



DESIGNED	-	DJP	REVISED	-	
DRAWN	-	DJP	REVISED	-	
CHECKED	-	DJP	REVISED	-	
DATE	-	10/01/2024	REVISED	-	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
PAVEMENT MARKING PLAN - NORTH GRAND AVENUE - OVERPASS - 4

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	301
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

SEE PAVEMENT MARKINGS SHEET 1 OF 5
FOR SIGN LEGEND

SN XXX SIGN REFERENCE NUMBER.
SEE SIGN SCHELEDULE.







USER NAME = pop00275	DESIGNED - DJP	REVISED -
	DRAWN - DJP	REVISED -
PLOT SCALE = 40.00 ' / in.	CHECKED - DJP	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

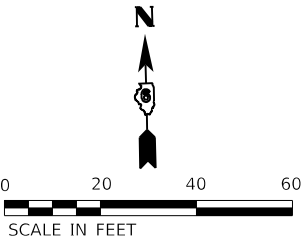
**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
PAVEMENT MARKING PLAN – WASHINGTON STREET**

SCALE:	SHEET	1	OF	1	SHEETS	STA.	TO STA.
--------	-------	---	----	---	--------	------	---------

NOTE:
W10-9 (NO TRAIN HORN) SHALL BE COVERED
OR TURNED FROM THE VIEW OF MOTORIST
AND PEDESTRIANS UNTIL QUIET ZONE
IS IMPLEMENTED.

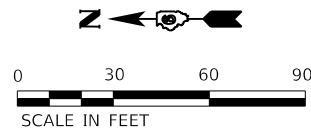
SN XXX SIGN REFERENCE NUMBER. SEE SIGN
SCHEDULE.







ILLINOIS FED. AID PROJECT



NOTES:
FOR LEGEND SEE FENCING AND ACCESS
PLAN - TRACK - SHEET 1.

MATCHLINE STATION 47688+75.00

PROPOSED RR ROW

CL UPRR MAIN 2

CL UPRR MAIN 1

47689+00

47690+00

47691+00

47692+00

47693+00

47694+00

47695+00

47696+00

ACCESS ROAD

PROPOSED RR ROW

47692+75.83
39.17' RT

47693+71.76
49.17' LT

47693+73.82
69.17' RT

47694+52.99
78.10' RT

47695+99.17
34.17' RT

47696+23.44
63.62' LT

47696+23.80
44.17' LT

NORTH GRAND AVE

PROPOSED ROW

PROPOSED RR ROW

ACCESS ROAD

10TH ST.

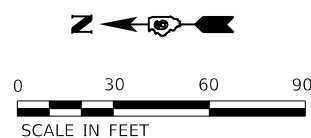
PROPOSED RR ROW

47695+99.17
80.35' RT

TEMPORARY EASEMENT
PROPOSED ROW

MATCHLINE STATION 47697+00.00

0 30
SCALE IN FEET



<div><div>FILE NAME: 12000</div></div>



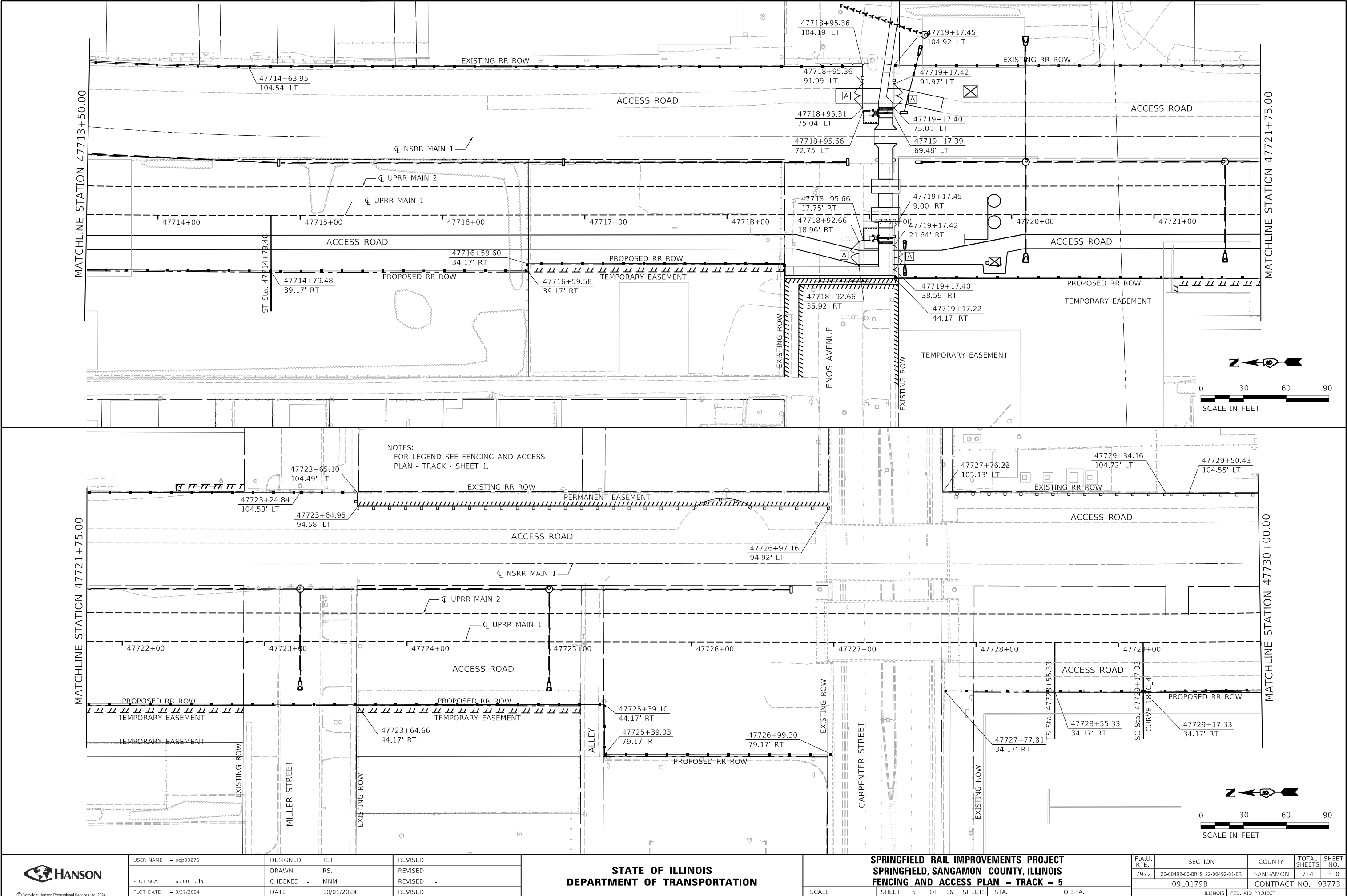
DESIGNED	-	JGT
DRAWN	-	RSJ
CHECKED	-	MNM
DATE	-	10/01/2024

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE:	SHEET 4 OF 16 SHEETS	STA.	TO STA.
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	309
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

MODEL: SHF-Fence-Track-30-6
FILE: I:\AutoCAD\Projects\Springfield\Springfield\09\09\01\79B\SHF-Fence-Track-Double30.dgn





USER NAME = pop00275	DESIGNED - JGT	REVISED -
	DRAWN - RSJ	REVISED -
PLOT SCALE = 60.00 ' / in.	CHECKED - MNM	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

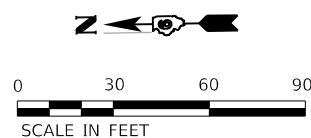
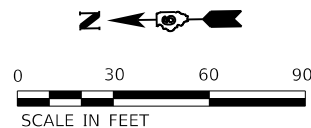
**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
FENCING AND ACCESS PLAN – TRACK – 6**

SCALE:	SHEET 6 OF 16 SHEETS	STA.	TO STA.		ILLINOIS	FED. AID PROJECT
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F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	311
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		





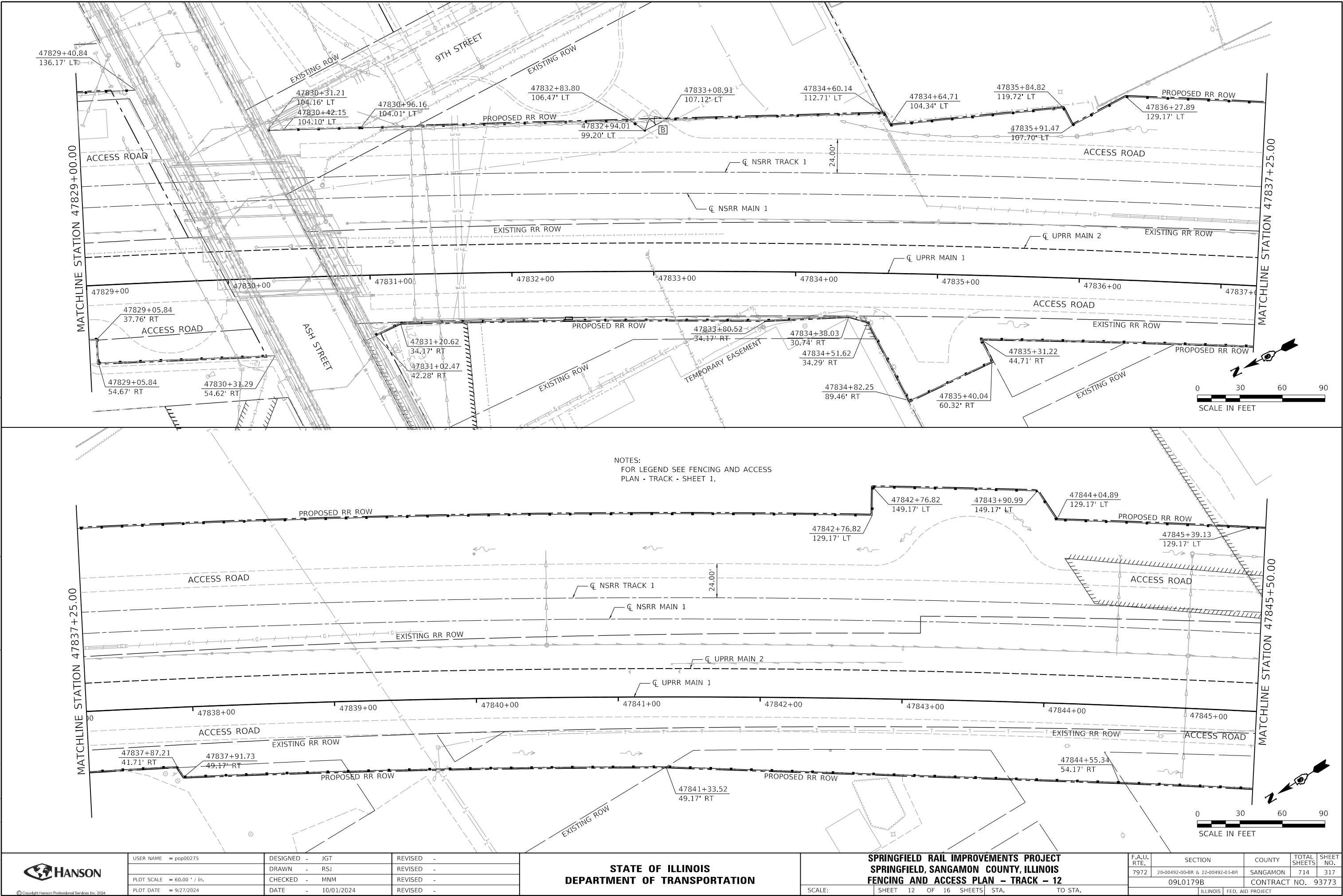


NOTES:
FOR LEGEND SEE FENCING AND ACCESS
PLAN - TRACK - SHEET 1.

 © Copyright Hanson Professional Services Inc. 2024	USER NAME = pop00275	DESIGNED - JGT	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SPRINGFIELD RAIL IMPROVEMENTS PROJECT SPRINGFIELD, SANGAMON COUNTY, ILLINOIS FENCING AND ACCESS PLAN – TRACK – 9					F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RSJ	REVISED -							7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	314
	PLOT SCALE = 60.00' / in.	CHECKED - MNM	REVISED -		SCALE: SHEET 9 OF 16 SHEETS STA. TO STA.					09L0179B CONTRACT NO. 93773				
	PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -											



MODEL: SHFT-Fence-Track-20-13
FILE: hanson\paw\transmission\paw\hanson\paw\09\01\798\Usable_Segments_III_1-V_VUCAD\RailUsable_Segment_VI_IDOT\SheetD609.01798-SHFT-Fence-Track-Double20.dgn



NOTES:
FOR LEGEND SEE FENCING AND ACCESS
PLAN - TRACK - SHEET 1.



USER NAME	= pop00275
DESIGNED	- JGT
DRAWN	- RSJ
PLOT SCALE	= 60.00' / in.
PLOT DATE	= 9/27/2024

REVIS	-
REVIS	-
REVIS	-
REVIS	-

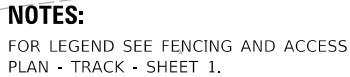
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
FENCING AND ACCESS PLAN - TRACK - 12

SCALE: SHEET 12 OF 16 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	317
	09L0179B			CONTRACT NO. 93773
	ILLINOIS	FED. AID PROJECT		







STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:	SHEET 15 OF 16 SHEETS	STA.	TO STA.
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DESIGNED -	JGT
DRAWN -	RSJ
CHECKED -	MNM
DATE -	10/01/2024

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
FENCING AND ACCESS PLAN – TRACK – 16**

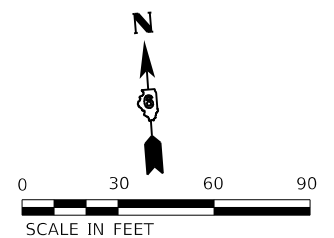
SCALE:	SHEET 16 OF 16 SHEETS	STA.	TO STA.
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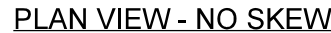
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	321
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

NOTES:
ATTACH 1 ROAD CLOSED RII-2 (48X30) AND 2 OM4-3 (18X18) SIGNS
TO EACH GATE.

CORE 18" DIA. HOLE IN EXISTING PAVEMENT FOR GATE POSTS,
BACKFILL CONCRETE AND BRING FLUSH WITH EXISTING PAVEMENT.
COST INCLUDED IN CONTRACT PRICE FOR GATE, SPECIAL 6'
(16' DOUBLE SWING GATE).

FOR LEGEND SEE FENCING AND ACCESS PLAN - TRACK - SHEET 1.





1. FINAL DIMENSIONS DETERMINED IN FIELD DUE TO VARIABILITY OF LOCATIONS AND FIELD CONDITIONS.
2. THE AUGERING OF HOLES AND PLACEMENT OF A 12" DIAMETER SONOTUBE FOR THE ESCAPE GATE STOP POST AND A 18" DIAMETER SONOTUBE FOR THE ESCAPE GATE POST SHALL BE PERFORMED BY CONTRACTOR TO A MINIMUM DEPTH OF 42" BELOW GRADE TO ELIMINATE POTENTIAL DAMAGE TO SIGNAL CABLE DURING ESCAPE GATE POST INSTALLATIONS.
3. CONTRACTOR TO COORDINATE WITH UP SIGNAL TO AVOID UNDERGROUND CABLE PLACEMENT IN THE VICINITY OF THE FENCE POSTS & SIGNS.

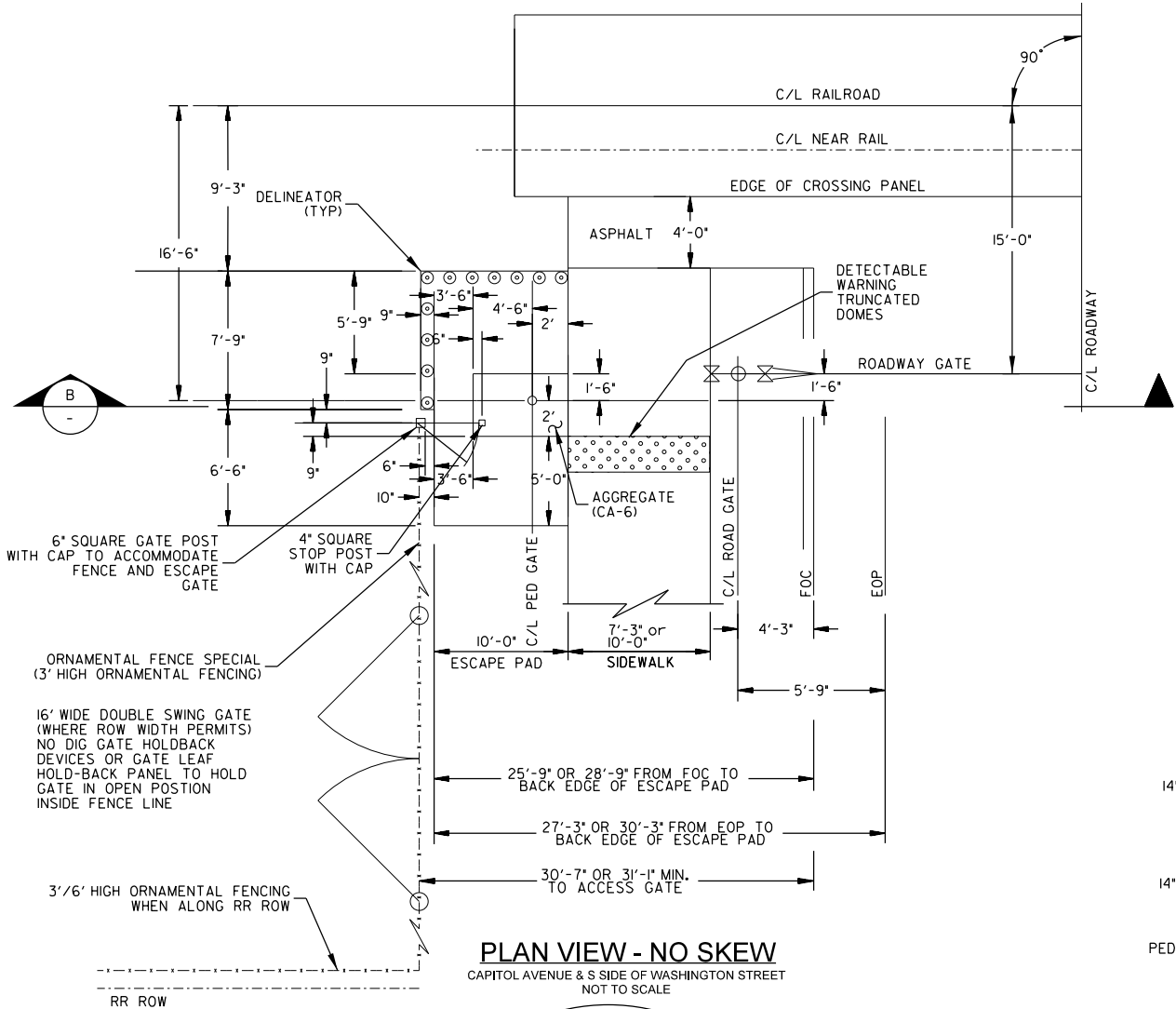


<div>HANSON</div> <div>© Copyright Hanson Professional Services, Inc. 2024</div>	USER NAME = pop00275	DESIGNED - JGT	REVISED -	<div>STATE OF ILLINOIS</div> <div>DEPARTMENT OF TRANSPORTATION</div>	<div>SPRINGFIELD RAIL IMPROVEMENTS PROJECT</div> <div>SPRINGFIELD, SANGAMON COUNTY, ILLINOIS</div> <div>FENCING DETAILS – 1</div>					F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 2.00' / in.	DRAWN - RSJ	REVISED -							7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	322
	PLOT DATE = 10/24/2024	CHECKED - MNM	REVISED -		09L0179B					CONTRACT NO. 93773				
		DATE - 10/01/2024	REVISED -		SCALE:	SHEET 1 OF 11 SHEETS	STA.	TO STA.	ILLINOIS	FED. AID PROJECT				

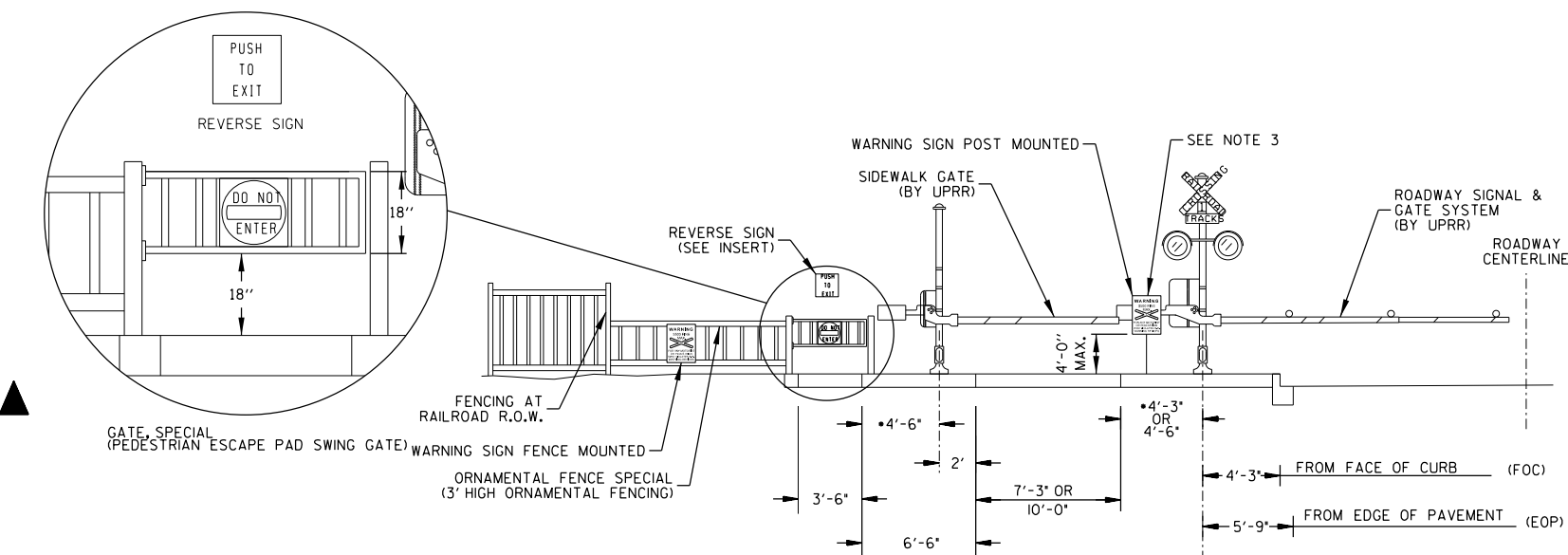
MODEL: Sheet 1a
FILE: hanson\csw-bentley.com\hanson\pwp-c11\documents\09\09\01\1798\Usable_Segments_VI - IDOT\Sheet\0609.01\798-sht-FenceDetails-Track.dgn

NOTES:

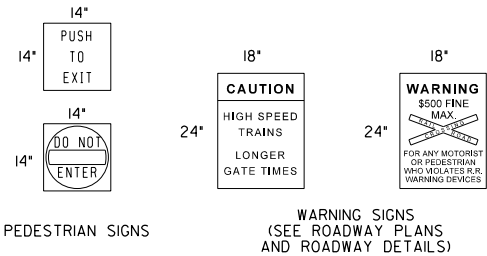
- FINAL DIMENSIONS DETERMINED IN FIELD DUE TO VARIABILITY OF LOCATIONS AND FIELD CONDITIONS.
- THE AUGERING OF HOLES AND PLACEMENT OF A 12" DIAMETER SONOTUBE FOR THE ESCAPE GATE STOP POST AND A 18" DIAMETER SONOTUBE FOR THE ESCAPE GATE POST SHALL BE PERFORMED BY CONTRACTOR TO A MINIMUM DEPTH OF 42" BELOW GRADE TO ELIMINATE POTENTIAL DAMAGE TO SIGNAL CABLE DURING ESCAPE GATE POST INSTALLATIONS.
- CONTRACTOR TO COORDINATE WITH UP SIGNAL TO AVOID UNDERGROUND CABLE PLACEMENT IN THE VICINITY OF THE FENCE POSTS & SIGNS.



PLAN VIEW - NO SKEW
CAPITOL AVENUE & S SIDE OF WASHINGTON STREET
NOT TO SCALE

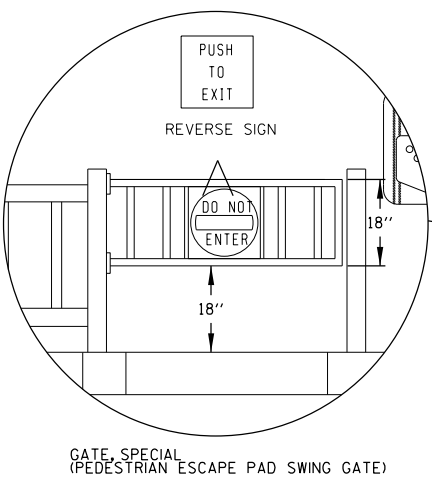


SECTION B-B
PEDESTRIAN VIEW AT EXIT GATE - TRAIN APPROACHING
ROADWAY AND 7'-8" OR 10'-0" WIDE PEDESTRIAN CROSSING

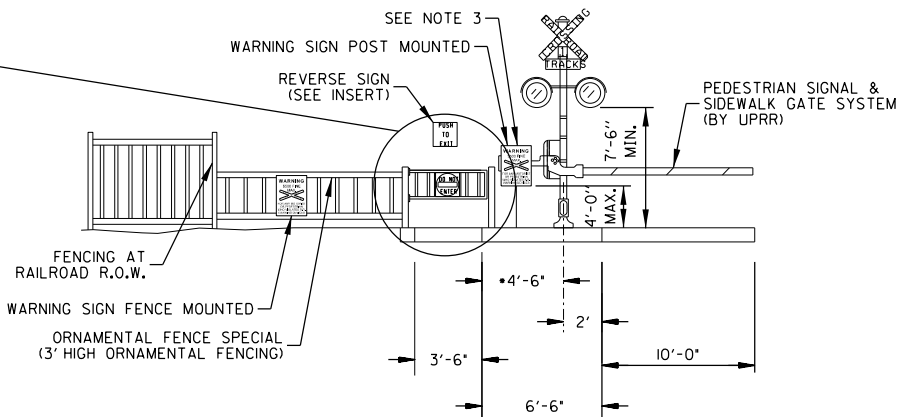


PEDESTRIAN SIGNS

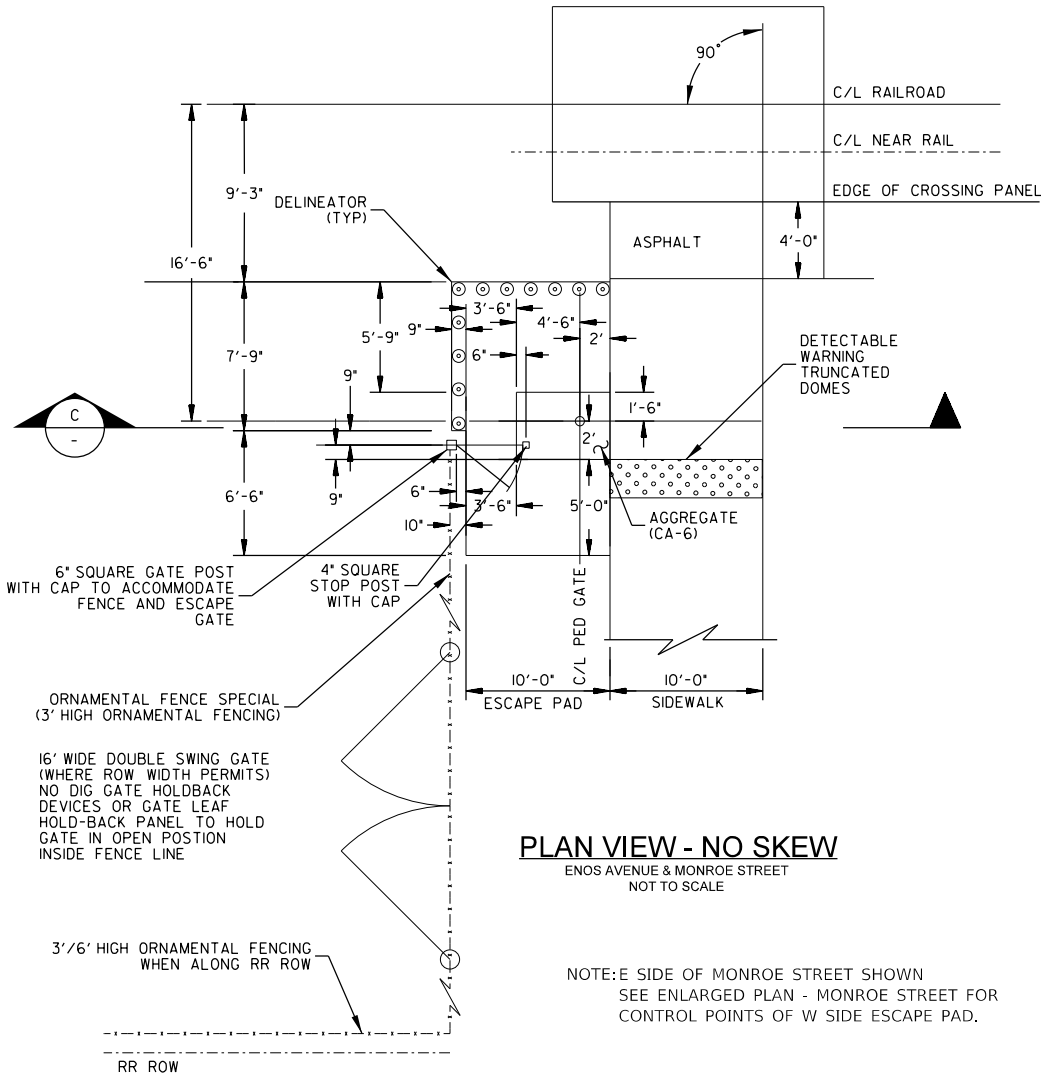
WARNING SIGNS
(SEE ROADWAY PLANS
AND ROADWAY DETAILS)



GATE, SPECIAL
(PEDESTRIAN ESCAPE PAD SWING GATE)



SECTION C-C
PEDESTRIAN VIEW AT EXIT GATE - TRAIN APPROACHING
10'-0" PEDESTRIAN CROSSING



PLAN VIEW - NO SKEW
ENOS AVENUE & MONROE STREET
NOT TO SCALE

NOTE: E SIDE OF MONROE STREET SHOWN
SEE ENLARGED PLAN - MONROE STREET FOR
CONTROL POINTS OF W SIDE ESCAPE PAD.



USER NAME = pop00275	DESIGNED - JGT	REVISED -
	DRAWN - RSJ	REVISED -
PLOT SCALE = 2.00' / in.	CHECKED - MNM	REVISED -
PLOT DATE = 10/24/2024	DATE - 10/01/2024	REVISED -

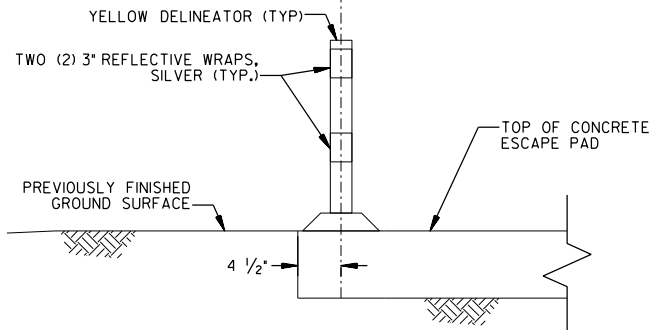
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
FENCING DETAILS - 2

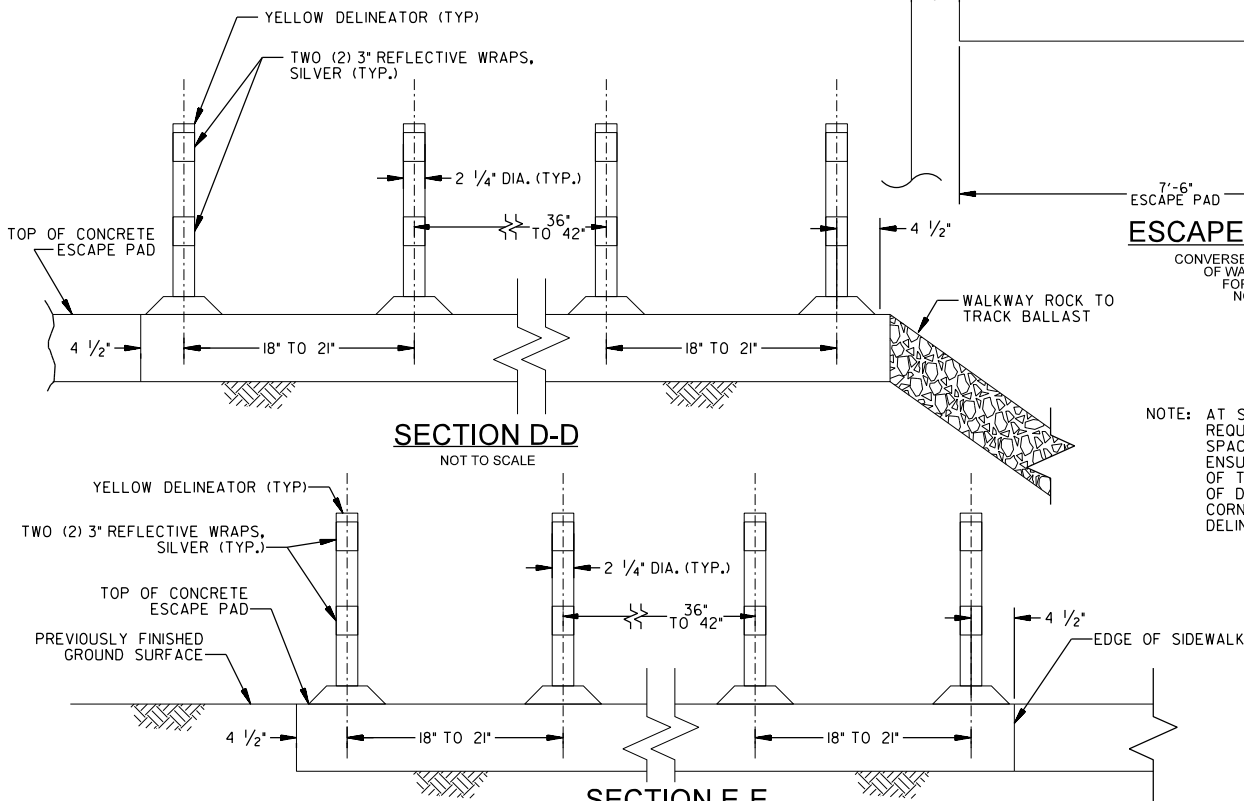
SCALE: SHEET 2 OF 11 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	323
	09L0179B			CONTRACT NO. 93773
	ILLINOIS	FED. AID PROJECT		

MODEL: Sheet 2
FILE: h:\bentley\pwworking\hanson-cpw\cadd\09\09\01\1798\1798-usable\Segments III - V - VUCAD\Rail\Usable_Segment VI - IDOT\Sheet\0609.01\798-sh-fenceDetails-Track.dgn



SECTION F-F
NOT TO SCALE



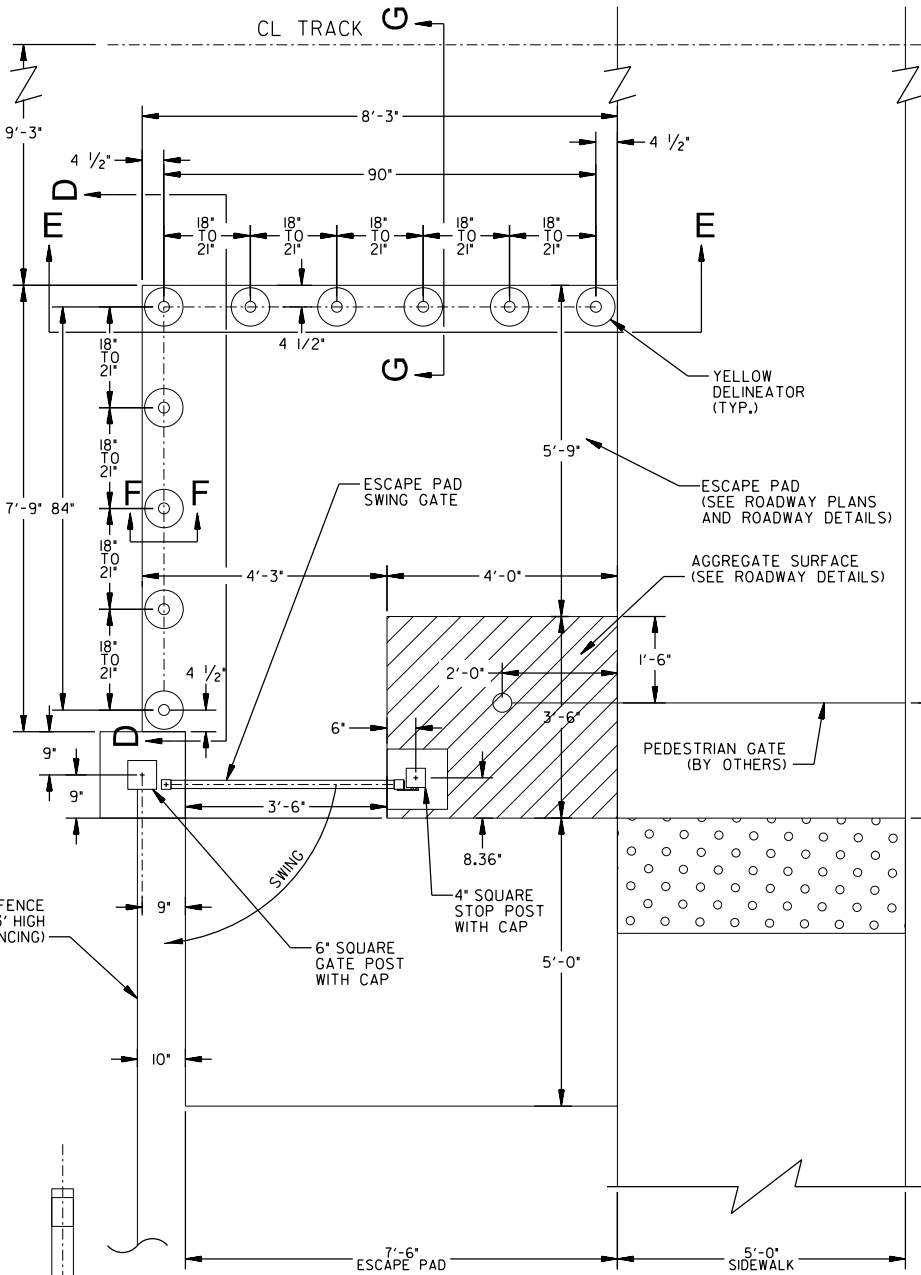
SECTION D-D
NOT TO SCALE

SECTION E-E
NOT TO SCALE

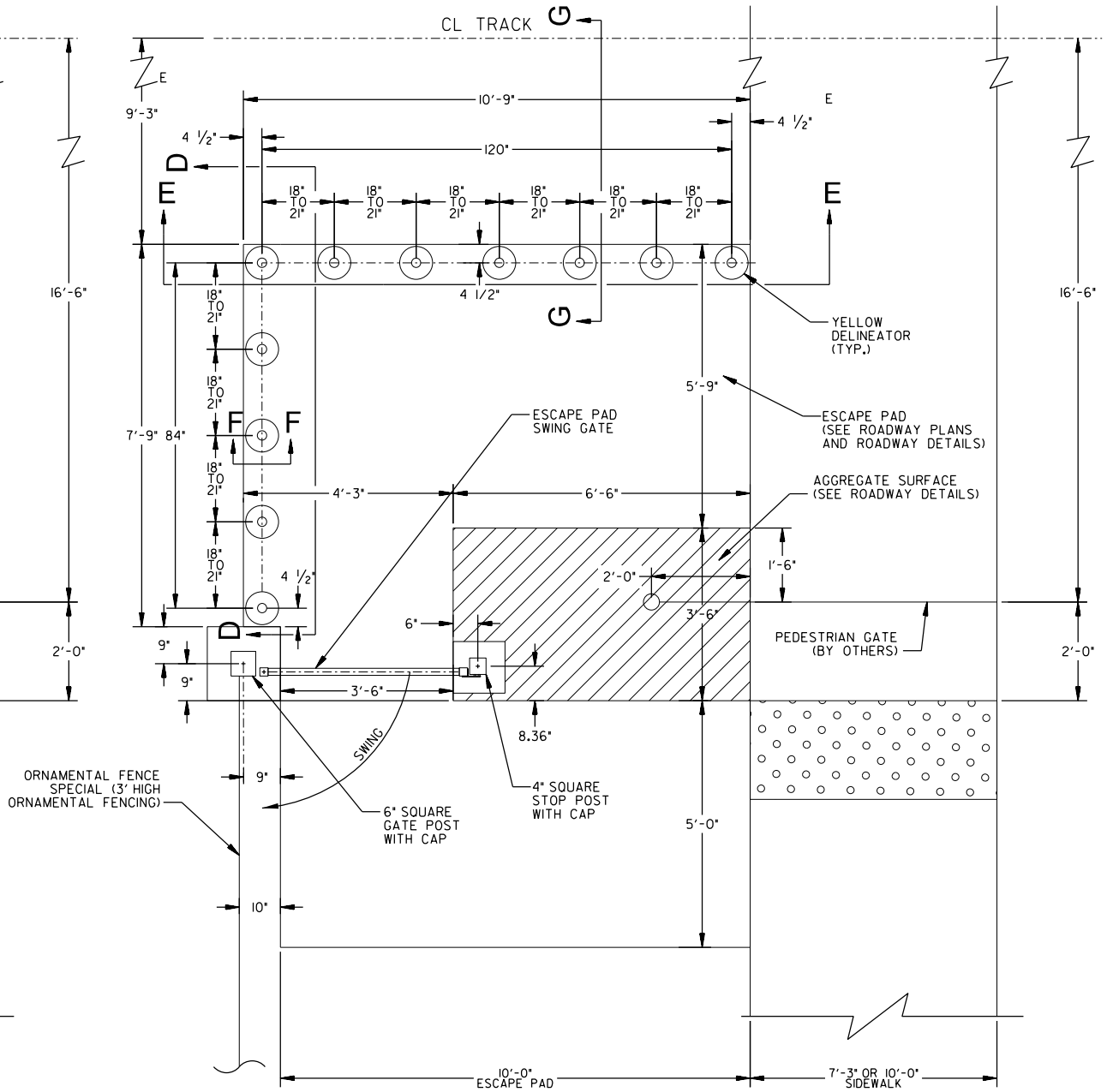
ORNAMENTAL FENCE
SPECIAL (3' HIGH
ORNAMENTAL FENCING)



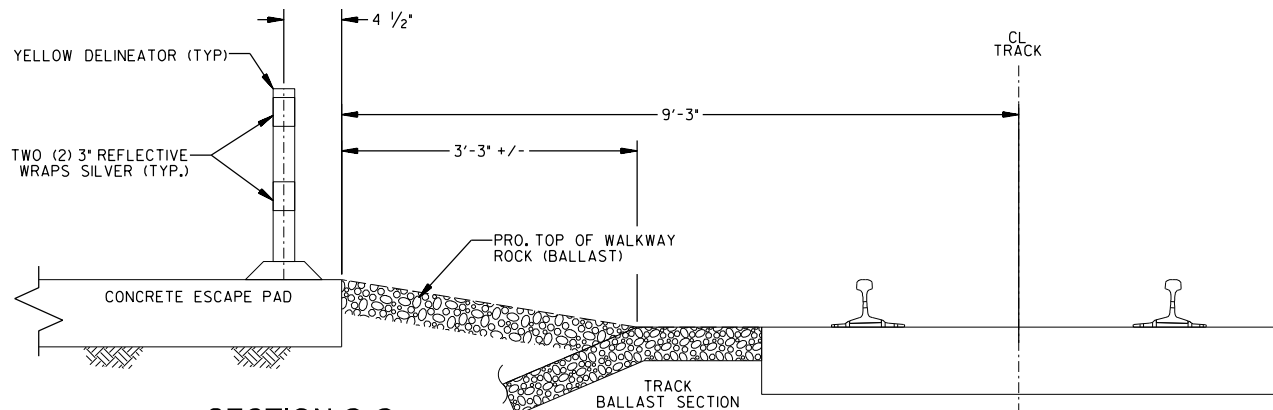
NOTE: AT SKEWED CROSSINGS THE NUMBER OF DELINEATORS REQUIRED WILL VARY. DELINEATORS TO BE EQUALLY SPACED ALONG THE OUTSIDE EDGE OF THE ESCAPE PAD. ENSURE THAT A DELINEATOR IS LOCATED IN THE CORNER OF THE ESCAPE PAD AS SHOWN ABOVE. THE REMAINDER OF DELINEATORS TO BE EQUALLY SPACED BETWEEN THIS CORNER DELINEATOR AND THE BEGINNING AND ENDING DELINEATORS, NOT TO EXCEED TWENTY-ONE (21) INCHES.



