

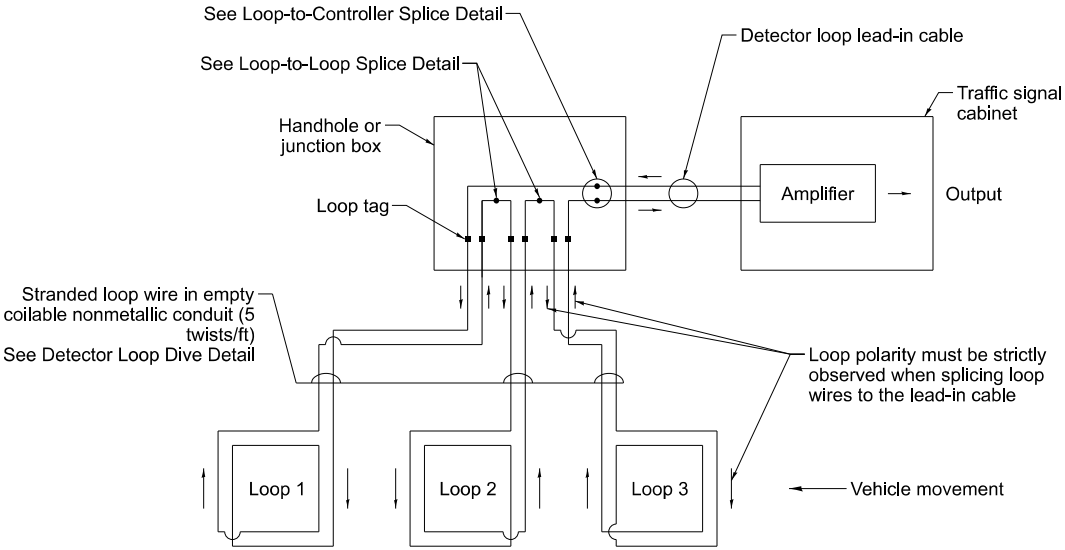
TRAFFIC SIGNAL LEGEND

| ITEM | EXISTING | PROPOSED | ITEM | EXISTING | PROPOSED | ITEM | EXISTING | PROPOSED |
|---|----------|----------|---|----------|----------|---|----------|----------|
| Traffic Signal Cabinet | | | Handhole | | | Signal Head | | |
| Uninterruptable Power Supply | | | -Square | | | -(P) Programmable Signal Head | | |
| Communication Cabinet | | | -Round | | | -(EV) Elongated Visors | | |
| Master Controller | | | Double Handhole | | | Signal Head with Backplate | | |
| Master Master Controller | | | Heavy Duty Handhole | | | -(RB) Retroreflective Backplate | | |
| Service Installation | | | -Square | | | -(P) Programmable Signal Head | | |
| -(P) Pole Mounted | | | -Round | | | -(EV) Elongated Visors | | |
| Service Installation | | | Junction Box | | | Pedestrian Signal Head | | |
| -(G) Ground Mounted | | | Railroad Cantilever Mast Arm | | | with Countdown Timer | | |
| -(GM) Ground Mounted Metered | | | Railroad Flashing Signal | | | Illuminated LED Sign | | |
| Cellular Modem | | | Railroad Crossing Gate | | | "NO LEFT TURN"/"NO RIGHT TURN" | | |
| Telephone Connection | | | Railroad Crossbuck | | | Electric Cable, Signal, No. 14 - | | |
| Steel Mast Arm Assembly and Pole | | | Railroad Controller Bungalow | | | 2/C, 3/C, 5/C, 7/C | | |
| Aluminum Mast Arm Assembly and Pole | | | Underground Conduit (UC), Galvanized Steel | | | Electric Cable, Lead-In, No. 14, 1 Pair | | |
| Steel Combination Mast Arm Assembly and Pole with Luminaire | | | Temporary Span Wire, Tether Wire, and Cable | | | Service Cable, 2/C - | | |
| Signal Post | | | System Item | | | No. 2, No. 4, No. 6 | | |
| -(BM) Barrel Mounted - Temporary | | | Intersection Item | | | Ground Cable | | |
| Wood Pole | | | Removal Item | | | No. 6 Solid Copper (Green), 1/C | | |
| Guy Wire | | | Relocate Item | | | Electric Cable, Tracer, No. 14, 1/C | | |
| Signal Head | | | Abandon Item | | | Electric Cable, Railroad, No. 14, 3/C | | |
| Signal Head with Backplate | | | Controller Cabinet and Foundation to be Removed | | | Electric Cable, Street Name Sign | | |
| Signal Head - Programmable | | | Mast Arm Pole and Foundation to be Removed | | | No. 14, 3/C, Type SOOW | | |
| Flasher Installation | | | Signal Post and Foundation to be Removed | | | Vendor Cable | | |
| -(FS) Solar Powered | | | Detector Loop, Type I | | | Emergency Vehicle Priority Line | | |
| Pedestrian Signal Head | | | Preformed Detector Loop | | | Sensor Cable, No. 20, 3/C | | |
| Pedestrian Push Button | | | Wireless Detector Sensor | | | Outdoor Rated Network Cable | | |
| -(APS) Accessible Pedestrian Push Button | | | | | | Fiber Optic Cable | | |
| Radar Detection Sensor | | | | | | -12F: 12 Multimode | | |
| Video Detection Camera | | | | | | -24F: 12 Multimode / 12 Single Mode | | |
| Radar/Video Detection Zone | | | | | | -36F: 12 Multimode / 24 Single Mode | | |
| Pan, Tilt, Zoom (PTZ) Camera | | | | | | -24SM: 24 Single Mode | | |
| Emergency Vehicle Light Detector | | | | | | -48SM: 48 Single Mode | | |
| Confirmation Beacon | | | | | | Ground Rod | | |
| Wireless Interconnect | | | | | | -(C) Controller | | |
| Wireless Interconnect Radio Repeater | | | | | | -(M) Mast Arm | | |
| Wireless Access Point | | | | | | -(P) Post | | |
| | | | | | | -(S) Service | | |

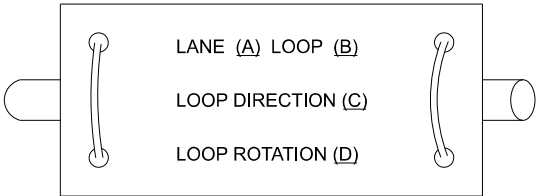
| | | | | | | | | | | | | | | | |
|--------------|-----------------------------|--|-------------------|------------|---|--|-------------|--------------------------|---------|--------------|--------------|-----------|--|--|--|
| TS SHT NO. 1 | USER NAME = Ivan,plascencia | | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. | | | |
| | | | DRAWN - IP | REVISED - | | | | | | | | | | | |
| | | | CHECKED - NB/KK | REVISED - | | | | TS-01 | | CONTRACT NO. | | | | | |
| | PLOT DATE = | | DATE - 10/15/2025 | REVISED - | | | | ILLINOIS FED.AID PROJECT | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | SCALE: NTS | | SHEET 1 | OF 7 SHEETS | STA. | TO STA. | | | | | | |

DETECTOR LOOP NOTES:

1. LOOPS SHALL BE SPLICED IN SERIES.
2. SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" AT A DEPTH OF 3". IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
3. LOOP CORNERS SHALL BE DRILLED WITH A 2" DIAMETER CORE.
4. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NON-METALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6". EMPTY COILABLE NON-METALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE DETECTOR LOOP PAY ITEM.
5. THE NUMBER OF LOOP TURNS SHALL BE AS RECOMMENDED BY THE AMPLIFIER MANUFACTURER. ALL ADJACENT SIDES OF THE LOOPS SHALL BE INSTALLED IN SUCH A WAY THAT THE CURRENT FLOW IS IN THE SAME DIRECTION TO REINFORCE ITS MAGNETIC FIELDS FOR SMALL VEHICLE DETECTION.
6. EACH LEAD-IN CABLE SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP NUMBER, LOOP DIRECTION (IN OR OUT), AND LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE) IN WATER PROOF INK. SEE DETECTOR LOOP LEAD-IN CABLE TAG DETAIL. THE CONTRACTOR SHALL MARK THE LOOP LOCATIONS ON THE RECORD DRAWINGS AND PRESENT THEM TO THE ENGINEER AFTER THE FINAL INSPECTION.
7. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
8. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND THE DIVE HOLES MARKED AT THE CURB WITH A SAW-CUT. THE SAW-CUT SHALL BE CUT IN ACCORDANCE WITH LOCAL AND E.P.A. DUST CONTROL REQUIREMENTS. DETECTOR LOOP(S) SHALL NOT BE INSTALLED IN WET CONDITIONS AND THE SAW-CUTS MUST BE FREE OF DEBRIS AND RESIDUE SUCH AS DUST AND WATER WHICH IS TO BE ACHIEVED BY THE USE OF COMPRESSED AIR, WIRE BRUSHING AND HEAT DRYING ACCORDING TO SEALANT MANUFACTURER REQUIREMENTS. THE DETECTOR WIRE SHALL BE HELD IN PLACE BY THE USE OF FORM WEDGES. WEDGES SHALL BE SPACED NO MORE THAN 18" APART.
9. LOOP SPLICES SHALL BE SOLDERED USING A SOLDERING IRON. BLOW TORCHES OR OTHER DEVICES WHICH OXIDIZE COPPER CABLE SHALL NOT BE ALLOWED FOR SOLDERING OPERATIONS.
10. PREFORMED DETECTOR LOOPS SHALL BE USED WHERE NEW CONCRETE PAVEMENT IS PROPOSED. THE INSTALLATION OF PREFORMED LOOPS SHALL BE IN ACCORDANCE WITH THE DISTRICT 1 SPECIFICATIONS OR AS DIRECTED BY THE ENGINEER.

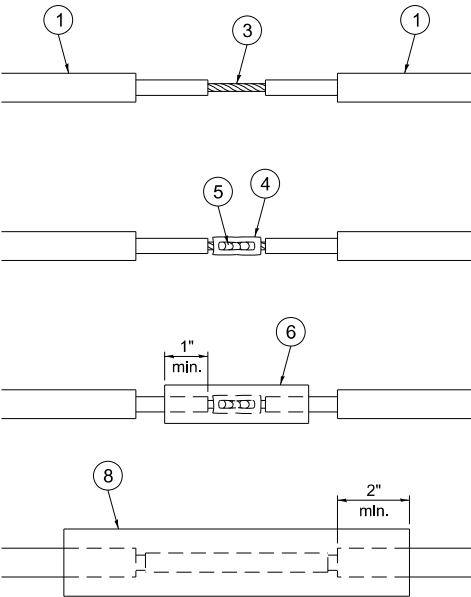


DETECTOR LOOP WIRING SCHEMATIC



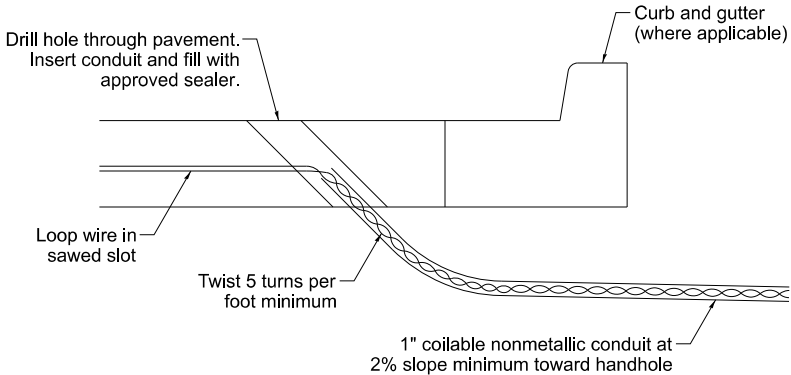
- A. Lane 1 is the lane closest to the centerline of the roadway.
- B. Loop #1 is the loop closest to the intersection.
- C. Label loop cable "in" or loop cable "out".
- D. Label loop cable clockwise or loop cable counterclockwise.

