

- NOTES:**
1. SEE SHEET NO. 569 FOR LEGEND AND GENERAL NOTES
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL ROADWAY LIGHTING WITHIN THE PROJECT LIMITS FOR THE DURATION OF THE PROJECT. ANY DAMAGE INCURRED DURING CONSTRUCTION SHALL BE PROMPTLY REPAIRED SO SERVICE IS NOT DISRUPTED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS.
 3. THE LOCATION OF THE TEMPORARY WOOD POLES SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION
 4. TEMPORARY LIGHTING UNITS SHALL BE OPERATIONAL BEFORE EXISTING POLES ARE REMOVED
 5. TEMPORARY LIGHTING SHALL NOT BE REMOVED UNTIL THE NEXT STAGE OF TEMPORARY LIGHTING OR PERMANENT LIGHTING IS INSTALLED AND OPERATIONAL.
 6. THE COST TO PROVIDE TEMPORARY CONNECTIONS TO EXISTING CONTROLLERS AND TEMPORARY LIGHTING UNITS SHALL BE INCLUDED IN THE BID UNIT PRICE FOR AERIAL CABLE.
 7. FOR TEMPORARY LIGHT POLE AND INSTALLATION OF AERIAL CABLE DETAILS SEE SHEETS NO. 597, 598 AND 599.
 8. EXISTING LIGHTING CONTROLLER TO BE USED FOR TEMPORARY LIGHTING. USE EXISTING SERVICE CONNECTIONS. EXISTING CONTROLLER USED FOR TEMPORARY SERVICE TO BE REMOVED ONCE THE NEW CONTROLLER IS INSTALLED AND OPERATIONAL.



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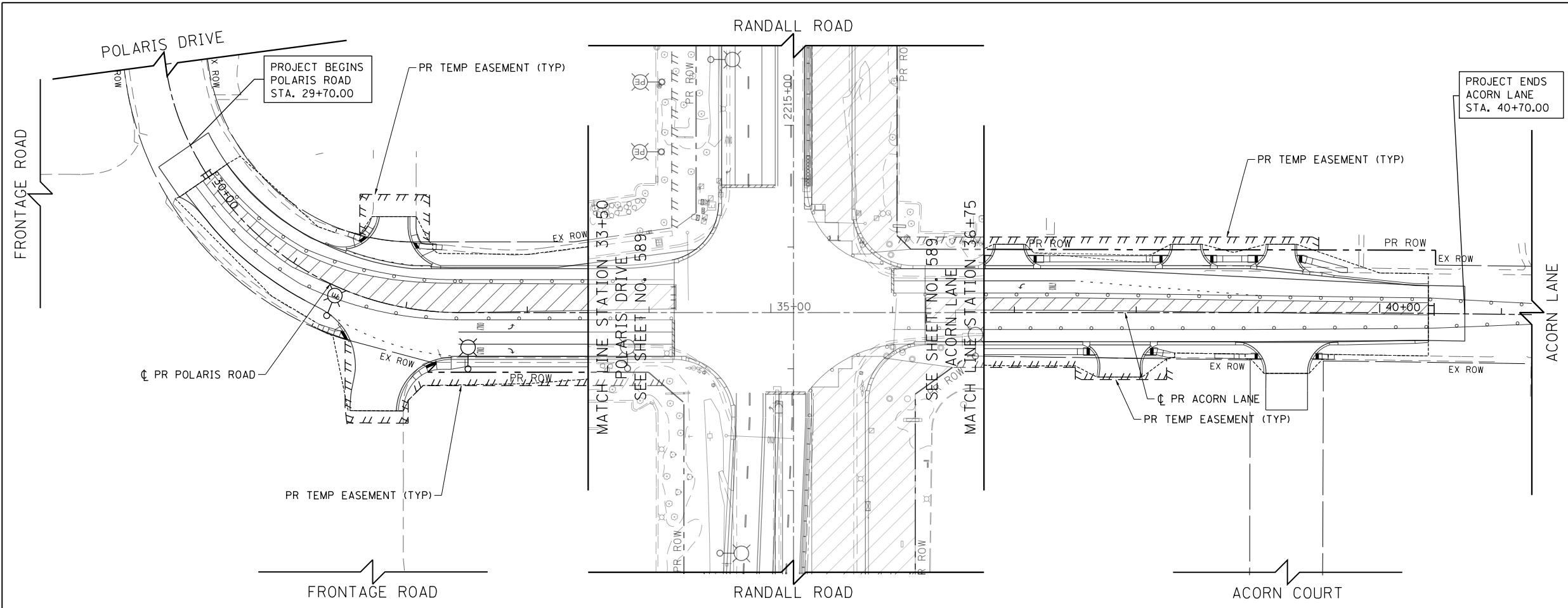
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BUNKER HILL DRIVE /HUNTINGTON DRIVE EXISTING LIGHTING REMOVAL
& TEMPORARY LIGHTING - STAGE 2**

SCALE: 1" = 50' SHEET 7 OF 9 SHEETS STA 8+00 TO STA 29+00

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	601
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



NOTES:

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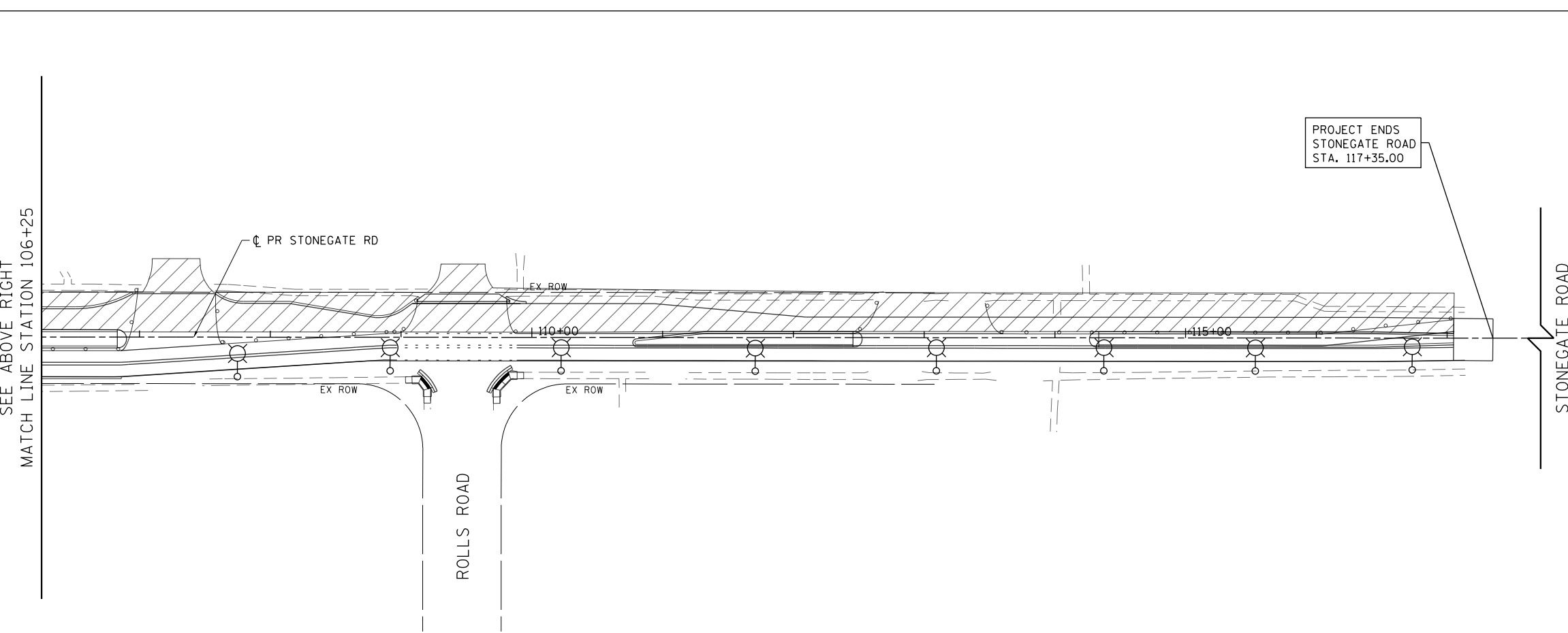
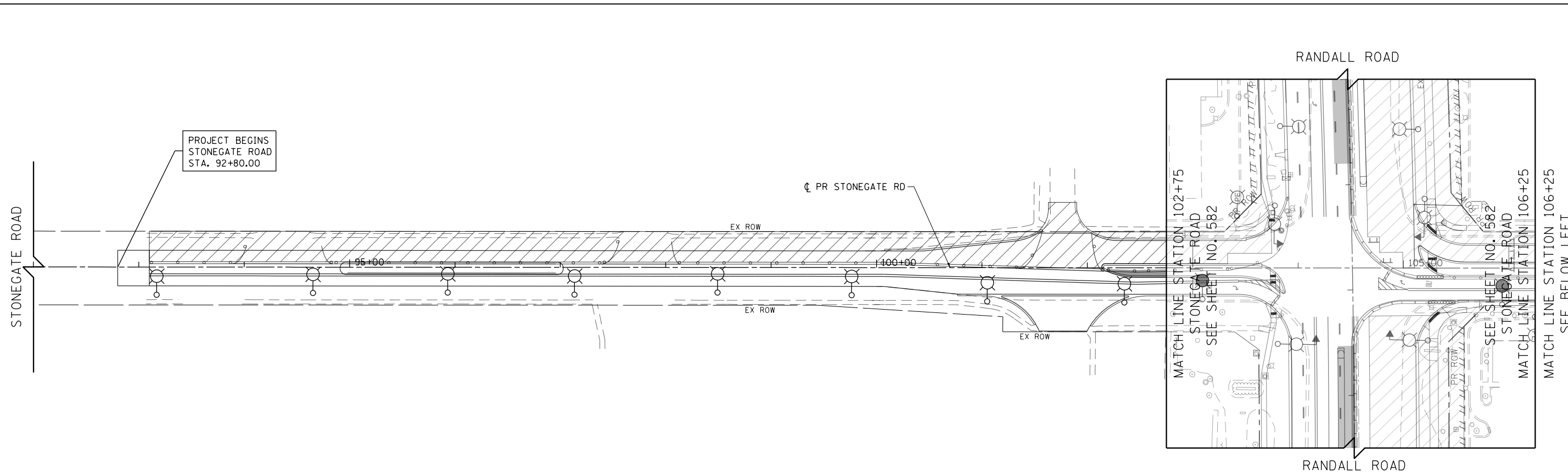
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**POLARIS DRIVE /ACORN LANE EXISTING LIGHTING REMOVAL
& TEMPORARY LIGHTING - STAGE 2**

SCALE: 1" = 50' SHEET 8 OF 9 SHEETS STA 28+00 TO STA 41+00

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	602
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



- NOTES:**
1. SEE SHEET NO. 569 FOR LEGEND AND GENERAL NOTES
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL ROADWAY LIGHTING WITHIN THE PROJECT LIMITS FOR THE DURATION OF THE PROJECT. ANY DAMAGE INCURRED DURING CONSTRUCTION SHALL BE PROMPTLY REPAIRED SO SERVICE IS NOT DISRUPTED. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS.
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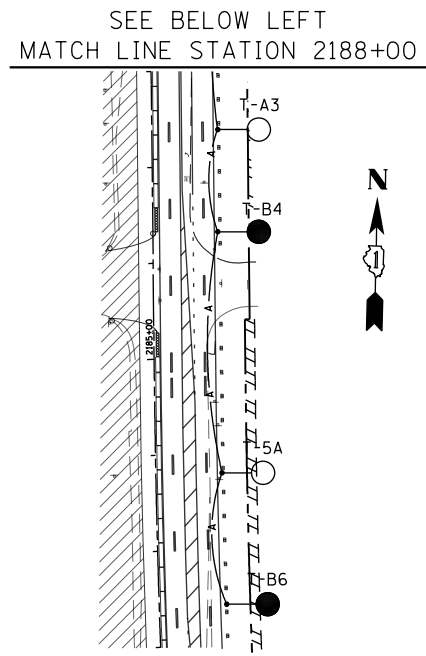
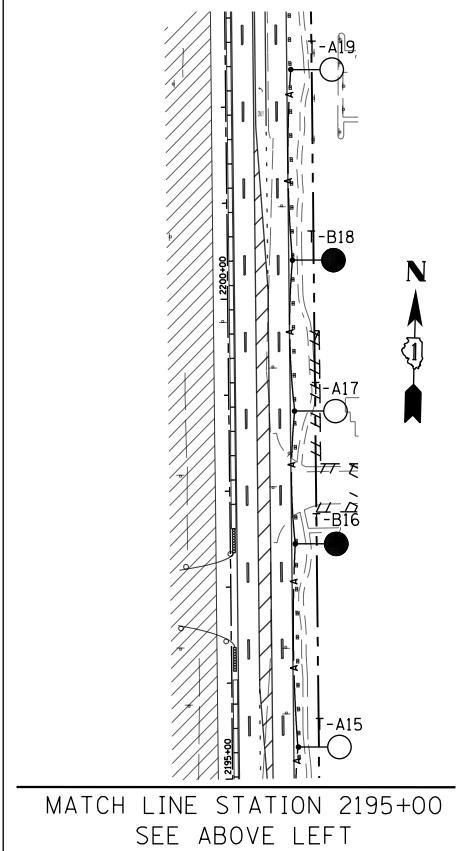
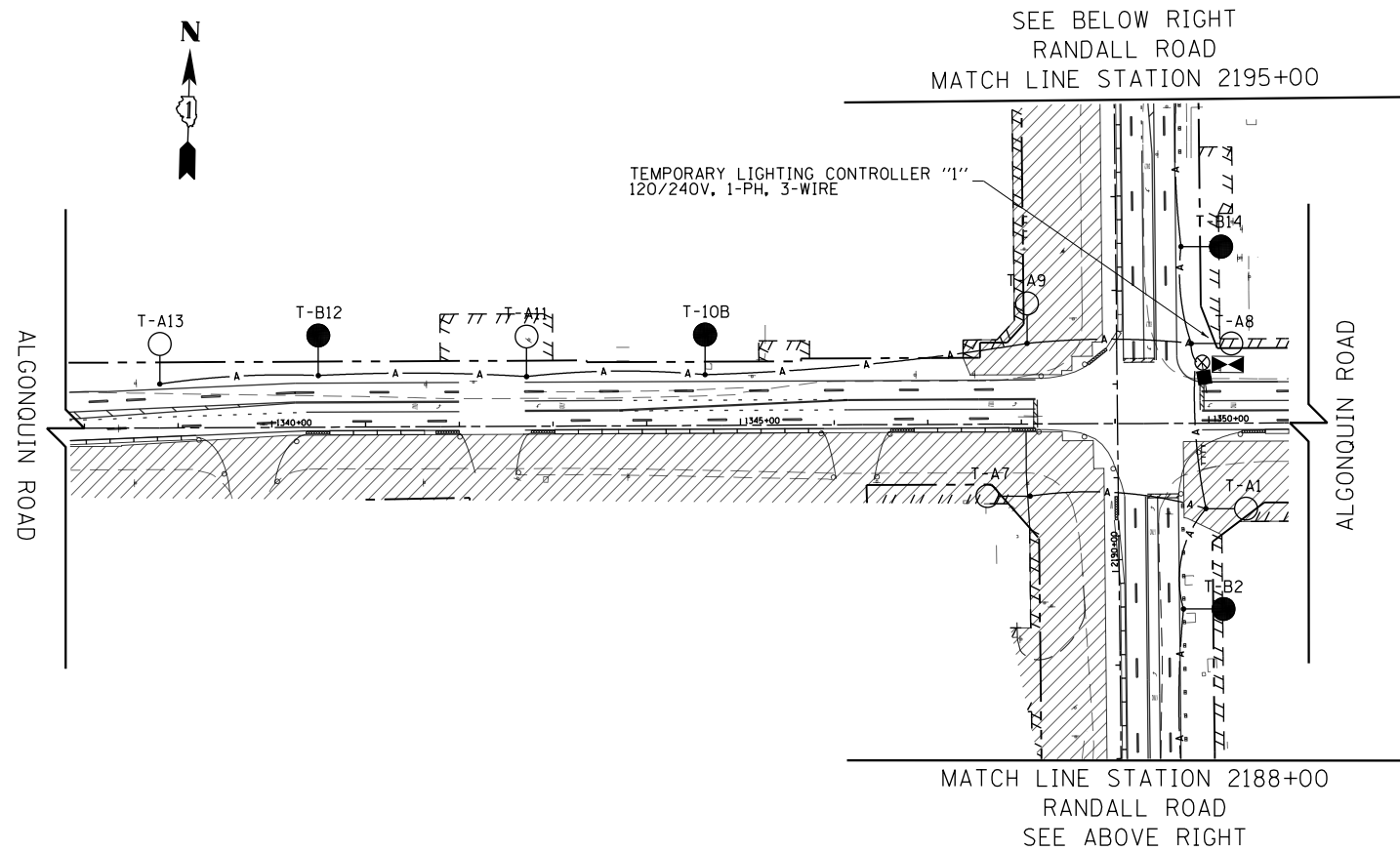
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

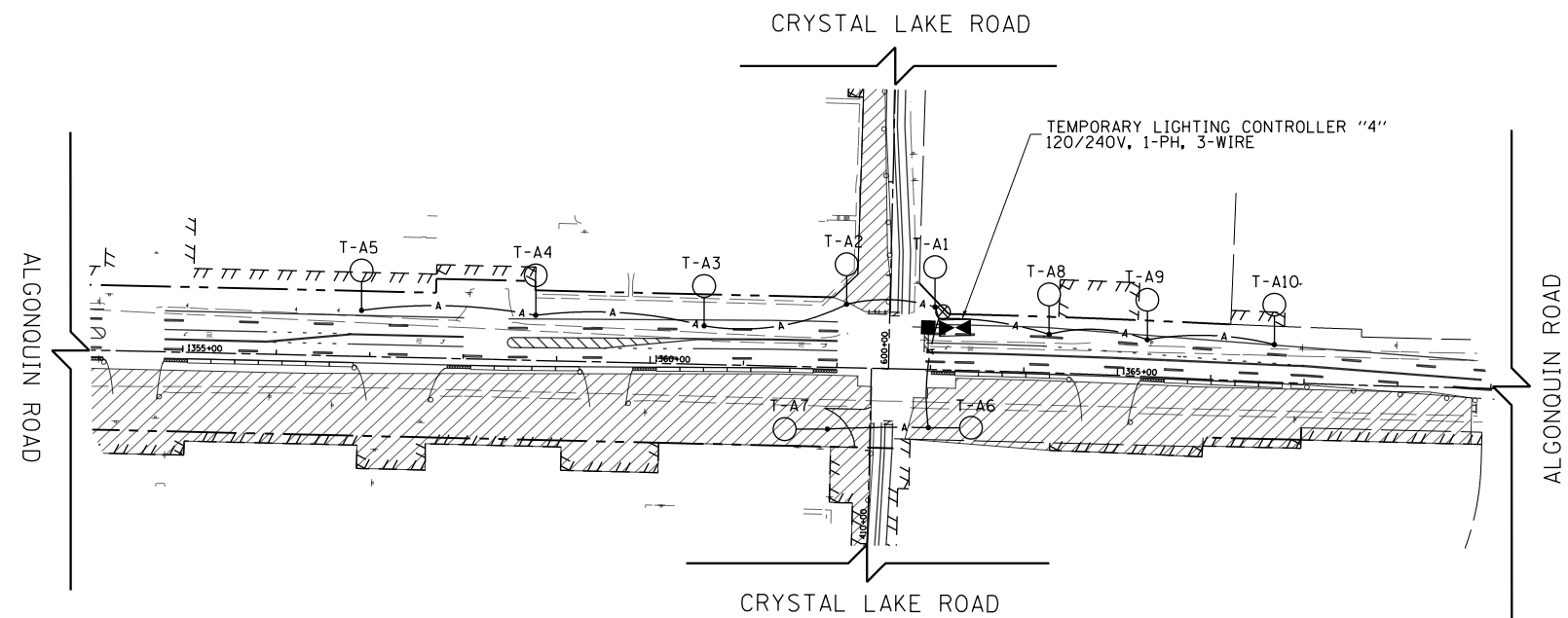
STONEGATE ROAD EXISTING LIGHTING REMOVAL & TEMPORARY LIGHTING			
STAGE 2			
SCALE: 1" = 50'	SHEET 9	OF 9 SHEETS	STA 100+00 TO STA 109+00

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	603
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				

LOAD TABULATION		
TEMPORARY LIGHTING CONTROLLER 1		
CIRCUIT	AMPS	WATTS
A	18.37	4400
B	13.36	3200
TOTAL	31.73	7600



LOAD TABULATION		
TEMPORARY LIGHTING CONTROLLER 4		
CIRCUIT	AMPS	WATTS
A	16.7	4000
TOTAL	16.7	4000



LEGEND	
○	HPS LUMINAIRE, HORIZ. MOUNT, 400 W, ON RED WIRE
●	HPS LUMINAIRE, HORIZ. MOUNT, 400 W, ON BLACK WIRE
⊠	TEMPORARY 120/240V LIGHTING CONTROLLER
—	4-1/2 NO. 6 AND 1-1/2 NO. 6 GND, (UNLESS OTHERWISE NOTED)
■	TEMPORARY SERVICE INSTALLATION
⊗	TEMPORARY WOOD POLE

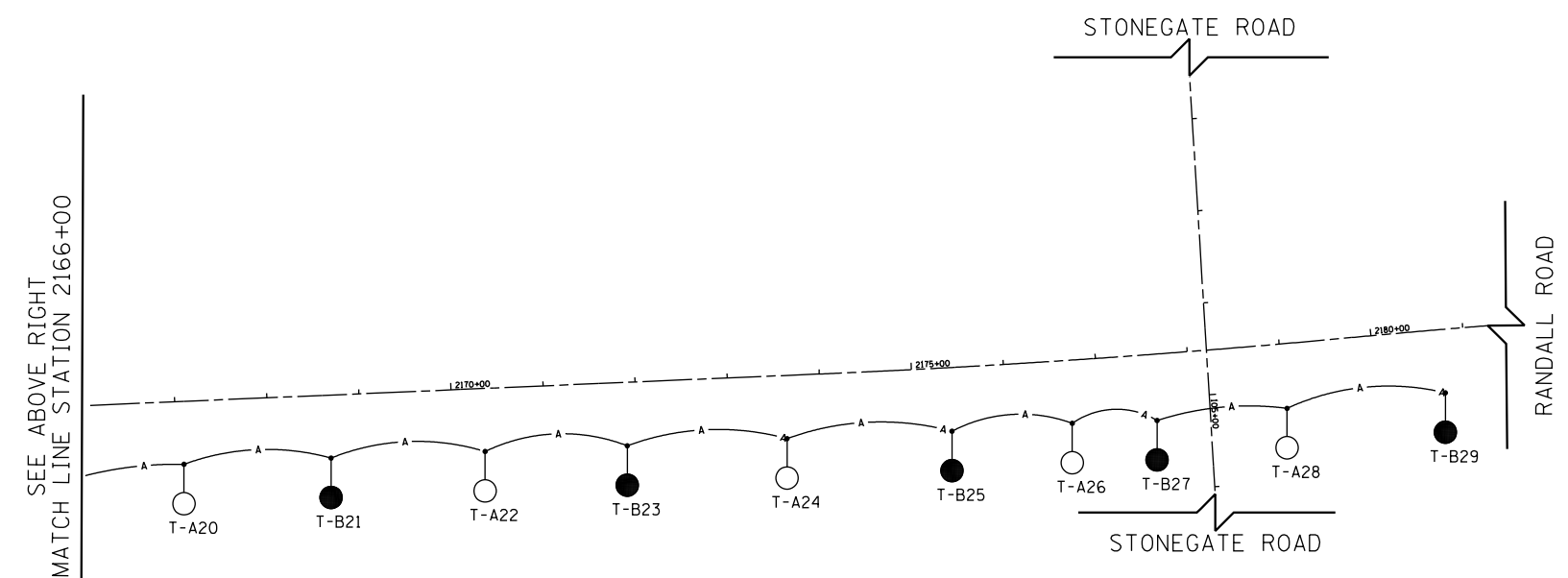
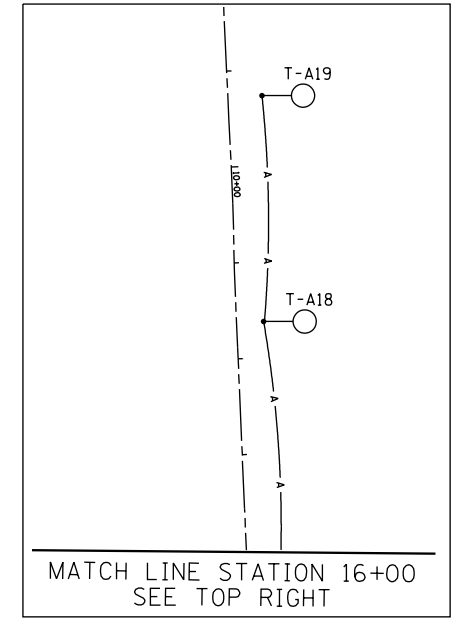
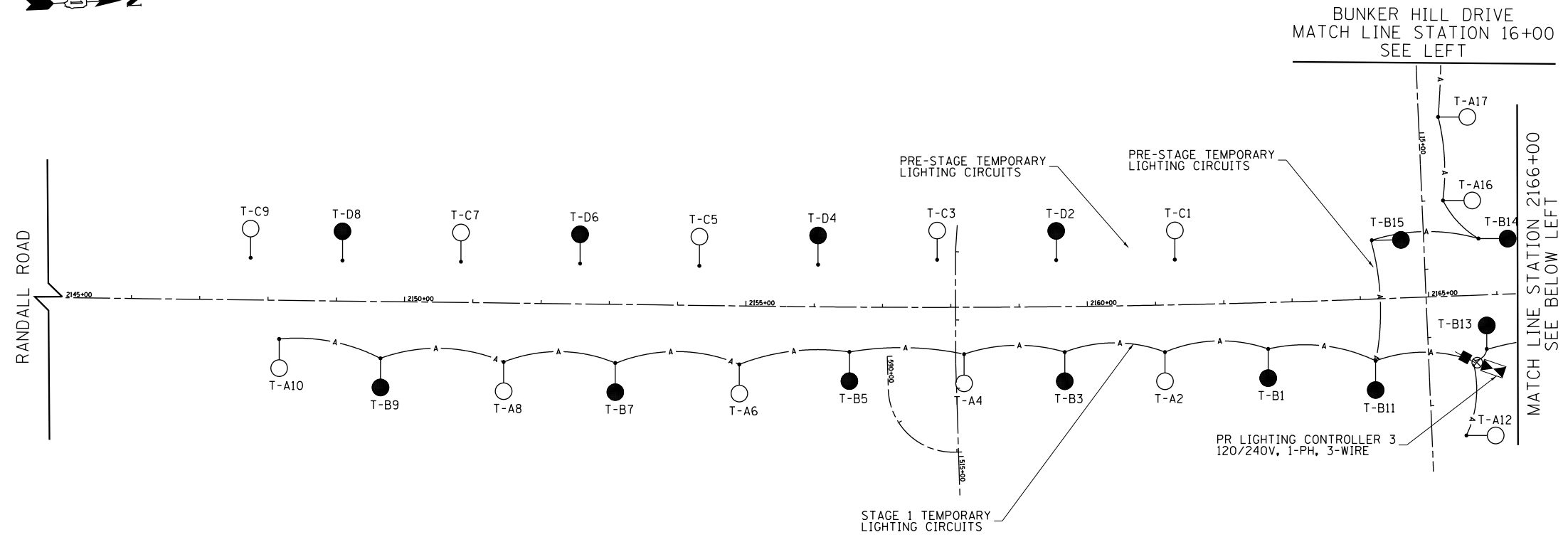


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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY LIGHTING WIRING DIAGRAM
ALGONQUIN & CRYSTAL LAKE LIGHTING CONTROLLER
SCALE: 1" = 100' SHEET 1 OF 3 SHEETS STA 2188+00 TO STA 2195+00

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	604
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



LOAD TABULATION		
TEMPORARY LIGHTING CONTROLLER 2		
CIRCUIT	AMPS	WATTS
C (PRE-STAGE)	8.35	2000
D (PRE-STAGE)	6.68	1600
TOTAL	15.03	3600

LOAD TABULATION		
TEMPORARY LIGHTING CONTROLLER 2		
CIRCUIT	AMPS	WATTS
A (STAGE 1)	25.05	6000
B (STAGE 1)	23.38	5600
TOTAL	48.43	11600

LEGEND	
	HPS LUMINAIRE, HORIZ. MOUNT, 400 W, ON RED WIRE
	HPS LUMINAIRE, HORIZ. MOUNT, 400 W, ON BLACK WIRE
	TEMPORARY 120/240V LIGHTING CONTROLLER
	4-1/C NO. 6 AND 1-1/C NO. 6 GND. (UNLESS OTHERWISE NOTED)
	TEMPORARY SERVICE INSTALLATION
	TEMPORARY WOOD POLE



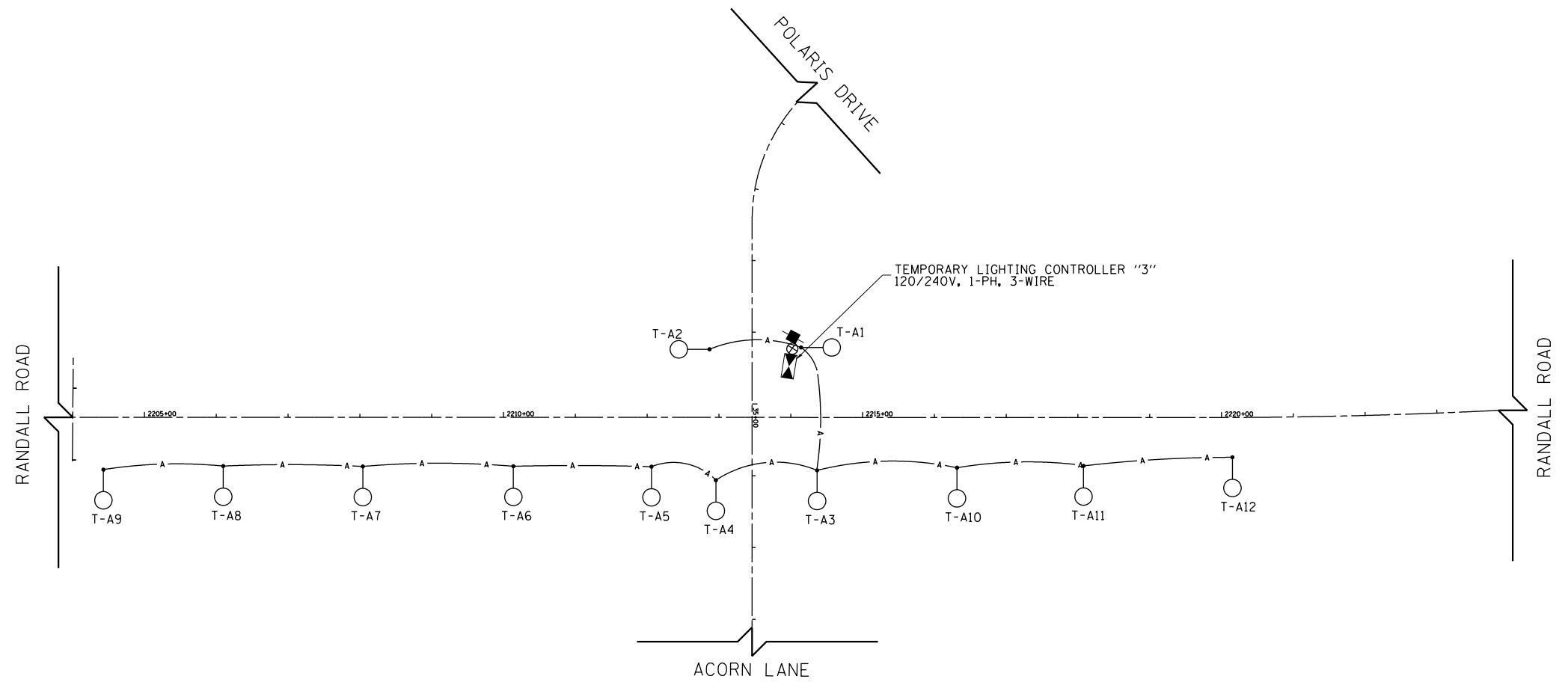
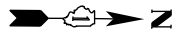
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY LIGHTING WIRING DIAGRAM
BUNKER HILL DRIVE LIGHTING CONTROLLER**

SCALE: 1" = 100' SHEET 2 OF 3 SHEETS STA 2146+00 TO STA 2190+00

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	605
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



LOAD TABULATION		
TEMPORARY LIGHTING CONTROLLER 3		
CIRCUIT	AMPS	WATTS
A	20.04	4800
TOTAL	20.04	4800

LEGEND	
	HPS LUMINAIRE, HORIZ. MOUNT, 400 W, ON RED WIRE
	HPS LUMINAIRE, HORIZ. MOUNT, 400 W, ON BLACK WIRE
	TEMPORARY 120/240V LIGHTING CONTROLLER
	4-1/C NO. 6 AND 1-1/C NO. 6 GND, (UNLESS OTHERWISE NOTED)
	TEMPORARY SERVICE INSTALLATION
	TEMPORARY WOOD POLE



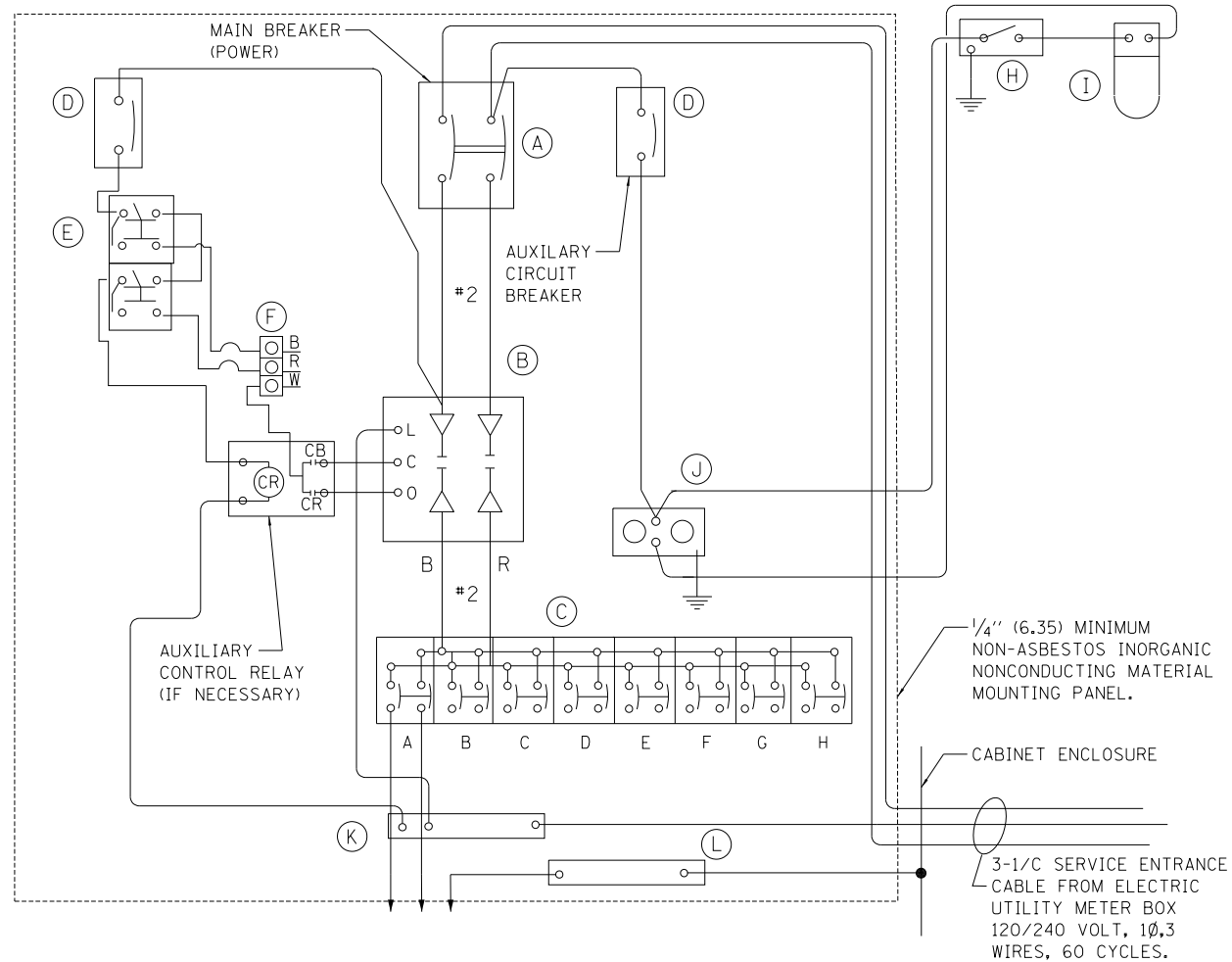
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

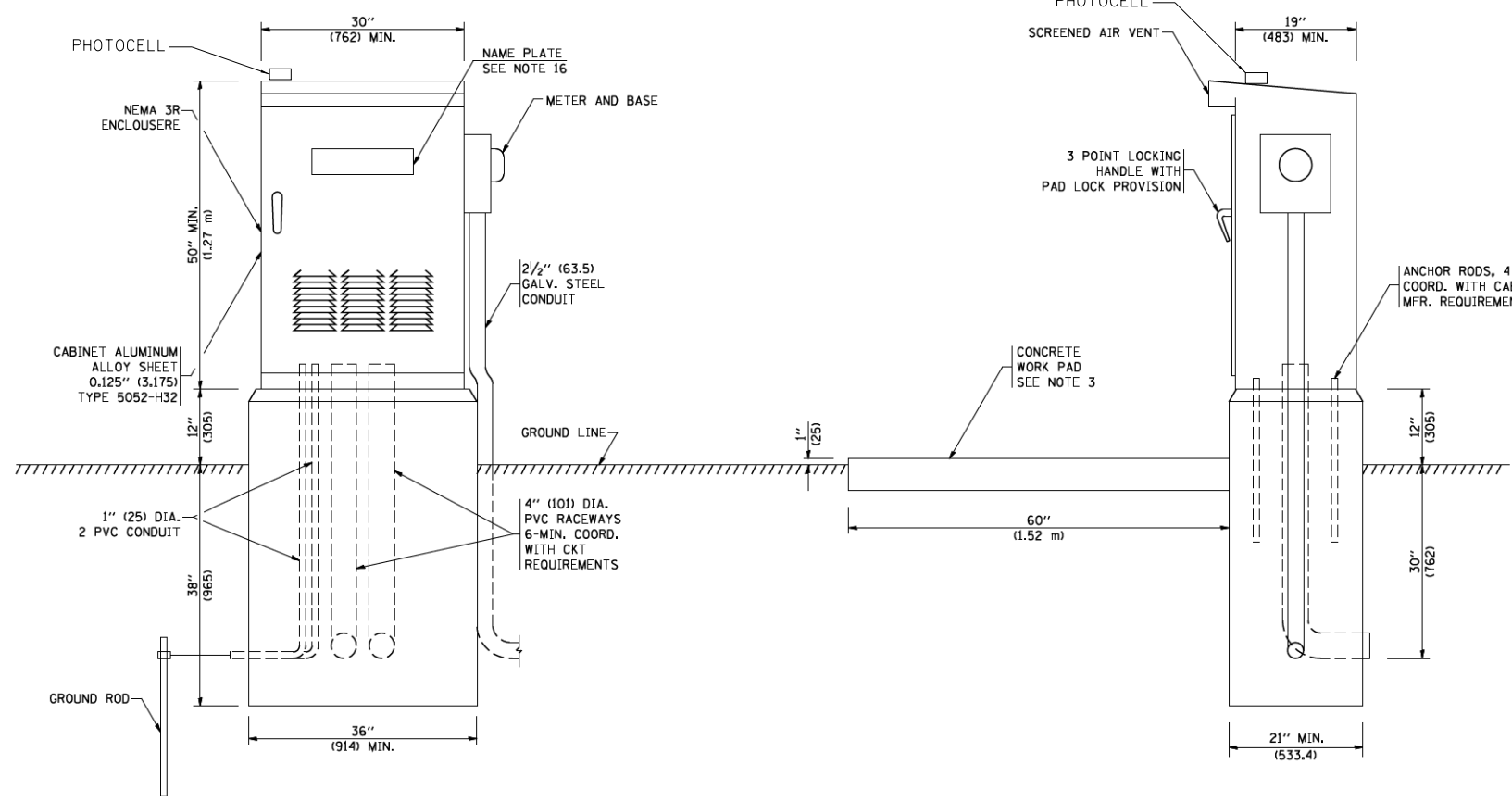
**TEMPORARY LIGHTING WIRING DIAGRAM
POLARIS DRIVE /ACORN LIGHTING CONTROLLER**

SCALE: 1" = 100' SHEET 3 OF 3 SHEETS STA 2204+50 TO STA 2223+00

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	606
ILLINOIS FED. AID PROJECT			CONTRACT NO.	61E53



PANEL WIRING DIAGRAM



PANEL EQUIPMENT		
BILL OF MATERIAL		
ITEM	QUANTITY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 200 AMP. FRAME, 200 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 240 VOLT.
B	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUIT 120 VOLT.
C	8	CIRCUIT BREAKERS, 2 POLE, 100AMP. FRAME, 20 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 120 V., 200 AMP. FRAME, 15 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 120 V.
E	1	H-O-A TOGGLE SWITCHES
F	1	PHOTOCELL
G	-	-
H	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN,
I	1	LED LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 10 WATT, 120 V. LAMP.
J	1	20 A., 120 V., DUPLEX RECEPTACLE, GFCI.
K	1	COPPER NEUTRAL BUS 1/4\" (6.35) X 1\" (25.4) X 12\" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
L	1	COPPER GROUND BUS 1/4\" (6.35) X 1\" (25.4) X 12\" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS

NOTES:

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 2\" (50.8 mm) TOP SOIL, LEVEL THE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 36\" (914.4 mm) x 60\" (18.288 m) x 4\" (101 mm) MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
- DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4\" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
- METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
- CABINETS SHALL BE NATURAL FINISH (NO PAINT) AS SPECIFIED.
- THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:
R = RED BL = BLUE W = WHITE
B = BLACK Y = YELLOW G = GREEN
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
- 12\" (304.8) X 16\" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "MCHENRY COUNTY LIGHTING CONTROLS".
- CABINET DOORS SHALL BE EQUIPPED WITH CORBIN LOCKS.



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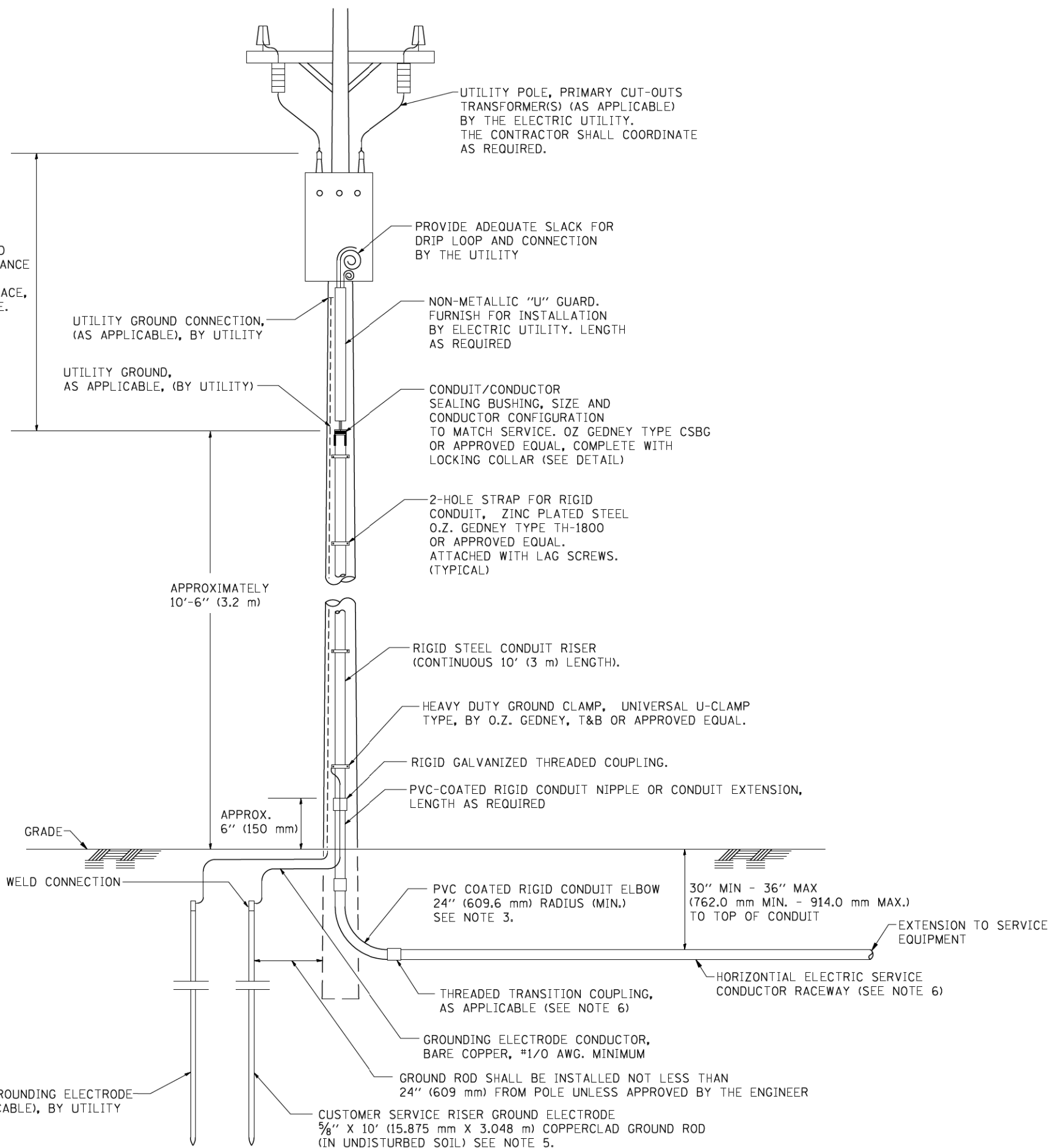
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER - SINGLE DOOR
120/240V, 1-PHASE

SCALE: NONE SHEET 1 OF 10 SHEETS STA TO STA

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	607
CONTRACT NO.			61E53	
ILLINOIS FED. AID PROJECT				

ASCERTAIN AND ASSURE CLEARANCE FROM UTILITY SECONDARY SPACE, AS APPLICABLE.

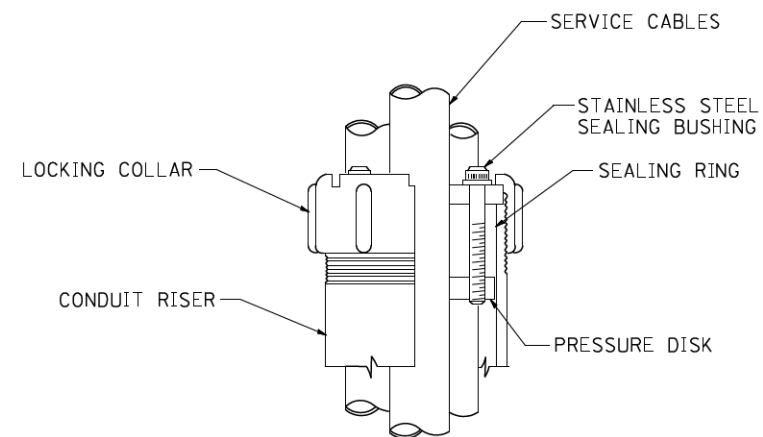


APPLICATION

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

NOTES

- SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
- UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
- CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
- PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
- THE HORIZONTAL ELECTRIC SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT. WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL, THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE), THE COUPLING SHALL BE A METALLIC TO NON METALLIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
- PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



SEALING BUSHING DETAIL

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

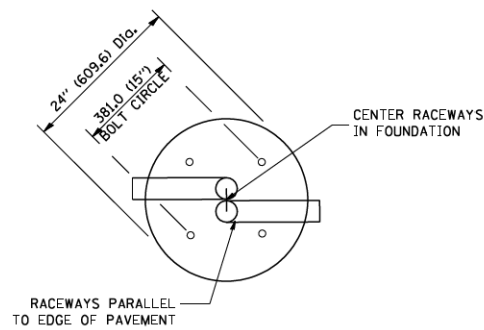
**ELECTRIC SERVICE INSTALLATION
 AERIAL, REMOTE DISCONNECT**

SCALE: NONE SHEET 2 OF 10 SHEETS STA. TO STA.

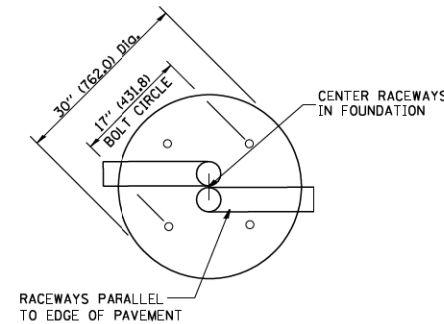
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	06-00329-01-PW	MCHENRY	1751	608
BE-220			CONTRACT NO. 61E53	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

LIGHT POLE FOUNDATION DEPTH TABLE
40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

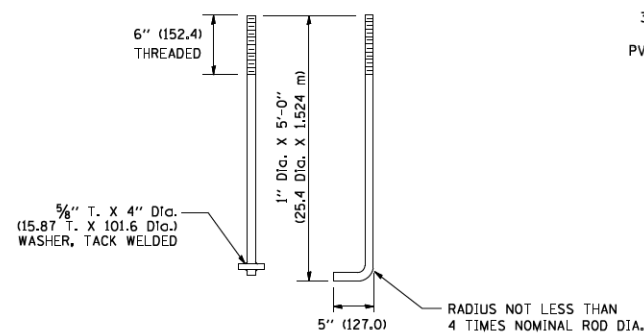
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION	
	SINGLE ARM POLE	TWIN ARM POLE
SOFT CLAY Ou = 0.375 TON/SO. FT.	13'-0" (3.96 m)	15'-0" (4.57 m)
MEDIUM CLAY Ou = 0.75 TON/SO.FT	9'-6" (2.93 m)	10'-9" (3.23 m)
STIFF CLAY Ou = 1.50 TON/SQ. FT.	7'-0" (2.13 m)	8'-0" (2.44 m)
LOOSE SAND φ = 34°	9'-0" (2.74 m)	10'-0" (3.05 m)
MEDIUM SAND φ = 37.5°	8'-3" (2.52 m)	9'-0" (2.74 m)
DENSE SAND φ = 40°	7'-9" (2.36 m)	7'-9" (2.36 m)



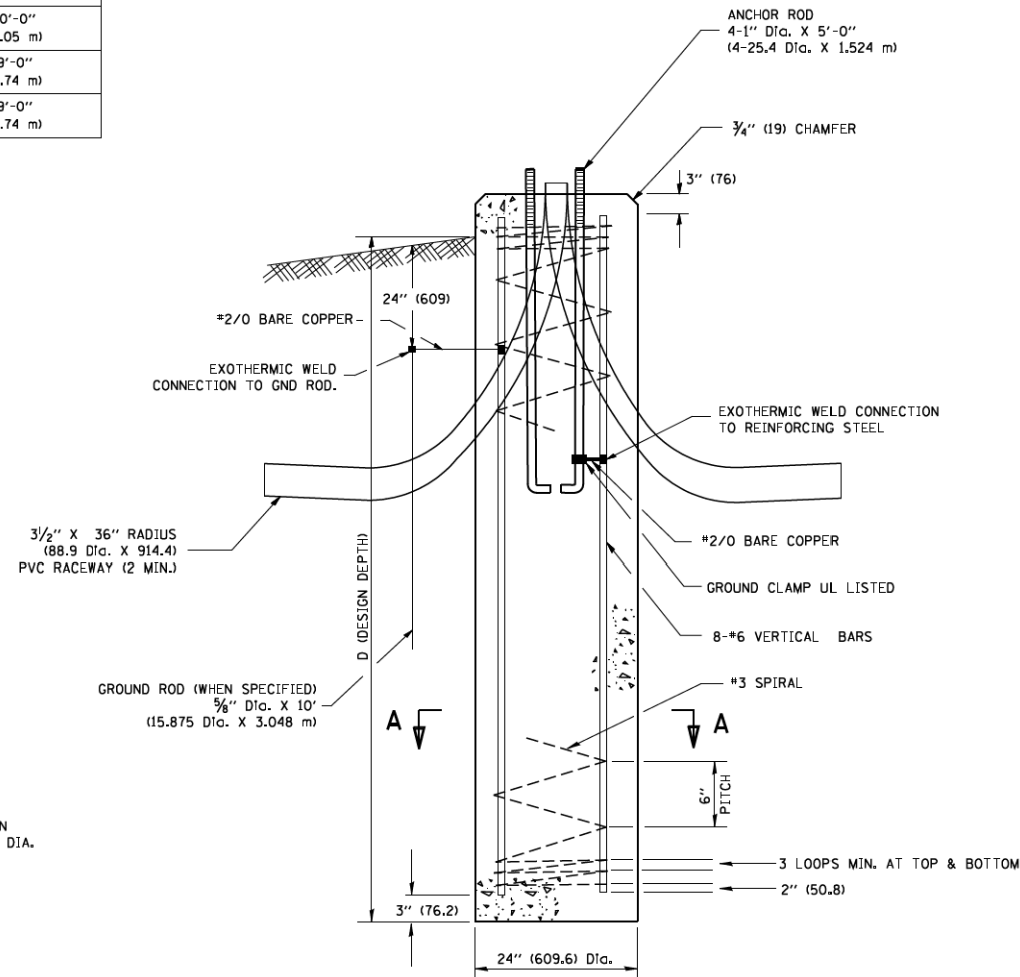
TOP VIEW



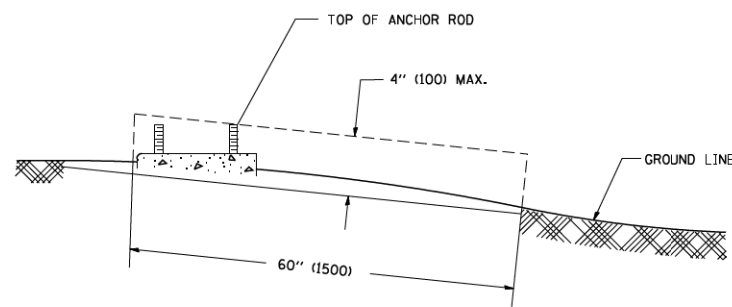
TOP VIEW



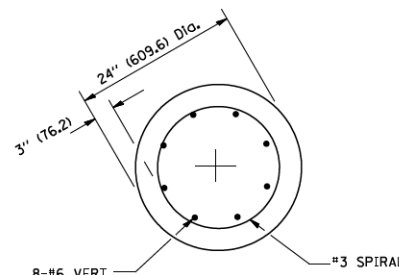
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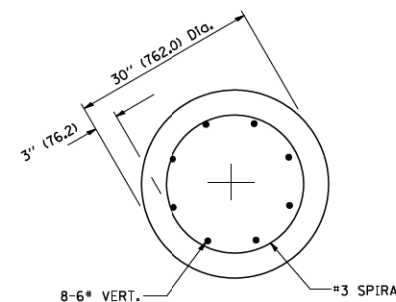
FOUNDATION DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



SECTION A-A

NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED.
- THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3/4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 D4, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- ANCHOR RODS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- THE CONTRACTOR SHALL USE A #3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE #3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

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 PLOT DATE = 1/4/2008

DESIGNED - TGL
 DRAWN - SPS
 CHECKED - SRF
 DATE -

REVISED - 04-22-02
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION
40' (12.192 m) TO 47 1/2' (14.478 m) M.H. 15" (381 mm) BOLT CIRCLE
 SCALE: NONE SHEET 3 OF 10 SHEETS STA. TO STA.

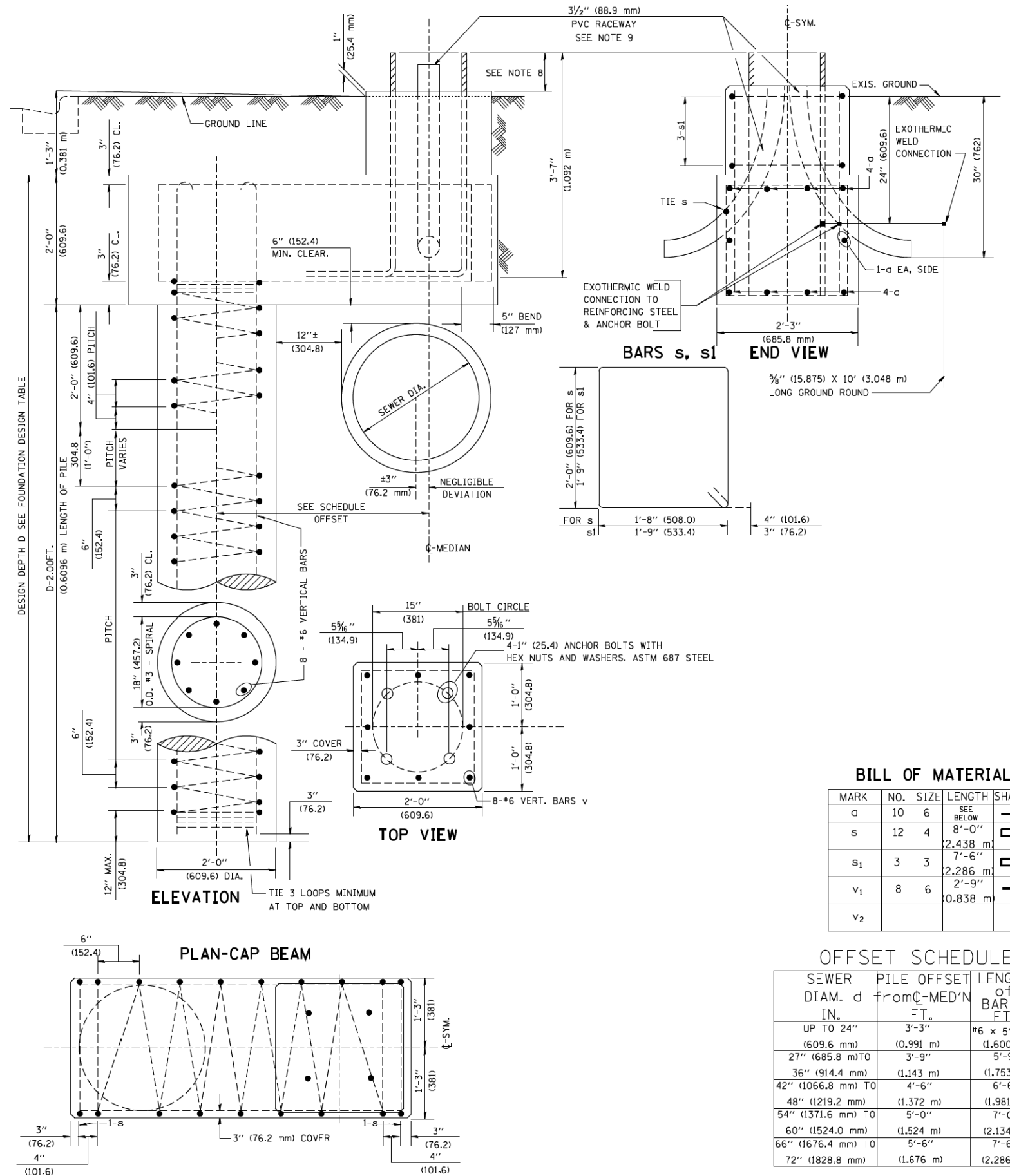
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	06-00329-01-PW	MCHENRY	1751	609
BE-301			CONTRACT NO. 61E53	
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				

FOUNDATION DESIGN TABLE

TYPE OF SOIL	DESIGN DEPTH OF FOUNDATION		REINFORCEMENT IN FOUNDATION			
	SINGLE ARM D	TWIN ARM D	SINGLE ARM		TWIN ARM	
			VERT BARS	SPIRAL	VERT BARS	SPIRAL
SOFT CLAY	13'-0" (3.962 m)	15'-0" (4.572 m)	8-#6X12'-6" (3.810 m)	#3X122' (37.186 m)	8-#6X14'-3" (4.343 m)	#3X141' (42.977 m)
MEDIUM CLAY	9'-6" (2.896 m)	10'-9" (3.277 m)	8-#6X9'-0" (2.743 m)	#3X90' (27.432 m)	8-#6X10'-0" (3.048 m)	#3X100' (30.480 m)
STIFF CLAY	7'-0" (2.134 m)	8'-0" (2.438 m)	8-#6X6'-6" (1.981 m)	#3X66' (20.112 m)	8-#6X7'-6" (2.286 m)	#3X76' (23.165 m)
LOOSE SAND	9'-0" (2.743 m)	10'-0" (3.048 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)	8-#6X9'-6" (2.896 m)	#3X94' (28.651 m)
MEDIUM SAND	8'-3" (2.515 m)	9'-0" (2.743 m)	8-#6X8'-0" (2.438 m)	#3X78' (23.774 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
DENSE SAND	7'-9" (2.362 m)	9'-0" (2.743 m)	8-#6X7'-6" (2.286 m)	#3X73' (22.250 m)	8-#6X8'-6" (2.591 m)	#3X85' (25.908 m)
ROCK OR SOLIDIFIED SLAG	5'-0" (1.524 m)	5'-0" (1.524 m)	NONE	NONE	NONE	NONE

NOTES

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
- EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24" (609.6 mm) OR 30" (762.0 mm) IN DIAMETER.
- THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
- THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2 3/4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENTION WITH ENGINEER.
- RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERCTED.



BILL OF MATERIAL

MARK	NO.	SIZE	LENGTH	SHAPE
a	10	6	SEE BELOW	—
s	12	4	8'-0" (2.438 m)	□
s ₁	3	3	7'-6" (2.286 m)	□
v ₁	8	6	0.838 m	—
v ₂				

OFFSET SCHEDULE

SEWER DIAM. d IN.	PILE OFFSET from C-MED'N = T _a	LENGTH of BAR a FT.
UP TO 24" (609.6 mm)	3'-3" (0.991 m)	#6 x 5'-3" (1.600 m)
27" (685.8 mm) TO	3'-9" (1.143 m)	5'-9" (1.753 m)
36" (914.4 mm) TO	4'-6" (1.372 m)	6'-6" (1.981 m)
42" (1066.8 mm) TO	5'-0" (1.524 m)	7'-0" (2.134 m)
48" (1219.2 mm) TO	5'-6" (1.676 m)	7'-6" (2.286 m)
54" (1371.6 mm) TO		
60" (1524.0 mm) TO		
66" (1676.4 mm) TO		
72" (1828.8 mm) TO		

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		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

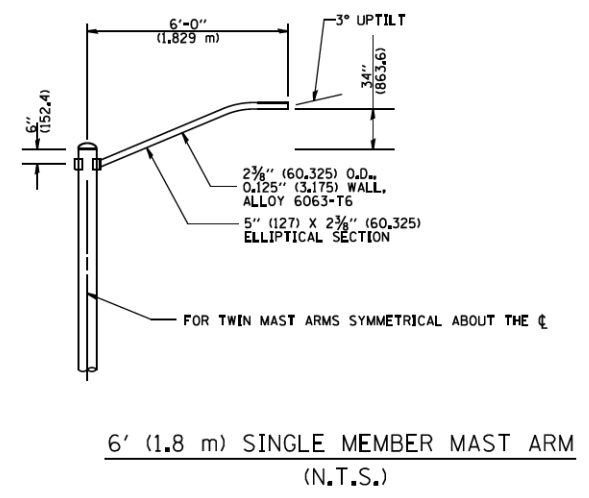
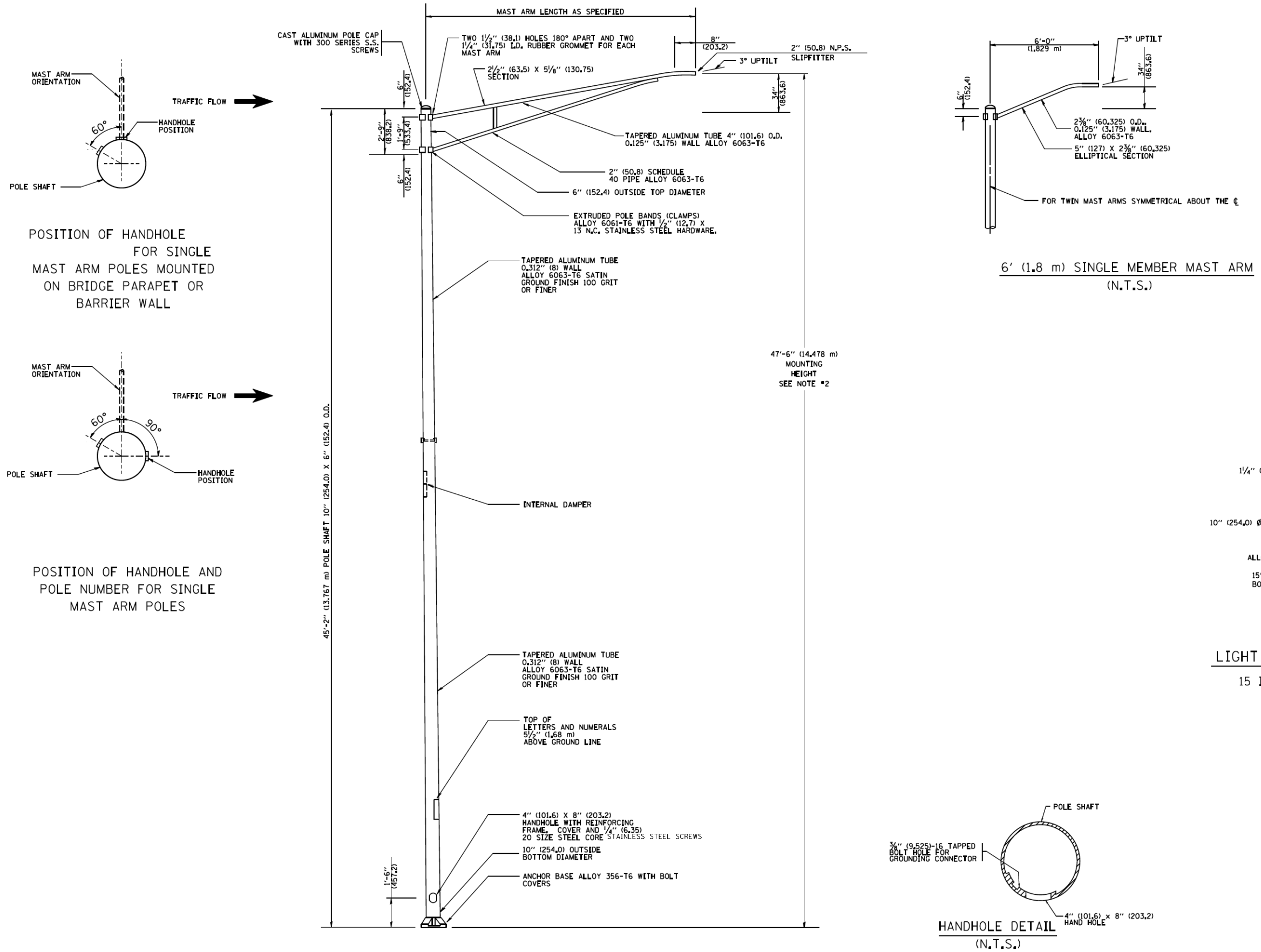
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION OFFSET
40" (12.192 m) TO 47 1/2" (14.478 m) M.H.
15" (381 mm) BOLT CIRCLE

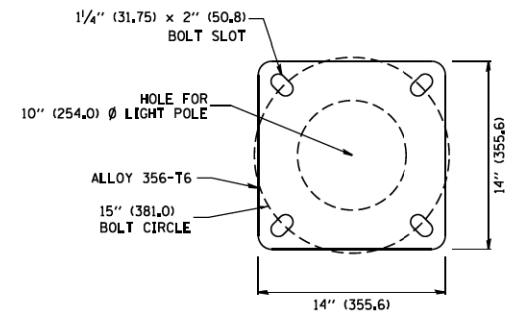
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	BE-310			CONTRACT NO. 61E53
		ILLINOIS	FED. AID PROJECT	

SCALE: SHEET 4 OF 10 SHEETS STA. TO STA.

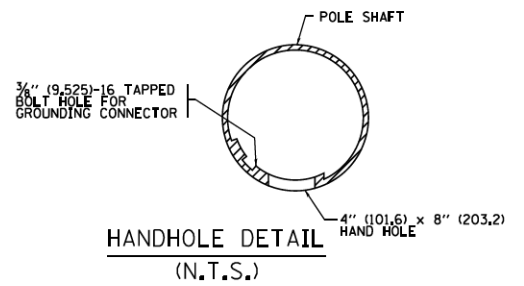
6/16/2008
K:\dststd22x34\be310.dgn
bauerdl



- NOTES:**
1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
 2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
 3. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
 4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
 5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR, BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
 6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
 7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.



LIGHT POLE BASE PLATE DETAIL
15 INCH (381.0) BOLT CIRCLE

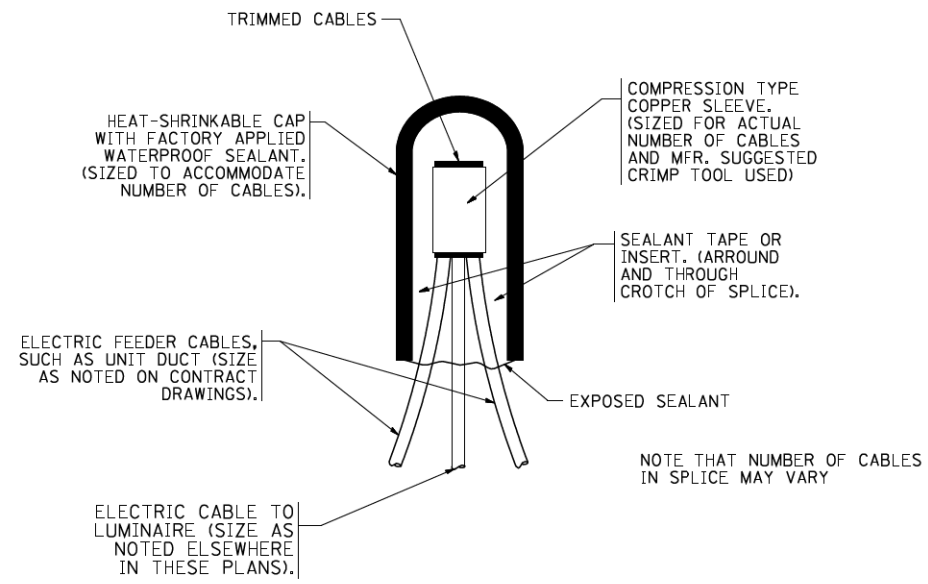


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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

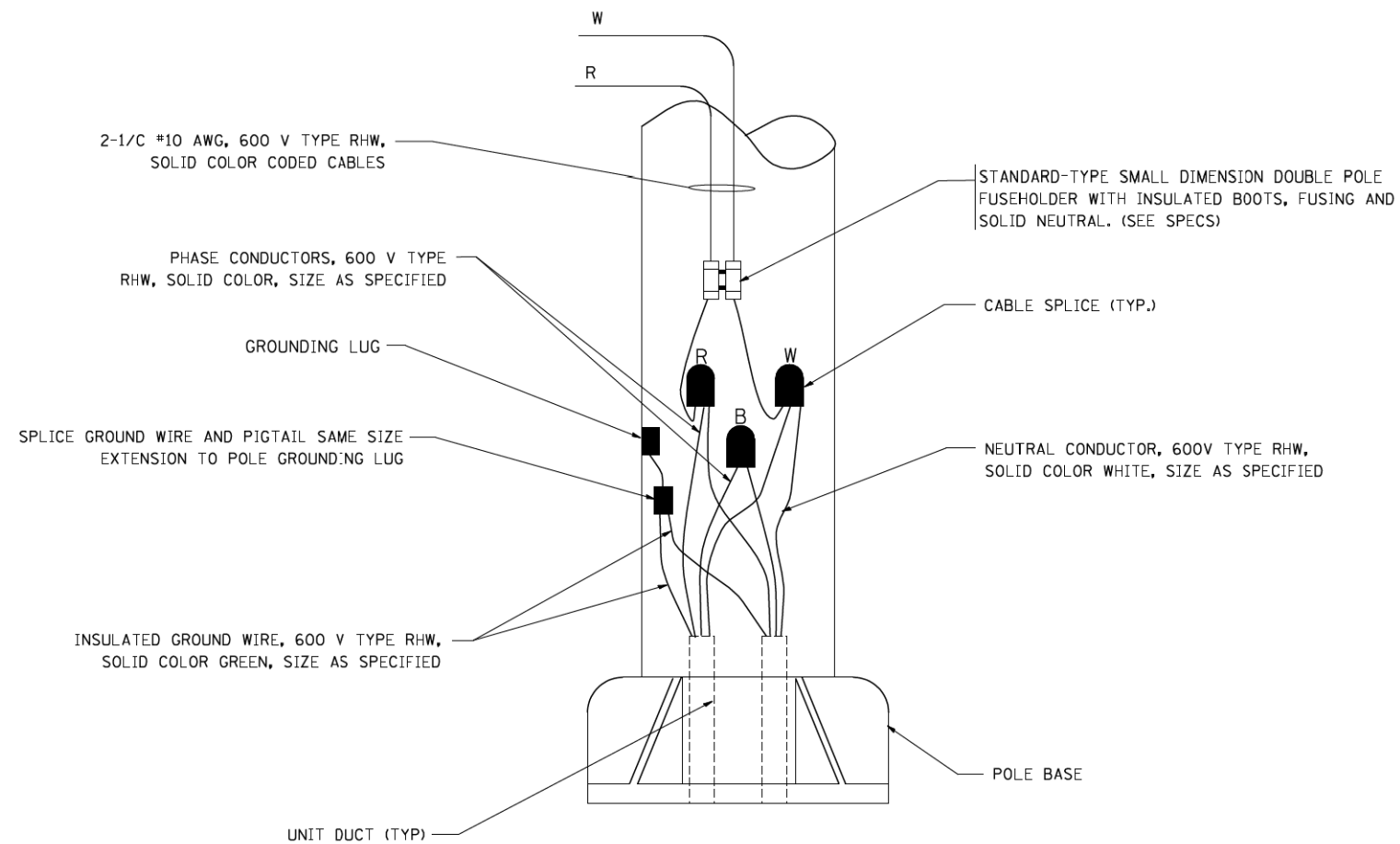
ALUMINUM LIGHT POLE			
47'-6" (14.478 m) MOUNTING HEIGHT			
SCALE: NONE	SHEET 5	OF 10 SHEETS	STA TO STA

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	611
CONTRACT NO.			61E53	
ILLINOIS FED. AID PROJECT				



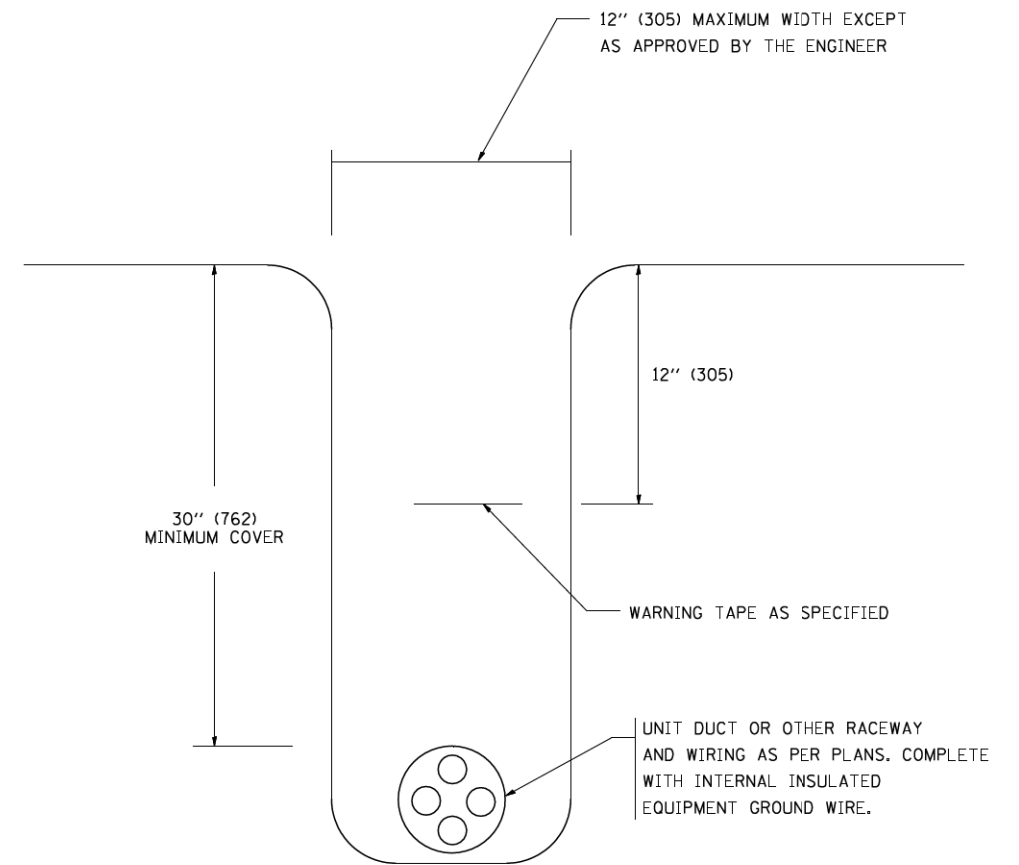
TYPICAL SPLICE DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.



TYPICAL WIRING IN TRENCH DETAIL

N.T.S.

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		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

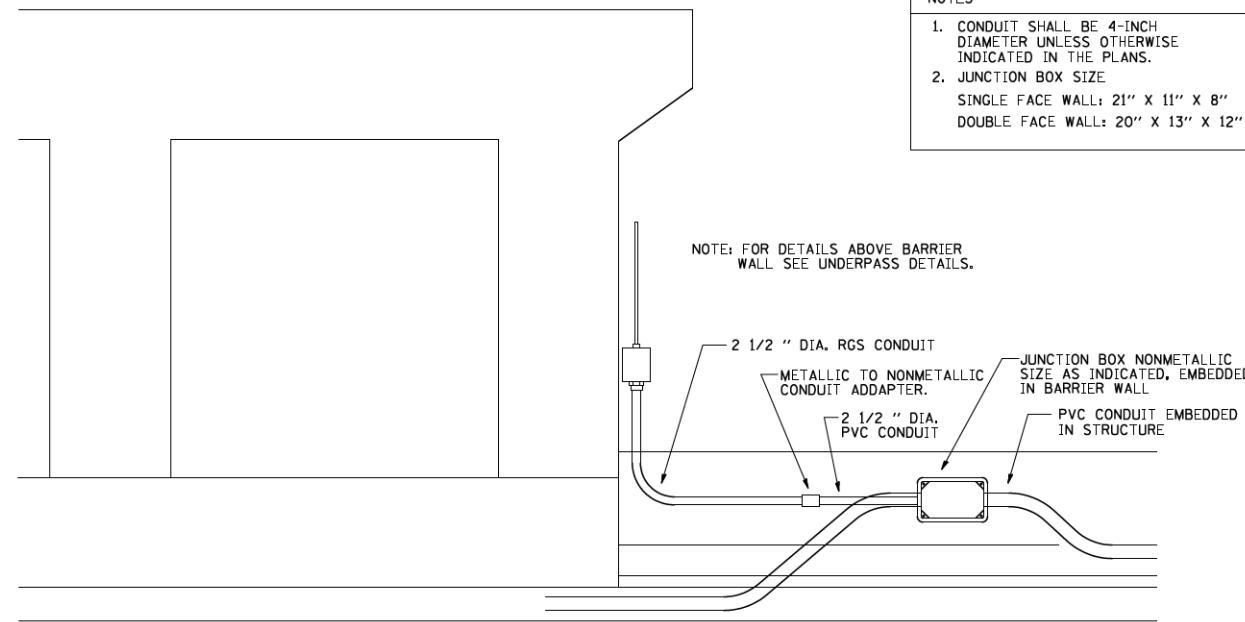
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PLOT DATE = 1/4/2008	DATE -	REVISED -

DESIGNED -	REVISED - 08-08-03
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

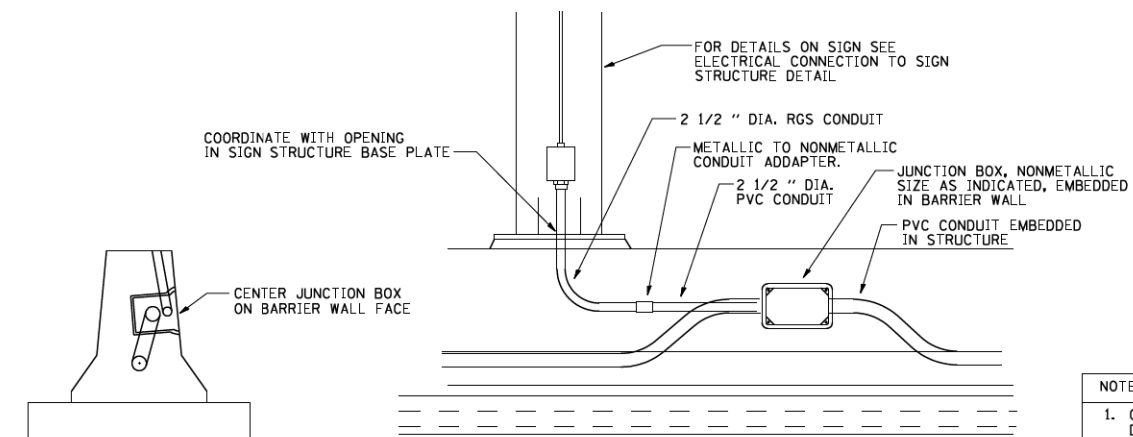
MISC. ELECTRICAL DETAILS SHEET A			
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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	06-00329-01-PW	MCHENRY	1751	612
BE-702			CONTRACT NO. 61E53	
FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT				



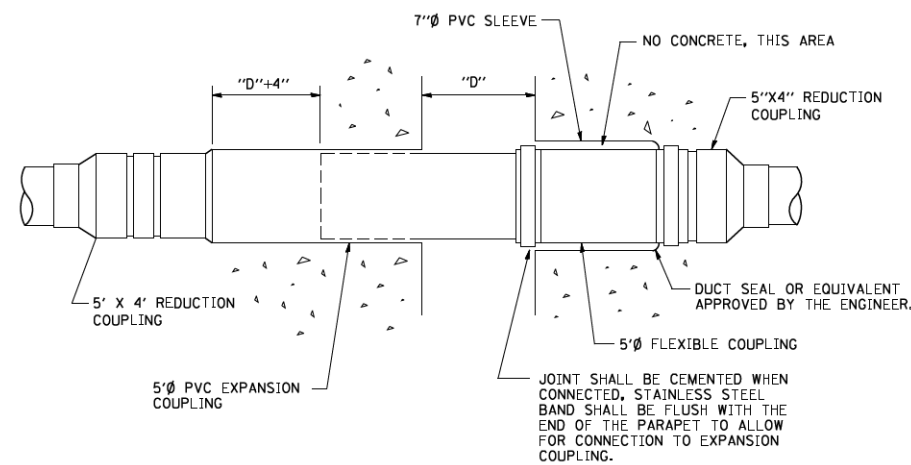
- NOTES
1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
 2. JUNCTION BOX SIZE
SINGLE FACE WALL: 21" X 11" X 8"
DOUBLE FACE WALL: 20" X 13" X 12"

ED - BWD
ELECTRIC CONNECTION TO UNDERPASS LIGHTING

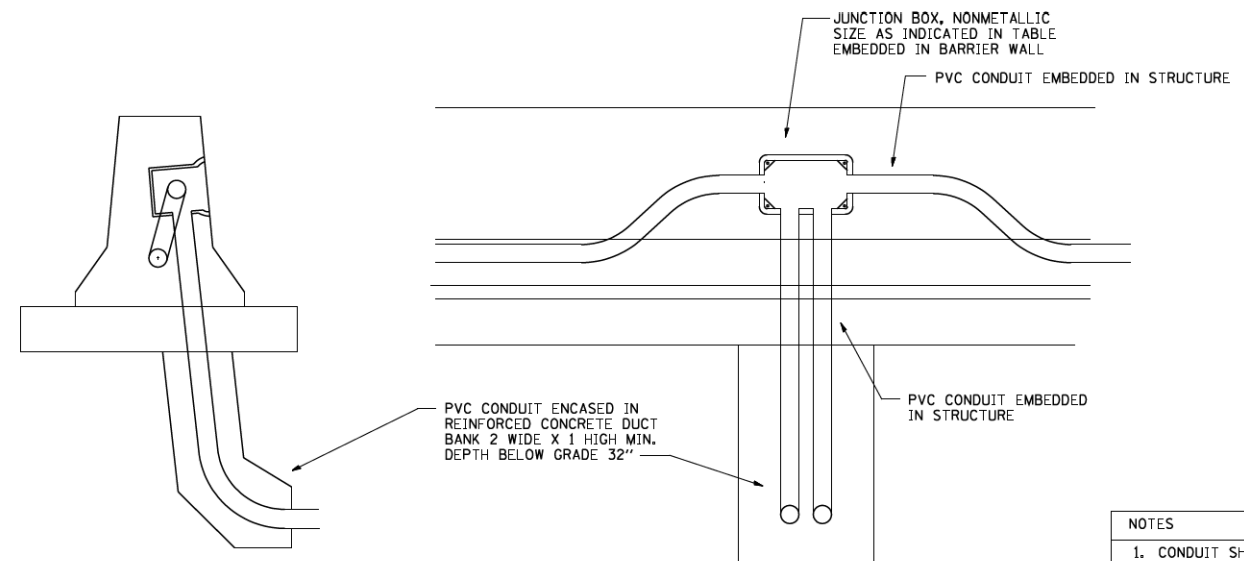


- NOTES
1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
 2. JUNCTION BOX SIZE
SINGLE FACE WALL: 21" X 11" X 8"
DOUBLE FACE WALL: 20" X 13" X 12"

ED - SGN
JUNCTION BOX EMBEDDED IN BARRIER WALL FOR SIGN LIGHTING



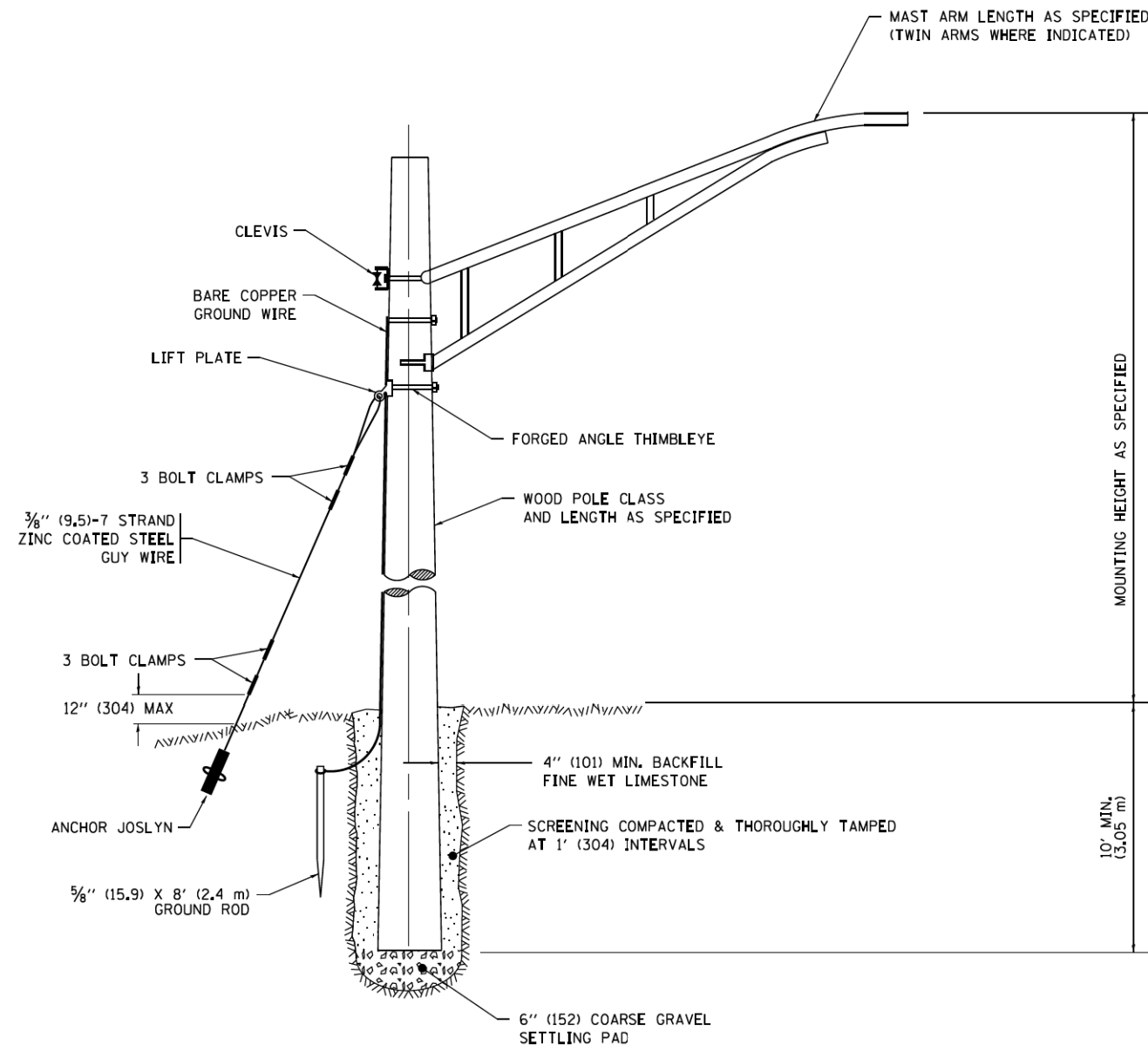
INSTALLATION OF CONDUIT
IN BRIDGE PARAPET EXPANSION JOINT
(N.T.S.)



