

06-12-2020 LETTING ITEM 160

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

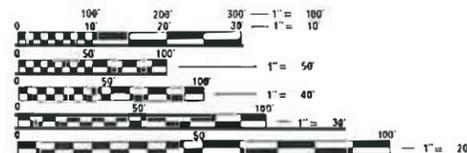
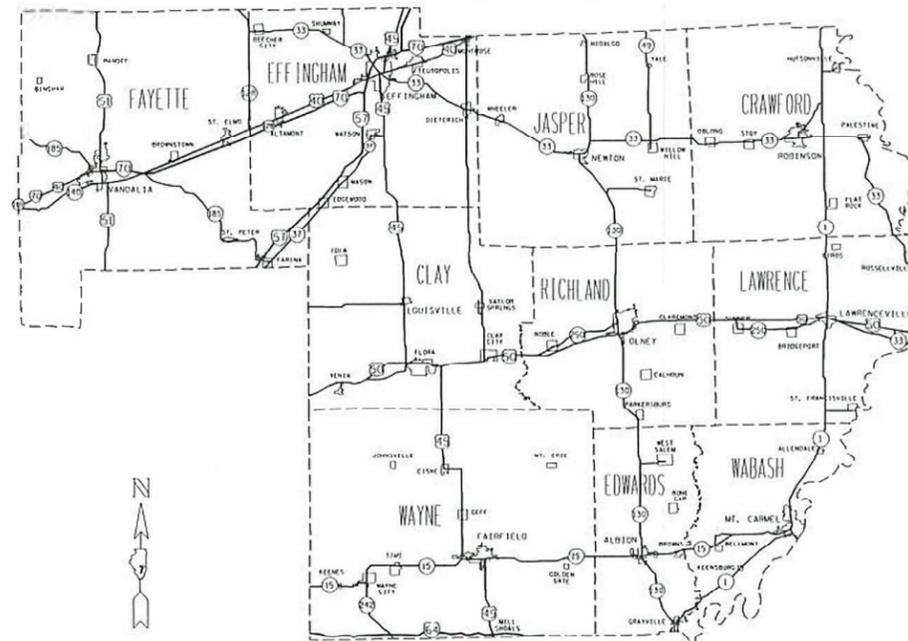
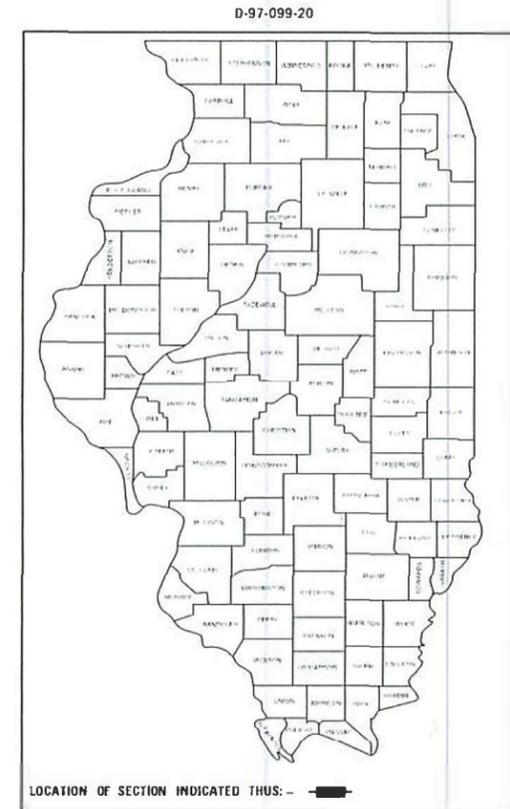
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
**	*	MARION	5	1
* D7 ELECTRICAL REPAIRS 2020-1			CONTRACT NO. 74A16	

FOR INDEX OF SHEETS, SEE SHEET NO. 2

# PROPOSED HIGHWAY PLANS

VARIOUS ROUTES  
SECTION D7 ELECTRICAL REPAIRS 2020-1  
ELECTRICAL MAINTENANCE  
VARIOUS COUNTIES  
(FAYETTE, EFFINGHAM, JASPER,  
CRAWFORD, LAWRENCE, RICHLAND, CLAY,  
WAYNE, EDWARDS & WABASH COUNTIES)

C-97-105-20



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

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

PROJECT ENGINEER DEBRA BARRETT  
PROJECT MANAGER KYLE PRICE

CONTRACT NO. 74A16

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED April 10 2020  
Jeffrey P. Myrka  
REGIONAL ENGINEER