ESCAPE PAD/90° SKEW
CONVERSE STREET & NORTH SIDE
OF WASHINGTON STREET
FOR 5'-0\"/>



ESCAPE PAD/90° SKEW
CAPITOL AVENUE, SOUTH SIDE OF WASHINGTON STREET,
ENOS AVENUE AND EAST SIDE OF MONROE STREET
FOR 7'-3\"/>



SECTION G-G
NOT TO SCALE



USER NAME = pop00275
PLOT SCALE = 2.00' / in.
PLOT DATE = 10/24/2024

DESIGNED - JGT
DRAWN - RSJ
CHECKED - MNM
DATE - 10/01/2024

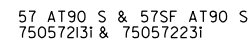
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
FENCING DETAILS - 3

SCALE: SHEET 3 OF 11 SHEETS STA. TO STA.

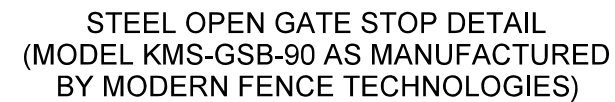
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	324
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		



NOT TO SCALE


$$\frac{4}{-}$$

NOT TO SCALE

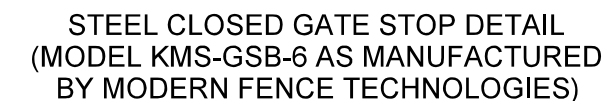


NOT TO SCALE

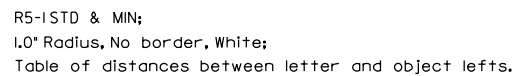
NOTE:
D&D TECHNOLOGIES FLUSH MOUNT SURECLOSE HINGE
AND SURECLOSE FLUSH MOUNT POST MOUNTING BRACKET
TO BE INSTALLED PER MANUFACTURES RECOMMENDATIONS.

CLOSED GATE STOP (MODEL KMS-CSB-6) TO BE FULLY MOUNTED TO GATE ENDS WITH 5*16" X 1" SUPER-TEK ZINC PLATED SELF-TAPPING SCREWS COATED WITH A XYLAN COATING.

OPEN GATE STOP (MODEL KMS-GSB-90) TO BE FULLY MOUNTED TO GATE POST WITH #14 X 1" SQ. SOC PANCAKE HEAD TEK3 SS2 STEEL ZC SELF-TAPPING SCREWS WITH A XYLAN COATING.



NOT TO SCALE



0.4	DO NOT ENTER	0.3
-----	--------------	-----

3.4"

7.3"

3.3"

SIGN PANEL TO BE 3290 SILVER 3M
ENGINEER GRADE BACKGROUND ON
0.125" SHEET ALUMINUM

FONT TYPE:
B LETTERING

0.3" INDENT

ROUND ALL
CORNERS TO 1" RADIUS

1.5"

3.5"

1"

2"

1"

3.5"

1.5"

PUSH
TO
EXIT

COPY COLOR: BLACK
3M *SCOTCHCAL PLUS*
NON-REFLECTIVE OR
3M PROCESSED INK

BACKGROUND
COLOR:
REFLECTIVE WHITE

0.375" SQ. HOLE (TYP.)
(TOP AND BOTTOM)

14"

14"

4.64"

4.72"

1"

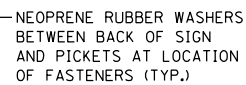
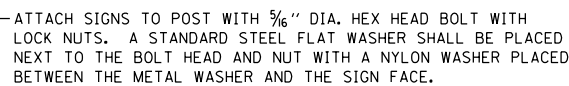
1"

	P	U	S	H	
3.4	1.9	2.0	1.9	1.5	3.3

6.0	T	O	6.0
-----	---	---	-----

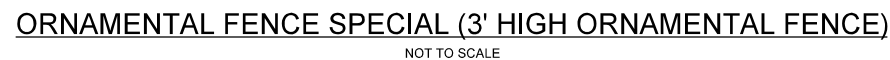
	E	X	I	T	
4.1	1.6	2.1	0.9	1.3	4.0

NOT TO SCALE



NOT TO SCALE

- NOTES:
- 1.) TWO (2) EACH PICKETS TO BE DRILLED WITH TWO (2) HOLES EACH FOR MOUNTING TAMPER-PROOF FASTENERS. CONTRACTOR TO APPLY ENGINEER APPROVED SURFACE COATING PRODUCT TO DRILLED HOLES.
 - 2.) SIGNS TO BE MOUNTED WITH FOUR (4) TAMPER-PROOF STAINLESS STEEL ONE-WAY FASTENERS, ENGINEER APPROVED NEOPRENE WASHERS TO BE PLACED BETWEEN SIGN SURFACES AND PICKETS PRIOR TO INSTALLATION OF FASTENERS.



DRAIN

TO

R.O.W. LIMITS

10"

10"

72" (MAXIMUM)

60"

17 3/4"

8"

96 1/2" +/- 1/2"

7' HIGH SECURITY FENCE PER SPECS.

1 3/4" X 1 3/4" X 12 GA. RAIL

3" SQ. X 12 GA. POST WITH CAP

1" SQ. X 14 GA. PICKET

SLOPE TOP OF FOOTING TO DRAIN

3 3/4" TYP.

2" NOM.

1"

36" POST EMBEDMENT

CLASS SI CONCRETE

FINISHED SURFACE

POST CONSTRUCTION ACCORDING TO MANUFACTURER'S SPECIFICATIONS, POST SPACING 96 1/2" O.C. +/- 1/2"

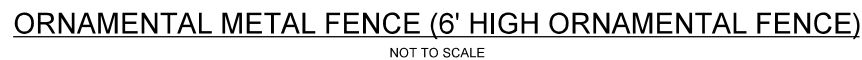
15"

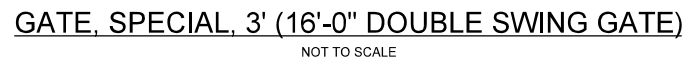
D

VIEW

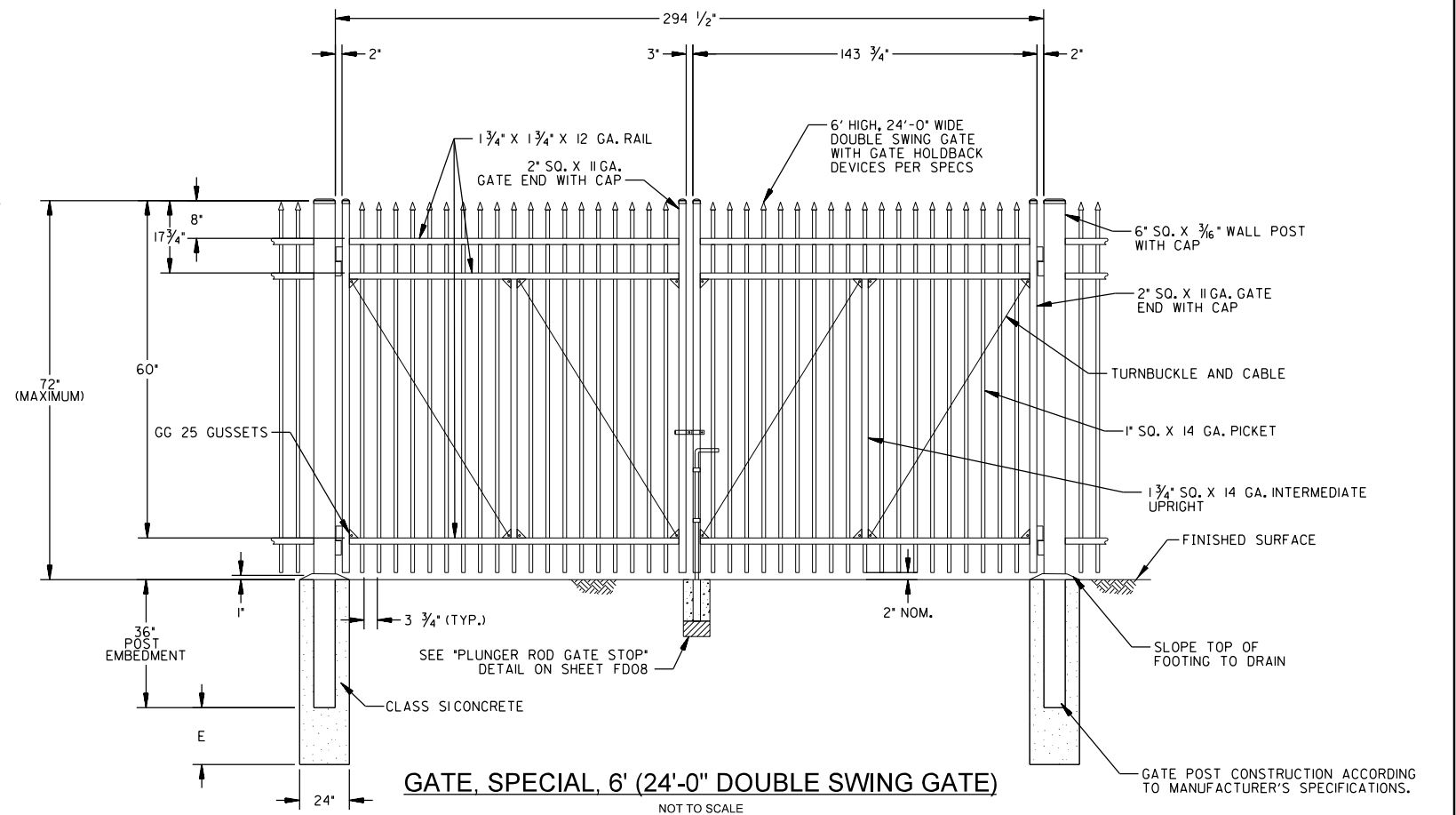
NOT TO SCALE

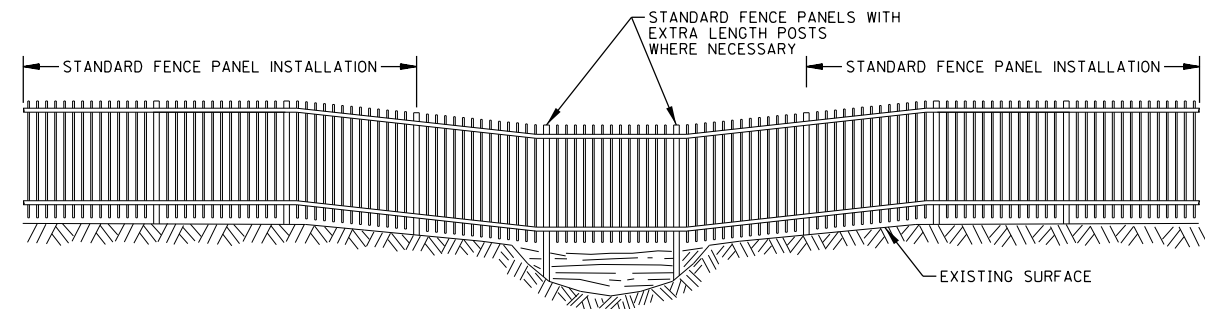
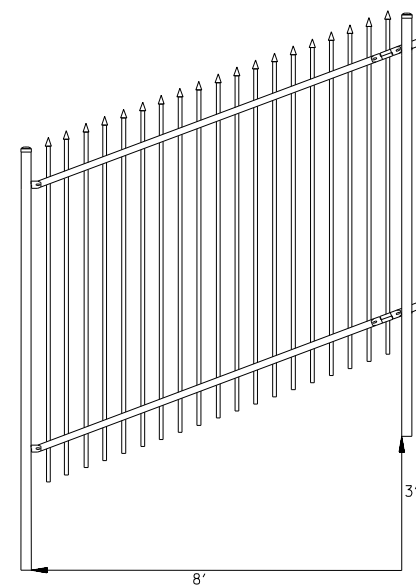
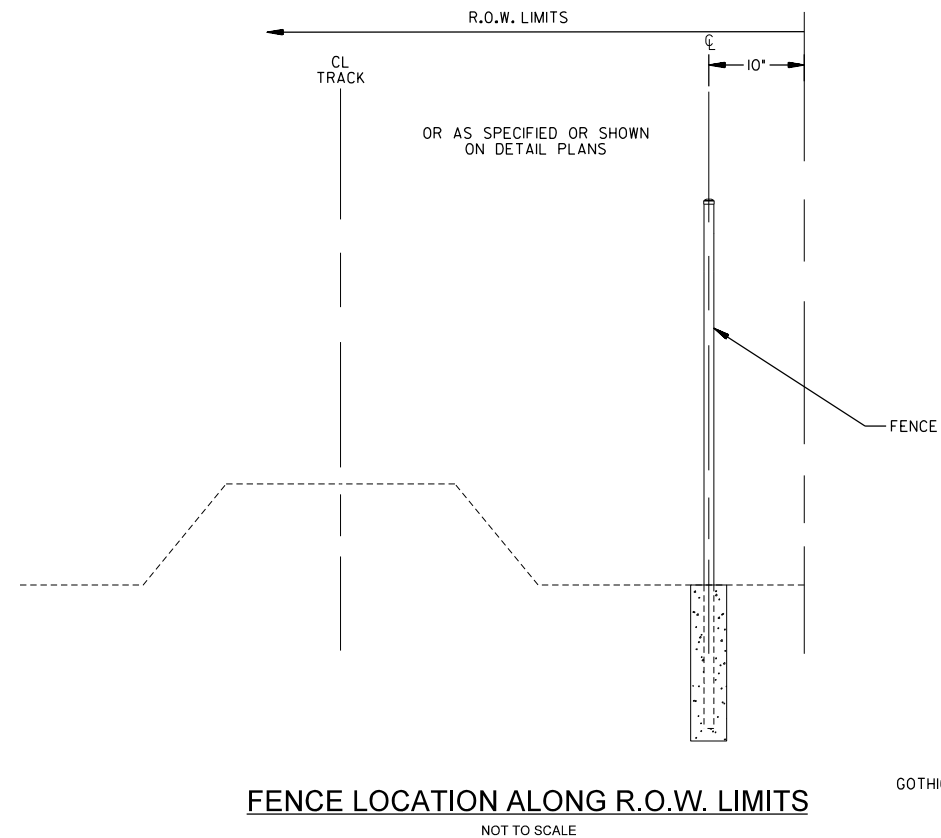
FENCE (SPECIAL), (7' HIGH ORNAMENTAL SECURITY FENCE)



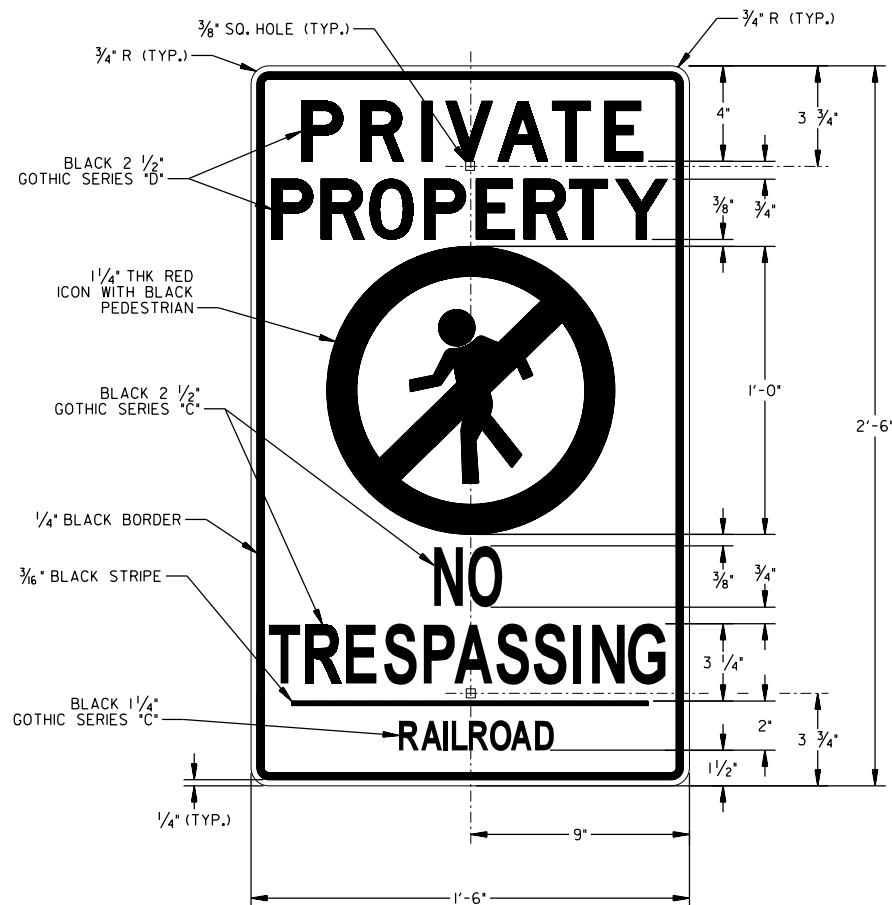


- | FOOTING DEPTH BELOW POST (E) | | |
|------------------------------|-----------------|-----------------|
| GATE | WIND EXPOSURE B | WIND EXPOSURE C |
| GATE, SPECIAL, 6' | 24" | 36" |





ELEVATION ORNAMENTAL FENCE
INSTALLATION OVER SWALE/ DITCH
NOT TO SCALE



NO TRESPASSING SIGN (UP STD. DWG. 0538A)
NOT TO SCALE

NOTES:
1.) SIGN TO BE 3290 SILVER 3M ENGINEER GRADE BACKGROUND, ON 0.080" 3105 SHEET ALUMINUM.
2.) SIGN TO BE MOUNTED TO TUBULAR SWING GATE WITH TWO (2) TAMPER-PROOF ONE-WAY FASTENERS.

MODEL: Sheet 10
FILE: I:\AutoCAD\Projects\hanson\proj\11\Documents\09\pos\09\01\798\Usable_Segments_VI - IDOT\Sheet\0609\01798-sh-fenceDetails-Track.dgn
© Copyright Hanson Professional Services, Inc. 2024



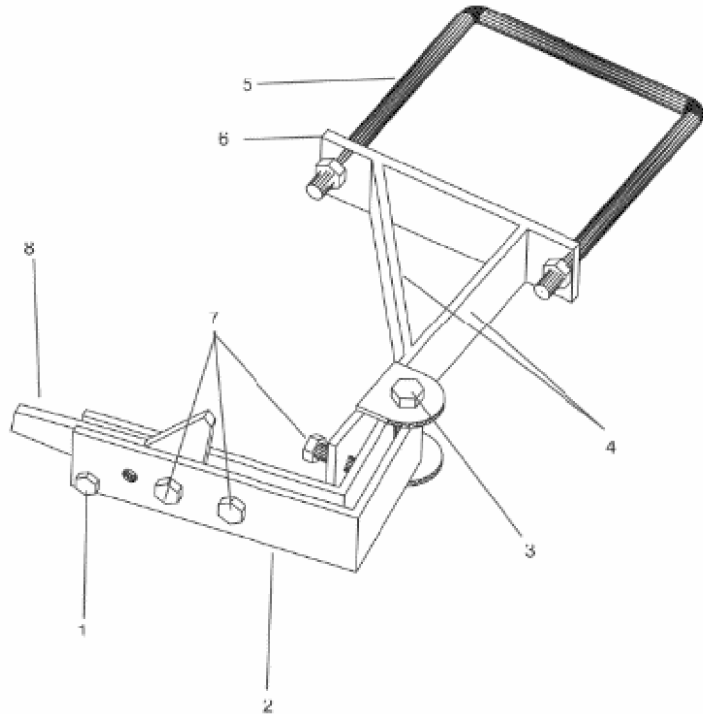
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		DRAWN -	RSJ	REVISED -	
PLOT SCALE	= 2.00 ' / in.	CHECKED -	MNM	REVISED -	
PLOT DATE	= 9/27/2024	DATE -	10/01/2024	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
FENCING DETAILS - 11

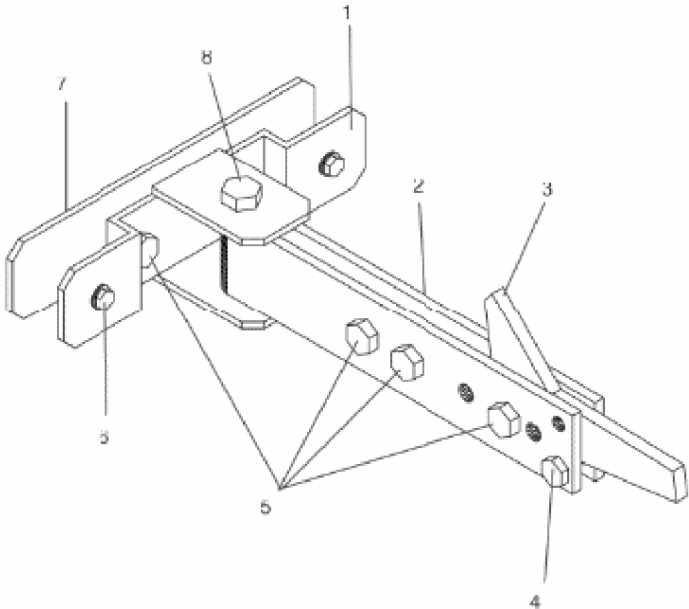
SCALE: SHEET 11 OF 11 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR 09L0179B	SANGAMON	714	332
			CONTRACT NO. 93773	
		ILLINOIS	FED. AID PROJECT	



1. Bolt - 1/4"-20 ASTM A307 zinc plated or galvanized
2. Arm - 3/16" ASTM A36 hot rolled steel
3. Bolt - 3/8"-16 ASME B18.2.1 grade 5
4. Mount arm - 3/16 ASTM A36 hot rolled steel
5. U-bolt - 3/8"
6. Mount - 1/4" ASTM A36 hot rolled steel
7. Bolt - 5/16"-18 ASTM A307 zinc plated or galvanized
8. Flapper - 1/4" ASTM A36 hot rolled steel

NO DIG ORNAMENTAL HOLDBACK
(AS MANUFACTURED BY CHICAGO SUBURBAN FENCE)
NOT TO SCALE



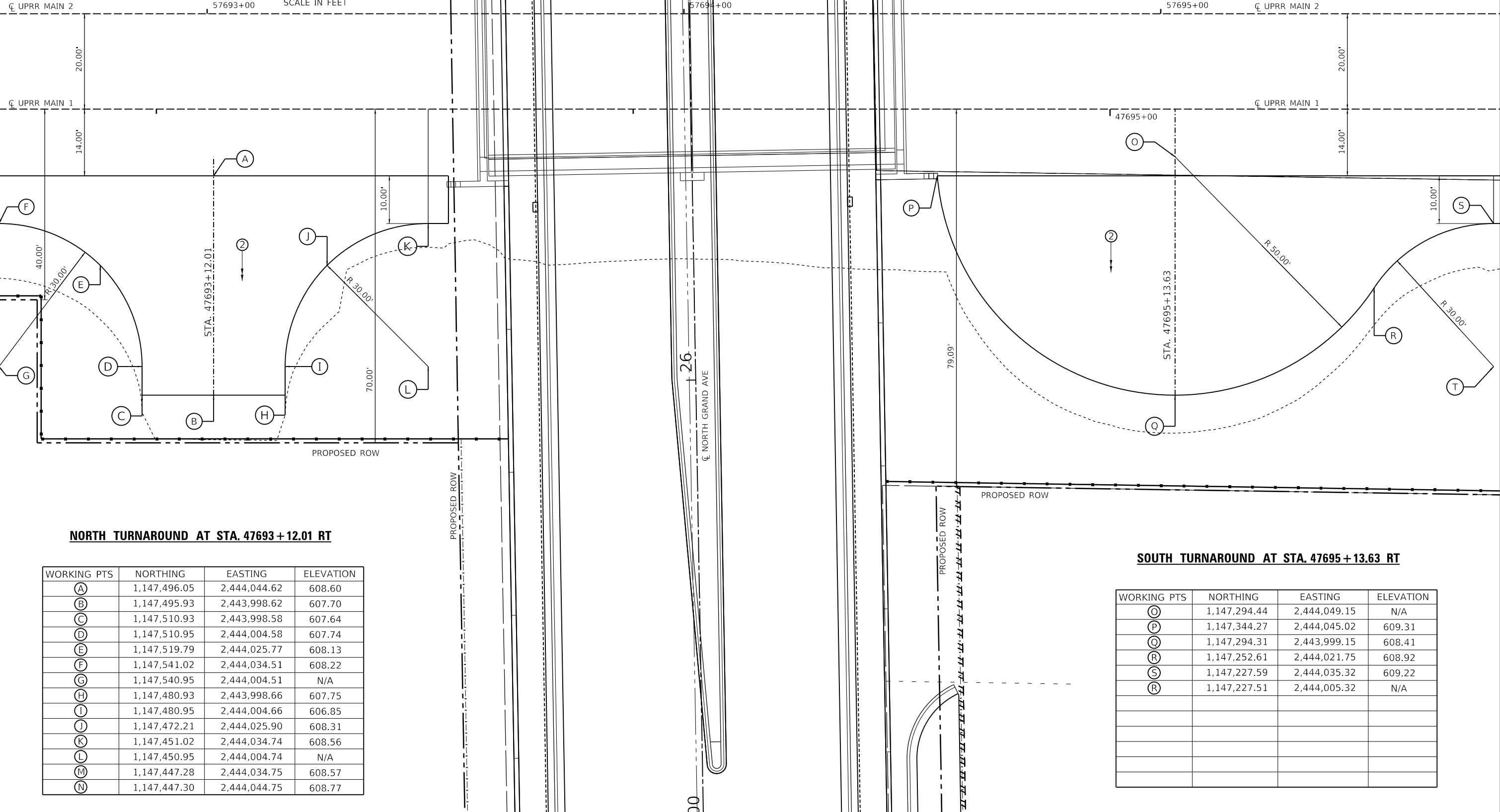
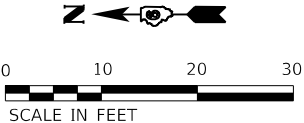
1. Mount - 1/8" ASTM A36 hot rolled steel
2. Arm - 3/16" ASTM A36 hot rolled steel
3. Flapper - 1/4" ASTM A36 hot rolled steel
4. Bolt - 1/4"-20 ASTM A307 zinc plated or galvanized
5. Bolt - 5/16"-18 ASTM A307 zinc plated or galvanized
6. Bolt - #10 Self tapping screw
7. Pinch plate - 1/8" ASTM A36 hot rolled steel
8. Bolt - 3/8"-16 ASME B18.2.1 grade 5 zinc plated or galvanized

NO DIG ORNAMENTAL 180 DEGREE HOLDBACK
(AS MANUFACTURED BY CHICAGO SUBURBAN FENCE)
NOT TO SCALE

MODEL: Sheet 0
FILE: h:\a\hanson\csw-bentley.com\hanson-csw\c11\documents\09\pos\09\0179B\Usable_Segments_III - V - V\CAD\Rail\Usable_Segment_VI - IDOT\Sheet\0609\0179B-TrackEntranceDetails.dgn

SHEET NOTES:

- ① SEE TRACK FENCING AND ACCESS PLAN SHEETS FOR ROW STATION AND OFFSET CALLOUTS.
- ② SUBBALLAST 12 INCH



NORTH TURNAROUND AT STA. 47693+12.01 RT

WORKING PTS	NORTHING	EASTING	ELEVATION
Ⓐ	1,147,496.05	2,444,044.62	608.60
Ⓑ	1,147,495.93	2,443,998.62	607.70
Ⓒ	1,147,510.93	2,443,998.58	607.64
Ⓓ	1,147,510.95	2,444,004.58	607.74
Ⓔ	1,147,519.79	2,444,025.77	608.13
Ⓕ	1,147,541.02	2,444,034.51	608.22
Ⓖ	1,147,540.95	2,444,004.51	N/A
Ⓗ	1,147,480.93	2,443,998.66	607.75
Ⓘ	1,147,480.95	2,444,004.66	606.85
Ⓙ	1,147,472.21	2,444,025.90	608.31
Ⓚ	1,147,451.02	2,444,034.74	608.56
Ⓛ	1,147,450.95	2,444,004.74	N/A
Ⓜ	1,147,447.28	2,444,034.75	608.57
Ⓝ	1,147,447.30	2,444,044.75	608.77

SOUTH TURNAROUND AT STA. 47695+13.63 RT

WORKING PTS	NORTHING	EASTING	ELEVATION
ⓐ	1,147,294.44	2,444,049.15	N/A
ⓑ	1,147,344.27	2,444,045.02	609.31
ⓒ	1,147,294.31	2,443,999.15	608.41
ⓓ	1,147,252.61	2,444,021.75	608.92
ⓔ	1,147,227.59	2,444,035.32	609.22
ⓕ	1,147,227.51	2,444,005.32	N/A



USER NAME	= pop00275	DESIGNED -	GCN	REVISED -	
		DRAWN -	DJP	REVISED -	
PLOT SCALE	= 20.00' / in.	CHECKED -	GCN	REVISED -	
PLOT DATE	= 9/27/2024	DATE -	10/01/2024	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
TRACK TURNAROUND DETAILS

SCALE: SHEET 1 OF 1 SHEETS STA. TO STA.

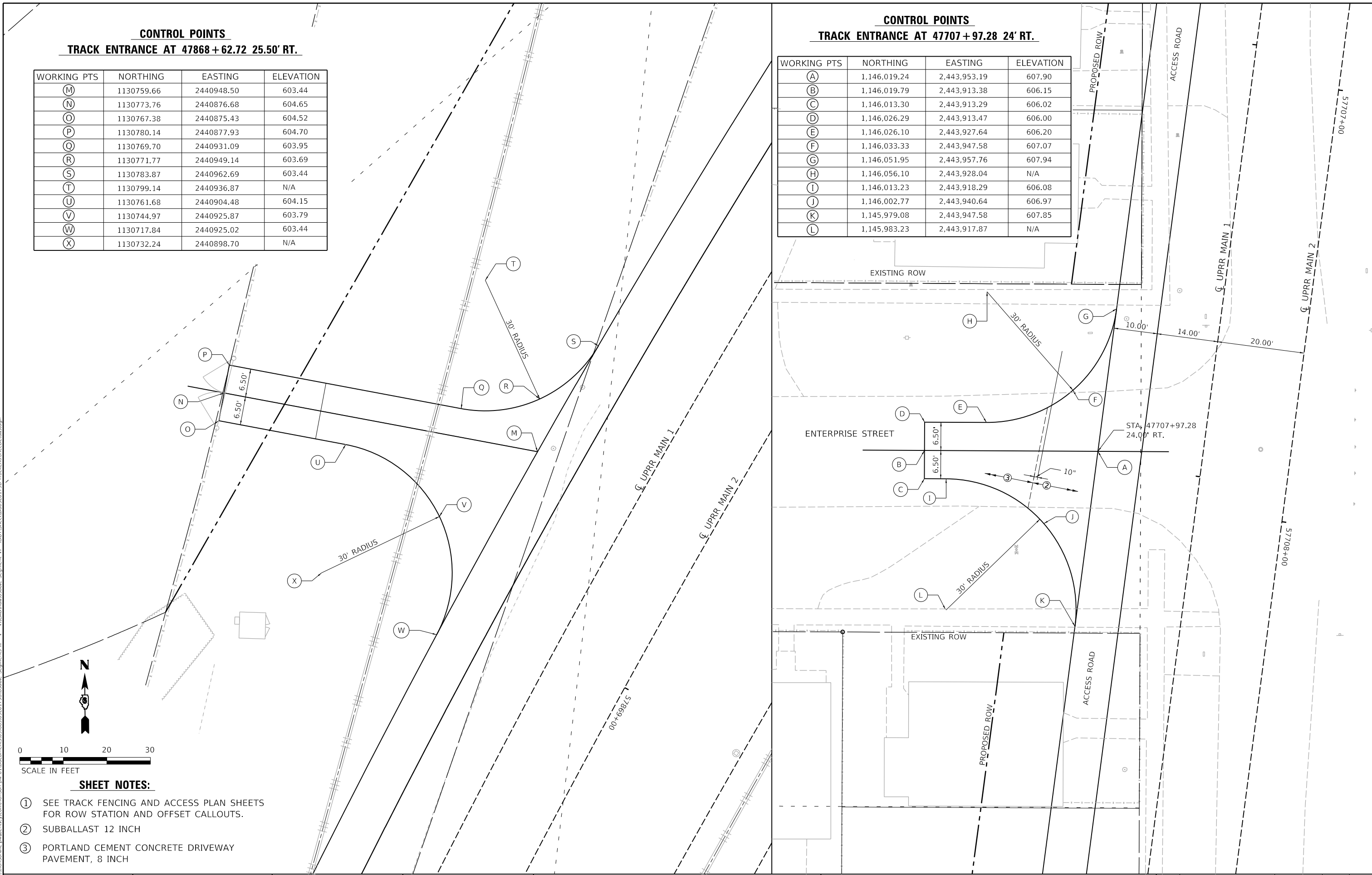
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	333
	09L0179B			CONTRACT NO. 93773
		ILLINOIS	FED. AID PROJECT	

TRACK ENTRANCE AT 47868 + 62.72 25.50' RT.

WORKING PTS	NORTHING	EASTING	ELEVATION
(M)	1130759.66	2440948.50	603.44
(N)	1130773.76	2440876.68	604.65
(O)	1130767.38	2440875.43	604.52
(P)	1130780.14	2440877.93	604.70
(Q)	1130769.70	2440931.09	603.95
(R)	1130771.77	2440949.14	603.69
(S)	1130783.87	2440962.69	603.44
(T)	1130799.14	2440936.87	N/A
(U)	1130761.68	2440904.48	604.15
(V)	1130744.97	2440925.87	603.79
(W)	1130717.84	2440925.02	603.44
(X)	1130732.24	2440898.70	N/A

CONTROL POINTS
TRACK ENTRANCE AT 47707+97.28 24' RT.

WORKING PTS	NORTHING	EASTING	ELEVATION
(A)	1,146,019.24	2,443,953.19	607.90
(B)	1,146,019.79	2,443,913.38	606.15
(C)	1,146,013.30	2,443,913.29	606.02
(D)	1,146,026.29	2,443,913.47	606.00
(E)	1,146,026.10	2,443,927.64	606.20
(F)	1,146,033.33	2,443,947.58	607.07
(G)	1,146,051.95	2,443,957.76	607.94
(H)	1,146,056.10	2,443,928.04	N/A
(I)	1,146,013.23	2,443,918.29	606.08
(J)	1,146,002.77	2,443,940.64	606.97
(K)	1,145,979.08	2,443,947.58	607.85
(L)	1,145,983.23	2,443,917.87	N/A



SHEET NOTES:

- ① SEE TRACK FENCING AND ACCESS PLAN SHEETS FOR ROW STATION AND OFFSET CALLOUTS.
- ② SUBBALLAST 12 INCH
- ③ PORTLAND CEMENT CONCRETE DRIVEWAY PAVEMENT, 8 INCH



USER NAME = pop00275

[illegible]

PLOT SCALE = 20.00 ' / in.

DESIGNED - GCN

DRAWN - DJP

CHECKED - GCN

DATE - 10/0

REVISÉ -

REVISÉ -

REVISÉ -

REVISÉ -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
TRACK ACCESS ROAD DETAILS - 1**

SCALE:	SHEET 1 OF 2 SHEETS	STA.	TO STA.
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F.A.U.
RTE

7972

SECTION

0-BR & 22-0

0179B

ILLINOIS

COUNTY

SANGAMON

CONTRA

PROJECT

TOTAL SHEETS	5
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714	
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NO	93
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ILLINOIS	FED. AID PROJECT
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FINAL PLANS

MODEL: Sheet 0A
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MODEL PLANS
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LAUREL STREET

EXISTING RAILROAD ACCESS ROAD

UPRR MAIN 1

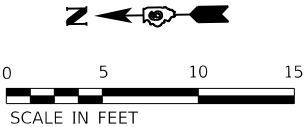
EXISTING RAILROAD ACCESS ROAD

EXISTING RR ROW

ENTRANCE COORDINATES			
POINT	NORTHING	EASTING	ELEVATION
10	1,135,135.80	2,443,540.20	605.60
11	4,435,134.65	2,443,551.03	605.06
12	1,135,145.29	2,443,562.11	605.38
13	1,135,095.09	2,443,548.17	605.38
14	1,135,109.86	2,443,544.23	605.06
15	1,135,114.67	2,443,534.08	605.60
16	1,135,149.53	2,443,547.65	RADIUS PT.
17	1,135,099.16	2,443,533.73	RADIUS PT.

LEGEND

- xx POINT FOR TABLE WITH LAYOUT DATA
- SN XX SIGN - SEE SIGN SCHEDULE
- INLET AND PIPE PROTECTION
- RXXX DRAINAGE STRUCTURE NUMBER
SEE DRAINAGE STRUCTURE AND PIPE SCHEDULES.



USER NAME	= pop00275
PLOT SCALE	= 10.00' / in.
PLOT DATE	= 9/27/2024

DESIGNED	- SKM
DRAWN	- DJP
CHECKED	- SKM
DATE	- 10/01/2024

REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
TRACK ACCESS ROAD DETAILS - 2

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	335
09L0179B		CONTRACT NO. 93773		
		ILLINOIS	FED. AID PROJECT	



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE:	SHEET 1 OF 2 SHEETS	STA.	TO STA.
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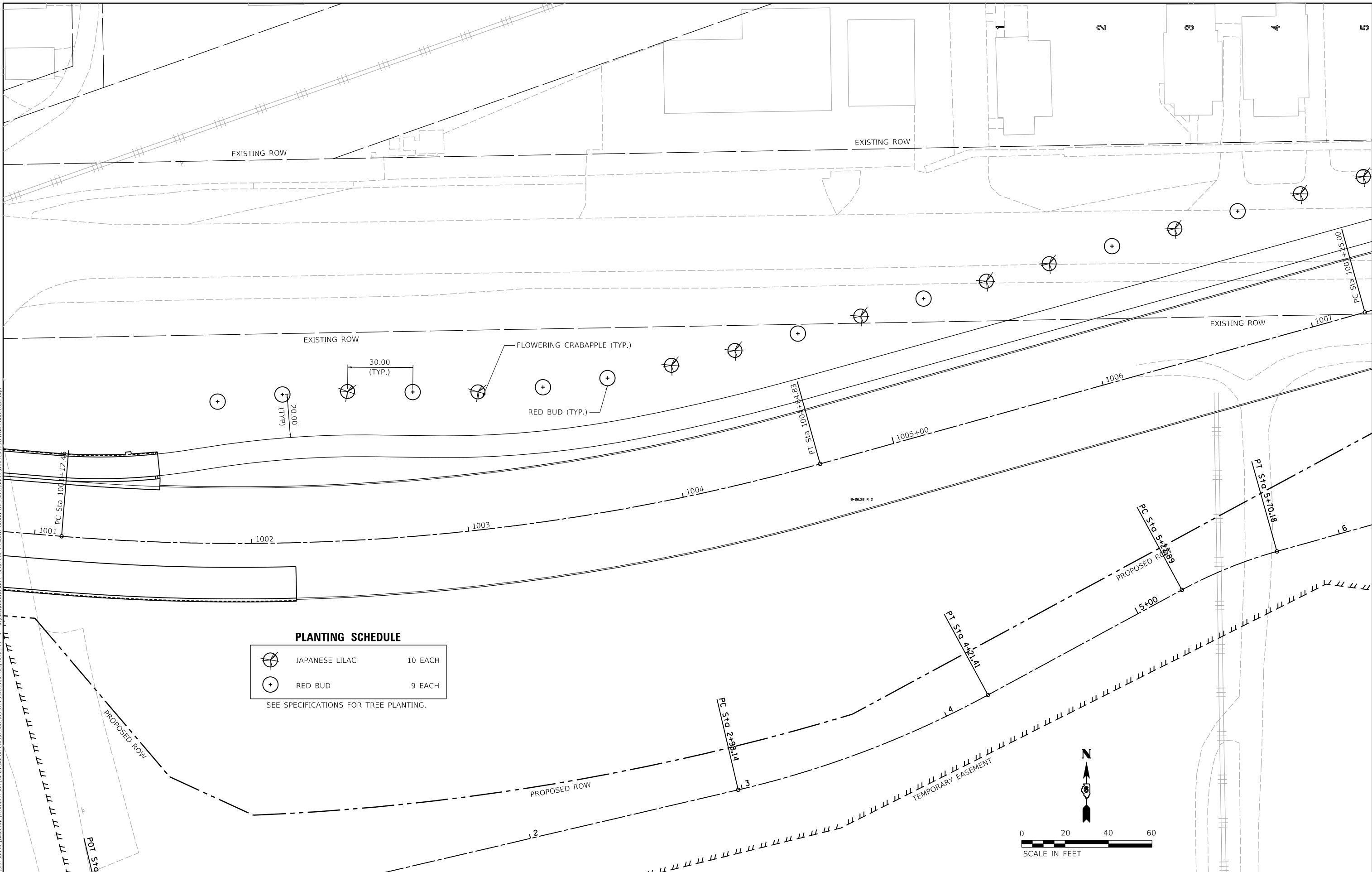


DESIGNED	-	DJP
DRAWN	-	DJP
CHECKED	-	DJP
DATE	-	10/01/2024

DEPARTMENT OF TRANSPORTATION

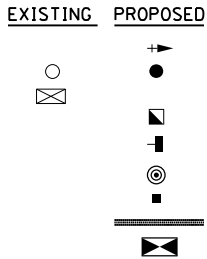
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
LANDSCAPE PLANS - 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	339
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

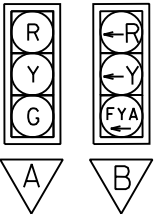


MODEL: 11th Street Signal
FILE: h:\hanson\hanson\p11\Documents\09\0179B\Usable Segments_V\North Grand Overpass\SheetC_09\0179B-AUGA_11-Signals.dgn

TRAFFIC SIGNAL PLAN LEGEND

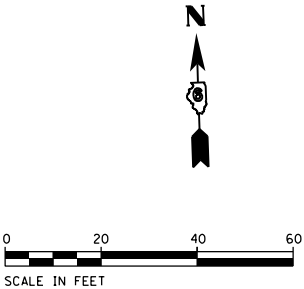
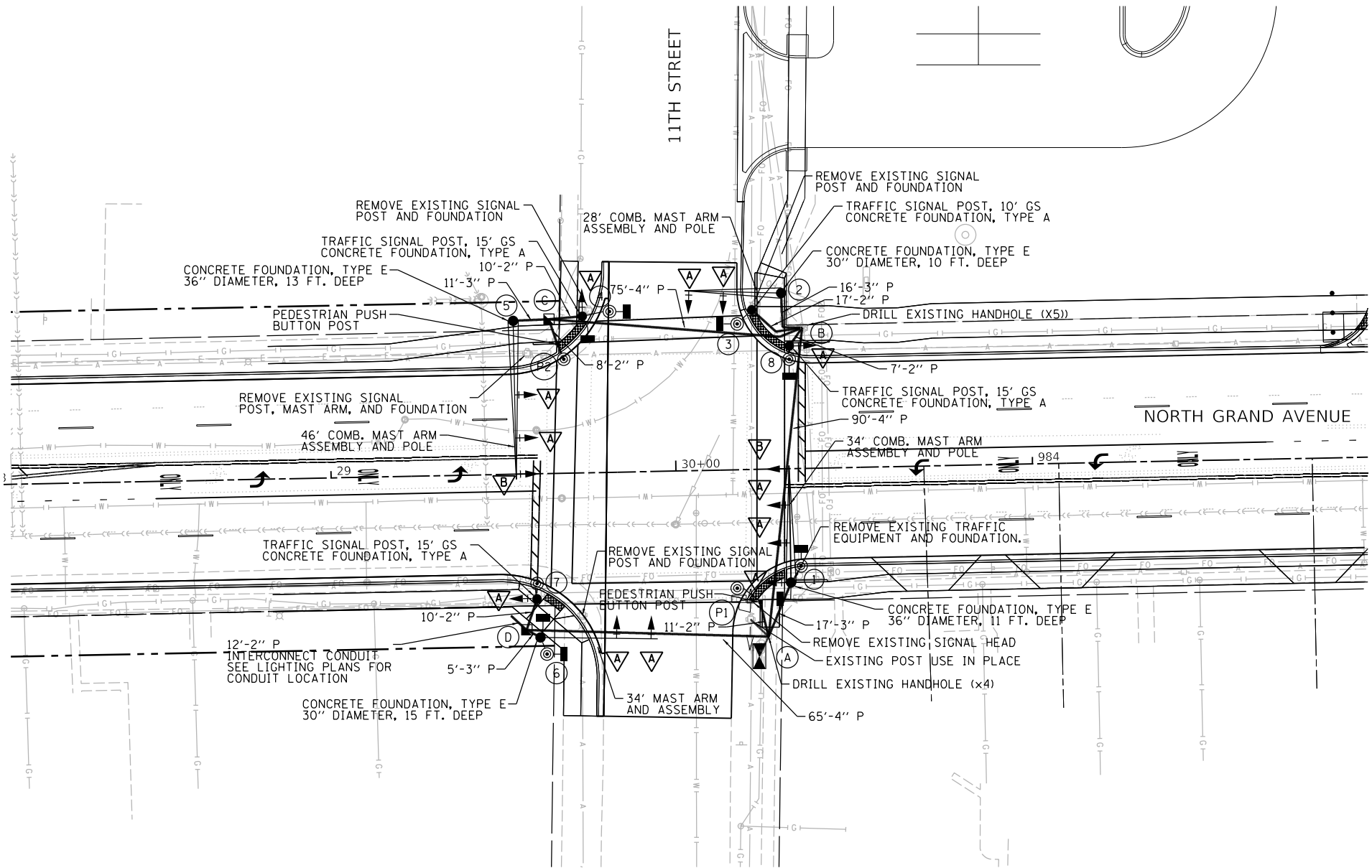


