

06-12-2020 LETTING ITEM 083

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

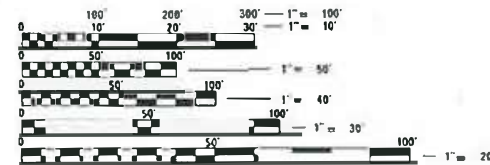
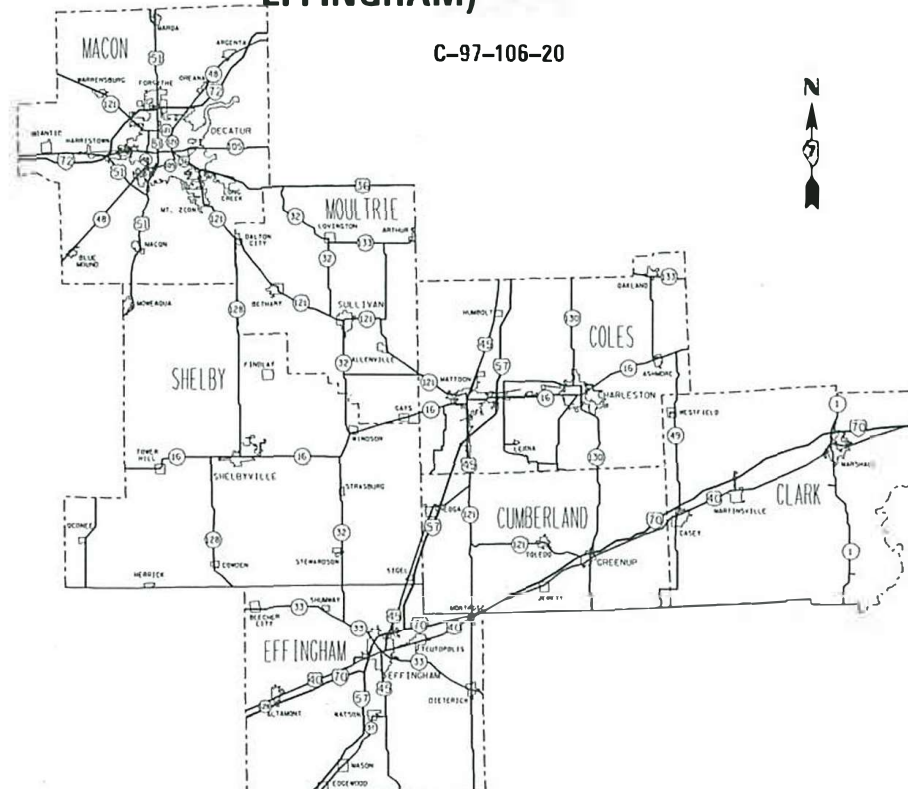
VARIOUS ROUTES
SECTION D7 ELECTRICAL REPAIRS 2020-2
ELECTRICAL MAINTENANCE
VARIOUS COUNTIES (MACON, MOULTRIE,
SHELBY, CLARK, CUMBERLAND, COLES, AND
EFFINGHAM)

F.A. DIST.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		VARIOUS	5	1
CONTRACT NO. 74A17				

D-97-100-20



FOR INDEX OF SHEETS, SEE SHEET NO. 2



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 EXCAVATORS
1-800-892-0123
OR 811

PROJECT ENGINEER DEBRA BARRETT
PROJECT MANAGER LEVI LUND

CONTRACT NO. 74A17

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED *April 7 2020*
Jeffrey P. Myrka
REGIONAL ENGINEER

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

May 8, 2020
Deshaun J. ...
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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OF THE STATE OF ILLINOIS

REV. - MS

GENERAL NOTES

THIS PROJECT IS LOCATED ON VARIOUS ROUTES IN MACON, MOULTRIE, SHELBY, CRAWFORD, COLES EFFINGHAM AND CLARK COUNTIES, ALL LOCATED WITHIN REGION 4-DISTRICT 7. THE WORK INCLUDED IN THIS SECTION CONSISTS OF MAINTAINING AND REPAIRING THE ELECTRICAL HIGHWAY LIGHTING, ELECTRICAL HIGHWAY WARNING SYSTEMS, INTELLIGENT TRANSPORTATION SYSTEM DEVICES, FIBER OPTIC CABLE, AND ALL OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

ALL WORK IS TO BE REPLACED IN KIND OR, AS INDICATED ON THE CONTRACT PLANS OR PROVISIONS.