May 8, 2020  
E.A. Elk  
ENGINEER OF DESIGN AND ENVIRONMENT

May 8, 2020  
James J. [Signature]  
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

REV - MS



100%  
STATE

100%  
STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0043	0021	
72700100	STRUCTURAL STEEL SIGN SUPPORT-BREAKAWAY	POUND	520		520	
81028730	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 1 1/4" DIA.	FOOT	10		10	
81028770	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 3" DIA.	FOOT	10		10	
86300300	CONTROLLER CABINET TYPE III	EACH	1		1	
87800200	CONCRETE FOUNDATION, TYPE-D	FOOT	3.5		3.5	
87900200	DRILL EXISTING HANDHOLE	EACH	1		1	
88600100	DETECTOR LOOP, TYPE I	FOOT	154		154	
89502300	REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	100		100	
X0301242	PIEZO AXLE SENSOR, CLASS II	FOOT	12		12	
X0323388	TRAFFIC COUNTER	EACH	1		1	
X0327116	SOLAR POWER ASSEMBLY	EACH	1		1	
X0327495	JOURNEY MAN ELECTRICIAN	HOUR	1200	1200		
X0327496	APPRENTICE ELECTRICIAN	HOUR	100	100		

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0043	0021	
X0327497	PICK-UP TRUCK	HOUR	1000	1000		
X0327498	BUCKET TRUCK (LENGTH LESS THAN 35 FEET)	HOUR	100	100		
X0327499	BUCKET TRUCK (LENGTH 35 TO 65 FEET)	HOUR	500	500		
X0327500	ARROWBOARD (TRAILER MOUNTED)	HOUR	20	20		
X0327501	ATTENUATOR, CRASH (TRUCK MOUNTED)	HOUR	40	40		
X8730810	ELECTRIC CABLE IN CONDUIT, CONOGA-30003	FOOT	100		100	

MODEL: Default  
 FILE: Model - 2004planroom.dwg  
 PLOT DATE: 4/10/2020  
 PROJECT: 74A16-ESHS-500.dgn  
 OFFICE: D:\Projects\74A16\ESHS-500.dgn

\* D7 ELECTRICAL REPAIRS 2020-1

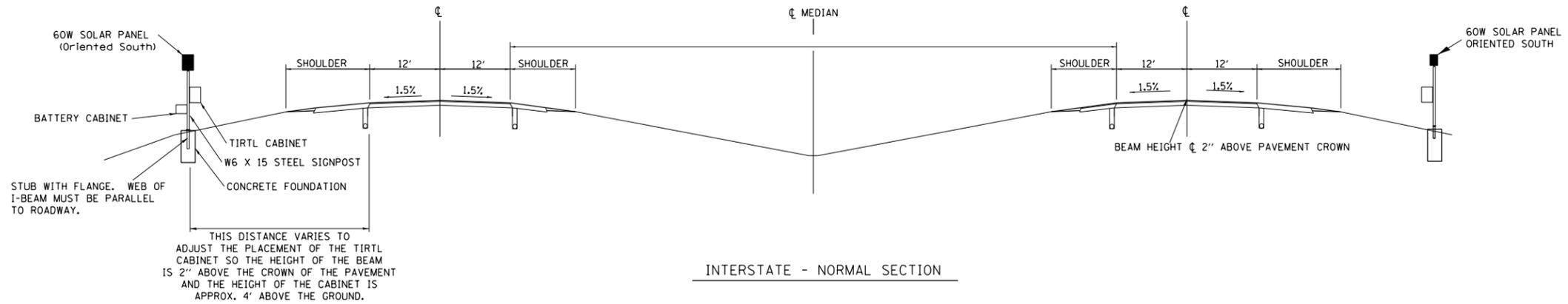
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PLOT DATE = 4/10/2020	CHECKED -	REVISED -
	DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
**	*	VARIOUS	5	3
** VARIOUS			CONTRACT NO. 74A16	
		ILLINOIS	FED. AID PROJECT	