DESCRIPTION
SIGNAL HEAD WITH BACKPLATE
SIGNAL POST
CONTROLLER
HANDHOLE
PEDESTRIAN COUNTDOWN SIGNAL HEAD
PEDESTRIAN PUSH BUTTON (APS)
PEDESTRIAN PUSH BUTTON POST
CONDUIT
CONTROLLER



HANDHOLD LOCATIONS			
HH I.D.	ALIGNMENT	STATION	OFFSET
(C)	N. GRAND	29+64	45' LT
(D)	N. GRAND	29+56	45' RT
(E)	N. GRAND	30+23	54' RT

POLE LOCATIONS			
POLE I.D.	ALIGNMENT	STATION	OFFSET
(1)	N. GRAND	30+33	33' RT
(2)	N. GRAND	30+32	51' LT
(3)	N. GRAND	30+23	46' LT
(4)	N. GRAND	29+74	45' LT
(5)	N. GRAND	29+54	45' LT
(6)	N. GRAND	29+60	47' RT
(7)	N. GRAND	29+59	36' RT
(8)	N. GRAND	30+34	36' LT
(P1)	N. GRAND	30+24	38' RT
(P2)	N. GRAND	29+66	38' LT



USER NAME = pop00275
PLOT SCALE = 40.00' / in.
PLOT DATE = 9/27/2024

DESIGNED - EMS
DRAWN - EMS
CHECKED - TMA
DATE - 10/01/2024

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

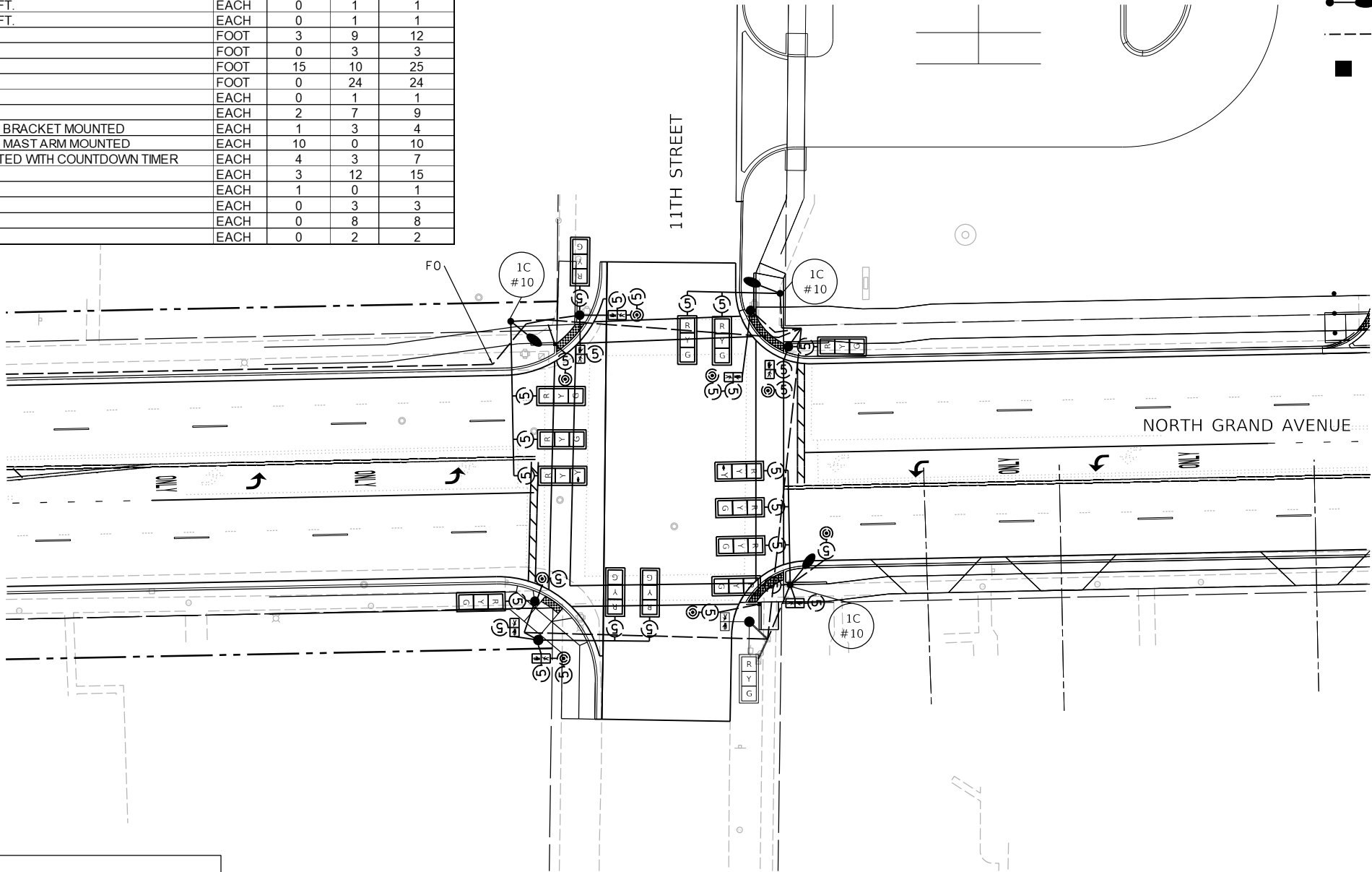
SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
TRAFFIC SIGNAL PLAN - 11TH & N. GRAND AVENUE

SCALE: SHEET 1 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	340
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

MODEL: 11th Street - Cable
FILE: h:\mhc\proj\11th Street - Cable\11th Street - Cable.dgn
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PAY ITEM	DESCRIPTION	UNIT	Usable Segment VIB	City	Total
72000100	SIGN PANEL - TYPE 1	SQ FT	0	8	8
72000200	SIGN PANEL - TYPE 2	SQ FT	15	45	60
81028350	UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	10	71	81
81028370	UNDERGROUND CONDUIT, PVC, 3" DIA.	FOOT	5	44	49
81028390	UNDERGROUND CONDUIT, PVC, 4" DIA.	FOOT	140	90	230
81400100	HANDHOLE	EACH	2	0	2
81702110	ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 10	FOOT	0	512	512
85700200	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET	EACH	0	1	1
87100120	FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, 8F	FOOT	0	962	962
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1330	2670	3999
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	200	624	824
87502440	TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	0	1	1
87502490	TRAFFIC SIGNAL POST, GALVANIZED STEEL 15 FT.	EACH	1	2	3
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1	0	1
87702870	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 28 FT.	EACH	0	1	1
87702900	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 34 FT.	EACH	0	1	1
87702960	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 46 FT.	EACH	0	1	1
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	3	9	12
87800200	CONCRETE FOUNDATION, TYPE D	FOOT	0	3	3
87800400	CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	15	10	25
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	0	24	24
87900100	DRILL EXISTING FOUNDATION	EACH	0	1	1
87900200	DRILL EXISTING HANDHOLE	EACH	2	7	9
88040070	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	1	3	4
88040090	SIGNAL HEAD, POLYCARBONATE, LED, 1-FACE, 3-SECTION, MAST ARM MOUNTED	EACH	10	0	10
88102717	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	4	3	7
88200510	TRAFFIC SIGNAL BACKPLATE, RETROREFLECTIVE	EACH	3	12	15
89502375	REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1	0	1
X1400238	LUMINAIRE, LED, SPECIAL	EACH	0	3	3
X8760200	ACCESSIBLE PEDESTRIAN SIGNALS	EACH	0	8	8
X8760201	PEDESTRIAN PUSH-BUTTON POST	EACH	0	2	2



TRAFFIC SIGNAL WIRING DIAGRAM LEGEND

- ELECTRIC CABLE DENOTING NUMBER OF CONDUCTORS #14
- SIGNAL FACE WITH BACKPLATE
- DIRECTIONAL SIGNAL SECTION
- 12" SIGNAL SECTION
- PEDESTRIAN SIGNAL HEAD
- APS PEDESTRIAN PUSH BUTTON
- LUMINAIRE
- CONDUIT
- PEDESTRIAN PUSH BUTTON POST



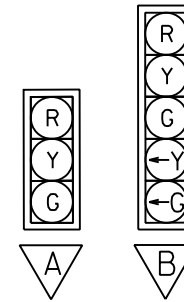
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DRAWN - EMS	REVISED -	
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PLOT DATE = 9/30/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

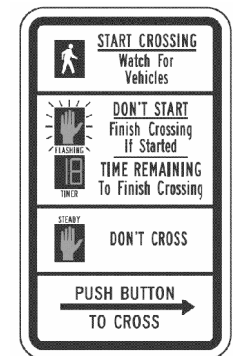
SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
TRAFFIC CABLE PLAN – 11TH & N. GRAND AVENUE

SCALE: SHEET 2 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	341
	09L0179B			CONTRACT NO. 93773
		ILLINOIS		FED. AID PROJECT

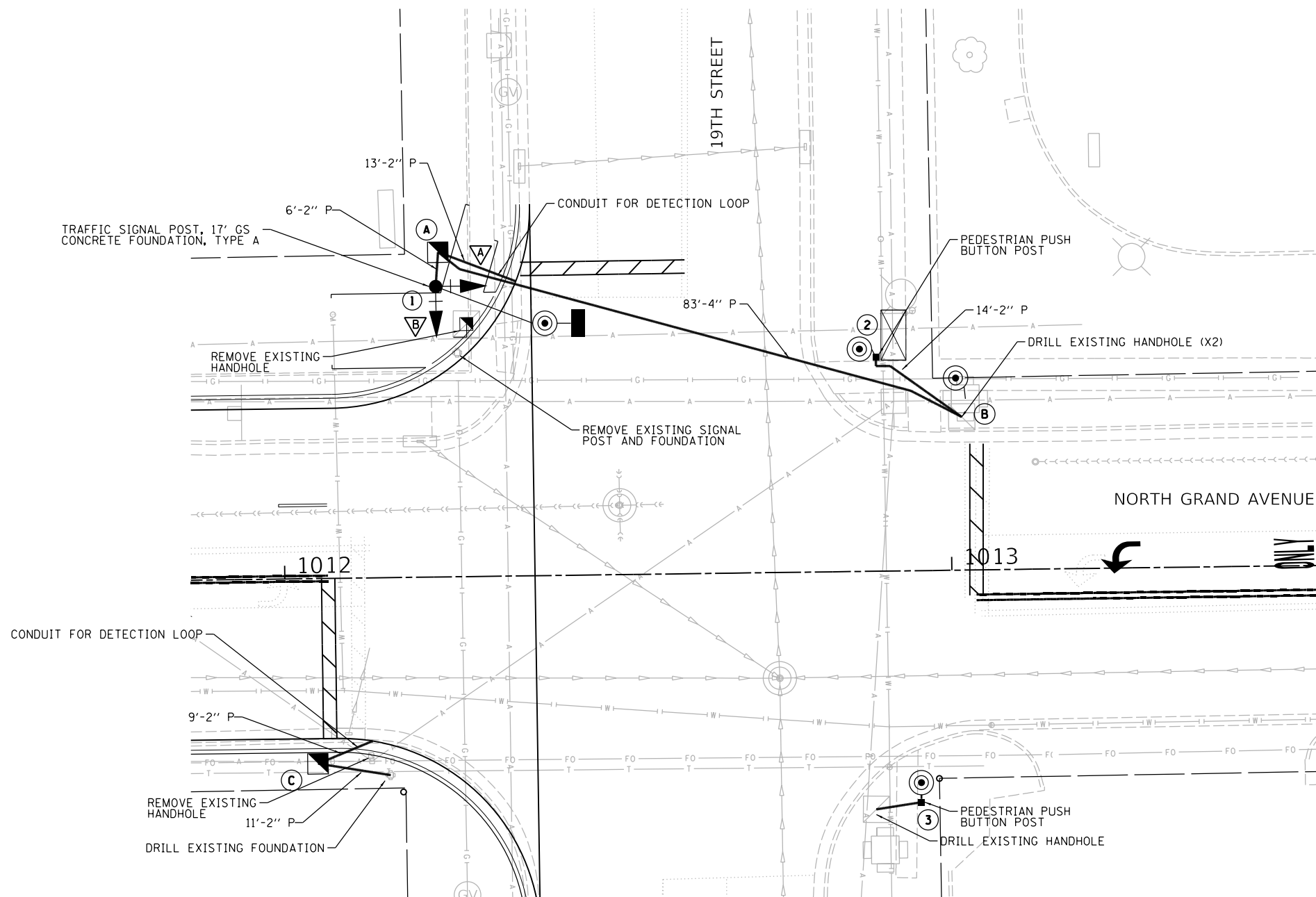
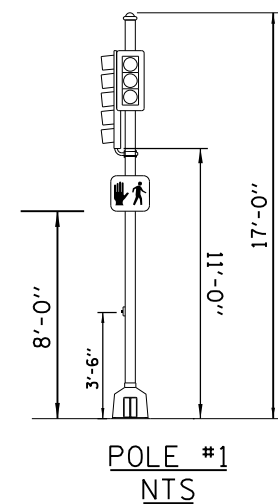
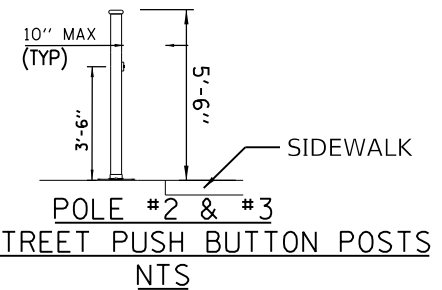


I.D.	ALIGNMENT	STATION	OFFSET
(A)	N. GRAND	1012+24	49' LT
(C)	N. GRAND	1012+05	28' RT
(1)	N. GRAND	1012+23	44' LT
(2)	N. GRAND	1012+89	32' LT
(3)	N. GRAND	1012+95	35' RT



R10-3e
SIGN PANEL-TYPE 1

9" X 15"
4 REQUIRED



MODEL: Sheet 3
FILE: h:\a\hanson\c-w\hanson-cw-bentley.com\hanson-cw-11\Documents\09\09\01\79B\Usable Segments III - V - V\CAD\Road\Usable Segment III\WashingtonSheet\09\01\79B-SHT-Was-Traffic Signal Plan.dgn

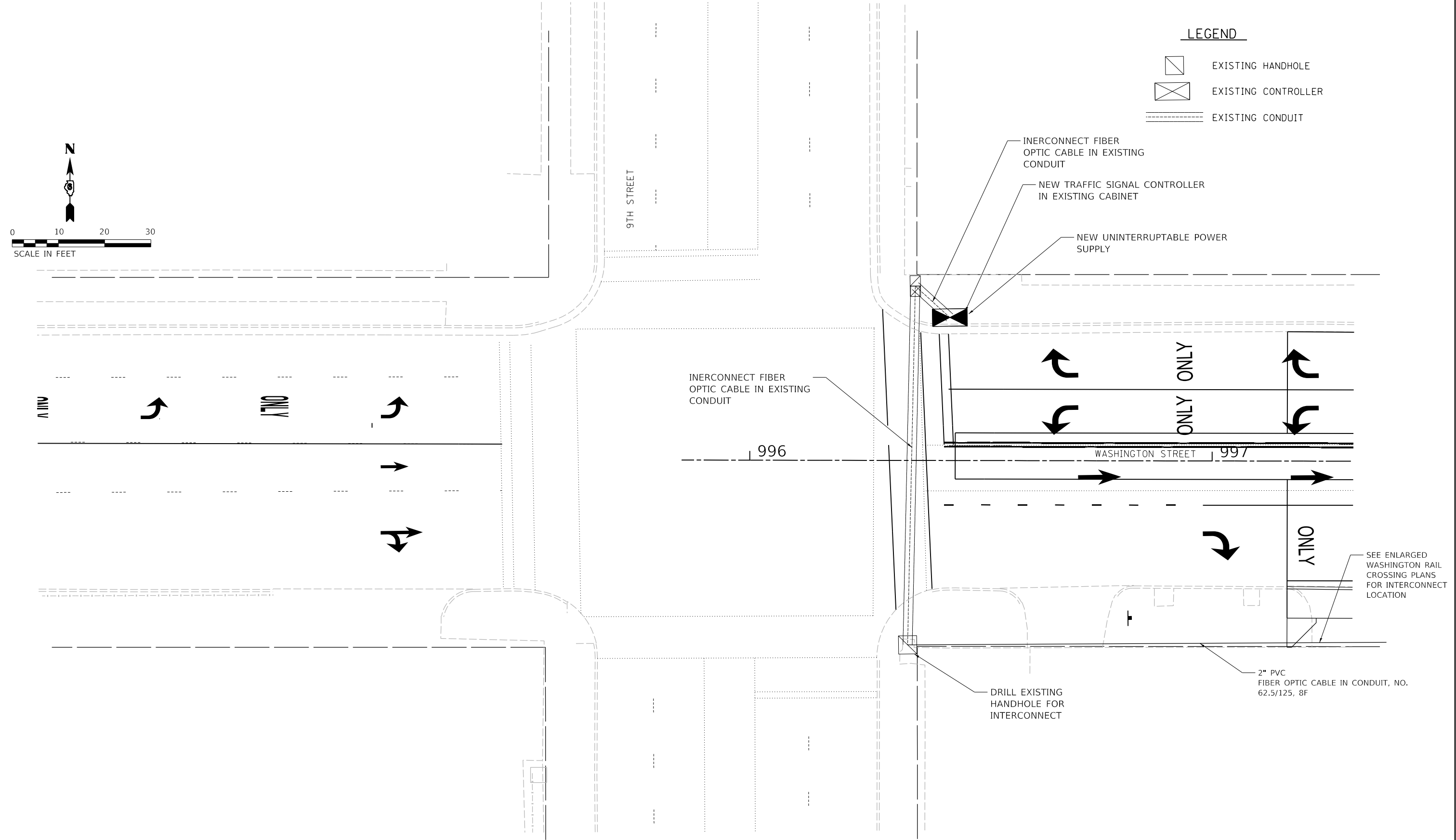


USER NAME	= pop00275	DESIGNED -	EMS	REVISED -	
DRAWN -	EMS	REVISED -			
PLOT SCALE	= 20.00 ' / in.	CHECKED -	TMA	REVISED -	
PLOT DATE	= 9/27/2024	DATE -	10/01/2024	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:				SHEET 6 OF 9 SHEETS				STA. TO STA.			
SPRINGFIELD RAIL IMPROVEMENTS PROJECT				SPRINGFIELD, SANGAMON COUNTY, ILLINOIS				TRAFFIC SIGNAL PLAN - 9TH AND WASHINGTON			

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	345
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

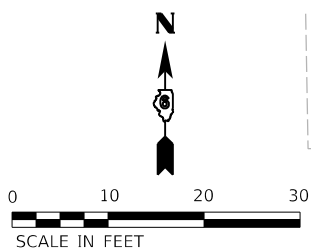




LEGEND

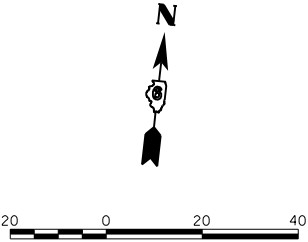
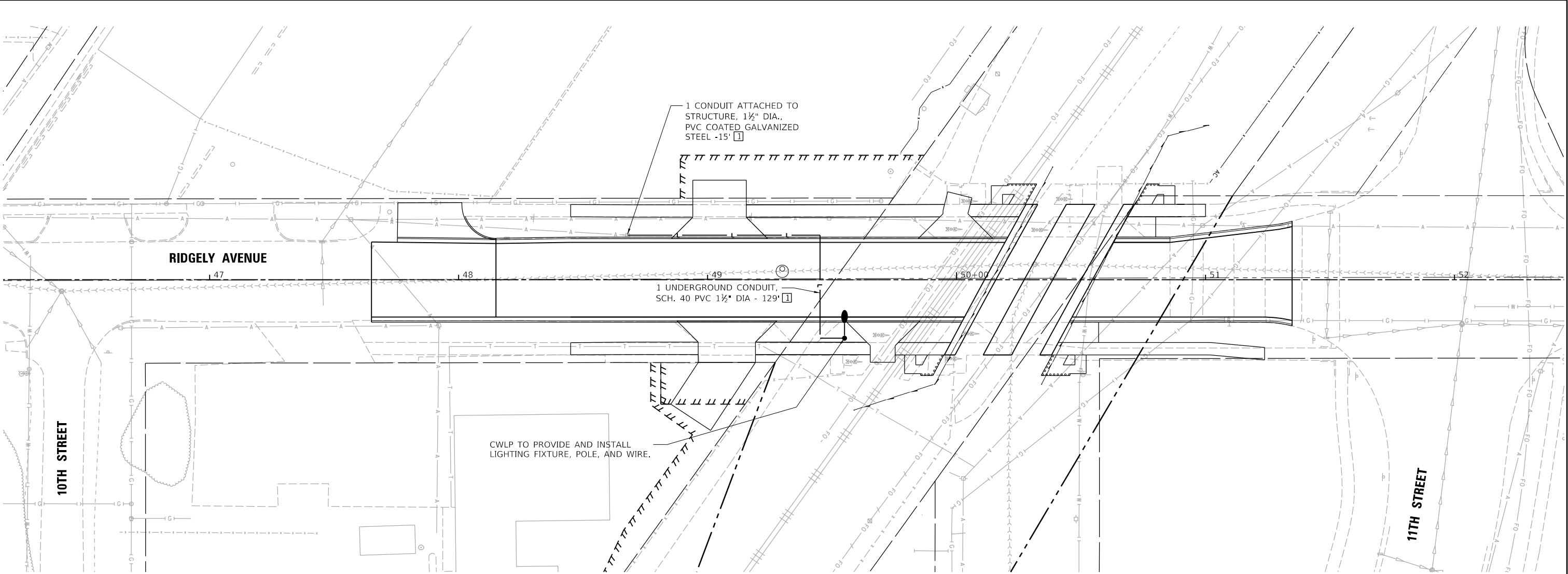
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:	SHEET 7 OF 9 SHEETS	STA.	TO STA.
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	PLOT SCALE = 20.00 ' / in.	DRAWN - EMS	REVISED -			7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	348
	PLOT DATE = 9/27/2024	CHECKED - TMA	REVISED -			09L0179B		CONTRACT NO. 93773		
		DATE - 10/01/2024	REVISED -			SCALE:	SHEET 9 OF 9 SHEETS	STA.	TO STA.	

MODEL: Sheet 5
FILE: h:\a\hanson\c-w\hanson\c-w\documents\09\pas\09\01\79B\Usable_Segments_VI - IDOT\Sheet\0609\01\79B-st-4-lighting.dgn



LEGEND

- LIGHT POLE
- LIGHTING CONDUIT

KEYED NOTES

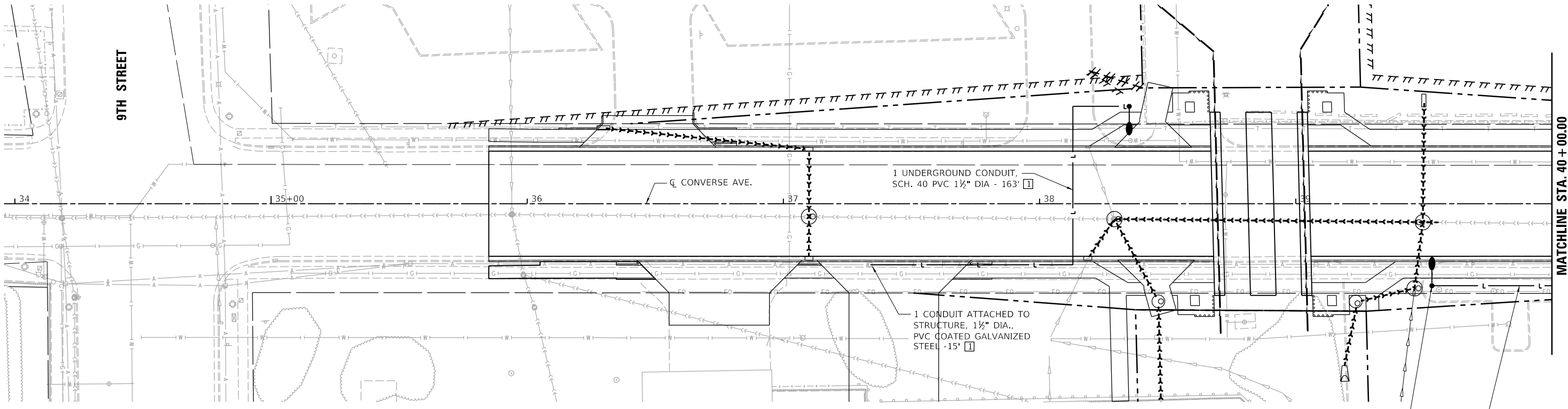
- 1 CONTRACTOR TO COORDINATE WITH CWLP ON INSTALLATION AND LOCATION OF CONDUIT.

GENERAL NOTE

LENGTHS PROVIDED FOR CONDUIT REPRESENT TYPICAL HORIZONTAL DISTANCES FROM POINT TO POINT. VERTICAL DISTANCES FOR BURIAL OF CONDUIT ARE NOT INCLUDED. SIX(6) ADDITIONAL FEET IS ADDED TO THE CONDUIT LENGTH FOR TYPICAL WIRE LENGTHS FOR SLACK AND TERMINATIONS BUT AGAIN THE VERTICAL LENGTHS FOR BURIAL ARE NOT INCLUDED. CONTRACTOR SHALL ACCOUNT FOR NOTED ITEMS IN THEIR OVERALL UNIT PRICING.

	USER NAME = pop00275	DESIGNED - JFC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SPRINGFIELD RAIL IMPROVEMENTS PROJECT SPRINGFIELD, SANGAMON COUNTY, ILLINOIS LIGHTING PLAN – RIDGELY AVENUE				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - RSJ	REVISED -						7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	349
	PLOT SCALE = 40.00' / in.	CHECKED - RDN	REVISED -						09L0179B		CONTRACT NO. 93773		
	PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -		SCALE:		SHEET 1 OF 1 SHEETS	STA.	TO STA.				
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MODEL: Sheet 4
FILE: h:\a\hanson\csw\kender\com\hanson\csw\09\09\01\798\Usable_Segments_VI - IDOT\Sheet\0609.01\798-sh-4-lighting.dgn



KEYED NOTES

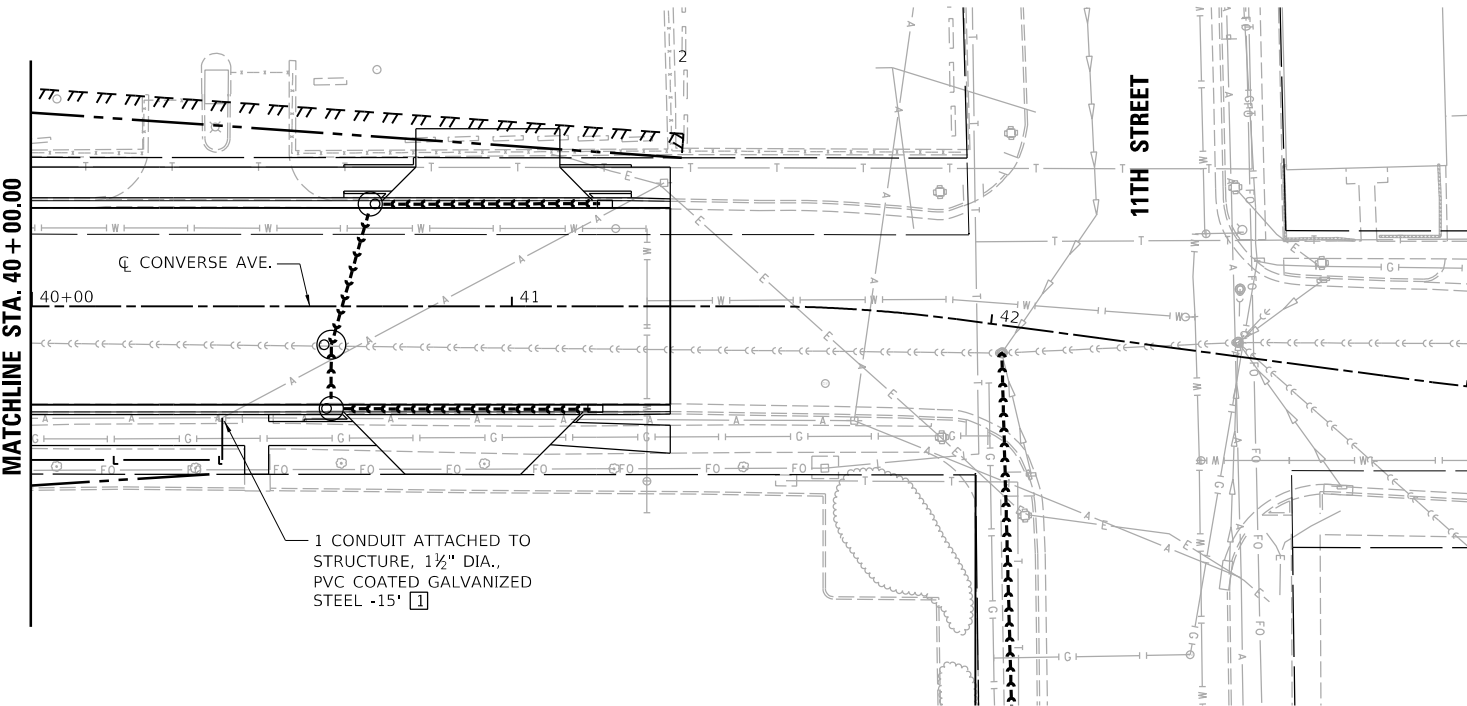
- 1 CONTRACTOR TO COORDINATE WITH CWLP ON INSTALLATION AND LOCATION OF CONDUIT.

LEGEND

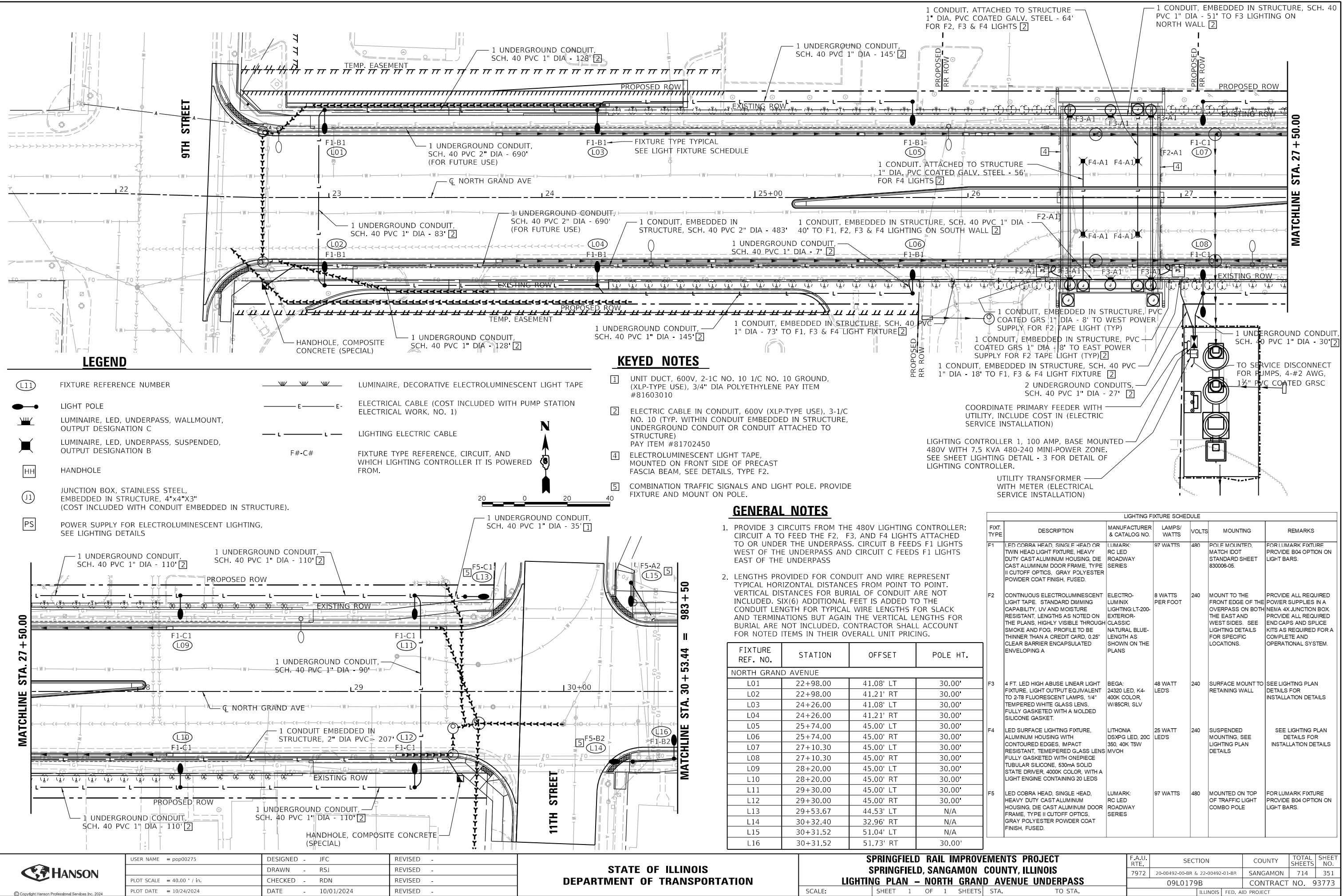
- LIGHT POLE
— L — LIGHTING CONDUIT

GENERAL NOTE

LENGTHS PROVIDED FOR CONDUIT REPRESENT TYPICAL HORIZONTAL DISTANCES FROM POINT TO POINT. VERTICAL DISTANCES FOR BURIAL OF CONDUIT ARE NOT INCLUDED. SIX(6) ADDITIONAL FEET IS ADDED TO THE CONDUIT LENGTH FOR TYPICAL WIRE LENGTHS FOR SLACK AND TERMINATIONS BUT AGAIN THE VERTICAL LENGTHS FOR BURIAL ARE NOT INCLUDED. CONTRACTOR SHALL ACCOUNT FOR NOTED ITEMS IN THEIR OVERALL UNIT PRICING.



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	DRAWN - RSJ		CHECKED - RDN	REVISED -						7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	350
	PLOT SCALE = 40.00' / in.		DATE - 10/01/2024	REVISED -						09L0179B		CONTRACT NO. 93773		
	PLOT DATE = 9/27/2024											ILLINOIS FED. AID PROJECT		
SCALE:		SHEET 1 OF 1 SHEETS		STA.	TO STA.									



MODEL: Sheet 6
FILE: h:\hanson\csw-bentley.com\hanson-csw\csw\09\01\1798\Usable_Segments_III - V - VUCAD\Rail\Usable_Segment_VI - IDOT\Sheet\0609.01\798-st-4-lighting.dgn



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USER NAME = pop00275	DESIGNED - JFC	REVISED -
DRAWN - RSJ	REVISIONS	REVISED -
PLOT SCALE = 40.00' / in.	CHECKED - RDN	REVISED -
PLOT DATE = 10/24/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
LIGHTING PLAN - NORTH GRAND AVENUE OVERPASS - 1

SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR 09L0179B	SANGAMON	714	352
		CONTRACT NO. 93773		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

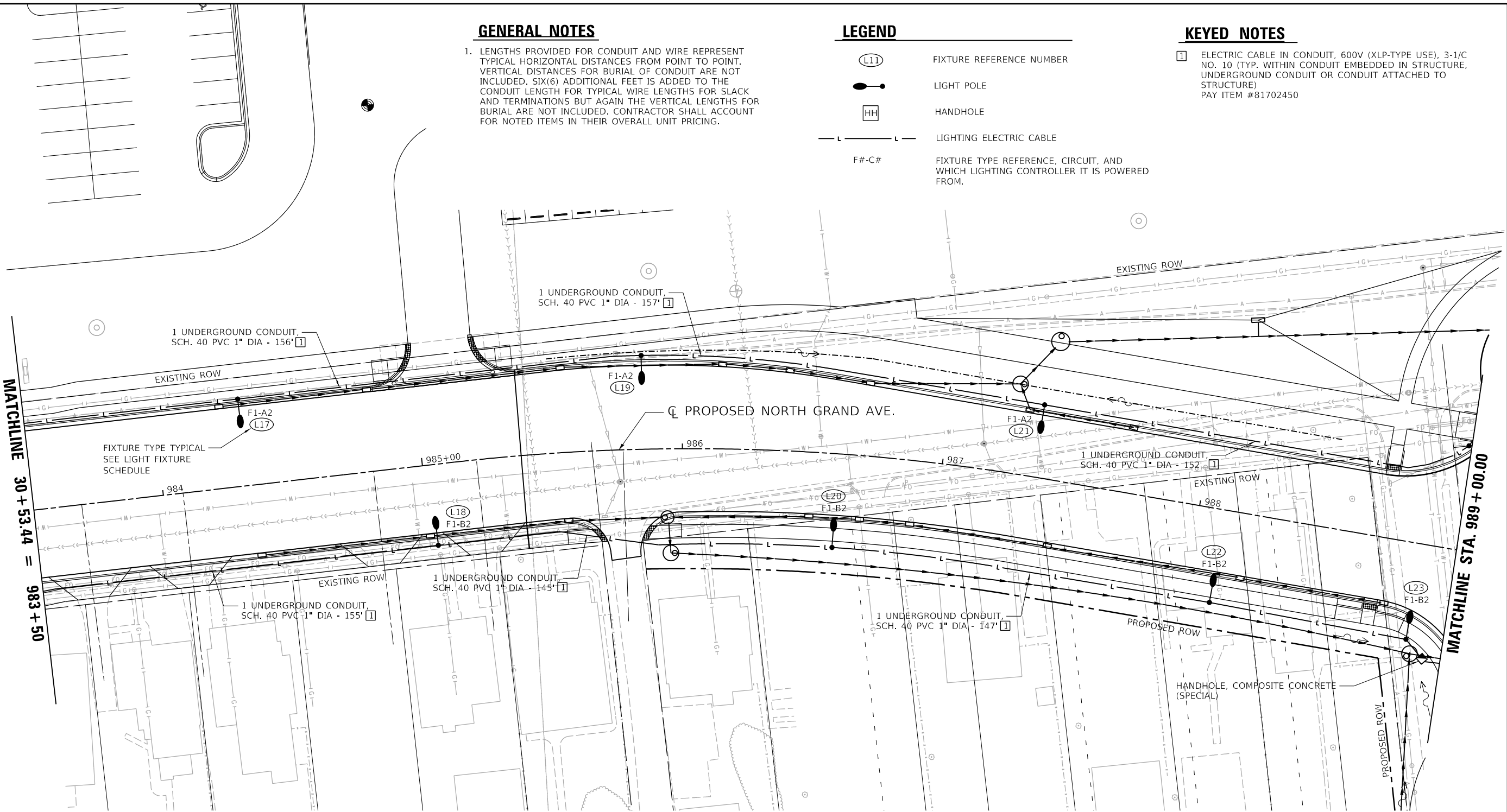
- LENGTHS PROVIDED FOR CONDUIT AND WIRE REPRESENT TYPICAL HORIZONTAL DISTANCES FROM POINT TO POINT. VERTICAL DISTANCES FOR BURIAL OF CONDUIT ARE NOT INCLUDED. SIX(6) ADDITIONAL FEET IS ADDED TO THE CONDUIT LENGTH FOR TYPICAL WIRE LENGTHS FOR SLACK AND TERMINATIONS BUT AGAIN THE VERTICAL LENGTHS FOR BURIAL ARE NOT INCLUDED. CONTRACTOR SHALL ACCOUNT FOR NOTED ITEMS IN THEIR OVERALL UNIT PRICING.

LEGEND

- (L11) FIXTURE REFERENCE NUMBER
- LIGHT POLE
- HH HANDHOLE
- L — LIGHTING ELECTRIC CABLE
- F#-C# FIXTURE TYPE REFERENCE, CIRCUIT, AND WHICH LIGHTING CONTROLLER IT IS POWERED FROM.

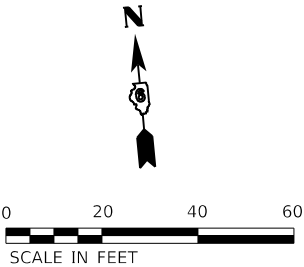
KEYED NOTES

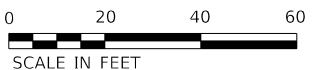
- 1 ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE), 3-1/2 NO. 10 (TYP. WITHIN CONDUIT EMBEDDED IN STRUCTURE, UNDERGROUND CONDUIT OR CONDUIT ATTACHED TO STRUCTURE)
PAY ITEM #81702450



FIXTURE REF. NO.	STATION	OFFSET	POLE HT.
NORTH GRAND AVENUE			
L17	984+32.50	33.50' LT	30.00'
L18	985+02.61	31.00' RT	30.00'
L19	985+85.00	36.00' LT	30.00'
L20	986+60.00	36.00' RT	30.00'
L21	987+35.00	28.00' LT	30.00'
L22	988+10.00	36.00' RT	30.00'
L23	988+86.70	37.00' RT	30.00'

LIGHTING FIXTURE SCHEDULE					
FIXT. TYPE	DESCRIPTION	MANUFACTURER & CATALOG NO.	LAMPS/ WATTS	VOLTS	MOUNTING
F1	LED COBRA HEAD, SINGLE HEAD OR TWIN HEAD LIGHT FIXTURE, HEAVY DUTY CAST ALUMINUM HOUSING, DIE CAST ALUMINUM DOOR FRAME, TYPE II CUTOFF OPTICS, GRAY POLYESTER POWDER COAT FINISH, FUSED. POLE TO MATCH IDOT SPECIFICATION 1069.2.	LUMARK: RC LED ROADWAY SERIES	97 WATTS	480	POLE MOUNTED, 30' MOUNTED HEIGHT, MATCH IDOT STANDARD SHEET 830006-05.
		REMARKS			
		FOR LUMARK FIXTURE PROVIDE E04 OPTION ON LIGHT BARS.			






1. LENGTHS PROVIDED FOR CONDUIT AND WIRE REPRESENT TYPICAL HORIZONTAL DISTANCES FROM POINT TO POINT. VERTICAL DISTANCES FOR BURIAL OF CONDUIT ARE NOT INCLUDED. SIX(6) ADDITIONAL FEET IS ADDED TO THE CONDUIT LENGTH FOR TYPICAL WIRE LENGTHS FOR SLACK AND TERMINATIONS BUT AGAIN THE VERTICAL LENGTHS FOR BURIAL ARE NOT INCLUDED. CONTRACTOR SHALL ACCOUNT FOR NOTED ITEMS IN THEIR OVERALL UNIT PRICING.


MODEL: Sheet 8
FILE: hanson-cw-bentley.com\hanson-cw\c1\Documents\09\09\01\798\Usable_Segments_III - V - V\ICAD\Rail\Usable_Segment_VI - IDOT\Sheet\0609.01\798-st-4-lighting.dgn

LEGEND

- L11

FIXTURE REFERENCE NUMBER
- 

LIGHT POLE
- HH

HANDHOLE
- 

LIGHTING ELECTRIC CABLE
- F#-C#

FIXTURE TYPE REFERENCE, CIRCUIT, AND WHICH LIGHTING CONTROLLER IT IS POWERED FROM.

KEYED NOTES

- 1 ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE), 3-1/C NO. 10 (TYP. WITHIN CONDUIT EMBEDDED IN STRUCTURE, UNDERGROUND CONDUIT OR CONDUIT ATTACHED TO STRUCTURE)
PAY ITEM #81702450

GENERAL NOTES

1. LENGTHS PROVIDED FOR CONDUIT AND WIRE REPRESENT TYPICAL HORIZONTAL DISTANCES FROM POINT TO POINT. VERTICAL DISTANCES FOR BURIAL OF CONDUIT ARE NOT INCLUDED. SIX(6) ADDITIONAL FEET IS ADDED TO THE CONDUIT LENGTH FOR TYPICAL WIRE LENGTHS FOR SLACK AND TERMINATIONS BUT AGAIN THE VERTICAL LENGTHS FOR BURIAL ARE NOT INCLUDED. CONTRACTOR SHALL ACCOUNT FOR NOTED ITEMS IN THEIR OVERALL UNIT PRICING.

FIXTURE REF. NO.	STATION	OFFSET	POLE HT.
NORTH GRAND AVENUE			
L33	995+35.62	37.42' LT	30.00'
L34	996+31.27	26.21' RT	30.00'
L35	996+83.11	37.42' LT	30.00'
L36	997+81.27	26.21' RT	30.00'
L37	998+56.27	37.42' LT	30.00'
L38	999+31.27	26.21' RT	30.00'
L39	1000+00.25	37.42' LT	30.00'
L40	1000+81.27	26.21' RT	30.00'

LIGHTING FIXTURE SCHEDULE						
FIXT. TYPE	DESCRIPTION	MANUFACTURER & CATALOG NO.	LAMPS/ WATTS	VOLTS	MOUNTING	REMARKS
F1	LED COBRA HEAD, SINGLE HEAD OR TWIN HEAD LIGHT FIXTURE, HEAVY DUTY CAST ALUMINUM HOUSING, DIE CAST ALUMINUM DOOR FRAME, TYPE II CUTOFF OPTICS, GRAY POLYESTER POWDER COAT FINISH, FUSED, POLE TO MATCH IDOT SPECIFICATION 1069.2	LUMARK: RC LED ROADWAY SERIES	97 WATTS	480	POLE MOUNTED, 30' MOUNTED HEIGHT, MATCH IDOT STANDARD SHEET 830006-05.	FOR LUMARK FIXTURE PROVIDE E04 OPTION ON LIGHT BARS.