THE LOCATIONS OF THE REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER.

REMOVAL OF DAMAGED MATERIALS WILL INCLUDE DISMANTLING, LOADING, HAULING AND DISPOSAL. THE WORK SITE WILL BE LEFT IN A SAFE AND ORDERLY CONDITION.

NO MATERIAL SHOULD BE LEFT ON OR NEAR THE ROADWAY DURING NON-WORKING HOURS.

ANY NECESSARY TRAFFIC CONTROL WILL BE PROVIDED BY THE CONTRACTOR; APPROPRIATE STANDARDS ARE LISTED ON THIS SHEET UNDER THE INDEX OF SHEETS.

ILLINOIS STATE LAW REQUIRES A 48-HOUR NOTICE TO BE GIVEN TO UTILITIES BEFORE DIGGING. FIELD MARKING OF FACILITIES MAY BE OBTAINED BY CONTACTING J.U.L.I.E. (PH. 800-892-0123) OR FOR NON-MEMBER, THE UTILITY COMPANY DIRECTLY. ILLINOIS DEPARTMENT OF TRANSPORTATION IS NOT A MEMBER OF THE JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS (J.U.L.I.E.) SYSTEM AND MUST BE CONTACTED DIRECTLY.

ENGLISH UNITS OF MEASUREMENT SHALL GOVERN OVER AND SUPERCEDE ANY METRIC UNITS IN THIS CONTRACT. WHERE INCLUDED, METRIC UNITS ARE FOR INFORMATION ONLY.

ELECTRONIC FILES AND/OR ELECTRONIC SURVEY INFORMATION INCLUDING CADD FILES WILL NOT BE AVAILABLE FOR THIS PROJECT TO THE CONTRACTOR.

ANY WORK ORDER MAY BE CANCELLED AT THE ENGINEER'S DISCRETION.

NO OVERNIGHT LANE CLOSURES WILL BE ALLOWED.

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX OF SHEETS & GENERAL NOTES
- 3 SUMMARY OF QUANTITIES
- 4-5 DETAILS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 5:

- 000001-07 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001001-02 AREAS OF REINFORCEMENT BARS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 701001-02 OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
- 701006-05 OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM PAVEMENT EDGE
- 701011-04 OFF-ROAD MOVING OPERATION, 2L, 2W, DAY ONLY
- 701101-05 OFF-ROAD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
- 701106-02 OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
- 701201-05 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS \geq 45 MPH
- 701206-05 LANE CLOSURE, 2L, 2W, NIGHT ONLY FOR SPEEDS \geq 45 MPH
- 701301-04 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701400-09 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
- 701401-12 LANE CLOSURE, FREEWAY/EXPRESSWAY
- 701406-12 LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
- 701411-09 LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS \geq 45 MPH
- 701421-08 LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS \geq 45 MPH TO 55 MPH
- 701426-09 LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPER., FOR SPEEDS \geq 45 MPH
- 701427-05 LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS \leq 40 MPH
- 701428-01 TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY
- 701456-05 PARTIAL EXIT RAMP CLOSURE FREEWAY/EXPRESSWAY
- 701501-06 URBAN LANE CLOSURE, 2L, 2W UNDIVIDED
- 701502-09 URBAN LANE CLOSURE, 2L, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
- 701601-09 URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
- 701602-10 URBAN LANE CLOSURE, MULTILANE, 2W, WITH BIDIRECTIONAL LEFT TURN LANE
- 701606-10 URBAN LANE CLOSURE MULTILANE, 2W WITH MOUNTABLE MEDIAN
- 701611-01 URBAN HALF ROAD CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
- 701701-10 URBAN LANE CLOSURE, MULTILANE INTERSECTION
- 701801-06 SIDEWALK, CORNER OR CROSSWALK CLOSURE
- 701901-08 TRAFFIC CONTROL DEVICES
- 878001-10 CONCRETE FOUNDATION DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS
- 886006-01 TYPICAL LAYOUT FOR DETECTION LOOPS