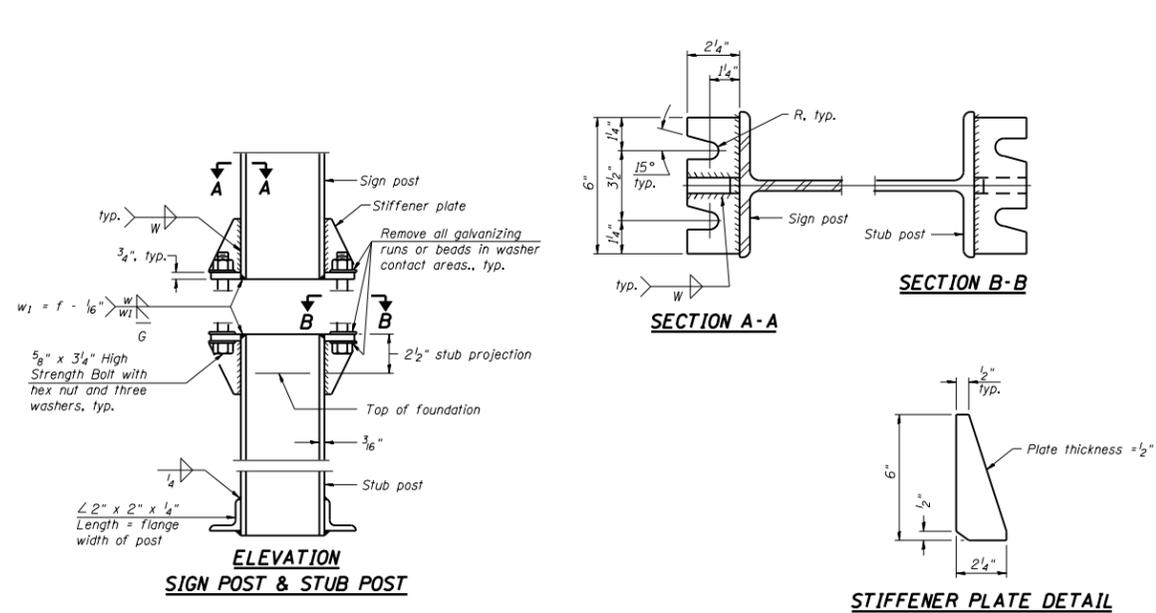
THIS DISTANCE VARIES TO ADJUST THE PLACEMENT OF THE TIRTL CABINET SO THE HEIGHT OF THE BEAM IS 2" ABOVE THE CROWN OF THE PAVEMENT AND THE HEIGHT OF THE CABINET IS APPROX. 4' ABOVE THE GROUND.

**NOTES:**

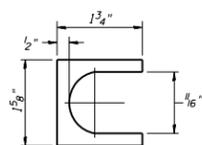
1. SYSTEM CONSISTS OF TWO W6 X 15 I-BEAM SIGNPOSTS WITH CONCRETE FOUNDATION AND A FLANGE WITH BREAKAWAY BOLTS
2. THE I-BEAMS ARE 12' LONG AND DRILLED AS PER THE I-BEAM DETAIL TO ACCOMMODATE A PIPE TO ALLOW THE MOUNTING OF THE SOLAR PANEL.
3. THE WEB OF THE I-BEAM IS TO BE PLACED PARALLEL TO THE LANES.
4. THE TWO POSTS MUST BE PLACED DIRECTLY ACROSS FROM EACH OTHER AND PERPENDICULAR TO THE LANES.
5. TWO POSTS ARE REQUIRED LOCATED AS PER THE ENGINEER AND DRAWING.
6. THE CABINETS ARE ATTACHED TO THE I-BEAM USING 8" GALVANIZED J-BOLTS.
7. THE BOTTOM OF THE CABINET HEIGHT MUST BE NO LOWER THAN 4' ABOVE THE GROUND AND BE ABLE TO VIEW ACROSS ALL LANES AT THE CROWN OF THE PAVEMENT.
8. THE IDOT OFFICE OF PLANNING AND PROGRAMMING DATA MANAGEMENT LAB RICH MARX (217-782-2065) MUST BE CONTACTED TWO WEEKS PRIOR TO ANY WORK BEING DONE TO ENSURE PROPER POST PLACEMENT.

**TIRTL TRAFFIC COUNTER  
SCHEDULE OF QUANTITIES  
(FOR INFORMATION ONLY)**

CODE NUMBER	ITEM	UNIT	QUANTITY
72700100	STRUCTURAL STEEL SIGN SUPPORT - BREAKAWAY	POUND	520
X0323388	TRAFFIC COUNTER SYSTEM (INCLUDES BELOW)	EACH	1
TIRTL TRAFFIC DATA COLLECTION SYSTEM INCLUDES:			
	Sierra Wireless Modem RV-50	EACH	1
	Panorama Low Profile LTE MiMo LGAM-BC3G-26-3SP Antenna	EACH	1
	TIRTL CABINET 15" X 27" X 16"	EACH	2
	BATTERY CABINET 16.5" X 16" X 11.5" BBA1M w/ #2 Police Lock	EACH	1
	SOLAR PANEL 60 W 12 VDC with Bracket and Junction box	EACH	2
	TIRTL TRAFFIC COUNTER	EACH	1
	SUNSAVER SOLAR CHARGE REGULATOR 10 AMP 12 VDC	EACH	2
	BATTERY - 33 AH ABSORBED ELECTROLYTE 8" X 5.5" X 7" (DEEP CYCLE)	EACH	1
	BATTERY - 104AH ABSORBED ELECTROLYTE 10" X 6" X 8" (DEEP CYCLE)	EACH	1



