT ARM TYPES.
- BOTH LIGHT POLE TYPES COMPLETE WITH BASE, ARM, LUMINAIRE, AND ID LABEL SHALL BE PAID FOR UNDER "LIGHT POLE, SPECIAL". TRANSFORMER BASE PAID FOR SEPARATELY.

LIGHT POLE DETAILS

N.T.S.



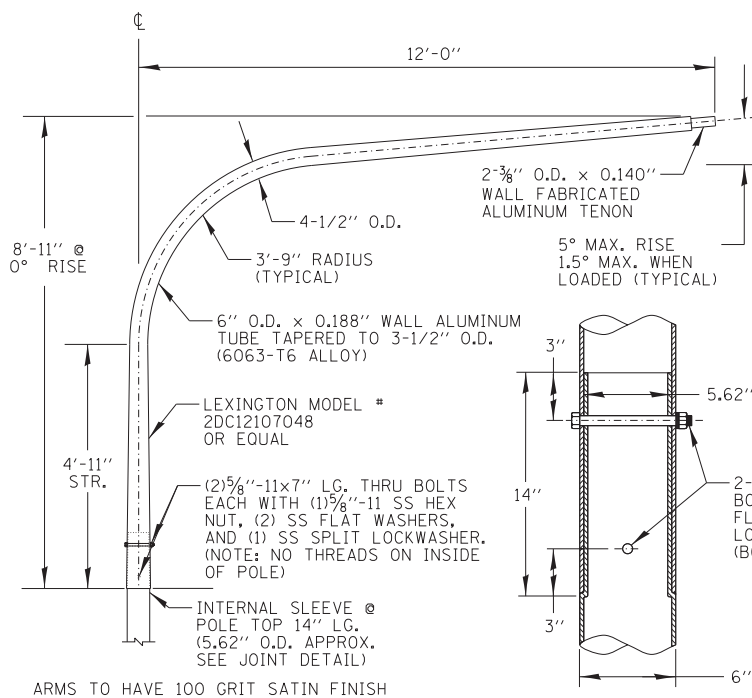
NOTE:

- 8" I.D. ANCHOR BASE CASTING (356-T6 ALLOY) WELDED TO THE BASE OF THE LIGHTPOLE WITH (2) FULL CIRCUMFERENCE FILLET WELDS.

DETAIL A

TRANSFORMER BASE DETAILS

N.T.S.



SINGLE DAVIT ARM

JOINT DETAIL

POLE DAVIT ARM DETAILS

N.T.S.

POLE TYPES

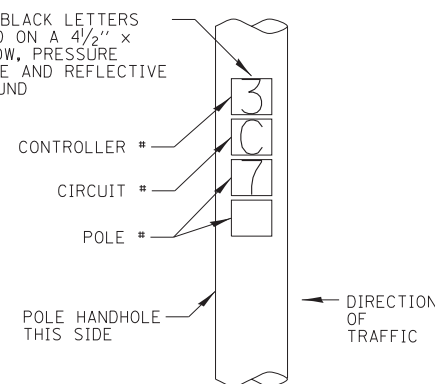
TYPE	O.A. POLE HEIGHT	POLE BASE HEIGHT	DAVIT ARM	MOUNTING CONFIG	T-BASE	LUMINAIRE
A	17'-0"	8'-6"	SINGLE	HELIX FND	YES	100 W
B	15'-0"	6'-6"	SINGLE	HELIX FND	YES	100 W

• INCLUDING TRANSFORMER BASE

LUMINAIRE TYPES

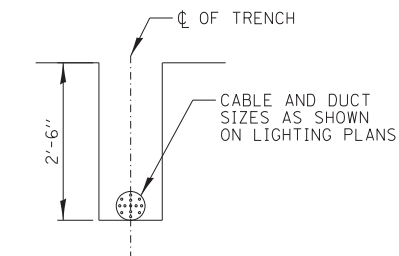
WATTAGE	MANUFACTURER	MODEL NO.	PHOTOMETRIC	CONTROLLER
100 WATT	GENERAL ELECTRIC 343	MDCL10SOA11FMC21	MC II	ROSEMONT "3"
100 WATT	T&B AMERICAN ELECTRIC	314-56312-DJ-00A2	MC II	ROSEMONT "3"

4" HIGH BLACK LETTERS SCREENED ON A 4 1/2" x 4" YELLOW, PRESSURE SENSITIVE AND REFLECTIVE BACKGROUND

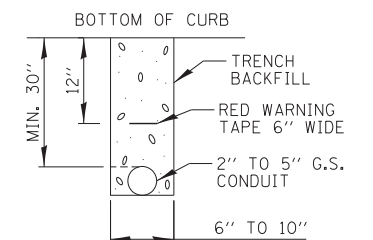


POLE IDENTIFICATION FOR ROSEMONT POLES

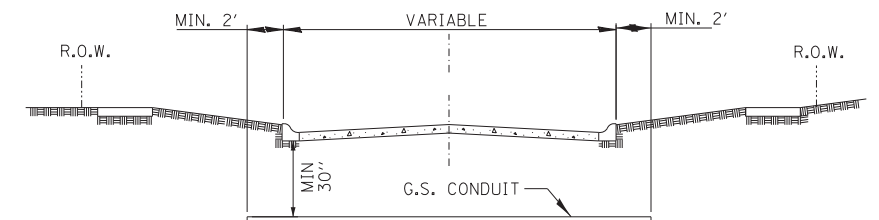
N.T.S.



TRENCH SECTION



TRENCH SECTION

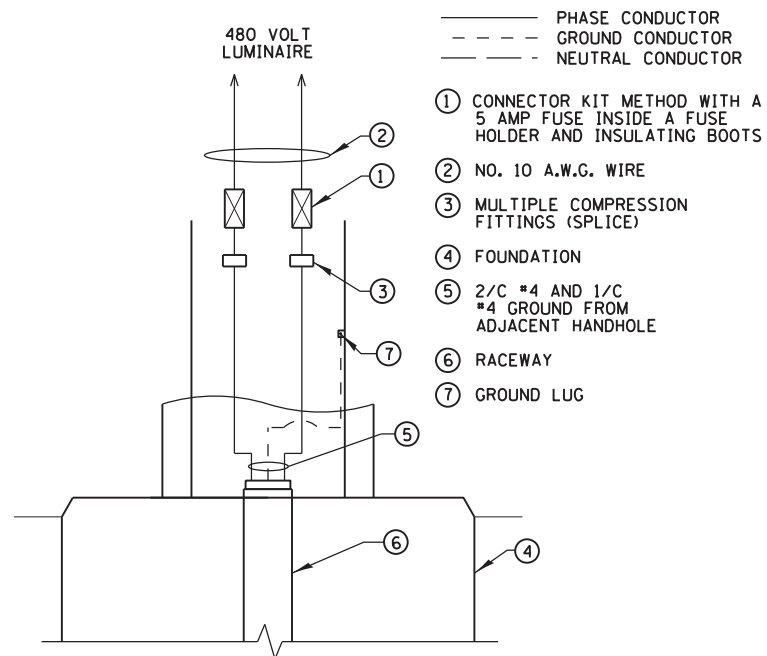


STREET CROSSING

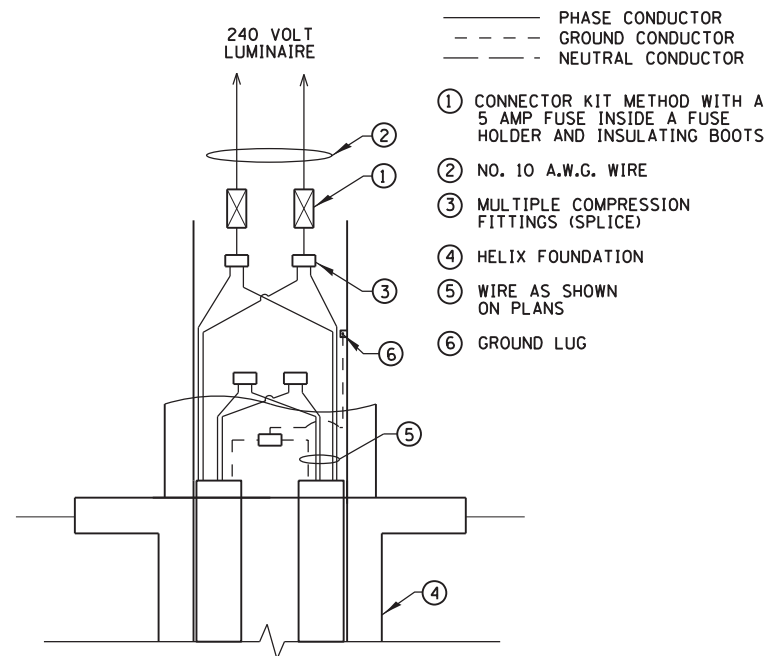
- CONDUIT SHALL BE HEAVY WALL RIGID G.S. CONDUIT.
- CONDUIT SHALL EXTEND A MINIMUM OF 2 FT. BEYOND BACK OF CURB.
- CONDUIT SHALL BE A MINIMUM OF 30" BELOW CURB BOTTOM.

ELECTRIC CONDUIT UNDER PAVEMENT

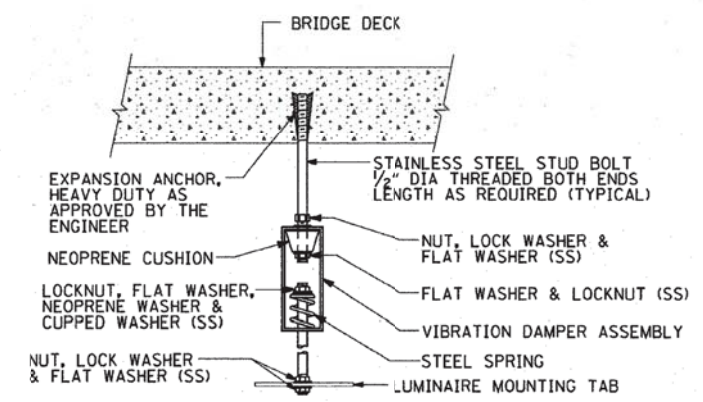
N.T.S.



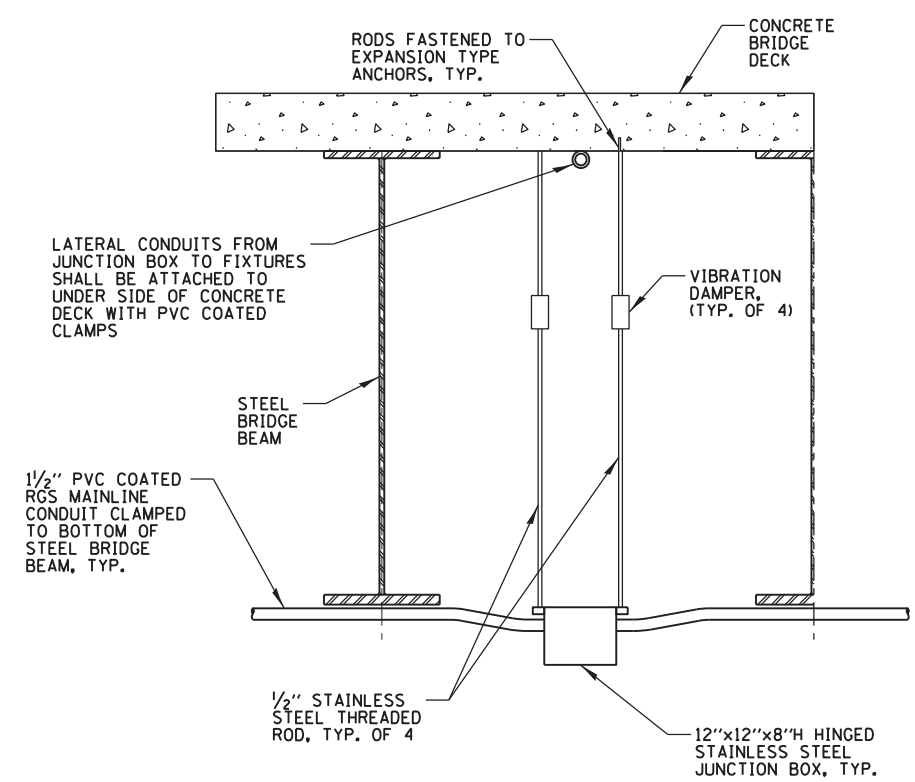
POLE HANDHOLE WIRING DIAGRAM FOR CHICAGO SINGLE ARM POLES
N.T.S.



POLE HANDHOLE WIRING DIAGRAM FOR ROSEMONT SINGLE ARM POLES
N.T.S.

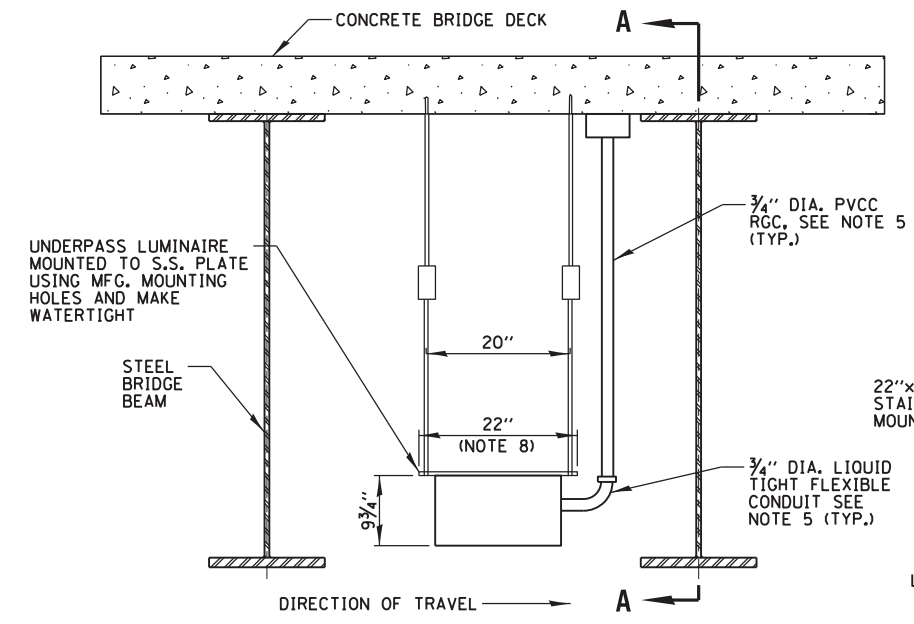


TYPICAL LUMINAIRE, JUNCTION BOX, AND CONDUIT HANGER ASSEMBLY DETAIL
N.T.S.



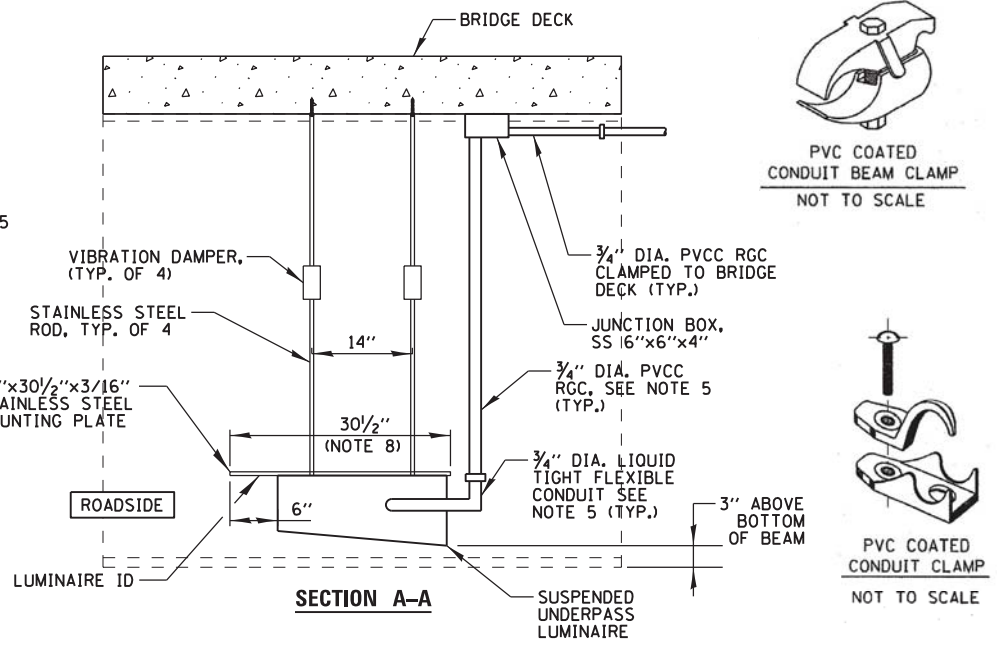
- NOTES:
- JUNCTION BOX, STAINLESS STEEL THREADED RODS, VIBRATION DAMPER, ANCHORAGE, SCANNING, AND ALL RELATED FASTENERS SHALL BE INCLUDED IN THE PRICE BID FOR "JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 12"x12"x8".
 - CONTRACTOR TO SCAN CONCRETE SLAB PRIOR TO DRILLING FOR ANCHORS.

SUSPENDED JUNCTION BOX AND CONDUIT MOUNTING DETAIL
N.T.S.



- NOTES:
- CONTRACTOR SHALL ADJUST/ORIENT FIXTURES SO AS TO KEEP AN EVEN FIXTURE SPACING. ALL FIXTURES SHALL BE AIMED PERPENDICULAR TO PAVEMENT.
 - LUMINAIRE, STAINLESS STEEL MOUNTING PLATE, STAINLESS STEEL THREADED RODS, VIBRATION DAMPER, 6"x6"x4" JUNCTION BOX, VERTICAL CONDUIT, FLEXIBLE CONDUIT, ANCHORAGE, SCANNING, ID LABEL AND ALL RELATED HARDWARE SHALL BE INCLUDED IN THE PRICE BID FOR "UNDERPASS LUMINAIRE, SODIUM VAPOR, 70 WATT OR 400 WATT, HIGH PRESSURE SODIUM VAPOR".
 - ALL FIXTURES SHALL HAVE SALT RESISTANT COATING.
 - CONTRACTOR TO SCAN CONCRETE SLAB PRIOR TO DRILLING FOR ANCHORS.
 - LIQUID TIGHT FLEXIBLE METAL CONDUIT, MAXIMUM LENGTH 6'-0", TYPICAL FOR EACH INSTANCE AS SHOWN. PROVIDE PVC COATED RIGID GALVANIZED STEEL CONDUIT AS REQUIRED NOT TO EXCEED 6'-0" OF FLEXIBLE LIQUID TIGHT METAL CONDUIT.
 - SECURE THE CONDUIT WITH PVC COATED CONDUIT CLAMPS OR CONDUIT BEAM CLAMPS AS SHOWN AT 5'-0" INTERVALS FOR LATERALS AND WITHIN 2'-0" MAXIMUM FROM ANY JUNCTION BOX, FLEXIBLE CONDUIT, OR CHANGE IN DIRECTION. ALL PVC COATED CLAMPS OR BEAM CLAMPS SHALL BE INCLUDED WITH THE COST OF THE "CONDUIT ATTACHED TO STRUCTURE, OF THE CORRESPONDING DIA., GALVANIZED STEEL, PVC COATED" PAY ITEM.
 - ALL CONDUIT ATTACHED TO STRUCTURE SHALL BE PVC COATED RIGID STEEL CONDUIT (PVCC RGC), TYPICAL.

UNDERPASS LUMINAIRE MOUNTING DETAIL
N.T.S.

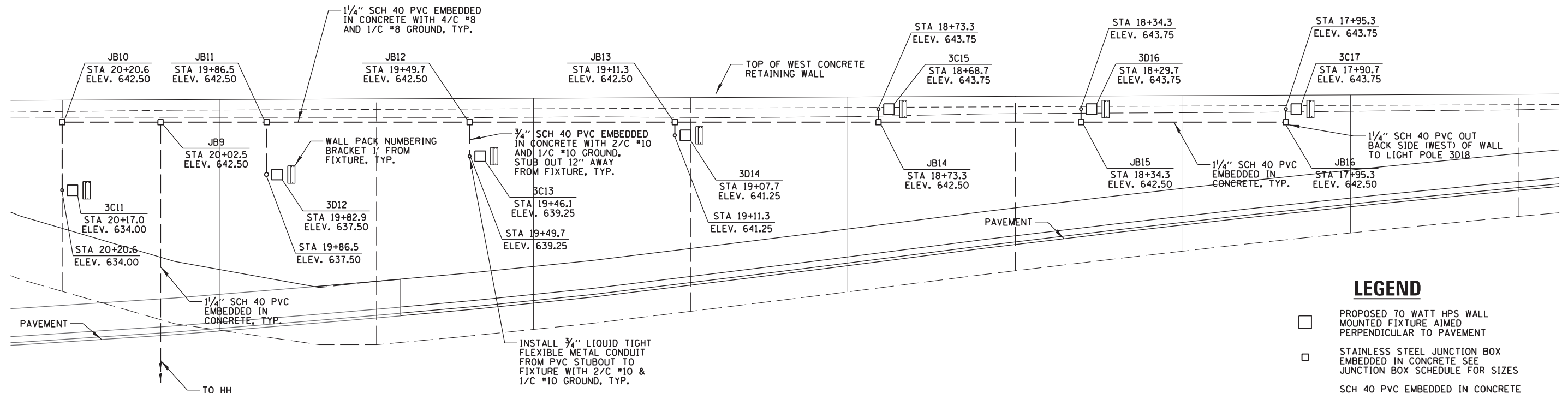


NIGHT TIME UNDERPASS FIXTURES

TYPE	ALT	MANUFACTURER	MODEL NUMBER
C	1	WIDELITE	TU18S-70-F-240-TGR
C	2	LUMEC	VLM-70HPS-SYM-WMH-240-M40-CHR-GREY

DAY TIME UNDERPASS FIXTURES

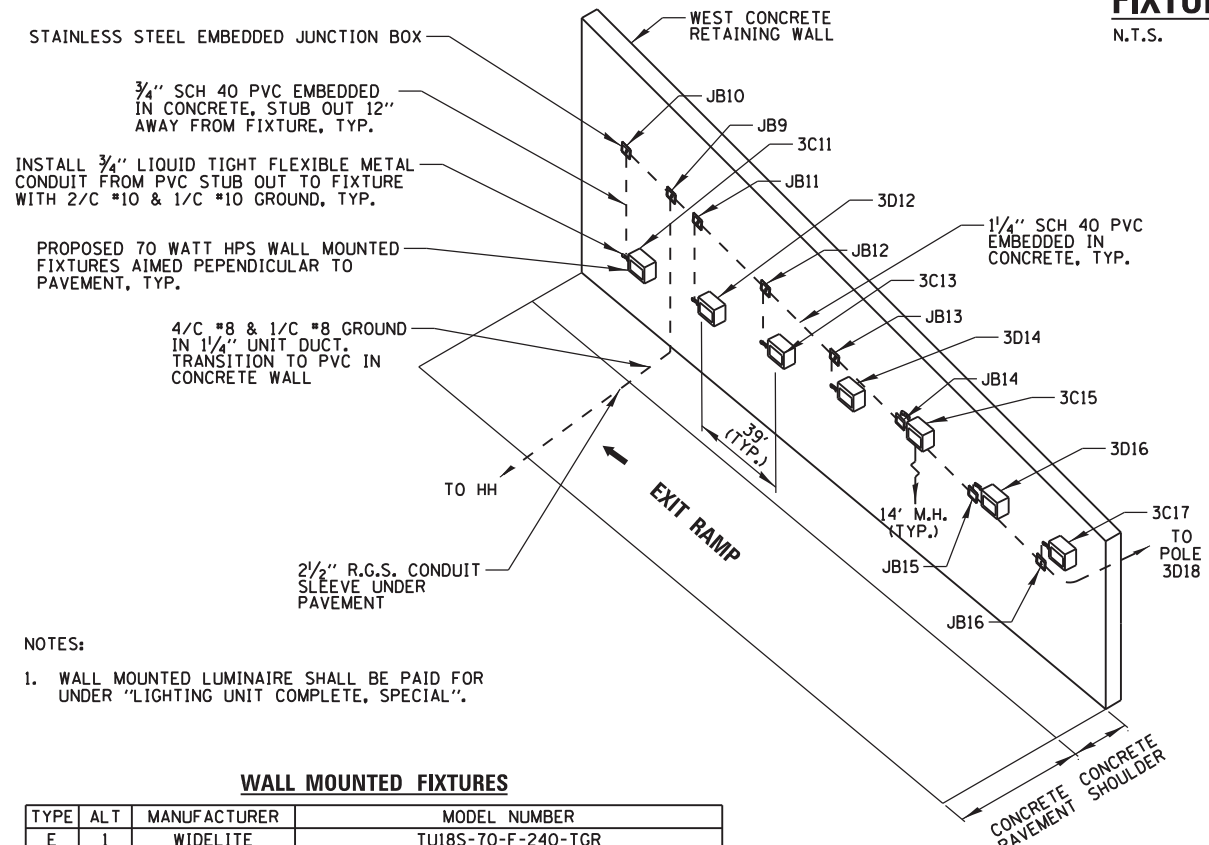
TYPE	ALT	MANUFACTURER	MODEL NUMBER
D	1	WIDELITE	TU18S-400-F-240-TGR
D	2	LUMEC	VLM-400HPS-SYM-WMH-240-M40-CHR-GREY



- ### LEGEND
- PROPOSED TO WATT HPS WALL MOUNTED FIXTURE AIMED PERPENDICULAR TO PAVEMENT
 - STAINLESS STEEL JUNCTION BOX EMBEDDED IN CONCRETE SEE JUNCTION BOX SCHEDULE FOR SIZES
 - SCH 40 PVC EMBEDDED IN CONCRETE 1/4" (MAINLINE) 3/4" (FIXTURES)
 - 3/4" SCH 40 PVC STUB OUT OF CONCRETE WITH THREADED END
 - SEE STRUCTURAL DRAWINGS FOR WEST RETAINING WALL DETAILS

WEST RETAINING WALL FIXTURE AND CONDUIT PLAN

N.T.S.



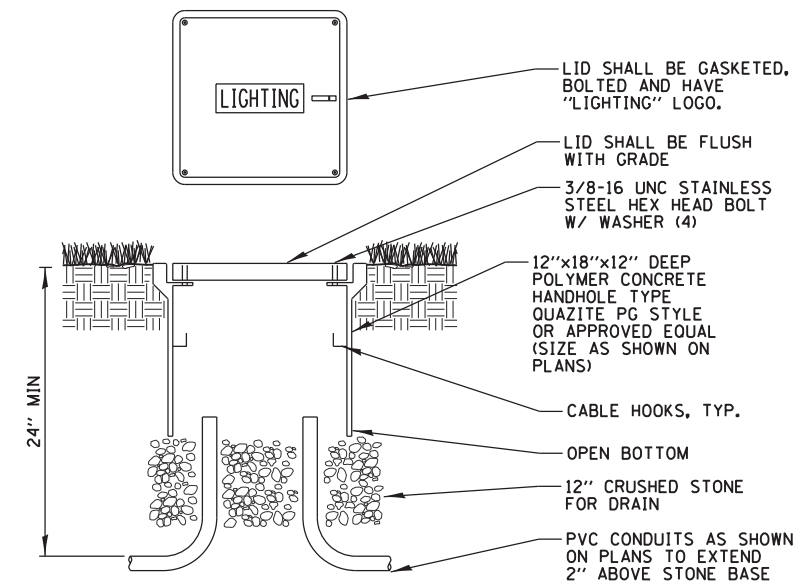
- NOTES:
- WALL MOUNTED LUMINAIRE SHALL BE PAID FOR UNDER "LIGHTING UNIT COMPLETE, SPECIAL".

WALL MOUNTED FIXTURES

TYPE	ALT	MANUFACTURER	MODEL NUMBER
E	1	WIDELITE	TU18S-70-F-240-TGR
E	2	LUMEC	VLM-70HPS-SWA-WMH-240-M40-CHR-GREY

RETAINING WALL MOUNTED LUMINAIRES

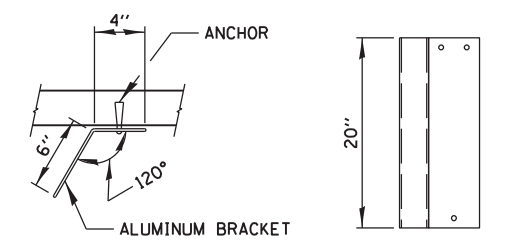
N.T.S.



- NOTES:
- NO SPLICES ALLOWED IN CONCRETE HANDHOLES.
 - BOX & LID SHALL MEET/EXCEED ANSI TIER 15 LOADING REQUIREMENTS AND BE UL LISTED.

COMPOSITE CONCRETE HANDHOLE

N.T.S.



- NOTES:
- BRACKET IS FOR WALL PACK LUMINAIRES ONLY AND SHALL BE INCLUDED IN LUMINAIRE COST.
 - LUMINAIRE ID SHALL BE AS SHOWN ON POLE IDENTIFICATION FOR ROSEMONT POLE DETAIL.

LUMINAIRE NUMBERING DECAL BRACKET

N.T.S.



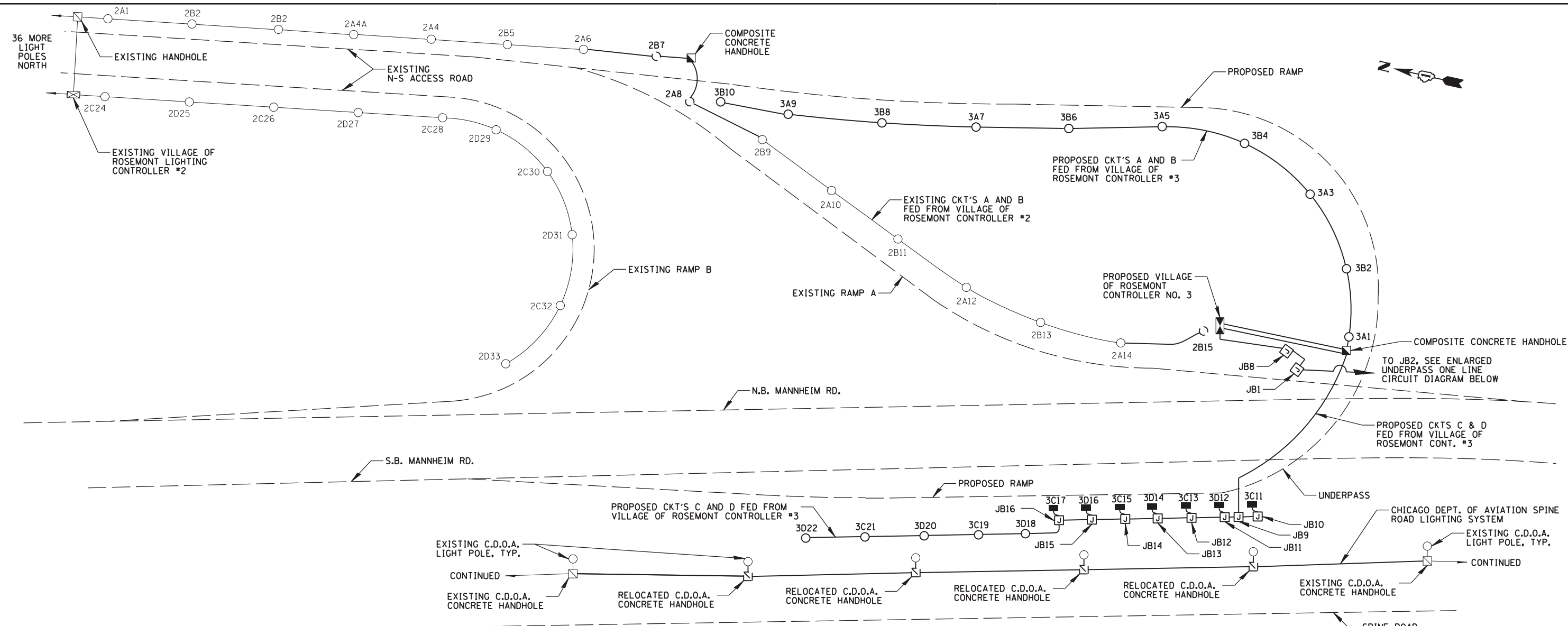
USER NAME = pmagnelli	DESIGNED <i>AJD</i>	REVISED -
DRAWN <i>KWB</i>	REVISED -	
CHECKED <i>AJD</i>	REVISED -	
DATE - 17/2012	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING DETAILS (4 OF 6)
BALMORAL UNDERPASS

SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.
--------	-----------	-----------	------	---------

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	330
CONTRACT NO. 60G37				

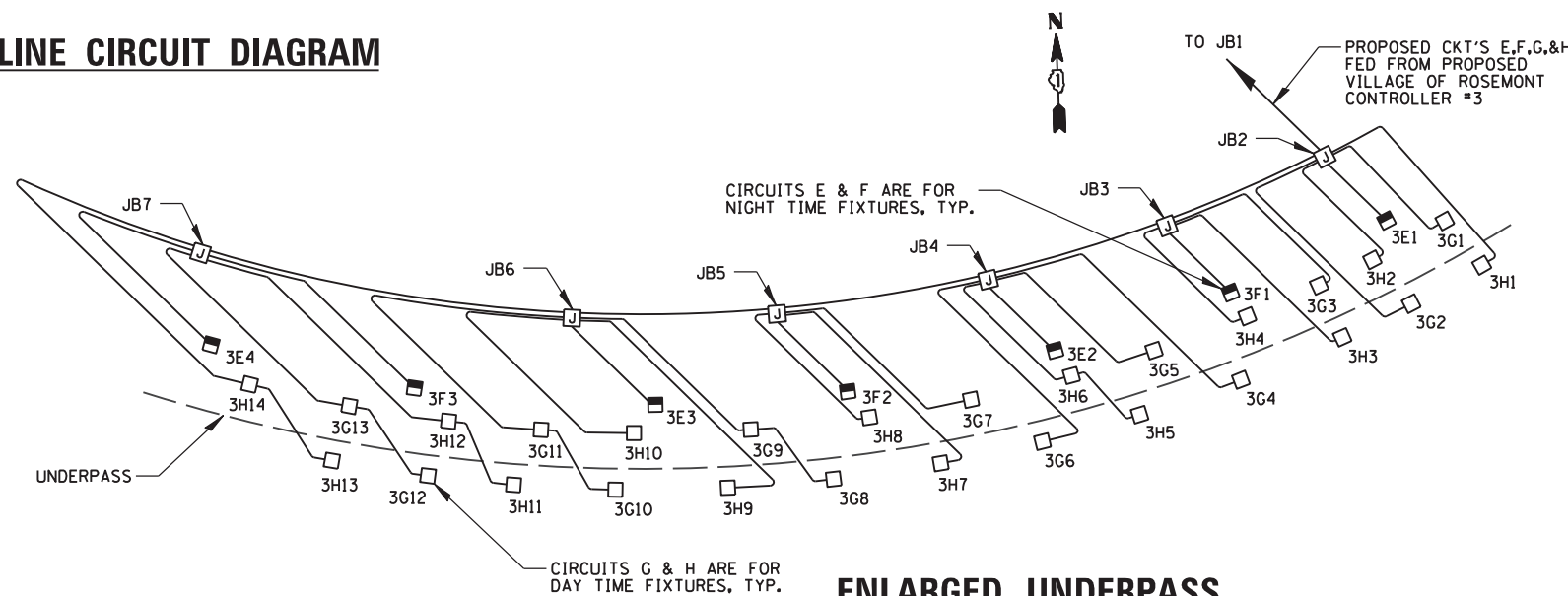


LEGEND

- EXISTING SINGLE HEAD LIGHT POLE
- RELOCATED SINGLE HEAD POLE
- PROPOSED SINGLE HEAD POLE
- EXISTING CONDUIT OR UNIT DUCT
- PROPOSED CONDUIT OR UNIT DUCT
- PROPOSED 70W WALL MOUNTED LUMINAIRE
- PROPOSED 70W UNDERPASS LUMINAIRE
- PROPOSED 400W UNDERPASS LUMINAIRE
- ⌋ PROPOSED JUNCTION BOX
- PROPOSED HANDHOLE
- ⌋ RELOCATED HANDHOLE
- ROADWAY

ONE LINE CIRCUIT DIAGRAM

N.T.S.



ENLARGED UNDERPASS ONE LINE CIRCUIT DIAGRAM

N.T.S.

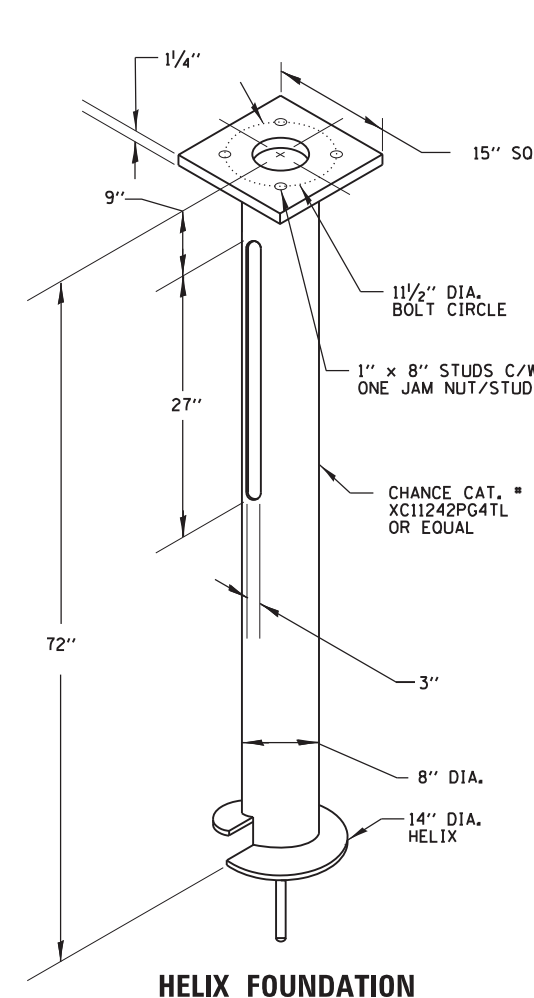
<p>CHRISTOPHER B. BURKE ENGINEERING, LTD. 9575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 923-0900</p>	USER NAME = pmagnelli	DESIGNED <i>AJD</i>	REVISED -	<p align="center">STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</p>	<p align="center">LIGHTING DETAILS (5 OF 6) BALMORAL UNDERPASS</p>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN <i>KWB</i> CHECKED <i>AJD</i> PLOT DATE = 10/17/2012	DATE = 17/2012	REVISIONS: REVISIONS - REVISIONS - REVISIONS - REVISIONS -		SCALE: SHEET NO. OF SHEETS STA. TO STA.	330	0105 WRS&HB	COOK	605	331		
CONTRACT NO. 60G37											ILLINOIS FED. AID PROJECT	

LUMINAIRE AND POLE SCHEDULE

LIGHT POLE OR FIXTURE ID	PROPOSED POLE / FIXTURE TYPE	SYMBOL	STATUS	PROP. STATION	MTG. CONFIG.	MTG. HEIGHT	ARM LENGTH	LUMINAIRE	OWNER	CONTROLLER NO.	CIRCUIT NO.
2B7	A	○	RELOCATED	33+43.0, 12.0' R	HELIX	17'-0"	12'	150W	ROSEMONT	2	B
2A8	A	○	RELOCATED	32+26.0, 29.4' L	HELIX	17'-0"	12'	150W	ROSEMONT	2	A
2B15	A	○	RELOCATED	76+36.5, 117.5' R	HELIX	17'-0"	12'	150W	ROSEMONT	2	B
3A1	A	●	NEW	22+60.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	A
3B2	A	●	NEW	23+50.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	B
3A3	A	●	NEW	24+60.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	A
3B4	A	●	NEW	25+70.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	B
3A5	A	●	NEW	26+80.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	A
3B6	A	●	NEW	27+90.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	B
3A7	A	●	NEW	29+00.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	A
3B8	A	●	NEW	30+10.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	B
3A9	A	●	NEW	31+20.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	A
3B10	A	●	NEW	32+15.0, 28.0' L	HELIX	17'-0"	12'	100W	ROSEMONT	3	B
3C11	E	■	NEW	20+17.0, 25.5' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	C
3D12	E	■	NEW	19+82.9, 13.5' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	D
3C13	E	■	NEW	19+46.1, 7.0' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	C
3D14	E	■	NEW	19+07.7, 6.0' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	D
3C15	E	■	NEW	18+68.7, 6.0' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	C
3D16	E	■	NEW	18+29.7, 6.0' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	D
3C17	E	■	NEW	17+90.7, 6.0' R	RT. WALL MTD.	14'-0"	N/A	70W	ROSEMONT	3	C
3D18	B	●	NEW	17+50.7, 10.9' R	HELIX	15'-0"	12'	100W	ROSEMONT	3	D
3C19	B	●	NEW	16+95.7, 10.9' R	HELIX	15'-0"	12'	100W	ROSEMONT	3	C
3D20	B	●	NEW	16+30.7, 10.9' R	HELIX	15'-0"	12'	100W	ROSEMONT	3	D
3C21	B	●	NEW	15+60.7, 10.9' R	HELIX	15'-0"	12'	100W	ROSEMONT	3	C
3D22	B	●	NEW	14+20.6, 12.6' R	HELIX	15'-0"	12'	100W	ROSEMONT	3	D
3E1	C	■	NEW	22+26.6, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	E
3F1	C	■	NEW	22+00.5, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	F
3E2	C	■	NEW	21+72.5, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	E
3F2	C	■	NEW	21+40.5, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	F
3E3	C	■	NEW	21+11.3, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	E
3F3	C	■	NEW	20+74.9, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	F
3E4	C	■	NEW	20+43.4, 16.0' L	CEILING MTD.	15'-0"	N/A	70W	ROSEMONT	3	E
3G1	D	□	NEW	22+33.9, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H1	D	□	NEW	22+35.2, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G2	D	□	NEW	22+23.8, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H2	D	□	NEW	22+21.6, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G3	D	□	NEW	22+12.7, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H3	D	□	NEW	22+12.7, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G4	D	□	NEW	21+97.0, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H4	D	□	NEW	22+01.3, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G5	D	□	NEW	21+86.5, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H5	D	□	NEW	21+81.6, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G6	D	□	NEW	21+67.2, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H6	D	□	NEW	21+73.7, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G7	D	□	NEW	21+58.4, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H7	D	□	NEW	21+52.3, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G8	D	□	NEW	21+36.8, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H8	D	□	NEW	21+43.1, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G9	D	□	NEW	21+25.4, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H9	D	□	NEW	21+21.6, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G10	D	□	NEW	21+05.5, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H10	D	□	NEW	21+08.2, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G11	D	□	NEW	20+94.4, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H11	D	□	NEW	20+90.9, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G12	D	□	NEW	20+78.6, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H12	D	□	NEW	20+80.6, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3G13	D	□	NEW	20+65.7, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	G
3H13	D	□	NEW	20+64.7, 4.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H
3H14	D	□	NEW	20+50.4, 12.0' L	CEILING MTD.	15'-0"	N/A	400W	ROSEMONT	3	H

JUNCTION BOX SCHEDULE

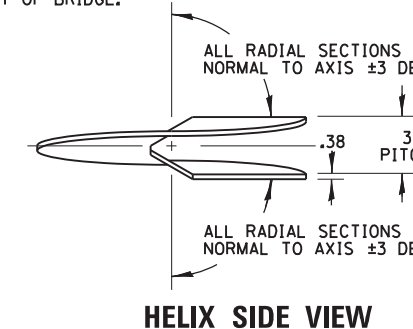
IDENTIFIER	SYMBOL	STATUS	SIZE	MTG. CONFIG.	MATERIAL
JB1 & JB8	J	NEW	12" x 12" x 8"	BRIDGE ABUT. WALL	STAINLESS STEEL
JB2 THRU JB7	J	NEW	12" x 12" x 8"	CEILING MTD.	STAINLESS STEEL
JB9 THRU JB16	J	NEW	8" x 8" x 6"	EMB. IN RET. WALL	STAINLESS STEEL



- NOTES:
- FINISH: HOT DIP GALVANIZED PER ASTM-A123 (LATEST REVISION).
 - BASEPLATE TO BE PERPENDICULAR TO SHAFT AXIS (± 1 DEG) AND HOLE CENTERLINE CONCENTRIC ($\pm .188$) TO SHAFT AXIS.
 - STENCIL MIN $\frac{1}{8}$ IN. LETTERS MANUFACTURER'S NUMBER AFTER GALVANIZING.
 - PILOT POINT AND SHAFT AXES TO BE CONCENTRIC (± 125 FIM) AND IN LINE (± 2 DEG).
 - FLAME CUT SLOT PERPENDICULAR TO THE BASEPLATE.
 - PREHEAT, TUMBLEBLAST, HANDGRIND, AND CLEAN BASEPLATE, HELIX, AND PILOT POINT ON ALL WELDED AREAS.
 - FLAMECUT IRREGULARITIES PERMISSIBLE: (1) VALLEYS NOT TO EXCEED $\frac{1}{32}$ IN. BELOW NOMINAL SURFACE LEVEL, (2) PEAKS OR POSITIVE IRREGULARITIES NOT TO EXCEED $\frac{1}{32}$ IN. ABOVE NOMINAL SURFACE LEVEL OR INTERSECTIONS OF NOMINAL SURFACES.
 - MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES.
 - ALL MATERIAL IS TO BE NEW, UNUSED AND MILL TRACEABLE MEETING THE FOLLOWING SPECIFICATIONS:

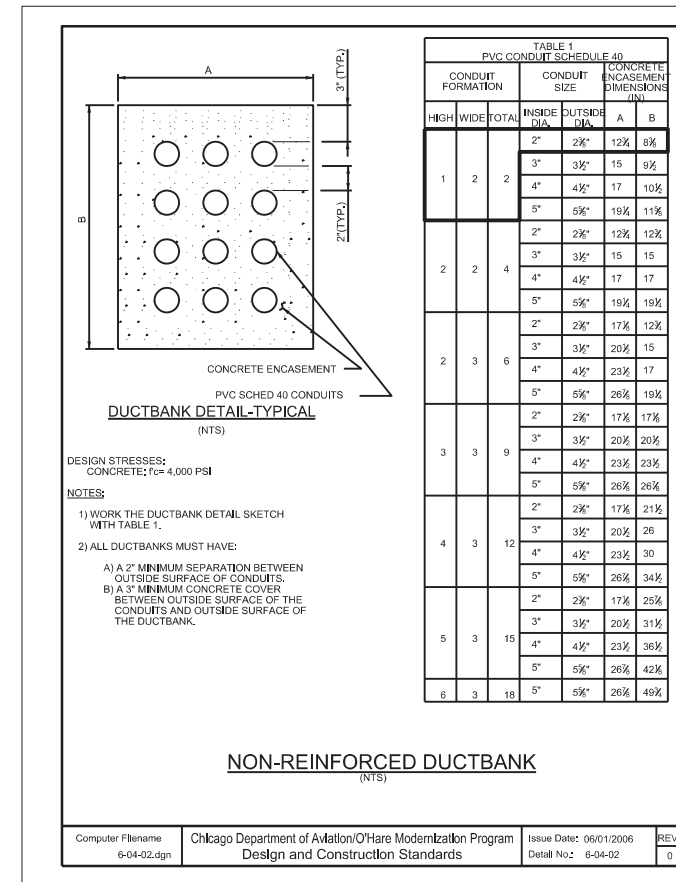
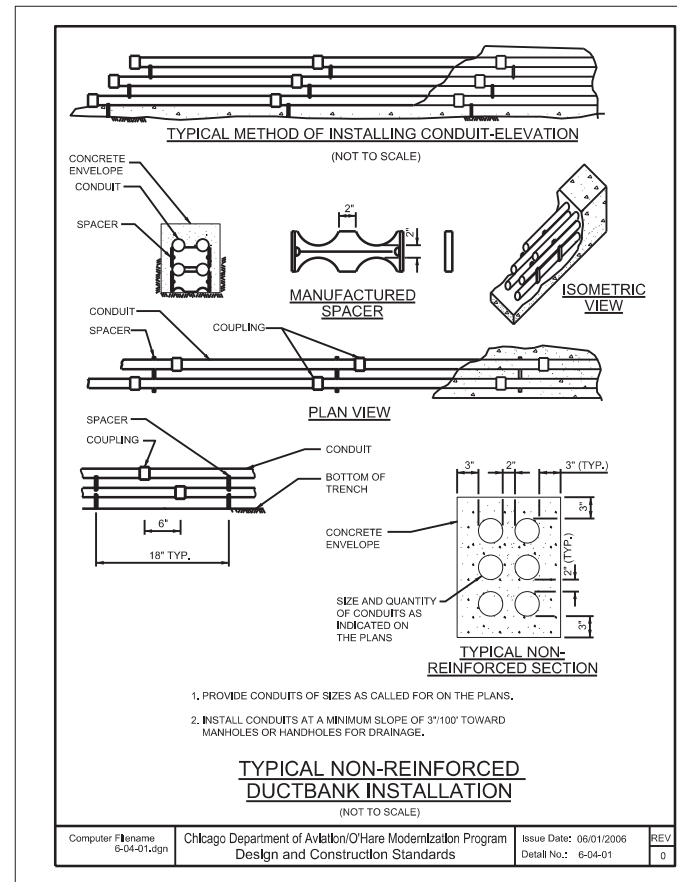
- BASEPLATE: ASTM A36-(LATEST REVISION) HOT ROLLED STEEL PLATE, (CONFORM TO AASHTO TECH. BUL. #270)
- SHAFT: STEEL PIPE PILES, SEAMLESS OR STRAIGHT WELDED. GRADE-2 PER ASTM A252, ALT. MATERIAL: STEEL PIPE TYPE E OR S, GRADE-B PER ASTM A53.
- HELIX: ASTM A635 (LATEST REVISION) HOT ROLLED STEEL.
- PILOT POINT: ASTM A575 (LATEST REVISION) STEEL BAR.
- BOLTS: HEX HEAD MACHINE BOLTS PER ANSI B-18.2.1. SAE J429 GRADE-5.

- BASEPLATE IS PERMANENTLY STAMPED WITH MANUFACTURER'S IDENTIFICATION "ABC" IN $\frac{1}{2}$ " LETTERS AND DATE CODE IN $\frac{1}{4}$ " LETTERS.
- HELIX BASES SHALL NOT BE USED FOR STANDARDS ATTACHED TO PARAPET OF BRIDGE.

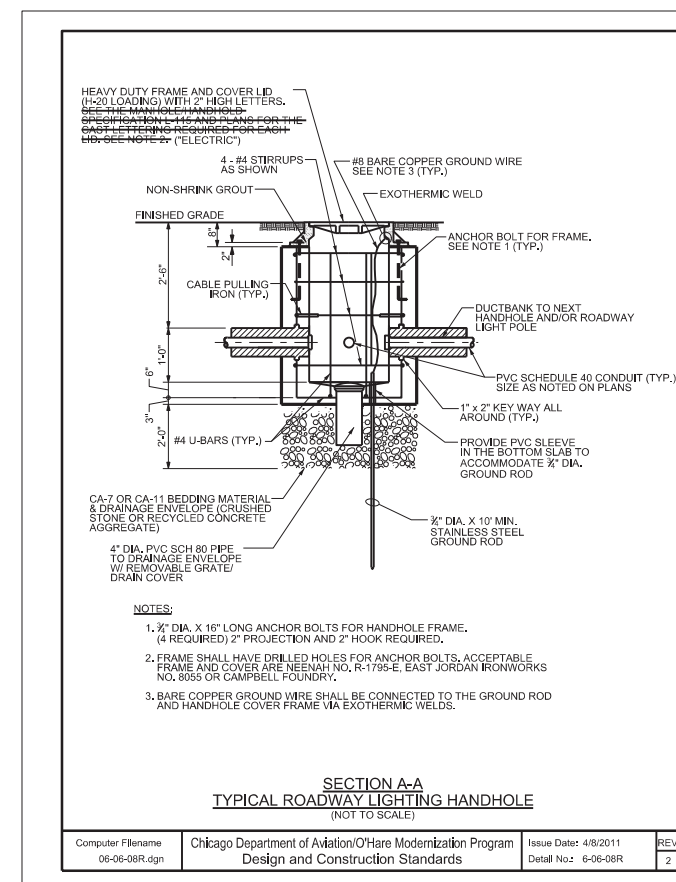
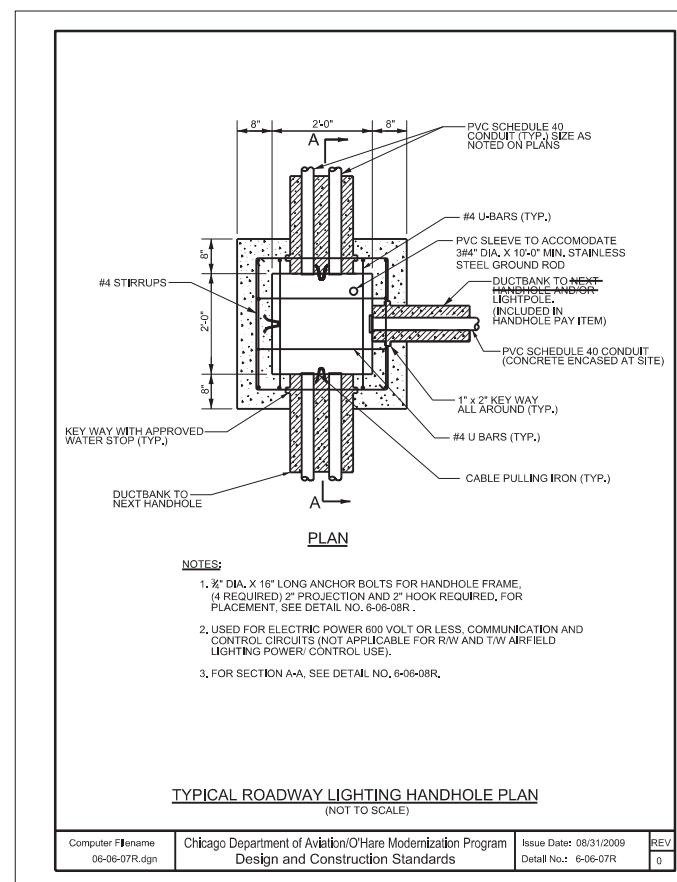


METAL FOUNDATION DETAILS

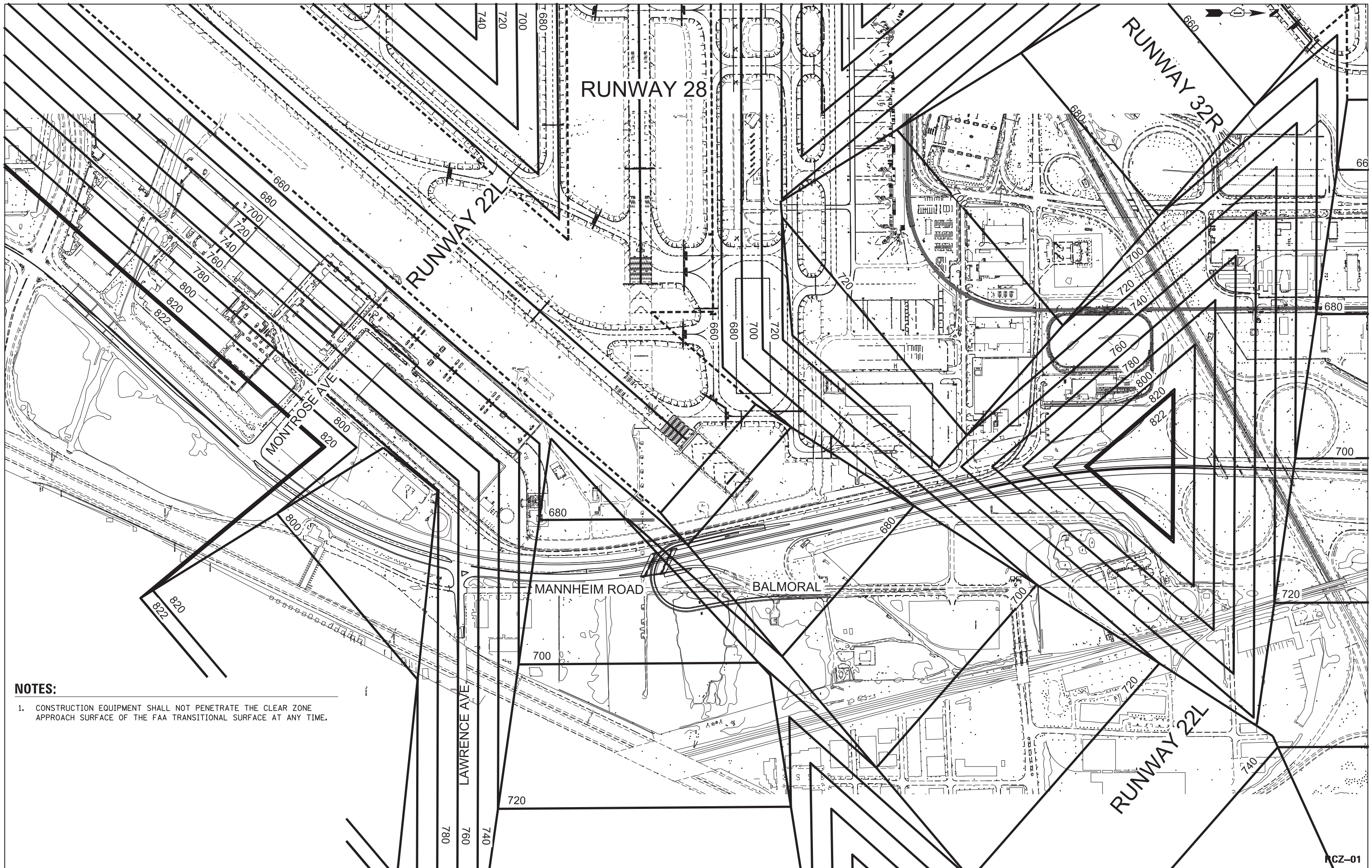
N.T.S.



THIS CONDUIT DUCTBANK IS FOR SPINE ROAD LIGHTING AND SHALL BE PAID FOR UNDER "CONDUIT ENCASED, CONCRETE, 2" DIA., PVC 2 WIDE x 1 HIGH".



THIS HANDHOLE IS FOR SPINE ROAD LIGHTING AND SHALL BE PAID FOR UNDER "HANDHOLE, PORTLAND CEMENT CONCRETE (SPECIAL)".



NOTES:

1. CONSTRUCTION EQUIPMENT SHALL NOT PENETRATE THE CLEAR ZONE APPROACH SURFACE OF THE FAA TRANSITIONAL SURFACE AT ANY TIME.



USER NAME = mkosir	DESIGNED <i>LLS/MMK</i>
	DRAWN <i>MMK</i>
PLOT SCALE = 300:1	CHECKED <i>LLS</i>
PLOT DATE = 08-OCT-2012	DATE <i>10/19/12</i>

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**RUNWAY CLEAR ZONES
EXISTING**

SCALE: 1" = 300' SHEET NO. 1 OF 1 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	334
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

RCZ-01

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	335
		ILLINOIS	CONTRACT NO. 60G37	

FOR INDEX OF SHEETS, SEE SHEET NO. 336

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.P. 330 (US 12/45)

**MANNHEIM ROAD SOUTH (IRVING PARK ROAD (IL 19) TO I-190)
RECONSTRUCTION**

**SECTION: 0105 WRS&HB
PROJECT:**

**COOK COUNTY
C-91-399-09**

VOLUME 2 OF 2

TRAFFIC DATA

	2009 ADT	2030 ADT
MANNHEIM ROAD	41,500	86,900
MONTROSE AVE	4,100	4,600
LAWRENCE AVE	17,300	23,950

	DESIGN SPEED	POSTED SPEED
MANNHEIM ROAD	50 MPH	50 MPH
MONTROSE AVE	30 MPH	30 MPH
LAWRENCE AVE	35 MPH	35 MPH

DESIGN DESIGNATION

MANNHEIM ROAD	7950(30) PRINCIPAL ARTERIAL	33.35(PCC-30)
MONTROSE AVE	420(30) COLLECTOR	33.35(PCC-30)
LAWRENCE AVE	2160(30) MINOR ARTERIAL	33.35(PCC-30)

D-91-399-09



LOCATION OF SECTION INDICATED THIS: - [highlighted area] -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED _____ 20 _____
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

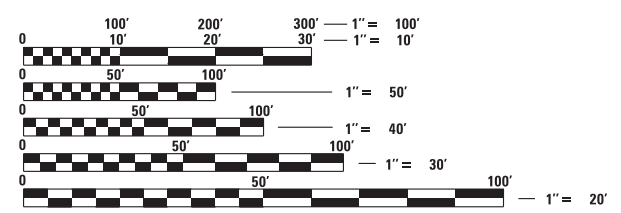
_____ 20 _____
ENGINEER OF DESIGN AND ENVIRONMENT

_____ 20 _____
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

HNTB TENG

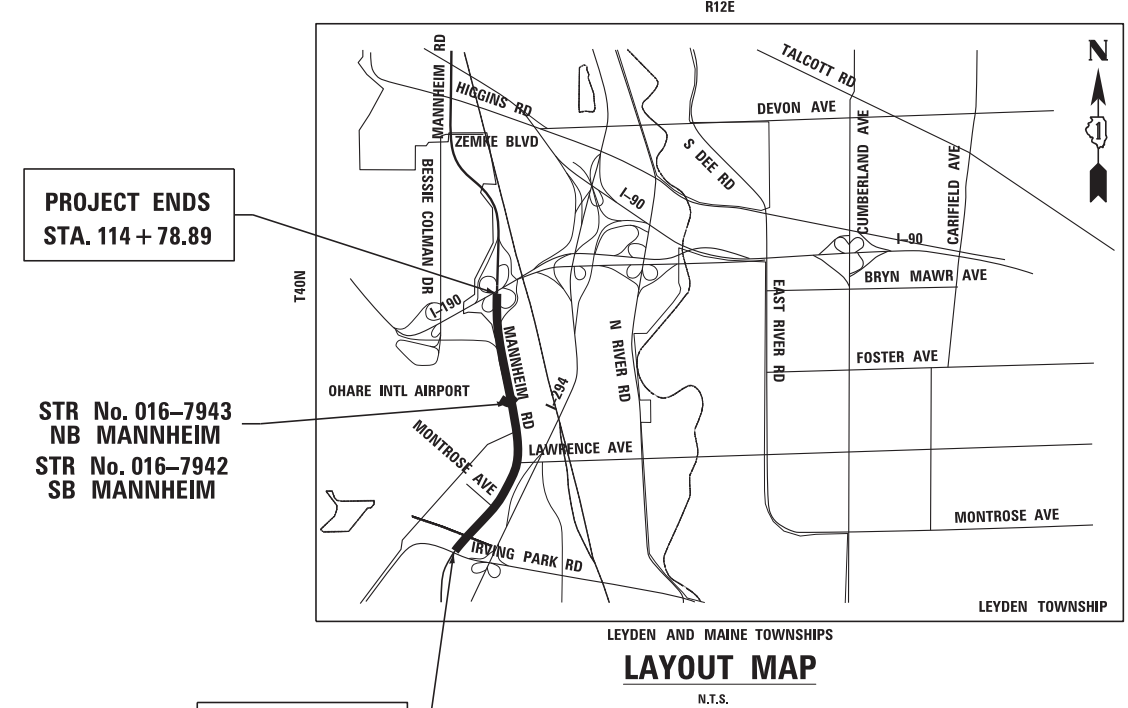
PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

DISTRICT ONE DESIGN CONSULTANT SERVICES MANAGER: SERIN KELLER (847) 705-4556



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

FOR UTILITY INFORMATION CALL J.U.L.I.E. (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION) AT (800) 892-0123 48 HOURS BEFORE DIGGING



PROJECT ENDS
STA. 114 + 78.89

STR No. 016-7943
NB MANNHEIM
STR No. 016-7942
SB MANNHEIM

PROJECT BEGINS
STA. 28 + 00.00

GROSS LENGTH = 8,678.89 FT. = 1.644 MILE
NET LENGTH = 8,678.89 FT. = 1.644 MILE

CONTRACT NO. 60G37

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2	SIGNATURE SHEET
3	INDEX OF SHEETS - VOLUME 1
4	DISTRICT 1 DETAILS AND HIGHWAY STANDARDS
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221 - 223	SIGN DETAILS
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590 - 605	CROSS SECTIONS - BALMORAL UNDERPASS



USER NAME = mkosir	DESIGNED	REVISED -
	DRAWN <i>MMK</i>	REVISED -
PLOT SCALE = 1:1	CHECKED <i>LLS</i>	REVISED -
PLOT DATE = 19-OCT-2012	DATE <i>10/19/12</i>	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

INDEX OF SHEETS

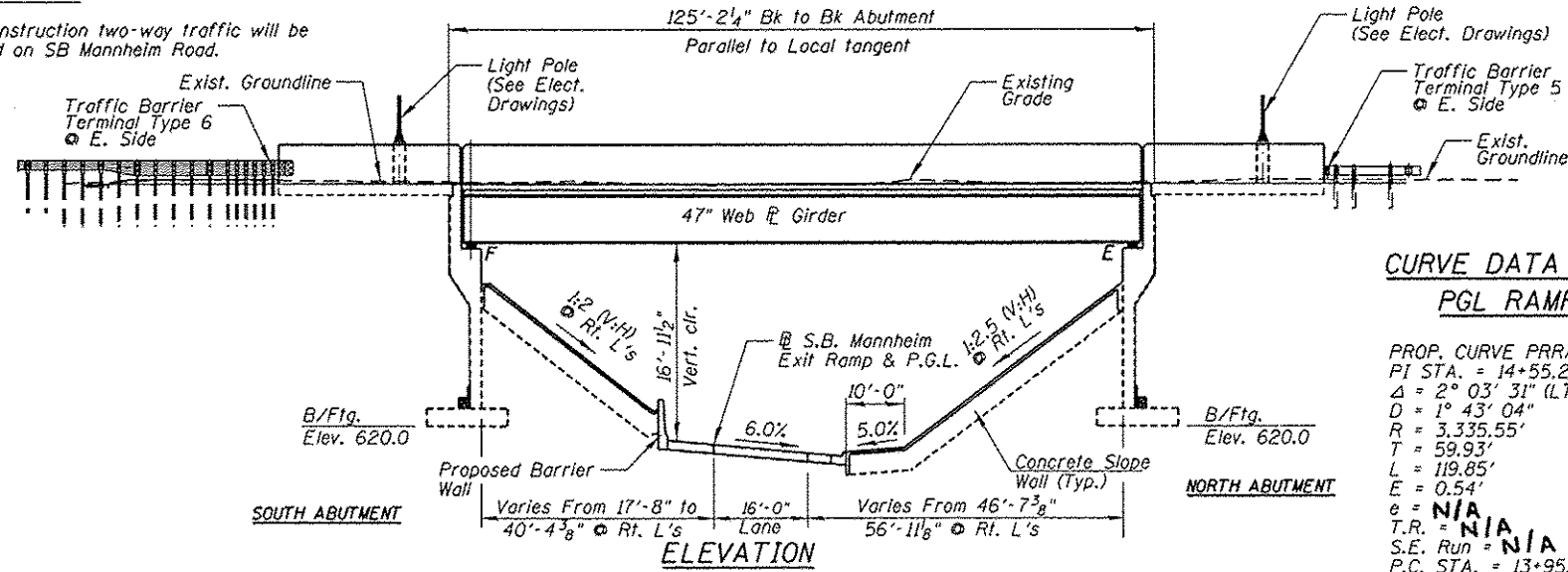
SCALE: N.T.S. SHEET NO. 1 OF 1 SHEETS STA. N/A TO STA. N/A

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	336
ILLINOIS FED. AID PROJECT			CONTRACT NO. 60G37	

Bench Mark: MON 144 - Located East of Spine Road and West of Mannheim Road at the Southeastern side of O'Hare Airport. Elev. 643.22

Existing Structure: None

During construction two-way traffic will be maintained on SB Mannheim Road.



DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications with 2010 Interim

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (Sp1) = 0.037g
Design Spectral Acceleration at 0.2 sec. (Sp5) = 0.090g
Soil Site Class = C

DESIGN STRESSES

FIELD UNITS

f_c = 3,500 psi
f_y = 50,000 psi (structural steel) (M270 Grade 50)
f_y = 60,000 psi (Reinf.)

CURVE DATA ALONG C MANNHEIM ROAD

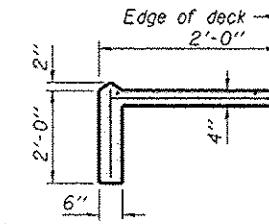
PROP. CURVE MANN2
PI STA. = 60+87.10
Δ = 55° 18' 45" (LT)
D = 1° 45' 00"
R = 3,274.04'
T = 1,715.72'
L = 3,160.72'
E = 422.32'
e = 3.20%
T.R. = 99°
S.E. Run = 154'
P.C. STA. = 43+71.38
P.T. STA. = 75+32.09
N.C. STA. = 79+09
FULL S.E. STA. = 76+60

CURVE DATA ALONG B SB MANNHEIM EXIT RAMP

PROP. CURVE PRUNDER-2
PI STA. = 21+60.04
Δ = 89° 00' 23" (LT)
D = 23° 52' 24"
R = 240.00'
T = 235.87'
L = 372.83'
E = 96.51'
e = -6.0%
T.R. = 0°
S.E. Run = 97'
P.C. STA. = 19+24.17
P.T. STA. = 22+97.00

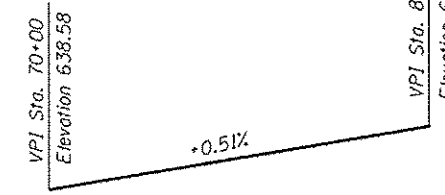
CURVE DATA ALONG PGL RAMP A

PROP. CURVE PRRAMPA-3
PI STA. = 14+55.27
Δ = 2° 03' 31" (LT)
D = 1° 43' 04"
R = 3,335.55'
T = 59.93'
L = 119.85'
E = 0.54'
e = N/A
T.R. = N/A
S.E. Run = N/A
P.C. STA. = 13+95.34
P.T. STA. = 15+15.18



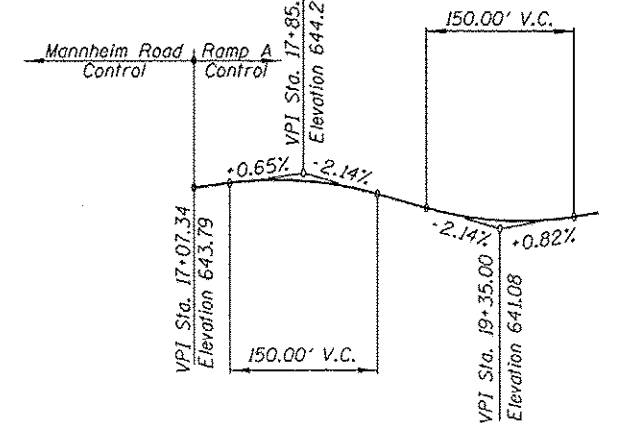
STATION 75+14.79
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 330 SEC. 0105 WRS&HB
LOADING HL-93
STRUCTURE NO. 016-7943

NAME PLATE
See Std. 515001

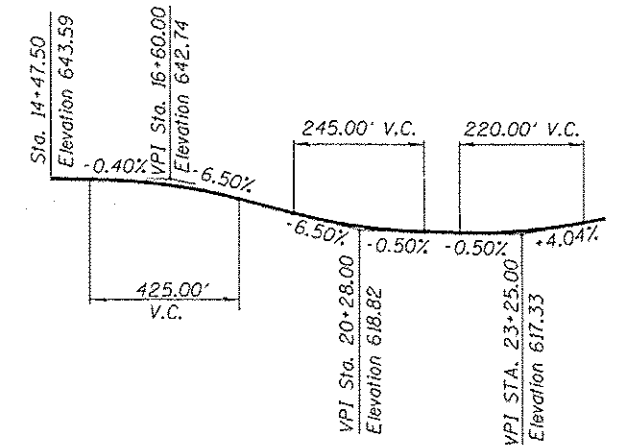


PROFILE GRADE - N.B. MANNHEIM ROAD BRIDGE

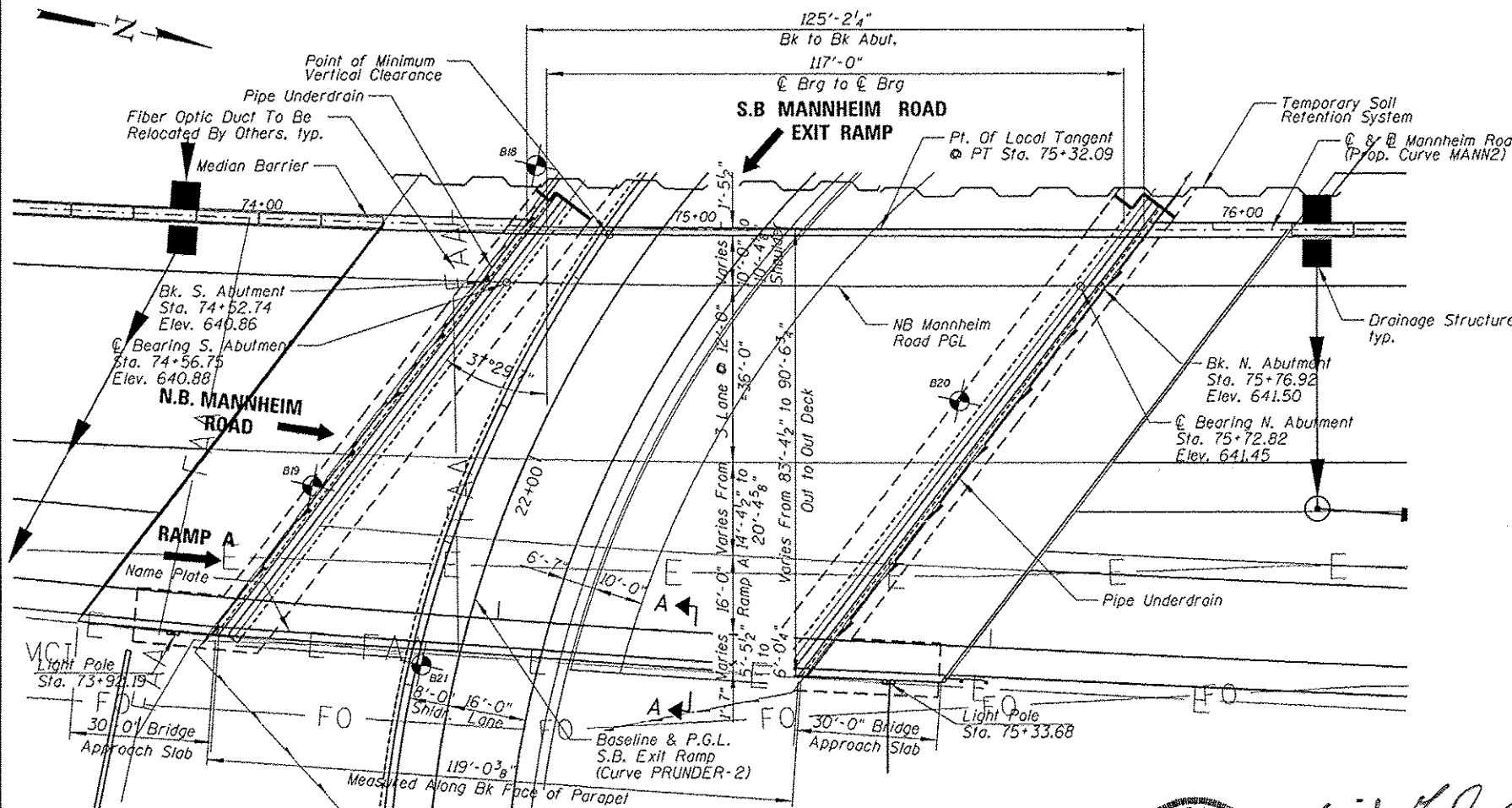
Bridge Elevations Are Controlled by Mannheim Road Profile



PROFILE GRADE - RAMP A



PROFILE GRADE - S.B. MANNHEIM ROAD EXIT RAMP

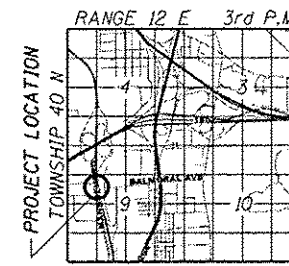


APPROVED
For Structural Adequacy Only

Carl Kump
Engineer of Bridges & Structures



Majid Mobasser 10/18/12
MAJID MOBASSERI
ILLINOIS REGISTRATION NO. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/14



GENERAL PLAN AND ELEVATION
N.B. MANNHEIM ROAD BRIDGE OVER
SOUTHBOUND EXIT RAMP
F.A.P. RTE. 330-SEC 0105 WRS&HB
COOK COUNTY
STATION 75+14.79
STRUCTURE NO. 016-7943

CHRISTOPHER B. BURKE ENGINEERING, LTD. 9075 W. Higgins Road, Suite 900 Skokie, Illinois 60076 (847) 823-0500	USER NAME *	DESIGNED - MM	REVISOR	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLDT SCALE *	CHECKED - JMB	REVISOR			330	0105 WRS&HB	COOK	606	337
PLDT DATE *	DRAWN - PDR	REVISOR		SHEET NO. S-1 OF S-26 SHEETS			CONTRACT NO. 60637			
	CHECKED - MM	REVISOR					ILLINOIS FED. AID PROJECT			

GENERAL NOTES

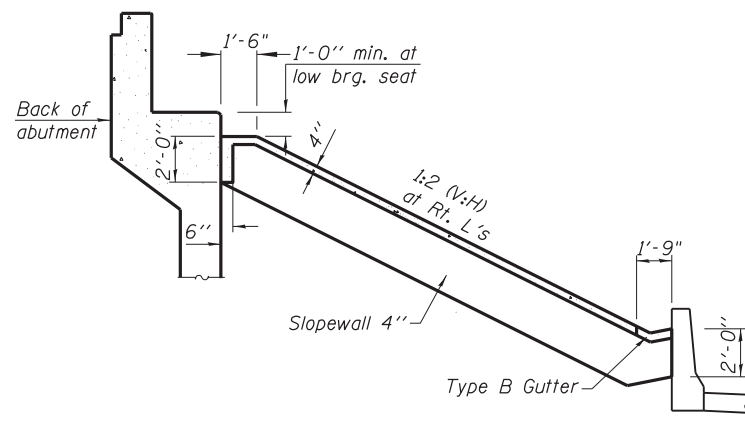
- Fasteners shall be ASTM 325 Type 1, mechanically galvanized bolts. Bolts 3/4 in. dia., holes 13/16 in. dia., unless otherwise noted.
- Calculated weight of Structural Steel = 306,990 lbs Grade 50
29,800 lbs Grade 36
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Concrete Sealer shall be applied to the designated areas of the exposed surfaces of backwall, beam seat and front face of abutment stem.
- The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green Munsell No. 7.5G 4/8.
- 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 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.