USER NAME = pop00275

PLOT SCALE = 40.00' / in.

PLOT DATE = 9/27/2024

DESIGNED - JFC

DRAWN - RSJ

CHECKED - RDN

DATE - 10/01/2024

REVISED -

REVISED -

REVISED -

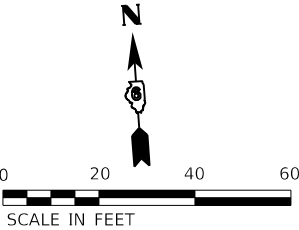
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
LIGHTING PLAN – NORTH GRAND AVENUE OVERPASS – 3

SCALE: SHEET 3 OF 5 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	354
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

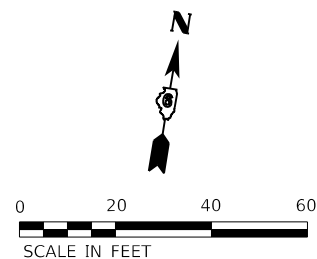


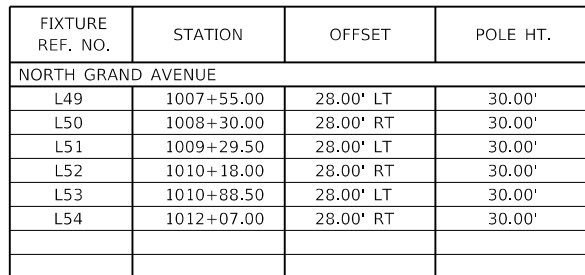


LIGHTING FIXTURE SCHEDULE						
FIXT. TYPE	DESCRIPTION	MANUFACTURER & CATALOG NO.	LAMPS/ WATTS	VOLTS	MOUNTING	REMARKS
F1	LED COBRA HEAD, SINGLE HEAD OR TWIN HEAD LIGHT FIXTURE, HEAVY DUTY CAST ALUMINUM HOUSING, DIE CAST ALUMINUM DOOR FRAME, TYPE II CUTOFF OPTICS, GRAY POLYESTER POWDER COAT FINISH, FUSED. POLE TO MATCH IDOT SPECIFICATION 1069.2	LUMARK: RC LED ROADWAY SERIES	97 WATTS	480	POLE MOUNTED, 30' MOUNTED HEIGHT, MATCH IDOT STANDARD SHEET 830006-05.	FOR LUMARK FIXTURE PROVIDE E04 OPTION ON LIGHT BARS.

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

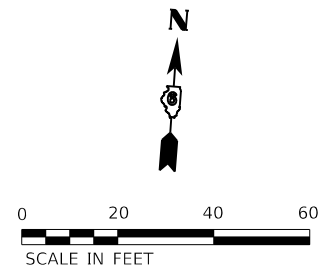
SPRINGFIELD RAIL IMPROVEMENTS PROJECT SPRINGFIELD, SANGAMON COUNTY, ILLINOIS LIGHTING PLAN – NORTH GRAND AVENUE OVERPASS – 4					F.A.P. RTE.	SECTION		COUNTY	TOTAL SHEETS.	SHEET NO.
					7972	20-00492-00-BR & 22-00492-01-BR		SANGAMON	714	355
					09L0179B		CONTRACT NO. 93773			
SCALE:	SHEET 4 OF 5 SHEETS		STA. TO STA.		ILLINOIS		FED. AID PROJECT			



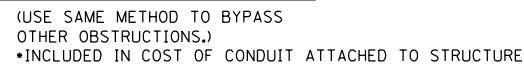


LIGHTING FIXTURE SCHEDULE						
FIXT. TYPE	DESCRIPTION	MANUFACTURER & CATALOG NO.	LAMPS/ WATTS	VOLTS	MOUNTING	REMARKS
F1	LED COBRA HEAD, SINGLE HEAD OR TWIN HEAD LIGHT FIXTURE, HEAVY DUTY CAST ALUMINUM HOUSING, DIE CAST ALUMINUM DOOR FRAME, TYPE II CUTOFF OPTICS, GRAY POLYESTER POWDER COAT FINISH, FUSED. POLE TO MATCH IDOT SPECIFICATION 1069.2.	LUMARK: RC LED ROADWAY SERIES	97 WATTS	480	POLE MOUNTED, 30' MOUNTED HEIGHT, MATCH IDOT STANDARD SHEET 830006-05.	FOR LUMARK FIXTURE PROVIDE E04 OPTION ON LIGHT BARS.

1. LENGTHS PROVIDED FOR CONDUIT AND WIRE REPRESENT TYPICAL HORIZONTAL DISTANCES FROM POINT TO POINT. VERTICAL DISTANCES FOR BURIAL OF CONDUIT ARE NOT INCLUDED. SIX(6) ADDITIONAL FEET IS ADDED TO THE CONDUIT LENGTH FOR TYPICAL WIRE LENGTHS FOR SLACK AND TERMINATIONS BUT AGAIN THE VERTICAL LENGTHS FOR BURIAL ARE NOT INCLUDED. CONTRACTOR SHALL ACCOUNT FOR NOTED ITEMS IN THEIR OVERALL UNIT PRICING.

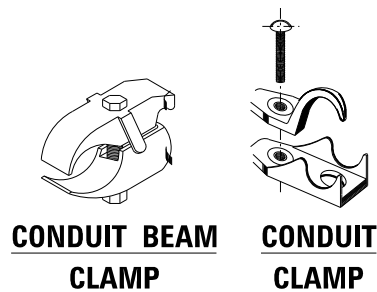


<div><div>© Copyright Hanson Professional Services Inc. 2024</div></div>	USER NAME = pop00275	DESIGNED - JFC	REVISED -	<div>STATE OF ILLINOIS</div> <div>DEPARTMENT OF TRANSPORTATION</div>	<div>SPRINGFIELD RAIL IMPROVEMENTS PROJECT</div> <div>SPRINGFIELD, SANGAMON COUNTY, ILLINOIS</div> <div>LIGHTING PLAN – ENOS AVENUE</div>					F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 40.00' / in.	DRAWN - RSJ	REVISED -							7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	357
	PLOT DATE = 9/27/2024	CHECKED - RDN	REVISED -							09L0179B				
	PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -		CONTRACT NO. 93773									
						SCALE:	SHEET 1 OF 1 SHEETS	STA.	TO STA.					



- 1 TYPICAL ELECTRICAL CONDUITS EMBEDDED IN STRUCTURE 1" DIA. PVC. SEE LIGHTING PLAN FOR LOCATIONS AND NUMBER OF CONDUITS REQUIRED.
- 2 COORDINATE EXACT LENGTH OF LIGHT TAPE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS AND EXACT SIZE OF WEATHERPROOF J-BOX PROTECTING LIGHT TAPE POWER CONNECTOR
- 3 JUNCTION BOX - STAINLESS STEEL EMBEDDED IN STRUCTURE, 4"x4"x3". COST INCLUDED WITH CONDUIT EMBEDDED IN STRUCTURE.





Steel Plate Bridge deck.

MC8x21.4
(Length As Required)

Stainless steel beveled washer and lock nut.

Stainless steel nut, lock washer and flat washer.

$\frac{1}{2}'' \text{ } \varnothing \text{ (13) Stainless steel rod threaded at both ends.}$

Typ. $\frac{1}{4}$

Steel Plate Bridge deck

Luminaire hanger assembly, four per luminaire required. See detail (typ.).

Beam (steel shown).

Underpass luminaire suspended from bridge deck (typ.).

Stainless steel junction box 6 x 6 x 4 (150 x 150 x 100) min.

1 Ø (25) conduit.

3/4 Ø (19) conduit.

3/4" Ø (19) liquidtight flexible nonmetallic conduit. (Typical)

Stainless steel junction box, Embedded 4 x 4 x 3 (100 x 100 x 75)

Concrete abutment wall.

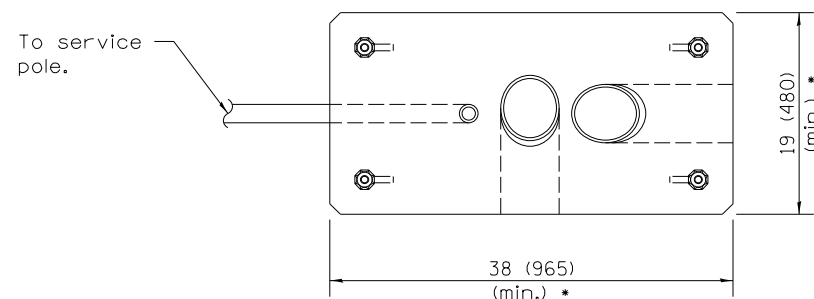
A

1/4" (Min.)
 2" (Min.)
 1/2" Ø (13) Stainless steel rod threaded at both ends.
 Stainless steel beveled washer and lock nut.
 MC8x21.4 (Length As Required)
 Stainless steel nut, lock washer and flat washer.
 Neoprene cushion.
 Stainless steel lock nut, flat washer, cupped washer and neoprene washer.
 Stainless steel vibration damper assembly.
 Stainless steel spring.
 Luminaire mounting tab.

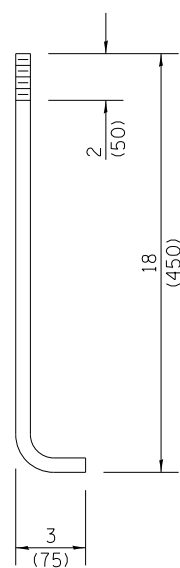
BRIDGE DETAILS

Clamps should not be fastened to steel bridge deck directly. Contractor shall weld small plates to deck where clamps necessary and attach the clamp to the small plate. Cost included with conduit attached to structure.

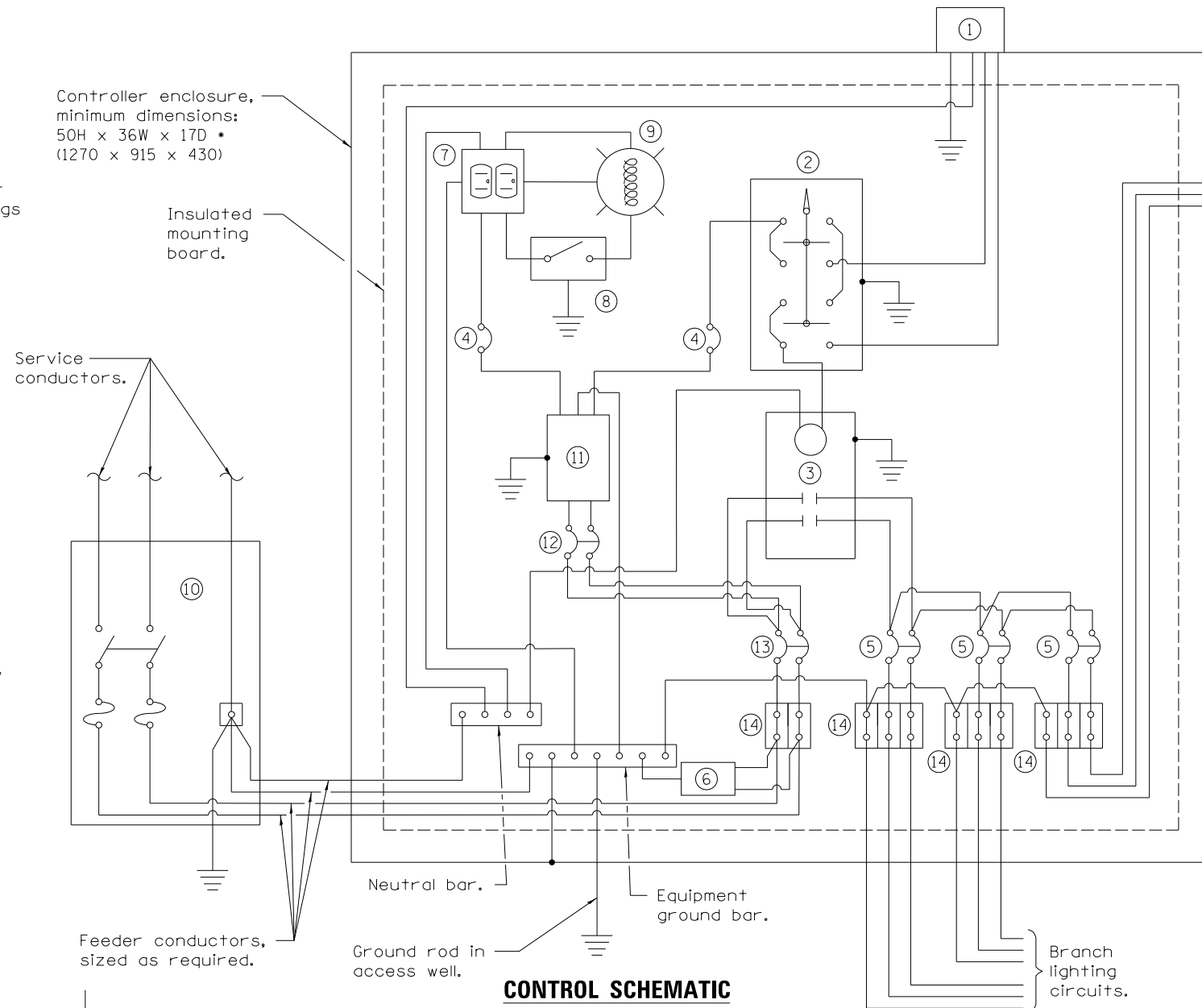
 © Copyright Hanson Professional Senders Inc. 2024	USER NAME = pop00275	DESIGNED - JFC	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SPRINGFIELD RAIL IMPROVEMENTS PROJECT SPRINGFIELD, SANGAMON COUNTY, ILLINOIS LIGHTING DETAILS – 2				F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 0.17" / in.	DRAWN - RSJ	REVISED -						7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	355
	PLOT DATE = 9/27/2024	CHECKED - RDN	REVISED -		09L0179B				CONTRACT NO. 9377				
	DATE = 10/01/2024	DATE = 10/01/2024	REVISED -		SCALE:	SHEET 2 OF 4 SHEETS	STA.	TO STA.			ILLINOIS	FED. AID PROJECT	



FOUNDATION (PLAN)
(Work pad not shown.)



ANCHOR ROD DETAIL



CONTROL SCHEMATIC

- ① Photocell with integral surge arrester.
- ② HAND-OFF-AUTO selector switch.
- ③ 100 amp*, electrically held contactor.
- ④ 15 amp, 1-pole circuit breaker.
- ⑤ 20 amp*, 2-pole circuit breaker (two spares required but not shown).
- ⑥ Surge arrester.
- ⑦ GFCI duplex receptacle.
- ⑧ Single-pole, single-throw switch.
- ⑨ Incandescent luminaire, enclosed and gasketed with 100 watt lamp.
- ⑩ Service disconnect switch - 2-pole, 3-wire, 100 amp*, fused at 100 amp*, solid neutral in NEMA 4X enclosure having lockable external handle.
- ⑪ Transformer - 1KVA*, 480V primary, 120/240V secondary, single-phase, 60Hz.
- ⑫ 15 amp, 2-pole circuit breaker.
- ⑬ 100 amp*, 2-pole circuit breaker.
- ⑭ Terminal block sized for conductors as shown on plans.

All dimensions are in inches (millimeters) unless otherwise shown.

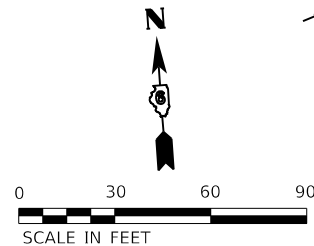
Sqaure D Mini Power Zone
unit to be paid for as
supplemental to the 480V
Lighting Controller
Pay Item #82500360

Feed Mini Power Zone
from 20A/2P 480V
breaker in lighting
control panel.

Provide 3-20A/2P breakers—
in Mini-Power Zone 1 active
for underpass lights
and 2 spares.

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		DRAWN - RSJ	REVISED -			7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	361
	PLOT SCALE = 0.17' / in.	CHECKED - RDN	REVISED -			09L0179B				
	PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -			SCALE:	SHEET 4 OF 4 SHEETS	STA. TO STA.	CONTRACT NO. 93773	
							ILLINOIS	FED. AID PROJECT		

- MODEL: Sheet 1
FILE NAME: pw:\hansoninc-pw.bentley.com:hanson-pw-01\Documents\09jobs\09L0179B\Usable Segments III - V - VICAD\Rail\Usable Segment VI - IDOT\Sheet\0609L0179B-TRACK-Signals-IM_NGA.dgn



HANSON

USER NAME = pop00275	DESIGNED - GCH	REVISED -
	DRAWN - DJP	REVISED -
PLOT SCALE = 60.00" = 1 in.	CHECKED - GCN	REVISED -
PLOT DATE = 10/1/2024	DATE - 10/01/2024	REVISED -

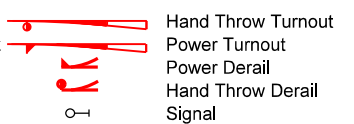
SPRINGFIELD RAIL IMPROVEMENTS PROJECT SPRINGFIELD, SANGAMON COUNTY, ILLINOIS PLAN SHEET – RAILROAD SIGNALS – IMRR AT NORTH GRAND AVENUE				
SCALE:	SHEET 1	OF 1	SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	362
09L0179B		CONTRACT NO. 93773		
	ILLINOIS	FED. AID PROJECT		



NOTE: NOT ALL KEYED NOTES ARE SHOWN ON EACH PLAN SHEET

- 12** MAIN SERVICE DISCONNECT; 200 AMP, 240 VAC, 2-POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X SS ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION. ALSO SEE NOTES 5 & 10.
- 13** (RESERVED)
- 14** NEMA 4X SS ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24"W X 8"D.
- 15** PROVIDE 480V, 400A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 75 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D), 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACKS. ALSO SEE KEYED NOTES 5 & 10.
- 15B** 300A, 480 VAC, 1PH, 2 WIRE WITH GROUND FEEDER CIRCUIT; 2 #350 MCM XHHW-2, 1 #2 GND, 3" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.
- 16** BORE CASING PIPE PROPERLY SIZED FOR APPLICATION BENEATH TRACKS. INSTALL CONDUITS THROUGH CASING PIPE. SEE DETAIL.

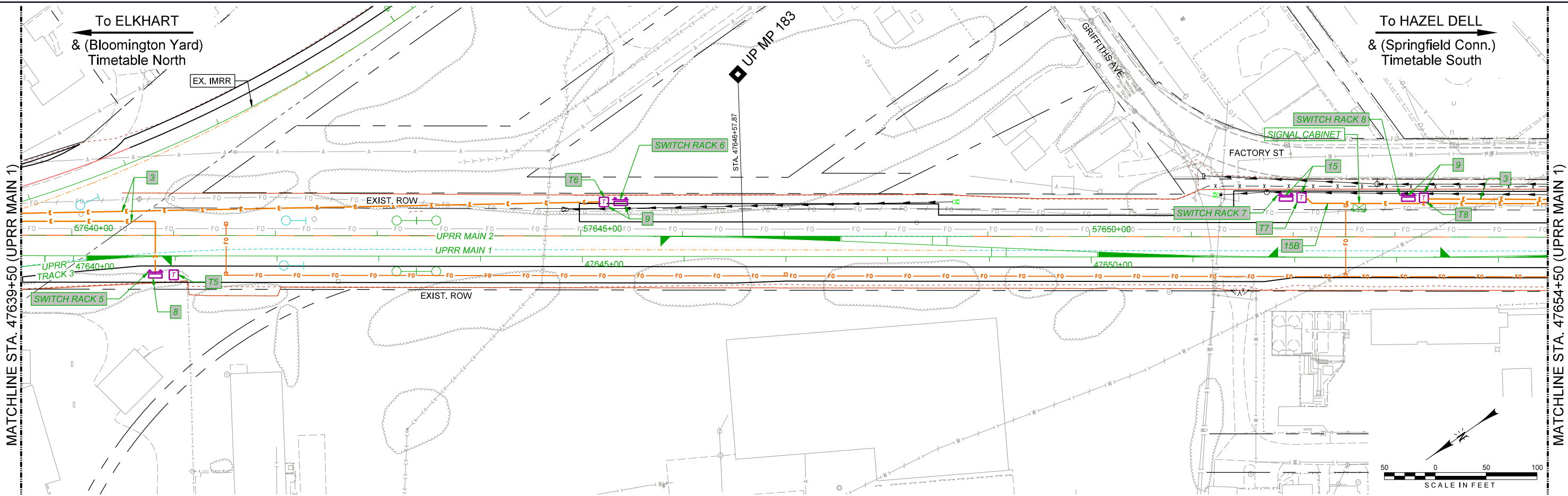


PLAN	SURVEYED PLOTTED ALIGNED CHECKED CADD FILE NAME	BY	DATE
NOTE BOOK NO.			

PROFILE	SURVEYED PLOTTED GRADES CHECKED STRUCTURE NOTATIONS CHKD	BY	DATE
NOTE BOOK NO.			

FINAL PLANS

MODEL: Sheet 2
FILE NAME: p:\hanson\cadd\hanson\spw-01\Documents\09\09\01\798\Usable_Segment VI - UPRR\Sheet\090101798-spc-Elc-Plan UPRR.dgn
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KEYED NOTES NOTE: NOT ALL KEYED NOTES ARE SHOWN ON EACH PLAN SHEET

1 400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.

2 400A, 480Y/277V, 3PH 4-WIRE MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY, ADJUST AS APPLICABLE. MOUNT TO H-FRAME RACK, COORDINATE SERVICE WITH CWLP. ALSO SEE KEYED NOTES 5 & 10.

3 PROVIDE 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE

4 COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR NEW PRIMARY SERVICE CONDUIT; 5" SCHED 40 PVC C TO PRIMARY SERVICE POINT.

4A COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR KWH REVENUE METER TO BE MOUNTED ON PAD MOUNT UTILITY TRANSFORMER ENCLOSURE WHERE PERMISSIBLE. VERIFY METER REQUIREMENTS WITH CWLP AND ADJUST TO MEET THEIR REQUIREMENTS.

5 SEE RESPECTIVE H-FRAME SUPPORT RACK DETAILS.

6 UTILITY TRANSFORMER SIZED BY SERVING ELECTRIC UTILITY. SEE TRANSFORMER PAD DETAIL. COORDINATE AND VERIFY WITH SERVING ELECTRIC UTILITY; CWLP

7 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 25 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

8 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 37.5 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

9 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 50 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

10 PROVIDE 2-3/4" DIA. X 10'L UL LISTED COPPERCLAD GROUND RODS WITH #2 AWG COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC CONDUIT FROM RESPECTIVE DISCONNECTING MEANS TO THE GROUND RODS. CONNECTIONS TO GROUND RODS AND BELOW GRADE SHALL BE EXOTHERMIC WELD. SPACE GROUND RODS NOT LESS THAN ONE ROD LENGTH APART. TYPICAL FOR SERVICE DISCONNECTS, SERVICE PANELS, SWITCH RACK DISCONNECTS, AND TRANSFORMER SECONDARY DISCONNECTS.

11 200 AMP, 120/240 VAC, SINGLE PHASE, 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER TO SERVICE DISCONNECTING MEANS; 3 #3/0 AWG XHHW-2 (2 PHASE CONDUCTORS AND NEUTRAL) IN 3 INCH CONDUIT.

12 MAIN SERVICE DISCONNECT; 200 AMP, 240 VAC, 2-POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X SS ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION. ALSO SEE NOTES 5 & 10.

13 (RESERVED)

14 NEMA 4X SS ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24"W X 8"D.

15 PROVIDE 480V, 400A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 75 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D), 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACKS. ALSO SEE KEYED NOTES 5 & 10.

15B 300A, 480 VAC, 1PH, 2 WIRE WITH GROUND FEEDER CIRCUIT; 2 #350 MCM XHHW-2, 1 #2 GND, 3" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.

16 BORE CASING PIPE PROPERLY SIZED FOR APPLICATION BENEATH TRACKS. INSTALL CONDUITS THROUGH CASING PIPE. SEE DETAIL.

	EXISTING FIBER OPTIC		PROPOSED FIBER OPTIC		NOTE	WORK BY UPRR		Ex. UPRR Track		Prop. Foreign Track		Hand Throw Turnout
	EXISTING HANDHOLE		PROPOSED HANDHOLE		NOTE	WORK BY CONTRACTOR (OR OTHERS AS NOTED)		Remove Foreign Track		Shift Foreign Track		Power Turnout
	EXISTING VAULT BOX		PROPOSED VAULT BOX					Shift UPRR Track		Prop. ROW		Power Derail
								Upgrade or Raise UPRR Track		Ex. ROW		Hand Throw Derail
								Permanent Easement		Temporary Easement		Signal



USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - SKB	REVISED -
PLOT SCALE = 100,0001 sf / in.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE:			SHEET 2 OF 9 SHEETS			STA. TO STA.		

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL SERVICE INSTALLATION (SPECIAL) – UPRR SIGNALS – 2

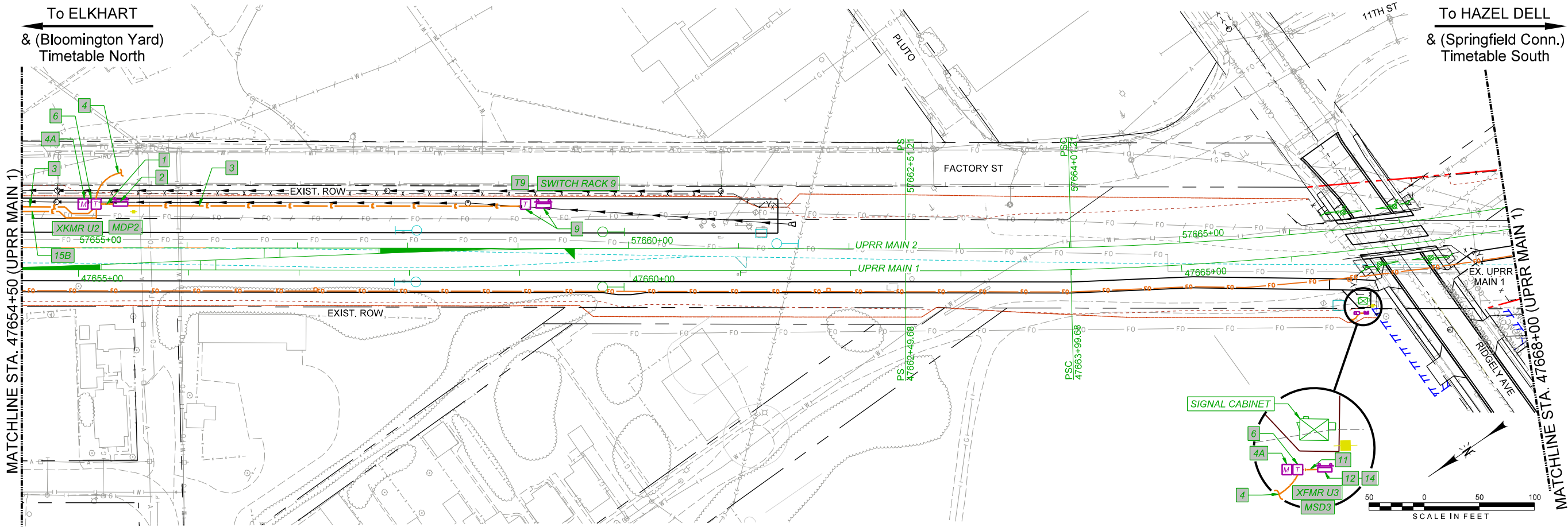
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	364
09L0179B			CONTRACT NO.	93773
ILLINOIS FED. AID PROJECT				

PLAN	SURVEYED PLOTTED NOTE BOOK NO.	BY	DATE

PROFILE	SURVEYED PLOTTED NOTE BOOK NO.	BY	DATE

FINAL PLANS

MODEL: Sheet 3
FILE NAME: p:\hanson\inc\pw\hanson\pw-01\Documents\09\09\01\799\Usable_Segments III - V - V\CAD\Rail\Usable_Segment VI - UPRR\Sheet\09\01\799\Bent-Elec-Plan UPRR.dgn



KEYED NOTES NOTE: NOT ALL KEYED NOTES ARE SHOWN ON EACH PLAN SHEET

- 1

400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.
- 2

400A, 480Y/277V, 3PH 4-WIRE MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY, ADJUST AS APPLICABLE. MOUNT TO H-FRAME RACK, COORDINATE SERVICE WITH CWLP. ALSO SEE KEYED NOTES 5 & 10.
- 3

PROVIDE 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE
- 4

COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR NEW PRIMARY SERVICE CONDUIT; 5" SCHED 40 PVC C TO PRIMARY SERVICE POINT.
- 4A

COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR KWH REVENUE METER TO BE MOUNTED ON PAD MOUNT UTILITY TRANSFORMER ENCLOSURE WHERE PERMISSIBLE. VERIFY METER REQUIREMENTS WITH CWLP AND ADJUST TO MEET THEIR REQUIREMENTS.
- 5

SEE RESPECTIVE H-FRAME SUPPORT RACK DETAILS.
- 6

UTILITY TRANSFORMER SIZED BY SERVING ELECTRIC UTILITY. SEE TRANSFORMER PAD DETAIL. COORDINATE AND VERIFY WITH SERVING ELECTRIC UTILITY; CWLP
- 7

PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 25 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.
- 8

PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 37.5 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.
- 9

PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 50 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.
- 10

PROVIDE 2-3/4" DIA. X 10'L UL LISTED COPPERCLAD GROUND RODS WITH #2 AWG COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC CONDUIT FROM RESPECTIVE DISCONNECTING MEANS TO THE GROUND RODS. CONNECTIONS TO GROUND RODS AND BELOW GRADE SHALL BE EXOTHERMIC WELD. SPACE GROUND RODS NOT LESS THAN ONE ROD LENGTH APART. TYPICAL FOR SERVICE DISCONNECTS, SERVICE PANELS, SWITCH RACK DISCONNECTS, AND TRANSFORMER SECONDARY DISCONNECTS.
- 11

200 AMP, 120/240 VAC, SINGLE PHASE, 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER TO SERVICE DISCONNECTING MEANS; 3 #3/0 AWG XHHW-2 (2 PHASE CONDUCTORS AND NEUTRAL) IN 3 INCH CONDUIT.
- 12

MAIN SERVICE DISCONNECT; 200 AMP, 240 VAC, 2-POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X SS ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION. ALSO SEE NOTES 5 & 10.
- 13

(RESERVED)
- 14

NEMA 4X SS ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24"W X 8"D.
- 15

PROVIDE 480V, 400A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 75 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D), 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACKS. ALSO SEE KEYED NOTES 5 & 10.
- 15B

300A, 480 VAC, 1PH, 2 WIRE WITH GROUND FEEDER CIRCUIT; 2 #350 MCM XHHW-2, 1 #2 GND, 3" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.
- 16

BORE CASING PIPE PROPERLY SIZED FOR APPLICATION BENEATH TRACKS. INSTALL CONDUITS THROUGH CASING PIPE. SEE DETAIL.

	EXISTING FIBER OPTIC		PROPOSED FIBER OPTIC		NOTE	WORK BY UPRR		Ex. UPRR Track		Prop. Foreign Track		Hand Throw Turnout
	EXISTING HANDHOLE		PROPOSED HANDHOLE		NOTE	WORK BY CONTRACTOR (OR OTHERS AS NOTED)		Remove UPRR Track		Shift Foreign Track		Power Turnout
	EXISTING VAULT BOX		PROPOSED VAULT BOX					Shift UPRR Track		Prop. ROW		Hand Throw Derail
								Upgrade or Raise UPRR Track		Ex. ROW		Signal
								Ex. Foreign Track		Permanent Easement		
								Temporary Easement				



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USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - SKB	REVISED -
PLOT SCALE = 100,0005 sf / in.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -





















STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL SERVICE INSTALLATION (SPECIAL) – UPRR SIGNALS – 3

SCALE: SHEET 3 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	365
	09L0179B		CONTRACT NO.	93773
	ILLINOIS	FED. AID PROJECT		



- | | | | | | | | | | | | | |
|---|----------------------|---|----------------------|---|------|--|---|-----------------------------|---|----------------------|---|--------------------|
|  | EXISTING FIBER OPTIC |  | PROPOSED FIBER OPTIC |  | NOTE | WORK BY UPRR |  | Ex. UPRR Track |  | Prop. Foreign Track |  | Hand Throw Turnout |
| | EXISTING HANDHOLE | | PROPOSED HANDHOLE |  | NOTE | WORK BY CONTRACTOR
(OR OTHERS AS NOTED) | | Prop. UPRR Track | | Remove Foreign Track | | Power Turnout |
|  | EXISTING VAULT BOX |  | PROPOSED VAULT BOX | | | |  | Remove UPRR Track |  | Shift Foreign Track |  | Power Derail |
| | | | | | | |  | Shift UPRR Track |  | Prop. ROW |  | Hand Throw Derail |
| | | | | | | |  | Upgrade or Raise UPRR Track |  | Ex. ROW |  | Signal |
| | | | | | | |  | Ex. Foreign Track |  | Permanent Easement | | |
| | | | | | | | | Temporary Easement | | Temporary Easement | | |

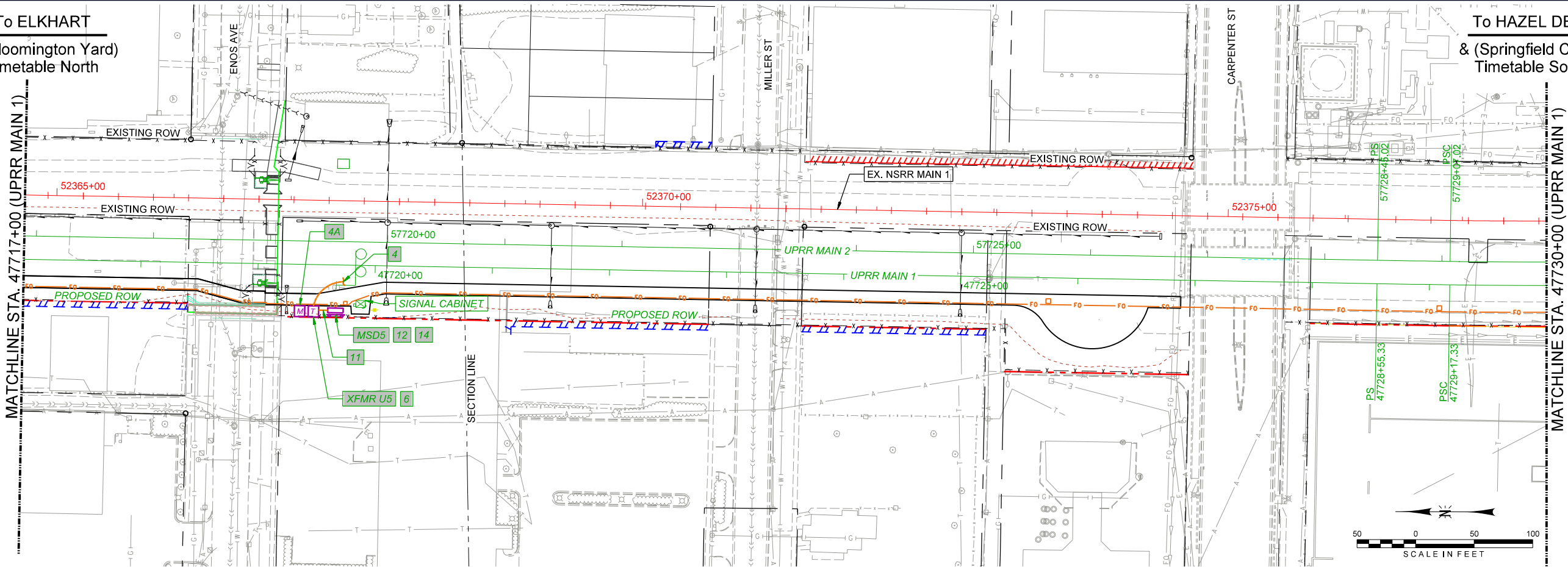
PROFILE	DATE
SURVEYED	BY
GRADES CHECKED	
STRUCTURE NOTATIONS CHKD	
NOTE BOOK NO.	

PLAN	DATE
SURVEYED	BY
ALIGNED CHECKED	
STRUCTURE NOTATIONS CHKD	
NOTE BOOK NO.	

MODEL: Sheet 5
FILE NAME: p:\hanson\civ\paw\entirety.com\hanson-spw-01\Documents\09\09\01\79B\Usable Segments III - V - V\CAD\Rail\Usable Segment VI - UPRR\SheetD09010179B-snc-Elec-Plan UPRR.dgn

To ELKHART
& (Bloomington Yard)
Timetable North

To HAZEL DELL
& (Springfield Conn.)
Timetable South



TRANSITION TIES PER UPRR STANDARD DRAWING 0304.

KEYED NOTES NOTE: NOT ALL KEYED NOTES ARE SHOWN ON EACH PLAN SHEET

1 400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.

2 400A, 480Y/277V, 3PH 4-WIRE MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY, ADJUST AS APPLICABLE. MOUNT TO H-FRAME RACK, COORDINATE SERVICE WITH CWLP. ALSO SEE KEYED NOTES 5 & 10.

3 PROVIDE 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE

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5 SEE RESPECTIVE H-FRAME SUPPORT RACK DETAILS.

6 UTILITY TRANSFORMER SIZED BY SERVING ELECTRIC UTILITY. SEE TRANSFORMER PAD DETAIL. COORDINATE AND VERIFY WITH SERVING ELECTRIC UTILITY; CWLP

7 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 25 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

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12 MAIN SERVICE DISCONNECT; 200 AMP, 240 VAC, 2-POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X SS ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION. ALSO SEE NOTES 5 & 10.

13 (RESERVED)

14 NEMA 4X SS ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24"W X 8"D.

15 PROVIDE 480V, 400A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 75 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D), 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACKS. ALSO SEE KEYED NOTES 5 & 10.

15B 300A, 480 VAC, 1PH, 2 WIRE WITH GROUND FEEDER CIRCUIT; 2 #350 MCM XHHW-2, 1 #2 GND, 3" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.

16 BORE CASING PIPE PROPERLY SIZED FOR APPLICATION BENEATH TRACKS. INSTALL CONDUITS THROUGH CASING PIPE. SEE DETAIL.

EXISTING FIBER OPTIC
EXISTING HANDHOLE
EXISTING VAULT BOX

PROPOSED FIBER OPTIC
PROPOSED HANDHOLE
PROPOSED VAULT BOX

NOTE WORK BY UPRR
NOTE WORK BY CONTRACTOR (OR OTHERS AS NOTED)

Ex. UPRR Track
Prop. UPRR Track
Remove UPRR Track
Shift UPRR Track
Upgrade or Raise UPRR Track
Ex. Foreign Track
Prop. Foreign Track
Remove Foreign Track
Shift Foreign Track
Prop. ROW
Ex. ROW
Permanent Easement
Temporary Easement

Hand Throw Turnout
Power Turnout
Power Derail
Hand Throw Derail
Signal



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USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - SKB	REVISED -
PLOT SCALE = 100,000.3 sf / in.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

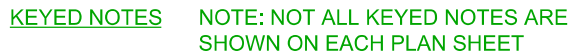
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

























SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL SERVICE INSTALLATION (SPECIAL) - UPRR SIGNALS - 5

SCALE: SHEET 5 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	367
	09L0179B	CONTRACT NO.		93773
	ILLINOIS	FED. AID PROJECT		

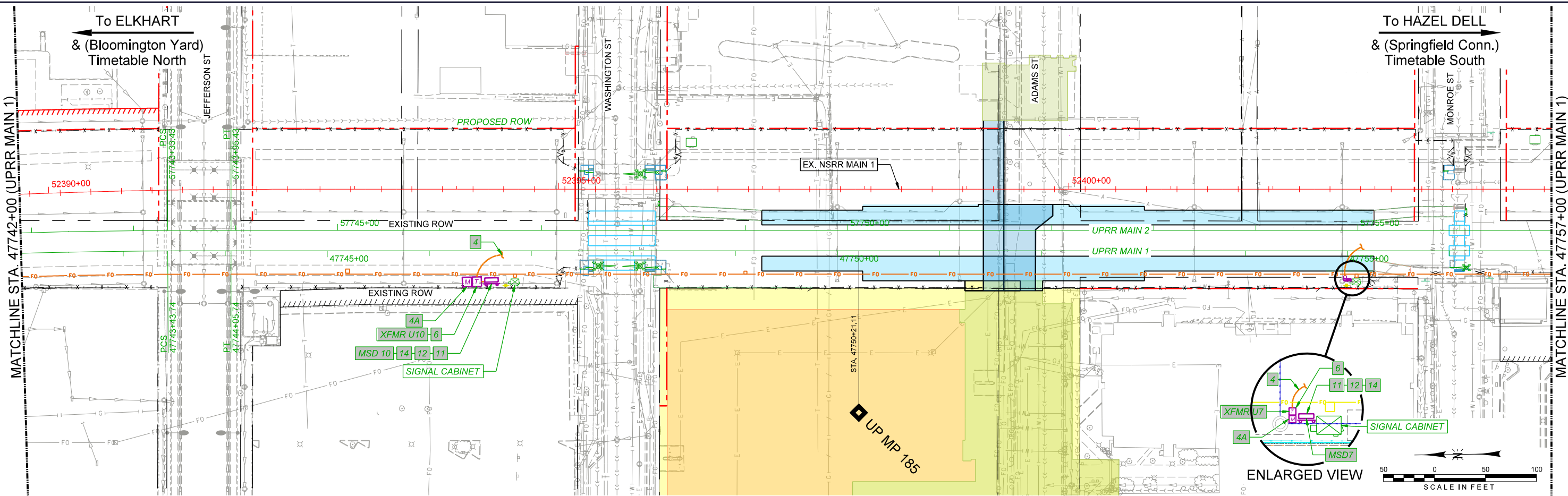
PROFILE		BY	DATE
	SURVEYED		
	PLOTTED		
NOTE BOOK	GRADES CHECKED		
	R.M. NOTED		
NO. _____	STRUCTURE NOTATIONS CHK'D		



- | | | | | | | | | | | | | |
|---|----------------------|---|----------------------|---|------|---|---|-----------------------------|---|----------------------|---|--------------------|
|  | EXISTING FIBER OPTIC |  | PROPOSED FIBER OPTIC |  | NOTE | WORK BY UPRR |  | Ex. UPRR Track |  | Prop. Foreign Track |  | Hand Throw Turnout |
|  | EXISTING HANDHOLE |  | PROPOSED HANDHOLE |  | NOTE | WORK BY CONTRACTOR (OR OTHERS AS NOTED) |  | Prop. UPRR Track |  | Remove Foreign Track |  | Power Turnout |
|  | EXISTING VAULT BOX |  | PROPOSED VAULT BOX | | | |  | Remove UPRR Track |  | Shift Foreign Track |  | Power Derail |
| | | | | | | | | Shift UPRR Track | | Prop. ROW | | Hand Throw Derail |
| | | | | | | |  | Upgrade or Raise UPRR Track |  | Ex. ROW |  | Signal |
| | | | | | | |  | Ex. Foreign Track |  | Permanent Easement | | |
| | | | | | | |  | Temporary Easement |  | | | |

PROFILE	DATE
SURVEYED	BY
PLOTTED	
GRADES CHECKED	
STRUCTURE NOTATIONS CHKD	
NOTE BOOK NO.	

PLAN	DATE
SURVEYED	BY
PLOTTED	
ALIGNMENT CHECKED	
CADD FILE NAME	
NOTE BOOK NO.	

MODEL Sheet 7
FILE NAME: p:\hanson\cnc\pw\kentley.com\hanson-pw-01\Documents\09\09\01799\Usable Segments III - V - V\CAD\Rail\Usable Segment VI - UPRR\SheetD69101799B-ent-Elec-Plan UPRR.dgn

KEYED NOTES

NOTE: NOT ALL KEYED NOTES ARE SHOWN ON EACH PLAN SHEET

1 400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.

2 400A, 480Y/277V, 3PH 4-WIRE MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY, ADJUST AS APPLICABLE. MOUNT TO H-FRAME RACK, COORDINATE SERVICE WITH CWLP. ALSO SEE KEYED NOTES 5 & 10.

3 PROVIDE 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE

4 COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR NEW PRIMARY SERVICE CONDUIT; 5" SCHED 40 PVC C TO PRIMARY SERVICE POINT.

4A COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR KWH REVENUE METER TO BE MOUNTED ON PAD MOUNT UTILITY TRANSFORMER ENCLOSURE WHERE PERMISSIBLE. VERIFY METER REQUIREMENTS WITH CWLP AND ADJUST TO MEET THEIR REQUIREMENTS.