**BREAK-AWAY WIDE FLANGE STEEL POST DETAILS**



**SHIM DETAIL**  
Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

**GENERAL NOTES**

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:

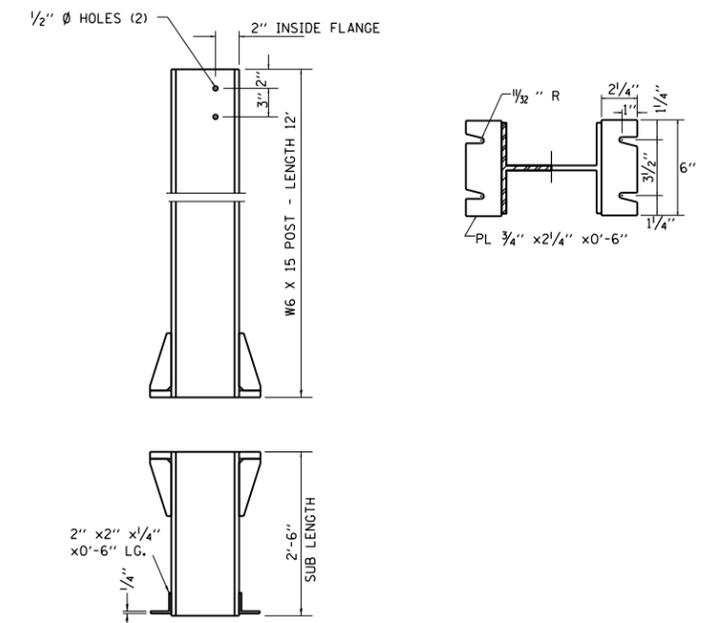
Structural steel - 20,000 p.s.i.

Reinforcing steel - 20,000 p.s.i.

Concrete - 1,400 p.s.i.

Footing soil pressure - 2,000 p.s.f.

After fabrication, the post and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.



FILE NAME =	USER NAME = steffennk	DESIGNED -	REVISED -
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	PLOT DATE = 4/10/2020	DATE -	REVISED -

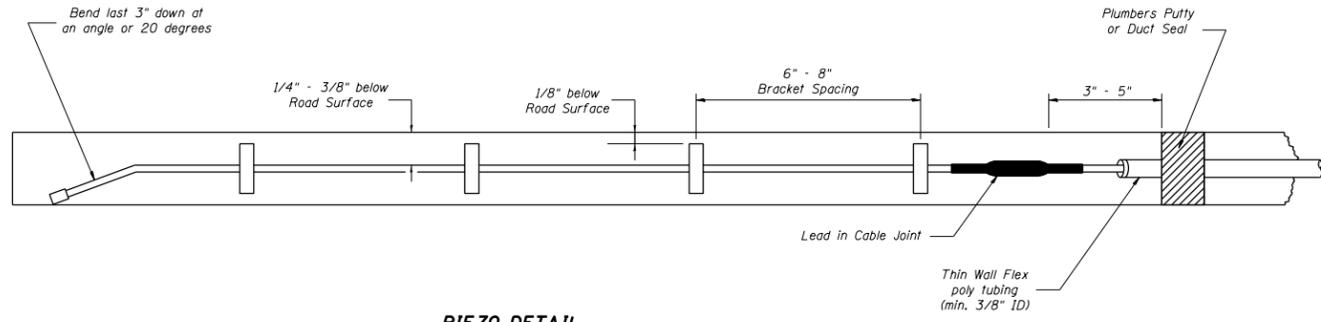
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TIRTL CABINET DETAILS**

SCALE: SHEET OF SHEETS STA. TO STA.