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- S-3 Substructure Layout
- S-4 & S-5 Stage Construction
- S-6 Deck Elevations Plan
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- S-9 Top of Approach Slab Elevation
- S-10 Deck Plan and Cross Section
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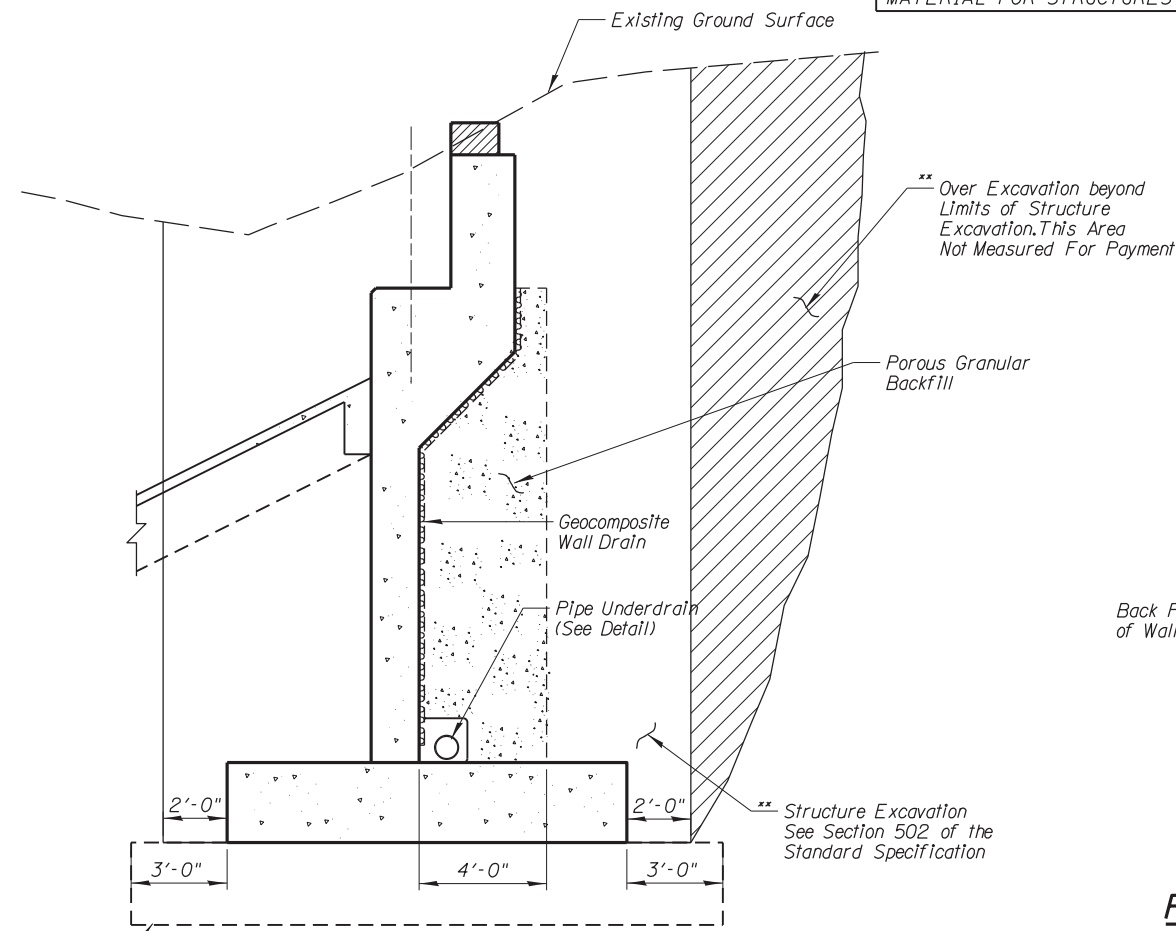
**N.B. MANNHEIM ROAD BRIDGE
TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER.	SUB.	TOTAL
POROUS GRANULAR BACKFILL	CU YD	—	1,115	1,115
STRUCTURE EXCAVATION	CU YD	—	3,607	3,607
CONCRETE STRUCTURES	CU YD	70.1	722.7	792.8
CONCRETE SUPERSTRUCTURE	CU YD	597.0	18.9	615.9
BRIDGE DECK GROOVING	SQ YD	1,600	—	1,600
PROTECTIVE COAT	SQ YD	1,786	—	1,786
ERECTING STRUCTURAL STEEL	L SUM	0.60	—	0.60
STUD SHEAR CONNECTORS	EACH	5,652	—	5,652
REINFORCEMENT BARS, EPOXY COATED	POUND	156,960	68,330	225,290
BAR SPLICERS	EACH	222	363	585
SLOPE WALL 4 INCH	SQ YD	—	767	767
NAME PLATES	EACH	1	—	1
PREFORMED JOINT STRIP SEAL	FOOT	219	—	219
ERECTING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12	—	12
ANCHOR BOLTS, 1"	EACH	—	24	24
ANCHOR BOLTS, 1/4"	EACH	—	24	24
CONCRETE SEALER	SQ FT	—	1,531	1,531
GEOCOMPOSITE WALL DRAIN	SQ YD	—	552	552
PIPE UNDERDRAINS FOR STRUCTURES 6"	FOOT	—	277	277
TEMPORARY SOIL RETENTION SYSTEM	SQ FT	—	4,020	4,020
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	—	586	586



Note: Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

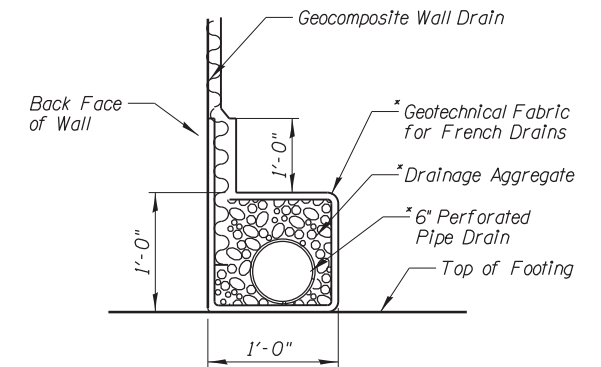
**SECTION THRU
CONCRETE SLOPEWALL**



Limits of Removal and Unsuitable Material

TYPICAL SECTION THRU ABUTMENT

Pipe Underdrain Behind N. Abutment Will Be Connected To The Drainage Structure at N.E. of The N.B. Bridge.
Pipe Underdrain Behind S. Abutment Will Be Connected To The Drainage Structure at S.E. of The N.B. Bridge.



PIPE UNDERDRAIN DETAIL

* Included in the cost of "Pipe Underdrains for Structures".

** Backfill Remainder of Structure Excavation and Over Excavation with Same Material Specified for Roadway Embankment.

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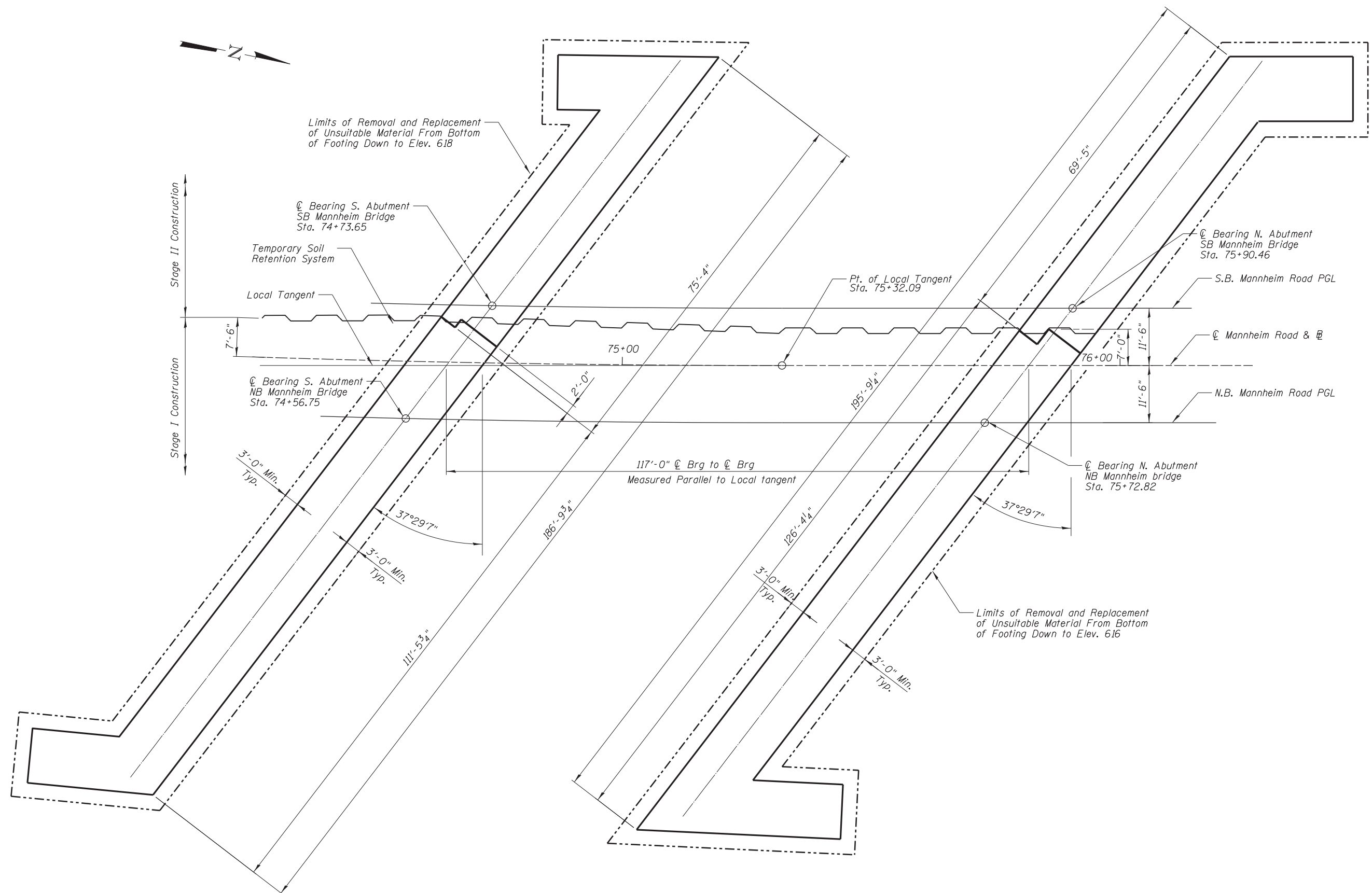
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES & BILL OF MATERIAL
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

SHEET NO. S-2 OF S-26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	338
CONTRACT NO. 60G37				

ILLINOIS FED. AID PROJECT



FOOTING LAYOUT

N:\ROSEMONT\11005\CADD_Sheets\0167943-0168037-003_FDN_Layout.dgn

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PLOT SCALE =	DRAWN - PDR	REVISED
PLOT DATE =	CHECKED - MM	REVISED

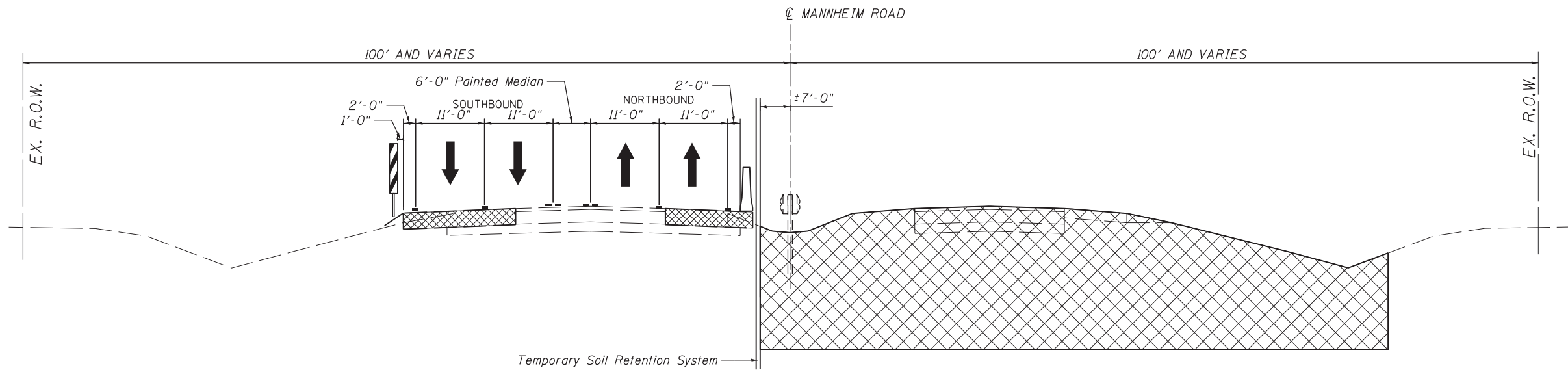
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FOOTING LAYOUT AND DETAIL
 NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

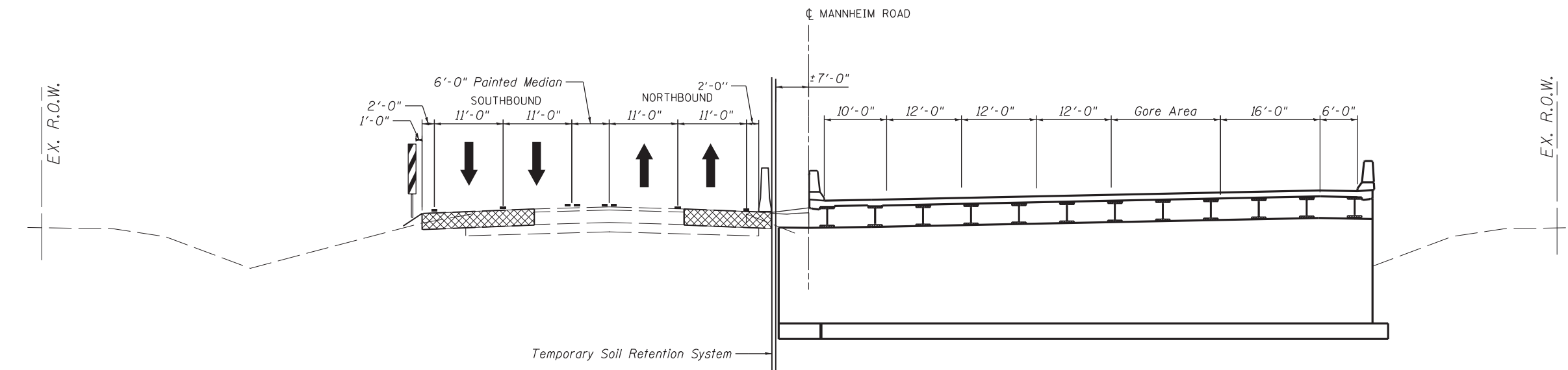
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	339
CONTRACT NO. 60G37				

SHEET NO. S-3 OF S-26 SHEETS

ILLINOIS FED. AID PROJECT



STAGE 1 REMOVAL
Looking North



STAGE 1 CONSTRUCTION
Looking North

Notes:

1. Cross Hatched Area Indicates Removal.
2. See Roadway Plans for Removal Detail.

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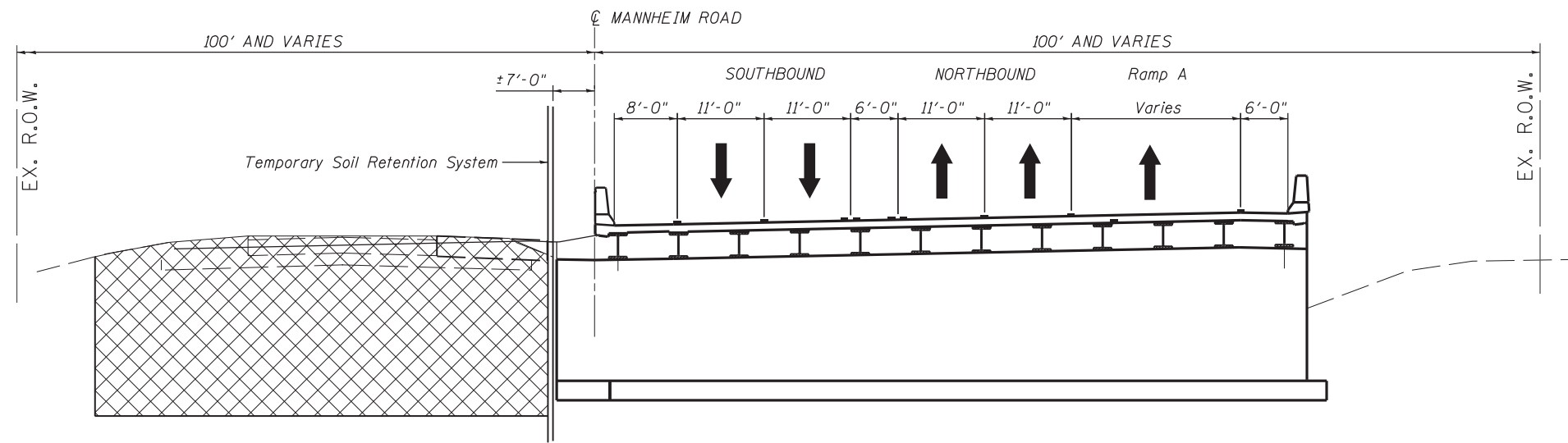
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

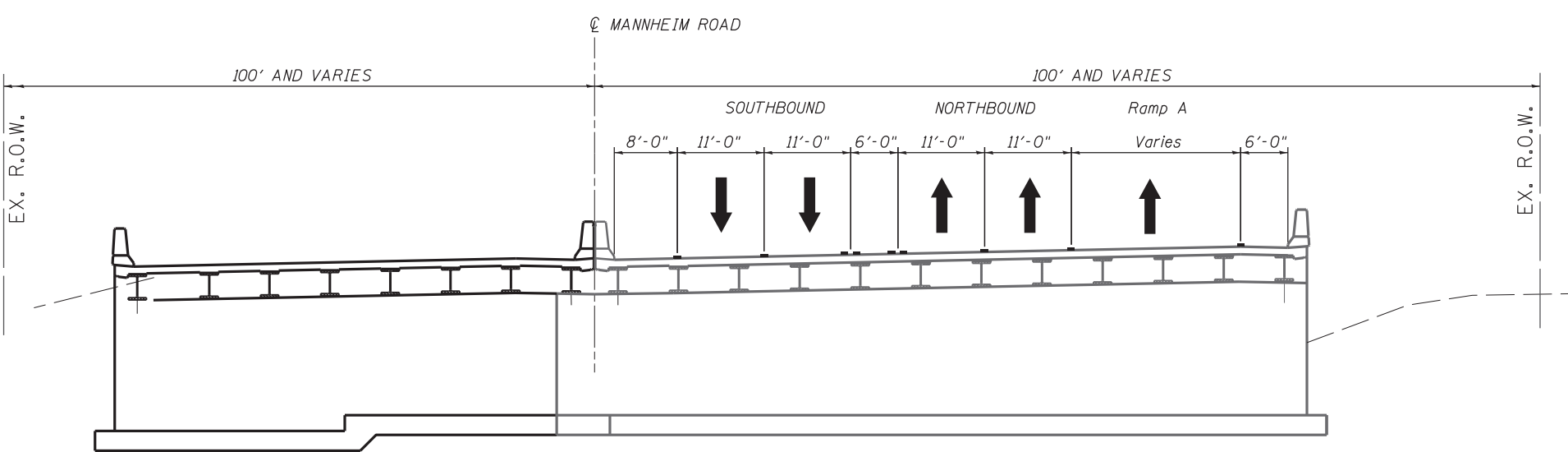
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	340
CONTRACT NO. 60G37				

SHEET NO. S-4 OF S-26 SHEETS

ILLINOIS FED. AID PROJECT

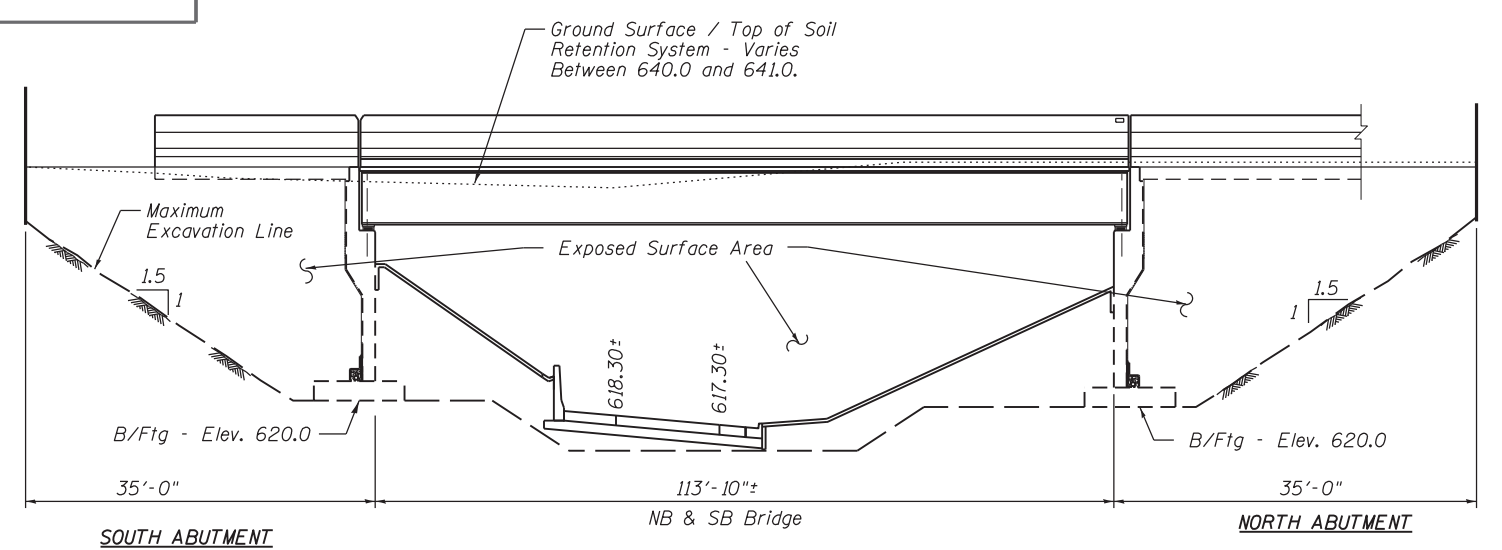


STAGE II REMOVAL
Looking North



STAGE II CONSTRUCTION
Looking North

- Notes:
1. Cross Hatched Area Indicates Removal.
 2. See Roadway Plans for Removal Detail.



LIMITS OF SOIL RETENTION SYSTEM

Note: 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.

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PLOT DATE =	CHECKED - MM	REVISED

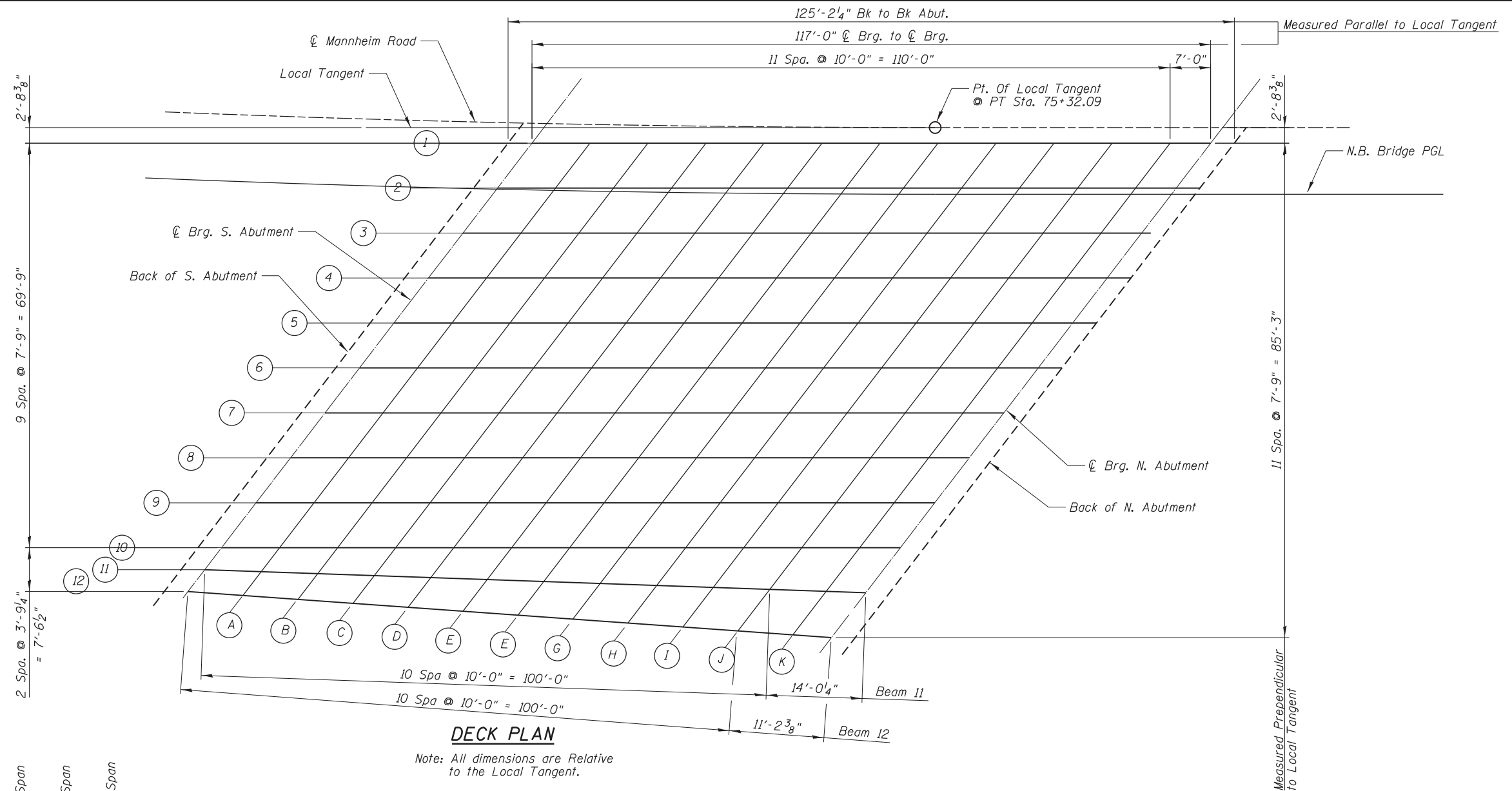
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	341
CONTRACT NO. 60G37				

SHEET NO. S-5 OF S-26 SHEETS

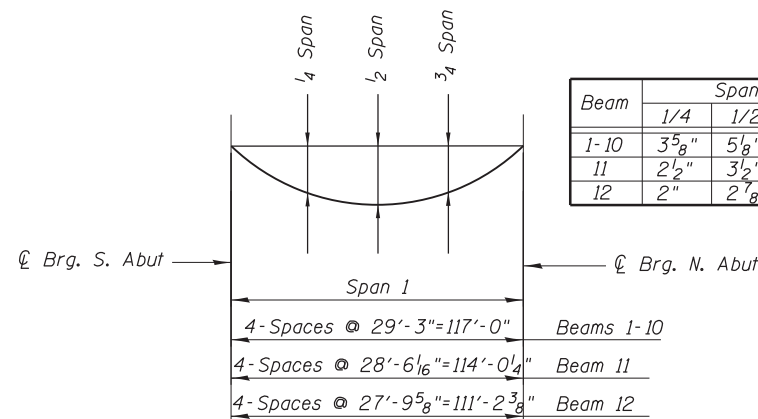
ILLINOIS FED. AID PROJECT



DECK PLAN

Note: All dimensions are Relative to the Local Tangent.

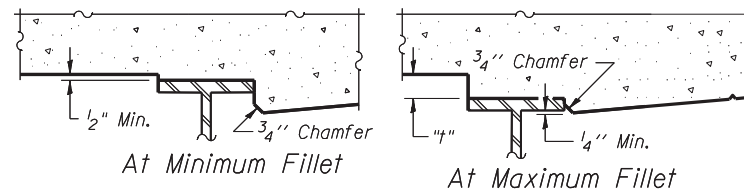
NOTE: All Dimensions Are Relative To The Local Tangent. Dimensions Are Measured Along Beams.



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Beam	Span		
	1/4	1/2	3/4
1-10	3 ⁵ / ₈ "	5 ⁹ / ₈ "	3 ⁵ / ₈ "
11	2 ¹ / ₂ "	3 ¹ / ₂ "	2 ¹ / ₂ "
12	2"	2 ⁷ / ₈ "	2"



NOTE:

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

FILLET HEIGHTS

NOTE:

The deflections given above are not to be used in the field if the Engineer is working from the theoretical grade elevations adjusted for dead load deflection.

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	CHECKED - MM	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF DECK ELEVATION
 NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

SHEET NO. S-6 OF S-26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	342
CONTRACT NO. 60G37				

ILLINOIS FED. AID PROJECT

BEAM 1

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+58.55	-7.98	640.58	640.58
CL of Brg S. Abut.	74+62.64	-8.07	640.60	640.60
A	74+72.63	-8.27	640.64	640.75
B	74+82.62	-8.43	640.68	640.90
C	74+92.61	-8.57	640.73	641.03
D	75+02.60	-8.67	640.77	641.15
E	75+12.59	-8.75	640.82	641.23
F	75+22.59	-8.79	640.87	641.29
G	75+32.58	-8.81	640.92	641.32
H	75+42.58	-8.81	640.97	641.33
I	75+52.58	-8.81	641.02	641.30
J	75+62.58	-8.81	641.07	641.26
K	75+72.58	-8.81	641.12	641.20
CL of Brg N. Abut.	75+79.58	-8.81	641.16	641.16
Bck of N. Abut.	75+83.67	-8.81	641.18	641.18

BEAM 2

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+52.81	-0.09	640.86	640.86
CL of Brg S. Abut.	74+56.89	-0.19	640.88	640.88
A	74+66.85	-0.40	640.92	641.04
B	74+76.82	-0.59	640.97	641.19
C	74+86.78	-0.74	641.01	641.32
D	74+96.75	-0.86	641.06	641.43
E	75+06.72	-0.96	641.10	641.52
F	75+16.68	-1.02	641.15	641.57
G	75+26.65	-1.05	641.20	641.60
H	75+36.63	-1.06	641.25	641.61
I	75+46.63	-1.06	641.30	641.58
J	75+56.63	-1.06	641.35	641.54
K	75+66.63	-1.06	641.40	641.48
CL of Brg N. Abut.	75+73.63	-1.06	641.44	641.44
Bck of N. Abut.	75+77.73	-1.06	641.46	641.46

N.B. BRIDGE PGL

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+52.74	0.00	640.87	640.87
CL of Brg S. Abut.	74+56.75	0.00	640.89	640.77
A	74+66.56	0.00	640.94	641.05
B	74+76.38	0.00	640.99	641.21
C	74+86.23	0.00	641.04	641.35
D	74+96.10	0.00	641.09	641.46
E	75+06.00	0.00	641.14	641.55
F	75+15.91	0.00	641.19	641.61
G	75+25.85	0.00	641.24	641.64
H	75+35.82	0.00	641.29	641.64
I	75+45.82	0.00	641.34	641.62
J	75+55.82	0.00	641.39	641.58
K	75+65.82	0.00	641.44	641.52
CL of Brg N. Abut.	75+72.82	0.00	641.48	641.48
Bck of N. Abut.	75+76.92	0.00	641.50	641.50

BEAM 3

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+47.09	7.81	641.09	641.09
CL of Brg S. Abut.	74+51.16	7.70	641.11	641.11
A	74+61.10	7.47	641.15	641.26
B	74+71.04	7.27	641.19	641.41
C	74+80.98	7.10	641.24	641.55
D	74+90.92	6.96	641.28	641.66
E	75+00.86	6.84	641.33	641.74
F	75+10.81	6.76	641.38	641.80
G	75+20.75	6.71	641.43	641.83
H	75+30.70	6.70	641.48	641.83
I	75+40.69	6.70	641.53	641.81
J	75+50.69	6.70	641.58	641.77
K	75+60.69	6.70	641.63	641.71
CL of Brg N. Abut.	75+67.69	6.70	641.66	641.66
Bck of N. Abut.	75+71.79	6.70	641.68	641.68

BEAM 4

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+41.39	15.71	641.31	641.31
CL of Brg S. Abut.	74+45.45	15.60	641.33	641.33
A	74+55.37	15.35	641.37	641.49
B	74+65.29	15.13	641.42	641.63
C	74+75.20	14.94	641.46	641.77
D	74+85.12	14.78	641.50	641.88
E	74+95.04	14.66	641.55	641.96
F	75+04.96	14.56	641.60	642.02
G	75+14.88	14.49	641.65	642.05
H	75+24.80	14.45	641.70	642.05
I	75+34.75	14.45	641.75	642.03
J	75+44.75	14.45	641.80	641.99
K	75+54.75	14.45	641.85	641.93
CL of Brg N. Abut.	75+61.75	14.45	641.88	641.88
Bck of N. Abut.	75+65.84	14.45	641.90	641.90

BEAM 5

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+35.73	23.63	641.54	641.54
CL of Brg S. Abut.	74+39.78	23.51	641.55	641.55
A	74+49.67	23.24	641.60	641.71
B	74+59.56	23.01	641.64	641.86
C	74+69.46	22.80	641.68	641.99
D	74+79.35	22.62	641.73	642.10
E	74+89.25	22.48	641.77	642.18
F	74+99.14	22.36	641.82	642.24
G	75+09.04	22.28	641.87	642.27
H	75+18.94	22.22	641.91	642.27
I	75+28.84	22.20	641.96	642.25
J	75+38.80	22.20	642.01	642.20
K	75+48.80	22.20	642.06	642.14
CL of Brg N. Abut.	75+55.80	22.20	642.10	642.10
Bck of N. Abut.	75+59.90	22.20	642.12	642.12

BEAM 6

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+30.09	31.55	641.76	641.76
CL of Brg S. Abut.	74+34.13	31.43	641.78	641.78
A	74+44.00	31.15	641.82	641.93
B	74+53.86	30.89	641.86	642.08
C	74+63.73	30.67	641.90	642.21
D	74+73.61	30.47	641.95	642.32
E	74+83.48	30.31	641.99	642.41
F	74+93.35	30.18	642.04	642.46
G	75+03.23	30.07	642.09	642.49
H	75+13.10	30.00	642.13	642.49
I	75+22.97	29.96	642.18	642.46
J	75+32.86	29.95	642.23	642.42
K	75+42.86	29.95	642.28	642.36
CL of Brg N. Abut.	75+49.86	29.95	642.32	642.32
Bck of N. Abut.	75+53.96	29.95	642.34	642.34

BEAM 7

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+24.48	39.49	641.99	641.99
CL of Brg S. Abut.	74+28.51	39.36	642.00	642.00
A	74+38.35	39.06	642.05	642.16
B	74+48.19	38.79	642.09	642.31
C	74+58.04	38.55	642.13	642.44
D	74+67.89	38.33	642.17	642.54
E	74+77.74	38.15	642.22	642.63
F	74+87.59	38.00	642.26	642.68
G	74+97.44	37.88	642.31	642.71
H	75+07.29	37.79	642.35	642.71
I	75+17.14	37.73	642.40	642.68
J	75+26.99	37.70	642.45	642.64
K	75+36.92	37.70	642.50	642.58
CL of Brg N. Abut.	75+43.92	37.70	642.54	642.54
Bck of N. Abut.	75+48.01	37.70	642.56	642.56

*Note: All offsets are relative to PGL. Offsets are positive east of PGL and negative west of PGL.

N:\ROSEMONT\11000\CADD_Sheets\0167943-0168037-007_TOS.Elevs.dgn

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		CHECKED - JMB	REVISED			330	0105 WRS&HB	COOK	605	343	
	PLOT SCALE =	DRAWN - PDR	REVISED			CONTRACT NO. 60G37					
	PLOT DATE =	CHECKED - MM	REVISED			SHEET NO. S-7 OF S-26 SHEETS					
ILLINOIS FED. AID PROJECT											

BEAM 8

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+18.89	47.44	642.21	642.21
CL of Brg S. Abut.	74+22.91	47.30	642.23	642.23
A	74+32.73	46.98	642.27	642.38
B	74+42.55	46.69	642.31	642.53
C	74+52.37	46.43	642.35	642.66
D	74+62.20	46.20	642.39	642.77
E	74+72.02	46.01	642.44	642.85
F	74+81.85	45.84	642.48	642.91
G	74+91.68	45.70	642.53	642.93
H	75+01.50	45.59	642.57	642.93
I	75+11.33	45.51	642.62	642.90
J	75+21.16	45.46	642.67	642.86
K	75+30.99	45.45	642.72	642.80
CL of Brg N. Abut.	75+37.97	45.45	642.75	642.75
Bck of N. Abut.	75+42.07	45.45	642.77	642.77

BEAM 9

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+13.33	55.39	642.44	642.44
CL of Brg S. Abut.	74+17.34	55.25	642.46	642.46
A	74+27.14	54.91	642.50	642.61
B	74+36.94	54.61	642.54	642.75
C	74+46.73	54.33	642.58	642.88
D	74+56.54	54.08	642.62	642.99
E	74+66.34	53.87	642.66	643.07
F	74+76.14	53.68	642.70	643.13
G	74+85.94	53.53	642.75	643.15
H	74+95.75	53.40	642.79	643.15
I	75+05.55	53.30	642.84	643.12
J	75+15.36	53.24	642.89	643.08
K	75+25.17	53.20	642.94	643.02
CL of Brg N. Abut.	75+32.03	53.20	642.97	642.97
Bck of N. Abut.	75+36.12	53.20	642.99	642.99

BEAM 10

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+07.80	63.36	642.67	642.67
CL of Brg S. Abut.	74+11.80	63.21	642.68	642.68
A	74+21.57	62.85	642.72	642.84
B	74+31.35	62.53	642.76	642.98
C	74+41.12	62.24	642.80	643.11
D	74+50.90	61.97	642.84	643.22
E	74+60.68	61.74	642.88	643.30
F	74+70.46	61.54	642.93	643.35
G	74+80.24	61.36	642.97	643.38
H	74+90.02	61.22	643.02	643.37
I	74+99.80	61.11	643.06	643.34
J	75+09.58	61.02	643.11	643.30
K	75+19.37	60.97	643.16	643.24
CL of Brg N. Abut.	75+26.21	60.95	643.19	643.19
Bck of N. Abut.	75+30.22	60.95	643.21	643.21

BEAM 11

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+05.21	67.10	642.71	642.71
CL of Brg S. Abut.	74+09.11	67.09	642.75	642.75
A	74+18.87	67.08	642.83	642.91
B	74+28.64	67.09	642.89	643.05
C	74+38.41	67.14	642.94	643.16
D	74+48.17	67.22	643.00	643.26
E	74+57.93	67.32	643.05	643.34
F	74+67.70	67.46	643.10	643.39
G	74+77.46	67.63	643.16	643.43
H	74+87.22	67.82	643.21	643.45
I	74+96.98	68.05	643.27	643.45
J	75+06.74	68.31	643.33	643.44
CL of Brg N. Abut.	75+20.43	68.72	643.41	643.41
Bck of N. Abut.	75+24.32	68.84	643.43	643.43

BEAM 12

Location	Station	*Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+02.63	70.85	642.54	642.54
CL of Brg S. Abut.	74+06.42	70.97	642.57	642.57
A	74+16.17	71.32	642.64	642.71
B	74+25.92	71.70	642.71	642.84
C	74+35.66	72.10	642.78	642.96
D	74+45.40	72.54	642.84	643.06
E	74+55.14	73.00	642.91	643.15
F	74+64.88	73.50	642.97	643.21
G	74+74.61	74.02	643.03	643.25
H	74+84.34	74.57	643.10	643.29
I	74+94.06	75.16	643.16	643.30
J	75+03.79	75.77	643.22	643.30
CL of Brg N. Abut.	75+14.67	76.49	643.28	643.28
Bck of N. Abut.	75+18.45	76.75	643.30	643.30

*Note: All offsets are relative to PGL. Offsets are positive east of PGL and negative west of PGL.

N:\ROSEMONT\11000\CADD_Sheets\0167943-01606037-008_T05.Elevs.dgn

 CHRISTOPHER B. BURKE ENGINEERING, LTD. 8575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 924-8900	USER NAME =	DESIGNED - MM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF DECK ELEVATION NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - JMB	REVISIED	330			0105 WRS&HB	COOK	605	344	
	PLOT SCALE =	DRAWN - PDR	REVISED			CONTRACT NO. 60G37				
	PLOT DATE =	CHECKED - MM	REVISED			SHEET NO. S-8 OF S-26 SHEETS				
						ILLINOIS FED. AID PROJECT				

WEST EDGE OF SHOULDER

Location	Station	*Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	74+30.72	-10.00	640.36
A	74+40.71	-10.01	640.41
B	74+50.67	-9.99	640.46
N. End S. Appr. Pav't	74+60.61	-9.94	640.51

PGL & WEST EDGE OF PAVEMENT

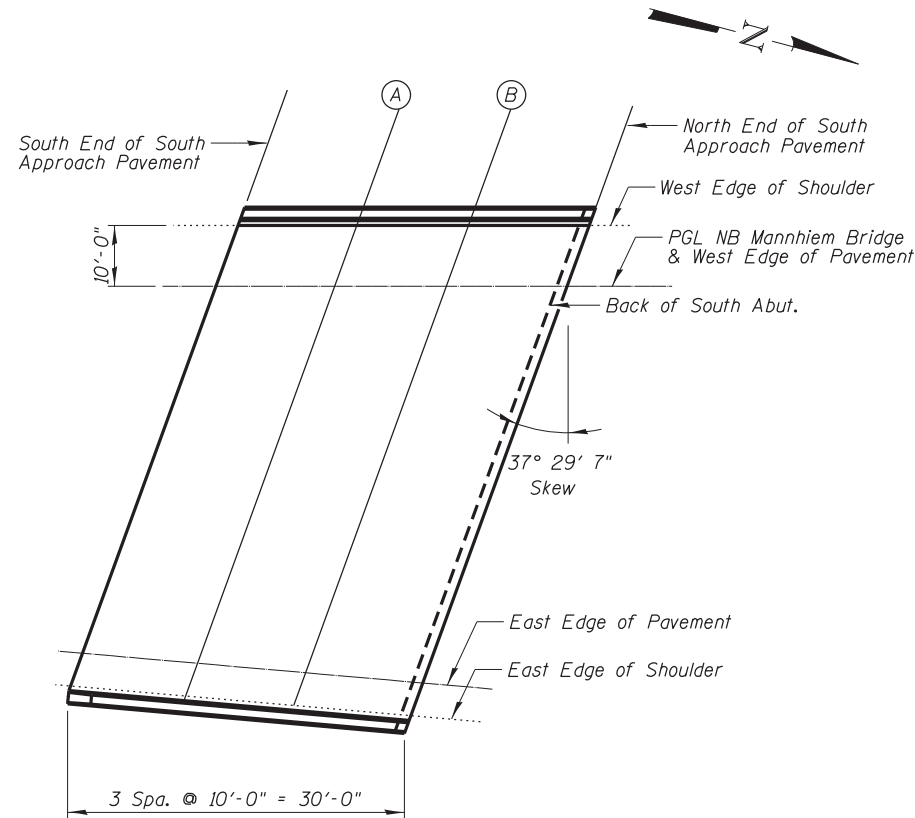
Location	Station	*Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	74+23.56	0.00	640.72
A	74+33.50	0.00	640.77
B	74+43.43	0.00	640.82
N. End S. Appr. Pav't	74+53.36	0.00	640.87

EAST EDGE OF PAVEMENT

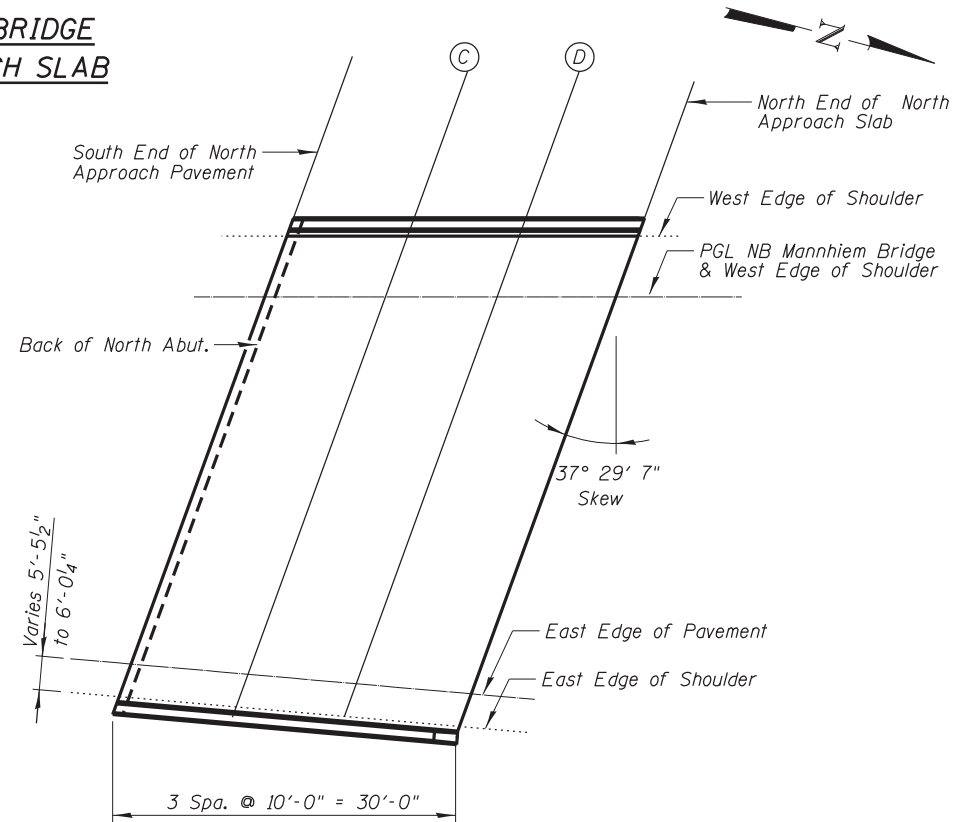
Location	Station	*Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	73+78.41	64.89	642.57
A	73+87.74	65.36	642.63
B	73+97.06	65.82	642.69
N. End S. Appr. Pav't	74+06.37	66.28	642.76

EAST EDGE OF SHOULDER

Location	Station	*Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	73+74.48	70.69	642.30
A	73+83.78	71.16	642.36
B	73+93.06	71.65	642.43
N. End S. Appr. Pav't	74+02.34	72.13	642.49



**NB MANNHEIM ROAD BRIDGE
PLAN SOUTH APPROACH SLAB**



**NB MANNHEIM ROAD BRIDGE
PLAN NORTH APPROACH SLAB**

WEST EDGE OF SHOULDER

Location	Station	*Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	75+83.95	-9.99	641.13
C	75+93.95	-9.98	641.18
D	76+03.95	-9.99	641.23
N. End N. Appr. Pav't	76+13.96	-10.00	641.36

PGL & WEST EDGE OF PAVEMENT

Location	Station	*Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	75+76.29	0.00	641.49
C	75+86.29	0.00	641.54
D	75+96.29	0.00	641.59
N. End N. Appr. Pav't	76+06.29	0.00	641.65

EAST EDGE OF PAVEMENT

Location	Station	*Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	75+21.36	71.99	643.52
C	75+30.75	72.46	643.58
D	75+40.37	72.92	643.65
N. End N. Appr. Pav't	75+50.02	73.38	643.71

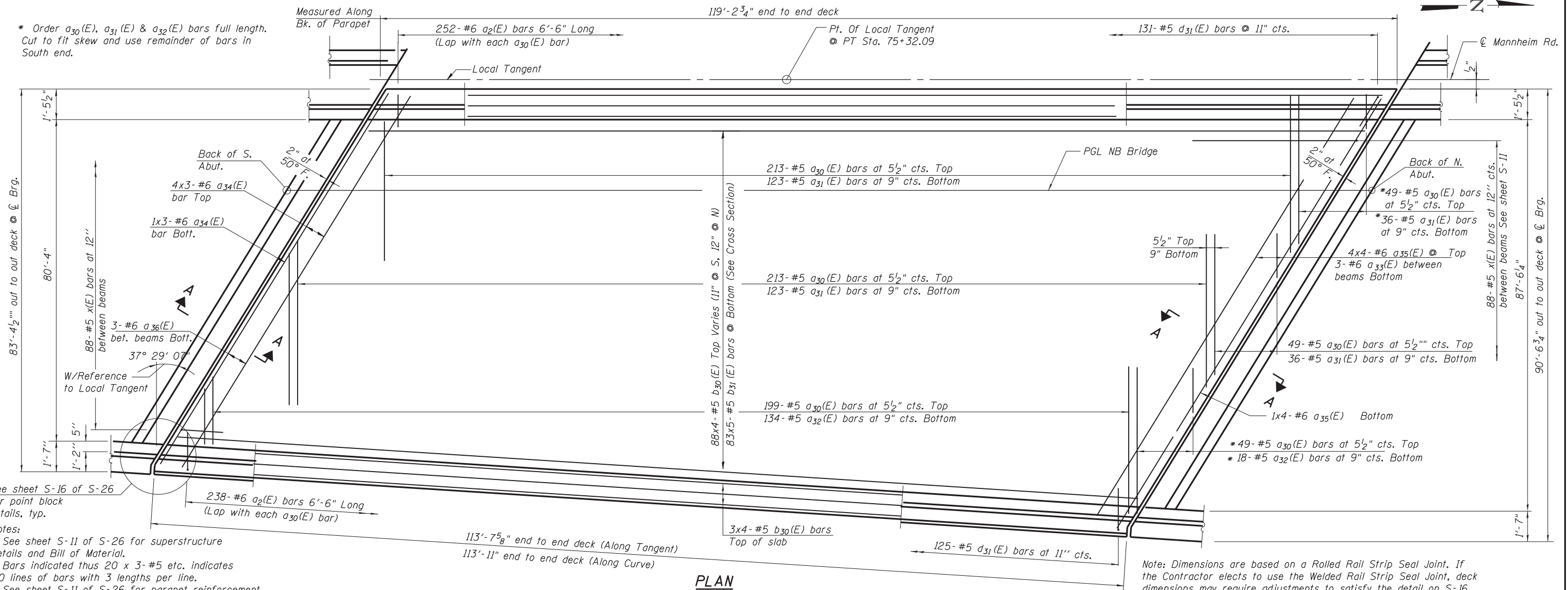
EAST EDGE OF SHOULDER

Location	Station	*Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	75+17.02	77.85	643.25
C	75+26.43	78.27	643.31
D	75+35.93	78.71	643.38
N. End N. Appr. Pav't	75+45.58	79.15	643.44

*Note: All offsets are relative to PGL. Offsets are positive east of PGL and negative west of PGL.

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* Order $a_{30}(E)$, $a_{31}(E)$ & $a_{32}(E)$ bars full length. Cut to fit skew and use remainder of bars in South end.

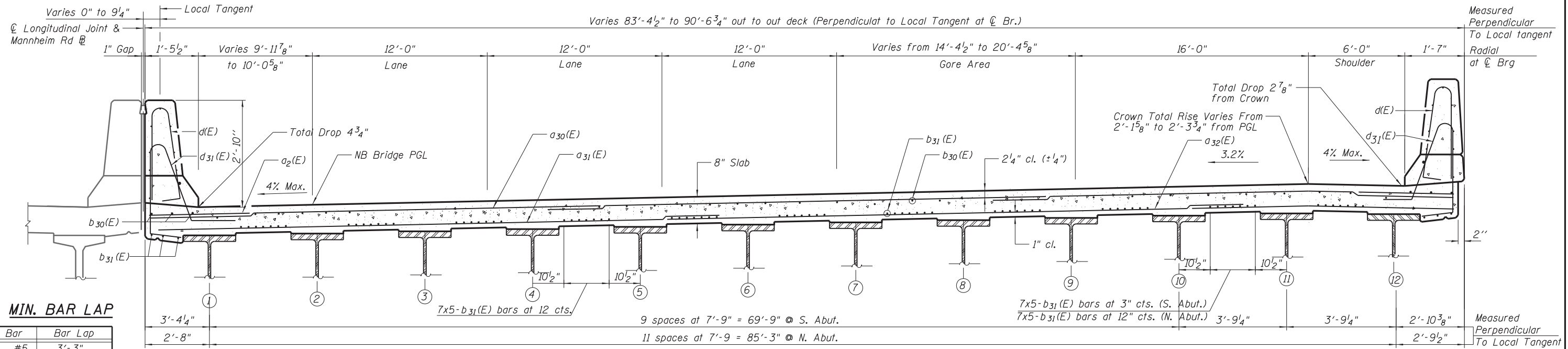


See sheet S-16 of S-26 for point block details, typ.

Notes:
See sheet S-11 of S-26 for superstructure 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 S-11 of S-26 for parapet reinforcement.

Note: 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 detail on S-16

PLAN



CROSS SECTION
(Looking North)

MIN. BAR LAP

Bar	Bar Lap
#5	3'-3"
#6	3'-10"

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PLOT SCALE =
PLOT DATE =

REVISED
REVISED
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REVISED

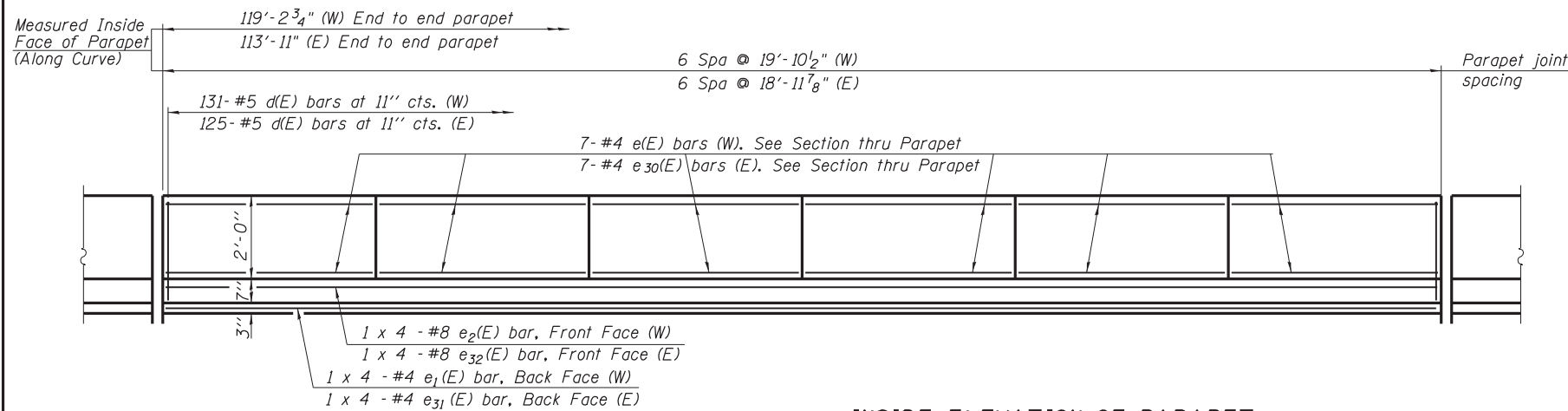
DRAWN - PDR
CHECKED - MM

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

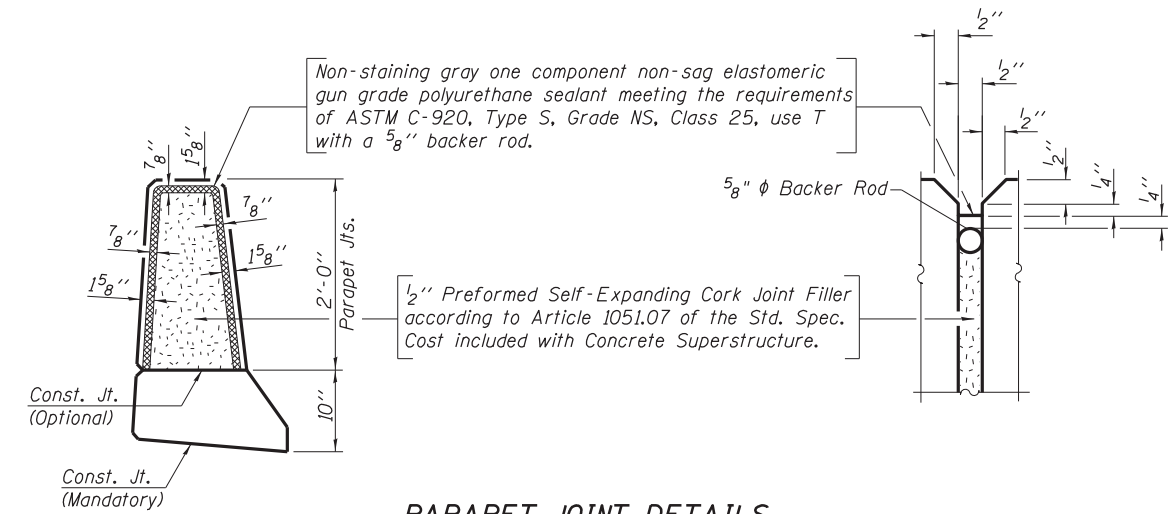
SUPERSTRUCTURE PLAN AND CROSS SECTION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

SHEET NO. S-10 OF S-26 SHEETS

F.A. RTE. 330
SECTION 0105 WRS&HB
COUNTY COOK
TOTAL SHEETS 605
SHEET NO. 346
CONTRACT NO. 60G37
ILLINOIS FED. AID PROJECT



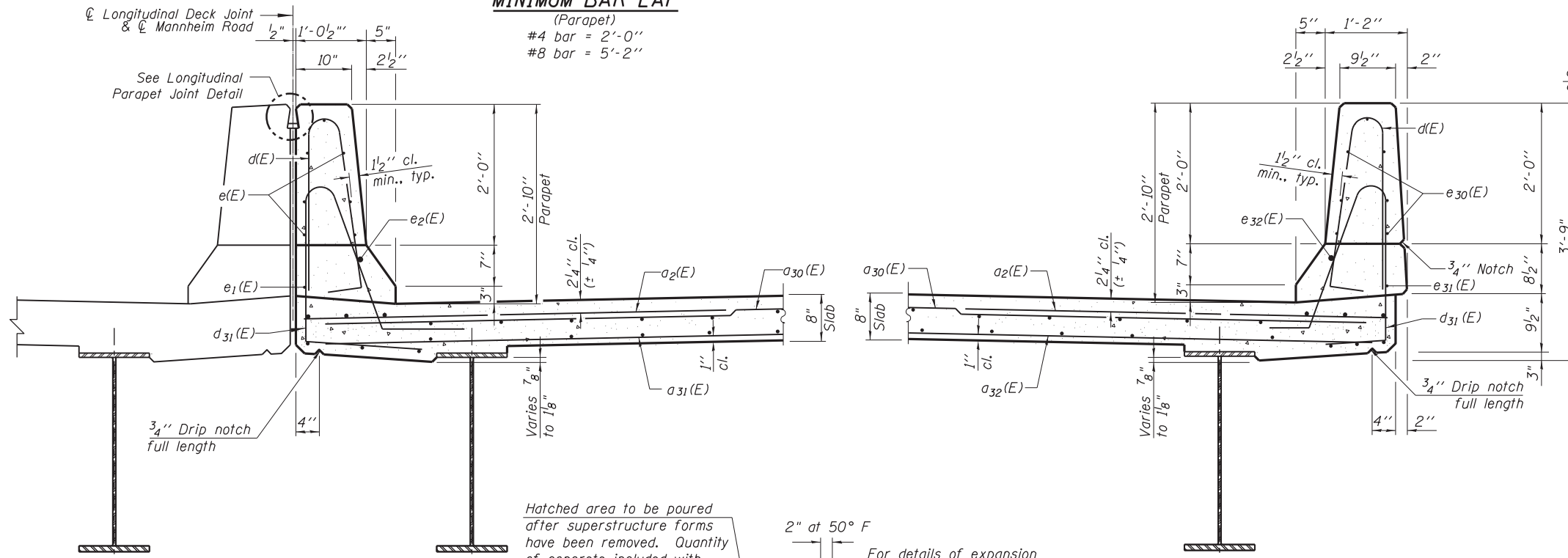
INSIDE ELEVATION OF PARAPET



PARAPET JOINT DETAILS

MINIMUM BAR LAP

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

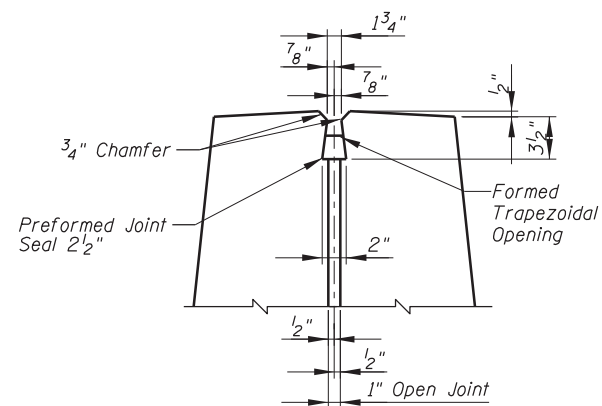


SECTION THRU W. PARAPET

(Looking North)

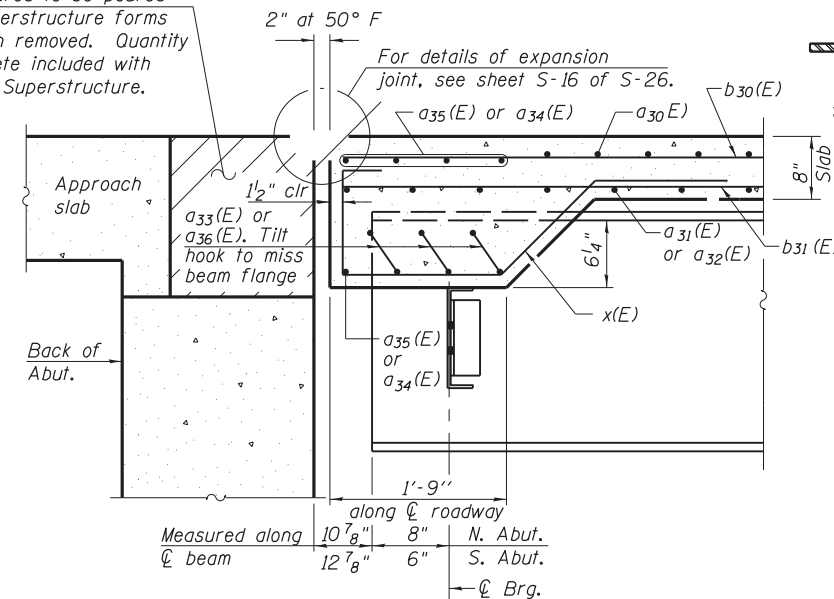
SECTION THRU EAST PARAPET

(Looking North)

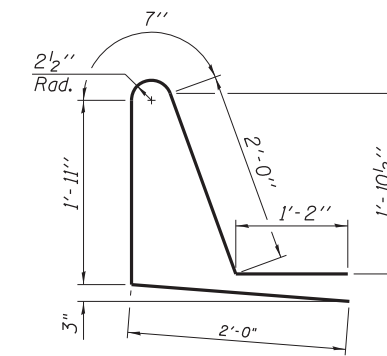


LONGITUDINAL PARAPET JOINT DETAIL

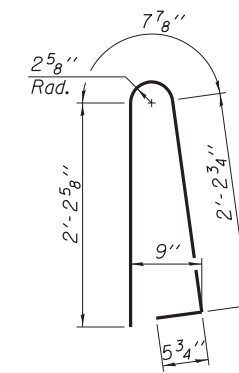
2 1/2" Preformed Joint Seal Shall Be Installed at Stage II Construction.



SECTION A-A



BAR d31(E)



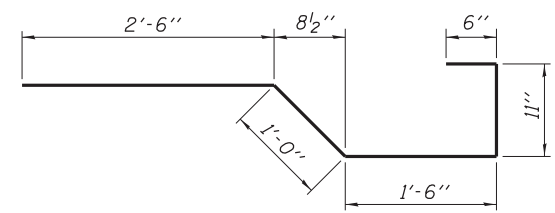
BAR d(E)

a33(E) & a36(E) BAR

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a2(E)	490	#6	6'-6"	—
a30(E)	695	#5	32'-0"	—
a31(E)	318	#5	37'-8"	—
a32(E)	152	#5	19'-6"	—
a33(E)	60	#6	10'-5"	—
a34(E)	16	#6	37'-6"	—
a35(E)	20	#6	31'-4"	—
a36(E)	6	#6	5'-10"	—
b30(E)	376	#5	32'-3"	—
b31(E)	415	#5	26'-9"	—
d(E)	256	#5	5'-7"	—
d31(E)	256	#5	7'-8"	—
e(E)	42	#4	19'-7"	—
e1(E)	4	#4	31'-6"	—
e2(E)	4	#8	33'-10"	—
e30(E)	42	#4	18'-8"	—
e31(E)	4	#4	30'-0"	—
e32(E)	4	#8	32'-5"	—
x(E)	176	#5	6'-5"	—
Reinforcement Bars, Epoxy Coated		Lbs.	77,290	
Concrete Superstructure		Cu. Yds.	292.9	

Bars indicated thus 1 x 4 - #8 etc. indicates 1 lines of bars with 4 lengths per line.



BAR x(E)

N:\ROSEMONT\11005\CADD_Sheets\0167943-0168037-011_Super.dgn
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	CHECKED - MM	REVISED

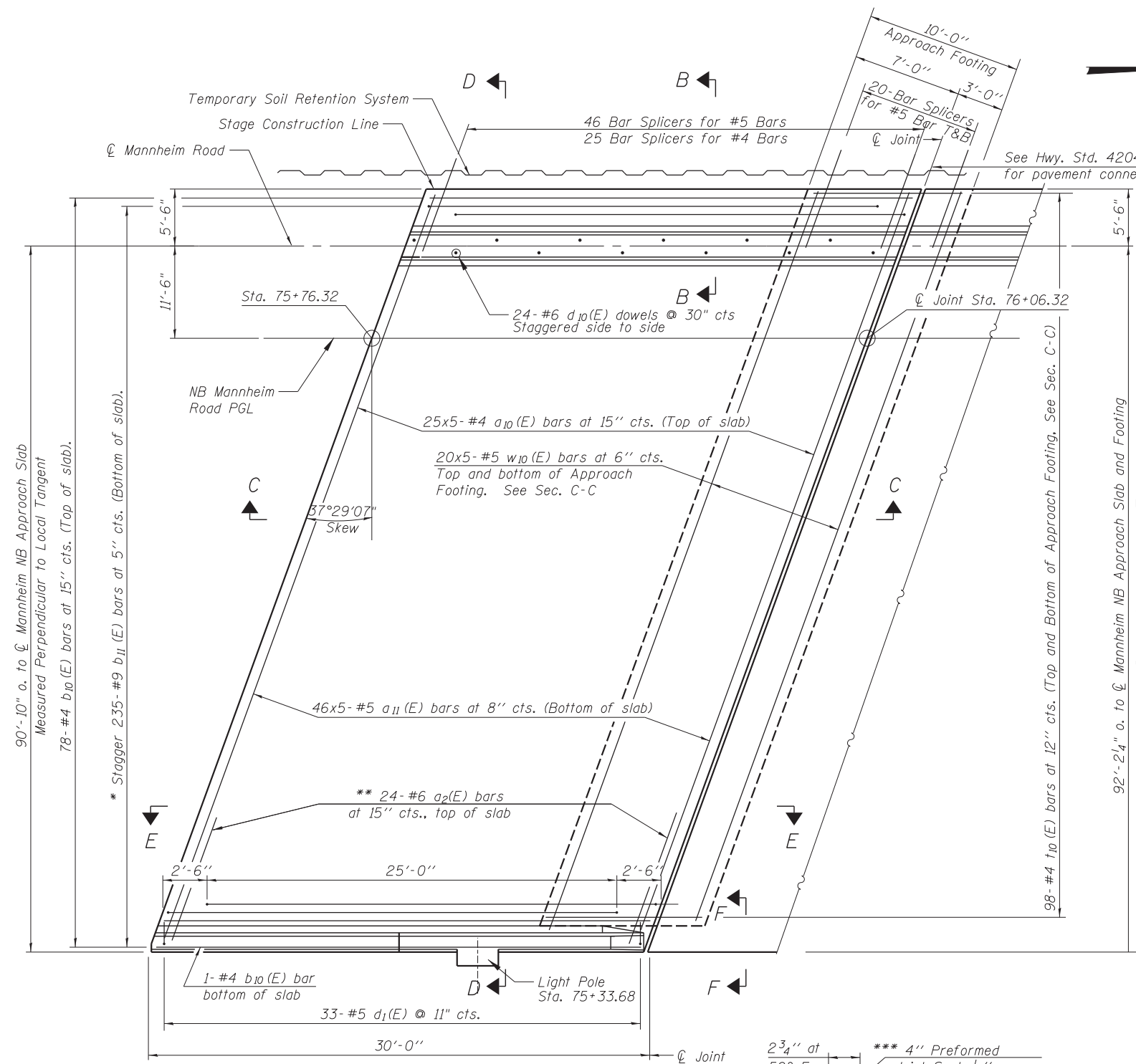
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS
 NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

SHEET NO. S-11 OF S-26 SHEETS

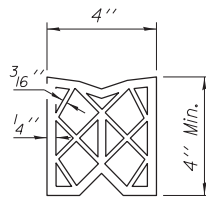
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	347
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

Notes:
See sheet S-13 of S-26 for Sections C-C & D-D and View E-E.
a₁₀(E) and a₁₁(E) bar spacings measured along \hat{C} Rdwy.

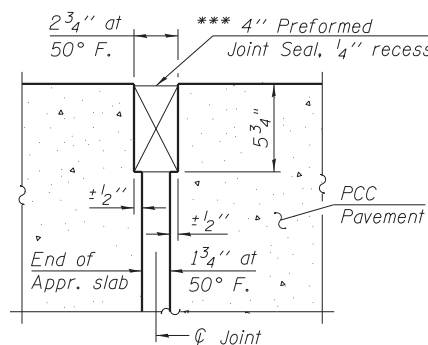


PLAN

* Tilt #9 b₁₁(E) bars as required to maintain clearance.
** Space between a₁₀(E) bars, typ. each parapet.

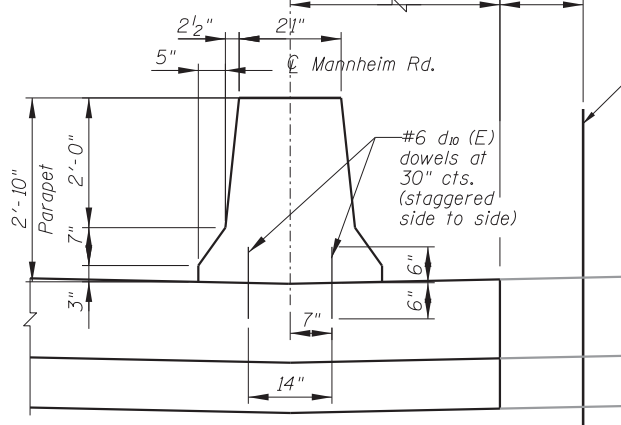


PREFORMED JOINT SEAL

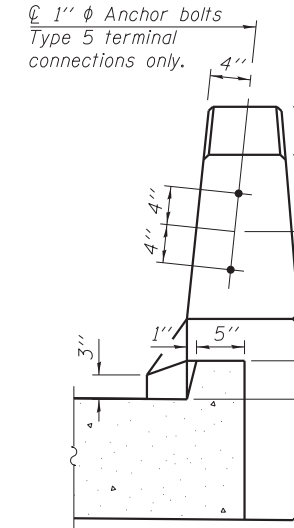


RIGID PAVEMENT DETAIL A

*** Cost included with Concrete Superstructure.

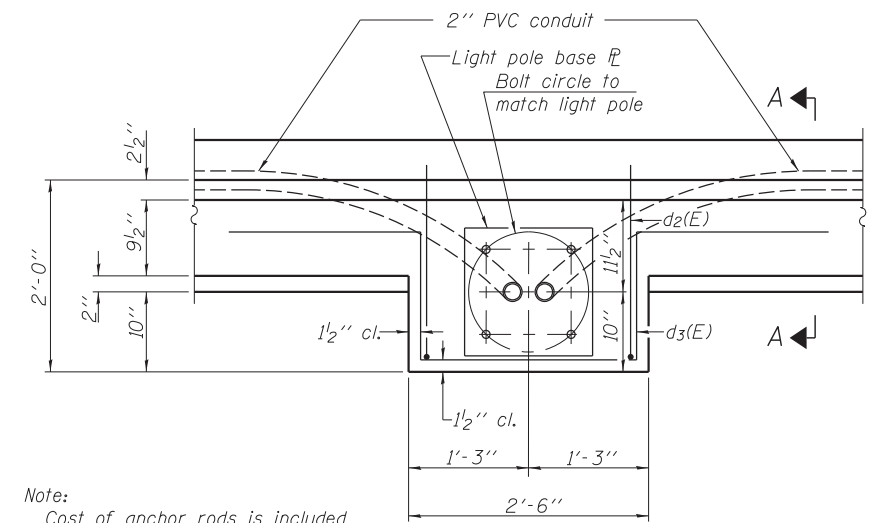


VIEW B-B

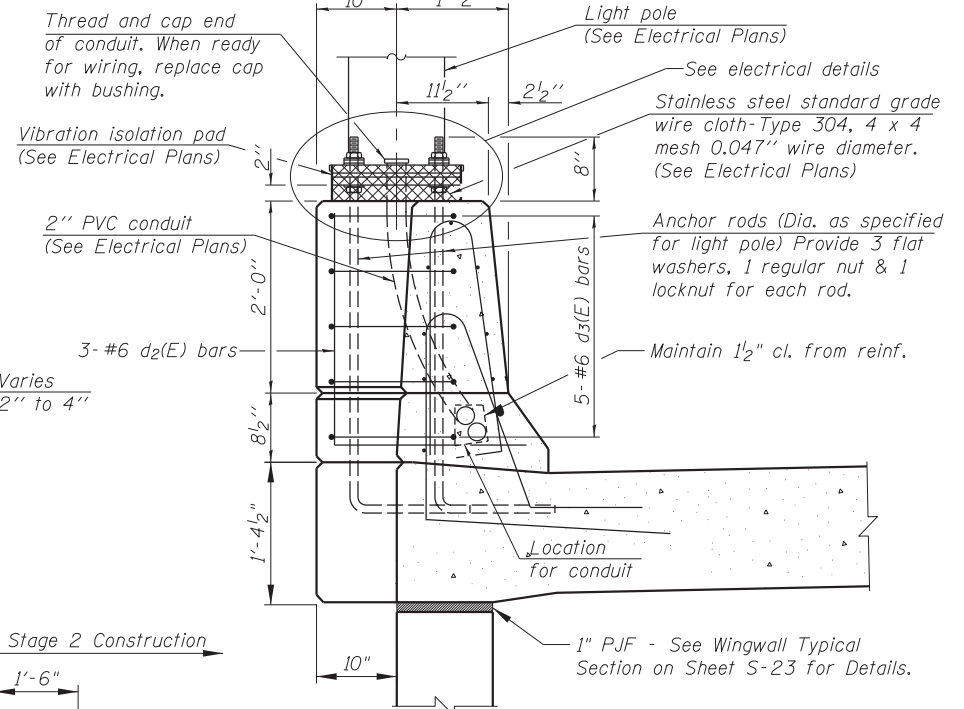


VIEW F-F

Note:
Cost of anchor rods is included with Concrete Superstructure.