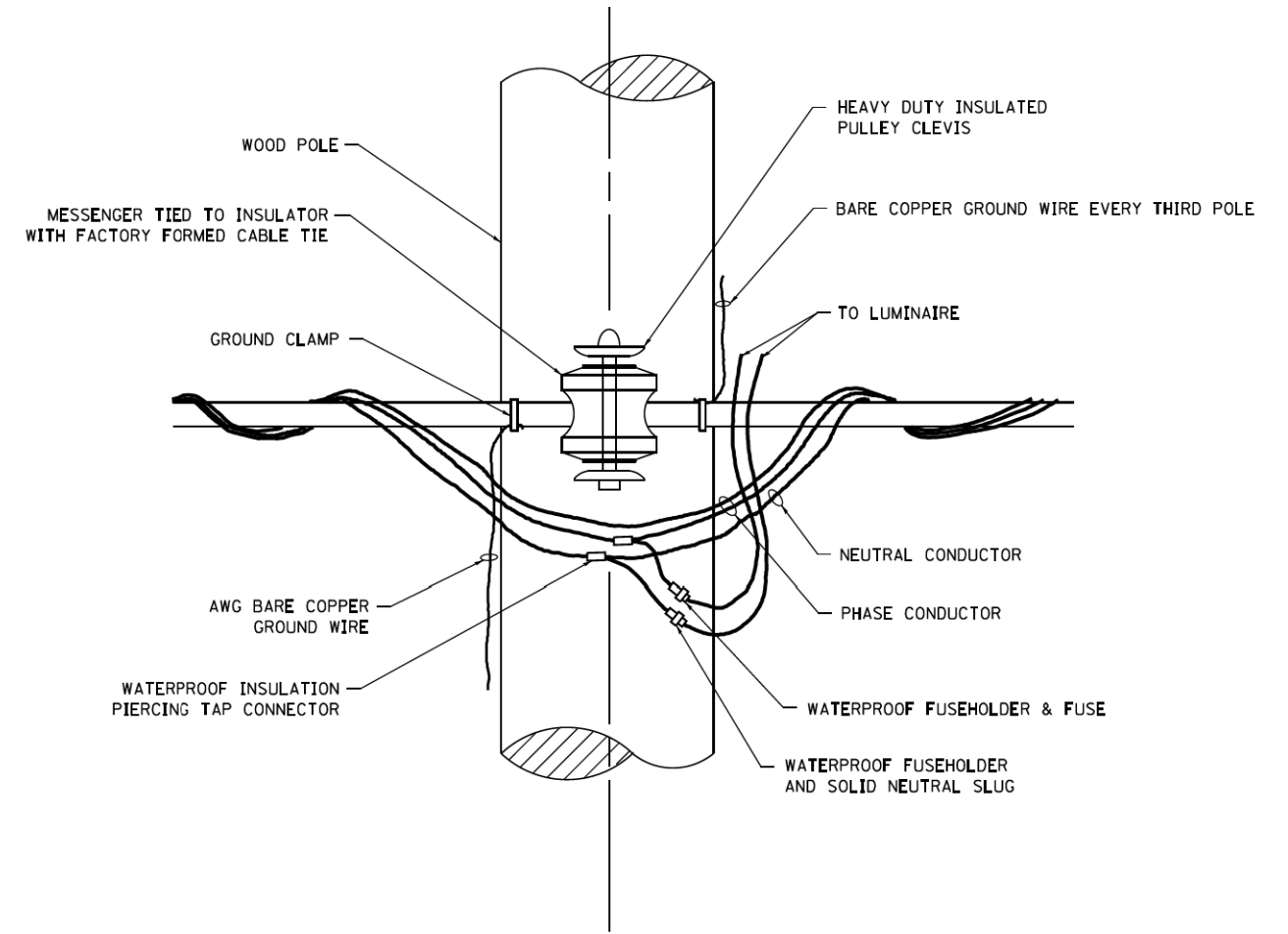
- NOTES
1. CONDUIT SHALL BE 4-INCH DIAMETER UNLESS OTHERWISE INDICATED IN THE PLANS.
 2. JUNCTION BOX SIZE
SINGLE FACE WALL: 21" X 11" X 8"
DOUBLE FACE WALL: 20" X 13" X 12"

ED - BW
JUNCTION BOX EMBEDDED IN BARRIER WALL

FILE NAME = be703.dgn	USER NAME = geglianob	DESIGNED - DRAWN -	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	MISCELLANEOUS ELECTRICAL DETAILS, SHEET B J BOX EMBEDDED IN BARRIER WALL - INSTALLATION OF CONDUIT IN BRIDGE PARAPET EXPANSION JOINT - ELECTRIC CONNECTION TO UNDERPASS LIGHTING			F.A. RTE.	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 613
	PLOT SCALE = 50.0000 / IN.	CHECKED -	REVISED -		SCALE: NONE	SHEET 7	OF 10 SHEETS	STA.	TO STA.	BE-703		CONTRACT NO. 61E53
	PLOT DATE = 2/5/2009	DATE - 01-20-2009	REVISED -		FED. ROAD DIST. NO. 1 (ILLINOIS) FED. AID PROJECT							



TEMPORARY LIGHT POLE DETAIL

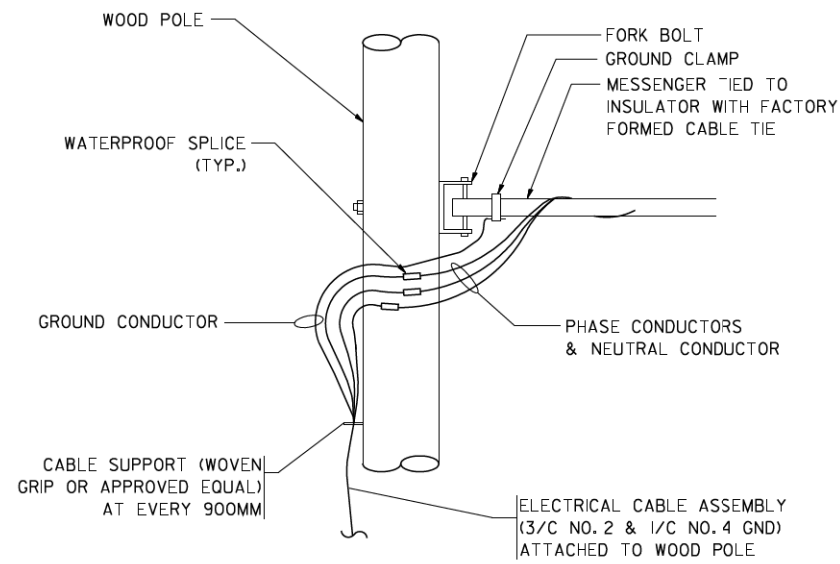


TEMPORARY LIGHT POLE ATTACHMENT DETAIL

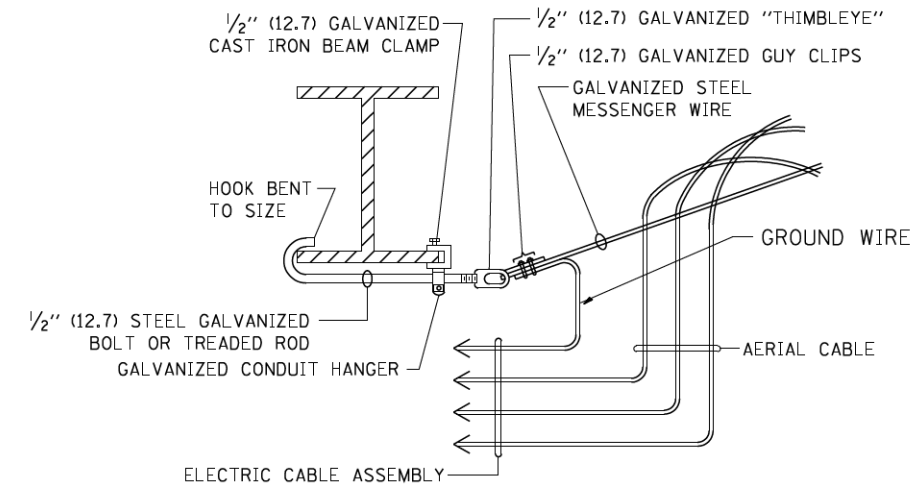
NOTE:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
2. MAST ARM SHALL BE RATED FOR THE SPECIFIED MOUNTING HEIGHT.

FILE NAME =	USER NAME = foatemj	DESIGNED -	REVISED - 08-08-03	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY LIGHT POLE DETAILS		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
pw\11084E8D\INTEG\11nois.gov\PIDOT\Documents\IDOT Offices\District 1\Projects\Dist 1\Projects\CAD\Drawings\CADsheets\be800.dgn	DRAWN	REVISION	REVISION - R.T. 07-26-16				06-00329-01-PW	MCHENRY	1751	614	
Default	PLOT SCALE = 50.000' / 1" =	CHECKED -	REVISION -		BE-800		CONTRACT NO. 61E53				
	PLOT DATE = 9/1/2016	DATE -	REVISION -		SCALE: NONE	SHEET 8 OF 10 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		



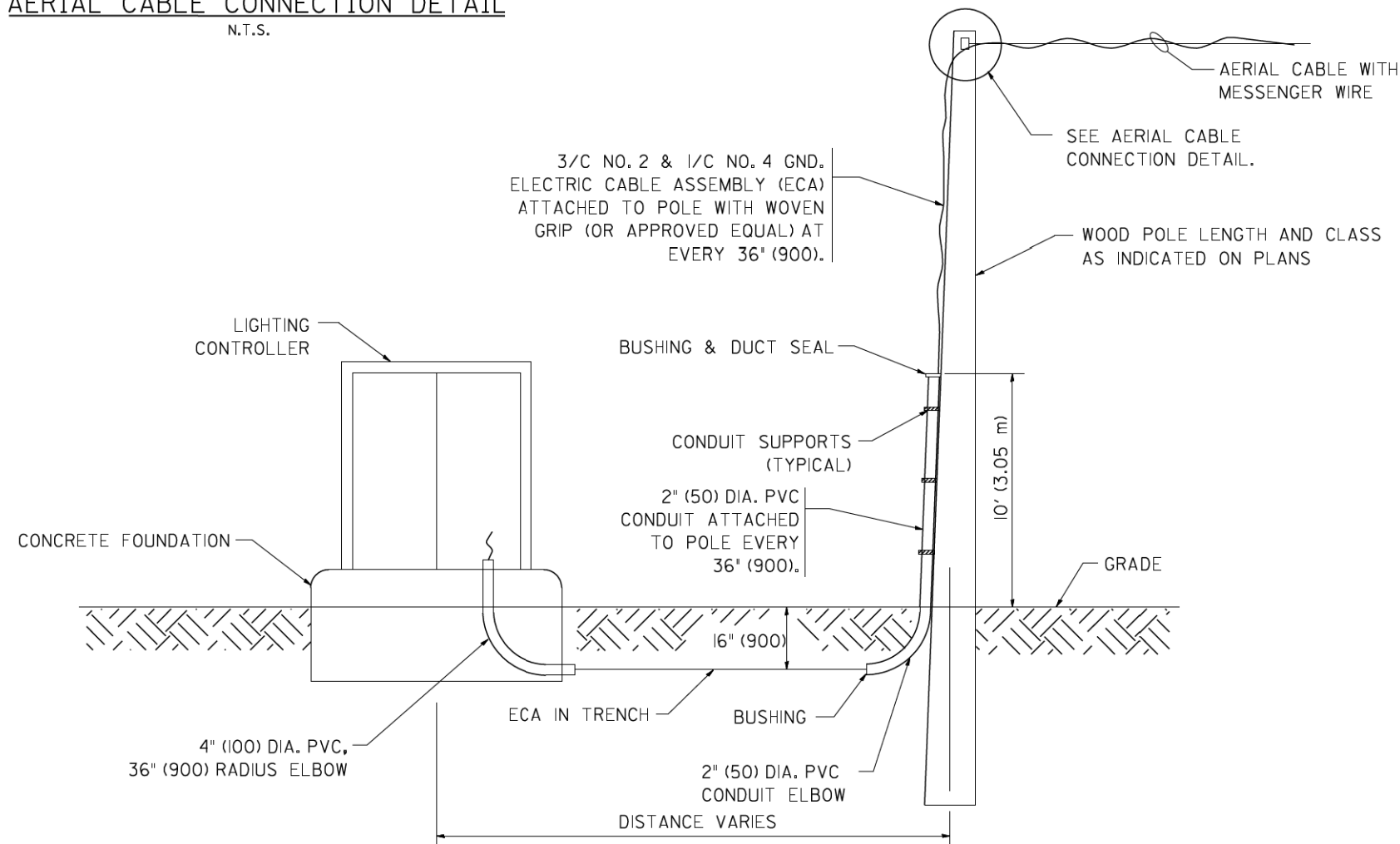
AERIAL CABLE CONNECTION DETAIL
N.T.S.



AERIAL CABLE ATTACHED TO STRUCTURE
NOT TO SCALE

NOTES:

1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.



WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL
N.T.S.

FILE NAME =
W:\diststd\22x34\be801.dgn

USER NAME = geglianobt
PLOT SCALE = 50.000' / IN.
PLOT DATE = 1/4/2008

DESIGNED -
DRAWN -
CHECKED -
DATE -

REVISED - 08-08-03
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

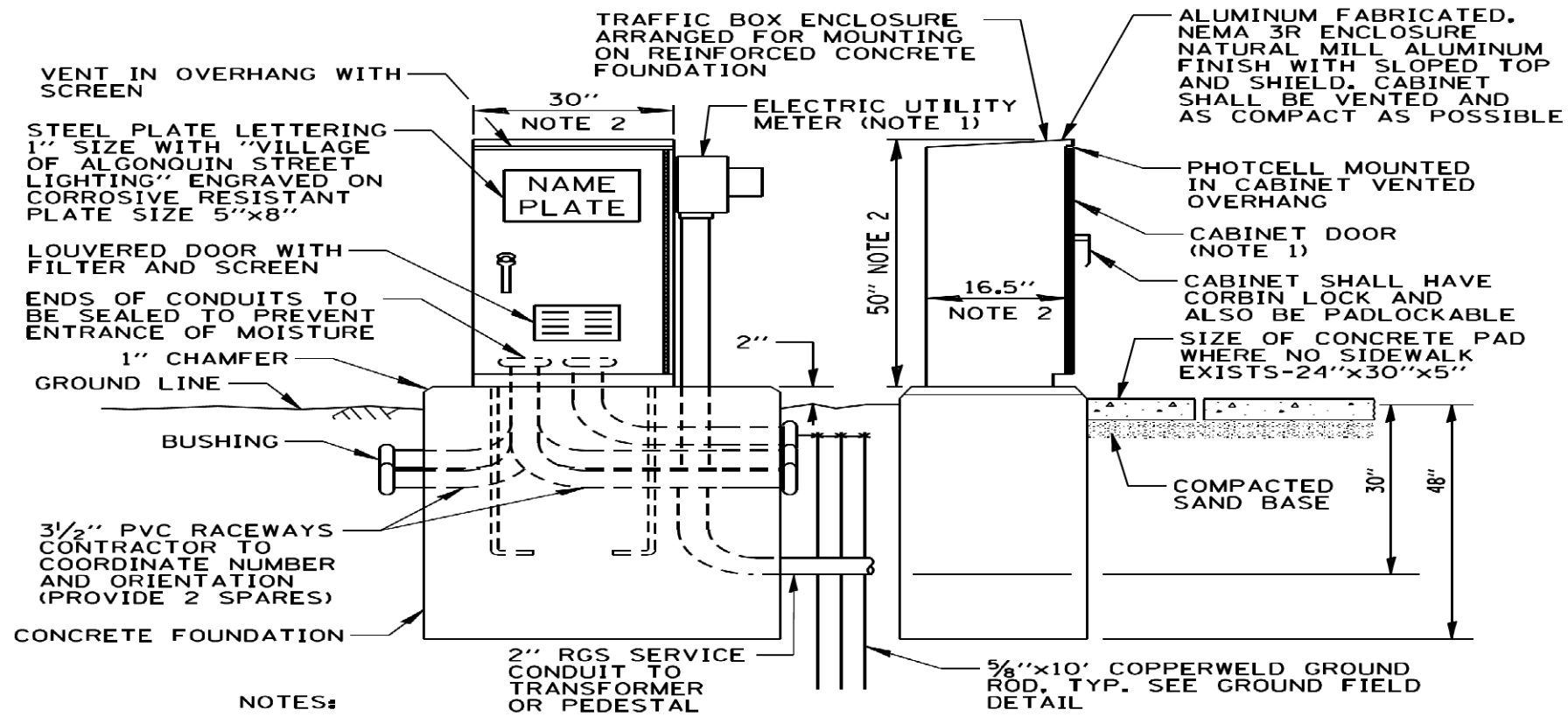
TEMPORARY AERIAL CABLE INSTALLATION

SCALE: NONE SHEET 9 OF 10 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	06-00329-01-PW	MCHENRY	1751	615
BE-801			CONTRACT NO. 61E53	
<small>FED. ROAD DIST. NO. 1 [ILLINOIS] FED. AID PROJECT</small>				



VILLAGE OF ALGONQUIN
 PUBLIC WORKS DEPARTMENT
 110 MEYER DRIVE
 ALGONQUIN, IL 60102-2442
 PH: 847-658-2754
 FX: 847-658-2759
 WWW.ALGONQUIN.ORG



NOTES:

1. SEE DETAIL FOR CABINET METER FITTING & DOOR ORIENTATION.
2. CABINET DIMENSIONS SHOWN ARE APPROXIMATE. CABINET SHALL BE AS COMPACT AS POSSIBLE. CONTRACTOR TO COORDINATE.

STANDARD DETAIL	
LIGHTING CONTROLLER CABINET & FOUNDATION	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



USER NAME = mrc1ss	DESIGNED - WBL	REVISED -
FILENAME = D:\NNNNN-sht-LT-VOA.dgn	DRAWN - MKW	REVISED -
PLOT SCALE = 1" = 1'	CHECKED - RCB	REVISED -
PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**VILLAGE OF ALGONQUIN
 LIGHTING DETAILS**

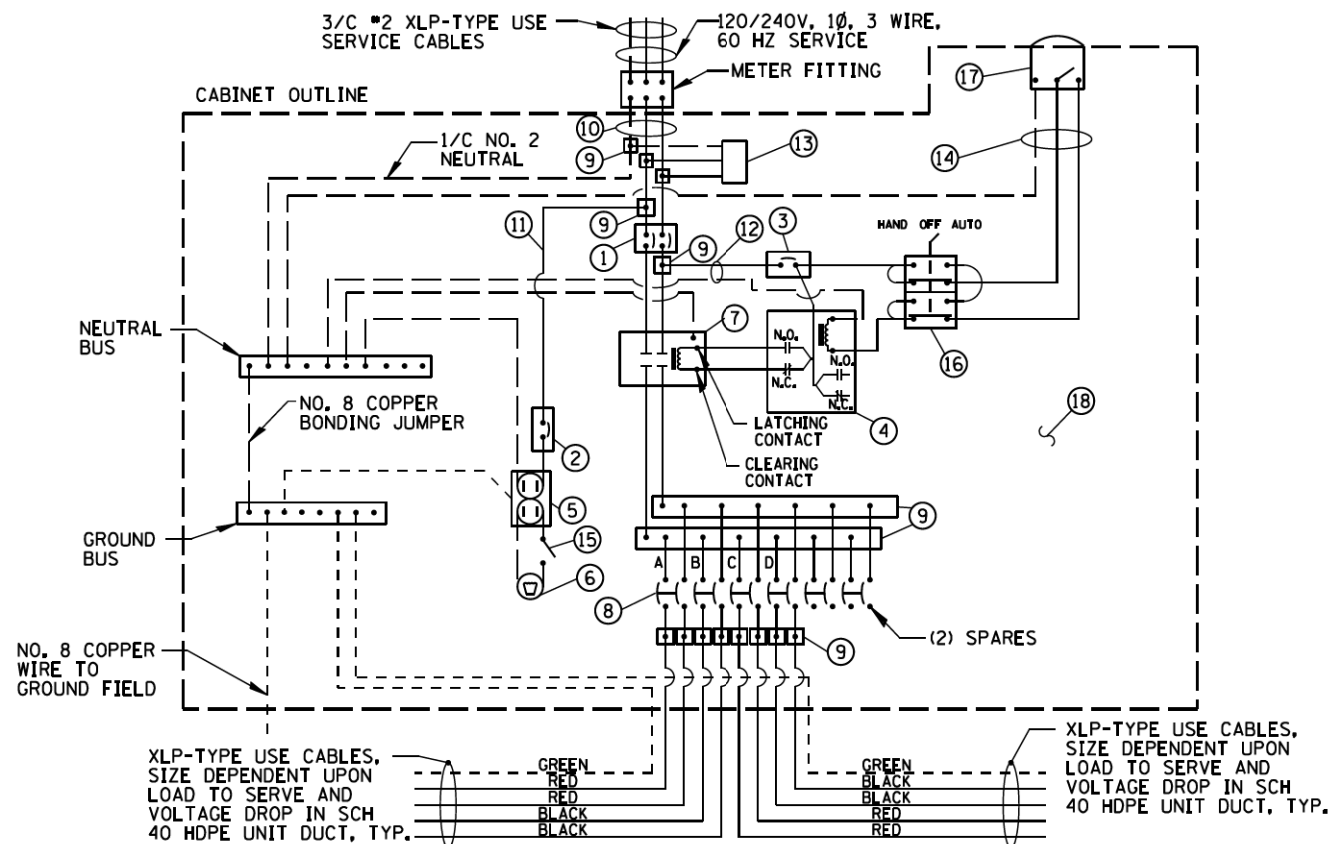
SCALE: NONE SHEET 1 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	616
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



VILLAGE OF ALGONQUIN
PUBLIC WORKS DEPARTMENT
110 MEYER DRIVE
ALGONQUIN, IL 60102-2442
PH: 847-658-2754
FX: 847-658-2759
WWW.ALGONQUIN.ORG

——— PHASE CONDUCTOR
- - - - - NEUTRAL CONDUCTOR
- - - - - GROUND CONDUCTOR



VILLAGE OF ALGONQUIN
PUBLIC WORKS DEPARTMENT
110 MEYER DRIVE
ALGONQUIN, IL 60102-2442
PH: 847-658-2754
FX: 847-658-2759
WWW.ALGONQUIN.ORG

ITEM	SPECIFICATION	MFG./MODEL NO. OR APPROVED EQUAL
① MAIN CIRCUIT BREAKER	100 AMPERE, 2P, 240V SERVICE RATING, 10KAIC	SQUARE D NO. HDL26100
② LAMPHOLDER CIRCUIT BREAKER	20 AMPERE, 1P, 120V RATING, 10KAIC	SIEMENS NO. ED21B020
③ PHOTOELECTRIC CONTROL CIRCUIT BREAKER	15 AMPERE, 1P, 120V RATING, 10KAIC	SIEMENS NO. ED21B015
④ AUXILIARY RELAY	120 V OPERATED DPDT 60 HZ COIL 2 NO & 2 NC CONTACTS	MAGNECRAFT NO. 389 FXBXC1 - 120A
⑤ CABINET RECEPTACLE AND BOX	COMMERCIAL GRADE GFCI 20A/120V, MOUNTED IN A WEATHERPROOF CAST ALUMINUM SINGLE GANG BOX WITH WEATHERPROOF COVER	RECEPTACLE: LEVITON NO. 8899, BOX: APPLETON NO. WSM150 COVER: APPLETON NO. WHG1
⑥ CABINET LIGHT AND BOX	120V WEATHERPROOF LAMPHOLDER MOUNTED IN A CAST ALUMINUM BOX & EXT. GRADE 100W LAMP	LIGHT & BOX: PENTAIR NO. LEDA1S35
⑦ CONTACTOR	100 AMPERE, 2 POLE, 120 V COIL, MECH HELD	SQUARE D NO. 8903 SQO 10 V02
⑧ BRANCH LINE CIRCUIT BREAKERS	6 - 20 AMPERE, 2P, 240V RATING, 10KAIC	SIEMENS NO. ED22B020
⑨ POWER DISTRIBUTION BLOCK	600 VOLT, INSULATED, SIZE AS REQUIRED	MARATHON
⑩ SERVICE CABLES	3-600V (XLP-TYPE USE) NO. 2	N/A
⑪ LAMPHOLDER WIRE	2-600V XLP NO. 12	N/A
⑫ CONTROL WIRE	2-600V XLP NO. 12	N/A
⑬ SURGE ARRESTOR	10 K AMPERE RATING	SQUARE D NO. SDSA 3650
⑭ PHOTOELECTRIC CONTROL WIRE	3-600V XLP NO. 12	N/A
⑮ DOOR SWITCH	20A/120V, DOOR MOUNTED SNAP ACTION TYPE PLUNGER SWITCH	OMRON NO. A-20GQ-K
⑯ HAND-AUTO-OFF CONTROL SWITCH	20A, 3 POS. MTD IN CAST ALUM. ENCLOSURE	SQUARE D NO. 9001 KYK 111
⑰ PHOTOCCELL	120V, MTD. ON CABINET, DELAY TYPE, SPST-NC	FISHER PIERCE NO. FPFA-105
⑱ BACK PANEL	? THICK SOLID PHENOLIC LAMINATE	ARBORON

NOTES:

- THE LIGHTING CONTROLLER TOGETHER WITH ALL OF ITS COMPONENTS SHALL BE UL LISTED AS AN "ENCLOSED INDUSTRIAL CONTROL PANEL" UNDER UL508A.
- THE MAIN CIRCUIT BREAKER SHALL BE LABELED "SERVICE DISCONNECT".
- ALL SWITCHES AND CONTROLS SHALL BE IDENTIFIED USING TWO COLOR ENGRAVED NAMEPLATES.
- THE PANEL MANUFACTURER SHALL LABEL THE CABINET WITH THE APPROPRIATE ARC FLASH WARNING AND PERSONNEL PROTECTION EQUIPMENT REQUIRED FOR SERVICING.
- ALL EXPOSED BUS BARS SHALL BE INSULATED.
- ALL WIRING SHALL BE COPPER.
- CONNECTION OF SURGE ARRESTOR TO LINE SIDE OF MAIN CIRCUIT BREAKER SHALL NOT BE "DOUBLE LUGGED".

LIGHTING CONTROLLER COMPONENT SCHEDULE

STANDARD DETAIL	
LIGHTING CONTROLLER COMPONENT SCHEDULE	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 02/02/2018



STANDARD DETAIL	
LIGHTING CONTROLLER WIRING DIAGRAM	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015

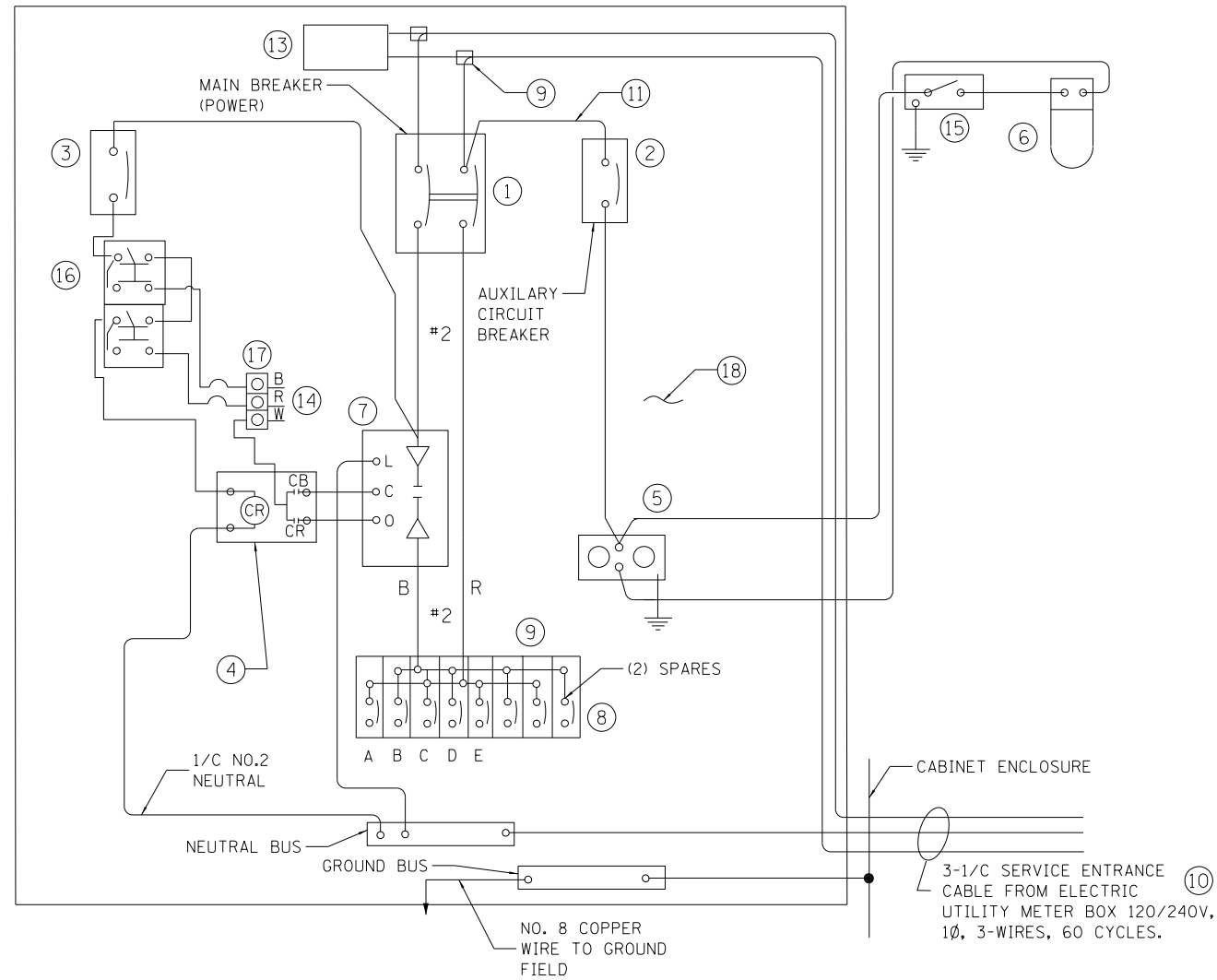
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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VILLAGE OF ALGONQUIN
LIGHTING DETAILS

SCALE: NONE SHEET 2 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	617
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



UNDERPASS LIGHTING CONTROLLER PANEL WIRING DIAGRAM

PANEL EQUIPMENT		
ITEM	SPECIFICATION	MFG./MODEL NO. OR APPROVED EQUAL
① MAIN CIRCUIT BREAKER	100 AMPERE, 2P, 240V SERVICE RATING, 10KAIC	SQUARE D NO. HDL26100
② LAMPHOLDER CIRCUIT BREAKER	20 AMPERE, 1P, 120V RATING, 10KAIC	SIEMENS NO. ED21B020
③ PHOTOELECTRIC CONTROL CIRCUIT BREAKER	15 AMPERE, 1P, 120V RATING, 10KAIC	SIEMENS NO. ED21B015
④ AUXILIARY RELAY	120V OPERATED DPDT 60 HZ COIL 2 NO & 2 NC CONTACTS	MAGNECRAFT NO. 389 FXBXC1-120A
⑤ CABINET RECEPTACLE AND BOX	COMMERCIAL GRADE GFCI 20A/120V, MOUNTED IN A WEATHERPROOF CAST ALUMINUM SINGLE GANG BOX WITH WEATHERPROOF COVER	RECEPTACLE: LEVITON NO. 8899, BOX: APPLETON NO. WSM150 COVER: APPLETON NO. WHG1
⑥ CABINET LIGHT AND BOX	120V WEATHERPROOF LAMPHOLDER MOUNTED IN A CAST ALUMINUM BOX & EXT. GRADE 100W LAMP	LIGHT & BOX: PENTAIR NO. LEDA1S35
⑦ CONTACTOR	100 AMPERE, 2 POLE, 120V COIL, MECH HELD	SQUARE D NO. 8903 SQO 10 V02
⑧ BRANCH LINE CIRCUIT BREAKERS	6 - 20 AMPERE, 2P, 120V RATING, 10KAIC	SIEMENS NO. ED22B020
⑨ POWER DISTRIBUTION BLOCK	600 VOLT, INSULATED, SIZE AS REQUIRED	MARATHON
⑩ SERVICE CABLES	3-600V (XLP-TYPE USE) NO. 2	N/A
⑪ LAMPHOLDER WIRE	2-600V XLP NO. 12	N/A
⑫ CONTROL WIRE	2-600V XLP NO. 12	N/A
⑬ SURGE ARRESTOR	10 K AMPERE RATING	SQUARE D NO. SDSA 3650
⑭ PHOTOELECTRIC CONTROL WIRE	3-600V XLP NO. 12	N/A
⑮ DOOR SWITCH	20A/120V, DOOR MOUNTED SNAP ACTION TYPE PLUNGER SWITCH	OMRON NO. A-20GQ-K
⑯ HAND-AUTO-OFF CONTROL SWITCH	20A, 3 POS. MTD IN CAST ALUM. ENCLOSURE	SQUARE D NO. 9001 KYK 111
⑰ PHOTOCCELL	120V, MTD. ON CABINET, DELAY TYPE, SPST-NC	FISHER PIERCE NO. FPFA-105
⑱ BACK PANEL	1/2" THICK SOLID PHENOLIC LAMINATE	ARBORON

UNDERPASS LIGHTING CONTROLLER PANEL EQUIPMENT



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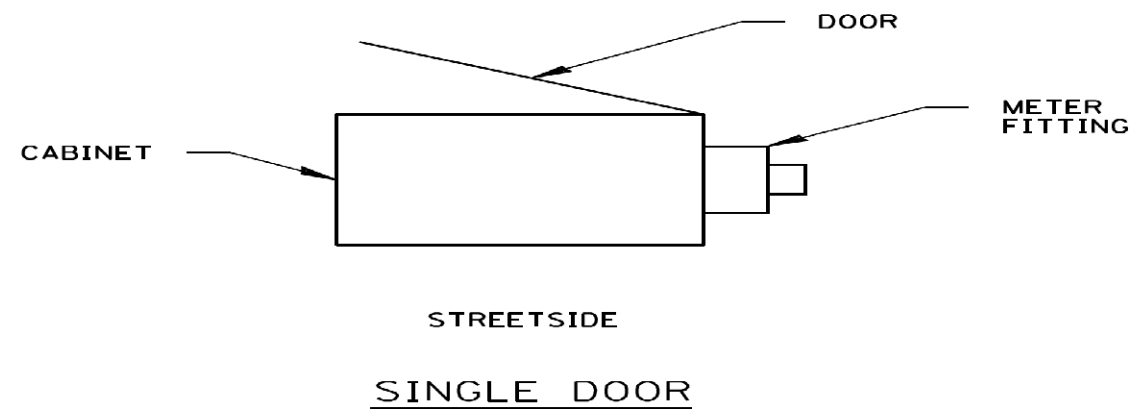
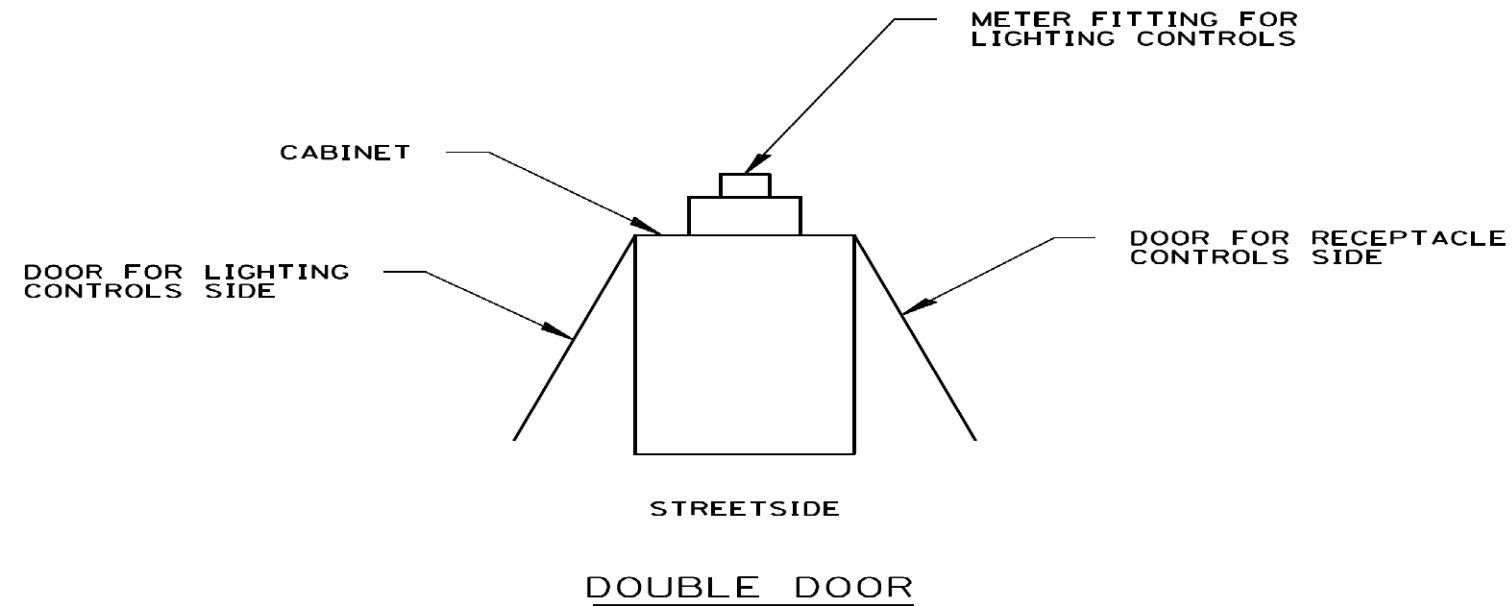
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

VILLAGE OF ALGONQUIN
LIGHTING DETAILS
SCALE: NONE SHEET 3 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	618
CONTRACT NO.			61E53	
ILLINOIS FED. AID PROJECT				



VILLAGE OF ALGONQUIN
 PUBLIC WORKS DEPARTMENT
 110 MEYER DRIVE
 ALGONQUIN, IL 60102-2442
 PH: 847-658-2754
 FX: 847-658-2759
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STANDARD DETAIL	
CABINET ORIENTATION	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

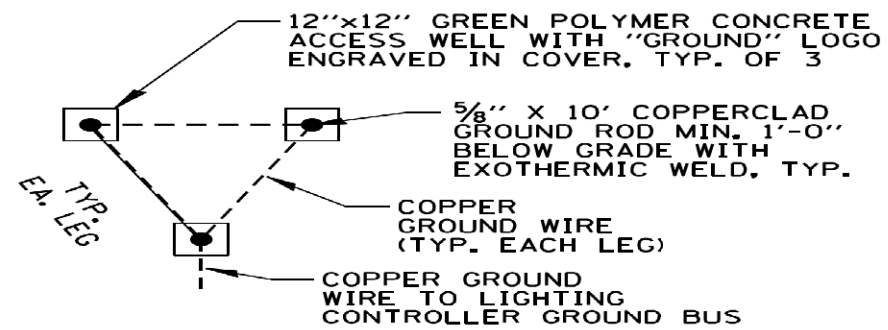
**VILLAGE OF ALGONQUIN
 LIGHTING DETAILS**

SCALE: NONE SHEET 4 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	619
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



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STANDARD DETAIL	
GROUND FIELD DETAIL	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

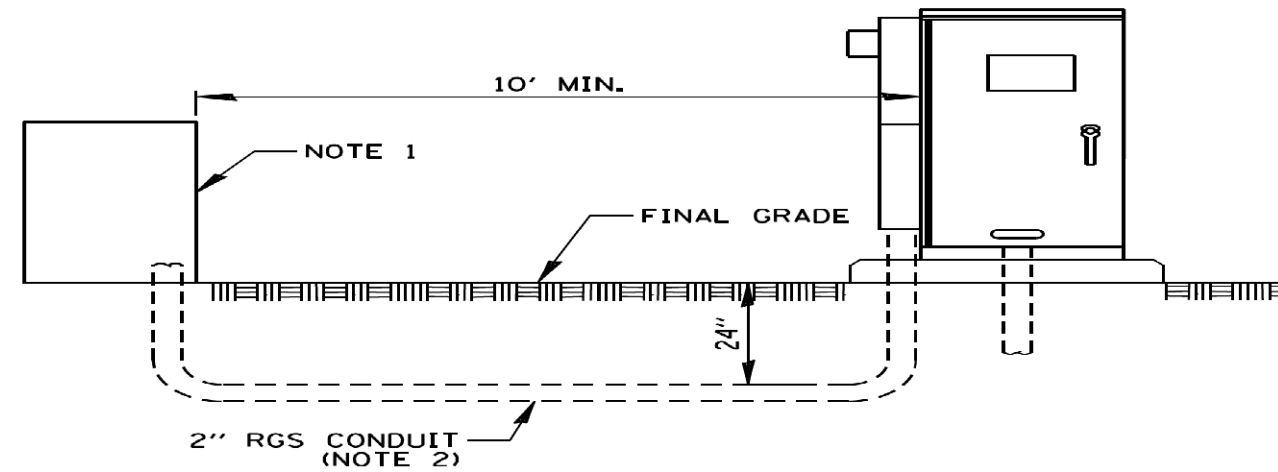
**VILLAGE OF ALGONQUIN
 LIGHTING DETAILS**

SCALE: NONE SHEET 5 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	620
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



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NOTES:

1. ELECTRIC SERVICE PEDESTAL OR TRANSFORMER LOCATED IN EASEMENT. COM ED WILL PROVIDE CONNECTORS FOR CABLES AND CONNECT CABLES WITHIN THE COM ED ENCLOSURE. COM ED WILL IDENTIFY CUSTOMER'S STREET LIGHT CABLE.
2. WIRE SIZE TO MATCH WIRE SIZE CALLED OUT IN LIGHTING CONTROLLER WIRING DIAGRAM.

STANDARD DETAIL	
UNDERGROUND SERVICE INSTALLATION	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

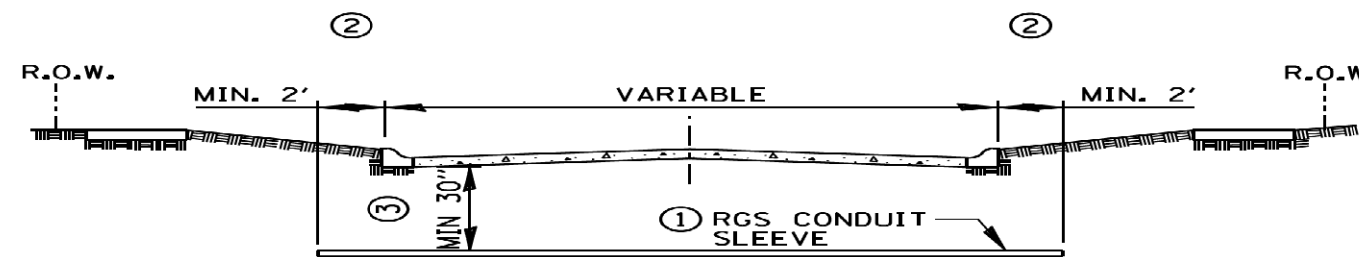
**VILLAGE OF ALGONQUIN
 LIGHTING DETAILS**

SCALE: NONE SHEET 6 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO.			61E53	
ILLINOIS FED. AID PROJECT				

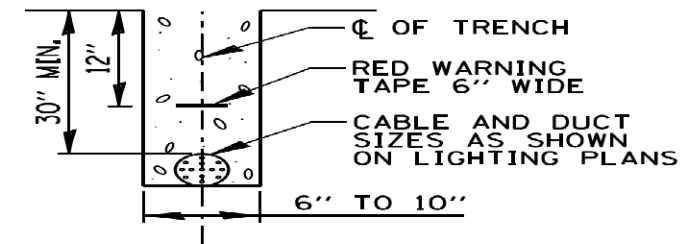


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ROADWAY CROSSING

- ① SLEEVE SHALL BE HEAVY WALL RIGID GALVANIZED STEEL (RGS) CONDUIT.
- ② SLEEVE SHALL EXTEND A MINIMUM OF 2 FT. BEYOND BACK OF CURB.
- ③ SLEEVE SHALL BE A MINIMUM OF 30" BELOW ROADWAY OR CURB BOTTOM.



TRENCH CROSS SECTION

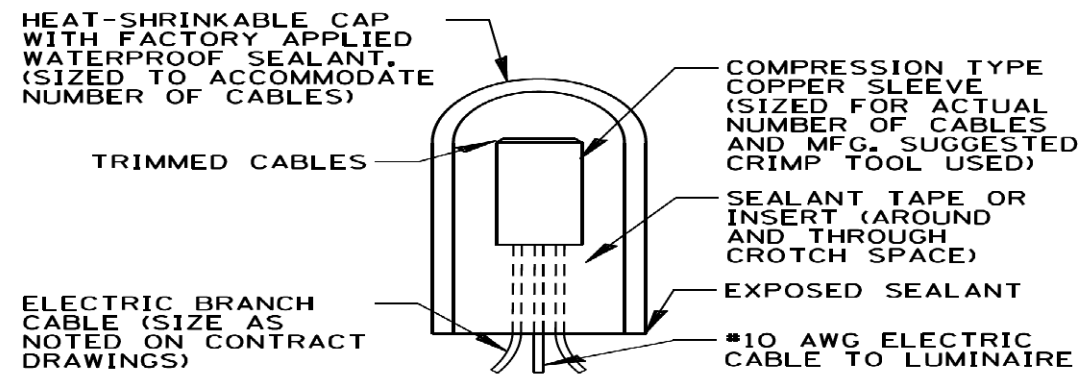


STANDARD DETAIL	
CONDUIT DETAIL	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015

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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -			SCALE: NONE	SHEET 7 OF 10 SHEETS				



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STANDARD DETAIL	
ELECTRIC CABLE SPLICE DETAIL	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**VILLAGE OF ALGONQUIN
 LIGHTING DETAILS**

SCALE: NONE SHEET 8 OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	623
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



VILLAGE OF ALGONQUIN
 PUBLIC WORKS DEPARTMENT
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NOTES:

1. **FINISH:** HOT DIP GALVANIZED PER AASHTO M111 (LATEST REVISION).
2. BASEPLATE TO BE PERPENDICULAR TO SHAFT AXIS (± 1 DEG) AND HOLE CENTERLINE CONCENTRIC ($\pm .188$) TO SHAFT AXIS.
3. STENCIL MIN $\frac{1}{2}$ IN. LETTERS MANUFACTURER'S NUMBER AFTER GALVANIZING.
4. PILOT POINT AND SHAFT AXES TO BE CONCENTRIC (± 125 FIM) AND IN LINE (± 2 DEG).
5. FLAME CUT SLOT PERPENDICULAR TO THE BASEPLATE.
6. PREHEAT, TUMBLEBLAST, HANDGRIND, AND CLEAN BASEPLATE, HELIX, AND PILOT POINT ON ALL WELDED AREAS.
7. FLAMECUT IRREGULARITIES PERMISSIBLE: (1) VALLEYS NOT TO EXCEED $\frac{3}{32}$ 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.
8. MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES.
9. ALL MATERIAL IS TO BE NEW, UNUSED AND MILL TRACEABLE MEETING THE FOLLOWING SPECIFICATIONS:

BASEPLATE: ASTM A36-(LATEST REVISION) STRUCTURAL (CONFORM TO AASHTO TECH. BUL. #270)

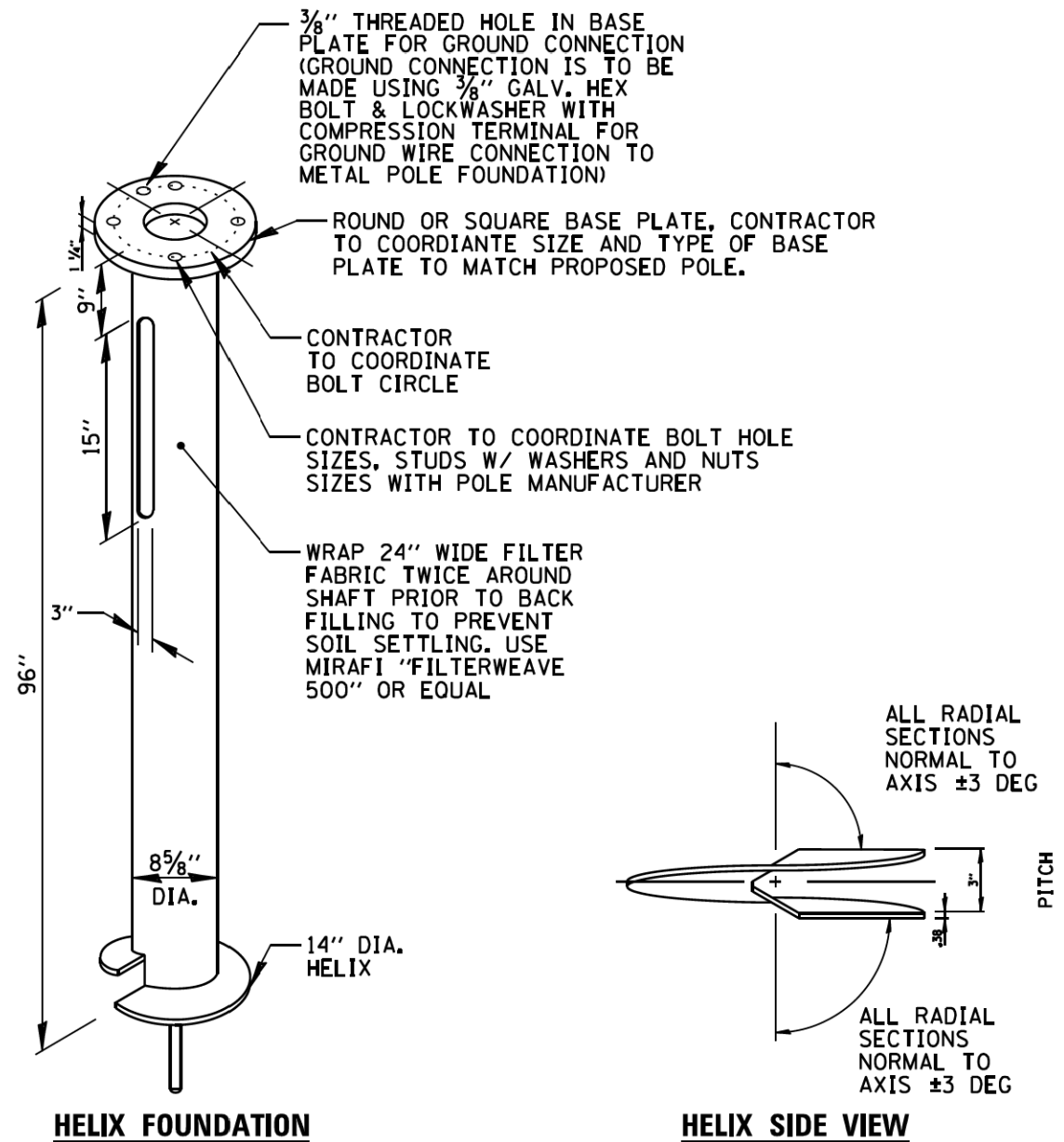
SHAFT: ASTM A252 (LATEST REVISION) GRADE 2, STEEL PIPE PILES. ALT. MATERIAL: ASTM A53 (LATEST REVISION) TYPE E OR S, GRADE B, STEEL PIPE OR ASTM A500 (LATEST REVISION) GRADE B, STRUCTURAL STEEL TUBING.

HELIX: ASTM A635 (LATEST REVISION) $\frac{3}{8}$ " THICK HOT ROLLED STEEL PLATE OR COIL.

PILOT POINT: ASTM A575 (LATEST REVISION) $\frac{1}{4}$ " DIA. HOT ROLLED STEEL BAR.

BOLTS: 1" DIA. HOT DIP GALVANIZED STUDS IN ACCORDANCE WITH AASHTO M314 OR ASTM F1554.

10. BASEPLATE IS PERMANENTLY STAMPED WITH MANUFACTURER'S IDENTIFICATION "ABC" IN $\frac{1}{2}$ " LETTERS AND DATE CODE IN $\frac{1}{4}$ " LETTERS.



STANDARD DETAIL	
METAL HELIX FOUNDATION	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



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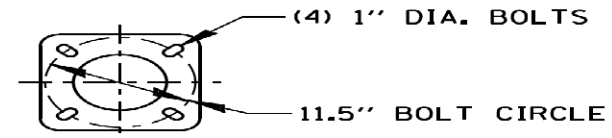
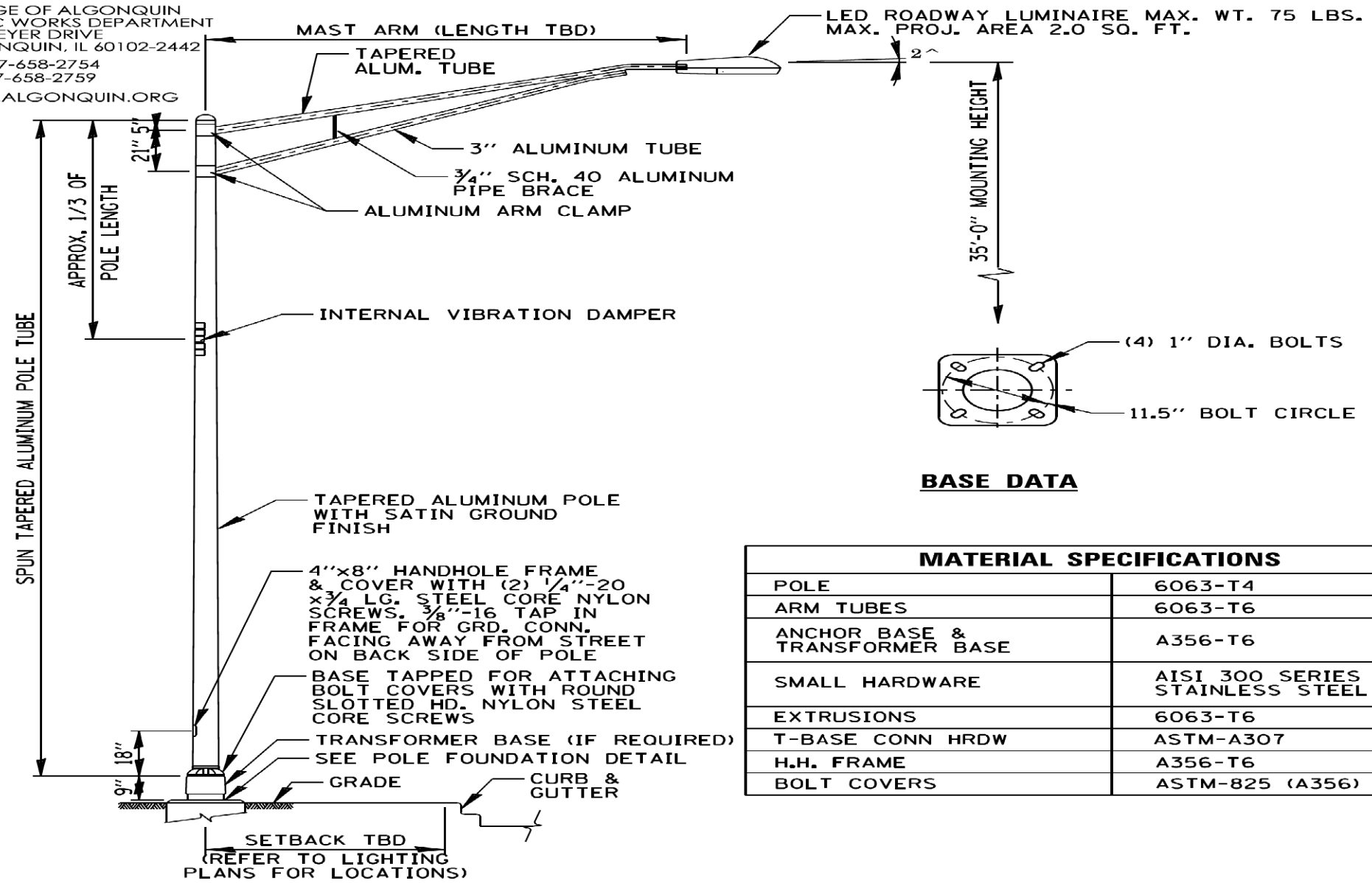
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

VILLAGE OF ALGONQUIN LIGHTING DETAILS		
SCALE: NONE	SHEET 9	OF 10 SHEETS

FAP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	624
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				



VILLAGE OF ALGONQUIN
 PUBLIC WORKS DEPARTMENT
 110 MEYER DRIVE
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BASE DATA

MATERIAL SPECIFICATIONS	
POLE	6063-T4
ARM TUBES	6063-T6
ANCHOR BASE & TRANSFORMER BASE	A356-T6
SMALL HARDWARE	AISI 300 SERIES STAINLESS STEEL
EXTRUSIONS	6063-T6
T-BASE CONN HRDW	ASTM-A307
H.H. FRAME	A356-T6
BOLT COVERS	ASTM-825 (A356)

REQUIRED LIGHTING VALUES

ROAD TYPE	PEDESTRIAN CONFLICT AREA	MAX. MAINTAINED AVG. ILLUMINANCE VALUES (Fc)	ILLUMINANCE UNIFORMITY Eavg/Emin	AVG. LUMINANCE (cd/m ²)	LUMINANCE UNIFORMITY Lavg/Lmin	LUMINANCE UNIFORMITY Lmax/Lmin	VEILING LUMINANCE RATIO LVmax/Lavg
COMMERCIAL	LOW	0.6	4.0:1	0.4	4.0:1	8.0:1	0.4

NOTES:

- LIGHT POLES SHALL MEET WIND LOADING & VIBRATION REQUIREMENTS ACCORDING TO THE LATEST AASHTO STANDARDS AND ARTICLE 1069.01 IN STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. ALL STEEL SHALL BE FROM A DOMESTIC SOURCE.
- THE LIGHT STANDARD SHALL MEET THE ILLUMINATION REQUIREMENTS AS SPECIFIED IN THE LUMINAIRE PERFORMANCE TABLES IN THE SPECIFICATIONS. ALL LUMINAIRES SHALL HAVE A MULTI-TAP BALLAST WIRED FOR 240 VOLTS OPERATION.
- ALL LIGHT STANDARDS SHALL BE FROM THE SAME MANUFACTURER, OR APPROVED EQUAL.
- LIGHT POLE SHALL BE U/L LISTED.
- ANTI-SEIZE LUBRICANT SHALL BE APPLIED TO ALL BOLTED AREAS DURING INSTALLATION.

Commercial Roadway	
LIGHT STANDARD AND LUMINAIRE DETAIL	
Village of Algonquin Specifications & Details Guide	
Drawn By: CBBEL	Revision Date 4/7/2015
Approved By: Shawn M. Hurtig	Effective Date 05/01/2015



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PLOT DATE = 4/25/2018	DATE - 4-26-2018	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

VILLAGE OF ALGONQUIN
 LIGHTING DETAILS

SCALE: NONE SHEET 9 OF 10 SHEETS

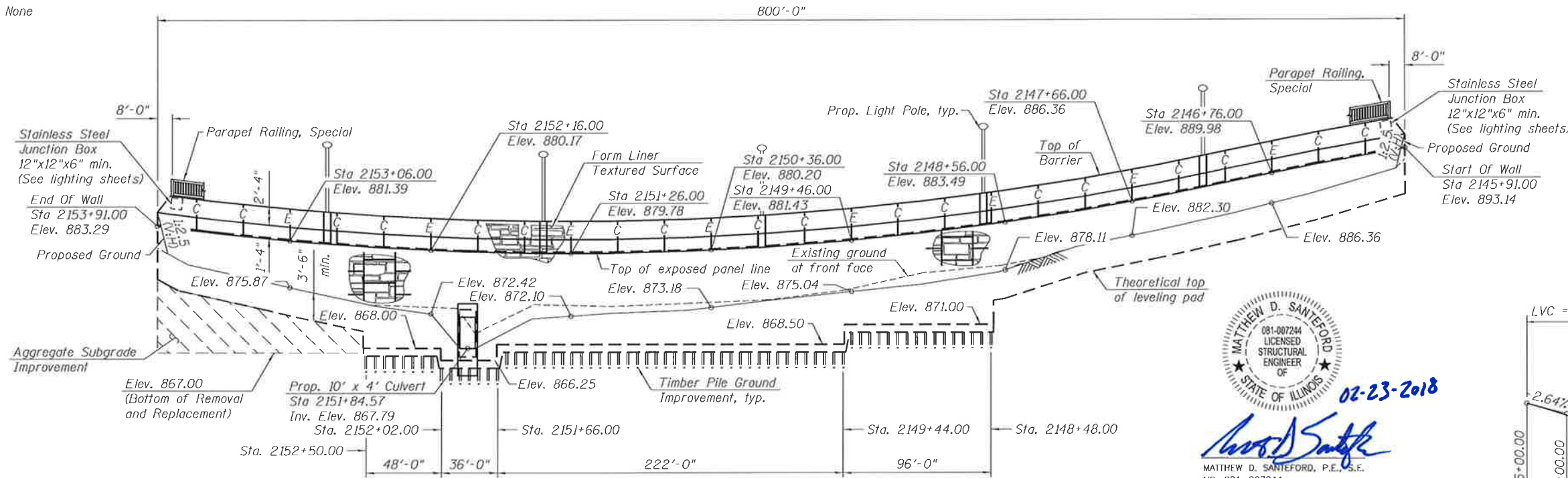
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336	06-00329-01-PW	MCHENRY	1751	625
			CONTRACT NO.	61E53
ILLINOIS FED. AID PROJECT				

Bench Mark: Chisled "X" on southwest flange bolt of fire hydrant in the southeast quadrant of Harnish Dr. and Randall Rd. Elev. 905.54

Traffic Control: Traffic to be maintained utilizing staged construction.

Existing Structure: None

Salvage: None



ELEVATION - RETAINING WALL SBI
(Looking East)

NOTES:

- Offsets are measured from the centerline of Randall Road to the front face of MSE wall. Elevations are shown at top of exposed panel line.
- C = Construction Joint
E = Expansion Joint

02-23-2018

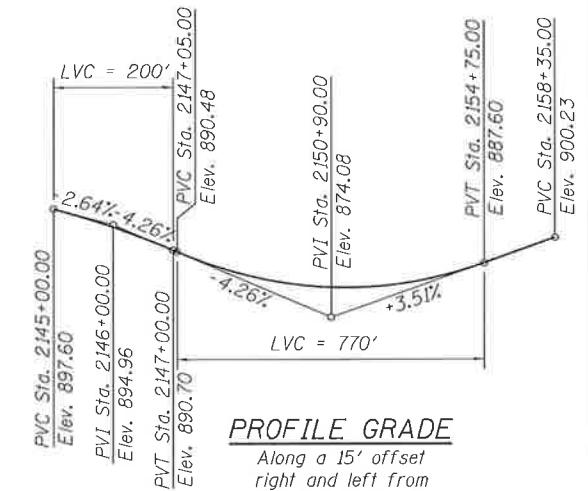
 MATTHEW D. SANTEFORD, P.E., S.E.
 NO. 081-007244
 EXP. DATE 11/30/2018

"I certify that to the best of my knowledge, information and belief, this retaining wall design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current 'AASHTO LRFD Bridge Design Specifications'."

DESIGN STRESSES

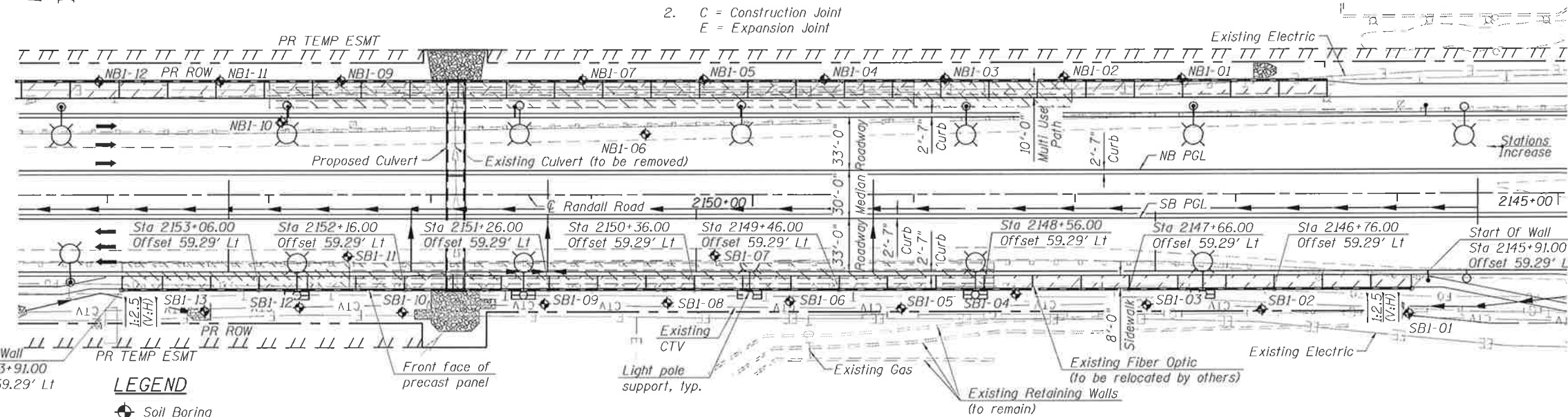
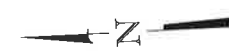
FIELD UNITS
 f'c = 4,000 psi
 f'c = 1,200 psi (Timber Piles)
 fy = 60,000 psi (Reinforcement)

PRECAST UNITS
 f'c = 4,500 psi



PROFILE GRADE

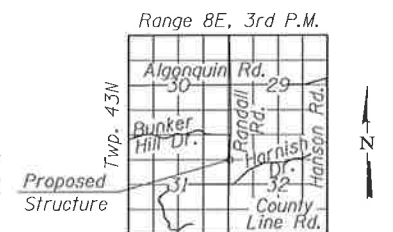
Along a 15' offset right and left from the CL Randall Rd.



PLAN - RETAINING WALL SBI

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2016 Interim Revisions



LOCATION SKETCH

GENERAL PLAN AND ELEVATION

RETAINING WALL SBI

ALONG RANDALL ROAD

F.A.P. RT. 336

SECTION 06-00329-01-PW

MCHENRY COUNTY

STATION 2145+91.00 TO 2153+91.00

STRUCTURE NO. 056-W004-SBI



2/22/2018 6:25:39 PM

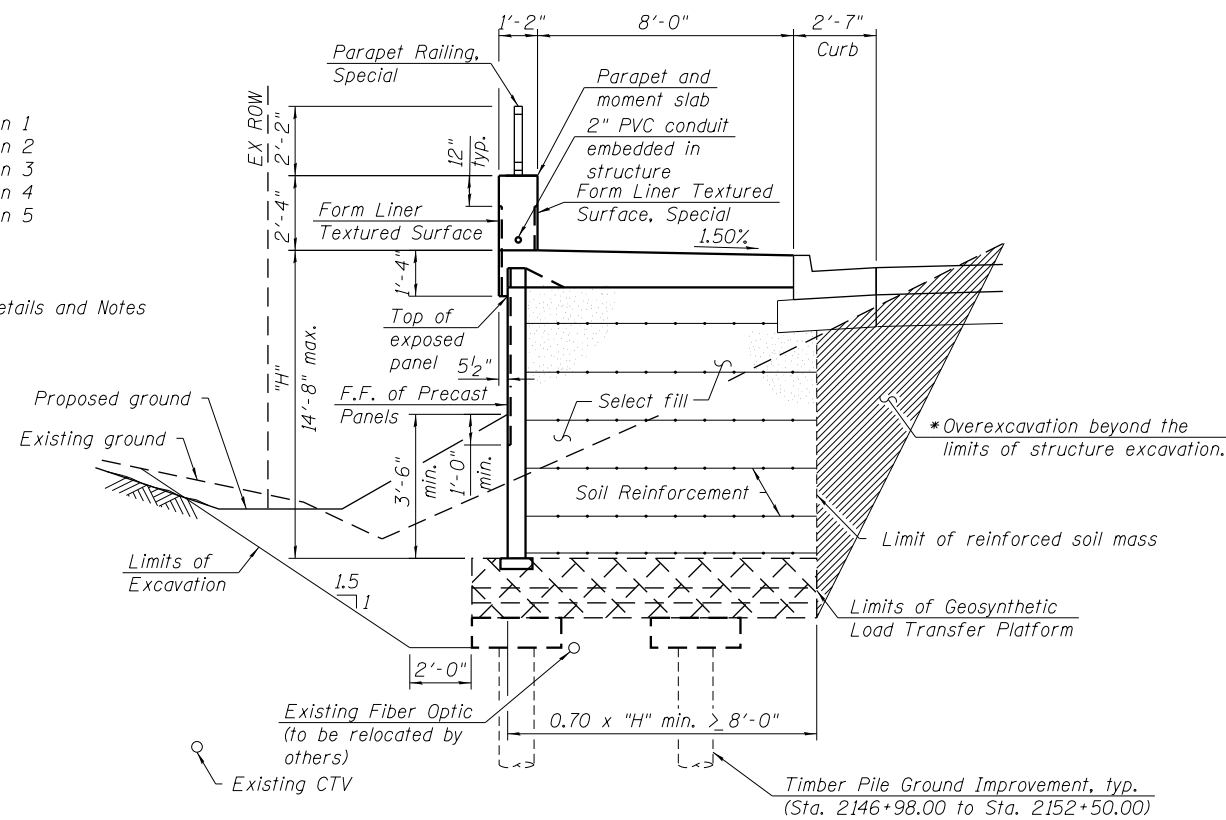
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PLOT SCALE = 80.0000' / 1" =	CHECKED = JRM	REVISED =			SHEET NO. 1 OF 19 SHEETS		ILLINOIS FED. AID PROJECT			
PLOT DATE = 2/22/2018	DRAWN = JNP	REVISED =								
	CHECKED = JRM	REVISED =								

GENERAL NOTES

- Reinforcement bars designated (E) shall be epoxy coated.
- Form Liner Textured Surface, Special shall be inset into the face of the barrier on the traffic side up to 1/2" deep and 1" wide.
- The MSE wall supplier's internal stability design shall account for the moment slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 k/ft of wall.
- Anti-Graffiti Coating shall be applied to all exposed faces of the parapet and the exposed area of the MSE wall panels.
- Staining shall be applied to areas of Form Liner Textured Surface, Form Liner Textured Surface, Special, and the precast concrete panels of the MSE wall.
- All dewatering necessary for the construction of this structure shall be according to the Special Provision for Dewatering and shall be included in the Lump Sum for Dewatering.

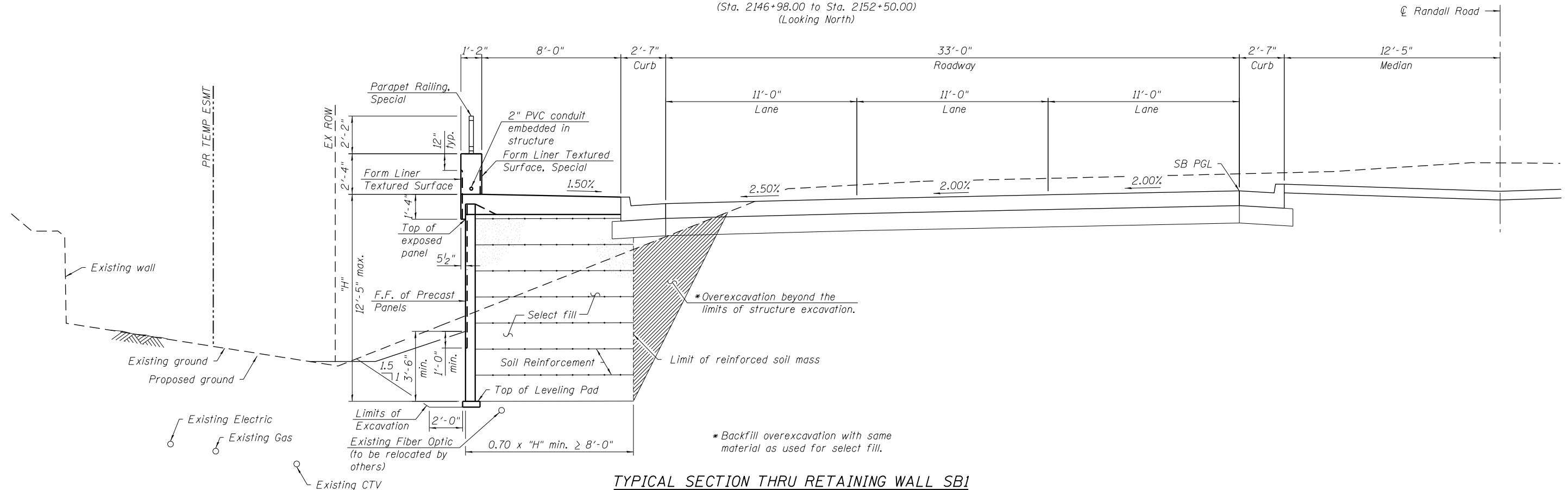
INDEX OF SHEETS

- General Plan and Elevation
- General Data
- Moment Slab Plan and Elevation 1
- Moment Slab Plan and Elevation 2
- Moment Slab Plan and Elevation 3
- Moment Slab Plan and Elevation 4
- Moment Slab Plan and Elevation 5
- Retaining Wall Details
- Parapet Railing, Special
- Timber Pile Layout Plan
- Pile Supported Embankment Details and Notes
- Boring Logs 1
- Boring Logs 2
- Boring Logs 3
- Boring Logs 4
- Boring Logs 5
- Boring Logs 6
- Boring Logs 7
- Boring Logs 8



**TYPICAL SECTION THRU RETAINING WALL SB1
AT TIMBER PILE GROUND IMPROVEMENTS**

(Sta. 2146+98.00 to Sta. 2152+50.00)
(Looking North)



TYPICAL SECTION THRU RETAINING WALL SB1

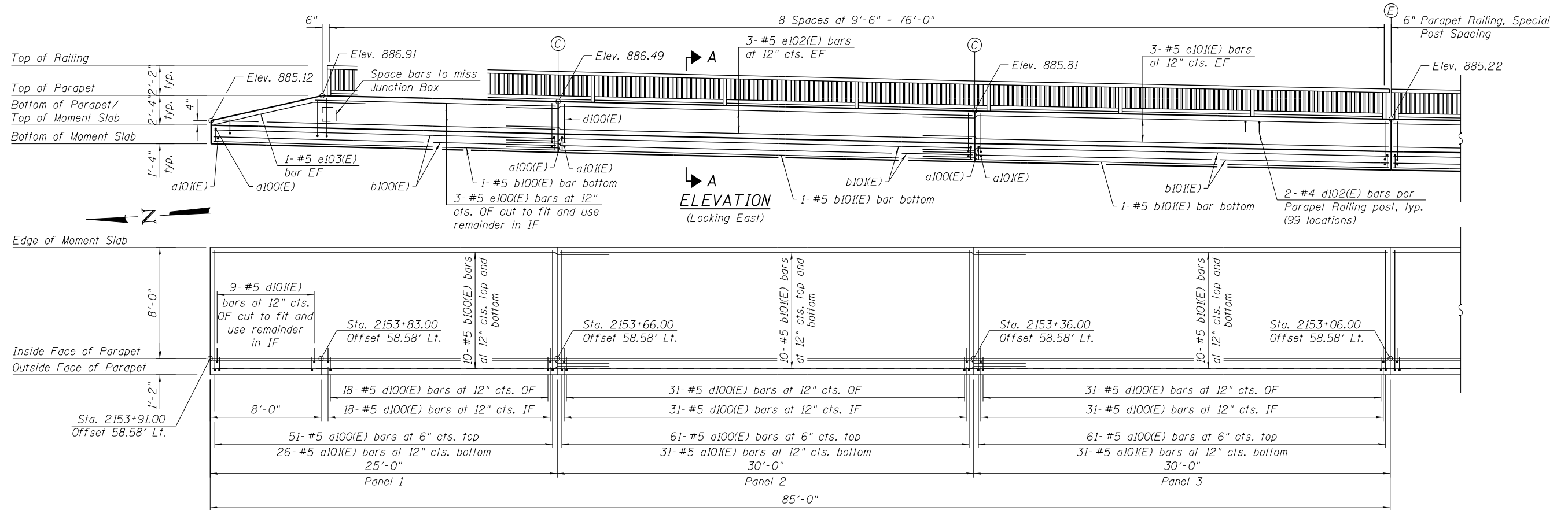
(Sta. 2145+91.00 to 2146+98.00 and Sta. 2152+50.00 to Sta. 2153+91.00)
(Looking North)

TOTAL BILL OF MATERIAL

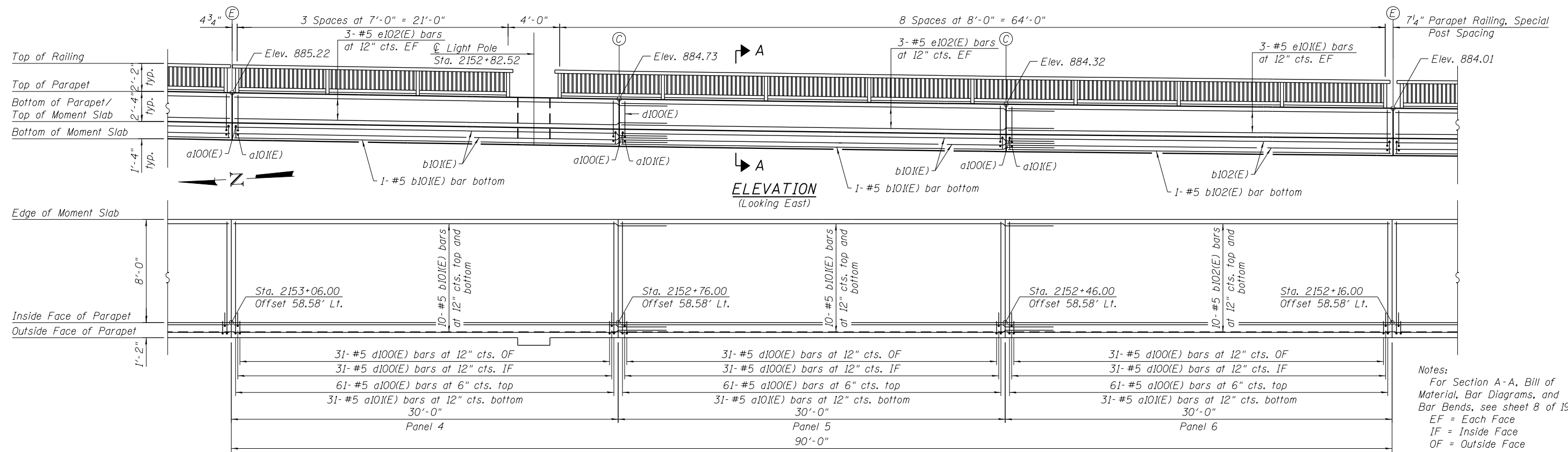
Item	Unit	Total
Earth Excavation	Cu. Yd.	5,497
Removal and Disposal of Unsuitable Material	Cu. Yd.	774
Porous Granular Embankment	Cu. Yd.	427
Aggregate Subgrade Improvement	Cu. Yd.	774
Protective Coat	Sq. Yd.	712
Structure Excavation	Cu. Yd.	1,394
Concrete Structures	Cu. Yd.	65.5
Concrete Superstructure	Cu. Yd.	377.8
Form Liner Textured Surface	Sq. Ft.	2,135
Reinforcement Bars	Pound	6,050
Reinforcement Bars, Epoxy Coated	Pound	56,030
Furnishing Treated Piles Over 38 Feet	Foot	5,911
Driving Piles	Foot	5,911
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	6,639
Settlement Platforms	Each	3
Biaxial Geogrid	Sq. Yd.	1,775
Staining Concrete Structures	Sq. Ft.	6,802
Parapet Railing, Special	Foot	764
Anti-Graffiti Coating	Sq. Ft.	9,335
Form Liner Textured Surface, Special	Sq. Ft.	1,056
Dynamic Pile Monitoring	Each	4

USER NAME = mrc155	DESIGNED - JNP	REVISED -
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PLOT DATE = 5/4/2018	CHECKED - JRM	REVISIONS -

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 627
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



PLAN



PLAN

Notes:
 For Section A-A, Bill of Material, Bar Diagrams, and Bar Bends, see sheet 8 of 19.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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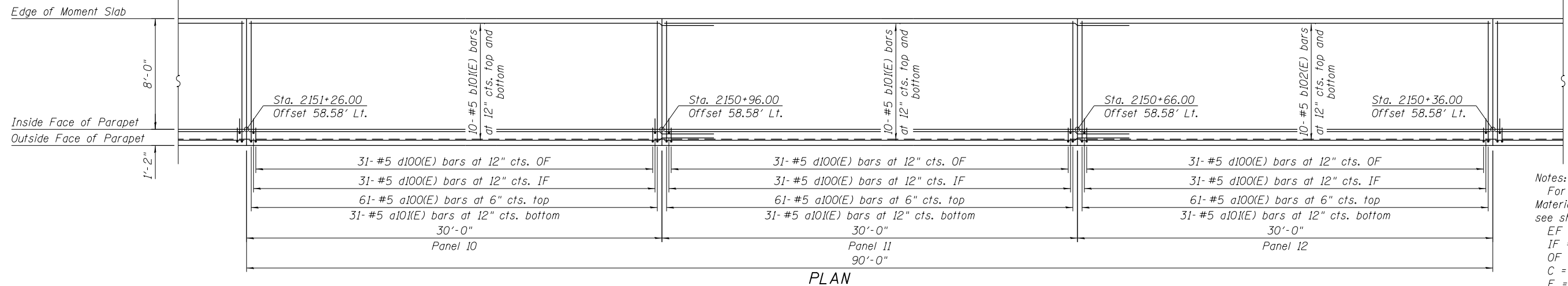
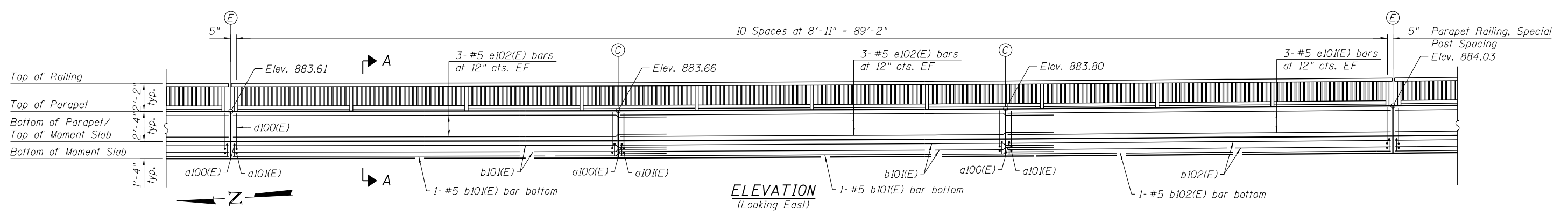
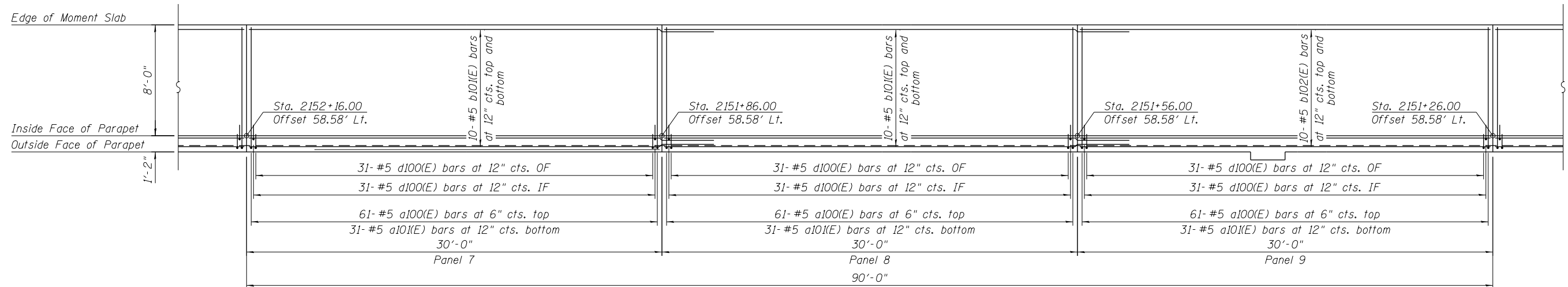
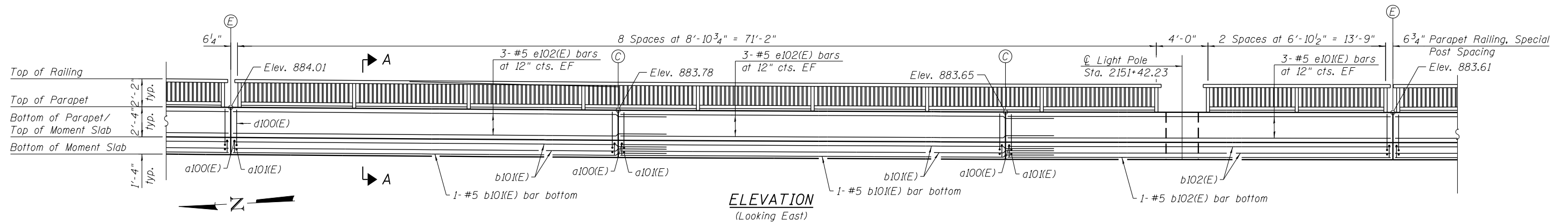
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 1
 RETAINING WALL SB1