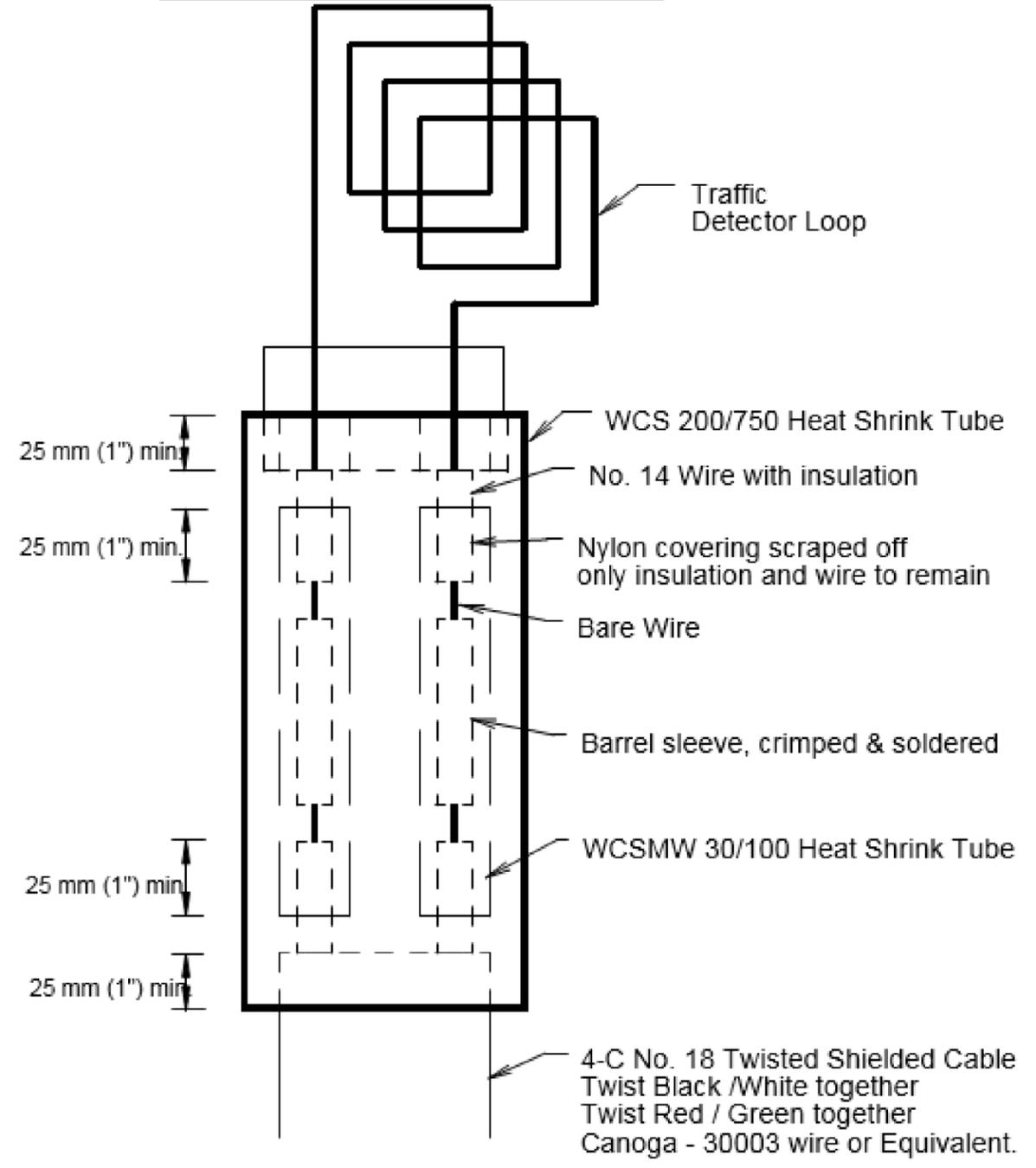
• D7 ELECTRICAL REPAIRS 2020-1

F.A. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
**	VARIOUS	VARIOUS	5	4
			CONTRACT NO. 74A16	
ILLINOIS FED. AID PROJECT				



**PIEZO DETAIL**

**Loop Splicing Requirements**



Minimum 25 mm (1") Heat Shrink Tube overlap on wire.  
 PVC & Shielded cable to form water tight seal. Note: Not to Scale

REVISIONS	
Name	Date

**Illinois Department of Transportation**  
Office of Planning and Programming

Drawn By:	Checked By:	Date:	Scale:
R. Taylor	R. Taylor	01/20/00	NONE

FILE NAME =	USER NAME = steffenk	DESIGNED -	REVISED -
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Default	PLOT SCALE = 10000.0000' / in.	DATE -	REVISED -
	PLOT DATE = 4/10/2020		

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

<b>ADDITIONAL DETAILS</b>			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

• D7 ELECTRICAL REPAIRS 2020-1				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
..	.	VARIOUS	5	5
.. VARIOUS			CONTRACT NO. 74A16	
ILLINOIS FED. AID PROJECT				