5 SEE RESPECTIVE H-FRAME SUPPORT RACK DETAILS.

6 UTILITY TRANSFORMER SIZED BY SERVING ELECTRIC UTILITY. SEE TRANSFORMER PAD DETAIL. COORDINATE AND VERIFY WITH SERVING ELECTRIC UTILITY; CWLP

7 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 25 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

8 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 37.5 KVA PAD MOUNT TRANSFORMER, 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

9 PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 50 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10.

10 PROVIDE 2-3/4" DIA. X 10'L UL LISTED COPPERCLAD GROUND RODS WITH #2 AWG COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC CONDUIT FROM RESPECTIVE DISCONNECTING MEANS TO THE GROUND RODS. CONNECTIONS TO GROUND RODS AND BELOW GRADE SHALL BE EXOTHERMIC WELD. SPACE GROUND RODS NOT LESS THAN ONE ROD LENGTH APART. TYPICAL FOR SERVICE DISCONNECTS, SERVICE PANELS, SWITCH RACK DISCONNECTS, AND TRANSFORMER SECONDARY DISCONNECTS.

11 200 AMP, 120/240 VAC, SINGLE PHASE, 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER TO SERVICE DISCONNECTING MEANS; 3 #3/0 AWG XHHW-2 (2 PHASE CONDUCTORS AND NEUTRAL) IN 3 INCH CONDUIT.

12 MAIN SERVICE DISCONNECT; 200 AMP, 240 VAC, 2-POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X SS ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION. ALSO SEE NOTES 5 & 10.

13 (RESERVED)

14 NEMA 4X SS ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24"W X 8"D.

15 PROVIDE 480V, 400A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 75 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D), 240V, 200A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 24" X 24" X 8"D). MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACKS. ALSO SEE KEYED NOTES 5 & 10.

15B 300A, 480 VAC, 1PH, 2 WIRE WITH GROUND FEEDER CIRCUIT; 2 #350 MCM XHHW-2, 1 #2 GND, 3" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.

16 BORE CASING PIPE PROPERLY SIZED FOR APPLICATION BENEATH TRACKS. INSTALL CONDUITS THROUGH CASING PIPE. SEE DETAIL.

EXISTING FIBER OPTIC
EXISTING HANDHOLE
EXISTING VAULT BOX

PROPOSED FIBER OPTIC
PROPOSED HANDHOLE
PROPOSED VAULT BOX

NOTE

WORK BY UPRR

NOTE

WORK BY CONTRACTOR
(OR OTHERS AS NOTED)

Ex. UPRR Track
Prop. UPRR Track
Remove UPRR Track
Shift UPRR Track
Upgrade or Raise UPRR Track
Ex. Foreign Track

Prop. Foreign Track
Remove Foreign Track
Shift Foreign Track
Prop. ROW
Ex. ROW
Permanent Easement
Temporary Easement

Hand Throw Turnout
Power Turnout
Power Derail
Hand Throw Derail
Signal



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USER NAME = pop00275
PLOT SCALE = 100.0013 sf / in.
PLOT DATE = 9/27/2024

DESIGNED - KNL
DRAWN - SKB
CHECKED - KNL
DATE - 10/01/2024

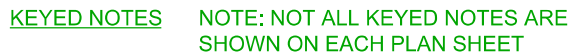
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

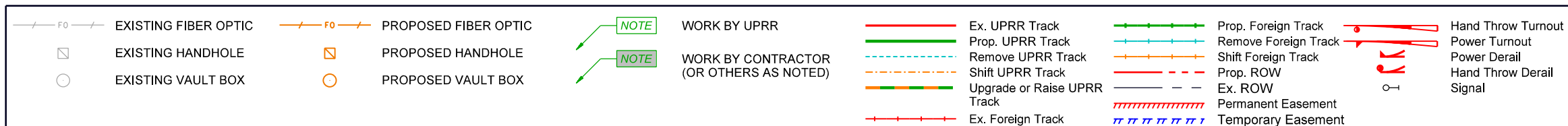
SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL SERVICE INSTALLATION (SPECIAL) – UPRR SIGNALS – 7

SCALE: SHEET 7 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	369
09L0179B		CONTRACT NO.	93773	
ILLINOIS		FED. AID PROJECT		



- | | | | | | |
|----|---|----|---|-----|--|
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| 3 | PROVIDE 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE | 9 | PROVIDE 480V, 200A, 2P NEMA 4X SS NOT FUSIBLE PRIMARY SAFETY SWITCH, 480-120/240V, 50 KVA PAD MOUNT TRANSFORMER, 240V, 400A, 2P NEMA 4X SS FUSIBLE SECONDARY SAFETY SWITCH, AND NEMA 4X SS JUNCTION BOX (MIN 30" X 30" X 8"D), MOUNT SAFETY SWITCHES AND JUNCTION BOX ON H-FRAME SWITCH RACK. ALSO SEE KEYED NOTES 5 & 10. | 14 | NEMA 4X SS ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24"W X 8"D. |
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| 4A | COORDINATE WITH SERVING ELECTRIC UTILITY; CWLP, FOR KWH REVENUE METER TO BE MOUNTED ON PAD MOUNT UTILITY TRANSFORMER ENCLOSURE WHERE PERMISSIBLE. VERIFY METER REQUIREMENTS WITH CWLP AND ADJUST TO MEET THEIR REQUIREMENTS. | | | 15B | 300A, 480 VAC, 1PH, 2 WIRE WITH GROUND FEEDER CIRCUIT; 2 #350 MCM XHHW-2, 1 #2 GND, 3" SCHED 40 MIN. PVC / HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE. |
| 5 | SEE RESPECTIVE H-FRAME SUPPORT RACK DETAILS. | 11 | 200 AMP, 120/240 VAC, SINGLE PHASE, 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER TO SERVICE DISCONNECTING MEANS; 3 #3/0 AWG XHHW-2 (2 PHASE CONDUCTORS AND NEUTRAL) IN 3 INCH CONDUIT. | 16 | BORE CASING PIPE PROPERLY SIZED FOR APPLICATION BENEATH TRACKS. INSTALL CONDUITS THROUGH CASING PIPE. SEE DETAIL. |
| 6 | UTILITY TRANSFORMER SIZED BY SERVING ELECTRIC UTILITY. SEE TRANSFORMER PAD DETAIL. COORDINATE AND VERIFY WITH SERVING ELECTRIC UTILITY; CWLP | | | | |



PROFILE	SURVEYED		BY	DATE
	PLOTTED			
	GRADES CHECKED			
	STRUCTURE NOTATIONS CHKD			
NOTE BOOK NO.				

PLAN	SURVEYED		BY	DATE
	PLOTTED			
	GRADES CHECKED			
	STRUCTURE NOTATIONS CHKD			
NOTE BOOK NO.				

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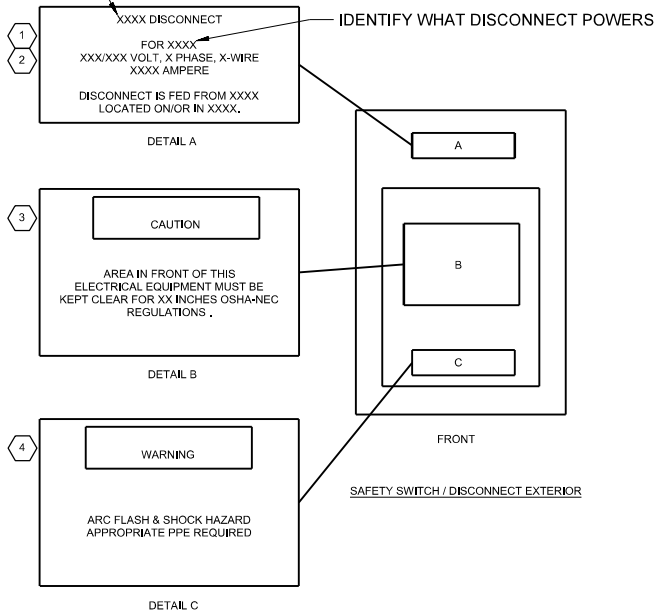
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NOTE BOOK NO. _____			

PROFILE	SURVEYED PLOTTED GRADES CHECKED AS BUILT STRUCTURE NOTATIONS CHRG	BY	DATE
NOTE BOOK NO. _____			

FINAL PLANS

MODEL Sheet: 1
FILE NAME: p:\w\ansell\pc-pw\entirety.com\hanson-pw-01\Documents\09\pos\09\01\79B\Usable Segments III - V - V\VCAD\8\wall\Usable Segments VI - UPRR\Sheet\09\01\79B-shc-Elec-detail-01.dgn

IDENTIFY AS "SERVICE", "PRIMARY", "SECONDARY"
OR OTHER APPLICATION



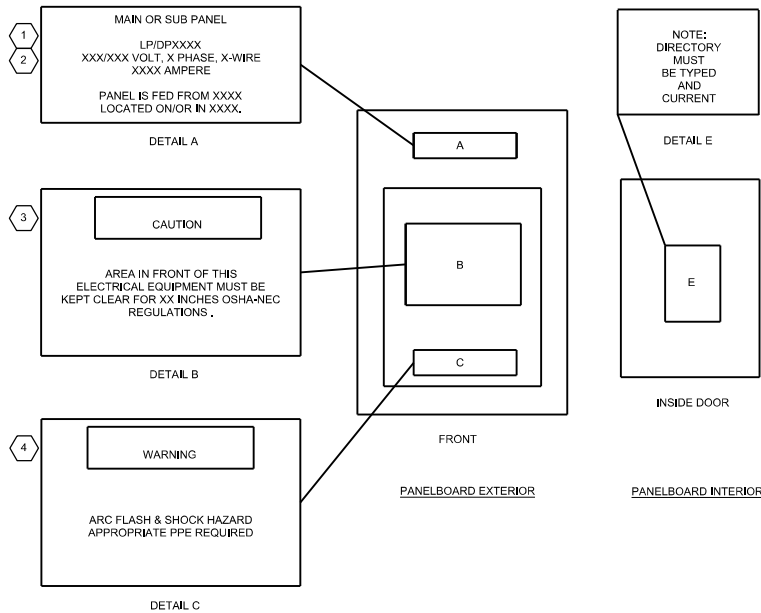
SAFETY SWITCH / DISCONNECT LABELING DETAIL
NOT TO SCALE

GENERAL NOTES:

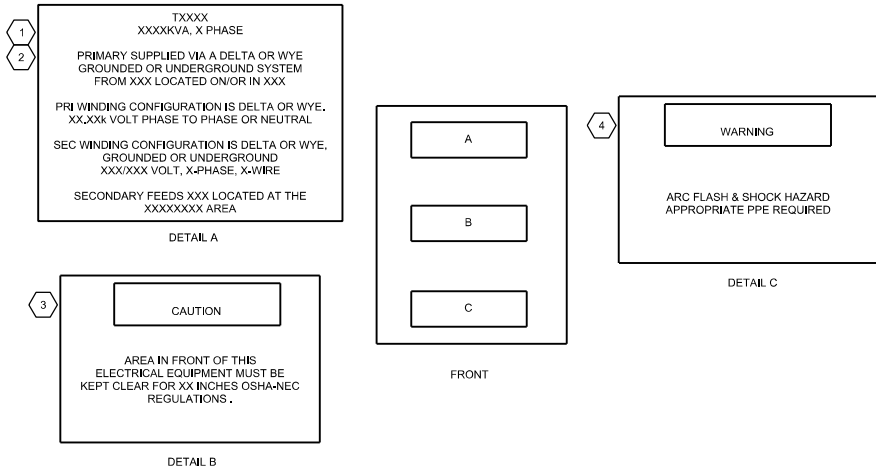
- ALL LABELING WILL COMPLY WITH UPRR GENERAL CONDITIONS AND SPECIFICATIONS 260500 AND 269900
- PER NEC 110.22 "IDENTIFICATION OF DISCONNECT MEANS", EACH DISCONNECTING MEANS SHALL BE LEGIBLY MARKED TO INDICATE ITS PURPOSE AND IDENTIFY THE POWER SOURCE THAT SUPPLIES THE DISCONNECTING MEANS.
- PER NEC 408.4 "FIELD MARKING REQUIRED" PART (B) "SOURCE OF SUPPLY", ALL SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS SUPPLIED BY A FEEDER(S) SHALL BE PERMANENTLY MARKED TO INDICATED EACH DEVICE OR EQUIPMENT WHERE THE POWER ORIGINATES.
- PER NEC 100.24 "AVAILABLE FAULT CURRENT" PART (A) "FIELD MARKING", SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH AVAILABLE FAULT CURRENT.
- PER NEC 408.6 "SHORT-CIRCUIT CURRENT RATING" THE AVAILABLE FAULT CURRENT AND THE DATE THE CALCULATION WAS PERFORMED SHALL BE FIELD MARKED ON THE ENCLOSURE AT THE POINT OF SUPPLY.
- FAULT CURRENT INFORMATION TO BE PROVIDED BY SERVING ELECTRIC UTILITY COMPANY OR FROM DATA OBTAINED FROM UTILITY TRANSFORMER NAMEPLATE. CONTACT PROJECT ENGINEER OF RECORD TO CONFIRM FAULT CURRENT CALCULATIONS.
- CONTRACTOR SHALL PROVIDE APPROPRIATE LABELS ON ELECTRICAL EQUIPMENT, IN ACCORDANCE WITH NFPA 70E ARTICLE 130 WORK INVOLVING ELECTRICAL HAZARDS, PART 130.5 ARC FLASH RISK ASSESSMENT, (H) EQUIPMENT LABELING.

GENERAL NOTE FOR NEC WIRING COLOR CODE IDENTIFICATION REQUIREMENTS:

CONTRACTOR IS TO FOLLOW THE REQUIREMENTS OF NEC ARTICLE 210.5 - IDENTIFICATION OF BRANCH CIRCUIT CONDUCTORS FOR LABELING ON ALL PANELBOARDS, LIGHTING CONTACTORS, DISCONNECTS, HIGH MAST LIGHT POLES, MINI POWER ZONES, AND OTHER ELECTRICAL EQUIPMENT ON SITE. THIS INCLUDES, BUT IS NOT LIMITED TO, PROVIDING THE COLOR CODE WIRING INFORMATION ON EACH PIECE OF EQUIPMENT AND NOTING THAT OTHER UNIDENTIFIED SYSTEMS EXIST ON THE PREMISES.



PANELBOARD LABELING DETAIL
NOT TO SCALE



TRANSFORMER LABELING DETAIL
NOT TO SCALE

NOTES:

- LABEL SHALL BE WHITE PHENOLIC WITH ½" HEIGHT MINIMUM BLACK ENGRAVED LETTERING.
- EQUIPMENT CONTAINING MULTIPLE POWER SOURCES SHALL INCLUDE LABELS DETAILING EACH POWER SOURCE.
- USE NEC TABLE 110.26 TO DETERMINE THE PROPER CLEARANCE. USE PRE-PRINTED BRADY LABELS.
- USE BRADY LABEL MODEL NUMBERS 99462 OR AN APPROVED EQUAL.



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USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - JFC	REVISED -
PLOT SCALE = 100.00 sf / In.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS - UPRR - 1**

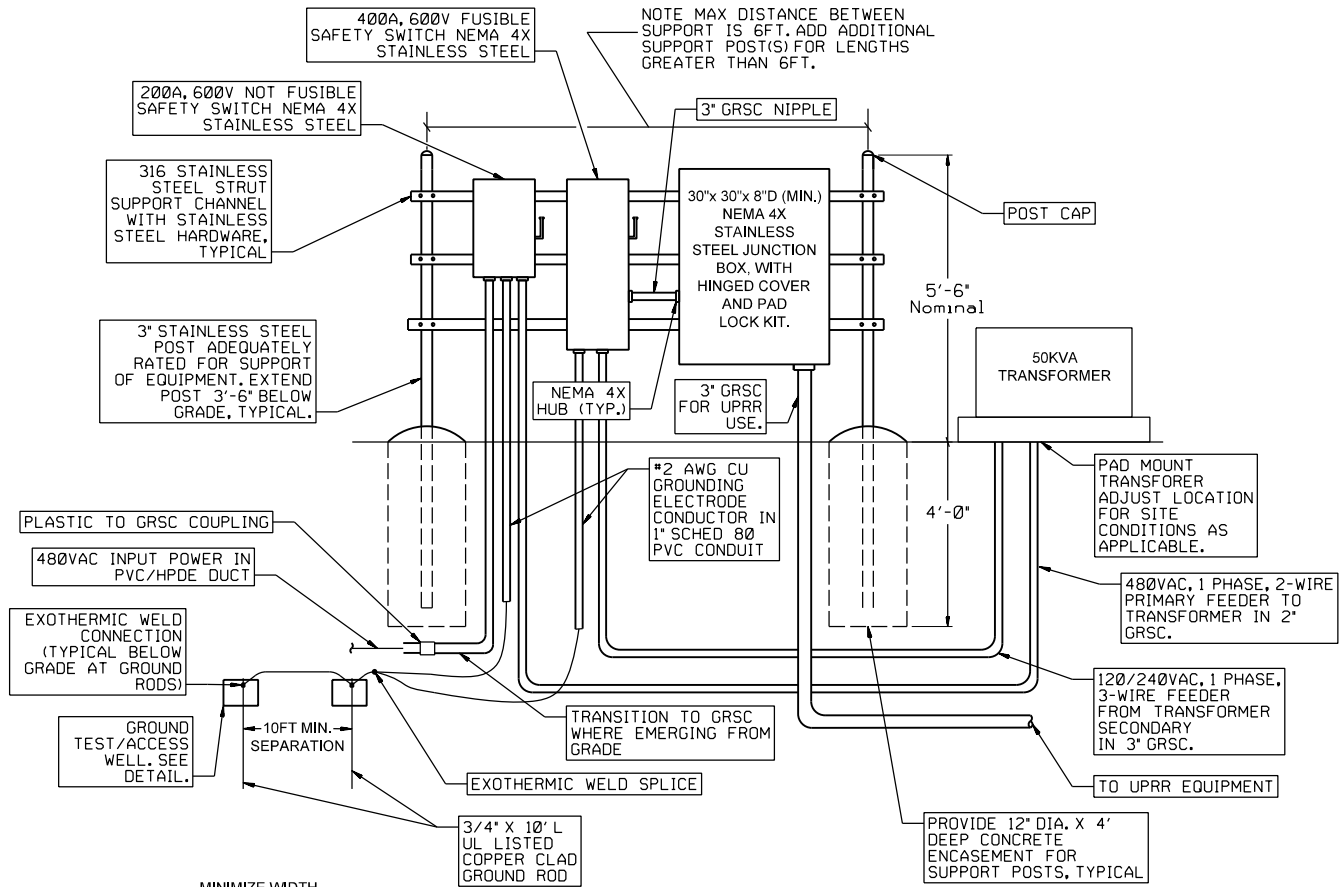
SCALE: SHEET 1 OF 16 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	372
09L0179B		CONTRACT NO. 93773		
		ILLINOIS FED. AID PROJECT		

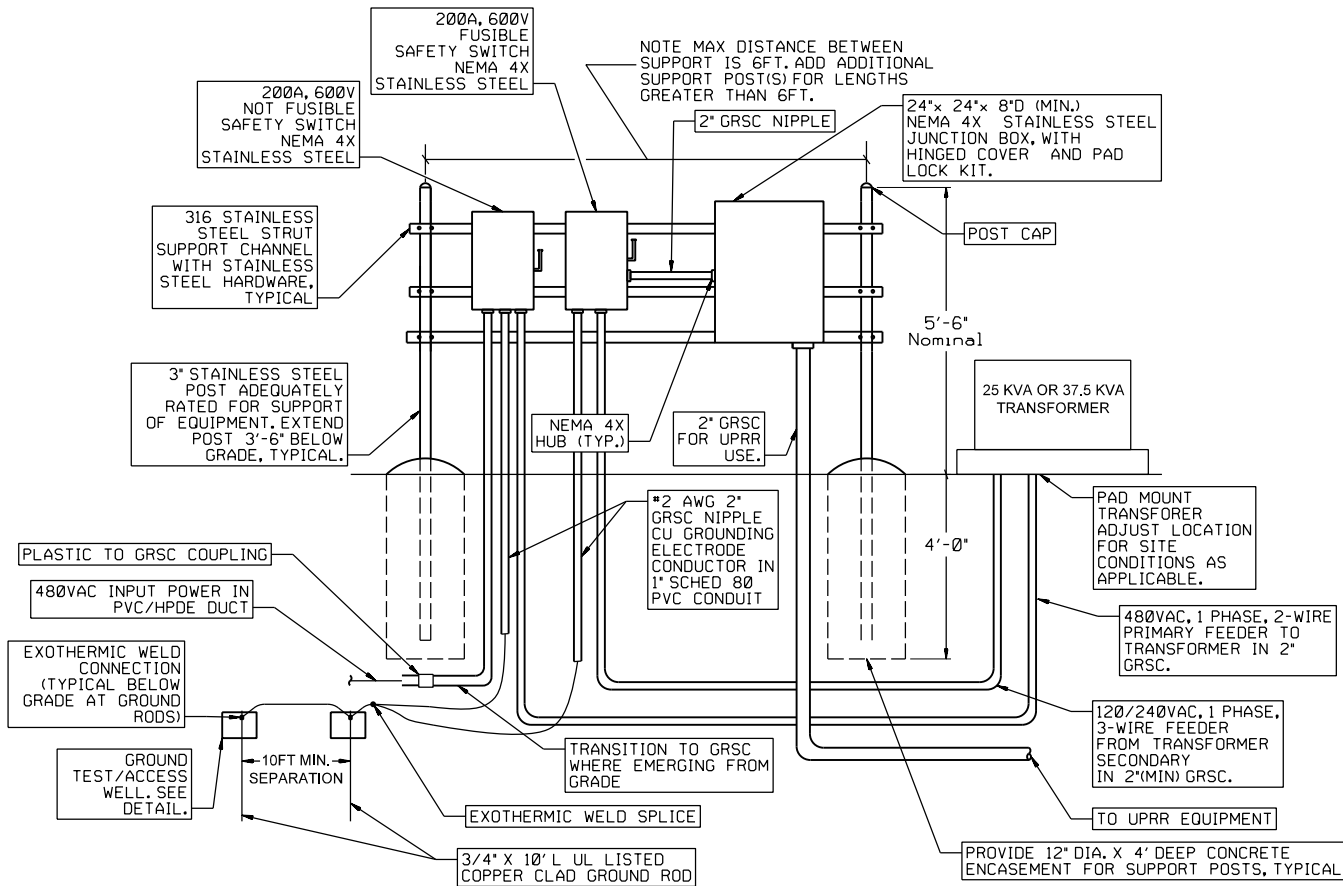
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NOTE BOOK NO.					

PROFILE	SURVIVED PLOTTED	BY	DATE	GRADES CHECKED DATE	STRUCTURE NOTATIONS CHRG
NOTE BOOK NO.					

MODEL Sheet 2
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SWITCH RACK DETAIL -
FOR 50KVA TRASFORMER
NOT TO SCALE



SWITCH RACK DETAIL - FOR 25KVA OR 37.5KVA TRASFORMER
NOT TO SCALE

SWITCH RACK DETAILS - NOTES

- ALL ELECTRICAL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NFPA 70 NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE APPLICABLE UNION PACIFIC RAILROAD STANDARDS, AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS FOR THE RESPECTIVE APPLICATION. ANY INSTALLATIONS WHICH VOID THE UL LISTING, INTERTEK TESTING SERVICES VERIFICATION / ETL LISTING (OR OTHER THIRD PARTY LISTING). AND / OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED.
- WORK, POWER OUTAGES, AND / OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT / TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT / TAGOUT). ALSO COMPLY WITH THE RESPECTIVE RAILROAD COMPANY LOCKOUT / TAGOUT STANDARDS. WHERE THE FACILITY IS NOT EQUIPPED WITH LOCKOUT / TAGOUT EQUIPMENT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVING THE APPROPRIATE LOCKOUT / TAGOUT EQUIPMENT. FAILURE TO SHUT DOWN AND LOCKOUT THE CIRCUITS PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THE RESPECTIVE SYSTEM.
- CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
- ONLY QUALIFIED ELECTRICAL CONTRACTORS SHALL PERFORM ELECTRICAL WORK ON THIS PROJECT. NEC DEFINES A QUALIFIED PERSON AS "ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED."
- COLOR-CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTOR FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG AND / OR KCMIL) TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE OR GRAY COLORED INSULATION FOR NO. 6 AWG OR SMALLER TO MEET REQUIREMENTS OF NEC 200.6. COLOR CODING REQUIREMENTS SHALL BE POSTED ON EACH PANELBOARD WITH A WEATHERPROOF LABEL. STANDARD COLORS FOR THE POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

480/277 VAC, 3-PHASE, 4-WIRE SYSTEM		120/240 VAC, 1-PHASE, 3-WIRE SYSTEM	
PHASE A	BROWN	PHASE A	BLACK
PHASE B	ORANGE	PHASE B	RED
PHASE C	YELLOW	NEUTRAL	WHITE
NEUTRAL	GRAY	GROUND	GREEN
GROUND	GREEN		
- ALL INSULATED EQUIPMENT GROUND WIRES SHALL HAVE GREEN COLORED INSULATION REGARDLESS OF SIZE. GREEN TAPE WILL NOT MEET THIS REQUIREMENT
- ALL ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES UL LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING.
- COORDINATE ELECTRIC SERVICE WORK WITH THE SERVING ELECTRIC UTILITY COMPANY: CITY WATER, LIGHT & POWER (CWLP). PHONE: 217-789-2323
- CONTRACTOR SHALL PROVIDE ARC FLASH STUDY REPORT AND APPROPRIATE LABELS ON ELECTRICAL EQUIPMENT.
- EACH SAFETY SWITCH SHALL BE LABELED TO IDENTIFY IT'S POWER SOURCE, VOLTAGE, FUSE SIZE, AND THE EQUIPMENT IT FEEDS.
- THIS IS A TYPICAL DETAIL AND MAY NOT SHOW EVERY CONDUIT, SUPPORT POST, AND FEATURE FOR EVERY INSTALLATION

H-FRAME RACK DETAIL - TYPICAL
NOT TO SCALE



USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - JFC	REVISED -
PLOT SCALE = 100,0000 sf / ln.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS - UPRR - 2

SCALE: SHEET 2 OF 16 SHEETS STA. TO STA.

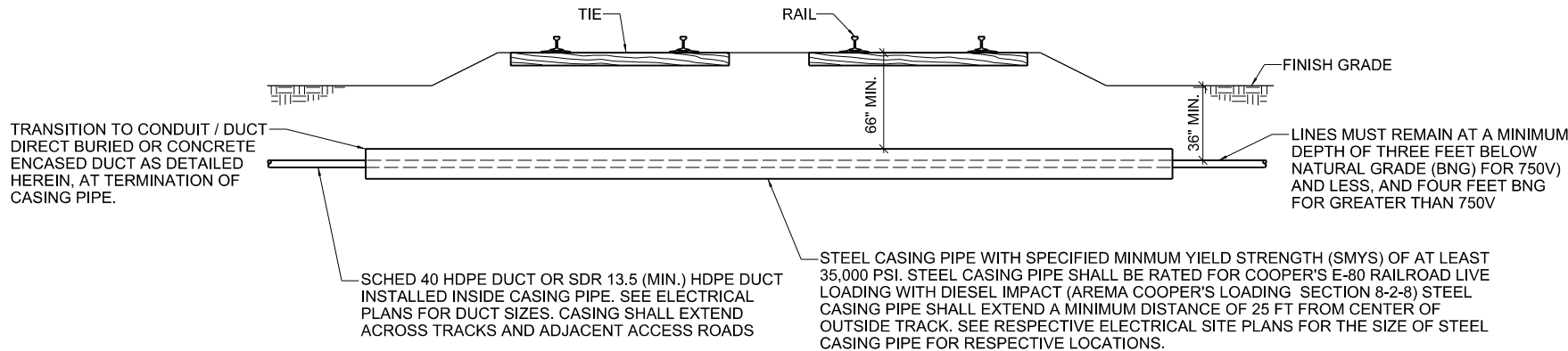
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	373
	09L0179B		CONTRACT NO.	93773
	ILLINOIS	FED. AID PROJECT		

PROFILE		BY	DATE
	SURVEYED _____		
	PLOTTED _____		
NOTE BOOK	GRADES CHECKED _____		
NO. _____	B.M. NOTED _____		
	STRUCTURE NOTATIONS CH'KD _____		

MODEL: Sheet 3

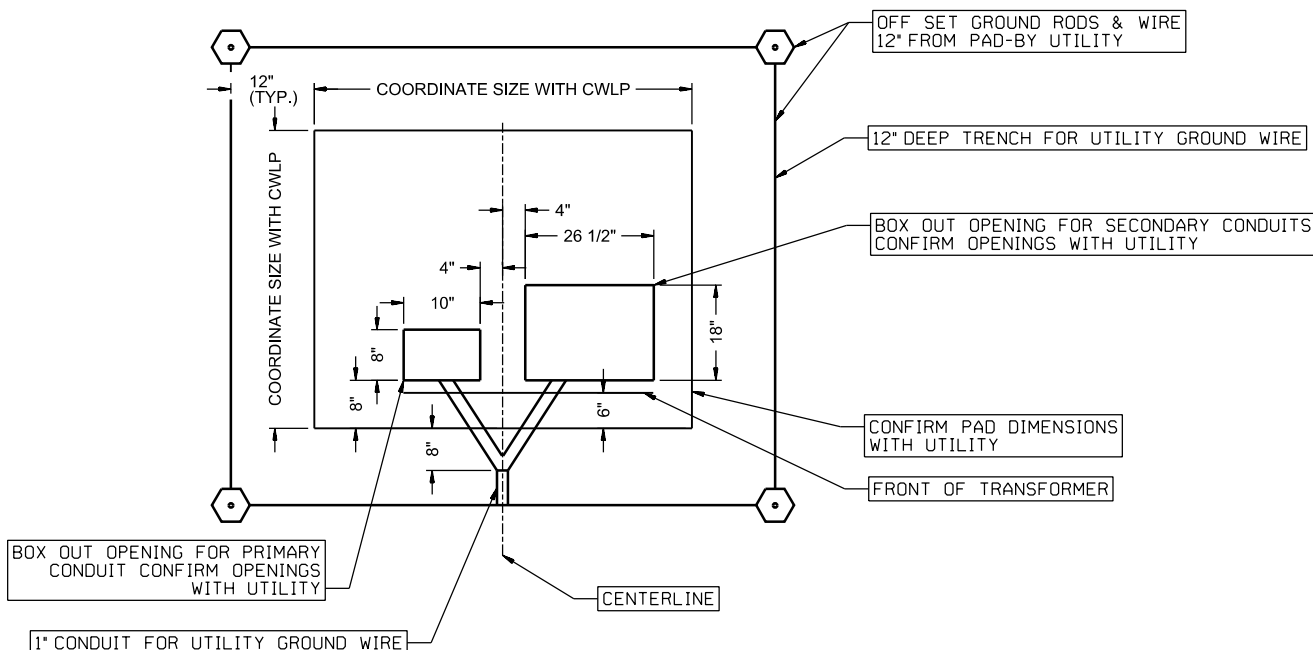
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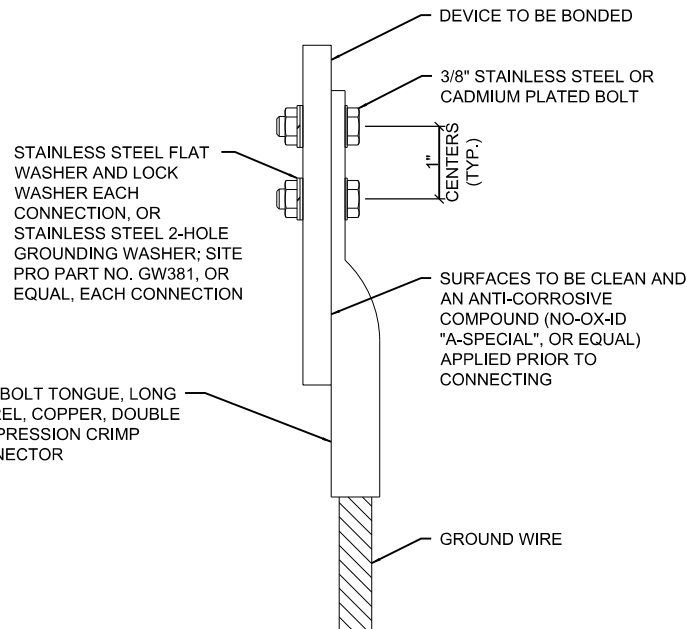
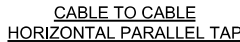
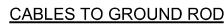
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NOTES

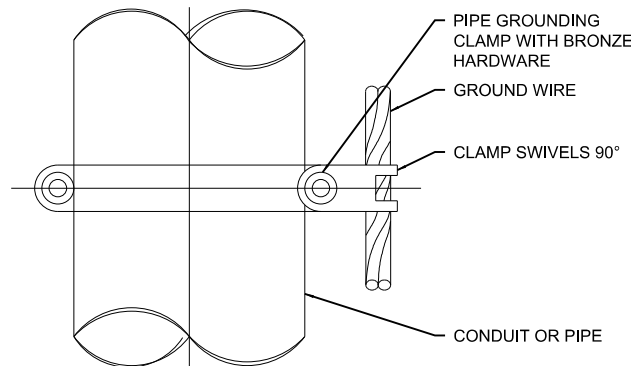
1. CASING PIPE AND JOINTS SHALL BE LEAKPROOF CONSTRUCTION, CAPABLE OF WITHSTANDING RAILROAD.
2. STEEL CASING PIPE SHALL HAVE A SPECIFIED MINIMUM YIELD STRENGTH, SMYS, OF AT LEAST 35,000 PSI.
3. CASING PIPE UNDER TRACK AND ACROSS RAILWAY RIGHT-OF-WAY SHALL EXTEND TO THE GREATER OF THE FOLLOWING DISTANCES, MEASURED AT RIGHT ANGLES TO THE CENTERLINE OF TRACKS
 - 2 FT. BEYOND TOE OF THE SLOPE
 - 3 FT. BEYOND DITCH
 - A MINIMUM DISTANCE OF 25 FT. FROM CENTER OF THE OUTSIDE TRACK WHEN END OF CASING IS BELOW GROUND





2 HOLE LONG BARREL COMPRESSION LUG TABLE			
WIRE SIZE	BURNDY CAT. NO.	THOMAS & BETTS CAT. NO.	PENN-UNION CAT. NO.
#8 AWG STRANDED	YA8C-2TC38	256-30695-1157	BBLU-8D-2TC38
#6 AWG SOLID	YA8C-2TC38 OR YGA6C-2TC38E2G1		
#6 AWG STRANDED	YA6C-2TC38	256-30695-1158	BBLU-6D-2TC38
#4 AWG STRANDED	YA4C-2TC38	256-30695-1159	BBLU-4D-2TC38
#2 AWG STRANDED	YA2C-2TC38	256-30695-1160	BBLU-2D-2TC38
#2 AWG SOLID	YA3C-2TC38	256-30695-1160	BBLU-3D-2TC38
#1/0 AWG STRANDED	YA25-2TC38	256-30695-1162	BBLU-1/0D-2TC38
#2/0 AWG STRANDED	YA26-2TC38	256-30695-1116	BBLU-2/0D-2TC38
#3/0 AWG STRANDED	YA27-2TC38	54816BE	BBLU-3/0D-2TC38
#4/0 AWG STRANDED	YA28-2TC38	256-30695-1117	BBLU-4/0D-2TC38

1. IT IS IMPORTANT TO HAVE GOOD SECURE GROUND CONNECTIONS THAT WILL WITHSTAND WEATHER CONDITIONS AND MAINTAIN CONTINUITY TO GROUND. OFTEN WEATHER CONDITIONS CAN EFFECT GROUNDING CONNECTIONS THAT RESULT IN LOOSE CONNECTIONS AND UNSAFE CONDITIONS.
2. SAFETY OF PERSONNEL IS THE PRIORITY, PROTECTION OF EQUIPMENT IS SECONDARY.
3. THE GROUND WIRE CONNECTIONS TO EQUIPMENT LOCATED ABOVE GRADE, SHALL BE WITH 2 HOLE TONGUE LONG BARREL COMPRESSION LUGS BOLTED TO THE DEVICE WITH 3/8-INCH STAINLESS STEEL BOLTS, NUTS, AND WASHERS OR WITH THE RESPECTIVE EQUIPT MANUFACTURER'S LUG OR TERMINAL WHERE APPLICABLE. THIS ALSO APPLIES TO CONNECTIONS TO GROUND BUS BARS.
4. HARGER LIGHTING PROTECTION AND GROUNDING EQUIPMENT ALSO MANUFACTURERS TWO HOLE LONG BARREL COMPRESSION LUGS.
5. EACH CONNECTION SHALL BE COATED WITH A CORROSION PREVENTATIVE COMPOUND (SANCHEM INC. NO-OX-ID "A-SPECIAL", BURNDY PENETROX E, OR APPROVED EQUAL) BEFORE JOINING. ALL COPPER BUS BARS SHALL BE CLEANED PRIOR TO MAKING CONNECTIONS TO REMOVE SURFACE OXIDATION. CLEAN SURFACES, OF RESPECTIVE DEVICES TO BE BONDED. TO BARE METAL PER NEC 250-12.



PIPE GROUNDING CLAMP TABLE	
BURNDY CAT. NO.	PIPE SIZE
GAR3902-BU	1/2" - 1"
GAR3903-BU	1 1/4" - 2"
GAR3904-BU	2 1/2" - 3 1/2"
GAR3905-BU	4" - 5"
GAR3906-BU	6"

1. EACH PIPE GROUNDING CLAMP SHALL HAVE BRONZE HARDWARE, BE CORROSION RESISTANT, SUITABLE FOR DIRECT BURIAL IN EARTH OR CONCRETE, & UL 467 LISTED.
2. FOR APPLICATIONS SUBJECT TO ADDITIONAL CORROSION, PROVIDE PIPE GROUNDING CLAMPS WITH TINNED COATED BRONZE HARDWARE.
3. HARGER CPC AND APC SERIES PIPE GROUNDING CLAMPS PROPERLY SIZED FOR THE RESPECTIVE PIPE AND GROUND WIRE ARE ALSO ACCEPTABLE.
4. PENN-UNION TYPE "GPL" SERIES PIPE GROUNDING CLAMPS PROPERLY SIZED FOR THE RESPECTIVE PIPE AND GROUND WIRE ARE ALSO ACCEPTABLE.

PIPE/CONDUIT GROUNDING CLAMP DETAIL

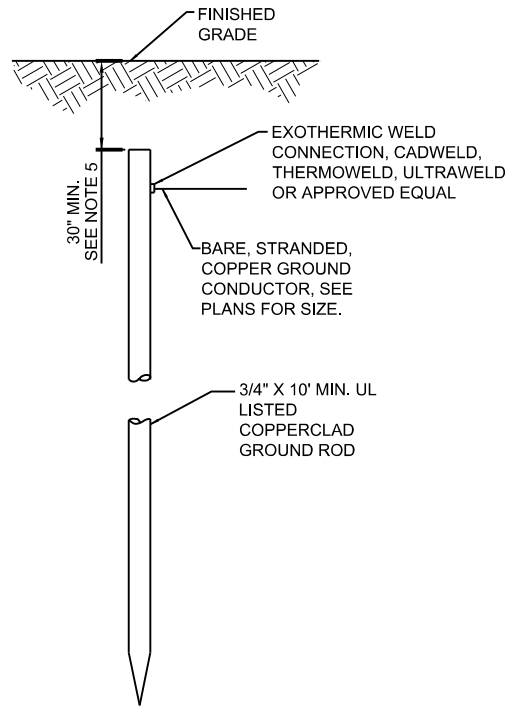
EXOTHERMIC WELD DETAILS

GROUNDING LUG CONNECTION DETAIL

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL GROUNDING SHOWN ON THE RESPECTIVE CONTRACT DOCUMENTS AND/OR MAY BE NECESSARY OR REQUIRED TO MAKE A COMPLETE GROUNDING SYSTEM, AS REQUIRED BY THE LATEST NFPA 70-NATIONAL ELECTRICAL CODE (NEC) IN FORCE, OTHER APPLICABLE CODES, AND IN ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, AND REQUIREMENTS FOR THE PRIORITY OF PROTECTION OF PERSONNEL AND ADDITIONALLY FOR THE PROTECTION OF EQUIPMENT. ALL PERSONNEL ARE RECOMMENDED TO ALSO COMPLY WITH NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE. THE RELIABILITY OF THE GROUNDING SYSTEM IS DEPENDENT ON CAREFUL, PROPER INSTALLATION, AND CHOICE MATERIALS. IMPROPER PREPARATION OF SURFACES TO BE JOINED TO MAKE AN ELECTRICAL PATH, LOOSE JOINTS, OR CORROSION CAN INTRODUCE IMPEDANCE THAT WILL SERIOUSLY IMPAIR THE ABILITY OF THE GROUND PATH TO PROTECT PERSONNEL AND EQUIPMENT AND TO ABSORB TRANSIENTS THAT CAN CAUSE NOISE IN COMMUNICATIONS CIRCUITS. THE FOLLOWING FUNCTIONS ARE PARTICULARLY IMPORTANT TO ENSURE A RELIABLE GROUND SYSTEM:







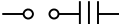


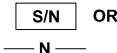





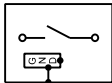
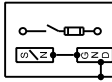
11. ALL EXTERIOR METAL CONDUIT, WHERE NOT ELECTRICALLY CONTINUOUS BECAUSE OF MANHOLES, HANDHOLES, NON-METALLIC JUNCTION BOXES, ETC., SHALL BE BONDED TO ALL OTHER METAL CONDUIT IN THE RESPECTIVE DUCT RUN, AND AT EACH END, WITH A COPPER-BONDING JUMPER SIZED IN CONFORMANCE WITH 2020 NEC 250-102. WHERE METAL CONDUITS TERMINATE IN AN ENCLOSURE (SUCH AS A MOTOR CONTROL CENTER, SWITCHBOARD, ETC) WHERE THERE IS NOT ELECTRICAL CONTINUITY WITH THE CONDUIT AND THE RESPECTIVE ENCLOSURE, PROVIDE A BONDING JUMPER FROM THE RESPECTIVE ENCLOSURE GROUND BUS TO THE CONDUIT SIZED PER 2020 NEC 250-102.
12. IT IS THE INTENT OF THIS SPECIFICATION THAT ALL MOTOR FRAMES, PUMP BASES ELECTRICAL EQUIPMENT ENCLOSURES, PANEL HOUSINGS, CONDUITS, BOXES, ETC. HAVE A CONTINUOUS COPPER WIRE GROUND CONNECTION AND SHALL BE POSITIVELY BONDED TO THE RESPECTIVE GROUNDING SYSTEM. CONDUIT CONNECTORS WILL NOT BE CONSIDERED AS ADEQUATE GROUNDING.
13. PROVIDE A POSITIVE GROUND BOND FOR ALL OUTLET BOXES, ELECTRICAL EQUIPMENT ENCLOSURES, GROUNDING RECEPTACLES, TOGGLE SWITCHES, ETC. INSTALL A GROUNDING CONDUCTOR IN ALL WIRE AND CABLE RACEWAYS. GROUND CONDUCTOR TO HAVE 600-VOLT INSULATION AND BE IDENTIFIED BY A CONTINUOUS GREEN COLOR COATING. THEY SHALL BE USED SOLELY FOR GROUNDING PURPOSES AND BE ENTIRELY SEPARATE FROM WHITE GROUNDED NEUTRAL CONDUCTOR, EXCEPT AT SUPPLY SIDE OF SERVICE DISCONNECTING MEANS, WHERE GROUNDING AND NEUTRAL SYSTEMS ARE TO BE CONNECTED TO SERVICE GROUND.
14. EACH AND ALL GROUNDED CASED AND METAL PARTS ASSOCIATED WITH ELECTRICAL EQUIPMENT SHALL BE TESTED FOR CONTINUITY OF CONNECTION WITH GROUND BUS SYSTEM BY CONTRACTOR IN PRESENCE OF OWNER'S REPRESENTATIVE.
15. ALL CONNECTIONS BETWEEN THE DIFFERENT TYPES OF GROUNDING CONDUCTORS ABOVE GRADE SHALL BE MADE USING BOLTED GROUND CONNECTORS. GROUND LUGS SHALL BE PROVIDED IN ALL ENCLOSURES AND WIRING TERMINATION JUNCTION BOXES. EQUIPMENT GROUNDS AND GROUNDING CONDUCTOR SHALL BE CONNECTED TO THESE GROUND LUGS. FOR GROUND CONNECTIONS TO ENCLOSURES, CASES AND FRAMES OF ELECTRICAL EQUIPMENT NOT SUPPLIED WITH GROUND LUGS THE CONTRACTOR SHALL DRILL REQUIRED HOLES FOR MOUNTING A BOLTED GROUND CONNECTOR. ALL BOLTED GROUND CONNECTORS SHALL BE BURNDY, OR APPROVED EQUAL.
16. BOND ALL NONCURRENT-CARRYING PARTS OF METAL EQUIPMENT TO GROUND SYSTEM.
17. BUILDING STRUCTURAL STEEL SYSTEM SHALL BE BONDED TO ELECTRICAL GROUND SYSTEM.
18. INSTALL GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS AND SEPARATE GROUND CONDUCTORS IN SCHEDULE 80 PVC CONDUIT OR EXPOSED WHERE ACCEPTABLE TO LOCAL CODES. WHERE GROUNDING ELECTRODE CONDUCTORS, LIGHTNING PROTECTION DOWN CONDUCTORS OR INDIVIDUAL GROUND CONDUCTORS ARE RUN IN PVC CONDUIT, NOT COMPLETELY ENCIRCLE CONDUIT WITH FERROUS AND/OR MAGNETIC MATERIALS. USE NON-METALLIC REINFORCED FIBERGLASS STRUT SUPPORT. WHERE METAL CONDUIT CLAMPS ARE INSTALLED, USE NYLON BOLTS, NUTS, WASHERS AND SPACERS TO INTERRUPT A COMPLETE METALLIC PATH FROM ENCIRCLING THE CONDUIT. THIS IS REQUIRED TO AVOID GIRDLING OF GROUND CONDUCTORS.
19. IF LOCAL CODES DICTATE THAT INDIVIDUAL GROUNDING CONDUCTORS MUST BE RUN IN METAL CONDUIT OR RACEWAY, THEN THE CONDUIT OR RACEWAY MUST BE BONDED AT EACH END OF THE RUN WITH A BONDING JUMPER SIZED EQUAL TO THE INDIVIDUAL GROUNDING CONDUCTOR OR AS REQUIRED BY 2020 NEC 250-102. NOTE THIS DOES NOT APPLY TO AC EQUIPMENT GROUNDING CONDUCTORS RUN WITH AC CIRCUITS. CONFIRM REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION.
20. GROUNDING WORK AFFECTING OPERATIONS AT FACILITY SHALL BE COORDINATED WITH THE OWNER'S DESIGNATED REPRESENTATIVE(S) AND TO MINIMIZE DOWNTIME TO EXISTING SYSTEMS, THE RESPECTIVE PERSONNEL SHALL COORDINATE WORK AND ANY POWER OUTAGES WITH THE OWNER'S DESIGNATED REPRESENTATIVE(S). ANY SHUTDOWN OF EXISTING SYSTEMS SHALL BE SCHEDULED WITH AND APPROVED BY THE OWNERS REPRESENTATIVE PRIOR TO THE SHUTDOWN. ALL POWER SYSTEMS (AC OR DC) SHALL HAVE PROVISIONS TO LOCKOUT AND TAGOUT ANY CIRCUIT TO HELP ENSURE THE CIRCUIT IS SAFE TO WORK ON FOR PROTECTION OF PERSONNEL. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTED CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT/TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT). WHERE A FACILITY DOES NOT HAVE LOCKOUT/TAGOUT KITS THE RESPECTIVE PERSONNEL SHALL PROVIDE ADEQUATE QUANTITIES OF LOCKOUT/TAGOUT KITS SUITABLE FOR USE WITH THE RESPECTIVE EQUIPMENT. WHERE EXISTING ELECTRICAL EQUIPMENT DOES NOT HAVE FEATURES FOR LOCKOUT/TAGOUT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVIDING THE APPROPRIATE LOCKOUT/TAGOUT EQUIPMENT AND MEASURES TO COMPLY WITH OSHA LOCKOUT/TAGOUT REQUIREMENTS. ALL PADLOCKS FOR USE WITH LOCKOUT/TAGOUT PROCEDURES SHALL HAVE A DIFFERENT KEY. PROVIDE LOCKOUT HASPS TO ACCOMMODATE MULTIPLE PADLOCKS WHERE MULTIPLE PEOPLE ARE WORKING ON THE SAME SYSTEM. INCLUDE LOCKOUT TAGS FOR EACH PIECE OF EQUIPMENT REQUIRING SERVICING AND SHUTDOWN. COMPLIANCE WITH LOCKOUT/TAGOUT PROCEDURE AND ALL OTHER SAFETY PROCEDURES AND REQUIREMENTS ARE THE RESPONSIBILITY OF THE RESPECTIVE PERSONNEL WORKING AT THE FACILITY.