SHEET NO. 3 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	628
				CONTRACT NO. 61E53

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Notes:
 For Section A-A, Bill of Material, and Bar Bends, see sheet 8 of 19.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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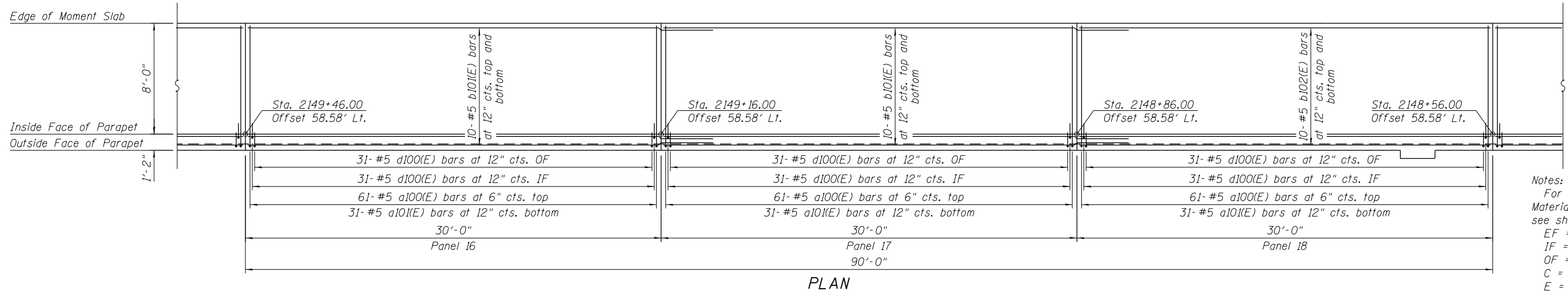
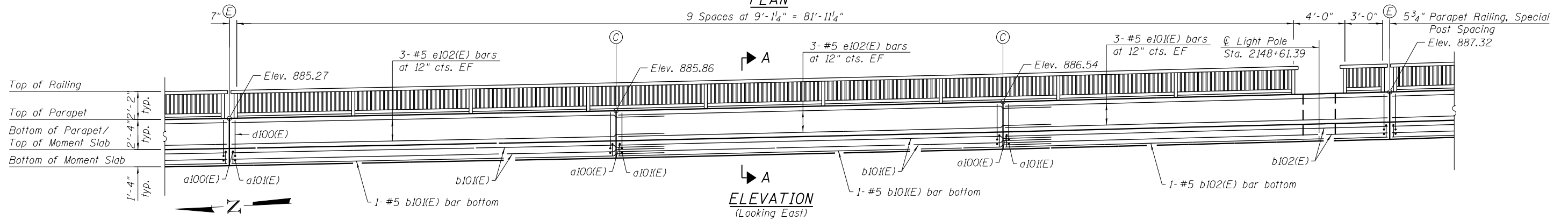
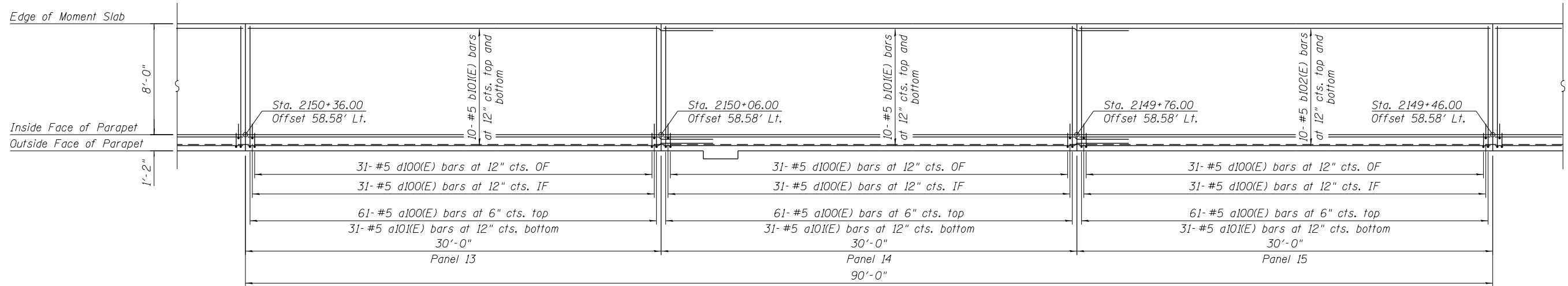
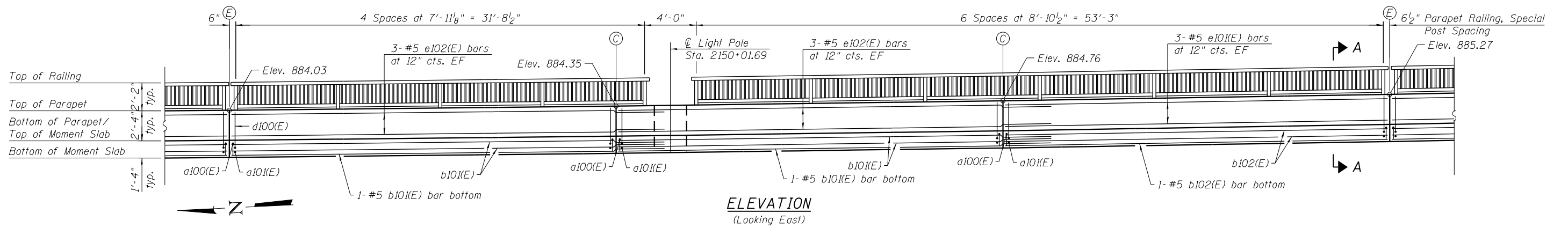
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 2
RETAINING WALL SB1

SHEET NO. 4 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	629
			CONTRACT NO. 61E53	

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Notes:
For Section A-A, Bill of Material, and Bar Bends, see sheet 8 of 19.
EF = Each Face
IF = Inside Face
OF = Outside Face
C = Construction Joint
E = Expansion Joint



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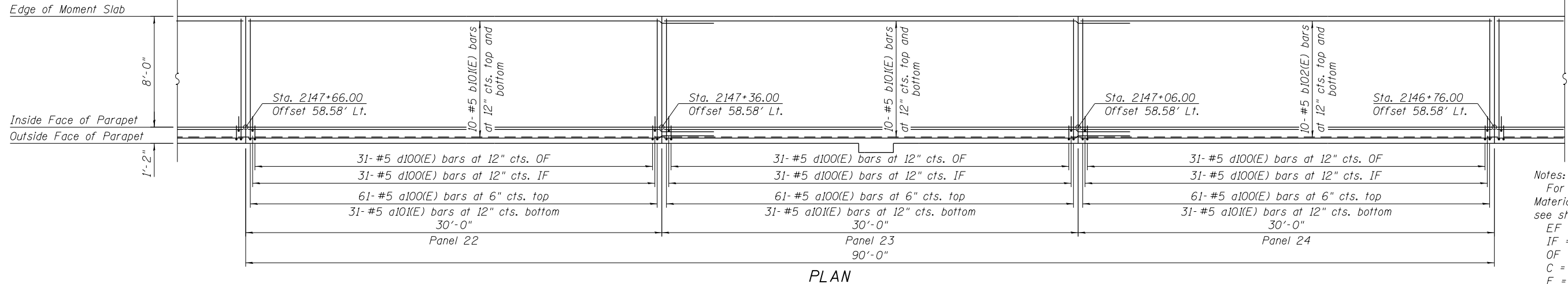
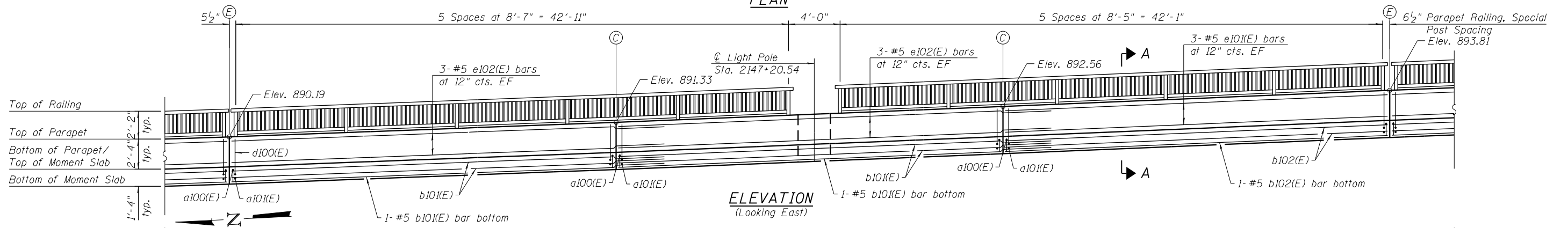
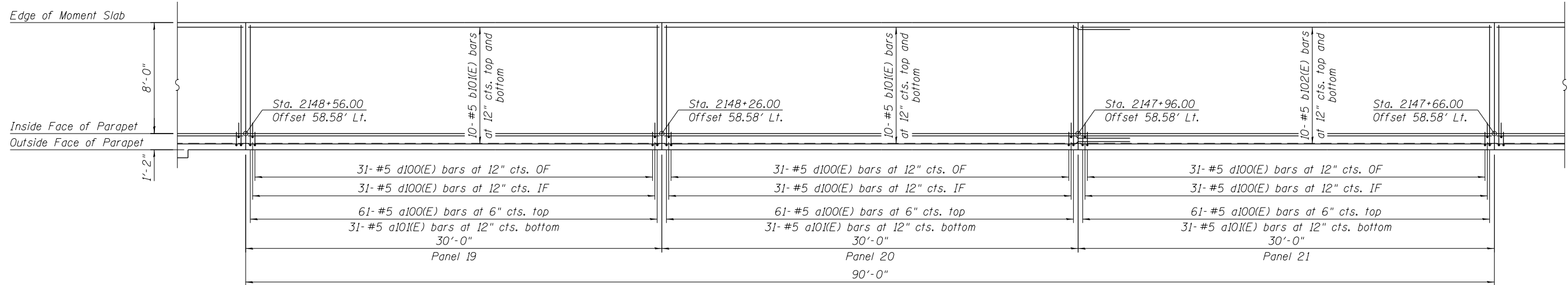
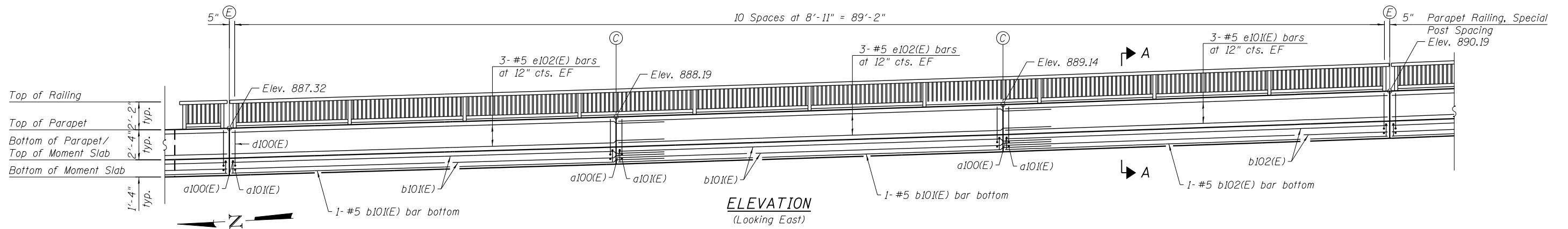
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MOMENT SLAB PLAN AND ELEVATION 3
RETAINING WALL SB1

SHEET NO. 5 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	630
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



Notes:
 For Section A-A, Bill of Material, and Bar Bends, see sheet 8 of 19.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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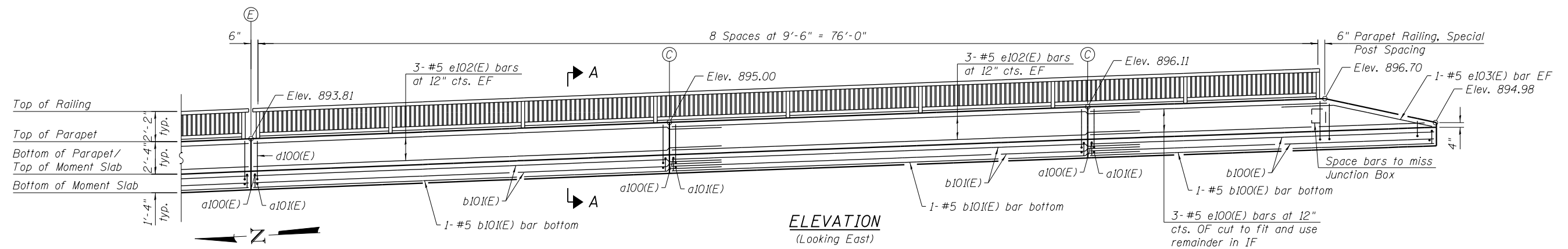
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 4
 RETAINING WALL SB1

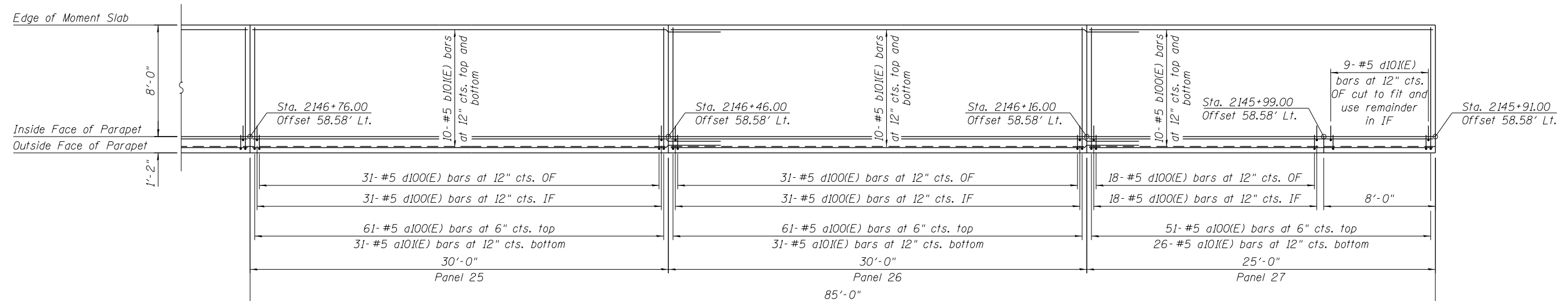
SHEET NO. 6 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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				CONTRACT NO. 61E53

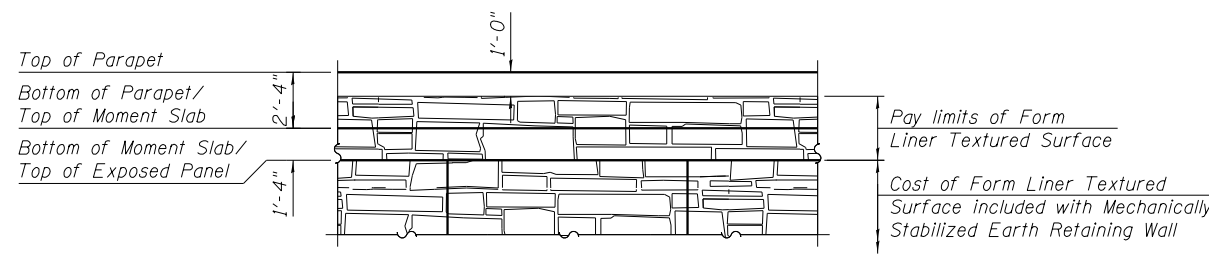
ILLINOIS FED. AID PROJECT



ELEVATION
(Looking East)



PLAN



FORM LINER DETAIL

Notes:
For Section A-A, Bill of Material, Bar Diagrams, and Bar Bends, see sheet 8 of 19.
EF = Each Face
IF = Inside Face
OF = Outside Face
C = Construction Joint
E = Expansion Joint



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PLOT DATE = 4/25/2018	CHECKED - JNP	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**MOMENT SLAB PLAN AND ELEVATION 5
RETAINING WALL SB1**

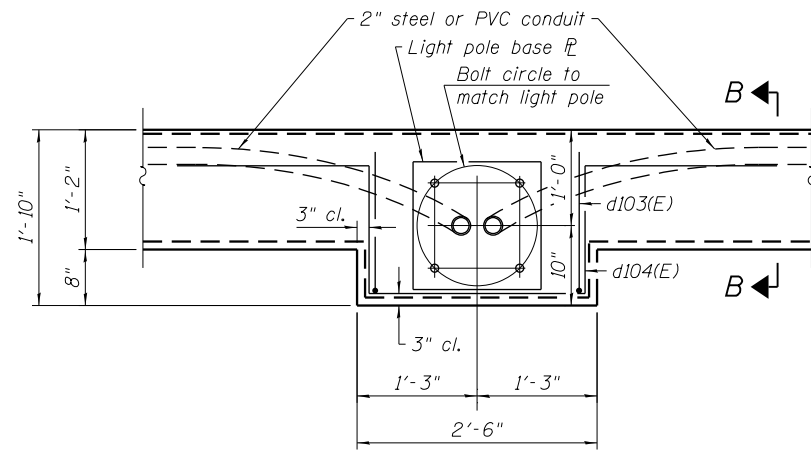
SHEET NO. 7 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT

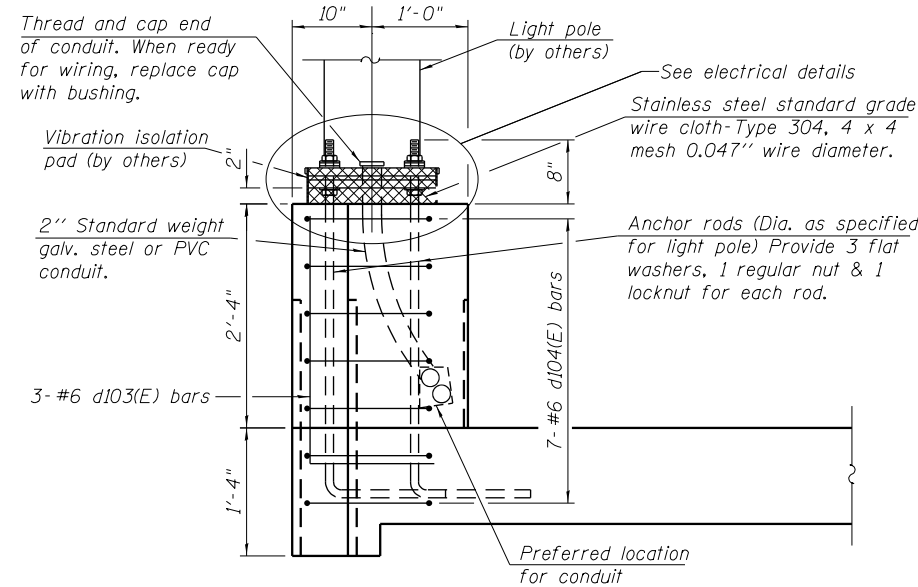
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a100(E)	1627	#5	9'-9"	┌
a101(E)	827	#5	8'-11"	└
b100(E)	42	#5	24'-8"	—
b101(E)	378	#5	33'-2"	—
b102(E)	147	#5	29'-8"	—
d100(E)	1622	#5	4'-0"	┌
d101(E)	18	#5	6'-0"	└
d102(E)	198	#4	2'-2"	┌
d103(E)	15	#6	4'-6"	└
d104(E)	35	#6	8'-8"	└
e100(E)	6	#5	48'-6"	—
e101(E)	48	#5	29'-8"	—
e102(E)	102	#5	33'-2"	—
e103(E)	4	#5	11'-2"	└
Protective Coat		Sq. Yd.	712	
Concrete Superstructure		Cu. Yd.	377.8	
Form Liner Textured Surface		Sq. Ft.	2,135	
Reinforcement Bars, Epoxy Coated		Pound	56,030	
Staining Concrete Structures		Sq. Ft.	6,802	
Anti-Graffiti Coating		Sq. Ft.	9,335	
Form Liner Textured Surface, Special		Sq. Ft.	1,056	

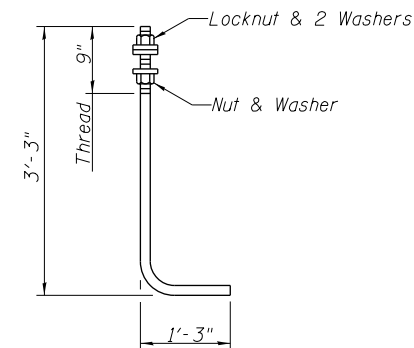


PLAN

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

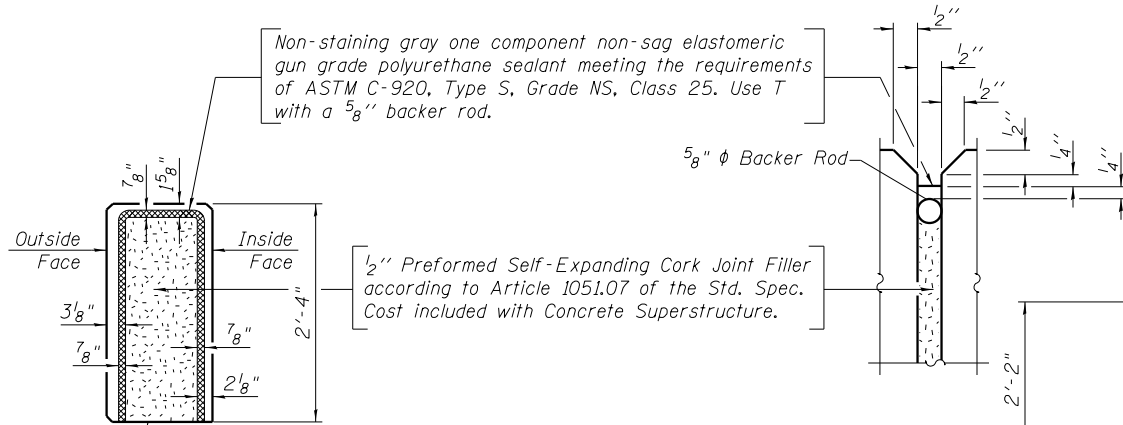


SECTION B-B



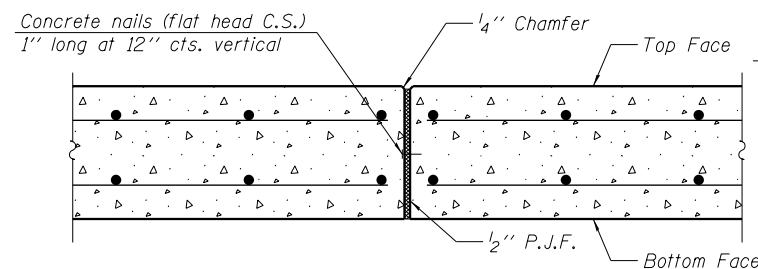
ANCHOR ROD

Diameter as specified for light poles.
(ASTM F 1554 Grade 105)

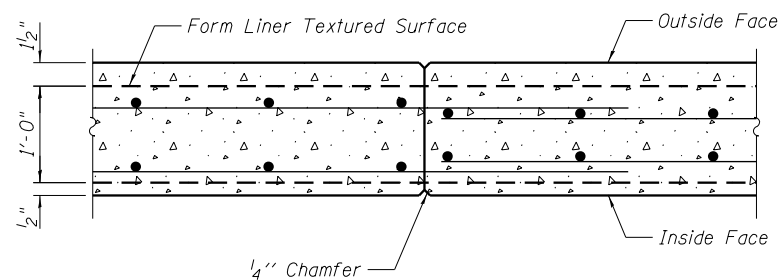


PARAPET EXPANSION JOINT DETAIL

Const. Jt. (Mandatory)

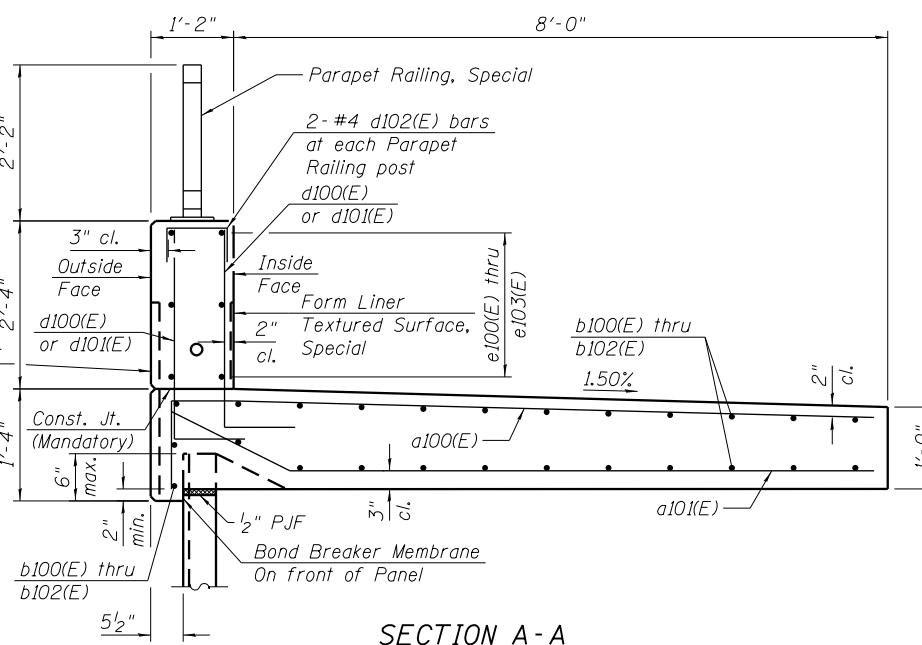


MOMENT SLAB EXPANSION JOINT DETAIL

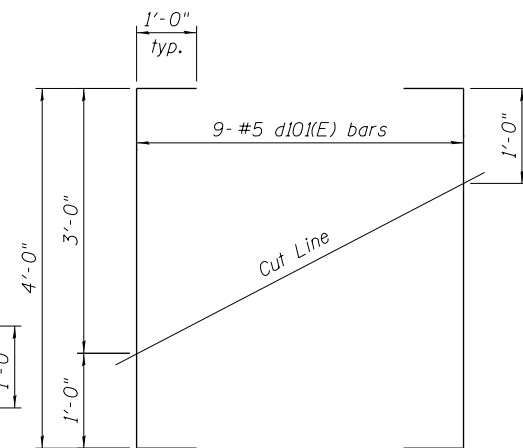


PARAPET CONSTRUCTION JOINT DETAIL

(Moment slab similar)

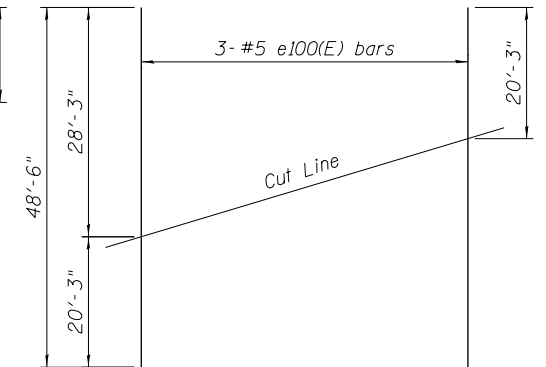


SECTION A-A



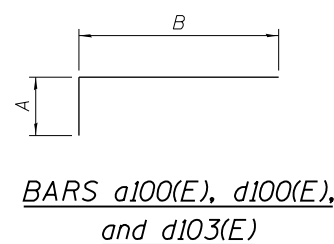
FIELD CUTTING DIAGRAM

Order d101(E) full length



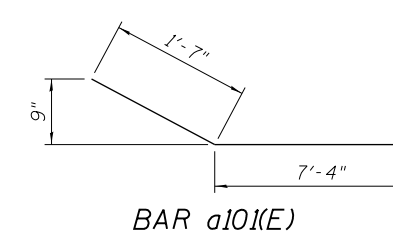
FIELD CUTTING DIAGRAM

Order e100(E) full length

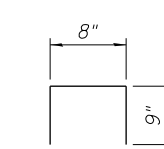


BARS a100(E), d100(E), and d103(E)

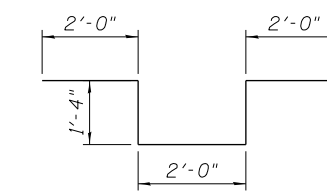
Bar	A	B
a100(E)	1'-0"	8'-9"
d100(E)	1'-0"	3'-0"
d103(E)	1'-6"	3'-0"



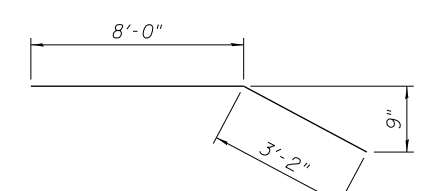
BAR a101(E)



BAR d102(E)



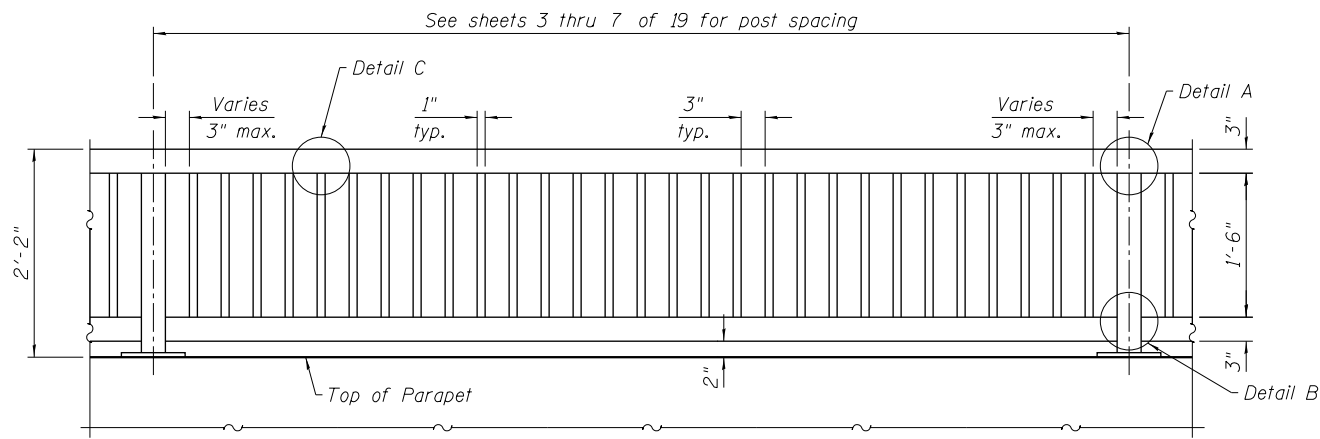
BAR d104(E)



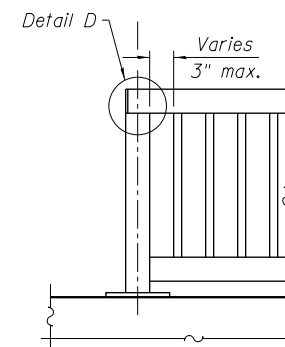
BAR e101(E)

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PLOT DATE = 5/4/2018	CHECKED - JNP	REVISED -

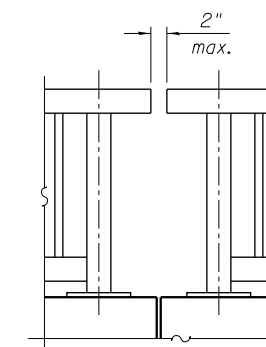
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	633
			CONTRACT NO. 61E53	



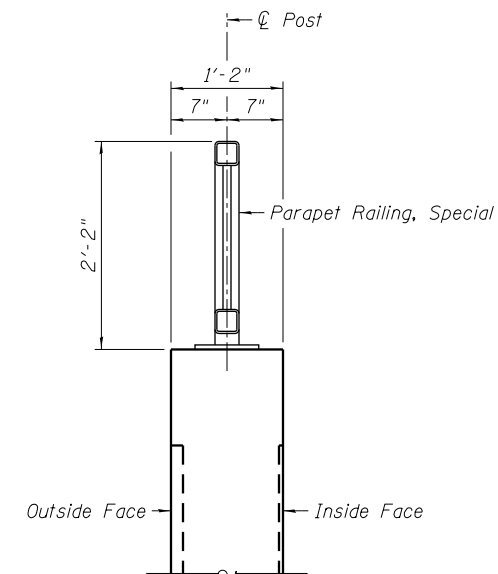
ELEVATION



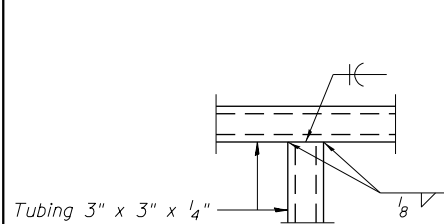
TERMINAL SECTION



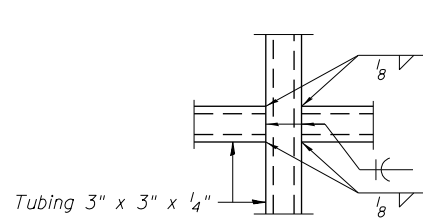
SECTION AT EXPANSION JOINT



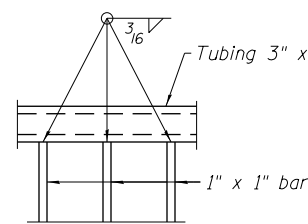
SECTION THRU RAILING



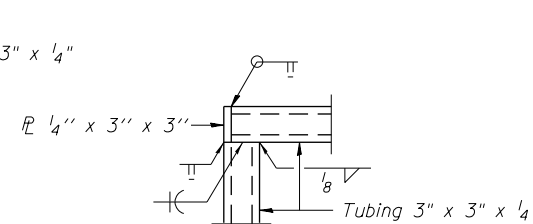
DETAIL A



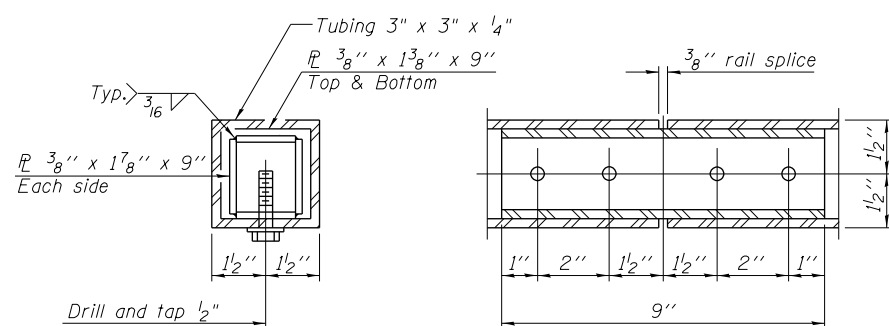
DETAIL B



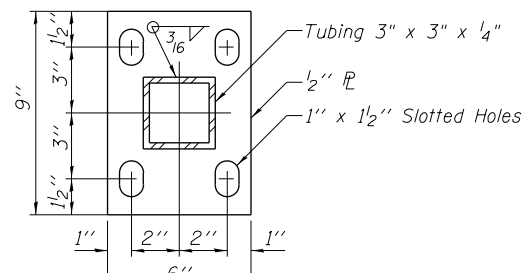
DETAIL C



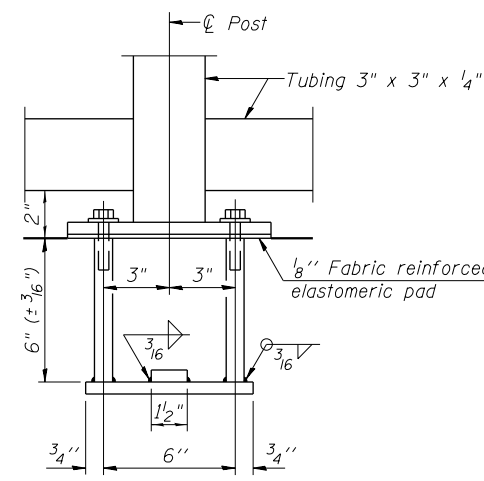
DETAIL D



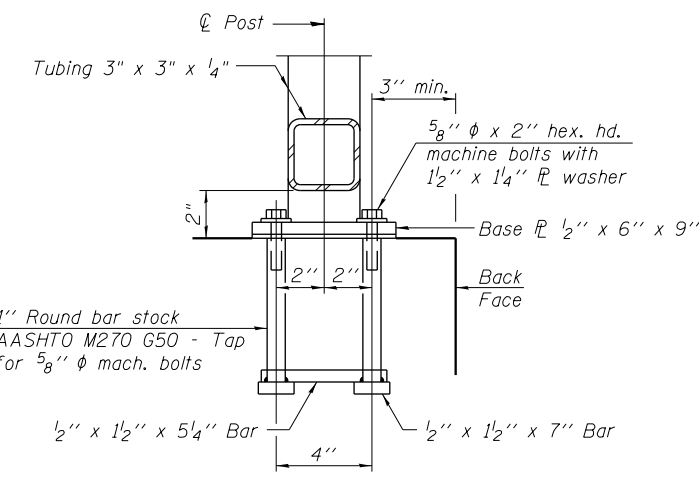
RAIL SPLICE



BASE PL



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.

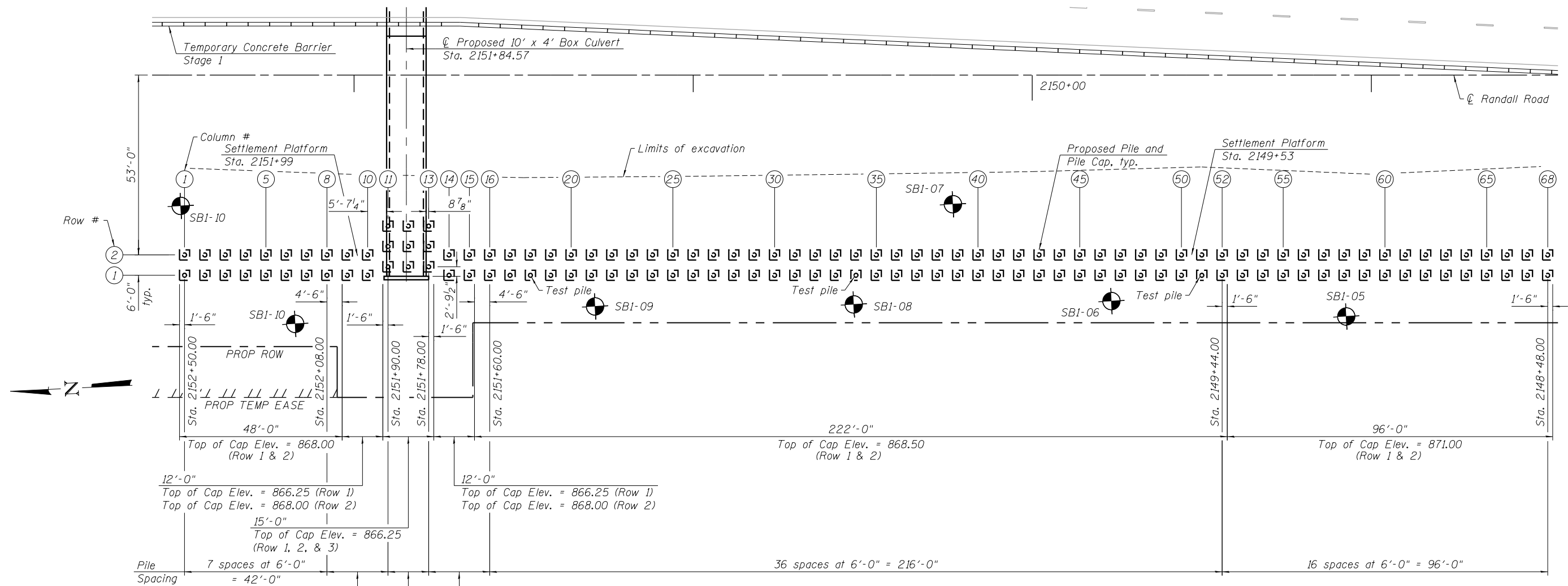
Notes:
All post, railing, splices, anchor devices, and plates shall be powder coated the color Traffic Black (RAL 9017).

BILL OF MATERIAL

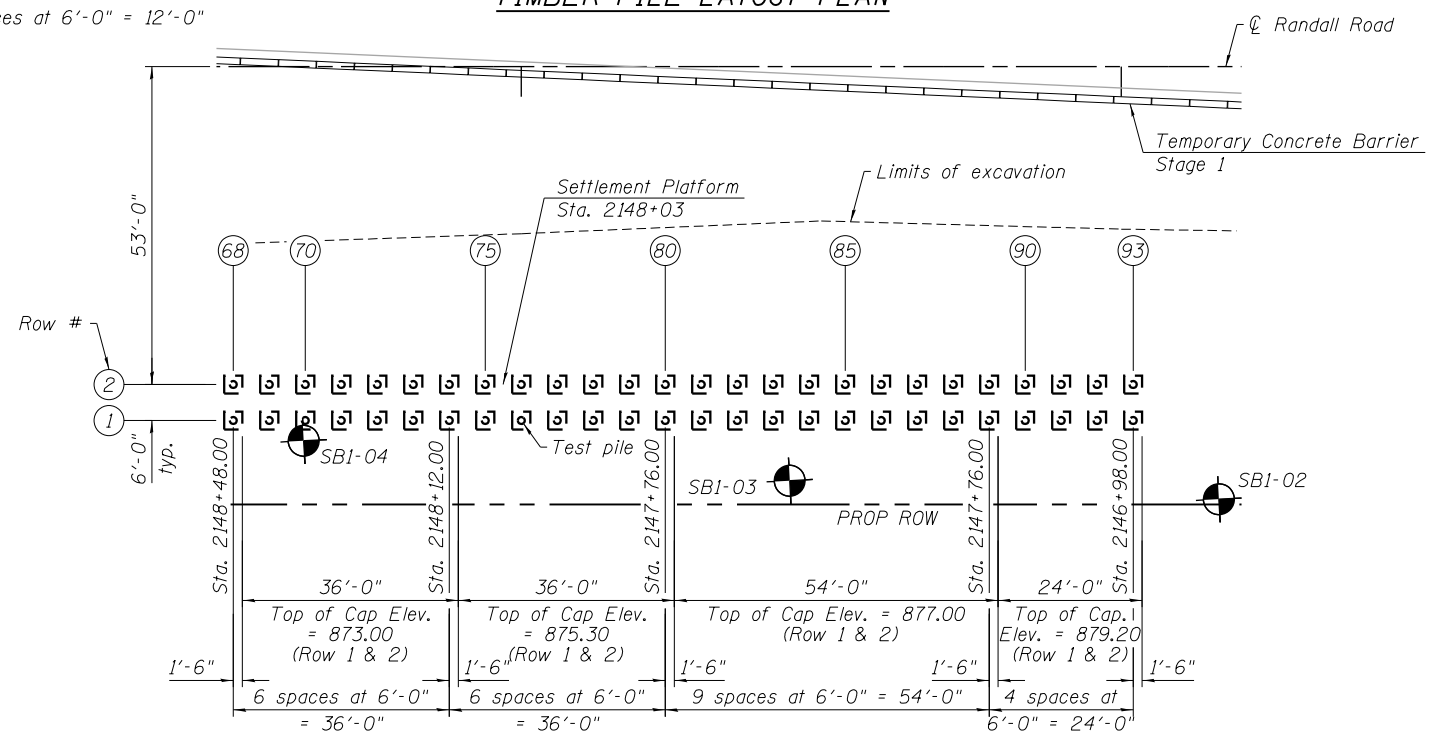
Item	Unit	Quantity
Parapet Railing, Special	Foot	764

USER NAME = mrc155	DESIGNED - JNP	REVISED -
PLOT SCALE = 2.0000' / 1" =	CHECKED - JRM	REVISED -
PLOT DATE = 4/25/2018	DRAWN - JNP	REVISED -
	CHECKED - JRM	REVISED -

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 634
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



TIMBER PILE LAYOUT PLAN



TIMBER PILE LAYOUT PLAN

Notes:
 See Sheet 1 of 19 for the Elevation Ground view of the Timber Pile Ground Improvement.
 See the Rat Creek Culvert Sheets for details of the Proposed 10' x 4' box culvert.



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USER NAME = mrc155	DESIGNED - JNP	REVISED -
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PLOT DATE = 5/4/2018	CHECKED - MDS	REVISIONS -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TIMBER PILE LAYOUT PLAN
 RETAINING WALL SB1**

SHEET NO. 10 OF 19 SHEETS

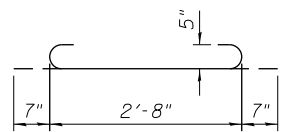
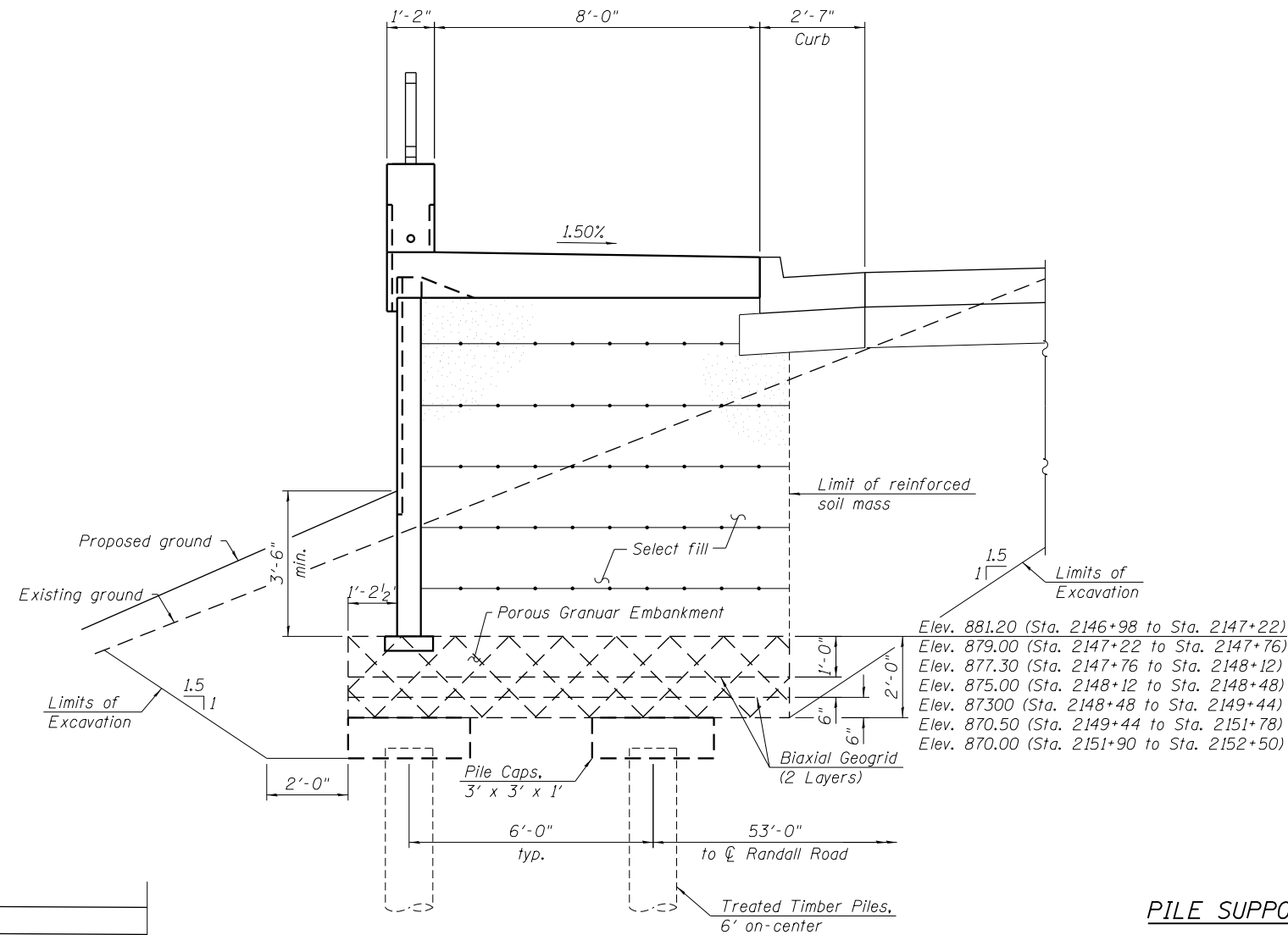
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	635
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				

PILE SUPPORTED EMBANKMENT NOTES

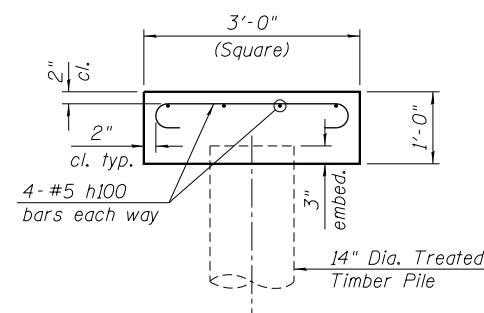
1. The contractor shall put in place the following minimum monitoring program:
 - a. Perform Dynamic Pile Monitoring on 3 test piles. Results shall be used to verify estimated pile lengths prior to production of piles.
 - b. Settlement stakes shall be installed to monitor settlement of the embankment at 50 foot intervals.
2. Timber pile splicing is not recommended. If any production pile does not achieve the design capacity when fully driven, one of the following two methods can be approved by the Engineer for the pile in question:
 - a. The pile shall be withdrawn and replaced by a new longer pile that achieves the design capacity when fully driven.
 - b. A second pile that achieves the design capacity when fully driven shall be driven adjacent to the insufficient pile.
3. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60.
4. In soft wetland areas, a geogrid reinforced pad may be necessary for access of equipment to construct the pile supported embankment. A quantity for porous granular embankment and biaxial geogrid has been included for this geogrid reinforced pad.
5. After the embankment is finished and before the moment slab is constructed, monitor settlement at the platforms twice a week for two weeks.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h100	1,512	#5	3'-10"	U
Porous Granular Embankment			Cu. Yd.	427
Concrete Structures			Cu. Yd.	65.5
Reinforcement Bars			Pound	6,050
Furnishing Treated Piles Over 38 Feet			Foot	5,911
Driving Piles			Foot	5,911
Settlement Platforms			Each	3
Biaxial Geogrid			Sq. Yd.	1,775
Dynamic Pile Monitoring			Each	4



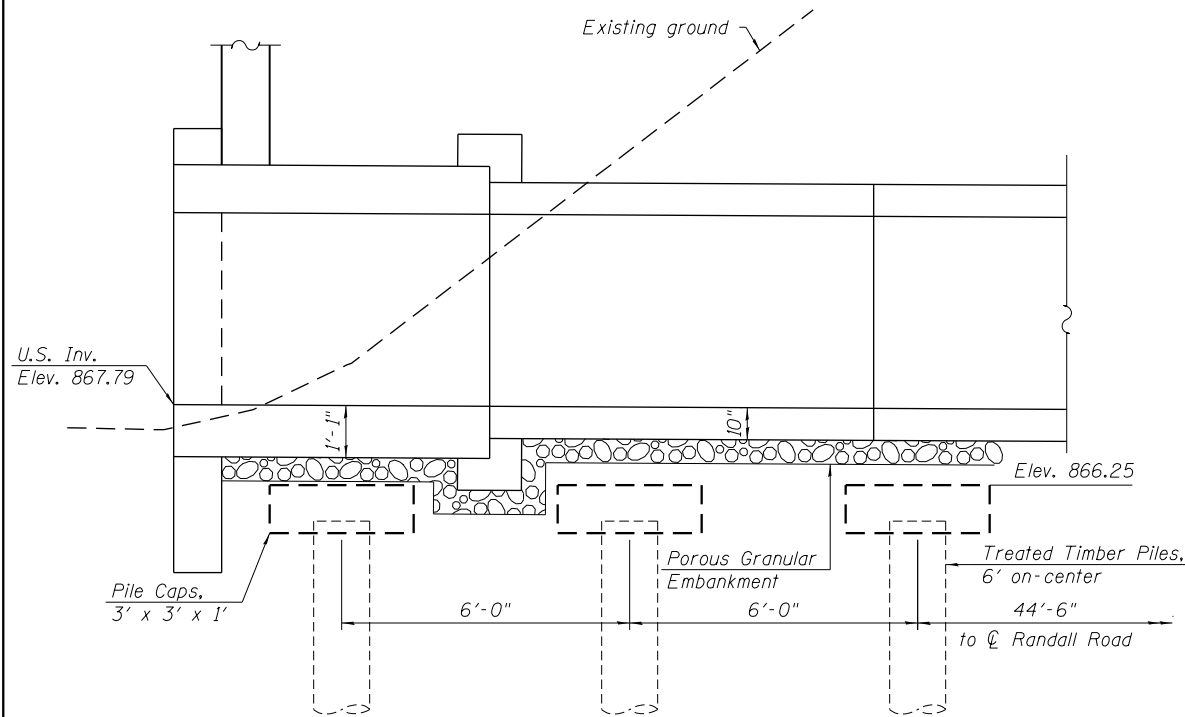
TYPICAL SECTION THRU PILE SUPPORTED EMBANKMENT
(Looking North)



PILE CAP DETAIL

PILE SUPPORTED EMBANKMENT DETAILS

Station Limits	Pile Row(s)	Pile Spacing, typ. (feet)	Nominal Required Bearing (kips)	Estimated Pile Length (feet)
2146+98 to 2147+16	1, 2	6 x 6	83	34.0
2147+22 to 2147+70	1, 2	6 x 6	83	31.5
2147+76 to 2148+06	1, 2	6 x 6	83	33.0
2148+12 to 2148+42	1, 2	6 x 6	83	30.5
2148+48 to 2149+38	1, 2	6 x 6	100	30.5
2149+44 to 2150+22	1, 2	6 x 6	132	35.5
2150+28 to 2151+60	1, 2	6 x 6	132	32.5
2151+66 to 2151+72	1	6 x 6	174	32.0
	2	6 x 6	174	32.0
2151+78 to 2151+90	1, 2, 3	6 x 6	125	25.0
2151+96 to 2152+02	1	6 x 6	174	32.0
	2	6 x 6	174	32.0
2152+08 to 2152+50	1, 2	6 x 6	143	33.5



TYPICAL SECTION THRU PILE SUPPORTED EMBANKMENT
AT 10' x 4' CONCRETE BOX CULVERT
(Looking North)



5/4/2018 11:23:18 AM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISOR -	
PLOT SCALE = 4,0000' / 1"v	DRAWN - JNP	REVISOR -
PLOT DATE = 5/4/2018	CHECKED - MDS	REVISOR -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PILE SUPPORTED EMBANKMENT DETAILS AND NOTES
RETAINING WALL SB1

SHEET NO. 11 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	636
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



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BORING LOG SB1-01

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 889.74 ft
North: 2002059.01 ft
East: 983586.13 ft
Station: 2145+92.92
Offset: 77.26 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
888.7	12-inch thick, brown SILTY LOAM and cobbles --TOPSOIL-- Stiff to very stiff, brown SILTY CLAY LOAM, trace gravel	1	4 5 6	1.50 P	28		889.2	Medium dense, gray, coarse to medium SAND, little gravel, silt seams; saturated	9	4 5 7	NP	11	
884.2	Medium dense, brown SAND to SANDY LOAM, little gravel; wet	2	2 3 6	2.05 B	15				10	5 5 6	NP	14	
881.7	Hard, brown SILTY CLAY LOAM, trace gravel	3	4 5 5	NP	14			--heaving sand--	11	5 8 14	NP	24	
879.2	Stiff to very stiff, pinkish gray to gray, CLAY LOAM, trace gravel	4	3 5 6	4.35 B	16			--heaving sand--	12	8 9 12	NP	23	
		5	3 5 9	2.71 B	11		857.7	Medium dense, gray SILTY LOAM; wet	13	9 9 9	NP	25	
		6	4 5 9	1.89 B	12			--heaving sand--	13	9 9 9	NP	25	
		7	6 6 8	NR			852.5	Very stiff, gray SILTY CLAY	14	5 8 10		2.21 B	20
		8	3 4 4	1.15 B	11		849.7		14	5 8 10		2.21 B	20

GENERAL NOTES

Begin Drilling 01-15-2015 Complete Drilling 01-15-2015
Drilling Contractor Wang Testing Services Drill Rig D-25 ATV
Driller P & N Logger D. Kolpacki Checked by A. Hamad
Drilling Method 2.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling 6.00 ft
At Completion of Drilling 6.00 ft
Time After Drilling NA
Depth to Water NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG SB1-02

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 884.60 ft
North: 2002149.84 ft
East: 983593.22 ft
Station: 2146+83.89
Offset: 74.35 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
883.4	15-inch thick, dark brown SILTY LOAM --TOPSOIL-- Very stiff, brown, SILTY CLAY LOAM, trace gravel --FILL--	1	3 4 4	3.00 P	18		863.1	Medium dense, pinkish gray, SANDY LOAM to LOAM, trace gravel; wet	9	7 5 6	NP	11	
881.6	Stiff, dark brown CLAY LOAM, trace gravel --FILL-- -L ₁ (%)=42, P _L (%)=20- -%Gravel=2.0- -%Sand=31.8- -%Silt=45.2- -%Clay=21.1- -A-7-6 (13)-	2	2 3 5	1.23 B	22				10	5 7 6	NP	10	
		3	4 4 5	1.72 B	31		859.1	Very stiff, pinkish gray CLAY LOAM, trace gravel	11	5 8 9	3.12 B	10	
876.6	Stiff to very stiff, brown and gray, SILTY CLAY LOAM, trace gravel	4	3 3 4	1.00 P	13				12	3 5 6	2.05 B	11	
		5	5 9 7	3.28 B	14		852.9	Medium dense, gray GRAVELLY SAND	13	9 10 13	NP	8	
		6	6 6 7	NA	15				13	9 10 13	NP	8	
		7	4 5 9	1.50 P	17				14	12 14 15	NP	11	
		8	6 10 13	3.03 B	18			--Saturated-- --heaving sand--	14	12 14 15	NP	11	

GENERAL NOTES

Begin Drilling 01-15-2015 Complete Drilling 01-15-2015
Drilling Contractor Wang Testing Services Drill Rig D-25 ATV
Driller N & R Logger D. Kolpacki Checked by A. Hamad
Drilling Method 2.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling 15.00 ft
At Completion of Drilling 3.00 ft
Time After Drilling NA
Depth to Water NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:41:50 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1
RETAINING WALL SB1

SHEET NO. 12 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	637
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



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BORING LOG SB1-03

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 881.43 ft
North: 2002221.16 ft
East: 983599.79 ft
Station: 2147+55.43
Offset: 71.09 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
880.3	14-inch thick, dark brown SILTY CLAY LOAM, trace gravel --TOPSOIL--														
	Stiff, dark brown SILTY CLAY, trace gravel --FILL--	1	X	4	3	1.00 P	22		--interbedded moist sand--	9	X	8	10	> 4.50 P	16
877.2	Medium stiff, dark brown, SILTY CLAY LOAM, trace gravel and organic matter	5	O	11	6	NR		858.4	Medium dense, pinkish gray LOAM, trace gravel; moist	25	X	3	6	NP	11
								855.9	Very stiff, pinkish gray, CLAY LOAM, little gravel		X	4	9	2.38 B	10
873.4	Loose, brown SANDY LOAM to LOAM, trace organic matter, interbedded moist fine sand	10	X	3	4	NP	25	853.4	Medium dense, pinkish gray LOAM, little gravel; moist	30	X	8	13	NP	11
870.9	Medium stiff, brown CLAY LOAM, trace gravel and organic matter	15	X	3	3	0.57 B	33	849.2	Medium dense, gray, medium to coarse SAND, some gravel; saturated	35	X	12	13	NP	17
868.4	Medium stiff, gray CLAY LOAM, trace gravel	15	X	3	3	0.98 B	13				X	12	13	NP	17
865.9	Very stiff to hard, gray SILTY CLAY LOAM to CLAY LOAM, trace gravel	20	X	12	10	> 4.50 P	14				X	10	10	NP	12
								841.4	--heaving sand--	40	X	10	11	NP	12

GENERAL NOTES

Begin Drilling **01-16-2015** Complete Drilling **01-19-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **11.75 ft**
At Completion of Drilling **12.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENG\NC 790701.GPJ WANGENG.GDT 5/12/15



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BORING LOG SB1-04

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 877.37 ft
North: 2002301.75 ft
East: 983610.39 ft
Station: 2148+36.42
Offset: 64.22 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
876.4	12-inch thick, dark brown SILTY LOAM and cobbles --TOPSOIL--														
	Medium stiff (0.5P) to stiff, brown SILTY CLAY LOAM, trace gravel --FILL--	1	X	2	4	1.25 P	12		--interbedded gray silt, trace organic matter--	9	X	4	5	1.56 B	28
873.6	Stiff, dark brown SILTY CLAY LOAM, trace gravel	5	X	2	3	1.25 P	30	851.9	Stiff, gray CLAY LOAM, little gravel	25	X	4	5	1.39 B	16
872.7	--BURIED TOPSOIL--										X	4	6	1.23 B	13
	Soft, greenish brown SILTY CLAY LOAM, little gravel	10	X	1	1	0.25 P	20				X	5	6	1.23 B	14
869.4	Loose to medium dense, greenish brown and gray SILTY LOAM, little gravel, trace plant material, interbedded sand; wet	15	X	3	5	NP	20	844.9	Stiff to very stiff, gray SILTY CLAY LOAM, trace gravel	35	X	5	8	2.13 B	14
											X	8	11	1.64 B	14
864.4	Loose, gray ORGANIC SILTY LOAM, trace gravel and roots; wet	15	X	6	5	NP	47				X	6	8	1.64 B	14
860.9	Stiff, gray SILTY CLAY LOAM, trace gravel	20	X	2	3	1.15 B	16				X	6	8	1.64 B	14
								837.4		40	X	6	8	1.64 B	14

GENERAL NOTES

Begin Drilling **01-19-2015** Complete Drilling **01-19-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **8.00 ft**
At Completion of Drilling **19.50 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENG\NC 790701.GPJ WANGENG.GDT 5/12/15



4/25/2018 4:41:55 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
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PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
RETAINING WALL SB1

SHEET NO. 13 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	638
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



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BORING LOG SB1-05

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 874.54 ft
North: 2002373.23 ft
East: 983605.11 ft
Station: 2149+07.58
Offset: 72.82 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
873.5	12-inch thick, brown SILTY LOAM --TOPSOIL-- Soft to medium stiff, dark brown to yellowish brown CLAY LOAM to SILTY CLAY LOAM, trace gravel, roots, and organic matter -L _L (%)=40, P _L (%)=17- -%Gravel=5.9- -%Sand=20.1- -%Silt=46.5- -%Clay=27.4- -A-6 (15)- --Saturated sand lenses--	0-5	1	1	0.75	30	851.5	Stiff to very stiff, yellowish gray and gray SILTY CLAY LOAM, trace gravel	5-25	9	7	NP	29
868.0	Loose, brown and black ORGANIC SILTY LOAM, interbedded fine sand, trace shells; wet	5-10	2	2	0.50	26	851.5	Stiff to very stiff, yellowish gray and gray SILTY CLAY LOAM, trace gravel	25-30	10	5	1.89	14
865.0	Medium dense, gray fine to medium SAND to SANDY LOAM; saturated	10-15	3	3	NP	67	851.5	Stiff to very stiff, yellowish gray and gray SILTY CLAY LOAM, trace gravel	30-35	11	6	2.62	15
859.0	Loose, gray SILTY LOAM, trace shells and gravel, trace organic matter; wet	15-20	4	4	NP	42	851.5	Stiff to very stiff, yellowish gray and gray SILTY CLAY LOAM, trace gravel	35-40	12	5	3.61	14
856.5	Loose to medium dense, gray SILTY LOAM, trace shells and gravel; wet	20-40	5	8	NP	18	851.5	Stiff to very stiff, yellowish gray and gray SILTY CLAY LOAM, trace gravel	40-45	13	8	2.79	13
837.0	Medium dense, pinkish gray SANDY LOAM to LOAM, little gravel	40-44	6	4	NP	16	834.5	Boring terminated at 40.00 ft	45-50	14	8	NP	9

GENERAL NOTES

Begin Drilling **01-20-2015** Complete Drilling **01-20-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **4.50 ft**
At Completion of Drilling **5.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG SB1-06

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 872.19 ft
North: 2002442.17 ft
East: 983613.01 ft
Station: 2149+76.81
Offset: 68.11 LT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
871.2	12-inch thick, dark brown SILTY LOAM --TOPSOIL-- Very loose, dark brown SILTY LOAM, interbedded fine sand; saturated	0-5	1	2	NP	23	849.2	Soft to medium stiff, gray SILTY LOAM to CLAY LOAM	5-10	9	5	NP	55
869.2	Loose to medium dense, dark brown to brown ORGANIC SILTY LOAM to GRAVELLY SILTY LOAM, trace shells, and plant material; saturated	5-10	2	2	NP	58	849.2	Soft to medium stiff, gray SILTY LOAM to CLAY LOAM	10-15	10	2	0.25	17
864.2	Medium dense, dark brown SANDY LOAM, some gravel; saturated	10-15	3	4	NP	55	844.2	Very stiff to hard, yellowish gray to gray SILTY CLAY LOAM, trace gravel	15-20	11	2	0.90	14
859.2	Very loose to loose, black and gray ORGANIC SILTY LOAM, trace shells and sand seams; saturated	15-20	4	2	NP	10	844.2	Very stiff to hard, yellowish gray to gray SILTY CLAY LOAM, trace gravel	20-25	12	4	2.46	14
859.2	Very loose to loose, black and gray ORGANIC SILTY LOAM, trace shells and sand seams; saturated	20-25	5	6	NP	15	844.2	Very stiff to hard, yellowish gray to gray SILTY CLAY LOAM, trace gravel	25-30	13	3	2.30	13
832.2	Boring terminated at 40.00 ft	30-40	6	1	NP	81	832.2	Boring terminated at 40.00 ft	35-40	14	8	4.02	15

GENERAL NOTES

Begin Drilling **01-20-2015** Complete Drilling **01-21-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **0.00 ft**
At Completion of Drilling **8.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:41:59 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
RETAINING WALL SB1

SHEET NO. 14 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	639
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



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BORING LOG SB1-07

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.42 ft
North: 2002486.78 ft
East: 983648.97 ft
Station: 2150+23.06
Offset: 34.24 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
	881.3	14-inch thick, ASPHALT --PAVEMENT--															
	880.8	6-inch thick, brown SANDY GRAVEL; dry --BASE COURSE--	1	X	12 9 10	4.50	10			857.4	Loose, black, brown, and gray SILTY LOAM, trace organic matter; moist	9	X	8 7 5	NP	12	
		Very stiff to hard, brown SILTY CLAY LOAM, trace to little gravel --FILL--	2	X	8 9 7	3.75	9			855.4	Black and brown CLAY LOAM, trace organic matter	10	X	3 4 2	NP	12	
			3	X	6 6 6	3.75	11				--disturbed sample--	11	X	3 2 3	NP	13	
			4	X	7 5 6	2.54	11					12	X	3 3 3	NA	27	
			5	X	3 4 4	2.50	14			850.7	Medium stiff to hard, brown and gray SILTY CLAY LOAM to SILTY CLAY, trace gravel	13	O	2 3 2	NR		
			6	X	3 6 7	3.50	14					14	X	2 4 5	0.90 B	17	
	866.9	Loose to dense, brown GRAVELLY SAND; saturated --FILL--	7	X	16 14 17	NP	10					15	X	5 7 11	2.79 B	15	
			8	X	8 9 12	NP	11					20	X				

GENERAL NOTES

Begin Drilling **03-19-2015** Complete Drilling **03-19-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**
Driller **R & J** Logger **F. Bozga** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **15.50 ft**
At Completion of Drilling ∇ **15.00 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG SB1-07

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.42 ft
North: 2002486.78 ft
East: 983648.97 ft
Station: 2150+23.06
Offset: 34.24 LT

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
			16	X	7 9 10	3.61 B	14										
			17	X	8 9 13	5.41 B	14										
	830.7	Dense, gray coarse SAND, trace gravel; wet	18	X	10 18 22	NP	18										
	827.4	Boring terminated at 55.00 ft	55	X													

GENERAL NOTES

Begin Drilling **03-19-2015** Complete Drilling **03-19-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**
Driller **R & J** Logger **F. Bozga** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **15.50 ft**
At Completion of Drilling ∇ **15.00 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:42:03 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 4
RETAINING WALL SB1

SHEET NO. 15 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	640
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



BORING LOG SB1-08

Page 1 of 1

wangeng@wangeng.com
1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
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WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 872.28 ft
North: 2002518.11 ft
East: 983615.73 ft
Station: 2150+52.8
Offset: 68.91 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
869.3	Very loose, brown SANDY LOAM, trace gravel, interbedded silty loam; saturated	1	1	1	NP	37	850.5	--heaving sand--	0	0	0	NA	
866.8	Soft, black and brown ORGANIC SILTY CLAY, trace shells	2	1	1	0.25 P	52	846.8	Dense, gray SANDY GRAVEL	9	0	0	NA	
861.8	Soft, brown and gray CLAY LOAM to LOAM, trace gravel	3	3	3	0.25 P	13	844.3	Medium dense, pinkish gray SANDY LOAM, trace gravel; wet	10	49	23	NP	7
861.8	Stiff to hard, gray SILTY CLAY LOAM, trace gravel	4	2	2	0.41 B	15	840.3	Medium dense, gray SILTY LOAM; saturated	11	11	10	NP	12
854.3	--3-inch thick, gray sandy gravel; saturated	5	3	3	2.30 B	16	835.3	Dense, gray SANDY GRAVEL	12	5	7	NP	26
		6	3	4	3.44 B	14		--heaving sand--	13	35	24	NP	6
		7	5	6	4.50 P	15			14	8	12	3.50 P	18
		8	4	6	NP	11		--heaving sand--	14	8	12	3.50 P	18

GENERAL NOTES

Begin Drilling **01-21-2015** Complete Drilling **01-22-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled**
upon completion

WATER LEVEL DATA

While Drilling **0.00 ft**
At Completion of Drilling **0.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



BORING LOG SB1-09

Page 1 of 1

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1145 N Main Street
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WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 870.82 ft
North: 2002595.58 ft
East: 983618.86 ft
Station: 2151+30.33
Offset: 69.37 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
870.3	6-inch thick ICE							--heaving sand--					
	Very loose, black and brown ORGANIC SILTY LOAM, trace shells and plant material; wet	1	0	0	NP	36	846.6	--interbedded silty loam; wet--	9	4	4	1.07 B	14
865.3	Very loose, brown SILTY LOAM, trace organic matter; wet	2	1	0	NP	47	846.6	--disturbed sample--	10	4	5	NA	15
862.8	Very loose, brown ORGANIC SILTY LOAM, trace shells and plant material; wet	3	1	1	NP	27		Very stiff, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel	11	7	9	3.53 B	14
		4	0	1	NP	124			12	4	6	3.44 B	13
		5	1	0	NP	61			13	7	9	3.53 B	11
		6	2	5	1.00 P	14			13	7	9	3.53 B	11
		7	3	6	NP	12			14	7	12	NP	7
		8	3	5	1.23 B	15			14	7	10	NP	7

GENERAL NOTES

Begin Drilling **01-26-2015** Complete Drilling **01-26-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **P & N** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **2.25-inch IDA HSA, auto hammer, boring backfilled**
upon completion

WATER LEVEL DATA

While Drilling **0.00 ft**
At Completion of Drilling **0.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:42:07 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 5
RETAINING WALL SB1

SHEET NO. 16 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	641
				CONTRACT NO. 61E53

ILLINOIS FED. AID PROJECT

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

BORING LOG SB1-10
 WEI Job No.: 790-77-01

Datum: NAVD88
 Elevation: 868.45 ft
 North: 2002682.93 ft
 East: 983618.05 ft
 Station: 2152+17.55
 Offset: 74.21 LT

Client: TranSystems Corporation
 Project: Randall Road Phase II Improvements
 Location: McHenry County, IL

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
868.14	14-inch thick, ICE						847.9	Very stiff to hard, gray SILTY CLAY LOAM, trace gravel					
	Very loose, black and brown ORGANIC SILTY LOAM to SILTY CLAY LOAM, little gravel, trace shells		1	1 0 1	NP	30				9	5 7 10	3.28 B	15
	-L _l (%)=79, P _l (%)=34- -%Gravel=0.2- -%Sand=22.2- -%Silt=54.8- -%Clay=22.8- -A-7-5 (39)-		2	1 0 1	NP	95				10	7 7 11	3.94 B	14
			3	1 0 0	NP	91				11	7 11 15	5.82 B	12
			4	1 0 0	NP	85				12	12 12 13	NP	20
857.1	Medium dense, gray LOAM, trace organic matter and little gravel		5	3 6 7	NP	13	840.4	Medium dense, gray SILTY LOAM; wet					
855.4	Stiff, gray SILTY CLAY LOAM, trace gravel		6	3 9 6	1.39 B	17	836.7	Dense, gray, coarse SAND, some gravel; saturated					
852.9	Loose, yellowish gray SILTY LOAM, trace gravel; wet		7	3 3 5	NP	14				13	14 16 20	NP	14
			8	3 4 5	NP	14				14	20 24 24	NP	14

GENERAL NOTES

Begin Drilling 01-26-2015 Complete Drilling 01-27-2015

Drilling Contractor Wang Testing Services Drill Rig D-25 ATV

Driller P & N Logger D. Kolpacki Checked by A. Hamad

Drilling Method 2.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling 0.00 ft

At Completion of Drilling 0.00 ft

Time After Drilling NA

Depth to Water NA

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

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 Telephone: 630 953-9928
 Fax: 630 953-9938

BORING LOG SB1-11
 WEI Job No.: 790-77-01

Datum: NAVD88
 Elevation: 882.05 ft
 North: 2002719.54 ft
 East: 983660.48 ft
 Station: 2152+56.08
 Offset: 33.53 LT

Client: TranSystems Corporation
 Project: Randall Road Phase II Improvements
 Location: McHenry County, IL

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
881.1	11-inch thick, ASPHALT -PAVEMENT-						850.3	Medium dense, gray coarse SANDY GRAVEL; saturated					
880.6	Medium dense, brown SANDY GRAVEL; dry		1	7 9 9	4.50 P	9				9	3 4 6	1.80 B	15
	-BASE COURSE-		2	7 9 7	3.75 P	17				10	4 4 6	1.23 B	15
	Stiff to hard, brown SILTY CLAY LOAM, trace to little gravel -FILL-		3	4 5 5	1.64 B	20				11	6 8 12	1.50 P	12
			4	6 8 7	3.75 P	15				12	4 6 10	3.44 B	14
			5	5 6 6	2.30 B	24				13	9 9 12	NP	15
869.1	Dense, brown GRAVELLY SAND; moist		6	6 16 18	NP	12				14	8 8 10	NP	11
	-FILL-		7	3 3 2	NR					14	8 8 10	NP	11
865.3	Stiff to very stiff, gray SILTY CLAY LOAM, trace gravel		8	3 3 4	1.23 B	16							

GENERAL NOTES

Begin Drilling 03-18-2015 Complete Drilling 03-18-2015

Drilling Contractor Wang Testing Services Drill Rig D-50 ATV

Driller R & J Logger F. Bozga Checked by A. Hamad

Drilling Method 2.25-inch IDA SSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling 15.00 ft

At Completion of Drilling 15.00 ft

Time After Drilling NA

Depth to Water NA

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



USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISOR -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISOR -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISOR -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS 6
 RETAINING WALL SB1**
 SHEET NO. 17 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	642
				CONTRACT NO. 61E53
ILLINOIS FED. AID PROJECT				



BORING LOG SB1-11

Page 2 of 2

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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax 630 953-9938

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.05 ft
North: 2002719.54 ft
East: 983660.48 ft
Station: 2152+56.08
Offset: 33.53 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
835.3	Medium dense, gray medium SAND; wet	45	X	15	13 9 13	NP	8	835.3							
827.1	Boring terminated at 55.00 ft	55	X	16	13 13 15	NP	19	827.1							
		55	X	17	10 9 10	NP	20								

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	03-18-2015	Complete Drilling	03-18-2015	While Drilling	▽	15.00 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	D-50 ATV	At Completion of Drilling	▽	15.00 ft	
Driller	R & J	Logger	F. Bozga	Time After Drilling		NA	
Checked by	A. Hamad			Depth to Water	▽	NA	
Drilling Method	2.25-inch IDA SSA, auto hammer, boring backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			



BORING LOG SB1-12

Page 1 of 1

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1145 N Main Street
Lombard, IL 60148
Telephone: 630 953-9928
Fax 630 953-9938

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 872.60 ft
North: 2002746.27 ft
East: 983624.27 ft
Station: 2152+81.11
Offset: 70.94 LT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
871.6	12-inch thick, dark brown and black SILTY LOAM							852.1	Loose to medium dense, gray, fine to coarse SAND AND GRAVEL; saturated						
	Very loose to loose, dark brown and black ORGANIC SILTY LOAM, trace plant material	1	X	1	1 1 2	NP	41			9	X	4 3 5	NP	13	
		2	X	2	1 1 1	NP	100		-heaving sand-	10	X	9 10 11	NP	12	
	-L ₁ (%)=68, P _L (%)=41 -%Gravel=0.5- -%Sand=20.7- -%Silt=66.3- -%Clay=12.6- -A-7-5 (26)-	5	X	5						25	X				
867.1	Loose, brown SILTY LOAM, trace organic matter; moist								-heaving sand-	11	X	9 9 9	NP	12	
864.6	Stiff, gray SILTY LOAM, trace gravel									30	X	13 9 10	NP	9	
		4	X	4	3 3 4	1.07 B	15		-heaving sand-	12	X				
		5	X	5	3 4 5	1.72 B	13			35	X	10 11 13	NP	10	
	-L ₁ (%)=23, P _L (%)=15- -%Gravel=6.6- -%Sand=21.6- -%Silt=56.1- -%Clay=15.7- -A-4 (3)-	15	X	6	5 6 10	2.75 P	13		-heaving sand-	13	X				
859.6	Very stiff to hard, gray SILTY CLAY LOAM to SILTY CLAY, trace gravel									40	X	10 11 15	NP	29	
		7	X	7	6 7 10	4.50 P	11								
		8	X	8	5 5 6	4.26 B	18		-interbedded sand and silt-						
		20	X	8											
								832.6	Boring terminated at 40.00 ft						

GENERAL NOTES				WATER LEVEL DATA			
Begin Drilling	01-27-2015	Complete Drilling	01-28-2015	While Drilling	▽	18.00 ft	
Drilling Contractor	Wang Testing Services	Drill Rig	D-25 ATV	At Completion of Drilling	▽	3.00 ft	
Driller	P & N	Logger	D. Kolpacki	Time After Drilling		NA	
Checked by	A. Hamad			Depth to Water	▽	NA	
Drilling Method	2.25-inch IDA HSA, auto hammer, boring backfilled upon completion			The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.			



4/25/2018 4:42:05 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 7
RETAINING WALL SB1

SHEET NO. 18 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	643
				CONTRACT NO. 61E53
ILLINOIS FED. AID PROJECT				



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 1145 N Main Street
 Lombard, IL 60148
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BORING LOG SB1-13

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
 Project: **Randall Road Phase II Improvements**
 Location: **McHenry County, IL**

Datum: NAVD88
 Elevation: 874.85 ft
 North: 2002805.17 ft
 East: 983624.76 ft
 Station: 2153+39.97
 Offset: 73.17 LT

Page 1 of 1

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
	873.8	12-inch thick, dark brown, SILTY CLAY LOAM								854.3	Very stiff, gray CLAY						
		--TOPSOIL--															
		Stiff, dark brown and brown SILTY CLAY LOAM, interbedded fine sand			1	3 3 3	1.00 P	33		852.6	Dense to medium dense, gray coarse GRAVELLY SAND to SANDY LOAM; saturated to wet			9	7 14 19	2.46 B	24
	871.8	--FILL--															
		Loose, black and brown ORGANIC SILTY LOAM to PEAT, interbedded fine sand; wet			2	4 3 3	NP	52						10	9 12 22	NP	13
			5														
					3	2 3 3	NP	109			--heaving sand--			11	9 10 12	NP	10
	866.8	Medium dense, gray SANDY LOAM, some gravel; wet			4	3 5 6	NP	12			--heaving sand--			12	5 8 10	NP	10
			10														
	864.3	Very stiff, gray SILTY CLAY LOAM to SILTY CLAY, trace gravel			5	5 7 9	2.05 B	15			--Hard Drilling-- --Possible cobbles or a boulder at 31'--						
					6	5 6 10	3.03 B	15						13	11 9 11	NP	10
		--interbedded silty loam--	15														
		--interbedded fine sand--			7	6 8 12	2.87 B	16									
	856.8	Medium dense, gray SILTY LOAM, interbedded sand and clay; wet			8	4 6 8	NP	18						14	7 10 13	NP	11
			20														
										834.8	Boring terminated at 40.00 ft						

GENERAL NOTES

Begin Drilling: **01-28-2015** Complete Drilling: **01-29-2015**
 Drilling Contractor: **Wang Testing Services** Drill Rig: **D-25 ATV**
 Driller: **P & N** Logger: **D. Kolpacki** Checked by: **A. Hamad**
 Drilling Method: **2.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling: **2.00 ft**
 At Completion of Drilling: **3.00 ft**
 Time After Drilling: **NA**
 Depth to Water: **NA**
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:42:19 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
PLOT SCALE = 16.0000' / in.	CHECKED - MDS	REVISED -
PLOT DATE = 4/25/2018	DRAWN - JNP	REVISED -
	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS 8
 RETAINING WALL SB1

SHEET NO. 19 OF 19 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	644
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	

Bench Mark: Chisled "X" on southwest flange bolt of fire hydrant in the southeast quadrant of Harnish Dr. and Randall Rd. Elev 905.54

Traffic Control: Traffic to be maintained utilizing staged construction.

Existing Structure: None

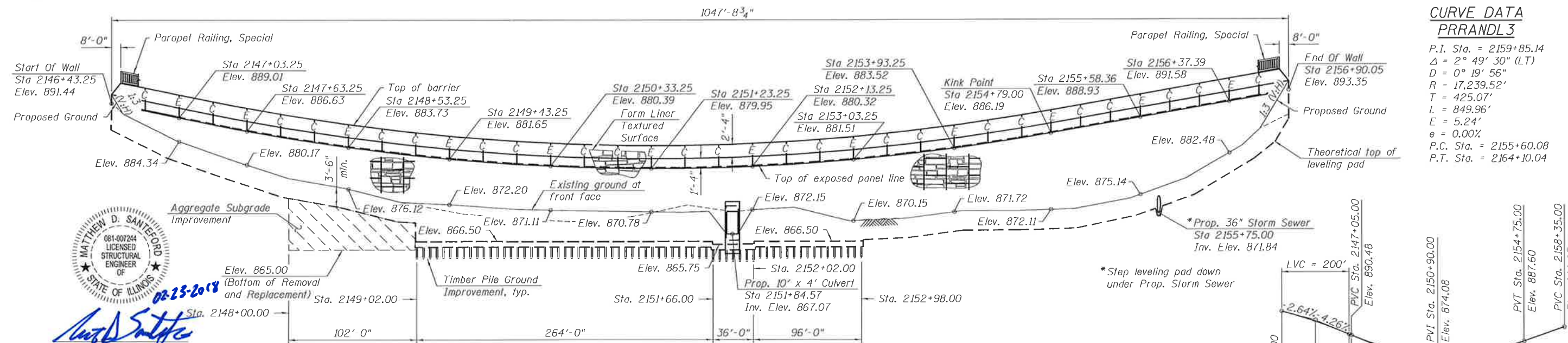
Salvage: None

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2016 Interim Revisions

**CURVE DATA
PRRANDL3**

P.I. Sta. = 2159+85.14
 $\Delta = 2^\circ 49' 30''$ (LT)
 D = $0^\circ 19' 56''$
 R = 17,239.52'
 T = 425.07'
 L = 849.96'
 E = 5.24'
 e = 0.00%
 P.C. Sta. = 2155+60.08
 P.T. Sta. = 2164+10.04



ELEVATION - RETAINING WALL NBI
(Looking West)

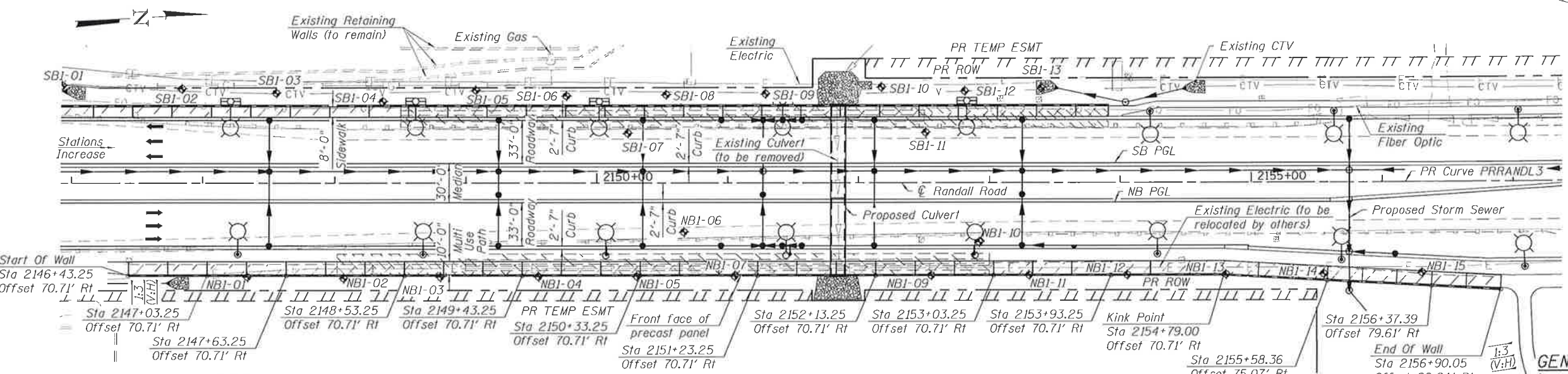
NOTES:

- Offsets are measured from the centerline of Randall Road to the front face of MSE wall. Elevations are shown at top of exposed panel line.
- C = Construction Joint
E = Expansion Joint

MATTHEW D. SANTEFORD
 081-007244
 LICENSED STRUCTURAL ENGINEER OF
 STATE OF ILLINOIS
 02-23-2018

 MATTHEW D. SANTEFORD, P.E., S.E.
 NO. 081-007244
 EXP. DATE 11/30/2018

"I certify that to the best of my knowledge, information and belief, this retaining wall design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current 'AASHTO LRFD Bridge Design Specifications'."