PLAN



SECTION A-A

Stage 1 Construction Stage 2 Construction

MINIMUM BAR LAP

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

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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

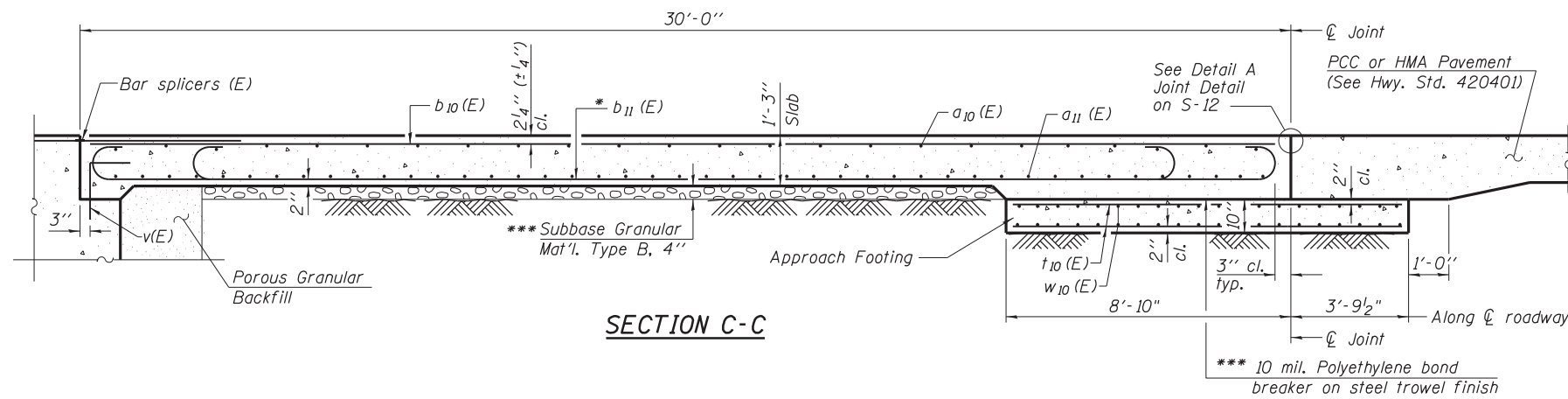
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE NORTH APPROACH SLAB DETAILS
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

SHEET NO. S-12 OF S-26 SHEETS

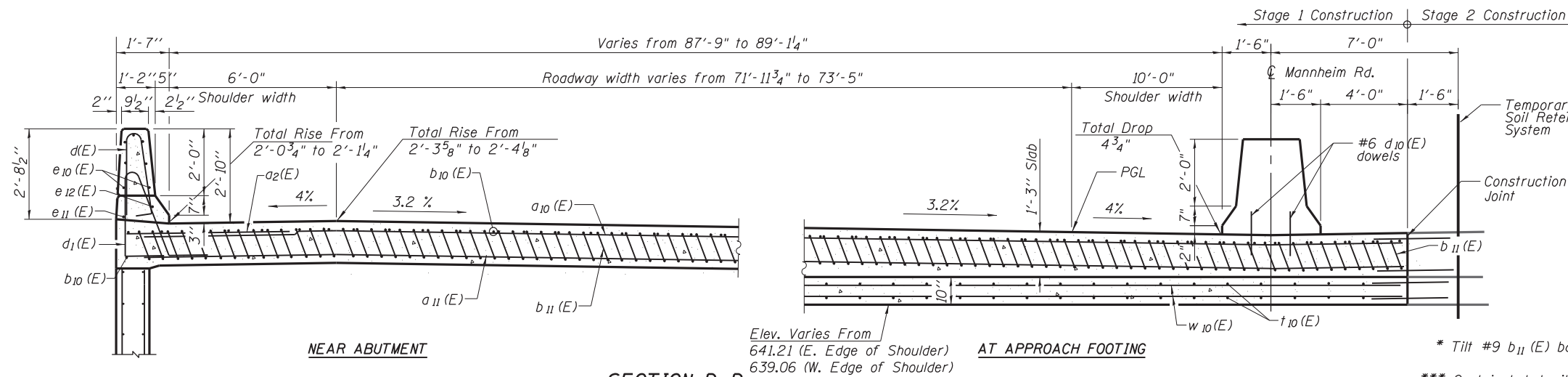
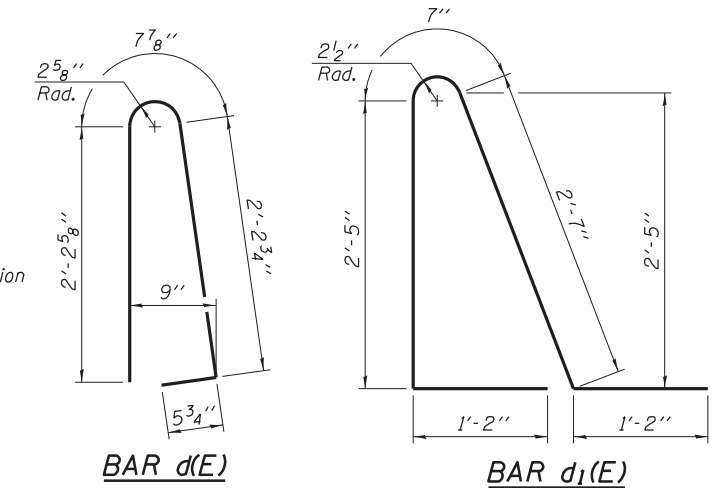
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	348
CONTRACT NO. 60G37				

ILLINOIS FED. AID PROJECT



Notes:

Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet S-21 and S-23 of S-26.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet S-24 of S-26.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Backfill and drainage treatment details, see sheet S-2 of S-26.

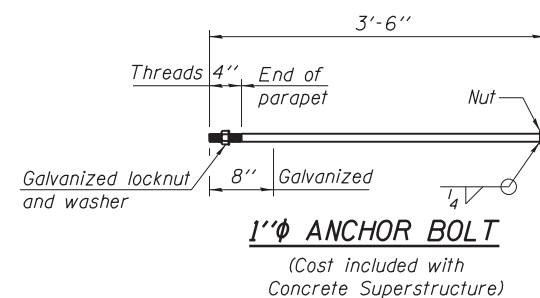


* Tilt #9 b₁₁(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.

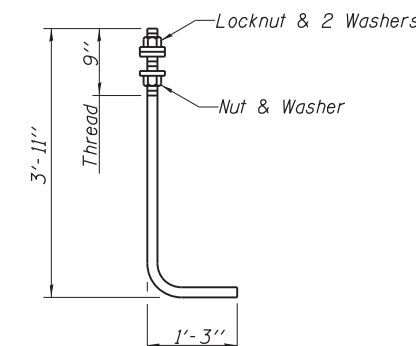
**NORTH APPROACH
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a ₂ (E)	24	#6	6'-6"	—
a ₁₀ (E)	125	#4	26'-6"	—
a ₁₁ (E)	230	#5	26'-9"	—
b ₁₀ (E)	79	#4	29'-8"	—
b ₁₁ (E)	235	#9	29'-9"	—
d(E)	33	#5	5'-7"	⌒
d ₁ (E)	33	#5	7'-11"	⌒
d ₂ (E)	3	#6	4'-5"	⌒
d ₃ (E)	5	#6	8'-11"	⌒
d ₁₀ (E)	24	#6	1'-0"	—
e ₁₀ (E)	14	#4	14'-8"	—
e ₁₁ (E)	2	#4	16'-0"	—
e ₁₂ (E)	2	#8	17'-7"	—
t ₁₀ (E)	194	#4	12'-4"	—
w ₁₀ (E)	200	#5	26'-9"	—
Concrete Superstructure		Cu. Yd.	160.1	
Concrete Structures		Cu. Yd.	36.9	
Reinforcement Bars, Epoxy Coated		Pound	42,220	

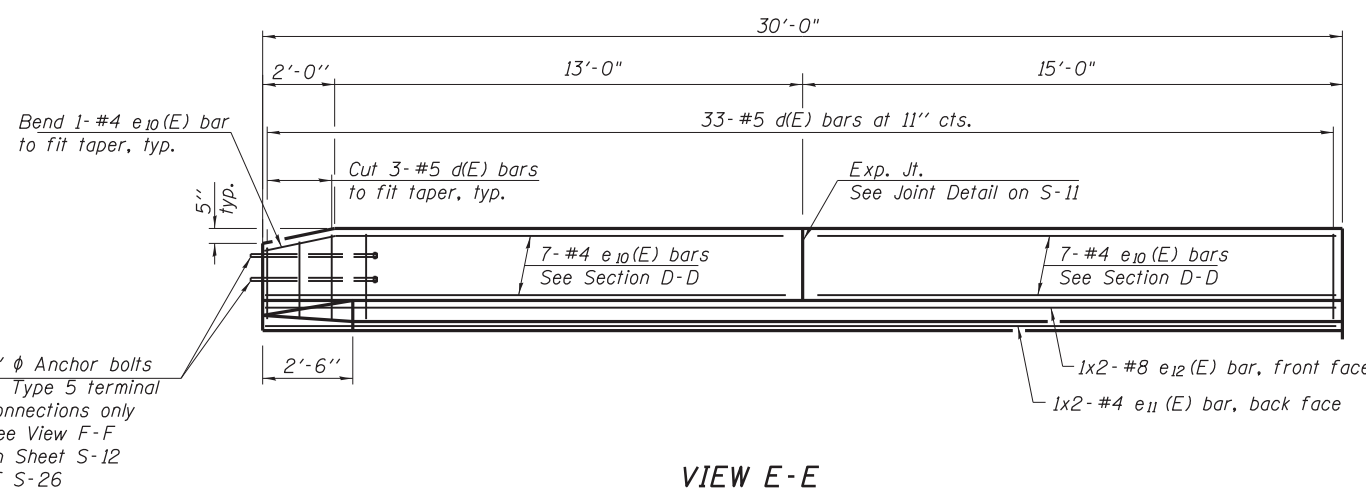
** Epoxy grout #6 d₁₀(E) bars in 6" drilled holes according to Section 584 of the Standard Specifications.



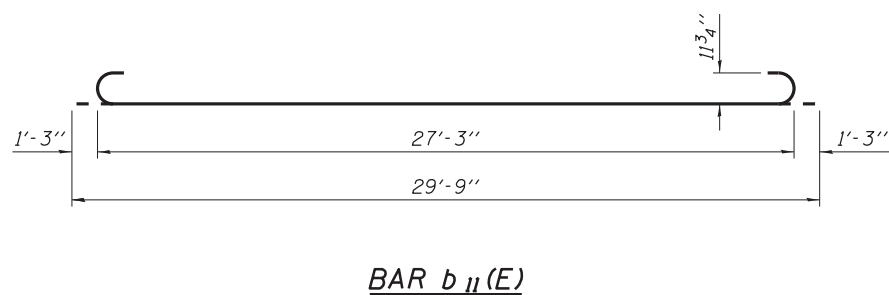
1" ANCHOR BOLT
(Cost included with Concrete Superstructure)



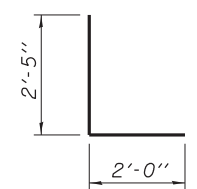
ANCHOR ROD
Diameter as specified for light poles.
(ASTM F 1554 Grade 105) Full Length
Hot Dipped Galvanized



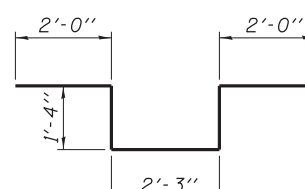
VIEW E-E



BAR b₁₁(E)



BAR d₂(E)



BAR d₃(E)

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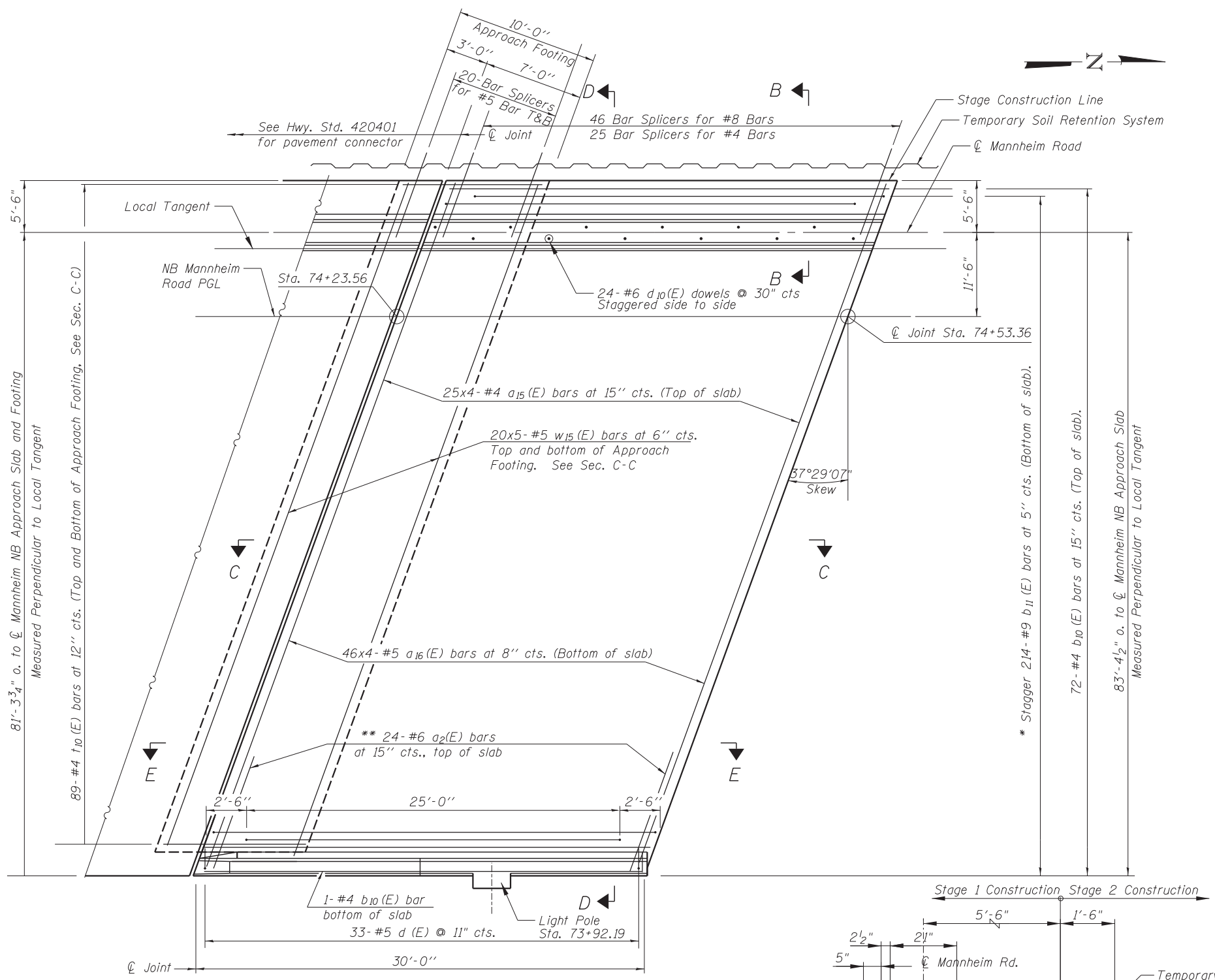
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE NORTH APPROACH SLAB DETAILS
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

SHEET NO. S-13 OF S-26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	349
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

Notes:
See sheet S-15 of S-26 for Sections C-C & D-D and View E-E.
a₁₅(E) and a₁₆(E) bar spacings measured along ϕ Rdwy.

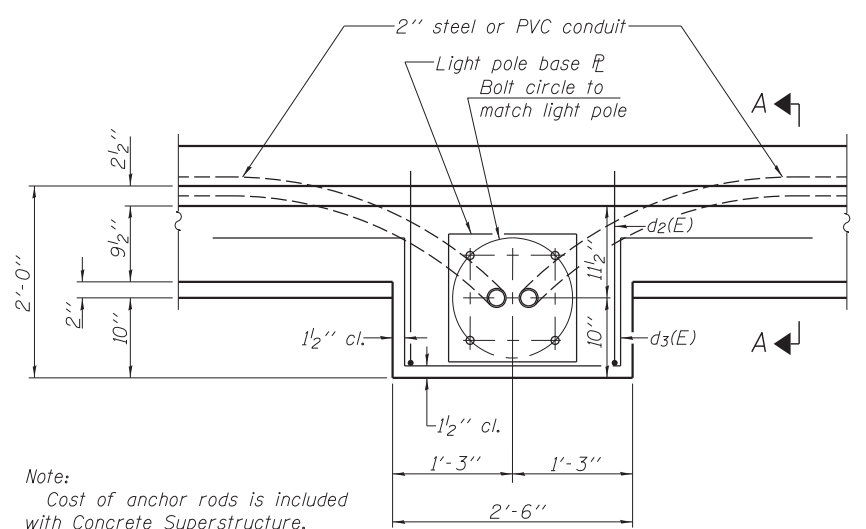


PLAN

* Tilt #9 b₁₁(E) bars as required to maintain clearance.
** Space between a(E) bars, typ. each parapet.

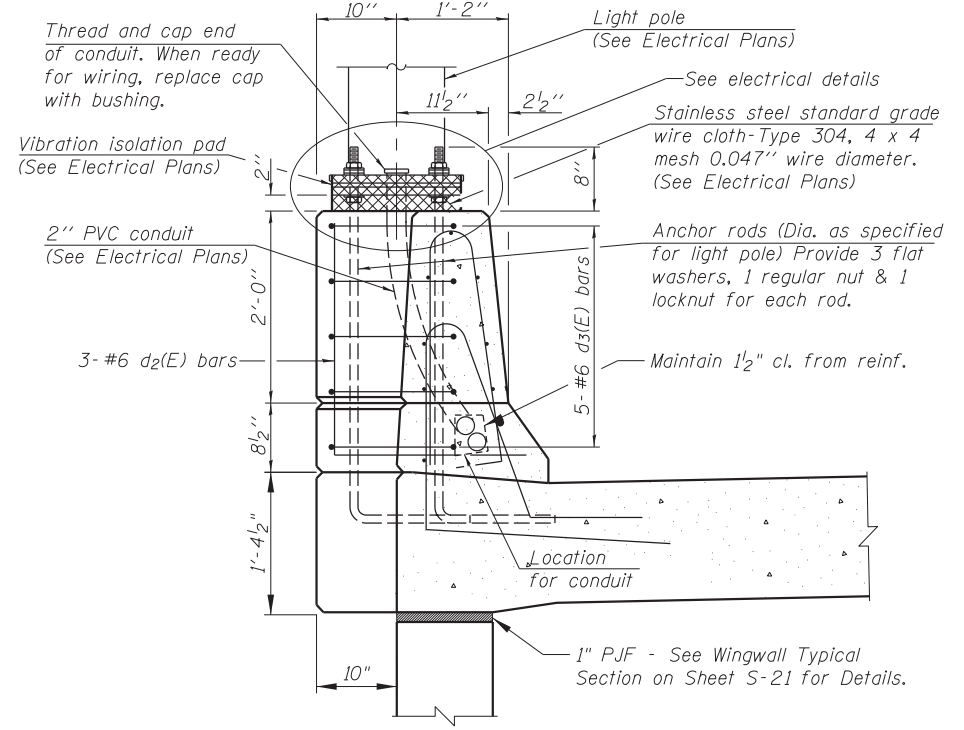
MINIMUM BAR LAP

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

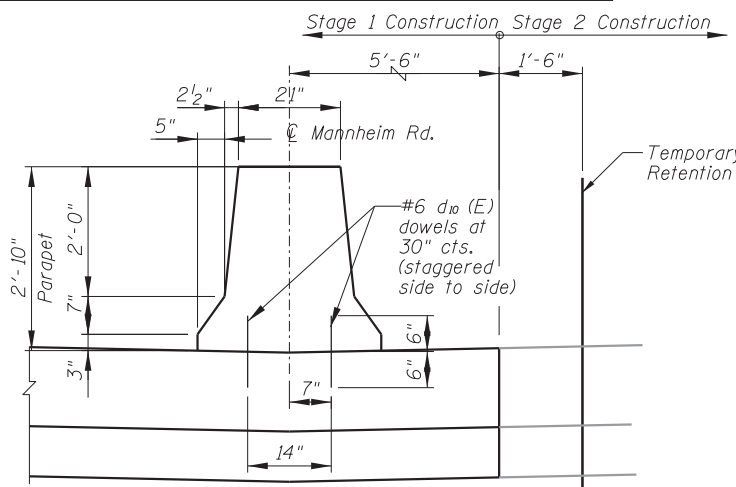


Note:
Cost of anchor rods is included with Concrete Superstructure.

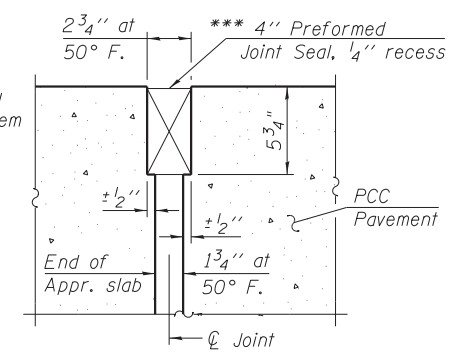
PLAN



SECTION A-A



VIEW B-B



RIGID PAVEMENT
DETAIL A

*** Cost included with Concrete Superstructure.

PREFORMED
JOINT SEAL

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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

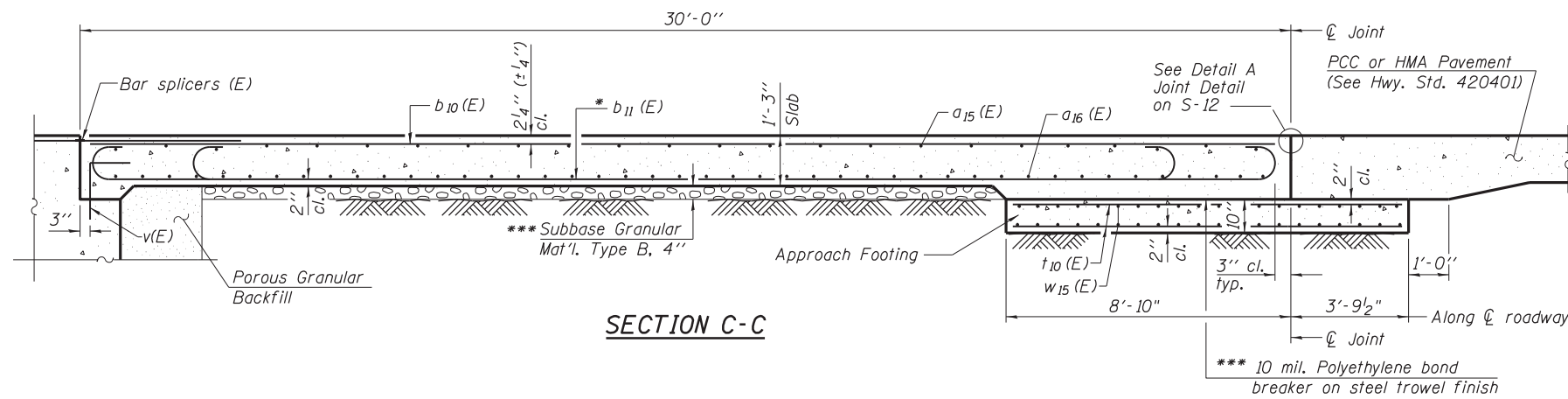
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE SOUTH APPROACH SLAB DETAILS
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

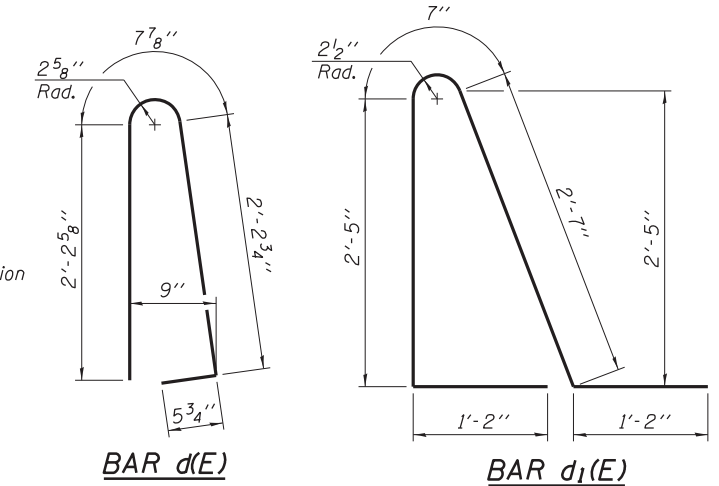
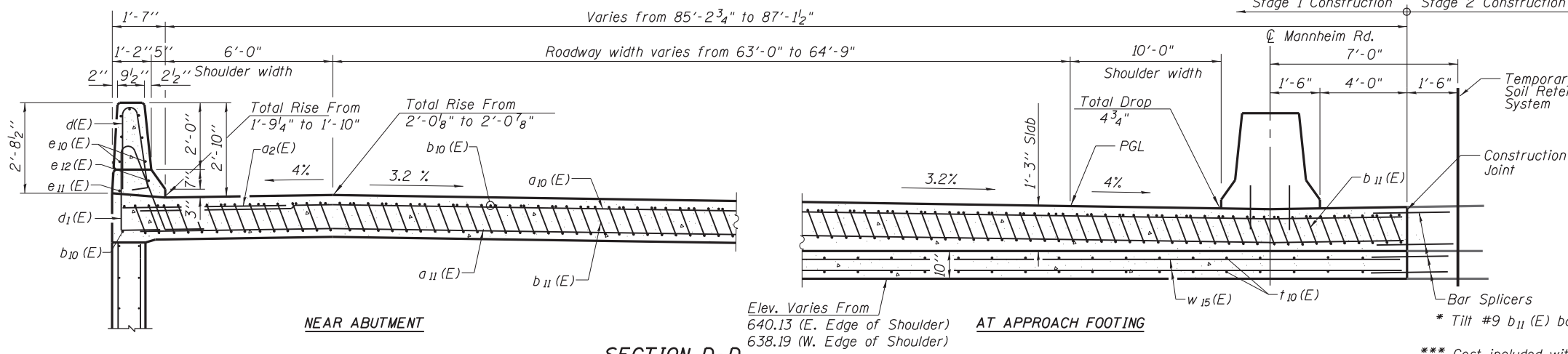
SHEET NO. S-14 OF S-26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	350
CONTRACT NO. 60G37				

ILLINOIS FED. AID PROJECT



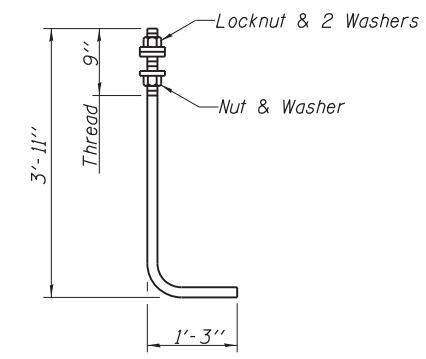
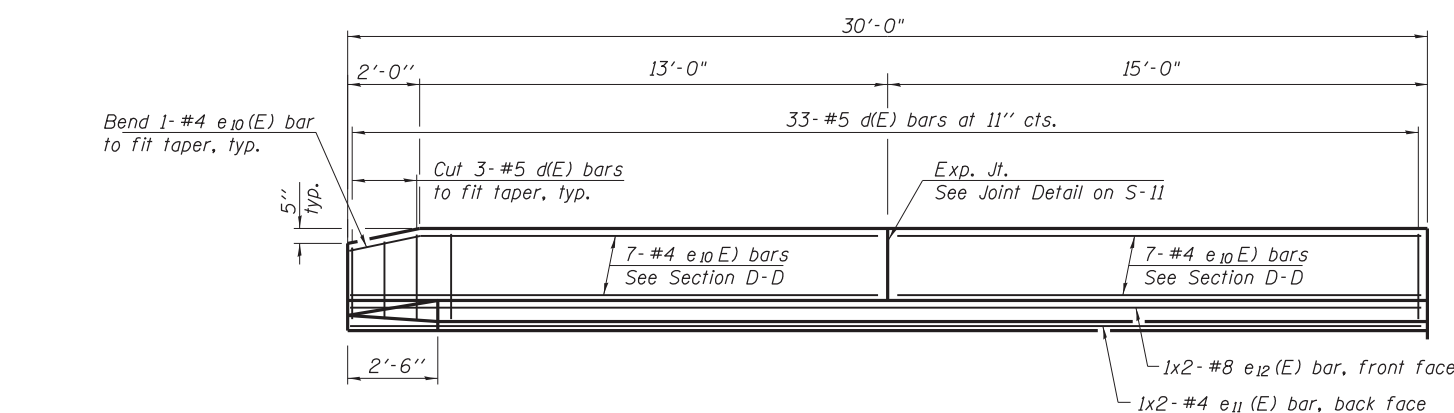
Notes:
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet S-21 and S-23 of S-26.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet S-26 of S-26.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Backfill and drainage treatment details, see sheet S-2 of S-26.



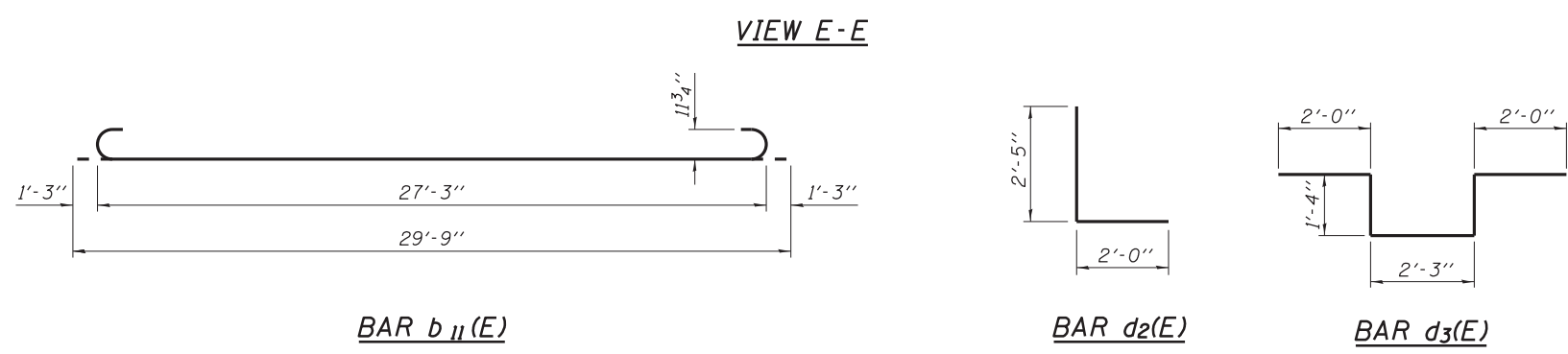
**SOUTH APPROACH
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a ₂ (E)	24	#6	6'-6"	—
a ₁₅ (E)	100	#4	29'-9"	—
a ₁₆ (E)	184	#5	30'-0"	—
b ₁₀ (E)	73	#4	29'-8"	—
b ₁₁ (E)	214	#9	29'-9"	—
d(E)	33	#5	5'-7"	⌒
d ₁ (E)	33	#5	7'-11"	⌒
d ₂ (E)	3	#6	4'-5"	L
d ₃ (E)	5	#6	8'-11"	⌒
d ₁₀ (E)	24	#6	1'-0"	—
e ₁₀ (E)	14	#4	14'-8"	—
e ₁₁ (E)	2	#4	16'-0"	—
e ₁₂ (E)	2	#8	17'-0"	—
t ₁₀ (E)	178	#4	12'-4"	—
w ₁₅ (E)	200	#5	19'-6"	—
Concrete Superstructure			Cu. Yd.	144.0
Concrete Structures			Cu. Yd.	33.2
Reinforcement Bars, Epoxy Coated			Pound	37,450

** Epoxy grout #6 d₁₀(E) bars in 6" drilled holes according to Section 584 of the Standard Specifications.



ANCHOR ROD
 Diameter as specified for light poles.
 (ASTM F 1554 Grade 105) Full Length
 Hot Dipped Galvanized



N:\ROSEMONT\11000\CADD_Sheets\0167943-D160C37-015.NBS\Approach_slab.dwg

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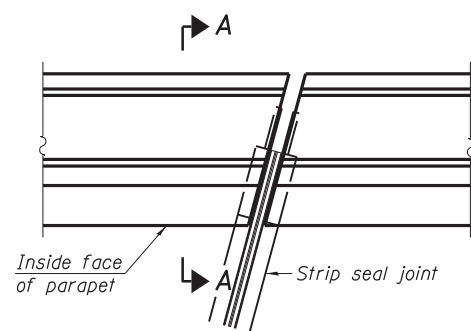
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE SOUTH APPROACH SLAB DETAILS
 NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

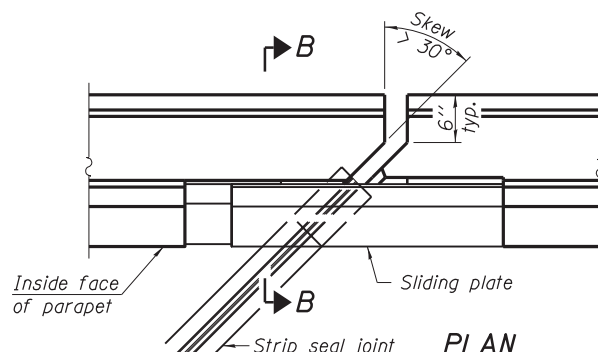
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	351
CONTRACT NO. 60G37				

SHEET NO. S-15 OF S-26 SHEETS

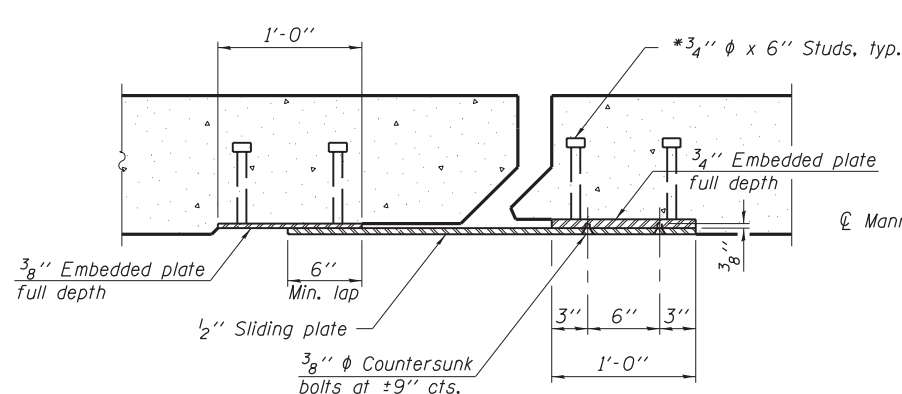
ILLINOIS FED. AID PROJECT



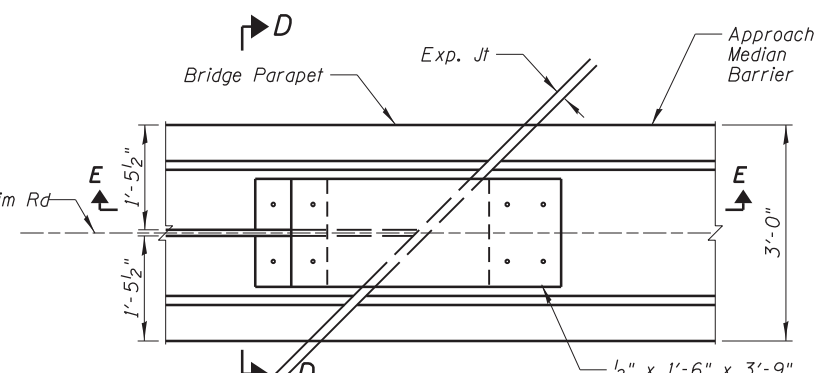
PLAN
(For skews $\leq 30^\circ$)



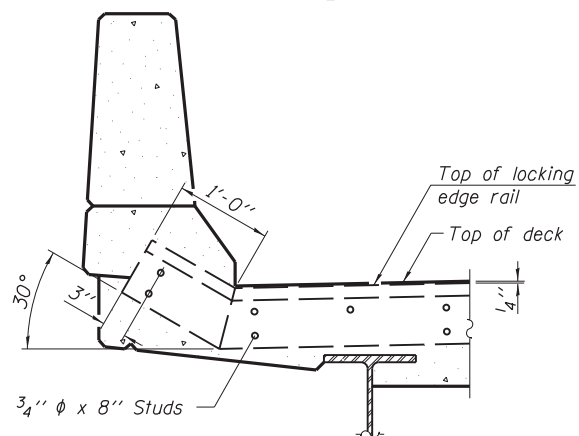
PLAN
(For skews $> 30^\circ$)
Showing point block



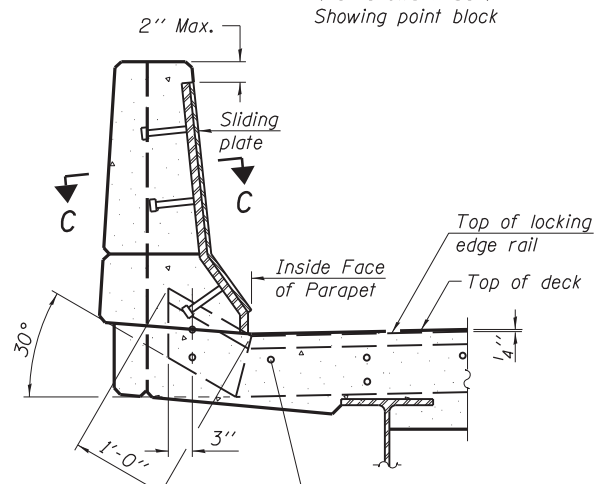
SECTION C-C



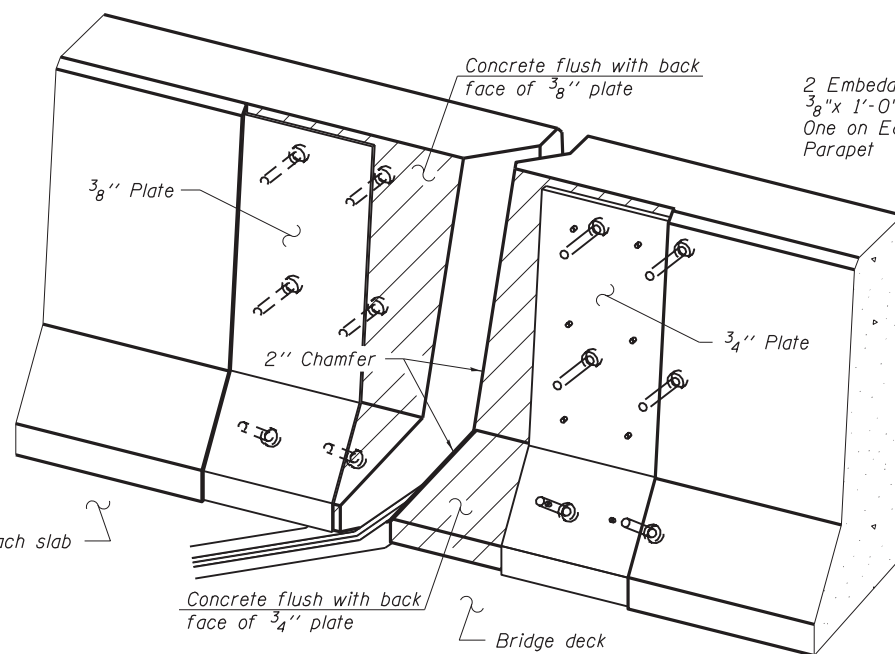
MIDDLE PARAPET CORNER DETAIL



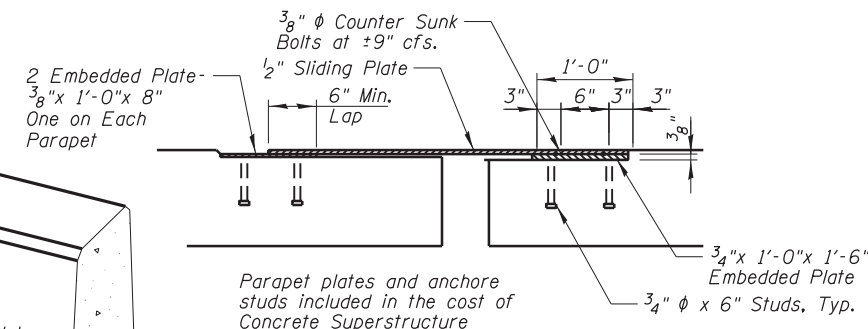
SECTION A-A



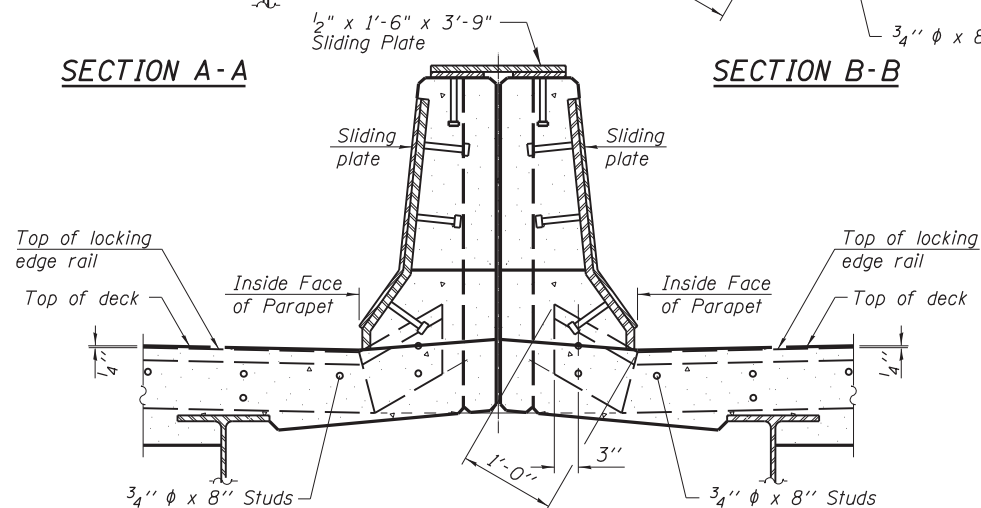
SECTION B-B



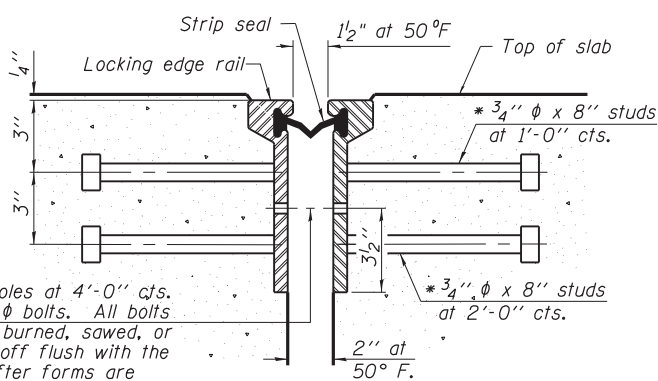
TRIMETRIC VIEW
(Showing back plates only)



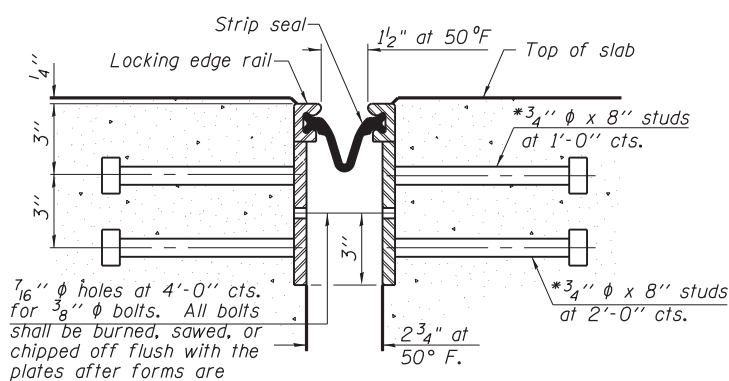
SECTION E-E



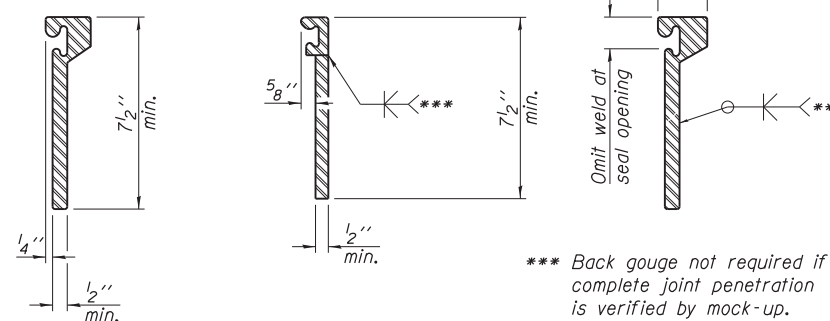
SECTION D-D



SECTION THRU ROLLED RAIL JOINT



SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL WELDED RAIL

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

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 at stage lines shall be 3/16", sealed with a suitable sealant.
Parapet plates and anchorage studs for skews $> 30^\circ$ included in the cost of Preformed Joint Strip Seal.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	219

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

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

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PREFORMED JOINT STRIP SEAL
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	352
				CONTRACT NO. 60G37

N:\ROSEMONT\11000\A\CADD_Sheets\0167943-016.555101.rvt.dgn
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 Rosemont, Illinois 60018
 (847) 924-6500

INTERIOR GIRDER MOMENT TABLE		
0.5 Span		
I_s	(in ⁴)	23,988
$I_c(n)$	(in ⁴)	68,514
$I_c(3n)$	(in ⁴)	47,789
$I_c(cr)$	(in ⁴)	—
S_s	(in ³)	1,311
$S_c(n)$	(in ³)	1,784.4
$S_c(3n)$	(in ³)	1,643.4
$S_c(cr)$	(in ³)	—
DC1	(k/')	1.02
M _{DC1}	(k)	1,748
DC2	(k/')	0.080
M _{DC2}	(k)	136.9
DW	(k/')	0.39
M _{DW}	(k)	667.3
M _{± · IM}	(k)	2,023
M _u (Strength I)	(k)	6,897
Φ _r M _n	(k)	8,486
f _s DC1	(ksi)	16.00
f _s DC2	(ksi)	1.00
f _s DW	(ksi)	4.81
f _s (± · IM)	(ksi)	13.6
f _s (Service II)	(ksi)	39.6
0.95R _n F _{yr}	(ksi)	47.5
f _s (Total)(Strength I)	(ksi)	52.4
Φ _r F _v	(ksi)	—
V _r	(k)	66.9

INTERIOR GIRDER REACTION TABLE		
		Abut.
R _{DC1}	(k)	59.8
R _{DC2}	(k)	4.7
R _{DW}	(k)	22.8
R _{± · IM}	(k)	114.3
R _{Total}	(k)	201.6

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: 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 (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 (in⁴ and in³).

$I_c(cr), S_c(cr)$: 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 dead loads (in⁴ and in³).

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_{± · IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).

$1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{± · IM}$

Φ_rM_n: Compact composite positive moment capacity computed according to Article 6.10.7.1 (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.

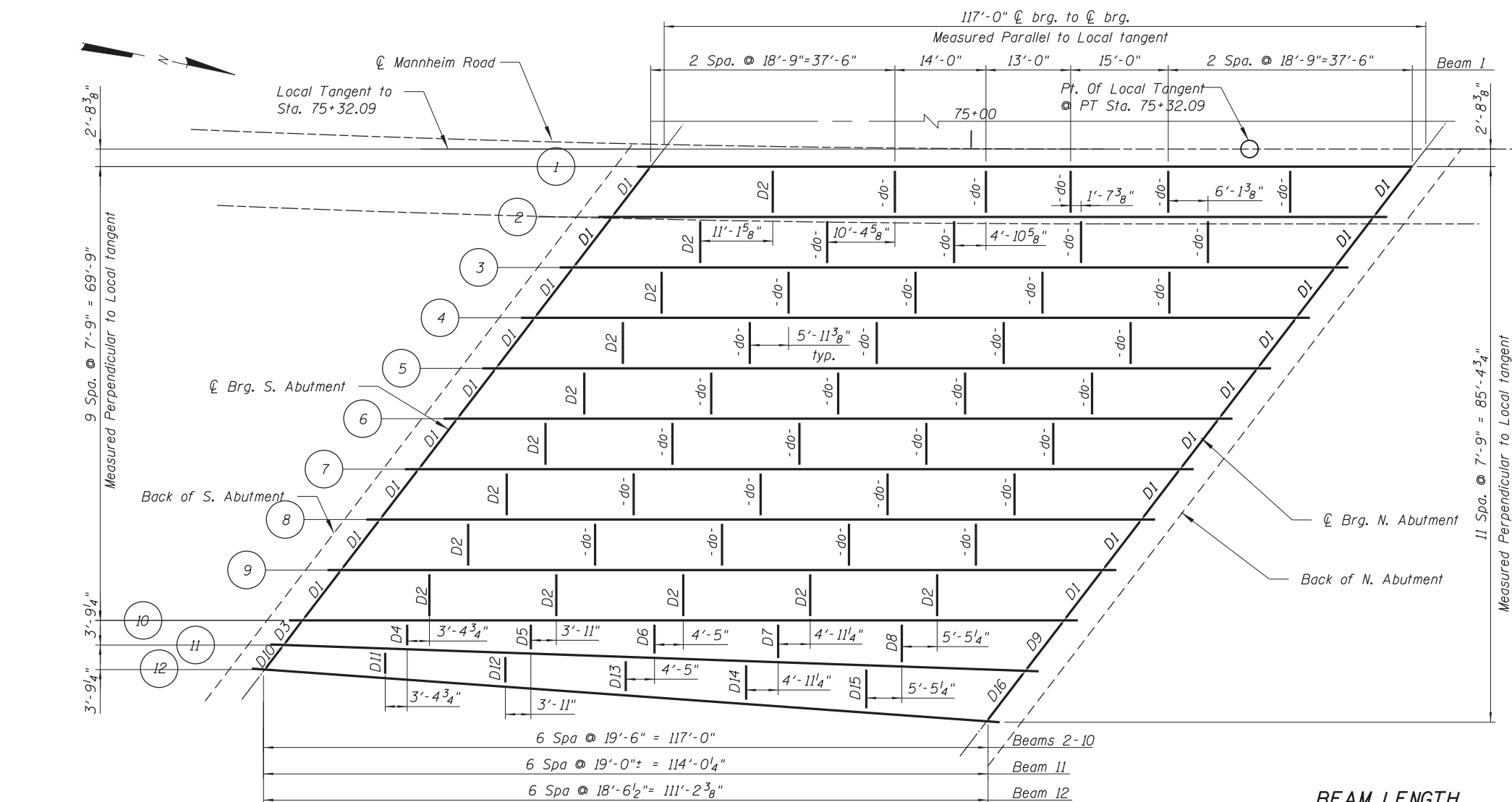
f_s (± · IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live plus impact loads as calculated below (ksi).

M_{± · IM} / S_{c(3n)} or M_{± · IM} / S_{c(cr)} as applicable.

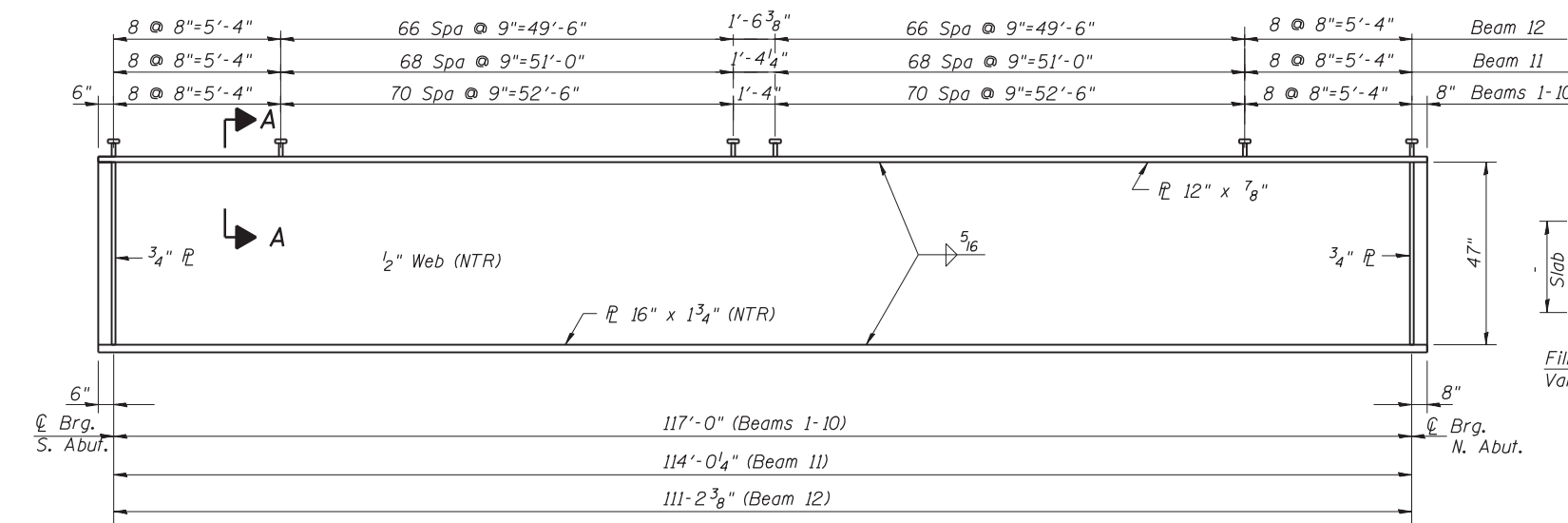
f_s (Service II): Sum of stresses as computed below (ksi).

f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s (± · IM)

0.95R_nF_{yr}: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).



FRAMING PLAN



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

NOTES:

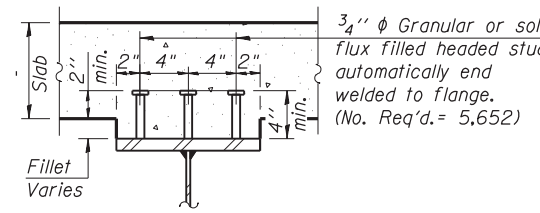
- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).

$1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_{s ± · IM}$

Φ_rF_n: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).

V_r: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.



SECTION A-A

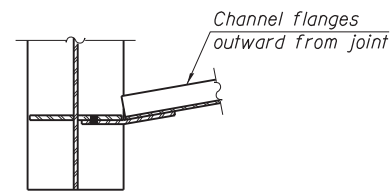
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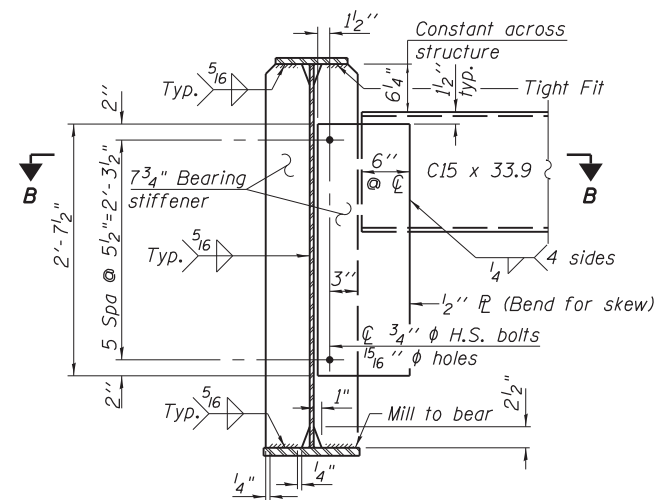
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING PLAN
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	353
CONTRACT NO. 60G37				

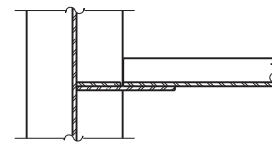


SECTION B-B

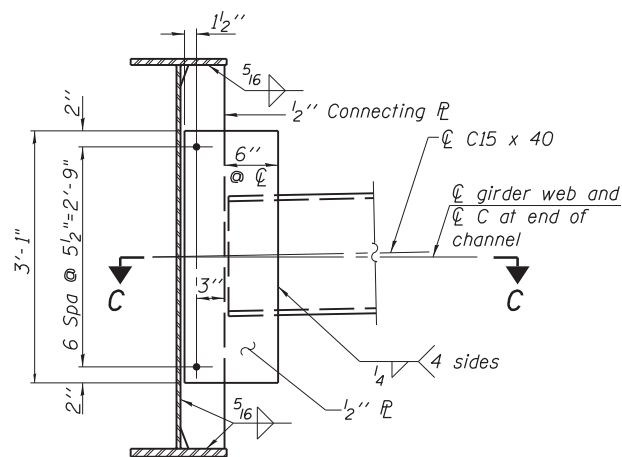


END DIAPHRAGM D1, D3, D9, D10, D16

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

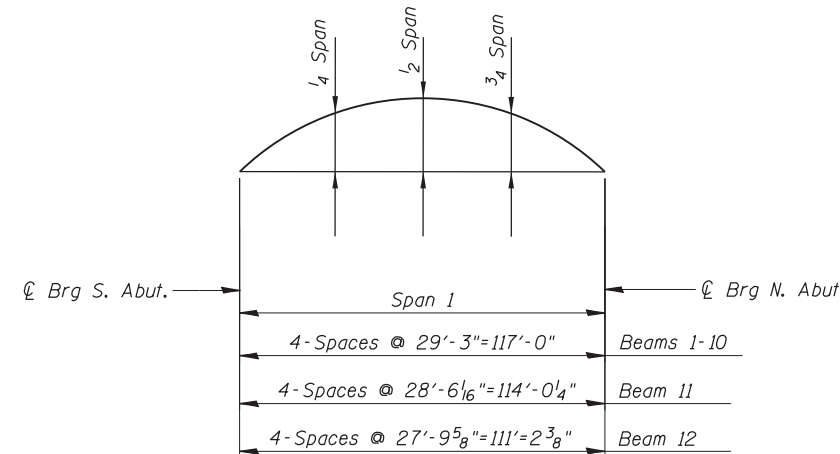


SECTION C-C



INTERIOR DIAPHRAGM D2, D4-D8, & D11-D15

Note:
Two hardened washers required for each set of oversized holes.
*3/4" φ HS bolts, 15/16" φ holes



CAMBER DIAGRAM

Beam	Span		
	1/4	1/2	3/4
1-10	4 ⁵ / ₈ "	6 ³ / ₈ "	4 ⁵ / ₈ "
11	3 ³ / ₈ "	4 ³ / ₄ "	3 ³ / ₈ "
12	2 ⁷ / ₈ "	4"	2 ⁷ / ₈ "

TOP OF WEB ELEVATION FOR FABRICATION ONLY

Beam	S. Abutment	N. Abutment
Beam 1	639.736	640.298
Beam 2	640.022	640.578
Beam 3	640.247	640.804
Beam 4	640.471	641.022
Beam 5	640.695	641.240
Beam 6	640.920	641.458
Beam 7	641.146	641.676
Beam 8	641.371	641.894
Beam 9	641.597	642.112
Beam 10	641.824	642.331
Beam 11	641.887	642.550
Beam 12	641.708	642.422

NOTES:

- All structure steel for Plate Girder and Bearing Stiffeners, shall be AASHTO M270 Grade 50.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- Clip all cross frame connection plates 1" horizontally and 2 1/2" vertically at web to flange connection.
- All Bearing Stiffeners, and Cross Frame Connection Plates Shall be perpendicular to the centerline of the plate girders.

THIS SHEET IS FOR INFORMATION ONLY

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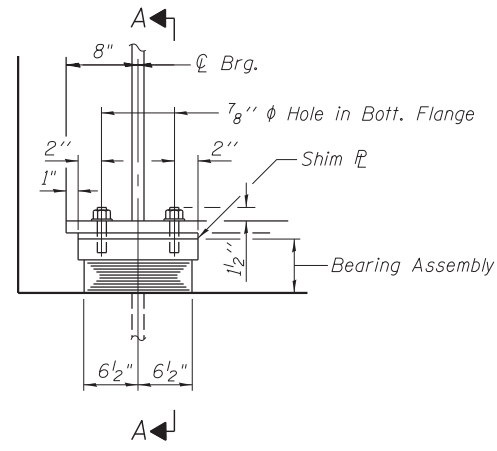
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**STATE OF ILLINOIS
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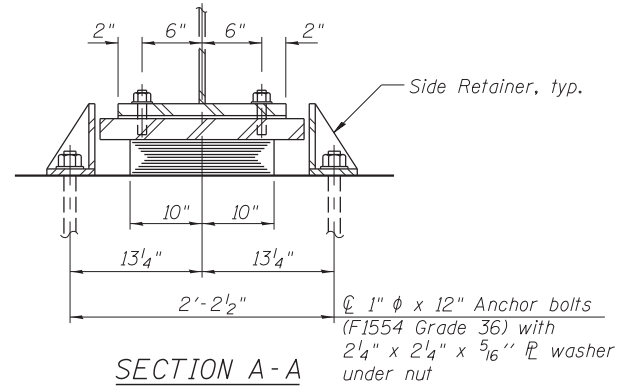
**DIAPHRAGM DETAILS
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

F.A. RTE. = 330	SECTION = 0105 WRS&HB	COUNTY = COOK	TOTAL SHEETS = 605	SHEET NO. = 354
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

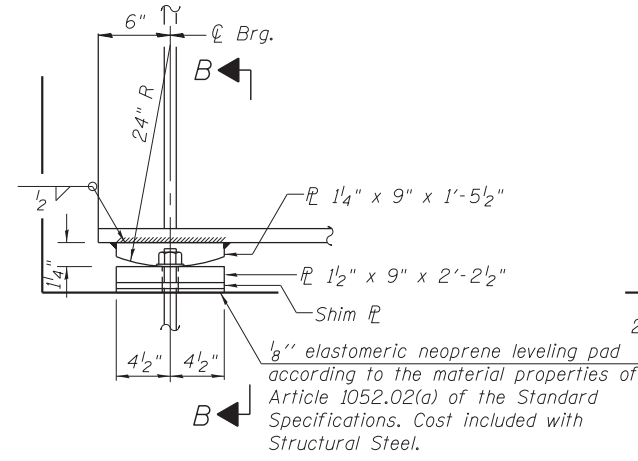
SHEET NO. 5-18 OF 5-26 SHEETS



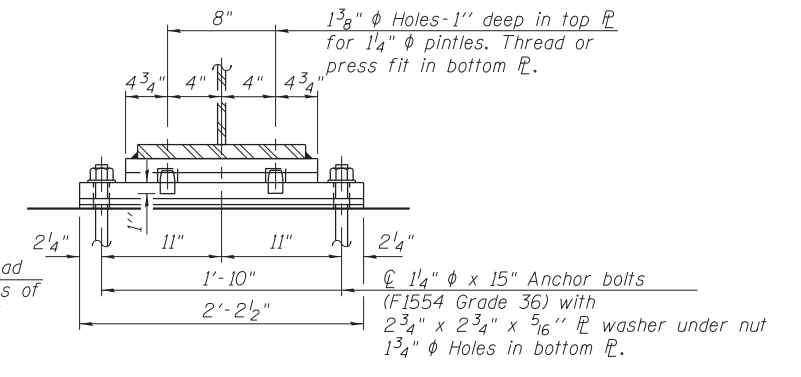
ELEVATION AT NORTH ABUT.



SECTION A-A



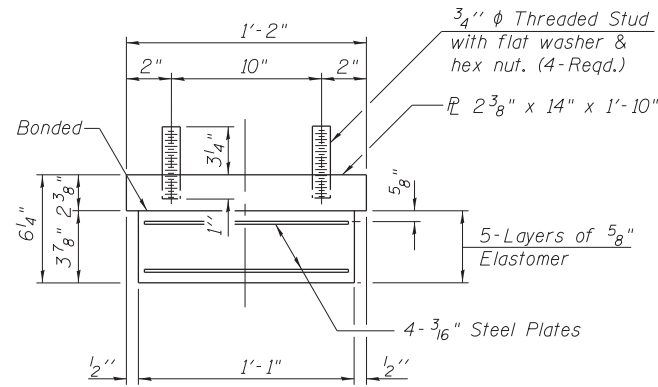
ELEVATION AT SOUTH ABUT.



SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.

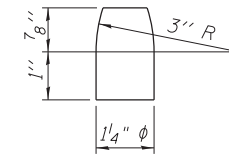
FIXED BEARING



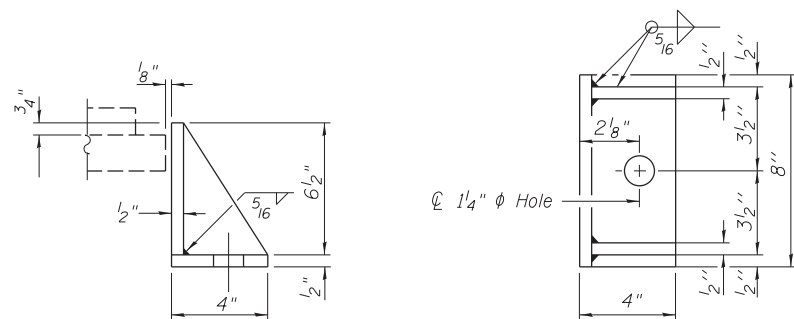
BEARING ASSEMBLY

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

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



PINTLE



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Erecting Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, 1"	Each	24
Anchor Bolts, 1 1/4"	Each	24

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	CHECKED - MM	REVISED

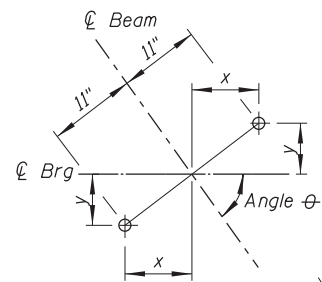
STATE OF ILLINOIS
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BEARING DETAILS
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

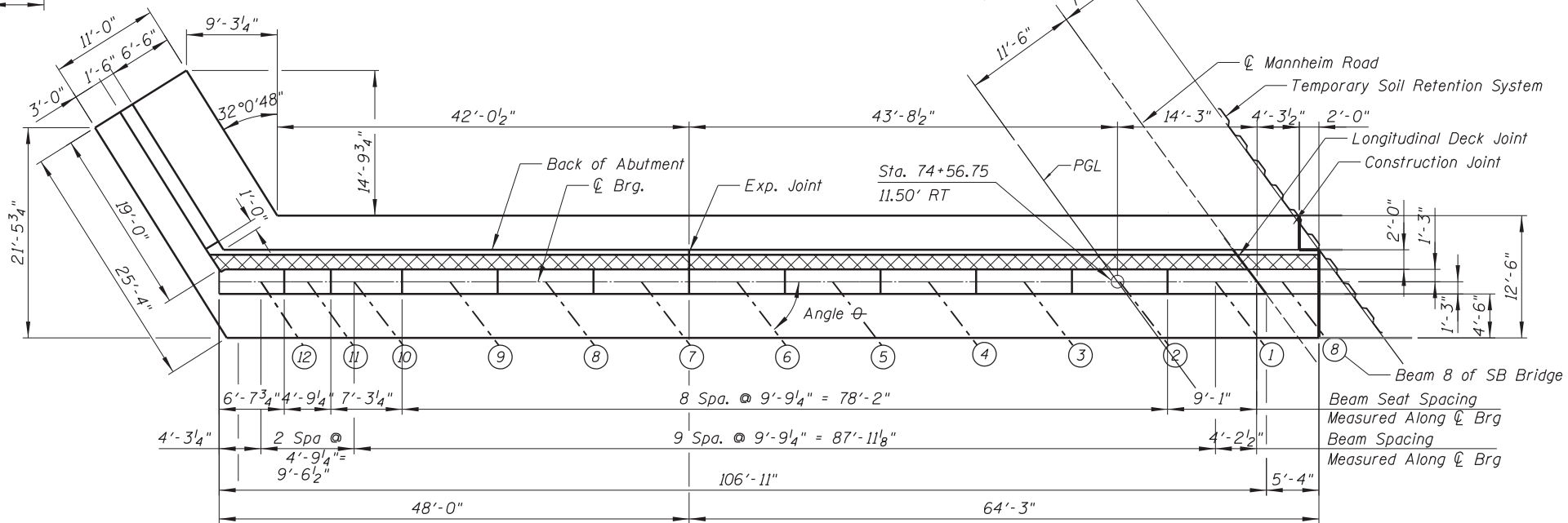
SHEET NO. S-19 OF S-26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	355
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

ANCHOR BOLT LOCATION



Beam	x	y
1-10	8 3/4"	6 5/8"
11	9"	6 3/8"
12	9 1/8"	6"



PLAN

BEAM STEPS

Beam	Step Height
1-2	3 3/8"
2-3	2 3/4"
3-4	2 5/8"
4-5	2 3/4"
5-6	2 3/4"
6-7	2 3/4"
7-8	2 3/4"
8-9	2 3/4"
9-10	2 3/4"
10-11	3/4"
11-12	-2 1/8"

ANGLE TABLE

Beam	Angle θ *
1	52°-30'-53"
2	52°-30'-53"
3	52°-30'-53"
4	52°-30'-53"
5	52°-30'-53"
6	52°-30'-53"
7	52°-30'-53"
8	52°-30'-53"
9	52°-30'-53"
10	52°-30'-53"
11	54°-30'-36"
12	56°-36'-35"

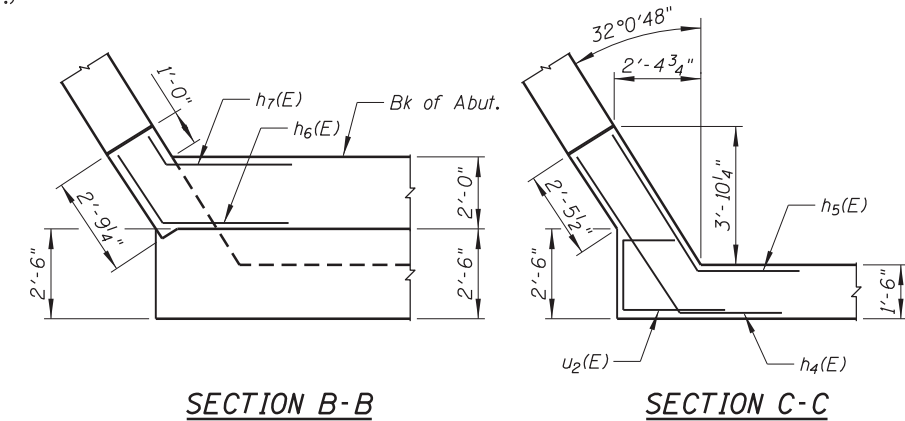
* Measured Relative to ϕ Bearing

BEAM SEAT ELEVATION

Beam	Elevation
1	635.43
2	635.71
3	635.94
4	636.16
5	636.39
6	636.61
7	636.84
8	637.06
9	637.29
10	637.52
11	637.58
12	637.40

MIN. BAR LAP

Bar	Bar Lap
#4	2'-3"
#5	2'-10"

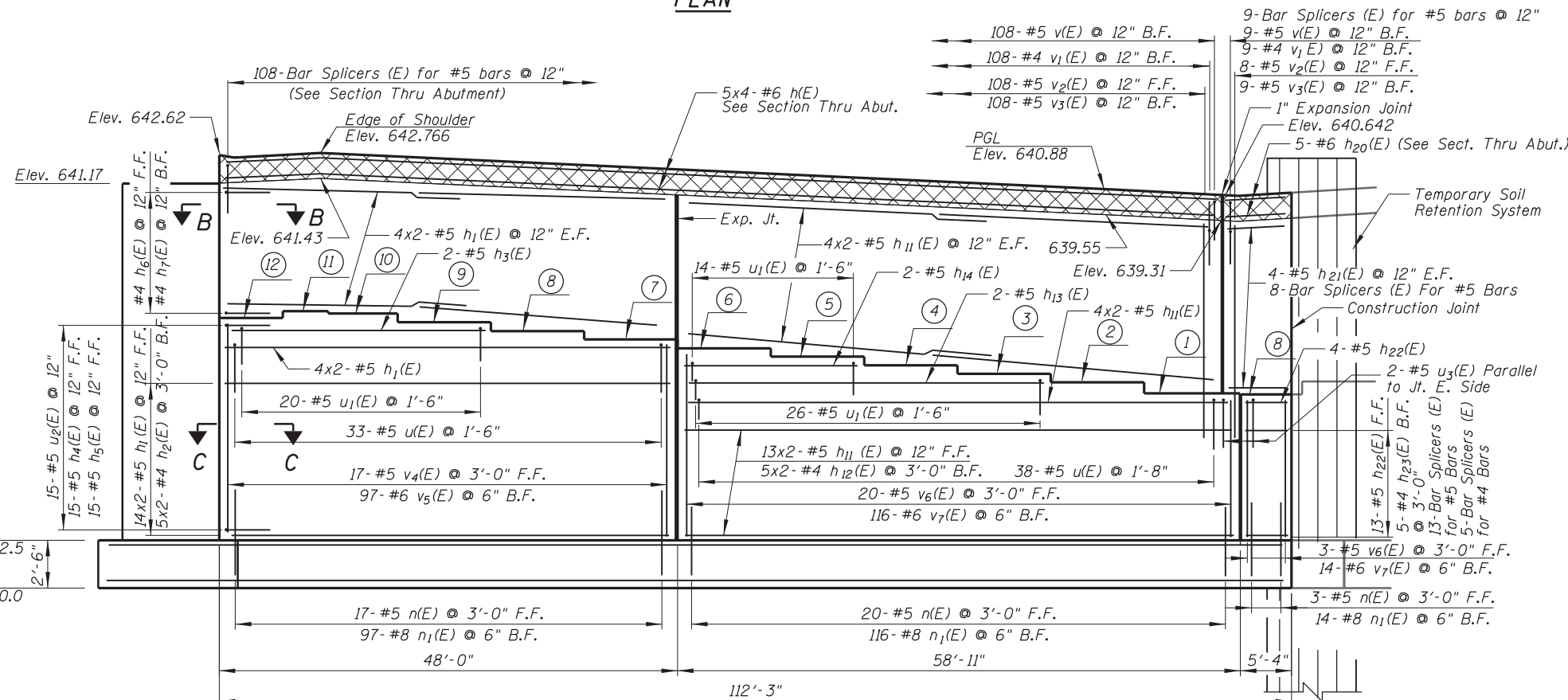


SECTION B-B

SECTION C-C

LEGEND:

F.F. Front Face
B.F. Back face
E.F. Each face



ELEVATION

Looking South

Maximum Applied Service Bearing Pressure (Q_{max}) = 5.8 ksf

N:\ROSEMONT\11000\CADD_Sheets\0167943-0168037-020_SAabutment.dgn

CHRISTOPHER B. BURKE ENGINEERING, LTD.
8575 W. Higgins Road, Suite 600
Rosemont, Illinois 60018
(847) 924-6900

USER NAME =	DESIGNED - MM	REVISED
PLOT SCALE =	CHECKED - JMB	REVISED
PLOT DATE	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT - PLAN AND ELEVATION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

SHEET NO. S-20 OF S-26 SHEETS

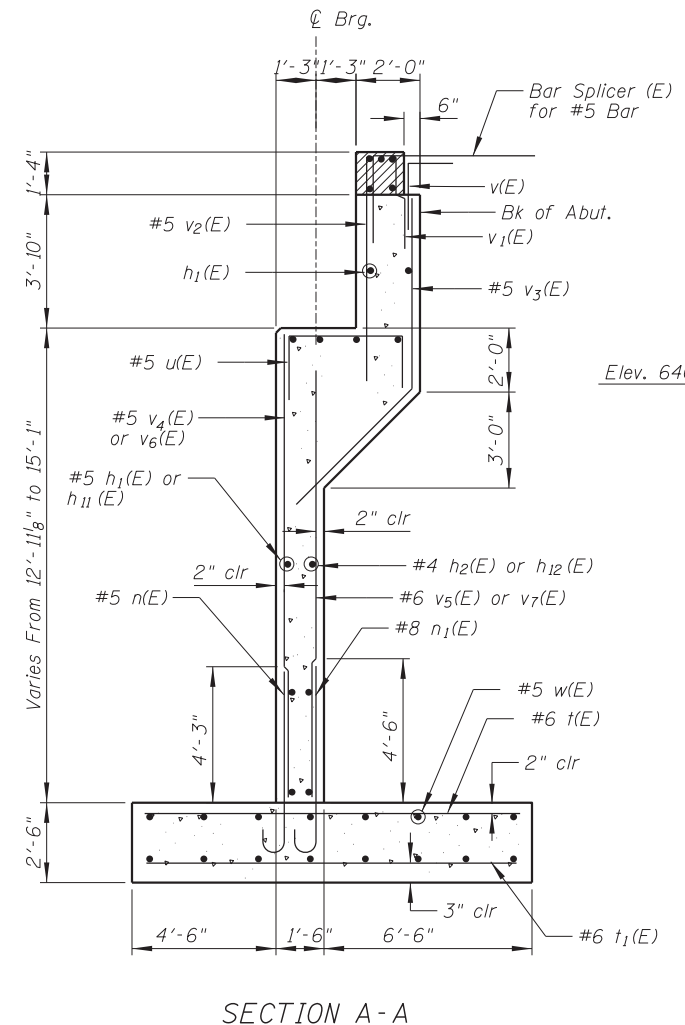
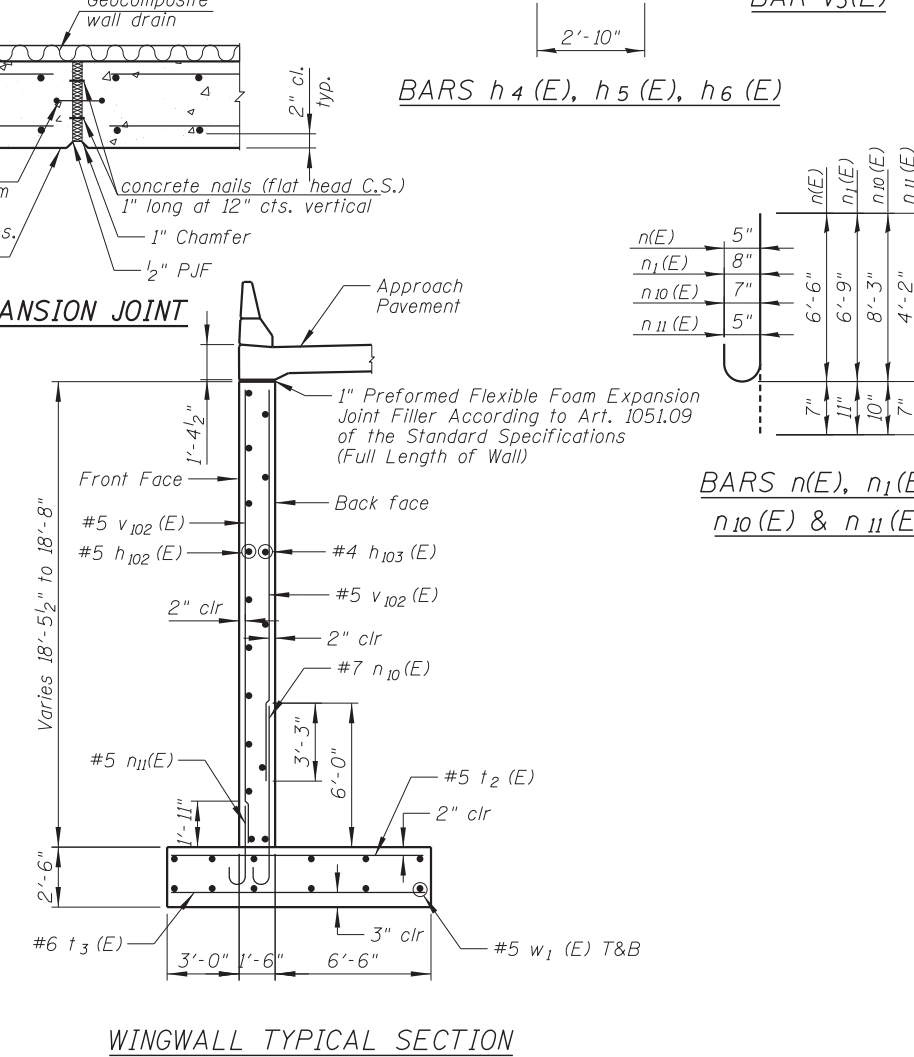
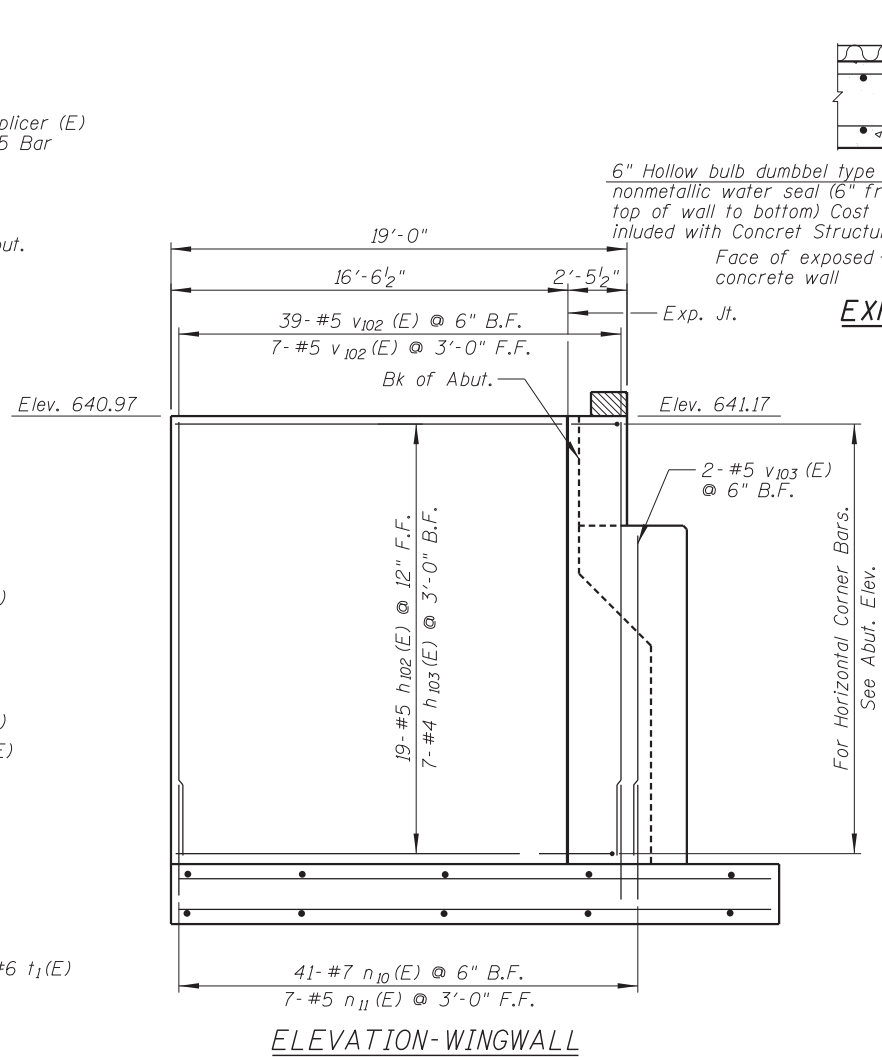
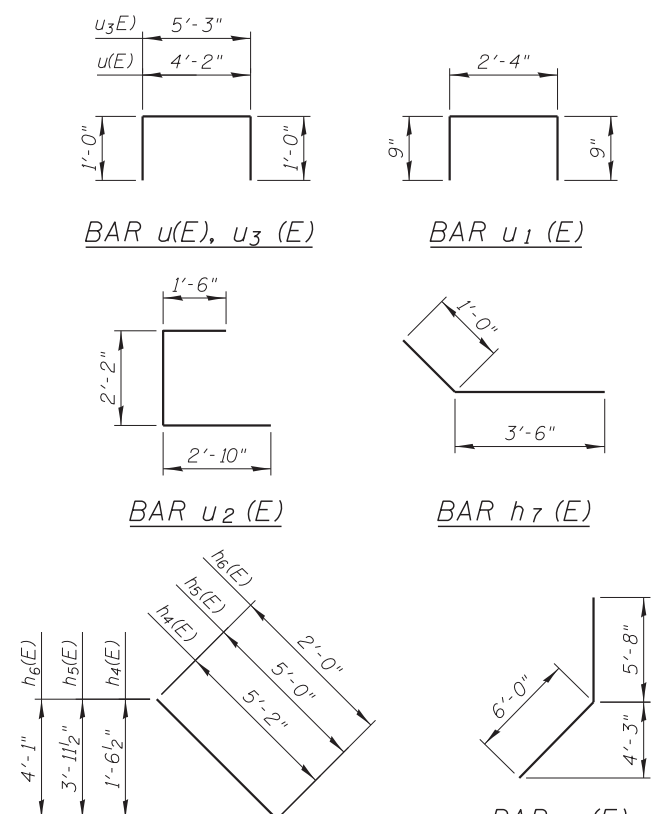
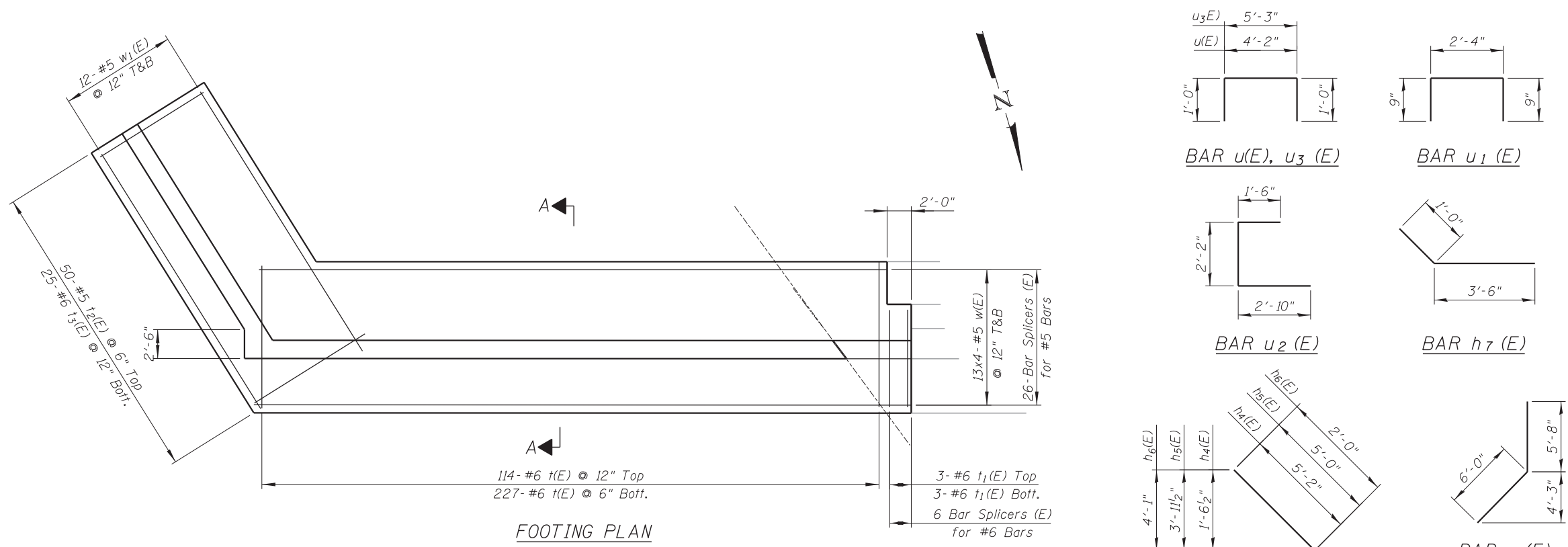
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	356
				CONTRACT NO. 60G37

ILLINOIS FED. AID PROJECT

**SOUTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h (E)	20	#6	27'-9"	—
h ₁ (E)	52	#5	25'-5"	—
h ₂ (E)	10	#4	25'-5"	—
h ₃ (E)	2	#5	28'-0"	—
h ₄ (E)	15	#5	8'-0"	—
h ₅ (E)	15	#5	7'-10"	—
h ₆ (E)	4	#5	4'-10"	—
h ₇ (E)	4	#5	4'-6"	—
h ₁₁ (E)	50	#5	30'-10"	—
h ₁₂ (E)	10	#4	30'-10"	—
h ₁₃ (E)	2	#5	38'-9"	—
h ₁₄ (E)	2	#5	19'-0"	—
h ₂₀ (E)	5	#6	8'-0"	—
h ₂₁ (E)	8	#5	7'-0"	—
h ₂₂ (E)	17	#5	5'-0"	—
h ₂₃ (E)	5	#4	6'-2"	—
h ₁₀₂ (E)	19	#5	16'-2"	—
h ₁₀₃ (E)	7	#4	16'-2"	—
n (E)	40	#5	7'-1"	—
n ₁ (E)	227	#8	7'-8"	—
n ₁₀ (E)	41	#7	9'-1"	—
n ₁₁ (E)	7	#5	4'-9"	—
t (E)	341	#6	12'-2"	—
t ₁ (E)	6	#6	8'-8"	—
t ₂ (E)	50	#5	10'-8"	—
t ₃ (E)	25	#6	10'-8"	—
u (E)	71	#5	6'-2"	—
u ₁ (E)	60	#5	3'-8"	—
u ₂ (E)	15	#5	6'-6"	—
u ₃ (E)	4	#5	7'-3"	—
v (E)	117	#5	3'-10"	—
v ₁ (E)	117	#4	3'-0"	—
v ₂ (E)	116	#5	6'-2"	—
v ₃ (E)	117	#5	11'-8"	—
v ₄ (E)	17	#5	14'-2"	—
v ₅ (E)	97	#6	14'-2"	—
v ₆ (E)	23	#5	12'-9"	—
v ₇ (E)	130	#6	12'-9"	—
v ₁₀₂ (E)	46	#5	18'-0"	—
v ₁₀₃ (E)	2	#5	14'-6"	—
w (E)	104	#5	30'-0"	—
w ₁ (E)	24	#5	24'-6"	—
Concrete Superstructure	Cu. Yd.	9.4		
Concrete Structures	Cu. Yd.	335.4		
Reinforcement Bars, Epoxy Coated	Pound	31,840		
Structure Excavation	Cu. Yd.	1,696		
Concrete Sealer	Sq. Ft.	718		
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	182		

- NOTES:
- Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
 - Space reinforcement in cap to miss anchor bolts.
 - Pour steps monolithically with cap.
 - Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".
 - For Limits of Removal and Disposal of Unsuitable Material for Structures, See S-3 of S-26.