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* D7 ELECTRICAL REPAIRS 2020-2

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		DRAWN -	REVISED -						**	*		5	2
	PLOT SCALE = 100,0000' / in.	CHECKED -	REVISED -						** VARIOUS			CONTRACT NO. 74A17	
	PLOT DATE = 4/7/2020	DATE -	REVISED -			SCALE:	SHEET 2	OF 5 SHEETS	STA.	TO STA.			
												ILLINOIS FED. AID PROJECT	

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	

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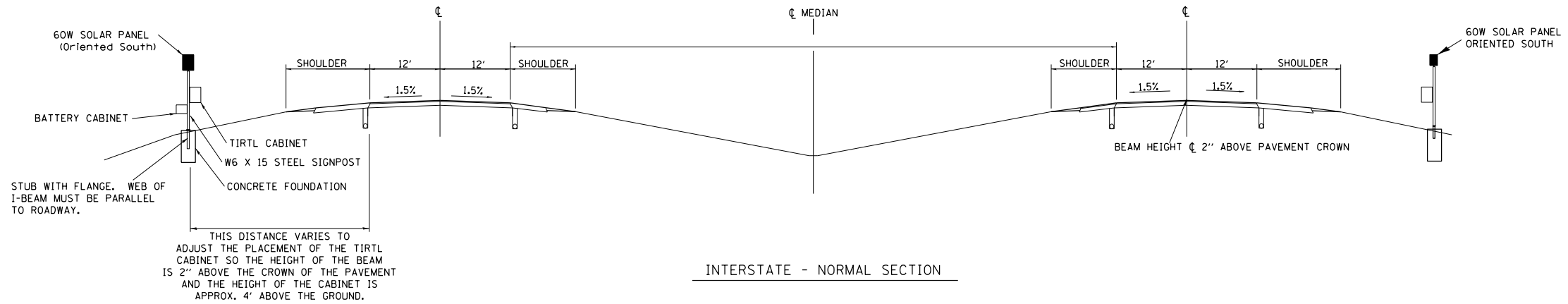
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCALE: 50 SHEET 3 OF 5 SHEETS STA. TO STA.

SUMMARY OF QUANTITIES

* D7 ELECTRICAL REPAIR 2020-2

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
**	*	VARIOUS	5	3
** VARIOUS			CONTRACT NO. 74A17	
			ILLINOIS FED. AID PROJECT	