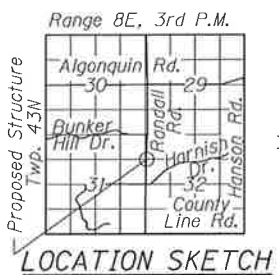


PLAN - RETAINING WALL NBI

DESIGN STRESSES

FIELD UNITS
 f'c = 4,000 psi
 f'c = 1,200 psi (Timber Piles)
 fy = 60,000 psi (Reinforcement)

PRECAST UNITS
 f'c = 4,500 psi



**GENERAL PLAN AND ELEVATION
 RETAINING WALL NBI
 ALONG RANDALL ROAD
 F.A.P. RT. 336
 SECTION 06-00329-01-PW
 MCHENRY COUNTY
 STATION 2146+43.25 TO 2156+90.05
 STRUCTURE NO. 056-W004-NBI**

LEGEND

- Soil Boring
- Limits of reinforced soil mass
- Limits of Timber Pile Ground Improvement
- Limits of Aggregate Subgrade Improvement

USER NAME = mroisa	DESIGNED = JNP	REVISED =
	CHECKED = JRM	REVISED =
PLOT SCALE = 1/8" = 1'-0"	DRAWN = JNP	REVISED =
PLOT DATE = 2/22/2018	CHECKED = JRM	REVISED =

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
 RETAINING WALL NBI**
 SHEET NO. 1 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	645
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



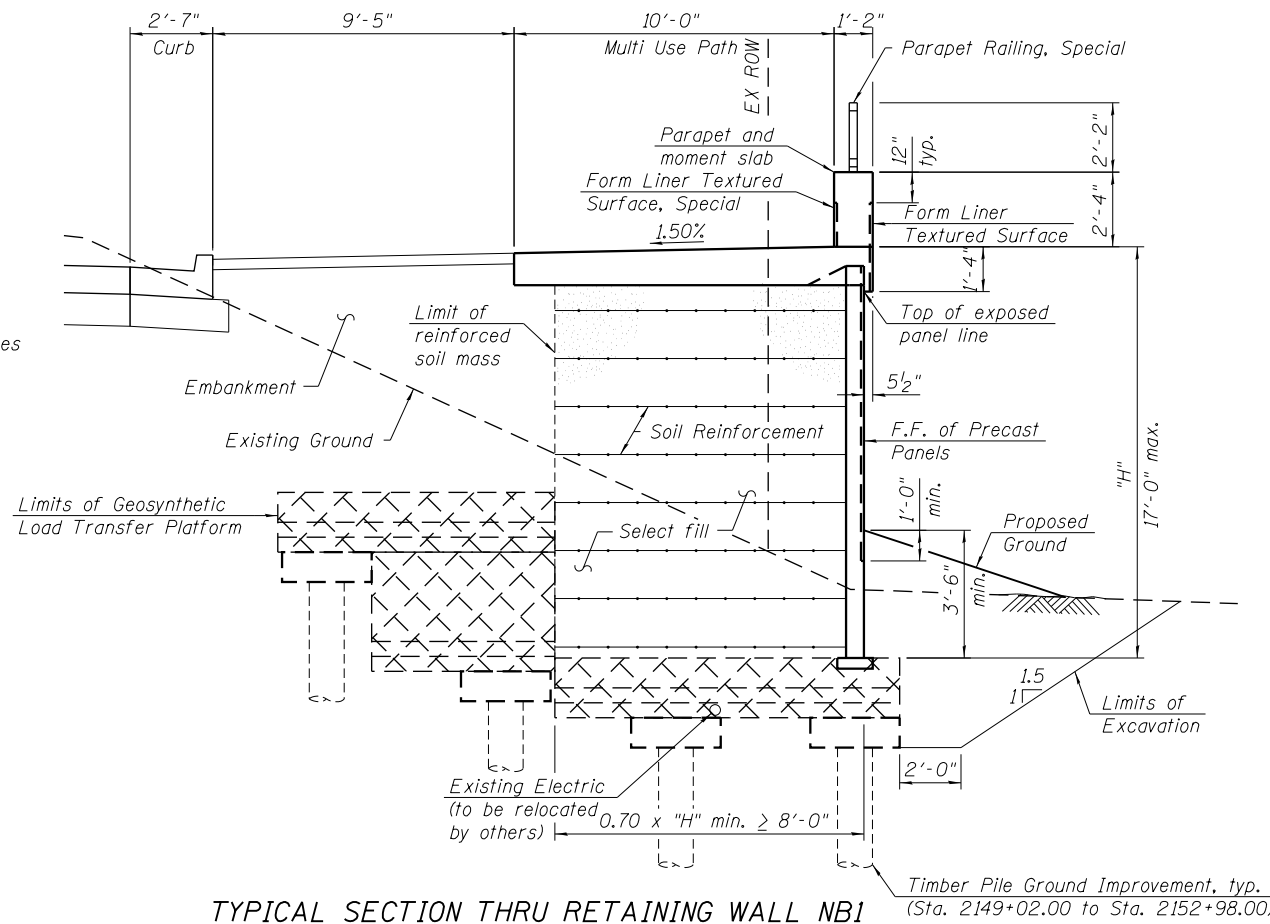
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GENERAL NOTES

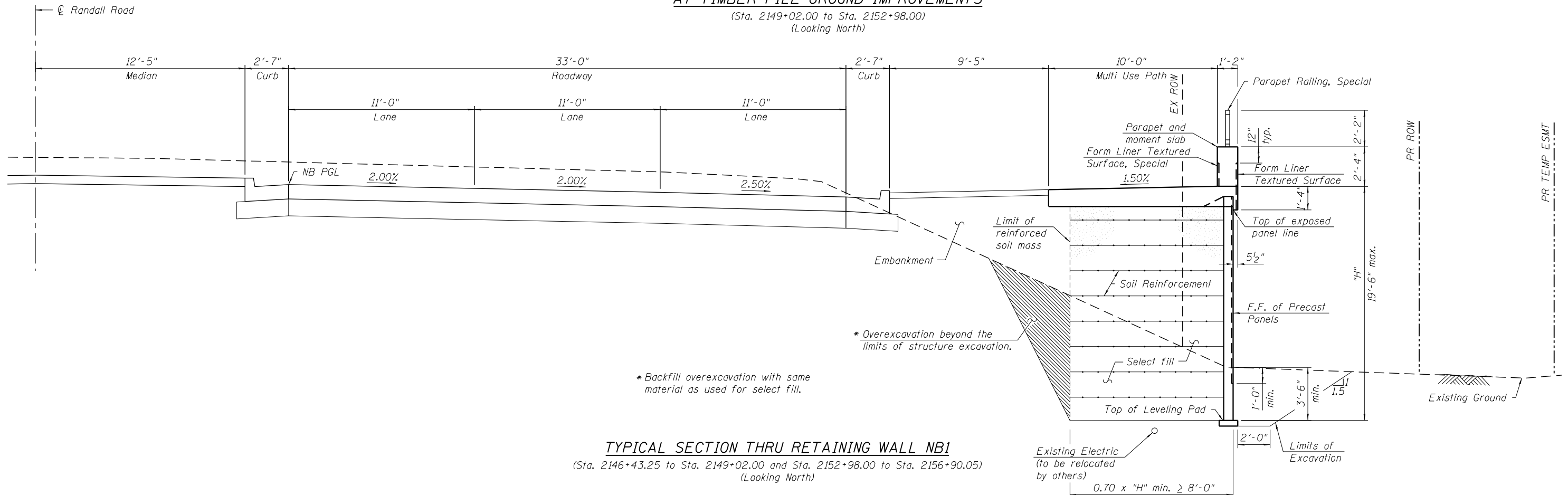
- Reinforcement bars designated (E) shall be epoxy coated.
- Form Liner Textured Surface, Special shall be inset into the face of the barrier on the traffic side up to 1/2" deep and 1" wide.
- The MSE wall supplier's internal stability design shall account for the moment slab's bearing pressure surcharge of 1.0 ksf and horizontal sliding force of 0.5 k/ft of wall.
- Anti-Graffiti Coating shall be applied to all exposed faces of the parapet and the exposed area of the MSE wall panels.
- Staining shall be applied to areas of Form Liner Textured Surface, Form Liner Textured Surface, Special, and the precast concrete panels of the MSE wall.
- All dewatering necessary for the construction of this structure shall be according to the Special Provision for Dewatering and shall be included in the Lump Sum for Dewatering.

INDEX OF SHEETS

- General Plan and Elevation
- General Data
- Moment Slab Plan and Elevation 1
- Moment Slab Plan and Elevation 2
- Moment Slab Plan and Elevation 3
- Moment Slab Plan and Elevation 4
- Moment Slab Plan and Elevation 5
- Moment Slab Plan and Elevation 6
- Retaining Wall Details
- Parapet Railing, Special
- Timber Pile Layout Plan
- Pile Supported Embankment Details and Notes
- Boring Logs 1
- Boring Logs 2
- Boring Logs 3
- Boring Logs 4
- Boring Logs 5
- Boring Logs 6
- Boring Logs 7
- Boring Logs 8



**TYPICAL SECTION THRU RETAINING WALL NB1
AT TIMBER PILE GROUND IMPROVEMENTS**
(Sta. 2149+02.00 to Sta. 2152+98.00)
(Looking North)



TYPICAL SECTION THRU RETAINING WALL NB1
(Sta. 2146+43.25 to Sta. 2149+02.00 and Sta. 2152+98.00 to Sta. 2156+90.05)
(Looking North)

TOTAL BILL OF MATERIAL

Item	Unit	Total
Earth Excavation	Cu. Yd.	7,229
Removal and Disposal of Unsuitable Material	Cu. Yd.	1,204
Porous Granular Embankment	Cu. Yd.	1020
Aggregate Subgrade Improvement	Cu. Yd.	1,204
Protective Coat	Sq. Yd.	1,165
Structure Excavation	Cu. Yd.	2,146
Concrete Structures	Cu. Yd.	89.8
Concrete Superstructure	Cu. Yd.	577.3
Form Liner Textured Surface	Sq. Ft.	2,773
Reinforcement Bars	Pound	8,580
Reinforcement Bars, Epoxy Coated	Pound	83,900
Furnishing Treated Piles Over 38 Feet	Foot	8,701
Driving Piles	Foot	8,701
Mechanically Stabilized Earth Retaining Wall	Sq. Ft.	13,260
Settlement Platforms	Each	2
Biaxial Geogrid	Sq. Yd.	2,939
Staining Concrete Structures	Sq. Ft.	13,737
Parapet Railing, Special	Foot	1,032
Anti-Graffiti Coating	Sq. Ft.	17,055
Form Liner Textured Surface, Special	Sq. Ft.	1,387
Dynamic Pile Monitoring	Each	3



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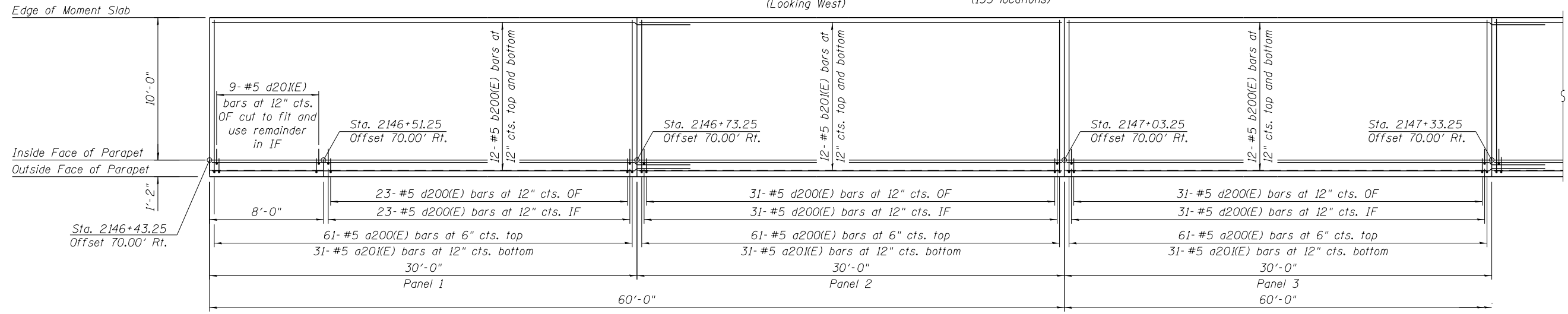
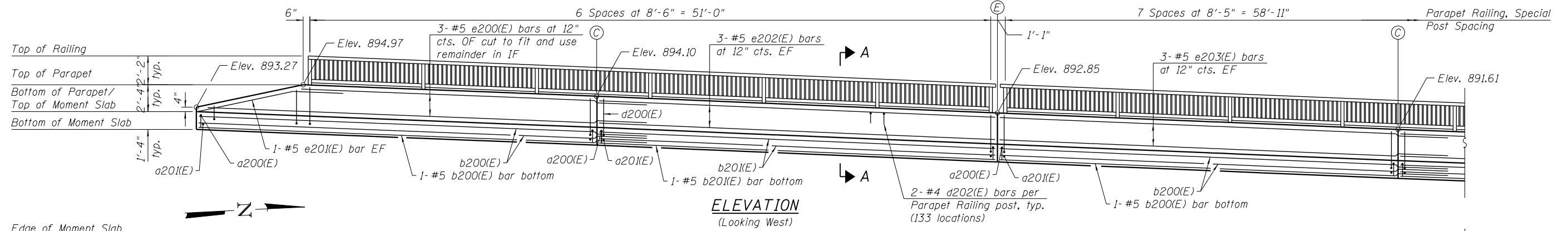
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
RETAINING WALL NB1**

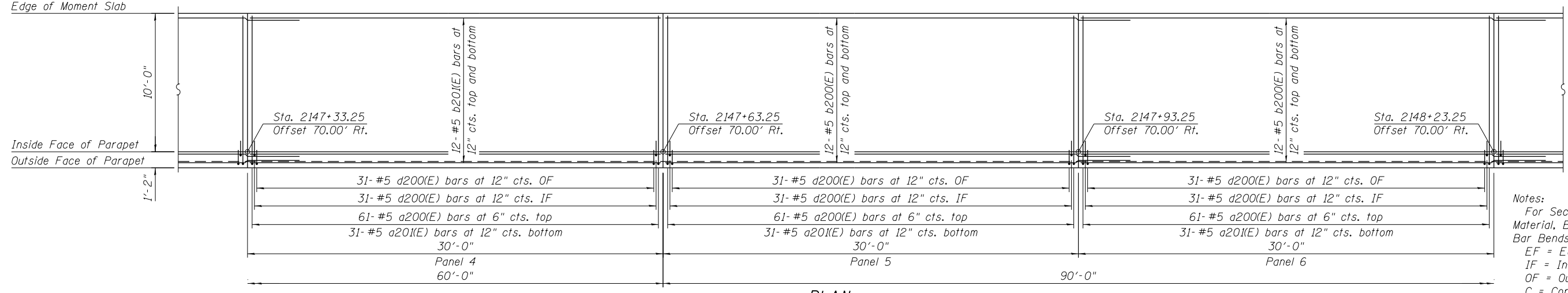
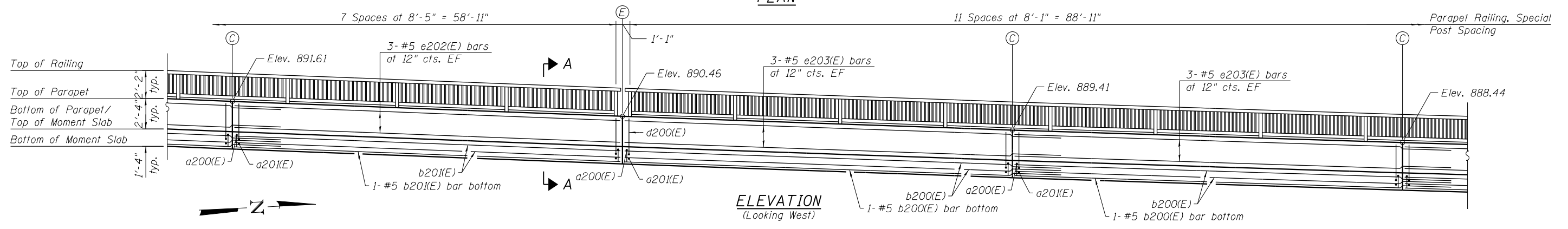
SHEET NO. 2 OF 21 SHEETS

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 646
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



ELEVATION
(Looking West)

PLAN



ELEVATION
(Looking West)

PLAN

Notes:
 For Section A-A, Bill of Material, Bar Diagrams, and Bar Bends, see sheet 9 of 21.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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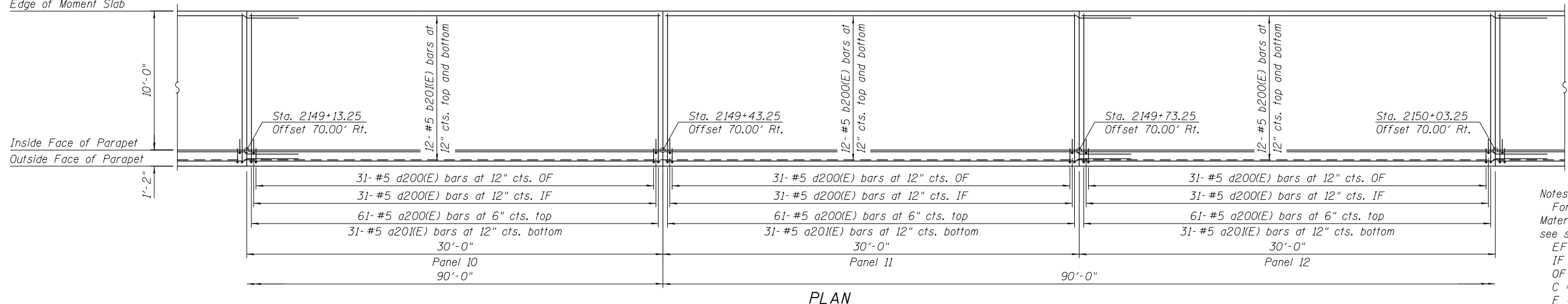
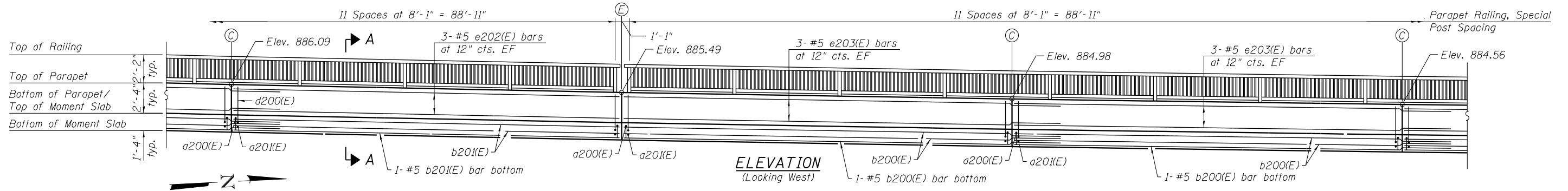
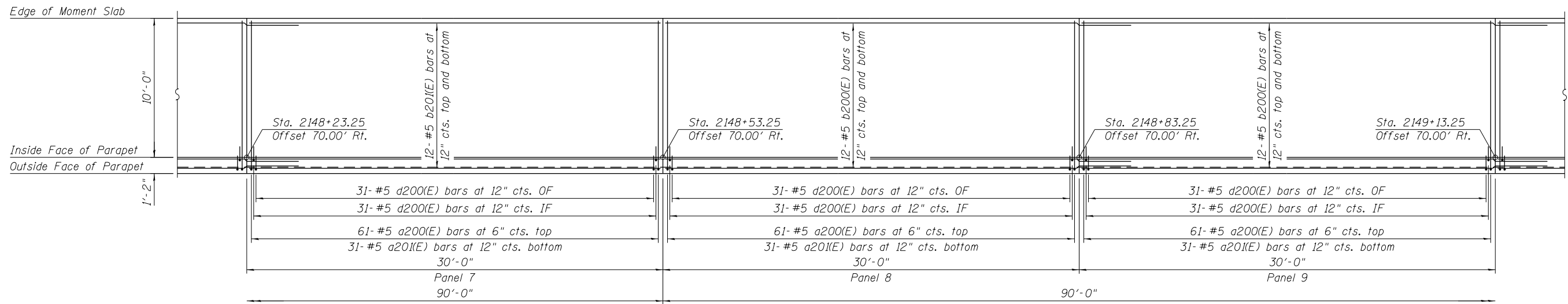
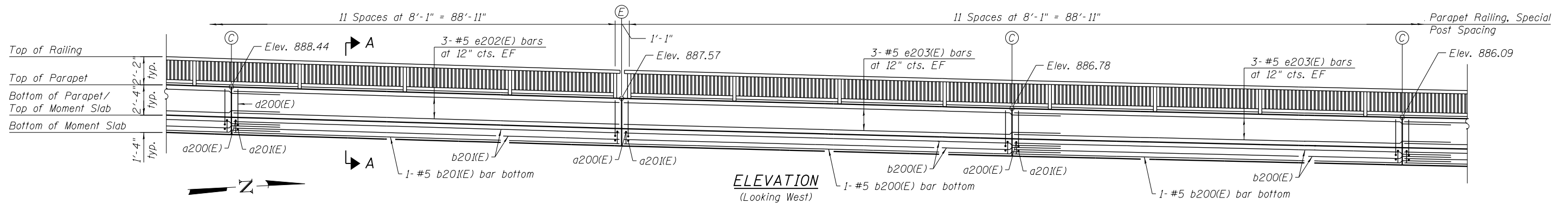
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 1
RETAINING WALL NB1

SHEET NO. 3 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	647
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



Notes:
 For Section A-A, Bill of Material, and Bar Bends, see sheet 9 of 21.
 EF = Each Face
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 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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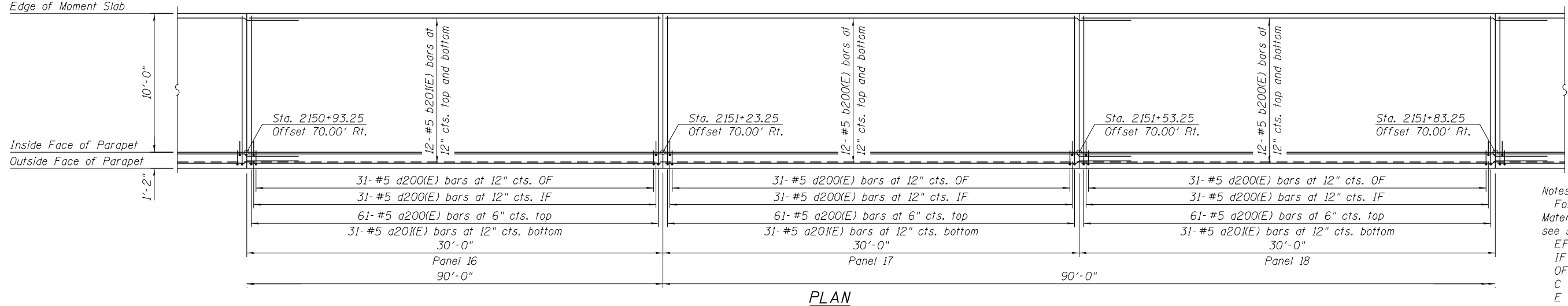
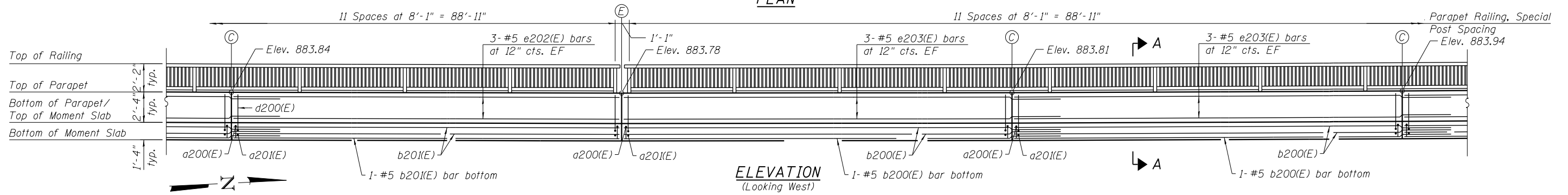
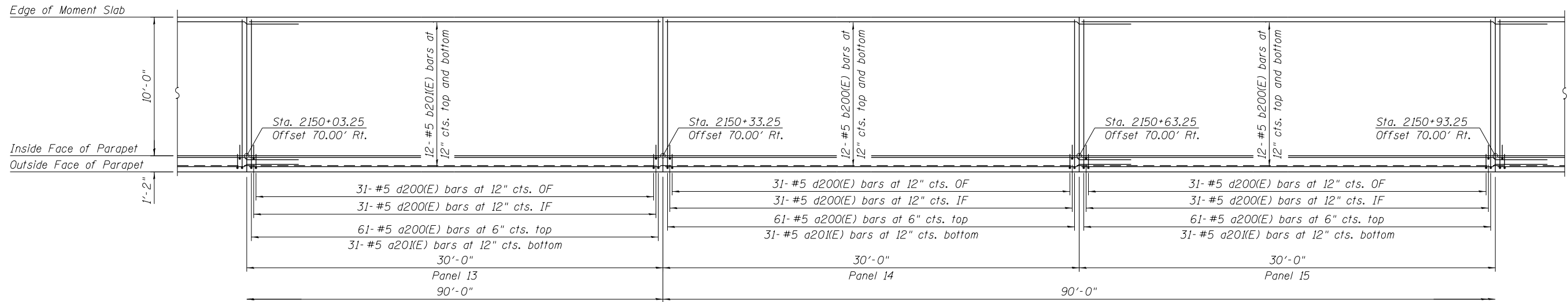
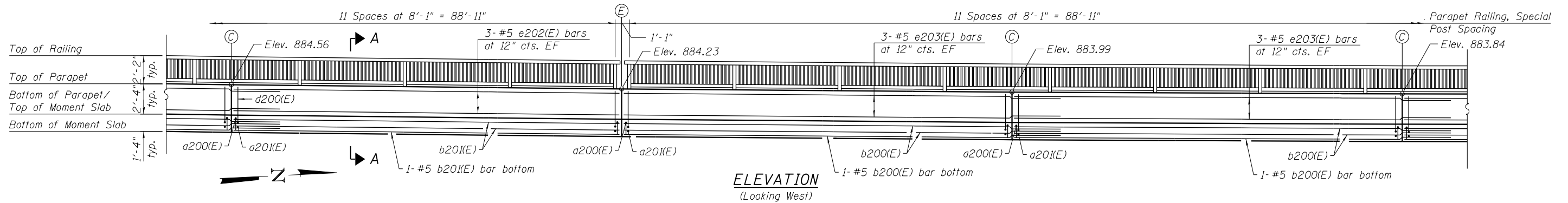
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 2
 RETAINING WALL NB1

SHEET NO. 4 OF 21 SHEETS

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336	06-00329-01-PW	MCHENRY	1751	648
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



Notes:
 For Section A-A, Bill of Material, and Bar Bends, see sheet 9 of 21.
 EF = Each Face
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 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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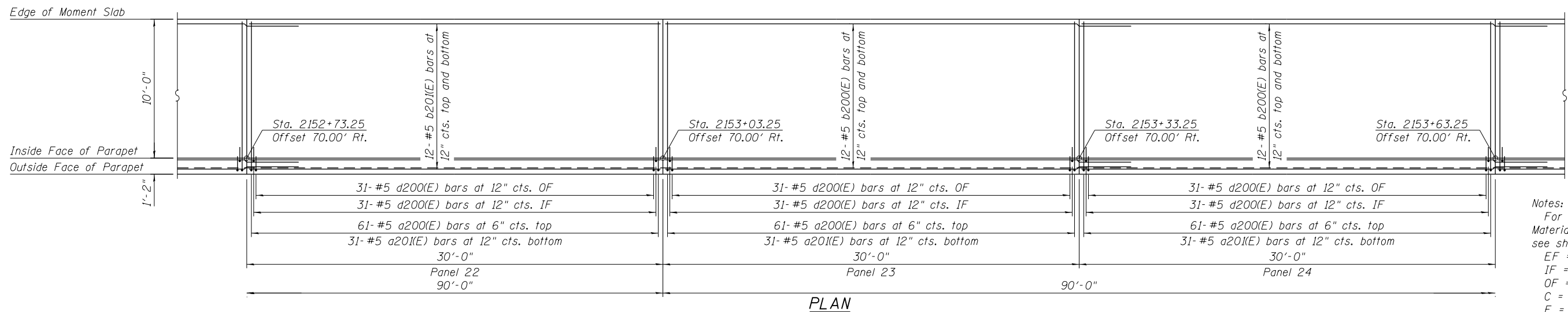
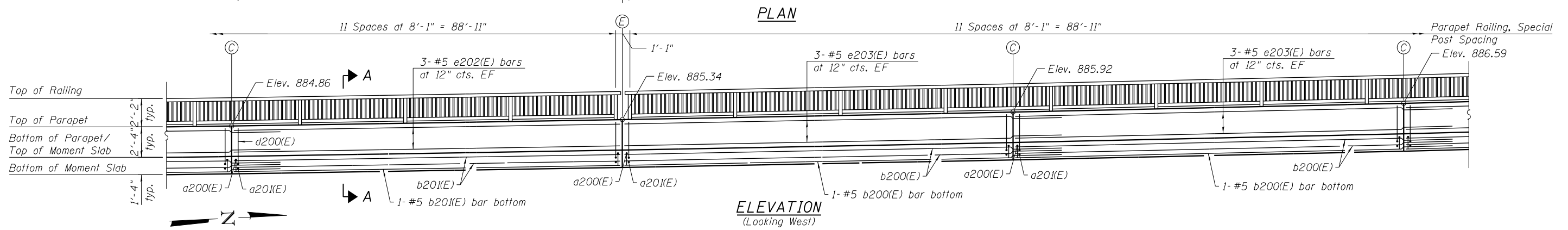
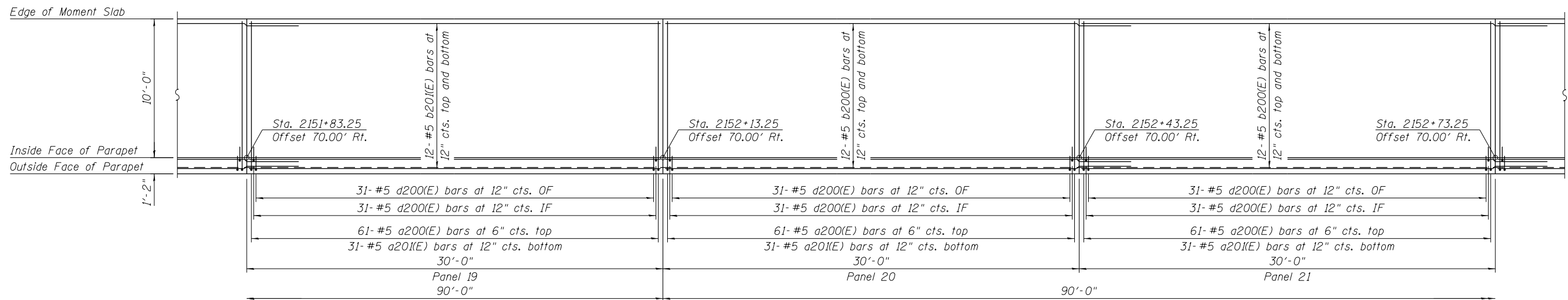
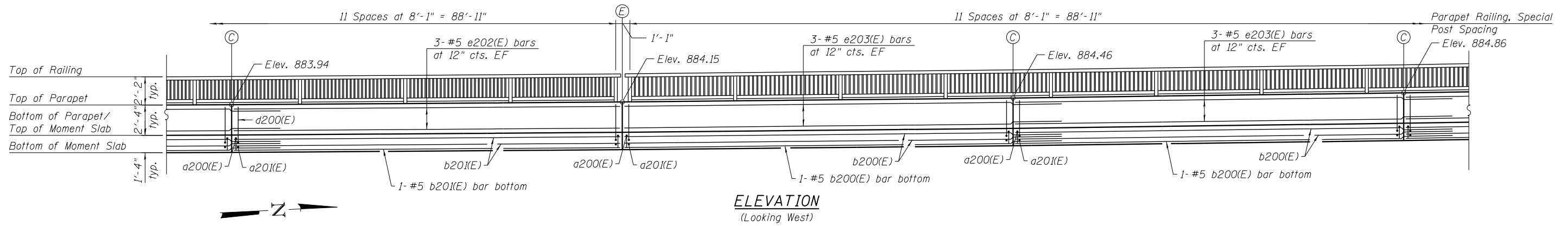
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 3
 RETAINING WALL NB1

SHEET NO. 5 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	649
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



Notes:
 For Section A-A, Bill of Material, and Bar Bends, see sheet 9 of 21.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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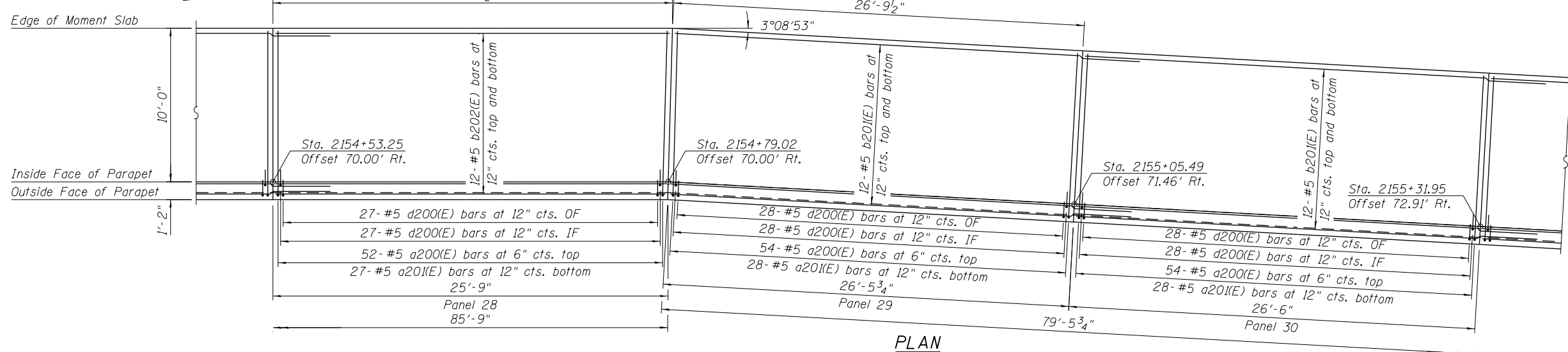
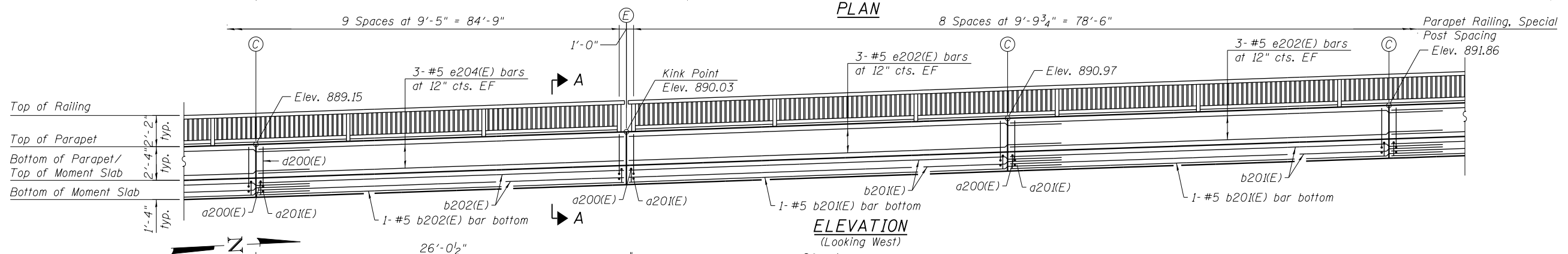
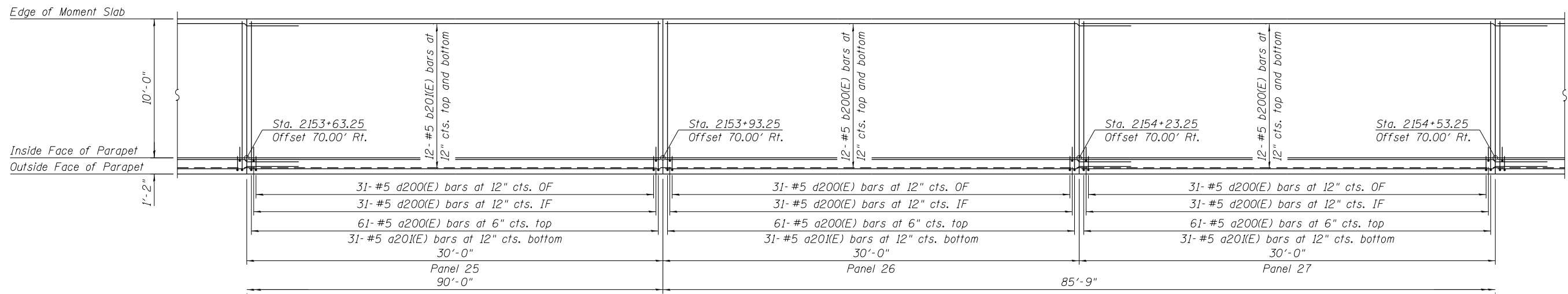
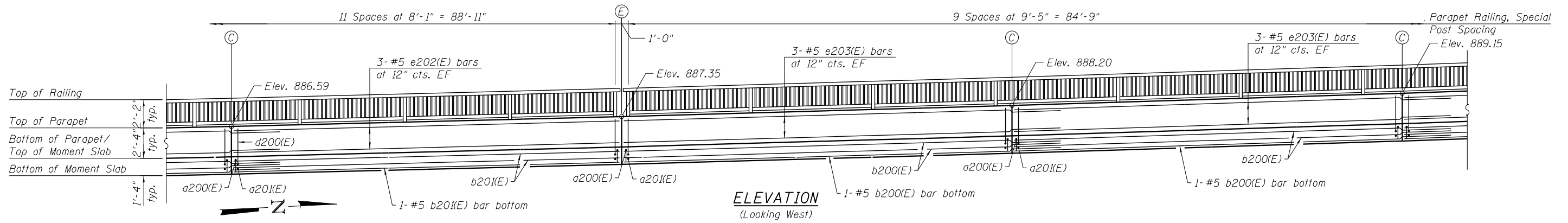
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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 4
 RETAINING WALL NB1

SHEET NO. 6 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	650
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



Notes:
 For Section A-A, Bill of Material, and Bar Bends, see sheet 9 of 21.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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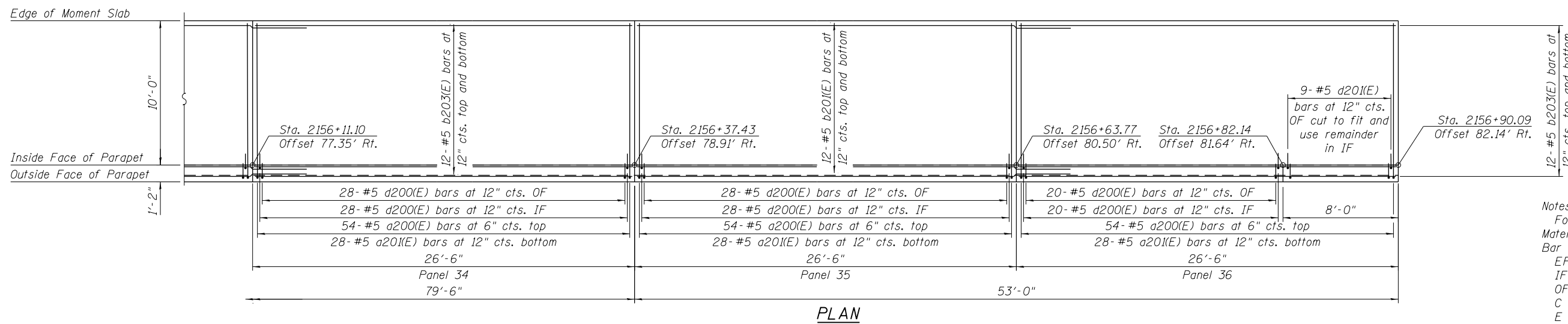
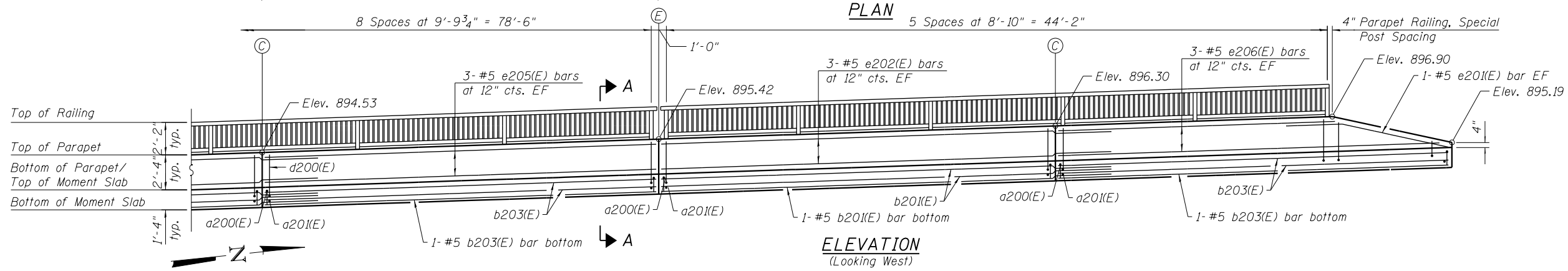
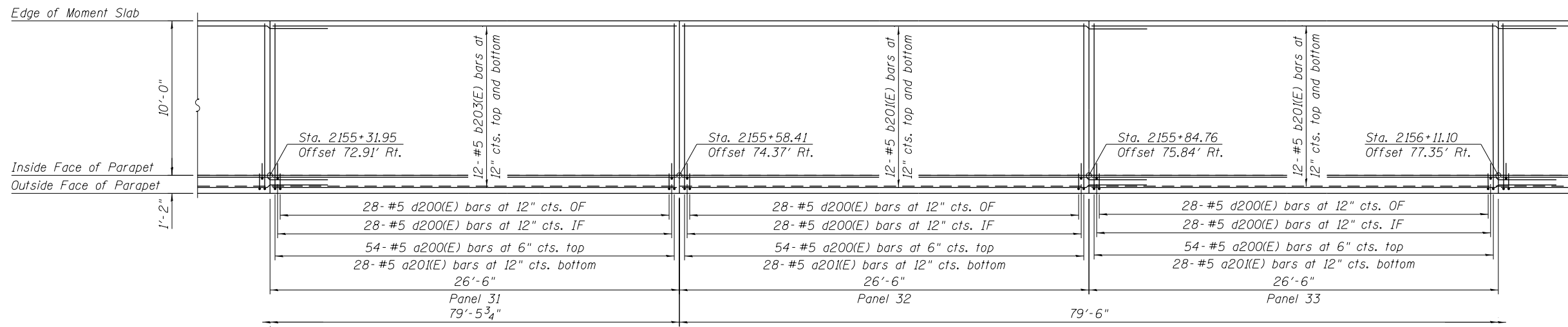
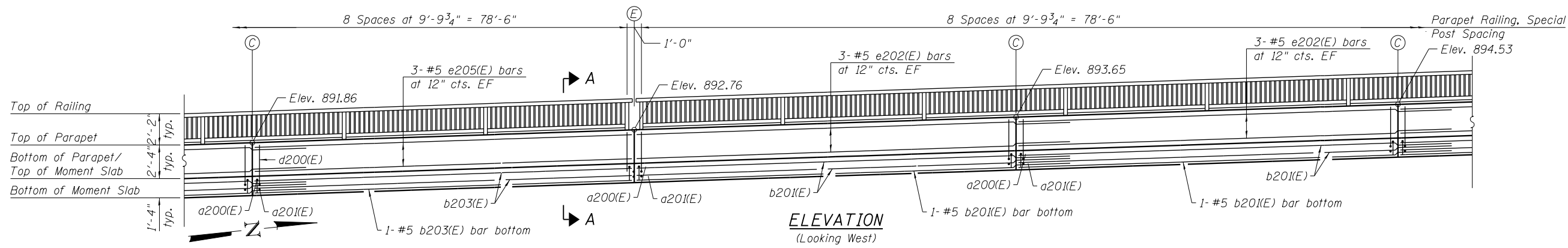
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 5
 RETAINING WALL NB1

SHEET NO. 7 OF 21 SHEETS

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336	06-00329-01-PW	MCHENRY	1751	651
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



Notes:
 For Section A-A, Bill of Material, Bar Diagrams, and Bar Bends, see sheet 9 of 21.
 EF = Each Face
 IF = Inside Face
 OF = Outside Face
 C = Construction Joint
 E = Expansion Joint



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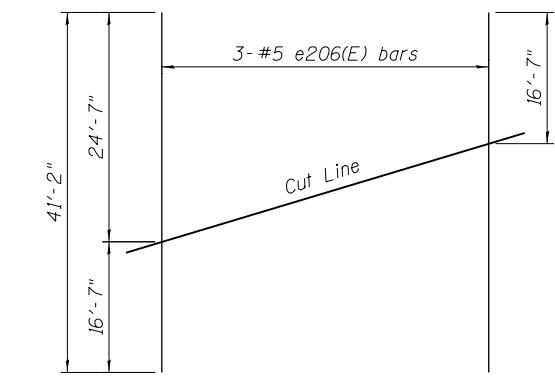
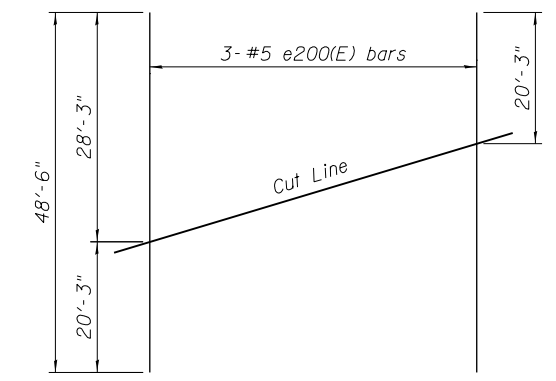
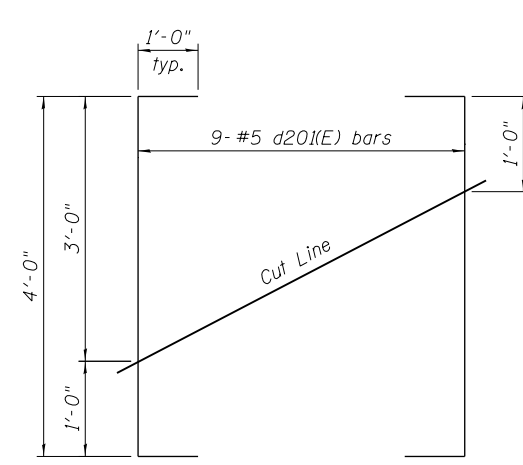
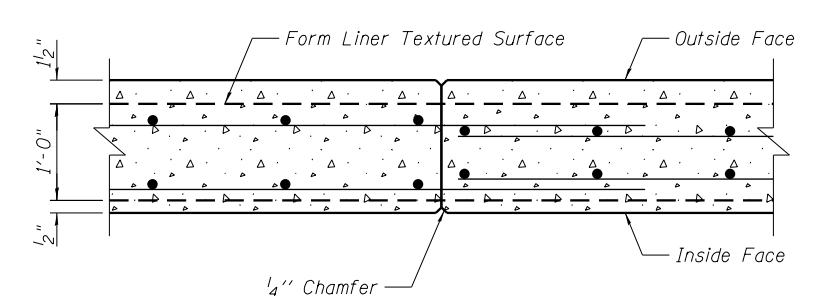
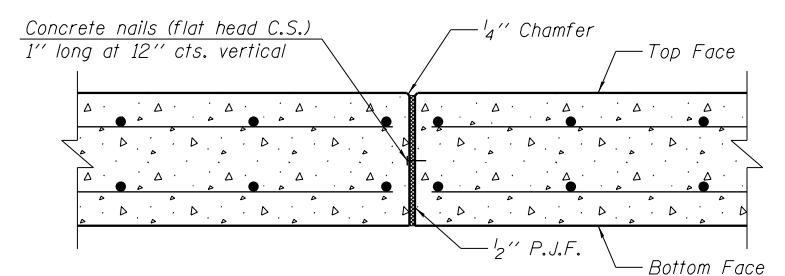
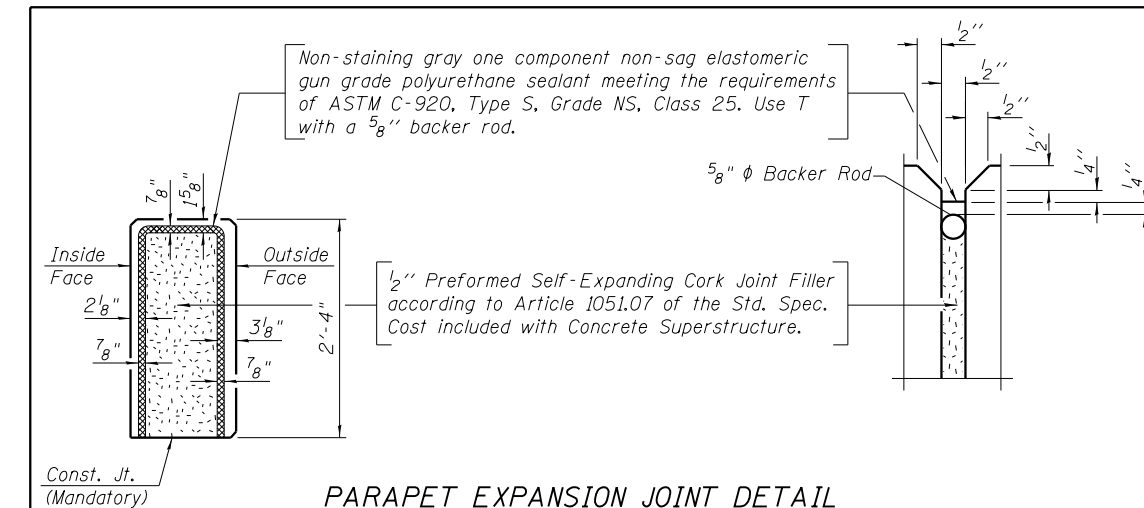
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MOMENT SLAB PLAN AND ELEVATION 6
 RETAINING WALL NB1

SHEET NO. 8 OF 21 SHEETS

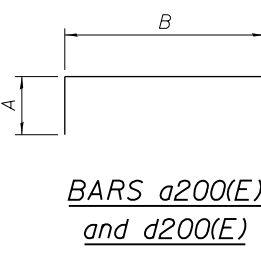
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT

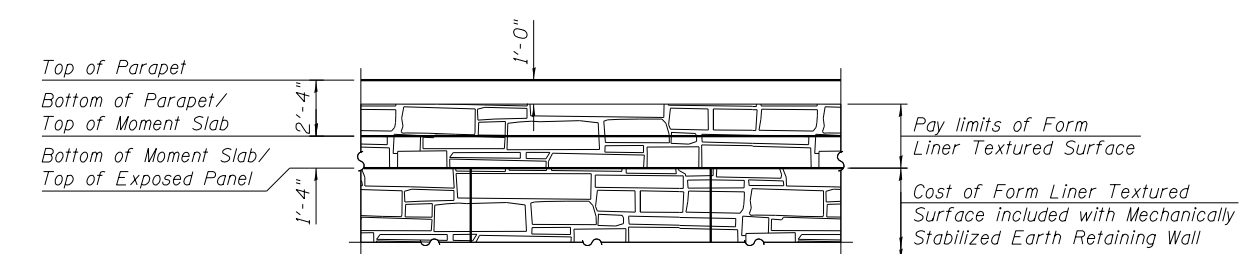
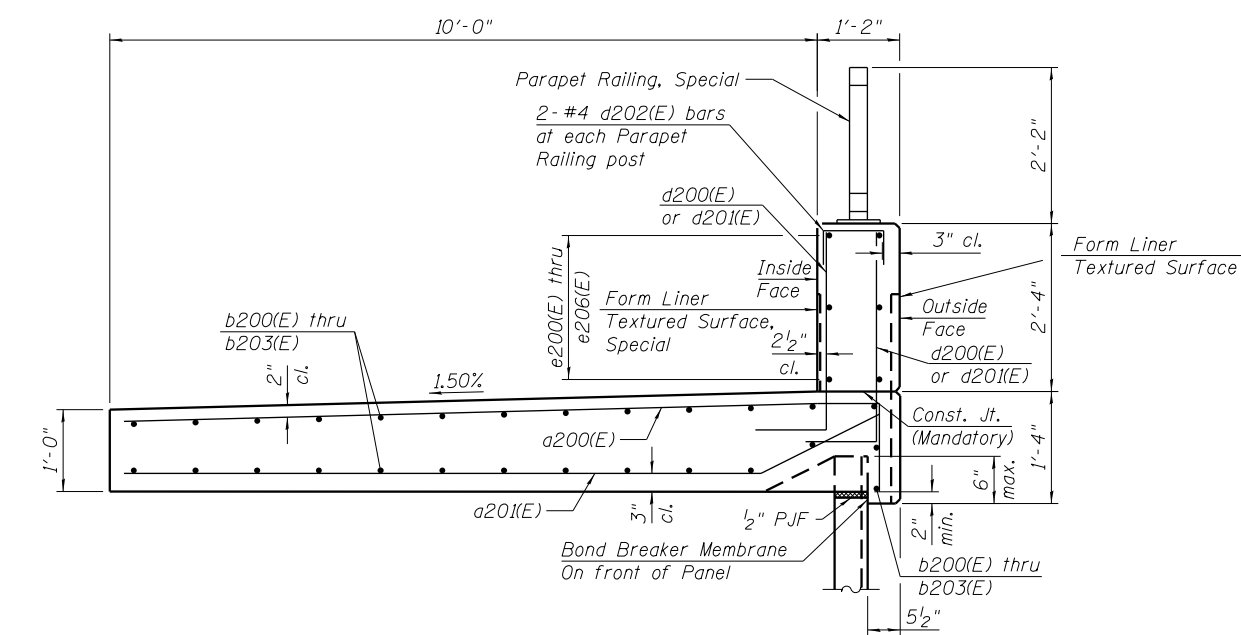
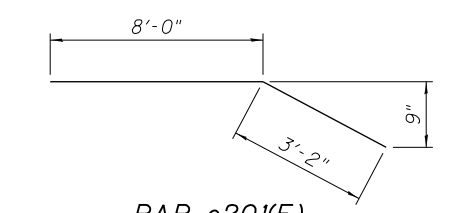
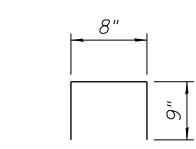
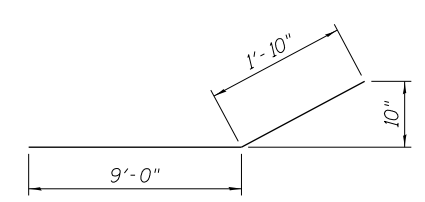


MIN BAR LAP

Bar	Lap
#5	3'-2"

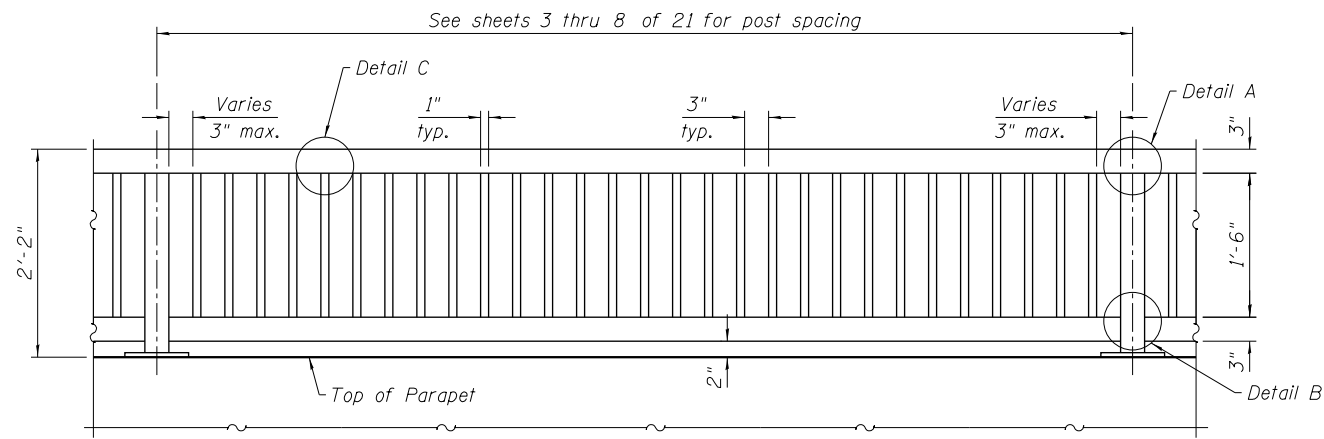


Bar	A	B
a200(E)	1'-0"	10'-9"
d200(E)	1'-0"	3'-0"

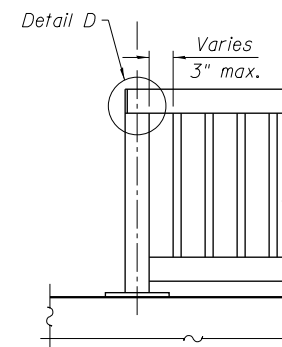


BILL OF MATERIAL

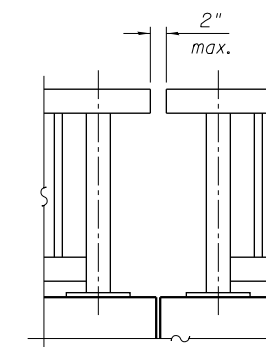
Bar	No.	Size	Length	Shape
a200(E)	2131	#5	11'-9"	┘
a201(E)	1088	#5	10'-10"	┘
b200(E)	450	#5	33'-2"	—
b201(E)	350	#5	29'-8"	—
b202(E)	25	#5	25'-5"	—
b203(E)	75	#5	26'-2"	—
d200(E)	2144	#5	4'-0"	┘
d201(E)	18	#5	6'-0"	┘
d202(E)	266	#4	2'-2"	┘
e200(E)	3	#5	48'-6"	—
e201(E)	4	#5	11'-2"	┘
e202(E)	84	#5	29'-8"	—
e203(E)	102	#5	33'-2"	—
e204(E)	6	#5	25'-5"	—
e205(E)	12	#5	26'-2"	—
e206(E)	3	#5	41'-2"	—
Protective Coat			Sq. Yd.	1,165
Concrete Superstructure			Cu. Yd.	577.3
Form Liner Textured Surface			Sq. Ft.	2,773
Reinforcement Bars, Epoxy Coated			Pound	83,900
Staining Concrete Structures			Sq. Ft.	13,737
Anti-Graffiti Coating			Sq. Ft.	17,055
Form Liner Textured Surface, Special			Sq. Ft.	1,387



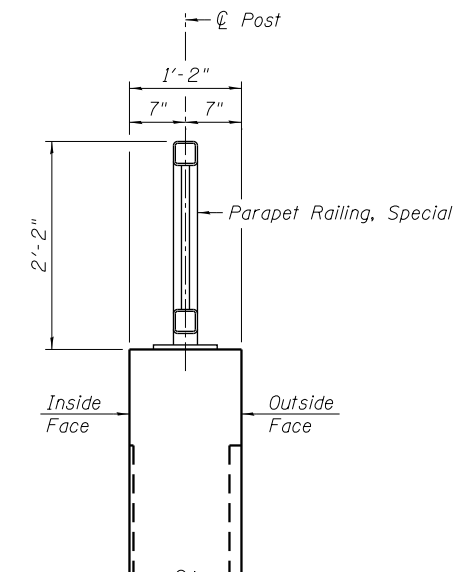
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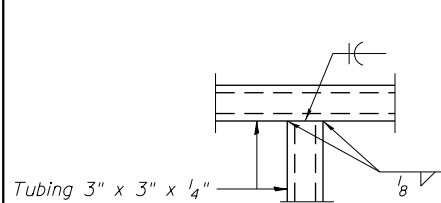
TERMINAL SECTION



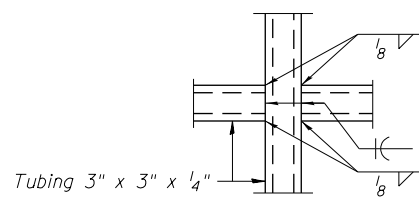
SECTION AT EXPANSION JOINT



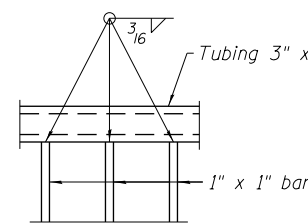
SECTION THRU RAILING



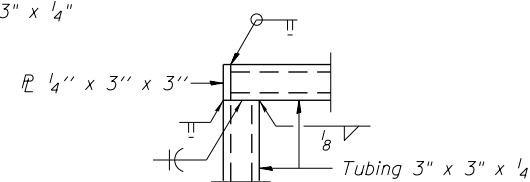
DETAIL A



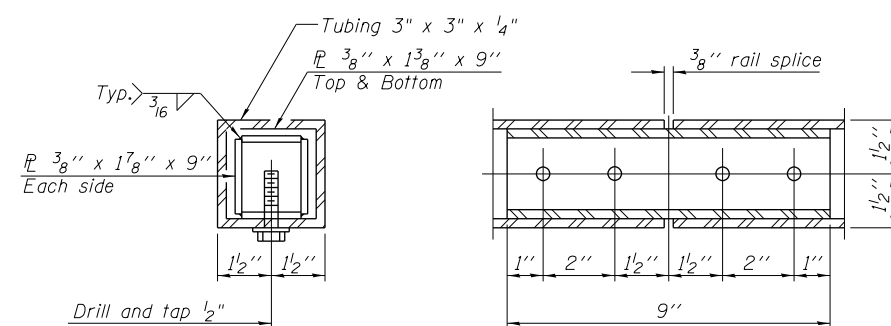
DETAIL B



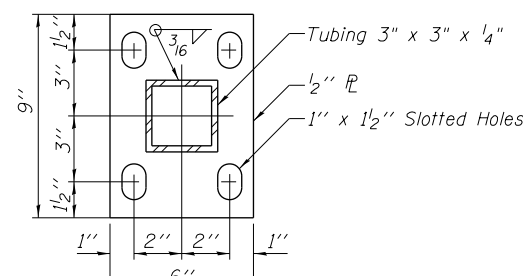
DETAIL C



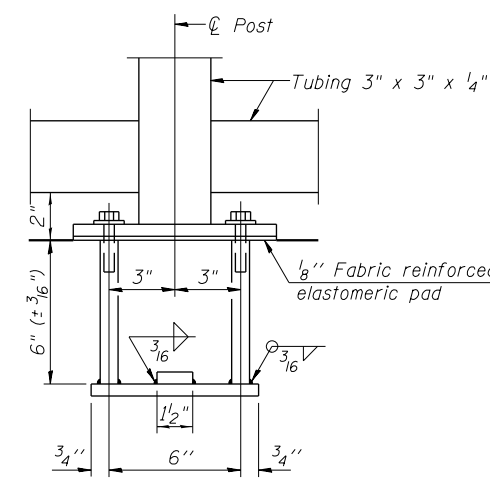
DETAIL D



RAIL SPLICE

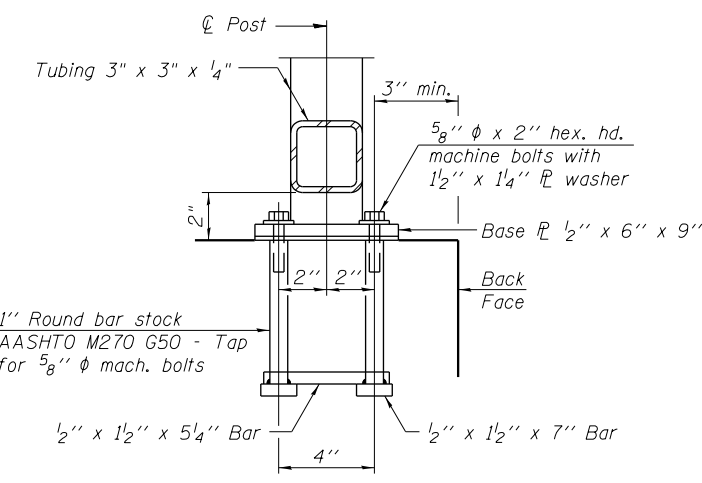


BASE PL



ANCHOR BOLT DETAILS

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



Notes:
All post, railing, splices, anchor devices, and plates shall be powder coat the color Traffic Black (RAL 9017).

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	1,032



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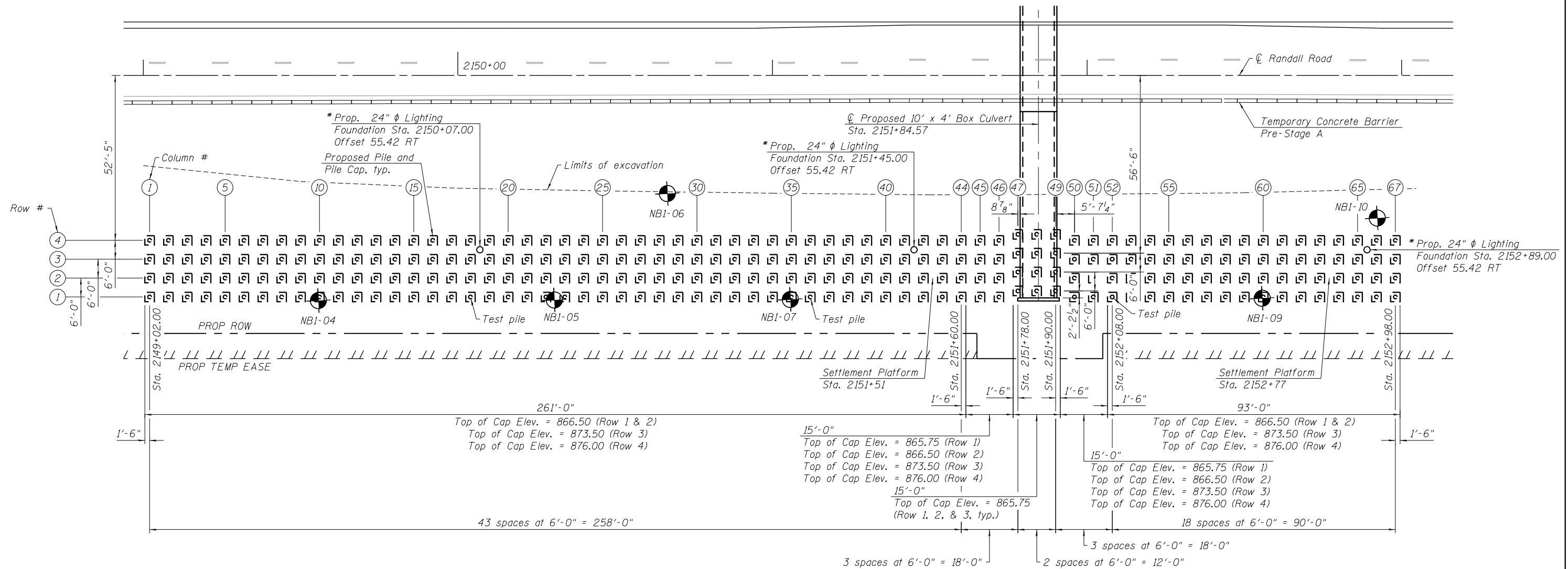
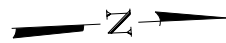
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PARAPET RAILING, SPECIAL
RETAINING WALL NB1**

SHEET NO. 10 OF 21 SHEETS

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 654
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



TIMBER PILE LAYOUT PLAN

*The corners of the timber pile concrete caps in the adjacent area of the light poles shall be verified with surveyed coordinates prior to backfilling. This information shall be used to locate the caps at the surface level before the light pole foundations are installed. The location of the caps shall be verified by the Contractor and the Engineer prior to drilling of the concrete foundations for the light poles.

Notes:
 See Sheet 1 of 21 for the Elevation view of the Timber Pile Ground Improvement.
 See the Rat Creek Culvert Sheets for details of the Proposed 10' x 4' box culvert.



5/4/2018 11:24:26 AM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
	CHECKED - MDS	REVISED -
PLOT SCALE = 32.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 5/4/2018	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**TIMBER PILE LAYOUT PLAN
 RETAINING WALL NB1**

SHEET NO. 11 OF 21 SHEETS

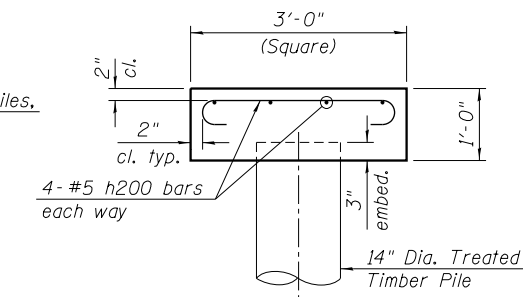
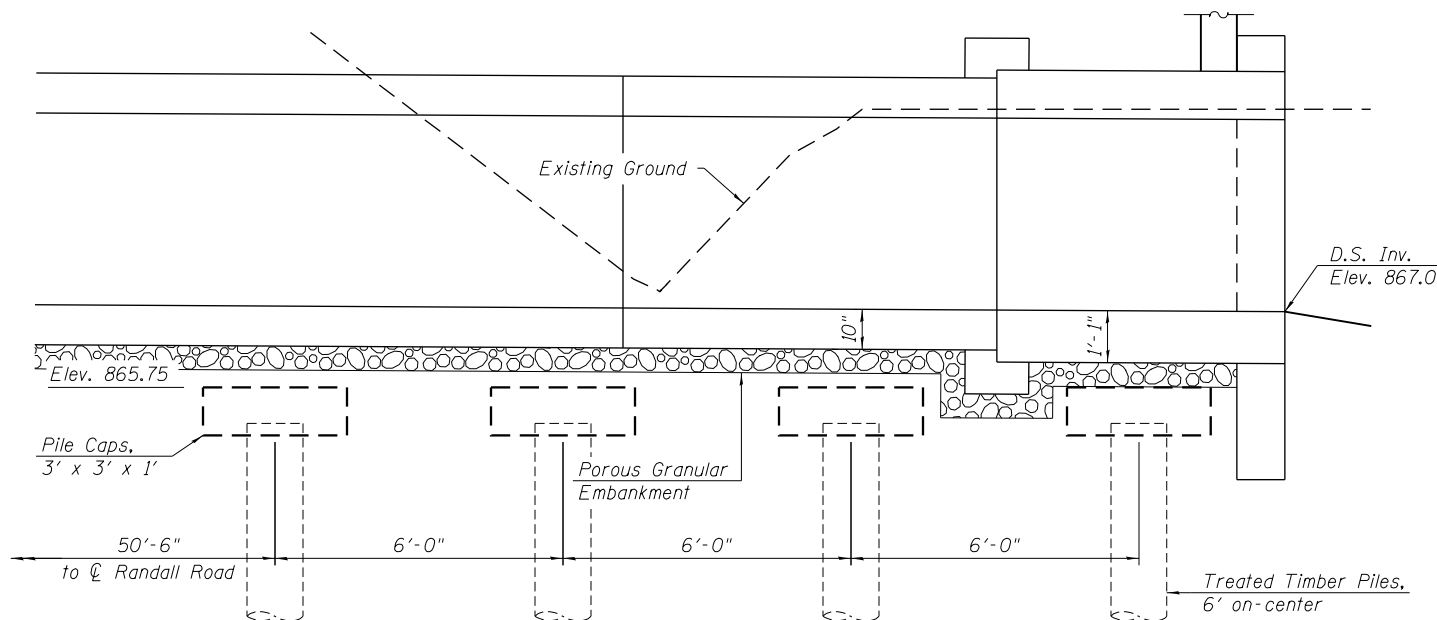
F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 655
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	

PILE SUPPORTED EMBANKMENT NOTES

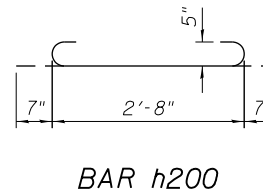
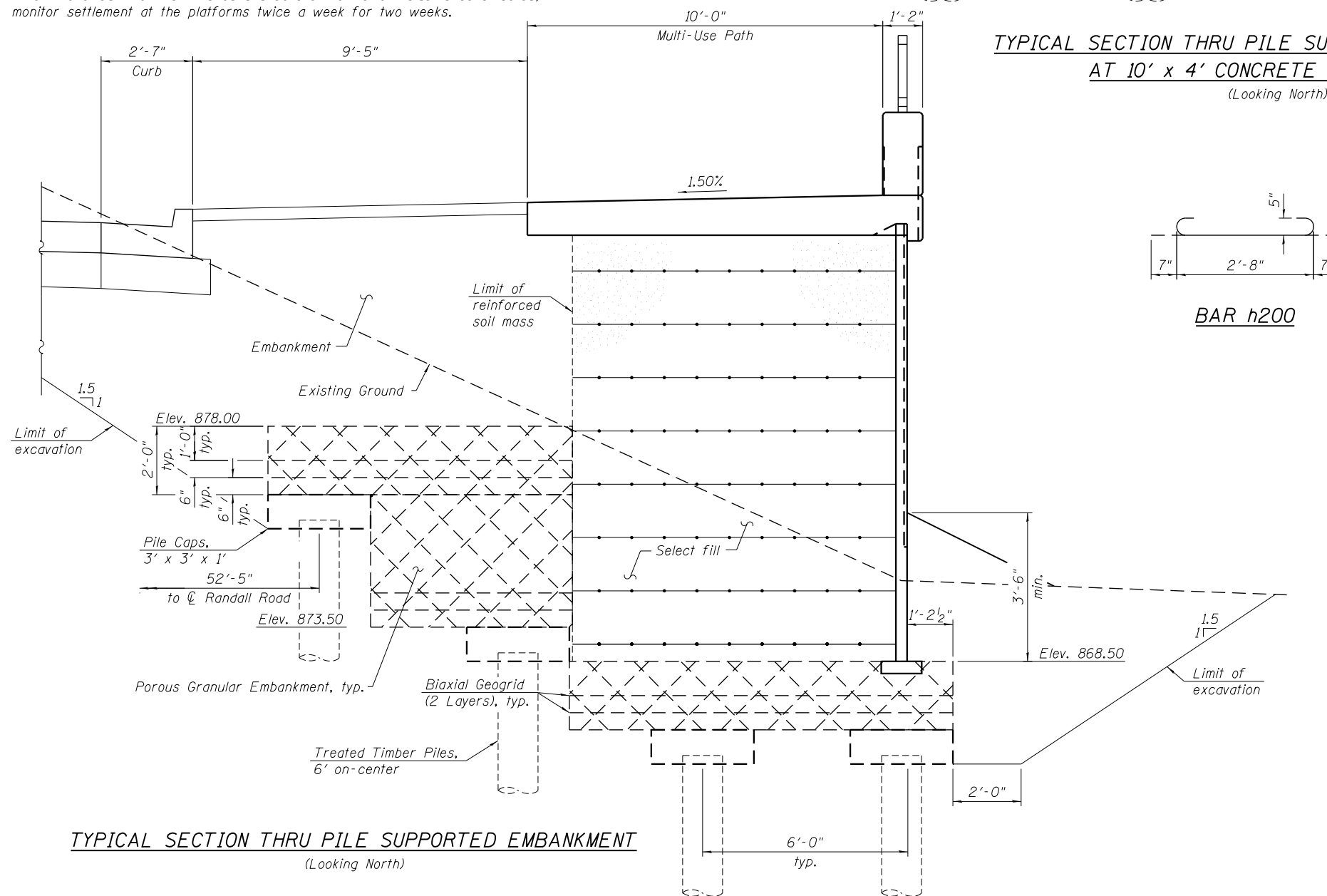
1. The contractor shall put in place the following minimum monitoring program:
 - a. Perform Dynamic Pile Monitoring on 3 test piles. Results shall be used to verify estimated pile lengths prior to production of piles.
 - b. Settlement stakes shall be installed to monitor settlement of the embankment at 50 foot intervals.
2. Timber pile splicing is not recommended. If any production pile does not achieve the design capacity when fully driven, one of the following two methods can be approved by the Engineer for the pile in question:
 - a. The pile shall be withdrawn and replaced by a new longer pile that achieves the design capacity when fully driven.
 - b. A second pile that achieves the design capacity when fully driven shall be driven adjacent to the insufficient pile.
3. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60.
4. In soft wetland areas, a geogrid reinforced pad may be necessary for access of equipment to construct the pile supported embankment. A quantity for porous granular embankment and biaxial geogrid has been included for this geogrid reinforced pad.
5. After the embankment is finished and before the moment slab is constructed, monitor settlement at the platforms twice a week for two weeks.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h200	2,144	#5	3'-10"	
Porous Granular Embankment			Cu. Yd.	1020
Concrete Structures			Cu. Yd.	89.8
Reinforcement Bars			Pound	8,580
Furnishing Treated Piles Over 38 Feet			Foot	8,701
Driving Piles			Foot	8,701
Settlement Platforms			Each	2
Biaxial Geogrid			Sq. Yd.	2,939
Dynamic Pile Monitoring			Each	3



TYPICAL SECTION THRU PILE SUPPORTED EMBANKMENT AT 10' x 4' CONCRETE BOX CULVERT (Looking North)



PILE SUPPORTED EMBANKMENT DETAILS

Station Limits	Pile Row(s)	Pile Spacing, typ. (feet)	Nominal Required Bearing (kips)	Estimated Pile Length (feet)
2149+02 to 2149+98	1, 2	6 x 6	160	55.5
	3	6 x 6	54	40.5
	4	6 x 6	38	30.5
2150+04 to 2151+60	1, 2	6 x 6	160	40.5
	3, 4	6 x 6	54, 38	30.5, 25.5
2151+66 to 2151+72	1, 2	6 x 6	222	25.0
	3, 4	6 x 6	54, 38	20.5, 20.5
2151+78 to 2151+90	1, 2, 3, 4	6 x 6	125	19.0
2151+96 to 2152+02	1, 2	6 x 6	222	25.0
	3, 4	6 x 6	54, 38	20.5, 20.5
2152+08 to 2152+98	1, 2	6 x 6	180	20.5
	3, 4	6 x 6	54, 38	20.5, 20.5



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	CHECKED - MDS	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PILE SUPPORTED EMBANKMENT DETAILS AND NOTES
RETAINING WALL NB1**

SHEET NO. 12 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	656
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



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BORING LOG NB1-01

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 880.62 ft
North: 2002192.36 ft
East: 983740.01 ft
Station: 2147+33.16
Offset: 70.32 RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
877.6	36-inch thick, loose, black and dark brown SILTY LOAM, trace roots --TOPSOIL--	1	X	2 3 3	NP	37		877.6		1	X	9 7 8	1.97 B	11	
872.6	Stiff to very stiff, brown and gray SILTY CLAY, trace gravel	2	X	2 4 4		2.13 B	28	855.1	Medium dense, gray GRAVELLY SAND; saturated	25	X	10 9 14	6 9 14	3.53 B	10
872.6	Medium stiff to stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel	3	X	6 9 10		1.80 B	25	848.9	Medium dense, gray fine SAND; saturated	15	X	6 8 9	NP	15	
867.6	Medium stiff to stiff, gray SILTY CLAY LOAM to SILTY LOAM, trace gravel --L _t (%)=23, P _t (%)=13-- --%Gravel=5.5-- --%Sand=23.0-- --%Silt=54.9-- --%Clay=16.5-- --A-4 (4)--	4	X	2 3 4		0.98 B	16	848.9	Medium dense, gray fine SAND; saturated	17	X	6 7 9	NP	17	
867.6	Hard, gray SILTY CLAY	5	X	4 4 5		1.31 B	16	840.6	Hard, gray CLAY	16	X	6 6 5	NP	16	
865.1	Stiff to very stiff, pinkish gray CLAY LOAM, trace gravel	6	X	8 8 9		4.50 P	16			15	X	13 13 5	NP	18	
843.9		7	X	5 7 8		2.21 B	12			35	X	8 13 17	4.26 B	18	
		8	X	7 7 10		2.95 B	10			40	X	14			

GENERAL NOTES

Begin Drilling **03-16-2015** Complete Drilling **03-16-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **8.00 ft**
At Completion of Drilling **6.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

WANGENGINC 790701.GPJ WANGENG.GDT 4/20/15



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BORING LOG NB1-02

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 876.45 ft
North: 2002266.57 ft
East: 983744.36 ft
Station: 2148+07.48
Offset: 71.22 RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
875.5	12-inch thick, black SILTY LOAM --TOPSOIL--	1	X	0 1 0	NP	179		853.5	Medium dense to dense, gray fine SAND, interbedded silt; saturated	17	X	9 15 12	NP	17	
875.5	Very loose, black and dark brown ORGANIC SILTY LOAM	2	X	1 0 0	NP	50		853.5	Medium dense to dense, gray fine SAND, interbedded silt; saturated	18	X	12 15 18	NP	18	
868.5	Very loose to loose, brown and gray fine SAND; saturated	3	X	1 1 0	NP	137		844.7	Very stiff, gray CLAY, interbedded silt	17	X	12 15 16	NP	17	
868.5	Very loose to loose, brown and gray fine SAND; saturated	4	X	2 3 3	NP	25		844.7	Very stiff, gray CLAY, interbedded silt	19	X	11 16 18	NP	19	
861.0	Medium dense, gray SANDY GRAVEL; saturated	5	X	3 3 3	NP	19		844.7	Very stiff, gray CLAY, interbedded silt	18	X	4 5 7	3.36 B	18	
861.0	Medium dense, gray SANDY GRAVEL; saturated	6	X	1 2 1	NP	19		836.5		18	X	7 13 13	3.12 B	18	
861.0	Medium dense, gray SANDY GRAVEL; saturated	7	X	6 6 8	NP	15				35	X	14			
		8	X	6 8 8	NP	18				40	X	14			

GENERAL NOTES

Begin Drilling **03-16-2015** Complete Drilling **03-16-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **1.00 ft**
At Completion of Drilling **0.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 1
RETAINING WALL NB1

SHEET NO. 13 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	657
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



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BORING LOG NB1-03

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 873.83 ft
North: 2002343.20 ft
East: 983748.46 ft
Station: 2148+84.22
Offset: 71.78 RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
868.3	Very stiff, brown CLAY LOAM, little gravel	1	4	4	3.00	24		845.8	Medium dense, gray GRAVELLY SAND, interbedded clay; saturated	9	7	9	1.25	12	
		2	3	3	2.00	20				10	7	9	2.38	15	
		3	2	2	NP	107				11	7	9	2.79	10	
		4	1	2	NP	43				12	3	5	NP	15	
		5	3	3	NP	19				13	13	10	NP	14	
		6	3	5	0.98	16				14	10	12	NP	23	
		7	4	6	1.07	11				15	10	13	NP	23	
		8	4	7	1.75	13				16	10	13	NP	23	

GENERAL NOTES

Begin Drilling **03-17-2015** Complete Drilling **03-17-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **5.50 ft**
At Completion of Drilling **10.00 ft**
Time After Drilling **NA**
Depth to Water **NA**

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

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BORING LOG NB1-04

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 870.95 ft
North: 2002417.89 ft
East: 983754.56 ft
Station: 2149+59.11
Offset: 74.42 RT

Page 1 of 2

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
850.5	Loose, brown SANDY LOAM, trace gravel; wet	1	2	3	NP	28		843.7	Very loose, black, brown, and gray ORGANIC SILTY LOAM	9	1	1	NP	49	
		2	2	2	NP	86				10	1	0	NP	63	
		3	2	2	NP	77				11	1	1	NP	55	
		4	1	1	NP	199				12	1	2	0.25	18	
		5	1	1	NP	161				13	5	7	1.56	16	
		6	1	0	NP	119				14	2	2	0.25	27	
		7	1	1	NP	118				15	3	3	NP	27	
		8	6	3	NP	21				16	2	2	0.25	27	

GENERAL NOTES

Begin Drilling **03-17-2015** Complete Drilling **03-18-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **0.00 ft**
At Completion of Drilling **0.00 ft**
Time After Drilling **NA**
Depth to Water **NA**

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

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USER NAME = mrc155	DESIGNED - JNP	REVISED -
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PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
RETAINING WALL NB1

SHEET NO. 14 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	658
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



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BORING LOG NB1-04

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 870.95 ft
North: 2002417.89 ft
East: 983754.56 ft
Station: 2149+59.11
Offset: 74.42 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
829.2	Medium dense, gray LOAM, trace gravel; wet	45	X	15	12 8 9	NP	13								
824.2	Stiff, yellowish gray CLAY LOAM, trace gravel	50	X	16	9 3 5	1.89 B	14								
821.0	Boring terminated at 50.00 ft														

GENERAL NOTES

Begin Drilling **03-17-2015** Complete Drilling **03-18-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **0.00 ft**
At Completion of Drilling ∇ **0.00 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG NB1-05

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 870.18 ft
North: 2002488.75 ft
East: 983760.10 ft
Station: 2150+30.16
Offset: 76.67 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
869.7	.6-inch thick ICE														
	Very loose, brown SANDY GRAVEL, trace organic matter, saturated	1	X	1	1 1 0	NP	31								
867.2	Very loose, black ORGANIC SILTY LOAM	5	X	2	1 1 1	NP	81								
864.7	Very loose, brown PEAT to ORGANIC SILT, trace roots, shells, plant material	10	X	3	1 1 1	NP	324								
		15	X	4	0 0 0	NP	269								
859.7	Very loose, gray ORGANIC SILT, trace shells, plant material, interbedded sand	20	X	5	0 0 0	NP	180								
		30	X	6	1 1 1	NP	104								
853.4	Medium stiff, gray SILTY LOAM to SILTY CLAY LOAM, trace gravel	35	X	7	2 1 1	0.50 P	15								
		40	X	8	3 4 4	0.57 B	17								
830.2	Boring terminated at 40.00 ft														

GENERAL NOTES

Begin Drilling **03-18-2015** Complete Drilling **03-18-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **0.00 ft**
At Completion of Drilling ∇ **10.00 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:42:54 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
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PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 3
RETAINING WALL NB1

SHEET NO. 15 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	659
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



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BORING LOG NB1-06

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.05 ft
North: 2002530.31 ft
East: 983719.99 ft
Station: 2150+69.82
Offset: 34.68 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
881.0	13-inch thick, ASPHALT --PAVEMENT--														
880.5	5-inch thick, brown SANDY GRAVEL; dry --BASE COURSE--	1	X	1	3 8 9	4.50 P	10	856.6		9	X	9	3 2 1	NP	14
	Medium stiff to hard, brown SILTY CLAY LOAM, trace gravel --FILL--	2	X	2	6 6 13	2.13 B	11			10	X	10	6 3 1	NP	17
		3	X	3	4 8 8	2.79 B	12			11	X	11	4 4 5	1.48 B	15
		4	X	4	3 3 5	0.98 B	17			12	X	12	5 4 5	1.64 B	16
		5	X	5	5 5 8	2.71 B	16			13	X	13	7 7 9	2.30 B	13
867.8	Stiff, brown SILTY CLAY LOAM, trace gravel, rock fragments	15	O	6	3 2 4	NR				14	X	14	6 6 10	2.38 B	16
864.1	Very loose to medium dense, brown SANDY GRAVEL; saturated	20	X	8	10 9 8	NP	30			15	X	15			

GENERAL NOTES

Begin Drilling **03-20-2015** Complete Drilling **03-30-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**
Driller **R & J** Logged **F. Bozga/D. Kolpack** checked by **A. Hamad**
Drilling Method **2.25-inch IDA SSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **18.00 ft**
At Completion of Drilling ∇ **23.00 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG NB1-06

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.05 ft
North: 2002530.31 ft
East: 983719.99 ft
Station: 2150+69.82
Offset: 34.68 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/in)	Qu (tsf)	Moisture Content (%)
840.3	Dense, gray GRAVELLY SAND; wet	15	X	15	19 15 16	NP	10			16	X	16	22 24 28	NP	10
835.3	Very dense, gray LOAM, trace gravel	45	X	16						50	X	17			
832.1	Boring terminated at 40.00 ft	50								60					