21. NEVER REMOVE, ALTER, OR ATTEMPT TO REPAIR CONDUCTORS OR CONDUIT SYSTEMS PROVIDING GROUNDING OR ELECTRICAL BONDING FOR ANY ELECTRICAL EQUIPMENT UNTIL ALL POWER IS REMOVED FROM EQUIPMENT. WARN ALL PERSONNEL OF THE UNGROUNDED CONDITION OF THE EQUIPMENT. DISPLAY APPROPRIATE WARNING SIGNS, SUCH AS DANGER TAGS, TO WARN PERSONNEL OF THE POSSIBLE HAZARDS.
22. GROUNDING WORK AND MODIFICATIONS SHALL NOT BE PERFORMED DURING A THUNDERSTORM OR WHEN A THUNDERSTORM IS PREDICTED IN THE AREA.
23. PER NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE, IT DEFINES ELECTRICALLY SAFE WORK CONDITION AS "A STATE IN WHICH AN ELECTRICAL CONDUCTOR OR CIRCUIT PART HAS BEEN DISCONNECTED FROM ENERGIZED PARTS, LOCKED/TAGGED IN ACCORDANCE WITH ESTABLISHED STANDARDS, TESTED TO VERIFY THE ABSENCE OF VOLTAGE, AND, IF NECESSARY, TEMPORARILY GROUNDED FOR PERSONAL PROTECTION." PRIOR TO CONDUCTING TESTS OR WORKING ON EQUIPMENT, VERIFY EQUIPMENT ENCLOSURES AND FRAMES HAVE A GOOD AND SECURE GROUND CONNECTION. FAILURE TO PROPERLY GROUND THIS EQUIPMENT PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THIS SYSTEM.
24. WHERE A CONFLICT IS DETERMINED WITH RESPECT TO GROUNDING REQUIREMENTS PER MANUFACTURER INSTALLATION INSTRUCTIONS, NEC, AND/OR THE CONTRACT DOCUMENTS, CONTACT THE RESIDENT ENGINEER OR PROJECT ENGINEER OF RECORD FOR FURTHER DIRECTIONS.



1. TYPE AND MINIMUM NUMBER OF GROUND RODS SHALL BE AS SPECIFIED ON THE PLAN.
2. THE RESISTANCE TO GROUND OF THE GROUNDING SYSTEM SHALL NOT EXCEED 25 OHMS.
3. COST OF GROUND RODS IS INCIDENTAL TO THE ASSOCIATED ITEMS REQUIRING GROUNDING UNLESS OTHERWISE SPECIFIED.
4. GROUND RODS SHALL BE SPACED AS DETAILED ON THE PLANS AND SHALL NOT BE SPACED LESS THAN ONE ROD LENGTH APART.
5. TOP OF GROUND RODS SHALL BE 30" MINIMUM BELOW GRADE UNLESS DETAILED OTHERWISE HEREIN. GROUND RING AND/OR GROUND FIELD CONDUCTORS SHALL BE 40" MINIMUM BELOW GRADE TO BE BELOW FROST LINE (FOR SANGAMON COUNTY, ILLINOIS).

ELECTRICAL ONE LINE LEGEND

ELECTRICAL ONE LINE LEGEND	
	CIRCUIT BREAKER
	FUSE
	TRANSFORMER
	GROUND, GROUND ROD or GROUNDING ELECTRODE
	TERMINAL, SPLICE, OR LUG
	SPLICE OR CONNECTION
	AC SURGE PROTECTOR
	AC SURGE PROTECTOR / TRANSIENT VOLTAGE SURGE SUPPRESSOR
	GROUND BAR OR GROUND LUG
	NEUTRAL BAR/BUS
	PAD MOUNT TRANSFORMER
	ELECTRIC UTILITY KWH SERVICE METER AND BASE
	PANELBOARD WITH MAIN BREAKER
	PANELBOARD WITH MAIN LUGS
	JUNCTION BOX / ENCLOSURE
	NOT FUSIBLE SAFETY SWITCH WITH GND KIT
	FUSIBLE SAFETY SWITCH WITH GND KIT AND SOLID NEUTRAL

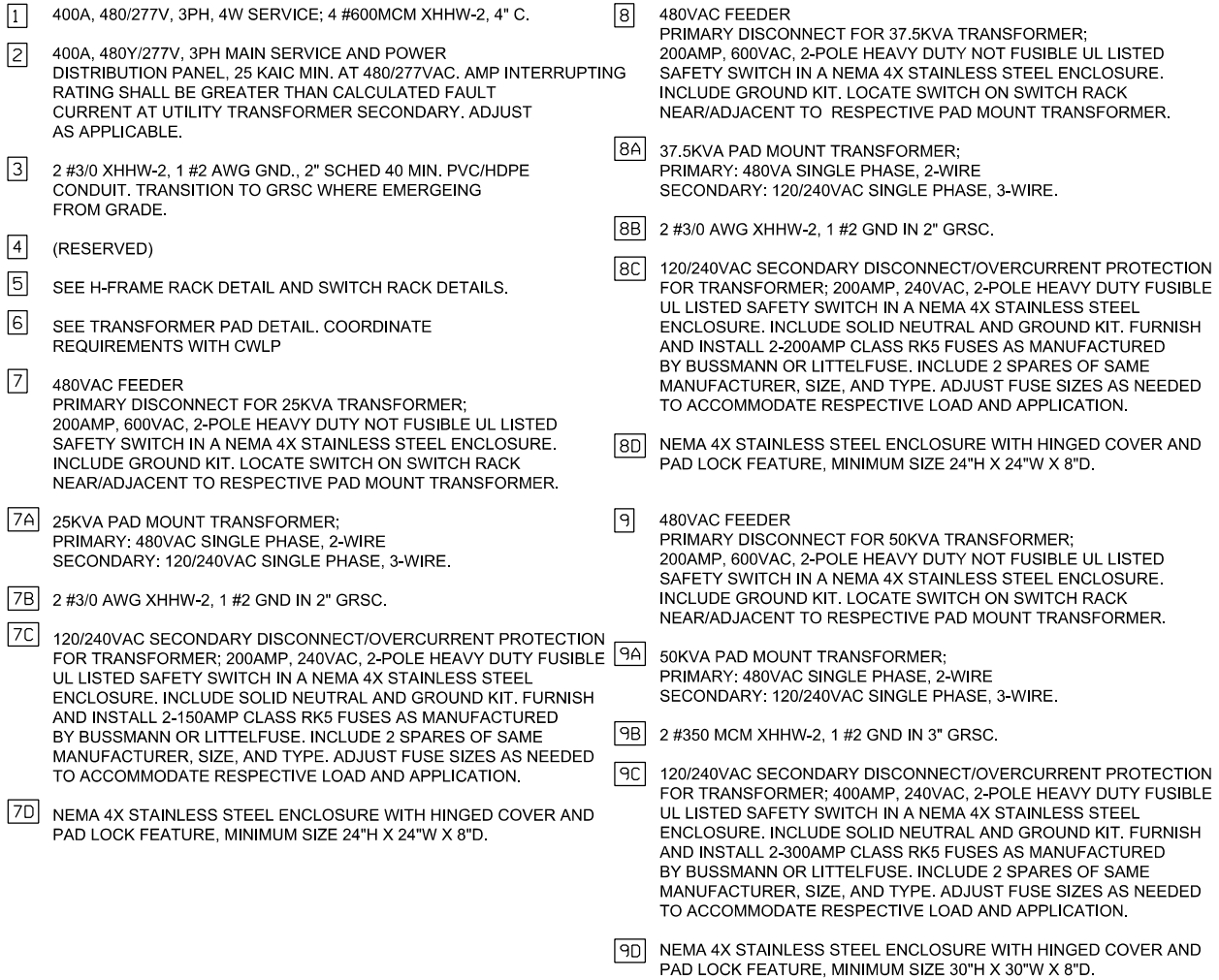
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|----|--|----|---|
| 1. | ALL ELECTRICAL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE NFPA 70 NATIONAL ELECTRICAL CODE (NEC) MOST CURRENT ISSUE IN FORCE, THE APPLICABLE UNION PACIFIC RAILROAD STANDARDS, AND ALL OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES, AND REQUIREMENTS IN FORCE. ELECTRICAL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH THE RESPECTIVE MANUFACTURER'S DIRECTIONS AND RECOMMENDATIONS FOR THE RESPECTIVE APPLICATION. ANY INSTALLATIONS WHICH VOID THE UL LISTING, INTERTEK TESTING SERVICES VERIFICATION / ETL LISTING (OR OTHER THIRD PARTY LISTING). AND / OR THE MANUFACTURER'S WARRANTY OF A DEVICE WILL NOT BE PERMITTED. | 8. | COORDINATE ELECTRIC SERVICE WORK WITH THE SERVING ELECTRIC UTILITY COMPANY: CITY WATER, LIGHT & POWER (CWLFP). PHONE: 217-789-2323 |
| | | 9. | CONTRACTOR SHALL PROVIDE ARC FLASH REPORT AND APPROPRIATE LABELS ON ELECTRICAL EQUIPMENT, IN CONFORMANCE WITH NFPA 70E STANDARDS FOR ELECTRICAL SAFETY IN THE WORKPLACE. ARTICLE 130 WORK INVOLVING ELECTRICAL HAZARDS. |

2. WORK, POWER OUTAGES, AND / OR SHUT DOWN OF EXISTING SYSTEMS SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE. ONCE SHUT DOWN, THE CIRCUITS SHALL BE LABELED AS SUCH TO PREVENT ACCIDENTAL ENERGIZING OF THE RESPECTIVE CIRCUITS. ALL PERSONNEL SHALL FOLLOW U.S. DEPARTMENT OF LABOR OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) 29 CFR PART 1910 OCCUPATIONAL SAFETY & HEALTH STANDARDS FOR ELECTRICAL SAFETY AND LOCKOUT / TAGOUT PROCEDURES INCLUDING, BUT NOT LIMITED TO, 29 CFR SECTION 1910.147 THE CONTROL OF HAZARDOUS ENERGY (LOCKOUT / TAGOUT). ALSO COMPLY WITH THE RESPECTIVE RAILROAD COMPANY LOCKOUT / TAGOUT STANDARDS. WHERE THE FACILITY IS NOT EQUIPPED WITH LOCKOUT / TAGOUT EQUIPMENT THE RESPECTIVE PERSONNEL WILL BE RESPONSIBLE FOR PROVING THE APPROPRIATE LOCKOUT / TAGOUT EQUIPMENT. FAILURE TO SHUT DOWN AND LOCKOUT THE CIRCUITS PRESENTS A DANGEROUS HAZARD FOR PERSONNEL WORKING ON THE RESPECTIVE SYSTEM.
3. CONTRACTOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF NFPA 70E STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE.
4. ONLY QUALIFIED ELECTRICAL CONTRACTORS SHALL PERFORM ELECTRICAL WORK ON THIS PROJECT. NEC DEFINES A QUALIFIED PERSON AS "ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED."
5. COLOR-CODE PHASE AND NEUTRAL CONDUCTOR INSULATION FOR NO. 6 AWG OR SMALLER. PROVIDE COLORED MARKING TAPE FOR PHASE AND NEUTRAL CONDUCTOR FOR NO. 4 AWG AND LARGER. INSULATED GROUND CONDUCTORS SHALL HAVE GREEN COLORED INSULATION FOR ALL CONDUCTOR SIZES (AWG AND / OR KCMIL) TO COMPLY WITH NEC 250.119. NEUTRAL CONDUCTORS SHALL HAVE WHITE OR GRAY COLORED INSULATION FOR NO. 6 AWG OR SMALLER TO MEET REQUIREMENTS OF NEC 200.6. COLOR CODING REQUIREMENTS SHALL BE POSTED ON EACH PANELBOARD WITH A WEATHERPROOF LABEL. STANDARD COLORS FOR THE POWER WIRING AND BRANCH CIRCUITS SHALL BE AS FOLLOWS:

ALL INSULATED EQUIPMENT GROUND WIRES SHALL HAVE GREEN COLORED INSULATION REGARDLESS OF SIZE. GREEN TAPE WILL NOT MEET THIS REQUIREMENT

ALL INSULATED EQUIPMENT GROUND WIRES SHALL HAVE GREEN COLORED INSULATION REGARDLESS OF SIZE. GREEN TAPE WILL NOT MEET THIS REQUIREMENT

5. LOCATE EXISTING UNDERGROUND UTILITIES AND CABLES. THE LOCATION, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND AND / OR ABOVEGROUND UTILITIES INDICATED ON THE PLANS ARE NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT, OR COMPLETE. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE LOCATIONS, SIZE, AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF SUCH FACILITIES. INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES OF HIS OPERATIONAL PLANS, AND SHALL OBTAIN FROM THE RESPECTIVE UTILITIES COMPANIES. DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT, WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION. THE OWNER'S REPRESENTATIVE AND / OR THE RESIDENT ENGINEER / RESIDENT TECHNICIAN SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY DAMAGE TO SUCH MAINS AND SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT. ALL UTILITY CABLES AND LINES SHALL BE LOCATED BY THE RESPECTIVE UTILITY. CONTACT JULIE (JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS) FOR UTILITY INFORMATION. PHONE: 1-800-892-0123. ALSO CONTACT THE OWNER'S REPRESENTATIVE FOR ANY ASSISTANCE IN LOCATING UNDERGROUND LINES AND / OR UTILITIES. ALSO COORDINATE WORK WITH ALL ABOVEGROUND UTILITIES.
7. ALL ENCLOSURES RATED NEMA 4, 4X SHALL HAVE WATERTIGHT HUBS AT CONDUIT ENTRANCES UL LISTED NEMA 4, 4X FOR THE RESPECTIVE ENCLOSURE TO MAINTAIN THE NEMA 4, 4X RATING.
8. COORDINATE ELECTRIC SERVICE WORK WITH THE SERVING ELECTRIC UTILITY COMPANY: CITY WATER, LIGHT & POWER (CWLFP). PHONE: 217-789-2323
9. CONTRACTOR SHALL PROVIDE ARC FLASH REPORT AND APPROPRIATE LABELS ON ELECTRICAL EQUIPMENT, IN CONFORMANCE WITH NFPA 70E STANDARDS FOR ELECTRICAL SAFETY IN THE WORKPLACE. ARTICLE 130 WORK INVOLVING ELECTRICAL HAZARDS.



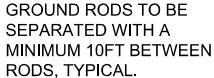
CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING RATING OF 25000 RMS SYMMETRICAL AMPERES.	
TOTAL CONNECTED LOAD =187.0 KVA	TOTAL DEMAND LOAD =187.0 KVA
PROVIDE A NEMA 3R STAINLESS STEEL ENCLOSURE	PROVIDE COPPER GROUND BUS

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
NOTE BOOK	GRADES CHECKED		
NO. _____	B.M. NOTED		
	STRUCTURE NOTATIONS CHK'D		

MODEL: Sheet 8



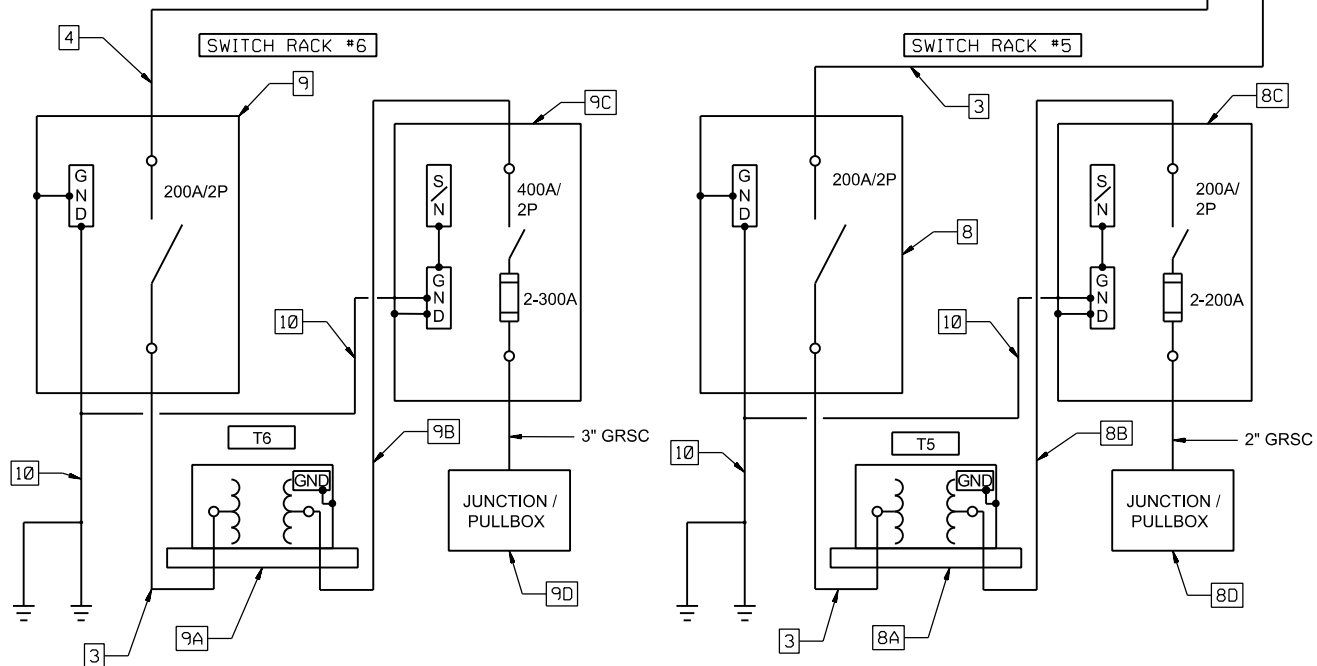
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ONE-LINE
DIAGRAM - MDP-1
NOT TO SCALE

- 8 480VAC FEEDER
PRIMARY DISCONNECT FOR 37.5KVA TRANSFORMER;
200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED
SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE.
INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK
NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.
- 8A 37.5KVA PAD MOUNT TRANSFORMER;
PRIMARY: 480VA SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 8B 2 #3/0 AWG XHHW-2, 1 #2 GND IN 2" GRSC.
- 8C 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION
FOR TRANSFORMER; 200AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE
UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL
ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH
AND INSTALL 2-200AMP CLASS RK5 FUSES AS MANUFACTURED
BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES
OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS
NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 8D NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND
PAD LOCK FEATURE, MINIMUM SIZE 24"H X 24"W X 8"D.
- 9 480VAC FEEDER PRIMARY DISCONNECT FOR 50KVA TRANSFORMER;
200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED
SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE.
INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK
NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.

- 9A 50KVA PAD MOUNT TRANSFORMER;
PRIMARY: 480VAC SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE,
3-WIRE.
- 9B 2 #350 MCM XHHW-2, 1 #2 GND IN 3" GRSC.
- 9C 120/240VAC SECONDARY
DISCONNECT/OVERCURRENT PROTECTION
FOR TRANSFORMER; 400AMP, 240VAC,
2-POLE HEAVY DUTY FUSIBLE UL LISTED
SAFETY SWITCH IN A NEMA 4X STAINLESS
STEEL ENCLOSURE. INCLUDE SOLID
NEUTRAL AND GROUND KIT. FURNISH AND
INSTALL 2-300AMP CLASS RK5 FUSES AS
MANUFACTURED BY BUSSMANN,
LITTELFUSE, OR APPROVED EQUAL.
INCLUDE 2 SPARES OF SAME
MANUFACTURER, SIZE, AND TYPE. ADJUST
FUSE SIZES AS NEEDED TO ACCOMMODATE
RESPECTIVE LOAD AND APPLICATION.
- 9D NEMA 4X STAINLESS STEEL ENCLOSURE
WITH HINGED COVER AND
PAD LOCK FEATURE, MINIMUM SIZE 30"W X
30"W X 8"D.
- 10 PROVIDE 2-3/4" x 10' L COPPER CLAD
GROUND RODS WITH #2 AWG GROUNDING
ELECTRODE CONDUCTOR IN 1" SCHED.
80 PVC C. PROVIDE EXOTHERMIC WELDS
TO GROUND RODS.



**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS – UPRR – 8**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	379
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		



CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING RATING OF 25000 RMS SYMMETRICAL AMPERES.	
TOTAL CONNECTED LOAD =175.5 KVA	TOTAL DEMAND LOAD =175.5 KVA
PROVIDE A NEMA 3R STAINLESS STEEL ENCLOSURE	PROVIDE COPPER GROUND BUS

- 1 400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.
- 2 400A, 480Y/277V, 3PH, 4W MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY. ADJUST AS APPLICABLE.
- 3 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHEDULE 40 MIN. PVC/HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.
- 4 (RESERVED)
- 5 SEE H-FRAME RACK DETAIL AND SWITCH RACK DETAILS
- 6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP
- 7 (RESERVED)
- 7A (RESERVED)
- 7B (RESERVED)
- 7C (RESERVED)
- 7D (RESERVED)
- 8 (RESERVED)
- 8A (RESERVED)
- 8B (RESERVED)
- 8C (RESERVED)
- 8D (RESERVED)
- 9 480VAC FEEDER
PRIMARY DISCONNECT FOR 50KVA TRANSFORMER;
200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.
- 9A 50KVA PAD MOUNT TRANSFORMER;
PRIMARY: 480VAC SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 9B 2 #350 MCM XHHW-2, 1 #2 GND IN 3" GRSC.
- 9C 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION FOR TRANSFORMER; 400AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-300AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE, OR APPROVED EQUAL. INCLUDE 2 OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 9D NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 30"H X 30"W X 8"D.

- 10 (RESERVED)
- 11 (RESERVED)
- 12 (RESERVED)
- 13 (RESERVED)
- 14 (RESERVED)
- 15 480VAC FEEDER
PRIMARY DISCONNECT FOR 75KVA TRANSFORMER;
400AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED
SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE.
INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK
NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.
- 15A 75KVA PAD MOUNT TRANSFORMER;
PRIMARY: 480VAC SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 15B 2 #350 MCM XHHW-2, 1 #2 GND IN 3" SCHEDULE 40 MIN PVC/HDPE CONDUIT.
TRANSITION TO GRSC WHERE EMERGING FROM GRADE. CONDUIT RUNS
BETWEEN STEP-DOWN TRANSFORMER AND DISCONNECTS TO BE GRSC.
- 15C 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION
FOR TRANSFORMER; 400AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE
UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL
ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH
AND INSTALL 2-250 AMP CLASS RK5 FUSES AS MANUFACTURED
BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES
OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED
TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 15D NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND
PAD LOCK FEATURE, MINIMUM SIZE 30"H X 30"W X 8"D.
- 15E 2 #3/0 AWG XHHW-2, 1 #2 GND IN 2" GRSC.
- 15F 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION
FOR TRANSFORMER; 200AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE
UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL
ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH
AND INSTALL 2-150AMP CLASS RK5 FUSES AS MANUFACTURED
BY BUSSMANN OR LITTELFUSE. INCLUDE 2 SPARES OF SAME
MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED
TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 15G NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND
PAD LOCK FEATURE, MINIMUM SIZE 24"H X 24"W X 8"D.



- 1 400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.
- 2 400A, 480Y/277V, 3PH, 4W MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY. ADJUST AS APPLICABLE.
- 3 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHEDULE 40 MIN. PVC/HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.
- 4 (RESERVED)
- 5 SEE H-FRAME RACK DETAIL
- 6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP
- 7 (RESERVED)
- 7A (RESERVED)
- 7B (RESERVED)
- 7C (RESERVED)
- 7D (RESERVED)

- 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION FOR TRANSFORMER: 400AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-300AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE, OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.

NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 30"H X 30"W X 8"D.

PROVIDE 2 - 3/4" x 10'L UL LISTED COPPER-CLAD GROUND RODS WITH #2 AWG COPPER GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC CONDUIT. CONNECTION TO GROUND RODS SHALL BE EXOTHERMIC WELD.

(RESERVED)

(RESERVED)

(RESERVED)

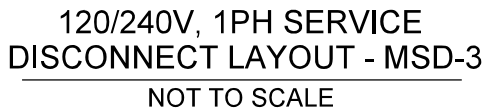
(RESERVED)

480VAC FEEDER
PRIMARY DISCONNECT FOR 75KVA TRANSFORMER;
400AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.

- 15A 75KVA PAD MOUNT TRANSFORMER:
PRIMARY: 480VAC SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 15B 2 #350 MCM XHHW-2, 1 #2 GND IN 3" SCHEDULE 40 MIN PVC/HDPE CONDUIT.
TRANSITION TO GRSC WHERE EMERGING FROM GRADE. CONDUIT RUNS
BETWEEN STEP-DOWN TRANSFORMER AND DISCONNECTS TO BE GRSC.
- 15C 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION
FOR TRANSFORMER; 400AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE
UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL
ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH
AND INSTALL 2-250 AMP CLASS RK5 FUSES AS MANUFACTURED
BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES
OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED
TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 15D NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND
PAD LOCK FEATURE, MINIMUM SIZE 30"H X 30"W X 8"D.
- 15E 2 #3/0 AWG XHHW-2, 1 #2 GND IN 2" GRSC.
- 15F 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION
FOR TRANSFORMER; 200AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE
UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL
ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH
AND INSTALL 2-150AMP CLASS RK5 FUSES AS MANUFACTURED
BY BUSSMANN, LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES
OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS
NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 15G NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND
PAD LOCK FEATURE, MINIMUM SIZE 24"H X 24"W X 8"D.

PROFILE	SURVEYED _____	BY _____	DATE _____
NOTE BOOK	PLOTTED _____		
	GRADES CHECKED _____		
	B.M. NOTED _____		
NO. _____	STRUCTURE NOTATIONS CHK'D _____		

MODEL: Sheet 11



5 SEE H-FRAME RACK DETAIL

6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP

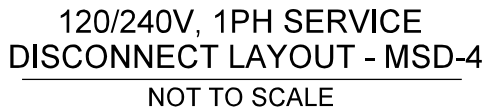
11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C

12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARE FUSES SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.

14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



11. 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
12. MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
13. PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
14. NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



5 SEE H-FRAME RACK DETAIL

6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP

11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C

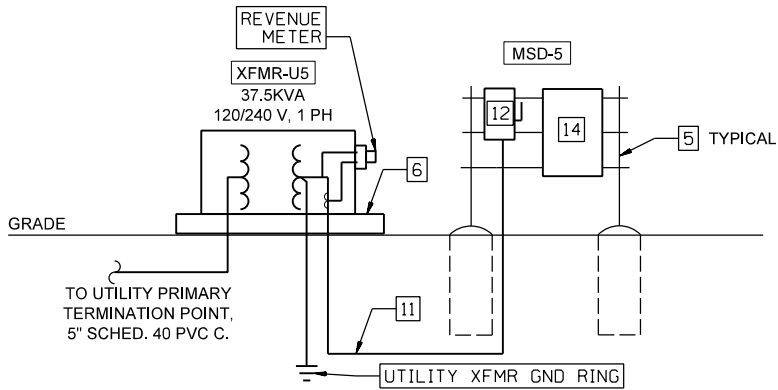
12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARE FUSES SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.

14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



11	200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
12	MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
13	PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
14	NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

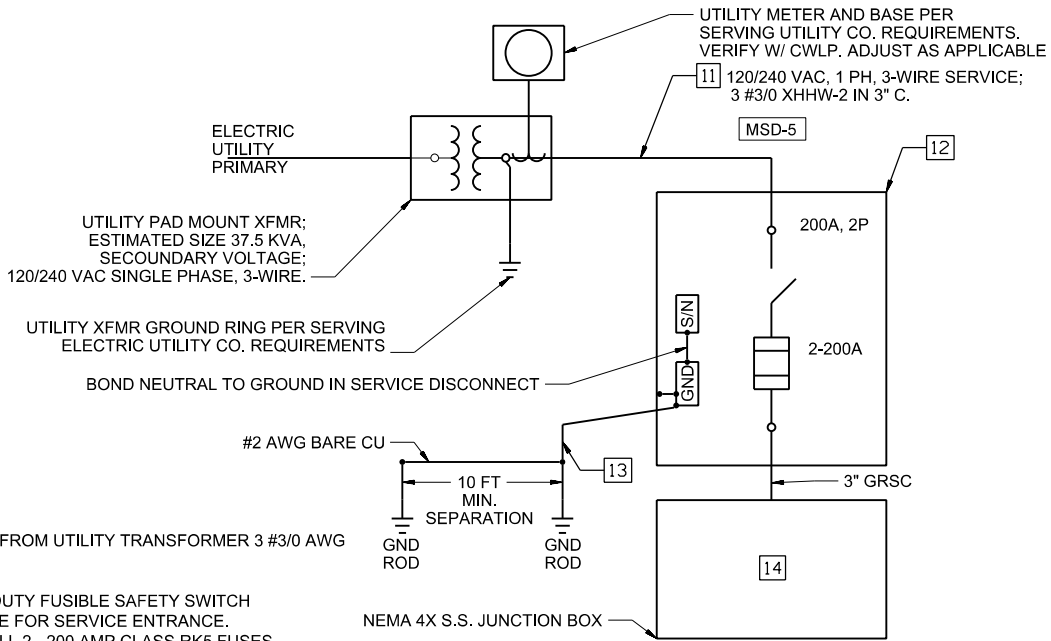
PLAN	SURVIVED _____		BY _____	DATE _____
	PLOTTED _____			
NOTE BOOK	ALIGNMENT CHECKED _____			
NO. _____	RT. OF WAY CHECKED _____			
	CADD FILE NAME _____			



120/240V, 1PH SERVICE
DISCONNECT LAYOUT - MSD-5
NOT TO SCALE

MSD-5 LAYOUT - KEYED NOTES

- 5 SEE H-FRAME RACK DETAIL
- 6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP
- 11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
- 12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
- 14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

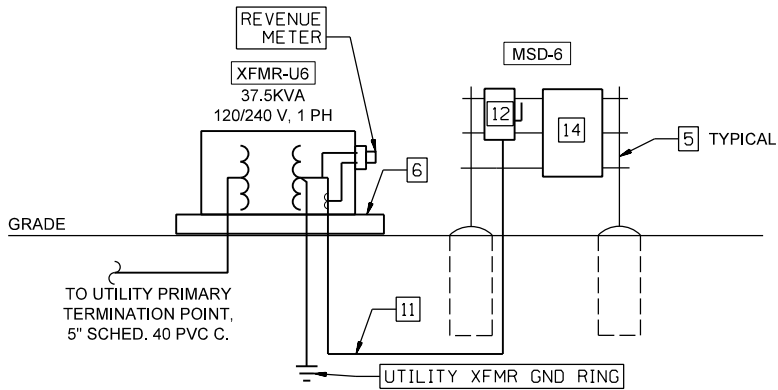


ONE-LINE DIAGRAM - MSD-5
NOT TO SCALE

MSD-5 ONE-LINE DIAGRAM - KEYED NOTES

- 11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
- 12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
- 13 PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
- 14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

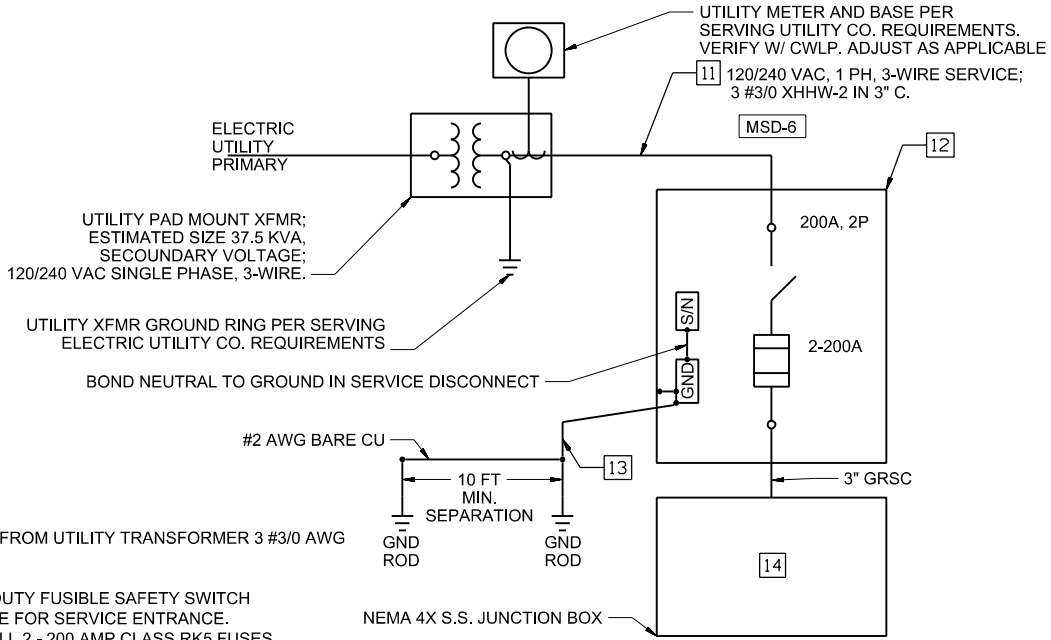
PROFILE	SURVIVED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK	GRADES CHECKED _____		
NO. _____	B.M. NOTED _____		
	STRUCTURE NOTATIONS CH'KD _____		



120/240V, 1PH SERVICE
DISCONNECT LAYOUT - MSD-6
NOT TO SCALE

MSD-6 LAYOUT - KEYED NOTES

- 5 SEE H-FRAME RACK DETAIL
- 6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP
- 11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
- 12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
- 14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



ONE-LINE DIAGRAM - MSD-6
NOT TO SCALE

MSD-6 ONE-LINE DIAGRAM - KEYED NOTES

- 11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
- 12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
- 13 PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
- 14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

FINAL PLANS

MODEL Sheet 12

FILE NAME: p:\1\hanson\cfr-pw.bentley.com\hanson-pw-d\1\Documents\09\pos\09L0179B\Usable Segments III - V - V\CAD\Detail\Usable Segments III - V - V\CDR\Sheet\0909L0179B-shc-Elec-detail-1-1-13_16.dgn



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USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - JFC	REVISED -
PLOT SCALE = 100.00 sf / In.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

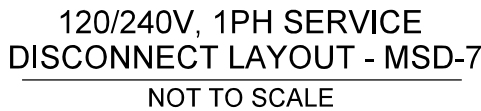
SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS – UPRR – 12

SCALE: SHEET 12 OF 16 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	383
09L0179B		CONTRACT NO. 93773		
		ILLINOIS FED. AID PROJECT		

PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____		
NOTE BOOK	GRADES CHECKED _____		
NO. _____	B.M. NOTED _____		
	STRUCTURE NOTATIONS CHKD _____		

MODEL: Sheet 13



5 SEE H-FRAME RACK DETAIL

6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP

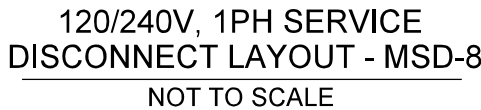
11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C

12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARE FUSES SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.

14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



11. 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
12. MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
13. PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
14. NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



5 SEE H-FRAME RACK DETAIL

6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP

11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C

12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARE FUSES SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.

14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

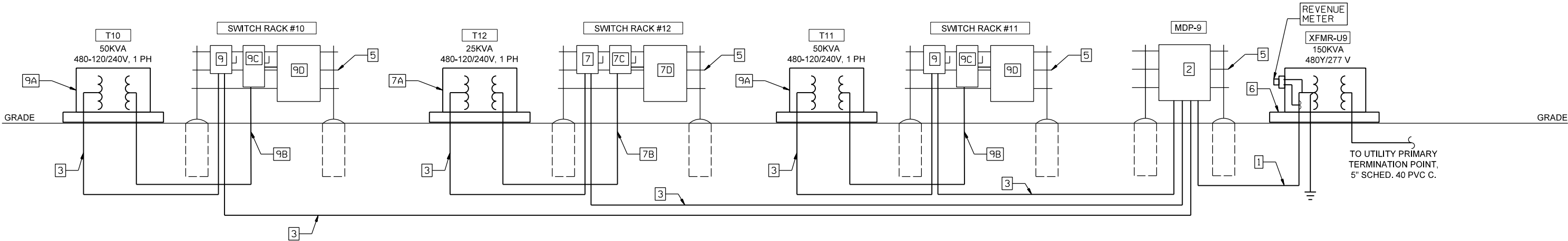


11	200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
12	MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
13	PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
14	NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	GRADES CHECKED		
NO.	STRUCTURE NOTATIONS CHRG		

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
	CADD FILE NAME		

MODEL Sheet 14
FILE NAME: p:\wansell\pc-pw.bentley.com\hanson-pw-d1\Documents\09\pos\0910179B\Usable Segments\0910179B\Usable Segments\0910179B-sht-Elct-detail-14-15.dgn



PANEL LAYOUT - MDP-9
NOT TO SCALE

MAIN SERVICE & DISTRIBUTION PANEL MDP-9											
400 A		MAIN BREAKER		480 Y / 277 VOLT				3 PHASE 4 WIRE		EXTERIOR MOUNTED	
VOLT-AMP	CIR. NO.	LOAD	CB	P	Ø	P	CB	LOAD	CIR. NO.	VOLT-AMP	
50000	1	SWITCH RACK #10 AND XFMR T10	200	2	A	2	200	SWITCH RACK #11 AND XFMR T11	2	50000	
	3				B				4		
25000	5	SWITCH RACK #12 AND XFMR T12	125	2	C	2	150	SPARE	6		
	7				A				8		
	9	SPARE	125	2	B			SPACE	10		
	11				C			SPACE	12		
	13	SPACE			A			SPACE	14		
	15	SPACE			B			SPACE	16		
	17	SPACE			C			SPACE	18		
	19	SPACE			A			SPACE	20		
	21	SPACE			B			SPACE	22		
	23	SPACE			C			SPACE	24		
	25	SPACE			A	3	30	TVSS	26	500	
	27	SPACE			B				28		
	29	SPACE			C				30		
CIRCUIT BREAKERS SHALL HAVE A MINIMUM INTERRUPTING RATING OF 25000 RMS SYMMETRICAL AMPERES.											
TOTAL CONNECTED LOAD =125.5 KVA					TOTAL DEMAND LOAD =125.5 KVA						
PROVIDE A NEMA 3R STAINLESS STEEL ENCLOSURE					PROVIDE COPPER GROUND BUS						

KEYED NOTES

- 1

400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.
- 2

400A, 480Y/277V, 3PH 4-WIRE MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY, ADJUST AS APPLICABLE.
- 3

2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHEDULE 40 MIN. PVC/HDPE CONDUIT. TRANSITION TO GRSC WHERE EMERGING FROM GRADE.
- 4

(RESERVED)
- 5

SEE H-FRAME RACK DETAIL AND SWITCH-RACK DETAILS
- 6

SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS OF SERVING ELECTRIC UTILITY WITH CWLP
- 7

480VAC FEEDER
PRIMARY DISCONNECT FOR 25KVA TRANSFORMER; 200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.
- 7A

25KVA PAD MOUNT TRANSFORMER;
PRIMARY: 480VAC SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 7B

2 #3/0 AWG XHHW-2, 1 #2 GND IN 2" GRSC.
- 7C

120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION FOR TRANSFORMER; 200AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-150AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE. INCLUDE 2 SPARES OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 7D

NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24"H X 24"W X 8"D.

8

(RESERVED)

9

480VAC FEEDER
PRIMARY DISCONNECT FOR 50KVA TRANSFORMER; 200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.

9A

50KVA PAD MOUNT TRANSFORMER;
PRIMARY: 480VA SINGLE PHASE, 2-WIRE
SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.

9B

2 #350MCM XHHW-2, 1 #2 GND IN 3" GRSC.

9C

120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION FOR TRANSFORMER; 400AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-300AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE. INCLUDE 2 SPARES OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.

9D

NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 30"H X 30"W X 8"D.

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USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - JFC	REVISED -
PLOT SCALE = 100.00 sf / In.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS – UPRR – 14

SCALE: SHEET 14 OF 16 SHEETS STA. TO STA.

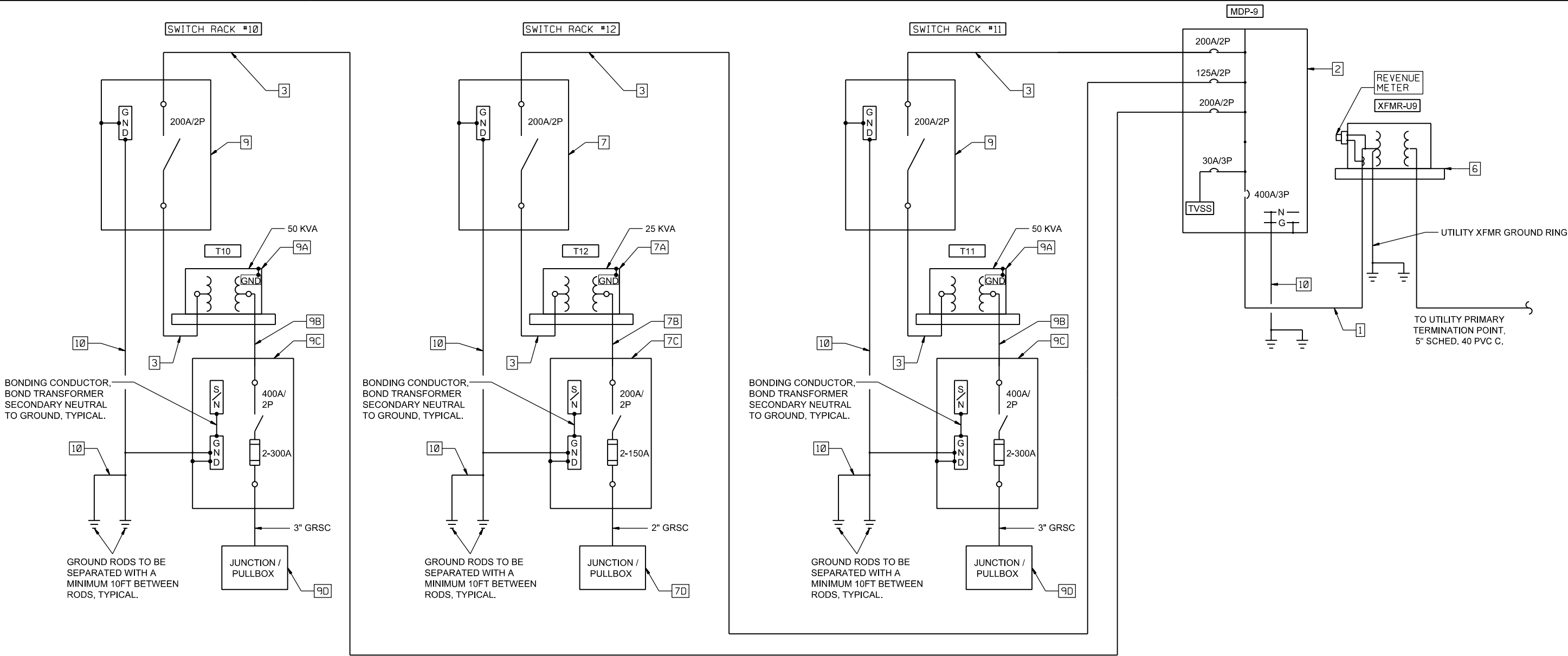
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	385
09L0179B		CONTRACT NO.	93773	
		ILLINOIS	FED. AID PROJECT	

PLAN	SURVIVED	PLOTTED	ALIGNMENT CHECKED	CADD FILE NAME	BY	DATE
NOTE BOOK	NO.	NO.	NO.	NO.	NO.	NO.