DETECTOR LOOP LEAD-IN CABLE TAG

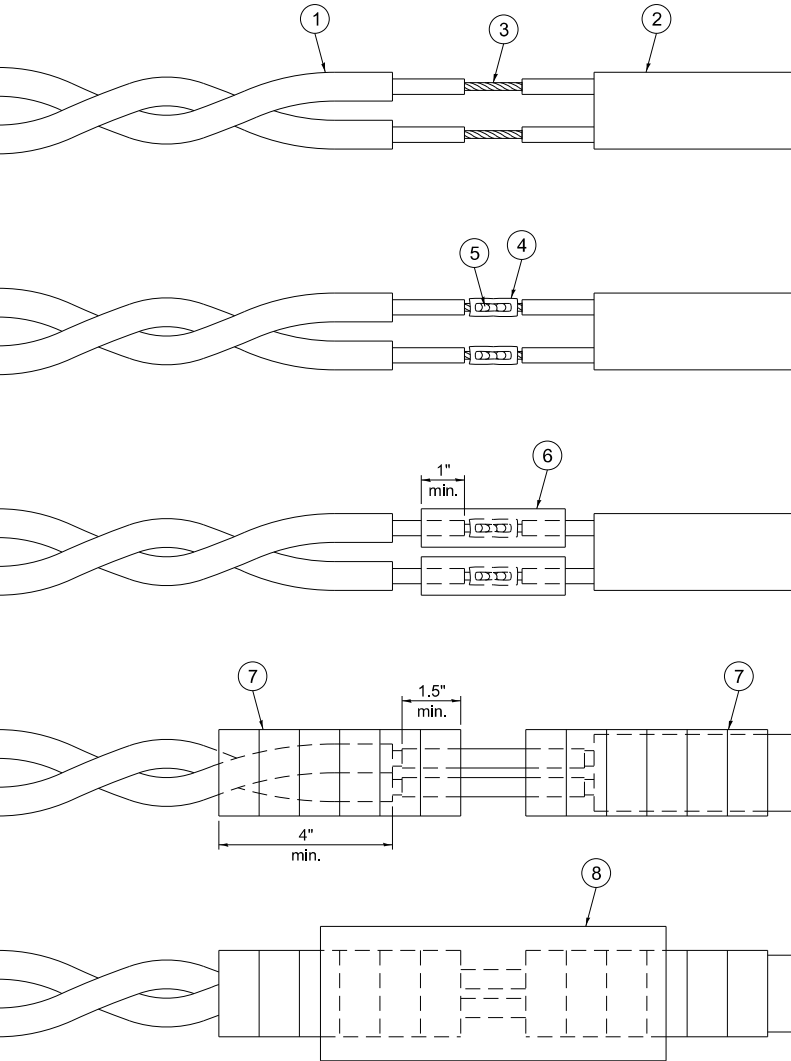


LOOP-TO-LOOP SPLICE DETAIL

- 1 Detector loop cable.
- 2 Detector loop lead-in cable
- 3 Bare conductors twisted together.
- 4 Butt splice crimp connector.
- 5 Splice soldered with rosin core flux. All exposed surfaces of the solder shall be smooth. The splices shall be staggered.
- 6 WCSMW 30/100 heat shrink tube, 3" minimum length, underwater grade.
- 7 Self-infused, silicone electrical tape tightly wrapped around cables.
- 8 WCS 200/750 heat shrink tube, 8" minimum length, underwater grade.



DETECTOR LOOP DIVE DETAIL



LOOP-TO-CONTROLLER SPLICE DETAIL

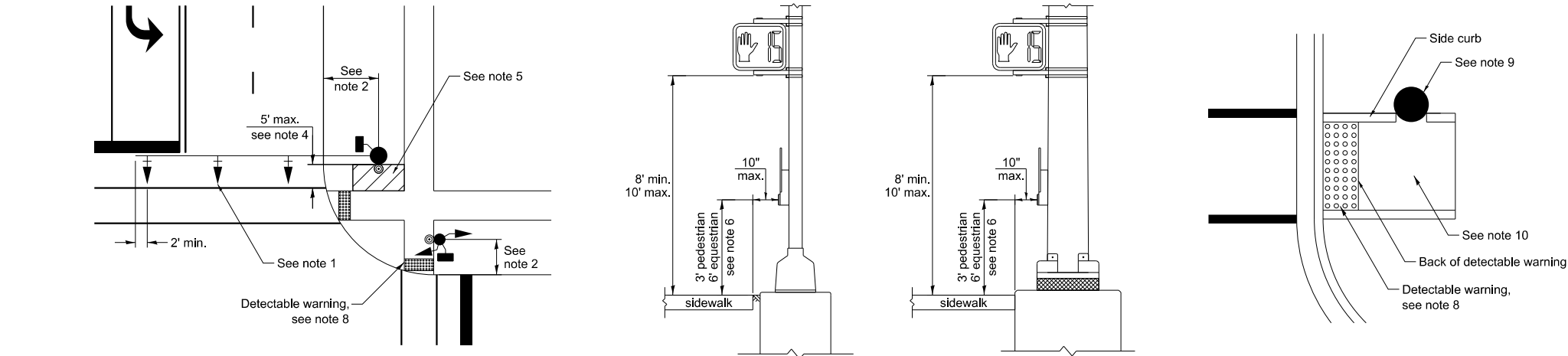
TS SHT NO. 2

| | | | | | | | | | | | | | |
|--|---------------------------|--|-------------------|-----------|---|--|---------|-------------|-----------|---------|---------------------------|--------------|-----------|
| | USER NAME = Ivan, Ascenda | | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | | DRAWN - IP | REVISED - | | | | | | | | | |
| | | | CHECKED - NB/KK | REVISED - | | | | | TS-01 | | CONTRACT NO. | | |
| | PLOT DATE = | | DATE - 10/15/2025 | REVISED - | | SCALE: NTS | SHEET 2 | OF 7 SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | | |

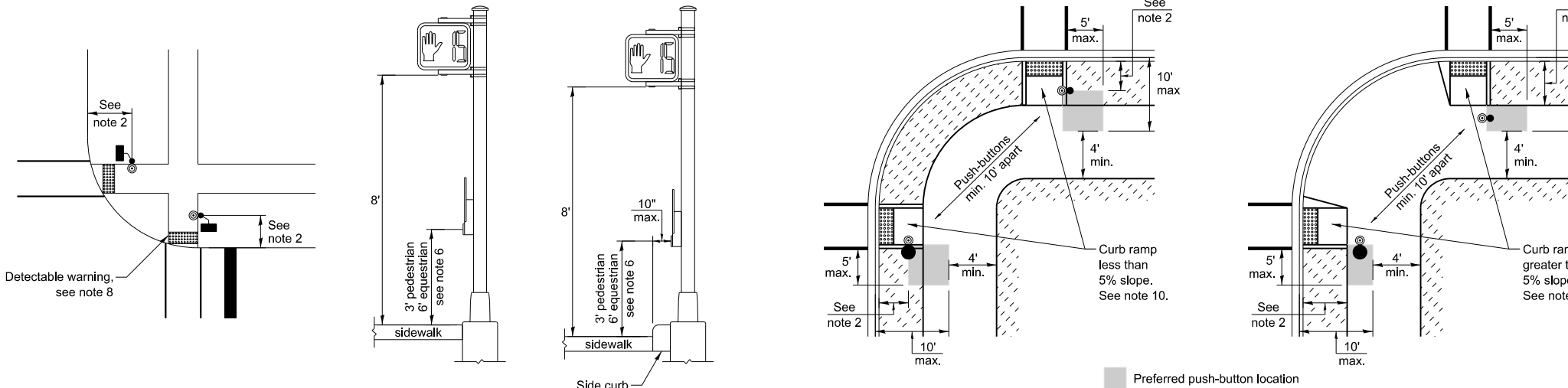
NOTES:

1. THE MAST ARM MOUNTED SIGNAL HEADS SHALL BE CENTERED ON THE LANES OR AS SHOWN ON THE TRAFFIC SIGNAL PLANS.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET MINIMUMS TABLE.
3. A 4' MINIMUM UNOBSTRUCTED PEDESTRIAN ACCESS ROUTE SHALL BE MAINTAINED.
4. THE PUSH-BUTTON SHALL BE LOCATED 5' OR LESS FROM THE OUTSIDE EDGE OF THE MARKED CROSSWALK FARTEST FROM THE INTERSECTION FOR THE CROSSWALK THAT THE PUSH-BUTTON CONTROLS.
5. IF THE MAST ARM POLE OR SIGNAL POST WHERE THE PUSH-BUTTON IS TO BE INSTALLED IS NOT IMMEDIATELY ADJACENT TO THE SIDEWALK, PROVIDE A FIRM, STABLE, AND SLIP RESISTANT SURFACE UP TO THE MAST ARM POLE OR SIGNAL POST. THE MINIMUM PAVED AREA IN FRONT OF THE PUSH-BUTTON SHALL BE 2.5' X 4'. IF THIS DOES NOT MEET THE REQUIREMENT STATED IN NOTE 3, A SEPARATE PEDESTRIAN SIGNAL POST SHALL BE INSTALLED TO PLACE THE PUSH-BUTTON ADJACENT TO THE SIDEWALK SURFACE.
6. THE HEIGHT OF THE PEDESTRIAN PUSH-BUTTON SHALL BE 36". IF APPROVED BY THE AREA TRAFFIC SIGNAL ENGINEER, THE PUSH-BUTTON MAY BE LOCATED AT A HEIGHT BETWEEN 30" AND 42". THE HEIGHT OF THE EQUESTRIAN PUSH-BUTTON SHAL BE 72" OR AS DIRECTED BY THE ENGINEER.
7. THE FACE OF THE PUSH-BUTTON SHALL BE PARALLEL TO THE CROSSWALK IT CONTROLS.
8. THE PUSH-BUTTON SHALL BE LOCATED BEHIND THE DETECTABLE WARNING.
9. WHERE A PUSH-BUTTON IS BEING INSTALLED ON A MAST ARM POLE OR SIGNAL POST ADJACENT TO THE PEDESTRIAN ACCESS ROUTE, THE PROPOSED FOUNDATION SHALL BE INSTALLED WITHIN THE SIDE CURB IN ORDER TO MEET THE 10" REACH REQUIREMENT.
10. THE SIDEWALK PANEL IN FRONT OF THE PUSH-BUTTON SHALL HAVE A SLOPE LESS THAN 5%.
11. WHERE TWO PEDESTRIAN PUSH-BUTTONS ARE PROVIDED ON THE SAME CORNER, THEY SHALL BE 10' OR MORE APART. EXCEPTION: IN ALTERATIONS WHERE TECHNICALLY INFEASIBLE TO PROVIDE 10' SEPARATION BETWEEN PUSH-BUTTONS ON THE SAME CORNER.
12. CORRESPONDING PEDESTRIAN EQUIPMENT (SIGNAL HEAD AND PUSH-BUTTON) SHALL BE INSTALLED ON THE SAME POST CLOSEST TO THE CROSSWALK IT CONTROLS.
13. PEDESTRIAN SIGNAL HEADS INSTALLED ON MAST ARM POLES OR SIGNAL POSTS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) NOT LESS THAN 8' OR MORE THAN 10' ABOVE SIDEWALK LEVEL. PEDESTRIAN SIGNAL HEADS INSTALLED ON PEDESTRIAN SIGNAL POSTS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) NOT LESS THAN 8' ABOVE SIDEWALK LEVEL. THE PEDESTRIAN SIGNAL HEADS SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
14. THE LOCATIONS OF THE PEDESTRIAN PUSH-BUTTONS AND PEDESTRIAN SIGNAL HEADS SHALL MEET THE REQUIREMENTS OF THE MUTCD, PROWAG, AND THE REQUIREMENTS ON THIS DETAIL SHEET.