GENERAL NOTES

Begin Drilling **03-20-2015** Complete Drilling **03-30-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**
Driller **R & J** Logged **F. Bozga/D. Kolpack** checked by **A. Hamad**
Drilling Method **2.25-inch IDA SSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **18.00 ft**
At Completion of Drilling ∇ **23.00 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:42:58 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 4
RETAINING WALL NB1

SHEET NO. 16 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	660
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT



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BORING LOG NB1-07

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 870.26 ft
North: 2002566.94 ft
East: 983758.37 ft
Station: 2151+08.18
Offset: 71.32 RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
869.8	6-inch thick, ICE												
	Very loose, brown ORGANIC SILTY LOAM, trace shells, roots, and plant material	0	1	0	NP	84		-hard drilling at 21'- -possible cobbles-	9	8	11	3.53 B	12
		5	2	1	NP	71		-disturbed sample-	10	7	11	NA	15
		10	3	1	NP	110			11	12	10	NP	17
862.3	Loose, brown fine SAND; saturated	10	4	3	NP	17			12	7	11	NP	19
859.8	Medium stiff, gray CLAY LOAM to SILTY CLAY LOAM, trace gravel	15	5	2	0.57 B	17		Medium dense to dense, gray SANDY GRAVEL; saturated -hard drilling at 25.5'- -possible cobbles-	13	10	14	NP	13
		20	6	5	0.66 B	15			14	22	20	2.87 B	14
		25	7	4	0.50 P	17		-drilling change observed- Very stiff, gray SILTY CLAY LOAM, little gravel	15	4	5	NP	13
852.3	Very stiff, gray SILTY CLAY to SILTY CLAY LOAM, trace gravel	20	8	5	3.12 B	13			16	8	18	NP	12

GENERAL NOTES

Begin Drilling **03-19-2015** Complete Drilling **03-19-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-25 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **0.00 ft**
At Completion of Drilling **3.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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BORING LOG NB1-09

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 870.51 ft
North: 2002716.39 ft
East: 983767.00 ft
Station: 2152+57.87
Offset: 73.03 RT

Page 1 of 1

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
850.0	Very loose to loose, black and brown ORGANIC SILTY LOAM to SILTY CLAY LOAM, trace gravel, shells, and roots	0	1	2	NP	50		Medium dense, gray SILT; wet	9	8	9	NP	18
		5	2	1	NP	94		Medium dense to dense, gray GRAVELLY SAND, interbedded clay and silt; saturated	10	4	5	NP	15
		10	3	0	NP	93		-heaving sand-	11	11	13	NP	15
862.5	Stiff, gray SILTY CLAY LOAM, interbedded sand	10	4	2	1.25 P	15			12	7	14	NP	17
860.0	Loose, brown and green LOAM, trace gravel; wet	15	5	3	NP	15			13	7	8	2.79 B	13
858.3	Stiff to hard, brown and gray SILTY CLAY, trace gravel	15	6	4	1.89 B	15			14	8	18	NP	12
		20	7	4	2.79 B	14		Very stiff, gray SILTY CLAY LOAM, trace gravel	15	8	8	NP	12
		25	8	6	4.03 B	13		-heaving sand-	16	8	8	NP	12
		30	9	5	NP	15		Dense, gray SANDY GRAVEL; saturated	17	8	18	NP	12

GENERAL NOTES

Begin Drilling **03-20-2015** Complete Drilling **03-20-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 ATV**
Driller **N & R** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **3.25-inch IDA HSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling **0.00 ft**
At Completion of Drilling **0.00 ft**
Time After Drilling **NA**
Depth to Water **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:43:02 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 5
RETAINING WALL NB1

SHEET NO. 17 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	661
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



BORING LOG NB1-10

Page 1 of 2

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WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.48 ft
North: 2002754.28 ft
East: 983726.99 ft
Station: 2152+93.86
Offset: 31.30 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
881.5	12-inch thick, ASPHALT --PAVEMENT--							882.0	Soft, gray SILTY CLAY, trace gravel						
880.8	Medium dense, brown SANDY GRAVEL; moist --BASE COURSE--	1	X	8	4	1.75	15	889.5	Loose to medium dense, gray GRAVELLY SAND to GRAVELLY SANDY LOAM, interbedded clay; saturated	25	X	10	5	NP	20
	Stiff to hard, brown SILTY CLAY LOAM, trace gravel --FILL--	2	X	4	8	5.41	13								
		3	X	3	5	2.79	18								
874.0	Medium stiff, dark brown SILTY CLAY LOAM --FILL-- --organic matter--	4	X	3	2	0.98	23								
872.0	Medium dense, brown SILTY LOAM; moist --FILL--	5	X	3	4	NP	23								
869.5	Stiff, brown SILTY CLAY LOAM, trace gravel --FILL--	6	X	4	5	1.25	15								
867.0	Medium dense, brown SILTY LOAM, trace gravel, shells, organic matter	7	X	9	8	NP	31								
864.5	Medium dense, brown SANDY LOAM, little gravel; wet	8	X	5	6	NP	13								
		15	X	4	5	NP	13								
		20	X	5	5	NP	13								

GENERAL NOTES

Begin Drilling **03-31-2015** Complete Drilling **03-31-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 TMR**
Driller **R & N** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **4.00-inch IDA SSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **16.50 ft**
At Completion of Drilling ∇ **16.50 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



BORING LOG NB1-10

Page 2 of 2

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Telephone: 630 953-9928
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WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 882.48 ft
North: 2002754.28 ft
East: 983726.99 ft
Station: 2152+93.86
Offset: 31.30 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type recovery	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
								882.0	Soft, gray SILTY CLAY, trace gravel						
		1	X	8	4	1.75	15	889.5	Loose to medium dense, gray GRAVELLY SAND to GRAVELLY SANDY LOAM, interbedded clay; saturated	25	X	10	5	NP	20
		2	X	4	8	5.41	13								
		3	X	3	5	2.79	18								
874.0	Medium stiff, dark brown SILTY CLAY LOAM --FILL-- --organic matter--	4	X	3	2	0.98	23								
872.0	Medium dense, brown SILTY LOAM; moist --FILL--	5	X	3	4	NP	23								
869.5	Stiff, brown SILTY CLAY LOAM, trace gravel --FILL--	6	X	4	5	1.25	15								
867.0	Medium dense, brown SILTY LOAM, trace gravel, shells, organic matter	7	X	9	8	NP	31								
864.5	Medium dense, brown SANDY LOAM, little gravel; wet	8	X	5	6	NP	13								
		15	X	4	5	NP	13								
		20	X	5	5	NP	13								
		25	X	10	3	NP	20								
		30	X	12	8	NP	15								
		35	X	13	14	NP	8								
		40	X	14	10	NP	13								
		45	X	15	11	NP	8								
		50	X	16	8	NP	13								
		55	X	13	10	NP	8								
		60	X	14	12	NP	13								

GENERAL NOTES

Begin Drilling **03-31-2015** Complete Drilling **03-31-2015**
Drilling Contractor **Wang Testing Services** Drill Rig **D-50 TMR**
Driller **R & N** Logger **D. Kolpacki** Checked by **A. Hamad**
Drilling Method **4.00-inch IDA SSA, auto hammer, boring backfilled upon completion**

WATER LEVEL DATA

While Drilling ∇ **16.50 ft**
At Completion of Drilling ∇ **16.50 ft**
Time After Drilling **NA**
Depth to Water ∇ **NA**
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:43:06 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISIONS -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 6
RETAINING WALL NB1

SHEET NO. 18 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	662
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
869.2	18-inch thick, brown SILTY CLAY --TOPSOIL--						848.4						
867.7	Stiff, brown SILTY CLAY, trace shells, roots, organic matter	1	1	1	1.00 P	28	843.8	Very stiff, pinkish gray and gray SILTY CLAY LOAM, trace gravel	9	6	NP	8	
		2	2						10	5	2.30 B	12	
	Loose, brown fine SAND; wet	5	2	6	NP	20			25	7			
			3	3						9			
865.2	Stiff, gray CLAY LOAM to SILTY CLAY LOAM, trace gravel	10	3	3	1.23 B	13		--disturbed sample--	11	29	3.25 P	12	
			4	4				Medium dense, gray SANDY GRAVEL; saturated	12	30			
			5	5					13	10	NP	15	
			6	6					14	8	NP	15	
			7	7					15	12			
857.7	Loose to medium dense, gray SANDY GRAVEL; saturated	15	4	4	NP	13		--heaving sand--	13	5	NP	17	
			5	5					14	6			
			6	6					15	5	NP	17	
			7	7					16	6			
			8	8					17	8	NP	5	
			9	9					18	9	NP	8	
			8	8					19	8	NP	8	
			9	9					20	9	NP	8	

GENERAL NOTES
 Begin Drilling 03-24-2015 Complete Drilling 03-24-2015
 Drilling Contractor Wang Testing Services Drill Rig D-25 ATV
 Driller N & R Logger D. Kolpacki Checked by A. Hamad
 Drilling Method 3.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA
 While Drilling 3.00 ft
 At Completion of Drilling 3.00 ft
 Time After Drilling NA
 Depth to Water NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Boring terminated at 40.00 ft

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blw/6 in)	Qu (tsf)	Moisture Content (%)
870.5	5-inch thick, dark brown SILTY LOAM --TOPSOIL--						849.9						
	Loose, dark brown ORGANIC SILTY LOAM	1	2	2	NP	86	844.9	Loose to medium dense, pinkish gray SANDY LOAM, trace to little gravel, interbedded clay; wet --heaving sand--	9	4	NP	11	
867.4	Loose, brown fine SAND, trace roots; wet	5	3	3					10	5	NP	9	
			4	4					25	5			
			5	5					26	7			
864.6	Stiff, gray CLAY LOAM, trace gravel	10	3	3	1.25 P	14		Medium dense, gray SANDY GRAVEL --heaving sand--	11	15	NP	8	
			4	4					12	13			
862.4	Loose, gray very fine SAND, interbedded silt; wet --hard drilling at 8'-- --possible cobbles--	10	4	4	NP	18		--heaving sand--	12	16	NP	9	
			5	5					30	10			
			6	6					31	6			
859.6	Very stiff, gray CLAY, interbedded silt	15	3	3	2.05 B	26			32	8			
			5	5					33	9			
858.2	Medium dense, gray SANDY GRAVEL; saturated	15	4	4	NP	6	837.9	--drilling change observed-- Very stiff, gray SILTY CLAY LOAM, trace gravel --heaving sand--	13	5	2.21 B	11	
			7	7					34	8			
			8	8					35	18			
			9	9					36	8			
854.6	Stiff, pinkish gray CLAY LOAM, trace gravel --heaving sand--	15	3	3	1.39 B	11	836.1	Medium dense, gray fine SAND; saturated	35	5	NP	20	
			4	4					36	6			
			5	5					37	6			
852.4	Medium dense, gray SANDY GRAVEL	20	8	8	NP	9	830.4		40	6	NP	20	
			10	10					41	6			
			8	8					42	6			

GENERAL NOTES
 Begin Drilling 03-24-2015 Complete Drilling 03-24-2015
 Drilling Contractor Wang Testing Services Drill Rig D-25 ATV
 Driller N & R Logger D. Kolpacki Checked by A. Hamad
 Drilling Method 3.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA
 While Drilling 3.00 ft
 At Completion of Drilling 2.00 ft
 Time After Drilling NA
 Depth to Water NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

Boring terminated at 40.00 ft



4/25/2018 4:43:11 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
CHECKED - MDS	REVISED -	
PLOT SCALE = 16.0000' / in.	DRAWN - JNP	REVISED -
PLOT DATE = 4/25/2018	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS 7
 RETAINING WALL NB1
 SHEET NO. 19 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	663
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



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BORING LOG NB1-13

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 871.25 ft
North: 2002943.59 ft
East: 983779.45 ft
Station: 2154+85.43
Offset: 74.95 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
871.03	871.03-inch thick, brown SANDY LOAM --TOPSOIL--						850.8	Medium dense, gray to pinkish gray fine SAND to SANDY LOAM with gravel; saturated					
869.5	Medium stiff, black and brown SILTY CLAY to CLAY, trace gravel and roots --FILL--												
	Medium stiff, brown CLAY, interbedded silt and sand												
		2	2	3	0.90	35			9	13	12	NP	11
		3	3	4					10	10	12	NP	10
		4	4	2					11	10	11	NP	25
865.8	Medium stiff to stiff, gray CLAY LOAM to SILTY CLAY LOAM, trace gravel								12	8	13	NP	18
		5	4	4	1.50	15			13	8	6	NP	15
		6	5	6					14	9	10	NP	17
		7	6	7					15	6	6	NP	17
860.8	Medium dense, gray SILT; saturated								16	0.90	B		16
		8	3	5					17	8	8	NP	15
		9	4	6					18	8	8	NP	15
		10	5	6					19	2.25	P		19
858.3	Very stiff, gray CLAY								20	NP			17
		11	6	6					21	NP			17
857.0	Medium dense, gray fine SAND; saturated								22	NP			17
		12	4	5					23	NP			17
		13	5	6					24	NP			17
855.8	Medium dense, gray SILT, interbedded clay and sand; saturated								25	NP			17
		14	6	6					26	NP			17
		15	7	7					27	NP			17
852.5	Medium dense, gray GRAVELLY SAND; saturated								28	NP			17
		16	5	5					29	NP			17
		17	6	6					30	NP			17
		18	5	5					31	NP			17
		19	6	6					32	NP			17
		20	5	5					33	NP			17
		21	6	6					34	NP			17
		22	5	5					35	NP			17
		23	6	6					36	NP			17
		24	5	5					37	NP			17
		25	6	6					38	NP			17
		26	5	5					39	NP			17
		27	6	6					40	NP			17
		28	5	5					41	NP			17
		29	6	6					42	NP			17
		30	5	5					43	NP			17
		31	6	6					44	NP			17
		32	5	5					45	NP			17
		33	6	6					46	NP			17
		34	5	5					47	NP			17
		35	6	6					48	NP			17
		36	5	5					49	NP			17
		37	6	6					50	NP			17
		38	5	5					51	NP			17
		39	6	6					52	NP			17
		40	5	5					53	NP			17
		41	6	6					54	NP			17
		42	5	5					55	NP			17
		43	6	6					56	NP			17
		44	5	5					57	NP			17
		45	6	6					58	NP			17
		46	5	5					59	NP			17
		47	6	6					60	NP			17
		48	5	5					61	NP			17
		49	6	6					62	NP			17
		50	5	5					63	NP			17
		51	6	6					64	NP			17
		52	5	5					65	NP			17
		53	6	6					66	NP			17
		54	5	5					67	NP			17
		55	6	6					68	NP			17
		56	5	5					69	NP			17
		57	6	6					70	NP			17
		58	5	5					71	NP			17
		59	6	6					72	NP			17
		60	5	5					73	NP			17
		61	6	6					74	NP			17
		62	5	5					75	NP			17
		63	6	6					76	NP			17
		64	5	5					77	NP			17
		65	6	6					78	NP			17
		66	5	5					79	NP			17
		67	6	6					80	NP			17
		68	5	5					81	NP			17
		69	6	6					82	NP			17
		70	5	5					83	NP			17
		71	6	6					84	NP			17
		72	5	5					85	NP			17
		73	6	6					86	NP			17
		74	5	5					87	NP			17
		75	6	6					88	NP			17
		76	5	5					89	NP			17
		77	6	6					90	NP			17
		78	5	5					91	NP			17
		79	6	6					92	NP			17
		80	5	5					93	NP			17
		81	6	6					94	NP			17
		82	5	5					95	NP			17
		83	6	6					96	NP			17
		84	5	5					97	NP			17
		85	6	6					98	NP			17
		86	5	5					99	NP			17
		87	6	6					100	NP			17

GENERAL NOTES

Begin Drilling 03-25-2015 Complete Drilling 03-25-2015
 Drilling Contractor Wang Testing Services Drill Rig D-25 ATV
 Driller N & R Logger D. Kolpacki Checked by A. Hamad
 Drilling Method 3.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling 4.50 ft
 At Completion of Drilling 2.00 ft
 Time After Drilling NA
 Depth to Water NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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

BORING LOG NB1-14

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 874.02 ft
North: 2003019.41 ft
East: 983787.88 ft
Station: 2155+61.53
Offset: 79.85 RT

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
873.74	873.74-inch thick, brown SANDY LOAM --TOPSOIL--						850.8	Medium dense, gray to pinkish gray fine SAND to SANDY LOAM with gravel; saturated					
	Soft to stiff, brown and gray CLAY to SILTY CLAY, interbedded wet sand												
		1	2	2	1.07	31			9	8	11	4.50	12
		2	2	2	B				10	6	9	3.12	12
		3	2	1	0.50	24			11	7	9	2.25	14
		4	3	4	P				12	5	9	NP	16
868.5	Soft to stiff, brown and gray SILTY CLAY, trace gravel, interbedded sand; wet								13	18	37	NP	9
		5	4	5	1.50	17			14	5	5	1.50	14
		6	5	6	P				15	6	6		
866.0	Stiff to hard, brownish gray and gray SILTY LOAM to SILTY CLAY LOAM, trace gravel								16	0.90	B		16
		7	3	4	1.31	15			17	8	8	NP	15
		8	4	4	B				18	8	6	NP	15
		9	5	6	1.80	14			19	2.25	P		14
		10	6	6	B				20	NP			14
		11	7	7	2.62	13			21	NP			14
		12	6	6	B				22	NP			14
		13	6	6	1.23	14			23	NP			14
		14											



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Lombard, IL 60148
Telephone: 630 953-9928
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BORING LOG NB1-15

WEI Job No.: 790-77-01

Client: **TranSystems Corporation**
Project: **Randall Road Phase II Improvements**
Location: **McHenry County, IL**

Datum: NAVD88
Elevation: 880.61 ft
North: 2003088.36 ft
East: 983798.03 ft
Station: 2156+30.73
Offset: 86.83 RT

Page 1 of 1

Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)	Profile	Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample Type	Sample No.	SPT Values (blows/6 in)	Qu (tsf)	Moisture Content (%)
	880.34	4-inch thick, dark brown SILTY LOAM --TOPSOIL-- Stiff to very stiff, dark brown and gray SILTY CLAY, trace gravel	1	3	1	3	2.79 B	28		880.1	Medium stiff to very stiff, pinkish gray CLAY LOAM, trace gravel	9	6	9	6	0.74 B	10
			2	3	2	3	1.80 B	16				25	6	10	6	2.05 B	10
			3	4	3	4	1.56 B	16		855.1	Very stiff, gray SILTY CLAY to CLAY, interbedded silt and sand	11	8	11	8	3.28 B	20
	871.6	--disturbed sample-- Medium dense, brown and gray medium to coarse SAND, interbedded clay; saturated	4	5	4	5	NA	17				30	9	11	9	2.79 B	18
			5	5	5	7	NP	23									
			6	3	6	4	NP	15			--interbedded wet sand--	35	8	10	12	2.25 P	22
	865.1	Medium dense, gray SILT; saturated	7	7	7	9	NP	20									
	862.6	Medium dense, gray GRAVELLY SAND; saturated	8	5	8	7	NP	14		843.9	Medium dense, gray SILT, interbedded sand and clay; saturated	14	7	12	15	NP	17
										840.6	--heaving sand--	40					

GENERAL NOTES

Begin Drilling: 03-27-2015 Complete Drilling: 03-27-2015
Drilling Contractor: Wang Testing Services Drill Rig: D-25 ATV
Driller: N & R Logger: D. Kolpacki Checked by: A. Hamad
Drilling Method: 3.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

Boring terminated at 40.00 ft
While Drilling: 9.00 ft
At Completion of Drilling: 9.00 ft
Time After Drilling: NA
Depth to Water: NA
The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



4/25/2018 4:43:19 PM

USER NAME = mrc155	DESIGNED - JNP	REVISED -
PLOT SCALE = 16.0000' / in.	CHECKED - MDS	REVISED -
PLOT DATE = 4/25/2018	DRAWN - JNP	REVISED -
	CHECKED - MDS	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 9
RETAINING WALL NB1

SHEET NO. 21 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	665
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

Bench Mark: Chisled "X" on southwest flange bolt of fire hydrant in the southeast quadrant of Harnish Dr. and Randall Rd. Elev 905.54

Existing Structure: 48" CMP Culvert

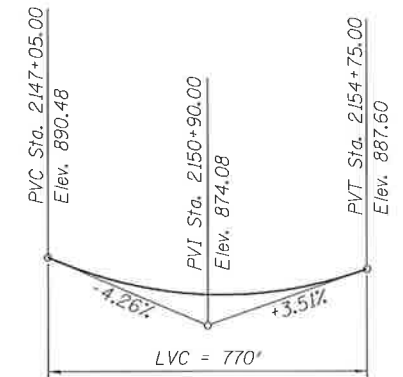
Traffic Control: Traffic to be maintained utilizing staged construction.

Salvage: None

WATERWAY INFORMATION

Drainage Area = 0.1529 square miles		Existing Overtopping Elev. = 882.50 at Sta. 2151+50		Proposed Overtopping Elev. = 881.52 at Sta. 2151+50						
Flood Event	Freq. Yr.	Discharge ft ³ /s	Waterway Opening - ft ²		Natural H.W.E.		Head - ft		Headwater Elev.	
			Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
Design	10	5.8	3.60	10.9	868.88	3.21	3.19	872.09	872.07	
Base	50	44.0	5.76	16.3	869.42	4.01	3.52	873.43	872.94	
Max. Calc.	100	63.9	7.28	20.1	869.80	4.25	3.46	874.05	873.26	
	500	91.6	9.92	26.7	870.46	4.65	3.37	875.11	873.83	

10-Year Velocity Through Existing Structure = 2.2 fps
 10-Year Velocity Through Proposed Structure = 0.48 fps
 2-Yr. Flow Rate = 4.3 ft³/s



PROFILE GRADE
 Along a 15' offset right and left from the centerline of Randall Rd.

HIGHWAY CLASSIFICATION

F.A.P. Route 336 - Randall Rd.
 Functional Class: Principal Arterial
 ADT: 48,500 (2014); 68,500 (2040)
 ADTT: 2%
 DHV: 3194
 Design Speed: 50 M.P.H.
 Posted Speed: 45 M.P.H.

DESIGN STRESSES
 FIELD UNITS

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

PRECAST UNITS

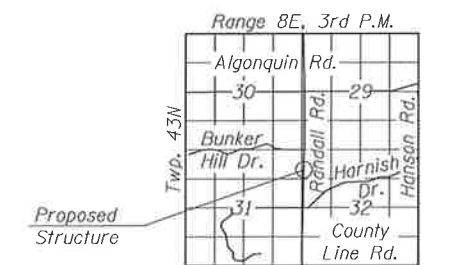
f'c = 5,000 psi
 fy = 65,000 psi (Welded Wire Fabric)

LOADING HL-93

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

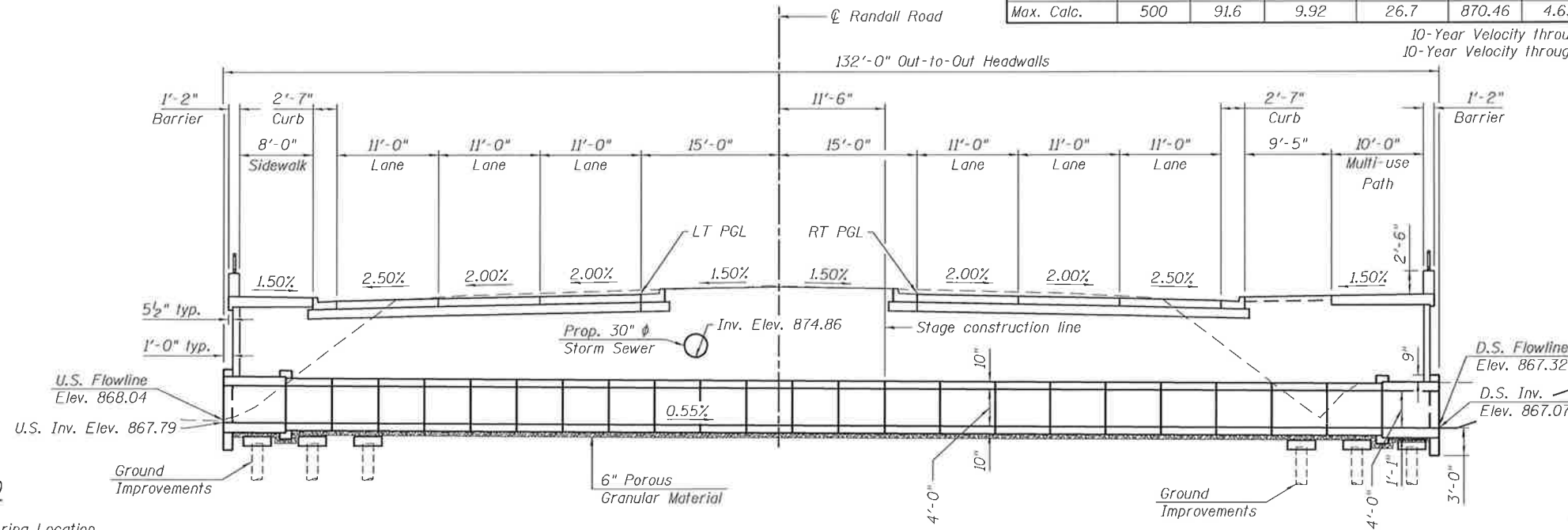
DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interim Revisions



LOCATION SKETCH

GENERAL PLAN AND ELEVATION
RANDALL ROAD OVER
RAT CREEK
 F.A.P. RT. 336
 SECTION 06-00329-01-PW
 MCHENRY COUNTY
 STA. 2151+84.57

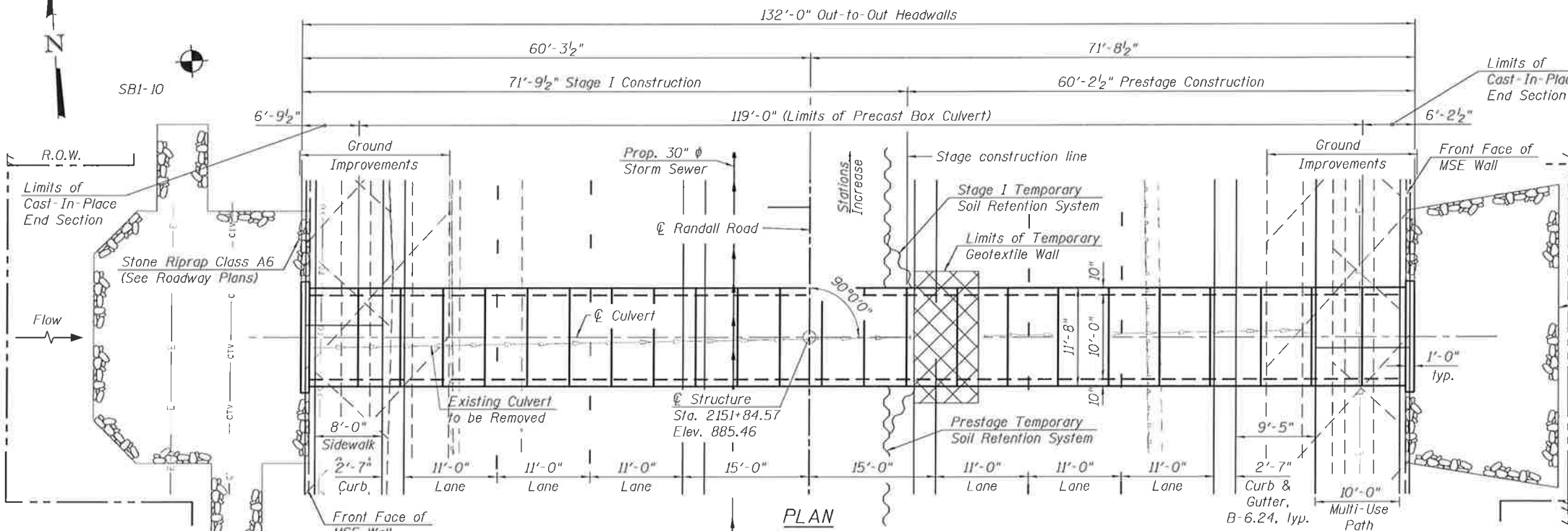
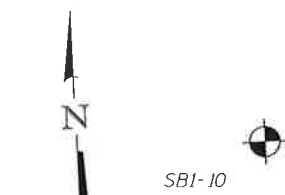


ELEVATION

MATTHEW D. SANTEFORD
 081-007244
 LICENSED STRUCTURAL ENGINEER OF ILLINOIS
 02-23-2018
 MATTHEW D. SANTEFORD, P.E., S.E.
 NO. 081-007244
 EXP. DATE 11/30/2018

"I certify that to the best of my knowledge, information and belief, this culvert end section design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current 'AASHTO LRFD Bridge Design Specifications'."

- LEGEND**
- Soil Boring Location
 - Geotextile Wall Limits



PLAN

USER NAME	mpriss	DESIGNED	TJA	REVISED	
		CHECKED	JRM	REVISED	
PLOT SCALE	1/8" = 1'-0"	DRAWN	TJA	REVISED	
PLOT DATE	2/22/2018	CHECKED	JRM	REVISED	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
RAT CREEK CULVERT

SHEET NO. 1 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	666
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



2/22/2018 6:25:09 PM

GENERAL NOTES

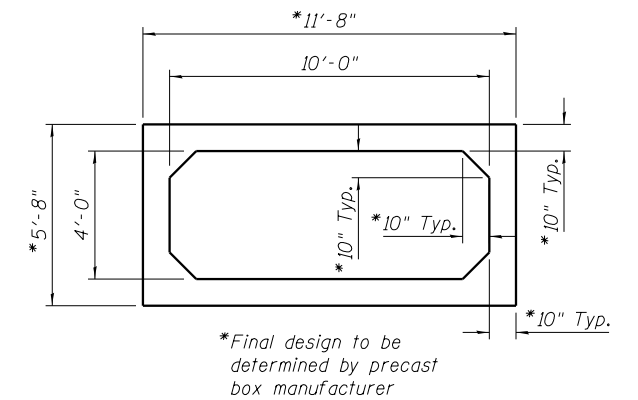
1. Reinforcement bars designated (E) shall be epoxy coated.
2. Precast concrete box culvert section shall conform to the requirements of article 540.06 of the Standard Specifications and the applicable requirements of ASTM C 1577.
3. The design fill height for this structure is 9.30 feet. The minimum fill height is 8.00 feet.
4. Contractor/Precast manufacturer to provide all details for skewed boxes and/or mitered ends as required. Details and plans shall be submitted for approval and sealed by an Illinois licensed Structural Engineer.
5. The Contractor shall ensure that drainage is maintained through the existing and proposed culverts at all times. Any work and material, such as a temporary culvert extension that extends into the proposed box culvert at the stage line, shall not be measured for payment, but shall be considered included in the cost of the Concrete Box Culverts.
6. See Retaining Wall NBI and SBI sheets for Timber Pile Ground Improvement details.
7. See roadway plans for existing culvert removal.
8. Drain holes shall be provided on exterior culvert walls for each precast box segment with a clear rise greater than 3 ft. The drain hole shall be located within 1/3 of the clear rise of the box culvert, shall not intercept the haunch, and shall conform to the requirements of Article 503.11 of the Standard Specification.
9. All dewatering necessary for the construction of this structure shall be according to the Special Provision for Dewatering and shall be included in the Lump Sum for Dewatering.

INDEX OF SHEETS

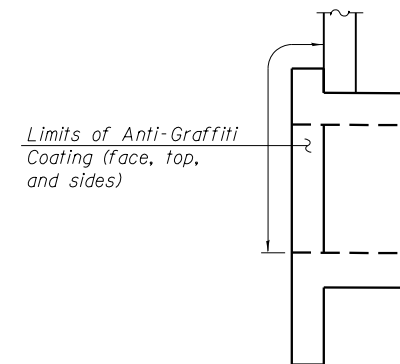
1. General Plan and Elevation
2. General Data
3. Stage Construction Details-1
4. Stage Construction Details-2
5. West End Section
6. East End Section
7. MSE Wall Details

TOTAL BILL OF MATERIAL

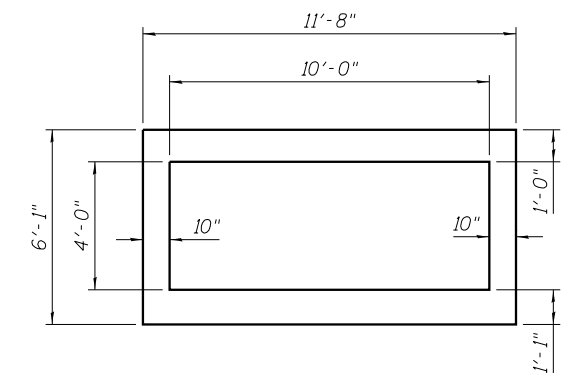
Item	Unit	Total
Earth Excavation	Cu. Yd.	1,284
Porous Granular Embankment	Cu. Yd.	4
Structure Excavation	Cu. Yd.	906
Reinforcement Bars, Epoxy Coated	Pound	3,660
Temporary Soil Retention System	Sq. Ft.	866
Geotextile Retaining Wall	Sq. Ft.	110
Concrete Box Culverts	Cu. Yd.	21.0
Precast Concrete Box Culverts 10' X 4'	Foot	119
Anti-Graffiti Coating	Sq. Ft.	121



SECTION THRU PRECAST BARREL



TYPICAL END TREATMENT
(Section view)



SECTION THRU CAST-IN-PLACE BARREL



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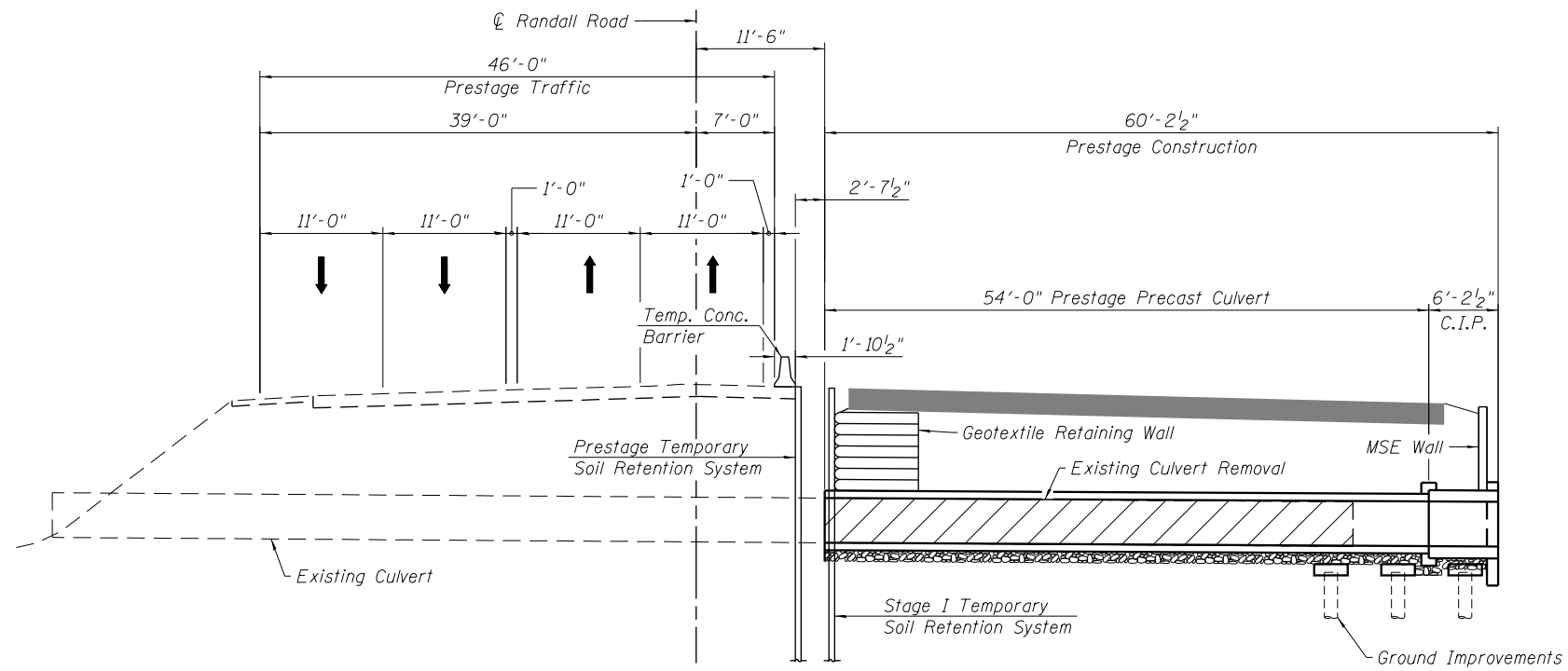
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	CHECKED - JRM	REVISED -
PLOT SCALE = 24.0000' / in.	DRAWN - TJA	REVISED -
PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

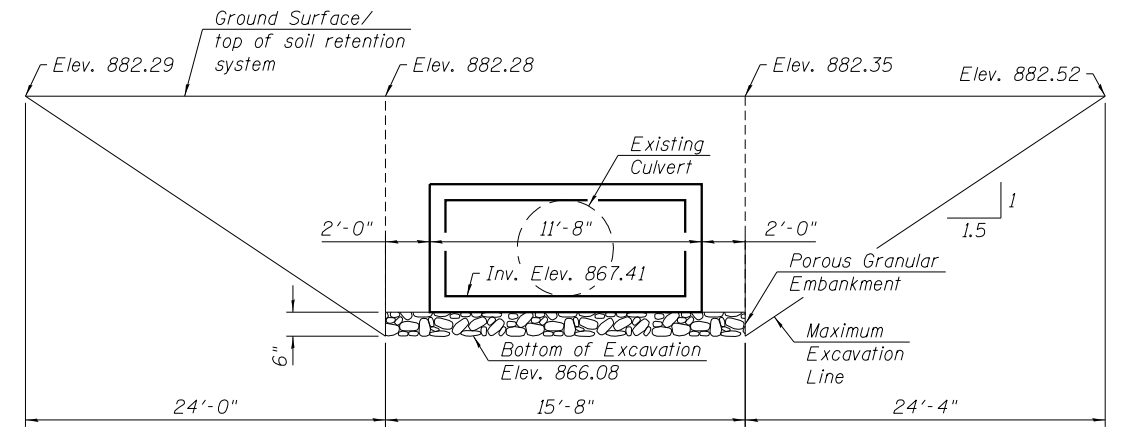
**GENERAL DATA
RAT CREEK CULVERT**

SHEET NO. 2 OF 7 SHEETS

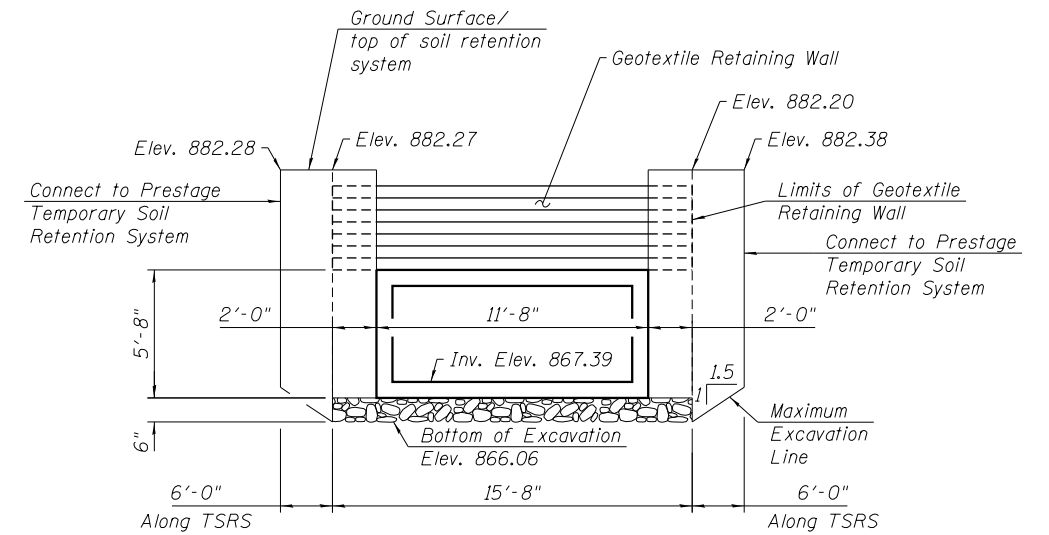
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	667
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



PRESTAGE CONSTRUCTION
(Looking North)



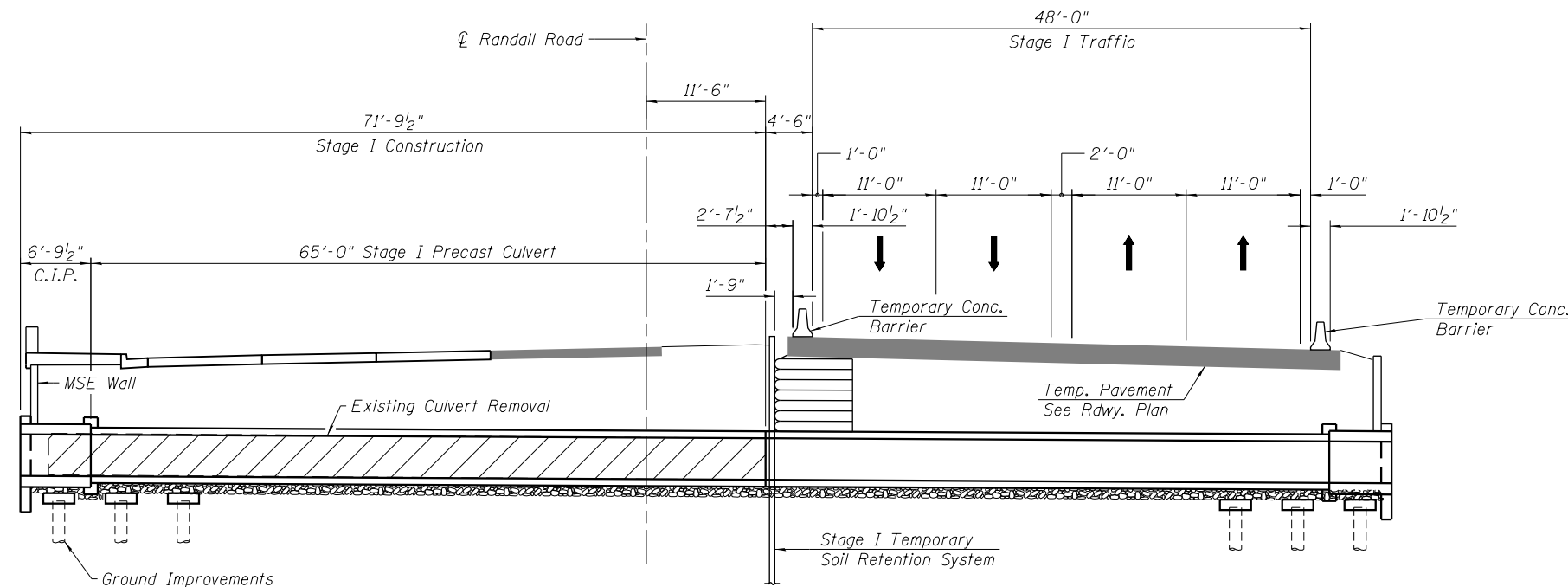
PRESTAGE - TEMPORARY SOIL RETENTION SYSTEM
(Looking West)



STAGE I - TEMPORARY SOIL RETENTION SYSTEM
(Looking East)

BILL OF MATERIAL

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	866
Geotextile Retaining Wall	Sq. Ft.	110

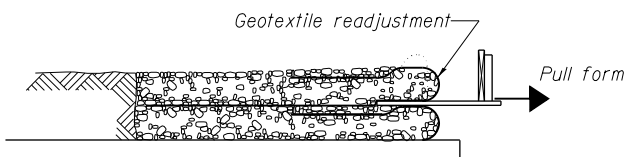
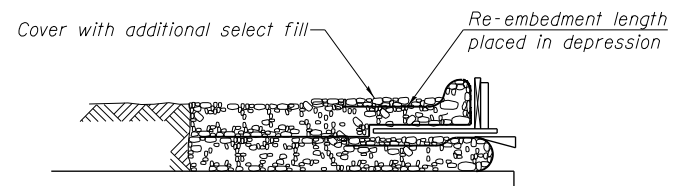
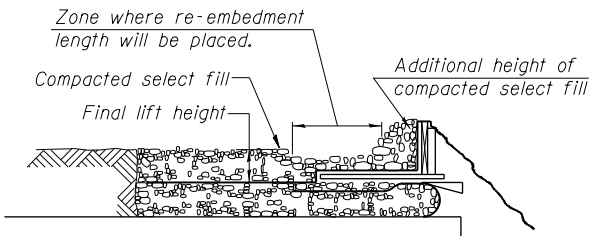
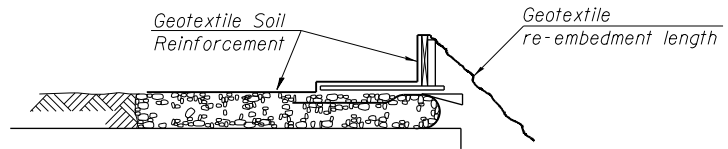
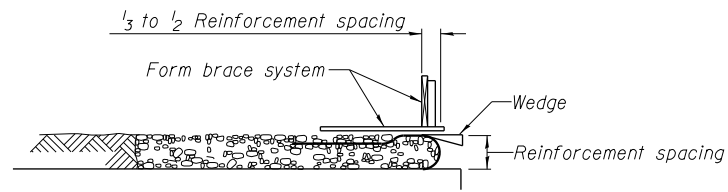


STAGE I CONSTRUCTION
(Looking North)

Notes:
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.

USER NAME = mrc155	DESIGNED - TJA	REVISED -
	CHECKED - JRM	REVISED -
PLOT SCALE = 16.0000' / in.	DRAWN - TJA	REVISED -
PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

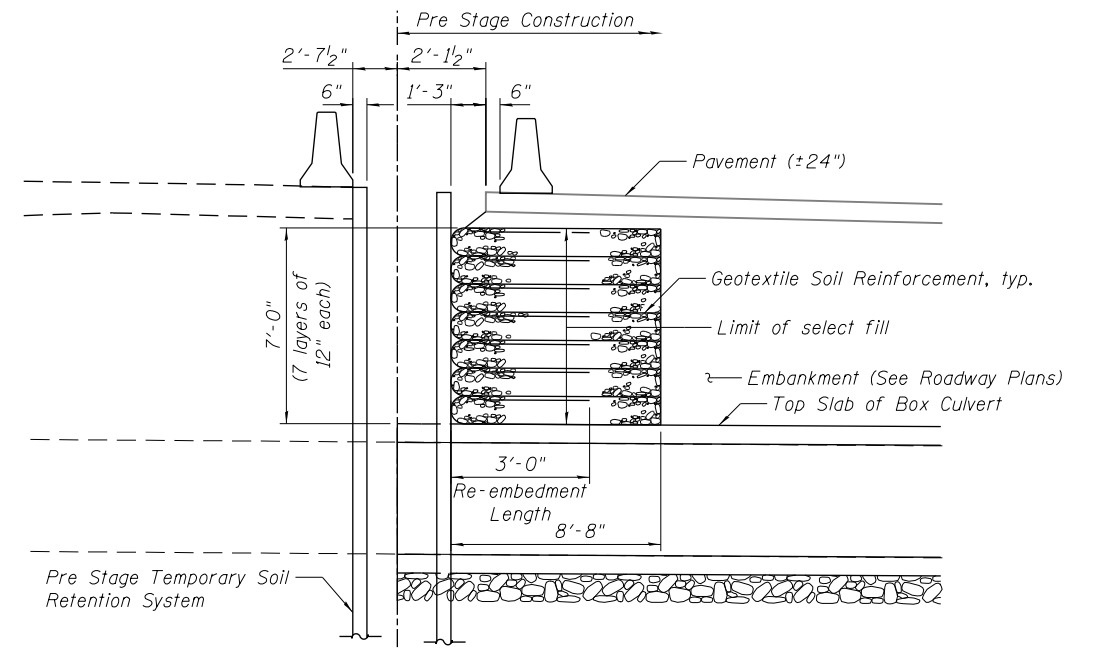
F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 668
			CONTRACT NO. 61E53	



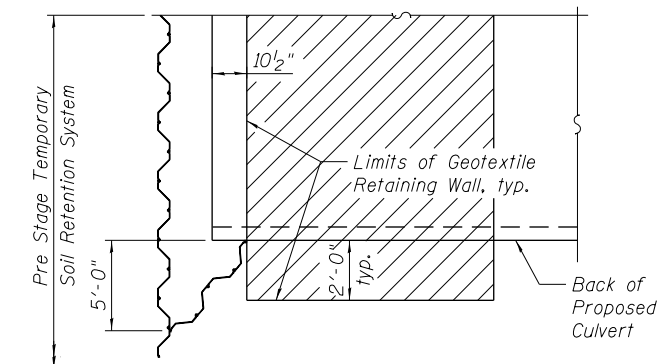
GEOTEXTILE WALL CONSTRUCTION SEQUENCE

Note:
The geotextile soil reinforcement shall have a minimum allowable tensile strength (T min.) of 36 lb./in. as determined by the procedure described in the Standard Specifications. The computations supporting the determination of (T min.) shall be submitted to the engineer for approval.

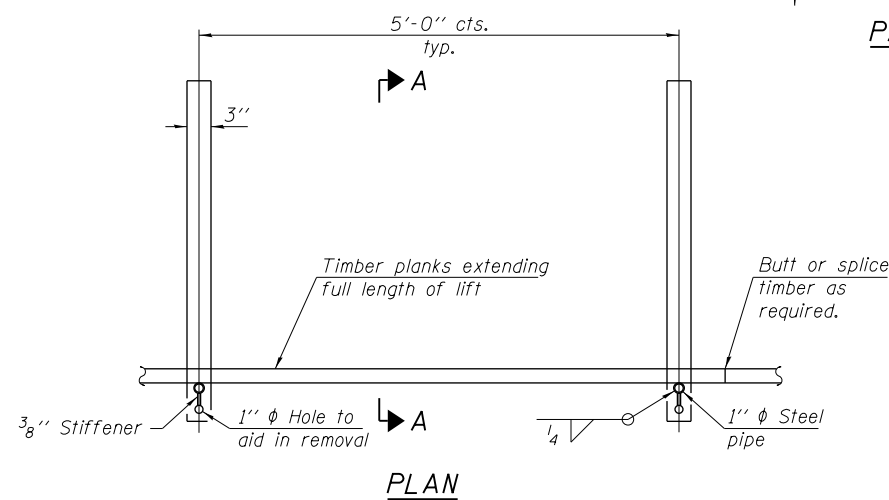
1. Place form brace system on completed reinforcement level; back from the finished fabric face a distance of $\frac{1}{3}$ to $\frac{1}{2}$ the geotextile reinforcement spacing.
2. Position fabric so that the required geotextile re-embedment length extends over the top of the form brace and the design reinforcement width is placed with no slack against the previous level.
3. Compact select fill material in lifts to final lift height, create ($\pm 3''$) depression in zone where re-embedment length will be located and place additional height of compacted select fill against form brace.
4. Fold geotextile re-embedment length back over form brace into zone where depression was made in select fill and place additional select fill ($\pm 3''$) to embed geotextile and bring to final lift height.
5. Pull form brace outward allowing geotextile face to slightly readjust to form tight round face level with plan reinforcement spacing.



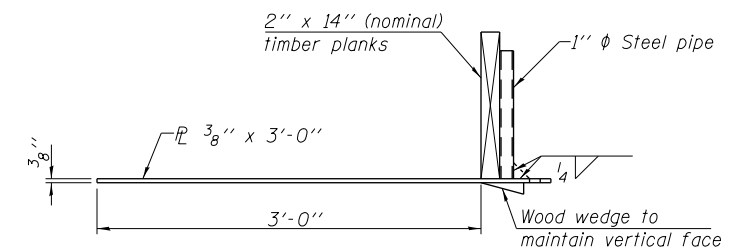
GEOTEXTILE RETAINING WALL DETAIL



PARTIAL PLAN AT STAGE LINE



PLAN



SECTION A-A

GEOTEXTILE FORM BRACE DETAIL

Note:
This is a suggested detail, the Contractor is responsible for the design of the form brace system to be used.



4/25/2018 4:43:30 PM

USER NAME = mrc155	DESIGNED - TJA	REVISED -
PLOT SCALE = 0.1667' / in.	CHECKED - JRM	REVISED -
PLOT DATE = 4/25/2018	DRAWN - JM	REVISED -
	CHECKED - JRM	REVISED -

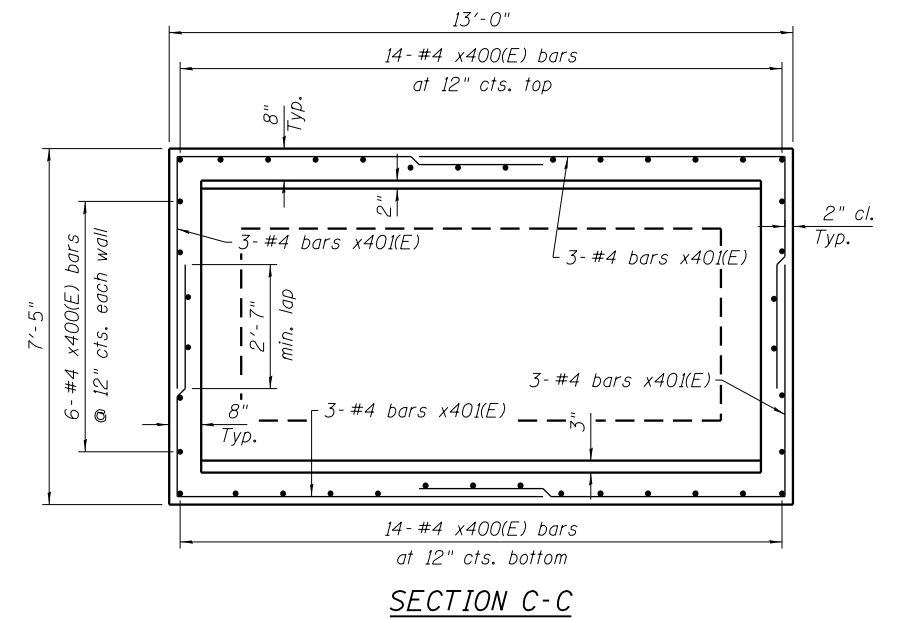
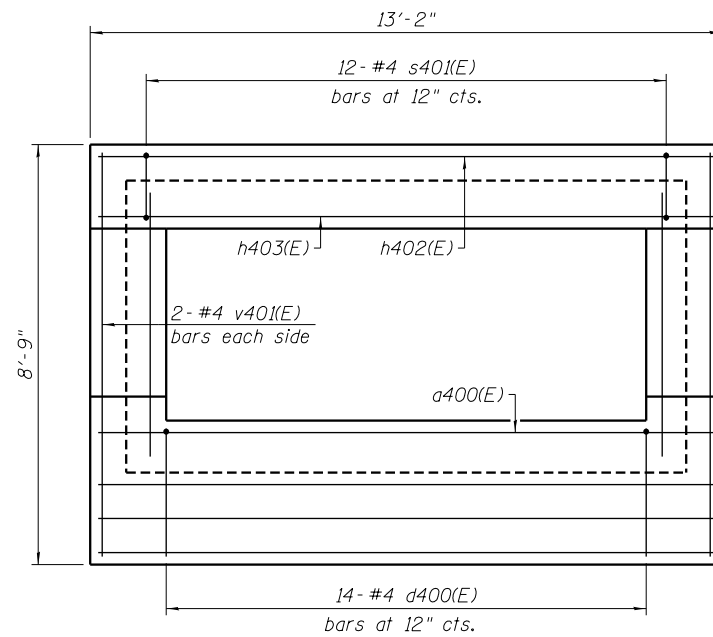
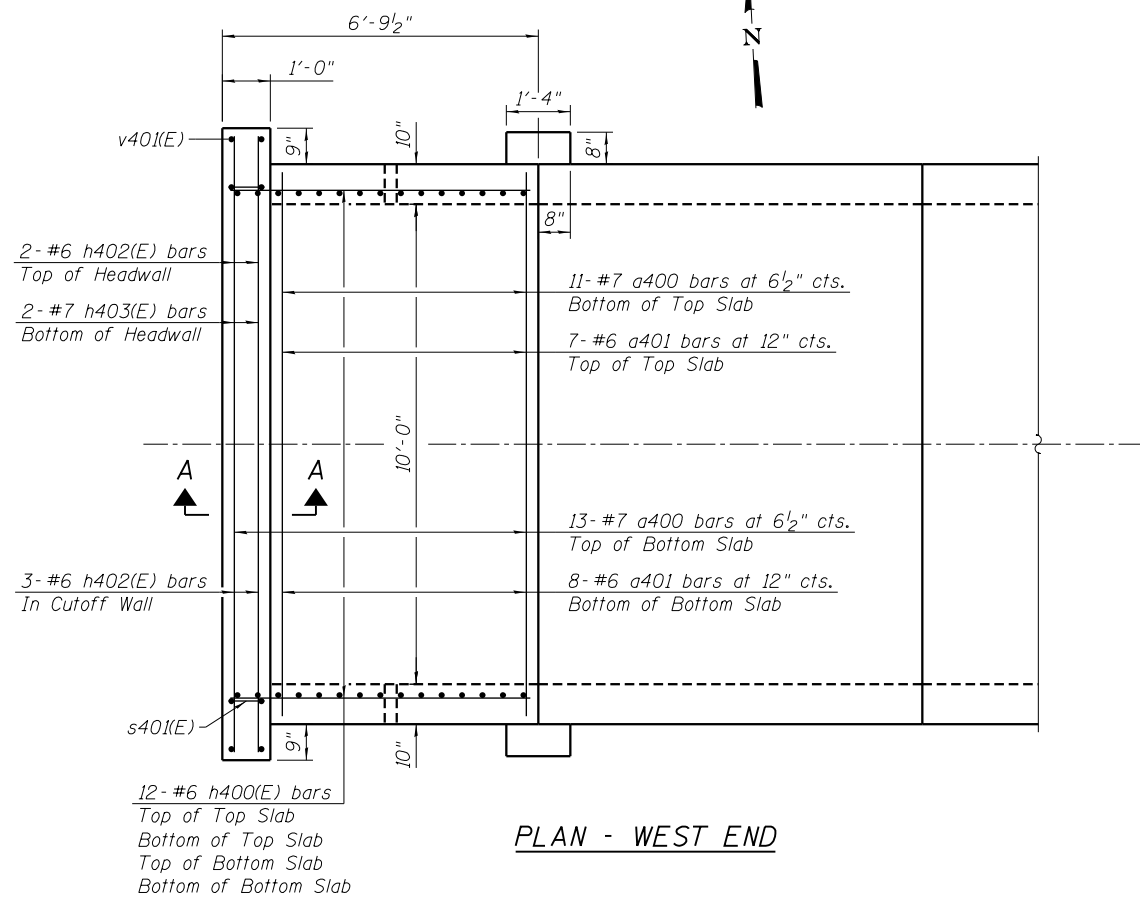
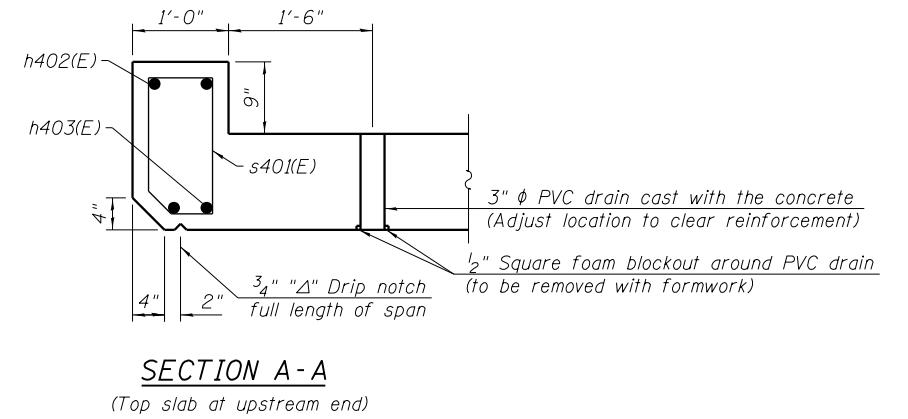
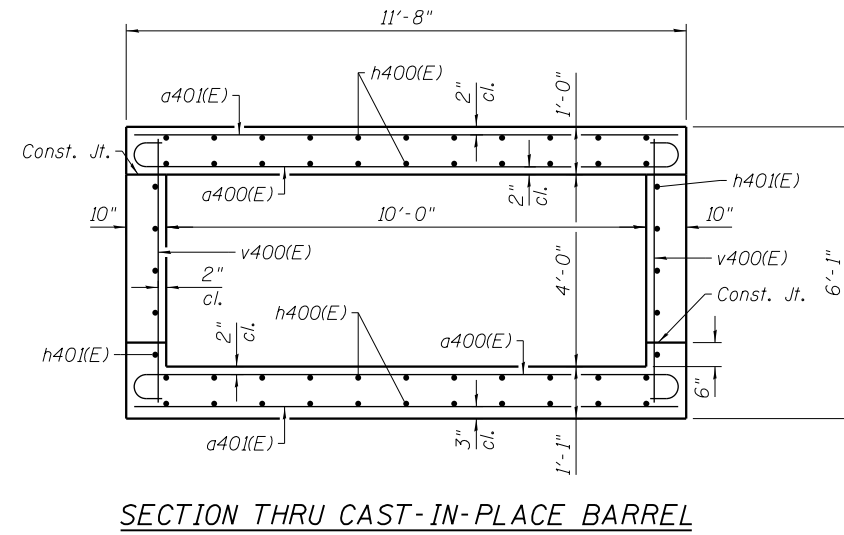
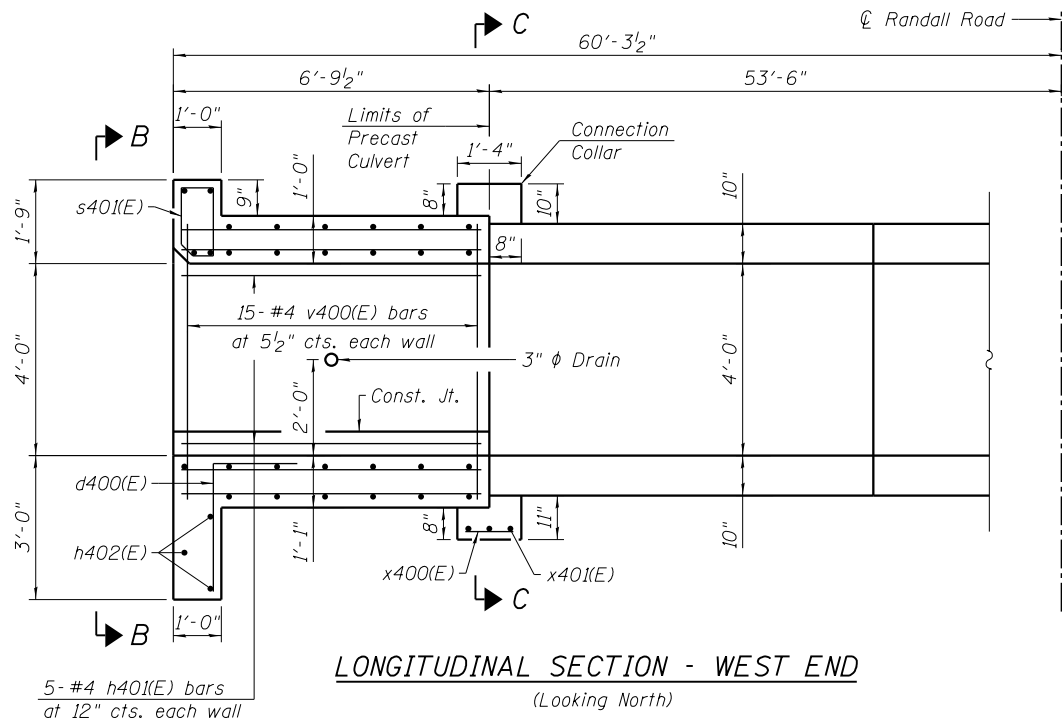
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS - 2
RAT CREEK CULVERT

SHEET NO. 4 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	669
			CONTRACT NO. 61E53	

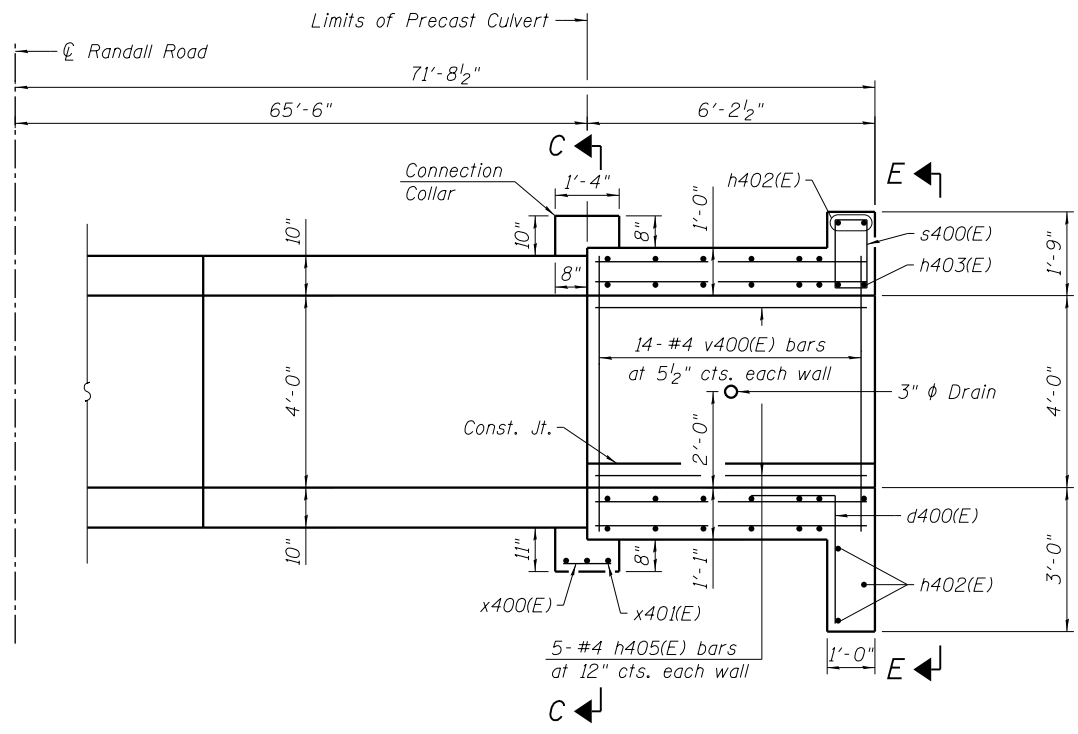
ILLINOIS FED. AID PROJECT



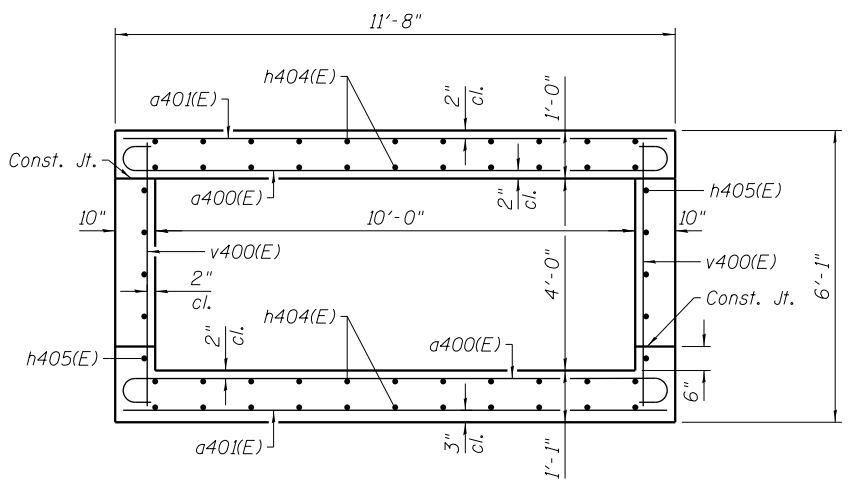
Note:
For Bill of Material,
see sheet 6 of 7.

USER NAME = mrc155	DESIGNED - TJA	REVISED -
PLOT SCALE = 4.0000' / 1" =	CHECKED - JRM	REVISED -
PLOT DATE = 4/25/2018	DRAWN - TJA	REVISED -
	CHECKED - JRM	REVISED -

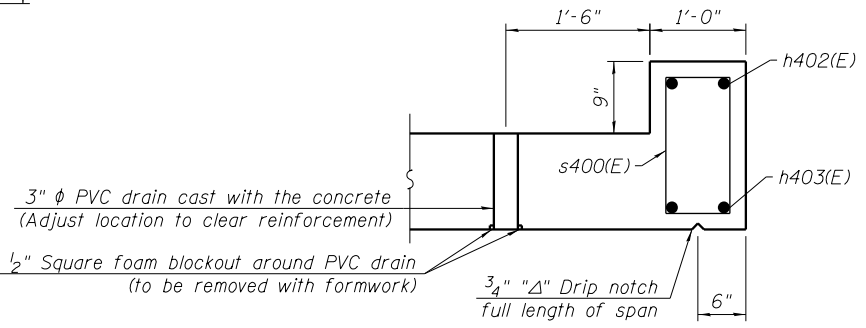
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			CONTRACT NO. 61E53	



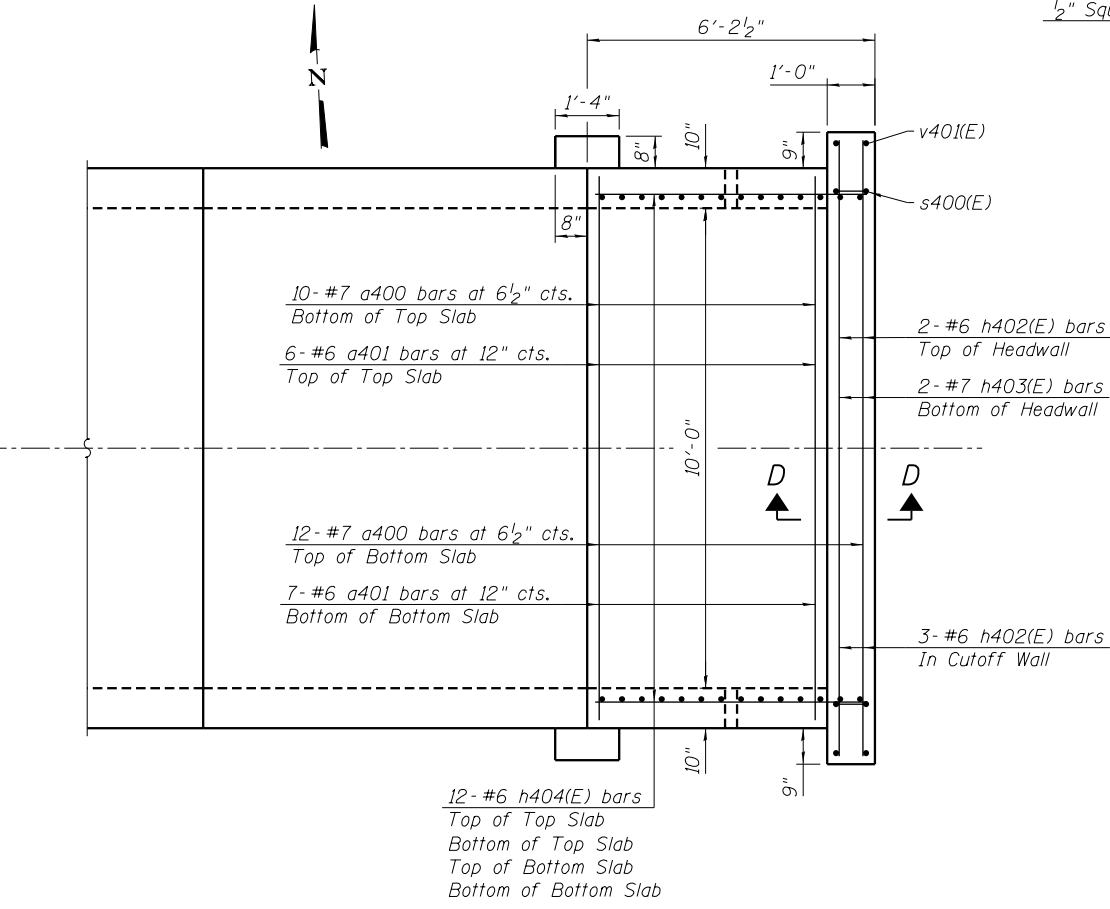
LONGITUDINAL SECTION - EAST END
(Looking North)



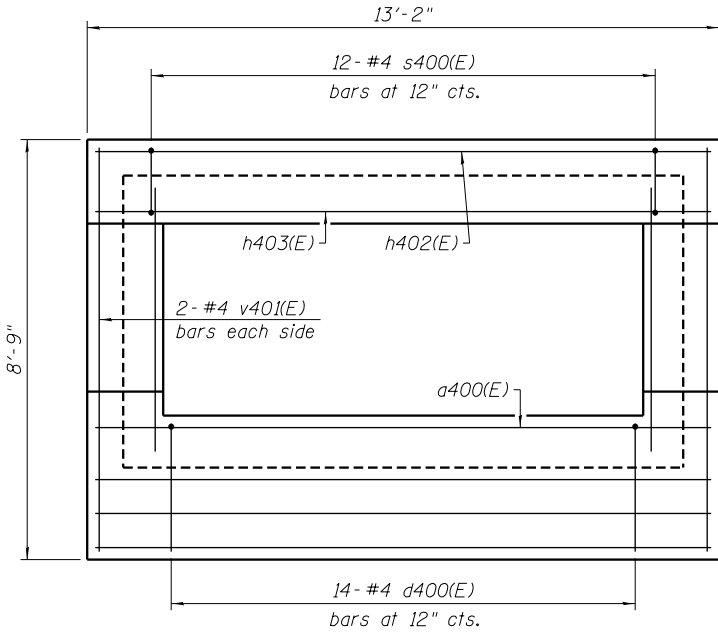
SECTION THRU CAST-IN-PLACE BARREL



SECTION D-D
(Top slab at downstream end)



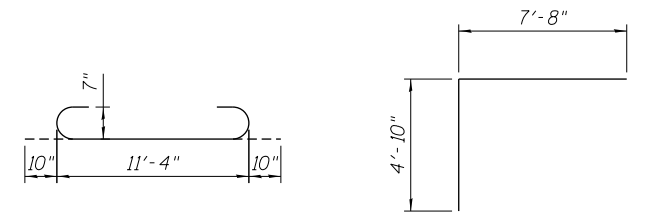
PLAN - EAST END



SECTION E-E

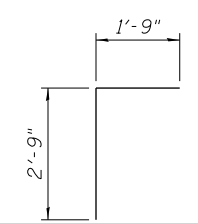
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a400(E)	46	#7	13'-0"	U	
a401(E)	28	#6	11'-4"	—	
d400(E)	28	#4	4'-6"	—	
h400(E)	48	#6	6'-6"	—	
h401(E)	10	#4	6'-6"	—	
h402(E)	10	#6	12'-10"	—	
h403(E)	4	#7	12'-10"	—	
h404(E)	48	#6	5'-11"	—	
h405(E)	10	#4	5'-11"	—	
s400(E)	12	#4	5'-1"	□	
s401(E)	12	#4	4'-11"	□	
v400(E)	58	#4	5'-8"	—	
v401(E)	8	#4	8'-4"	—	
x400(E)	80	#4	1'-0"	—	
x401(E)	24	#4	12'-6"	—	
Reinforcement Bars, Epoxy Coated				Pound	3,660
Concrete Box Culverts				Cu. Yds.	21.0

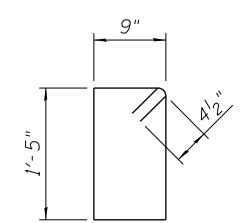


BAR a400(E)

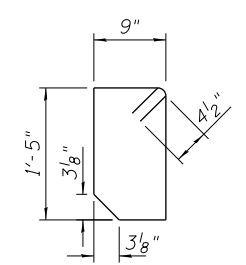
BAR x401(E)



BAR d400(E)



BAR s400(E)



BAR s401(E)

Note:
For Section C-C, see sheet 5 of 7.



4/25/2018 4:43:36 PM

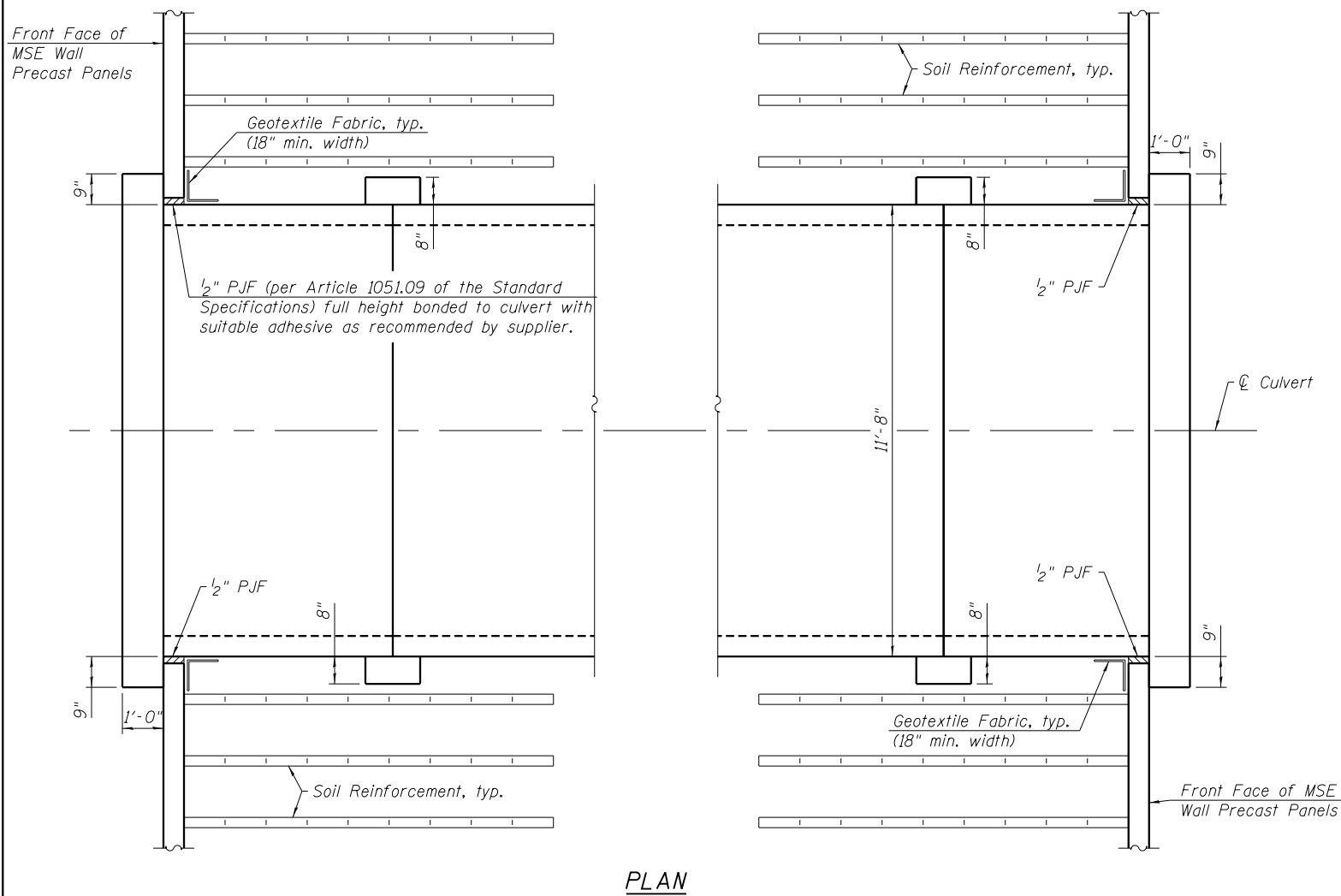
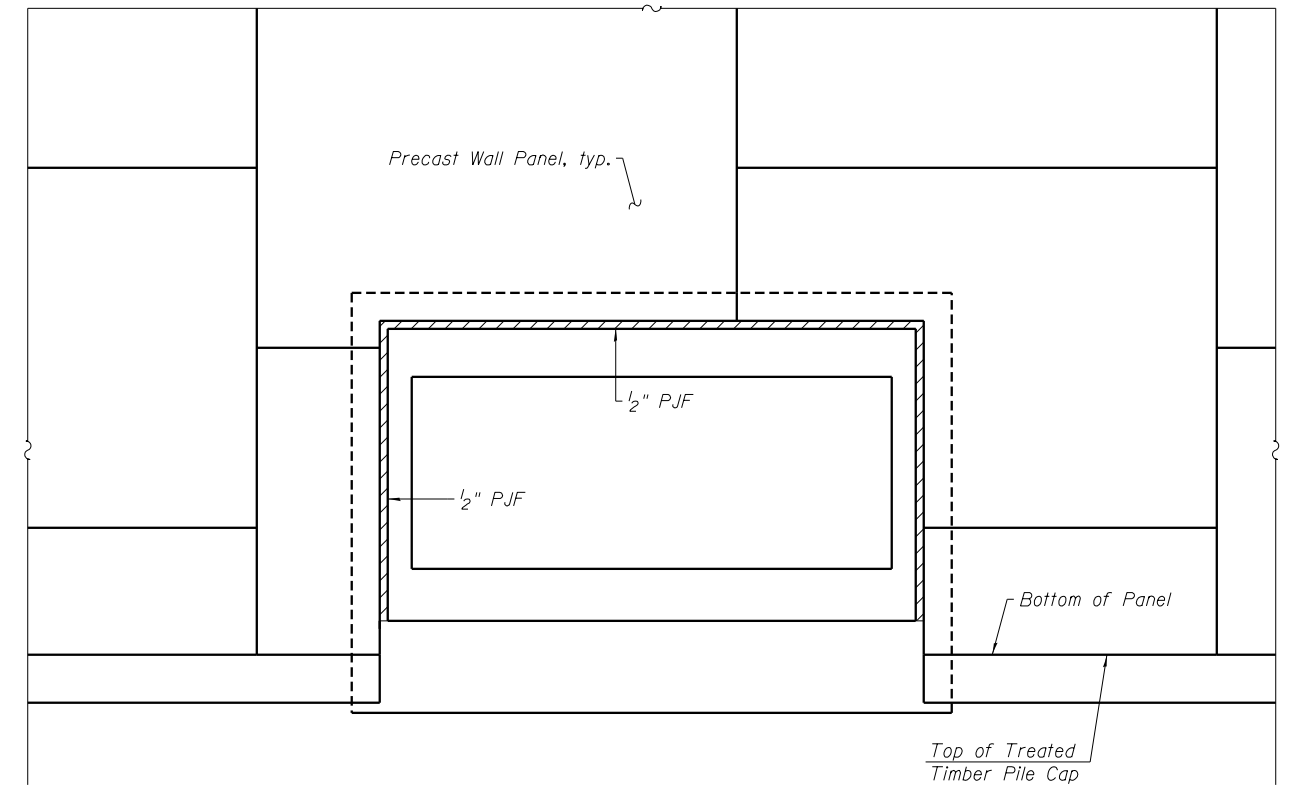
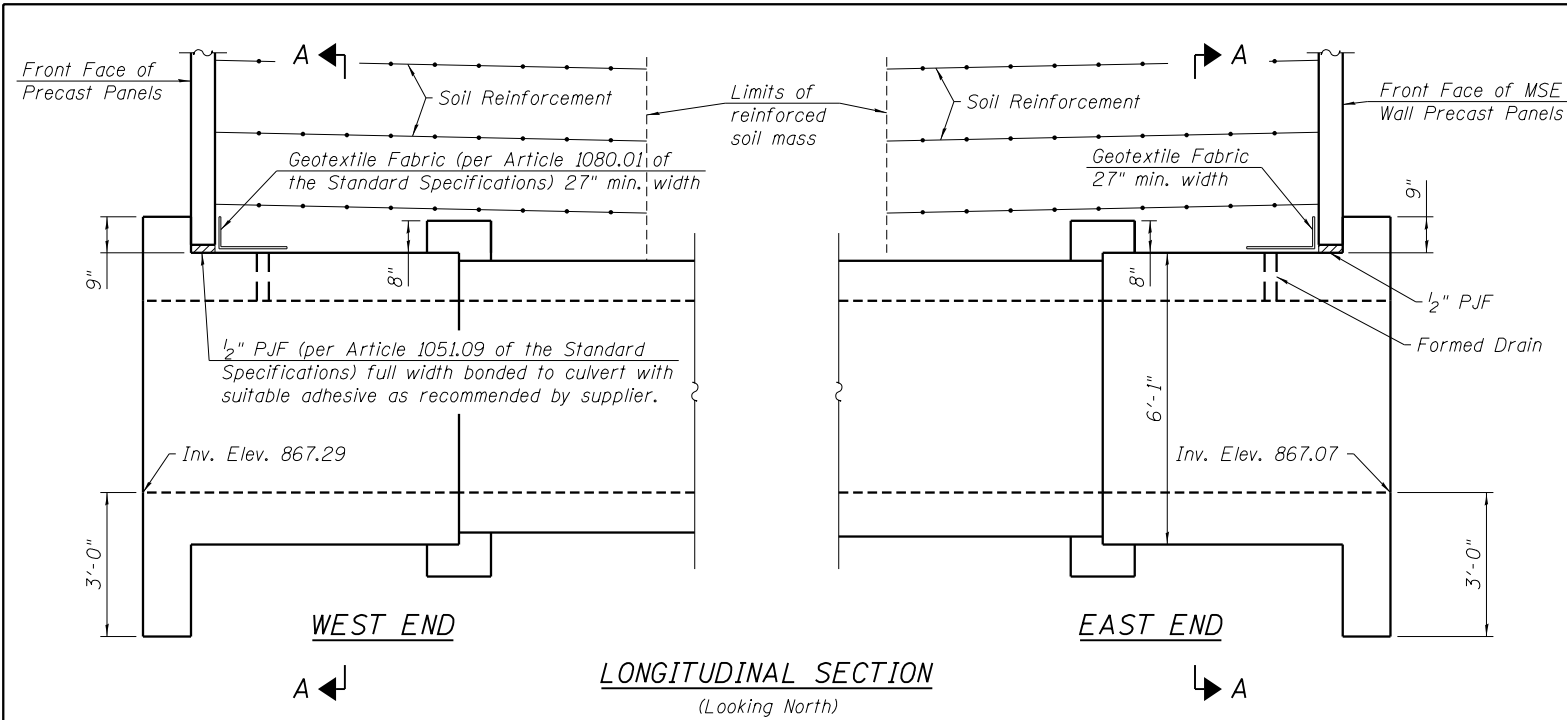
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CHECKED - JRM	REVISED -	
PLOT SCALE = 4.0000' / 1\"/>		
PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST END SECTION
RAT CREEK CULVERT

SHEET NO. 6 OF 7 SHEETS

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 671
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



SECTION A-A

PLAN

Notes:
 P.J.F and Geotextile Fabric to be included in the cost of Concrete Box Culverts.
 See Retaining Wall SBI and NBI plans for Treated Timber Pile cap details.



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PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MSE WALL DETAILS
 RAT CREEK CULVERT

SHEET NO. 7 OF 7 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	672
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

Bench Mark: Chisled "X" on southwest flange bolt of fire hydrant in the southeast quadrant of Harnish Dr. and Randall Rd. Elev 905.54

Traffic Control: Traffic to be maintained utilizing staged construction.