PROFILE	SURVIVED	PLOTTED	GRADES CHECKED	STRUCTURE NOTATIONS CHKG	BY	DATE
NOTE BOOK	NO.	NO.	NO.	NO.	NO.	NO.

FINAL PLANS

MODEL Sheet 15
FILE NAME: p:\w\hanson\c-lw-bentley.com\hanson-pw-d1\Documents\09\pos\09L0179B\Usable Segment VI - UPRR\Sheet\09L0179B-shc-Elec-detail-14-15.dgn



MDP-9 ONE-LINE DIAGARM KEYED NOTES

- 1 400A, 480/277V, 3PH, 4W SERVICE; 4 #600MCM XHHW-2, 4" C.
- 2 400A, 480Y/277V, 3PH MAIN SERVICE AND POWER DISTRIBUTION PANEL, 25 KAIC MIN. AT 480/277VAC. AMP INTERRUPTING RATING SHALL BE GREATER THAN CALCULATED FAULT CURRENT AT UTILITY TRANSFORMER SECONDARY, ADJUST AS APPLICABLE
- 3 2 #3/0 XHHW-2, 1 #2 AWG GND., 2" SCHED 40 MIN PVC/HDPE. TRANSITION TO GRSC WHERE EMERGING FROM GRADE
- 4 (RESERVED)
- 5 SEE H-FRAME RACK DETAIL
- 6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH SERVING ELECTRIC UTILITY; CWLP.
- 7 480VAC FEEDER PRIMARY DISCONNECT FOR 25KVA TRANSFORMER; 200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.
- 7A 25KVA PAD MOUNT TRANSFORMER; PRIMARY: 480VAC SINGLE PHASE, 2-WIRE SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 7B 2 #3/0 AWG XHHW-2, 1 #2 GND IN 2" GRSC.

- 7C 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION FOR TRANSFORMER; 200AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-150AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE. INCLUDE 2 SPARES OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.
- 7D NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24"H X 24"W X 8"D.
- 8 (RESERVED)
- 9 480VAC FEEDER PRIMARY DISCONNECT FOR 50KVA TRANSFORMER; 200AMP, 600VAC, 2-POLE HEAVY DUTY NOT FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE GROUND KIT. LOCATE SWITCH ON SWITCH RACK NEAR/ADJACENT TO RESPECTIVE PAD MOUNT TRANSFORMER.

- 9A 50KVA PAD MOUNT TRANSFORMER; PRIMARY: 480VAC SINGLE PHASE, 2-WIRE SECONDARY: 120/240VAC SINGLE PHASE, 3-WIRE.
- 9B 2 #350 MCM XHHW-2, 1 #2 GND IN 3" GRSC.
- 9C 120/240VAC SECONDARY DISCONNECT/OVERCURRENT PROTECTION FOR TRANSFORMER; 400AMP, 240VAC, 2-POLE HEAVY DUTY FUSIBLE UL LISTED SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE. INCLUDE SOLID NEUTRAL AND GROUND KIT. FURNISH AND INSTALL 2-300AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN, LITTELFUSE, OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MANUFACTURER, SIZE, AND TYPE. ADJUST FUSE SIZES AS NEEDED TO ACCOMMODATE RESPECTIVE LOAD AND APPLICATION.

- 9D NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 30"H X 30"W X 8"D.
- 10 PROVIDE 2-3/4" x 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED. 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.

ONE-LINE DIAGRAM - MDP-9
NOT TO SCALE



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USER NAME = pop00275	DESIGNED - KNL	REVISED -
DRAWN - JFC	REVISED -	
PLOT SCALE = 100.00 sf / In.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS – UPRR – 15

SCALE: SHEET 15 OF 16 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	386
09L0179B		CONTRACT NO. 93773		
ILLINOIS		FED. AID PROJECT		

PROFILE	SURVIVED PLOTTED	BY	DATE
NOTE BOOK NO.	GRADES CHECKED DATE	STRUCTURE NOTATIONS CHRG	

PLAN	SURVIVED PLOTTED	BY	DATE
NOTE BOOK NO.	ALIGNMENT CHECKED DATE	CADD FILE NAME	

MODEL Sheet_16
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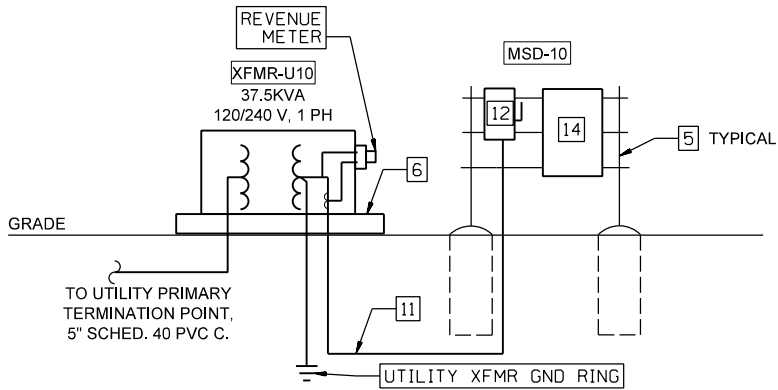
USER NAME = pop00275	DESIGNED - KNL	REVISED -
	DRAWN - JFC	REVISED -
PLOT SCALE = 100.00 sf / In.	CHECKED - KNL	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
ELECTRICAL DETAILS – UPRR – 16

SCALE: SHEET 16 OF 16 SHEETS STA. TO STA.

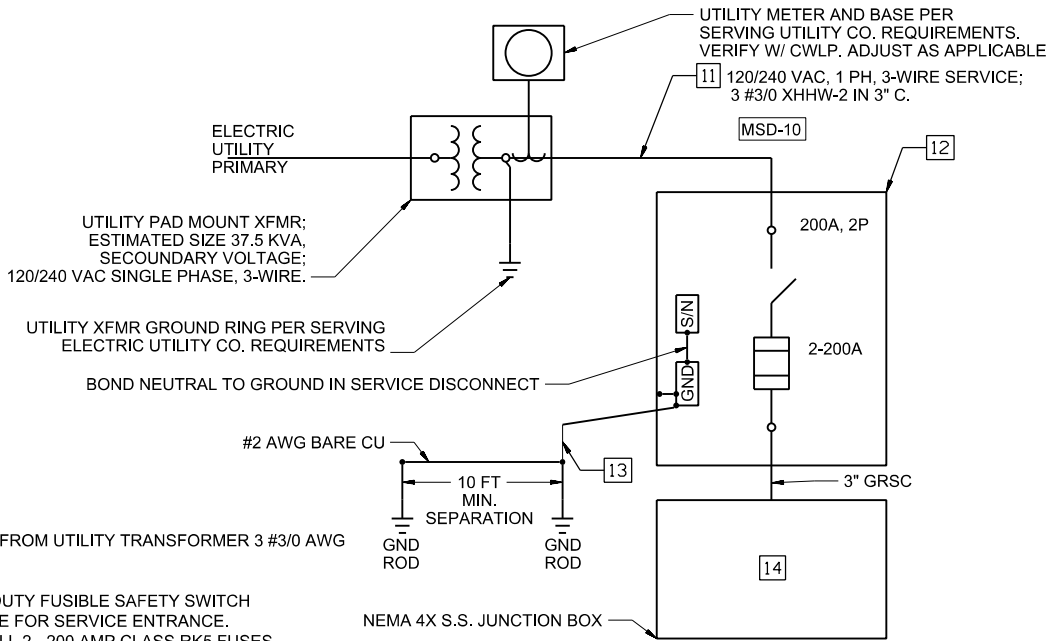
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	387
09L0179B		CONTRACT NO. 93773		
		ILLINOIS	FED. AID PROJECT	



120/240V, 1PH SERVICE
DISCONNECT LAYOUT - MSD-10
NOT TO SCALE

MSD-10 LAYOUT - KEYED NOTES

- 5 SEE H-FRAME RACK DETAIL
- 6 SEE TRANSFORMER PAD DETAIL. COORDINATE REQUIREMENTS WITH CWLP
- 11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
- 12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
- 14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.



ONE-LINE DIAGRAM - MSD-10
NOT TO SCALE

MSD-10 ONE-LINE DIAGRAM - KEYED NOTES

- 11 200 AMP, 120/240 VAC, SINGLE PHASE 3-WIRE ELECTRIC SERVICE FROM UTILITY TRANSFORMER 3 #3/0 AWG XHHW-2, 3" C
- 12 MAIN SERVICE DISCONNECT: 200 AMP, 240 VAC, 2- POLE HEAVY DUTY FUSIBLE SAFETY SWITCH IN A NEMA 4X STAINLESS STEEL ENCLOSURE UL LISTED SUITABLE FOR SERVICE ENTRANCE. INCLUDE SOLID NEUTRAL AND GROUND KIT, FURNISH AND INSTALL 2 - 200 AMP CLASS RK5 FUSES AS MANUFACTURED BY BUSSMANN OR LITTELFUSE OR APPROVED EQUAL. INCLUDE 2 SPARES OF SAME MFR, SIZE, AND TYPE. ADJUST FUSE SIZE AS NEEDED TO ACCOMMODATE RESPECTIVE LOADS AND APPLICATION.
- 13 PROVIDE 2-3/4" X 10' L COPPER CLAD GROUND RODS WITH #2 AWG GROUNDING ELECTRODE CONDUCTOR IN 1" SCHED 80 PVC C. PROVIDE EXOTHERMIC WELDS TO GROUND RODS.
- 14 NEMA 4X STAINLESS STEEL ENCLOSURE WITH HINGED COVER AND PAD LOCK FEATURE, MINIMUM SIZE 24" X 24" W X 8" D.

MODEL: Sheet 1
FILE: hanson-cpw-bentley.comhanson-cpw-01\Documents\09\pos\09\0179B\Usable_Segments_V\North_GrandSheet\009\0179B-SHT-NGA4-PumpStation.dgn
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GENERAL NOTES:

- 1. DRAINAGE STRUCTURES, NO. 1 AND NO. 2 SHALL BE INSTALLED AND BACKFILLED PRIOR TO THE INSTALLATION OF THE RAILROAD TRACK. THE VALVE VAULT AND ASSOCIATED SITE IMPROVEMENTS CAN BE INSTALLED AFTER THE INSTALLATION OF THE TRACK.
- 2. CONTRACTOR SHALL COORDINATE WITH THE RAILROAD IF CONSTRUCTION ACTIVITIES ENCROACH WITHIN 25 FT OF THE ADJACENT RAIL.
- 3. FINAL SITE GRADING SHALL OCCUR ONLY AFTER ALL IMPROVEMENTS HAVE BEEN COMPLETED.
- 4. THERE ARE TWO (2) DRAINAGE STRUCTURES, NO. 1. EACH IS IDENTICAL WITH EXCEPTION OF THE INVERTS AND THE PIPES ENTERING AND EXITING THEM. THEY WILL BE BID PER EACH.

EXCAVATION AND BACKFILL NOTES:

- 1. DRAINAGE STRUCTURES, NO. 1 AND NO. 2 SHALL BE EXCAVATED USING A VERTICAL SHAFT BORING MACHINE.
- 2. THE CONTRACTOR SHALL SUBMIT AN EXCAVATION PLAN AND DETAILED GROUT INSTALLATION AND DRAINAGE STRUCTURE INSTALLATION PLAN SEALED BY A PROFESSIONAL ENGINEER TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. THE EXCAVATION PLAN SHALL INCLUDE DRAWINGS AND DESIGN CALCULATIONS FOR TEMPORARY AND PERMANENT CASING. THE CALCULATIONS SHALL BE PREPARED AND SEALED BY AN ILLINOIS LICENSED STRUCTURAL ENGINEER. THIS APPROVAL WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR SAFETY OF THE EXCAVATION.
- 3. ALL EXCAVATION, SHORING, TEMPORARY OR PERMANENT CASING, AGGREGATE OR CONCRETE BASE, CONCRETE PRECAST MANHOLE SECTIONS, FLAT SLAB TOP, ACCESS HATCHES, LOCKING MECHANISM, MASTIC, SEALANT, WATERPROOFING GROUT, AND BACKFILL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR DRAINAGE STRUCTURES, NO. 1 AND NO. 2, RESPECTIVELY.
- 4. TEMPORARY OR PERMANENT CASING SHALL BE ACCORDING TO SECTION 516 OF THE STANDARD SPECIFICATIONS. GALVANIZED CMP MAY ALSO BE USED AS PERMANENT CASING. IF CMP IS USED AS A PERMANENT CASING, THE ANNULAR SPACE BETWEEN THE CMP AND THE EDGE OF THE BORING SHALL BE FILLED WITH NON-SHRINK GROUT FROM THE BASE TO ELEVATION 584.0.
- 5. THE STRUCTURES SHALL BE EXCAVATED AND INSTALLED ONE AT A TIME WITH EACH BEING GROUTED AND BACKFILLED COMPLETELY BEFORE COMMENCING CONSTRUCTION ON THE NEXT.
- 6. THE ANNULAR SPACE BETWEEN THE DRAINAGE STRUCTURE WALL AND THE EDGE OF THE BORING WITH A TEMPORARY CASING OR BETWEEN THE DRAINAGE STRUCTURE AND PERMANENT CASING SHALL BE FILLED WITH NON-SHRINK GROUT FROM THE BASE TO ELEVATION 584.0.
- 7. FROM ELEVATION 584.0 TO THE SURFACE, THE ANNULAR SPACE BETWEEN THE MANHOLE SECTION AND THE EDGE OF THE BORING WITH A TEMPORARY CASING OR BOTH SIDES OF THE PERMANENT CASING SHALL BE FILLED WITH NON-SHRINK GROUT OR CONTROLLED LOW STRENGTH MATERIAL, MIX 2.
- 8. THE DRAINAGE STRUCTURE SHALL BE CHECKED AFTER THE INSTALLATION OF EACH SECTION TO ENSURE A TRUE VERTICAL INSTALLATION. IF THE ALIGNMENT IS OFF, THE CONTRACTOR SHALL TAKE CORRECTIVE ACTION TO SHIM THE STRUCTURE BACK INTO LEVEL.
- 9. MATERIAL REMOVED FROM THE EXCAVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH SECTION 202.03 OF THE STANDARD SPECIFICATIONS.

DRAINAGE STRUCTURE PIPE CONNECTION NOTES:

- 1. THE TWO DRAINAGE STRUCTURES, NO. 1; AND DRAINAGE STRUCTURES NO. 1 AND DRAINAGE STRUCTURES NO. 2 SHALL BE CONNECTED BY 36" DIAMETER CLASS 52 DUCTILE IRON PIPE.
- 2. ALL MATERIAL AND LABOR ASSOCIATED WITH EXCAVATING FOR AND INSTALLING THE 36" DIAMETER PIPE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR STORM SEWER CONNECTION.
- 3. THE PIPE SHALL BE INSTALLED BY TUNNELED EXCAVATION AFTER THE TWO STRUCTURES HAVE BEEN INSTALLED AND BACKFILLED.
- 4. ONCE THE OPENING HAS BEEN EXCAVATED, AND THE PIPE INSTALLED, THE PIPE SHALL BE SEALED TO DRAINAGE STRUCTURES, NO. 1 AND NO. 2 WITH A NON-SHRINK GROUT AND 2" DIAMETER GROUT FILL AND VENT PORTS.
- 5. ONCE THE GROUT HAS DRIED, THE ANNULAR SPACE BETWEEN THE ROCK AND THE PIPE SHALL BE GROUTED UNTIL MATERIAL EXITS THE VENT. ONCE THE GROUT HAS CURED, THE GROUT PIPES SHALL BE CUT OFF FLUSH WITH THE INTERIOR OF DRAINAGE STRUCTURES, NO. 1 AND NO. 2.
- 6. STORM SEWERS JACKED IN PLACE, 18" SHALL MEET THE REQUIREMENTS OF SECTION 552 OF THE STANDARD SPECIFICATIONS AND AS SPECIFIED IN THE SPECIAL PROVISIONS.
- 7. THE STORM SEWER SHALL HAVE A 30-IN DIAMETER STEEL CASING JACKED AND BORED FROM STRUCTURE N20 TO DRAINAGE STRUCTURES NO. 1 WITH THE 18-IN DIAMETER STORM SEWER INSTALLED WITHIN IT. CASING SPACERS SHALL BE USED TO SUPPORT THE CARRIER PIPE WITHIN THE CASING. A CASING END SEAL SHALL BE USED TO SEAL THE CASING TO THE CARRIER PIPE. AT DRAINAGE STRUCTURES, NO. 1, GROUT BETWEEN THE CASING AND THE CARRIER PIPE.
- 8. THE 18" DIAMETER STORM SEWER SHALL BE SOLID WALL PS46 PIPE.
- 9. THE 30" DIAMETER STEEL CASING SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR STORM SEWERS JACKED IN PLACE, 18".

PUMPING STATION NOTES:

- 1. THE VALVE VAULT, PUMPS, PUMP BASES, RAILS AND LIFTING CHAINS SHALL ALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PUMPING STATION.
- 2. ALL PIPING, FITTINGS, VALVES AND PIPE SUPPORT BRACKETS FROM THE PUMP BASE, THROUGH THE VALVE VAULT TO TWO FEET OUTSIDE THE VALVE VAULT SHALL BE PAID FOR UNDER PUMP STATION MECHANICAL WORK.
- 3. ALL VALVES AND FITTINGS IN THE VALVE VAULT SHALL BE SUPPORTED ON STEEL PIPE SUPPORTS.
- 4. THE 2" SCHEDULE 40 DRAIN AND CHECK VALVE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR PUMP STATION MECHANICAL WORK.

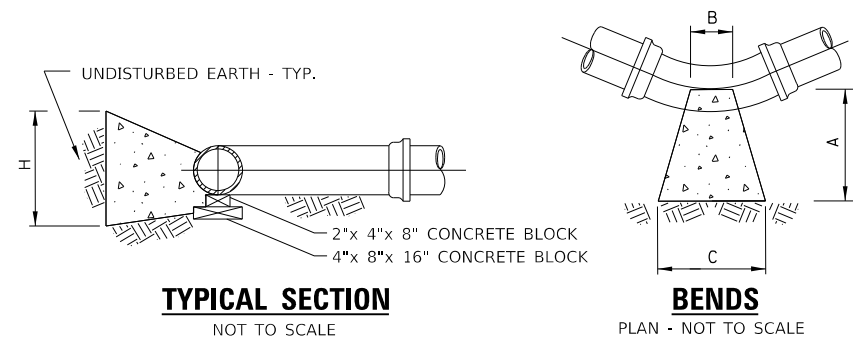
DRAINAGE STRUCTURES AND VALVE VAULT NOTES:

- 1. THE ACCESS HATCHES CAST INTO THE LIDS OF DRAINAGE STRUCTURES, NO. 1 AND NO. 2 SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR DRAINAGE STRUCTURES, NO. 1 AND NO. 2 RESPECTIVELY.
- 2. THE VALVE VAULT AND ASSOCIATED EXCAVATION AND BACKFILL SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR PUMPING STATION.
- 3. THE VALVE VAULT SHALL CONFORM TO ASTM C-913. THE STRUCTURE SHALL BE DESIGNED FOR EARTH LOADS AND HS-20 LIVE LOAD FOR VEHICULAR TRAFFIC.
- 4. THE PRECAST LID FOR DRAINAGE STRUCTURES, NO. 1 SHALL BE SEALED TO THE TOP RING SECTION WITH A DOUBLE ROW OF BUTYL MASTIC. THE LID SHALL HAVE A CAST IN PLACE ALUMINUM ACCESS FRAME AND HATCH. THE HATCH SHALL BE HINGED WITH A FLUSH LOCKING MECHANISM 36" X 36" MINIMUM CLEAR OPENING. THE TOP OF THE HATCH SHALL BE A MINIMUM ¼" ALUMINUM DIAMOND TREAD PLATE.
- 5. THE PRECAST CONCRETE LID FOR DRAINAGE STRUCTURES, NO. 2 SHALL BE SEALED TO THE TOP BARREL SECTION WITH TWO ROWS OF BUTYL MASTIC. THE LID SHALL HAVE AN ALUMINUM ACCESS FRAME AND ACCESS HATCH PER THE PLANS. THE HATCH SHALL BE A HINGED DOUBLE DOOR HATCH WITH AN H-20 LOAD RATING WITH FLUSH LIFTING HANDLES AND LOCKING MECHANISM. THE MINIMUM CLEAR OPENING OF THE HATCH SHALL BE 72" x 90". THE DOORS SHALL BE ¼" (MINIMUM) ALUMINUM DIAMOND TREAD PLATE. ORIENTATION OF THE HATCH SYSTEM SHALL BE COORDINATED WITH THE PUMP MANUFACTURER.
- 6. AFTER INSTALLATION IS COMPLETE, IF THERE ARE WATER LEAKS AT JOINTS, THE CONTRACTOR SHALL WATERPROOF THE LEAKS USING DRILLED PORTS AROUND THE LEAK AND A HYDROPHILIC GROUT. IF REQUIRED, IT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR DRAINAGE STRUCTURES, NO. 1 AND NO. 2, RESPECTIVELY.
- 7. ALL PENETRATIONS THROUGH THE WALLS OF THE DRAINAGE STRUCTURES SHALL BE SEALED WITH NON-SHRINK GROUT.
- 8. DRAINAGE STRUCTURES SHALL BE CHECKED DURING INSTALLATION AND GROUTING TO ENSURE A TRUE VERTICAL INSTALLATION. IF THE ALIGNMENT IS OFF, THE CONTRACTOR SHALL TAKE CORRECTIVE MEASURES TO SHIM THE STRUCTURE BACK TO LEVEL.
- 9. THE EXTERIOR AND BOTTOM OF THE VALVE VAULT SHALL RECEIVE TWO COATS OF ASPHALT EMULSION WATERPROOFING IN ACCORDANCE WITH SECTION 503.18 OF THE STANDARD SPECIFICATIONS.

DRAINAGE STRUCTURES PRECAST CONCRETE MANHOLE:

- 1. DRAINAGE STRUCTURES SHALL BE PRECAST REINFORCED CONCRETE MANHOLES CONFORMING TO SECTION 1042 OF THE STANDARD SPECIFICATIONS. STRUCTURES SHALL BE WATER TIGHT. THE PRECAST MANHOLE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
- 2. THE EXTERIOR AND BOTTOM OF THE BASE OF THE STRUCTURES SHALL RECEIVE TWO COATS OF ASPHALT EMULSION WATERPROOFING IN ACCORDANCE WITH SECTION 503.18 OF THE STANDARD SPECIFICATIONS.
- 3. THE DRAINAGE STRUCTURE SECTIONS SHALL BE A MINIMUM OF 4-FT TALL WITH THE EXCEPTION OF THE FINAL SECTION. EACH SECTION SHALL BE SEALED WITH TWO (2) STRIPS OF BUTYL RUBBER SEALANT. JOINTS IN THE BUTYL RUBBER SEALANT SHALL BE OVERLAPPED TO PREVENT GAPS.
- 4. THE ANNULAR SPACE BETWEEN THE STRUCTURES AND THE DRILLED SHAFT SHALL BE FILLED WITH NON-SHRINK GROUT. THE GROUT SHALL BE INSTALLED AFTER EACH BARREL SECTION IS INSTALLED FROM ELEVATION 561.0 TO 584.0. FROM ELEVATION 584.0 TO THE SURFACE, THE ANNULAR SPACE BETWEEN THE MANHOLE AND DRILLED SHAFT SHALL BE FILLED WITH CONTROLLED LOW STRENGTH MATERIAL OR NON-SHRINK GROUT.
- 5. THE CONTRACTOR SHALL SUBMIT A PLAN FOR INSTALLING THE GROUT AND DRAINAGE STRUCTURES TO THE ENGINEER FOR APPROVAL BEFORE COMMENCING THE WORK. THE PLAN SHALL ADDRESS THE INSTALLATION METHOD AND BUOYANCY ISSUES DURING INSTALLATION. THIS APPROVAL WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR GROUTING AND INSTALLING THE THE DRAINAGE STRUCTURE.
- 6. IF GROUNDWATER IS PRESENT BETWEEN THE STRUCTURE AND THE DRILLED SHAFT, THE CONTRACTOR SHALL USE A GROUT FORMULATED FOR CURING UNDER WATER AND SHALL INSTALL THE GROUT FROM THE BOTTOM-UP USING A TREMIEOR PUMP.
- 7. THE NON-SHRINK GROUT SHALL CONFORM TO ASTM C-1107 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AFTER 28 DAYS. THE ADDITION OF AGGREGATE TO THE PREPACKAGED PRODUCT WILL BE PERMITTED AND SHALL BE IN ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. IN LIEU OF NON-SHRINK GROUT AROUND THE DRAINAGE STRUCTURE, THE CONTRACTOR MAY USE CLASS DS CONCRETE WITH 8-10 INCH SLUMP AT POINT OF PLACEMENT.

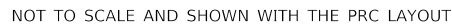
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	DRAWN - EJM	REVIS	ED -				7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	388
	PLOT SCALE = 0.17 ' / in.	CHECKED - LJB	REVISED -				09L0179B		CONTRACT NO. 93773		
	PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -		SCALE:	SHEET 1 OF 9 SHEETS	STA.	TO STA.		ILLINOIS FED. AID PROJECT	



DIMENSIONS (INCHES) BASED ON 50 PSI WORKING PRESSURE
AND 1500 PSF ALLOWABLE SOIL BEARING PRESSURE.
DIMENSIONS MAY BE REDUCED IF CONTRACTOR FURNISHES
SOIL TESTING RESULTS DEMONSTRATING HIGHER ALLOWABLE
SOIL BEARING PRESSURE.

NOTES:

1. SEE PUMP STATION MECHANICAL LAYOUT SHT. FOR SECTION A-A.
SEE PUMP STATION PRC DETAILS SHT. FOR SECTION B-B.
2. CONTRACTOR SHALL VERIFY THE DEPTH OF THE DISCHARGE PIPE.
3. SURFACE RESTORATION ABOVE THE 10-IN FORCE MAIN IN LOCATIONS NOT BEING PAVED SHALL BE SEEDED AND MULCHED.
4. PROVIDE THRUST BLOCKING AT ALL BENDS IN FORCE MAIN. THE COST OF PROVIDING THRUST BLOCKS INCLUDED WITH THE FORCE MAIN PAY ITEM WATER MAIN 10". SEE PLAN AND PROFILE - PUMP STATION OUTLET FOR FORCE MAIN LAYOUT NOT SHOWN ON THIS SHEET.
5. TRENCH BACKFILL SHALL BE USED FOR THE 10" FORCE MAIN WHERE THERE IS PAVEMENT.
6. EXISTING UTILITY CONFLICTS - SEE GENERAL NOTES & REMOVAL PLANS FOR INFORMATION REGARDING ADJUSTMENTS AND REMOVAL LIMITS.
7. SEE 'FENCING AND ACCESS PLAN - TRACK - 3' FOR FENCING ALONG RAILROAD ROW.
8. ALL TEES, ELBOWS, & FITTINGS ARE TO BE INCLUDED IN THE COST PER FOOT OF WATER MAIN 10".



- A. 1.875" - CONTRACTOR TO VERIFY DIMENSION WITH PUMP MANUFACTURE FOR MINIMUM PUMP SPACING
- B. 36" X 36" ALUMINUM ACCESS FRAME AND HATCH.
- C. CUSTOM HATCH SYSTEM. SEE PUMP STATION - MISCELLANEOUS DETAILS SHEET.
- D. GROUT TYP. (SEE DETAIL THIS SHEET)
- E. FLOATS SHALL BE ATTACHED TO THE TRANSDUCER CABLE AT EACH LOCATION JUST ABOVE EACH FLOAT WITH SUFFICIENT SLACK TO ALLOW THE FLOAT TO ACTIVATE.



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	PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -			SCALE:	SHEET 3 OF 9 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT		



SEE PUMP STATION - PRC DETAILS SHEET FOR SECTION A-A

1. GROUT TYPICAL, SEE DETAIL ON PUMP STATION MECHANICAL LAYOUT SHEET.
2. 36" X 36" ALUMINUM ACCESS FRAME AND HATCH.



TYPICAL SUNSHELTER STRUCTURE WITH CONTROL PANEL SUPPORTS

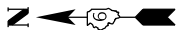
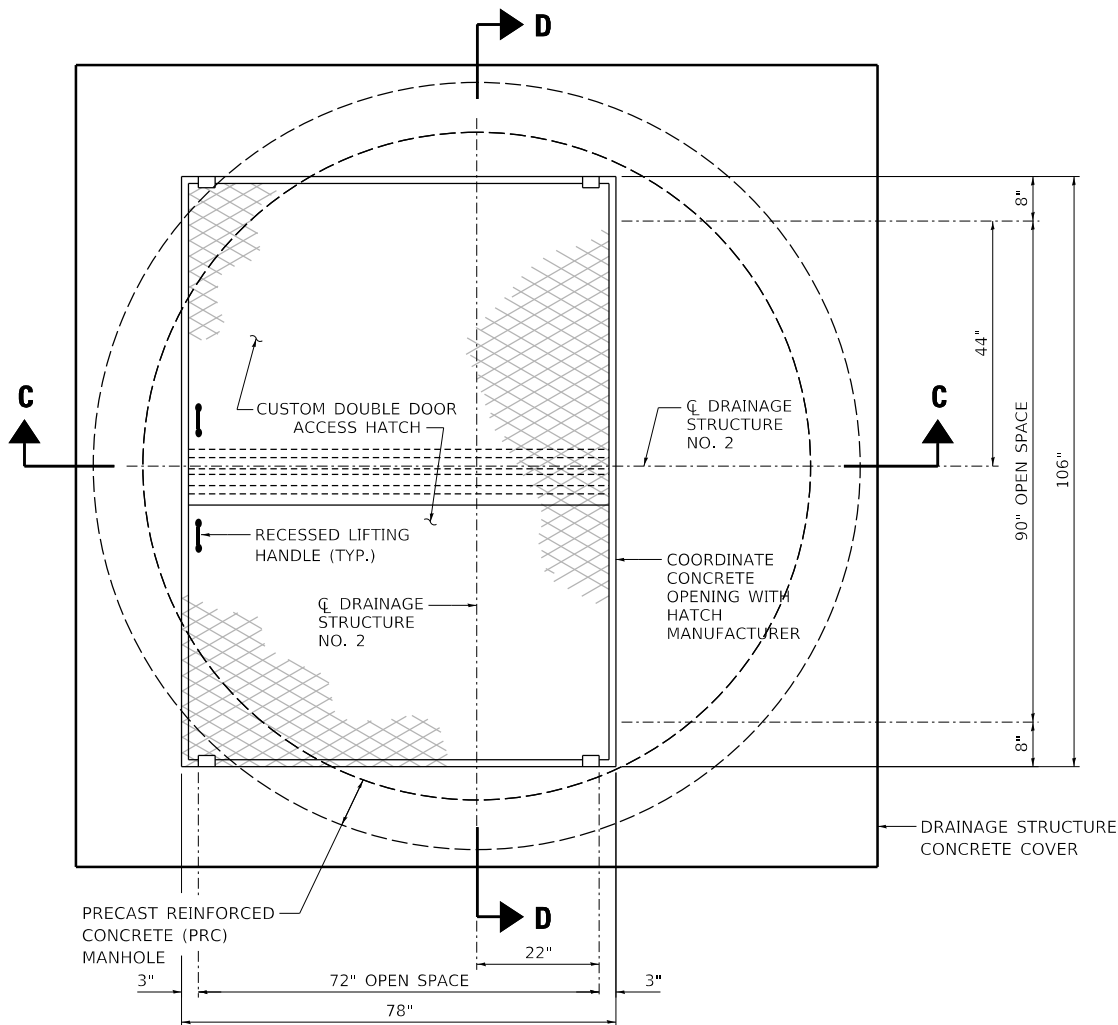
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
PUMP STATION - MISCELLANEOUS DETAILS**

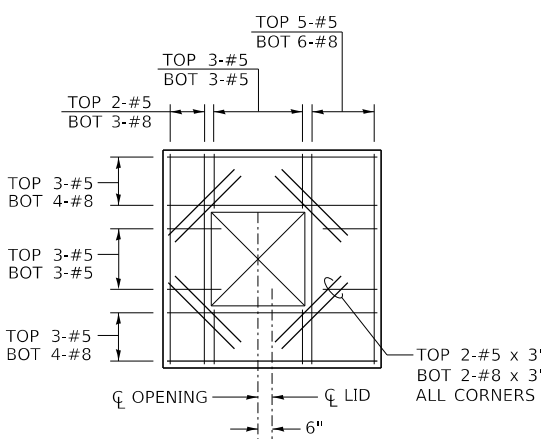
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09L0179B		CONTRACT NO. 93773		

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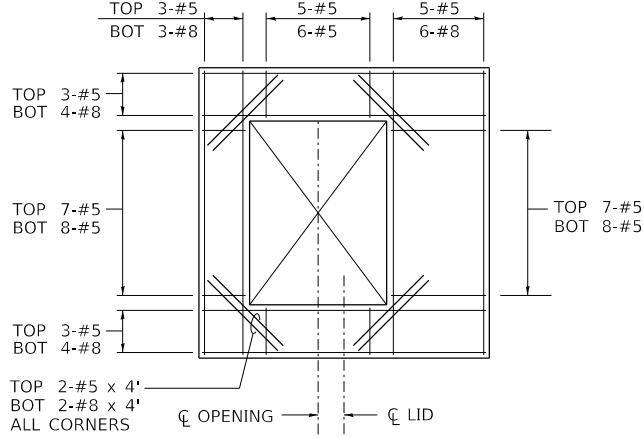


DRAINAGE STRUCTURES, NO. 2
PLAN

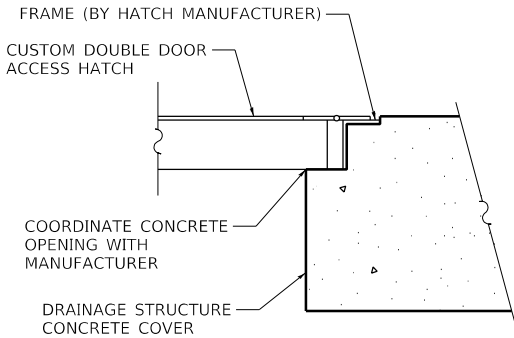
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SEE SITE PLANS FOR ORIENTATION



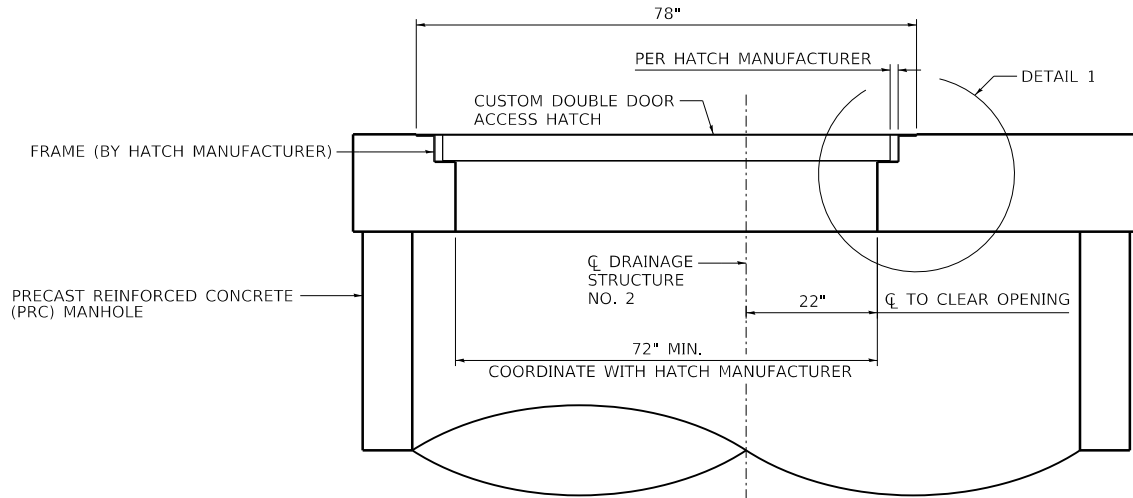
DRAINAGE STRUCTURES, NO. 1
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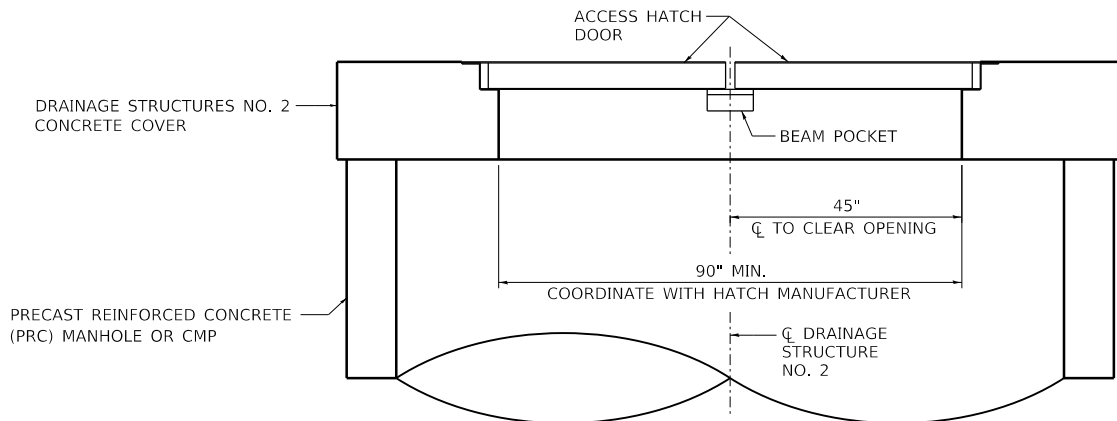
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DETAIL 1



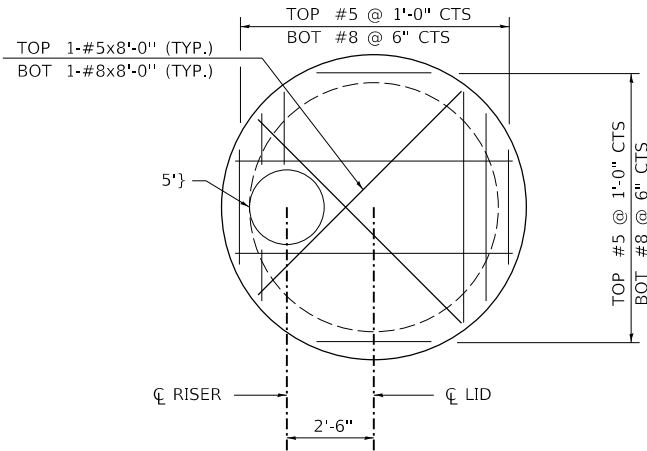
SECTION C-C
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SECTION D-D
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DRAINAGE STRUCTURE, ACCESS HATCH NOTES:

1. LOADING: H20 LOAD RATING.
2. LOCATION AND ARRANGEMENT OF THE HATCH TO BE COORDINATED WITH THE PUMP MANUFACTURER.
3. THE CONCRETE OPENING FOR ACCESS HATCH FRAME SHALL BE COORDINATED WITH HATCH MANUFACTURER.



PUMP STATION - TRANSITION SLAB
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
PUMP STATION - MISCELLANEOUS DETAILS

SCALE: SHEET 6 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	393
	09L0179B		CONTRACT NO.	93773
	ILLINOIS	FED. AID PROJECT		



1. SHAFT SEAL FAILURE INSPECTION SHALL BE PART OF THE PUMPS ROUTINE MAINTENANCE.
2. THE PUMP CONTROLS SHALL INCORPORATE AN ALTERNATING RELAY TO EQUALIZE PUMP WEAR AND AUTOMATICALLY PROVIDE A STAND-BY.
3. VERIFY LEVEL SWITCH ELEVATIONS AND CABLE HANGAR LOCATIONS WITH ENGINEER AND PUMP MANUFACTURER REPRESENTATIVE.

1. ALL ELECTRICAL EQUIPMENT INSTALLED IN THE WET WELL SHALL BE SUITABLE FOR USE IN CLASS I, DIV. 1, GROUP D HAZARDOUS LOCATION AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEC ARTICLES 500, 501, & 504 AS WELL AS ALL LOCAL CODES, ORDINANCES AND REQUIREMENTS.
2. ALL ELECTRICAL EQUIPMENT INSTALLED IN THE VALVE VAULT SHALL BE SUITABLE FOR USE IN CLASS I, DIVISION 2, GROUP D HAZARDOUS LOCATION AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEC ARTICLES 500, 501, & 504 AS WELL AS ALL LOCAL CODES, ORDINANCES, AND REQUIREMENTS.
3. CONTRACTOR SHALL COORDINATE INSTALLATION OF ELECTRICAL EQUIPMENT, AND WORK WITH RESPECT TO PLUMBING, MECHANICAL, CONCRETE, EXCAVATION AND ALL OTHER WORK. COORDINATE THE INSTALLATION OF CONDUITS INTO THE WET WELL. USE NON-SHRINK GROUT AS REQUIRED TO SEAL CONDUIT PENETRATIONS.
4. ALL CONDUIT TERMINATIONS & OPENINGS IN ENCLOSURES SHALL BE SEALED WITH DUCT SEAL OR EQUAL.
5. LEVEL SENSING PRESSURE TRANSDUCER & BACK-UP FLOATS SHALL HAVE AN FM LISTED OR UL LISTED INTRINSICALLY SAFE BARRIER (SWITCHING AMPLIFIER) SUPPLIED FOR UNIT. INTRINSICALLY SAFE WIRING SHALL HAVE LIGHT BLUE COLORED INSULATION AND KEPT PHYSICALLY ISOLATED FROM OTHER CONDUCTORS. INTRINSICALLY SAFE WIRING AND EQUIPMENT SHALL BE INSTALLED PER ANSI/ISA RP12.6, UL 698A, AND NEC 504. CONDUITS WITH INTRINSICALLY SAFE WIRING SHALL TERMINATE IN THE CONTROL PANEL AT THE INTRINSICALLY SAFE WIRING SECTION.
6. METAL CONDUIT IN DIRECT CONTACT WITH EARTH OR CONCRETE SHALL BE PVC COATED FOR CORROSION PROTECTION.
7. ALL CONDUIT ENTRANCES INTO THE SERVICE BREAKER, PUMP CONTROL PANEL AND ANY OTHER NEMA 4 ENCLOSURES SHALL HAVE WATER TIGHT THREADED HUBS, UL LISTED NEMA 4, 4X FOR RESPECTIVE ENCLOSURE.
8. ALL BUSHINGS, HUBS, & FITTINGS BETWEEN CONDUITS OF DISSIMILAR METALS AND/OR BETWEEN CONDUITS AND ENCLOSURES OF A DISSIMILAR METAL SHALL BE SUITABLE FOR SUCH APPLICATIONS TO ELIMINATE THE POSSIBILITY OF GALVANIC ACTION.

