

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

| P.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|----------|--------------------|-----------|
| ** | ** | VARIOUS | 5 | 1 |
| ** | VARIOUS | ILLINOIS | CONTRACT NO. 74A49 | |

D7 ELECTRICAL REPAIRS 2021-2

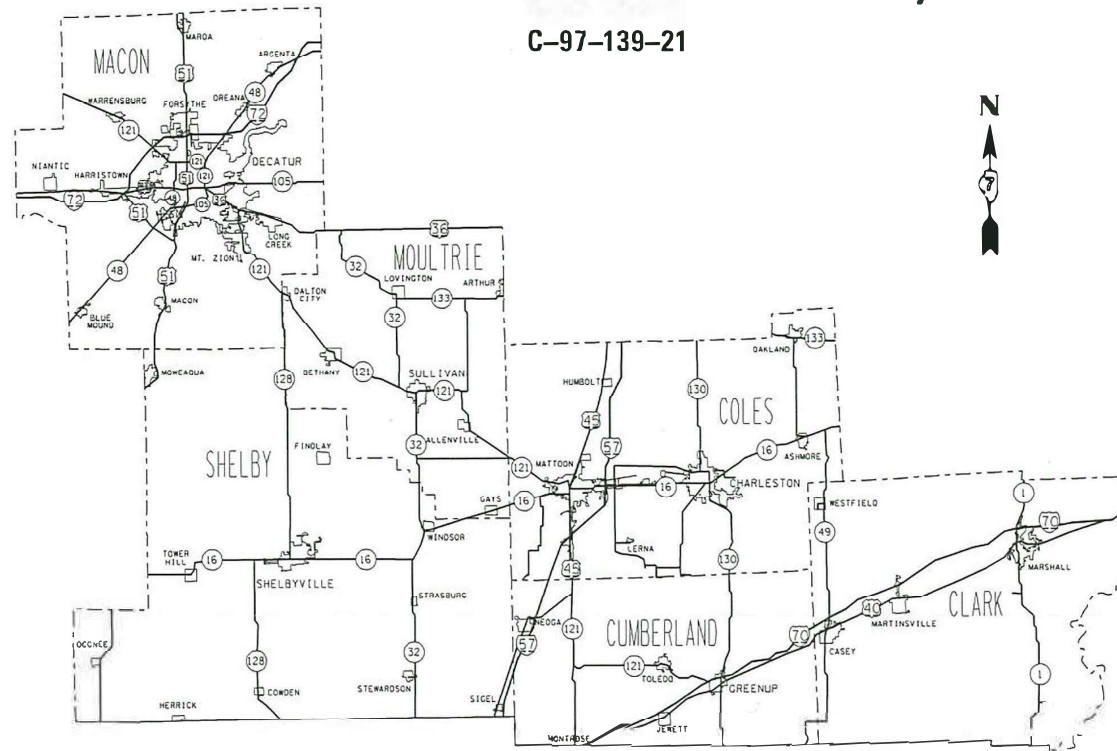
D-97-080-21

FOR INDEX OF SHEETS, SEE SHEET NO. 2

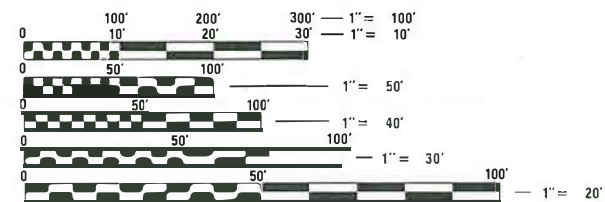
PROPOSED HIGHWAY PLANS

VARIOUS ROUTES
SECTION D7 ELECTRICAL REPAIRS 2021-2
ELECTRICAL MAINTENANCE
VARIOUS COUNTIES
(MACON, MOULTRIE, SHELBY, CLARK,
CUMBERLAND, AND COLES)

C-97-139-21



LOCATION OF SECTION INDICATED THUS: - [black rectangle] -



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 KYLE PRICE

CONTRACT NO. 74A49

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED January 21 20 21
Jeffrey P. Meyer
REGIONAL ENGINEER

March 19, 2021
Scott A. Etk
ENGINEER OF DESIGN AND ENVIRONMENT

March 19, 2021
James J. [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION '13

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OF THE STATE OF ILLINOIS

GENERAL NOTES

THIS PROJECT IS LOCATED ON VARIOUS ROUTES IN CLARK, CUMBERLAND, MACON, MOULTRIE, SHELBY, AND COLES 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:

- 000001-08 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
- 701400-10 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
- 878001-11 CONCRETE FOUNDATION DETAILS
- 886001-01 DETECTOR LOOP INSTALLATIONS
- 886006-01 TYPICAL LAYOUT FOR DETECTION LOOPS