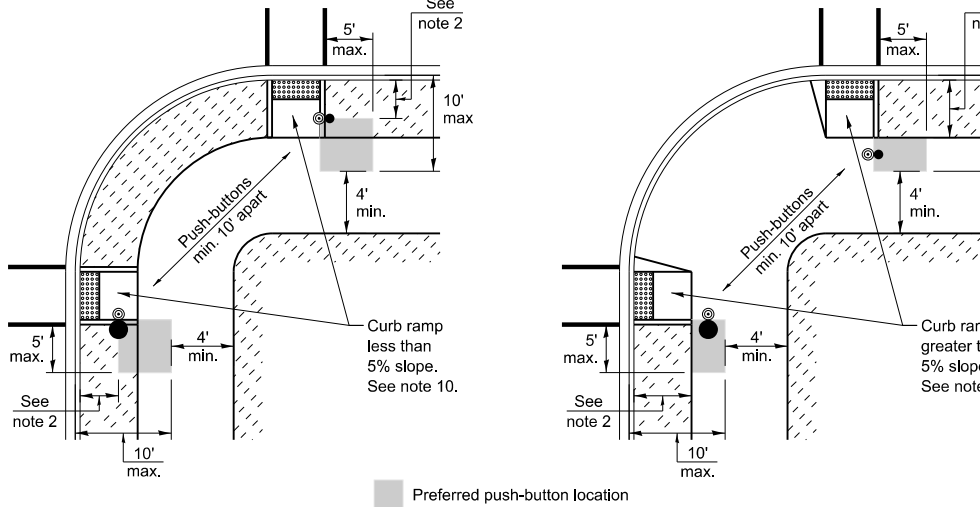
TRAFFIC SIGNAL MAST ARM AND SIGNAL POST



PEDESTRIAN SIGNAL POST



PUSH-BUTTON LOCATIONS



| TRAFFIC SIGNAL EQUIPMENT | BARRIER CURB (MINIMUM DISTANCE FROM THE BACK OF CURB TO THE CENTER OF THE FOUNDATION) | SHOULDER / NON-BARRIER CURB (MINIMUM DISTANCE FROM THE EDGE LINE OF THE RIGHT-MOST LANE TO THE CENTER OF THE FOUNDATION) |
|----------------------------|---|--|
| Mast arm assembly and pole | 6' | Shoulder width + 2', minimum 10' |
| Signal post | 4' | Shoulder width + 2', minimum 10' |
| Pedestrian signal post | 4' | 4' - See note 2 |
| Temporary wood pole | 6' | Shoulder width + 2', minimum 10' |
| Traffic signal cabinet | 6' - See Note 3 | Shoulder width + 6', minimum 16' - See note 3 |
| Service cabinet | 6' - See Note 3 | Shoulder width + 6', minimum 16' - See note 3 |

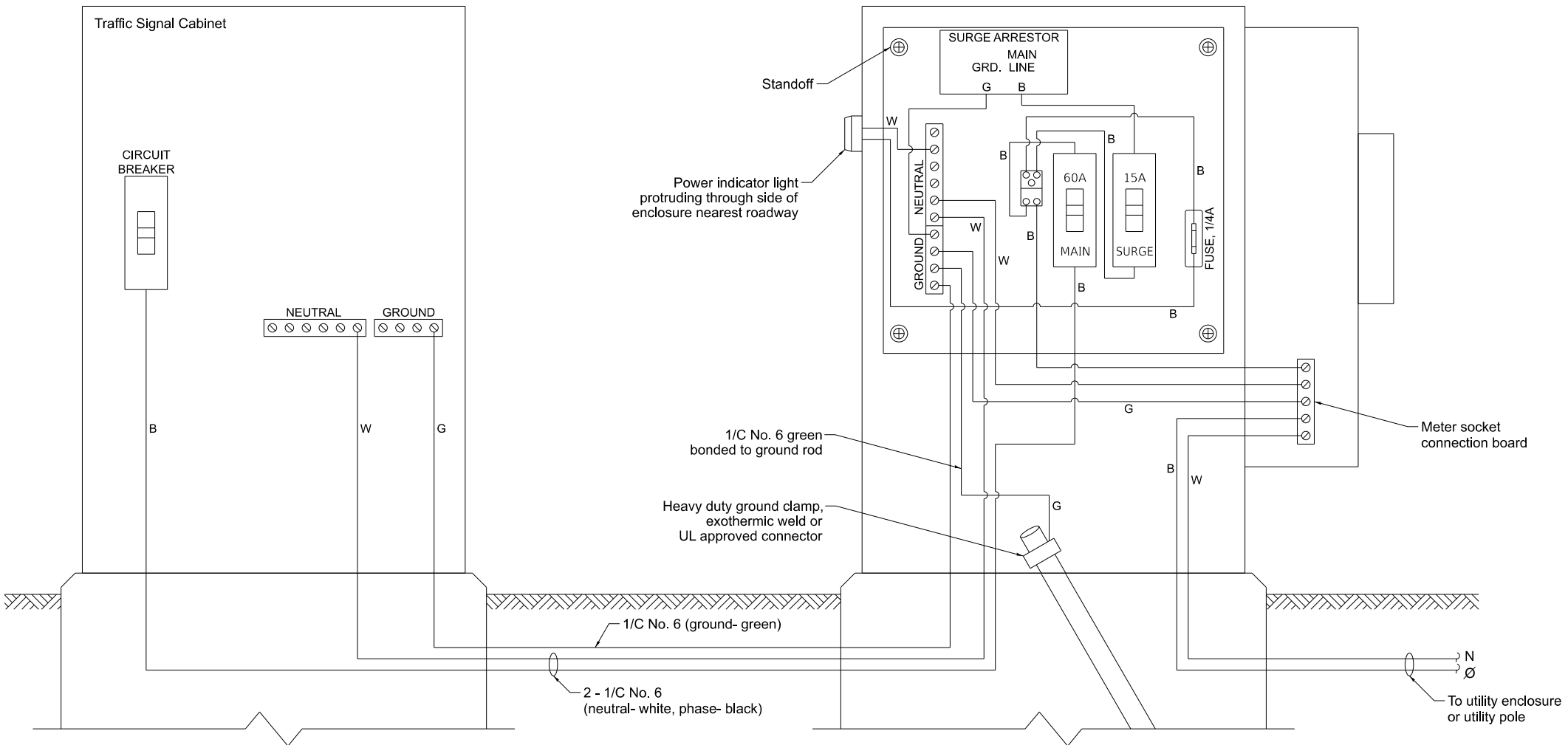
TRAFFIC SIGNAL EQUIPMENT OFFSET MINIMUMS

NOTES:

1. CONTACT THE AREA TRAFFIC SIGNAL ENGINEER FOR ASSISTANCE LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS AND THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF THE DETECTABLE WARNING.
3. MINIMUM DISTANCE TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" TABLE AND THE TRAFFIC SIGNAL PLAN COULD AFFECT THE PLACEMENT OF THE TRAFFIC SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS, AND THE PEDESTRIAN PUSH-BUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THESE REQUIREMENTS. THE LOCATIONS OF THE PEDESTRIAN PUSH-BUTTONS AND PEDESTRIAN SIGNAL HEADS SHALL MEET THE REQUIREMENTS OF THE MUTCD, PROWAG, AND THE REQUIREMENTS ON THIS DETAIL SHEET.

TS SHT NO. 3

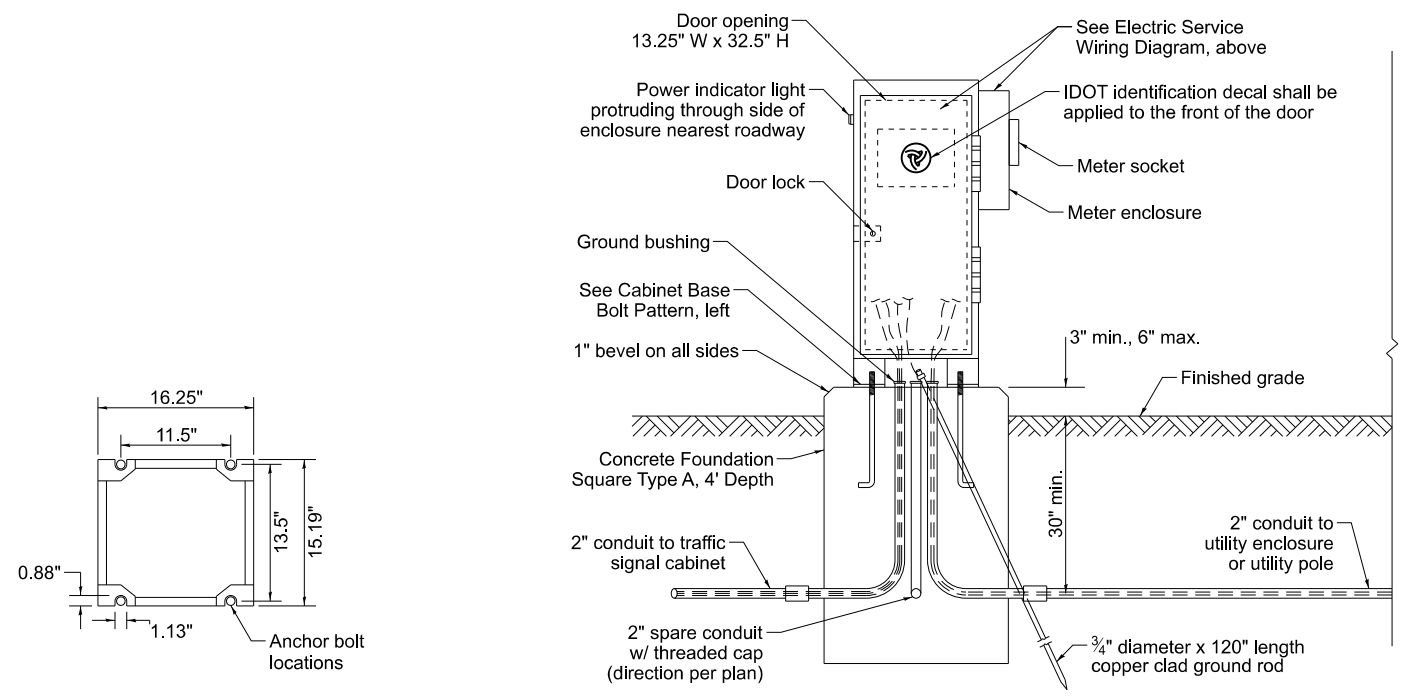
| | | | | | | | | | | | | |
|------------|-----------------------------|-------------------|-------------|---|--|--|--|---------------------------|---------|--------------|--------------|-----------|
| | USER NAME = Ivan,plascencia | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | |
| | | CHECKED - NB/KK | REVISED - | | | | | TS-01 | | CONTRACT NO. | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | | | | ILLINOIS FED. AID PROJECT | | | | |
| SCALE: NTS | | SHEET 3 | OF 7 SHEETS | STA. | TO STA. | | | | | | | |



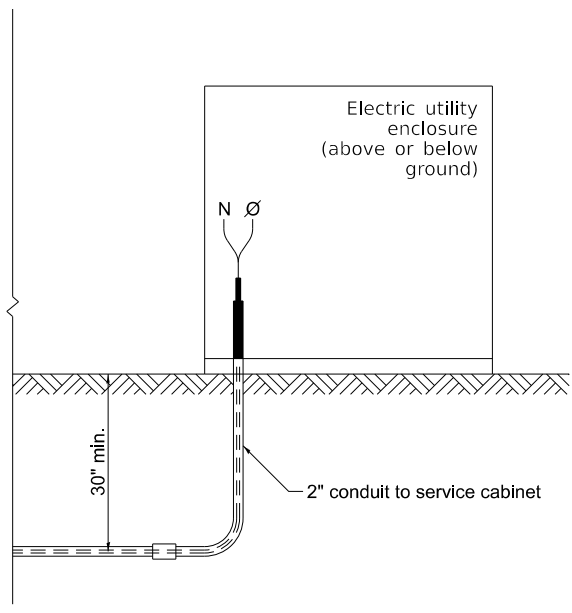
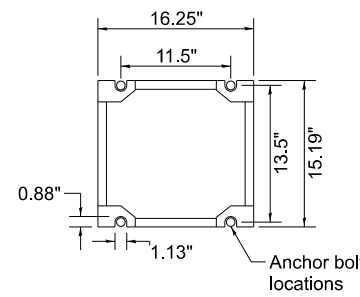
NOTES:

1. THE GROUND MOUNTED SERVICE CABINET IS TO BE LOCATED BETWEEN THE TRAFFIC SIGNAL CABINET AND THE UTILITY CONNECTION, PREFERABLY 20' TO 50' FROM THE TRAFFIC SIGNAL CONTROLLER CABINET.
2. ELECTRIC SERVICE PANELS SHALL BE CONSTRUCTED TO UL STD. 508, INDUSTRIAL CONTROL PANEL, AND CARRY THE UL LABEL.
3. ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
4. THE METER SOCKET IS TO BE PROVIDED BY THE CONTRACTOR. THE METER IS TO BE PROVIDED BY THE UTILITY COMPANY.