- ① MULTI-CONDUCTOR LIQUID LEVEL SENSING CABLE (WITH MAXIMUM DIAMETER OF 5/8") IN 2" PVC COATED RIGID ALUMINUM CONDUIT. CONDUIT SHALL BE SIZED FOR 25% MAXIMUM FILL TO CONFORM TO EXPLOSION PROOF CONDUIT SEAL REQUIREMENTS. ADJUST (ENLARGE) AS REQUIRED.
- ② SUBMERSIBLE PUMP MOTOR CABLE IN 3" PVC COATED RIGID ALUMINUM CONDUIT. CONDUIT SHALL BE SIZED FOR 25% MAXIMUM FILL TO CONFORM TO EXPLOSION PROOF CONDUIT SEAL REQUIREMENTS. ADJUST (ENLARGE) AS REQUIRED.
- ③ EXPLOSION PROOF CONDUIT SEAL SUITABLE FOR CLASS I, DIVISION 1, GROUP D HAZARDOUS LOCATION, REQUIRED FOR ALL CONDUITS ENTERING OR LEAVING THE WET WELL OR VALVE VAULT INSTALLED IN CONFORMANCE WITH NEC 501 & MANUFACTURER'S DIRECTIONS. NOTE CONDUIT SEALS SHALL BE SIZED AS REQUIRED FOR THE RESPECTIVE CABLE FILL. CABLE FILL SHALL NOT EXCEED 25% FOR CONDUIT SEAL APPLICATION. CONDUIT SEALS SHALL BE THE FIRST FITTING AFTER THE CONDUIT LEAVES THE WET WELL AND EMERGES FROM GRADE & THE FIRST FITTING AFTER CONDUIT ENTERS THE VALVE VAULT.
- ④ HEAVY DUTY STAINLESS STEEL CABLE RACK ADEQUATELY SIZED FOR THE RESPECTIVE PUMP & LEVEL CABLES OR HEAVY DUTY NYLON SADDLE RACKS (CABLE HANGAR WITH 3" THROAT OPENING), UNDERGROUND DEVICES CAT. NO. 3SR1. MOUNT AT IMMEDIATELY INSIDE ACCESS HATCH WITH STAINLESS STEEL STRUT SUPPORT & STAINLESS STEEL HARDWARE. PROVIDE SUFFICIENT RACKS FOR EACH PUMP CABLE & LEVEL CABLES. EACH PUMP MOTOR SHALL HAVE 10' MINIMUM SLACK CABLE TO ALLOW FOR FUTURE REMOVAL AND REINSTALLATION. LOOP SLACK CABLES AROUND SADDLE RACK AND SECURE WITH CABLE TIES.
- ⑤ SUBMERSIBLE PUMP CABLE BY PUMP MANUFACTURER. VERIFY EACH PUMP MOTOR HAS A MINIMUM OF 10 FEET OF SLACK CABLE. (2 TYP.)
- ⑥ CONDUIT HOLES SHALL BE CORED THROUGH THE STRUCTURE WALLS OR PREFORMED DURING CASTING.



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		DATE - 10/01/2024	REVISED -		SCALE:	SHEET 7 OF 9 SHEETS	STA.	TO STA.						

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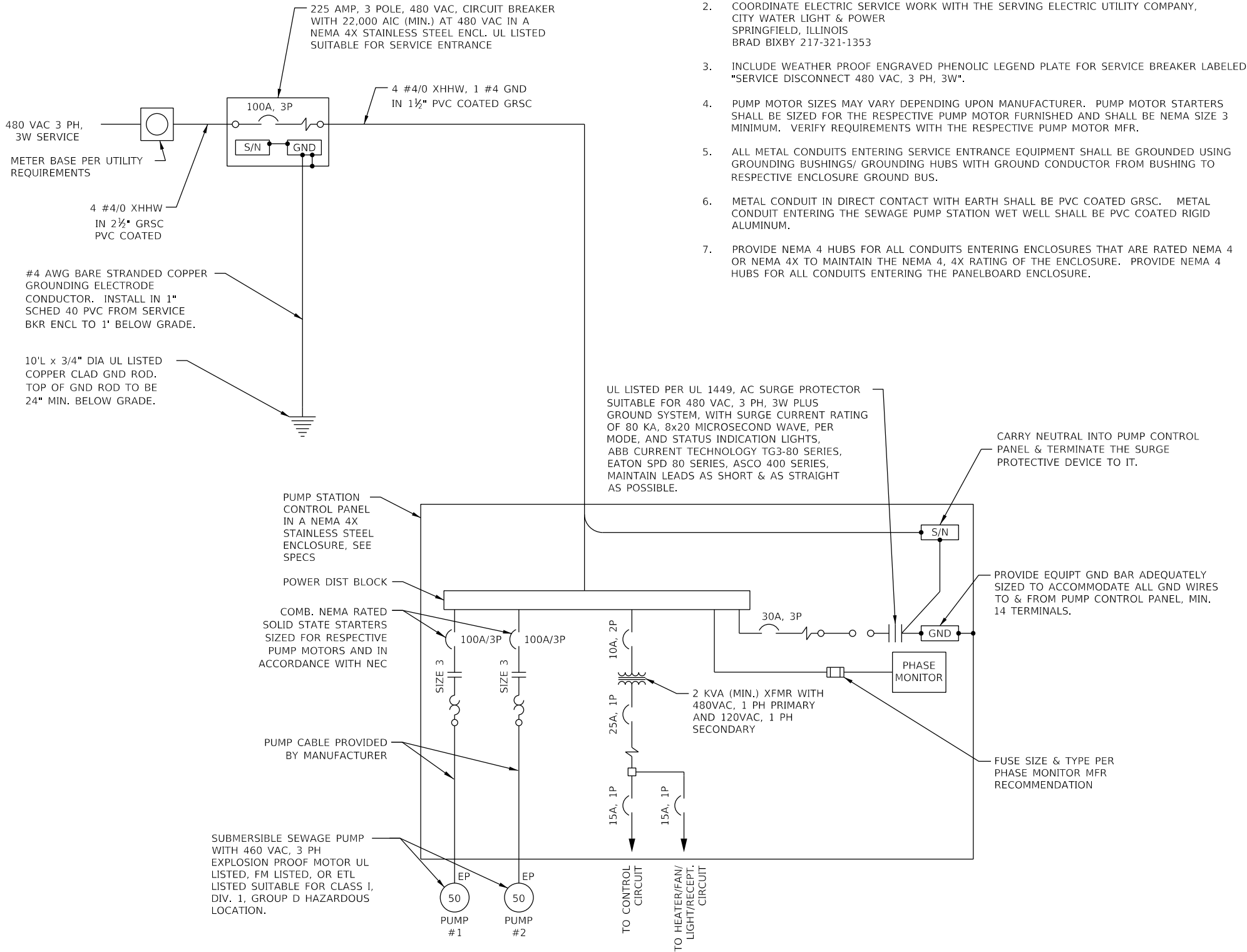
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
PUMP STATION ELECTRICAL DETAILS

SCALE: SHEET 8 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 93773		
		ILLINOIS FED. AID PROJECT		

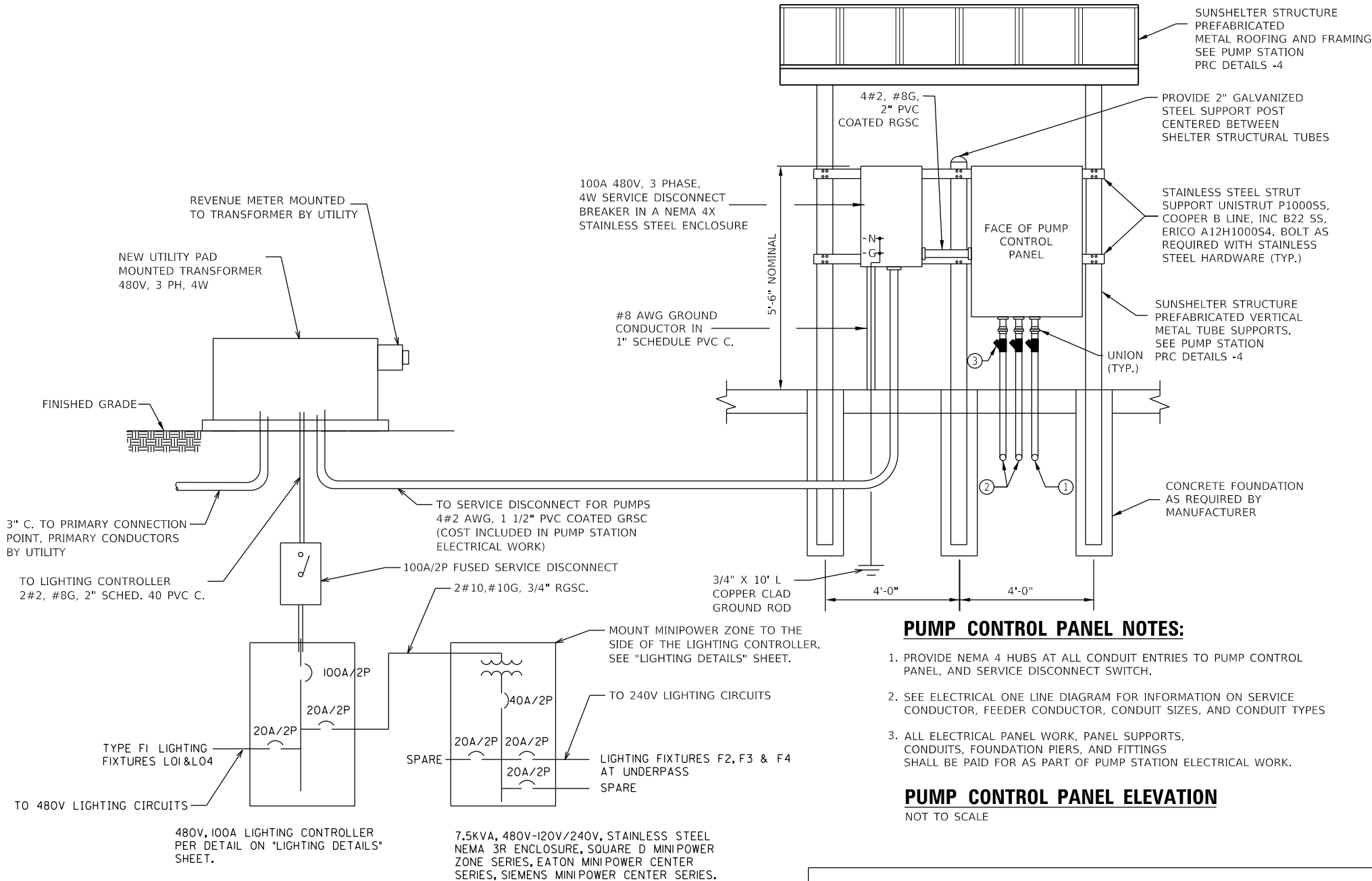


PUMP STATION ELECTRICAL ONE LINE
NO SCALE

ONE-LINE LEGEND

	SURGE PROTECTOR/TVSS DEVICE
	ELECTRIC UTILITY SERVICE METER AND BASE
	CAPACITOR
	TRANSFORMER
	CABLE TERMINAL OR LUGS
	GENERATOR
	COMBINATION CIRCUIT BREAKER/STARTER WITH OVERLOAD PROTECTION. # = NEMA SIZE NO.
	GROUND - GROUND ROD, CHASSIS, BUS, OR AT EARTH POTENTIAL
	MOTOR
	EXPLOSION PROOF MOTOR
	MOTOR, # = HORSEPOWER
	CIRCUIT BREAKER
	ADJUSTABLE MOTOR CIRCUIT PROTECTOR TYPE BREAKER
	THERMAL-MAGNETIC CIRCUIT BREAKER
	FUSE
	DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
	THERMAL OVERLOAD PROTECTION
	EXPLOSION PROOF CONDUIT SEAL-OFF FITTING
	TRANSFER SWITCH
	JUNCTION BOX WITH SPLICE
	GROUND BUS OR LUG
	NEUTRAL BUS
	PANELBOARD WITH MAIN BREAKER
	PANELBOARD WITH MAIN MAIN LUGS

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ELECTRIC SERVICE INSTALLATION DETAIL

NOT TO SCALE

SERVICE NOTES:

- CONTRACTOR SHALL VERIFY AND COORDINATE SERVICE ENTRANCE WORK WITH THE SERVING ELECTRIC UTILITY COMPANY.
- ALL METAL CONDUITS TERMINATING IN SERVICE EQUIPMENT (METER BASE & SERVICE BREAKER) SHALL HAVE GROUND BUSHING TYPE HUBS WITH BONDING JUMPERS TO THE RESPECTIVE GND BUS.
- SEE ELECTRICAL ONE-LINE DIAGRAM FOR CONDUIT & WIRE SIZES & TYPES.
- UNLESS OTHERWISE NOTED, WORK SHOWN ON ELECTRIC SERVICE INSTALLATION DETAIL, INCLUDING COORDINATION WITH UTILITY COMPANY, SHALL BE PAID FOR AS ELECTRIC SERVICE INSTALLATION.

PUMP CONTROL PANEL NOTES:

- PROVIDE NEMA 4 HUBS AT ALL CONDUIT ENTRIES TO PUMP CONTROL PANEL, AND SERVICE DISCONNECT SWITCH.
- SEE ELECTRICAL ONE LINE DIAGRAM FOR INFORMATION ON SERVICE CONDUCTOR, FEEDER CONDUCTOR, CONDUIT SIZES, AND CONDUIT TYPES
- ALL ELECTRICAL PANEL WORK, PANEL SUPPORTS, CONDUITS, FOUNDATION PIERS, AND FITTINGS SHALL BE PAID FOR AS PART OF PUMP STATION ELECTRICAL WORK.

PUMP CONTROL PANEL ELEVATION

NOT TO SCALE

SHEET LEGEND:

- MULTI-CONDUCTOR LEVEL PROBE CABLE (WITH MAXIMUM DIAMETER OF 5/8") IN 2" PVC COATED RIGID ALUMINUM. CONDUIT SHALL BE SIZED FOR 25% MAXIMUM FILL TO CONFORM TO EXPLOSION PROOF CONDUIT SEAL REQUIREMENTS. ADJUST (ENLARGE) AS REQUIRED.
- SUBMERSIBLE PUMP MOTOR CABLE IN 3" PVC COATED RIGID ALUMINUM. CONDUIT SHALL BE SIZED FOR 25% MAXIMUM FILL TO CONFORM TO EXPLOSION PROOF CONDUIT SEAL REQUIREMENTS. ADJUST (ENLARGE) AS REQUIRED.
- EXPLOSION PROOF CONDUIT SEAL SUITABLE FOR CLASS I, DIVISION 1, GROUP D HAZARDOUS LOCATION, REQUIRED FOR ALL CONDUITS ENTERING OR LEAVING THE WET WELL OR VALVE VAULT INSTALLED IN CONFORMANCE WITH NEC 501 & MANUFACTURER'S DIRECTIONS. NOTE CONDUIT SEALS SHALL BE SIZED AS REQUIRED FOR THE RESPECTIVE CABLE FILL. CABLE FILL SHALL NOT EXCEED 25% FOR CONDUIT SEAL APPLICATION. CONDUIT SEALS SHALL BE THE FIRST FITTING AFTER THE CONDUIT LEAVES THE WET WELL AND EMERGES FROM GRADE & THE FIRST FITTING AFTER CONDUIT ENTERS THE VALVE VAULT.

DEVICE	LEGEND PLATE LABELING	LETTER HEIGHT/COLOR
100A SERVICE BREAKER	SERVICE DISCONNECT 480 VAC, 3 PH, 4 W	1/4" BLACK LETTERING ON A WHITE BACKGROUND
PUMP CONTROL PANEL ENCLOSURE	PUMP STATION CONTROL PANEL 480 VAC, 3 PH, 4 W	1/4" WHITE LETTERING ON A RED BACKGROUND

LEGEND PLATE SCHEDULE NOTES:

- LEGEND PLATES SHALL BE WEATHERPROOF, ABRASION RESISTANT, PHENOLIC ENGRAVED MATERIAL. LETTERING SHALL BE SIZED AS NOTED ABOVE. SECURE LEGNED PLATES TO EQUIPMENT WITH MACHINE SCREWS AND/OR RIVETS. CONTRACTOR SHALL FIELD VERIFY THAT THE RESPECTIVE LETTERING HEIGHT AND LEGENDS WILL FIT ON THE RESPECTIVE EQUIPMENT AND ADJUST LETTERING HEIGHT WHERE APPLICABLE. SEE SPECIFICATIONS FOR THE PUMP CONTROL PANEL FOR ADDITIONAL LEGEND PLATES REQUIRED FOR THAT PANEL.
- FURNISH & INSTALL A WEATHERPROOF WARNING LABEL FOR EACH METER SOCKET, SERVICE DISCONNECT, PANELBOARD & CONTROL PANEL TO WARN PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS, PER THE REQUIREMENTS OF NEC 110.16 "FLASH PROTECTION". LABELS SHALL BE HAZARD COMMUNICATION SYSTEMS, LLC (190 OLD MILFORD RD., P.O. BOX 1174, MILFORD, PA 18337 PHONE: 1-887-748-0244) PART NO. H6010-9VWHBJ OR APPROVED EQUAL.



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USER NAME = pop00275	DESIGNED - JFC	REVISED -
	DRAWN - RSJ	REVISED -
PLOT SCALE = 0.17 ' / in.	CHECKED - JFC	REVISED -
PLOT DATE = 9/27/2024	DATE - 10/01/2024	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SPRINGFIELD RAIL IMPROVEMENTS PROJECT
SPRINGFIELD, SANGAMON COUNTY, ILLINOIS
PUMP STATION ELECTRICAL DETAILS

SCALE: SHEET 9 OF 9 SHEETS STA. TO STA.

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	396
	09L0179B		CONTRACT NO.	93773
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS
PROPOSED HIGHWAY PLANS USABLE SEGMENT VI

**F.A.U. ROUTE 7972 (NORTH GRAND AVENUE)
AT 10TH ST. CORRIDOR / RR UNDERPASS / RR OVERPASS
SECTION 20-00492-00-BR, 22-0492-01-BR**

PROJECT N3LK(567) RECONSTRUCTION

CITY OF SPRINGFIELD, SANGAMON COUNTY
C-96-035-21

**J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS
1-800-892-0123
OR 811**



PROJECT ENGINEER: GREG NICHELSON (217)788-2450
PROJECT MANAGER: MICHAEL MENDENHALL (217)788-2450

FINAL PLANS

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

VOLUME II

STRUCTURES & CROSS SECTIONS

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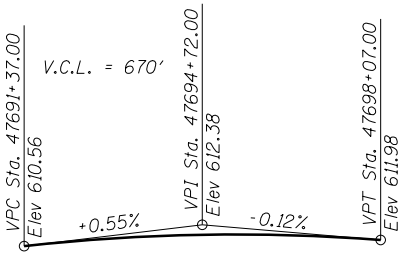
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587	-	589	CROSS SECTIONS - I&M TRACK
590	-	714	CROSS SECTIONS - TRACK

Benchmark: TJM-112 - Chiseled square on SW corner controller box foundation, NE quadrant of 9th St. and North Grand Ave.
Elevation = 604.856

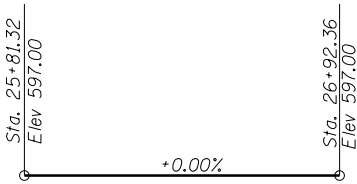
Existing Structure : None

Traffic Control: Road Closure

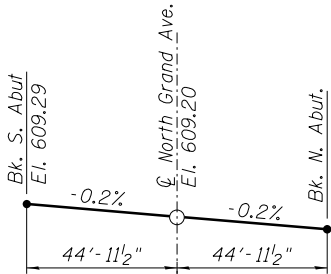
Construction Sequence: See Track Staging Plans



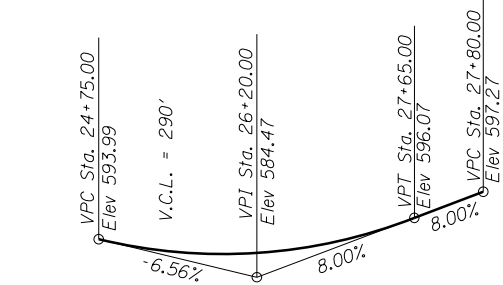
P.G. UPRR MAIN 1 RAIL
(Along Top of Rail)



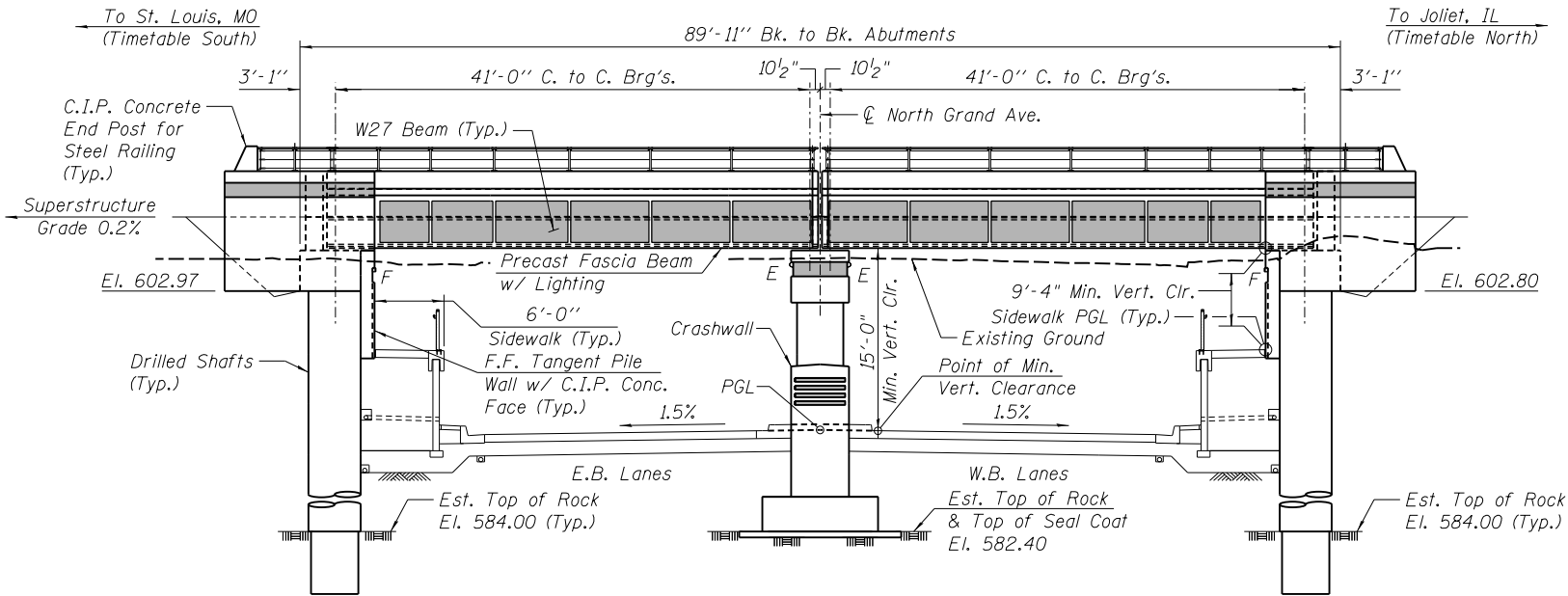
P.G.L. SIDEWALKS
(Along Face of Tangent Pile Wall)



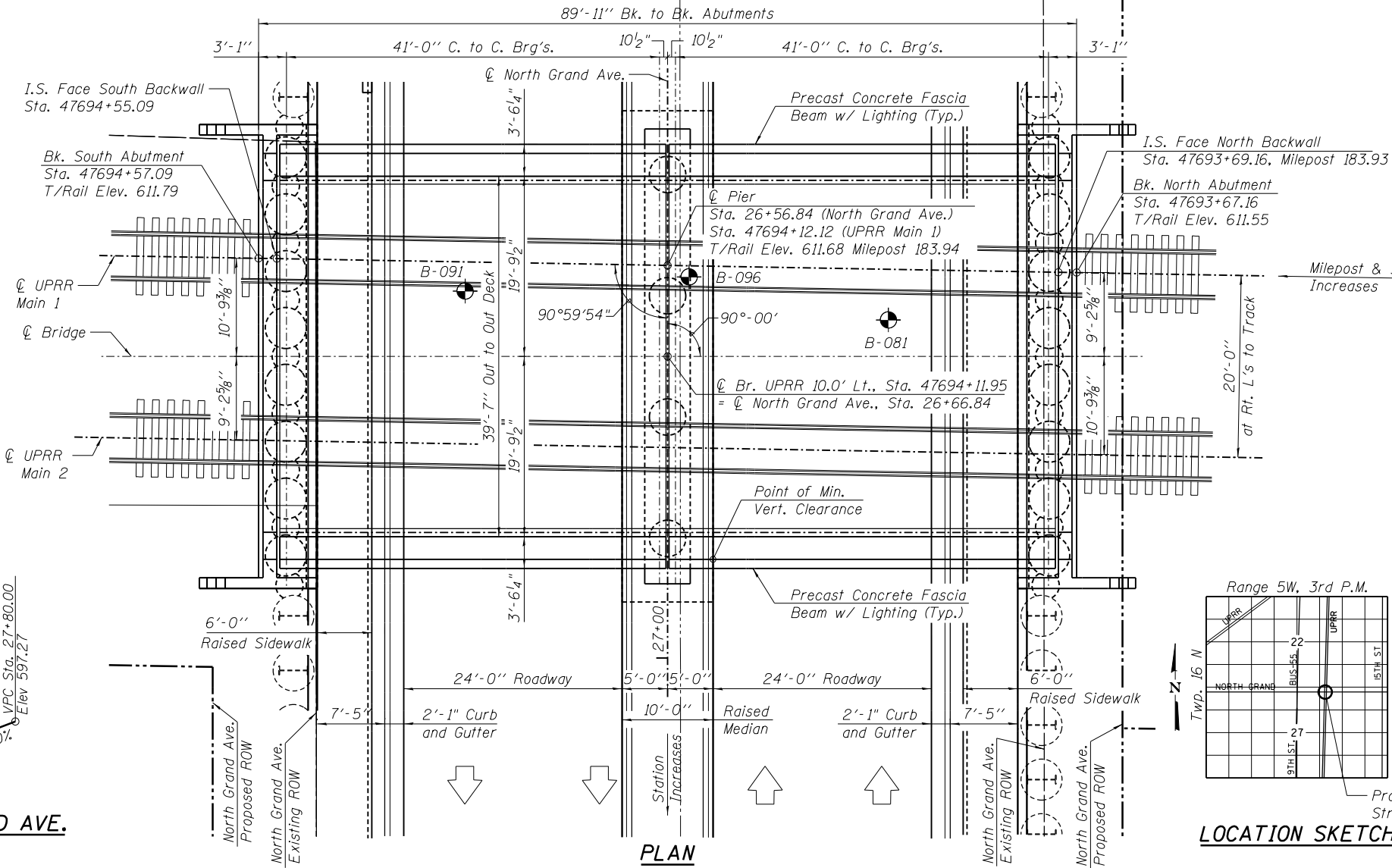
TOP OF BALLAST PAN GRADE
(Looking West)
(Elevations Taken along Bridge C)



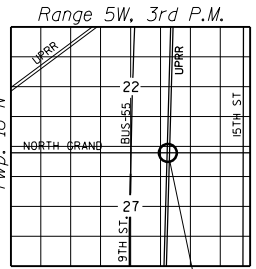
PROFILE GRADE - NORTH GRAND AVE.
(Along C North Grand)



ELEVATION
(Looking West)



PLAN



LOCATION SKETCH

HIGHWAY CLASSIFICATION

F.A.U. 7972 - North Grand Ave.
Functional Class: Minor Arterial
ADT: 11,100 (2017); 12,450 (2040)
DHV: 1.110 (2017); 1.245 (2040)
ADTT: 1,085 (2017); 1,220 (2040)
Design Speed: 30 mph
Posted Speed: 30 mph

LOADING COOPER E-80

Impact: Diesel Impact
Allow 30" of Ballast Dead Load

DESIGN SPECIFICATIONS

2019 AREMA Specifications
Live Load Deflection: L/640
Composite Design for Deflection Requirements
Design Speed: 50 m.p.h.

DESIGN STRESSES

FIELD UNITS

f'c = 4,000 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (ASTM A709 Grade 50)

PRECAST UNITS

f'c = 6,500 psi
f'ci = 5,000 psi
f'pu = 270,000 psi (1/2" ϕ Low Lax Strands)
fpbt = 201,960 psi (1/2" ϕ Low Lax Strands)
fy = 60,000 psi (Reinforcement)

SEISMIC DATA

AREMA

Ground Motion Level	PGA	S _s	S ₁
Level 1 (100 Year)	0.010	0.025	0.005
Level 2 (475 Year)	0.040	0.090	0.035
Level 3 (2475 Year)	0.10	0.22	0.10

Soil Site Class = C



Michael N. Mendenhall
SIGNATURE
09/27/24
DATE
LIC. EXP. DATE: 11/30/24

I certify that to the best of knowledge, information and belief, this bridge 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 requirements of the current AREMA Specifications.

GENERAL PLAN AND ELEVATION
UPRR (MP 183.94) OVER NORTH GRAND AVE.
F.A.U. 7972 - SECTION 20-00492-00-BR
SANGAMON COUNTY
UPRR SUBDIVISION - SPRINGFIELD
STATION 47694+11.95
STRUCTURE NO. 084-9972

FINAL PLANS



USER NAME : pop02275
PLOT SCALE : 1/8" = 1'-0"
PLOT DATE : 9/27/2024

DESIGNED - CGP
CHECKED - MNM
DRAWN - RSJ
CHECKED - MNM

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 084-9972

SHEET NO. 1 OF 17 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	398
				CONTRACT NO. 93773

ILLINOIS FID. AID PROJECT

GENERAL NOTES

- Fasteners shall be ASTM F3125 Grade A325 Type 1, mechanically galvanized bolts. Bolts 7/8 in. ϕ , holes 1 1/8 in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel, ASTM A709, Gr. 50 = 458,060 lbs.
ASTM A36, Gr. 36 = 85,790 lbs.
- All structural steel shall be ASTM A709 Grade 50 unless otherwise noted on the plans. The deck plate shall be ASTM A36.
- All substructure concrete shall have a compressive strength of 4,000 psi at 14 days.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Concrete Sealer shall be applied to the following surfaces:
Abutments - inside face of backwall, inside face of cheekwall, top of cap, entire concrete facing attached to abutment caps and drilled shaft (except surfaces coated with surface color treatment).
Pier - entire exposed pier surface (except surfaces coated with concrete surface treatment).
Superstructure - entire exposed surface of precast prestressed fascia beam and curb (except surfaces coated with surface color treatment), concrete railing end post.
- Concrete Surface Color Treatment shall be applied to the following surfaces:
Abutments - concrete facing, wingwall and cheekwall surfaces designated in plans.
Pier - cap and crashwall surfaces designated in the plans.
Superstructure - Precast fascia Beam surfaces designated in plans.
- The Inorganic Zinc Rich Primer / Acrylic / Acrylic Paint System shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the final finish coat for all interior steel surfaces, exterior bottom of deck plate, steel curb, shall be gray, Munsell No. 5B 7/1. The color of the final finish coat for the exterior and bottom flange of the fascia beams and exterior cantilever support bracket shall be blue, Munsell No. 10B 3/6.
- Waterproofing shall be applied to the backside of the abutment cap and backwall and backside of wingwalls for surfaces below ground. This shall be according to Article 503.18 of the Std. Spec. Cost included with Concrete Structures.

Drilled shaft cross-hole sonic log (CSL) testing:

- Drilled shafts shall be evaluated by cross-hole sonic log testing. Testing pipes shall be installed in each drilled shaft to facilitate the logging process, which will follow completion of each shaft.
- Furnish and install six standard 2 inch nominal diameter steel pipes (ASTM A53, Grade B) for use in CSL testing of each drilled shaft. Pipes shall be equally spaced around the interior of the reinforcing steel cage.
- Pipes shall be fitted with a screw-on watertight shoe and cap and shall be securely fixed to the interior of the reinforcing steel cage. Watertight joints shall be used to achieve the required length. The pipes shall be filled with water and plugged or capped before concrete placement. The upper end of the pipe shall not be left open during or after concrete placement. The pipes shall extend at least 2'-6" above the top of the drilled shaft concrete. The lower end of the pipes shall extend to the bottom of the shaft. Do not extend pipes into rock sockets with smaller diameter than drilled shafts.
- CSL testing will be completed by the Engineer at no cost to the Contractor. If CSL test results are unsatisfactory according to the Engineer, the Contractor shall propose a method of correction including designs if required to the Engineer for approval. The correction shall be at the expense of the Contractor.

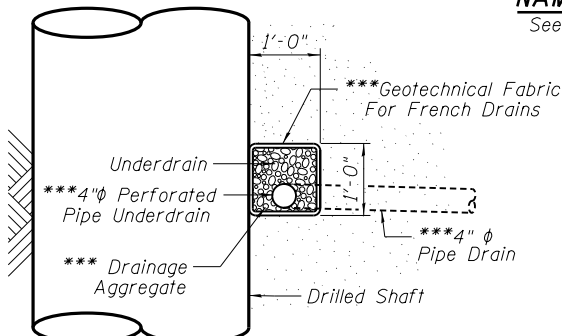
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- General Data
- Foundation Layout
- Superstructure
- Structural Steel
- Structural Steel Details (1 of 3)
- Structural Steel Details (2 of 3)
- Structural Steel Details (3 of 3)
- Precast Fascia Beam
- Precast Fascia Beam Details
- Bearing Details
- Membrane Waterproofing
- Steel Railing (Special)
- Abutment
- Abutment Details
- Pier
- Subsurface Data Profile

UNION PACIFIC RAILROAD
S.N. 084-9972 BUILT 20__ BY
CITY OF SPRINGFIELD
SEC. 20-00492-00-BR
STATION 47694+11.95
MILE POST 183.94
LOADING COOPER E-80

NAME PLATE

See Std. 515001

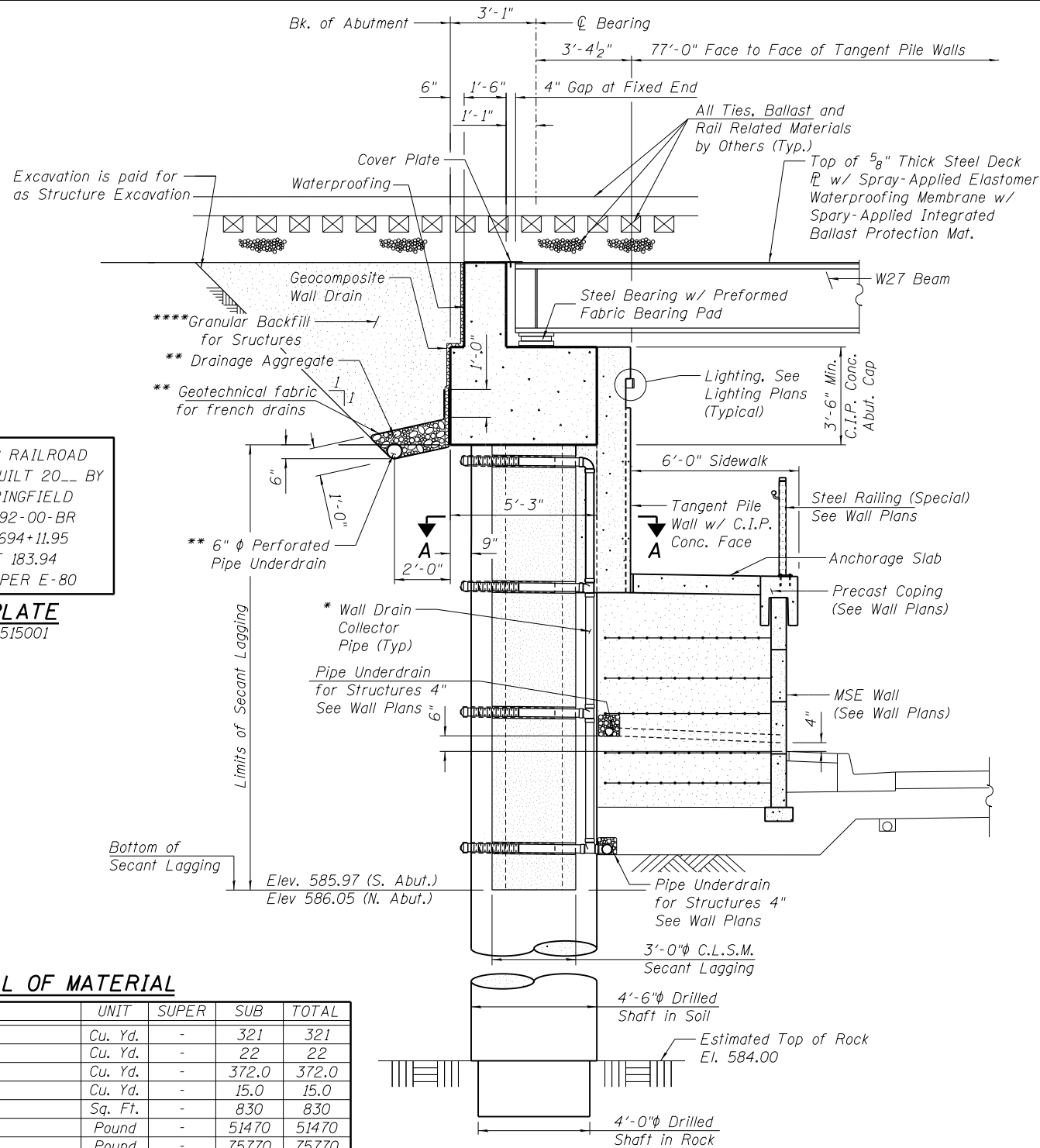


PIPE UNDERDRAIN DETAIL

***Included in the cost of "Pipe Underdrains for Structures, 4". See Wall Plans.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu. Yd.	-	321	321
Rock Excavation for Structures	Cu. Yd.	-	22	22
Concrete Structures	Cu. Yd.	-	372.0	372.0
Seal Coat Concrete	Cu. Yd.	-	15.0	15.0
Form Liner Textured Surface	Sq. Ft.	-	830	830
Reinforcement Bars	Pound	-	51470	51470
Reinforcement Bars, Epoxy Coated	Pound	-	75770	75770
Name Plates	Each	-	1	1
Drilled Shaft in Soil	Cu. Yd.	-	178.0	178.0
Drilled Shaft in Rock	Cu. Yd.	-	74.4	74.4
Secant Lagging	Cu. Ft.	-	2147	2147
Granular Backfill for Structures	Cu. Yd.	-	126	126
Concrete Sealer	Sq. Ft.	2915	3801	6716
Geocomposite Wall Drain	Sq. Yd.	-	74	74
Crosshole Sonic Logging Access Ducts	Foot	-	502	502
Concrete Surface Color Treatment	Sq. Ft.	431	335	766
Membrane Waterproofing (Special)	Sq. Ft.	3439	-	3439
Furnishing and Erecting Structural Steel, Bridge No. 1	L. Sum	1	-	1
Precast Prestressed Concrete Fascia Beam, No. 1	L. Sum	1	-	1
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Pipe Underdrains for Structures, 6" (Special)	Foot	-	37	37



ABUTMENT SECTION

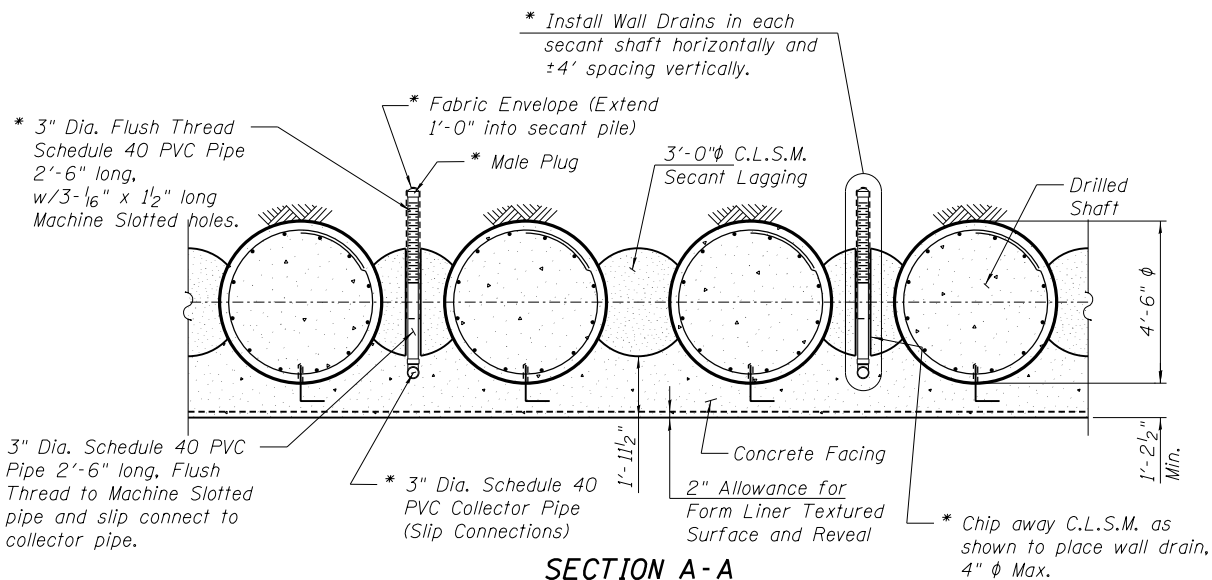
(At Rt. L's to Back of Abutment)

Notes:

South Abutment Section Shown North Similar.

** Included in the cost of "Pipe Underdrains for Structures, 6". For additional drainage details see Roadway Plans.

**** Granular Backfill for Structures shall be placed and compacted according to Section 502.10 of the Standard Specifications.



SECTION A-A

* Included in the cost of "Pipe Underdrains for Structures, 4". See Wall Plans.

FINAL PLANS

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	PLOT DATE = 9/27/2024	CHECKED = MNM	REVISED =

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 084-9972

SHEET NO. 2 OF 17 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	399
				CONTRACT NO. 93773
ILLINOIS FED. AID PROJECT				

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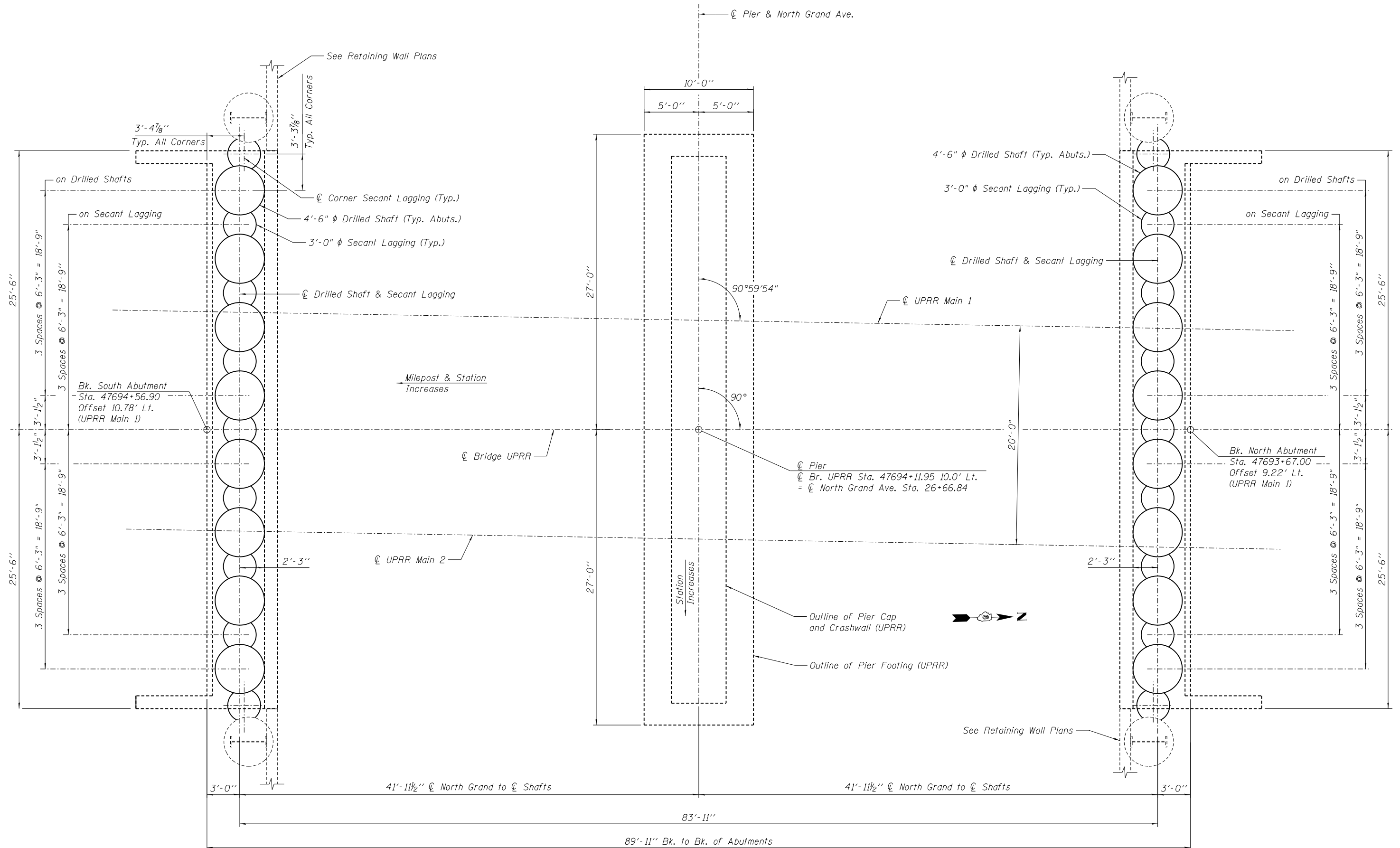
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PLOT DATE : 9/27/2024	CHECKED - JGT	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FOUNDATION LAYOUT
STRUCTURE NO. 084-9972

SHEET NO. 3 OF 17 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7972	20-00492-00-BR & 22-00492-01-BR	SANGAMON	714	400
CONTRACT NO. 93773				
ILLINOIS FED. AID PROJECT				



FOUNDATION LAYOUT