* D7 ELECTRICAL REPAIRS 2021-2

MODEL: Default
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| | | | | | | | | | | | | | |
|--|------------------------------|------------|-----------|---|--|--------|-------|-----------|---------|--------|--------------|-----------|-----------------------------|
| | USER NAME = steffenmk | DESIGNED - | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | INDEX OF SHEETS & GENERAL NOTES | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | |
| | | DRAWN - | REVISED - | | | | | ** | * | | VARIOUS | 5 | 2 |
| | PLOT SCALE = 100,0000' / in. | CHECKED - | REVISED - | | | | | ** | VARIOUS | | | | CONTRACT NO. 74A49 |
| | PLOT DATE = 1/28/2021 | DATE - | REVISED - | | | SCALE: | SHEET | OF | 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 | JOURNEYMAN ELECTRICIAN | HOUR | 1500 | 1500 | | |

| SUMMARY OF QUANTITIES | | | TOTAL QUANTITIES | CONSTRUCTION TYPE CODE | | |
|-----------------------|---|------|------------------|------------------------|------|--|
| CODE NO | ITEM | UNIT | | 0043 | 0021 | |
| X0327496 | APPRENTICE ELECTRICIAN | HOUR | 125 | 125 | | |
| X0327497 | PICK-UP TRUCK | HOUR | 1250 | 1250 | | |
| X0327498 | BUCKET TRUCK (LENGTH LESS THAN 35 FEET) | HOUR | 125 | 125 | | |
| X0327499 | BUCKET TRUCK (LENGTH 35 TO 65 FEET) | HOUR | 625 | 625 | | |
| X0327500 | ARROWBOARD (TRAILER MOUNTED) | HOUR | 25 | 25 | | |
| X0327501 | ATTENUATOR, CRASH (TRUCK MOUNTED) | HOUR | 50 | 50 | | |
| X8730810 | ELECTRIC CABLE IN CONDUIT, CONOGA-30003 | FOOT | 100 | | 100 | |

MODEL: Default
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 PLOT SCALE: = 100,0000 ' / in.
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* D7 ELECTRICAL REPAIRS 2021-2

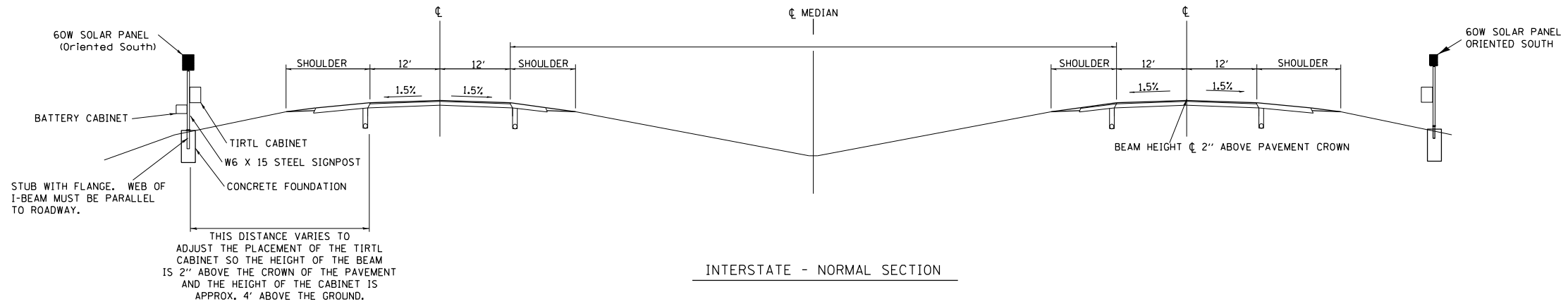
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| USER NAME = steffenmk | DESIGNED - | REVISED - |
| | DRAWN - | REVISED - |
| PLOT SCALE = 100,0000 ' / in. | CHECKED - | REVISED - |
| PLOT DATE = 1/28/2021 | DATE - | REVISED - |