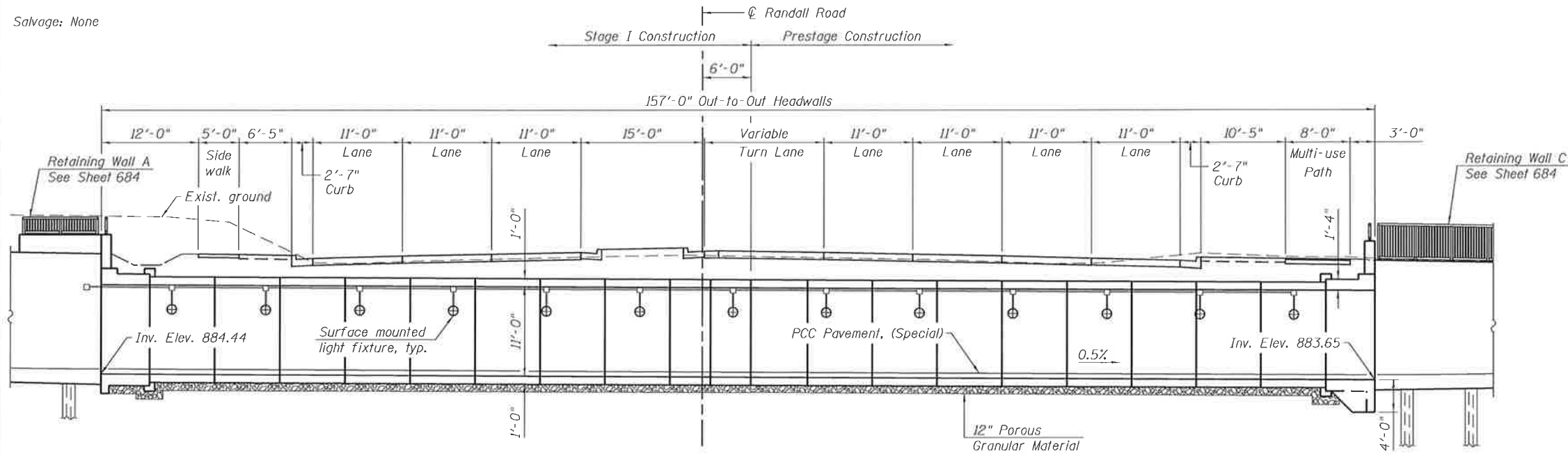
Existing Structure: None

Salvage: None



Matthew D. Santeford
 MATTHEW D. SANTEFORD, P.E., S.E.
 NO. 081-007244
 EXP. DATE 11/30/2018

"I certify that to the best of my knowledge, information and belief, this culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with the requirements of the current 'AASHTO LRFD Bridge Design Specifications'."



HIGHWAY CLASSIFICATION

F.A.P. Route 336 - Randall Rd.
 Functional Class: Principal Arterial
 ADT: 48,500 (2014); 68,500 (2040)
 ADTT: 2%
 DHV: 3194
 Design Speed: 50 M.P.H.
 Posted Speed: 45 M.P.H.

DESIGN STRESSES

FIELD UNITS

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

PRECAST UNITS

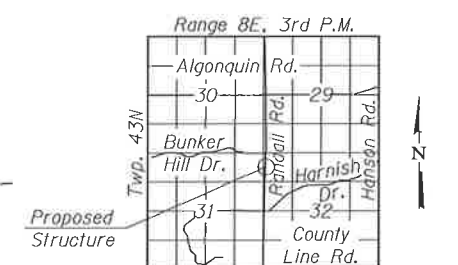
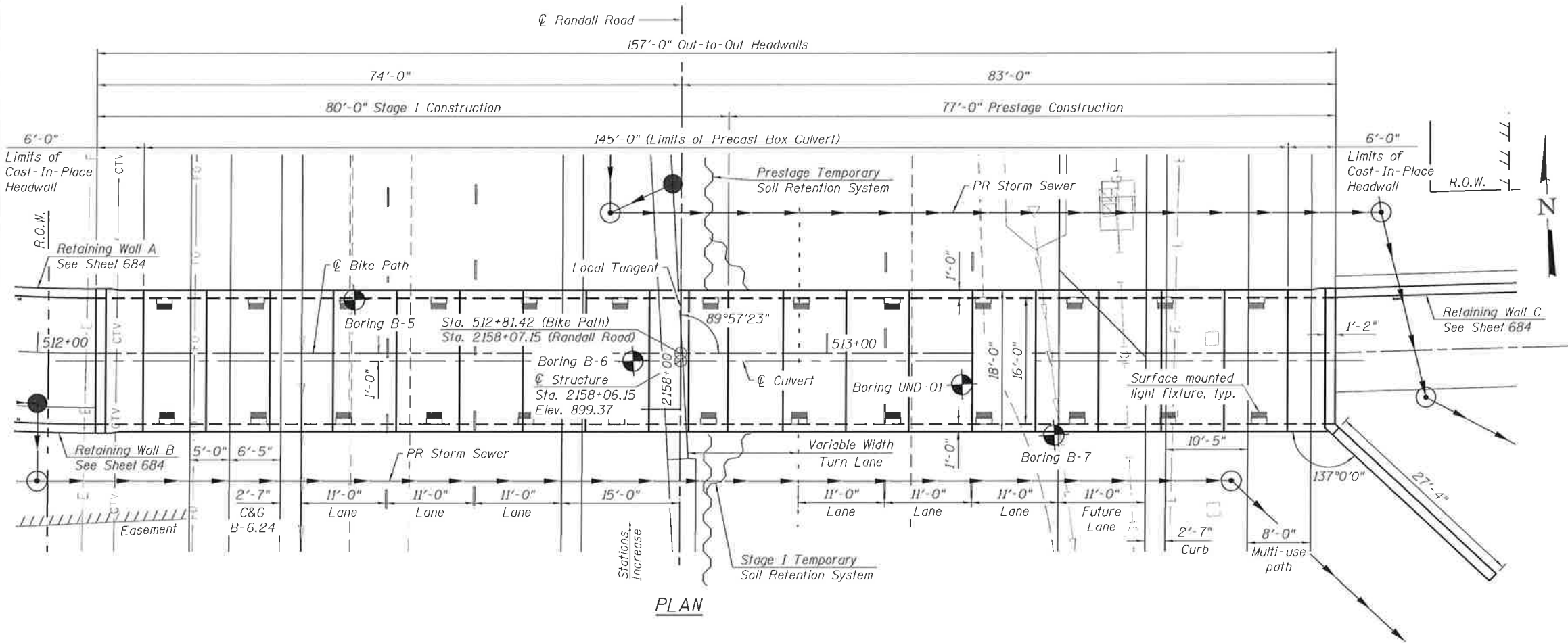
f'c = 5,000 psi
 fy = 65,000 psi (Welded Wire Fabric)

LOADING HL-93

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

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interim Revisions



GENERAL PLAN AND ELEVATION

UNDERPASS CULVERT

UNDER RANDALL ROAD

F.A.P. RT. 336

SECTION 06-00329-01-PW

MCHENRY COUNTY

STA. 2158+06.15

SN 056-F011.1



2/22/2018 5:25:32 PM

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CHECKED = JRM	REVISED =	
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CHECKED = JRM	REVISED =	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

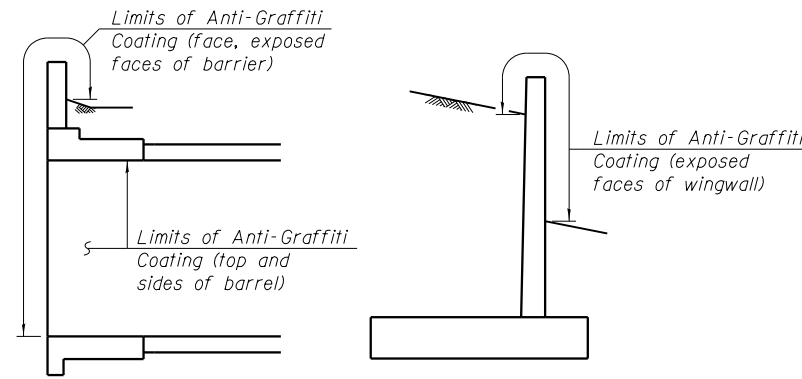
GENERAL PLAN AND ELEVATION
 UNDERPASS CULVERT

SHEET NO. 1 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	673
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	

GENERAL NOTES

1. Reinforcement bars designated (E) shall be epoxy coated.
2. Precast concrete box culvert section shall conform to the requirements of article 540.06 of the standard specifications and the applicable requirements of ASTM C 1577. Design fill height for this structure is 3.68'. The minimum fill height is 1.75'.
3. Contractor/Precast manufacturer to provide all details for skewed boxes and/or mitered ends as required. Details and plans shall be submitted for approval and sealed by an Illinois licensed Structural Engineer.
4. See sheets 579 and 580 for lighting details.
5. All dewatering necessary for the construction of this structure shall be according to the Special Provision for Dewatering and shall be included in the Lump Sum for Dewatering.

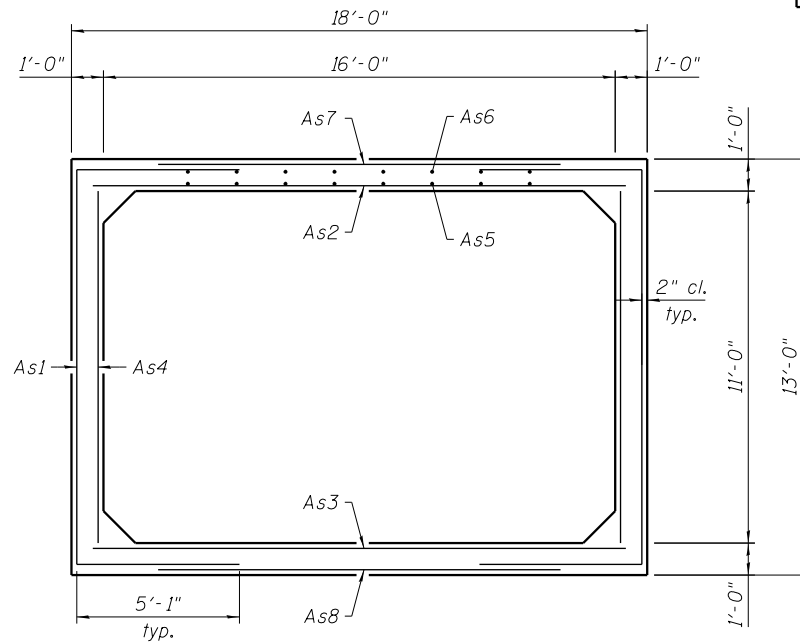


INDEX OF SHEETS

1. General Plan and Elevation
2. General Data
3. Stage Construction Details
4. West End Section
5. East End Section
6. Wingwall Details
7. Miscellaneous Details
8. Parapet Railing, Special
9. Boring Logs 1
10. Boring Logs 2
11. Boring Logs 3

TOTAL BILL OF MATERIAL

Item	Unit	Total
Earth Excavation	Cu. Yd.	3,485
Porous Granular Embankment	Cu. Yd.	127
Structure Excavation	Cu. Yd.	2,468
Form Liner Textured Surface	Sq. Ft.	422
Reinforcement Bars, Epoxy Coated	Pound	17,560
Temporary Soil Retention System	Sq. Ft.	1,120
Concrete Box Culverts	Cu. Yd.	122.5
Geocomposite Wall Drain	Sq. Yd.	517
Portland Cement Concrete Pavement (Special)	Sq. Yd.	280
Pipe Underdrains for Structures 4"	Foot	347
Membrane Waterproofing System for Buried Structures	Sq. Yd.	354
Staining Concrete Structures	Sq. Ft.	506
Parapet Railing, Special	Foot	66
Anti-Graffiti Coating	Sq. Ft.	6,702
Form Liner Textured Surface, Special	Sq. Ft.	84
Precast Concrete Box Culverts 16' X 11' (Special)	Foot	145



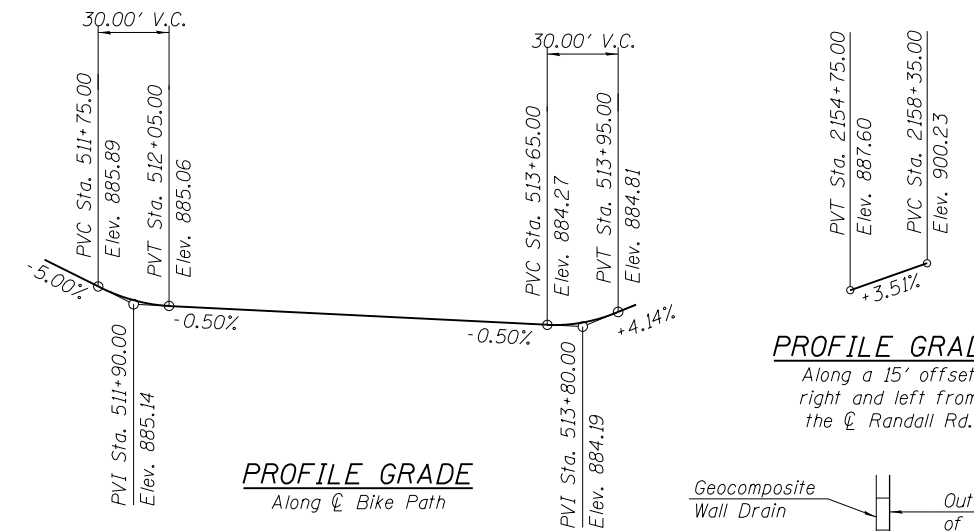
SECTION THRU PRECAST BARREL
(Looking east)

PRECAST BOX CULVERT REINFORCING TABLE

As1	0.67 in ² /ft
As2	0.91 in ² /ft
As3	0.83 in ² /ft
As4	0.29 in ² /ft
As5	0.29 in ² /ft
As6	0.29 in ² /ft
As7	0.29 in ² /ft
As8	0.29 in ² /ft

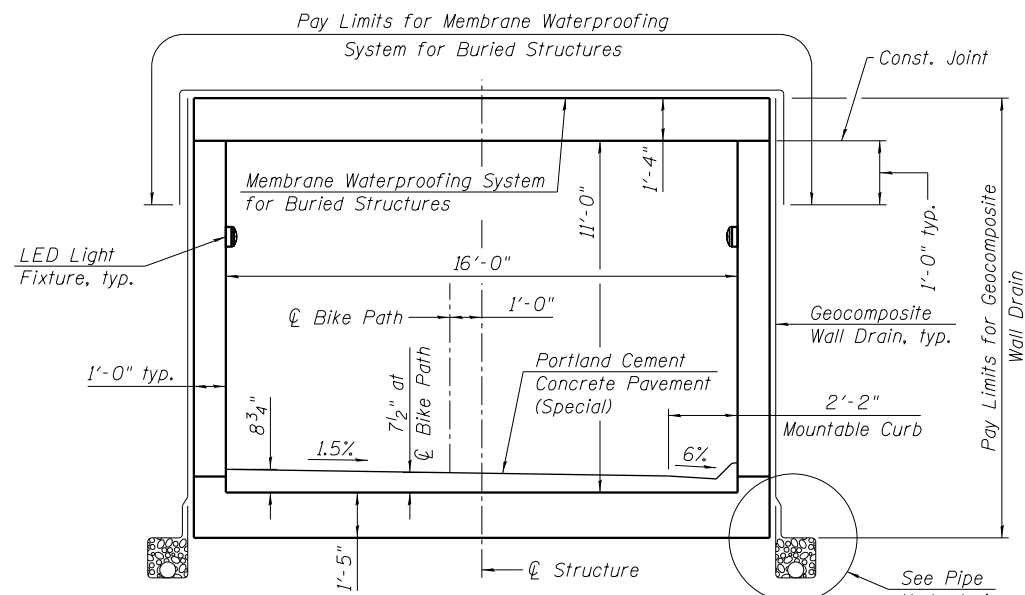
CURVE DATA
PRRANDL3

P.I. Sta. = 2159+85.14
 $\Delta = 2^\circ 49' 30''$ (LT)
 $D = 0^\circ 19' 56''$
 $R = 17,239.52'$
 $T = 425.07'$
 $L = 849.96'$
 $E = 5.24'$
 $e = 0.00\%$
 P.C. Sta. = 2155+60.08
 P.T. Sta. = 2164+10.04

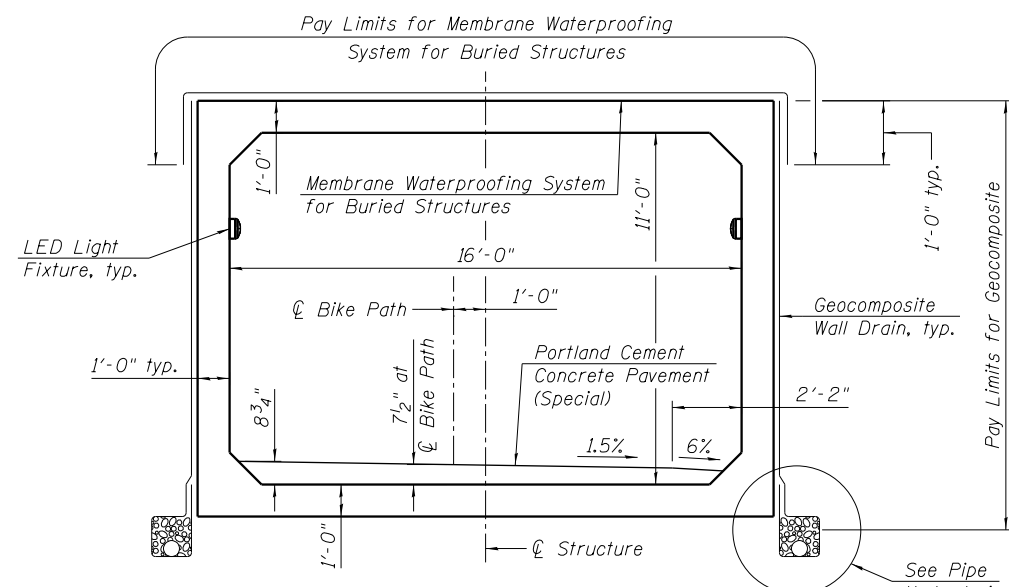


PROFILE GRADE
Along Q Bike Path

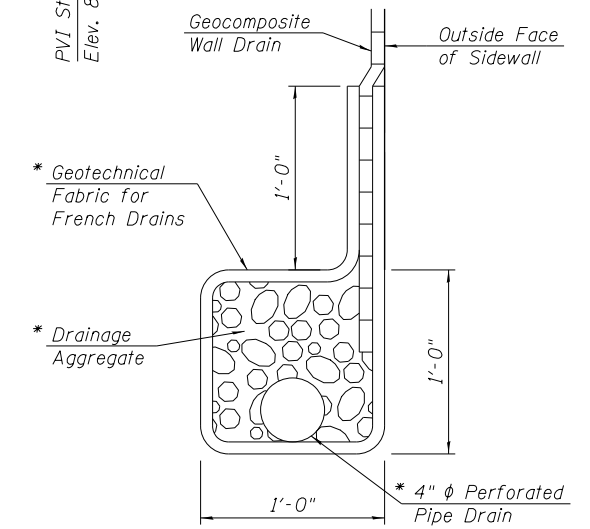
PROFILE GRADE
Along a 15' offset right and left from the Q Randall Rd.



SECTION THRU CAST-IN-PLACE BARREL
(Looking east)



SECTION THRU PRECAST BARREL
(Looking east)



PIPE UNDERDRAIN DETAIL

* Cost included with Pipe Underdrains for Structures 4". All drainage components shall extend to 2'-0" from the end of southeast wingwall, except an outlet pipe shall extend until intersection with side slopes. The pipe shall drain into concrete headwalls. See Highway Standard 601101. Connect the pipe underdrains to the retaining wall drains.



5/14/2018 10:45:05 AM

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	CHECKED - JRM	REVISED -
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PLOT DATE = 5/14/2018	CHECKED - JRM	REVISED -

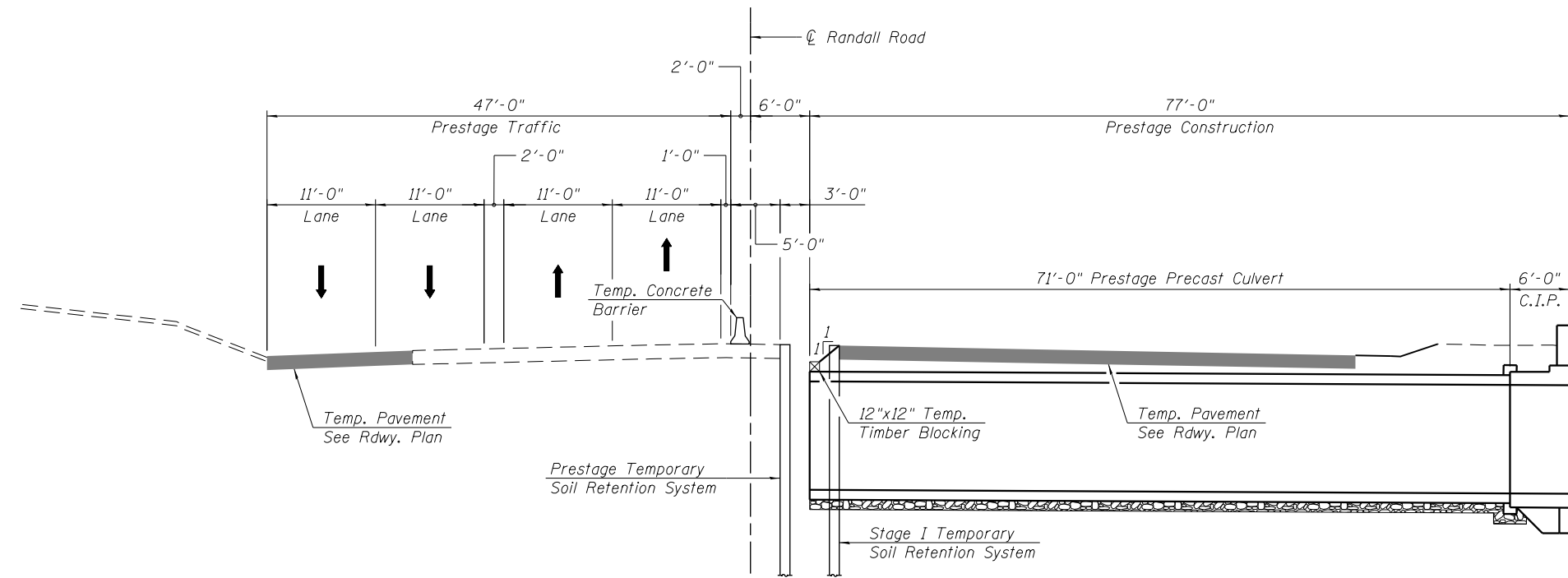
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
UNDERPASS CULVERT

SHEET NO. 2 OF 11 SHEETS

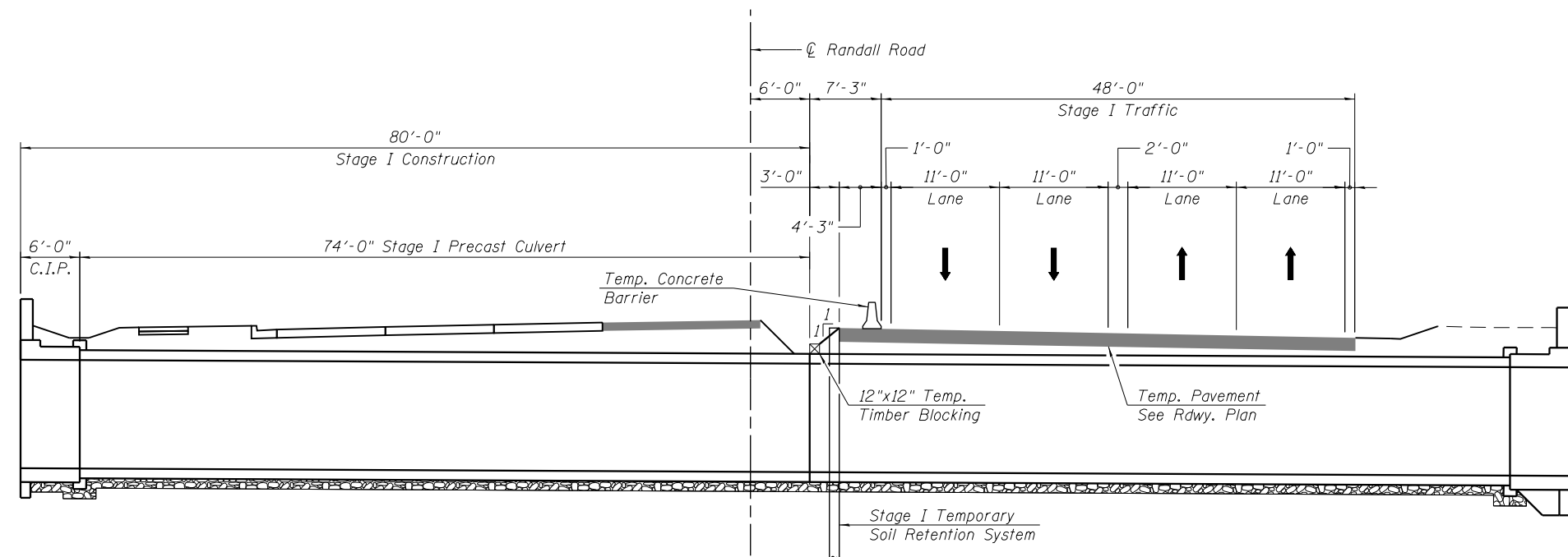
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	674
			CONTRACT NO.	61E53

ILLINOIS FED. AID PROJECT



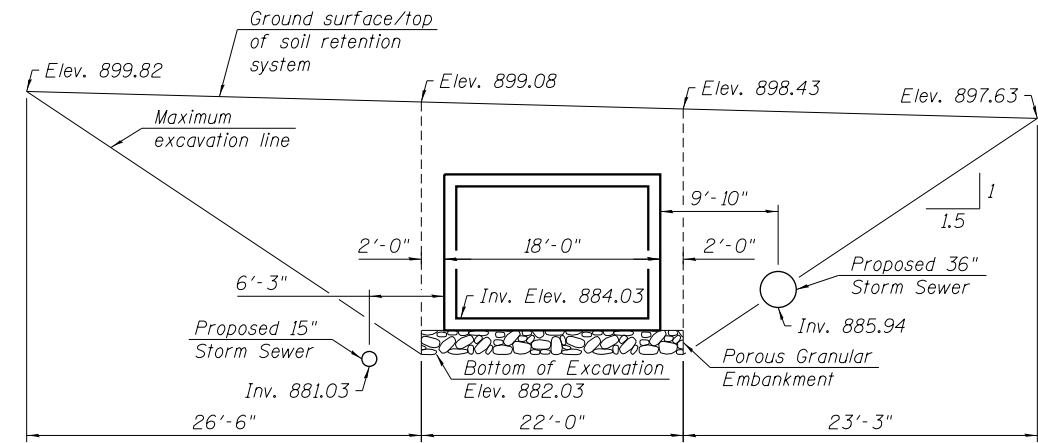
PRESTAGE CONSTRUCTION

(Looking North)



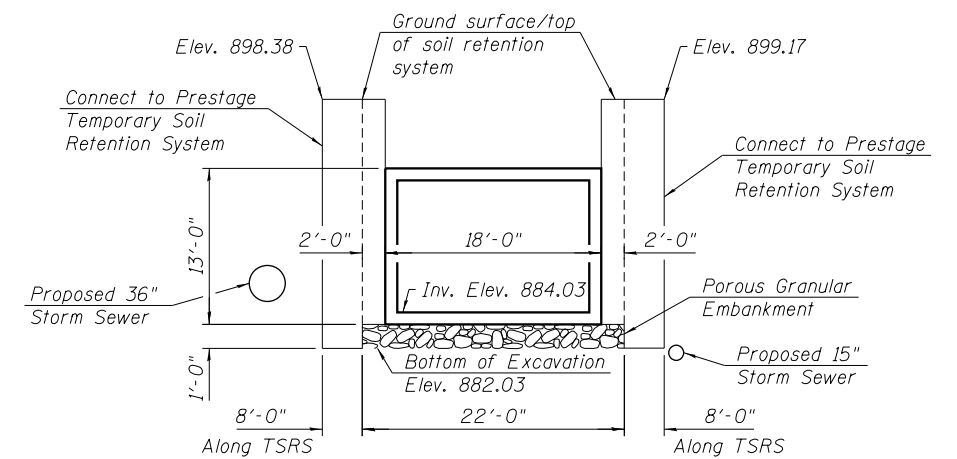
STAGE I CONSTRUCTION

(Looking North)



PRESTAGE - TEMPORARY SOIL RETENTION SYSTEM

(Looking East)



STAGE I - TEMPORARY SOIL RETENTION SYSTEM

(Looking West)

BILL OF MATERIAL

Item	Unit	Total
Temporary Soil Retention System	Sq. Ft.	1,120

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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	CHECKED - JRM	REVISED -
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PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

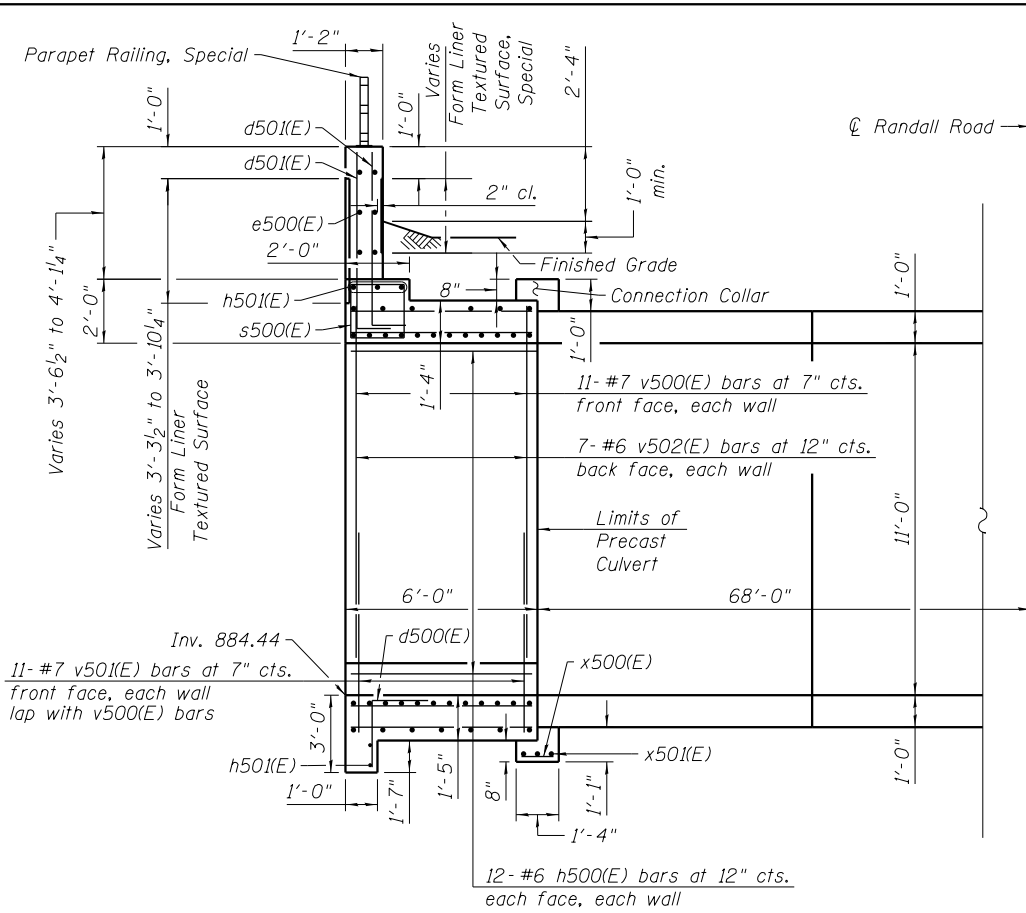
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**STAGE CONSTRUCTION DETAILS
UNDERPASS CULVERT**

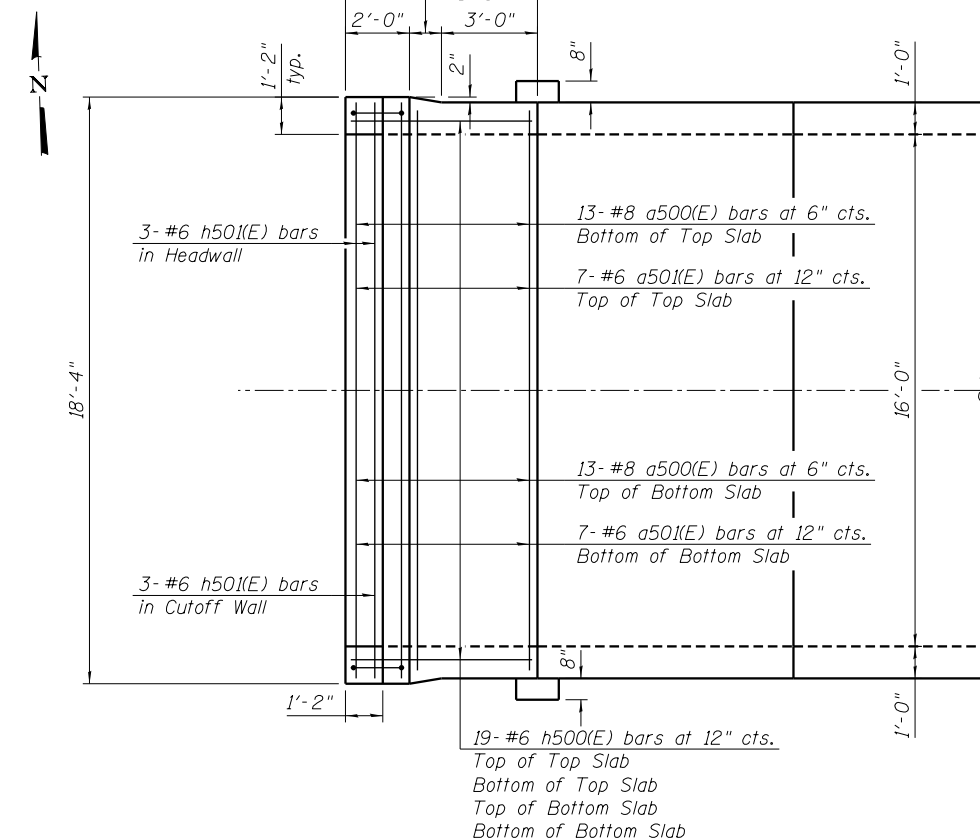
SHEET NO. 3 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	675
			CONTRACT NO. 61E53	

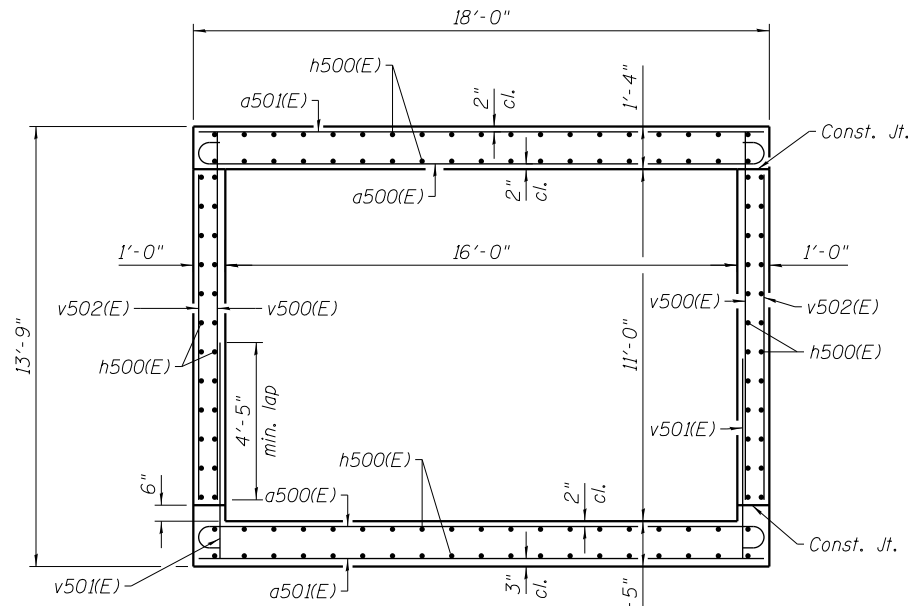
ILLINOIS FED. AID PROJECT



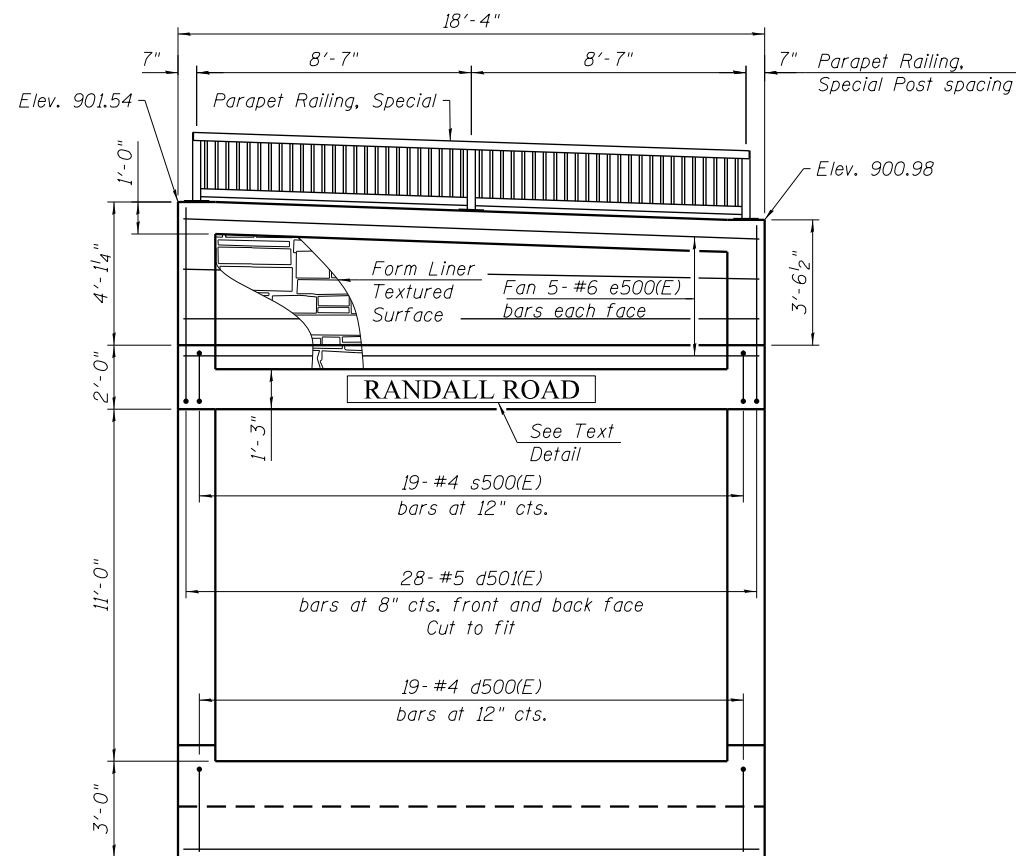
ELEVATION - WEST END
(Looking North)



PLAN - WEST END

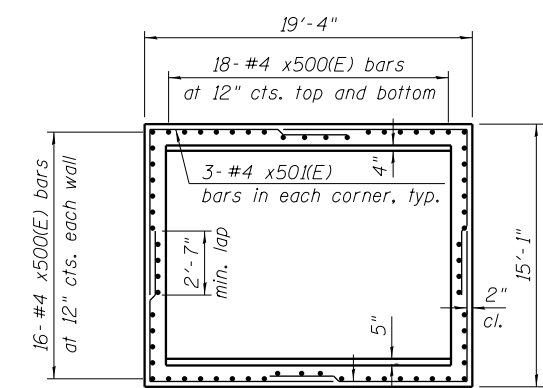
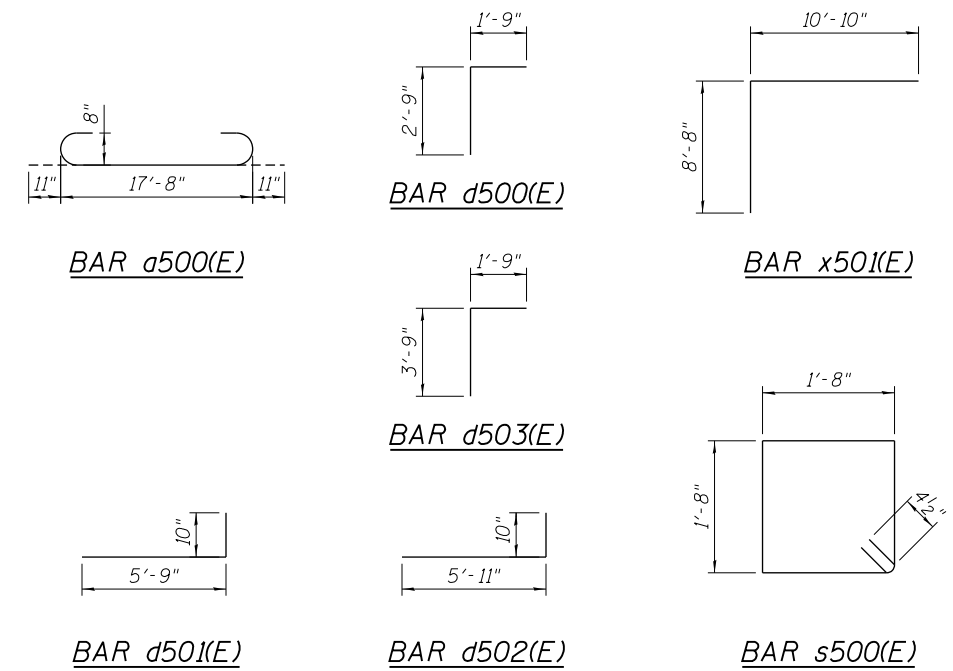


SECTION THRU BARREL

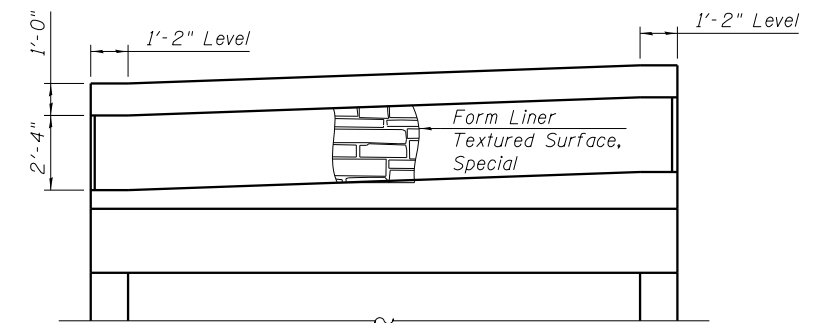


END ELEVATION
(Looking East)

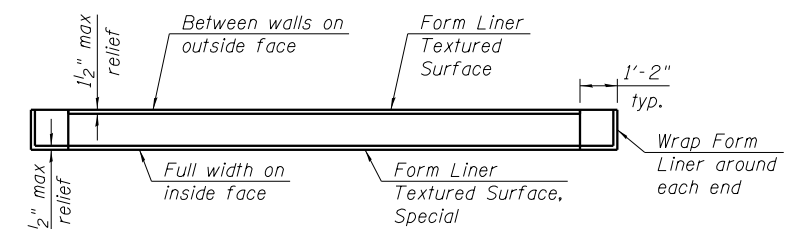
Note:
For Text Detail, see sheet 7 of 11.
For Bill of Material, see Sheet 5 of 11.



CONNECTION COLLAR



INSIDE ELEVATION OF PARAPET
(Looking West)



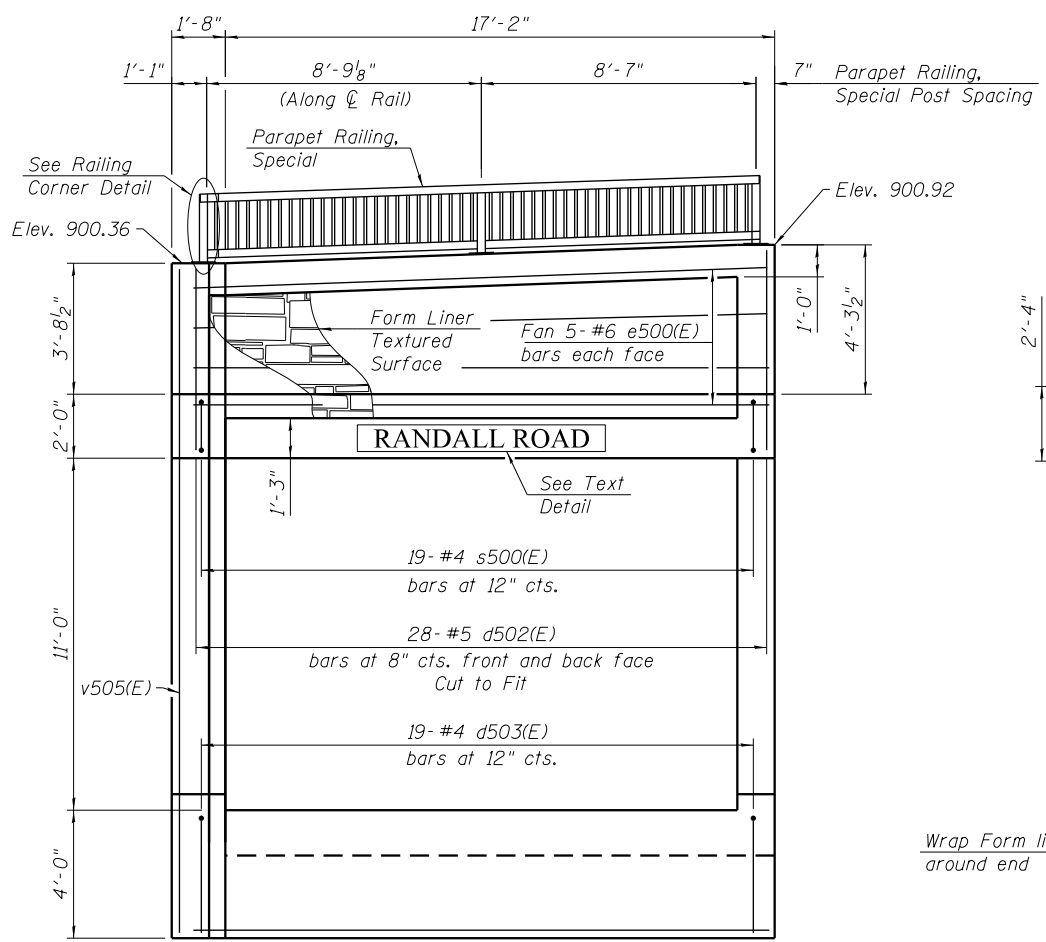
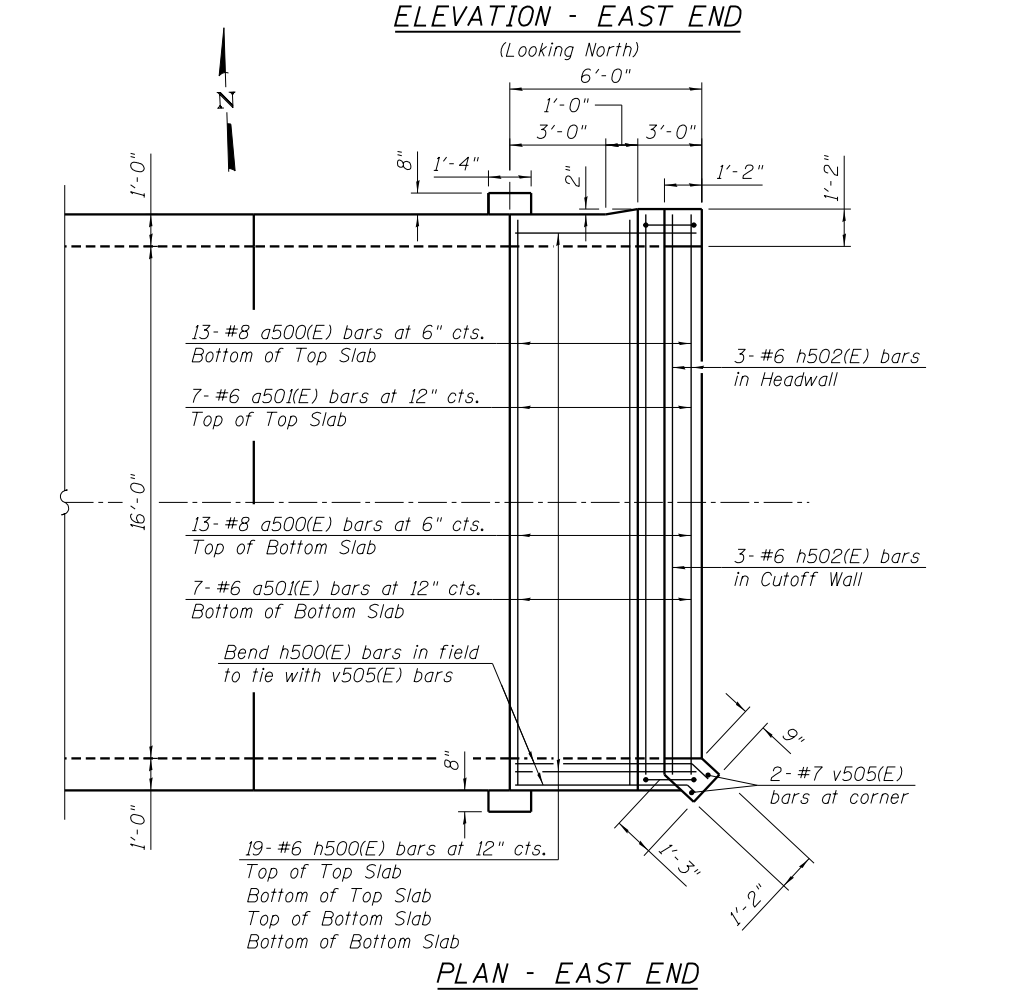
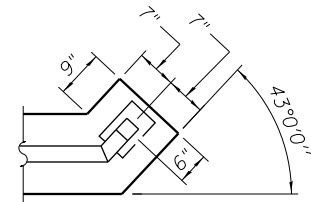
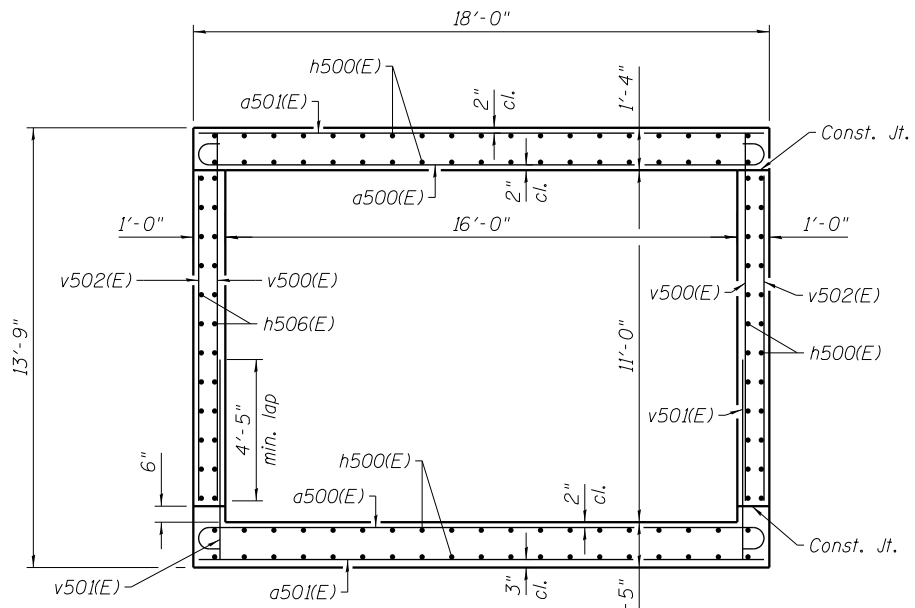
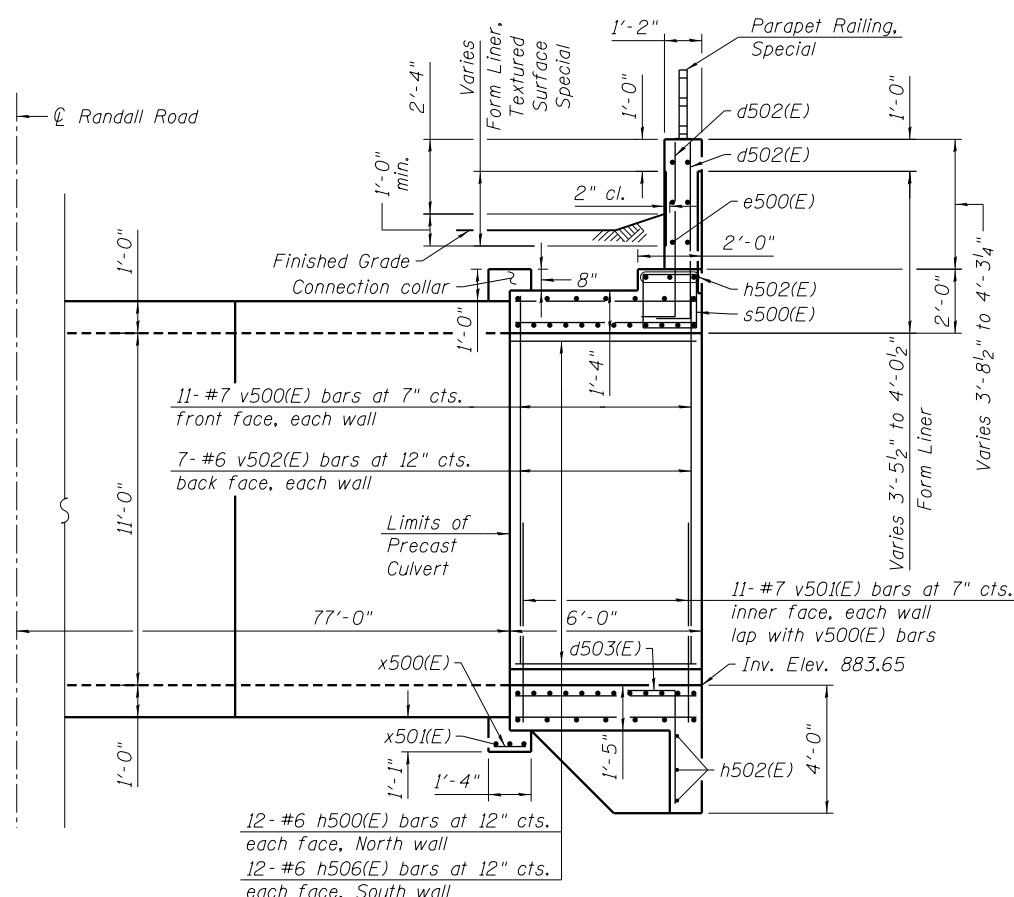
PLAN VIEW OF PARAPET

USER NAME = mrc155	DESIGNED - TJA	REVISED -
PLOT SCALE = 6.0000' / 1"	CHECKED - JRM	REVISED -
PLOT DATE = 4/25/2018	DRAWN - TJA	REVISED -
	CHECKED - JRM	REVISED -

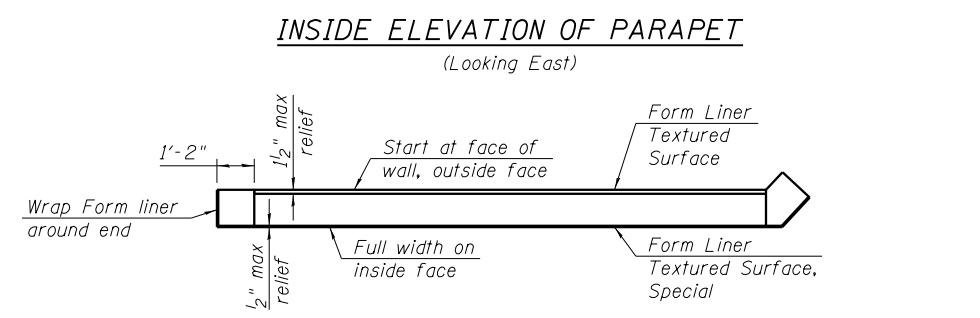
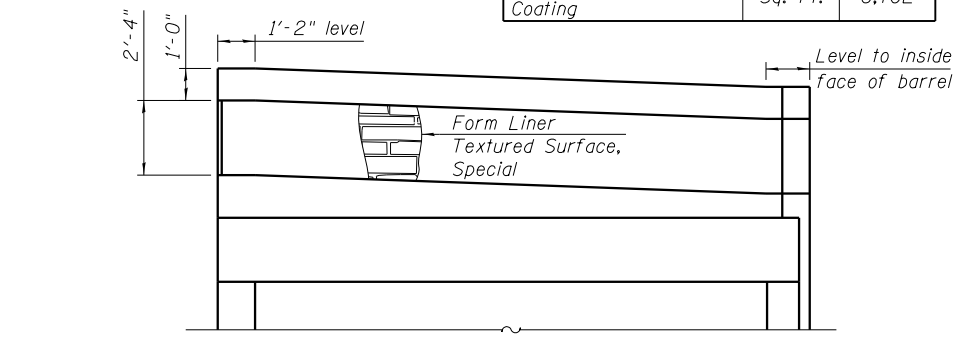
F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 676
			CONTRACT NO. 61E53	

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a500(E)	52	#8	19'-6"	U
a501(E)	28	#6	17'-6"	—
d500(E)	19	#4	4'-6"	U
d501(E)	56	#5	6'-7"	U
d502(E)	56	#5	6'-9"	U
d503(E)	19	#4	5'-6"	U
d504(E)	8	#4	2'-0"	U
e502(E)	20	#6	17'-8"	—
h500(E)	224	#6	5'-8"	—
h501(E)	6	#6	18'-0"	—
h502(E)	6	#6	17'-7"	—
h503(E)	2	#4	28'-0"	—
h504(E)	16	#5	27'-0"	—
h505(E)	4	#5	25'-8"	—
h506(E)	24	#6	6'-3"	—
n500(E)	56	#9	12'-11"	U
s500(E)	38	#4	7'-5"	□
t500(E)	55	#6	13'-3"	—
t501(E)	28	#5	13'-3"	—
v500(E)	44	#7	11'-6"	—
v501(E)	44	#7	6'-3"	—
v502(E)	28	#6	10'-2"	—
v503(E)	28	#8	28'-2"	—
v504(E)	10	#4	28'-2"	—
v505(E)	2	#7	20'-4"	—
w500(E)	38	#4	27'-0"	—
x500(E)	136	#4	1'-0"	—
x501(E)	24	#4	19'-6"	U
Reinforcement Bars, Epoxy Coated			Pound	17,560
Concrete Box Culverts			Cu. Yd.	122.5
Form Liner Textured Surface			Sq. Ft.	422
Form Liner Textured Surface, Special			Sq. Ft.	84
Anti-Graffiti Coating			Sq. Ft.	6,702



RAILING CORNER DETAIL



Note:
For Text Detail, see sheet 7 of 11.
For connection collar, see sheet 4 of 11.



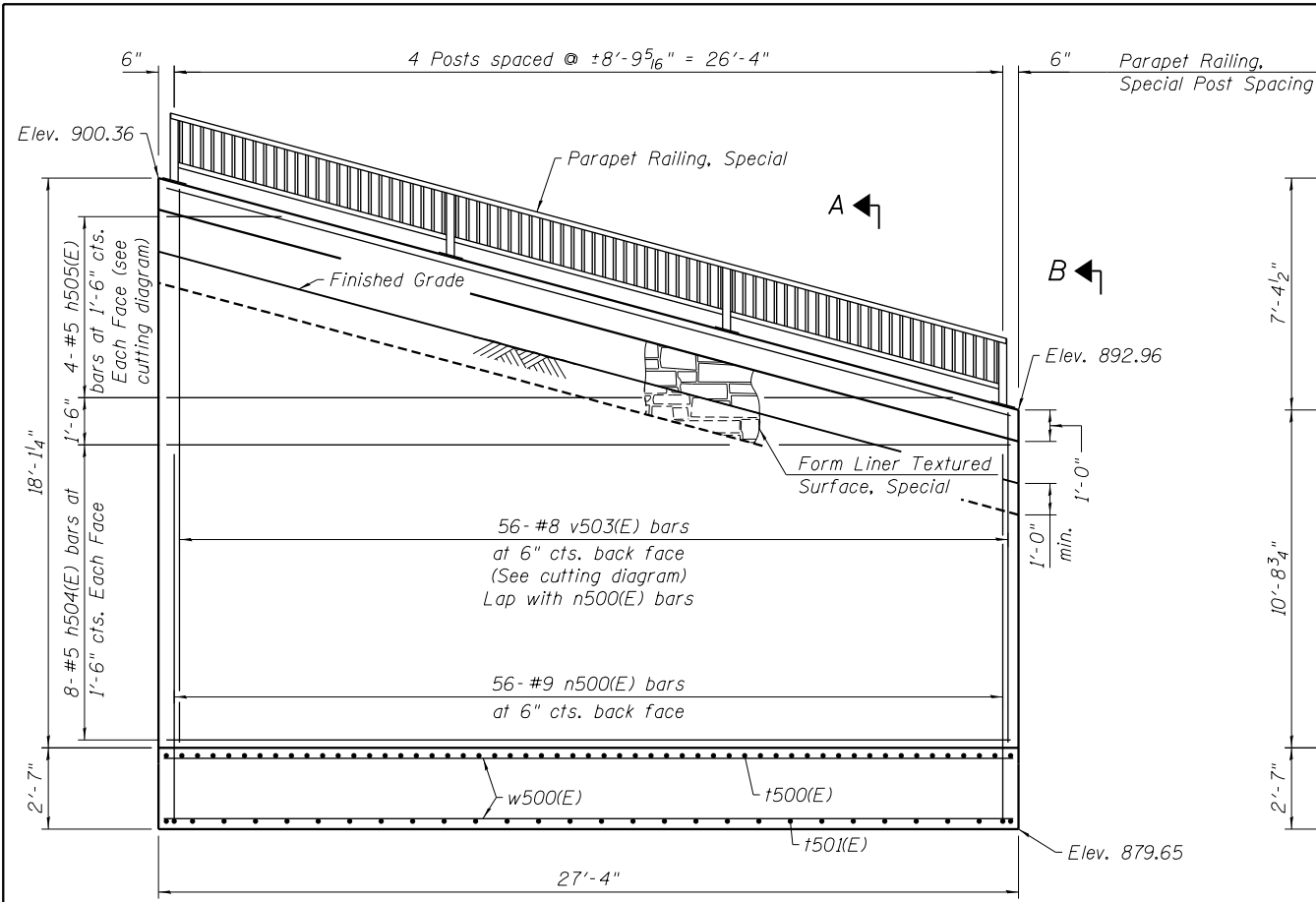
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

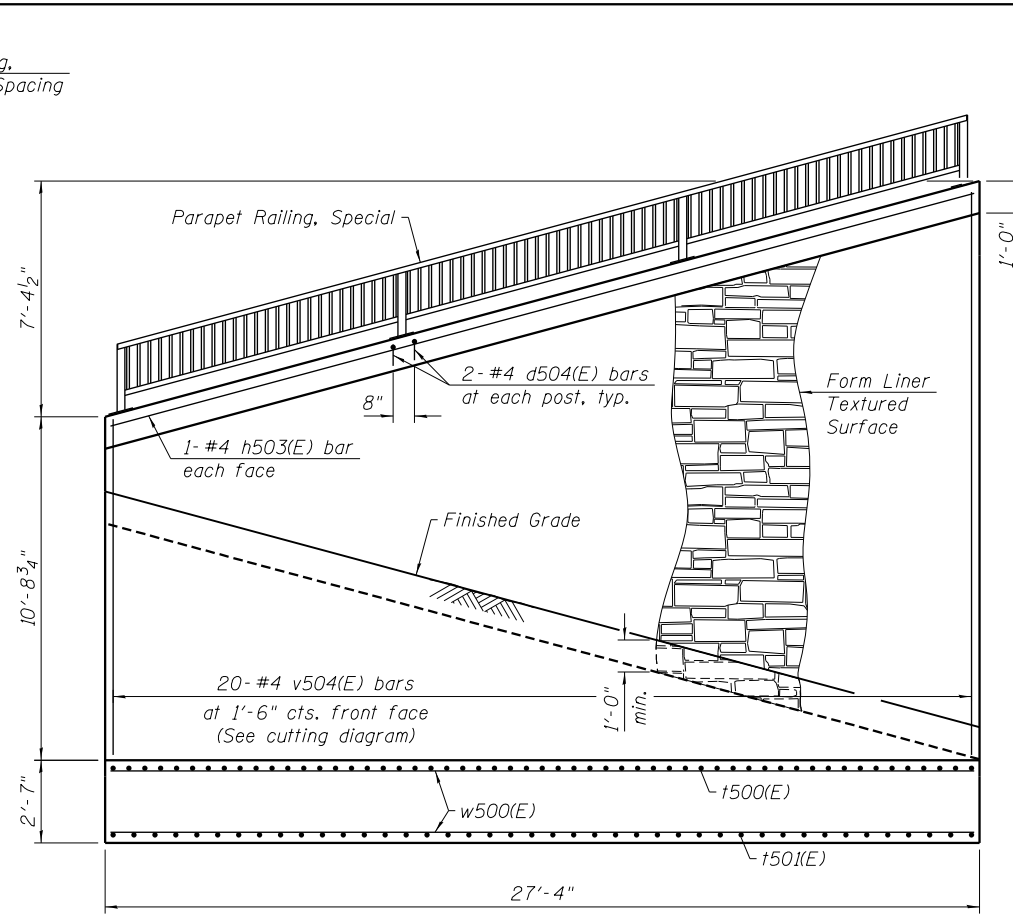
EAST END SECTION
UNDERPASS CULVERT
SHEET NO. 5 OF 11 SHEETS

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 677
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	

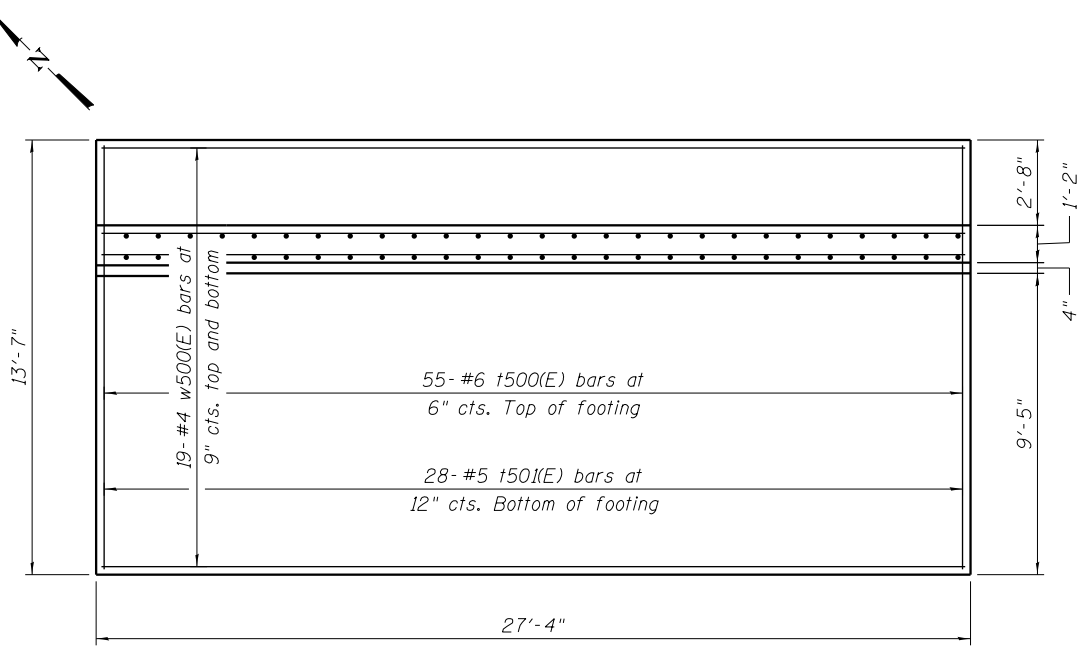
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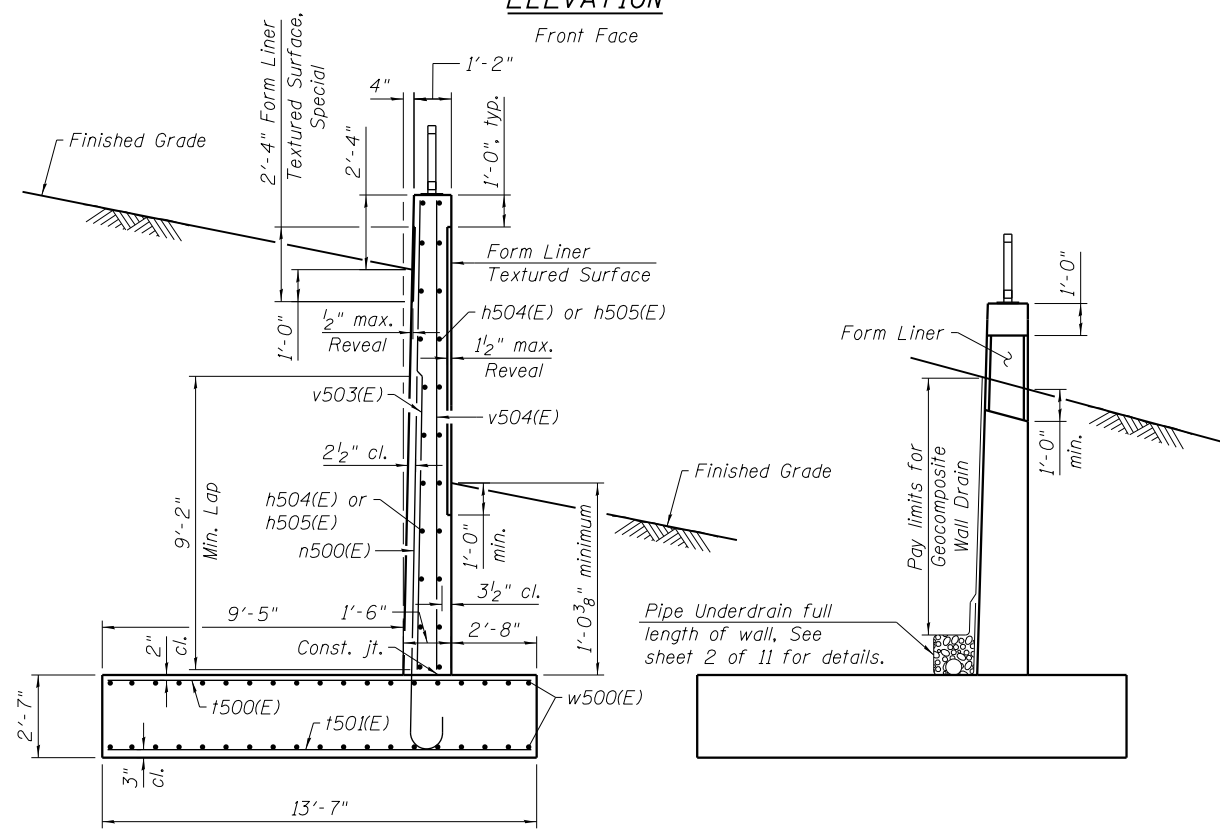
ELEVATION
Back Face



ELEVATION
Front Face



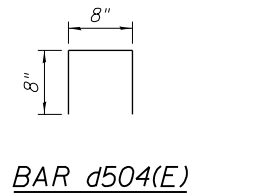
PLAN



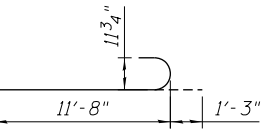
SECTION A-A

SECTION B-B

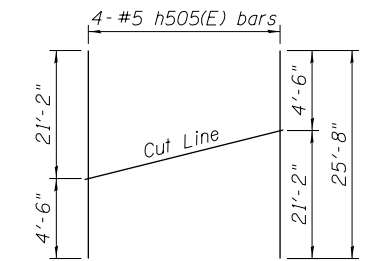
Max Applied Service Bearing Pressure: 2.69 ksf



BAR d504(E)

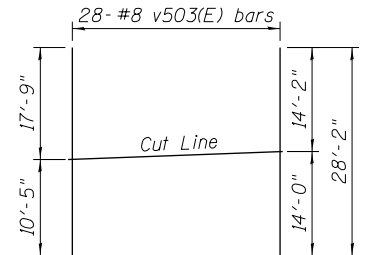


BAR n500(E)



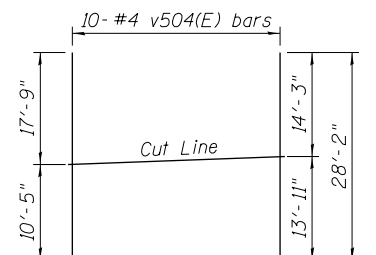
FIELD CUTTING DIAGRAM

Order h505(E) bars full length cut as shown and use remainder of bars in opposite face



FIELD CUTTING DIAGRAM

Order v503(E) bars full length cut as shown and use remainder of bars in opposite end of wall



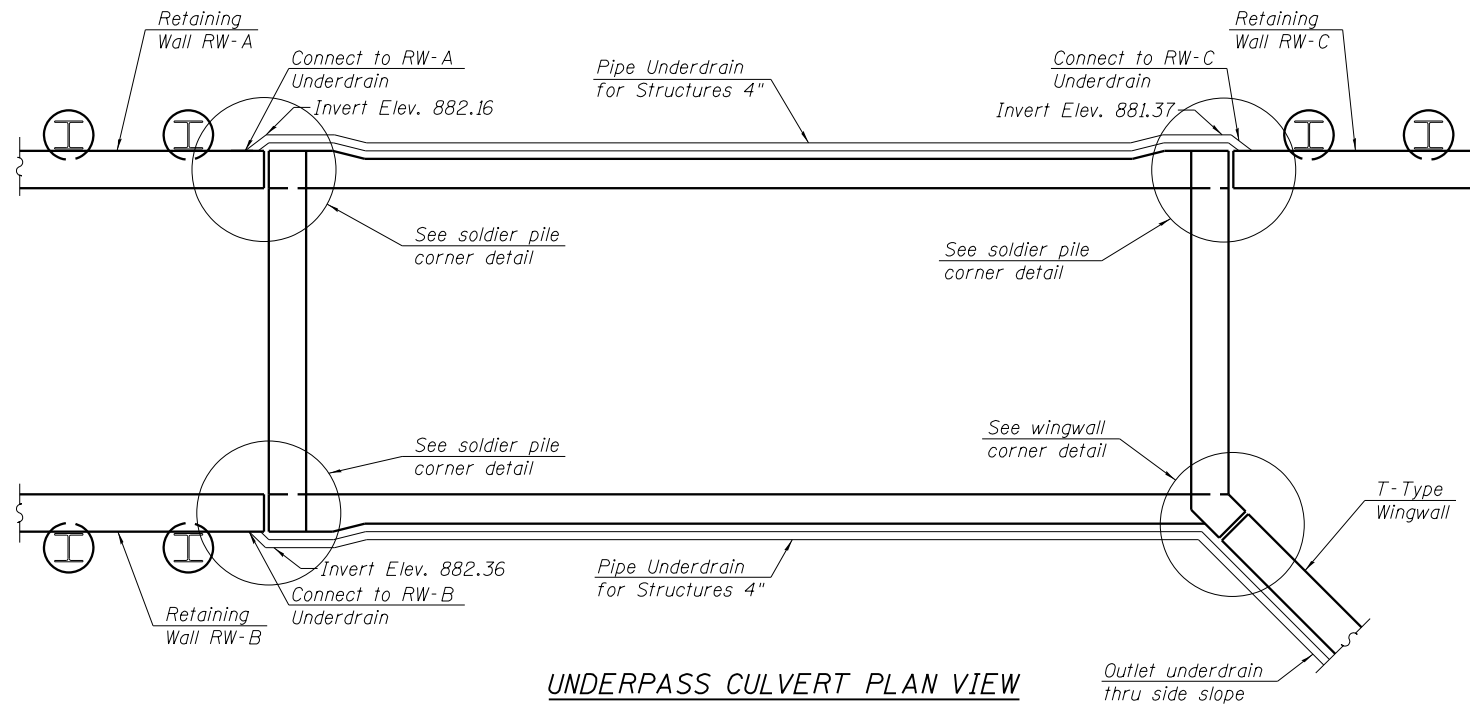
FIELD CUTTING DIAGRAM

Order v504(E) bars full length cut as shown and use remainder of bars in opposite end of wall

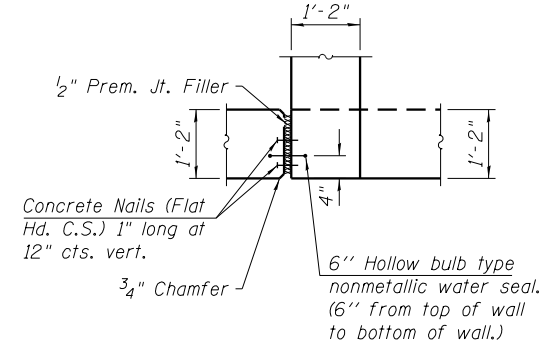
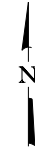
Notes:
For Bill of Material, see sheet 5 of 11.
Maximum applied service bearing pressure (Qmax) = 3.06ksf.

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PLOT SCALE = 6.0000' / in.	CHECKED - JRM	REVISED -
PLOT DATE = 4/25/2018	DRAWN - TJA	REVISED -
	CHECKED - JRM	REVISED -

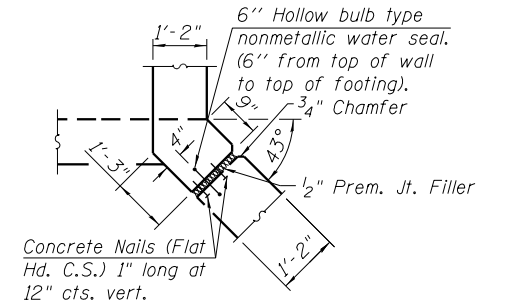
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CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



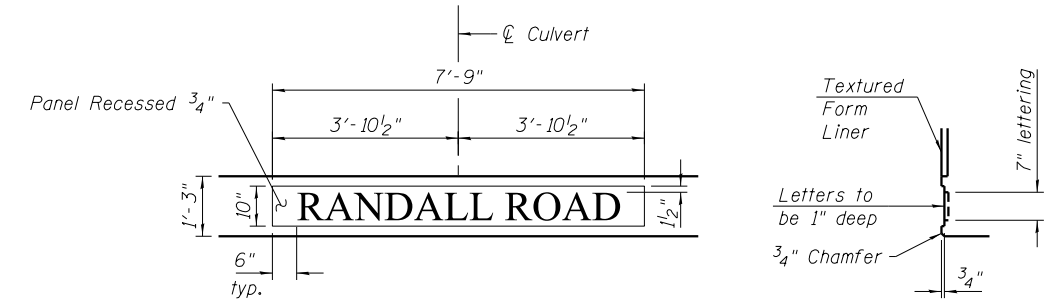
UNDERPASS CULVERT PLAN VIEW



SOLDIER PILE CORNER DETAIL



WINGWALL CORNER DETAIL



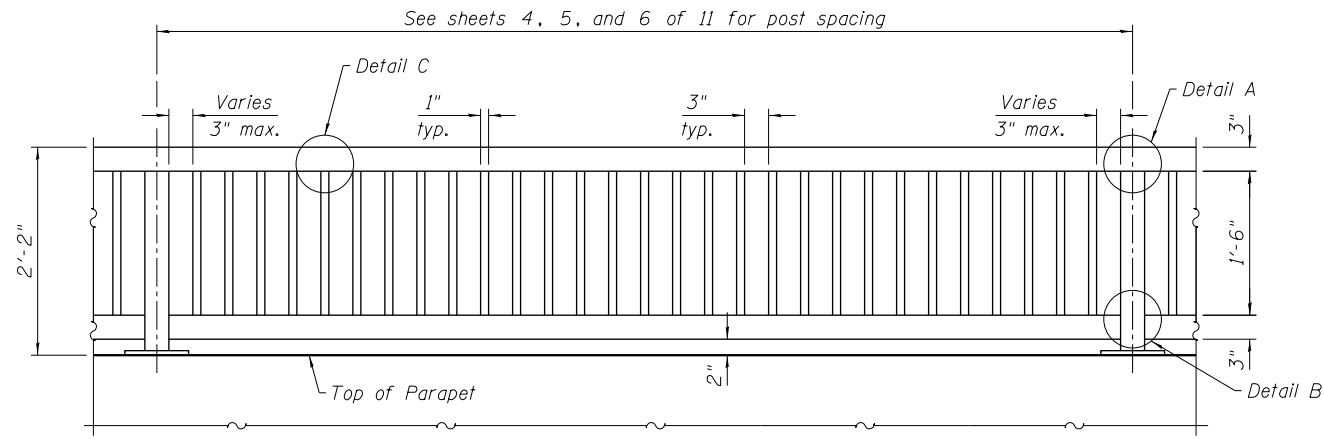
TEXT DETAIL

Font Style to be Calisto MT

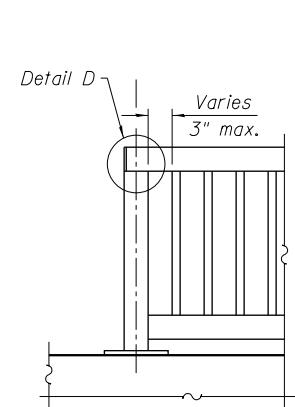
Letters are to be cast-in-place with a one piece form liner securely attached to the forms and according to Article 503.06(a) of the Standard Specifications. Individual letters are not permitted. Cost included with Concrete Box Culverts.

USER NAME = mrc155	DESIGNED - TJA	REVISED -
	CHECKED - JRM	REVISED -
PLOT SCALE = 24.0000' / in.	DRAWN - TJA	REVISED -
PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

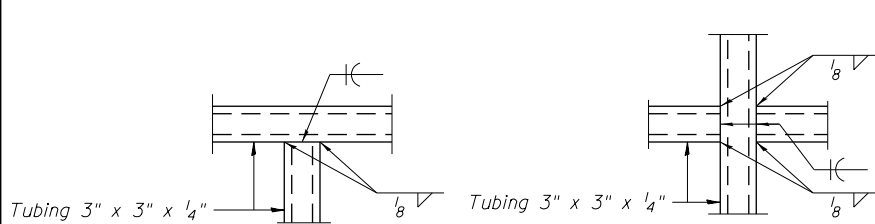
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	679
CONTRACT NO. 61E53				



ELEVATION

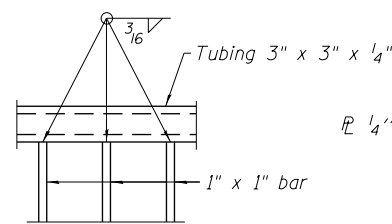


DETAIL D

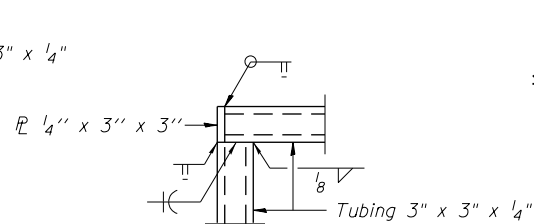


DETAIL A

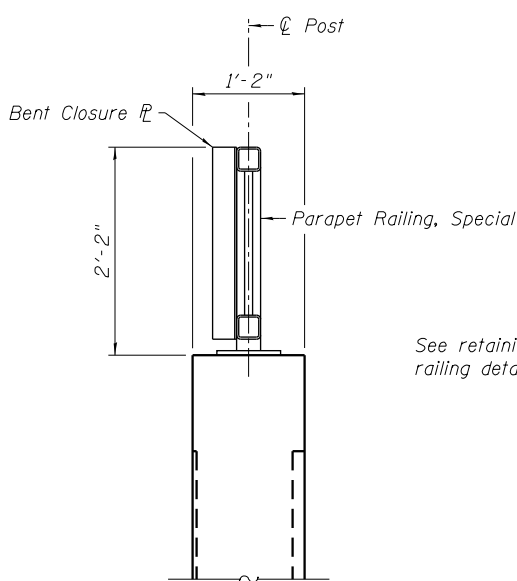
DETAIL B



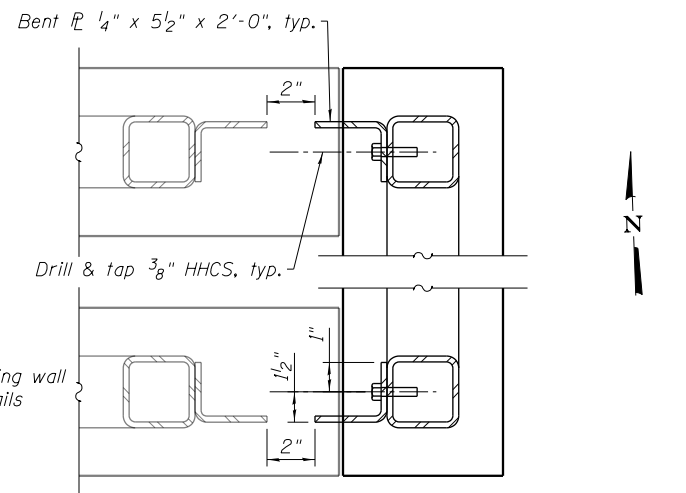
DETAIL C



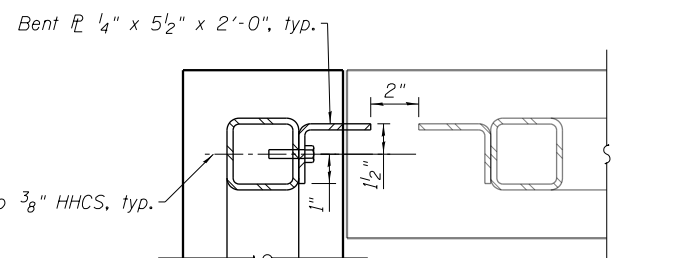
DETAIL D



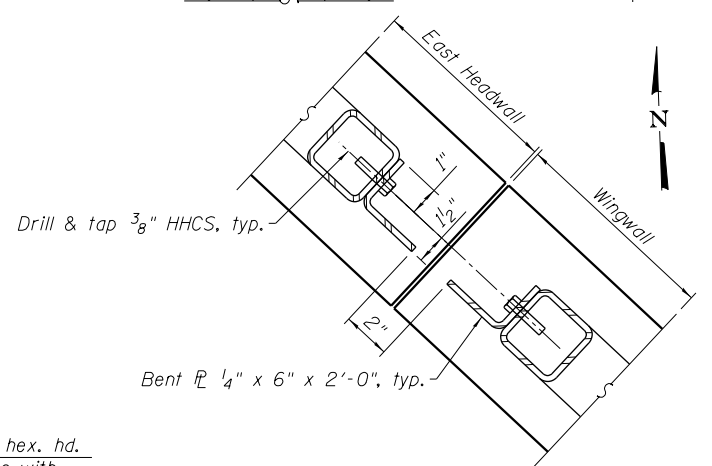
SECTION THRU RAILING



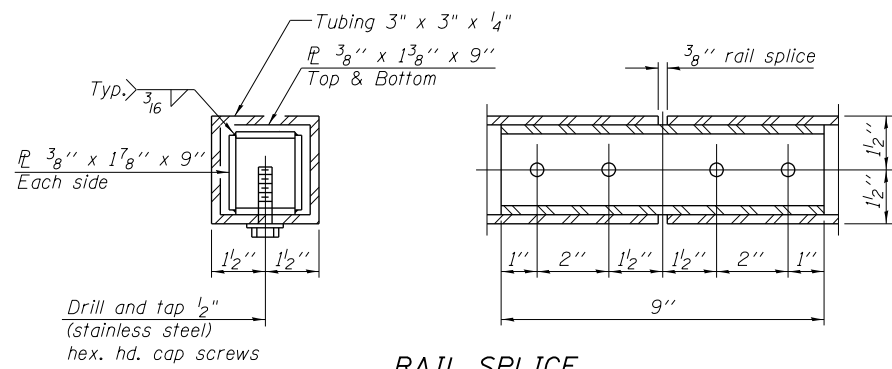
WEST PARAPET RAILING CLOSURE PL



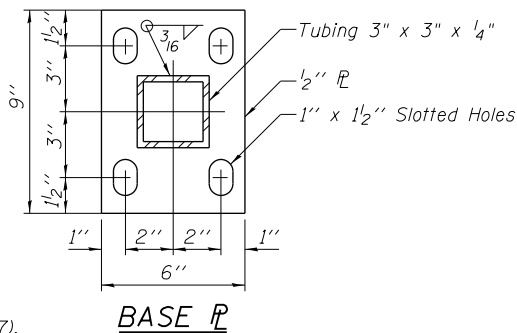
Drill & tap 3/8" HHCS, typ.