N:\ROSEMONT\11000\CADD_Sheets\0167943-D160337-021_SAbutment.dgn
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 Rosemont, Illinois 60018
 (847) 924-2500

USER NAME =	DESIGNED - MM	REVISED
PLOT SCALE =	CHECKED - JMB	REVISED
PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

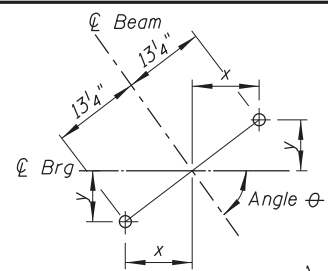
**SOUTH ABUTMENT - FOOTING PLAN AND SECTION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	357
				CONTRACT NO. 60G37

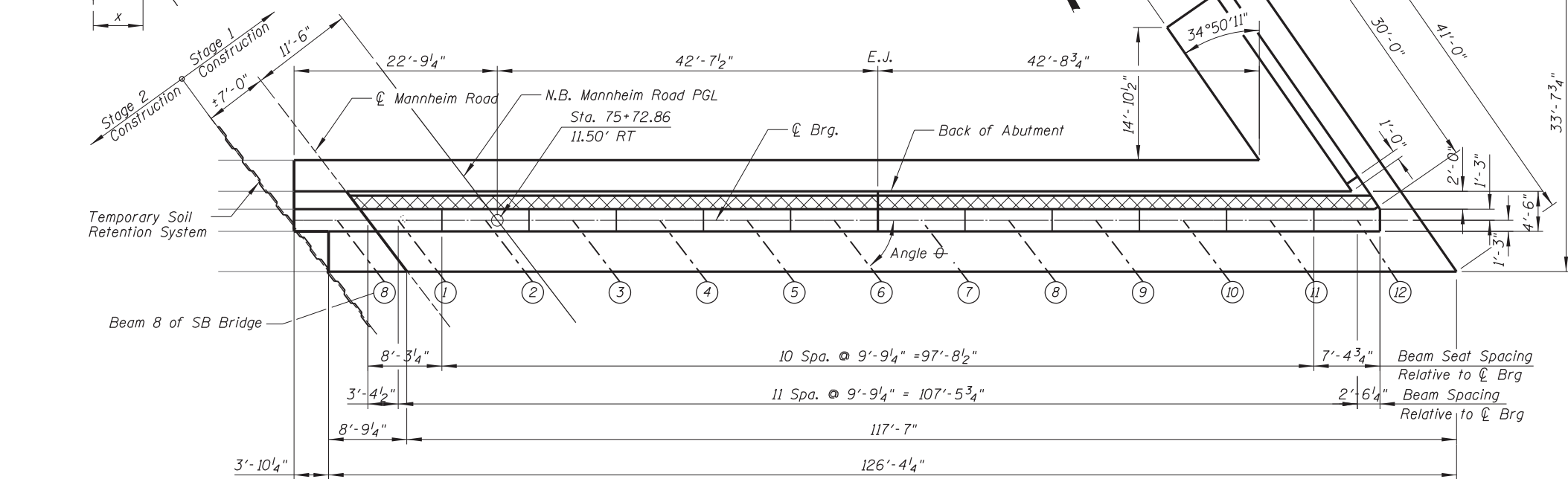
SHEET NO. S-21 OF S-26 SHEETS

ILLINOIS FED. AID PROJECT

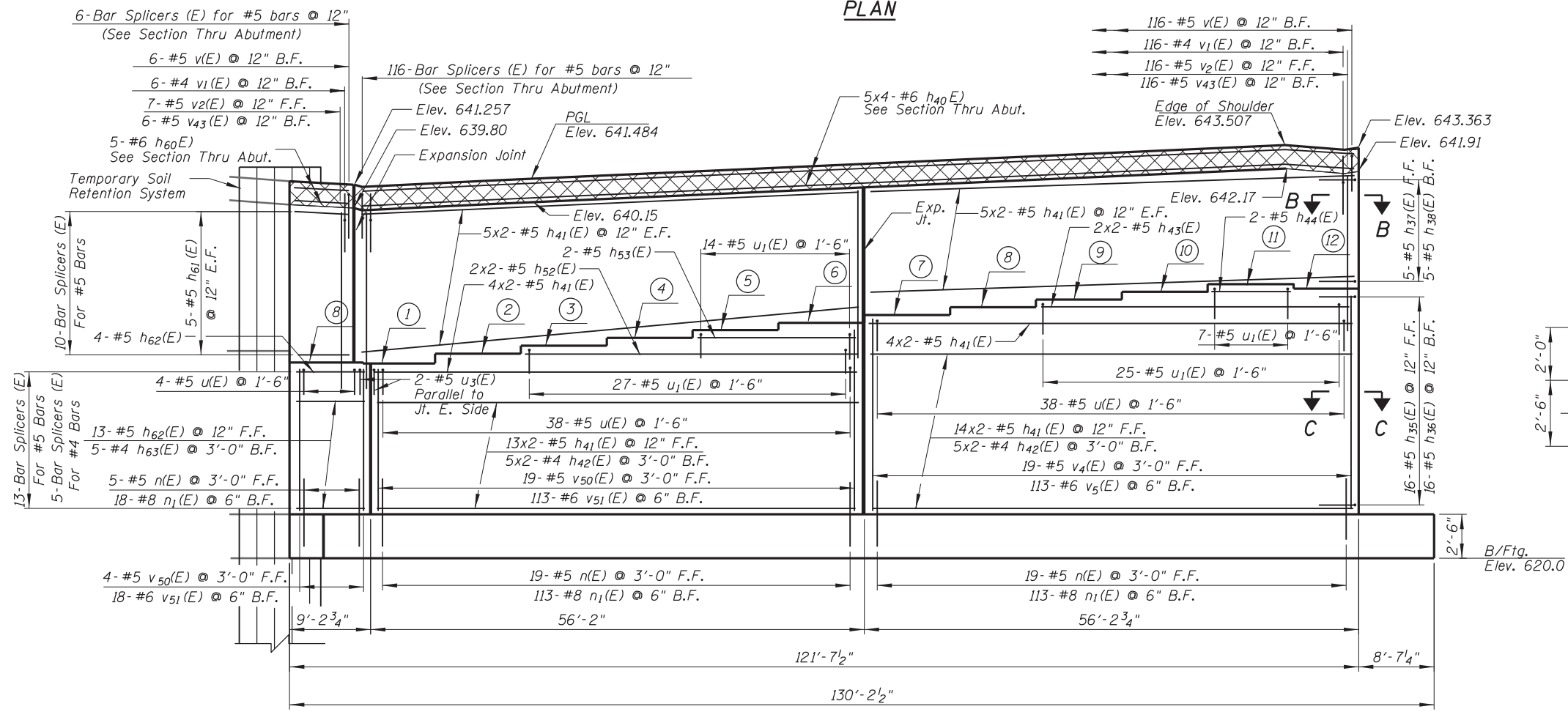
ANCHOR BOLT LOCATION



Beam	x	y
1-10	10 1/2"	8"
11	10 3/4"	7 5/8"
12	11"	7 1/4"



PLAN



ELEVATION

Maximum Applied Service Bearing Pressure (Q_{max}) = 5.8 ksf

- NOTES:**
1. Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
 2. Space reinforcement in cap to miss anchor bolts.
 3. Pour steps monolithically with cap.
 4. Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".

BEAM STEPS

Beam	Step Height
1-2	3 3/8"
2-3	2 3/4"
3-4	2 5/8"
4-5	2 5/8"
5-6	2 5/8"
6-7	2 5/8"
7-8	2 5/8"
8-9	2 5/8"
9-10	2 5/8"
10-11	2 5/8"
11-12	-1 1/2"

BEAM SEAT ELEVATION

Beam	Elevation
1	635.70
2	635.98
3	636.21
4	636.42
5	636.64
6	636.86
7	637.08
8	637.30
9	637.51
10	637.73
11	637.95
12	637.82

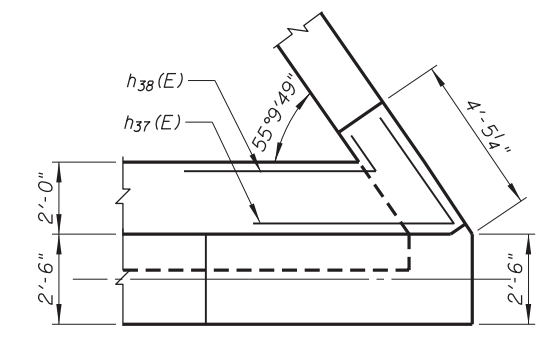
MIN. BAR LAP

Bar	Bar Lap
#4	2'-3"
#5	2'-10"

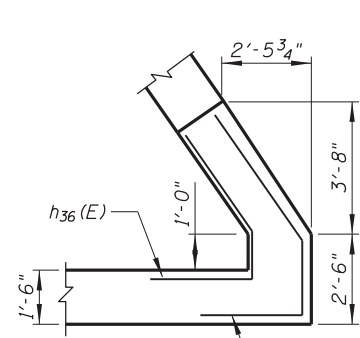
SKEW ANGLE TABLE

Beam	Angle θ *
1	52°-30'-53"
2	52°-30'-53"
3	52°-30'-53"
4	52°-30'-53"
5	52°-30'-53"
6	52°-30'-53"
7	52°-30'-53"
8	52°-30'-53"
9	52°-30'-53"
10	52°-30'-53"
11	54°-30'-36"
12	56°-36'-35"

* Measured Relative to ϕ Bearing



SECTION B-B



SECTION C-C

- LEGEND:**
- F.F. Front Face
 - B.F. Back face
 - E.F. Each face

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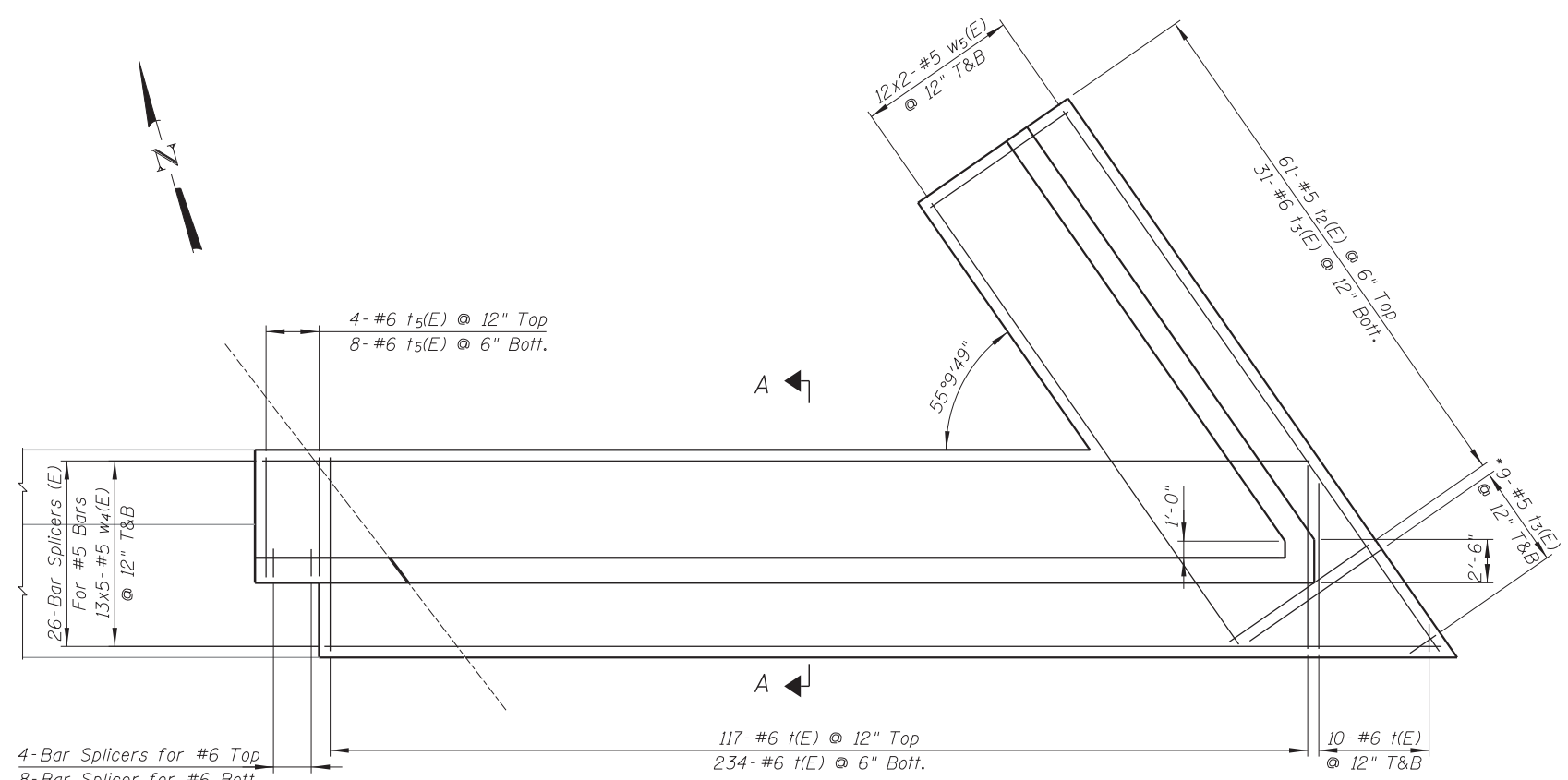
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PLOT SCALE =	CHECKED - JMB	REVISED
PLOT DATE	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

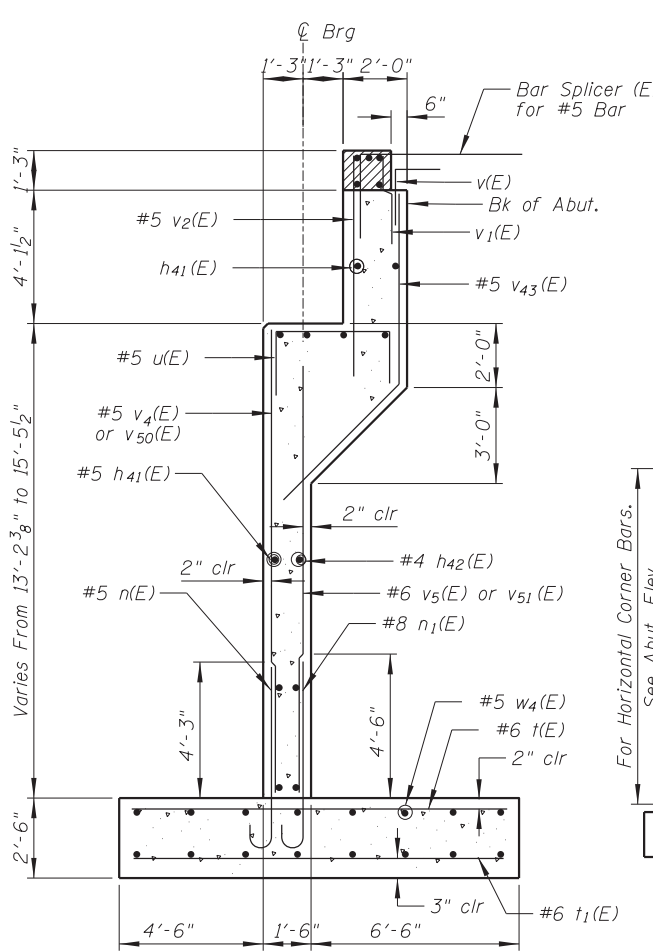
NORTH ABUTMENT - PLAN AND ELEVATION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	358
CONTRACT NO. 60G37			ILLINOIS FED. AID PROJECT	

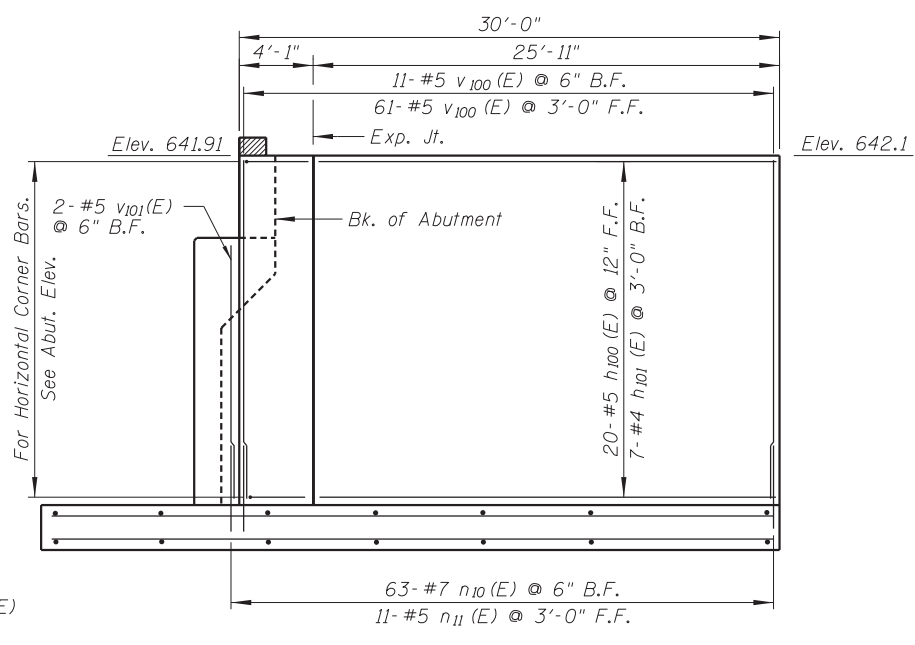
SHEET NO. S-22 OF S-26 SHEETS



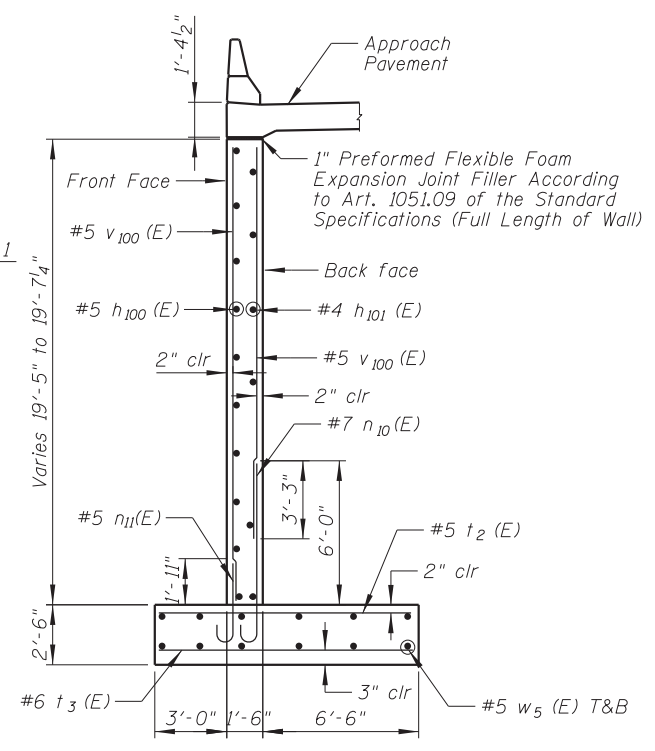
FOOTING PLAN



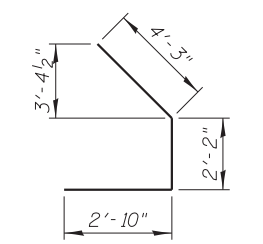
SECTION A-A



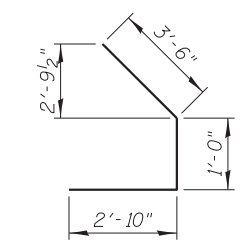
ELEVATION-WINGWALL



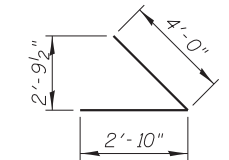
WINGWALL TYPICAL SECTION



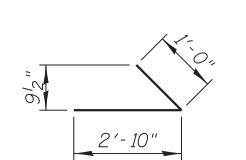
BAR h35(E)



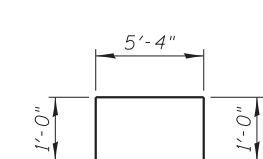
BAR h36(E)



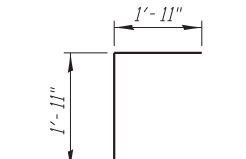
BAR h37(E)



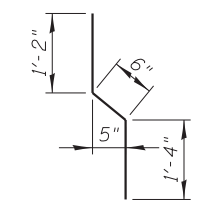
BAR h38(E)



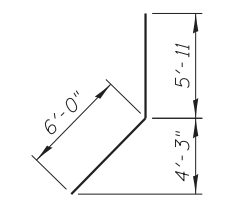
BAR u3(E)



BAR v(E)



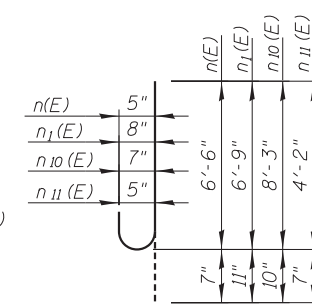
BAR v1(E)



BAR v43(E)

**NORTH ABUTMENT
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h35(E)	16	#5	9'-3"	└┘
h36(E)	16	#5	7'-4"	└┘
h37(E)	5	#5	6'-10"	└┘
h38(E)	5	#5	3'-10"	└┘
h40(E)	20	#6	31'-6"	—
h41(E)	110	#5	29'-6"	—
h42(E)	20	#4	29'-6"	—
h43(E)	4	#5	19'-9"	—
h44(E)	2	#5	9'-5"	—
h52(E)	4	#5	21'-0"	—
h53(E)	2	#5	19'-3"	—
h60(E)	5	#6	7'-0"	—
h61(E)	10	#5	7'-0"	—
h62(E)	17	#5	8'-10"	—
h63(E)	5	#4	7'-8"	—
h100(E)	20	#5	25'-7"	—
h101(E)	7	#4	25'-7"	—
n(E)	43	#5	7'-1"	└┘
n1(E)	244	#8	7'-8"	└┘
n10(E)	63	#7	9'-1"	—
n11(E)	11	#5	4'-9"	—
t(E)	361	#6	12'-2"	—
t2(E)	61	#5	10'-8"	—
t3(E)	40	#6	10'-8"	—
t5(E)	12	#6	7'-10"	—
u(E)	80	#5	6'-2"	—
u1(E)	73	#5	3'-8"	—
u3(E)	4	#5	7'-4"	└┘
v(E)	122	#5	3'-10"	└┘
v1(E)	122	#4	3'-0"	└┘
v2(E)	123	#5	6'-2"	—
v43(E)	122	#5	11'-11"	└┘
v4(E)	19	#5	14'-2"	—
v5(E)	113	#6	14'-2"	—
v50(E)	23	#5	13'-0"	—
v51(E)	131	#6	13'-0"	—
v100(E)	72	#5	19'-0"	—
v101(E)	2	#5	15'-0"	—
w4(E)	130	#5	27'-6"	—
w5(E)	48	#5	20'-10"	—
Concrete Superstructure	Cu. Yd.		9.5	
Concrete Structures	Cu. Yd.		387.3	
Reinforcement Bars, Epoxy Coated	Pound		36,490	
Structure Excavation	Cu. Yd.		1,911	
Concrete Sealer	Sq. Ft.		813	
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.		404	



**BARS n(E), n1(E),
n10(E) & n11(E)**

- NOTES:**
1. Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
 2. Space reinforcement in cap to miss anchor bolts.
 3. Pour steps monolithically with cap.
 4. Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".
 5. For Limits of Removal and Disposal of Unsuitable Material for Structures, See S-3 of S-26.

N:\ROSEMONT\11000\CADD_Sheets\0167943-0168037-023_NAbutment.dgn
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 9575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 952-6500

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PLOT SCALE =	CHECKED - JMB	REVISED
PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

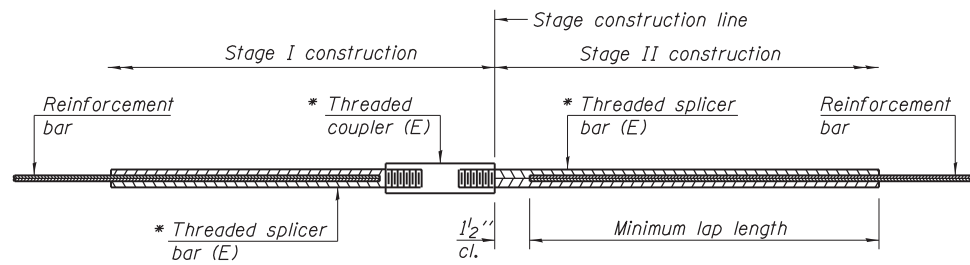
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT - PLAN AND ELEVATION
NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	359
				CONTRACT NO. 60G37

SHEET NO. S-23 OF S-26 SHEETS

ILLINOIS FED. AID PROJECT



**** STANDARD BAR SPLICER ASSEMBLY**

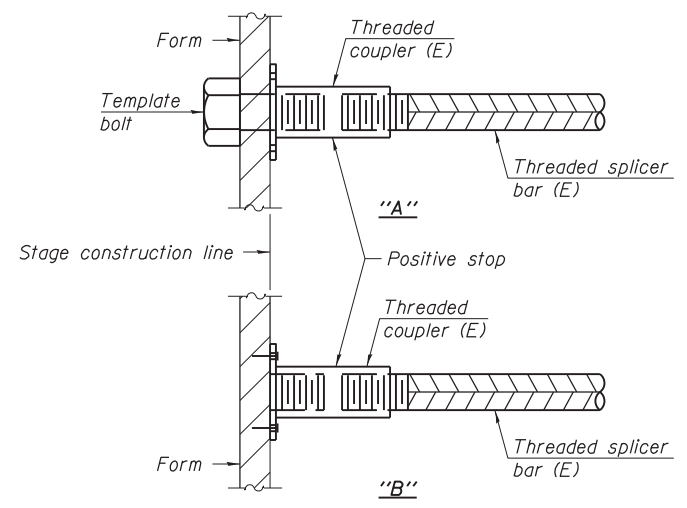
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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

Threaded splicer bar length = min. lap length + 1/2" + thread length

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

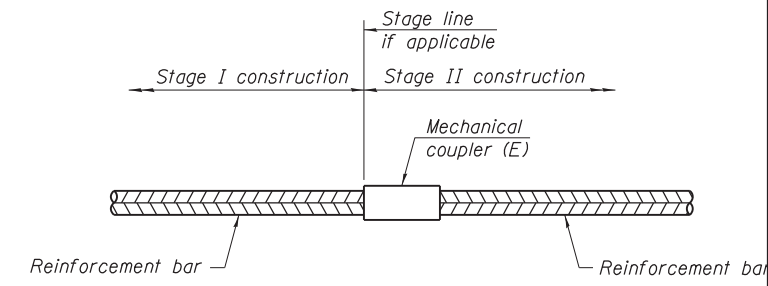
Location	Bar size	No. assemblies required	Table for minimum lap length
S. Abutment	#5	21	Table 4
S. Abutment	#4	5	Table 4
S. Abutment	#6	2	Table 4
S. Abutment	#6	4	Table 3
S. Abutment	#5	13	Table 4
S. Abutment	#5	13	Table 3
N. Abutment	#5	23	Table 4
N. Abutment	#4	5	Table 4
N. Abutment	#6	4	Table 4
N. Abutment	#5	8	Table 3
N. Abutment	#5	13	Table 4
N. Abutment	#5	13	Table 3
S. Approach Slab	#4	25	Table 4
S. Approach Slab	#5	46	Table 3
S. Approach Footing	#5	40	Table 3
N. Approach Slab	#4	25	Table 4
N. Approach Slab	#5	46	Table 3
N. Approach Footing	#5	40	Table 3



INSTALLATION AND SETTING METHODS

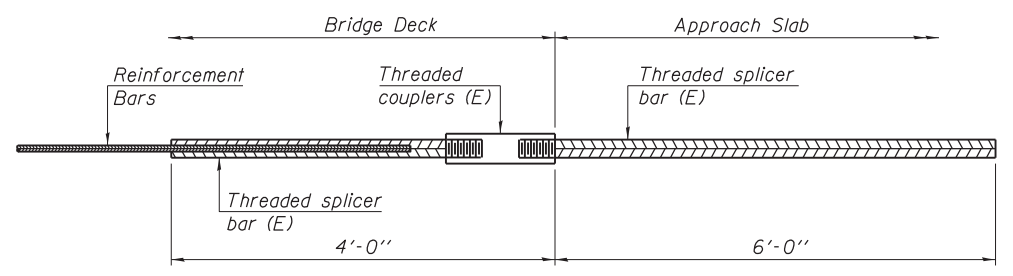
"A": Set bar splicer assembly by means of a template bolt.
 "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E): Indicates epoxy coating.

** Bar splicers shall be furnished and paid for during Stage I construction. Bar Splicer coupler ends shall be furnished and installed during Stage I construction (SN 016-7943). Bar splicer rod ends shall be furnished during Stage I construction and stored by the Department until installation during Stage II construction (SN 016-7942). The Contractor shall obtain the Bar Splicer rod ends from the Department and install them during Stage II construction. Bar Splicers will be paid for at the unit cost per each Bar Splicer, where each bar splicer includes both the coupler and the rod end. Bar Splicer rod ends will not be measured for payment separately from coupler ends and the cost for installing the Bar Splicer rod ends shall be included with the pay item for Reinforcement Bars, Epoxy Coated during Stage II Construction.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required

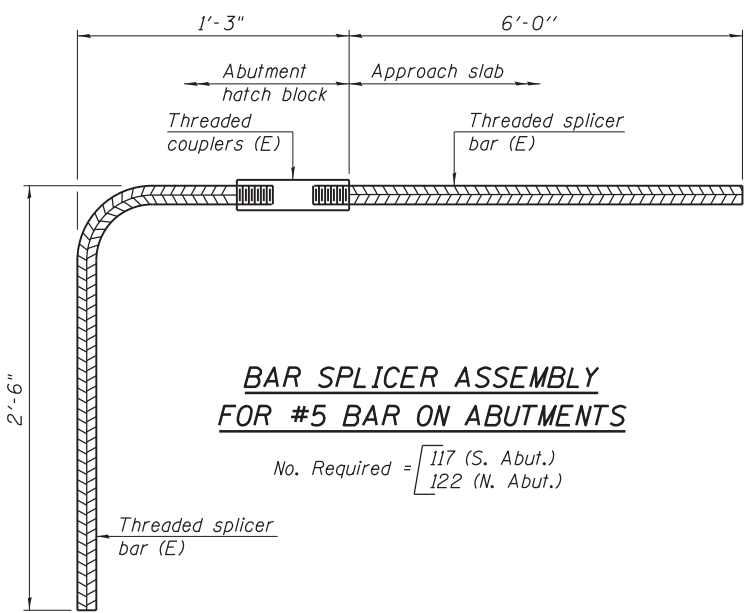


BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.



BAR SPLICER ASSEMBLY FOR #5 BAR ON ABUTMENTS

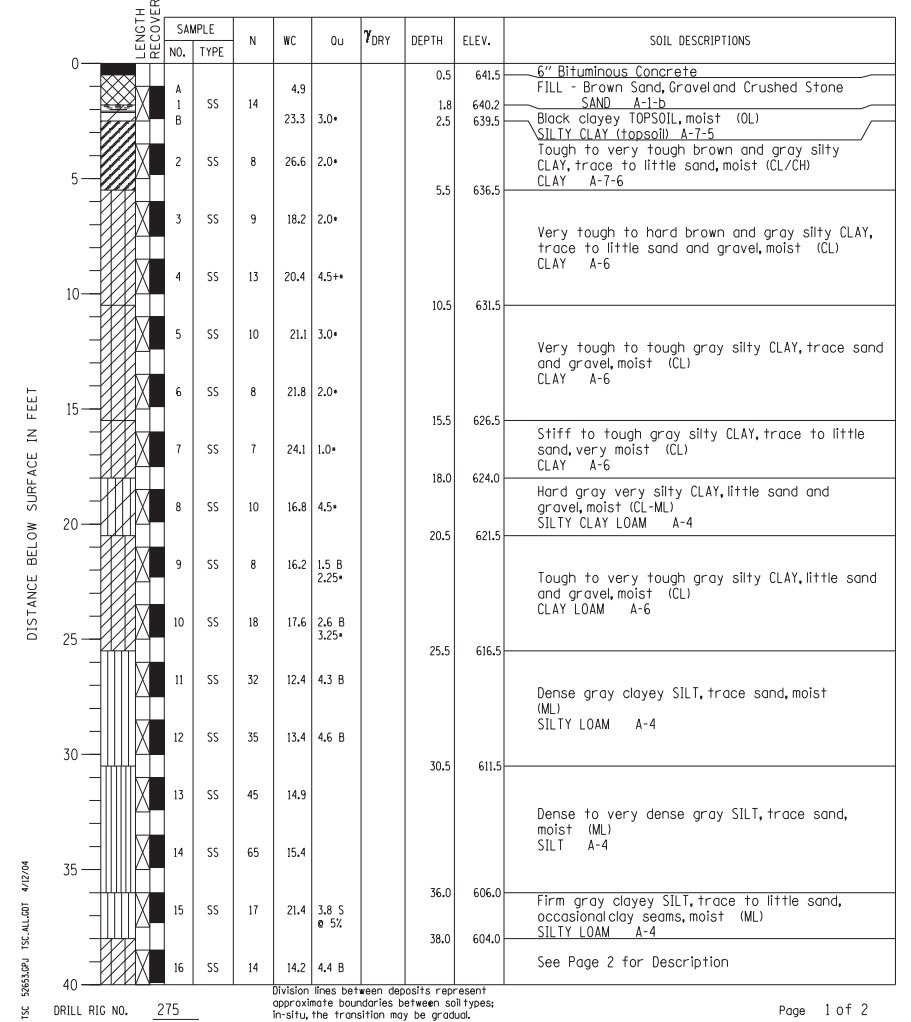
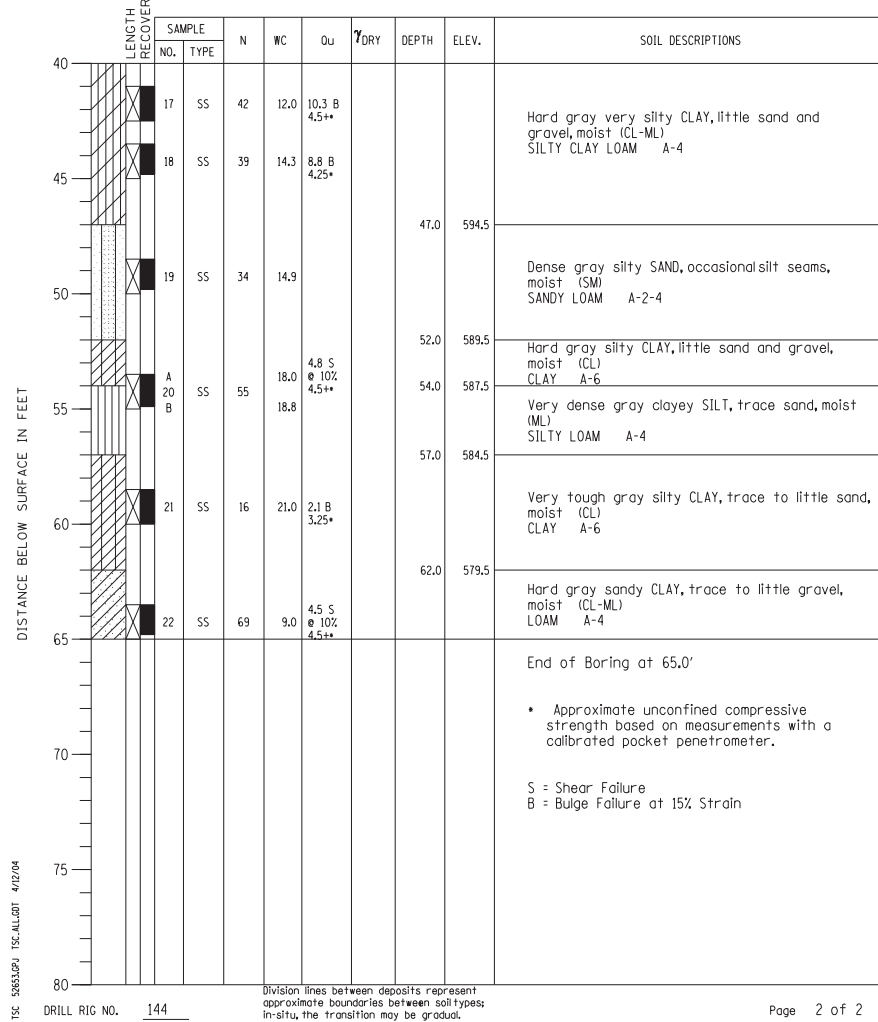
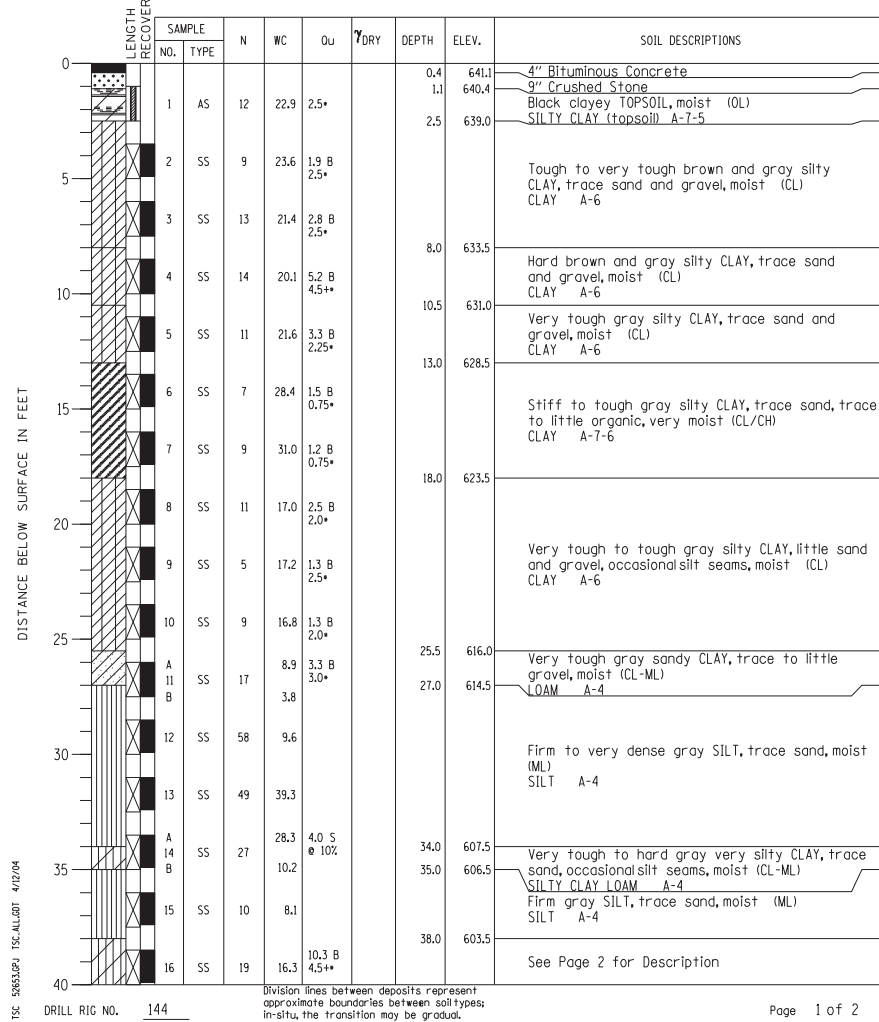
No. Required = $\begin{cases} 117 \text{ (S. Abut.)} \\ 122 \text{ (N. Abut.)} \end{cases}$

N:\ROSEMONT\11000\CADD_Sheets\0167943-0168037-024_Bar_Splicer.dgn

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 19 DATE STARTED 10-7-02 DATE COMPLETED 10-7-02 JOB L-52,653
 ELEVATIONS: GROUND SURFACE 641.5, END OF BORING 576.5
 WATER LEVEL OBSERVATIONS: WHILE DRILLING Dry to 10.0', AT END OF BORING Rotary Wash
 TSC

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 19 DATE STARTED 10-7-02 DATE COMPLETED 10-7-02 JOB L-52,653
 ELEVATIONS: GROUND SURFACE 641.5, END OF BORING 576.5
 WATER LEVEL OBSERVATIONS: WHILE DRILLING Dry to 10.0', AT END OF BORING Rotary Wash
 TSC

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 20 DATE STARTED 10-1-02 DATE COMPLETED 10-1-02 JOB L-52,653
 ELEVATIONS: GROUND SURFACE 642.0, END OF BORING 582.0
 WATER LEVEL OBSERVATIONS: WHILE DRILLING Dry to 10.0', AT END OF BORING Rotary Wash
 TSC



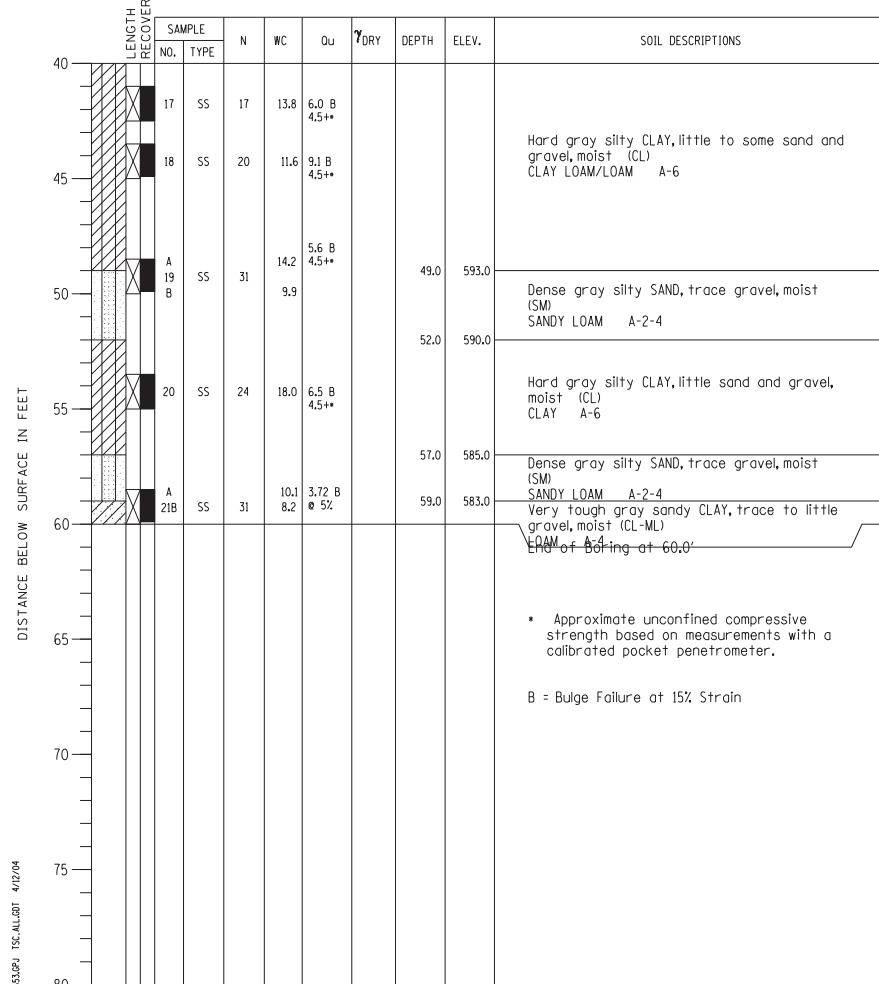
BORING NO. 19
 Station 74+18.77
 Offset 54.18' RT

BORING NO. 19
 Station 74+18.77
 Offset 54.18' RT

BORING NO. 20
 Station 75+48.25
 Offset 34.94' RT

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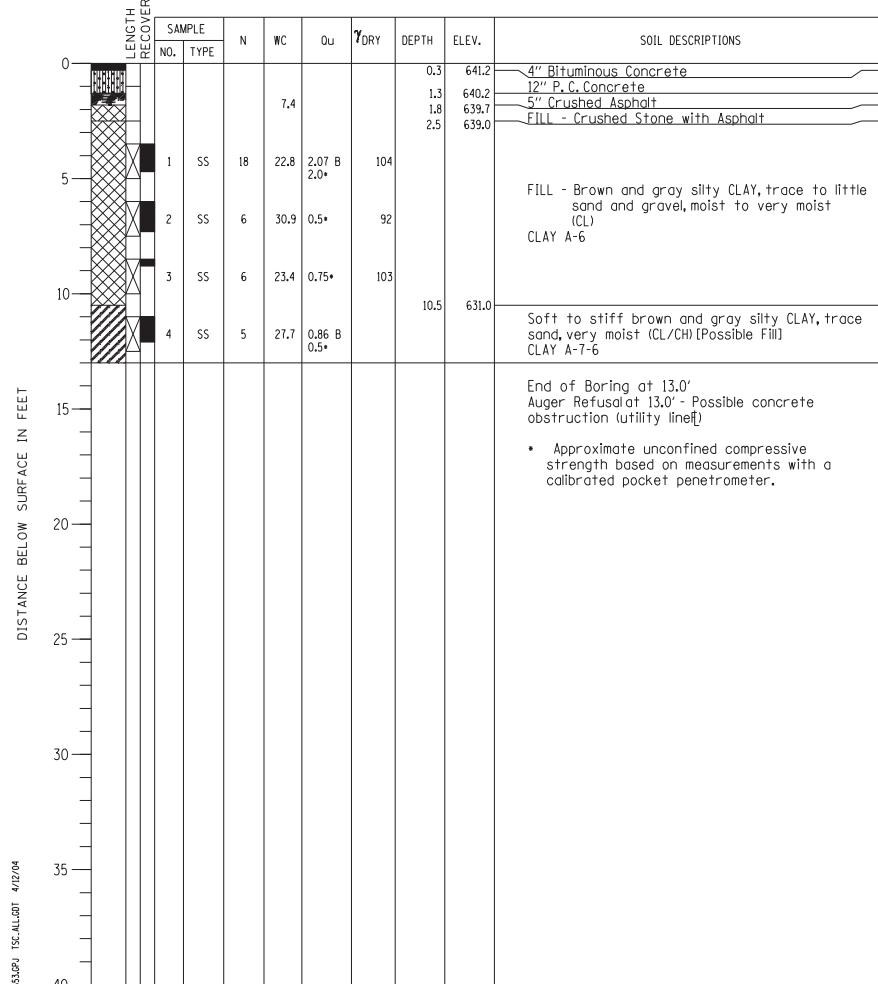
PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 20 DATE STARTED 10-1-02 DATE COMPLETED 10-1-02 JOB L-52,653
 ELEVATIONS: GROUND SURFACE 642.0, END OF BORING 582.0
 WATER LEVEL OBSERVATIONS: WHILE DRILLING Dry to 10.0', AT END OF BORING Rotary Wash, 24 HOURS



DRILL RIG NO. 275
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
 Page 2 of 2

BORING NO. 20
 Station 75+48.25
 Offset 34.94' RT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 21 DATE STARTED 4-11-02 DATE COMPLETED 4-11-02 JOB L-52,653
 ELEVATIONS: GROUND SURFACE 641.5, END OF BORING 628.5
 WATER LEVEL OBSERVATIONS: WHILE DRILLING Dry, AT END OF BORING Dry, 24 HOURS Grouted



DRILL RIG NO. 217
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

BORING NO. 21
 Station 74+41.51
 Offset 89.91' RT

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CHRISTOPHER B. BURKE ENGINEERING, LTD.
 8575 W. Higgins Road, Suite 600
 Rosemont, Illinois 60018
 (847) 924-8900

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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS
 NB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7943
 SHEET NO. S-26 OF S-26 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	362
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

Bench Mark: MON 144 - Located East of Spine Road and West of Mannheim Road at the Southeastly side of O'Hare Airport. Elev. 643.22

Existing Structure: None

During Stage II construction two-way traffic will be maintained on N.B. Mannheim Road.

DESIGN SPECIFICATIONS
2010 AASHTO LRFD Bridge Design Specifications
with 2010 Interims

LOADING HL-93

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

CURVE DATA ALONG C
MANNHEIM ROAD

CURVE DATA ALONG B
SB MANNHEIM EXIT RAMP

PROP. CURVE MANN2
PI STA. = 60+87.10
 $\Delta = 55^\circ 18' 45"$ (LT)
D = 1° 45' 00"
R = 3,274.04'
T = 1,715.72'
L = 3,160.72'
E = 422.32'
e = 3.20%
T.R. = 99'
S.E. Run = 154'
P.C. STA. = 43+71.38
P.T. STA. = 75+32.09
N.C. STA. = 79+09
FULL S.E. STA. = 76+60

PROP. CURVE PRUNDER-2
PI STA. = 21+60.04
 $\Delta = 89^\circ 00' 23"$ (LT)
D = 23° 52' 24"
R = 240.00'
T = 235.87'
L = 372.83'
E = 96.51'
e = -6.0%
T.R. = 0'
S.E. Run = 97'
P.C. STA. = 19+24.17
P.T. STA. = 22+97.00

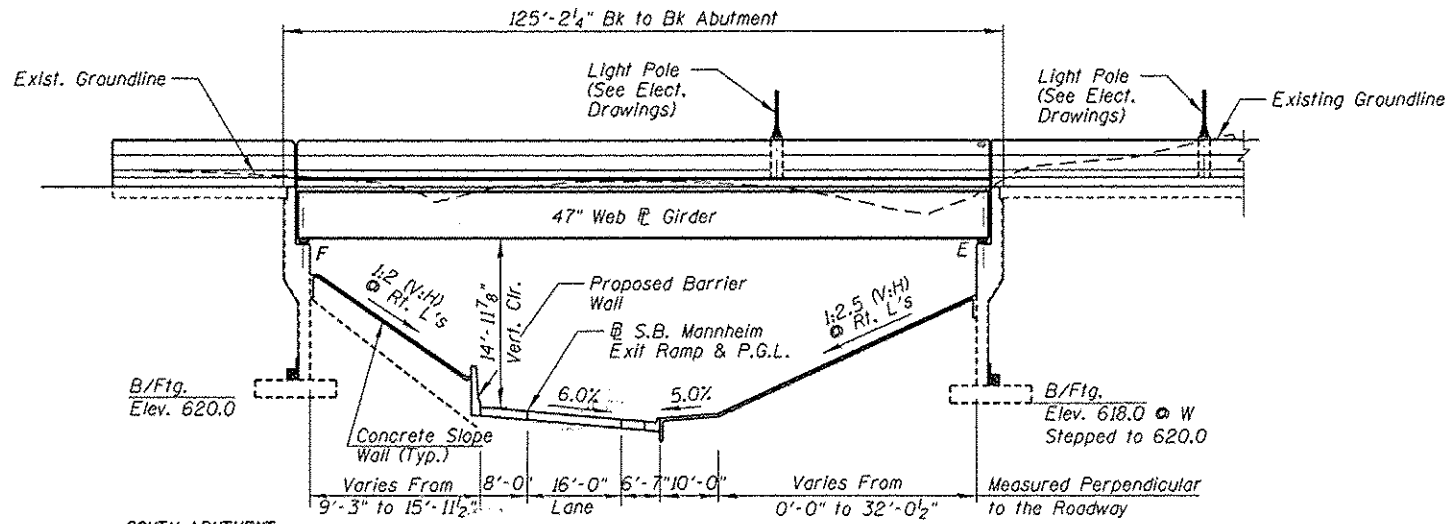
SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{p1}) = 0.037g
Design Spectral Acceleration at 0.2 sec. (S_{p5}) = 0.090g
Soil Site Class = C

DESIGN STRESSES

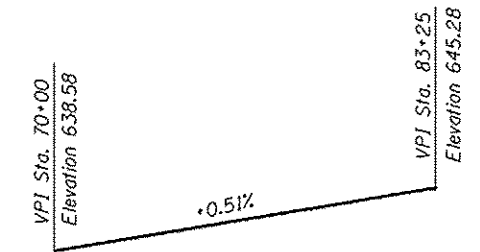
FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 50,000$ psi (structural steel)
(M270 Grade 50)
 $f_y = 60,000$ psi (Reinf.)

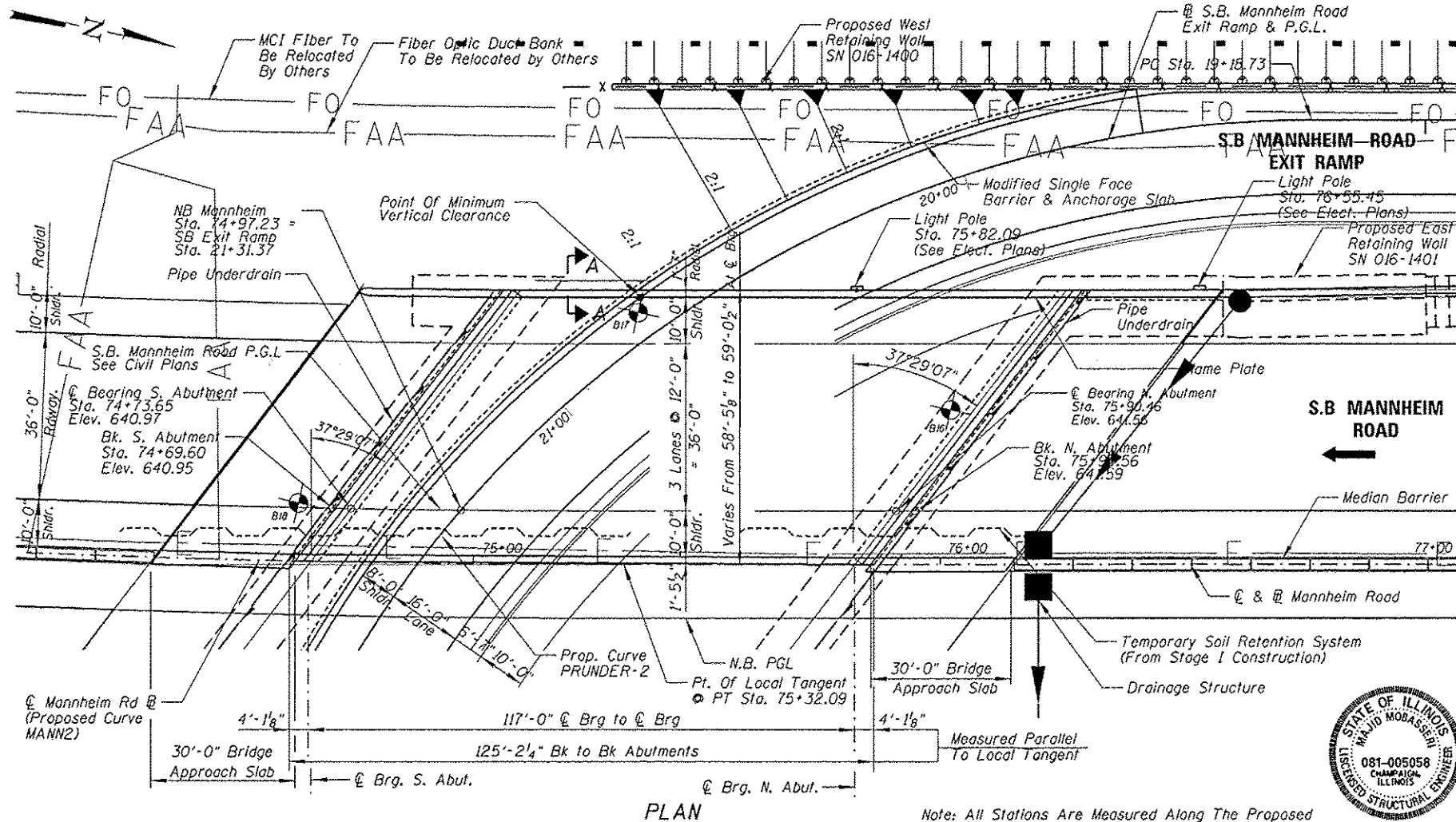


APPROVED
For Structural Adequacy Only

Dr. Carl Kump
Engineer of Bridges & Structures

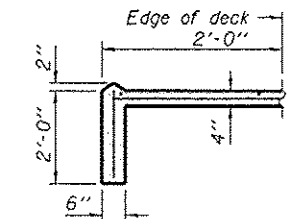
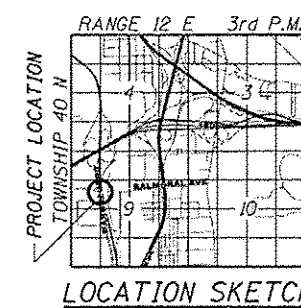


PROFILE GRADE - S.B. MANNHEIM ROAD

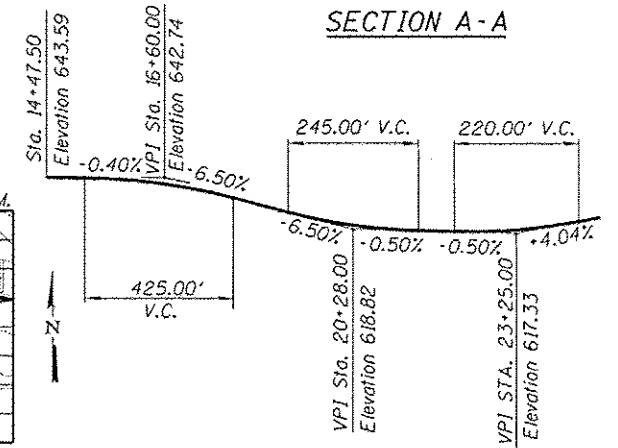


STATION 75+32.08
BUILT BY
STATE OF ILLINOIS
F.A.P. RT. 330 SEC. 0105 WRS&HB
LOADING HL-93
STRUCTURE NO. 016-7942

NAME PLATE
See Std. 515001



SECTION A-A



PROFILE GRADE - S.B. MANNHEIM ROAD EXIT RAMP

GENERAL PLAN AND ELEVATION S.B. MANNHEIM ROAD BRIDGE OVER SOUTHBOUND EXIT RAMP

F.A.P. RTE. 330-SEC 0105 WRS&HB

COOK COUNTY

STATION 75+32.08

STRUCTURE NO. 016-7942



Majid Mobasser
MAJID MOBASSERI
ILLINOIS REGISTRATION No. 081-005058
STRUCTURAL ENGINEER
EXPIRATION DATE: 11/30/14

Note: All Stations Are Measured Along The Proposed C of Mannheim Road.

CHRISTOPHER B. BURKE ENGINEERING, LTD. 2525 W. Higgins Road, Suite 800 Rosemont, Illinois 60018 (847) 823-0000	USER NAME *	DESIGNED - MM	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942 SHEET NO. S-1 OF S-27 SHEETS	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE *	CHECKED - JMB	REVISIONS			330	0105 WRS&HB	COOK	605	363
PLOT DATE *	DRAWN - PDR	REVISIONS								CONTRACT NO. 60G37
	CHECKED - MM	REVISIONS								ILLINOIS FED. AID PROJECT

**S.B. MANNHEIM ROAD BRIDGE
TOTAL BILL OF MATERIAL**

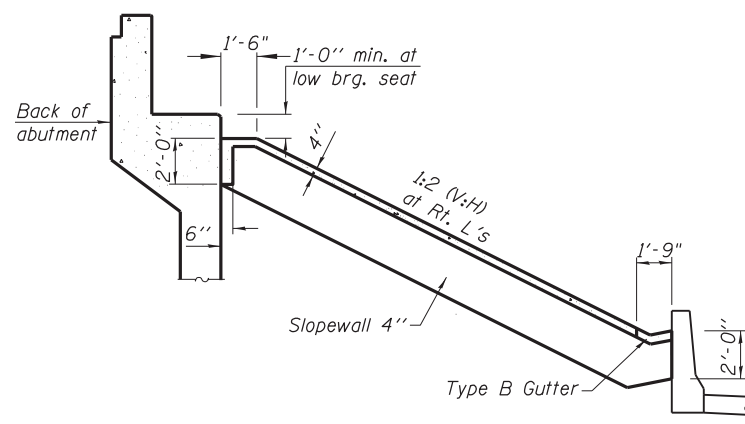
ITEM	UNIT	SUPER.	SUB.	TOTAL
POROUS GRANULAR BACKFILL	CU YD	—	640	640
STRUCTURE EXCAVATION	CU YD	—	2,555	2,555
CONCRETE STRUCTURES	CU YD	41.4	476.1	517.5
CONCRETE SUPERSTRUCTURE	CU YD	382.6	11.0	393.6
BRIDGE DECK GROOVING	SQ YD	1,088	—	1,088
PROTECTIVE COAT	SQ YD	1,303	—	1,303
ERECTING STRUCTURAL STEEL	L SUM	0.4	—	0.4
STUD SHEAR CONNECTORS	EACH	3,792	—	3,792
REINFORCEMENT BARS, EPOXY COATED	POUND	102,100	46,630	148,730
BAR SPLICERS	EACH	134	—	134
SLOPE WALL 4 INCH	SQ YD	—	473	473
NAME PLATES	EACH	1	—	1
PREFORMED JOINT STRIP SEAL	FOOT	149	—	149
ERECTING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	8	—	8
ANCHOR BOLTS, 1"	EACH	—	16	16
ANCHORS BOLTS, 1 1/4"	EACH	—	16	16
CONCRETE SEALER	SQ FT	—	879	879
GEOCOMPOSITE WALL DRAIN	SQ YD	—	385	385
PIPE UNDERDRAINS FOR STRUCTURES 6"	FOOT	—	227	227
PREFORMED JOINT SEAL 2 1/2"	FOOT	126	—	126
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL FOR STRUCTURES	CU YD	—	299	299
FORM LINER TEXTURED SURFACE	SQ FT	—	510	510

GENERAL NOTES

- Fasteners shall be ASTM 325 Type 1, mechanically galvanized bolts. Bolts 3/4 in. dia., holes 13/16 in. dia., unless otherwise noted.
- Calculated weight of Structural Steel = 205,550 lbs Grade 50
20,650 lbs Grade 36
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Concrete Sealer shall be applied to the exposed surface of abutment backwall, beam seats and front face of the abutment stem.
- The Organic Zinc Rich Primer / Epoxy / Urethane Paint System shall be used for painting of new structural steel except where otherwise noted. The entire system shall be shop applied, with the exception that masked off connection surfaces, field installed fasteners and damaged areas shall be touched up in the field. The color of the final finish coat for all interior steel surfaces shall be Gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams shall be Interstate Green Munsell No. 7.5G 4/8.
- Slipforming of the parapet is not allowed.

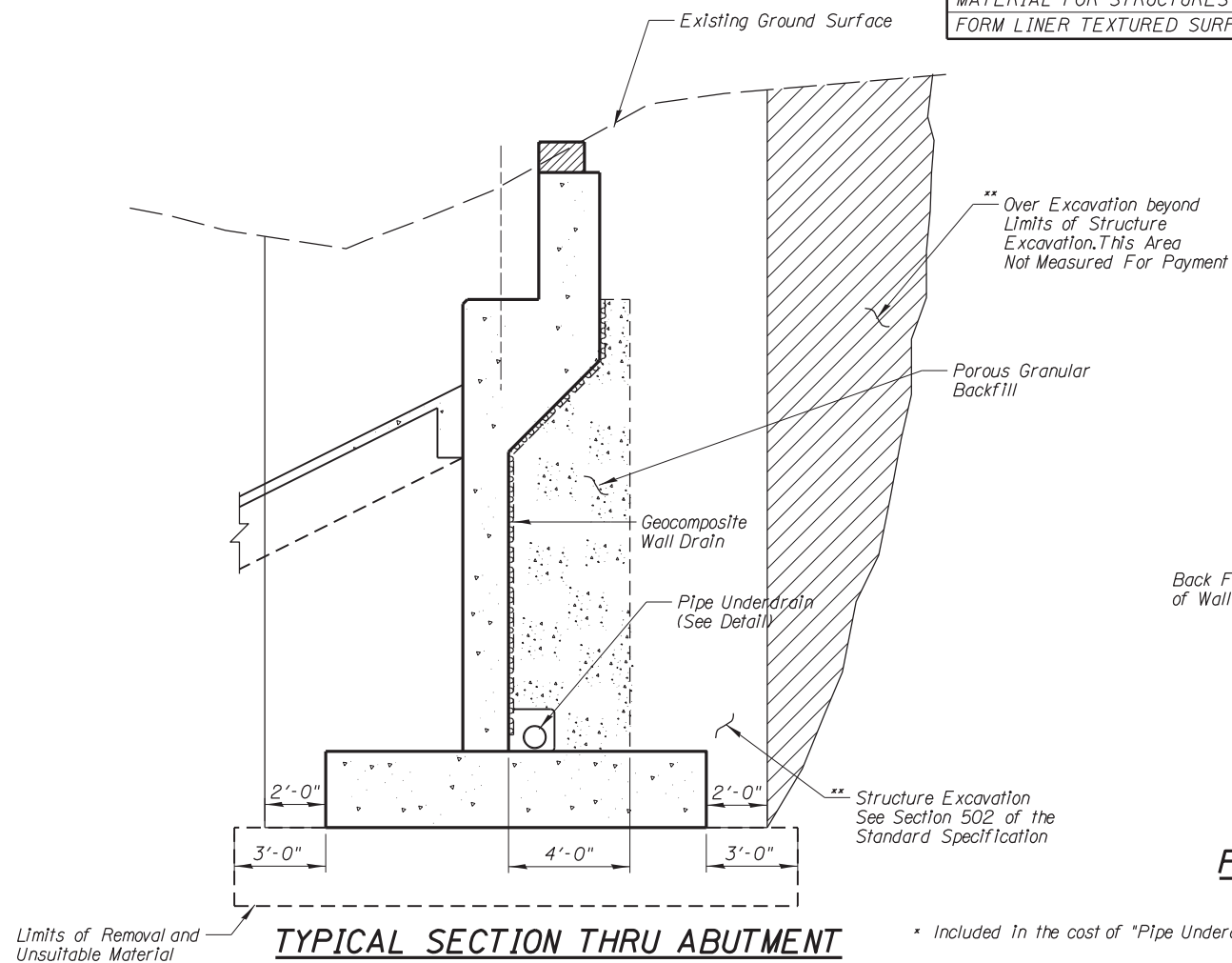
INDEX OF SHEETS

- S-1 General Plan and Elevation
- S-2 Index, General Notes and Total Bill of Material
- S-3 Substructure Layout
- S-4 to S-5 Stage Construction
- S-6 Deck Elevations Plan
- S-7 to S-8 Top of Deck Elevation
- S-9 Top of Approach Slab Elevation
- S-10 Deck Plan and Cross Section
- S-11 to S-12 Superstructure Details
- S-13 to S-16 Bridge Approach Slab Details
- S-17 Preformed Joint Strip Seal
- S-18 Framing Plan Details
- S-19 Diaphragm Details
- S-20 Bearing Details
- S-21 South Abutment Plan and Elevation
- S-22 South Abutment Details
- S-23 North Abutment Plan and Elevation
- S-24 North Abutment Details
- S-25 Bar Splicer Assembly Details
- S-26 to S-27 Boring Logs



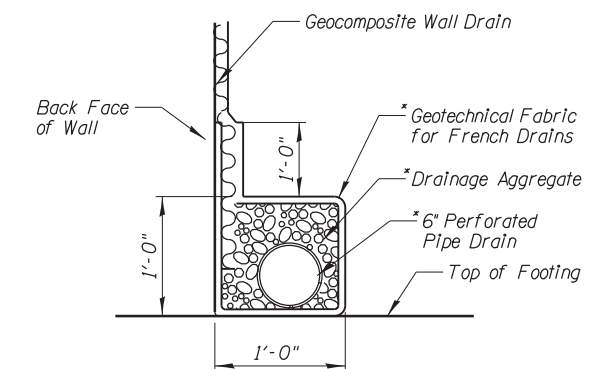
Note: Slope wall shall be reinforced with welded wire fabric, 6 in. x 6 in. W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.