**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. 74A49 | |
| ILLINOIS FED. AID PROJECT | | | | |

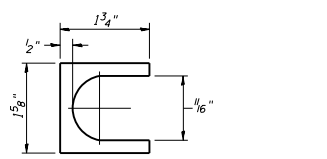
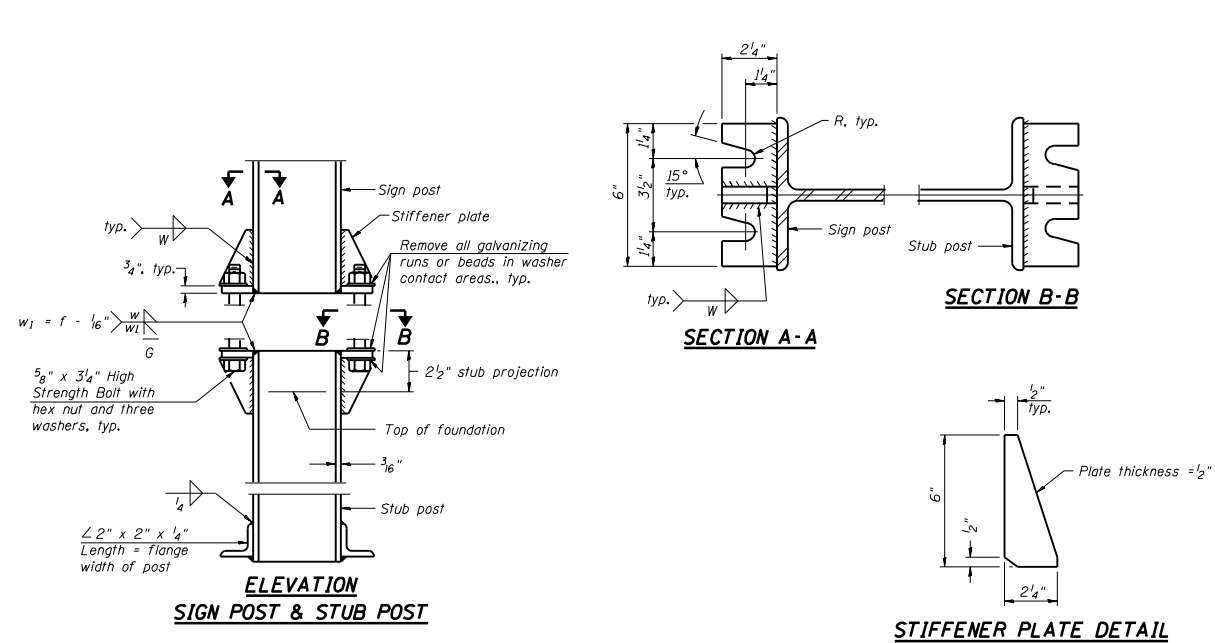


NOTES:

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 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 |



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

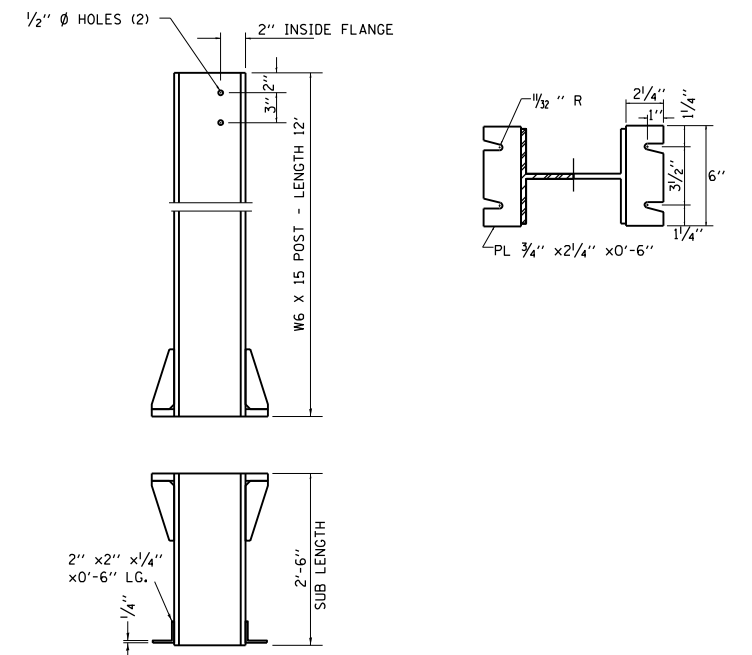
GENERAL NOTES

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.

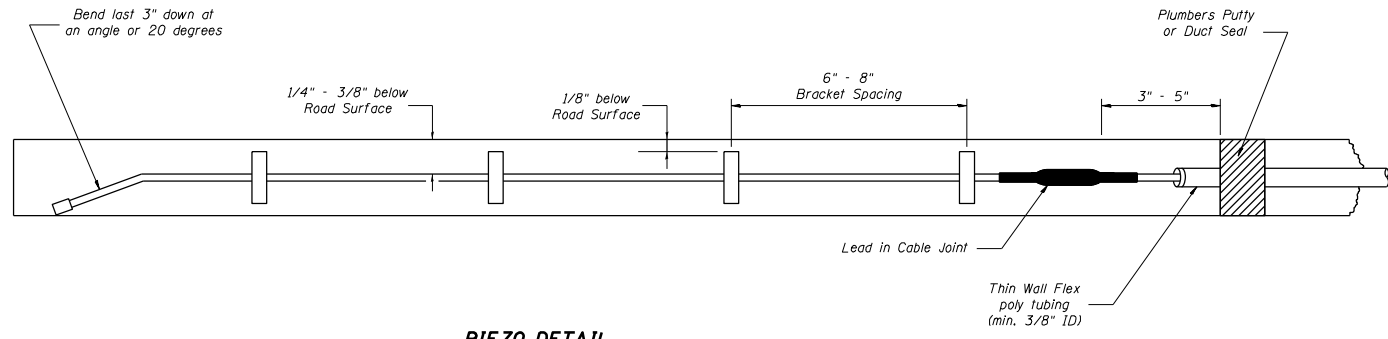
DESIGN STRESSES:
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

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.