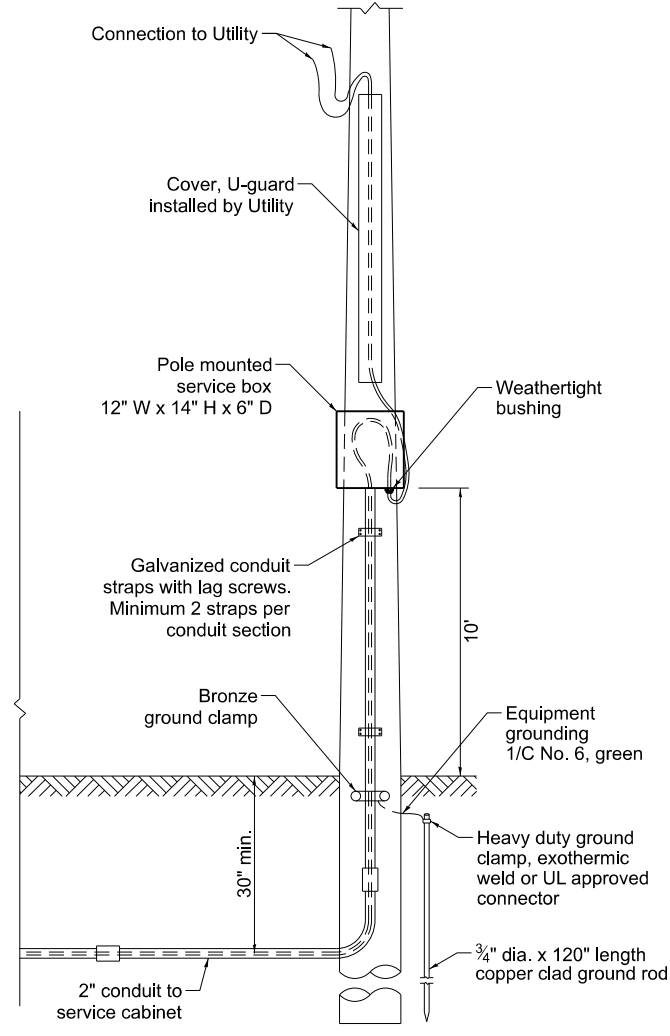
ELECTRIC SERVICE WIRING DIAGRAM IN GROUND MOUNTED SERVICE CABINET



CABINET BASE BOLT PATTERN

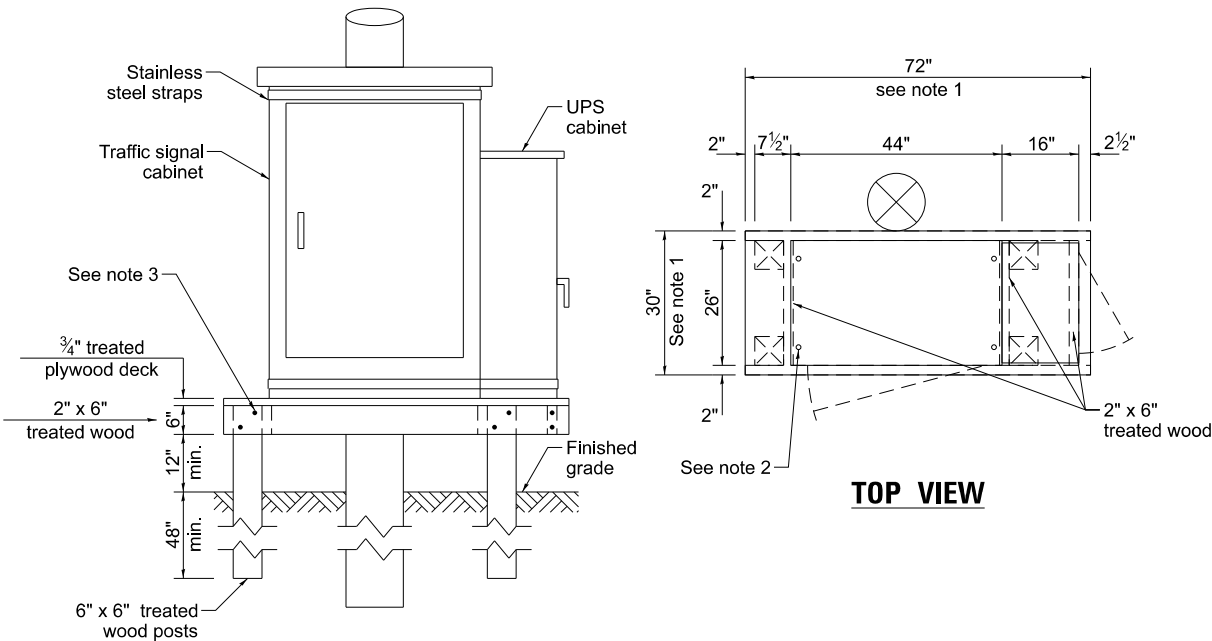


CONNECTION TO UTILITY ENCLOSURE



CONNECTION TO UTILITY POLE

| | | | | | | | | | | | | | |
|--|----------------------------|-----------------------|-------------|---|--|------|--------|----------|--------------|------------------|--------|-----------------|--------------|
| | USER NAME = Ivan,Ascenda | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | | |
| | | CHECKED - NB/KK | REVISED - | | TS-01 | | | | CONTRACT NO. | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | | | | | | | | | |
| | | | | SCALE: NTS | SHEET 4 | OF 7 | SHEETS | STA. | TO STA. | | | | |
| | | | | | | | | ILLINOIS | | FED. AID PROJECT | | | |



NOTES:

1. THE PLATFORM SIZE IS BASED ON A TRAFFIC SIGNAL CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" AND UNINTERRUPTABLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25". ADJUST THE PLATFORM SIZE TO FIT THE BASE DIMENSIONS OF THE CABINET SUPPLIED.
2. DRILLED HOLES THROUGH THE PLATFORM ARE TO MATCH THE TRAFFIC SIGNAL CABINET BOLT TEMPLATE. THE CABINET SHALL BE FASTENED TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS, AND NUTS.
3. ALL WOOD SUPPORT FRAMING SHALL BE FASTENED TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

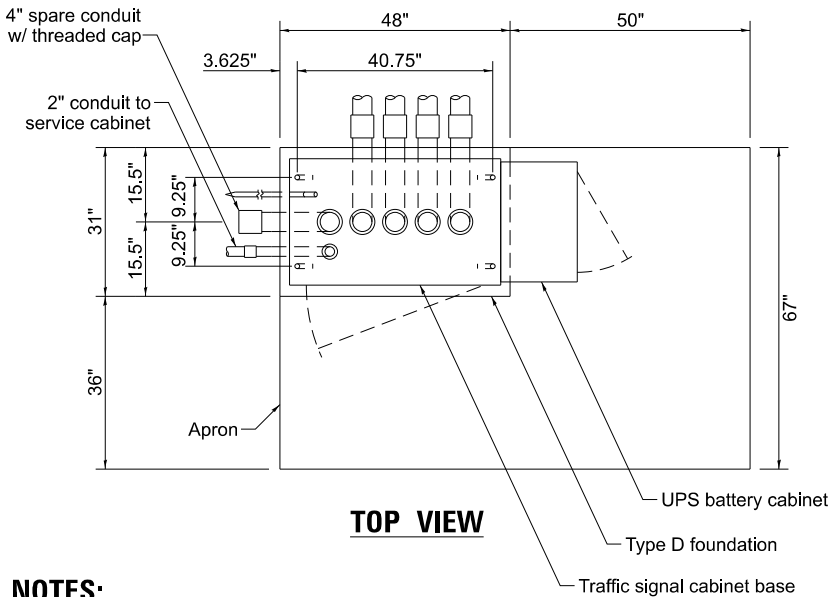
TEMPORARY TRAFFIC SIGNAL
CABINET WOOD SUPPORT PLATFORM

| MAST ARM LENGTH | Foundation Depth | Foundation Diameter | Spiral Diameter | Quantity of Rebars | Size of Rebars |
|--|------------------|---------------------|-----------------|--------------------|----------------|
| Less than 30' | 10' | 30" | 24" | 8 | #6 |
| Greater than or equal to 30' and less than 40' | 13.5' | 30" | 24" | 8 | #6 |
| | 11' | 36" | 30" | 12 | #7 |
| Greater than or equal to 40' and less than 50' | 13' | 36" | 30" | 12 | #7 |
| Greater than or equal to 50' and up to 55' | 15' | 36" | 30" | 12 | #7 |
| Greater than or equal to 56' and less than 65' | 21' | 42" | 36" | 16 | #8 |
| Greater than or equal to 65' and up to 75' | 25' | 42" | 36" | 16 | #8 |

DEPTH OF MAST ARM FOUNDATIONS, TYPE E

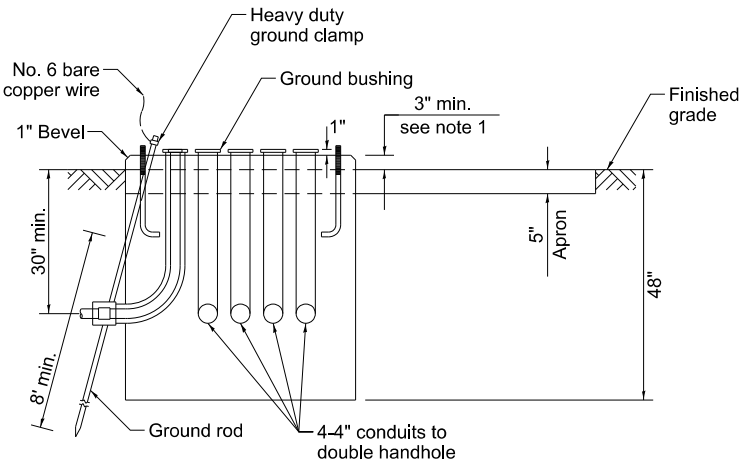
TYPE E FOUNDATION NOTES:

1. FOR STANDARD AND COMBINATION MAST ARM ASSEMBLIES. FOUNDATION DEPTHS FOR STANDARD DUAL MAST ARMS WITH THE LONGEST ARM LENGTH UP TO AND INCLUDING 55' SHALL BE INCREASE BY 1' OF THAT SHOWN IN THE TABLE, BASED ON THE LONGER OF THE TWO ARMS.
2. SEE STATE STANDARD 878001 CONCRETE FOUNDATION DETAILS FOR MORE INFORMATION.

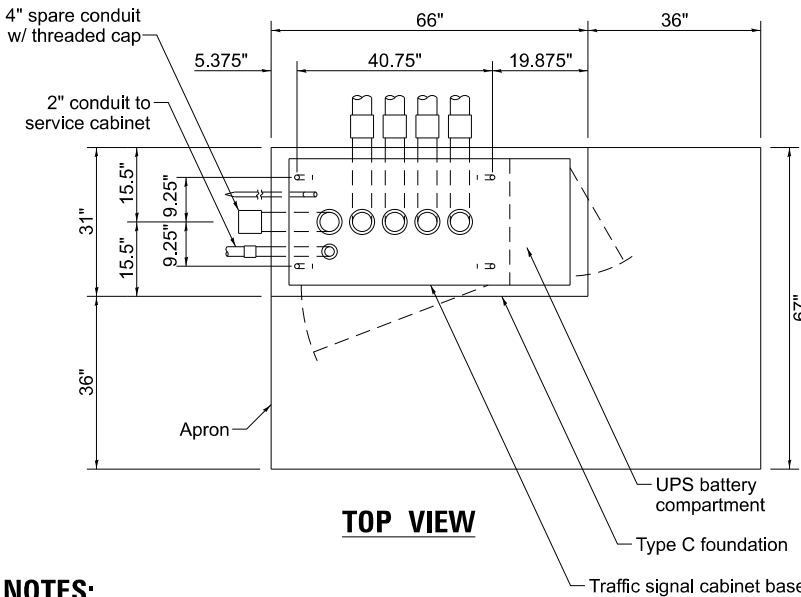


NOTES:

1. THE TOP OF THE FOUNDATION SHALL BE HIGHER THAN THE TOP OF THE DOUBLE HANDHOLE.

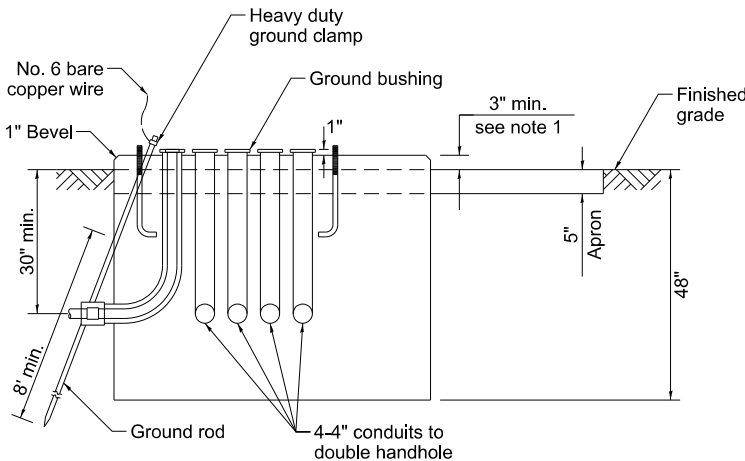


TYPE D FOUNDATION
TYPE IV AND TYPE V TRAFFIC SIGNAL CABINET
AND UPS BATTERY CABINET



NOTES:

1. THE TOP OF THE FOUNDATION SHALL BE HIGHER THAN THE TOP OF THE DOUBLE HANDHOLE.



TYPE C FOUNDATION
SUPER P AND SUPER R
TRAFFIC SIGNAL CABINETS

| FOUNDATION | DEPTH |
|--|-------|
| Type A - Signal post, service cabinet | 4' |
| Type C - Traffic signal cabinet with UPS | 4' |
| Type D - Traffic signal cabinet | 4' |

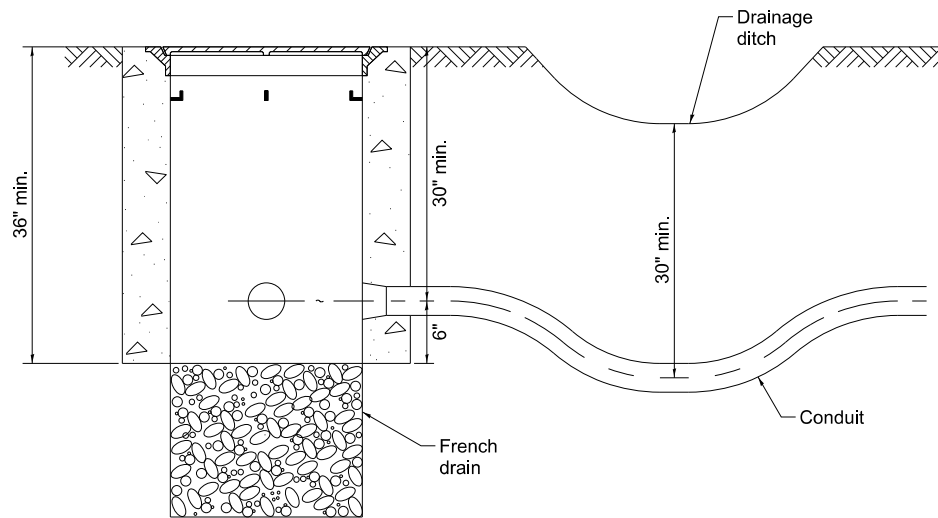
DEPTH OF FOUNDATIONS
TYPES A, C & D

| VERTICAL CABLE | LENGTH |
|---|--------|
| Mast arm mounted signal head (L = mast arm length - distance to signal head from end of arm) | 20'+L |
| Bracket mounted signal head (mast arm pole or signal pole) | 13' |
| Pedestrian signal head | 10' |
| Pedestrian push button | 6' |
| Service installation pole mount to service drop | 13.5' |
| Service installation pole mount to ground | 13.5' |
| Service installation ground mount | 6' |
| Foundation (signal post, mast arm, traffic signal cabinet, service cabinet) | 3' |

VERTICAL CABLE LENGTH

| CABLE SLACK | LENGTH |
|---|--------|
| Handhole | 6.5' |
| Double handhole | 13' |
| Signal post | 2' |
| Mast arm | 2' |
| Traffic signal cabinet or service cabinet | 1.5' |
| Fiber optic cable at traffic signal cabinet | 13' |
| Ground cable at signal post, mast arm, or cabinet | 1.5' |
| Ground cable at handhole or double handhole | 6.5' |
| Ground cable between handhole frame and cover | 5' |

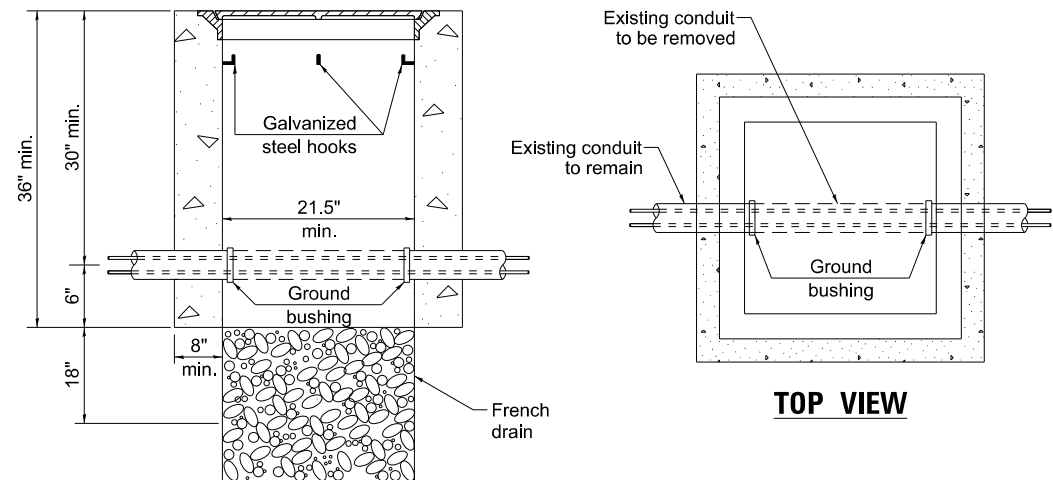
CABLE SLACK LENGTH



NOTES:

1. THE CONDUIT DEPTH SHALL BE A MINIMUM OF 30" BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND.
2. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL CONDUIT PLACED UNDER ROADWAY PAVEMENT, MULTI-USE PATHS, SIDEWALKS AND SOIL SURFACES.
3. THE MINIMUM CONDUIT DEPTH APPLIES TO ALL HANDHOLES, HEAVY DUTY HANDHOLES AND DOUBLE HANDHOLES.

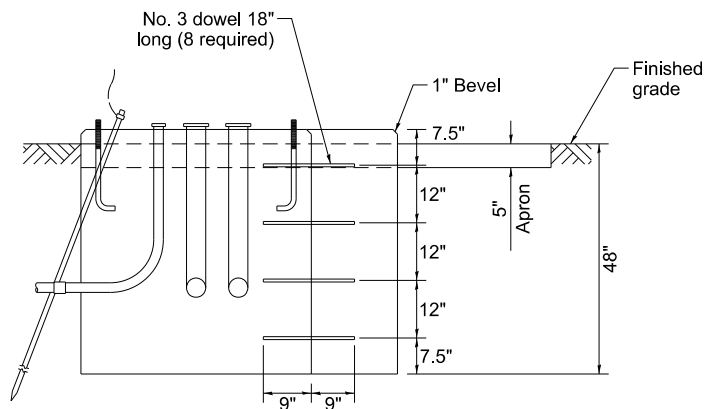
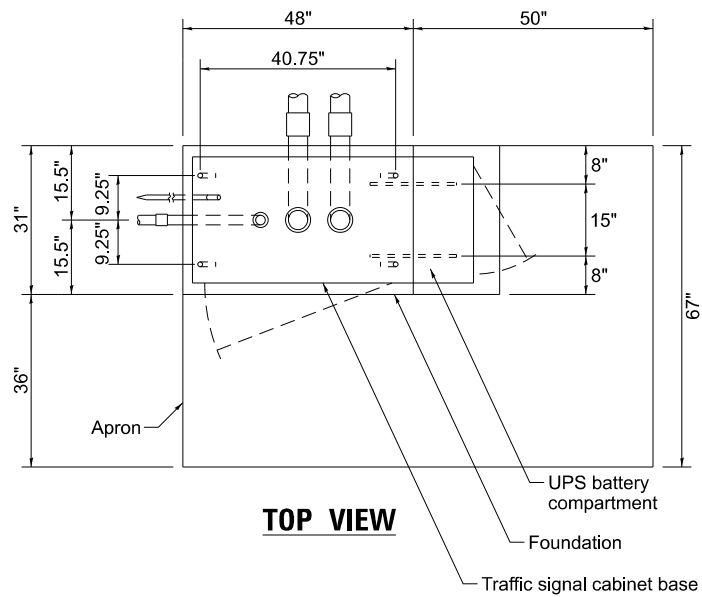
HANDHOLE WITH MINIMUM CONDUIT DEPTH



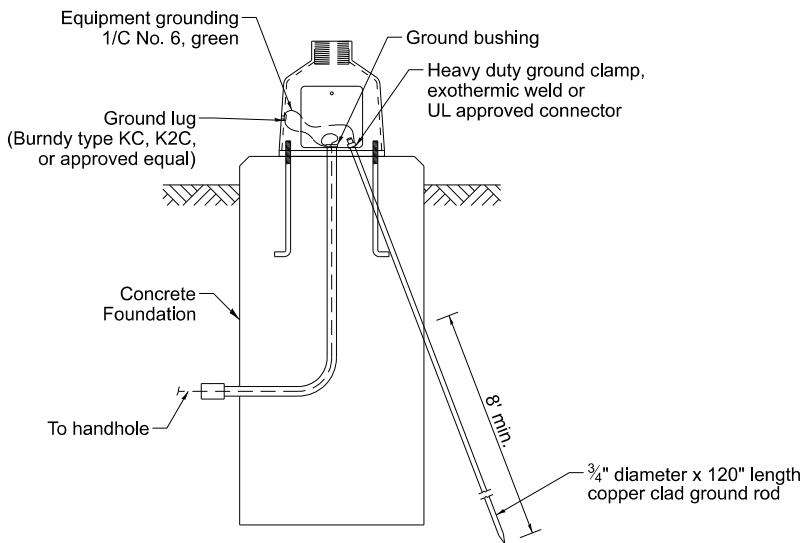
NOTES:

1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

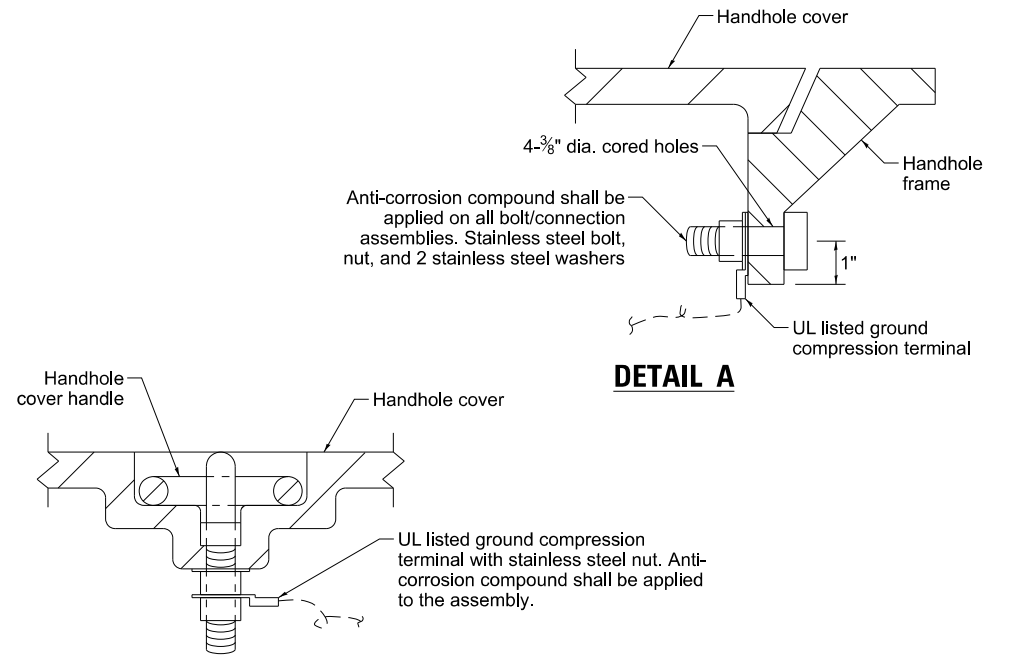
HANDHOLE TO INTERCEPT EXISTING CONDUIT



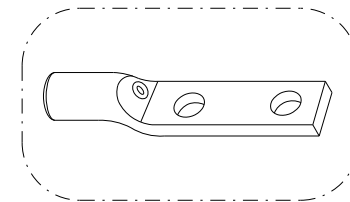
**MODIFY EXISTING TYPE "D" FOUNDATION
TO TYPE "C" FOUNDATION**