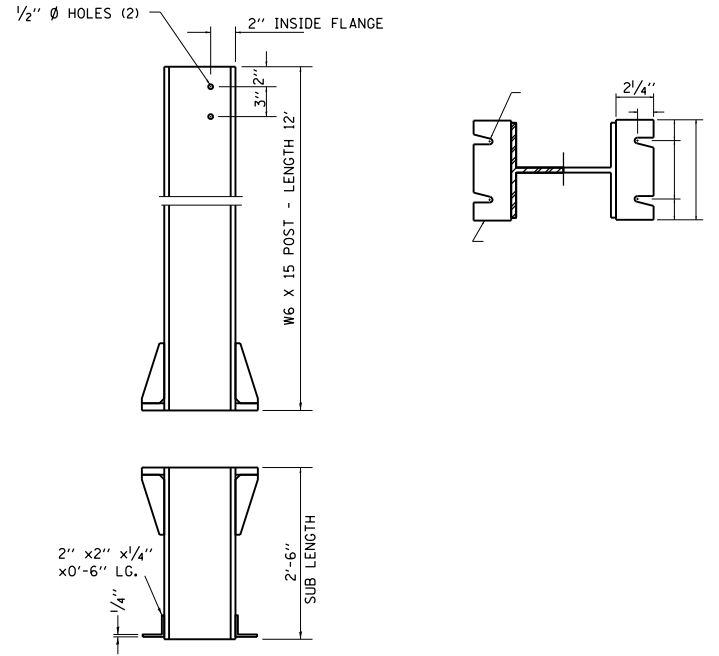
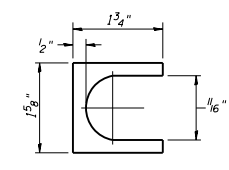
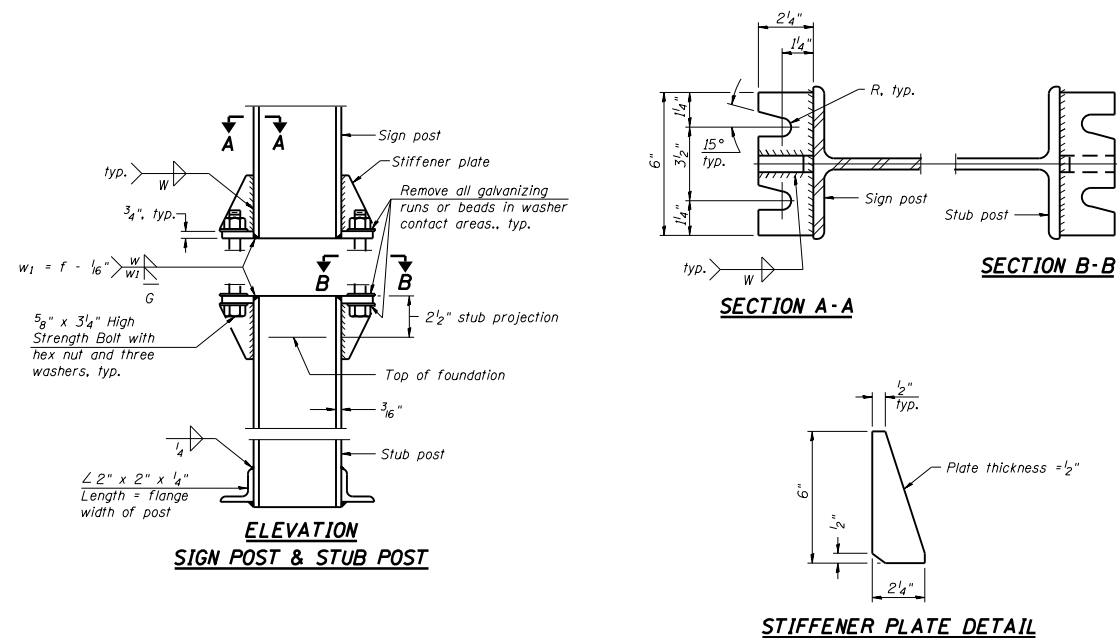


NOTES:

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 ACCOMODATE 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 2 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 (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



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.

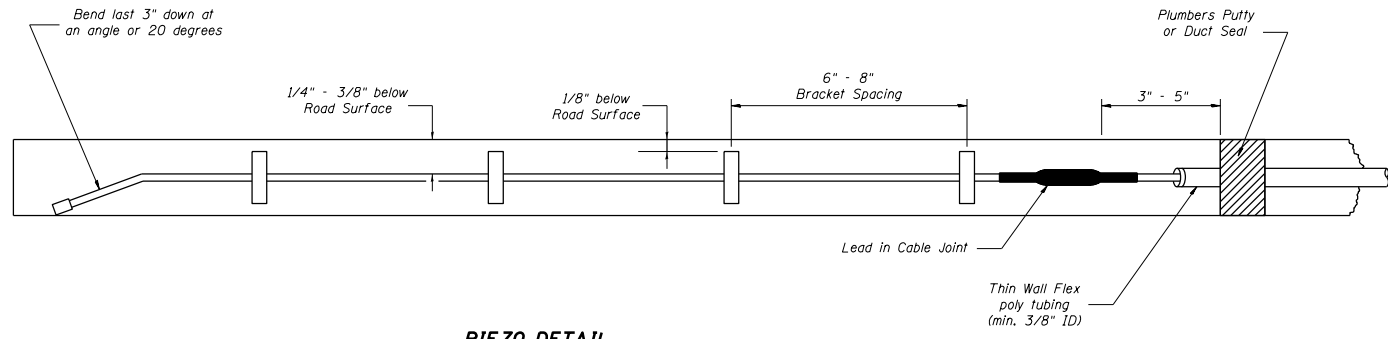
LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

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.