**SECTION THRU
CONCRETE SLOPEWALL**



TYPICAL SECTION THRU ABUTMENT

Pipe Underdrain Behind N. Abutment Will Be Connected To The Drainage Structure at N.W. of The S.B. Bridge.
Pipe Underdrain Behind S. Abutment Will Be Connected To The Drainage Structure at S.E. Corner of N.B. Bridge.



PIPE UNDERDRAIN DETAIL

* Included in the cost of "Pipe Underdrains for Structures".

** Backfill Remainder of Structure Excavation and Over Excavation with Same Material Specified for Roadway Embankment.

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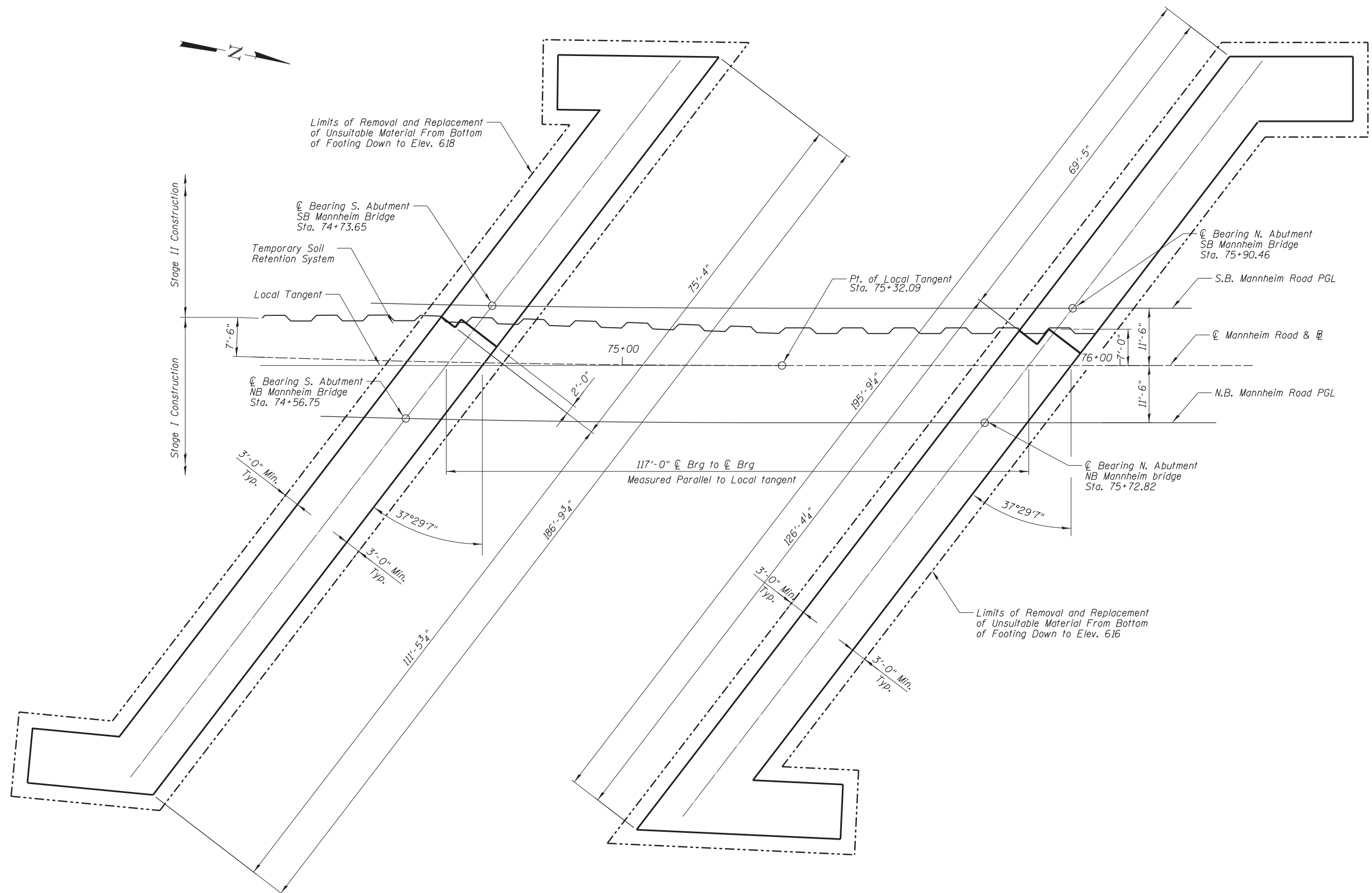
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PLOT SCALE =	DRAWN - PDR	REVISED
PLOT DATE =	CHECKED - MM	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES AND BILL OF MATERIAL
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-2 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	364
CONTRACT NO. 60G37			ILLINOIS FED. AID PROJECT	



FOOTING LAYOUT

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PLOT DATE =	CHECKED - MM	REVISED

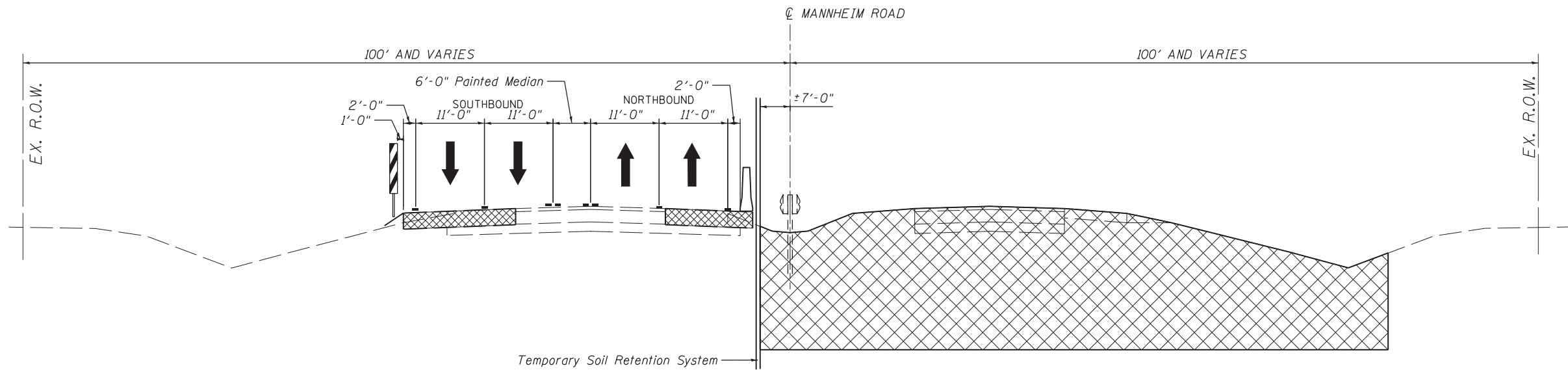
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FOOTING LAYOUT AND DETAIL
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

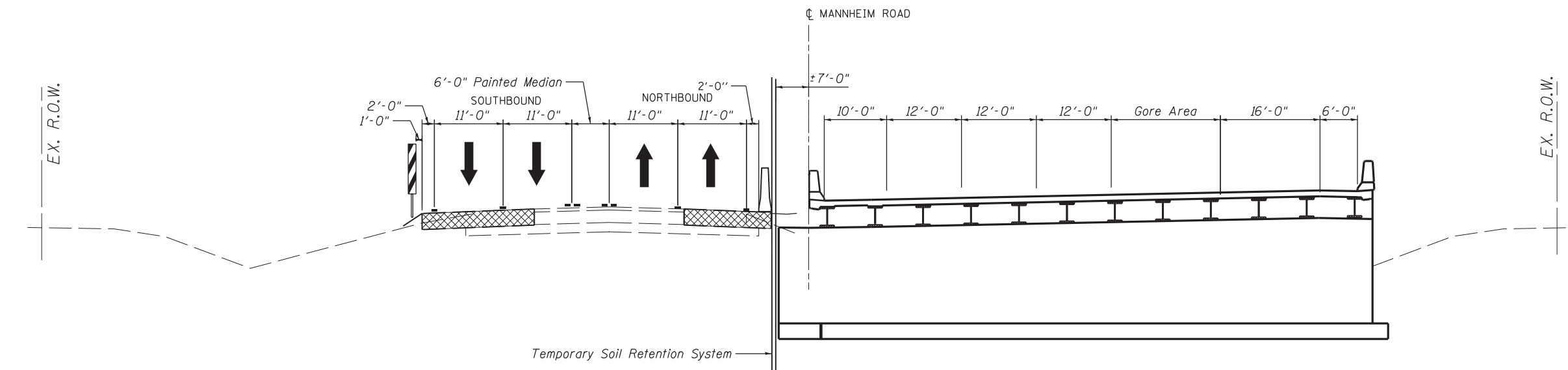
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330	0105 WRS&HB	COOK	605	365
CONTRACT NO. 60G37				

SHEET NO. S-3 OF S-27 SHEETS

ILLINOIS FED. AID PROJECT



STAGE 1 REMOVAL
(Looking North)



STAGE 1 CONSTRUCTION
(Looking North)

- Notes:
1. Cross Hatched Area Indicates Removal.
 2. See Roadway Plans for Removal Detail.

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PLOT DATE =	CHECKED - MM	REVISED

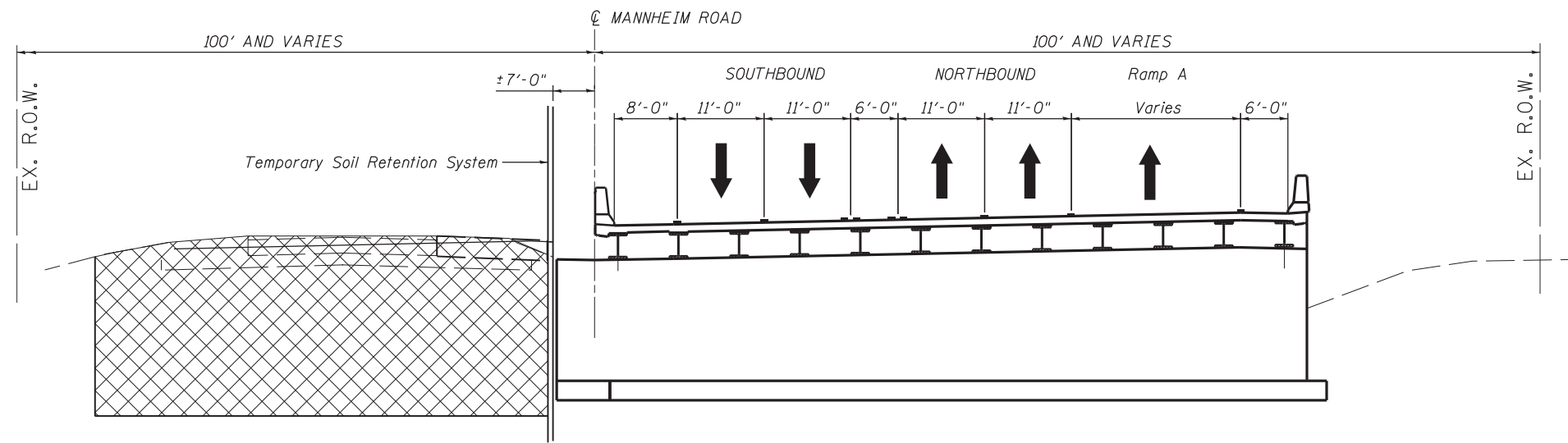
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	366
CONTRACT NO. 60G37				

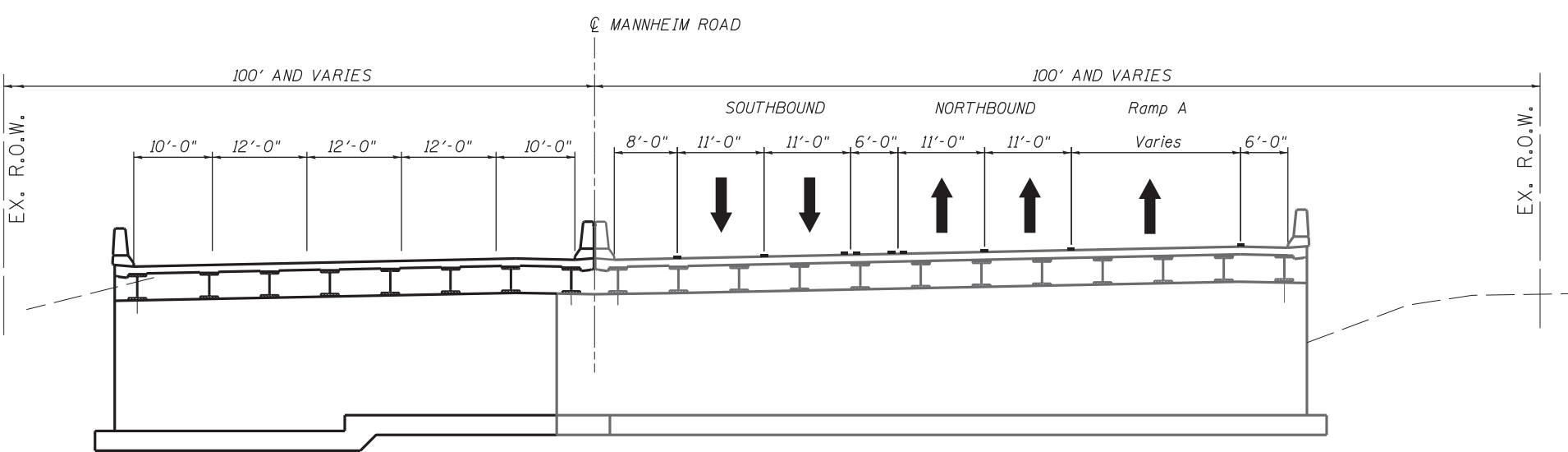
SHEET NO. S-4 OF S-27 SHEETS

ILLINOIS FED. AID PROJECT

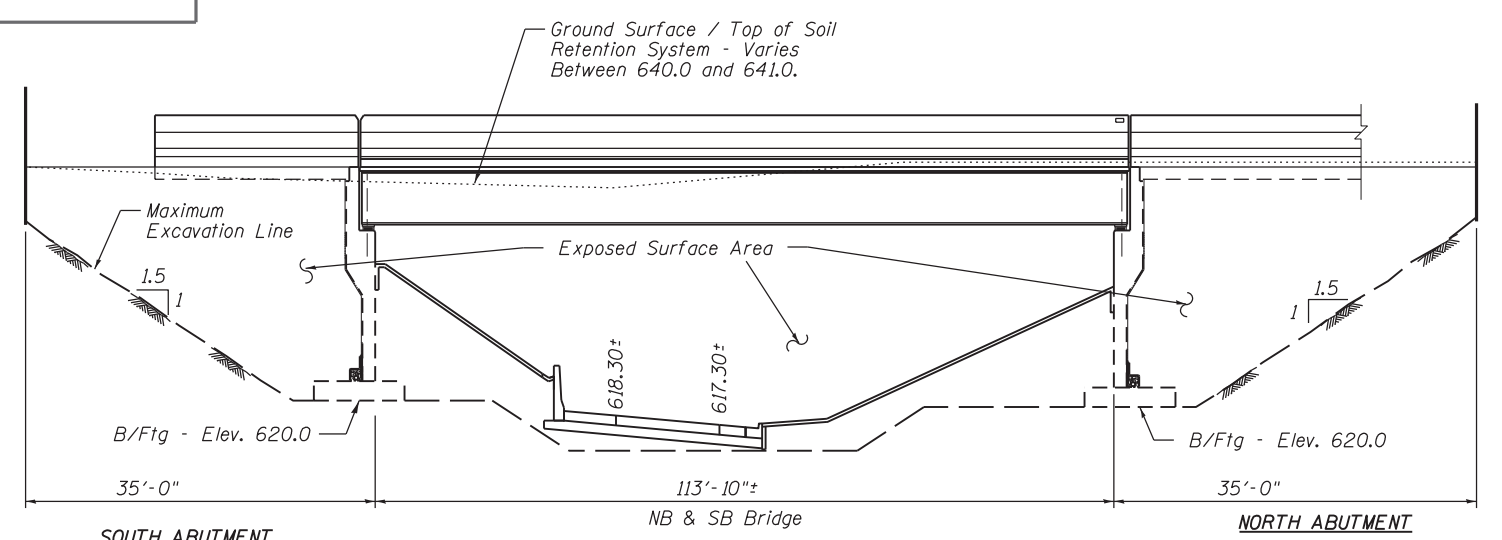


STAGE II REMOVAL
Looking North

- Notes:
1. Cross Hatched Area Indicates Removal.
 2. See Roadway Plans for Removal Detail.



STAGE II CONSTRUCTION
Looking North



LIMITS OF SOIL RETENTION SYSTEM

Note: 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.

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PLOT DATE =	CHECKED - MM	REVISED

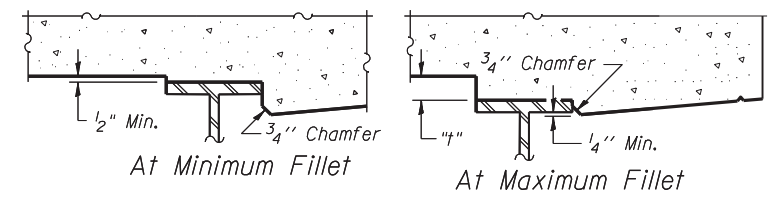
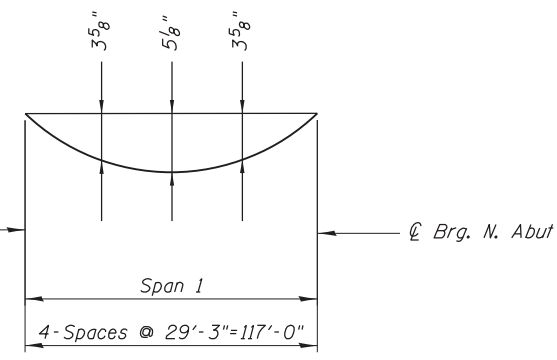
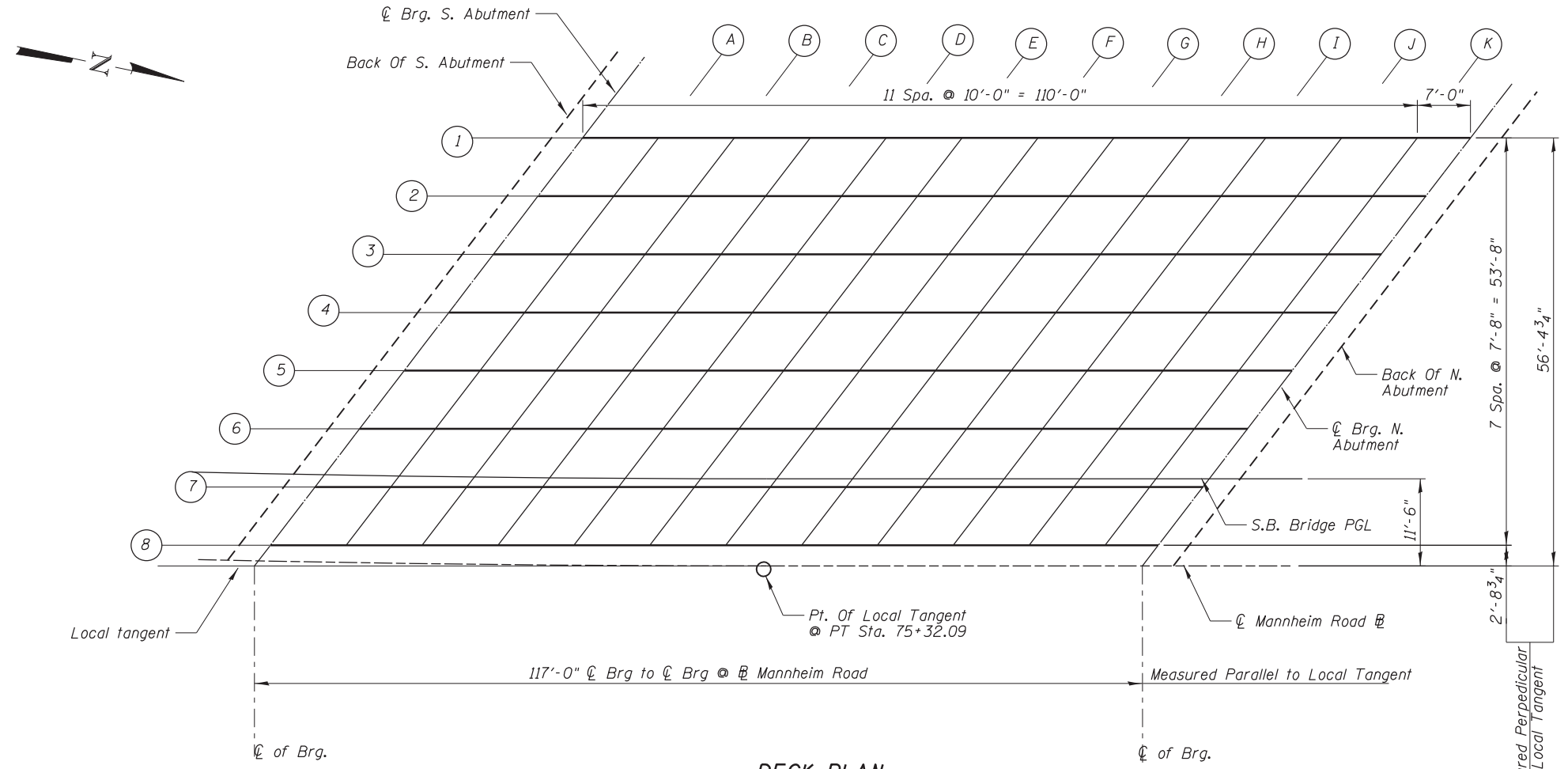
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	367
CONTRACT NO. 60G37				

SHEET NO. S-5 OF S-27 SHEETS

ILLINOIS FED. AID PROJECT



NOTE:

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

NOTE:

The deflections given above are not to be used in the field if the Engineer is working from the theoretical grade elevations adjusted for dead load deflection.

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 Rosemont, Illinois 60018
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PLOT DATE =	CHECKED - MM	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TOP OF SLAB ELEVATION LOCATIONS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	368
CONTRACT NO. 60G37				

SHEET NO. S-6 OF S-27 SHEETS

ILLINOIS FED. AID PROJECT

BEAM 1

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	75+03.30	-44.77	639.62	639.62
CL of Brg S. Abut.	75+07.47	-44.81	639.64	639.64
A	75+17.65	-44.87	639.69	639.80
B	75+27.82	-44.89	639.74	639.94
C	75+37.89	-44.90	639.79	640.08
D	75+47.89	-44.90	639.84	640.19
E	75+57.89	-44.90	639.89	640.28
F	75+67.89	-44.90	639.94	640.34
G	75+77.89	-44.90	639.99	640.37
H	75+87.89	-44.90	640.04	640.38
I	75+97.89	-44.90	640.09	640.36
J	76+07.89	-44.90	640.14	640.32
K	76+17.89	-44.90	640.20	640.27
CL of Brg N. Abut.	76+24.89	-44.90	640.23	640.23
Bck of N. Abut.	76+28.99	-44.90	640.25	640.25

BEAM 2

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+97.40	-37.05	639.90	639.90
CL of Brg S. Abut.	75+01.56	-37.09	639.92	639.92
A	75+11.71	-37.17	639.97	640.08
B	75+21.86	-37.21	640.02	640.24
C	75+32.01	-37.23	640.07	640.38
D	75+42.02	-37.23	640.12	640.50
E	75+52.02	-37.23	640.17	640.59
F	75+62.02	-37.23	640.22	640.65
G	75+72.02	-37.23	640.27	640.68
H	75+82.02	-37.23	640.32	640.68
I	75+92.02	-37.23	640.37	640.66
J	76+02.02	-37.23	640.42	640.61
K	76+12.02	-37.23	640.47	640.55
CL of Brg N. Abut.	76+19.02	-37.23	640.51	640.51
Bck of N. Abut.	76+23.11	-37.23	640.53	640.53

BEAM 3

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+91.53	-29.31	640.13	640.13
CL of Brg S. Abut.	74+95.68	-29.36	640.15	640.15
A	75+05.81	-29.46	640.19	640.31
B	75+15.93	-29.52	640.24	640.46
C	75+26.06	-29.56	640.29	640.60
D	75+36.14	-29.56	640.34	640.72
E	75+46.14	-29.56	640.39	640.81
F	75+56.14	-29.56	640.44	640.87
G	75+66.14	-29.56	640.50	640.90
H	75+76.14	-29.56	640.55	640.91
I	75+86.14	-29.56	640.60	640.88
J	75+96.14	-29.56	640.65	640.84
K	76+06.14	-29.56	640.70	640.78
CL of Brg N. Abut.	76+13.14	-29.56	640.73	640.73
Bck of N. Abut.	76+17.23	-29.56	640.75	640.75

BEAM 4

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+85.69	-21.57	640.34	640.34
CL of Brg S. Abut.	74+89.83	-21.63	640.36	640.36
A	74+99.93	-21.74	640.41	640.53
B	75+10.03	-21.82	640.46	640.68
C	75+20.13	-21.87	640.51	640.82
D	75+30.24	-21.90	640.56	640.94
E	75+40.26	-21.90	640.61	641.03
F	75+50.26	-21.90	640.66	641.09
G	75+60.26	-21.90	640.71	641.12
H	75+70.26	-21.90	640.76	641.12
I	75+80.26	-21.90	640.81	641.10
J	75+90.26	-21.90	640.86	641.05
K	76+00.26	-21.90	640.91	640.99
CL of Brg N. Abut.	76+07.26	-21.90	640.95	640.95
Bck of N. Abut.	76+11.35	-21.90	640.97	640.97

BEAM 5

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+79.87	-13.82	640.56	640.56
CL of Brg S. Abut.	74+84.00	-13.88	640.58	640.58
A	74+94.08	-14.01	640.63	640.74
B	75+04.16	-14.11	640.68	640.90
C	75+14.24	-14.18	640.73	641.04
D	75+24.31	-14.22	640.78	641.15
E	75+34.38	-14.23	640.83	641.24
F	75+44.38	-14.23	640.88	641.30
G	75+54.38	-14.23	640.93	641.34
H	75+64.38	-14.23	640.98	641.34
I	75+74.38	-14.23	641.03	641.31
J	75+84.38	-14.23	641.08	641.27
K	75+94.38	-14.23	641.13	641.21
CL of Brg N. Abut.	76+01.38	-14.23	641.16	641.16
Bck of N. Abut.	76+05.47	-14.23	641.19	641.19

BEAM 6

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+74.09	-6.05	640.78	640.78
CL of Brg S. Abut.	74+78.20	-6.12	640.80	640.80
A	74+88.26	-6.27	640.85	640.96
B	74+98.31	-6.39	640.89	641.12
C	75+08.37	-6.48	640.94	641.25
D	75+18.42	-6.53	640.99	641.37
E	75+28.48	-6.56	641.04	641.46
F	75+38.50	-6.56	641.09	641.52
G	75+48.50	-6.56	641.14	641.55
H	75+58.50	-6.56	641.19	641.55
I	75+68.50	-6.56	641.24	641.53
J	75+78.50	-6.56	641.29	641.49
K	75+88.50	-6.56	641.34	641.43
CL of Brg N. Abut.	75+95.50	-6.56	641.38	641.38
Bck of N. Abut.	75+99.59	-6.56	641.40	641.40

S.B. BRIDGE PGL

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+69.60	0.00	640.95	640.95
CL of Brg S. Abut.	74+73.65	0.00	640.97	640.97
A	74+83.57	0.00	641.02	641.14
B	74+93.50	0.00	641.07	641.30
C	75+03.46	0.00	641.12	641.44
D	75+13.44	0.00	641.18	641.55
E	75+23.44	0.00	641.23	641.64
F	75+33.46	0.00	641.28	641.70
G	75+43.46	0.00	641.33	641.74
H	75+53.46	0.00	641.38	641.74
I	75+63.46	0.00	641.43	641.71
J	75+73.46	0.00	641.48	641.67
K	75+83.46	0.00	641.53	641.61
CL of Brg N. Abut.	75+90.50	0.00	641.56	641.56
Bck of N. Abut.	75+94.56	0.00	641.59	641.59

BEAM 7

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+68.33	1.72	640.88	640.88
CL of Brg S. Abut.	74+72.43	1.65	640.90	640.90
A	74+82.46	1.48	640.96	641.07
B	74+92.49	1.34	641.02	641.24
C	75+02.52	1.24	641.07	641.38
D	75+12.55	1.16	641.12	641.50
E	75+22.59	1.12	641.18	641.59
F	75+32.62	1.10	641.23	641.65
G	75+42.62	1.10	641.28	641.69
H	75+52.62	1.10	641.33	641.69
I	75+62.62	1.10	641.38	641.67
J	75+72.62	1.10	641.43	641.62
K	75+82.62	1.10	641.48	641.56
CL of Brg N. Abut.	75+89.62	1.10	641.52	641.52
Bck of N. Abut.	75+93.71	1.10	641.54	641.54

* NOTE: All Offsets Are Relative To The PGL. Offsets Are Positive East of PGL and Negative West of PGL.

N:\ROSEMONT\11000\CADD_Sheets\0167942-D160C37-007_TOS.Elevs.dgn

<p>CHRISTOPHER B. BURKE ENGINEERING, LTD. 8575 W. Higgins Road, Suite 600 Rosemont, Illinois 60018 (847) 924-8900</p>	USER NAME =	DESIGNED - MM	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATION TABLES SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		CHECKED - JMB	REVISED			330	0105 WRS&HB	COOK	605	369
	PLOT SCALE =	DRAWN - PDR	REVISED			CONTRACT NO. 60G37				
	PLOT DATE	CHECKED - MM	REVISED			SHEET NO. S-7 OF S-27 SHEETS				
						ILLINOIS FED. AID PROJECT				

BEAM 8

Location	Station	Offset *	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bck of S. Abut.	74+62.59	9.51	640.54	640.54
CL of Brg S. Abut.	74+66.69	9.42	640.56	640.56
A	74+76.70	9.24	640.62	640.73
B	74+86.70	9.09	640.68	640.88
C	74+96.71	8.96	640.73	641.02
D	75+06.71	8.87	640.79	641.13
E	75+16.72	8.81	640.84	641.22
F	75+26.74	8.78	640.89	641.28
G	75+36.74	8.77	640.94	641.32
H	75+46.74	8.77	640.99	641.32
I	75+56.74	8.77	641.04	641.31
J	75+66.74	8.77	641.09	641.27
K	75+76.74	8.77	641.14	641.22
CL of Brg N. Abut.	75+83.74	8.77	641.18	641.18
Bck of N. Abut.	75+87.83	8.77	641.20	641.20

* NOTE: All Offsets Are Relative To The PGL.
Offsets Are Positive East of PGL and Negative West of PGL.

N:\ROSEMONT\11009\CADD_Sheets\0167942-0160G37-008_TOS_Elevs.dgn

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	PLOT SCALE =	DRAWN - PDR	REVISED			330	0105 WRS&HB	COOK	605	370
	PLOT DATE =	CHECKED - MM	REVISED	SHEET NO. S-8 OF S-27 SHEETS		CONTRACT NO. 60G37				
						ILLINOIS FED. AID PROJECT				

WEST EDGE OF SHOULDER

Location	Station	* Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	74+74.10	-46.00	639.42
A	74+84.38	-46.02	639.48
B	74+94.63	-46.01	639.53
N. End S. Appr. Pav't	75+04.86	-45.97	639.58

WEST EDGE OF PAVEMENT

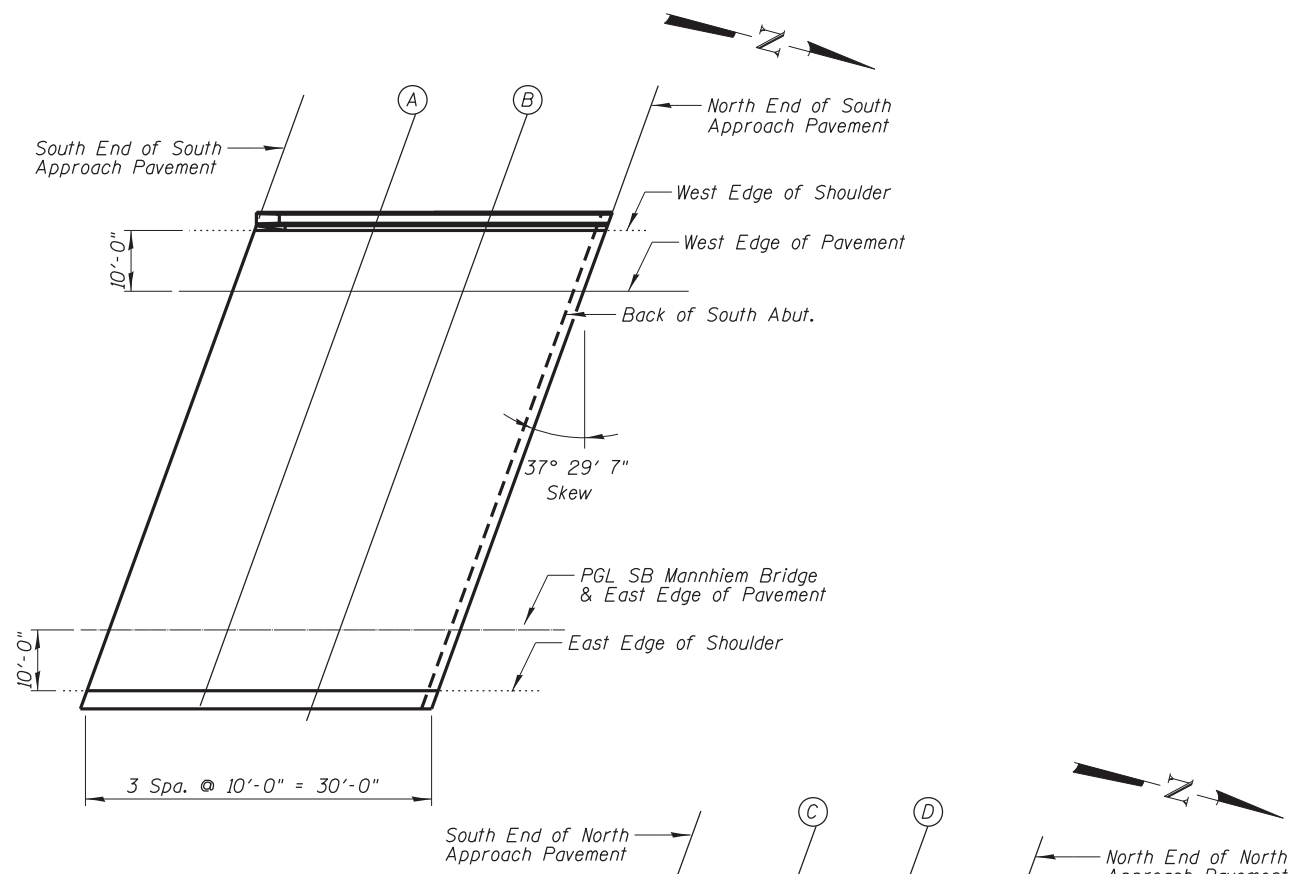
Location	Station	* Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	74+66.61	-36.00	639.79
A	74+76.82	-36.00	639.84
B	74+87.03	-36.00	639.89
N. End S. Appr. Pav't	74+97.24	-36.00	639.94

PGL & EAST EDGE OF PAVEMENT

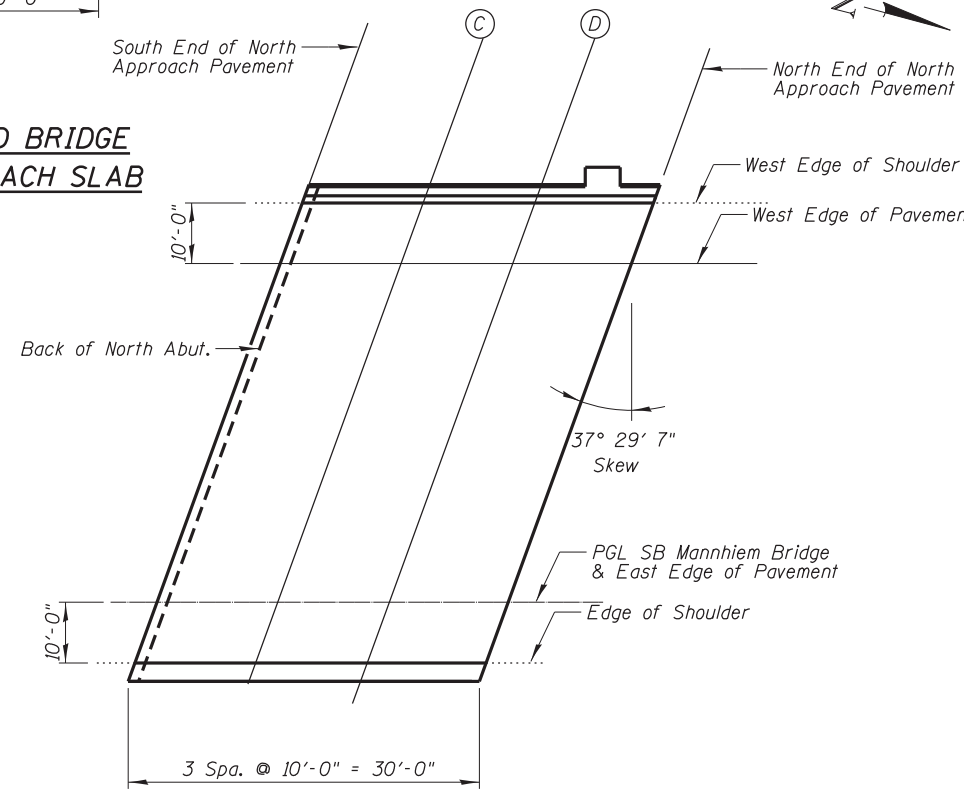
Location	Station	* Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	74+40.11	0.00	640.80
A	74+50.15	0.00	640.86
B	74+60.19	0.00	640.91
N. End S. Appr. Pav't	74+70.22	0.00	640.96

EAST EDGE OF SHOULDER

Location	Station	* Offset	Theoretical Grade Elevations
S. End S. Appr. Pav't	74+32.88	10.00	640.37
A	74+42.88	9.99	640.42
B	74+52.85	10.02	640.47
N. End S. Appr. Pav't	74+62.83	10.04	640.52



**SB MANNHEIM ROAD BRIDGE
PLAN SOUTH APPROACH SLAB**



**SB MANNHEIM ROAD BRIDGE
PLAN NORTH APPROACH SLAB**

WEST EDGE OF SHOULDER

Location	Station	* Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	76+29.21	-46.00	640.21
C	76+39.21	-46.00	640.26
D	76+49.21	-46.00	640.31
N. End N. Appr. Pav't	76+59.21	-46.00	640.44

WEST EDGE OF PAVEMENT

Location	Station	* Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	76+21.54	-36.00	640.57
C	76+31.54	-36.00	640.62
D	76+41.54	-36.00	640.67
N. End N. Appr. Pav't	76+51.54	-36.00	640.72

PGL & EAST EDGE OF PAVEMENT

Location	Station	* Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	75+93.93	0.00	641.58
C	76+03.93	0.00	641.63
D	76+13.93	0.00	641.68
N. End N. Appr. Pav't	76+23.93	0.00	641.73

EAST EDGE OF SHOULDER

Location	Station	* Offset	Theoretical Grade Elevations
S. End N. Appr. Pav't	75+86.24	10.03	641.14
C	75+96.25	10.02	641.19
D	76+06.25	10.01	641.25
N. End N. Appr. Pav't	76+16.26	10.00	641.30

* NOTE: All Offsets Are Relative To The PGL. Offsets Are Positive East of PGL and Negative West of PGL.

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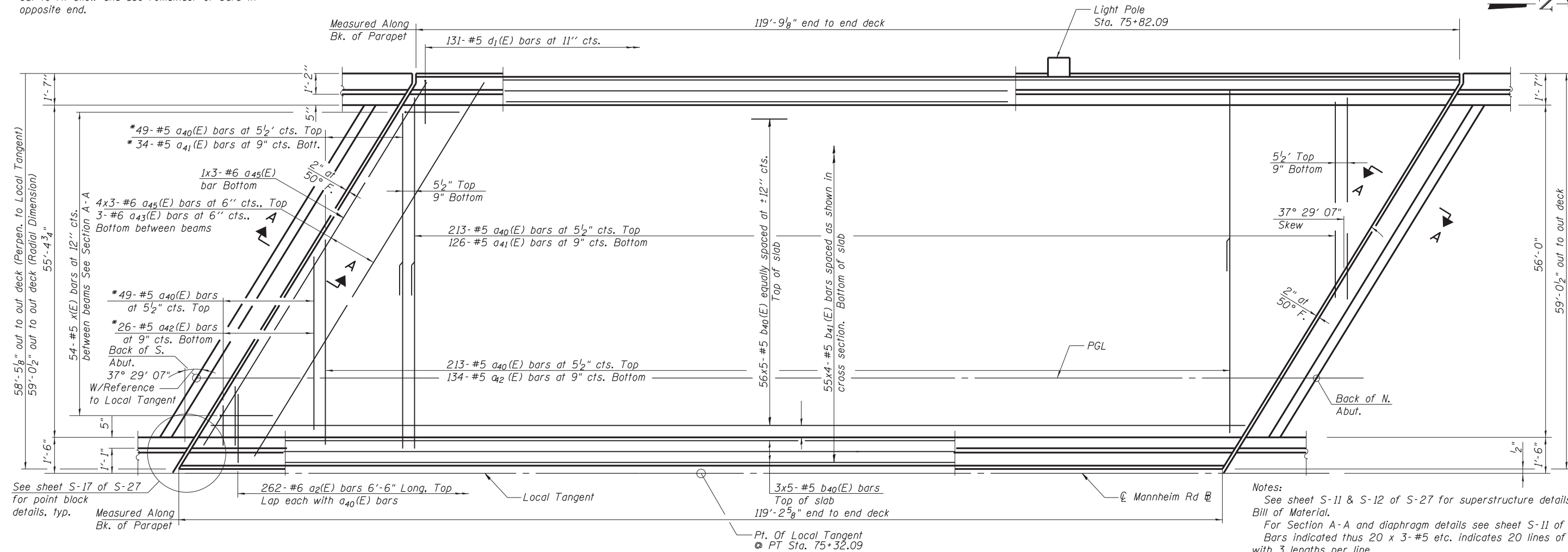
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TOP OF APPROACH SLAB ELEVATIONS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-9 OF S-27 SHEETS

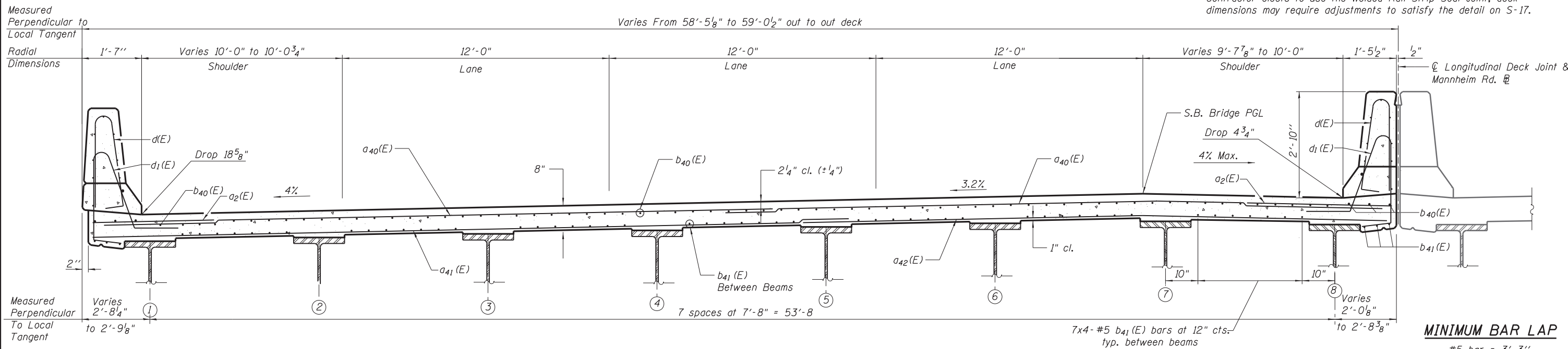
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	371
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

* Order $a_{40}(E)$, $a_{41}(E)$ & $a_{42}(E)$ bars full length.
Cut to fit skew and use remainder of bars in opposite end.



PLAN

Notes:
See sheet S-11 & S-12 of S-27 for superstructure details and Bill of Material.
For Section A-A and diaphragm details see sheet S-11 of S-27.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See sheet S-11 of S-27 for parapet reinforcement.
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 detail on S-17.



CROSS SECTION
(Looking North)

MINIMUM BAR LAP

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

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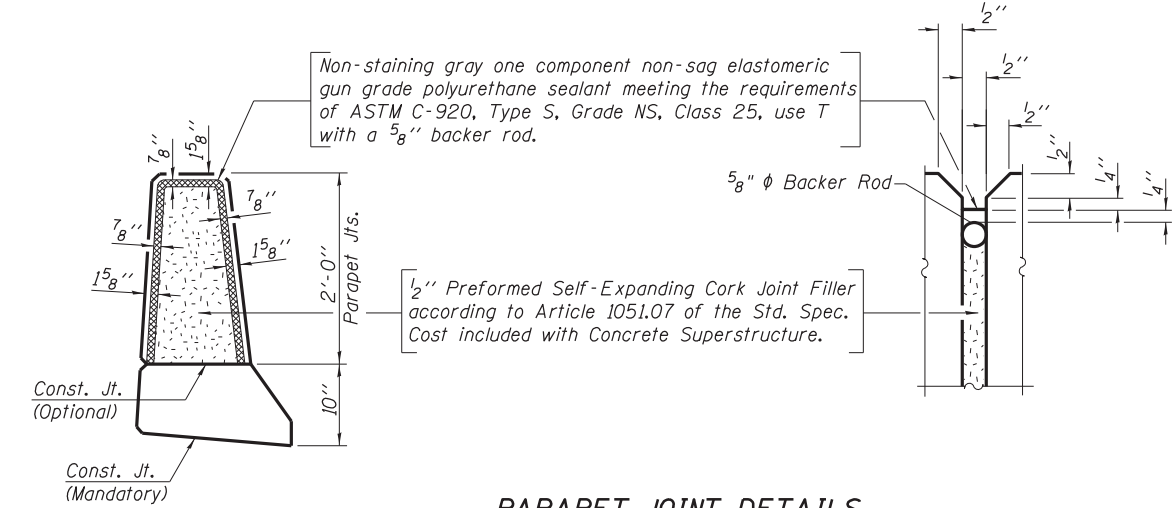
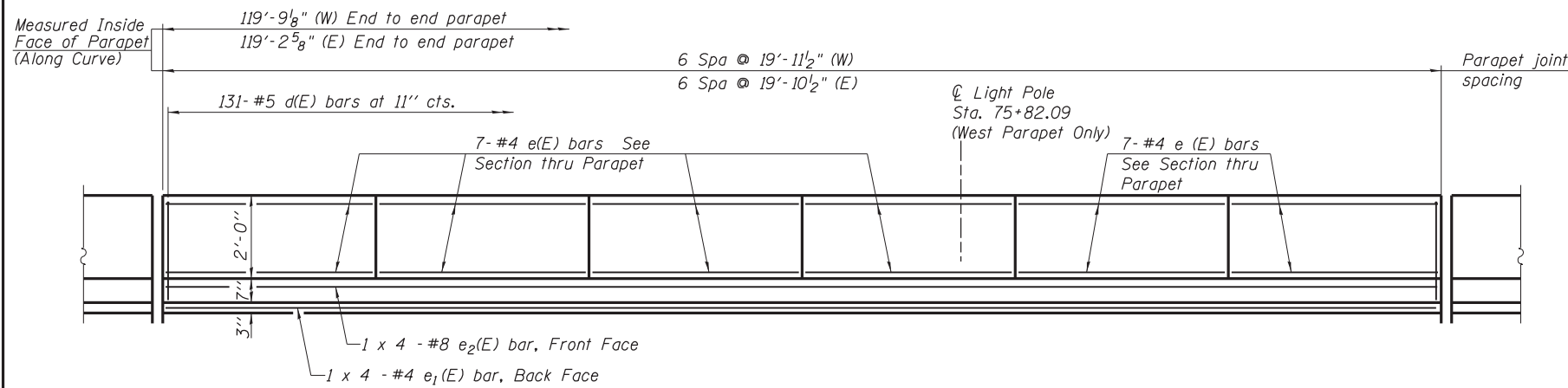
USER NAME =	DESIGNED - MM	REVISED
PLOT SCALE =	CHECKED - JMB	REVISED
PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE PLAN AND CROSS SECTION
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942

SHEET NO. S-10 OF S-27 SHEETS

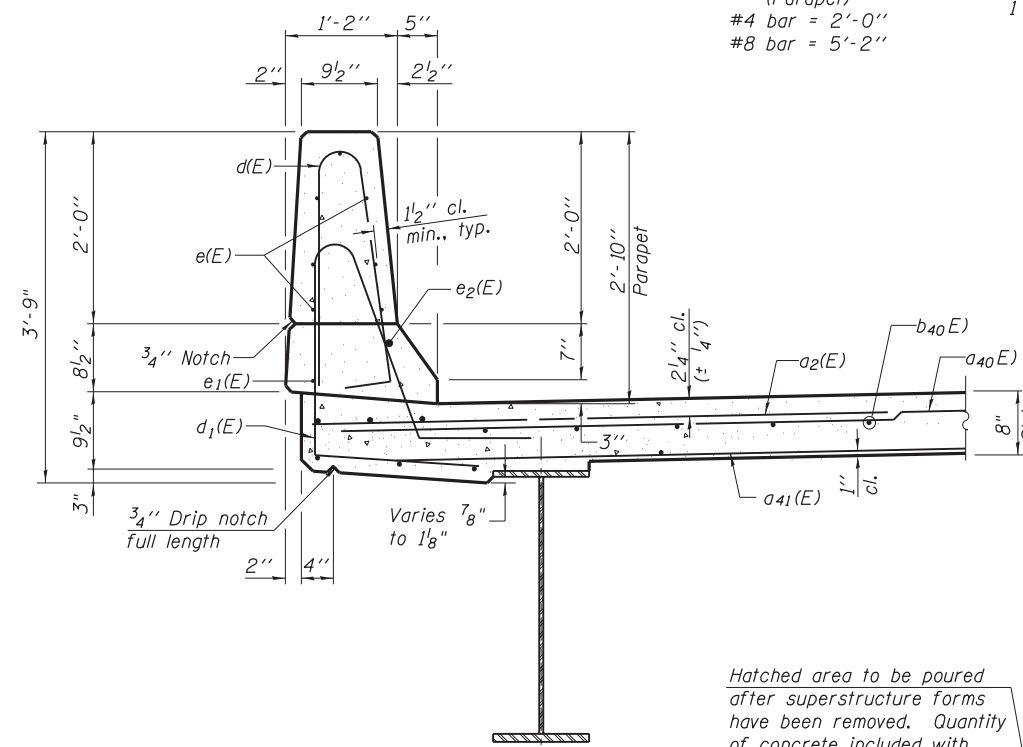
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	372
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



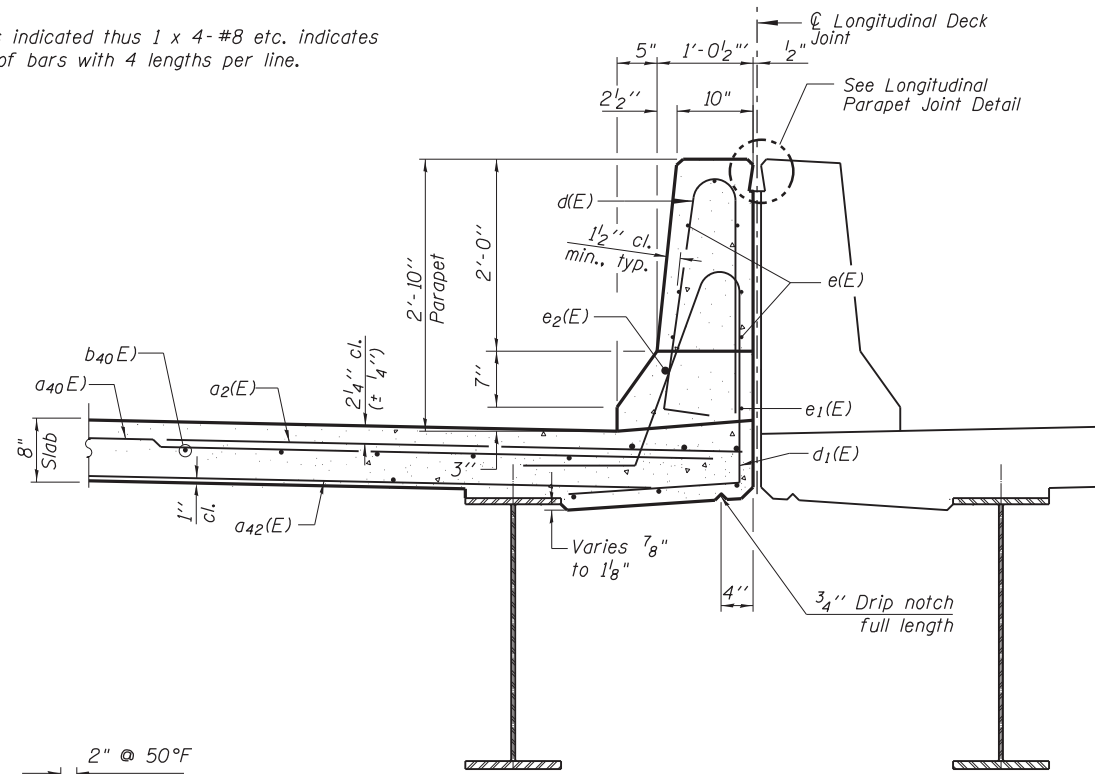
INSIDE ELEVATION OF PARAPET

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

Note:
Bars indicated thus 1 x 4-#8 etc. indicates
1 line of bars with 4 lengths per line.

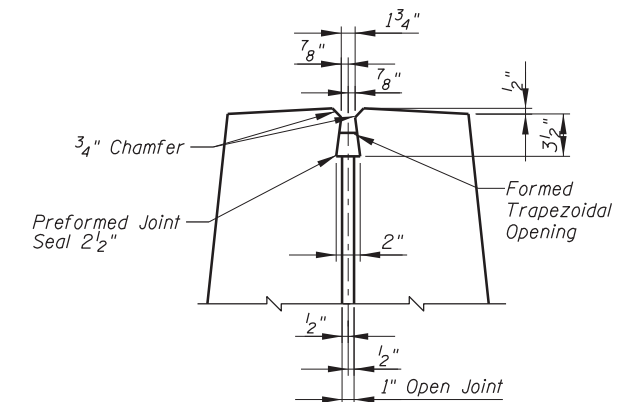


SECTION THRU WEST PARAPET



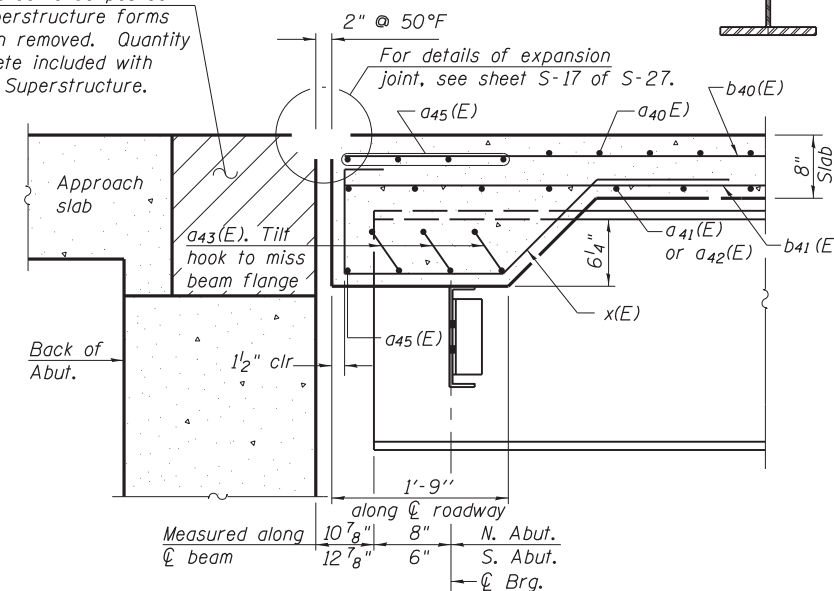
SECTION THRU MEDIAN PARAPET

PARAPET JOINT DETAILS



LONGITUDINAL PARAPET JOINT DETAIL

Hatched area to be poured
after superstructure forms
have been removed. Quantity
of concrete included with
Concrete Superstructure.



SECTION A-A

N:\ROSEMONT\11000\CADD_Sheets\0167942-D1680337-011.Super.dgn

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

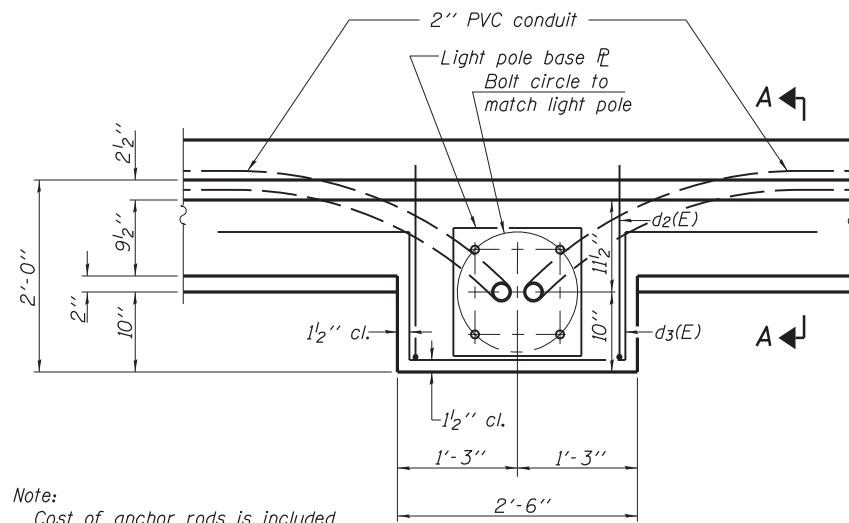
**SUPERSTRUCTURE DETAILS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-11 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	373
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

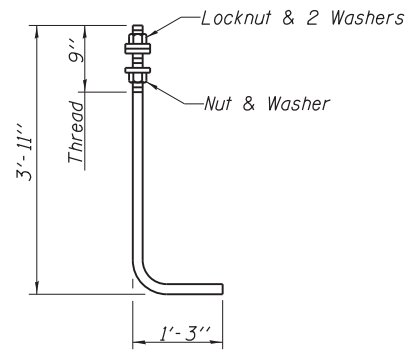
**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a ₂ (E)	524	#6	6'-6"	—
a ₄₀ (E)	524	#5	30'-10"	—
a ₄₁ (E)	160	#5	34'-11"	—
a ₄₂ (E)	160	#5	27'-3"	—
a ₄₃ (E)	42	#6	10'-9"	—
a ₄₅ (E)	30	#6	27'-4"	—
b ₄₀ (E)	310	#5	26'-7"	—
b ₄₁ (E)	220	#5	32'-5"	—
d(E)	262	#5	5'-7"	—
d ₁ (E)	262	#5	7'-0"	—
d ₂ (E)	3	#6	4'-5"	—
d ₃ (E)	5	#6	8'-11"	—
e(E)	84	#4	19'-7"	—
e ₁ (E)	8	#4	31'-6"	—
e ₂ (E)	8	#8	33'-10"	—
x(E)	108	#5	6'-5"	—
Reinforcement Bars, Epoxy Coated			Lbs.	56,520
Concrete Superstructure			Cu. Yds.	212.9



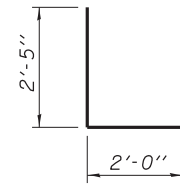
PLAN

Note:
Cost of anchor rods is included with Concrete Superstructure.

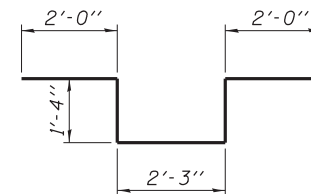


ANCHOR ROD

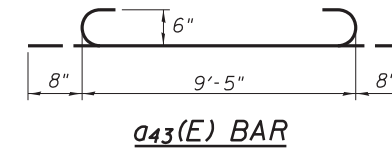
Diameter as specified for light poles. (ASTM F 1554 Grade 105) Full length Hot Dipped Galvanized.



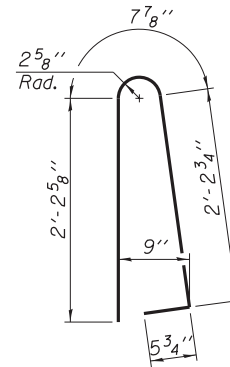
BAR d₂(E)



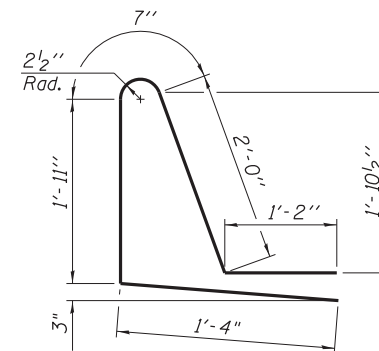
BAR d₃(E)



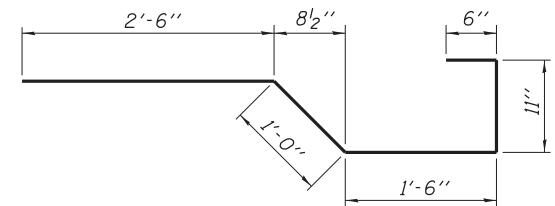
a₄₃(E) BAR



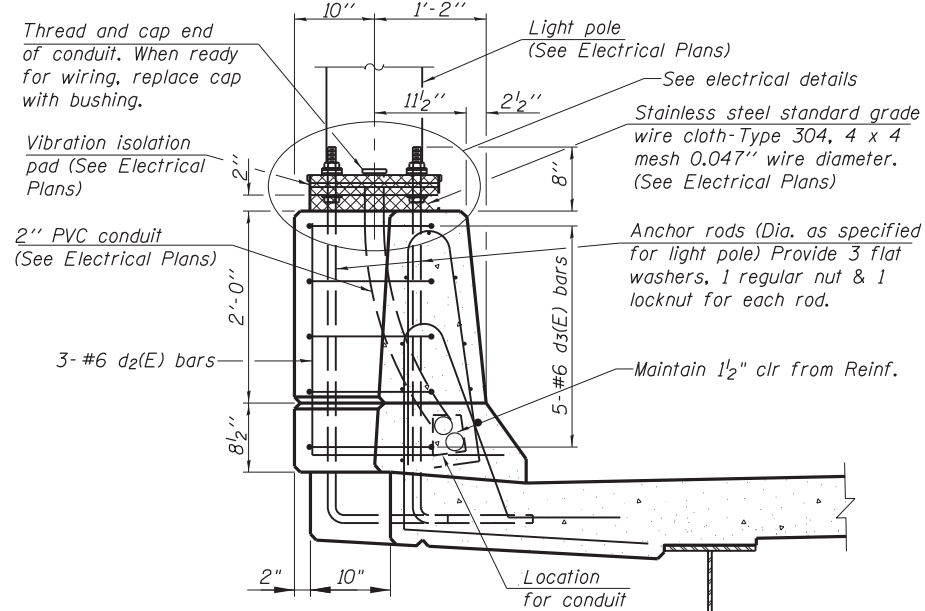
BAR d(E)



BAR d₁(E)



BAR x(E)



SECTION A-A

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	CHECKED - MM	REVISED

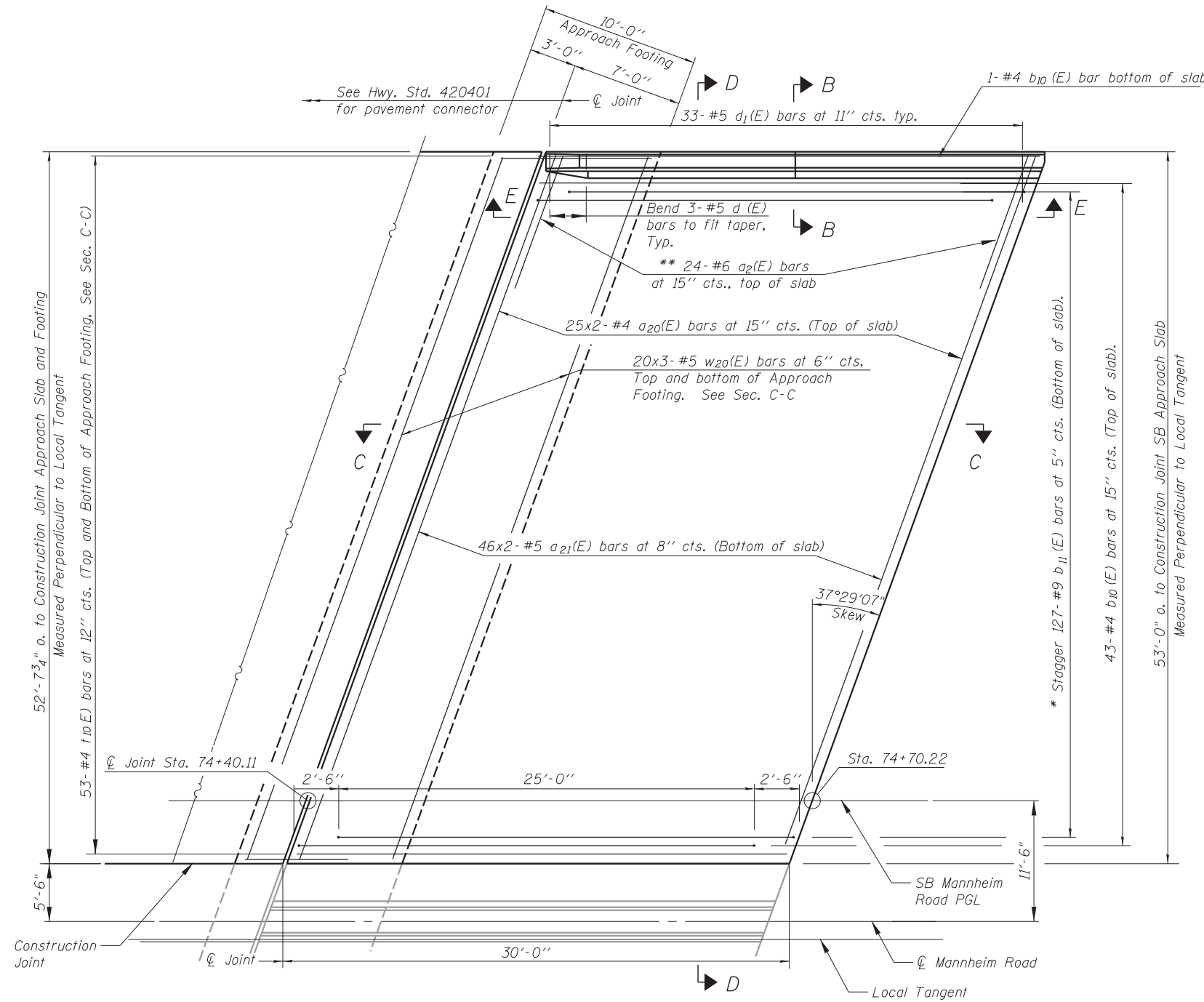
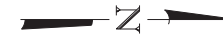
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUPERSTRUCTURE DETAILS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-12 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	374
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

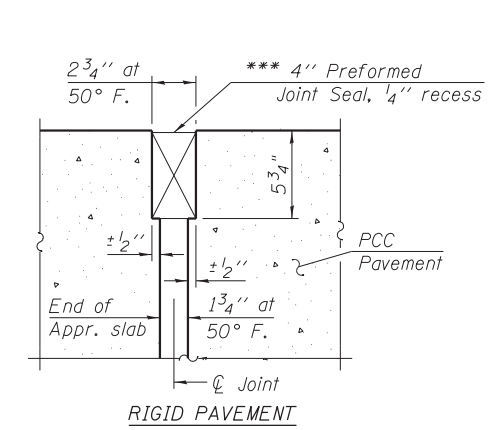
Notes:
See sheet S-14 of S-27 for Sections C-C & D-D and View E-E.
 $a_{20}(E)$ and $a_{21}(E)$ bar spacings measured along \varnothing Rdwy.



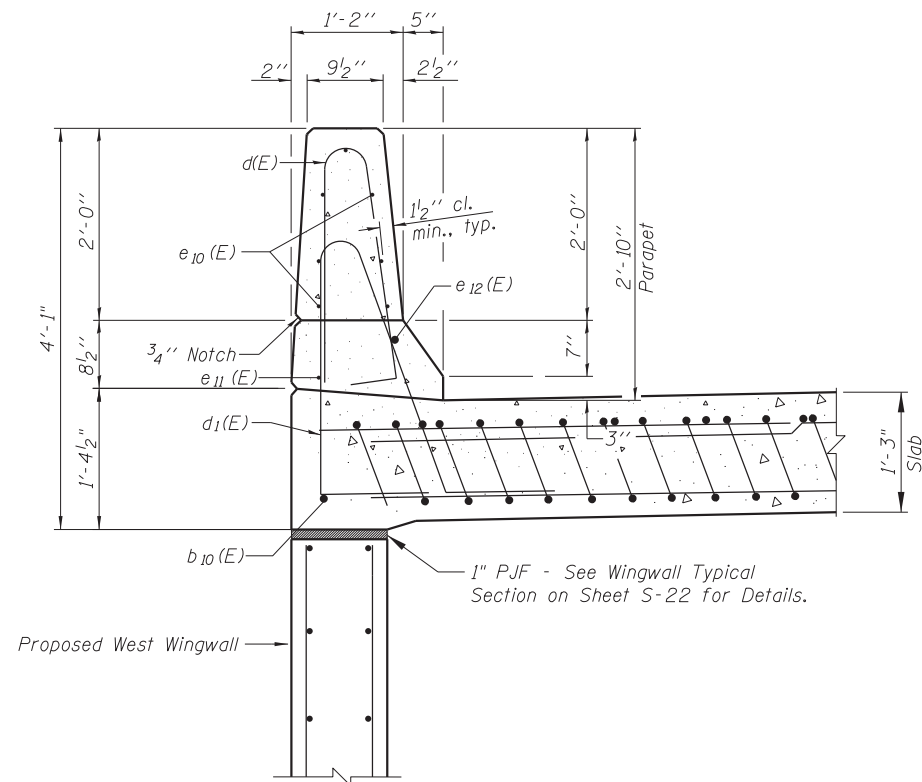
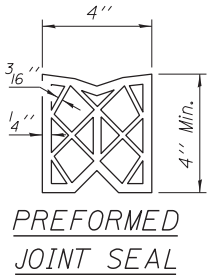
PLAN

* Tilt #9 $b_{11}(E)$ bars as required to maintain clearance.
** Space between $a_{20}(E)$ bars, typ. each parapet.

*** Cost included with Concrete Superstructure.



DETAIL A



VIEW B-B

MINIMUM BAR LAP

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

N:\ROSEHNT\11000\CADD_Sheets\0167942-D168037-013.585Appr...slab.dgn

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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

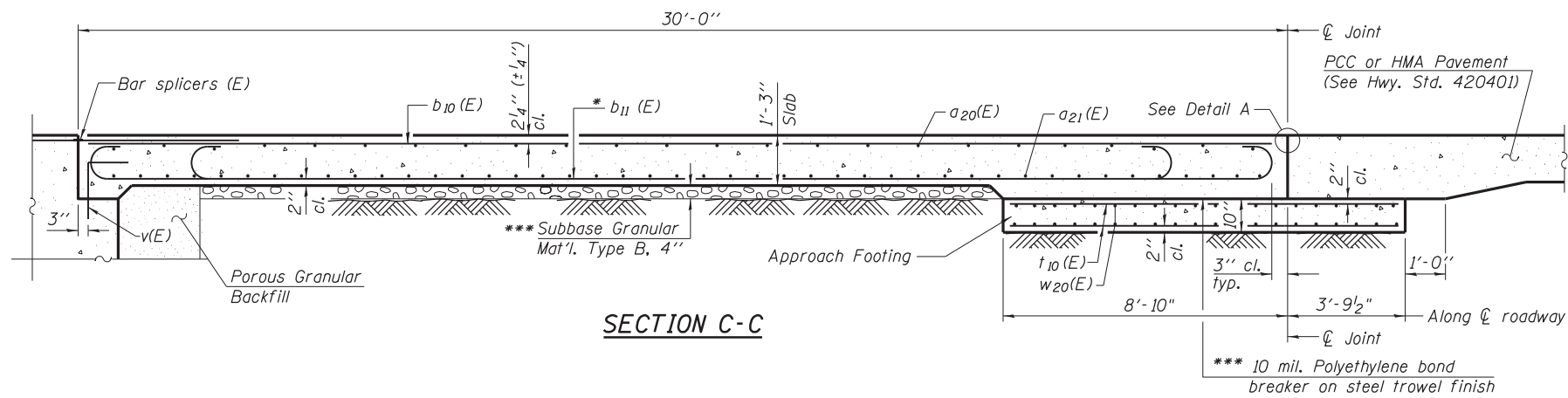
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE SOUTH APPROACH SLAB DETAILS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-13 OF S-27 SHEETS

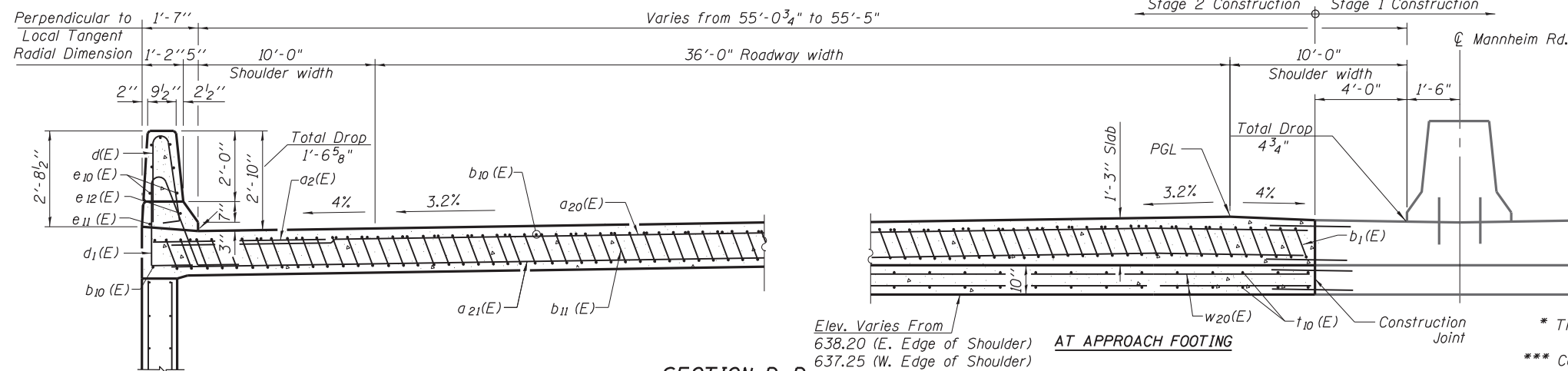
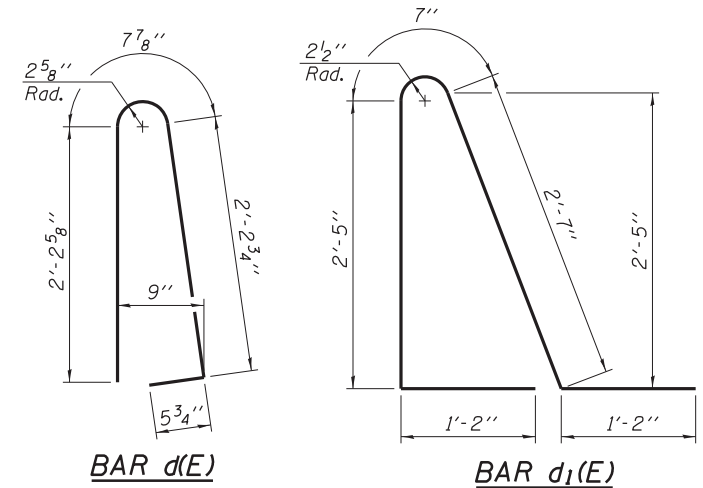
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	375
CONTRACT NO. 60G37				

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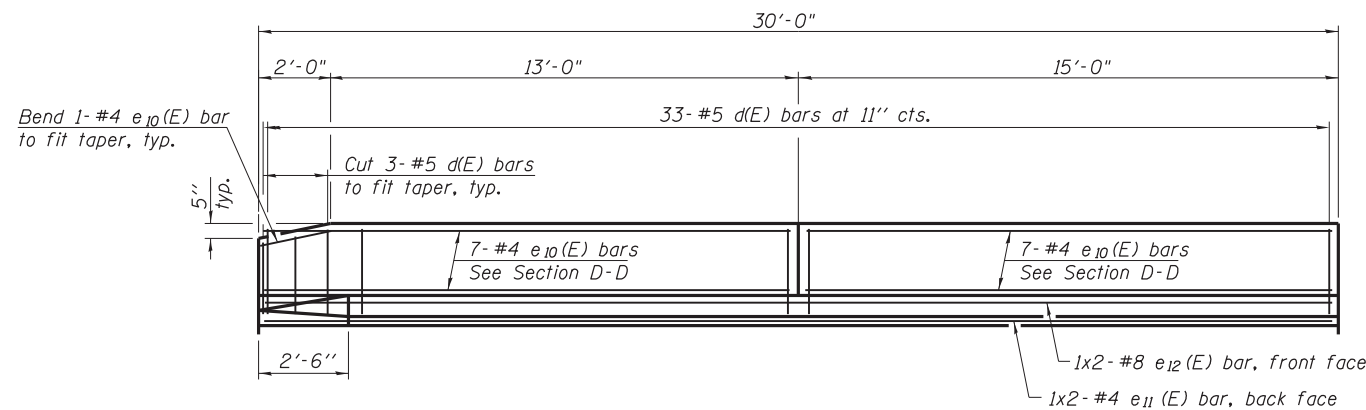
Notes:

See sheet S-13 of S-27 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet S-22 and S-24 of S-27.
 The approach footing maximum applied service bearing pressure (Qmax) = 2.0 ksf.
 For bar splicer details, see sheet S-27 of S-27.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Backfill and drainage treatment details, see sheet S-2 of S-27.