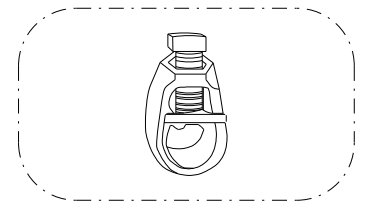
MAST ARM / POST GROUNDING DETAIL



DETAIL B



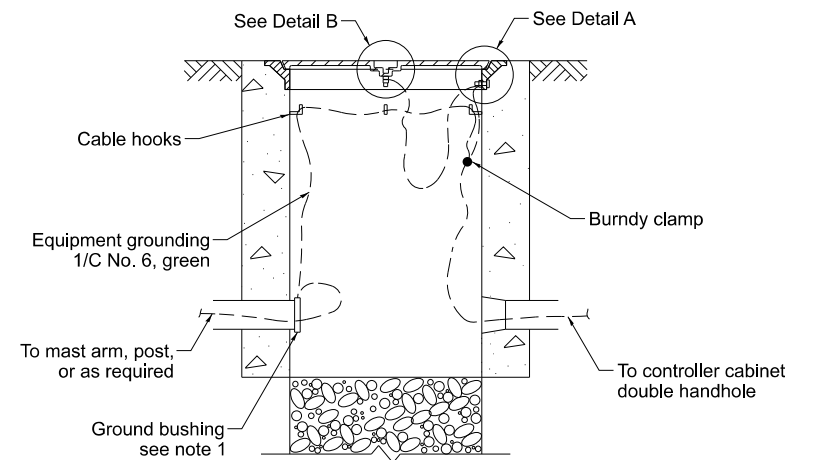
Heavy-Duty Compression Terminal
(Burndy Type YGHA or approved equal)



3/4" Heavy-Duty Ground Rod Clamp
Bronze or Copper, UL Approved
(Burndy Type GRC or approved equal)

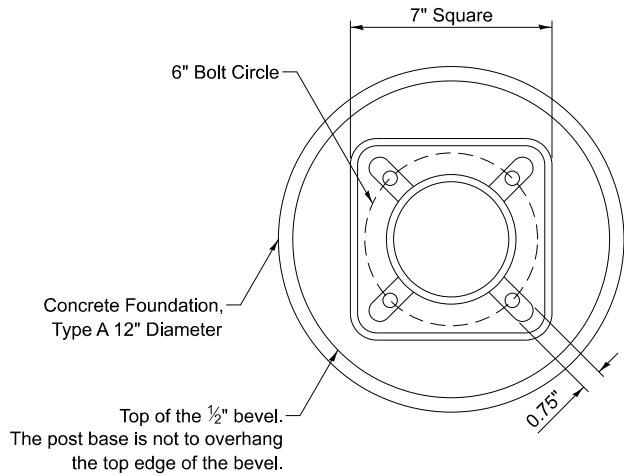
NOTES:

1. CONDUIT THAT HAS BEEN DRILLED INTO AN EXISTING HANDHOLE WILL REQUIRE A GROUND BUSHING FOR THE CONDUIT TO BE PROPERLY GROUNDED.
2. GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES.
6.5' OF SLACK SHALL BE PROVIDED IN SINGLE AND DOUBLE HANDHOLES.
5' OF SLACK SHALL BE PROVIDED BETWEEN THE FRAME AND COVER.



HANDHOLE GROUNDING DETAIL

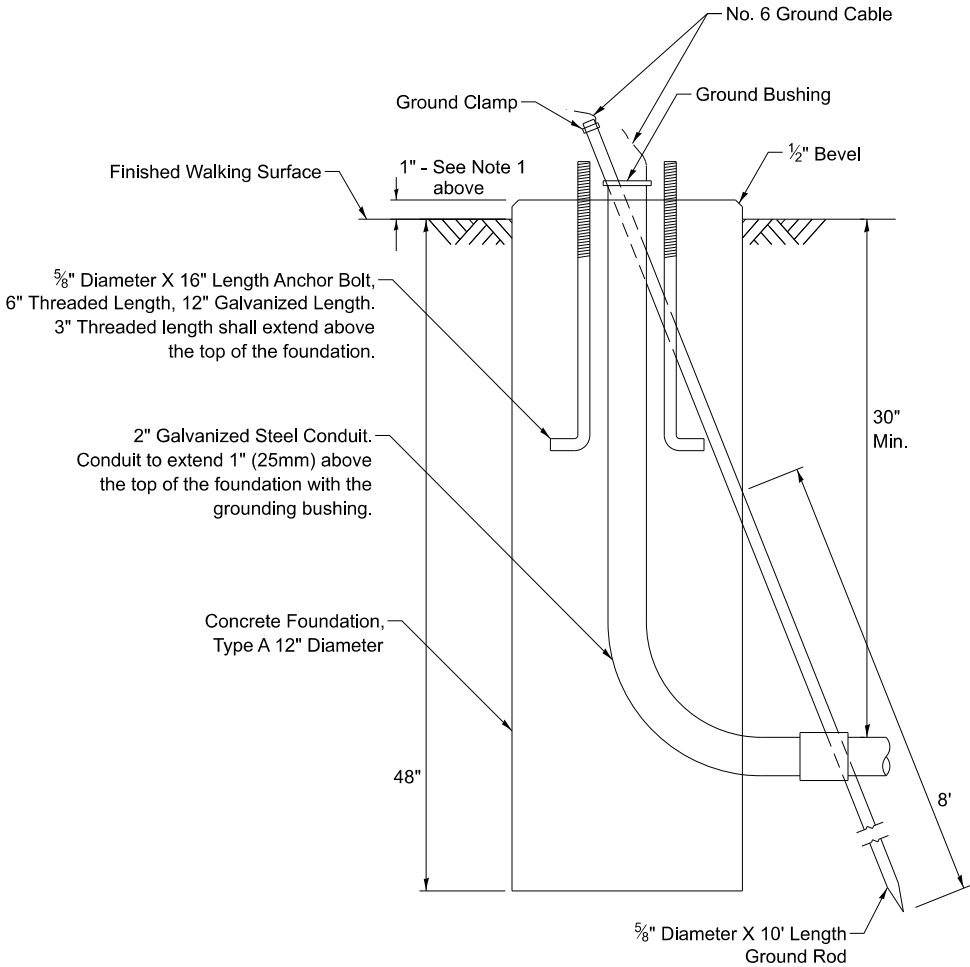
| | | | | | | | | | | | | |
|------------------------------|-------------------|-----------|---|--|---------|------|----------|-------------------------|------------------|--------|--------------|-----------|
| USER NAME = loven,plascencia | DESIGNED - IP | REVISED - | <div>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</div> | <div>DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS</div> | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | DRAWN - IP | REVISED - | | | | | | | | | | |
| | CHECKED - NB/KK | REVISED - | | <div>TS-01</div> | | | | <div>CONTRACT NO.</div> | | | | |
| PLOT DATE = | DATE - 10/15/2025 | REVISED - | | | | | | | | | | |
| | | | | SCALE: NTS | SHEET 6 | OF 7 | SHEETS | STA. | TO STA. | | | |
| | | | | | | | ILLINOIS | | FED. AID PROJECT | | | |



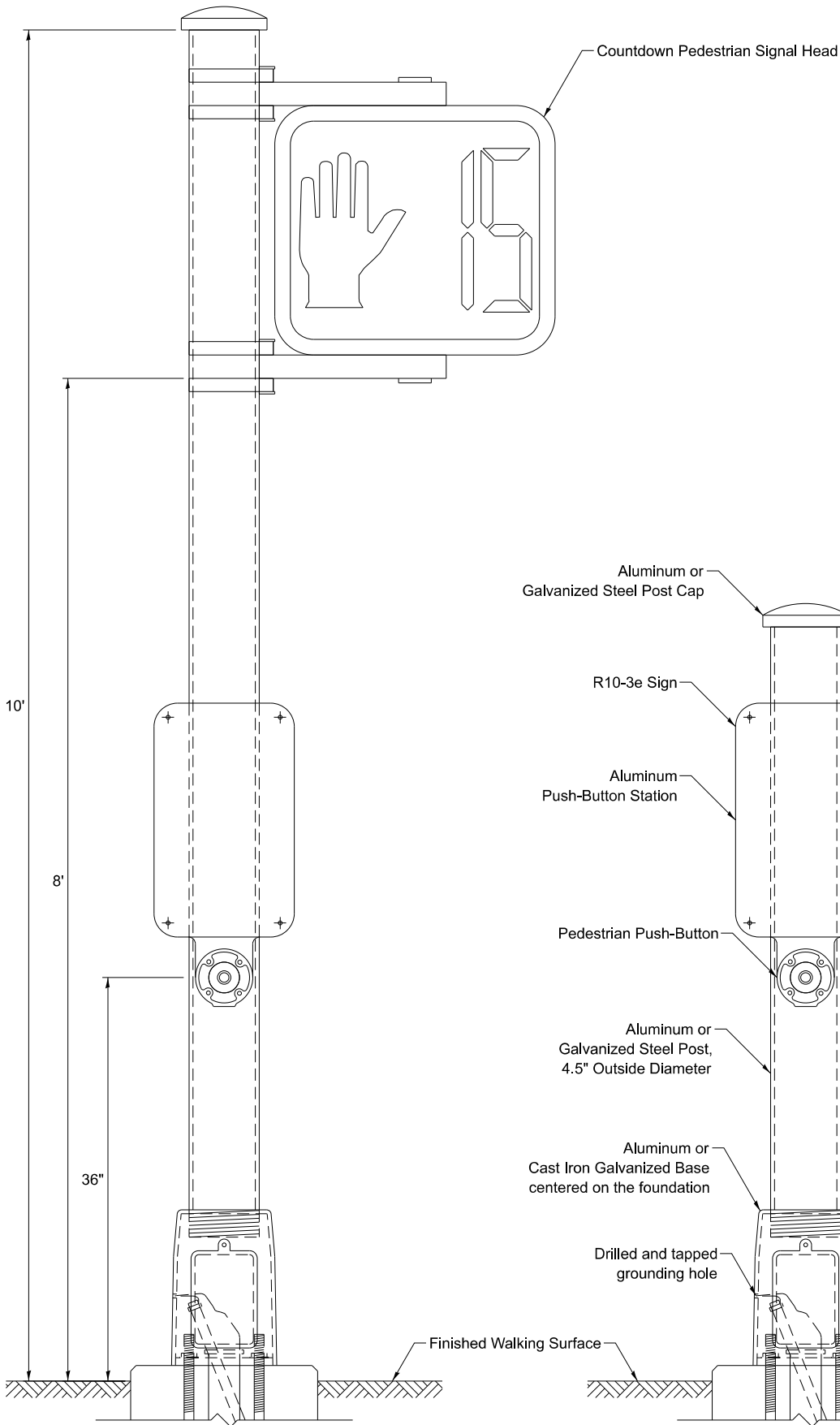
BOLT PATTERN

NOTES:

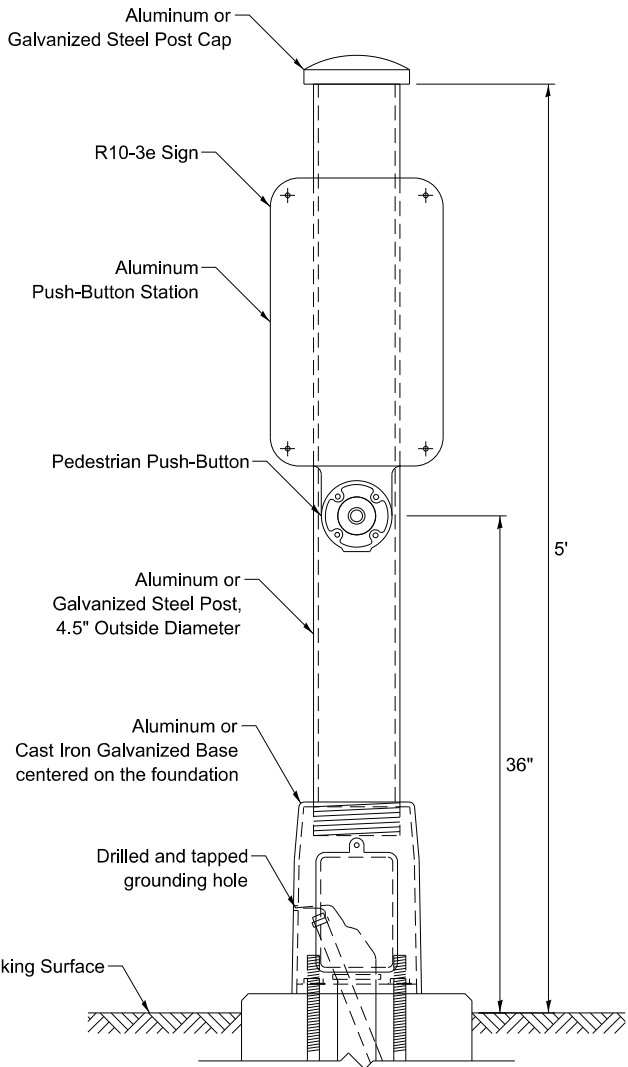
1. IF THE PEDESTRIAN SIGNAL POST FOUNDATION IS INSTALLED WITHIN A SIDEWALK CURB, THE TOP OF THE FOUNDATION SHALL BE INSTALLED FLUSH WITH THE TOP OF THE SIDEWALK CURB.