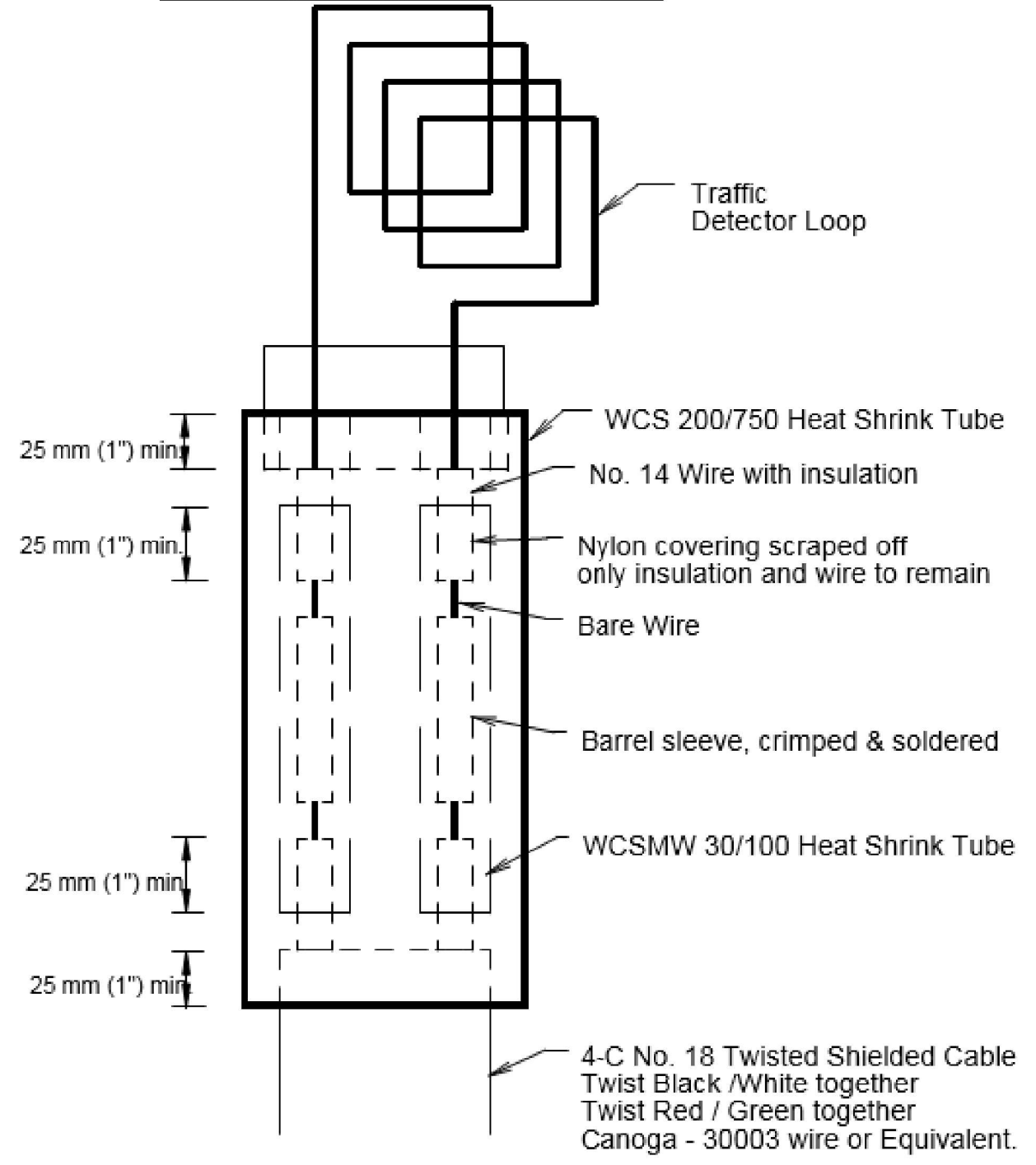
BREAK-AWAY WIDE FLANGE STEEL POST DETAILS

| | | | | | | | | | | |
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| Default | PLOT SCALE = 10000.0000' / in. | CHECKED - | REVISED - | | | CONTRACT NO. 74A49 | | | | |
| | PLOT DATE = 1/28/2021 | DATE - | REVISED - | | | 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 |

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

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• D7 ELECTRICAL REPAIRS 2021-2