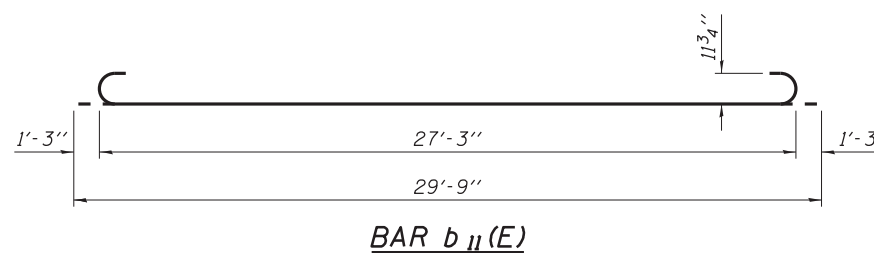


* Tilt #9 b₁₁(E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.

SECTION D-D
 (See Plan for dimensions not shown)



VIEW E-E
 (See Parapet Joint Detail on Sheet S-11)



**SOUTH APPROACH
 BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a ₂ (E)	24	#6	6'-6"	—
a ₂₀ (E)	50	#4	34'-6"	—
a ₂₁ (E)	92	#5	35'-0"	—
b ₁₀ (E)	44	#4	29'-8"	—
b ₁₁ (E)	127	#9	29'-9"	—
d(E)	33	#5	5'-7"	⌒
d ₁ (E)	33	#5	7'-11"	⌒
e ₁₀ (E)	14	#4	14'-8"	—
e ₁₁ (E)	2	#4	16'-0"	—
e ₁₂ (E)	2	#8	17'-7"	—
t ₁₀ (E)	106	#4	12'-4"	—
w ₂₀ (E)	120	#5	24'-3"	—
Concrete Superstructure		Cu. Yd.	84.3	
Concrete Structures		Cu. Yd.	20.6	
Reinforcement Bars, Epoxy Coated		Pound	22,190	

Bars indicated thus 1 x 2-#8 etc. indicates 1 lines of bars with 2 lengths per line.

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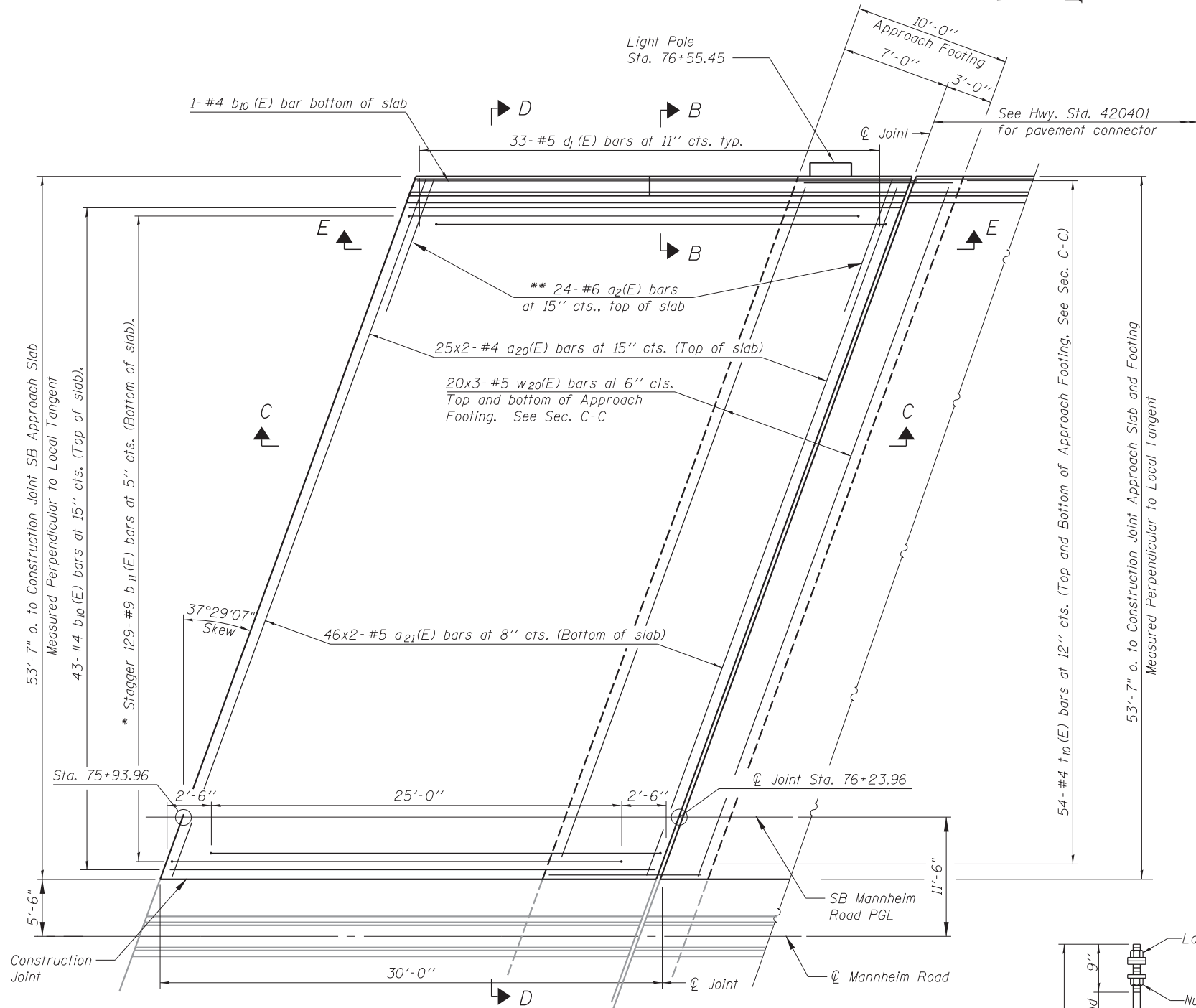
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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BRIDGE SOUTH APPROACH SLAB DETAILS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

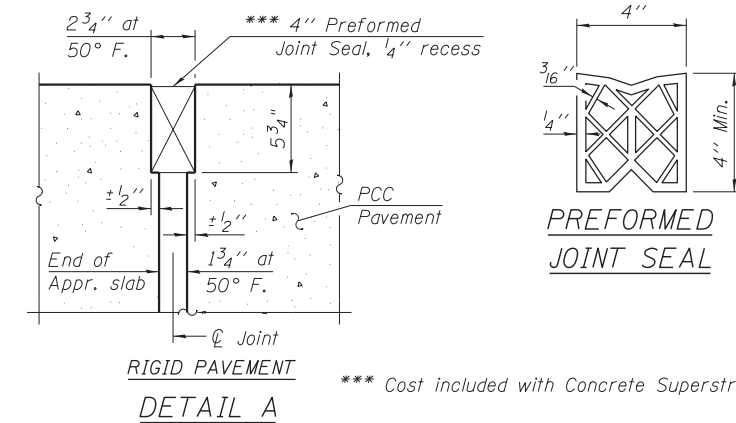
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	376
			CONTRACT NO. 60G37	
ILLINOIS FED. AID PROJECT				

Notes:
 See sheet S-16 of S-27 for Sections C-C & D-D and View E-E.
 $a_{20}(E)$ and $a_{21}(E)$ bar spacings measured along ϕ Rdwy.



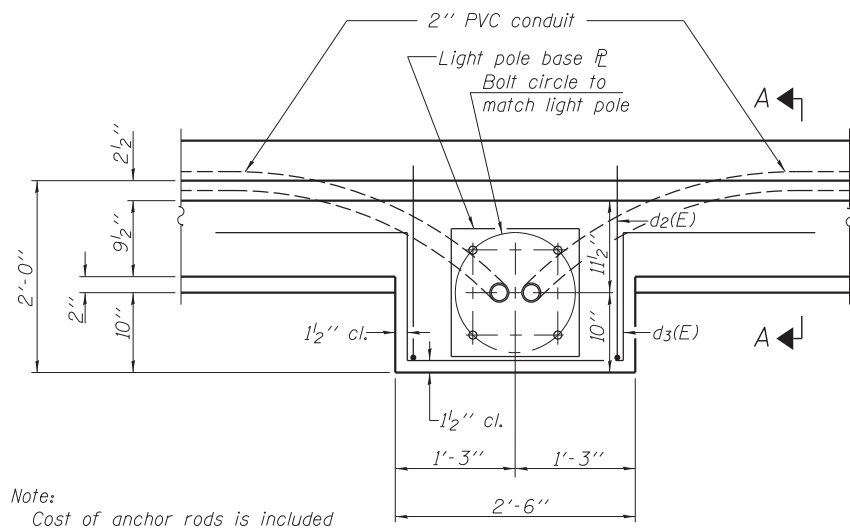
* Tilt #9 $b_{11}(E)$ bars as required to maintain clearance.
 ** Space between $a_{20}(E)$ bars, typ. each parapet.

PLAN



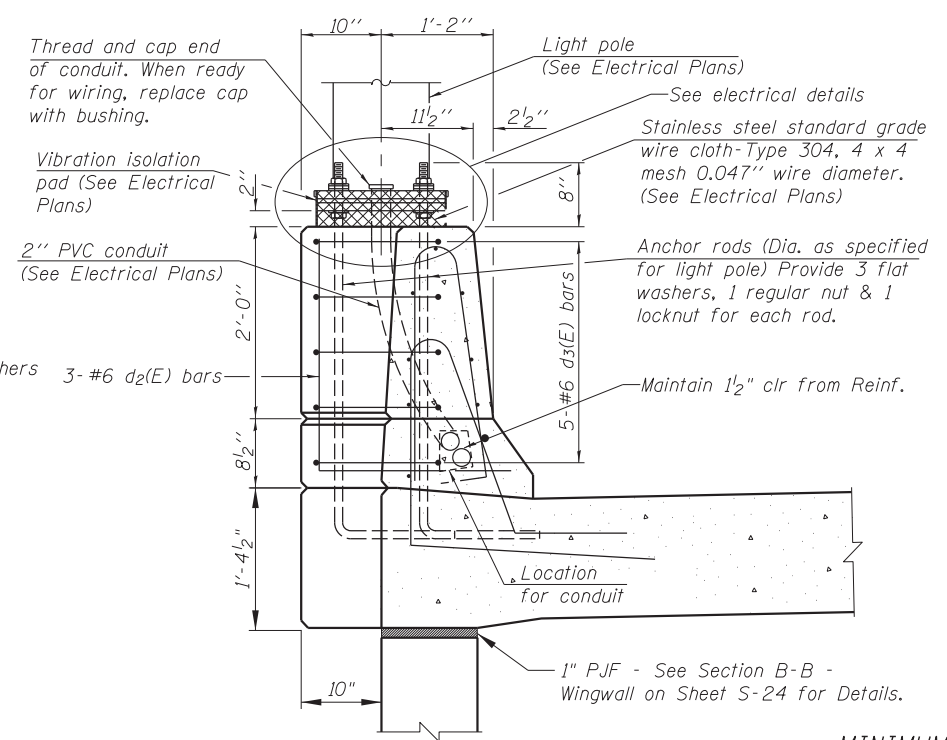
RIGID PAVEMENT
 DETAIL A

*** Cost included with Concrete Superstructure.



Note:
 Cost of anchor rods is included with Concrete Superstructure.

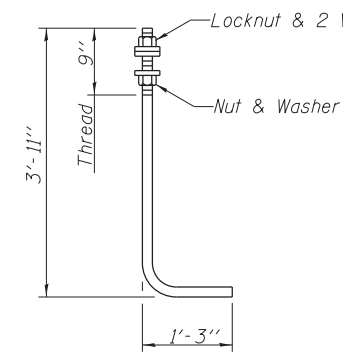
PLAN



SECTION A-A

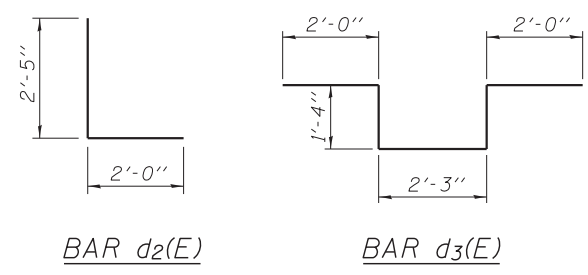
MINIMUM BAR LAP

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



ANCHOR ROD

Diameter as specified for light poles.
 (ASTM F 1554 Grade 105) Full length
 Hot Dipped Galvanized.



BAR $d_2(E)$

BAR $d_3(E)$

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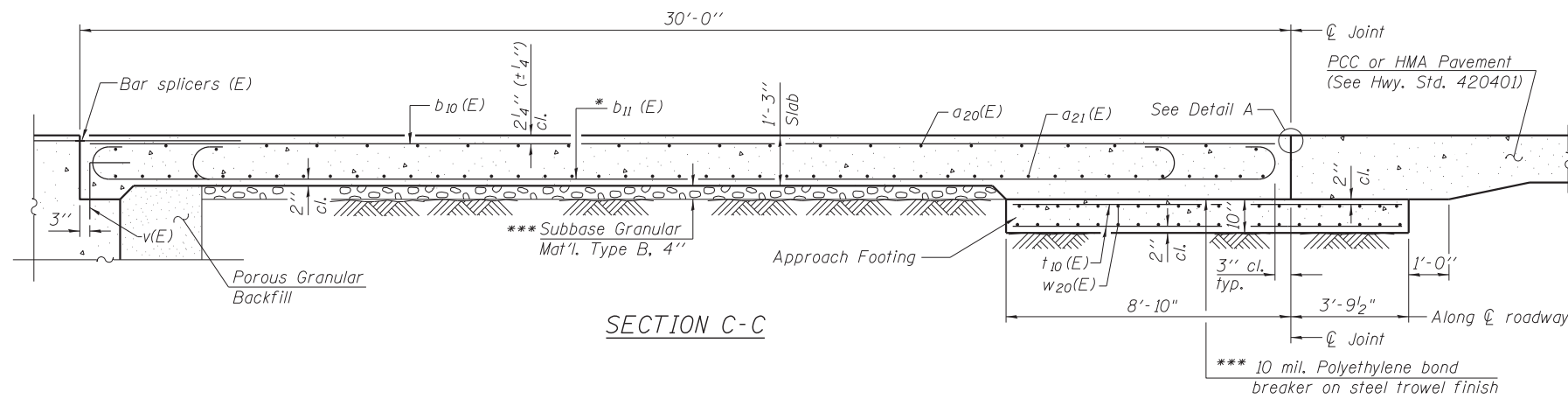
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BRIDGE N. APPROACH SLAB DETAILS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942

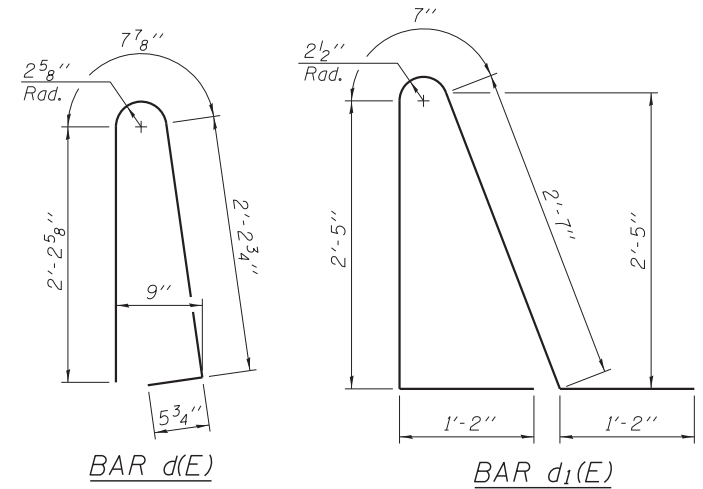
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	377
			CONTRACT NO. 60G37	

SHEET NO. S-15 OF S-27 SHEETS

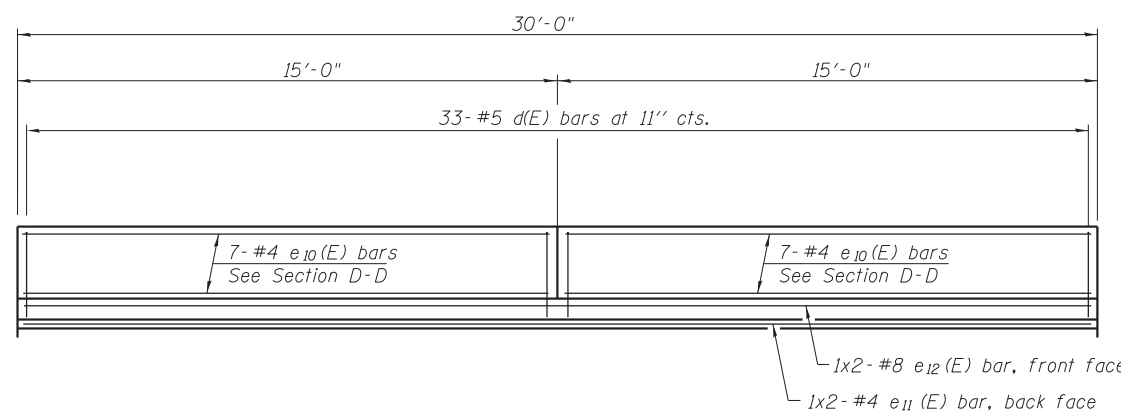
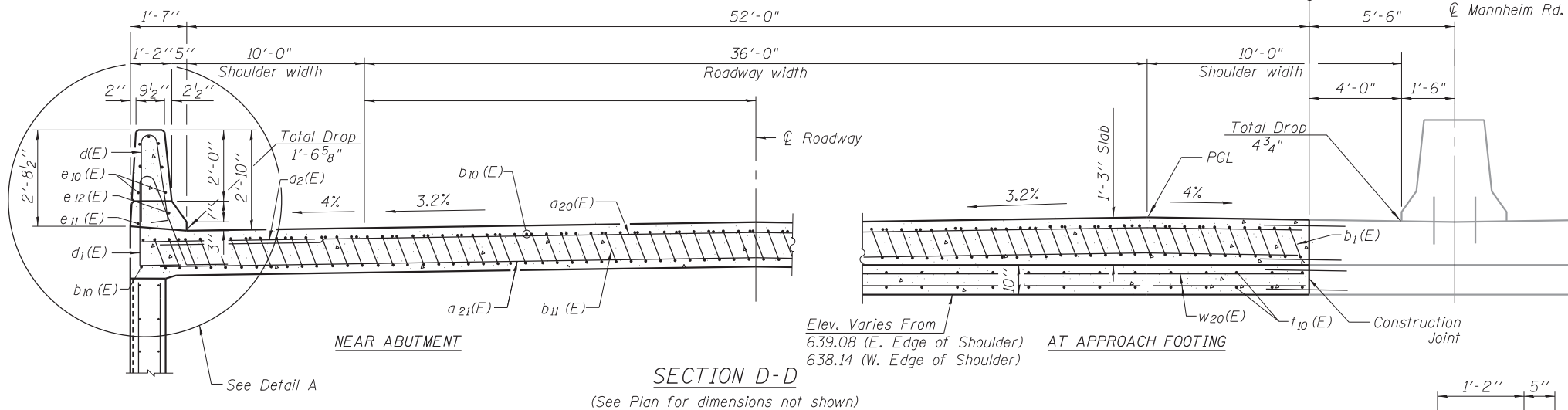
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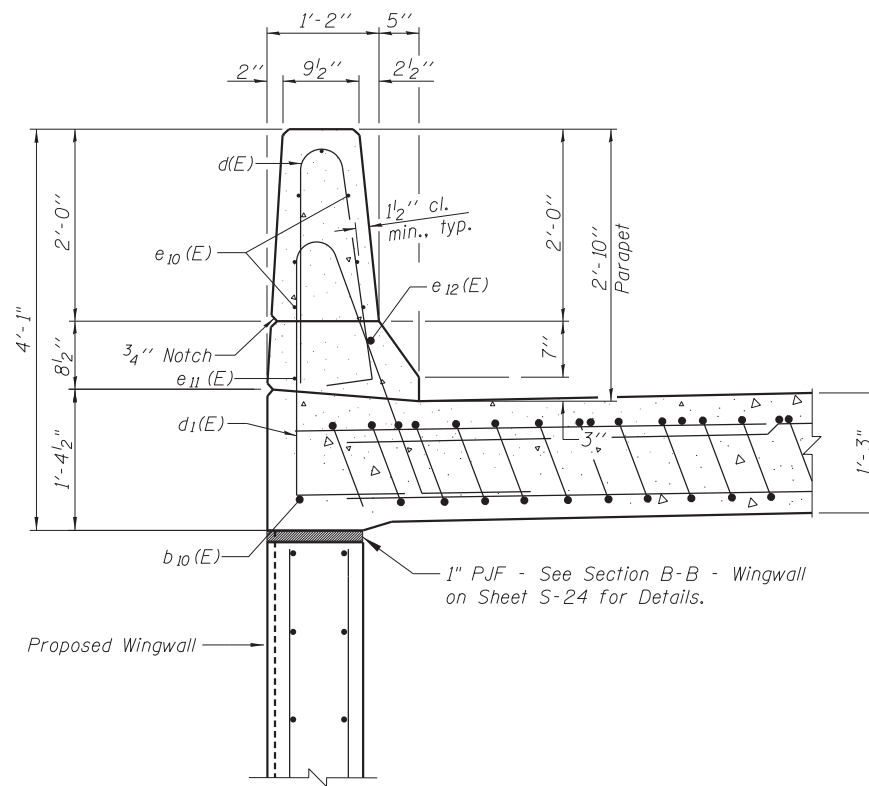
Notes:
 See sheet S-15 of S-27 for Detail A and View B-B.
 Approach slab and parapet concrete shall be paid for as Concrete Superstructure.
 Approach footing concrete shall be paid for as Concrete Structures.
 Reinforcement shall be paid for as Reinforcement Bars, Epoxy Coated.
 For v(E) bar details, see sheet S-22 and S-24 of S-27.
 The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.
 For bar splicer details, see sheet S-27 of S-27.
 Cost of excavation for approach footing included with Concrete Structures.
 For Porous Granular Backfill and drainage treatment details, see sheet S-2 of S-27.



* Tilt #9 b_{11} (E) bars as required to maintain clearance.
 *** Cost included with Concrete Superstructure.



VIEW E-E
 (See Parapet Joint Detail On Sheet S-11)

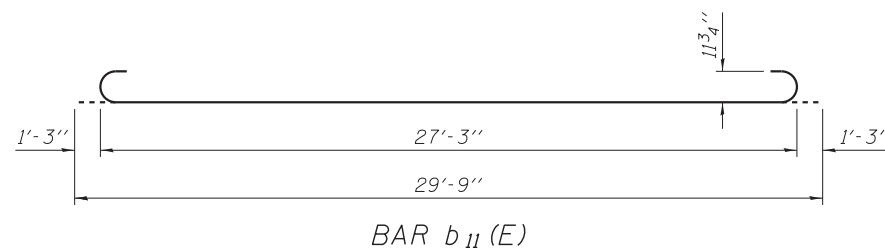


DETAIL A

NORTH APPROACH
 BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_{2E}	24	#6	6'-6"	—
a_{20E}	50	#4	34'-6"	—
a_{21E}	92	#5	35'-0"	—
b_{10E}	44	#4	29'-8"	—
b_{11E}	129	#9	29'-9"	—
$d(E)$	33	#5	5'-7"	U
$d_1(E)$	33	#5	7'-11"	T
$d_2(E)$	3	#6	4'-5"	L
$d_3(E)$	5	#6	8'-11"	L
e_{10E}	14	#4	14'-8"	—
e_{11E}	2	#4	16'-0"	—
e_{12E}	2	#8	17'-7"	—
t_{10E}	108	#4	12'-4"	—
w_{20E}	120	#5	24'-3"	—
Concrete Superstructure		Cu. Yd.	85.4	
Concrete Structures		Cu. Yd.	20.8	
Reinforcement Bars, Epoxy Coated		Pound	23,390	

Bars indicated thus 1 x 2- #8 etc. indicates 1 lines of bars with 2 lengths per line.



BAR b_{11} (E)

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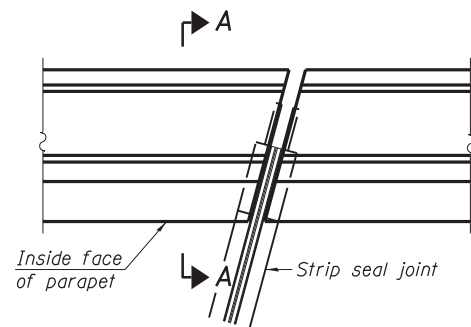
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CHECKED - JMB	REVISOR	
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PLOT DATE =	CHECKED - MM	REVISOR

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 DEPARTMENT OF TRANSPORTATION

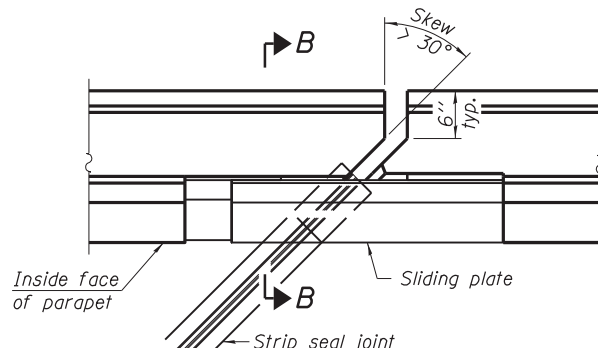
BRIDGE NORTH APPROACH SLAB DETAILS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942

SHEET NO. S-16 OF S-27 SHEETS

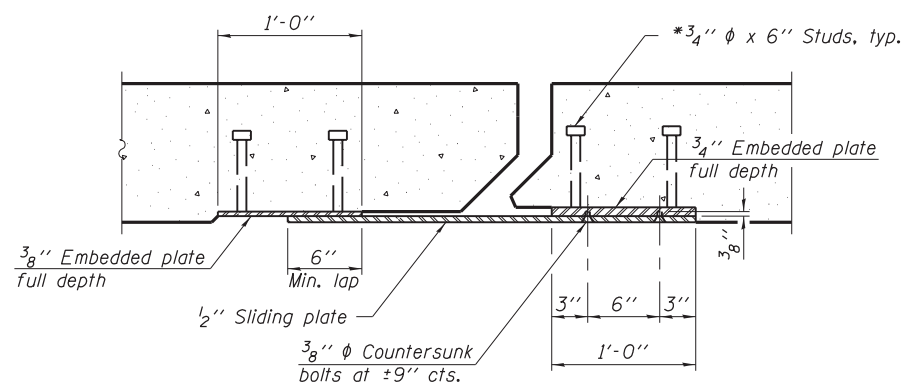
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	378
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



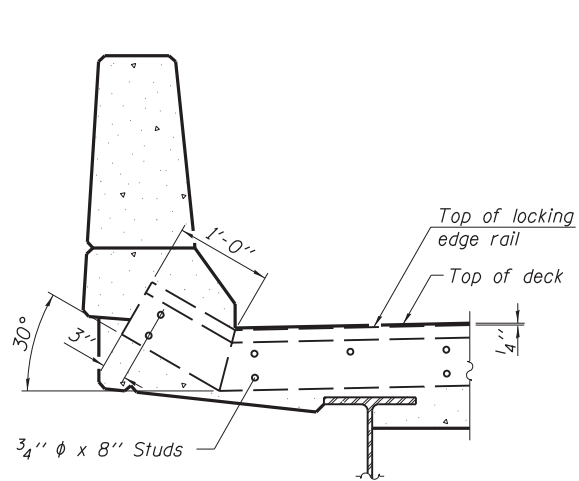
PLAN
(For skews $\leq 30^\circ$)



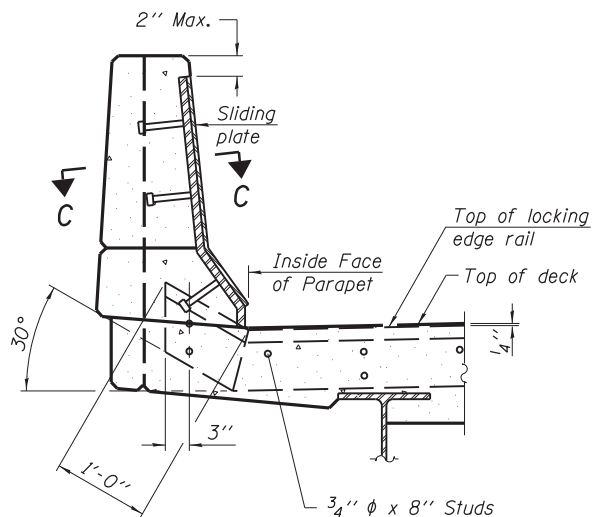
PLAN
(For skews $> 30^\circ$)
Showing point block



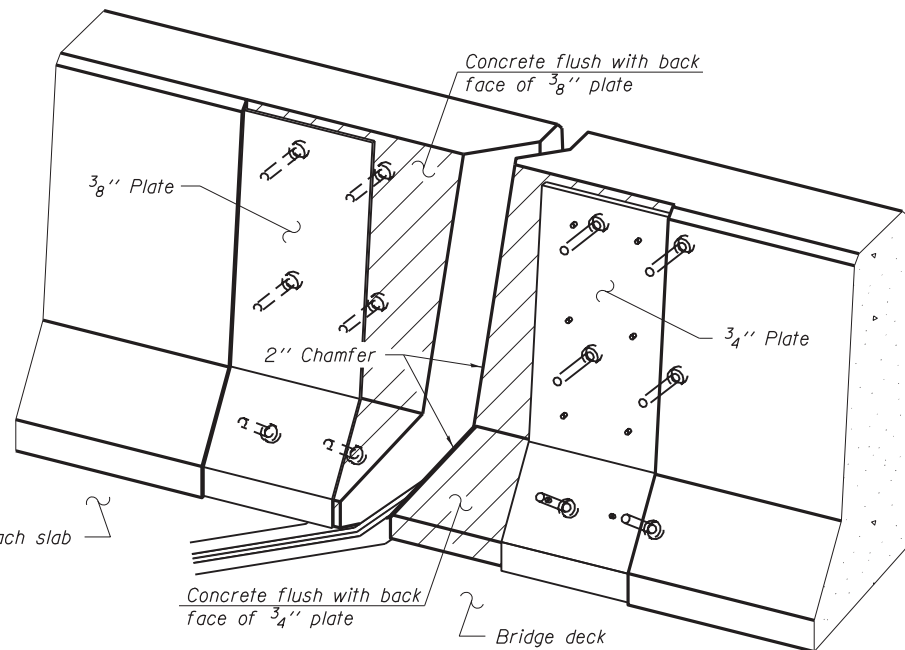
SECTION C-C



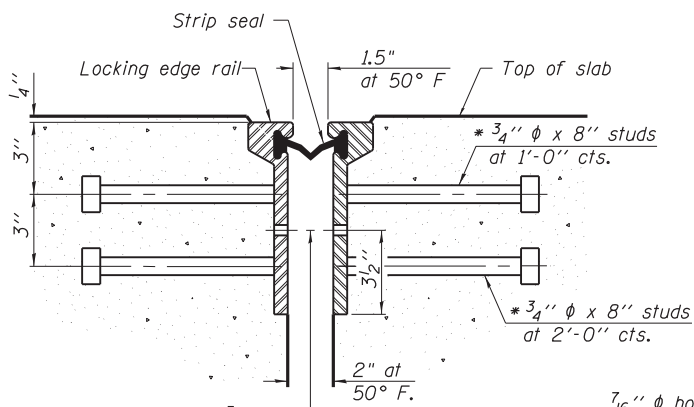
SECTION A-A



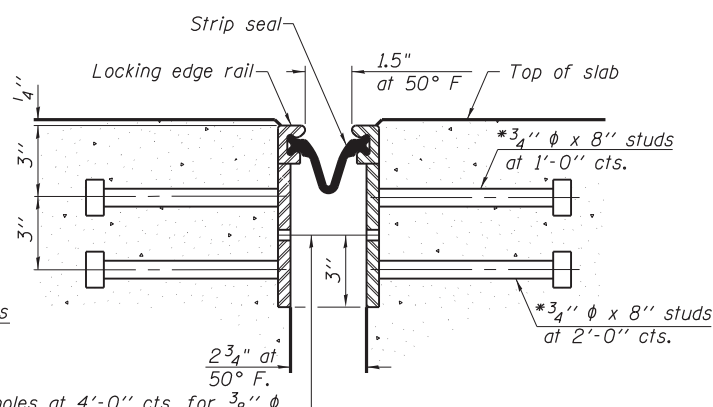
SECTION B-B



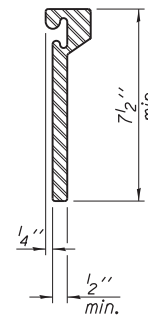
TRIMETRIC VIEW
(Showing back plates only)



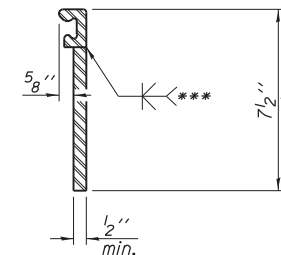
SECTION THRU ROLLED RAIL JOINT



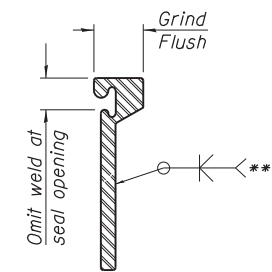
SECTION THRU WELDED RAIL JOINT



ROLLED EXTRUDED RAIL



WELDED RAIL



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

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

Notes:

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

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

The manufacturer's recommended installation methods shall be followed.

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

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

Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	149

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

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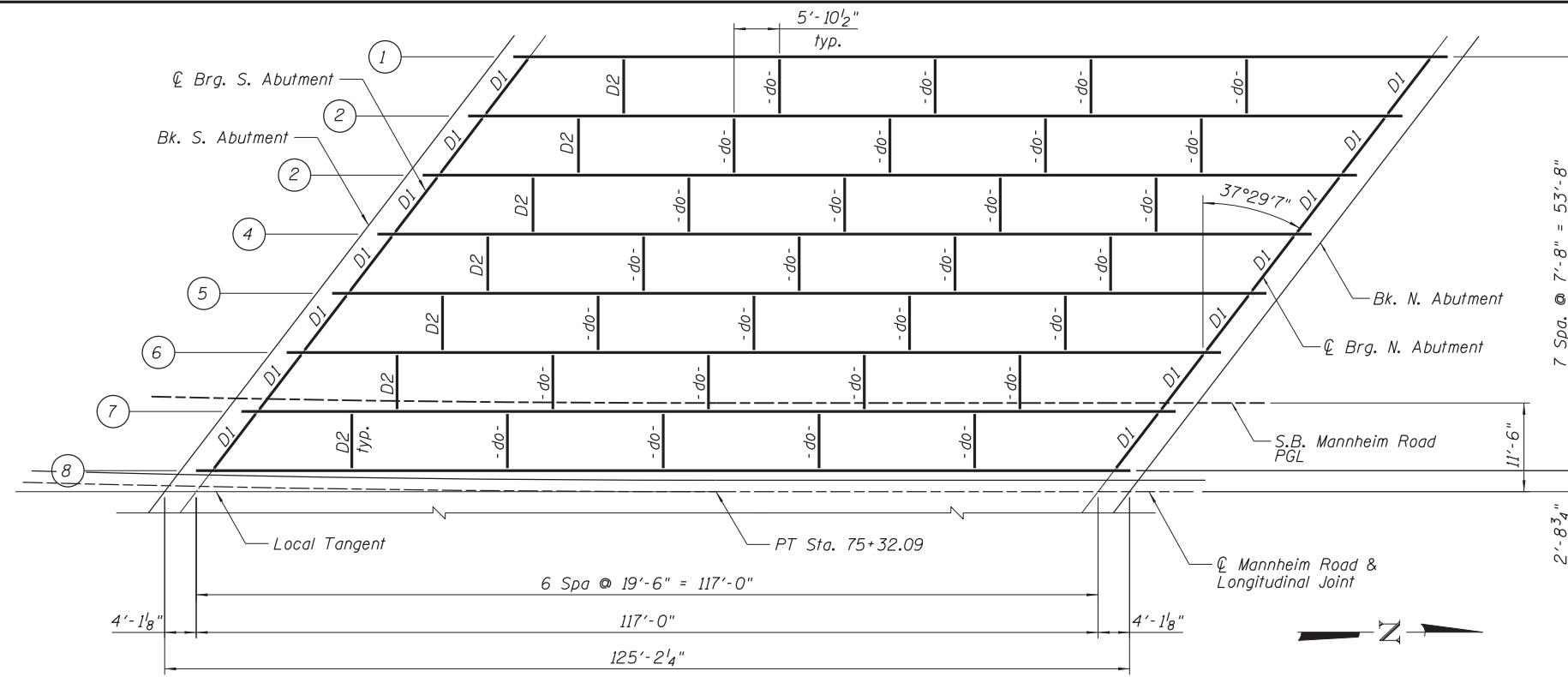
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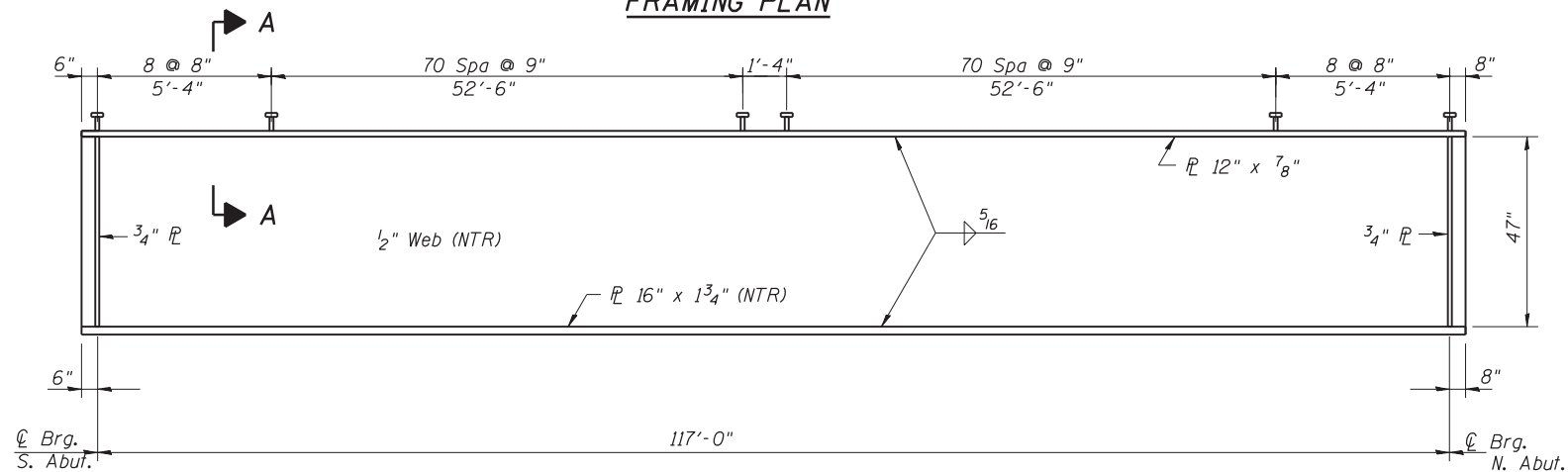
**PREFORMED JOINT STRIP SEAL
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-17 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	379
				CONTRACT NO. 60G37
ILLINOIS FED. AID PROJECT				

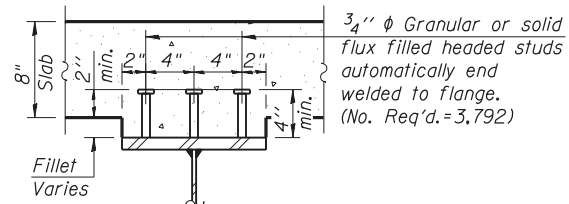


FRAMING PLAN



GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.



SECTION A-A

Notes:

- All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.

f_s (Service II): Sum of stresses as computed below (ksi).
 $f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3 f_s(\xi + IM)$
 $0.95R_hF_{yF}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
 f_s (Total\Strength I): Sum of stresses as computed below on non-compact section (ksi).
 $1.25 (f_{sDC1} + f_{sDC2}) + 1.5 f_{sDW} + 1.75 f_s(\xi + IM)$
 $\phi_r F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7.2 (ksi).
 V_r : Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

INTERIOR GIRDER MOMENT TABLE		0.5 Span
I_s	(in ⁴)	23,988
$I_c(n)$	(in ⁴)	68,303
$I_c(3n)$	(in ⁴)	47,609
$I_c(cr)$	(in ⁴)	—
S_s	(in ³)	1,311
$S_c(n)$	(in ³)	1,783
$S_c(3n)$	(in ³)	1,642
$S_c(cr)$	(in ³)	—
$DC1$	(k/')	1.01
M_{DC1}	(k)	1,730.8
$DC2$	(k/')	0.115
M_{DC2}	(k)	196.8
DW	(k/')	0.35
M_{DW}	(k)	598.9
$M_{\xi + IM}$	(k)	2,011
M_u (Strength I)	(k)	6,827.6
$\phi_r M_n$	(k)	8,474.4
$f_s DC1$	(ksi)	15.84
$f_s DC2$	(ksi)	1.44
$f_s DW$	(ksi)	4.38
$f_s (\xi + IM)$	(ksi)	13.53
f_s (Service II)	(ksi)	39.25
$0.95R_hF_{yF}$	(ksi)	47.5
f_s (Total\Strength I)	(ksi)	51.85
$\phi_r F_n$	(ksi)	—
V_r	(k)	58.2

INTERIOR GIRDER REACTION TABLE		
		Abut.
R_{DC1}	(k)	59.2
R_{DC2}	(k)	6.7
R_{DW}	(k)	20.5
$R_{\xi + IM}$	(k)	113.7
R_{Total}	(k)	200.0

I_s, S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in⁴ and in³).

$I_c(n), S_c(n)$: 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 (in⁴ and in³).

$I_c(3n), S_c(3n)$: 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 (in⁴ and in³).

$I_c(cr), S_c(cr)$: 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 dead loads (in⁴ and in³).

$DC1$: 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 (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 plus impact loads as calculated below (ksi).
 $M_{\xi + IM} / S_c(n)$ or $M_{\xi + IM} / S_c(cr)$ as applicable.

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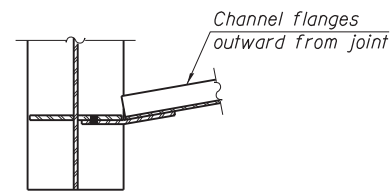
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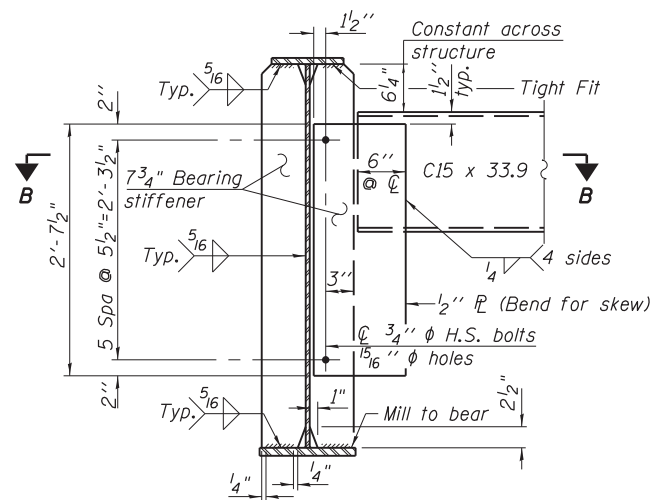
**FRAMING PLAN
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

SHEET NO. S-18 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	380
			CONTRACT NO. 60G37	
ILLINOIS FED. AID PROJECT				

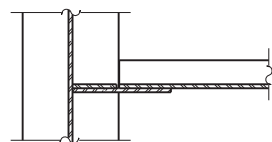


SECTION B-B

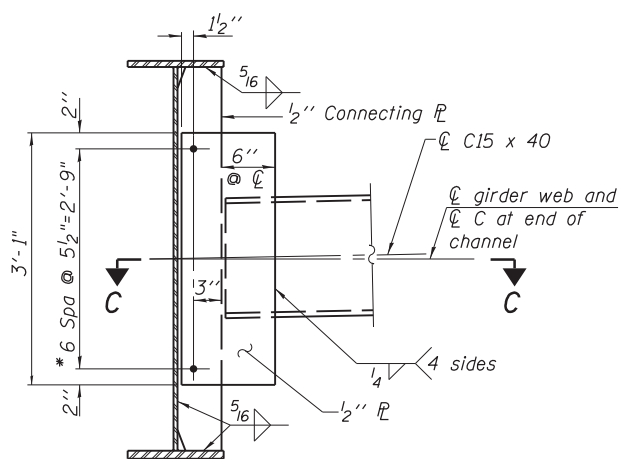


END DIAPHRAGM D1

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



SECTION C-C



INTERIOR DIAPHRAGM D2

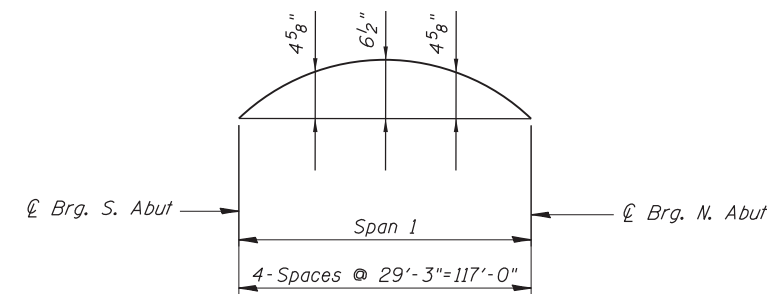
Note:
Two hardened washers required for each set of oversized holes.
* 3/4" φ HS bolts, 5/16" φ holes

TOP OF WEB ELEVATION FOR FABRICATION ONLY

Beam	S. Abutment	N. Abutment
Beam 1	638.776	639.366
Beam 2	639.055	639.643
Beam 3	639.281	639.869
Beam 4	639.499	640.084
Beam 5	639.717	640.300
Beam 6	639.936	640.515
Beam 7	640.037	640.652
Beam 8	639.697	640.315

NOTES:

- All structure steel for Plate and Bearing Stiffeners, shall be AASHTO M270 Grade 50.
- Load carrying components designated "NTR" shall conform to the Impact Testing Requirement, Zone 2.
- Clip all cross frame connection plates 1" horizontally and 2 1/2" vertically at web to flange connection.
- All Bearing Stiffeners, and Cross Frame Connection Plates Shall be perpendicular to the centerline of the plate girders.



CAMBER DIAGRAM

THIS SHEET IS FOR INFORMATION ONLY

N:\ROSEMONT\11009\CADD_Sheets\0167942-0168037-019_Framing.dgn

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PLOT DATE =	DRAWN - PDR	REVISED
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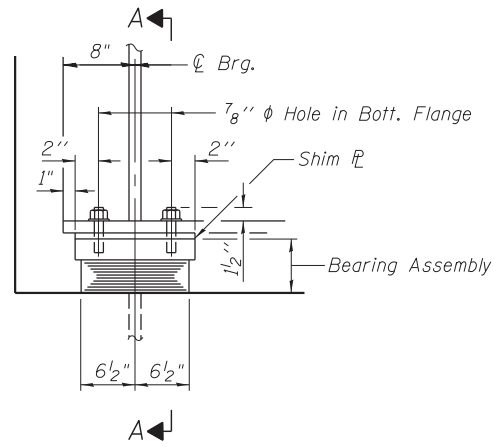
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DIAPHRAGM DETAILS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

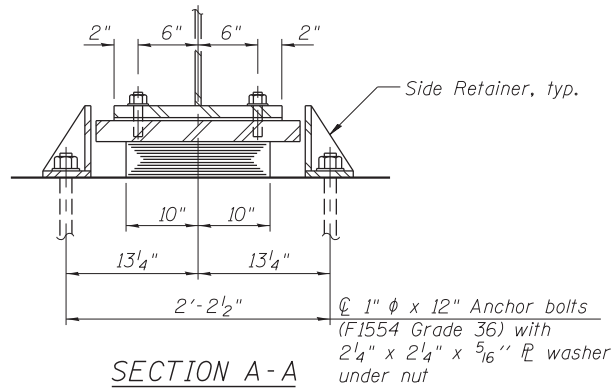
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	381
CONTRACT NO. 60G37				

SHEET NO. S-19 OF S-27 SHEETS

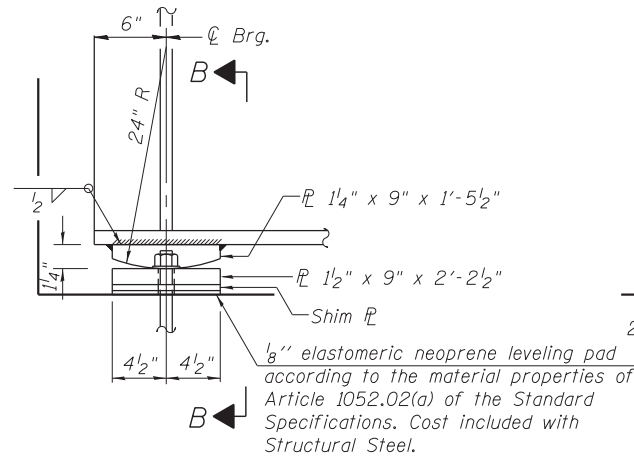
ILLINOIS FED. AID PROJECT



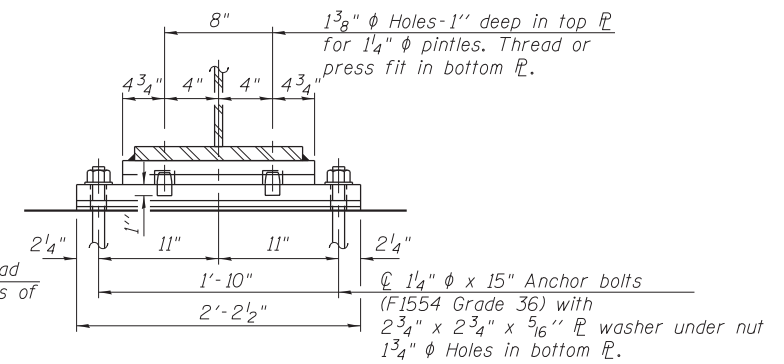
ELEVATION AT NORTH ABUT.



SECTION A-A

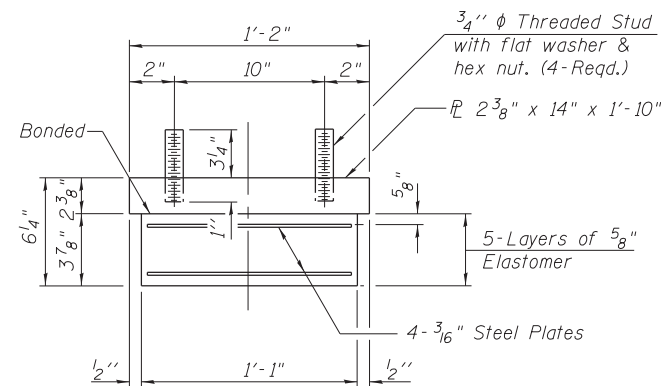


ELEVATION AT SOUTH ABUT.



SECTION B-B

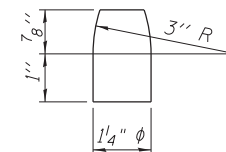
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

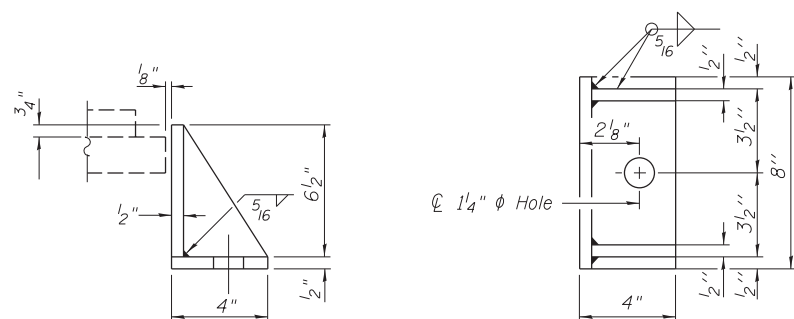
Note:
Shim plates shall not be placed under Bearing Assembly.

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



PINTLE

FIXED BEARING



SIDE RETAINER

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

BILL OF MATERIAL

Item	Unit	Total
Erecting Elastomeric Bearing Assembly Type I	Each	8
Anchor Bolts, 1"	Each	16
Anchor Bolts, 1 1/4"	Each	16

N:\PROJECTS\11000\CADD_Sheets\0167942-D166037-0220.Brg.dwg

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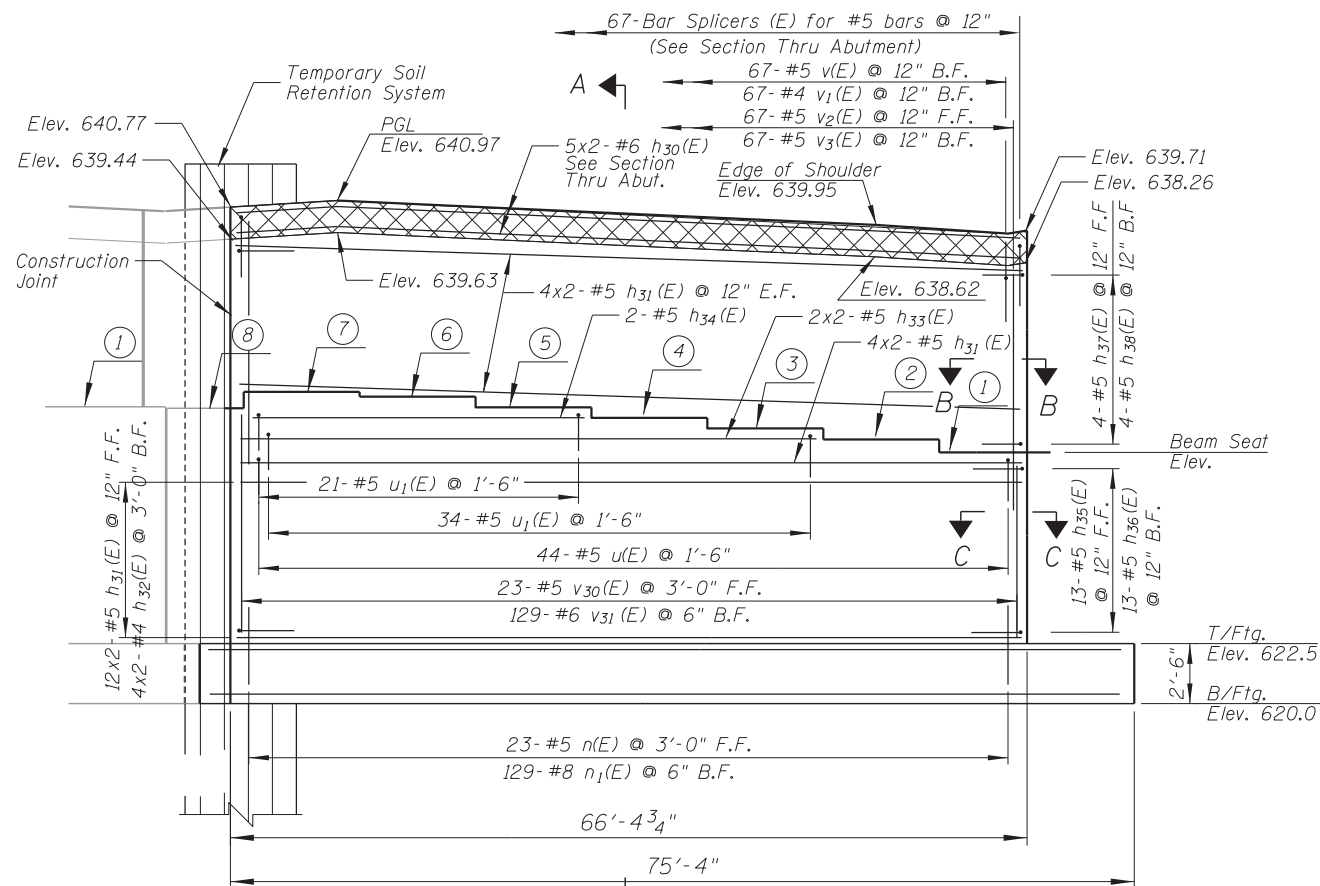
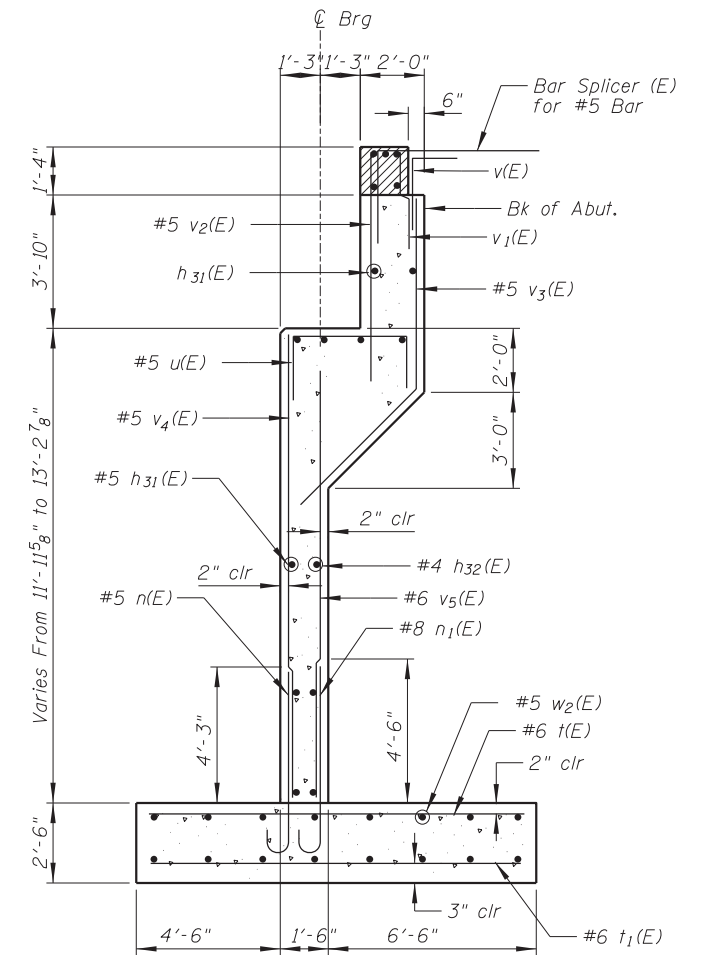
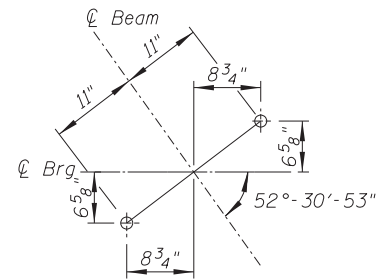
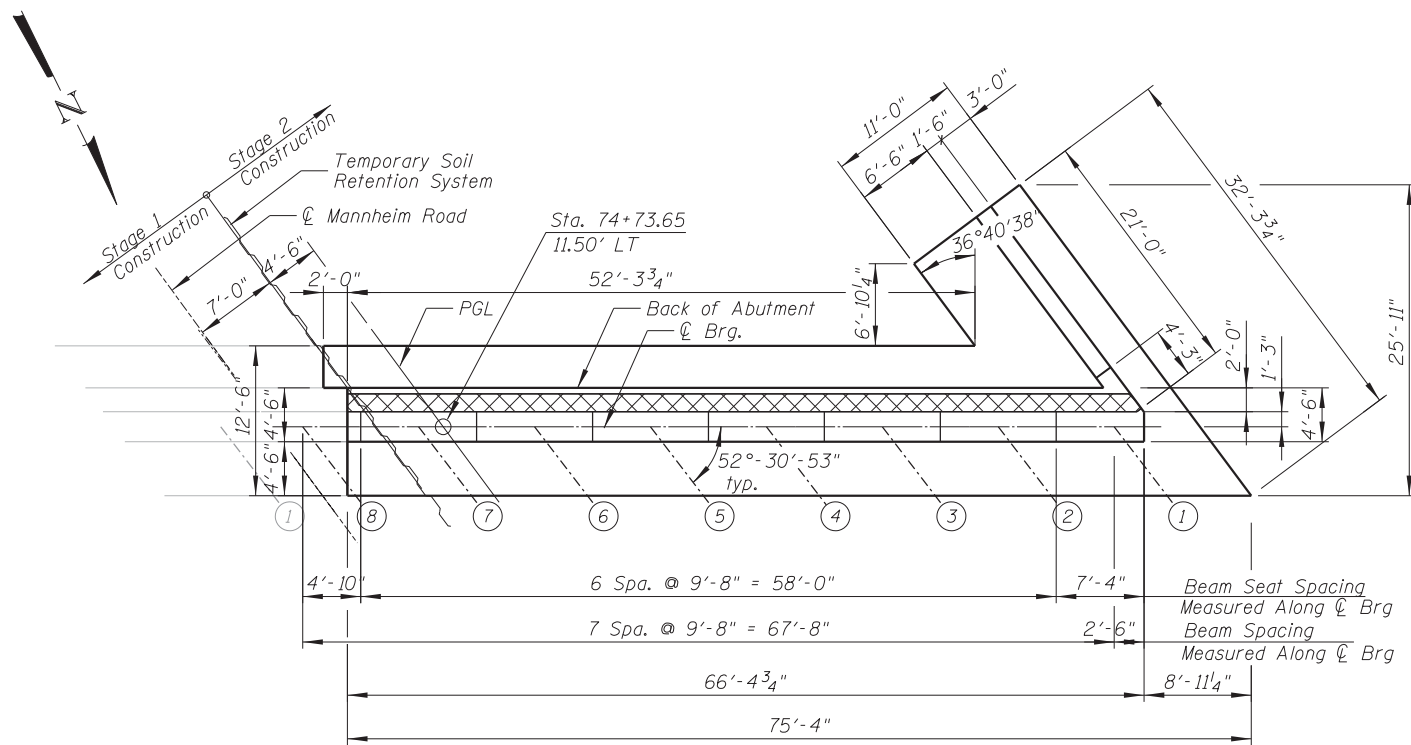
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942

SHEET NO. S-20 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	382
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



BEAM SEAT ELEVATION

Beam	Elevation
1	634.47
2	634.75
3	634.98
4	635.20
5	635.42
6	635.63
7	635.74
8	635.39

BEAM STEPS

Beam	Step Height (in.)
1-2	3 3/8
2-3	2 3/4
3-4	2 5/8
4-5	2 5/8
5-6	2 1/2
6-7	1 3/8
7-8	-4 1/4

NOTES:

- Reinforcement bars designated (E) shall be epoxy coated.
- Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
- Space reinforcement in cap to miss anchor bolts.
- Pour steps monolithically with cap.
- Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".

LEGEND:

F.F. Front Face
B.F. Back face
E.F. Each face

MINIMUM BAR LAP

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

Maximum Applied Service Bearing Pressure (Q_{max}) = 5.8 ksf

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT - PLAN AND ELEVATION
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942

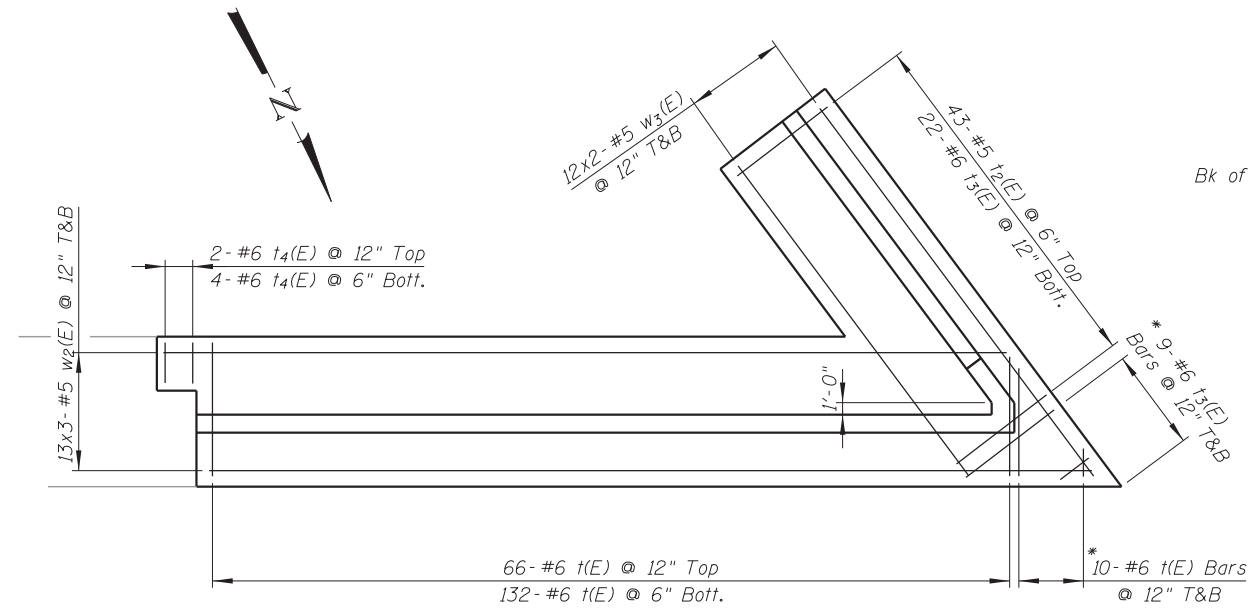
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	383
CONTRACT NO. 60G37				

SHEET NO. S-21 OF S-27 SHEETS

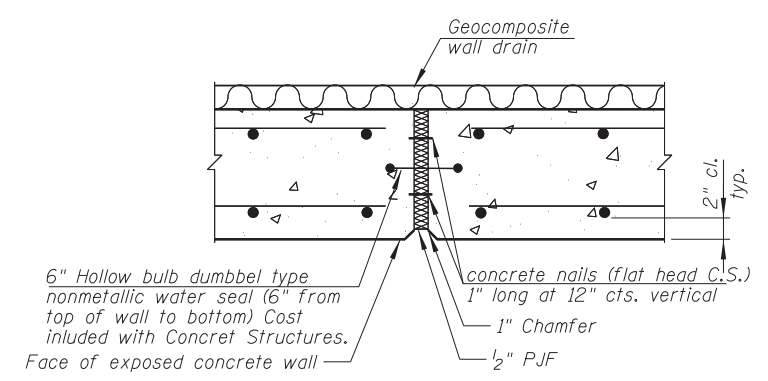
ILLINOIS FED. AID PROJECT

**SOUTH ABUTMENT
BILL OF MATERIAL**

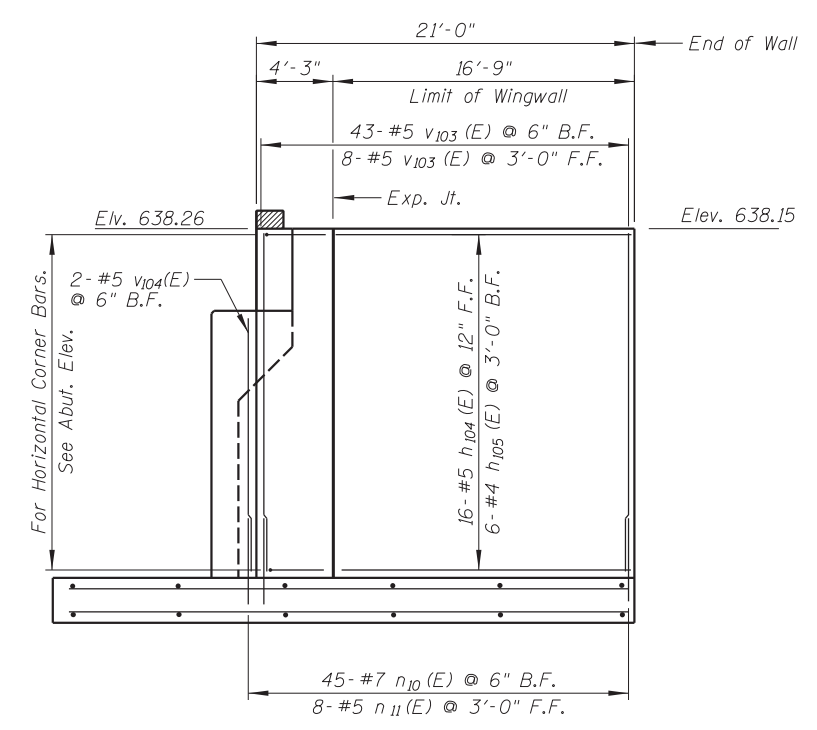
Bar	No.	Size	Length	Shape
h ₃₀ (E)	10	#6	34'-10"	—
h ₃₁ (E)	48	#5	34'-8"	—
h ₃₂ (E)	8	#4	34'-8"	—
h ₃₃ (E)	4	#5	26'-2"	—
h ₃₄ (E)	2	#5	29'-8"	—
h ₃₅ (E)	13	#5	9'-3"	┘
h ₃₆ (E)	13	#5	7'-4"	┘
h ₃₇ (E)	4	#5	6'-10"	┘
h ₃₈ (E)	4	#5	3'-10"	┘
h ₁₀₄ (E)	16	#5	16'-4"	—
h ₁₀₅ (E)	6	#4	16'-4"	—
n(E)	23	#5	7'-1"	┘
n ₁ (E)	129	#8	7'-8"	┘
n ₁₀ (E)	45	#7	9'-1"	—
n ₁₁ (E)	8	#5	4'-9"	—
t(E)	208	#6	12'-2"	—
t ₂ (E)	43	#5	10'-8"	—
t ₃ (E)	31	#6	10'-8"	—
t ₄ (E)	6	#6	3'-4"	—
u(E)	44	#5	6'-2"	┘
u ₁ (E)	55	#5	3'-8"	┘
v(E)	67	#5	3'-10"	┘
v ₁ (E)	67	#4	3'-0"	┘
v ₂ (E)	67	#5	6'-2"	—
v ₃ (E)	67	#5	11'-8"	┘
v ₃₀ (E)	23	#5	11'-10"	—
v ₃₁ (E)	129	#6	11'-10"	—
v ₁₀₃ (E)	51	#5	15'-0"	—
v ₁₀₄ (E)	2	#5	11'-0"	—
w ₂ (E)	78	#5	27'-0"	—
w ₃ (E)	48	#5	16'-6"	—
Concrete Superstructure	Cu. Yd.		5.5	
Concrete Structures	Cu. Yd.		208	
Reinforcement Bars, Epoxy Coated	Pound		20,280	
Structure Excavation	Cu. Yd.		1,160	
Concrete Sealer	Sq. Ft.		428	
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.		115	



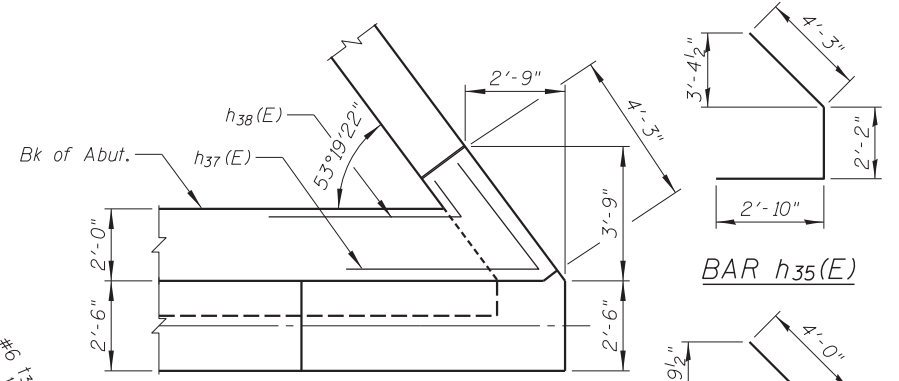
FOOTING PLAN



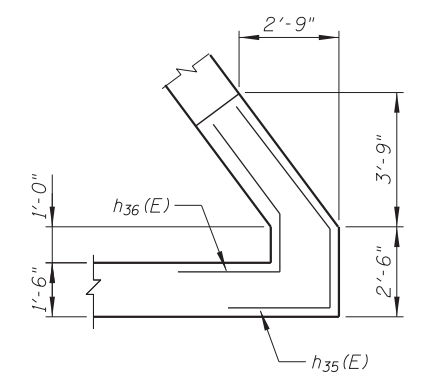
EXPANSION JOINT



SW WINGWALL ELEVATION



SECTION B-B



SECTION C-C

BAR h₃₅(E)

BAR h₃₆(E)

BAR h₃₇(E)

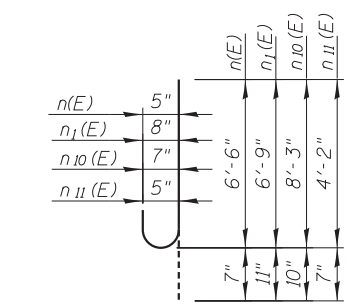
BAR h₃₈(E)

BARS u(E) & u₁(E)

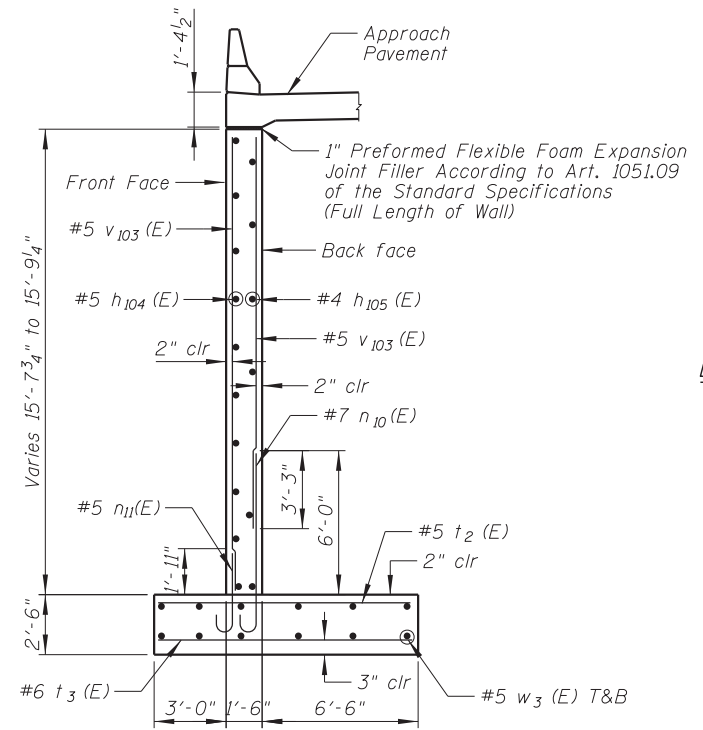
BAR v(E)

BAR v₁(E)

BAR v₃(E)



BARS n(E), n₁(E), n₁₀(E) & n₁₁(E)



WINGWALL TYPICAL SECTION

LEGEND:
F.F. Front Face
B.F. Back face
E.F. Each face

- NOTES:**
- Reinforcement bars designated (E) shall be epoxy coated.
 - Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
 - Space reinforcement in cap to miss anchor bolts.
 - Pour steps monolithically with cap.
 - Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".
 - For Limits of Removal and Disposal of Unsuitable Material for Structures, See S-3 of S-27.