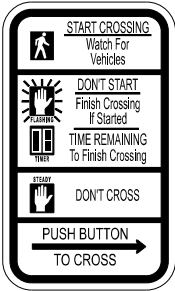
CONCRETE FOUNDATION,
TYPE A 12-INCH DIAMETER



PEDESTRIAN SIGNAL POST, 10 FT.



PEDESTRIAN SIGNAL POST, 5 FT.



R10-3e
9" X 15"



W10-1101
18" X 24"

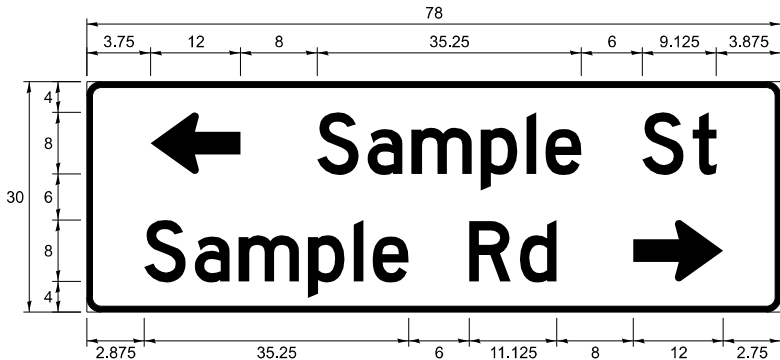
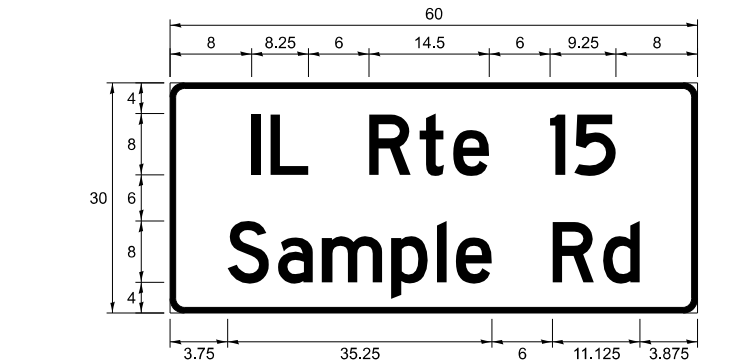
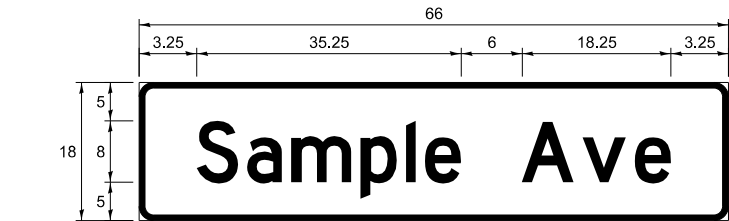
SIGN NOTES:

1. THE SIGN PANELS SHALL BE TYPE AP SHEETING.
2. WHEN SIGN R10-3e IS INSTALLED AT MEDIANS WHERE ONLY ONE PUSH-BUTTON IS BEING USED FOR BOTH DIRECTIONS, THE ARROW SHALL BE BI-DIRECTIONAL.
3. SIGN W10-1101 IS REQUIRED FOR EACH PEDESTRIAN SIGNAL HEAD AT RAILROAD INTERSECTIONS.

| | | | | | | | | | | | | | |
|------------|-----------------------------|-------------------|-----------|---|--|---------|--------------|--|-----------|---------|--------|--------------|-----------|
| | USER NAME = Iovan,plascenda | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | | |
| | | CHECKED - NB/KK | REVISED - | | TS-01 | | CONTRACT NO. | | | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | ILLINOIS FED. AID PROJECT | | | | | | | | |
| SCALE: NTS | | SHEET 7 | OF 7 | SHEETS | STA. | TO STA. | | | | | | | |

SIGN PANEL – TYPE 1 OR TYPE 2

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



| DESIGN SERIES | AREA (SQ FT) | SIGN PANEL TYPE | SHEETING TYPE | QTY REQUIRED |
|---------------|--------------|-----------------|---------------|--------------|
| C OR D | - | 1 OR 2 | ZZ | - |

COMMON STREET NAME ABBREVIATIONS

| NAME | ABBREVIATION | LENGTH (INCH) | |
|---------------|--------------|---------------|------------|
| | | SERIES "C" | SERIES "D" |
| Avenue | Ave | 15 | 18.25 |
| Boulevard | Blvd | 17.125 | 20 |
| Circle | Cir | 11.125 | 13 |
| Court | Ct | 8.25 | 9.625 |
| Drive | Dr | 8.625 | 10.125 |
| Highway | Hwy | 18.375 | 22 |
| Illinois | IL | 7 | 8.25 |
| Lane | Ln | 9.125 | 10.75 |
| Parkway | Pkwy | 23.375 | 27.375 |
| Place | Pl | 7.125 | 7.75 |
| Road | Rd | 9.625 | 11.125 |
| Route | Rte | 12.625 | 14.5 |
| Street | St | 8 | 9.125 |
| Terrace | Ter | 12.625 | 14.625 |
| Trail | Tr | 7.75 | 9.125 |
| United States | US | 10.375 | 12.25 |

GENERAL NOTES

- WHERE MAST ARM MOUNTED STREET NAME SIGNS ARE SPECIFIED, THE MAST ARM ASSEMBLY AND POLES SHALL BE DESIGNED TO SUPPORT THE LOADINGS CALLED FOR ONSTANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO SIGN PANELS 2'-6" x 8'-0" MOUNTED AS SHOWN. THE DESIGN SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENT "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AS PUBLISHED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS FOR 80 M.P.H. WIND VELOCITY.
- ALL SIGNS SHALL CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE 3/4" WIDE. CORNER RADIUS SHALL BE 1-7/8". THE SPACING BETWEEN THE WORDS SHOULD BE 6", BUT MAY BE REDUCED TO 5" WHEN SPACING IS CRITICAL. THE SPACING BETWEEN THE LEFT OR RIGHT ARROW AND THE ADJACENT WORD SHOULD BE 8", BUT MAY BE REDUCED TO 6" WHEN SPACING IS CRITICAL. A MINIMUM OF 2-1/2" SHALL BE INCLUDED BETWEEN THE WORD AND THE RIGHT AND LEFT EDGES OF THE SIGN.
- THE PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE THE SERIES "D" ALPHABET ON A ONE-LINE SIGN THAT IS 18" IN HEIGHT AND A MAXIMUM OF 8'-0" IN WIDTH. IF SERIES "D" DOES NOT FIT ON A 8'-0" SIGN, THEN SERIES "C" SHOULD BE TRIED. IF SERIES "C" DOES NOT FIT ON A ONE-LINE 8'-0" SIGN, A 30" HEIGHT TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION (I.E. STREET, AVENUE, ETC.) SHALL BE SPELLED OUT ON THE SECOND LINE, IF THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLOGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENTS AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

LOCAL SUPPLIERS:

- J.O. HERBERT COMPANY, INC
MIDLOTHIAN, VA

- WESTERN REMAC, INC.
WOODRIDGE, IL

PARTS LISTING:

-SIGN CHANNEL PART #HPN053 (MED. CHANNEL)

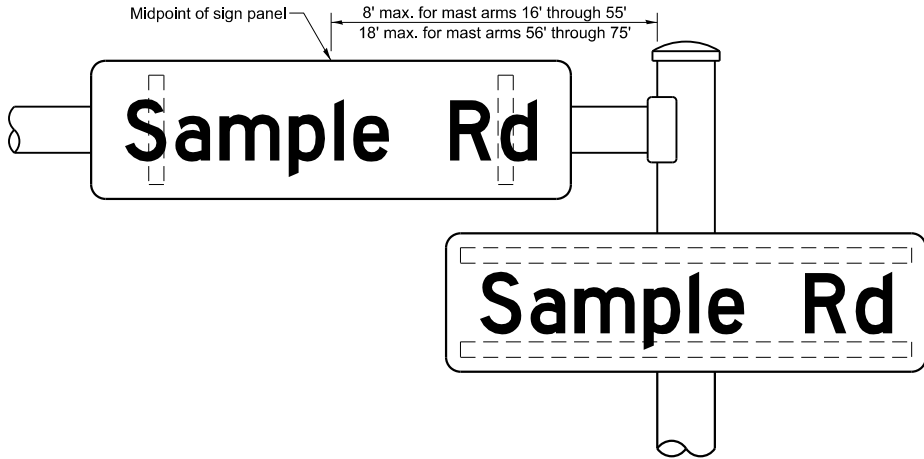
-SIGN SCREWS 1/4" x 14 x 1" H.W.H. #3
SELF TAPPING WITH NEOPRENE WASHER

-BRACKETS PART #HPN034 (UNIVERSAL)
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

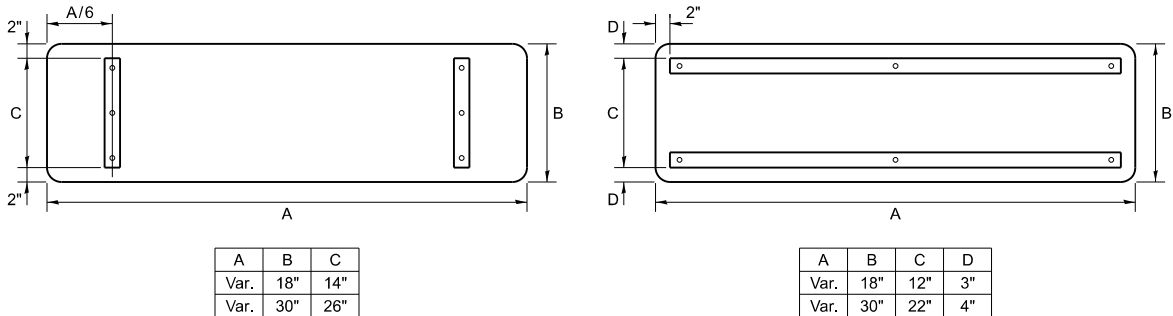
OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BACKET OF THE ABOVE PRODUCT.