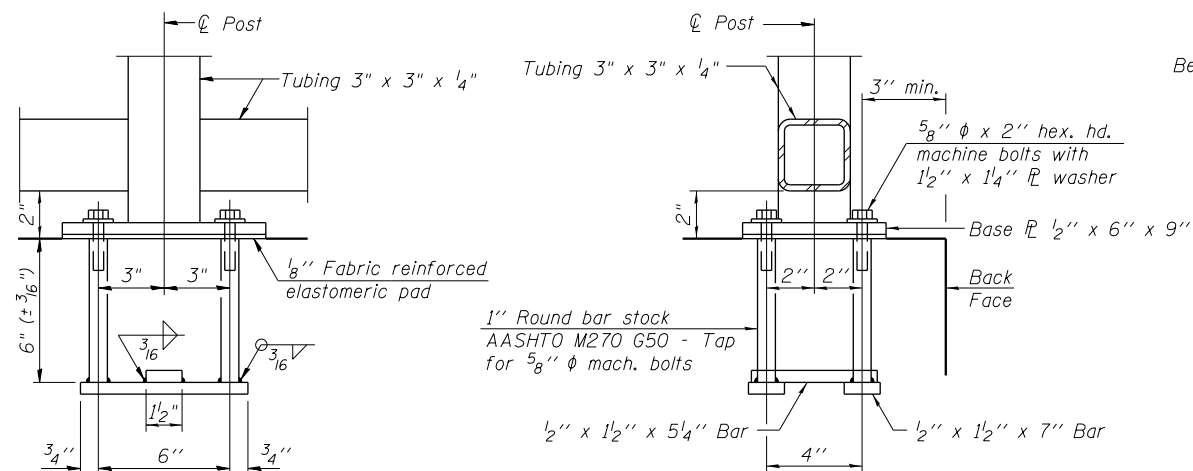
EAST PARAPET RAILING CLOSURE PL



RAIL SPLICE



BASE PL



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.

Notes:
All post, railing, splices, anchor devices, and plates shall be powder coated the color Traffic Black (RAL 9017).

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	66

USER NAME = mrc155	DESIGNED - TJA	REVISED -
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PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

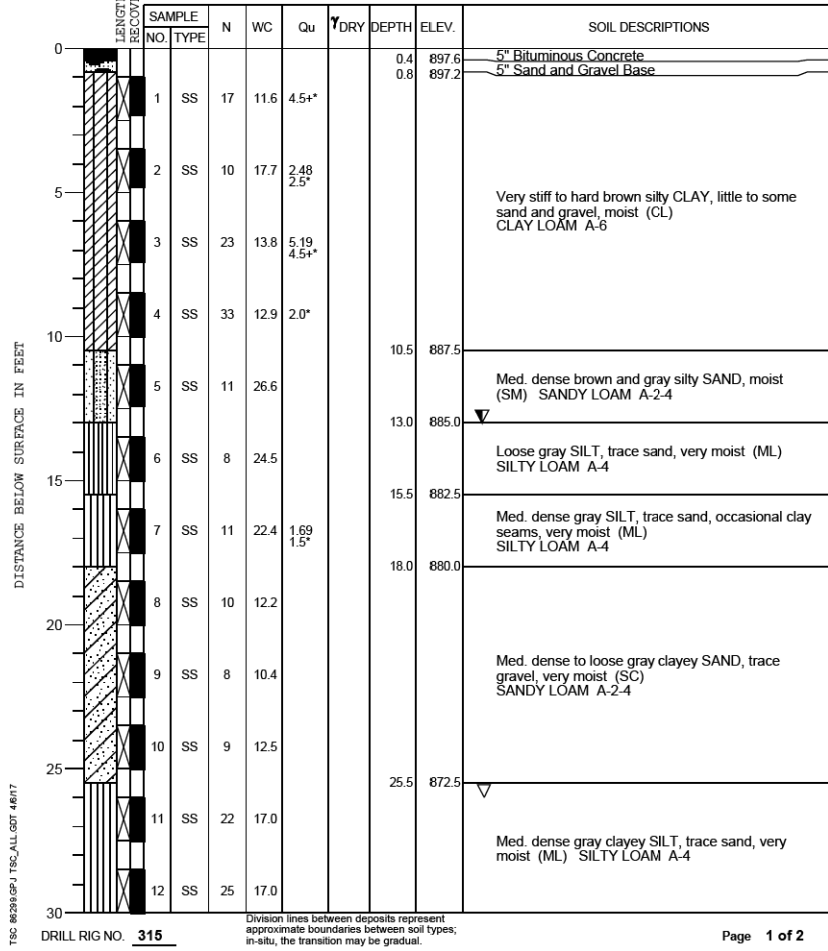
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PARAPET RAILING, SPECIAL
UNDERPASS CULVERT**

SHEET NO. 8 OF 11 SHEETS

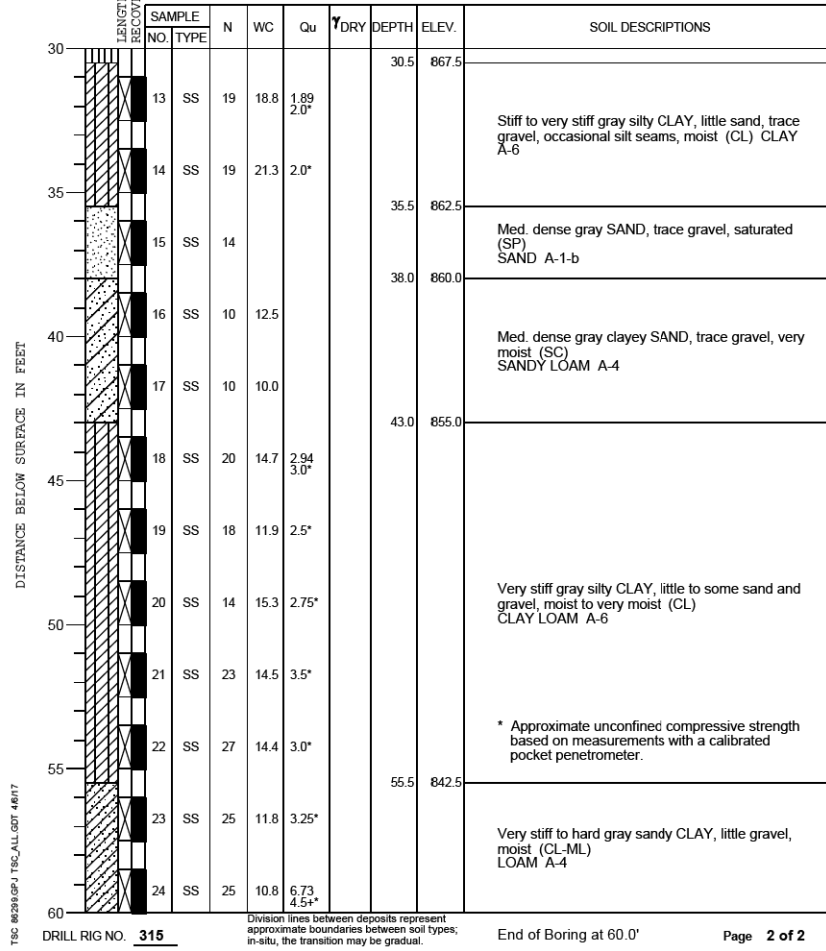
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ILLINOIS FED. AID PROJECT			CONTRACT NO. 61E53	

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **5** DATE STARTED **3-8-17** DATE COMPLETED **3-8-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **13.0'**
 END OF BORING **838.0** AT END OF BORING **26.0'**
 Sta. 206+10 24 HOURS



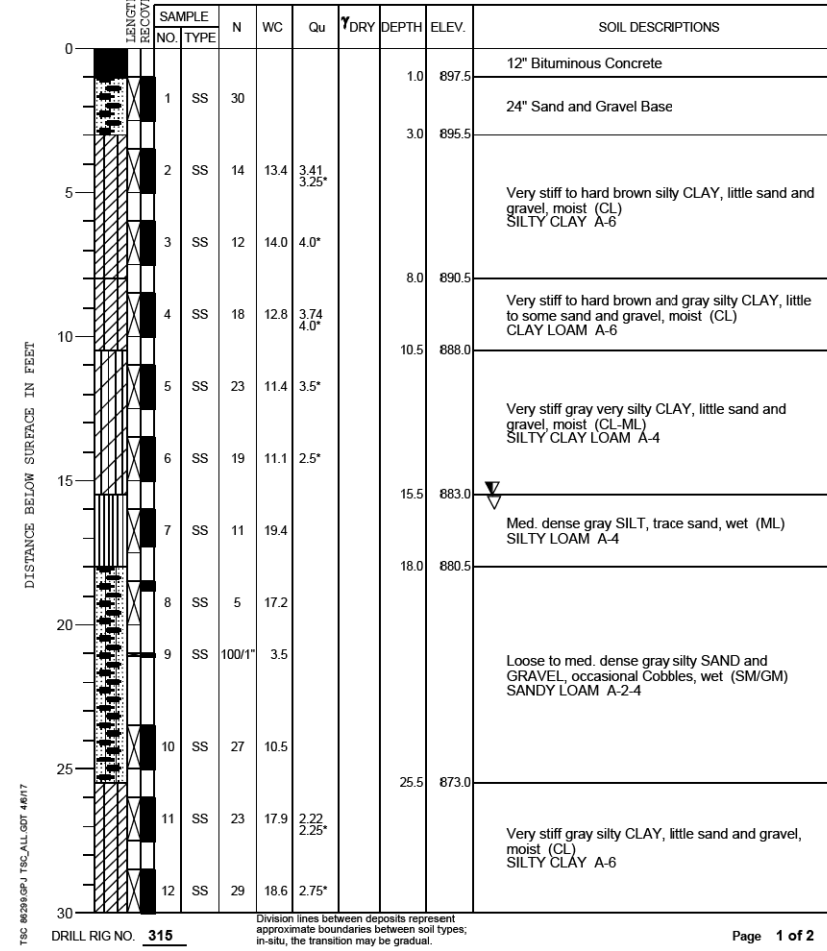
DRILL RIG NO. **315** Page 1 of 2
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **5** DATE STARTED **3-8-17** DATE COMPLETED **3-8-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **13.0'**
 END OF BORING **838.0** AT END OF BORING **26.0'**
 Sta. 206+10 24 HOURS



DRILL RIG NO. **315** Page 2 of 2
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual. End of Boring at 60.0'

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **6** DATE STARTED **3-9-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.5** WHILE DRILLING **15.5'**
 END OF BORING **858.5** AT END OF BORING **16.0'**
 Sta. 206+50 24 HOURS



DRILL RIG NO. **315** Page 1 of 2
 Division lines between deposits represent approximate boundaries between soil types; in-situ, the transition may be gradual.



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

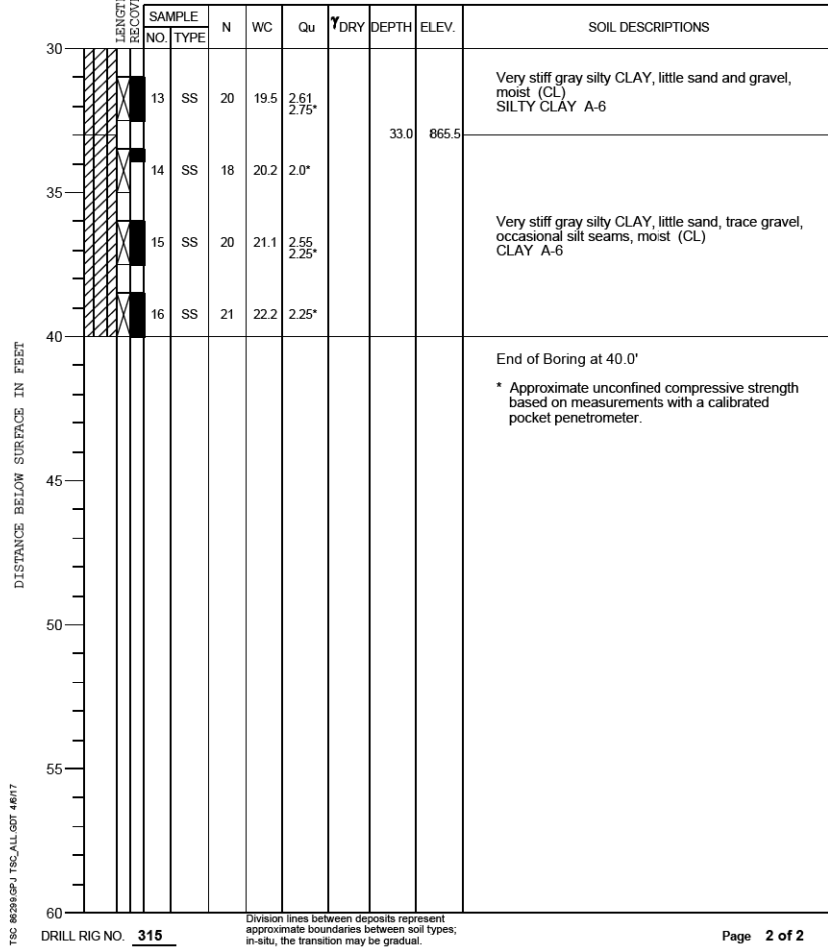
BORING LOGS 1
 UNDERPASS CULVERT

SHEET NO. 9 OF 11 SHEETS

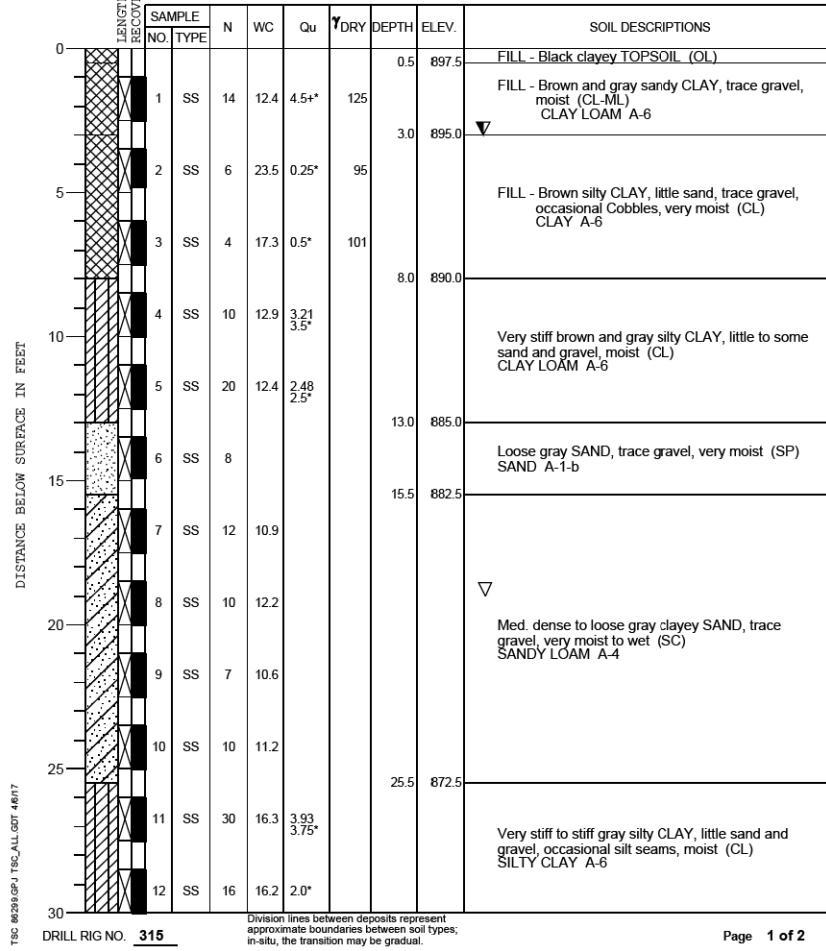
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	681
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

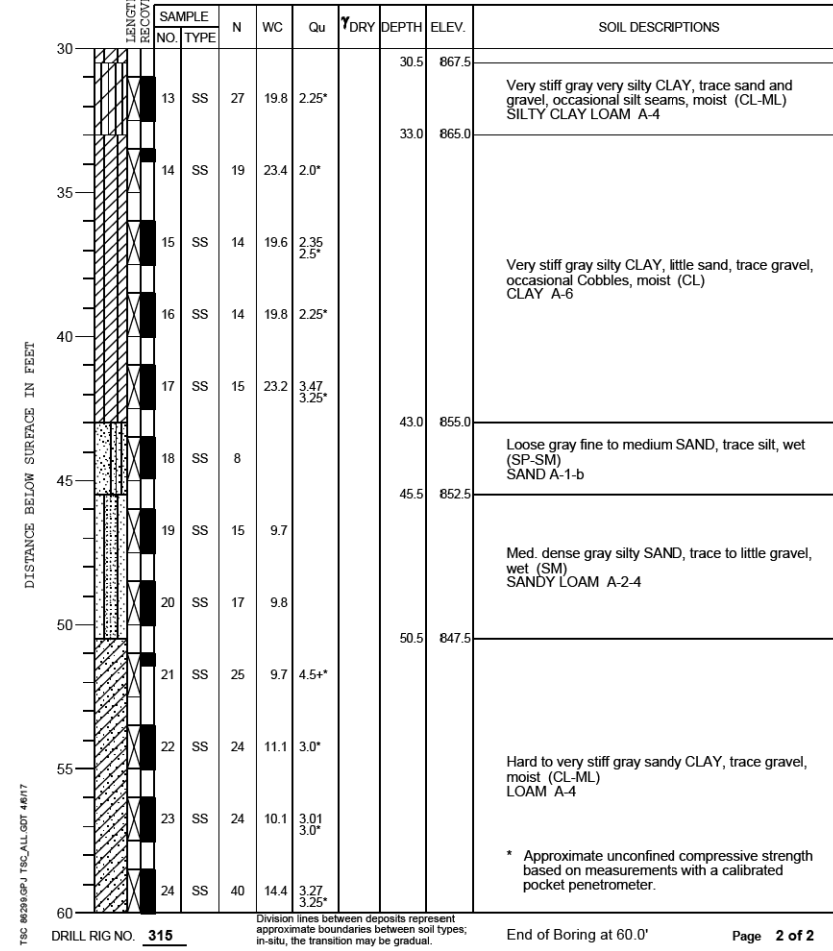
PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **6** DATE STARTED **3-9-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.5** WHILE DRILLING **15.5'**
 END OF BORING **858.5** AT END OF BORING **16.0'**
 Sta. 206+50
 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **7** DATE STARTED **3-8-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **3.0'**
 END OF BORING **838.0** AT END OF BORING **19.0'**
 Sta. 207+05
 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **7** DATE STARTED **3-8-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **3.0'**
 END OF BORING **838.0** AT END OF BORING **19.0'**
 Sta. 207+05
 24 HOURS



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PLOT SCALE = 24.0000' / in.	DRAWN - TJA	REVISED -
PLOT DATE = 4/25/2018	CHECKED - JRM	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS 2
UNDERPASS CULVERT

SHEET NO. 10 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	682
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

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

BORING LOG UND-01

Page 1 of 2

WEI Job No.: 790-77-01
 Client: **TranSystems Corporation**
 Project: **Randall Road Phase II Improvements**
 Location: **McHenry County, IL**

Datum: NGVD
 Elevation: 898.11 ft
 North: 2003263.25 ft
 East: 963753.83 ft
 Station:
 Offset:

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
897.6	6-inch thick, ASPHALT --PAVEMENT-- Medium stiff to stiff, brown SILTY CLAY LOAM, trace gravel; damp	1	3	3	1.23	14	897.6		9	4	3	0.16	10
		2	4	3	0.90	16			10	4	5	0.25	10
		5	3	6					11	4	8	5.33	20
892.6	Very stiff, brown SILTY CLAY LOAM, trace gravel; damp	3	8	11	4.92	15	892.6	Very stiff to hard, gray SILTY CLAY, damp	11	4	8	5.33	20
		4	5	8	3.44	13			12	5	6	3.28	19
		10	4	7	2.95	12			13	4	7	3.28	20
		5	4	7					14	7	10		
883.9	Medium dense, brown, coarse SAND, saturated	4	12	7	4.50	13			15	7	10		
882.8	Medium dense, brown SILT; moist	7	10	15		NP			16	7	9	0.66	10
	Medium dense, gray, fine SAND; saturated	7	10	15		NP			17	4	7	1.23	9
880.1	Loose, gray LOAM, trace gravel; moist	12	4	5	0.41	11			18	0	0	2.50	22
		20	12	4					19	0	0		

GENERAL NOTES

Begin Drilling: 09-07-2017
 Complete Drilling: 09-07-2017
 Drilling Contractor: Wang Testing Services
 Driller: J & J
 Logger: M. Schmelzel
 Checked by: END
 Drilling Method: 3.25-inch IDA HSA, auto hammer, boring backfilled upon completion

WATER LEVEL DATA

While Drilling: 16.00 ft
 At Completion of Drilling: 46.00 ft
 Time After Drilling: NA
 Depth to Water: NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.

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

BORING LOG UND-01

Page 2 of 2

WEI Job No.: 790-77-01
 Client: **TranSystems Corporation**
 Project: **Randall Road Phase II Improvements**
 Location: **McHenry County, IL**

Datum: NGVD
 Elevation: 898.11 ft
 North: 2003263.25 ft
 East: 963753.83 ft
 Station:
 Offset:

Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)	Profile Elevation (ft)	SOIL AND ROCK DESCRIPTION	Depth (ft)	Sample No.	SPT Values (blows/ft)	Qu (tsf)	Moisture Content (%)
898.6	--rig chatter, possible cobble-- Loose to medium dense, gray SANDY LOAM, little gravel; moist	9	4	3	0.16	10			9	4	3	0.16	10
		10	4	5	0.25	10			10	4	5	0.25	10
		15	3	3	0.25	12			15	3	3	0.25	12
		45	3	4					45	3	4		
		50	7	9	0.66	10			50	7	9	0.66	10
848.4	Stiff, gray CLAY LOAM, trace to little gravel; moist	16	7	9	0.66	10			55	4	7	1.23	9
843.1	Boring terminated at 55.00 ft	17	4	7	1.23	9			60				

GENERAL NOTES

Begin Drilling: 09-07-2017
 Complete Drilling: 09-07-2017
 Drilling Contractor: Wang Testing Services
 Driller: J & J
 Logger: M. Schmelzel
 Checked by: END
 Drilling Method: 3.25-inch IDA HSA, auto hammer, boring backfilled upon completion

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While Drilling: 16.00 ft
 At Completion of Drilling: 46.00 ft
 Time After Drilling: NA
 Depth to Water: NA
 The stratification lines represent the approximate boundary between soil types; the actual transition may be gradual.



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PLOT SCALE = 24.0000' / in.	CHECKED - JRM	REVISED -
PLOT DATE = 4/25/2018	DRAWN - TJA	REVISED -
	CHECKED - JRM	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

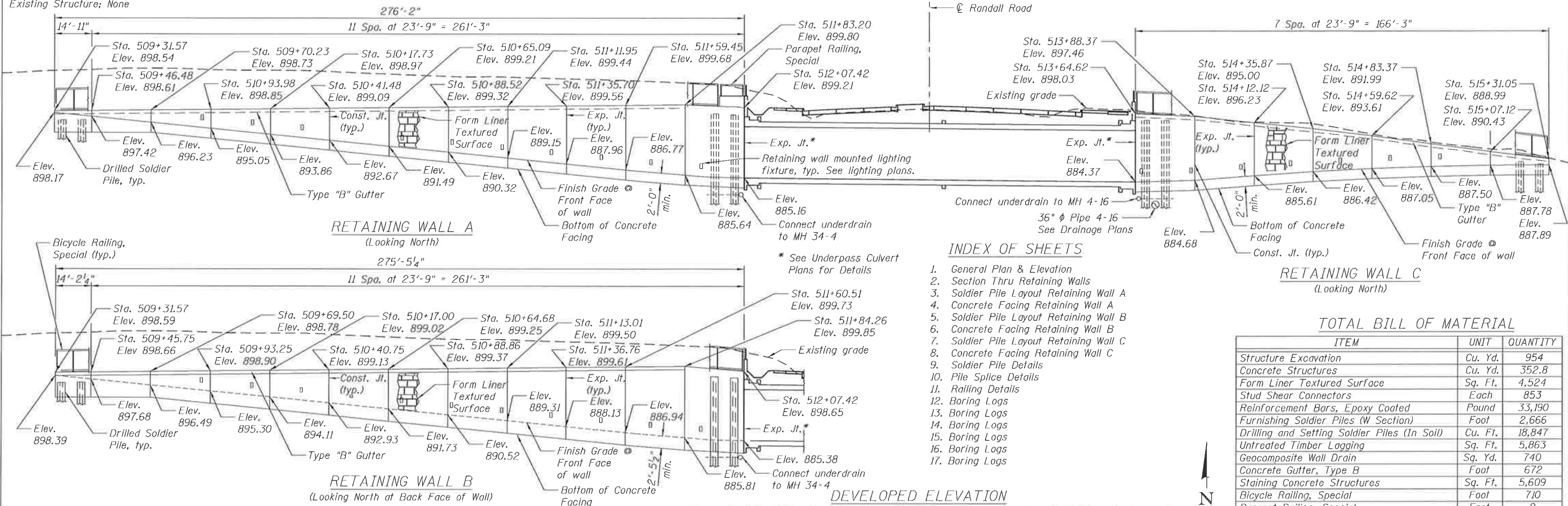
BORING LOGS 3
 UNDERPASS CULVERT

SHEET NO. 11 OF 11 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	683
				CONTRACT NO. 61E53

ILLINOIS FED. AID PROJECT

Bench Mark: Chisled "x" on Southwest flange bolt of fire hydrant in the Southeast quadrant of Harnish Dr. and Randall Rd. Elev 905.54
 Traffic to be maintained using Stage Construction.
 Existing Structure: None

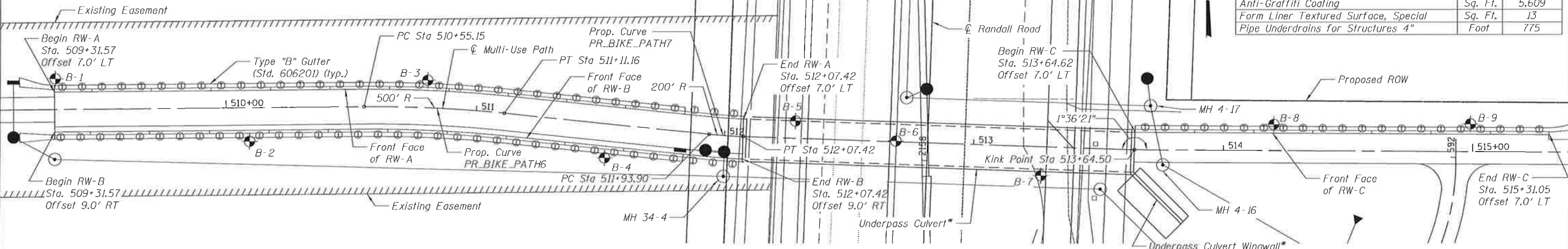


INDEX OF SHEETS

1. General Plan & Elevation
2. Section Thru Retaining Walls
3. Soldier Pile Layout Retaining Wall A
4. Concrete Facing Retaining Wall A
5. Soldier Pile Layout Retaining Wall B
6. Concrete Facing Retaining Wall B
7. Soldier Pile Layout Retaining Wall C
8. Concrete Facing Retaining Wall C
9. Soldier Pile Details
10. Pile Splice Details
11. Railing Details
12. Boring Logs
13. Boring Logs
14. Boring Logs
15. Boring Logs
16. Boring Logs
17. Boring Logs

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structure Excavation	Cu. Yd.	954
Concrete Structures	Cu. Yd.	352.8
Form Liner Textured Surface	Sq. Ft.	4,524
Stud Shear Connectors	Each	853
Reinforcement Bars, Epoxy Coated	Pound	33,190
Furnishing Soldier Piles (W Section)	Foot	2,666
Drilling and Setting Soldier Piles (In Soil)	Cu. Ft.	18,847
Untreated Timber Lagging	Sq. Ft.	5,863
Geocomposite Wall Drain	Sq. Yd.	740
Concrete Gutter, Type B	Foot	672
Staining Concrete Structures	Sq. Ft.	5,609
Bicycle Railing, Special	Foot	710
Parapet Railing, Special	Foot	9
Anti-Graffiti Coating	Sq. Ft.	5,609
Form Liner Textured Surface, Special	Sq. Ft.	13
Pipe Underdrains for Structures 4"	Foot	775



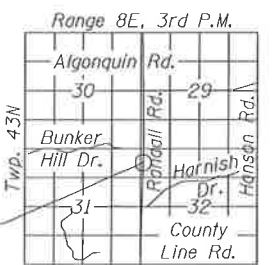
PLAN

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with 2015 & 2016 Interims

DESIGN STRESSES

FIELD UNITS
 f'c = 3,500 psi (Wall Facing)
 f'c = 4,000 psi (Encasement)
 fy = 60,000 psi (Reinforcement)
 fy = 50,000 psi (M270 Grade 50)



LOCATION SKETCH

**GENERAL PLAN & ELEVATION
 RETAINING WALLS ALONG MULTI-USE PATH
 UNDER RANDALL ROAD**

**SECTION 12-00083-00-BR CMAQ
 MCHENRY COUNTY
 RW-A STA. 509+31.57 TO 512+07.42
 RW-B STA. 509+31.57 TO 512+07.42
 RW-C STA. 513+64.62 TO 515+31.05**

SN 056-F011.1



I certify that to the best of my knowledge, information and belief, this design is structurally adequate for the design loading shown on the plans. The design is an economical one of the style of structure and complies with the requirements of the current AASHTO LRFD Bridge Design Specifications.

DATE SIGNED: 01-15-2018
 EXP. DATE: 11-30-2018

Bollinger, Lach & Associates, Inc.
 MASC, ILLINOIS

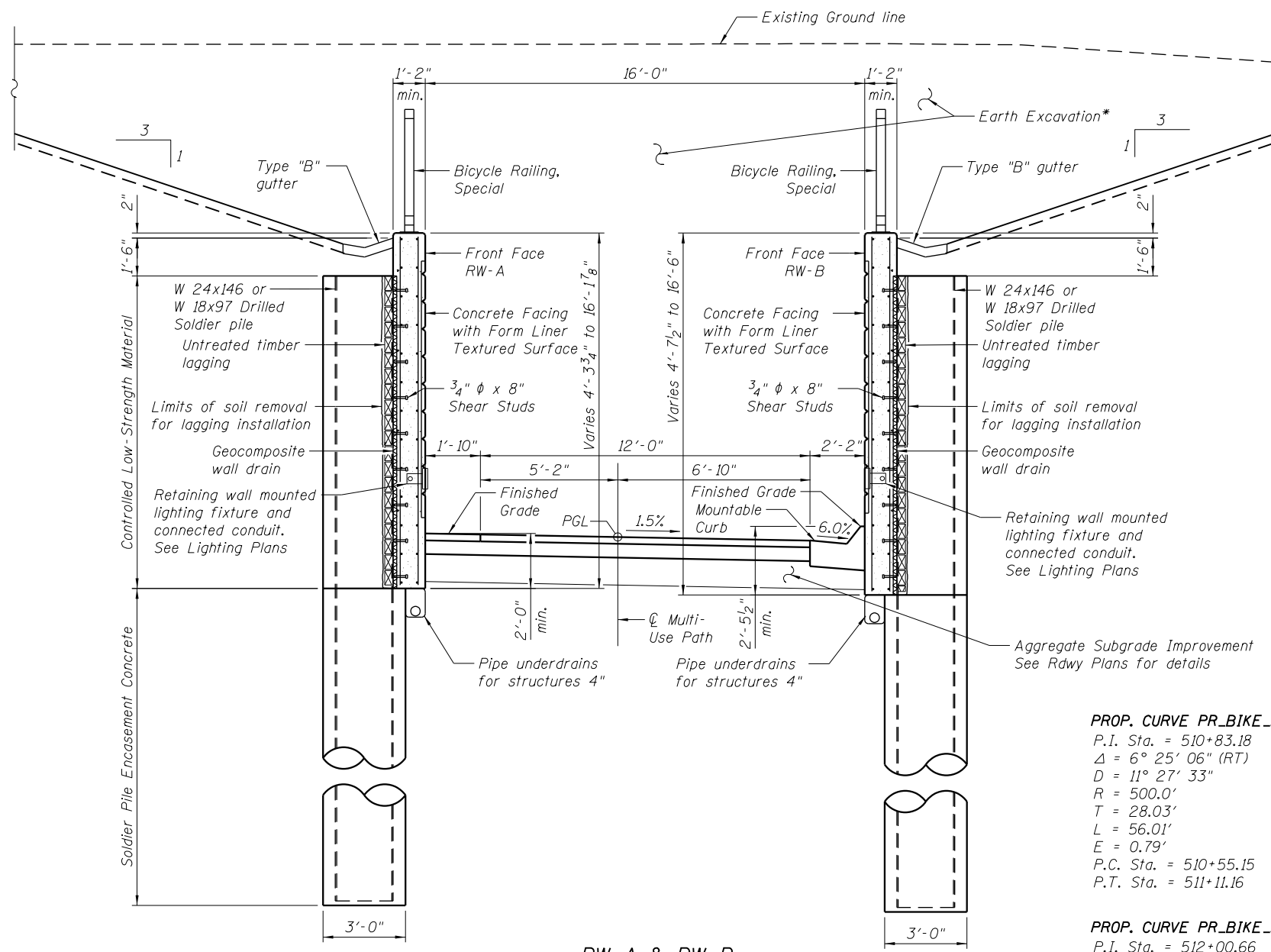
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PLOT DATE = 2/22/2018	CHECKED = JJI	REVISED =

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

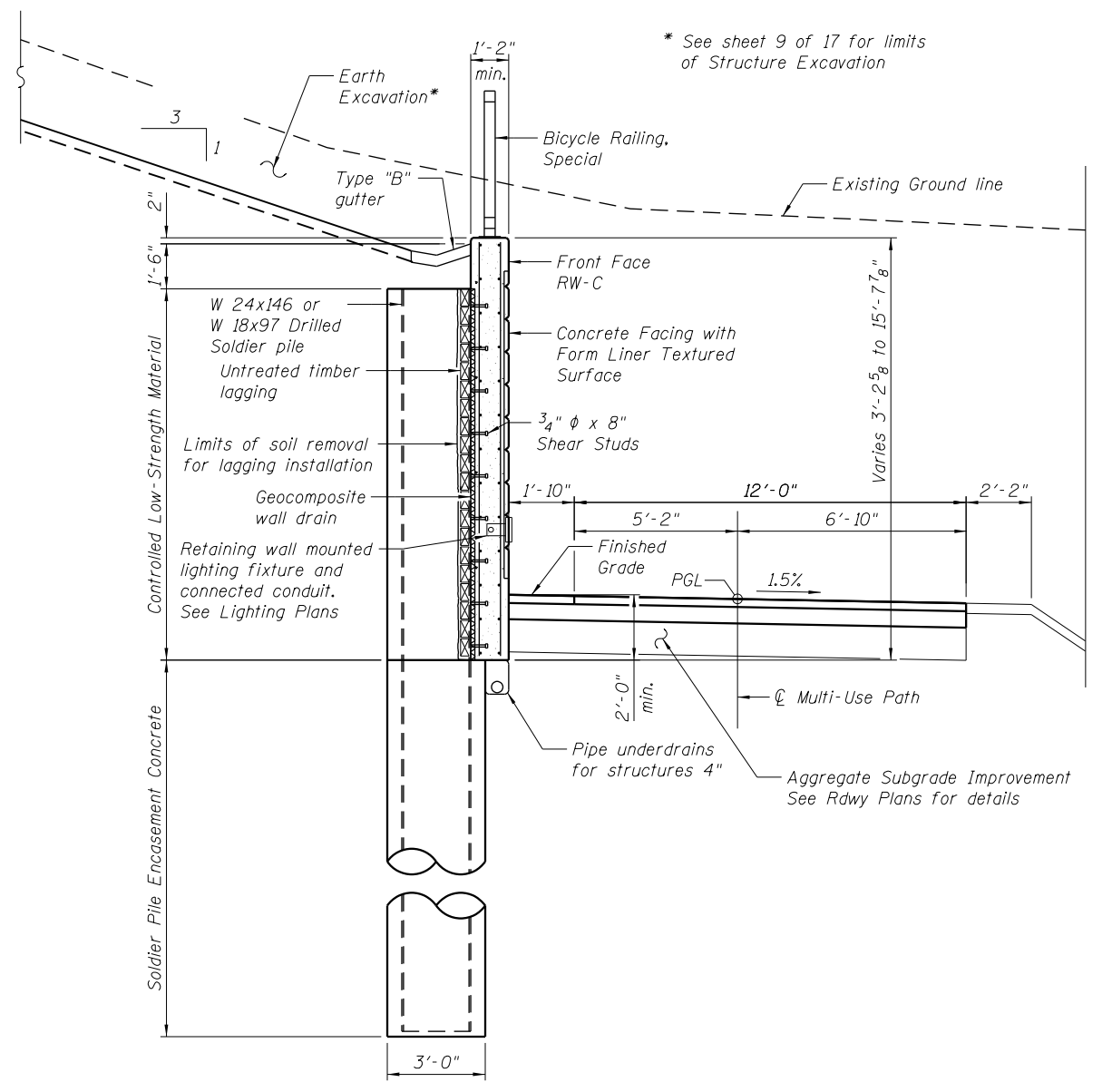
**GENERAL PLAN & ELEVATION
 RETAINING WALLS ALONG MULTI-USE PATH**

SHEET NO. 1 OF 17 SHEETS

F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 684
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



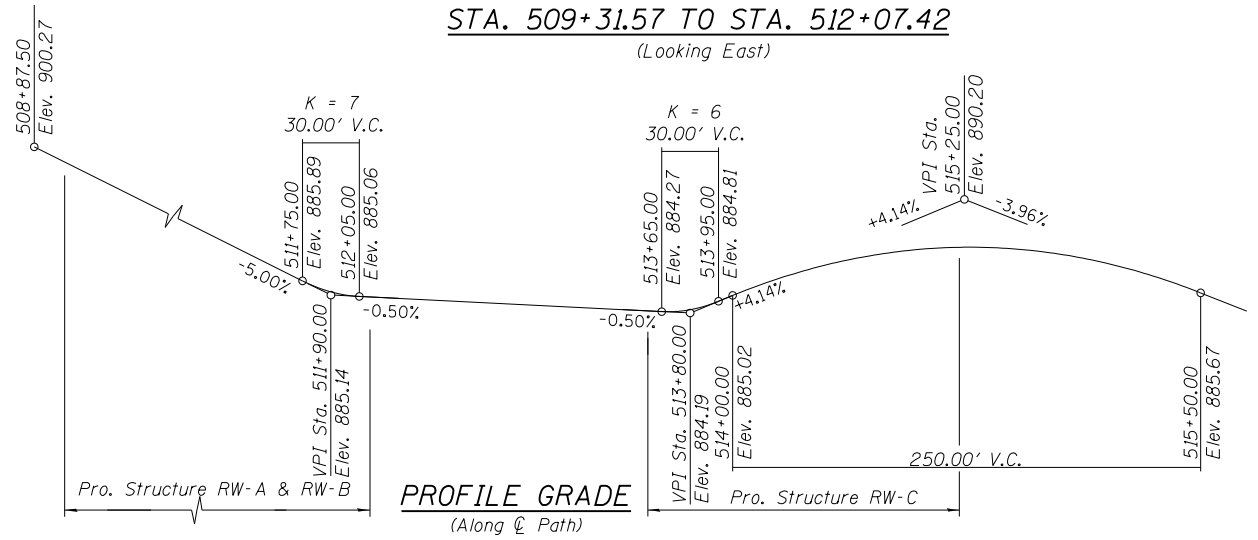
RW-A & RW-B
TYPICAL SOLDIER PILE WALL SECTION
STA. 509+31.57 TO STA. 512+07.42
 (Looking East)



RW-C
TYPICAL SOLDIER PILE WALL SECTION
STA. 513+64.62 TO STA. 515+31.05
 (Looking East)

PROP. CURVE PR_BIKE_PATH6
 P.I. Sta. = 510+83.18
 $\Delta = 6^\circ 25' 06''$ (RT)
 $D = 11^\circ 27' 33''$
 $R = 500.0'$
 $T = 28.03'$
 $L = 56.01'$
 $E = 0.79'$
 P.C. Sta. = 510+55.15
 P.T. Sta. = 511+11.16

PROP. CURVE PR_BIKE_PATH7
 P.I. Sta. = 512+00.66
 $\Delta = 3^\circ 52' 29''$ (LT)
 $D = 28^\circ 38' 52''$
 $R = 200.0'$
 $T = 6.77'$
 $L = 13.52'$
 $E = 0.11'$
 P.C. Sta. = 511+93.90
 P.T. Sta. = 512+07.42



PROFILE GRADE
 (Along \varnothing Path)

GENERAL NOTES

- Walls to be built on straight chords between wall joints.
- The position of soldier piles for Retaining Walls A and B have been adjusted for construction tolerance and deflection to maintain 16'-0" between the exposed faces of the walls. Position of soldier piles for Retaining Wall C have been adjusted for construction tolerance and deflection to maintain 7'-0" between the exposed face of wall and centerline of Multi-Use Path. Additional concrete volume for wall facing from unused construction tolerance is included Concrete Structures.
- Retaining wall concrete facing adjacent to the underpass culvert shall be cast after the end sections of the underpass culvert have been constructed. The exposed face of the retaining wall concrete facing shall be cast flush with the inside face of the underpass culvert.
- Reinforcement bars designated (E) shall be epoxy coated.
- The Contractor is responsible for the design and performance of the timber lagging using no less than a 3 in. nominal rough-sawn thickness with and timber with a minimum allowable bending stress of 1,000 psi. Provide 3/4" gap between lagging for drainage.
- In order to minimize excessive deflection and/or stresses in the soldier piles, compaction equipment used within 4 ft of the back face of the timber lagging shall be limited to lightweight mechanical tampers, rollers, or vibratory systems.
- The Concrete Facing shall not be poured before all grading work behind and above the wall is complete.
- The soldier piles shall be cleaned and given one shop coat of Inorganic Zinc-Rich primer.
- Temporary casing will likely be required for granular and intermediate soils.

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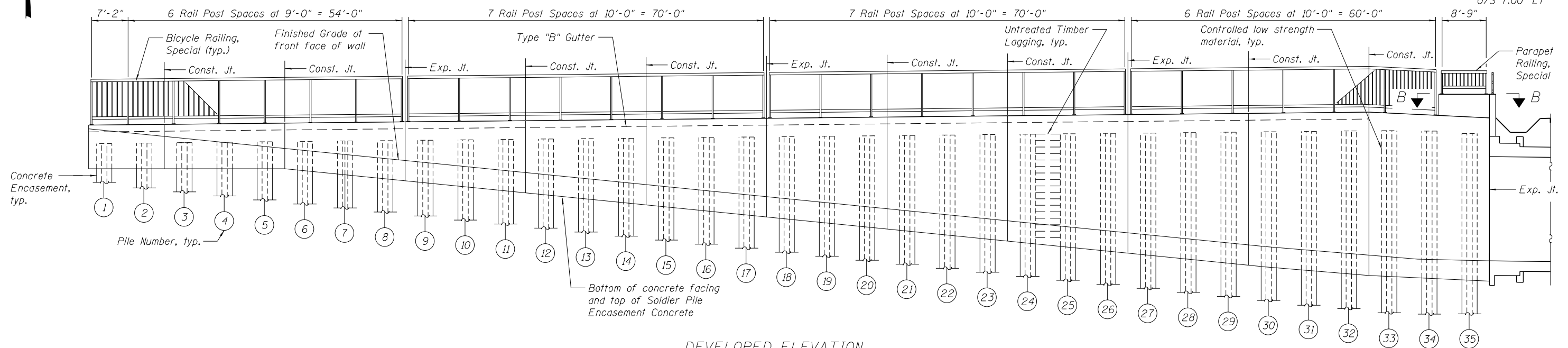
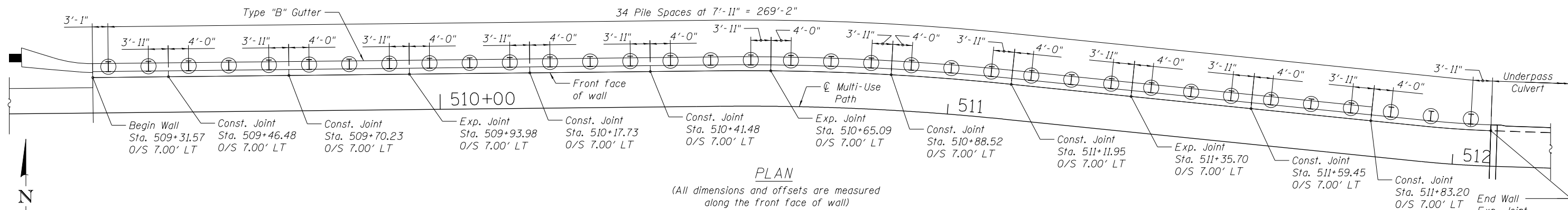
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION THRU RETAINING WALLS
RETAINING WALLS ALONG MULTI-USE PATH

SHEET NO. 2 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	685
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



DEVELOPED ELEVATION

PILE SCHEDULE

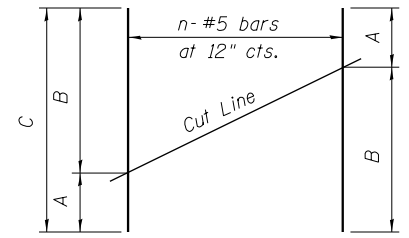
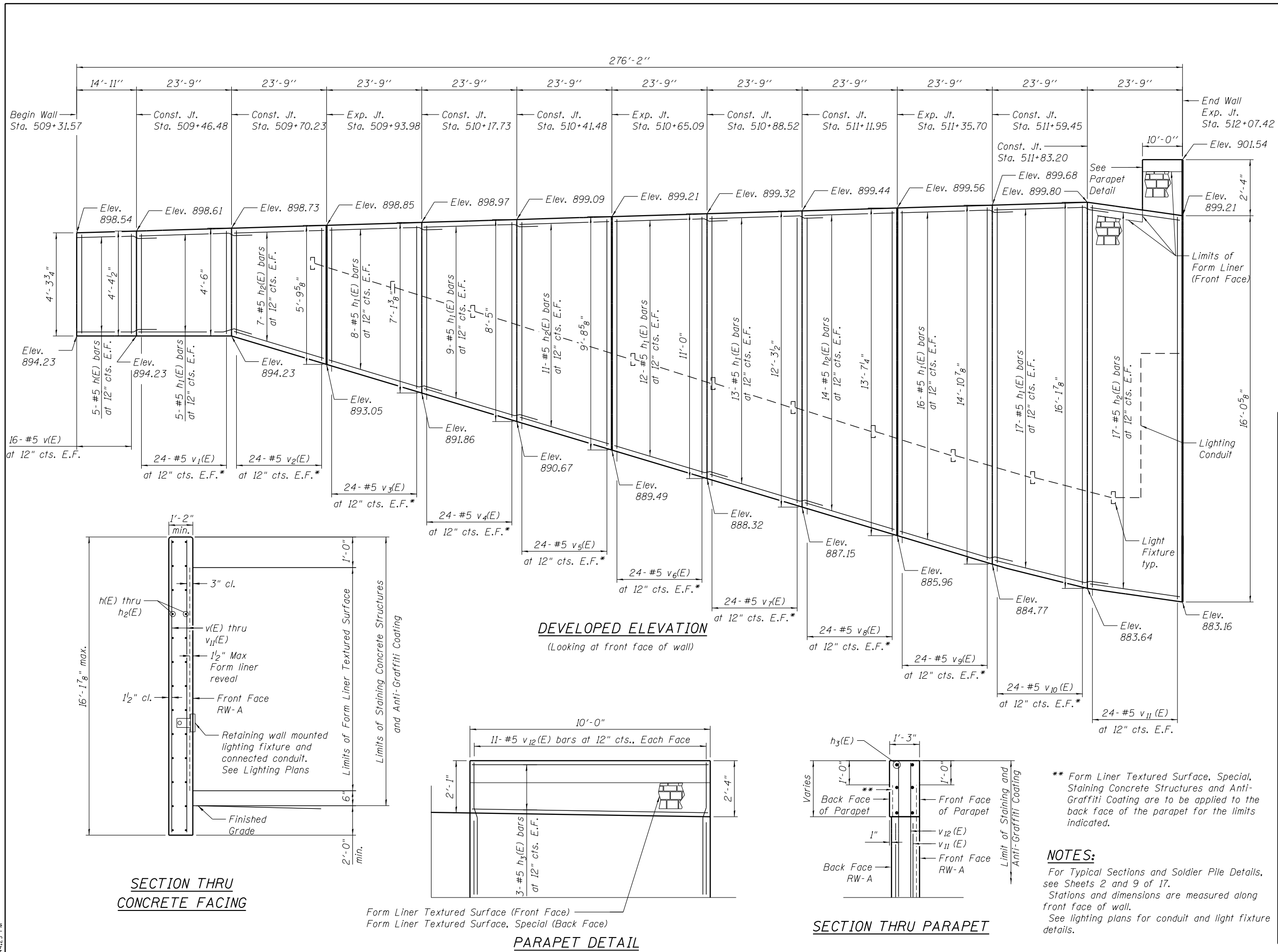
Note:
For Section B-B see sht. 11 of 17.

Pile No.	Station	Offset to \varnothing Pile (ft)	Pile Designation	Approx. Pile Length	Bottom of Pile Elevation	Top of Pile Elevation	Top of Concrete Encasement Elevation	Shear Studs		Encasement Diameter
								No.	Spacing	
1	509+34.65	8.91' LT	W18x97	13	883.89	896.89	894.23	4	10"	3'-0"
2	509+42.57	8.91' LT	W18x97	14	882.93	896.93	894.23	4	10"	3'-0"
3	509+50.48	8.91' LT	W18x97	14	882.97	896.97	894.23	4	12"	3'-0"
4	509+58.40	8.91' LT	W18x97	15	882.01	897.01	894.23	4	12"	3'-0"
5	509+66.32	8.91' LT	W18x97	15	882.04	897.04	894.23	4	12"	3'-0"
6	509+74.23	8.91' LT	W18x97	18	879.08	897.08	894.03	4	12"	3'-0"
7	509+82.15	8.91' LT	W18x97	18	879.12	897.12	893.64	4	12"	3'-0"
8	509+90.07	8.91' LT	W18x97	18	879.16	897.16	893.24	5	12"	3'-0"
9	509+97.98	8.95' LT	W18x97	20	877.20	897.20	892.85	5	12"	3'-0"
10	510+05.90	8.96' LT	W18x97	20	877.24	897.24	892.45	6	12"	3'-0"
11	510+13.82	8.96' LT	W18x97	21	876.28	897.28	892.05	6	12"	3'-0"
12	510+21.73	8.96' LT	W18x97	23	874.32	897.32	891.66	7	12"	3'-0"
13	510+29.65	8.96' LT	W18x97	24	873.36	897.36	891.26	7	12"	3'-0"
14	510+37.57	8.96' LT	W18x97	24	873.40	897.40	890.87	8	12"	3'-0"
15	510+45.48	8.96' LT	W18x97	26	871.44	897.44	890.47	8	12"	3'-0"
16	510+53.40	8.96' LT	W18x97	27	870.48	897.48	890.08	8	12"	3'-0"
17	510+61.21	8.96' LT	W18x97	27	870.52	897.52	889.68	9	12"	3'-0"
18	510+68.98	9.00' LT	W18x97	29	868.56	897.56	889.30	9	12"	3'-0"

Pile No.	Station	Offset to \varnothing Pile (ft)	Pile Designation	Approx. Pile Length	Bottom of Pile Elevation	Top of Pile Elevation	Top of Concrete Encasement Elevation	Shear Studs		Encasement Diameter
								No.	Spacing	
19	510+76.76	9.00' LT	W18x97	29	868.60	897.60	888.91	10	12"	3'-0"
20	510+84.53	9.00' LT	W18x97	30	867.64	897.64	888.52	10	12"	3'-0"
21	510+92.31	9.25' LT	W24x146	33	864.67	897.67	888.13	11	12"	3'-0"
22	511+00.08	9.25' LT	W24x146	33	864.71	897.71	887.74	11	12"	3'-0"
23	511+07.86	9.25' LT	W24x146	34	863.75	897.75	887.35	11	12"	3'-0"
24	511+15.74	9.26' LT	W24x146	37	860.79	897.79	886.96	12	12"	3'-0"
25	511+23.63	9.26' LT	W24x146	38	859.83	897.83	886.56	12	12"	3'-0"
26	511+31.55	9.27' LT	W24x146	38	859.87	897.87	886.17	13	12"	3'-0"
27	511+39.46	9.31' LT	W24x146	42	855.91	897.91	885.77	13	12"	3'-0"
28	511+47.38	9.32' LT	W24x146	42	855.95	897.95	885.38	14	12"	3'-0"
29	511+55.30	9.32' LT	W24x146	43	854.99	897.99	884.98	14	12"	3'-0"
30	511+63.21	9.33' LT	W24x146	43	855.03	898.03	884.58	14	12"	3'-0"
31	511+71.13	9.33' LT	W24x146	43	855.07	898.07	884.19	15	12"	3'-0"
32	511+79.05	9.34' LT	W24x146	44	854.11	898.11	883.81	15	12"	3'-0"
33	511+86.96	9.34' LT	W24x146	44	854.04	898.04	883.50	16	12"	3'-0"
34	511+94.93	9.34' LT	W24x146	44	853.85	897.85	883.30	16	12"	3'-0"
35	512+03.22	9.33' LT	W24x146	44	853.64	897.64	883.18	15	12"	3'-0"

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	686
CONTRACT NO. 61E53				
ILLINOIS FED. AID PROJECT				



bars	n	A	B	C
v ₁ (E)	24	4'-1"	4'-3"	8'-4"
v ₂ (E)	24	4'-3"	5'-6"	9'-9"
v ₃ (E)	24	5'-6"	6'-10"	12'-4"
v ₄ (E)	24	6'-10"	8'-2"	15'-0"
v ₅ (E)	24	8'-2"	9'-5"	17'-7"
v ₆ (E)	24	9'-5"	10'-9"	20'-2"
v ₇ (E)	24	10'-9"	12'-0"	22'-9"
v ₈ (E)	24	12'-0"	13'-4"	25'-4"
v ₉ (E)	24	13'-4"	14'-7"	27'-11"
v ₁₀ (E)	24	14'-7"	15'-10"	30'-5"

* Order bars per length on Bill of Materials. Cut as shown in Field Cutting Diagram and use half of bars on each face of wall.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	10	#5	17'-2"	—
h ₁ (E)	160	#5	26'-0"	—
h ₂ (E)	98	#5	23'-6"	—
h ₃ (E)	6	#5	9'-9"	—
v(E)	32	#5	4'-0"	—
v ₁ (E)	24	#5	8'-4"	—
v ₂ (E)	24	#5	9'-9"	—
v ₃ (E)	24	#5	12'-4"	—
v ₄ (E)	24	#5	15'-0"	—
v ₅ (E)	24	#5	17'-7"	—
v ₆ (E)	24	#5	20'-2"	—
v ₇ (E)	24	#5	22'-9"	—
v ₈ (E)	24	#5	25'-4"	—
v ₉ (E)	24	#5	27'-11"	—
v ₁₀ (E)	24	#5	30'-5"	—
v ₁₁ (E)	48	#5	15'-9"	—
v ₁₂ (E)	22	#5	5'-5"	—
Structure Excavation		Cu. Yd.	366	
Concrete Structures		Cu. Yd.	136.2	
Form Liner Textured Surface		Sq. Ft.	1,785	
Stud Shear Connectors		Each	328	
Reinforcement Bars, Epoxy Coated		Pound	12,780	
Furnishing Soldier Piles (W Section)		Foot	1,027	
Drilling and Setting Soldier Piles (In Soil)		Cu. Ft.	7,260	
Untreated Timber Lagging		Sq. Ft.	2,307	
Geocomposite Wall Drain		Sq. Yd.	288	
Concrete Gutter, Type B		Foot	253	
Staining Concrete Structures		Sq. Ft.	2,220	
Bicycle Railing, Special		Foot	267	
Parapet Railing, Special		Foot	9	
Anti-Graffiti Coating		Sq. Ft.	2,220	
Form Liner Textured Surface, Special		Sq. Ft.	13	
Pipe Underdrains for Structures 4"		Foot	302	

** Form Liner Textured Surface, Special, Staining Concrete Structures and Anti-Graffiti Coating are to be applied to the back face of the parapet for the limits indicated.

NOTES:
For Typical Sections and Soldier Pile Details, see Sheets 2 and 9 of 17.
Stations and dimensions are measured along front face of wall.
See lighting plans for conduit and light fixture details.

Bollinger, Lach & Associates, Inc.
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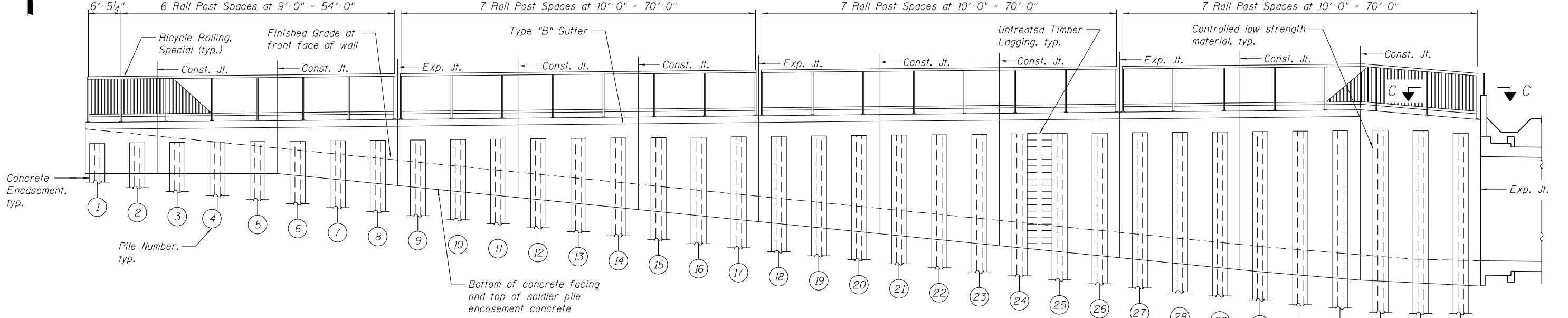
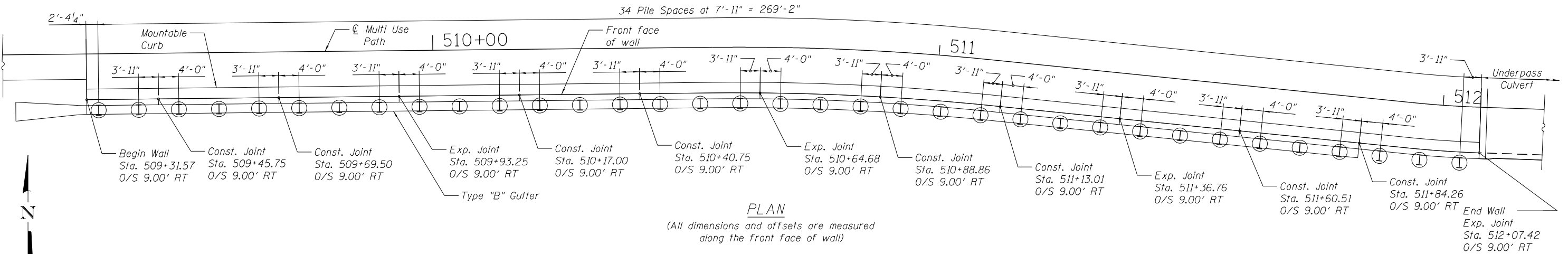
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING
RETAINING WALL A

SHEET NO. 4 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	687
			CONTRACT NO. 61E53	

ILLINOIS FED. AID PROJECT



PILE SCHEDULE

Note:
For Section C-C See sht. 11 of 17.

Pile No.	Station	Offset to C (ft)	Pile Designation	Approx. Pile Length	Bottom of Pile Elevation	Top of Pile Elevation	Top of Concrete Encasement Elevation	Shear Studs		Encasement Diameter
								No.	Spacing	
1	509+33.92	10.91' RT	W18x97	13	883.93	896.93	893.97	4	11"	3'-0"
2	509+41.84	10.91' RT	W18x97	14	882.97	896.97	893.97	4	11"	3'-0"
3	509+49.75	10.91' RT	W18x97	14	883.01	897.01	893.97	4	12"	3'-0"
4	509+57.67	10.91' RT	W18x97	14	883.05	897.05	893.97	4	12"	3'-0"
5	509+65.59	10.91' RT	W18x97	15	882.09	897.09	893.97	4	12"	3'-0"
6	509+73.50	10.91' RT	W18x97	17	880.13	897.13	893.83	4	12"	3'-0"
7	509+81.42	10.91' RT	W18x97	18	879.17	897.17	893.43	5	12"	3'-0"
8	509+89.34	10.91' RT	W18x97	18	879.21	897.21	893.04	5	12"	3'-0"
9	509+97.25	10.95' RT	W18x97	20	877.25	897.25	892.64	6	12"	3'-0"
10	510+05.17	10.95' RT	W18x97	20	877.29	897.29	892.25	6	12"	3'-0"
11	510+13.09	10.96' RT	W18x97	21	876.33	897.33	891.85	6	12"	3'-0"
12	510+21.00	10.96' RT	W18x97	23	874.37	897.37	891.46	7	12"	3'-0"
13	510+28.92	10.96' RT	W18x97	23	874.41	897.41	891.06	7	12"	3'-0"
14	510+36.84	10.96' RT	W18x97	24	873.45	897.45	890.66	8	12"	3'-0"
15	510+44.75	10.96' RT	W18x97	26	871.49	897.49	890.27	8	12"	3'-0"
16	510+52.67	10.96' RT	W18x97	27	870.53	897.53	889.87	9	12"	3'-0"
17	510+60.71	10.96' RT	W18x97	27	870.57	897.57	889.47	9	12"	3'-0"
18	510+68.81	11.00' RT	W18x97	29	868.61	897.61	889.07	10	12"	3'-0"

Pile No.	Station	Offset to C (ft)	Pile Designation	Approx. Pile Length	Bottom of Pile Elevation	Top of Pile Elevation	Top of Concrete Encasement Elevation	Shear Studs		Encasement Diameter
								No.	Spacing	
19	510+76.90	11.00' RT	W18x97	29	868.65	897.65	888.66	10	12"	3'-0"
20	510+85.00	11.00' RT	W18x97	29	868.69	897.69	888.26	10	12"	3'-0"
21	510+93.10	11.25' RT	W24x146	33	864.73	897.73	887.85	11	12"	3'-0"
22	511+01.19	11.25' RT	W24x146	33	864.77	897.77	887.45	11	12"	3'-0"
23	511+09.29	11.26' RT	W24x146	34	863.81	897.81	887.04	12	12"	3'-0"
24	511+17.25	11.26' RT	W24x146	37	860.85	897.85	886.64	12	12"	3'-0"
25	511+25.16	11.26' RT	W24x146	38	859.89	897.89	886.25	13	12"	3'-0"
26	511+33.08	11.27' RT	W24x146	38	859.93	897.93	885.85	13	12"	3'-0"
27	511+41.00	11.31' RT	W24x146	42	855.97	897.97	885.46	14	12"	3'-0"
28	511+48.91	11.32' RT	W24x146	42	856.01	898.01	885.06	14	12"	3'-0"
29	511+56.83	11.32' RT	W24x146	42	856.05	898.05	884.66	14	12"	3'-0"
30	511+64.75	11.33' RT	W24x146	43	855.09	898.09	884.27	15	12"	3'-0"
31	511+72.66	11.33' RT	W24x146	43	855.13	898.13	883.87	15	12"	3'-0"
32	511+80.58	11.34' RT	W24x146	44	854.17	898.17	883.50	16	12"	3'-0"
33	511+88.50	11.34' RT	W24x146	44	853.96	897.96	883.22	16	12"	3'-0"
34	511+96.28	11.34' RT	W24x146	44	853.56	897.56	883.03	16	12"	3'-0"
35	512+03.78	11.33' RT	W24x146	44	853.17	897.17	882.94	15	12"	3'-0"

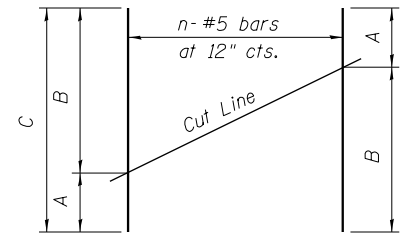
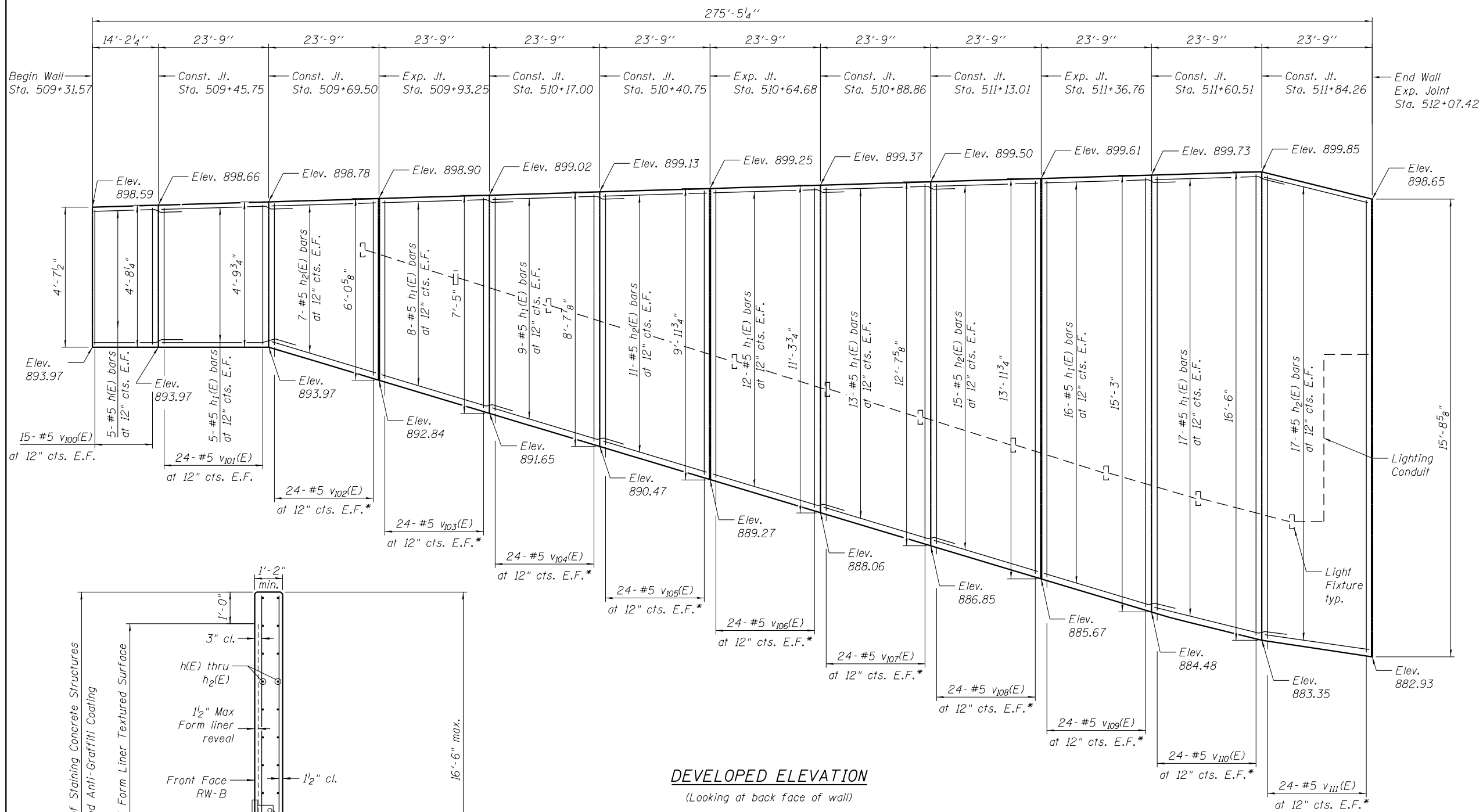
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 ITASCA, ILLINOIS
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOLDIER PILE LAYOUT
RETAINING WALL B
 SHEET NO. 5 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	688
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



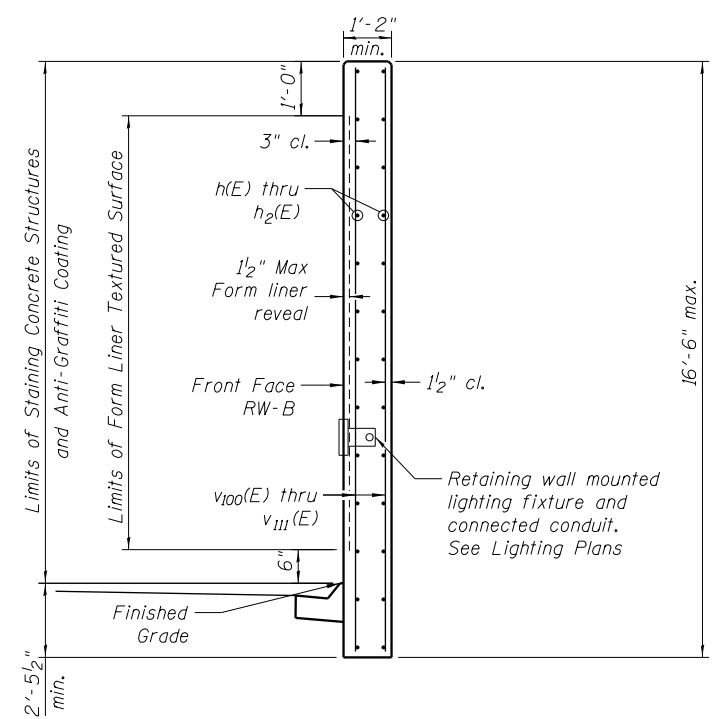
FIELD CUTTING DIAGRAM

bars	n	A	B	C
v102(E)	24	4'-6"	5'-10"	10'-4"
v103(E)	24	5'-10"	7'-1"	12'-11"
v104(E)	24	7'-1"	8'-5"	15'-6"
v105(E)	24	8'-5"	9'-9"	18'-2"
v106(E)	24	9'-9"	11'-1"	20'-10"
v107(E)	24	11'-1"	12'-5"	23'-6"
v108(E)	24	12'-5"	13'-9"	26'-2"
v109(E)	24	13'-9"	15'-0"	28'-9"
v110(E)	24	15'-0"	16'-3"	31'-3"
v111(E)	24	16'-3"	15'-6"	31'-9"

* Order bars per length on Bill of Materials. Cut as shown in Field Cutting Diagram and use half of bars on each face of wall.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h1(E)	10	#5	17'-2"	
h1(E)	160	#5	26'-0"	
h2(E)	100	#5	23'-6"	
v100(E)	30	#5	4'-4"	
v101(E)	48	#5	4'-5"	
v102(E)	24	#5	10'-4"	
v103(E)	24	#5	12'-11"	
v104(E)	24	#5	15'-6"	
v105(E)	24	#5	18'-2"	
v106(E)	24	#5	20'-10"	
v107(E)	24	#5	23'-6"	
v108(E)	24	#5	26'-2"	
v109(E)	24	#5	28'-9"	
v110(E)	24	#5	31'-3"	
v111(E)	24	#5	31'-9"	
Structure Excavation			Cu. Yd.	376
Concrete Structures			Cu. Yd.	138.6
Form Liner Textured Surface			Sq. Ft.	1,722
Stud Shear Connectors			Each	337
Reinforcement Bars, Epoxy Coated			Pound	12,820
Furnishing Soldier Piles (W Section)			Foot	1,022
Drilling and Setting Soldier Piles (In Soil)			Cu. Ft.	7,225
Untreated Timber Lagging			Sq. Ft.	2,267
Geocomposite Wall Drain			Sq. Yd.	290
Concrete Gutter, Type B			Foot	252
Staining Concrete Structures			Sq. Ft.	2,123
Bicycle Railing, Special			Foot	276
Anti-Graffiti Coating			Sq. Ft.	2,123
Pipe Underdrains for Structures 4"			Foot	286



SECTION THRU CONCRETE FACING

DEVELOPED ELEVATION
(Looking at back face of wall)

NOTES:

For Typical Sections and Soldier Pile Details, see Sheet 2 and 9 of 17. Stations and dimensions are measured along front face of wall. See lighting plans for conduit and light fixture details.

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4-44533, PM

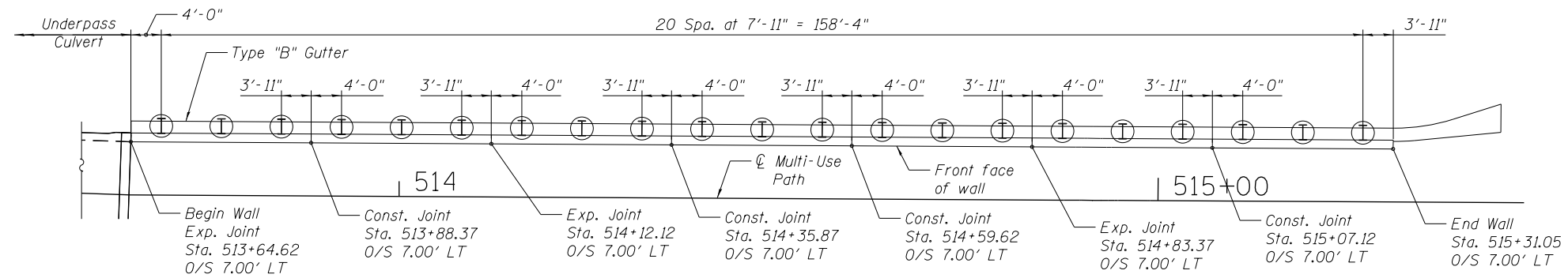
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE FACING
RETAINING WALL B

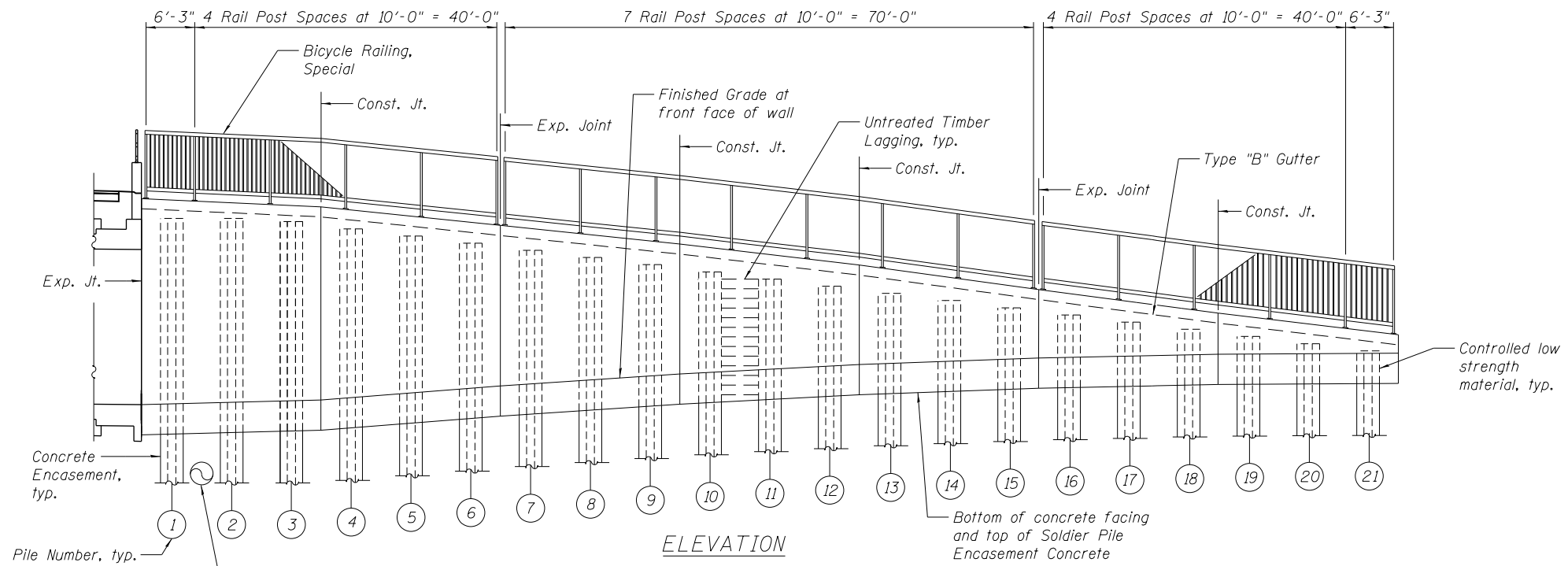
SHEET NO. 6 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	689
				CONTRACT NO. 61E53
ILLINOIS FED. AID PROJECT				



PLAN

(All dimensions and offsets are measured along the front face of wall)



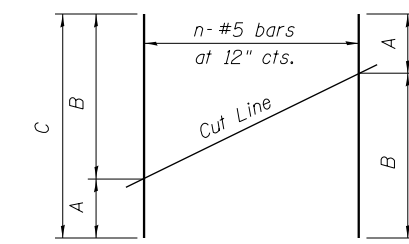
ELEVATION

PILE SCHEDULE

Pile No.	Station	Offset to ϕ Pile (ft)	Pile Designation	Approx. Pile Length	Bottom of Pile Elevation	Top of Pile Elevation	Top of Concrete Encasement Elevation	Shear Studs		Encasement Diameter
								No.	Spacing	
1	513+68.62	9.33' LT	W24x146	43	853.36	896.27	882.36	15	12"	3'-0"
2	513+76.54	9.33' LT	W24x146	43	853.42	896.08	882.42	15	12"	3'-0"
3	513+84.46	9.33' LT	W24x146	43	853.57	895.89	882.57	14	12"	3'-0"
4	513+92.37	9.32' LT	W24x146	42	853.81	895.59	882.81	14	12"	3'-0"
5	514+00.29	9.31' LT	W24x146	42	854.14	895.18	883.14	13	12"	3'-0"
6	514+08.21	9.31' LT	W24x146	41	854.46	894.77	883.46	12	12"	3'-0"
7	514+16.12	9.26' LT	W24x146	35	859.76	894.36	883.76	12	12"	3'-0"
8	514+24.04	9.26' LT	W24x146	34	860.03	893.95	884.03	11	12"	3'-0"
9	514+31.96	9.25' LT	W24x146	34	860.29	893.54	884.29	10	12"	3'-0"
10	514+39.87	8.99' LT	W18x97	30	863.52	893.10	884.52	10	12"	3'-0"
11	514+47.79	8.99' LT	W18x97	29	863.74	892.64	884.74	9	12"	3'-0"
12	514+55.71	8.99' LT	W18x97	29	863.93	892.18	884.93	8	12"	3'-0"
13	514+63.62	8.96' LT	W18x97	24	868.11	891.67	885.11	8	12"	3'-0"
14	514+71.54	8.96' LT	W18x97	23	868.26	891.13	885.26	7	12"	3'-0"
15	514+79.46	8.96' LT	W18x97	23	868.40	890.59	885.40	6	12"	3'-0"
16	514+87.37	8.91' LT	W18x97	20	870.51	890.06	885.51	6	12"	3'-0"
17	514+95.29	8.91' LT	W18x97	19	870.60	889.54	885.60	5	12"	3'-0"
18	515+03.21	8.91' LT	W18x97	19	870.68	889.02	885.68	4	12"	3'-0"
19	515+11.12	8.91' LT	W18x97	15	873.73	888.52	885.73	4	12"	3'-0"
20	515+19.04	8.91' LT	W18x97	15	873.76	888.05	885.76	3	12"	3'-0"
21	515+26.96	8.91' LT	W18x97	14	873.78	887.57	885.78	3	12"	3'-0"

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	690
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



FIELD CUTTING DIAGRAM

bars	n	A	B	C
v20d(E)	24	2'-10"	4'-4"	7'-2"
v20l(E)	24	4'-4"	6'-2"	10'-6"
v20z(E)	24	6'-2"	8'-3"	14'-5"
v203(E)	24	8'-3"	10'-4"	18'-7"
v204(E)	24	10'-4"	12'-4"	22'-8"
v205(E)	24	12'-4"	14'-6"	26'-10"
v206(E)	24	14'-6"	15'-4"	29'-10"

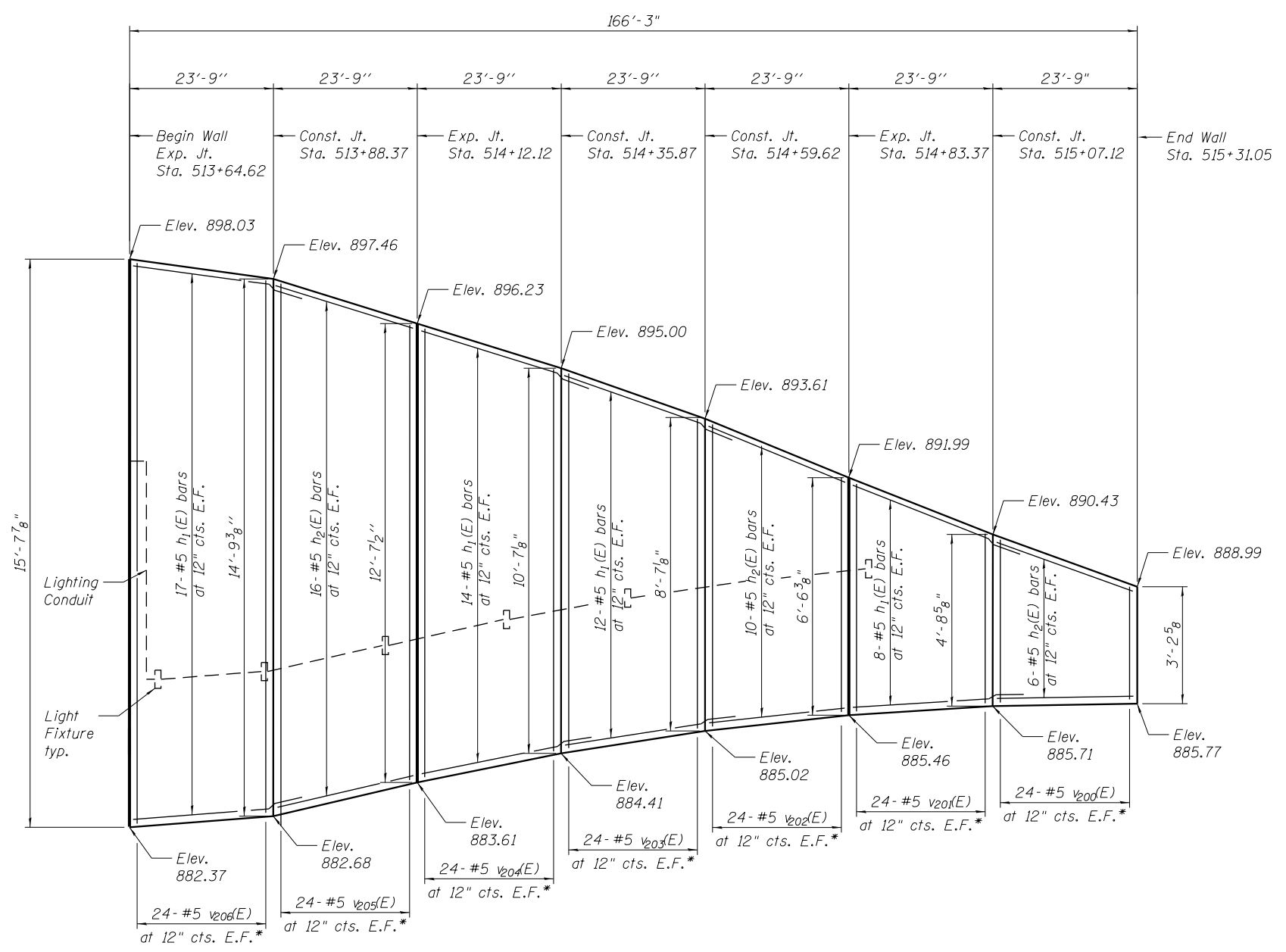
* Order bars per length on Bill of Materials. Cut as shown in Field Cutting Diagram and use half of bars on each side.

BILL OF MATERIAL

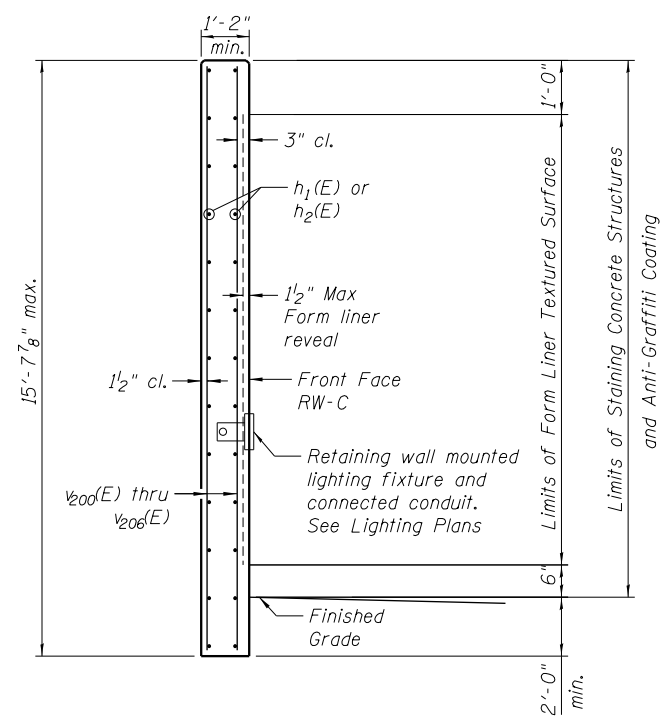
Bar	No.	Size	Length	Shape
h ₁ (E)	102	#5	26'-0"	
h ₂ (E)	64	#5	23'-6"	
v20d(E)	24	#5	7'-2"	
v20l(E)	24	#5	10'-6"	
v20z(E)	24	#5	14'-5"	
v203(E)	24	#5	18'-7"	
v204(E)	24	#5	22'-8"	
v205(E)	24	#5	26'-10"	
v206(E)	24	#5	29'-10"	
Structure Excavation		Cu. Yd.	212	
Concrete Structures		Cu. Yd.	78.0	
Form Liner Textured Surface		Sq. Ft.	1,017	
Stud Shear Connectors		Each	188	
Reinforcement Bars, Epoxy Coated		Pound	7,590	
Furnishing Soldier Piles (W Section)		Foot	617	
Drilling and Setting Soldier Piles (In Soil)		Cu. Ft.	4,362	
Untreated Timber Lagging		Sq. Ft.	1,289	
Geocomposite Wall Drain		Sq. Yd.	162	
Concrete Gutter, Type B		Foot	167	
Staining Concrete Structures		Sq. Ft.	1,266	
Bicycle Railing, Special		Foot	167	
Anti-Graffiti Coating		Sq. Ft.	1,266	
Pipe Underdrains for Structures 4"		Foot	187	

NOTES:

For Typical Sections and Soldier Pile Details, see Sheet 2 and 9 of 17. Stations and dimensions are measured along front face of wall. See lighting plans for conduit and light fixture details.