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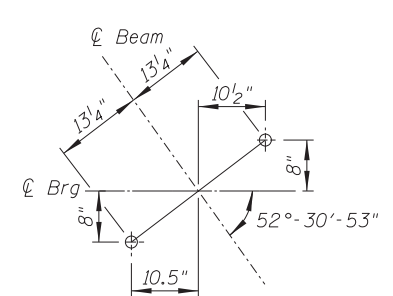
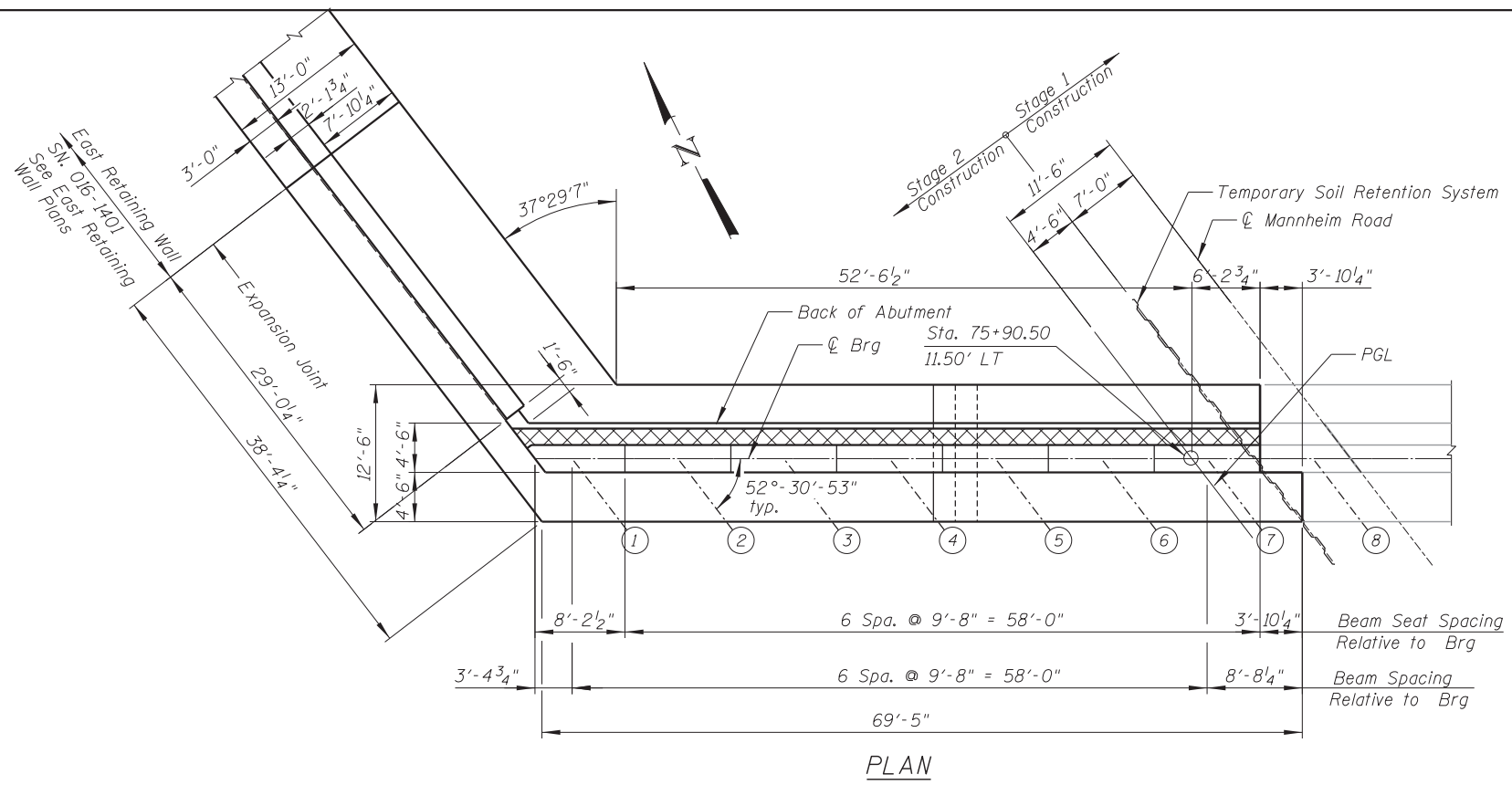
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PLOT DATE =	DRAWN - PDR	REVISED
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SOUTH ABUTMENT - DETAILS
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

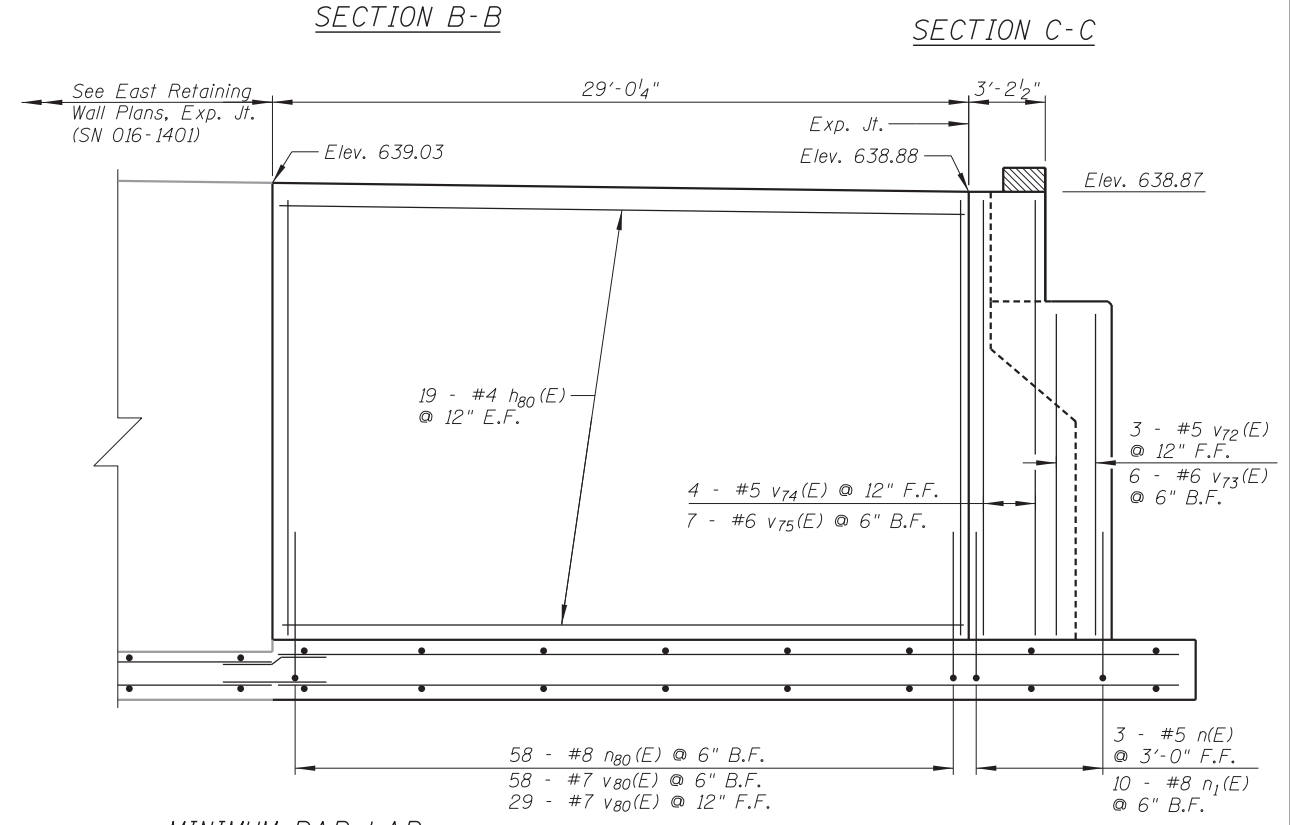
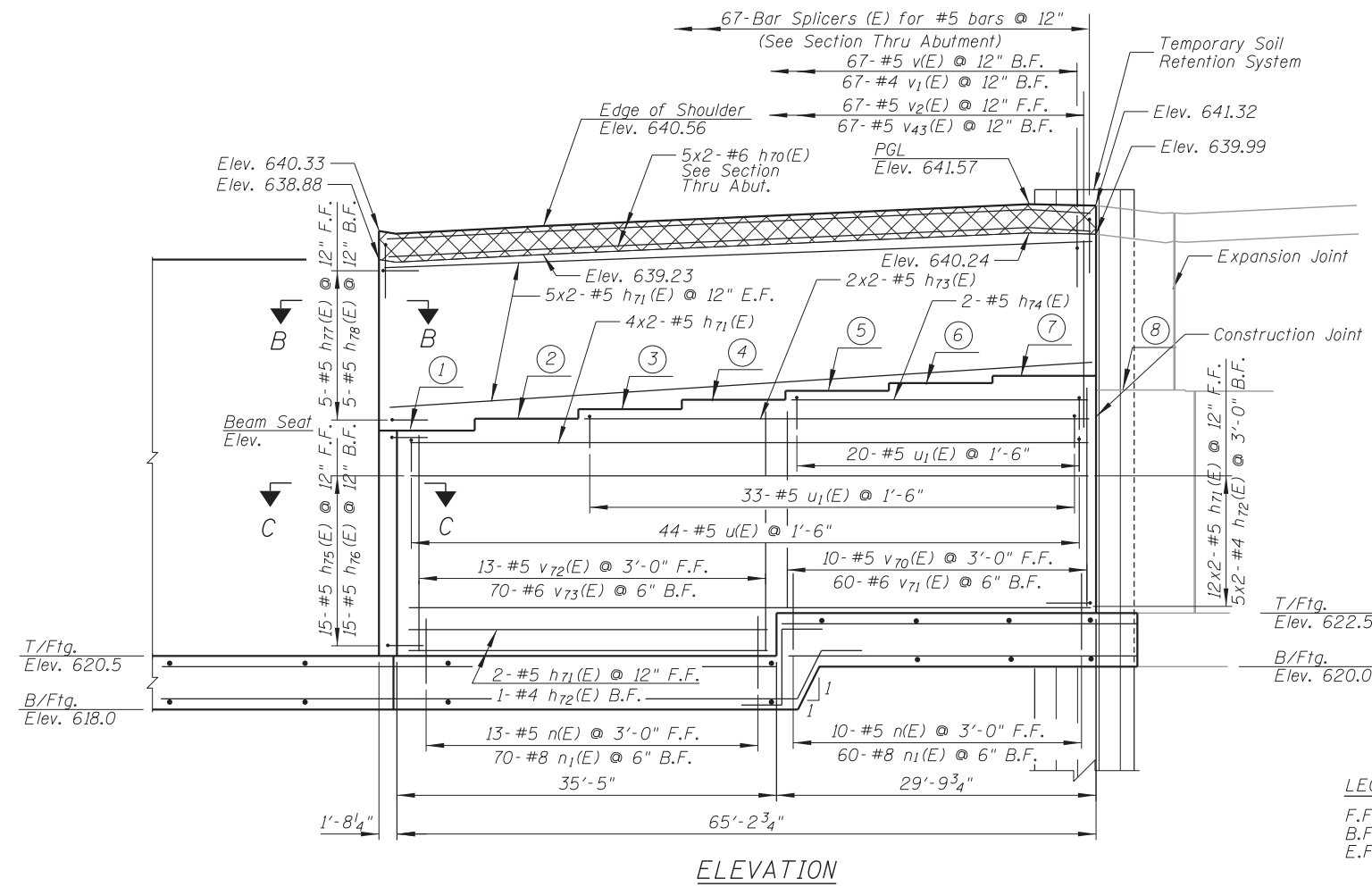
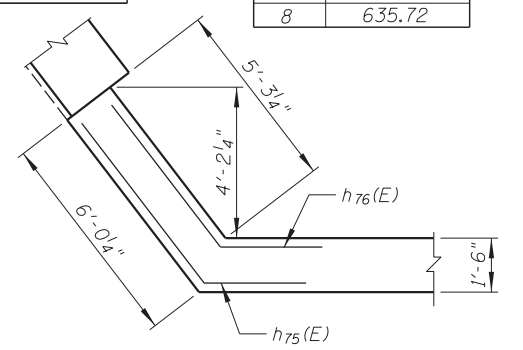
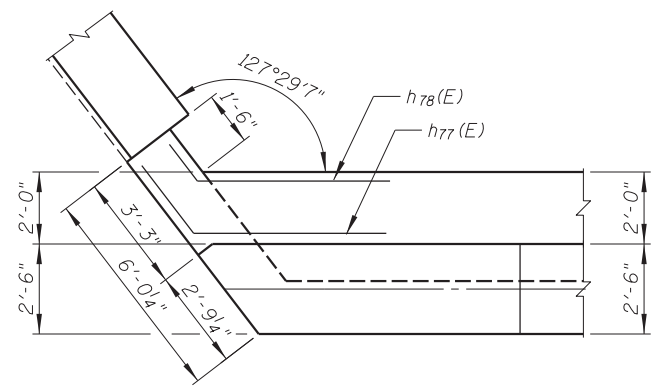
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	384
			CONTRACT NO. 60G37	
ILLINOIS FED. AID PROJECT				

SHEET NO. S-22 OF S-27 SHEETS



- NOTES:**
1. Reinforcement bars designated (E) shall be epoxy coated.
 2. Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
 3. Space reinforcement in cap to miss anchor bolts.
 4. Pour steps monolithically with cap.
 5. Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".

BEAM STEPS		BEAM SEAT ELEVATION	
Beam	Step Height	Beam	Elevation
1-2	3 3/8	1	634.77
2-3	2 5/8	2	635.05
3-4	2 5/8	3	635.27
4-5	2 5/8	4	635.49
5-6	2 1/2	5	635.71
6-7	1 5/8	6	635.92
7-8	-4 1/8	7	636.06
		8	635.72



- LEGEND:**
- F.F. Front Face
B.F. Back Face
E.F. Each Face
- MINIMUM BAR LAP**
- #4 bar = 2'-3"
 - #5 bar = 2'-10"
 - #6 bar = 3'-10"
 - #8 bar = 6'-9"

Maximum Applied Service Bearing Pressure (Q_{max}) = 5.8 ksf

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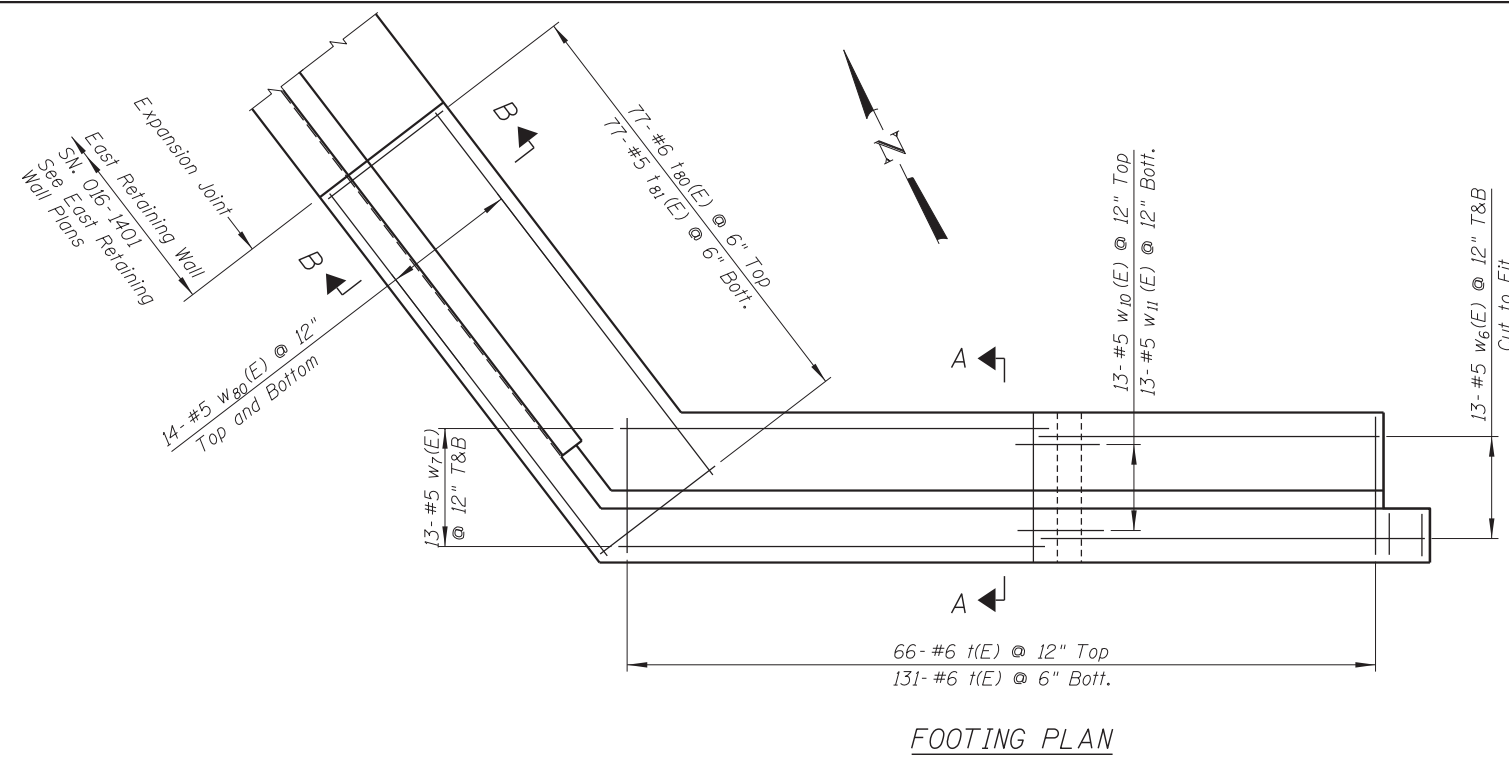
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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**NORTH ABUTMENT - PLAN AND ELEVATION
SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

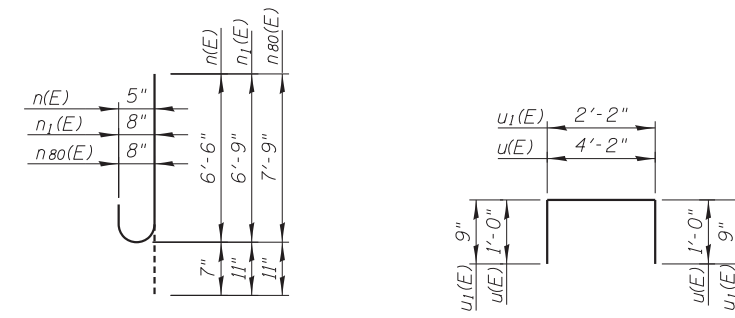
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330	0105 WRS&HB	COOK	605	385
CONTRACT NO. 60G37			ILLINOIS FED. AID PROJECT	

SHEET NO. S-23 OF S-27 SHEETS



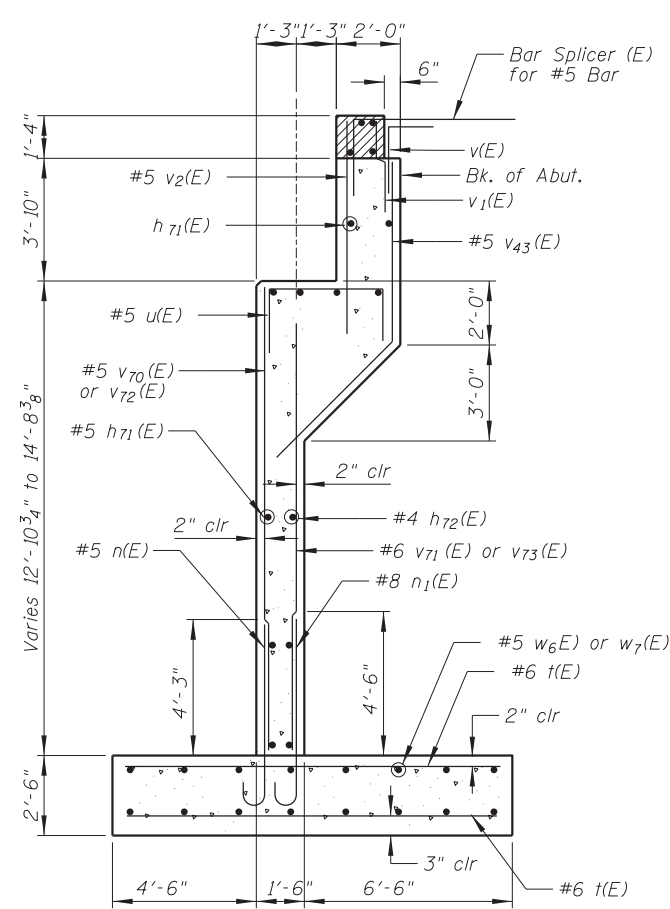
FOOTING PLAN

BARS h75(E), h76(E), h77(E) & h78(E)

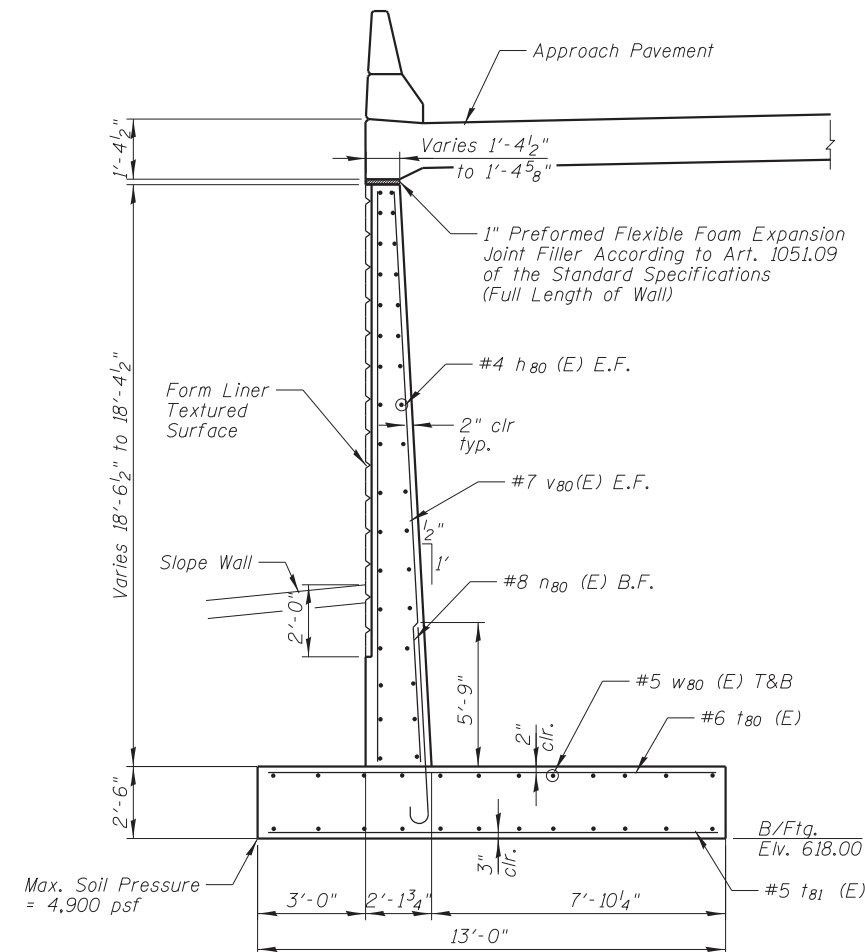


BARS n(E), n1(E) & n80(E)

BARS u(E) & u1(E)

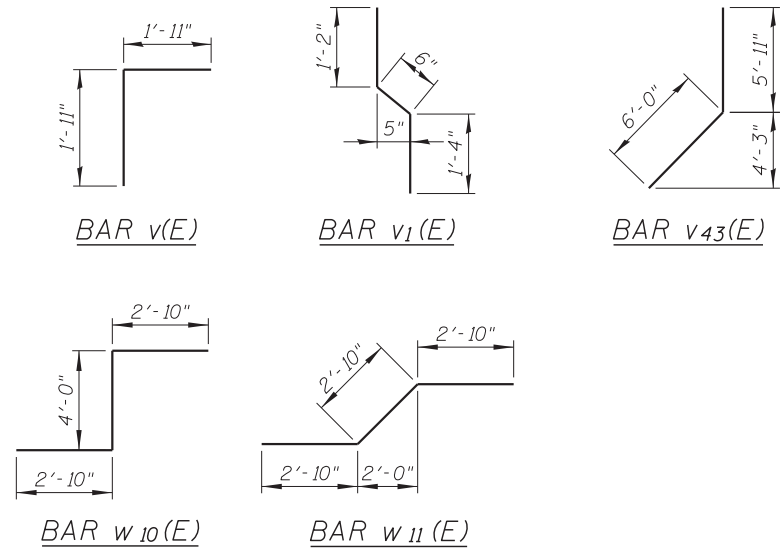


SECTION A-A



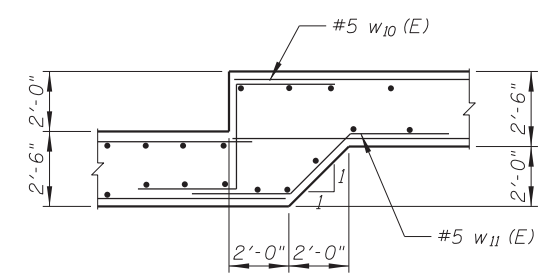
SECTION B-B - WINGWALL

Note: There Shall be a 6" φ Opening Near the Base of the Wingwall for the 6" φ Pipe Underdrain Penetration.



BAR w10(E)

BAR w11(E)



STEPPED FOOTING DETAIL

Bar	No.	Size	Length	Shape
h70(E)	10	#6	35'-3"	—
h71(E)	54	#5	35'-0"	—
h72(E)	11	#4	35'-0"	—
h73(E)	4	#5	25'-7"	—
h74(E)	2	#5	28'-8"	—
h75(E)	15	#5	8'-6"	—
h76(E)	15	#5	6'-10"	—
h77(E)	5	#5	4'-10"	—
h78(E)	5	#5	3'-10"	—
h80(E)	38	#4	28'-7"	—
n(E)	26	#5	7'-1"	—
n1(E)	140	#8	7'-8"	—
n80(E)	58	#8	8'-8"	—
t(E)	197	#6	12'-2"	—
t80(E)	77	#6	12'-6"	—
t81(E)	77	#5	12'-6"	—
u(E)	44	#5	6'-2"	—
u1(E)	53	#5	3'-8"	—
v(E)	67	#5	3'-10"	—
v1(E)	67	#4	3'-0"	—
v2(E)	67	#5	6'-2"	—
v43(E)	67	#5	11'-11"	—
v70(E)	10	#5	12'-9"	—
v71(E)	60	#6	12'-9"	—
v72(E)	16	#5	13'-10"	—
v73(E)	76	#6	13'-10"	—
v74(E)	4	#5	18'-2"	—
v75(E)	7	#6	18'-2"	—
v80(E)	87	#7	18'-3"	—
w6(E)	26	#5	33'-4"	—
w7(E)	26	#5	35'-1"	—
w10(E)	13	#5	9'-8"	—
w11(E)	13	#5	8'-6"	—
w80(E)	28	#5	37'-10"	—
Concrete Superstructure	Cu. Yd.		5.5	
Concrete Structures	Cu. Yd.		268.1	
Reinforcement Bars, Epoxy Coated	Pound		26,350	
Structure Excavation	Cu. Yd.		1,395	
Concrete Sealer	Sq. Ft.		451	
Form Liner Textured Surface	Sq. Ft.		510	
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.		184	

- NOTES:
1. Reinforcement bars designated (E) shall be epoxy coated.
 2. Bars indicated thus 1x2 - #5 etc. indicates 1 line of bars with 2 lengths per line.
 3. Space reinforcement in cap to miss anchor bolts.
 4. Pour steps monolithically with cap.
 5. Hatched area to be poured after superstructure false work has been removed. Quality of concrete included in "Concrete Superstructure".
 6. For Limits of Removal and Disposal of Unsuitable Material for Structures, See S-3 of S-27.

LEGEND:
 F.F Front Face
 B.F Back face
 E.F Each face

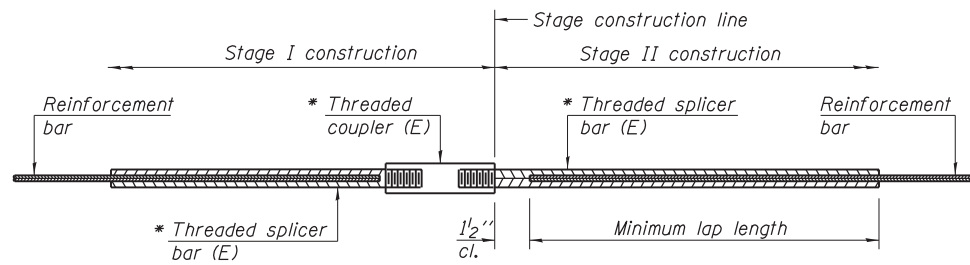
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

NORTH ABUTMENT - DETAILS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	386
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				



**** STANDARD BAR SPLICER ASSEMBLY**

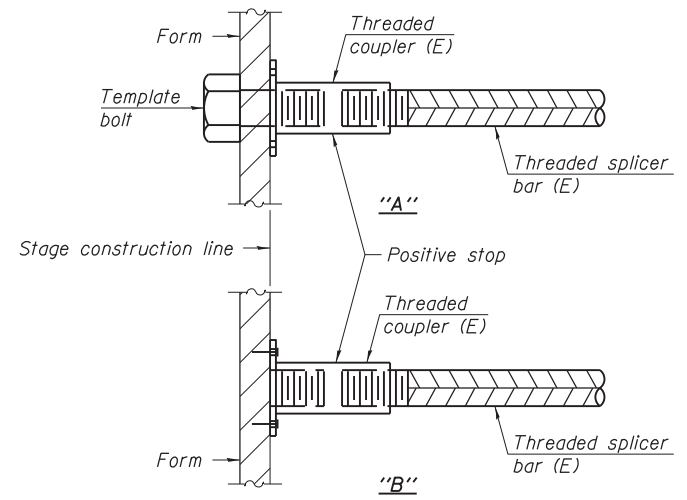
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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

Threaded splicer bar length = min. lap length + 1/2" + thread length

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

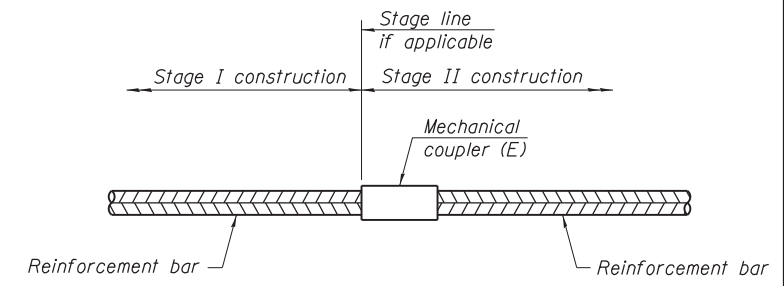
Location	Bar size	No. assemblies required	Table for minimum lap length
S. Abutment	#5	** 21	Table 4
S. Abutment	#4	** 5	Table 4
S. Abutment	#6	** 2	Table 4
S. Abutment	#6	** 4	Table 3
S. Abutment	#5	** 13	Table 4
S. Abutment	#5	** 13	Table 3
N. Abutment	#5	** 23	Table 4
N. Abutment	#4	** 5	Table 4
N. Abutment	#6	** 4	Table 4
N. Abutment	#5	** 8	Table 3
N. Abutment	#5	** 13	Table 4
N. Abutment	#5	** 13	Table 3
S. Approach Slab	#4	** 25	Table 4
S. Approach Slab	#5	** 46	Table 3
S. Approach Footing	#5	** 40	Table 3
N. Approach Slab	#4	** 25	Table 4
N. Approach Slab	#5	** 46	Table 3
N. Approach Footing	#5	** 40	Table 3



INSTALLATION AND SETTING METHODS

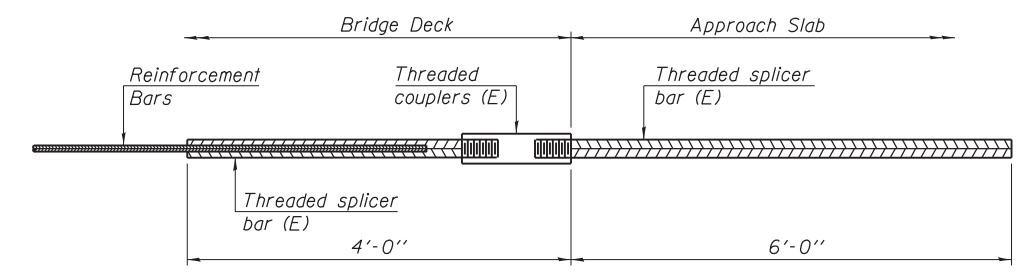
"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.

** Bar splicers shall be furnished and paid for during Stage I construction. Bar Splicer coupler ends shall be furnished and installed during Stage I construction (SN 016-7943). Bar splicer rod ends shall be furnished during Stage I construction and stored by the Department until installation during Stage II construction (SN 016-7942). The Contractor shall obtain the Bar Splicer rod ends from the Department and install them during Stage II construction. Bar Splicers will be paid for at the unit cost per each Bar Splicer, where each bar splicer includes both the coupler and the rod end. Bar Splicer rod ends will not be measured for payment separately from coupler ends and the cost for installing the Bar Splicer rod ends shall be included with the pay item for Reinforcement Bars, Epoxy Coated during Stage II Construction.



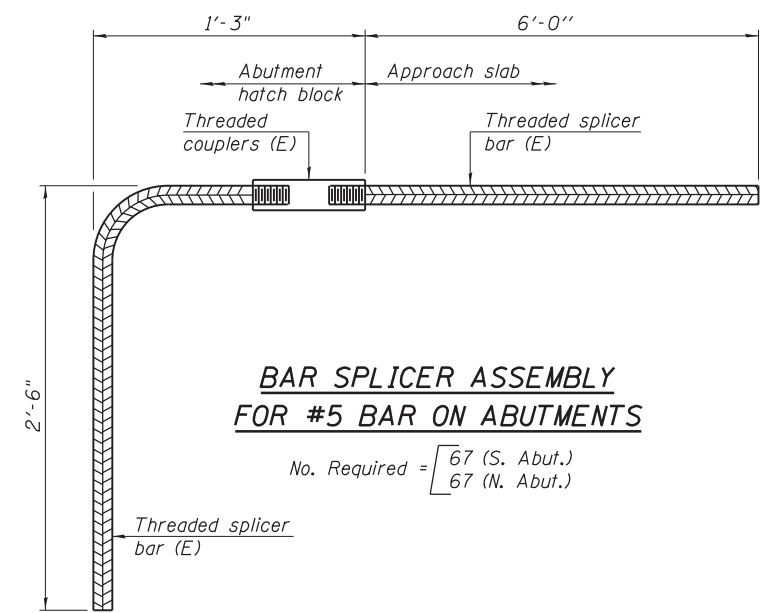
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. required =



BAR SPLICER ASSEMBLY FOR #5 BAR ON ABUTMENTS

No. Required = $\begin{cases} 67 \text{ (S. Abut.)} \\ 67 \text{ (N. Abut.)} \end{cases}$

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.

N:\ROSEMONT\11000\CADD_Sheets\0167942-0168037-025_Bar_Splicer.dgn

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 Rosemont, Illinois 60018
 (847) 924-8900

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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BAR SPLICER ASSEMBLY DETAILS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942**

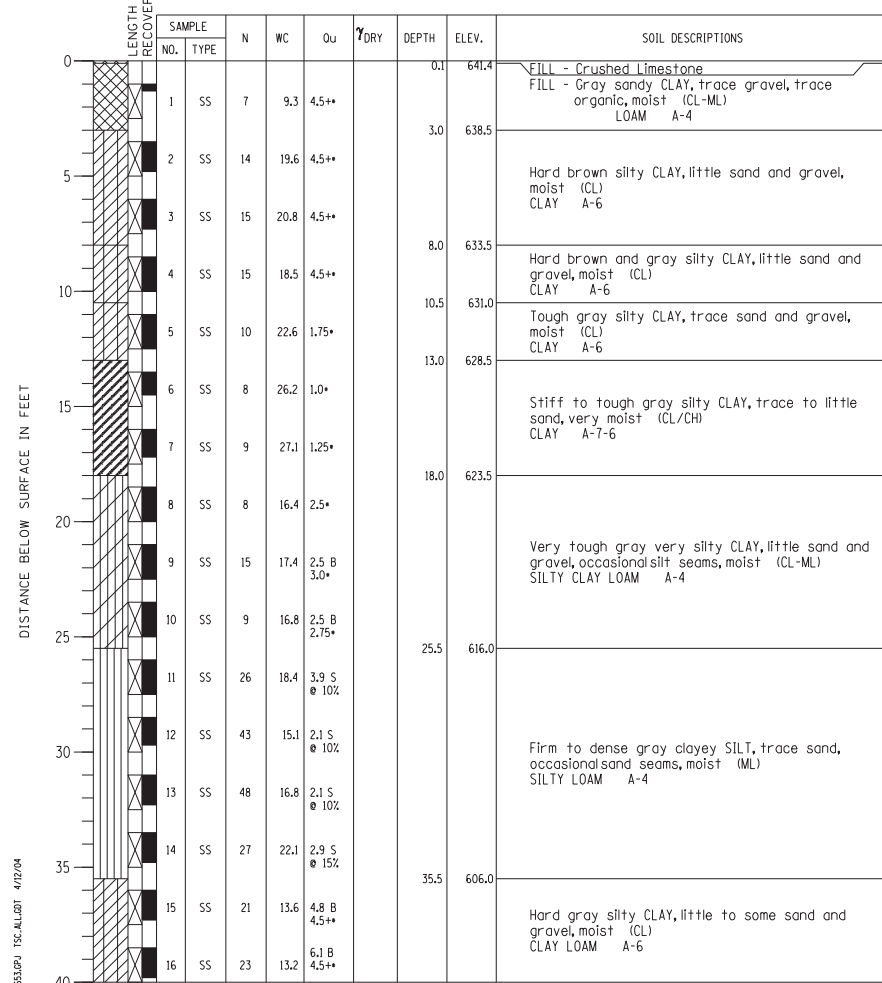
SHEET NO. S-25 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	387
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 16 DATE STARTED 10-9-02 DATE COMPLETED 10-9-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 641.5 WHILE DRILLING Dry to 10.0'
 END OF BORING 581.5 AT END OF BORING Rotary Wash
 24 HOURS



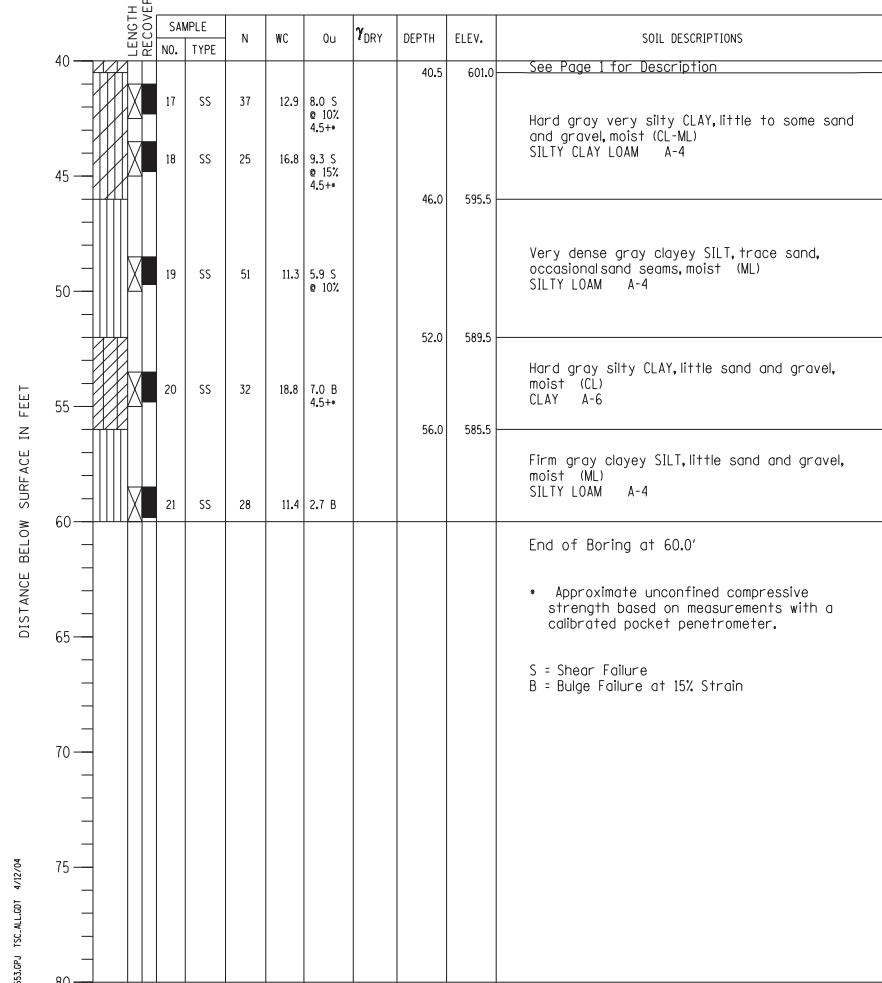
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

BORING NO. 16
 Station 76+02.25
 Offset 33.27' LT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 16 DATE STARTED 10-9-02 DATE COMPLETED 10-9-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 641.5 WHILE DRILLING Dry to 10.0'
 END OF BORING 581.5 AT END OF BORING Rotary Wash
 24 HOURS



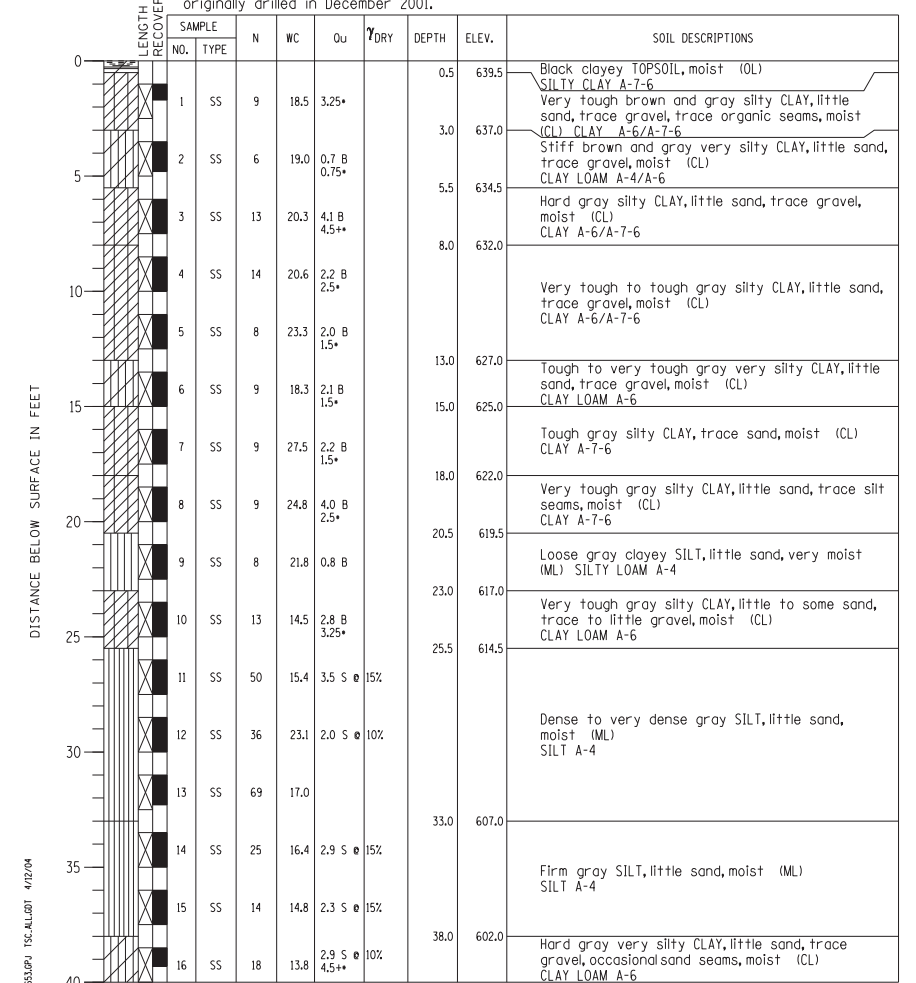
Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

BORING NO. 16
 Station 76+02.25
 Offset 33.27' LT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 17 DATE STARTED 12-11-01 DATE COMPLETED 12-11-01 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 640.0 WHILE DRILLING Dry to 10.0'
 END OF BORING 580.0 AT END OF BORING Rotary Wash
 24 HOURS



Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

BORING NO. 17
 Station 75+35.16
 Offset 54.23' LT

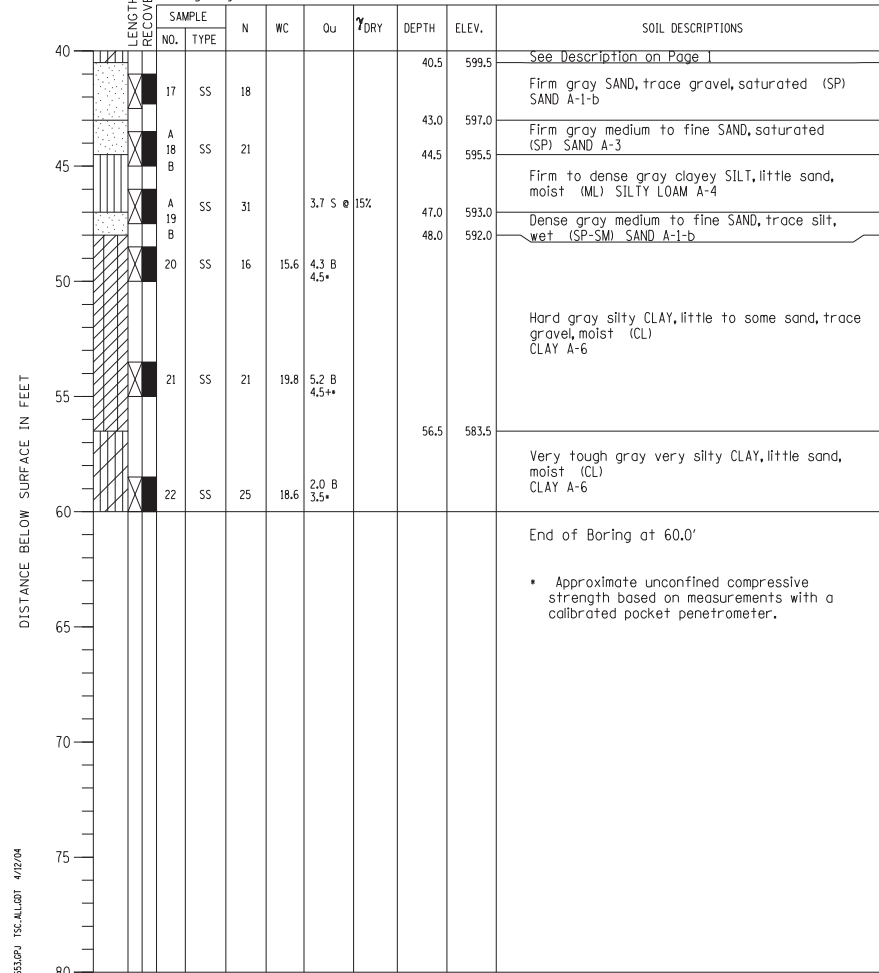
N:\ROSEMONT\11000\CADD_Sheets\0167942-D160337-026-Bor-ing.dgn

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 17 DATE STARTED 12-11-01 DATE COMPLETED 12-11-01 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 640.0 WHILE DRILLING Dry to 10.0'
 END OF BORING 580.0 AT END OF BORING Rotary Wash
 24 HOURS Grouted

Boring 17 was designated B-1 when originally drilled in December 2001.



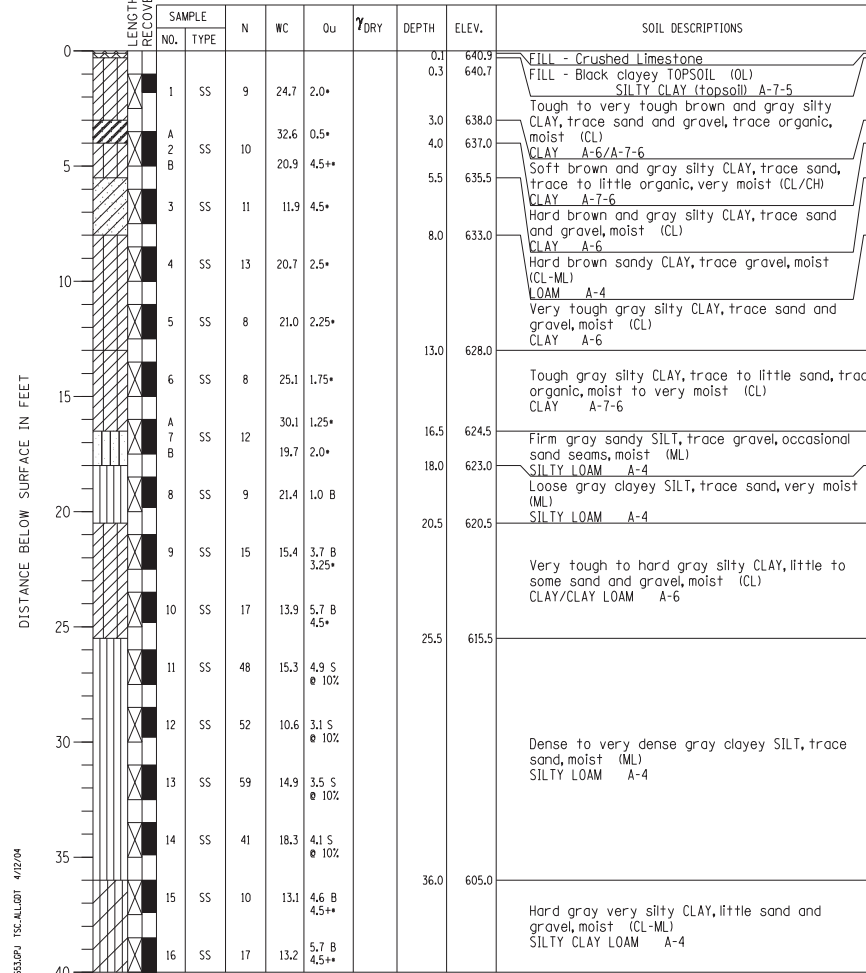
DRILL RIG NO. 144
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
 Page 2 of 2

BORING NO. 17
 Station 75+35.16
 Offset 54.23' LT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 18 DATE STARTED 10-9-02 DATE COMPLETED 10-14-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 641.0 WHILE DRILLING Dry to 10.0'
 END OF BORING 581.0 AT END OF BORING Rotary Wash
 24 HOURS



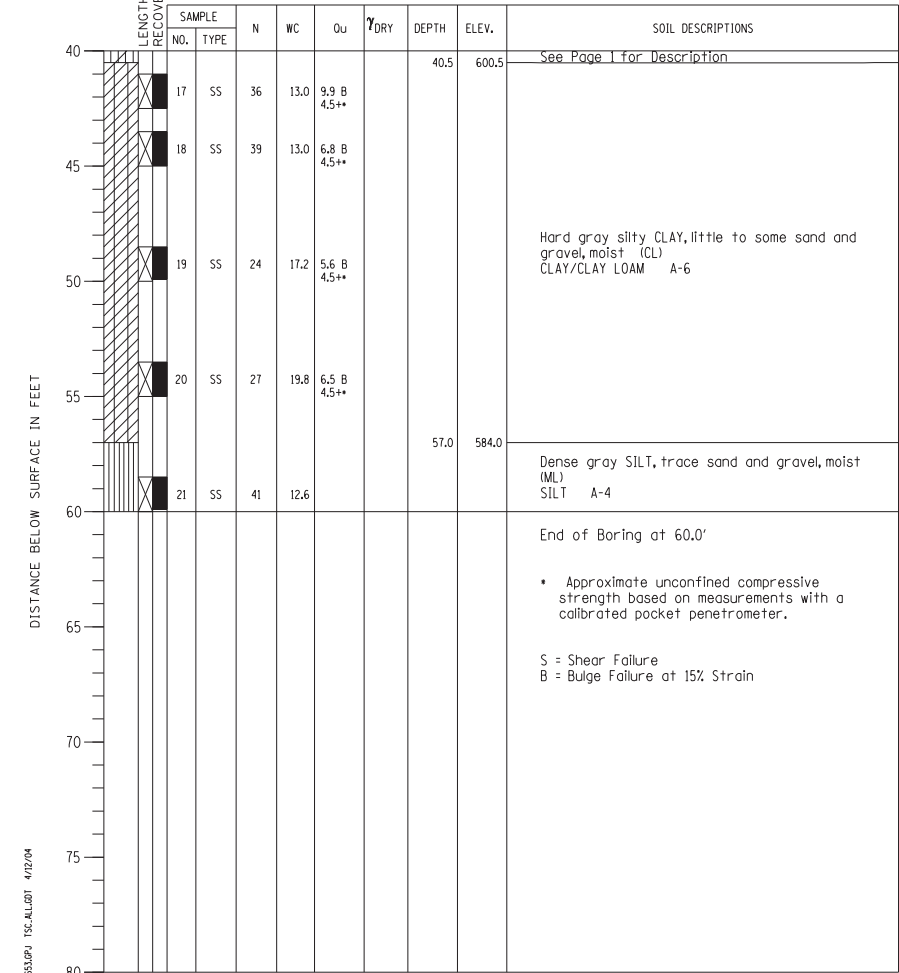
DRILL RIG NO. 144
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
 Page 1 of 2

BORING NO. 18
 Station 74+62.24
 Offset 12.48' LT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 18 DATE STARTED 10-9-02 DATE COMPLETED 10-14-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 641.0 WHILE DRILLING Dry to 10.0'
 END OF BORING 581.0 AT END OF BORING Rotary Wash
 24 HOURS



DRILL RIG NO. 144
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.
 Page 2 of 2

BORING NO. 18
 Station 74+62.24
 Offset 12.48' LT

N:\ROSEMONT\11000\CADD_Sheets\0167942-D160337-027_Boring.dgn

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PLOT SCALE =	DRAWN - PDR	REVISED
PLOT DATE =	CHECKED - MM	REVISED

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

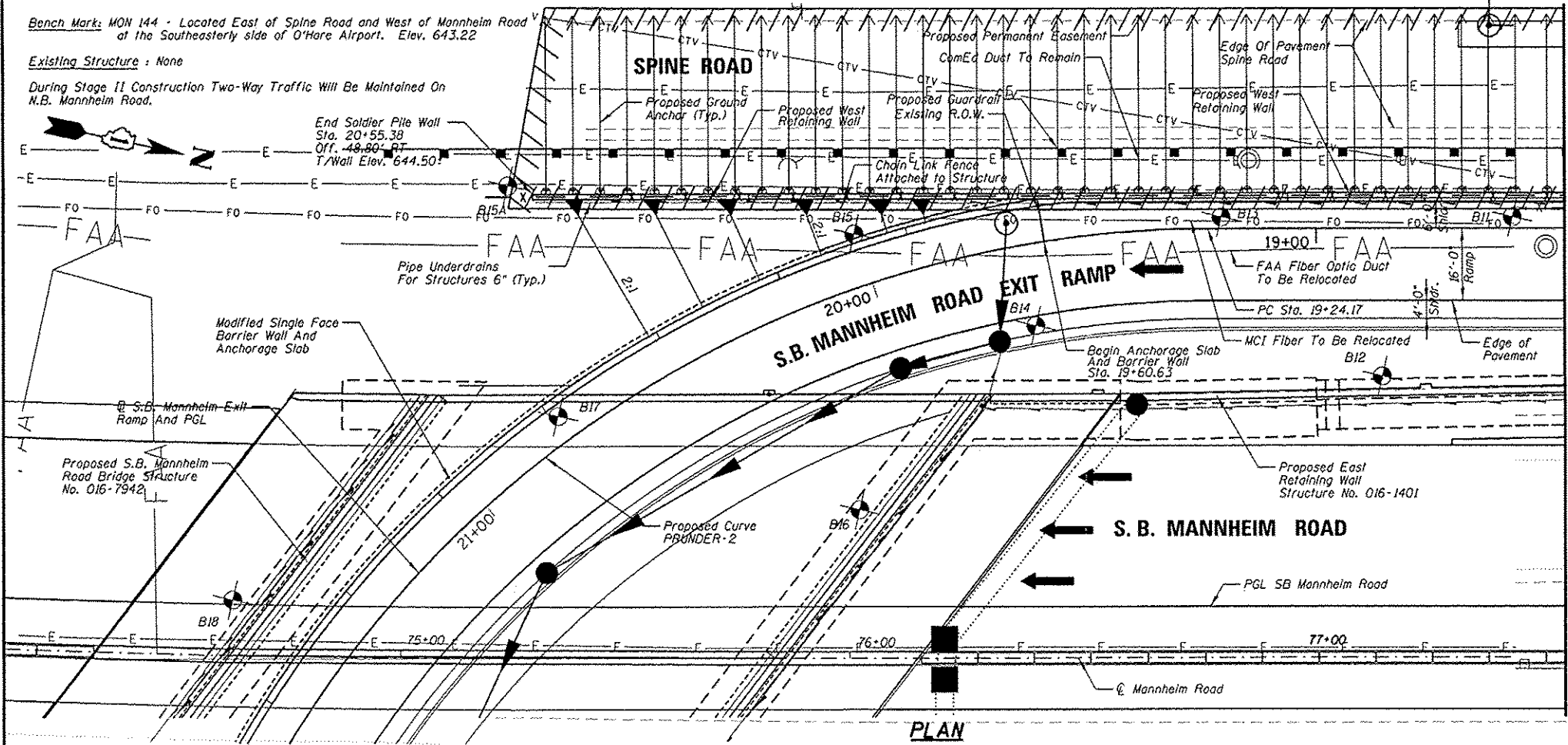
BORING LOGS
 SB MANNHEIM ROAD BRIDGE - STRUCTURE NO. 016-7942
 SHEET NO. S-27 OF S-27 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	389
CONTRACT NO. 60G37				

ILLINOIS FED. AID PROJECT

Bench Mark: MON 144 - Located East of Spine Road and West of Mannheim Road at the Southeastly side of O'Hare Airport. Elev. 643.22

Existing Structure : None
 During Stage II Construction Two-Way Traffic Will Be Maintained On N.B. Mannheim Road.



DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges 17th Edition.

LOADING

Live Load Surcharge = 2 ft of Earth

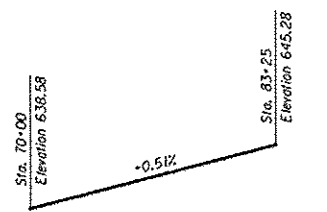
DESIGN STRESSES

FIELD UNITS

- $f_c = 3,500$ psi (Wall Facing)
- $f_c = 4,000$ psi (Encasement)
- $f_y = 60,000$ psi (Reinf.)
- $F_p = 36,000$ psi (HP Piles)
- $F_p = 50,000$ psi (W Piles)

CURVE DATA ALONG @ SB MANNHEIM EXIT RAMP

PROP. CURVE PRUNDER-1	PROP. CURVE PRUNDER-2
PI STA. = 15+19.57	PI STA. = 21+60.04
$\Delta = 4^\circ 00' 14"$ (LT)	$\Delta = 89^\circ 00' 23"$ (LT)
$D = 6^\circ 43' 58"$	$D = 23^\circ 52' 24"$
$R = 851.00'$	$R = 240.00'$
$T = 29.75'$	$T = 235.87'$
$L = 59.47'$	$L = 372.83'$
$E = 0.52'$	$E = 96.51'$
$e = 2.0\%$	$e = -6.0\%$
$T.R. = 0'$	$T.R. = 0'$
$S.E. RUN = 0'$	$S.E. RUN = 97'$
P.C. STA. = 14+89.82	P.C. STA. = 19+24.17
P.T. STA. = 15+49.29	P.T. STA. = 22+97.00



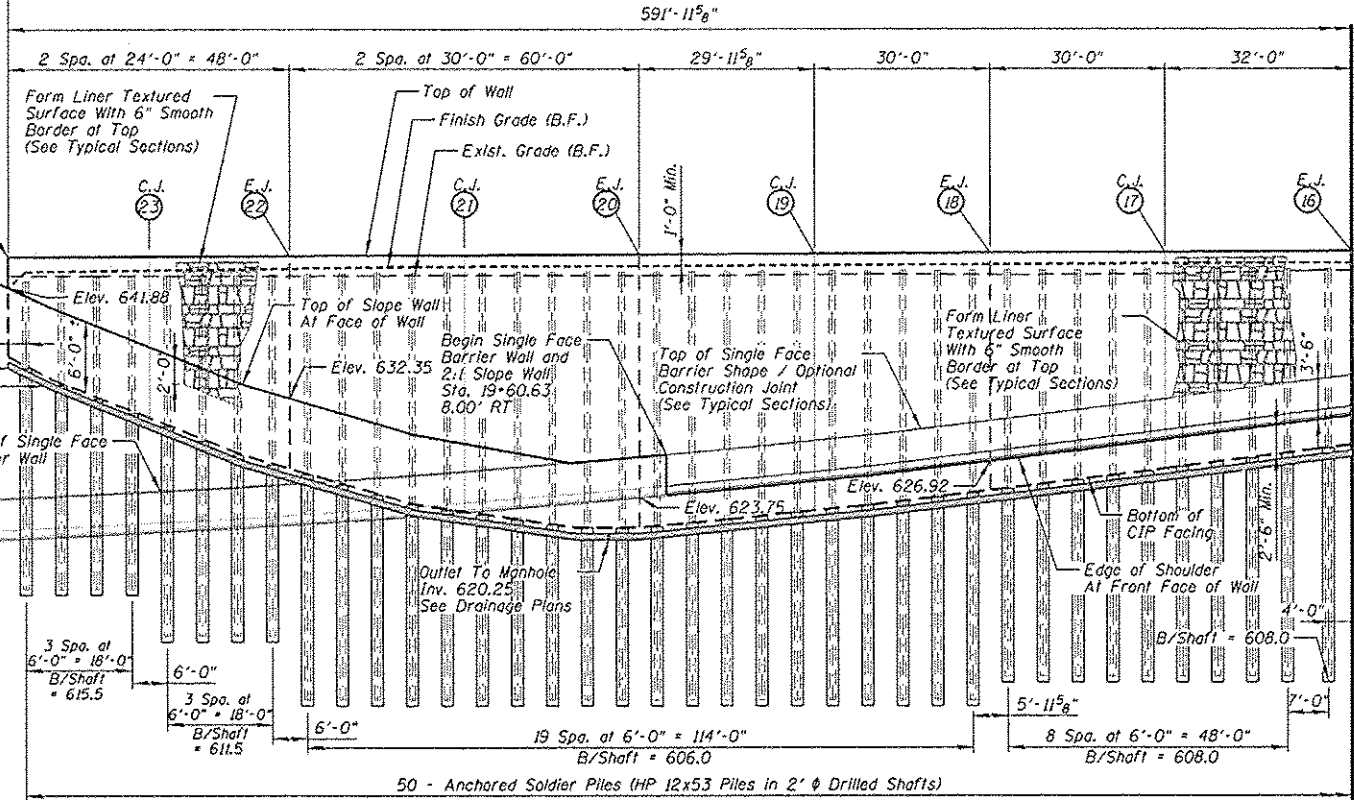
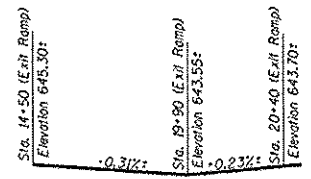
PROFILE GRADE - S.B. MANNHEIM ROAD

PROFILE GRADE - S.B. MANNHEIM ROAD EXIT RAMP

Mark	Station	Offset	T/Wall Elevation	B/Facing Elevation
1	14+82.87	9.03' RT	645.42	640.50
2	14+88.11	8.22' RT	646.48	640.48
3	15+06.67	7.08' RT	646.32	640.32
4	15+30.47	6.21' RT	646.01	640.01
5	15+54.34	6.00' RT	645.60	639.60
6	15+57.00	6.00' RT	645.55	639.55
7	15+78.34	6.00' RT	645.51	639.10
8	16+02.34	6.00' RT	645.46	638.51
9	16+26.34	6.00' RT	645.41	637.84
10	16+52.34	6.00' RT	645.36	637.02
11	16+84.34	6.00' RT	645.29	635.99
12	17+16.34	6.00' RT	645.23	634.88
13	17+48.34	6.00' RT	645.16	633.51
14	17+80.34	6.00' RT	645.10	631.93
15	18+12.34	6.00' RT	645.03	630.20
16	18+44.34	6.00' RT	644.97	628.32
17	18+76.34	6.00' RT	644.90	626.30
18	19+06.34	6.00' RT	644.84	624.42
19	19+36.30	6.30' RT	644.78	622.67
20	19+64.77	10.28' RT	644.72	621.25
21	19+92.44	17.04' RT	644.66	622.63
22	20+18.37	27.02' RT	644.60	626.34
23	20+37.60	37.09' RT	644.55	630.89
24	20+55.38	48.80' RT	644.50	636.00

NOTE: All Offsets Are Measured From The Proposed Baseline Of S.B. Mannheim Road Exit Ramp To The Front Face Of The Retaining Wall At The Base Of Wall

PROFILE GRADE - SPINE ROAD



ELEVATION

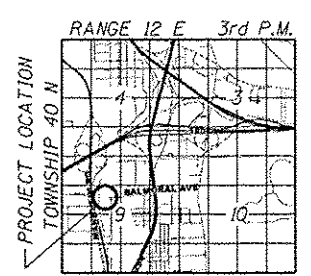
(Chain Link Fence Attached to Structure Omitted For Clarity)

APPROVED
 For Structural Adequacy Only

Carl Poyner
 Engineer of Bridges & Structures



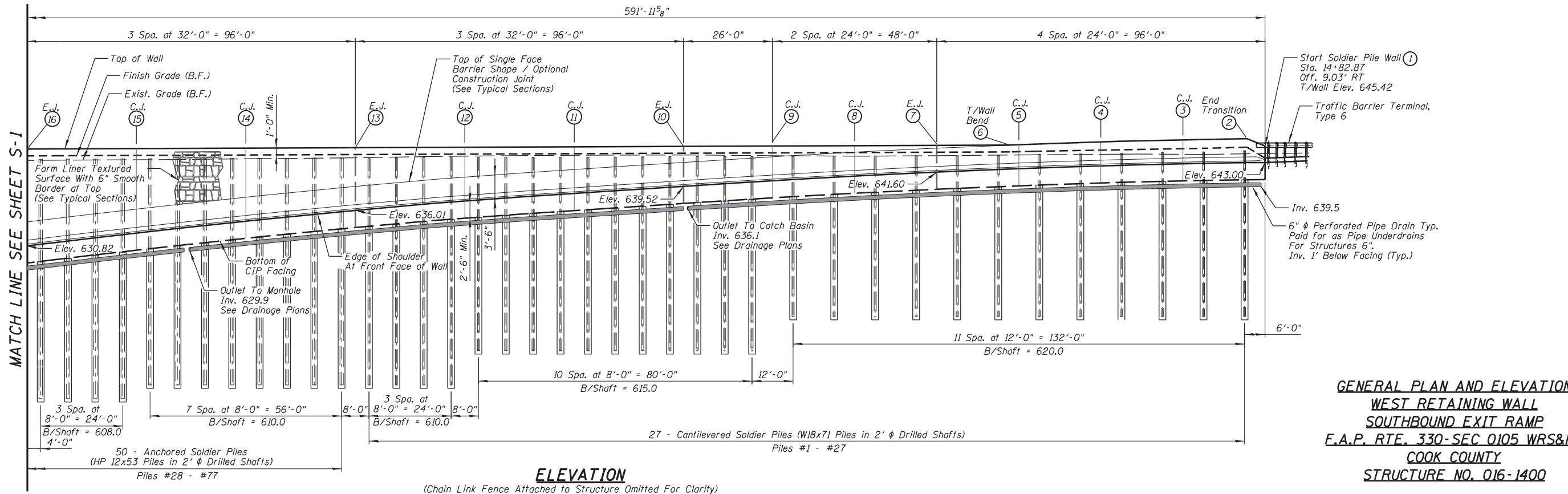
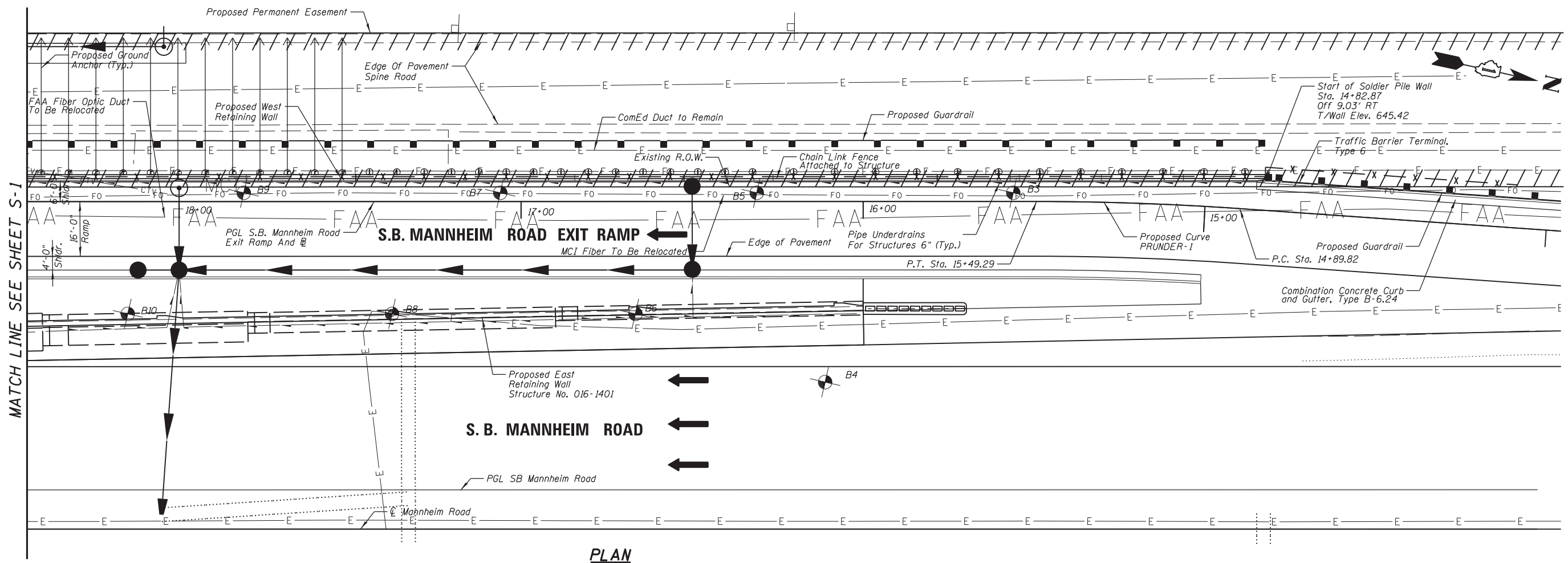
Majid Mobasseri
 MAJID MOBASSERI
 ILLINOIS REGISTRATION NO. 081-005058
 STRUCTURAL ENGINEER
 EXPIRATION DATE: 11/30/14



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
 WEST RETAINING WALL
 SOUTHBOUND EXIT RAMP
 E.A.P. RTE. 330-SEC 0105 WRS&HB
 COOK COUNTY
 STRUCTURE NO. 016-1400

USER NAME	DESIGNED	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	JMB	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION	330	0105 WRS&HB	COOK	606	390
	MM	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION					
	PDR	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION					
	MM	REVISIONS	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION					



**GENERAL PLAN AND ELEVATION
 WEST RETAINING WALL
 SOUTHBOUND EXIT RAMP
 F.A.P. RTE. 330-SEC 0105 WRS&HB
 COOK COUNTY
 STRUCTURE NO. 016-1400**

N:\ROSEMONT\11000\3\CADD_Sheets\DI66037-shr-ww1-02-cbd.dgn

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PLOT DATE	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
 WEST RETAINING WALL - STRUCTURE NO. 016-1400**

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	391
CONTRACT NO. 60G37				
ILLINOIS FED. AID PROJECT				

SHEET NO. S-2 OF S-13 SHEETS

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.
3. Slipforming of parapets are not allowed.

INDEX OF SHEETS

- S-1 General Plan and Elevation (1 of 2)
- S-2 General Plan and Elevation (2 of 2)
- S-3 Index, General Notes and Total Bill of Material
- S-4 Elevation and Details (1 of 2)
- S-5 Elevation and Details (2 of 2)
- S-6 Sections (1 of 3)
- S-7 Sections (2 of 3)
- S-8 Sections (3 of 3)
- S-9 Details
- S-10 Chain Link Fence Attached To Structure
- S-11 Boring Logs
- S-12 Boring Logs
- S-13 Boring Logs

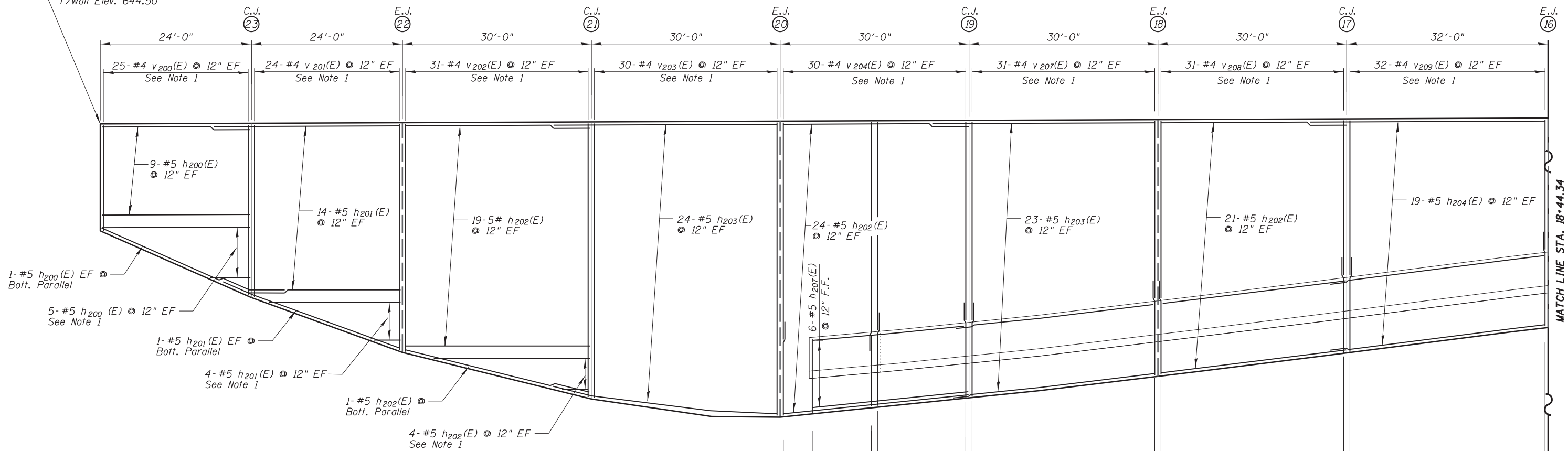
WEST RETAINING WALL TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	Cu Yd	960
Concrete Structures	Cu Yd	384.9
Form Liner Textured Surface	Sq Ft	4,514
Stud Shear Connectors	Each	1,021
Reinforcement Bars, Epoxy Coated	Pound	31,470
Furnishing Soldier Piles (HP Section)	Foot	1,746
Geocomposite Wall Drain	Sq Yd	770
Permanent Ground Anchor	Each	50
Drilling and Setting Soldier Piles (In Soil)	Cu Ft	7,820
Untreated Timber Lagging	Sq Ft	6,965
Furnishing Soldier Piles (W Section)	Foot	743
Pipe Underdrains For Structures 6"	Foot	592

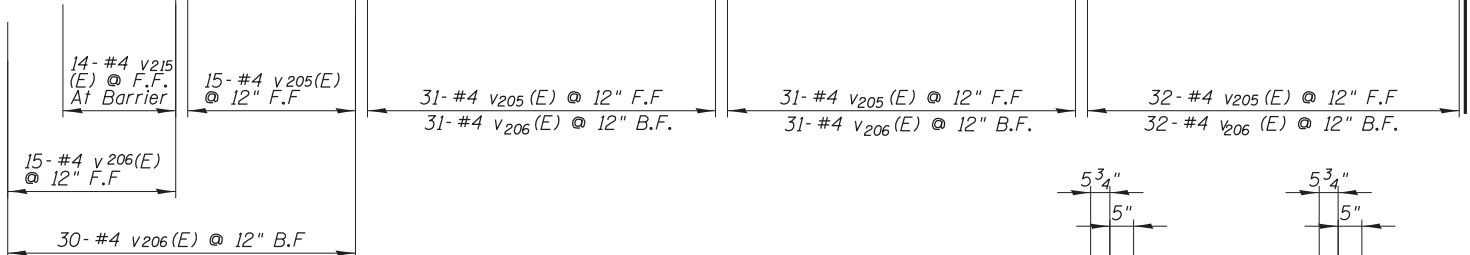
N:\RIS\PROJECT\11887\CAD\Drawings\ADIBG37-ht-wal-01-cb.dgn

 <p>CHRISTOPHER B. BURKE ENGINEERING, LTD. <small>875 W. Higgins Road, Suite 500 Rosemont, Illinois 60018 (647) 823-8500</small></p>	USER NAME =	DESIGNED - JMB	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES AND BILL OF MATERIAL WEST RETAINING WALL - STRUCTURE NO. 016-1400	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
		CHECKED - MM	REVISED			330	0105 WRS&HB	COOK	605	392		
	PLOT SCALE =	DRAWN - PDR	REVISED			ILLINOIS FED. AID PROJECT						
	PLOT DATE =	CHECKED - MM	REVISED			SHEET NO. S-3 OF S-13 SHEETS						
CONTRACT NO. 60G37												

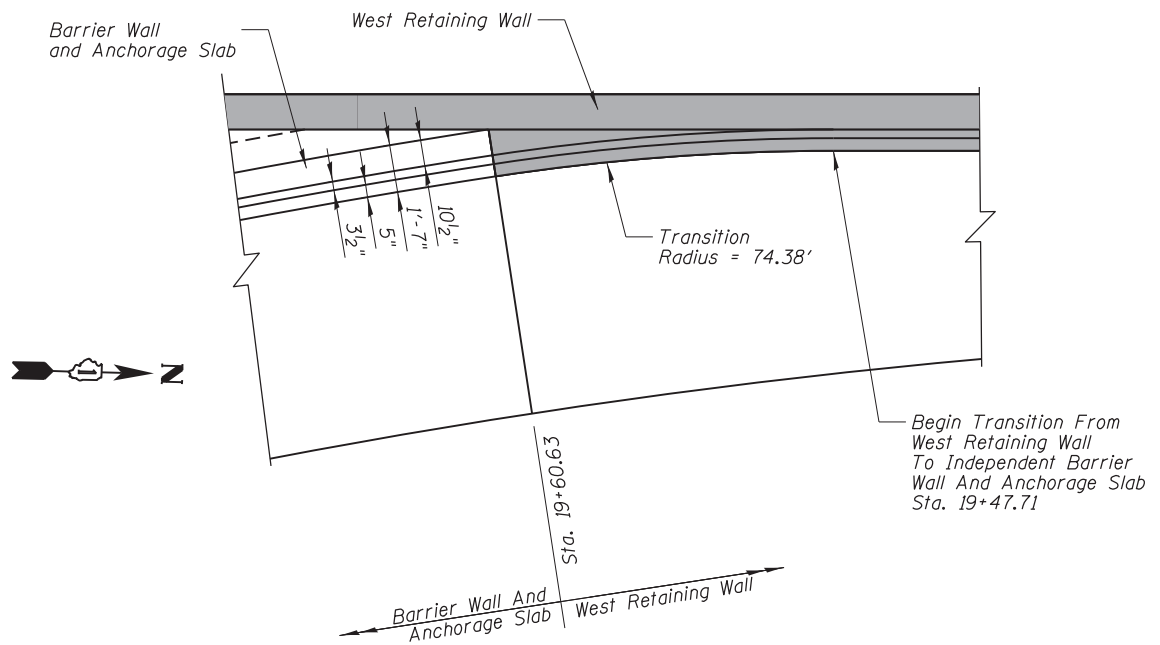
24
 End Soldier Pile Wall
 Sta. 20+55.38
 Off. 48.80' RT
 T/Wall Elev. 644.50



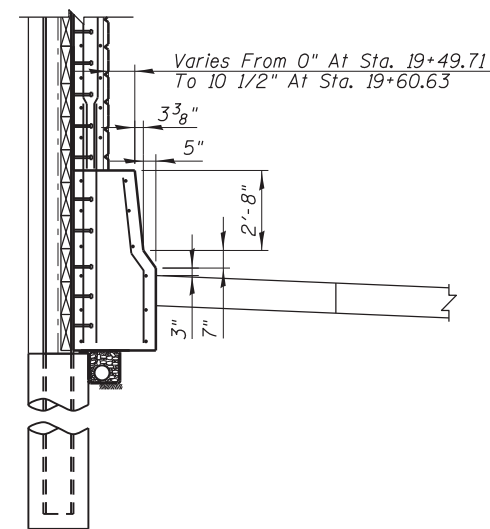
Notes:
 1. Order Bars Full Length, Cut to Fit and Use Remainder on Back Face.