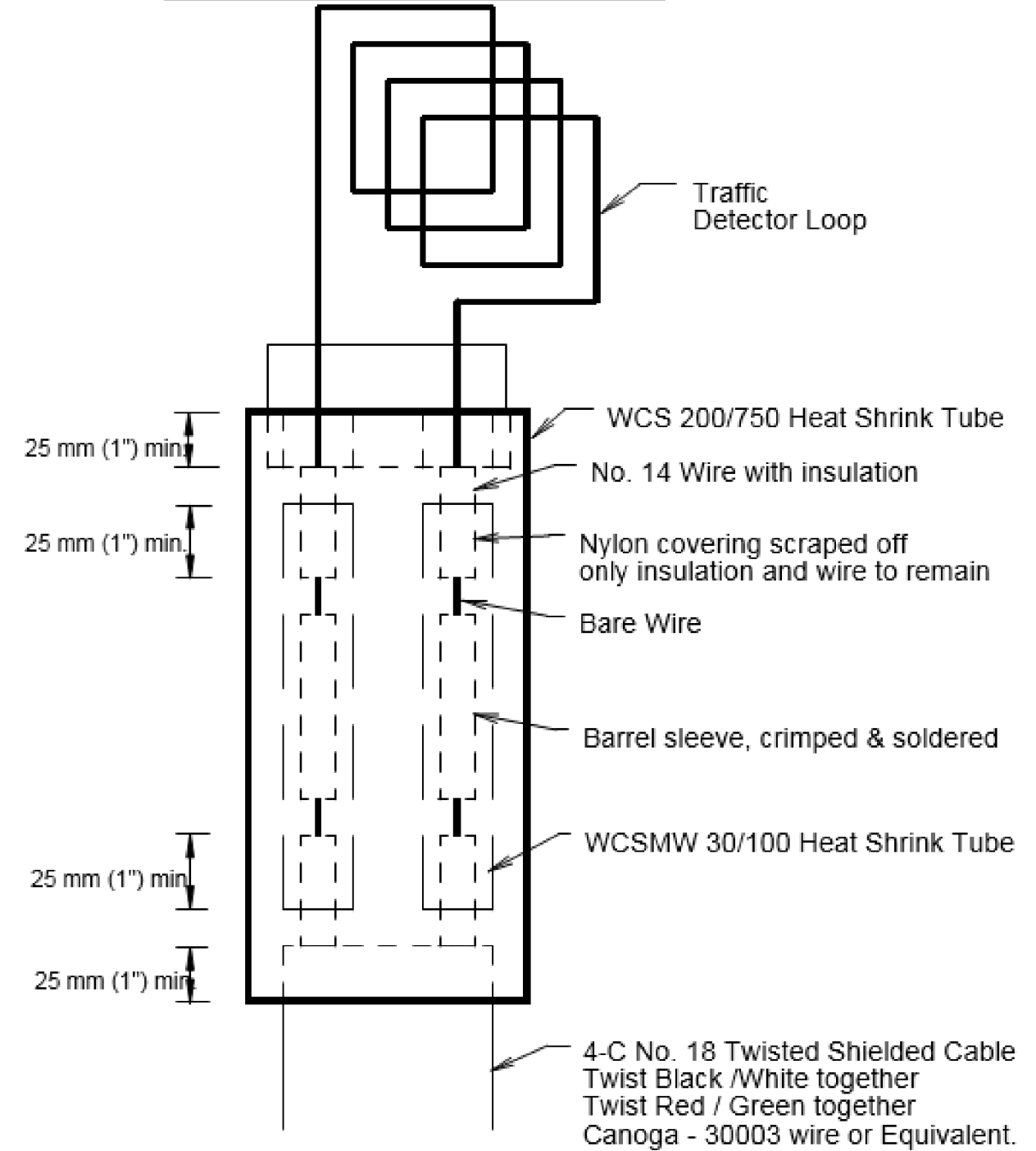
BREAK-AWAY WIDE FLANGE STEEL POST DETAILS

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Default		DATE -	REVISED -			••	•		VARIOUS	5	4	CONTRACT NO. 74A17	
						••	VARIOUS					CONTRACT NO. 74A17	



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

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
..	.	VARIOUS	5	5
.. VARIOUS			CONTRACT NO. 74A17	
ILLINOIS FED. AID PROJECT				