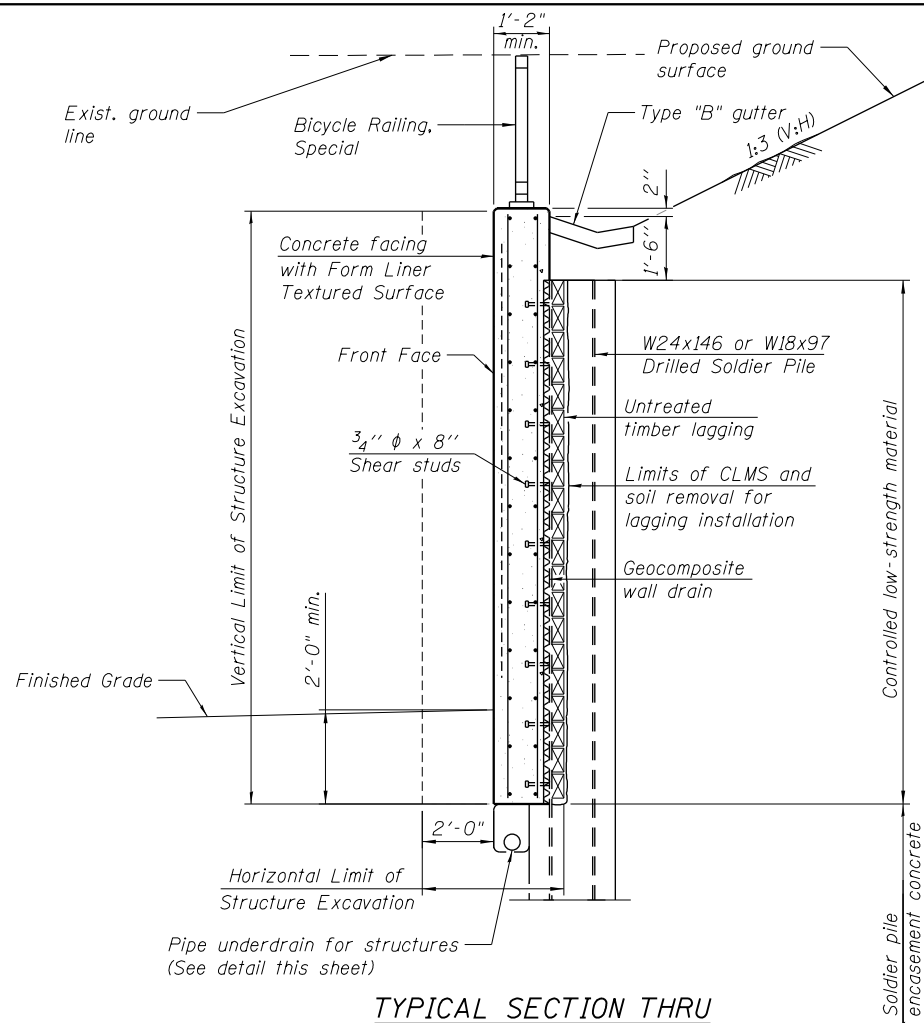
ELEVATION
(Looking at front face of wall)



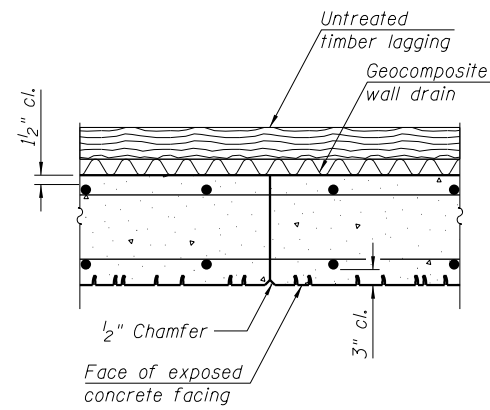
SECTION THRU CONCRETE FACING

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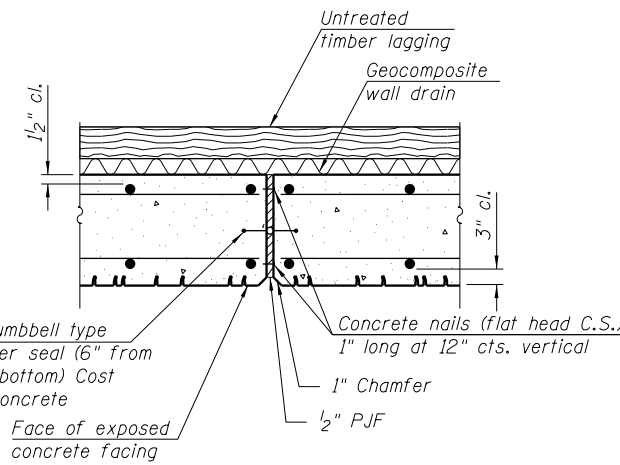
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	691
			CONTRACT NO. 61E53	
ILLINOIS FED. AID PROJECT				



TYPICAL SECTION THRU SOLDIER PILE WALL



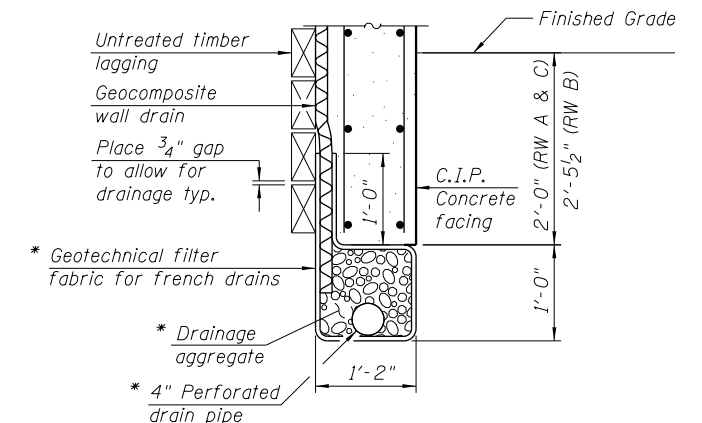
CONSTRUCTION JOINT



EXPANSION JOINT

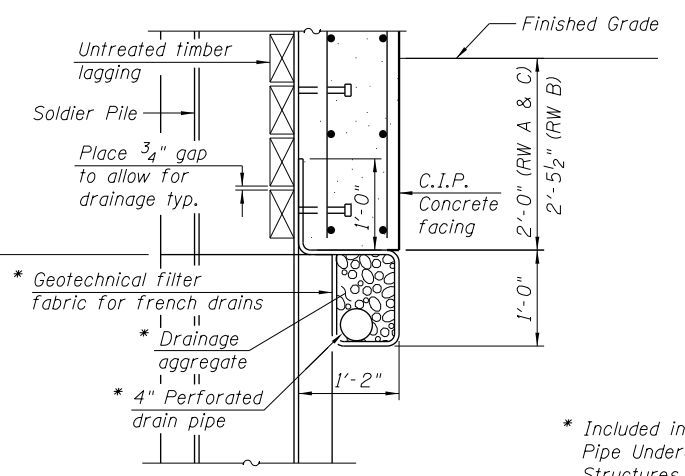
JOINT DETAILS

For Expansion Joint details at Underpass Culvert See Underpass Culvert plans



BETWEEN SOLDIER PILES

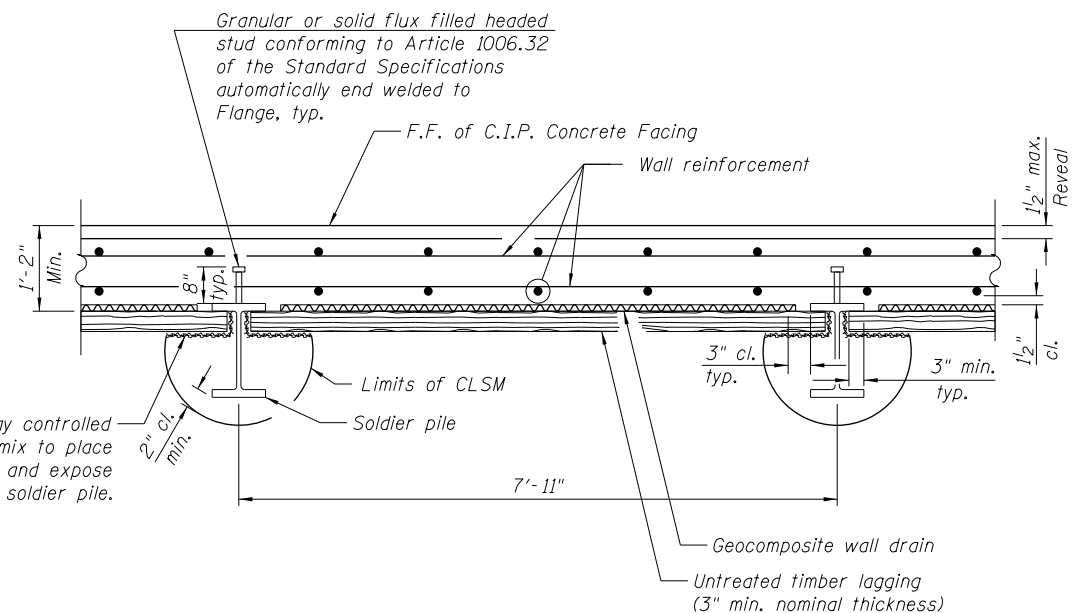
Controlled Low-Strength Material



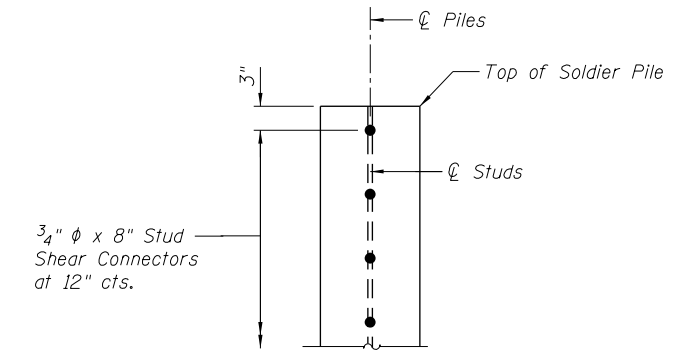
AT SOLDIER PILES

UNDERDRAIN DETAILS

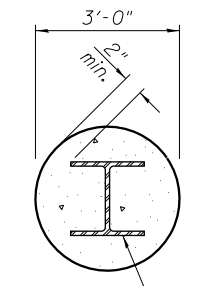
* Included in the cost of Pipe Underdrains for Structures 4".



SECTION THRU DRILLED SOLDIER PILE WALL



DETAIL OF SHEAR STUD PLACEMENT



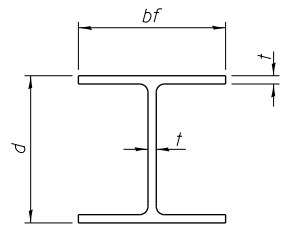
SOLDIER PILE ENCASEMENT

Note:
The drain shall be placed behind the lagging with the pervious side toward the soil according to Section 591 of the Standard Specifications and shall be centered between the piles. The drain shall be installed in stages as the excavation proceeds downward making sure that drain splices as well as the top side edges are covered as required to protect the drain.

Notes:
For Soldier Pile Layout, See Sheet 3, 5, and 7 of 17.
For Concrete Facing Details see Sheet 4, 6, and 8 of 17.
C.I.P. denotes Cast in Place.
F.F. denotes Front Face.

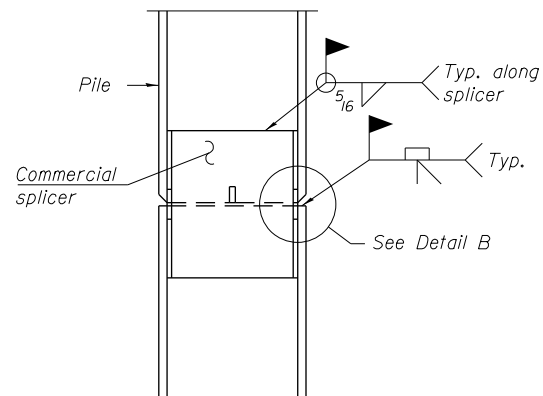
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F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 692
			CONTRACT NO. 61E53	

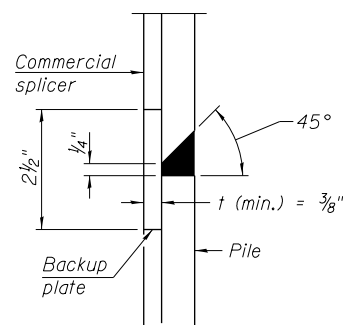


STEEL PILE TABLE

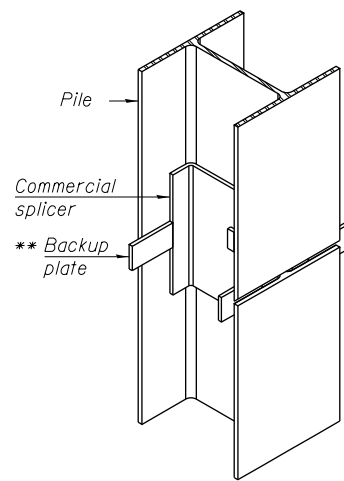
Designation	Depth <i>d</i>	Flange width <i>bf</i>	Web thickness <i>t</i>	Flange thickness <i>t</i>	Encasement diameter <i>A</i>
W18x97	18 ⁵ / ₈ "	11 ¹ / ₈ "	9 ¹ / ₁₆ "	7 ⁷ / ₈ "	36"
W24x146	24 ³ / ₄ "	12 ⁷ / ₈ "	5 ⁵ / ₈ "	1 ¹ / ₈ "	36"



ELEVATION

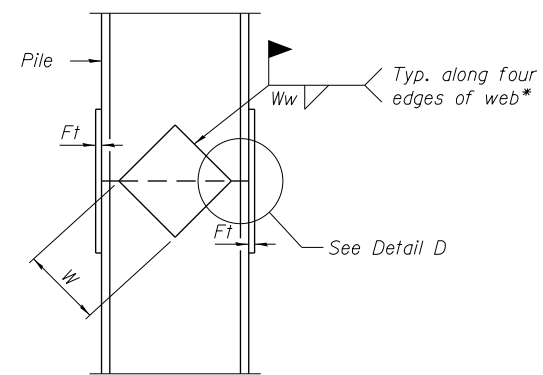


DETAIL "B"

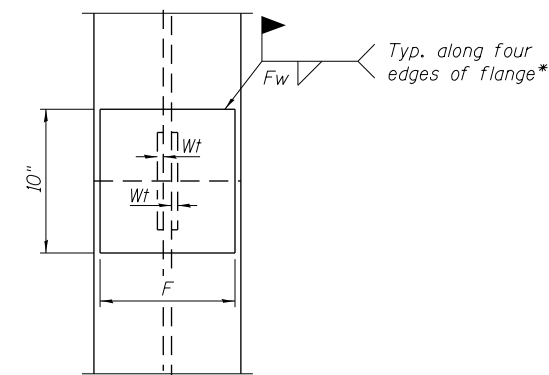


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

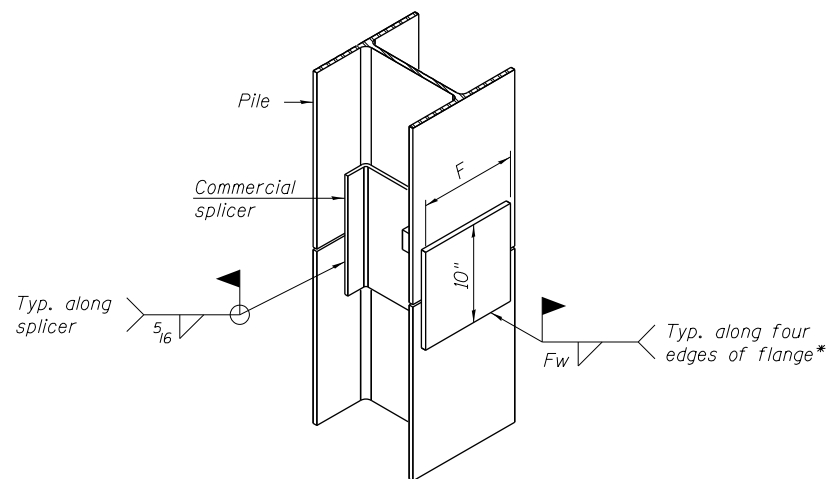


ELEVATION



END VIEW

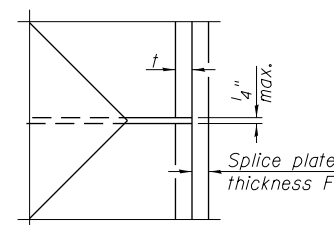
Designation	<i>F</i>	<i>Ft</i>	<i>Fw</i>	<i>W</i>	<i>Wt</i>	<i>Ww</i>
W18x97	9"	1 ¹ / ₄ "	7 ⁷ / ₈ "	10"	5 ⁵ / ₈ "	1 ¹ / ₂ "
W24x146	10 ¹ / ₂ "	1 ¹ / ₂ "	7 ⁷ / ₈ "	14"	5 ⁵ / ₈ "	1 ¹ / ₂ "



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.



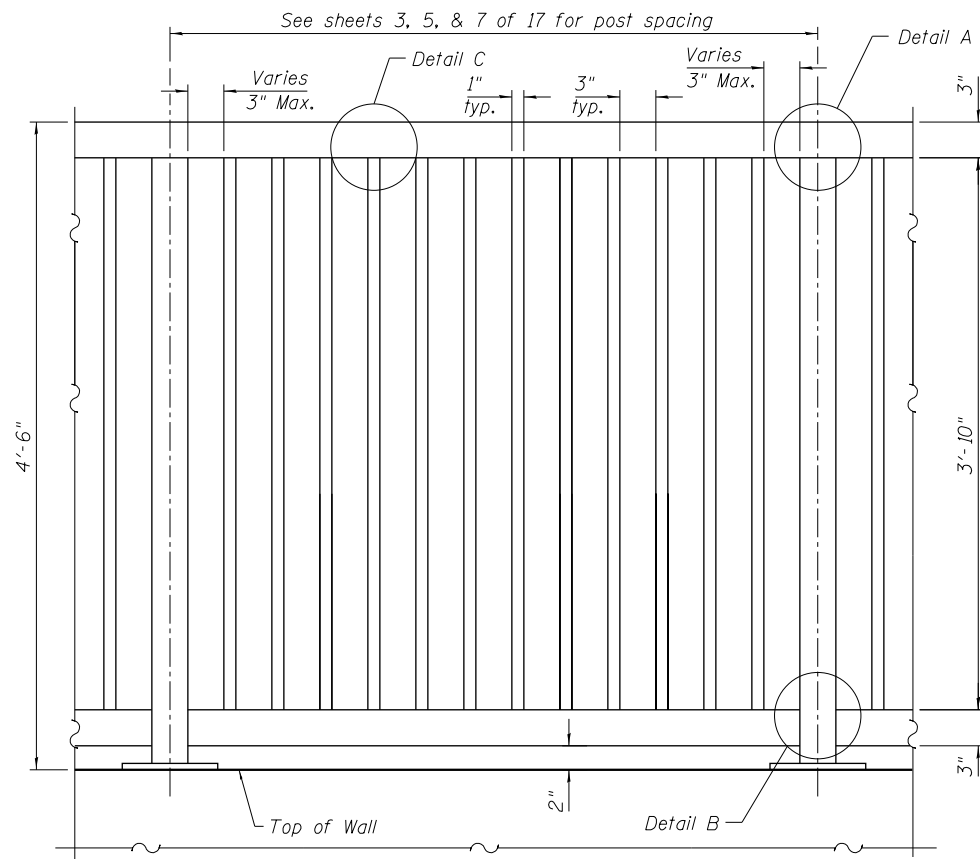
DETAIL D

WELDED PLATE FIELD SPLICE

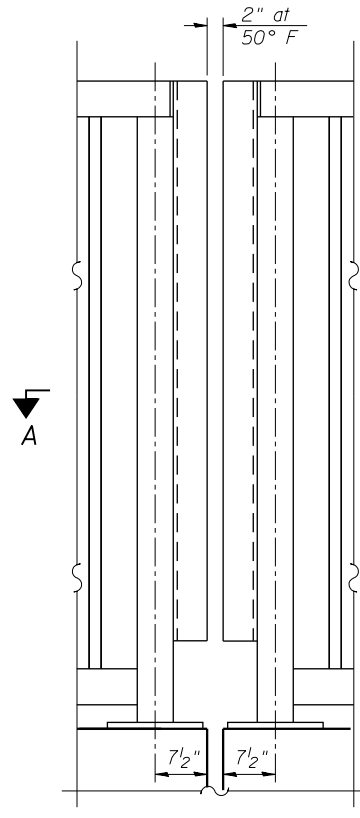
Note:
The steel piles shall be according to
AASHTO M270 Grade 50.

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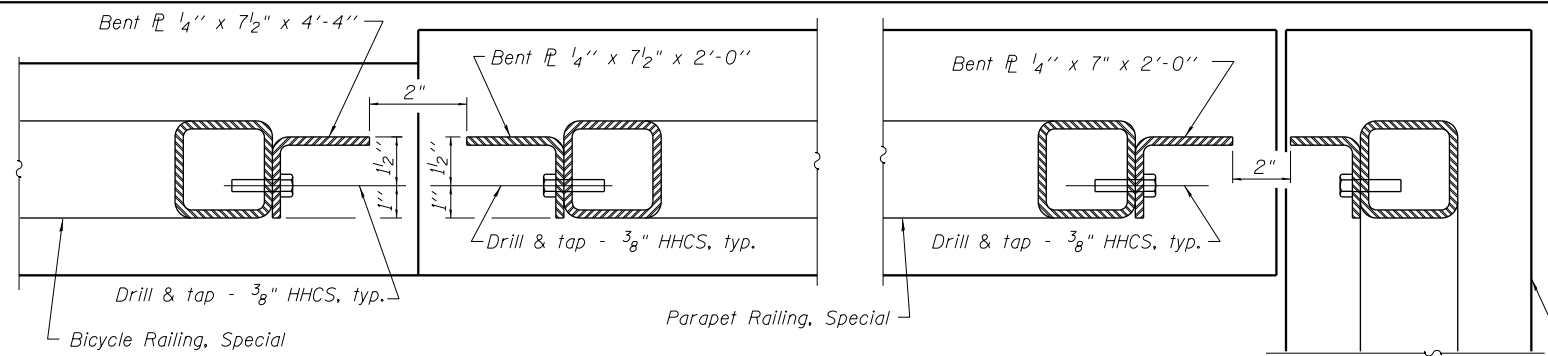
F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 693
CONTRACT NO. 61E53			ILLINOIS FED. AID PROJECT	



BICYCLE RAILING, SPECIAL



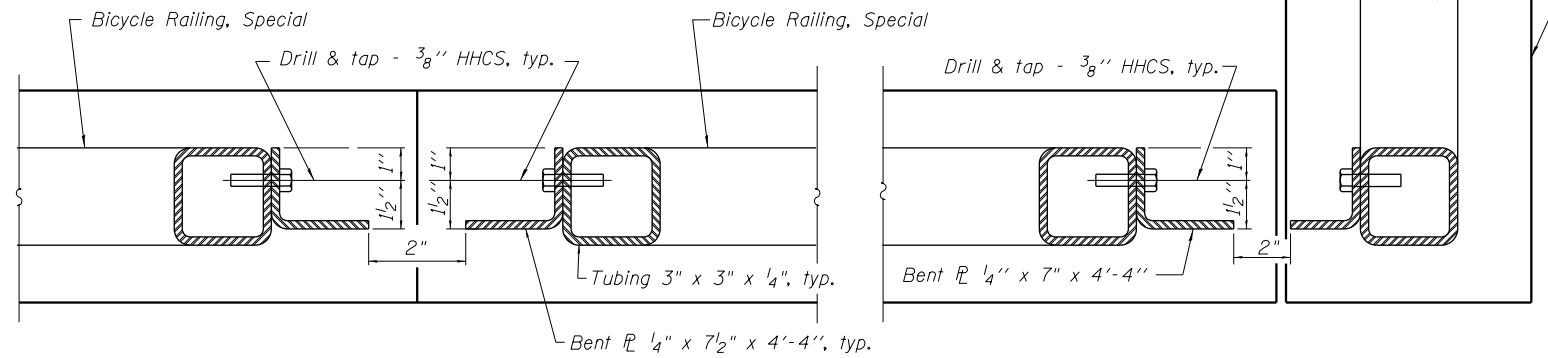
BICYCLE RAILING, SPECIAL



SECTION B-B AT RW-A PARAPET AND UNDERPASS PARAPET

* See underpass railing details

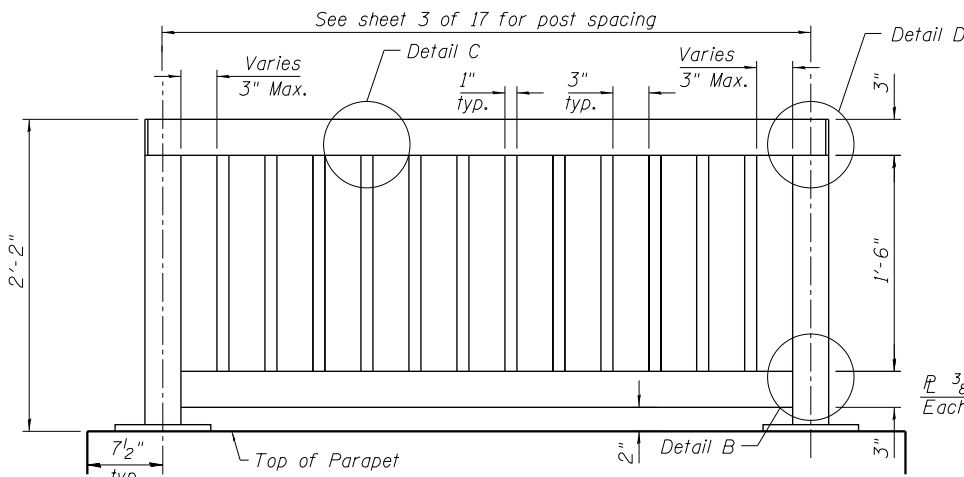
* Rdwy. side Underpass Parapet



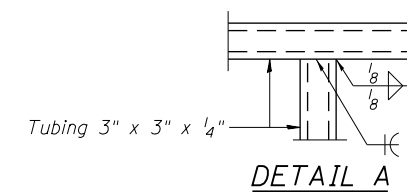
SECTION A-A

SECTION C-C RW-B AT UNDERPASS PARAPET

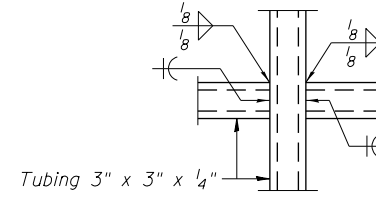
(RW-C Similar)



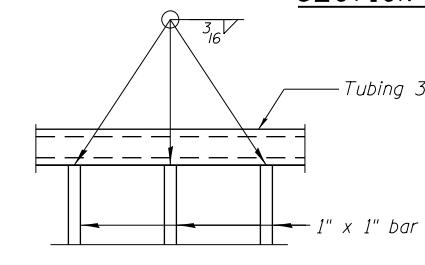
PARAPET RAILING, SPECIAL



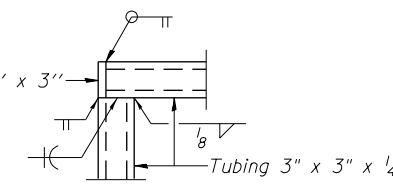
DETAIL A



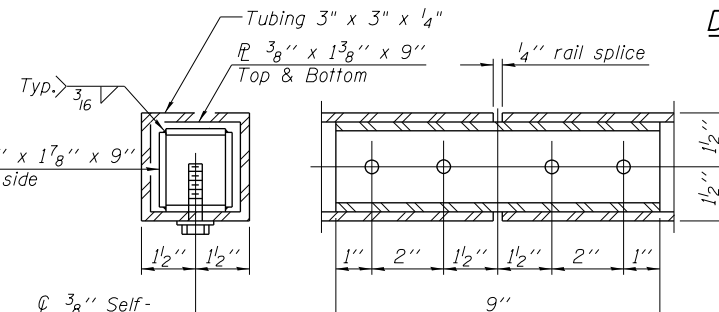
DETAIL B



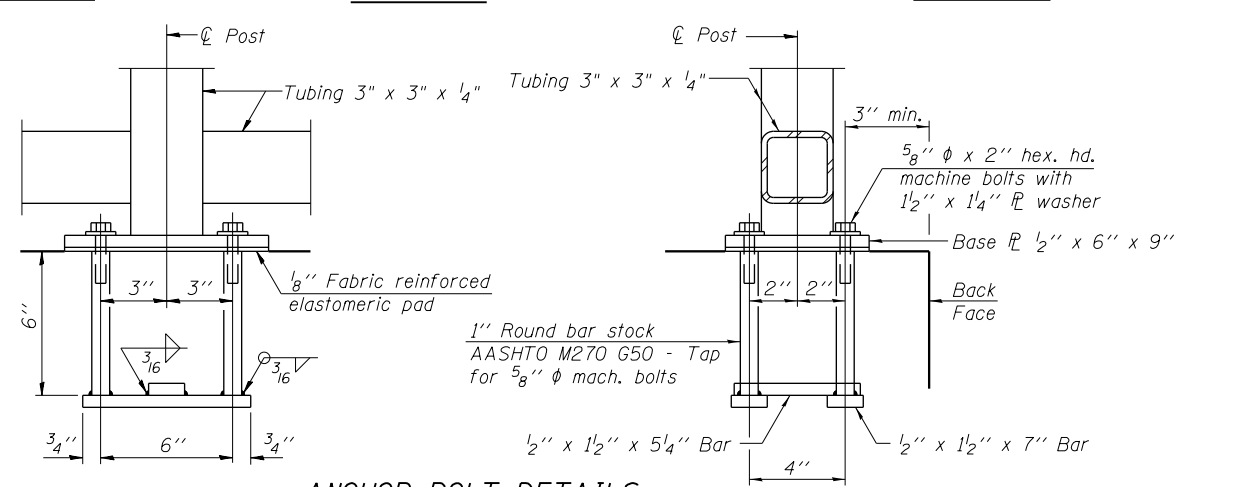
DETAIL C



DETAIL D



RAIL SPLICE



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.

BILL OF MATERIAL

Item	Unit	Quantity
** Bicycle Railing	Foot	
** Parapet Railing	Foot	

** See Shts. 4, 6 and 8 of 17 for quantities for individual retaining walls.

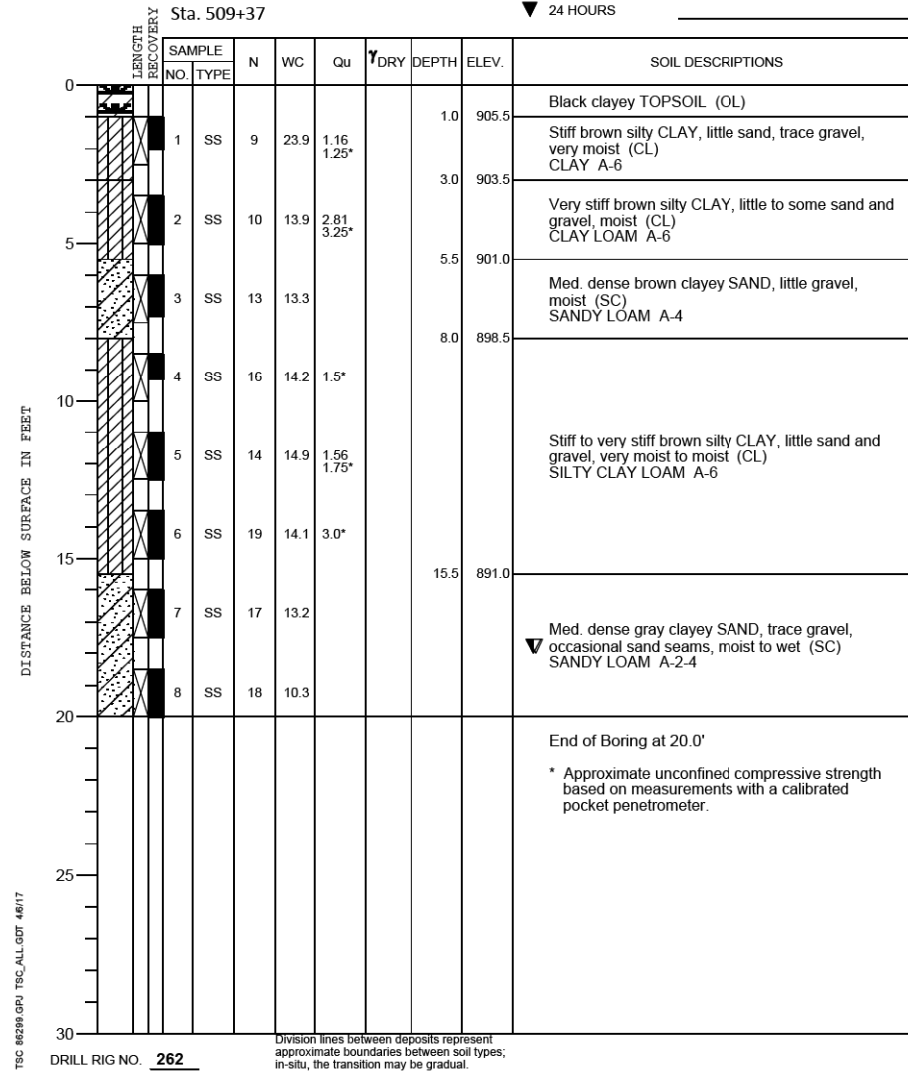
Notes:

- All structural steel tubing, post and railing, for parapet railing shall be CVN tested according to 1006.34(b) of the Standard Specifications.
- All post, railing, splices, anchor devices, and bent plates shall be completely powder coated the color Traffic Black (RAL 9017). Submit paint chip to the Engineer for approval prior to powder coating.
- The Engineer shall inspect the shop applied powder coating for handling damage prior to installation and either accept or reject the powder coated railing. All rejected railing will require the complete reapplication of the powder coating. All erection and handling damage to the shop applied powder coating on accepted railing shall be repaired.
- At rail splices, the inside surfaces of the rail and outside surfaces of the splice element shall be completely powder coated for a minimum of 4" each side of the splice.

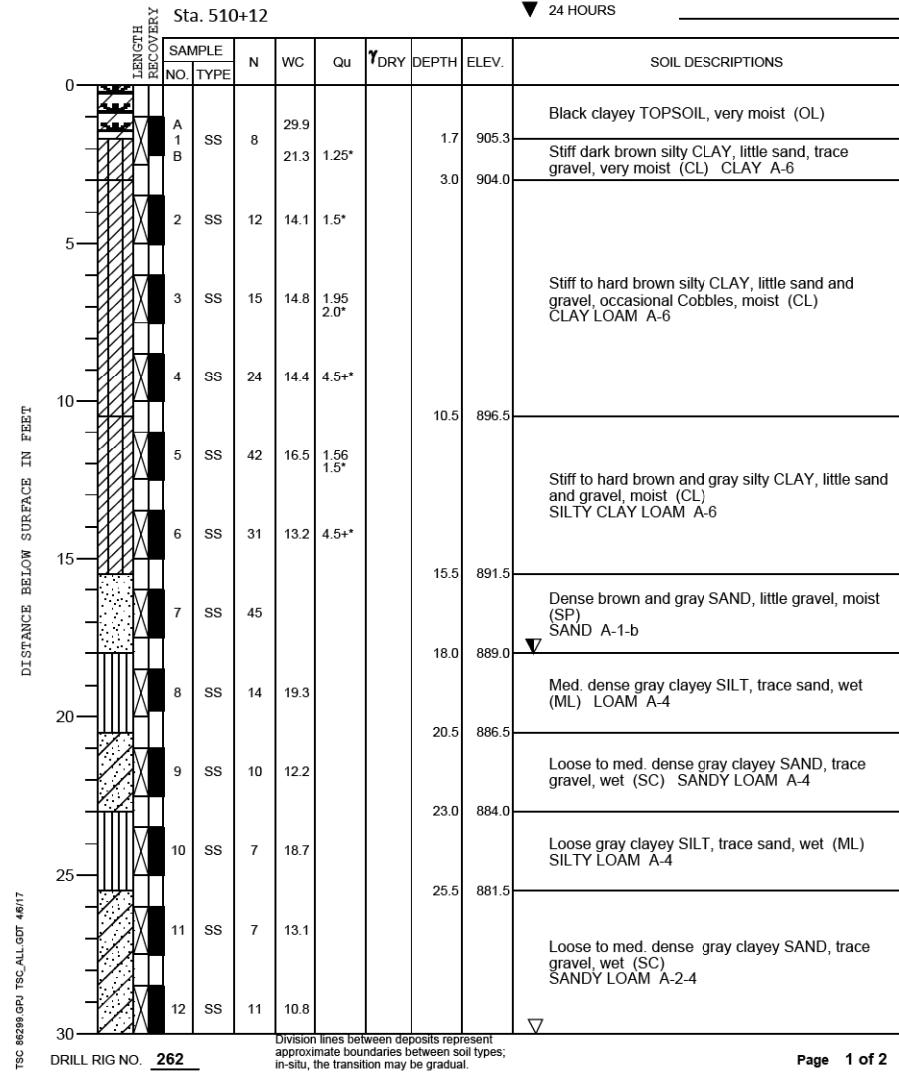
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F.A.P. RTE. 336	SECTION 06-00329-01-PW	COUNTY MCHENRY	TOTAL SHEETS 1751	SHEET NO. 694
			CONTRACT NO. 61E53	

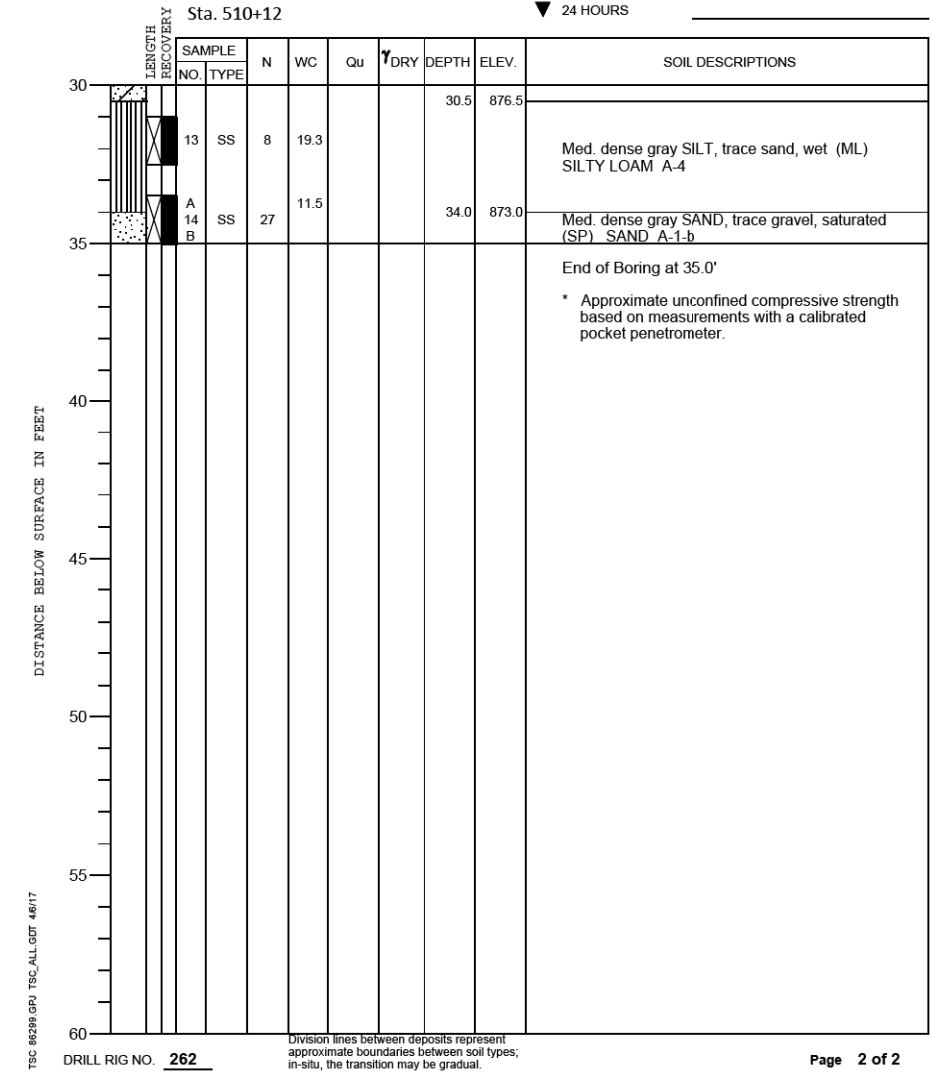
PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **1** DATE STARTED **3-7-17** DATE COMPLETED **3-7-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **906.5** WHILE DRILLING **18.0'**
 END OF BORING **886.5** AT END OF BORING **18.0'**
 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **2** DATE STARTED **3-7-17** DATE COMPLETED **3-7-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **907.0** WHILE DRILLING **18.0'**
 END OF BORING **872.0** AT END OF BORING **30.0'**
 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **2** DATE STARTED **3-7-17** DATE COMPLETED **3-7-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **907.0** WHILE DRILLING **18.0'**
 END OF BORING **872.0** AT END OF BORING **30.0'**
 24 HOURS



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 4/25/2018 4:44:42 PM

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PLOT DATE = 4/25/2018	CHECKED - JJI	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS
 RETAINING WALLS ALONG MULTI-USE PATH

SHEET NO. 12 OF 17 SHEETS

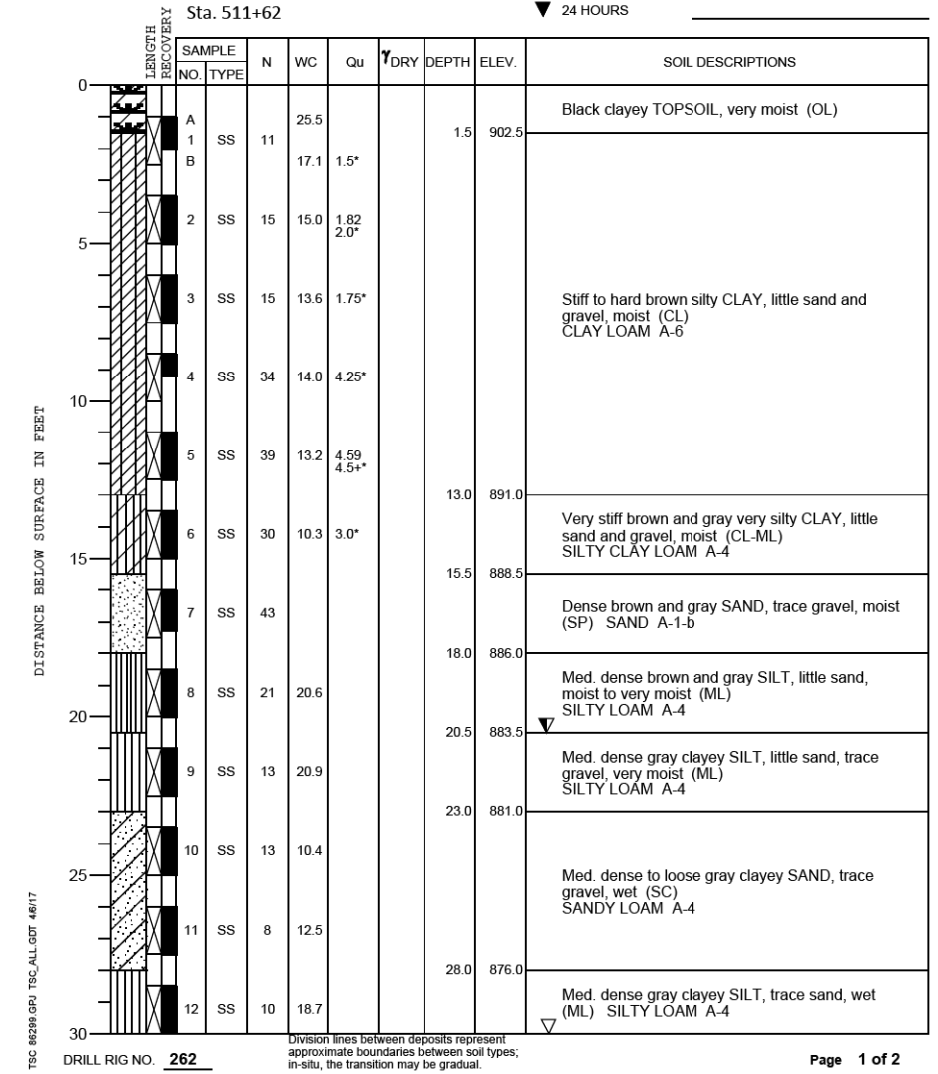
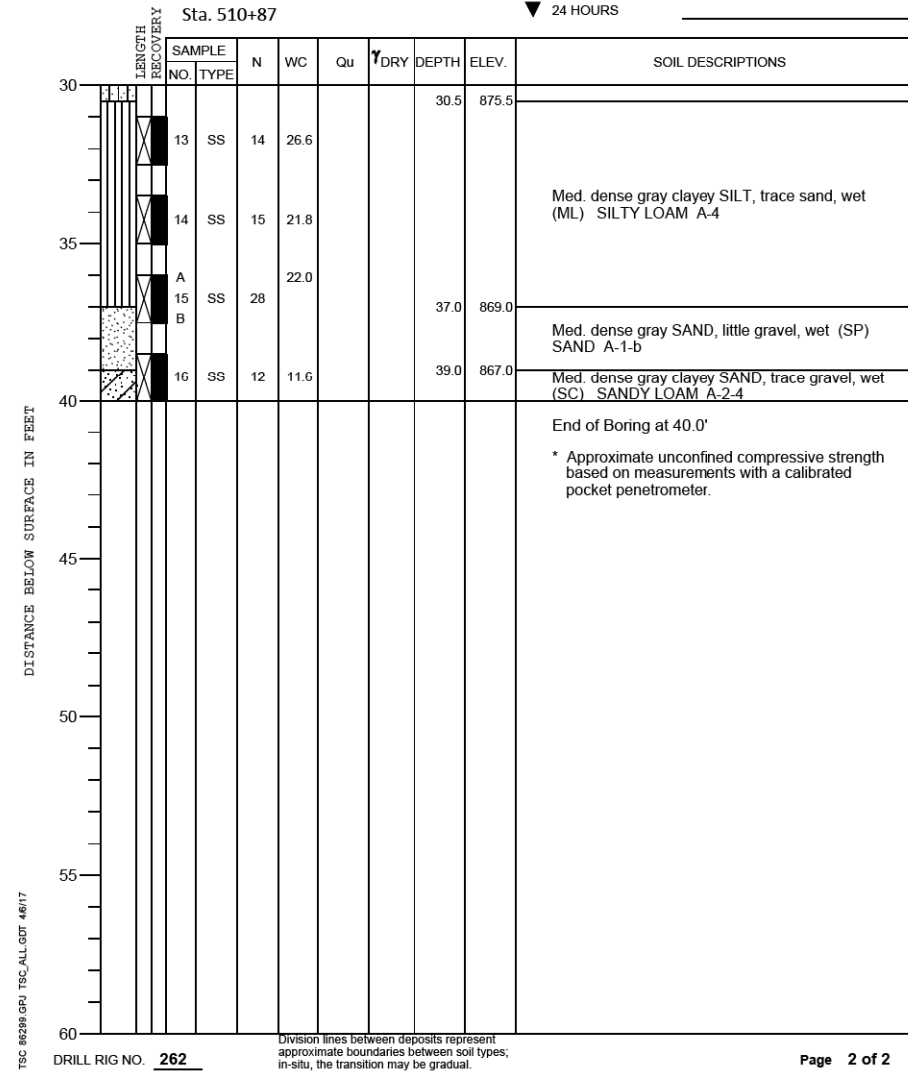
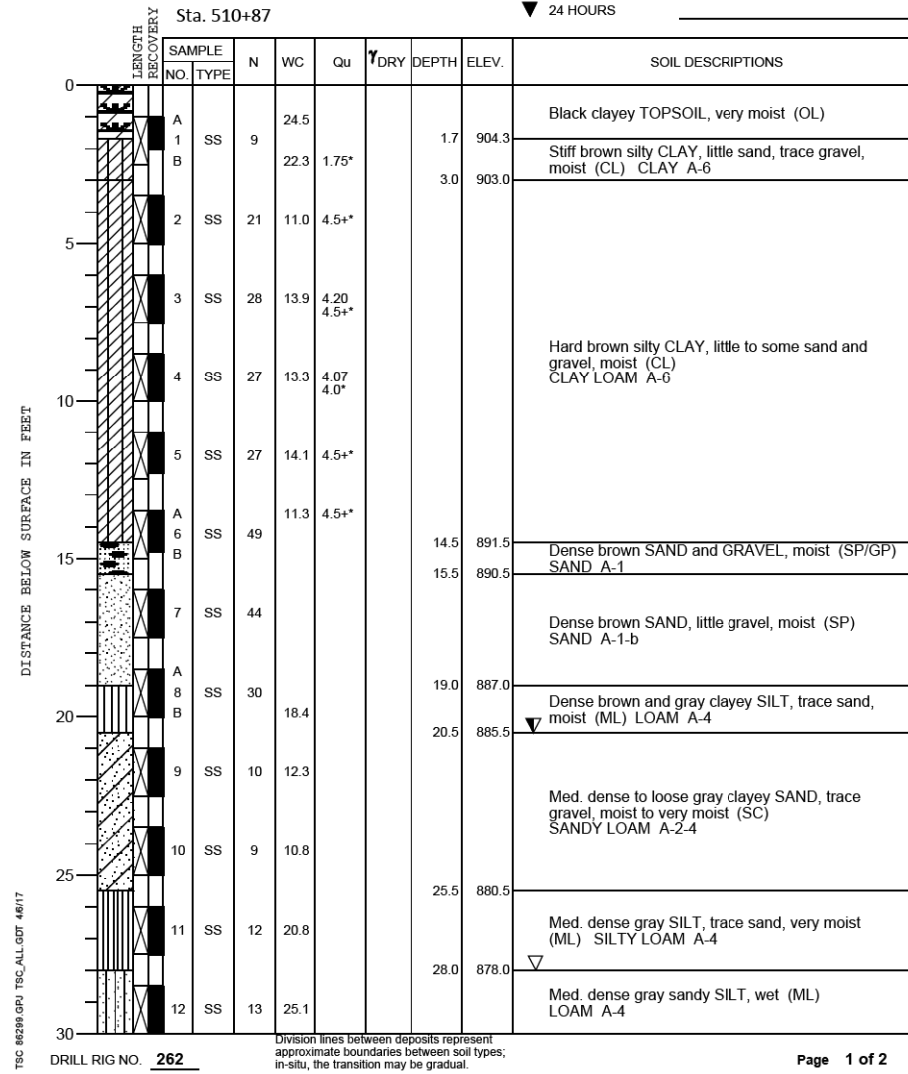
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	695
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **3** DATE STARTED **3-7-17** DATE COMPLETED **3-7-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **906.0** WHILE DRILLING **20.5'**
 END OF BORING **866.0** AT END OF BORING **28.0'**
 24 HOURS

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **3** DATE STARTED **3-7-17** DATE COMPLETED **3-7-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **906.0** WHILE DRILLING **20.5'**
 END OF BORING **866.0** AT END OF BORING **28.0'**
 24 HOURS

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **4** DATE STARTED **3-8-17** DATE COMPLETED **3-8-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **904.0** WHILE DRILLING **20.5'**
 END OF BORING **854.0** AT END OF BORING **30.0'**
 24 HOURS



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 ILLINOIS
 4/25/2018 4:44:46 PM

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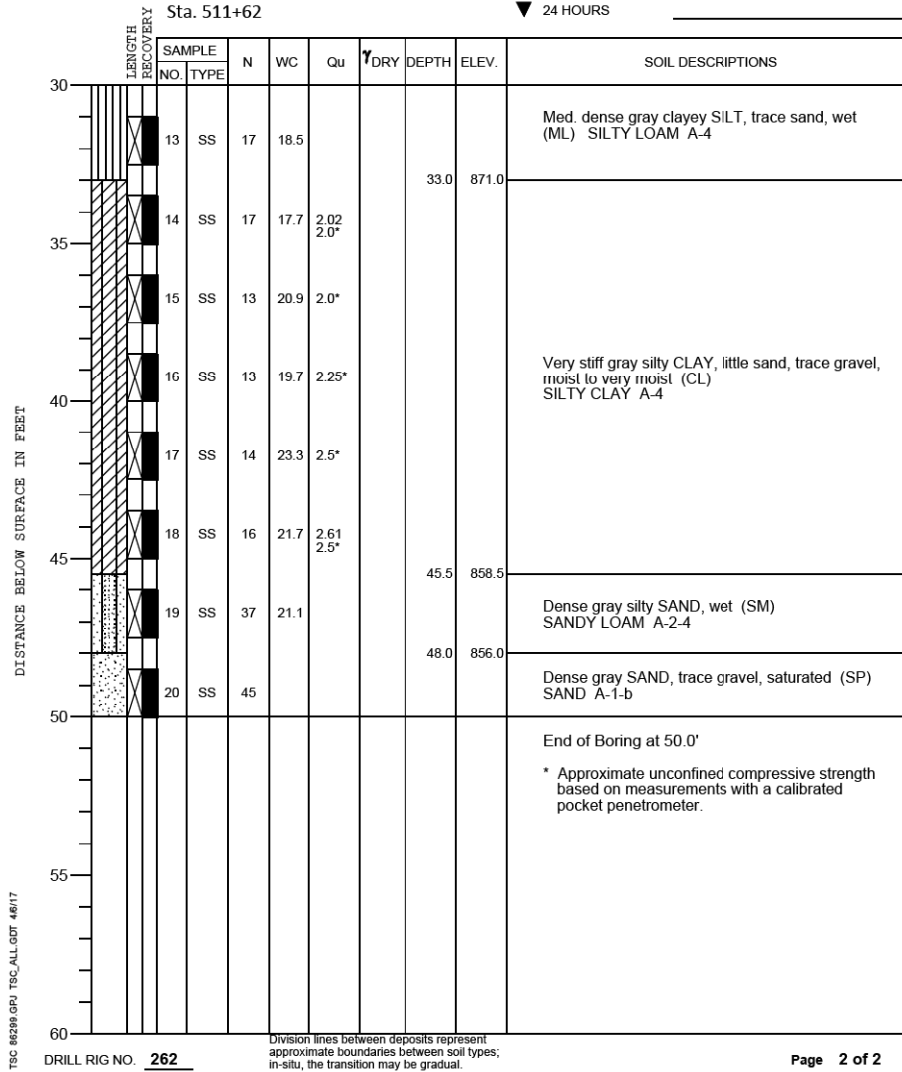
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS
 RETAINING WALLS ALONG MULTI-USE PATH

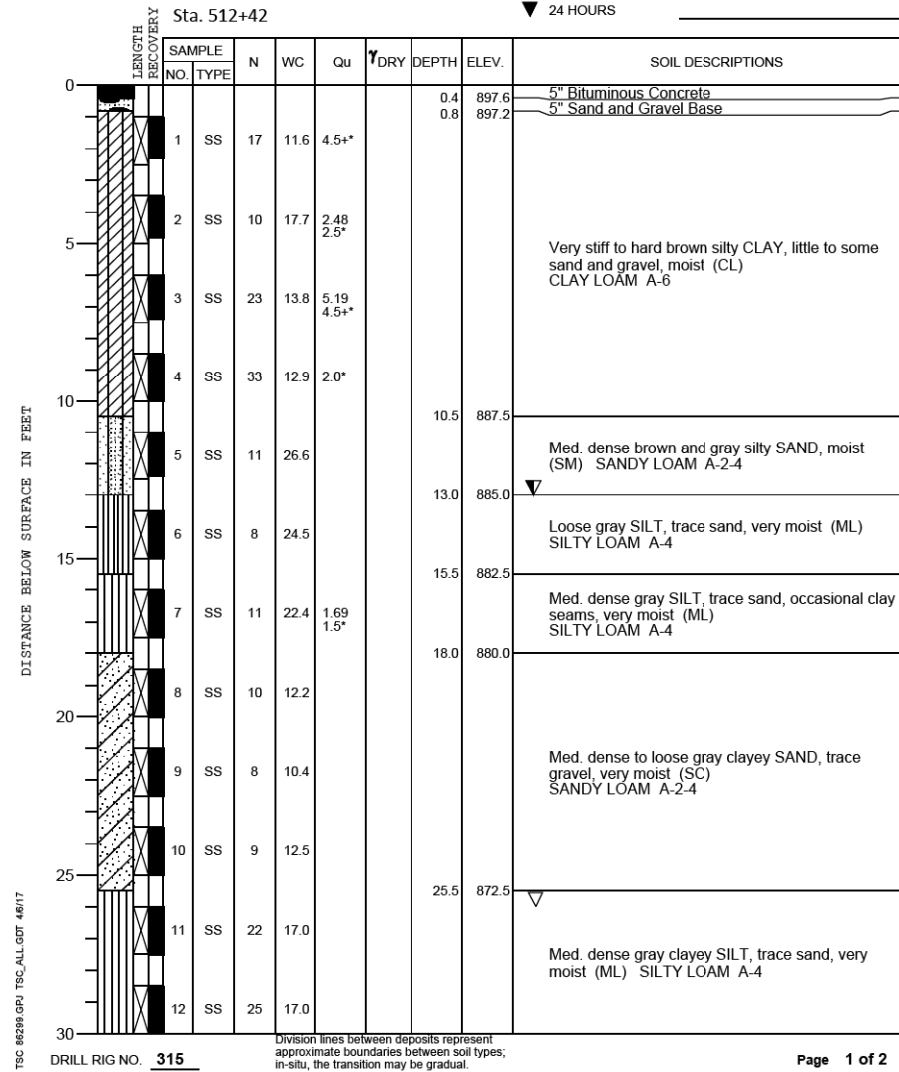
SHEET NO. 13 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 61E53				
ILLINOIS FED. AID PROJECT				

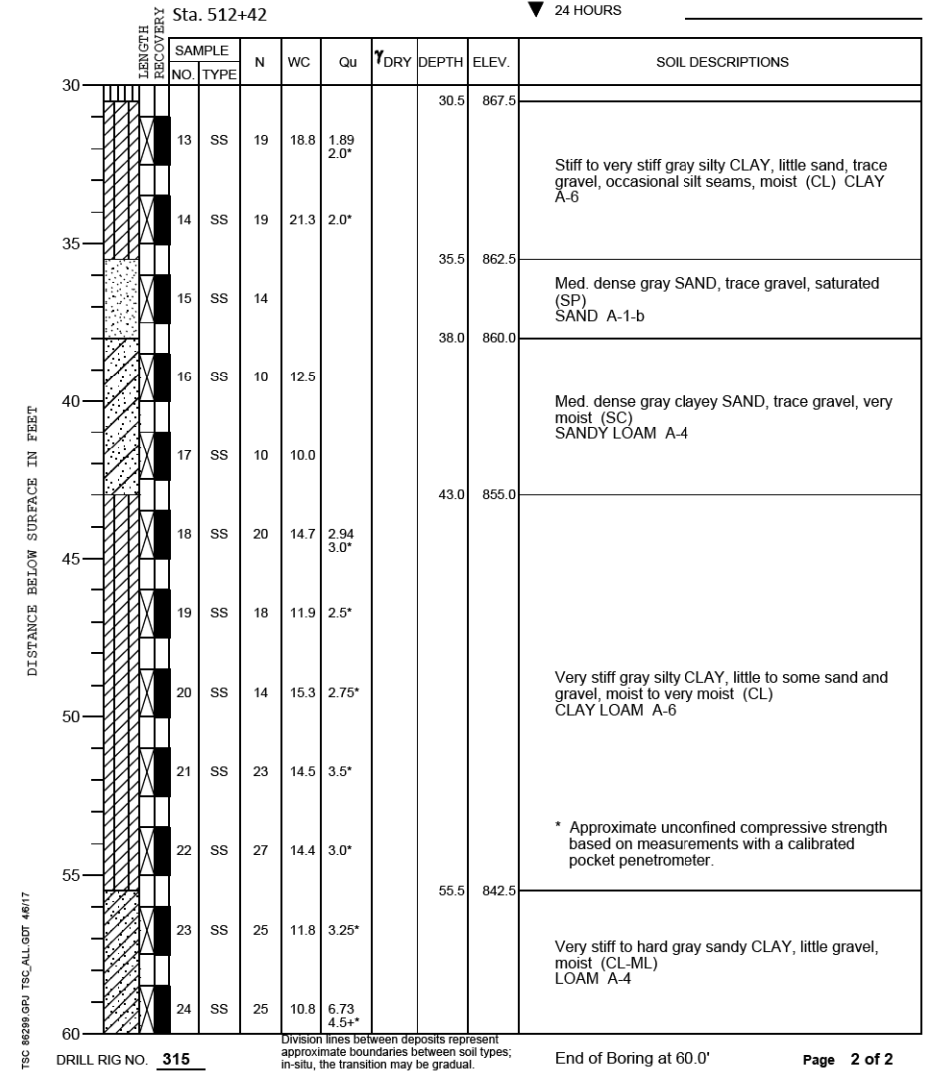
PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **4** DATE STARTED **3-8-17** DATE COMPLETED **3-8-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **904.0** WHILE DRILLING **20.5'**
 END OF BORING **854.0** AT END OF BORING **30.0'**
 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **5** DATE STARTED **3-8-17** DATE COMPLETED **3-8-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **13.0'**
 END OF BORING **838.0** AT END OF BORING **26.0'**
 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **5** DATE STARTED **3-8-17** DATE COMPLETED **3-8-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **13.0'**
 END OF BORING **838.0** AT END OF BORING **26.0'**
 24 HOURS



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS
 RETAINING WALLS ALONG MULTI-USE PATH

SHEET NO. 14 OF 17 SHEETS

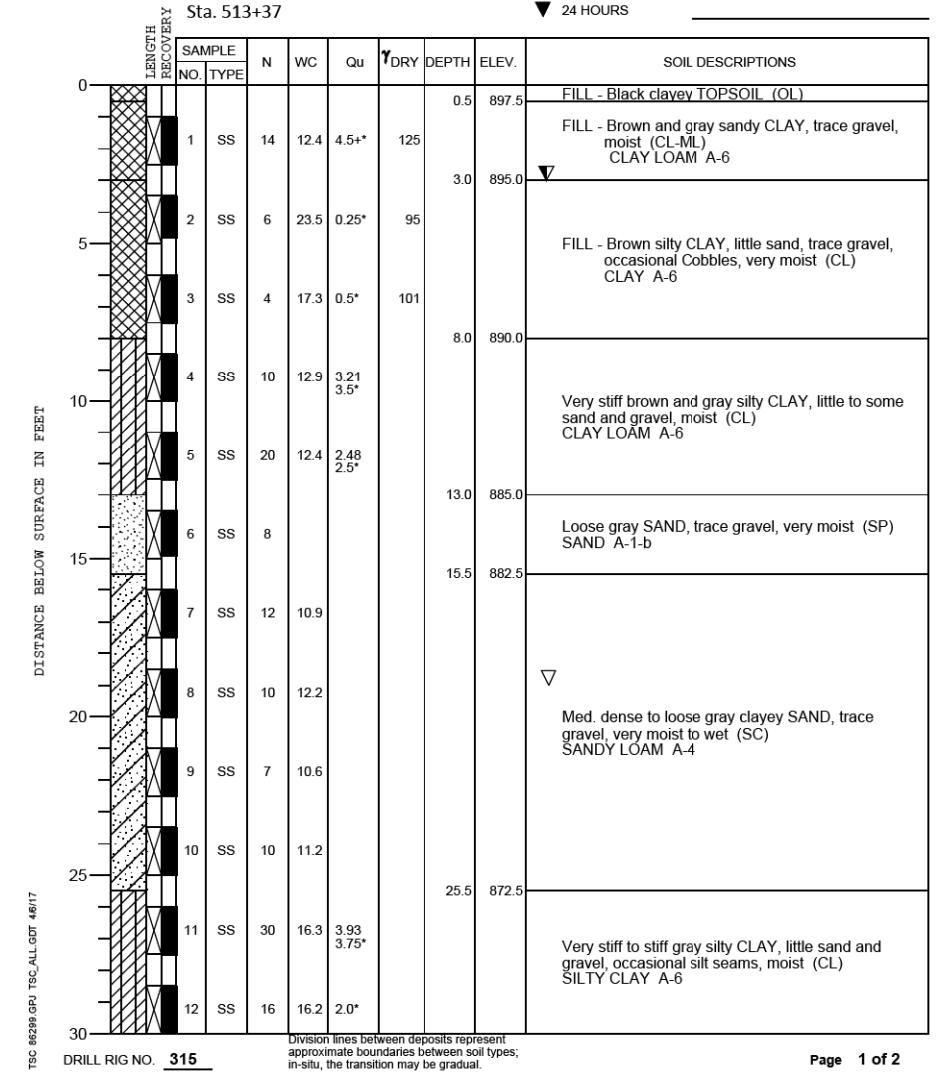
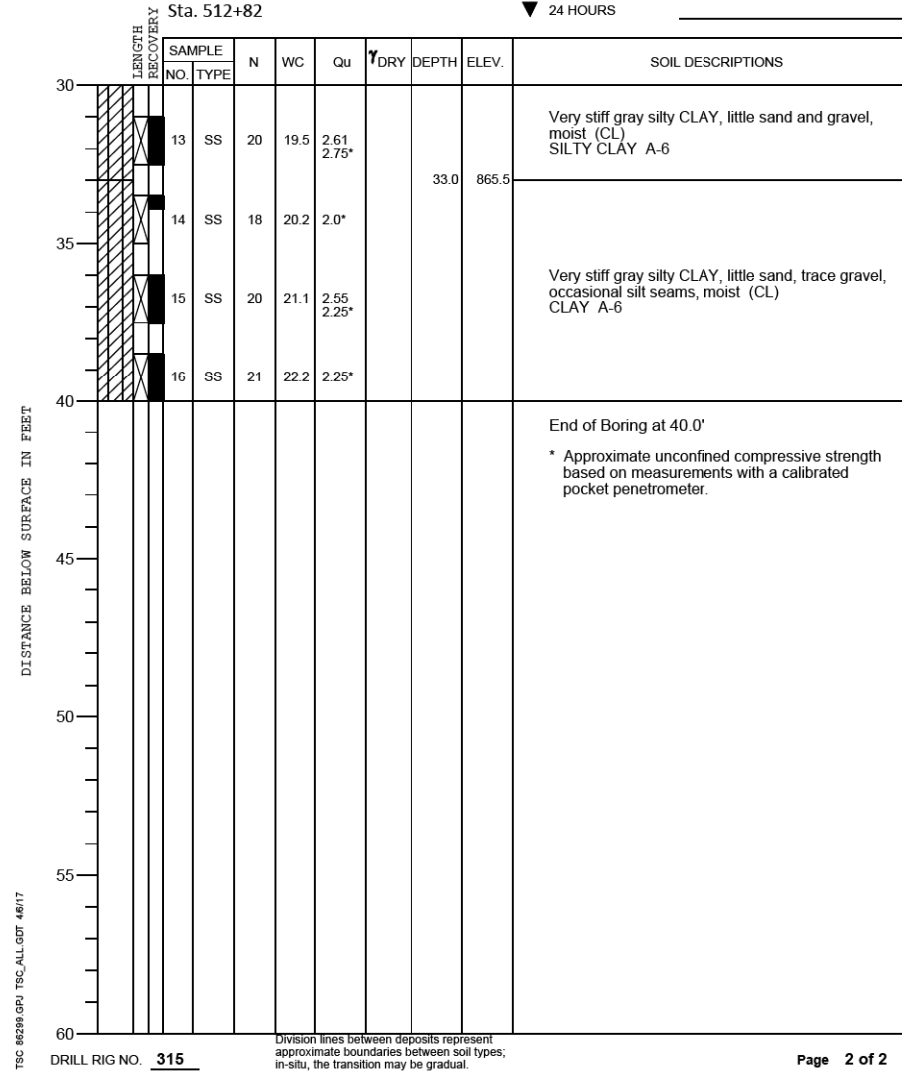
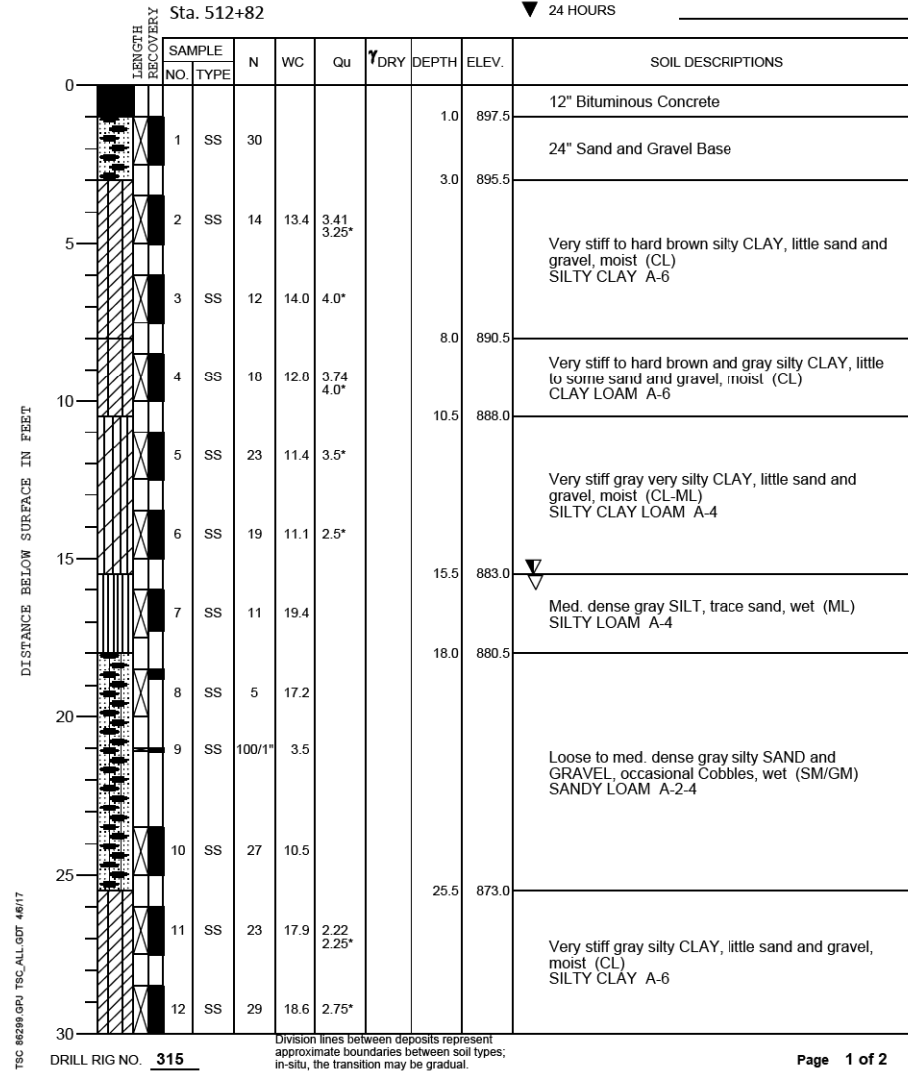
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	697
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **6** DATE STARTED **3-9-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.5** WHILE DRILLING **15.5'**
 END OF BORING **858.5** AT END OF BORING **16.0'**
 24 HOURS

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **6** DATE STARTED **3-9-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.5** WHILE DRILLING **15.5'**
 END OF BORING **858.5** AT END OF BORING **16.0'**
 24 HOURS

PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **7** DATE STARTED **3-8-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **3.0'**
 END OF BORING **838.0** AT END OF BORING **19.0'**
 24 HOURS



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

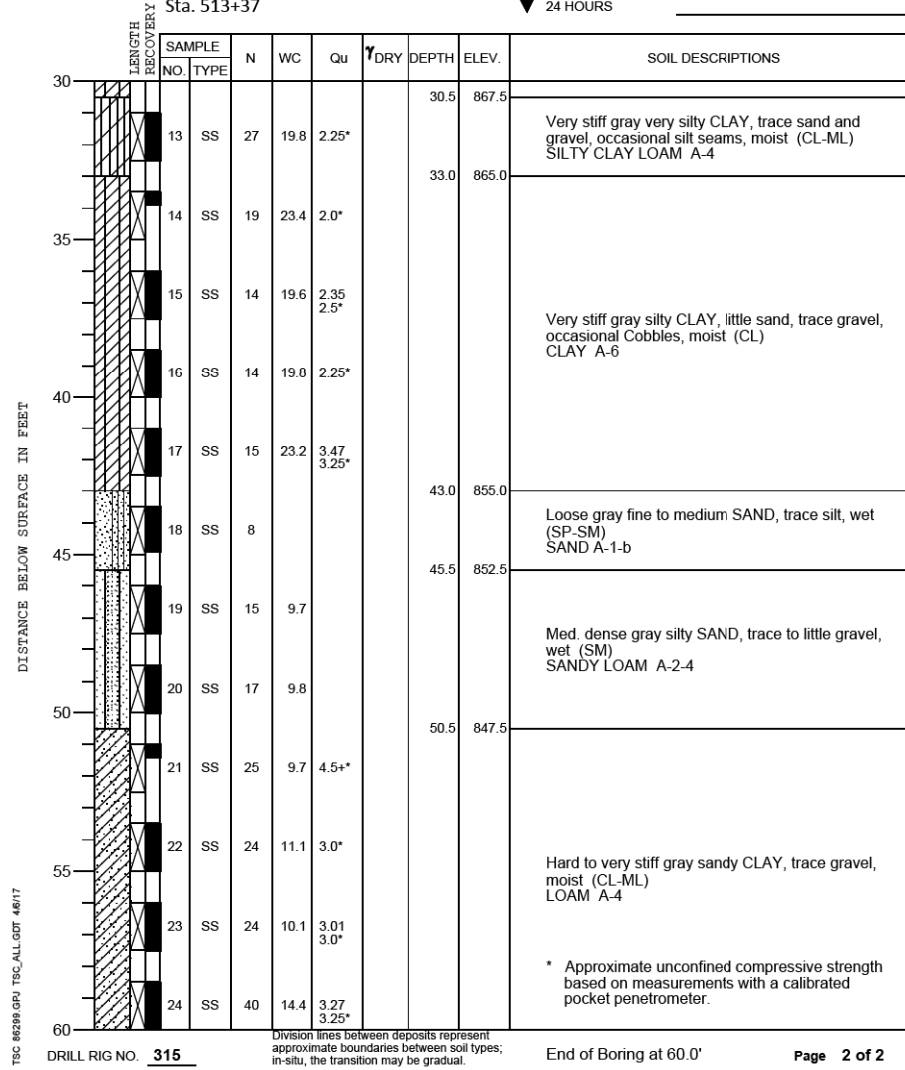
BORING LOGS
 RETAINING WALLS ALONG MULTI-USE PATH

SHEET NO. 15 OF 17 SHEETS

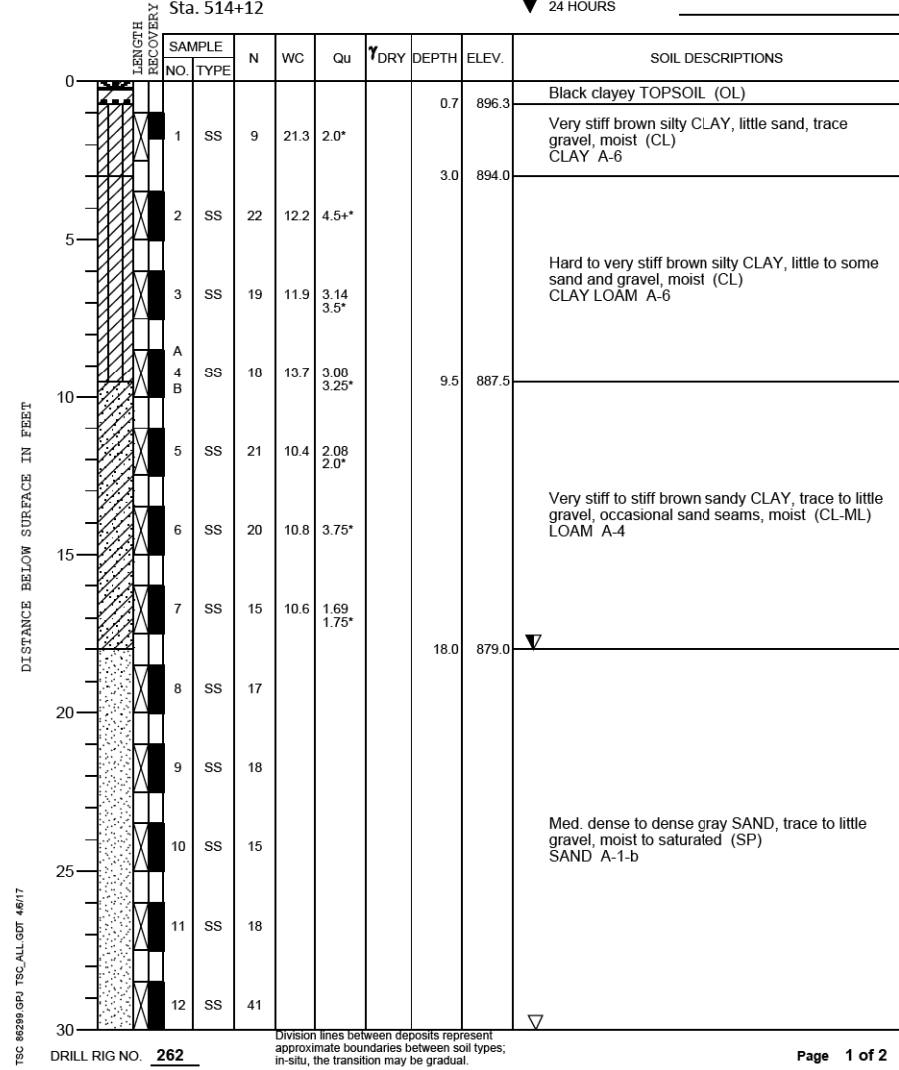
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CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

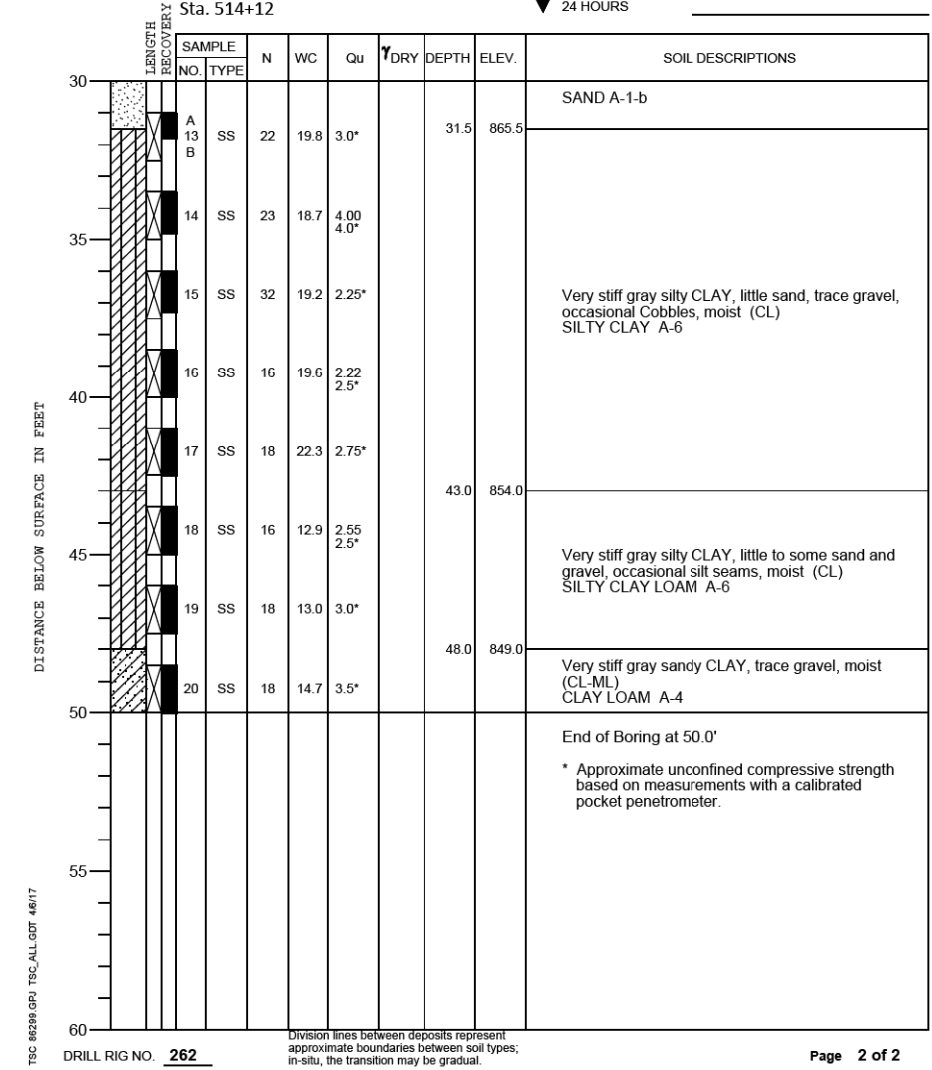
PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **7** DATE STARTED **3-8-17** DATE COMPLETED **3-9-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **898.0** WHILE DRILLING **3.0'**
 END OF BORING **838.0** AT END OF BORING **19.0'**
 Sta. 513+37 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **8** DATE STARTED **3-14-17** DATE COMPLETED **3-14-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **897.0** WHILE DRILLING **18.0'**
 END OF BORING **847.0** AT END OF BORING **30.0'**
 Sta. 514+12 24 HOURS



PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL** **TSC**
 CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**
 BORING **8** DATE STARTED **3-14-17** DATE COMPLETED **3-14-17** JOB **L-86,299**
 ELEVATIONS WATER LEVEL OBSERVATIONS
 GROUND SURFACE **897.0** WHILE DRILLING **18.0'**
 END OF BORING **847.0** AT END OF BORING **30.0'**
 Sta. 514+12 24 HOURS



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STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BORING LOGS
 RETAINING WALLS ALONG MULTI-USE PATH

SHEET NO. 16 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	699
CONTRACT NO. 61E53				

ILLINOIS FED. AID PROJECT

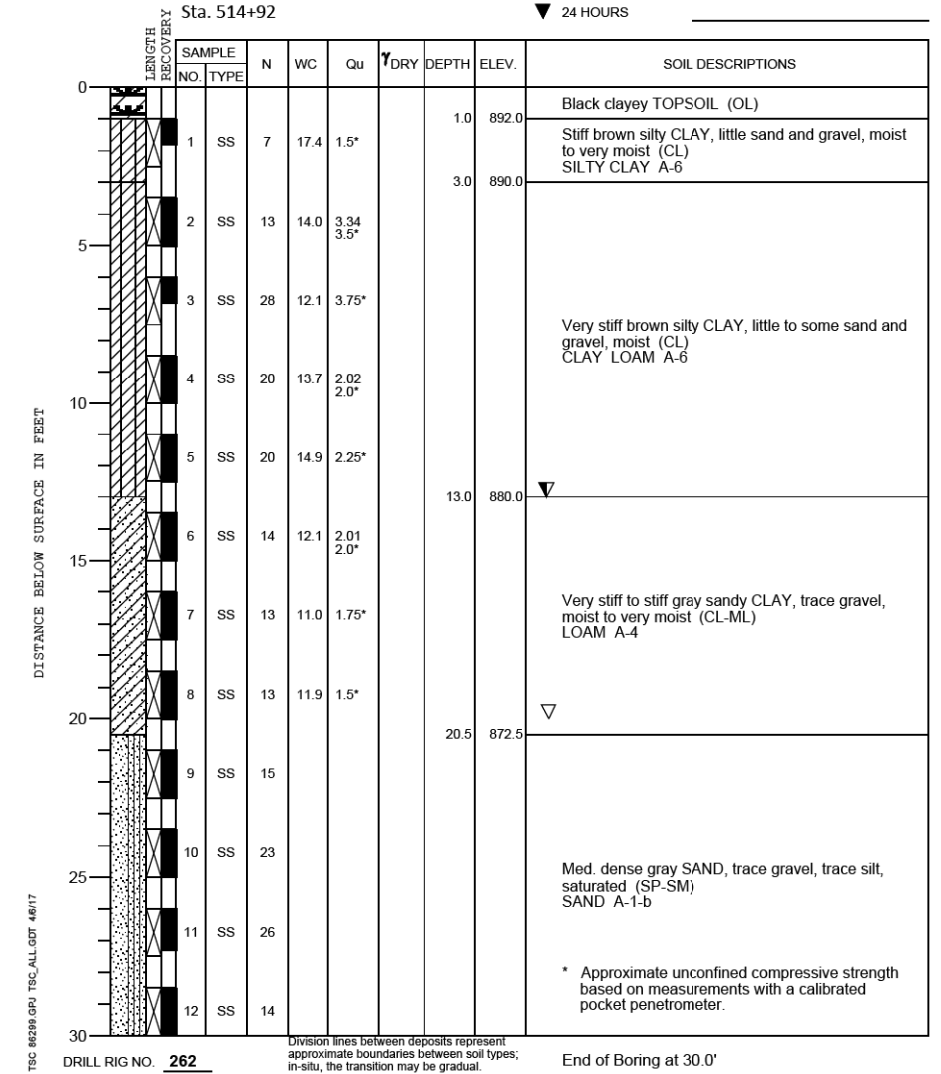
PROJECT **Proposed Pedestrian Underpass and Retaining Walls, Randall Rd, Algonquin, IL**



CLIENT **Christopher B. Burke Engineering, Ltd., 9575 West Higgins Road, Rosemont, IL**

BORING **9** DATE STARTED **3-14-17** DATE COMPLETED **3-14-17** JOB **L-86,299**

ELEVATIONS		WATER LEVEL OBSERVATIONS	
GROUND SURFACE	893.0	▽ WHILE DRILLING	13.0'
END OF BORING	863.0	▽ AT END OF BORING	20.0'
	Sta. 514+92	▽ 24 HOURS	



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PLOT SCALE = 2:0.0000' = 1"	DRAWN - GM	REVISED -
PLOT DATE = 4/25/2018	CHECKED - JJI	REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**BORING LOGS
 RETAINING WALLS ALONG MULTI-USE PATH**

SHEET NO. 17 OF 17 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	06-00329-01-PW	MCHENRY	1751	700
CONTRACT NO.			61E53	
ILLINOIS FED. AID PROJECT				