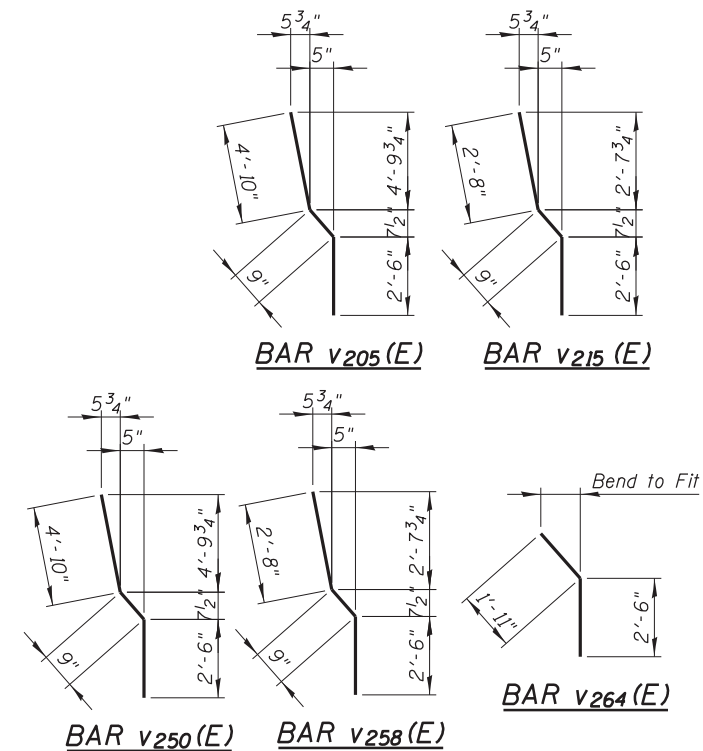
ELEVATION



PLAN - INTERSECTION OF WEST RETAINING WALL AND INDEPENDENT BARRIER AND ANCHORAGE SLAB



SECTION - INTERSECTION OF WEST RETAINING WALL AND INDEPENDENT BARRIER AND ANCHORAGE SLAB AT STA. 19+60.63 (Looking North)



Note: See Sheet S-1 for Stations And Elevations At Joints.

N:\ROSEMONT\11000\CADD_Sheets\1166037-shr-wal1-04-cbd.dgn

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	CHECKED - MM	REVISED

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**ELEVATION AND DETAILS
 WEST RETAINING WALL - STRUCTURE NO. 016-1400**

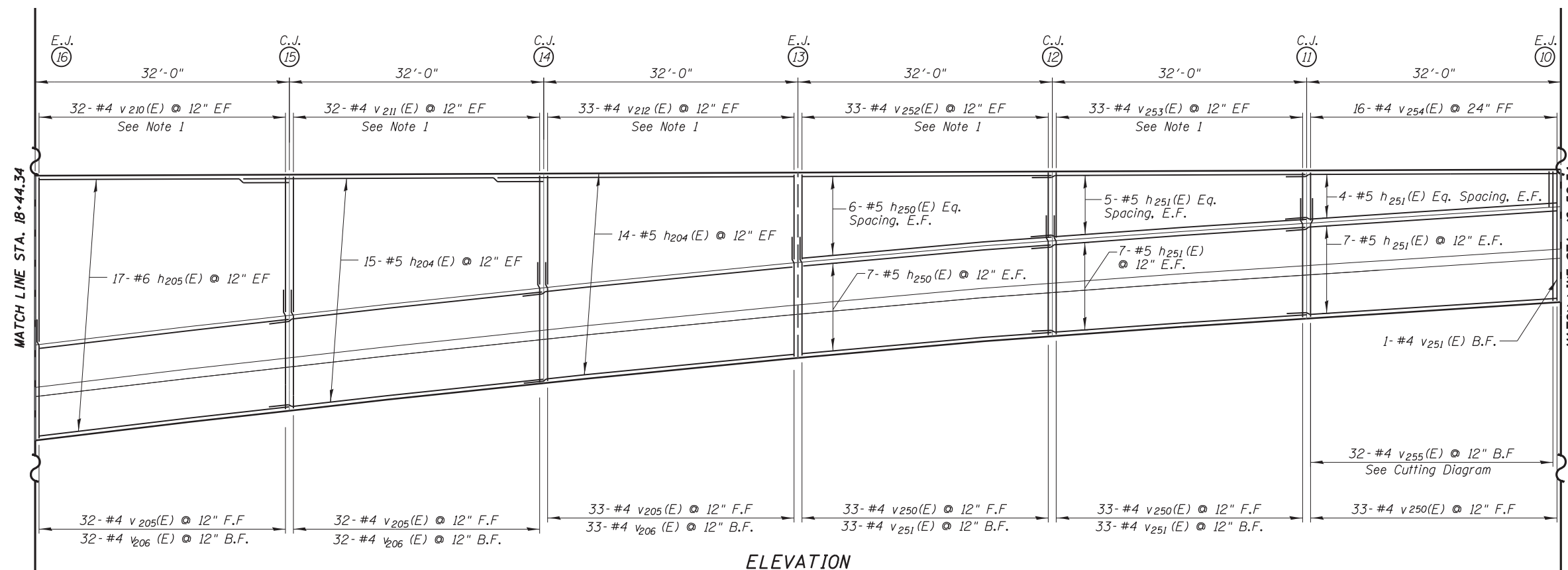
SHEET NO. S-4 OF S-13 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	393
CONTRACT NO. 60G37				

ILLINOIS FED. AID PROJECT

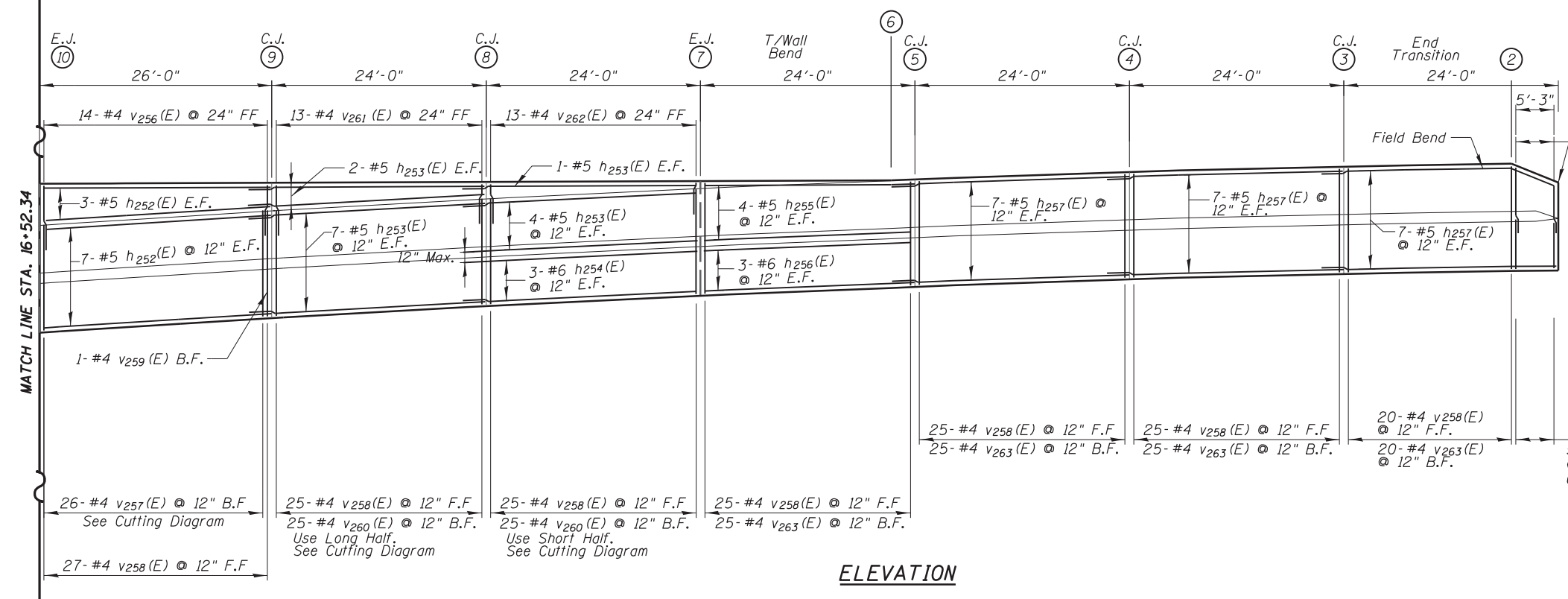
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h200(E)	25	#5	23'-10"	————
h201(E)	34	#5	27'-6"	————
h202(E)	134	#5	29'-10"	————
h203(E)	94	#5	33'-6"	————
h204(E)	96	#5	35'-6"	————
h205(E)	34	#6	31'-10"	————
h207(E)	6	#5	24'-0"	————
h250(E)	26	#5	31'-10"	————
h251(E)	46	#5	35'-6"	————
h252(E)	20	#5	25'-10"	————
h253(E)	28	#5	27'-6"	————
h254(E)	6	#6	28'-3"	————
h255(E)	8	#5	23'-10"	————
h256(E)	6	#6	23'-10"	————
h257(E)	42	#5	27'-6"	————
v200(E)	25	#4	21'-8"	————
v201(E)	24	#4	31'-2"	————
v202(E)	31	#4	39'-4"	————
v203(E)	30	#4	44'-10"	————
v204(E)	30	#4	33'-2"	————
v205(E)	206	#4	8'-1"	}
v206(E)	236	#4	8'-0"	————
v207(E)	31	#4	30'-2"	————
v208(E)	31	#4	26'-8"	————
v209(E)	32	#4	22'-8"	————
v210(E)	32	#4	18'-10"	————
v211(E)	32	#4	15'-6"	————
v212(E)	33	#4	12'-6"	————
v215(E)	14	#4	5'-11"	}
v250(E)	99	#4	8'-1"	}
v251(E)	67	#4	8'-0"	————
v252(E)	33	#4	9'-8"	————
v253(E)	33	#4	7'-4"	————
v254(E)	16	#4	2'-0"	————
v255(E)	16	#4	17'-0"	————
v256(E)	14	#4	4'-0"	————
v257(E)	13	#4	15'-1"	————
v258(E)	172	#4	5'-11"	}
v259(E)	1	#4	7'-2"	————
v260(E)	25	#4	13'-2"	————
v261(E)	13	#4	2'-3"	————
v262(E)	13	#4	1'-9"	————
v263(E)	100	#4	5'-7"	————
v264(E)	5	#4	4'-5"	┌
Concrete Structures			Cu. Yd.	384.9
Reinforcement Bars, Epoxy Coated			Pound	31,470



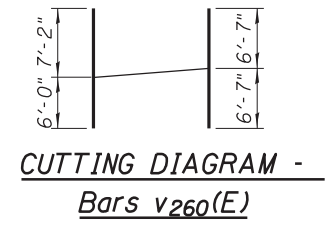
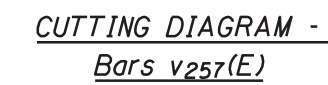
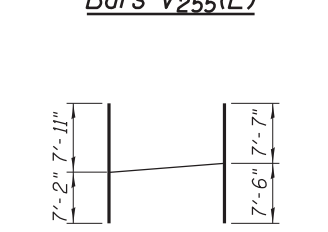
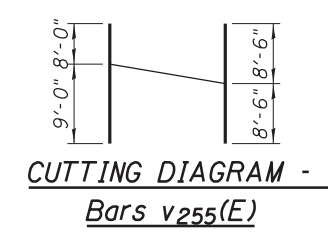
ELEVATION

Notes:
1. Order Bars Full Length, Cut to Fit and Use Remainder on Back Face.



ELEVATION

① Start Soldier Pile Wall Sta. 14+82.87 Off. 9.03' RT T/Wall Elev. 645.42



CUTTING DIAGRAM - Bars v260(E)

CUTTING DIAGRAM - Bars v263(E)

Note: See Sheet S-1 for Stations And Elevations At Joints.

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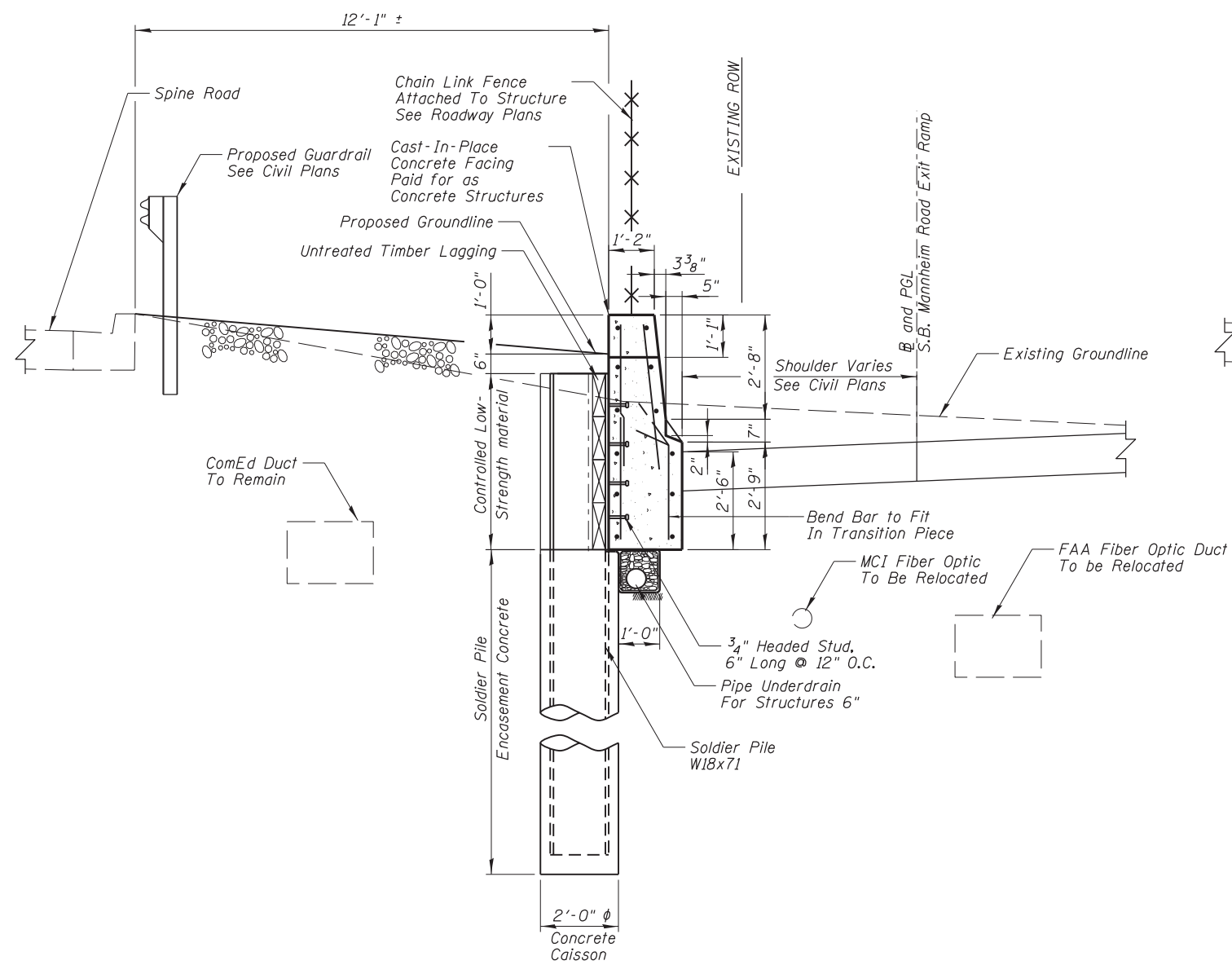
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PLOT DATE =	DRAWN - PDR	REVISED
	CHECKED - MM	REVISED

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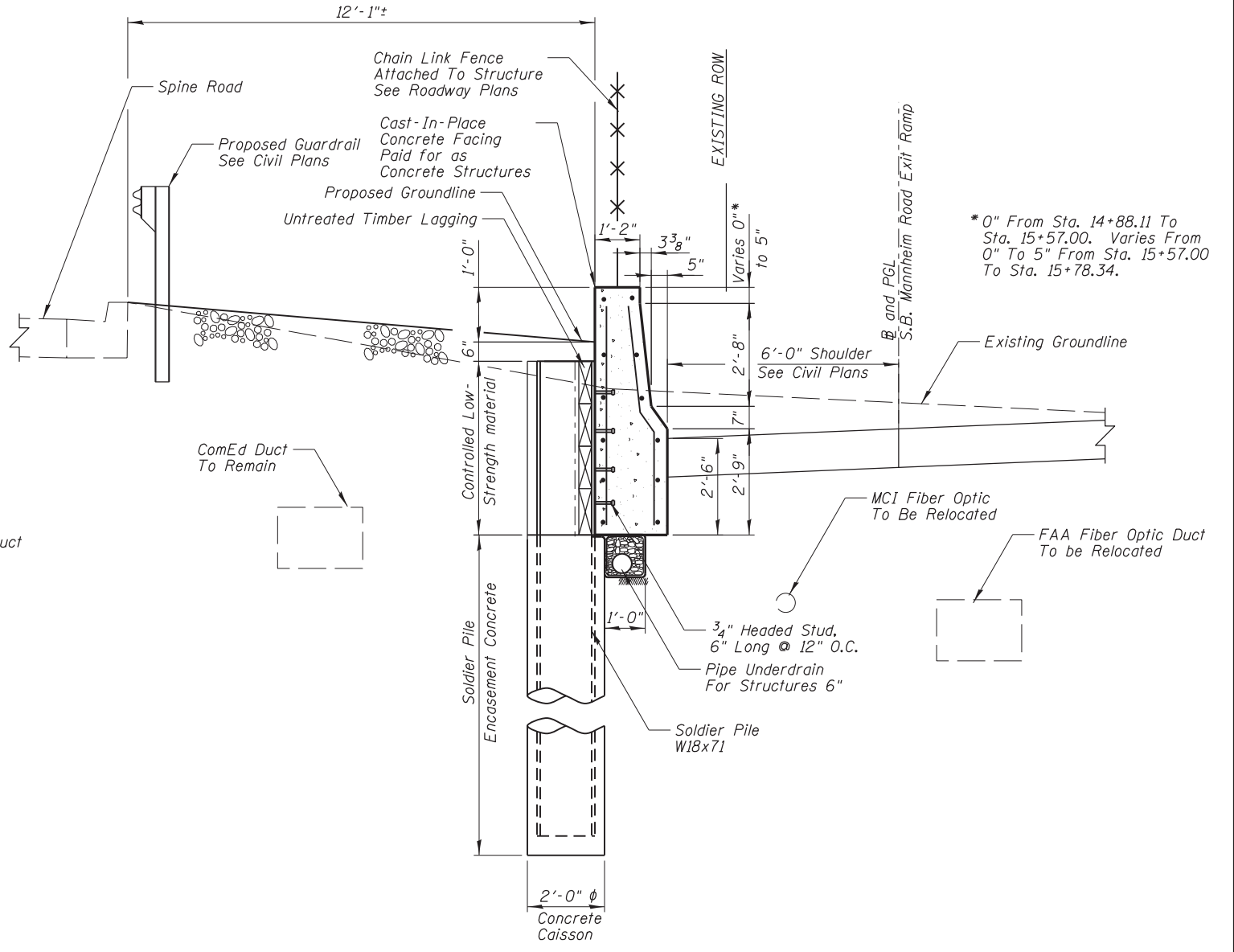
**ELEVATION AND DETAILS
WEST RETAINING WALL - STRUCTURE NO. 016-1400**

SHEET NO. S-5 OF S-13 SHEETS

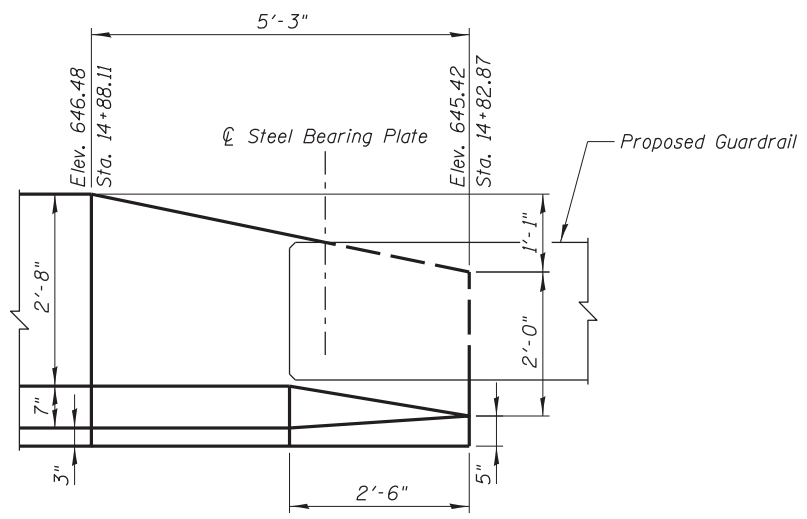
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	394
				CONTRACT NO. 60G37
ILLINOIS FED. AID PROJECT				



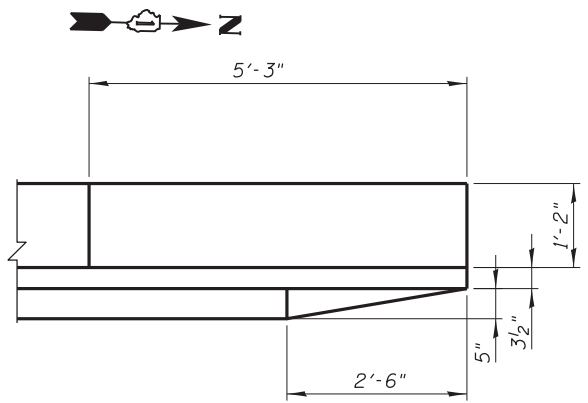
TYPICAL WALL SECTION - STA. 14+82.87 TO STA. 14+88.11



TYPICAL WALL SECTION - STA. 14+88.11 TO STA. 15+78.34



ELEVATION - STA. 14+82.87 TO STA. 14+88.11



PLAN - STA. 14+82.87 TO STA. 14+88.11

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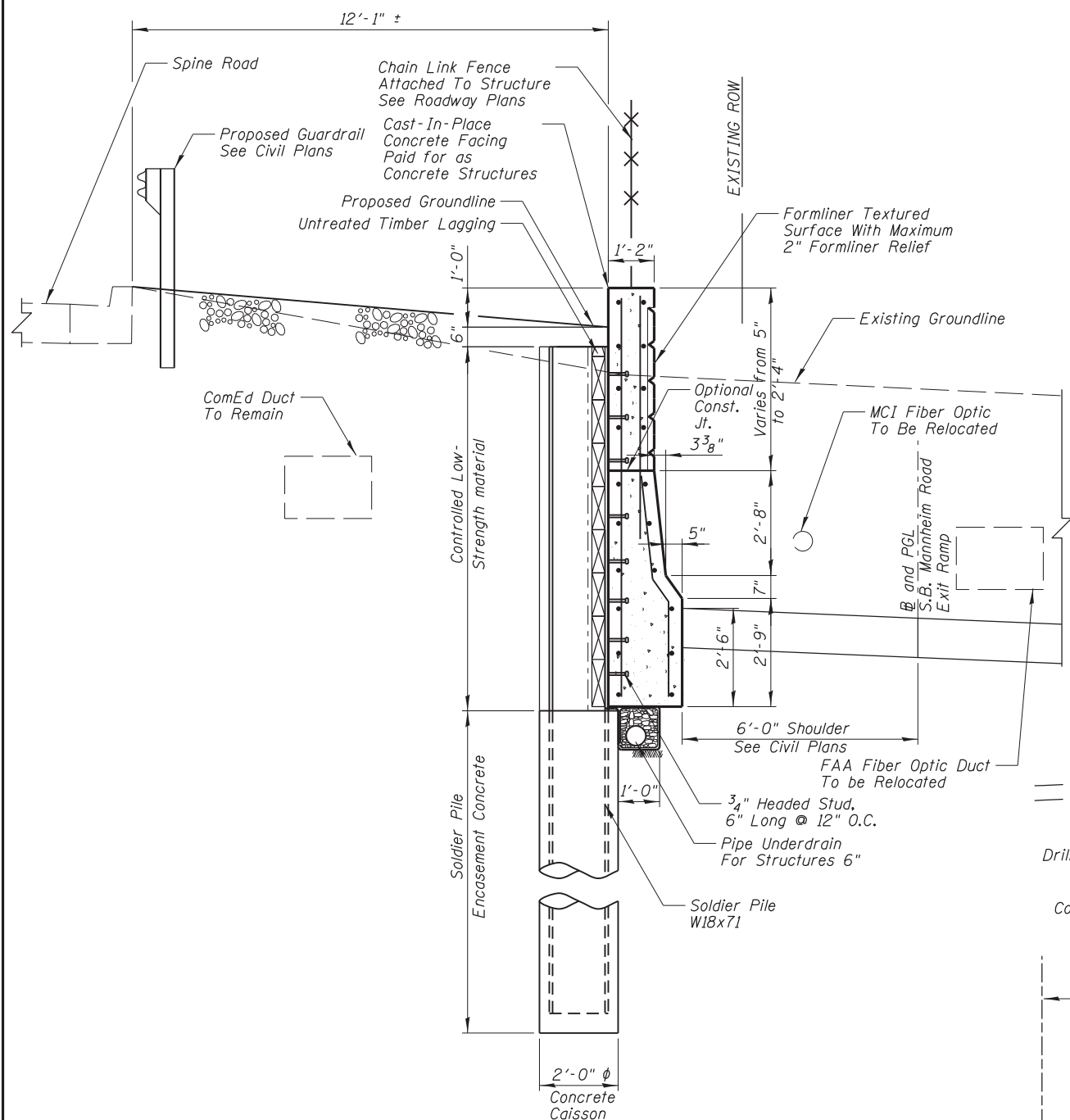
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**SECTIONS
 WEST RETAINING WALL - STRUCTURE NO. 016-1400**

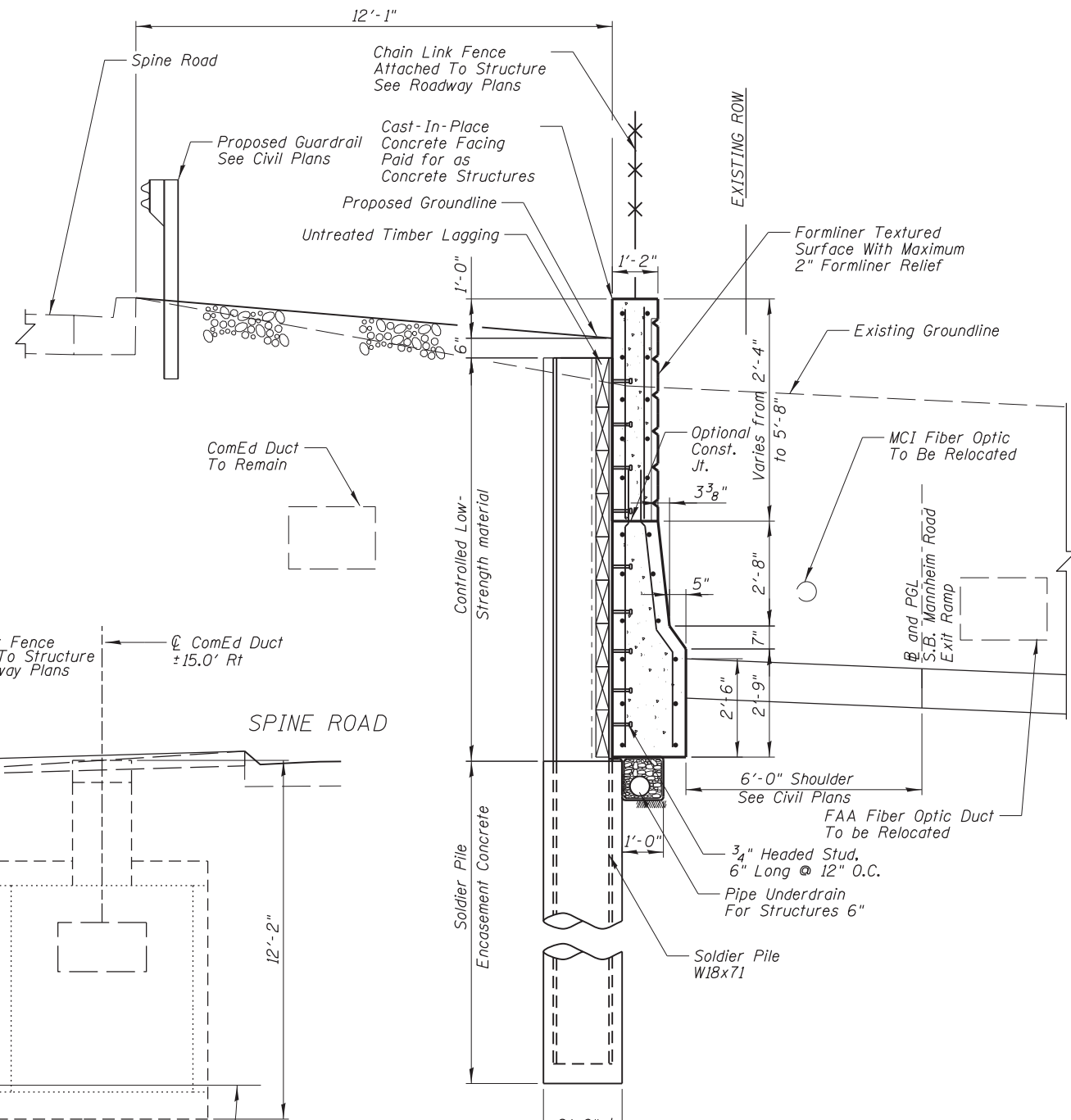
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330	0105 WRS&HB	COOK	605	395
CONTRACT NO. 60G37				

SHEET NO. S-6 OF S-13 SHEETS

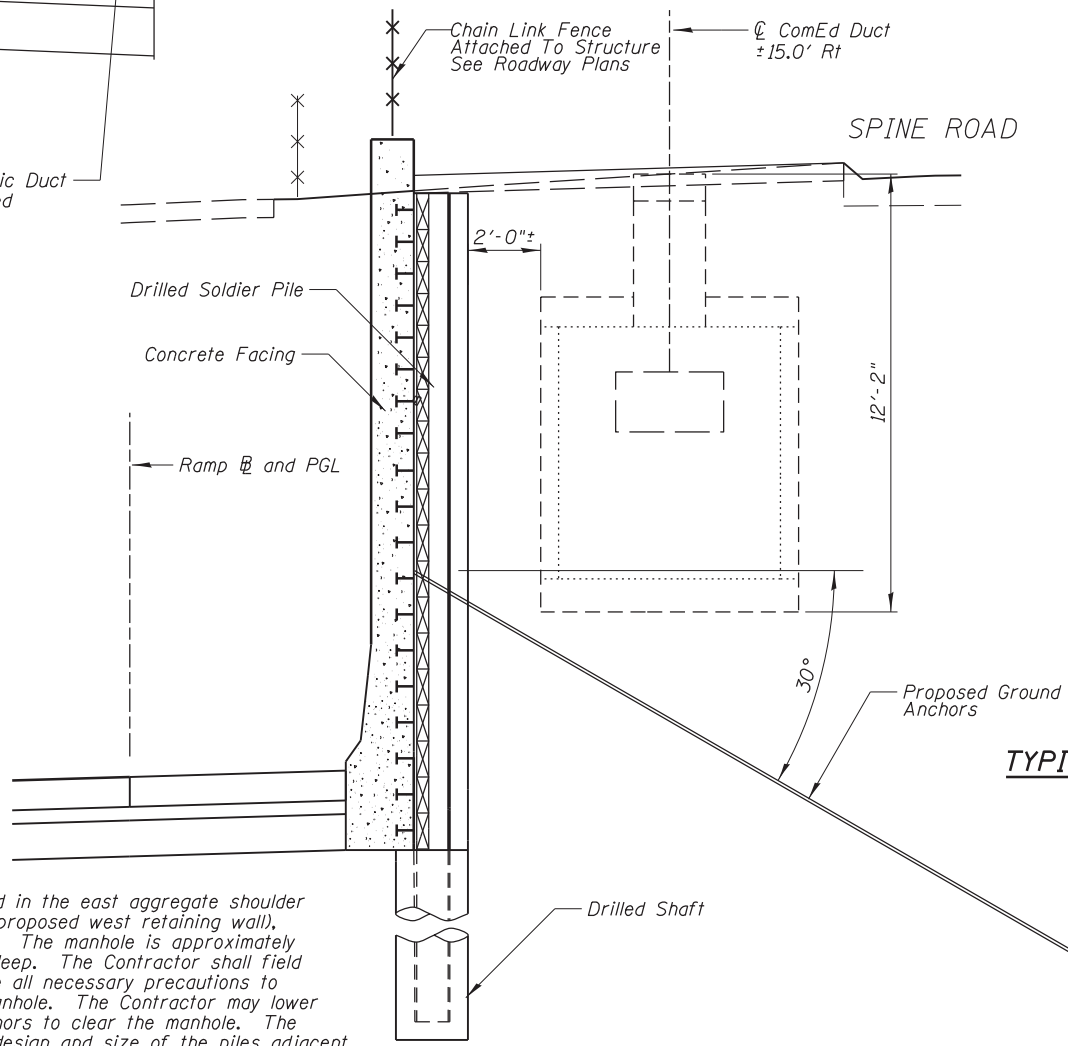
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TYPICAL WALL SECTION - STA. 15+78.34 TO STA. 16+52.34



TYPICAL WALL SECTION - STA. 16+52.34 TO STA. 17+48.34



WALL SECTION - STA. 19+12±

NOTE:
A ComEd manhole is located in the east aggregate shoulder of Spine Road (behind the proposed west retaining wall), approximately at Sta 19+12. The manhole is approximately 12' long x 7.5' wide x 9' deep. The Contractor shall field locate the manhole and take all necessary precautions to avoid any damage to the manhole. The Contractor may lower the location of tieback anchors to clear the manhole. The Contractor may revise the design and size of the piles adjacent to the manhole as required.

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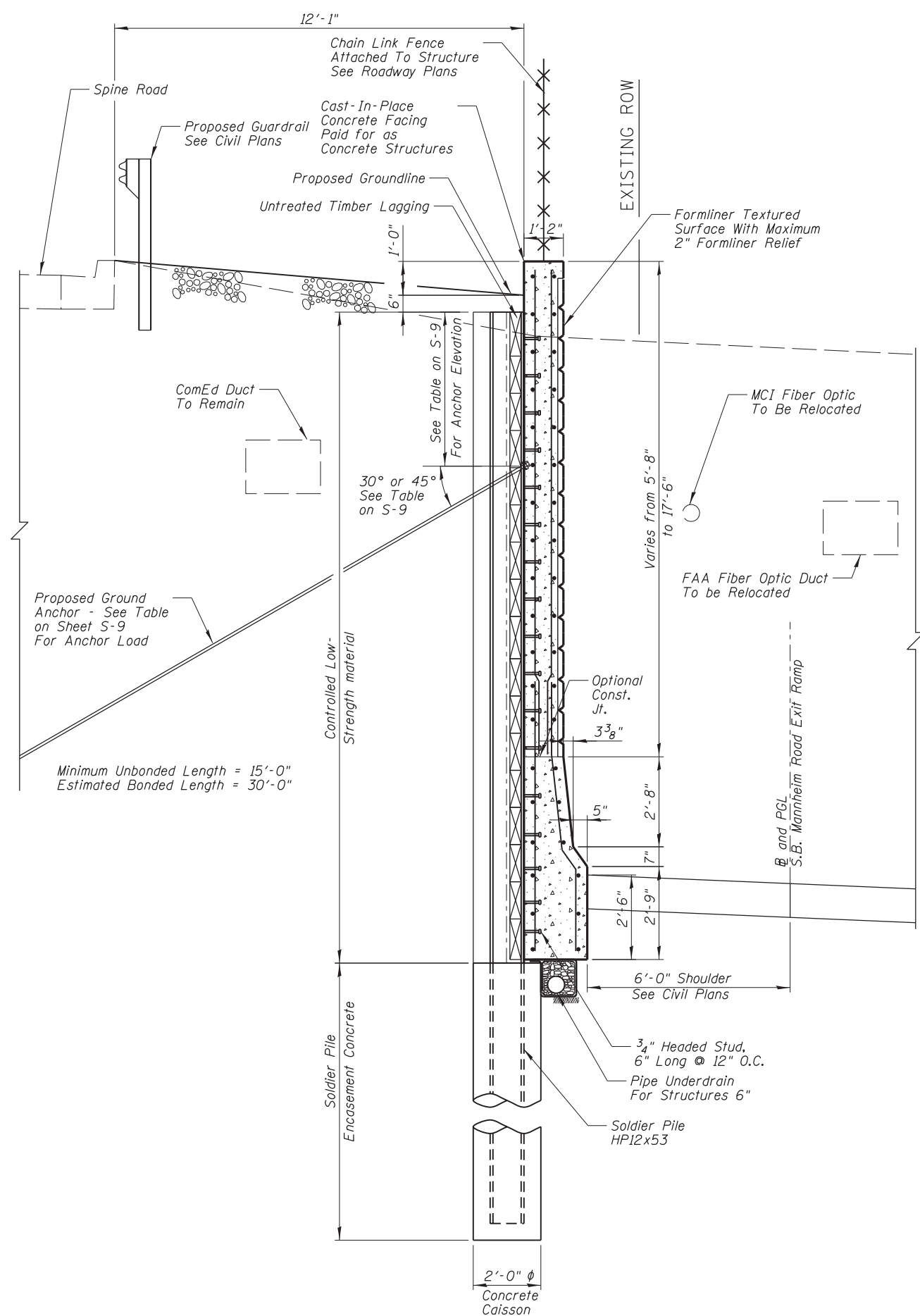
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DEPARTMENT OF TRANSPORTATION**

**SECTIONS
WEST RETAINING WALL - STRUCTURE NO. 016-1400**

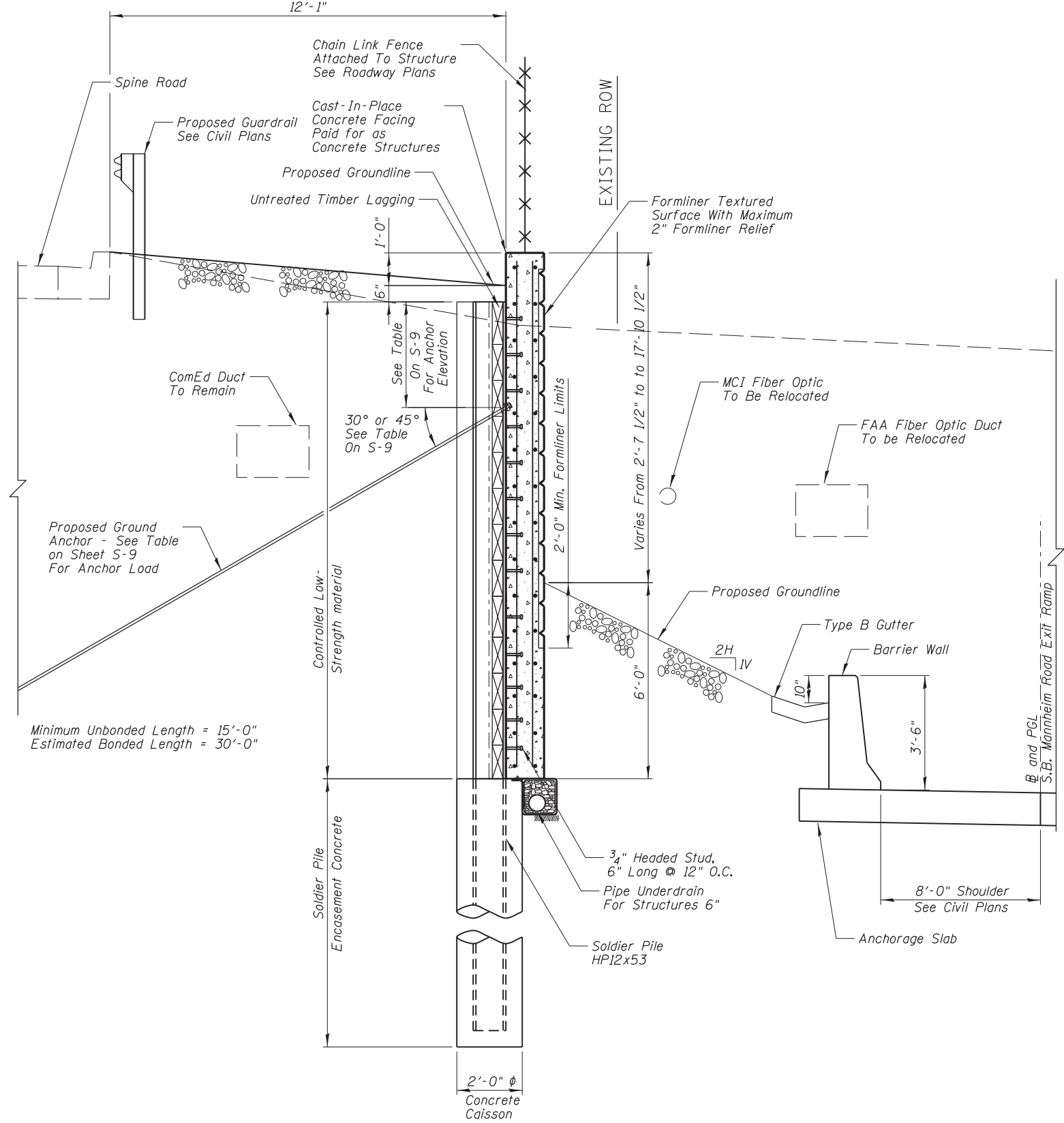
SHEET NO. S-7 OF S-13 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	396
CONTRACT NO. 60G37				

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TYPICAL WALL SECTION - STA. 17+48.34 TO STA. 19+64.77



TYPICAL WALL SECTION - STA. 19+64.77 TO STA. 20+55.38

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	CHECKED - MM	REVISED

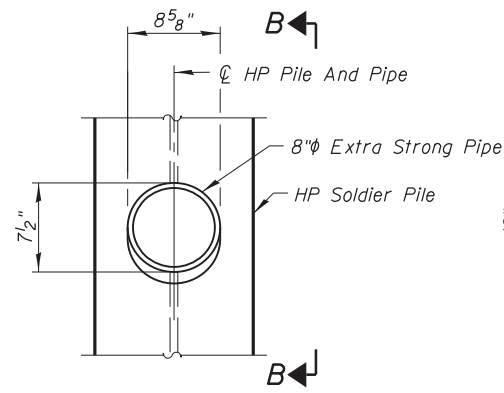
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**SECTIONS
 WEST RETAINING WALL - STRUCTURE NO. 016-1400**

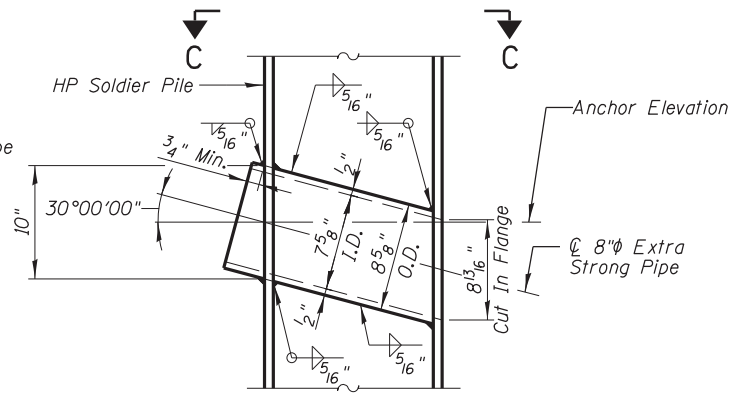
SHEET NO. S-8 OF S-13 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	397
CONTRACT NO. 60G37				

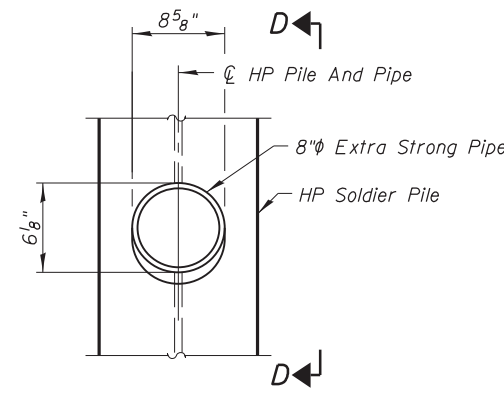
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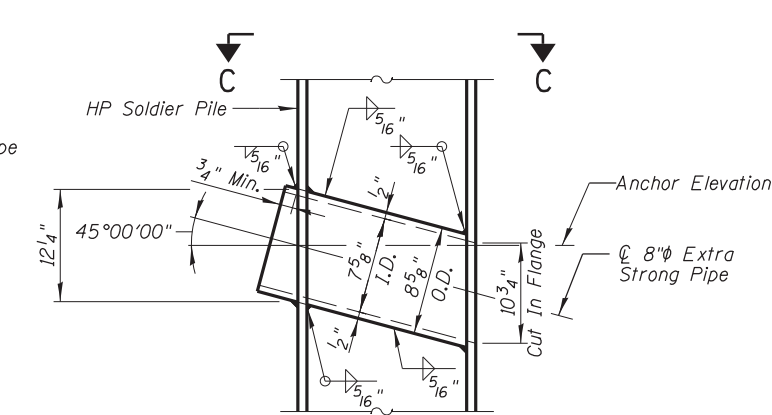
HP SECTION ELEVATION AT ANCHOR
(For Anchor Angle = 30°)



SECTION B-B
(For Anchor Angle = 30°)



HP SECTION ELEVATION AT ANCHOR
(For Anchor Angle = 45°)

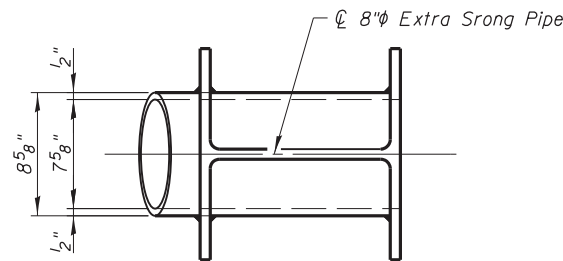


SECTION D-D
(For Anchor Angle = 45°)

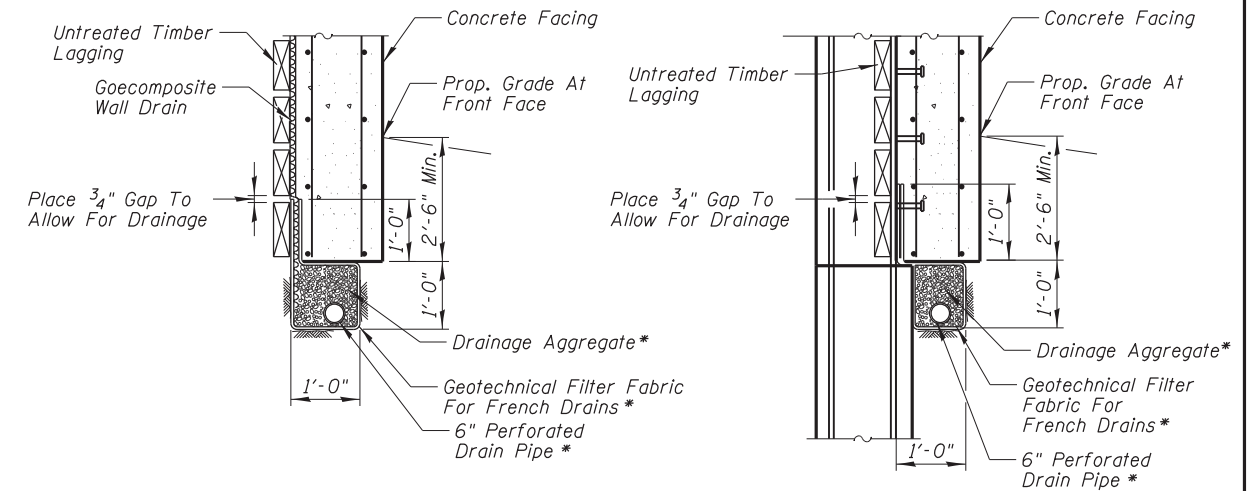
PILE DATA TABLE

Pile No.	Anchor Elevation	Anchor Angle (Degrees)	Load (Kips)
28 - 29	641.10	45*	30
30 - 31	640.85	45*	35
32 - 33	640.50	45*	40
34 - 35	640.25	45*	45
36 - 38	639.85	45*	55
39 - 41	639.35	30	55
42 - 44	638.85	30	50
45 - 46	638.55	30	55
47 - 50	638.15	30	65
51 - 54	637.65	30	70
55 - 58	637.15	30	80
59 - 63	636.90	30	85
64 - 66	637.35	30	75
67 - 68	637.85	30	65
69 - 70	638.40	30	50
71 - 72	639.00	30	40
73 - 74	639.75	45*	35
75 - 77	640.50	45*	20

* 45° Angle Is Proposed To Avoid Conflict With Existing ComEd Duct. The Exact Depth Of The Duct Is Unknown. The Angle Of The Proposed Tiebacks May Be Reduced To 30° If It Is Determined During Construction That The Existing Duct Will Not Be In Conflict With The Tieback.



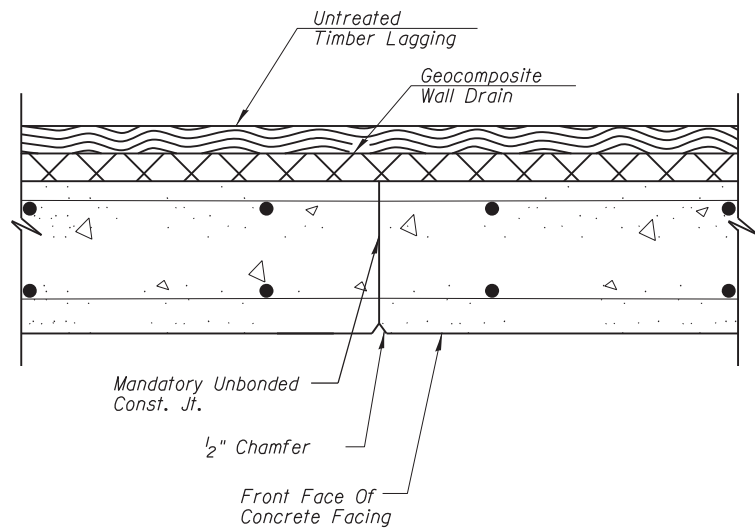
SECTION C-C



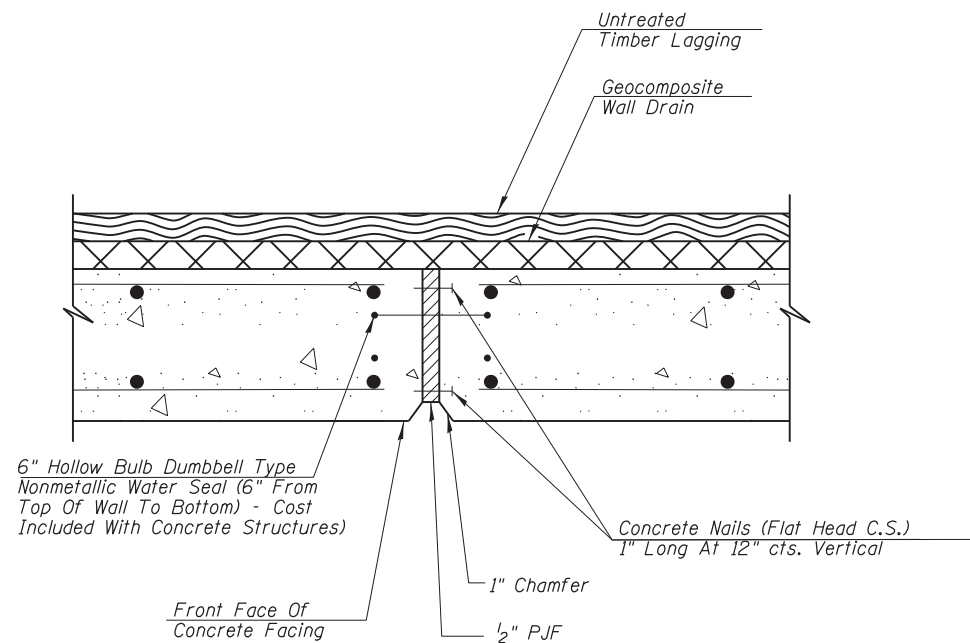
UNDERDRAIN DETAIL BETWEEN SOLDIER PILES

UNDERDRAIN DETAIL AT SOLDIER PILES

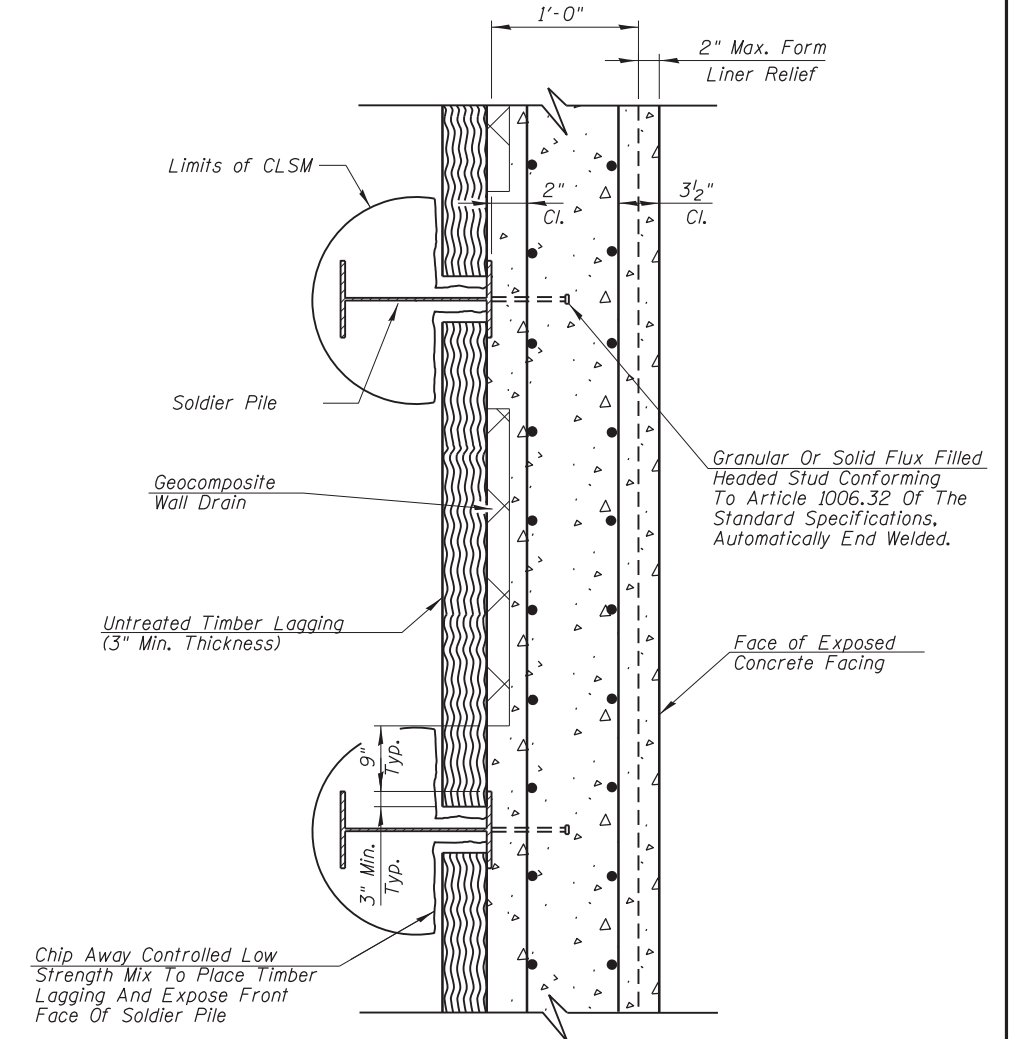
* Included In The Cost Of Pipe Underdrains For Structures 6"



WALL FACING - CONSTRUCTION JOINT
(Formliner Omitted For Clarity)



WALL FACING - EXPANSION JOINT
(Formliner Omitted For Clarity)



SECTION THRU DRILLED SOLDIER PILE WALL

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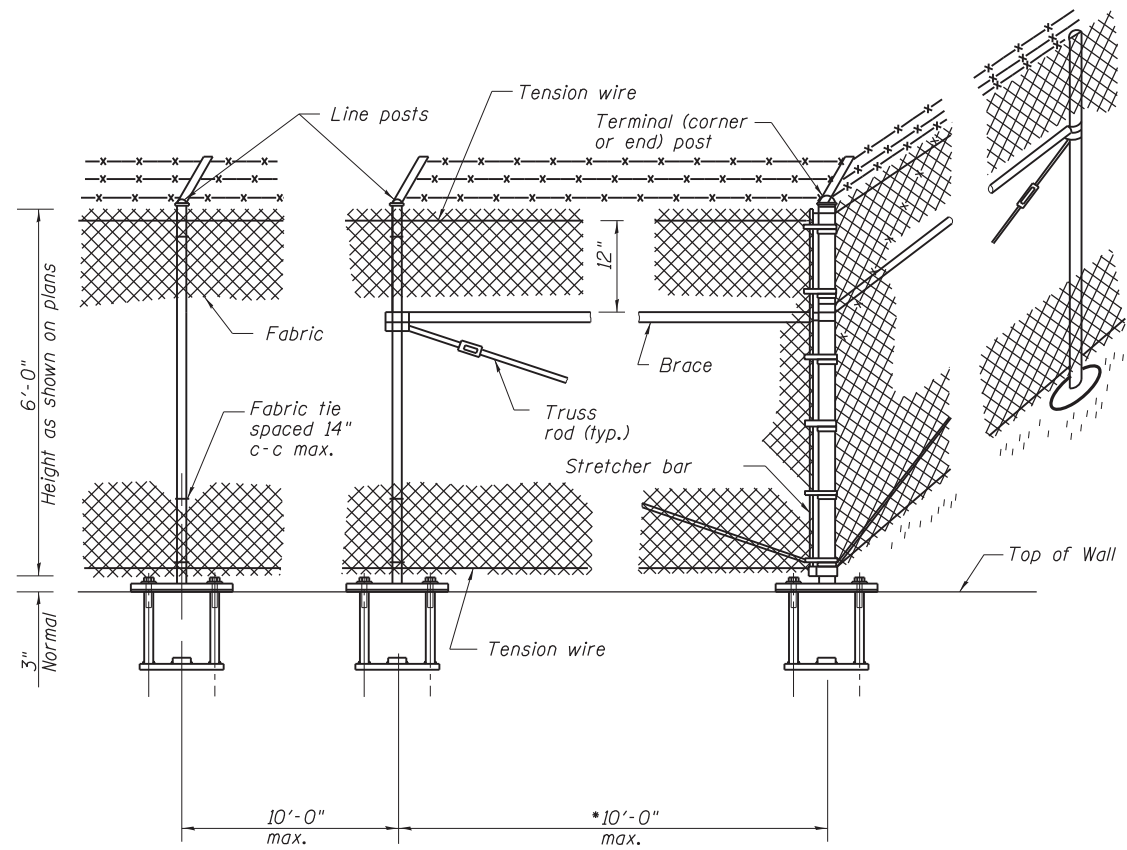
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**DETAILS
WEST RETAINING WALL - STRUCTURE NO. 016-1400**

SHEET NO. S-9 OF S-13 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	398
CONTRACT NO. 60G37				

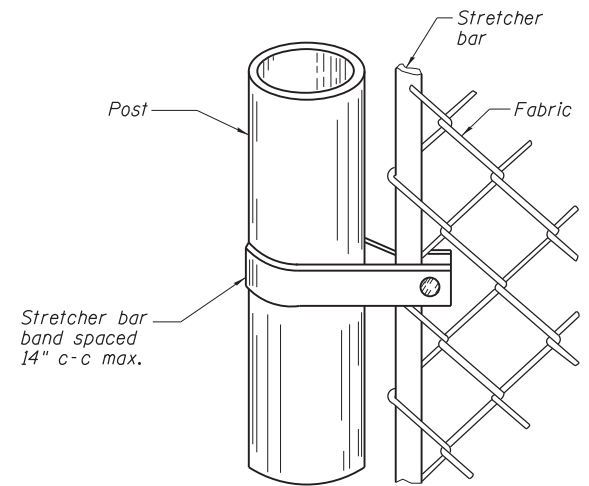
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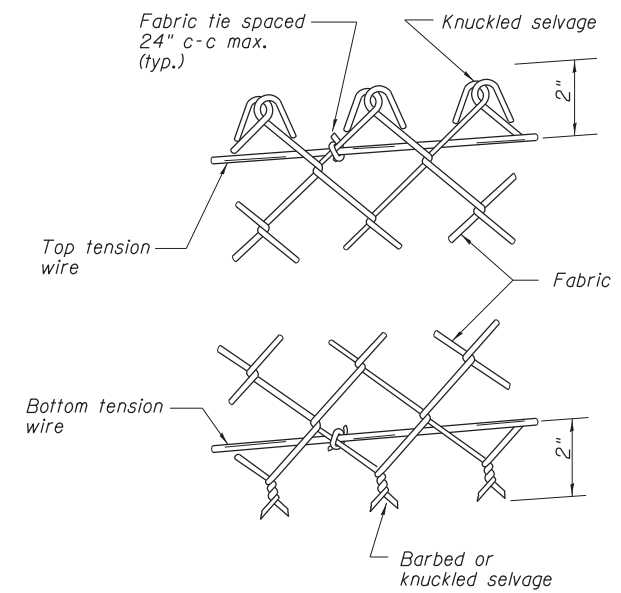
LINE POST ARRANGEMENT

CORNER OR END POST ARRANGEMENT

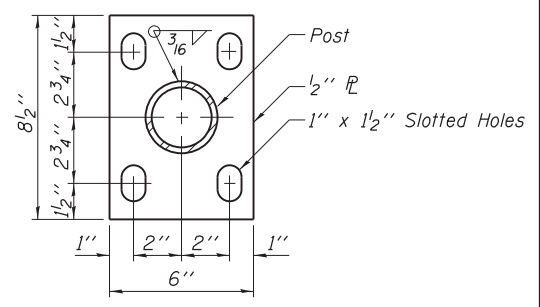
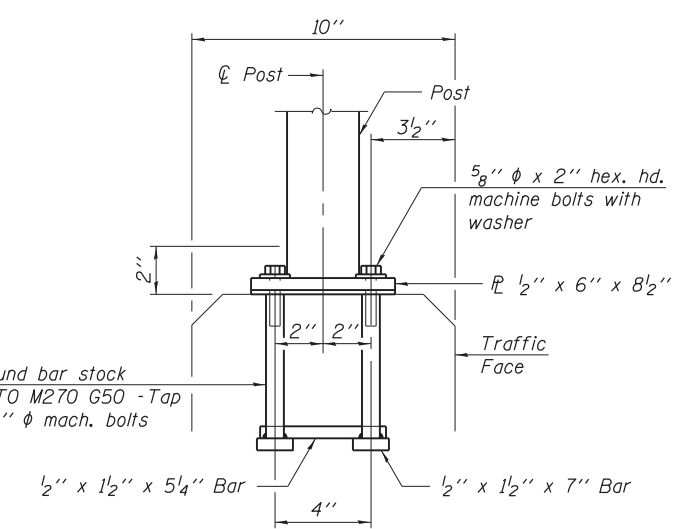
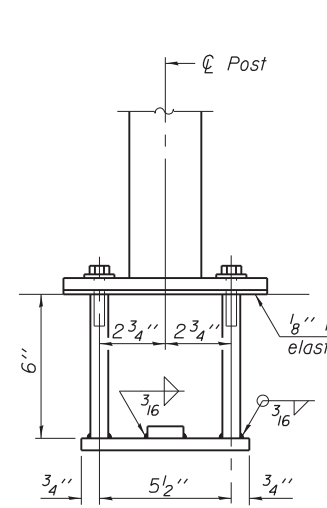
* The Post Anchors Shall be At least 2'-0" From Wall Expansion Joints.
Pull Post Shall Be Placed Off of Wall.



METHOD OF FASTENING STRETCHER BAR TO POST



METHOD OF TYING FABRIC TO TENSION WIRES



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" phi anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BASE PL

Note:
Cost of all the anchor bolts and accessory required for Chain Link Supports are included in "Chain Link Fence, 6' Attached to Structure". See Roadway Plans.

LINE POST	
Section	lbs./ft.
Pipe Type A 1.90 O.D.	2.72
Pipe Type B 1.90 O.D.	2.28
Pipe Type C 1.90 O.D.	2.26
H 1.875x1.625	2.72

TERMINAL POST	
Section	lbs./ft.
Pipe Type A 2.375 O.D.	3.65
Pipe Type B 2.375 O.D.	3.11
Pipe Type C 2.375 O.D.	3.09
Roll Formed 3 1/2 x 3 1/2	See detail
Sq. Tubing 2 1/2 x 2 1/2	4.32

HORIZONTAL BRACES	
Section	lbs./ft.
Pipe Type A 1.66 O.D.	2.27
Pipe Type B 1.66 O.D.	1.83
Pipe Type C 1.66 O.D.	1.82
H 1.31x1.5	2.25
Roll Formed 1 5/8 x 1 1/4	See detail

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**CHAIN LINK FENCE ATTACHED TO STRUCTURE
WEST RETAINING WALL - STRUCTURE NO. 016-1400**

SHEET NO. S-10 OF S-13 SHEETS

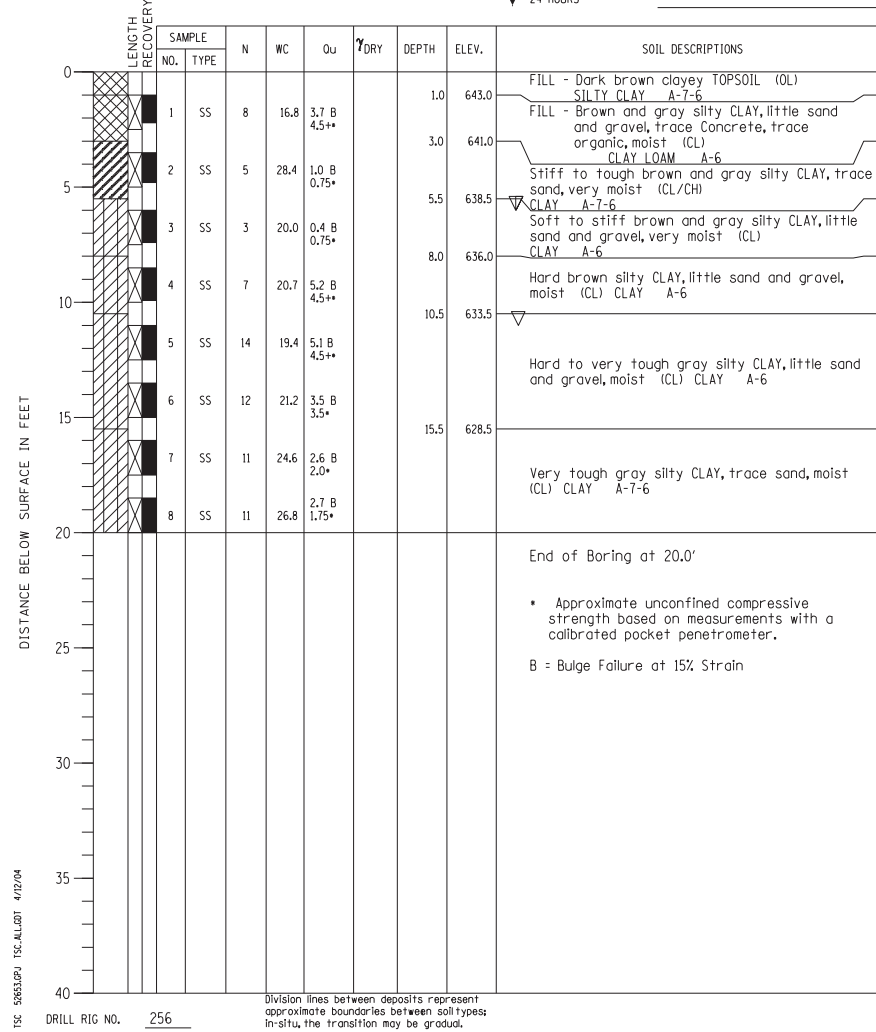
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330	0105 WRS&HB	COOK	605	399
CONTRACT NO. 60G37				

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PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 3 DATE STARTED 7-19-02 DATE COMPLETED 7-19-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 644.0 WHILE DRILLING 6.0'
 END OF BORING 624.0 AT END OF BORING 11.0'
 24 HOURS

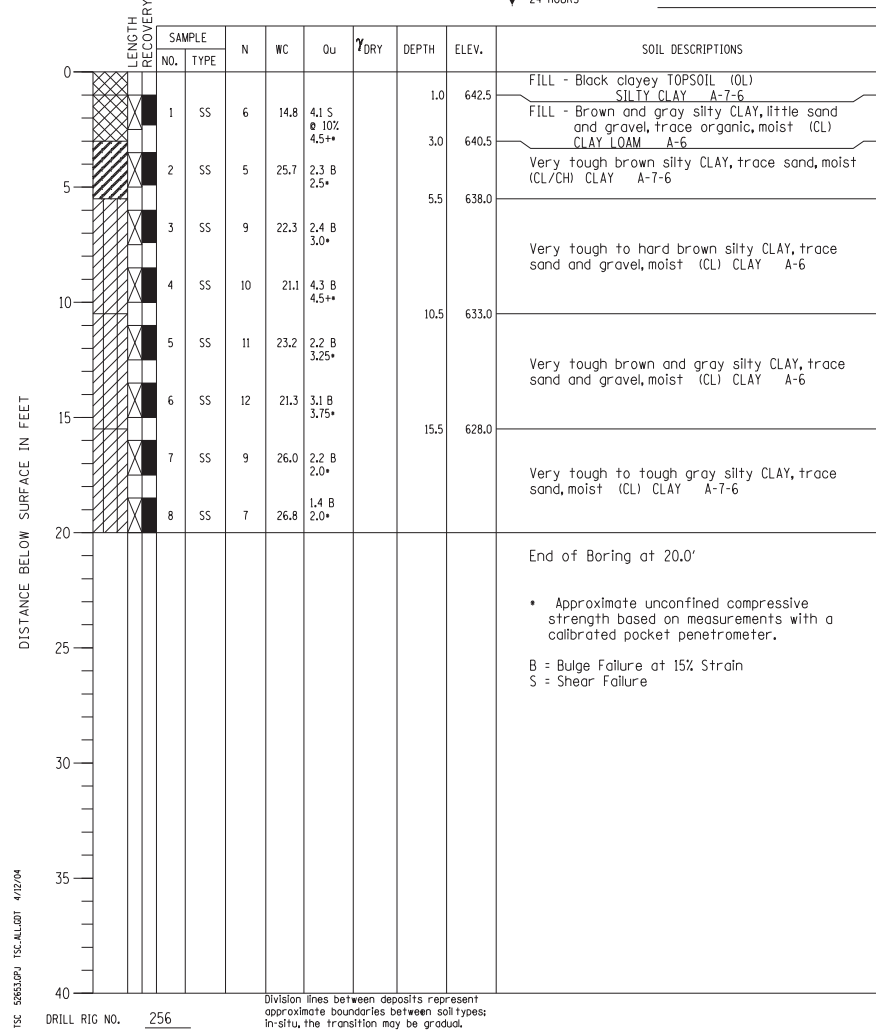


BORING NO. 3
 Station 15+56.10
 Offset 2.55' RT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 5 DATE STARTED 7-19-02 DATE COMPLETED 7-19-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 643.5 WHILE DRILLING Dry
 END OF BORING 623.5 AT END OF BORING Dry
 24 HOURS

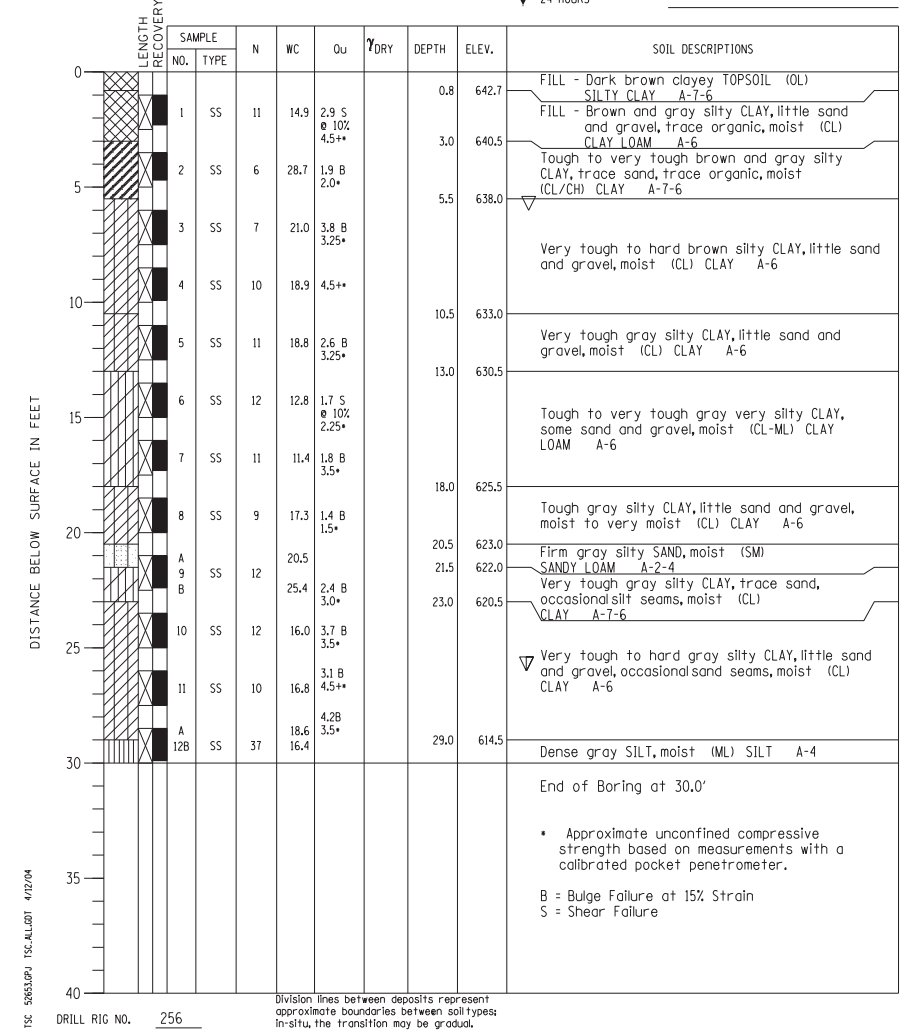


BORING NO. 5
 Station 16+31.10
 Offset 2.56' RT

PROJECT Balmoral Avenue Extension - Phase II, Rosemont, Illinois
 CLIENT Christopher B. Burke Engineering, Ltd., Rosemont, Illinois
 BORING 7 DATE STARTED 7-19-02 DATE COMPLETED 7-19-02 JOB L-52,653



ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE 643.5 WHILE DRILLING 26.0'
 END OF BORING 613.5 AT END OF BORING 6.0'
 24 HOURS



BORING NO. 7
 Station 17+06.10
 Offset 2.57' RT

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BORING LOGS
 WEST RETAINING WALL - STRUCTURE NO. 016-1400

SHEET NO. S-11 OF S-13 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
330	0105 WRS&HB	COOK	605	400
CONTRACT NO. 60G37				
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