MOUNTING LOCATIONS

ARM OR POLE MOUNTED



SUPPORTING CHANNELS



STANDARD ALPHABETS SPACING CHART

MEASUREMENTS BASED ON 8" UPPER CASE LETTER HEIGHT

| FHWA SERIES "C" | | | | FHWA SERIES "D" | | | |
|-----------------|---------------------|--------------|----------------------|-----------------|---------------------|--------------|----------------------|
| CHARACTER | LEFT SPACING (INCH) | WIDTH (INCH) | RIGHT SPACING (INCH) | CHARACTER | LEFT SPACING (INCH) | WIDTH (INCH) | RIGHT SPACING (INCH) |
| A | 0.240 | 5.122 | 0.240 | A | 0.240 | 6.804 | 0.240 |
| B | 0.880 | 4.482 | 0.480 | B | 0.960 | 5.446 | 0.400 |
| C | 0.720 | 4.482 | 0.720 | C | 0.800 | 5.446 | 0.800 |
| D | 0.880 | 4.482 | 0.720 | D | 0.960 | 5.446 | 0.800 |
| E | 0.880 | 4.082 | 0.480 | E | 0.960 | 4.962 | 0.400 |
| F | 0.880 | 4.082 | 0.240 | F | 0.960 | 4.962 | 0.240 |
| G | 0.720 | 4.482 | 0.720 | G | 0.800 | 5.446 | 0.800 |
| H | 0.880 | 4.482 | 0.880 | H | 0.960 | 5.446 | 0.960 |
| I | 0.880 | 1.120 | 0.880 | I | 0.960 | 1.280 | 0.960 |
| J | 0.240 | 4.082 | 0.880 | J | 0.240 | 5.122 | 0.960 |
| K | 0.880 | 4.482 | 0.480 | K | 0.960 | 5.604 | 0.400 |
| L | 0.880 | 4.082 | 0.240 | L | 0.960 | 4.962 | 0.240 |
| M | 0.880 | 5.284 | 0.880 | M | 0.960 | 6.244 | 0.960 |
| N | 0.880 | 4.482 | 0.880 | N | 0.960 | 5.446 | 0.960 |
| O | 0.720 | 4.722 | 0.720 | O | 0.800 | 5.684 | 0.800 |
| P | 0.880 | 4.482 | 0.720 | P | 0.960 | 5.446 | 0.240 |
| Q | 0.720 | 4.722 | 0.720 | Q | 0.800 | 5.684 | 0.800 |
| R | 0.880 | 4.482 | 0.480 | R | 0.960 | 5.446 | 0.400 |
| S | 0.480 | 4.482 | 0.480 | S | 0.400 | 5.446 | 0.400 |
| T | 0.240 | 4.082 | 0.240 | T | 0.240 | 4.962 | 0.240 |
| U | 0.880 | 4.482 | 0.880 | U | 0.960 | 5.446 | 0.960 |
| V | 0.240 | 4.962 | 0.240 | V | 0.240 | 6.084 | 0.240 |
| W | 0.240 | 6.084 | 0.240 | W | 0.240 | 7.124 | 0.240 |
| X | 0.240 | 4.722 | 0.240 | X | 0.400 | 5.446 | 0.400 |
| Y | 0.240 | 5.122 | 0.240 | Y | 0.240 | 6.884 | 0.240 |
| Z | 0.480 | 4.482 | 0.480 | Z | 0.400 | 5.446 | 0.400 |
| a | 0.320 | 3.842 | 0.640 | a | 0.400 | 4.562 | 0.720 |
| b | 0.720 | 4.082 | 0.480 | b | 0.800 | 4.802 | 0.480 |
| c | 0.480 | 4.002 | 0.240 | c | 0.480 | 4.722 | 0.240 |
| d | 0.480 | 4.082 | 0.720 | d | 0.480 | 4.802 | 0.800 |
| e | 0.480 | 4.082 | 0.320 | e | 0.480 | 4.722 | 0.320 |
| f | 0.320 | 2.480 | 0.160 | f | 0.320 | 2.882 | 0.160 |
| g | 0.480 | 4.082 | 0.720 | g | 0.480 | 4.802 | 0.800 |
| h | 0.720 | 4.082 | 0.640 | h | 0.800 | 4.722 | 0.720 |
| i | 0.720 | 1.120 | 0.720 | i | 0.800 | 1.280 | 0.800 |
| j | 0.000 | 2.320 | 0.720 | j | 0.000 | 2.642 | 0.800 |
| k | 0.720 | 4.322 | 0.160 | k | 0.800 | 5.122 | 0.160 |
| l | 0.720 | 1.120 | 0.720 | l | 0.800 | 1.280 | 0.800 |
| m | 0.720 | 6.724 | 0.640 | m | 0.800 | 7.926 | 0.720 |
| n | 0.720 | 4.082 | 0.640 | n | 0.800 | 4.722 | 0.720 |
| o | 0.480 | 4.082 | 0.480 | o | 0.480 | 4.882 | 0.480 |
| p | 0.720 | 4.082 | 0.480 | p | 0.800 | 4.802 | 0.480 |
| q | 0.480 | 4.082 | 0.720 | q | 0.480 | 4.802 | 0.800 |
| r | 0.720 | 2.642 | 0.160 | r | 0.800 | 3.042 | 0.160 |
| s | 0.320 | 3.362 | 0.240 | s | 0.320 | 3.762 | 0.240 |
| t | 0.080 | 2.882 | 0.080 | t | 0.080 | 3.202 | 0.080 |
| u | 0.640 | 4.082 | 0.720 | u | 0.720 | 4.722 | 0.800 |
| v | 0.160 | 4.722 | 0.160 | v | 0.160 | 5.684 | 0.160 |
| w | 0.160 | 7.524 | 0.160 | w | 0.160 | 9.046 | 0.160 |
| x | 0.000 | 5.202 | 0.000 | x | 0.000 | 6.244 | 0.000 |
| y | 0.160 | 4.962 | 0.160 | y | 0.160 | 6.004 | 0.160 |
| z | 0.240 | 3.362 | 0.240 | z | 0.240 | 4.002 | 0.240 |
| 1 | 0.720 | 1.680 | 0.880 | 1 | 0.800 | 2.000 | 0.960 |
| 2 | 0.480 | 4.482 | 0.480 | 2 | 0.800 | 5.446 | 0.800 |
| 3 | 0.480 | 4.482 | 0.480 | 3 | 1.440 | 5.446 | 0.800 |
| 4 | 0.240 | 4.962 | 0.720 | 4 | 0.160 | 6.004 | 0.960 |
| 5 | 0.480 | 4.482 | 0.480 | 5 | 0.800 | 5.446 | 0.800 |
| 6 | 0.720 | 4.482 | 0.720 | 6 | 0.800 | 5.446 | 0.800 |
| 7 | 0.240 | 4.482 | 0.720 | 7 | 0.560 | 5.446 | 0.560 |
| 8 | 0.480 | 4.482 | 0.480 | 8 | 0.800 | 5.446 | 0.800 |
| 9 | 0.480 | 4.482 | 0.480 | 9 | 0.800 | 5.446 | 0.800 |
| 0 | 0.720 | 4.722 | 0.720 | 0 | 0.800 | 5.684 | 0.800 |
| - | 0.240 | 2.802 | 0.240 | - | 0.240 | 2.802 | 0.240 |

| | | | |
|-------------|--------------------------|---------------|-----------|
| PLOT DATE = | USER NAME = Ivan,ascenda | DESIGNED - IP | REVISED - |
| | | DRAWN - IP | REVISED - |
| | | CHECKED - NB | REVISED - |
| | DATE - 10/15/2025 | REVISED - | |

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DISTRICT 1
MAST ARM MOUNTED STREET NAME SIGNS

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

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|---------|-----------------|--------------|-----------|
| | | | | |
| TS-02 | | CONTRACT NO. | | |
| ILLINOIS | | FED.AID PROJECT | | |

REMOVAL NOTES:

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THIS WORK SHALL BE PAID UNDER THE PAY ITEM REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 1 EACH UNINTERRUPTABLE POWER SUPPLY (COMPLETE)
- 4 EACH MAST ARM ASSEMBLY AND POST
- 4 EACH TRAFFIC SIGNAL POST
- 14 EACH TRAFFIC SIGNAL HEAD
- 2 EACH PEDESTRIAN SIGNAL HEAD
- 2 EACH PEDESTRIAN PUSH-BUTTON
- 1 EACH SERVICE INSTALLATION

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL REMAIN THE PROPERTY OF THE AGENCY LISTED BELOW. THE CONTRACTOR SHALL SAFELY STORE AND ARRANGE FOR THE PICK UP OF ALL THE EQUIPMENT TO BE RETURNED TO THE LISTED AGENCY.

CITY OF JUNIPER
LEE ORTEGA
(815) 315-1234

- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER

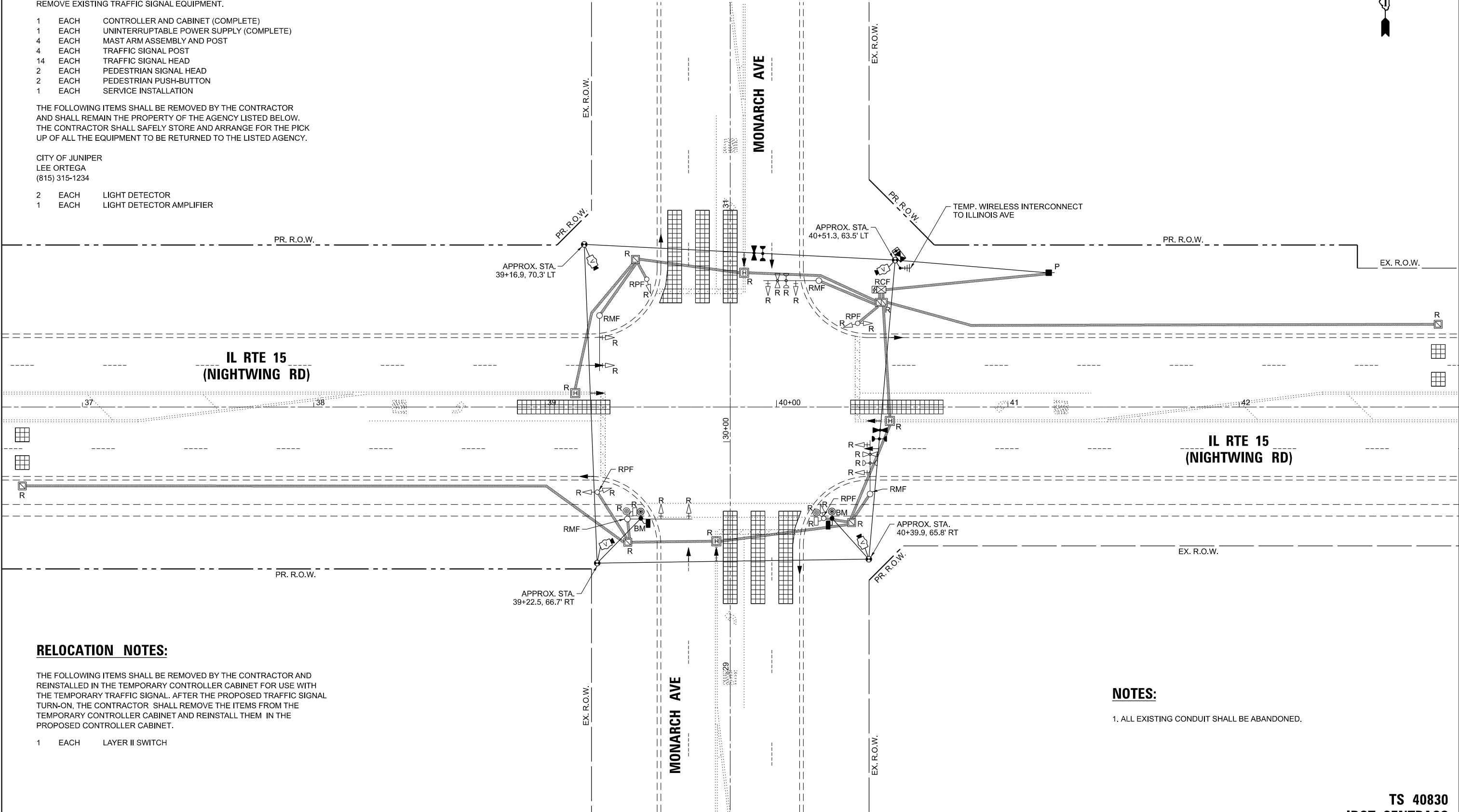
RELOCATION NOTES:

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND REINSTALLED IN THE TEMPORARY CONTROLLER CABINET FOR USE WITH THE TEMPORARY TRAFFIC SIGNAL. AFTER THE PROPOSED TRAFFIC SIGNAL TURN-ON, THE CONTRACTOR SHALL REMOVE THE ITEMS FROM THE TEMPORARY CONTROLLER CABINET AND REINSTALL THEM IN THE PROPOSED CONTROLLER CABINET.

- 1 EACH LAYER II SWITCH

NOTES:

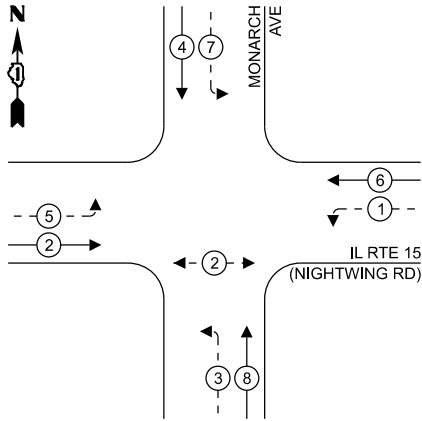
- 1. ALL EXISTING CONDUIT SHALL BE ABANDONED.



| | | | | | | | | | | | | | | |
|--|-----------------------------|--|-------------------|-----------|---|---|-------|----|--------|--------------|---------|---------------------------|--------------|-----------|
| | USER NAME = Ivan,plascencia | | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN AND REMOVAL PLAN IL RTE 15 (NIGHTWING RD) AT MONARCH AVE | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | | DRAWN - IP | REVISED - | | | | | | | | | | |
| | | | CHECKED - NB | REVISED - | | | | | | CONTRACT NO. | | | | |
| | PLOT DATE = | | DATE - 10/15/2025 | REVISED - | | SCALE: | SHEET | OF | SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | | |

TS 40830
IDOT CENTRACS
FORMER ECON 2115

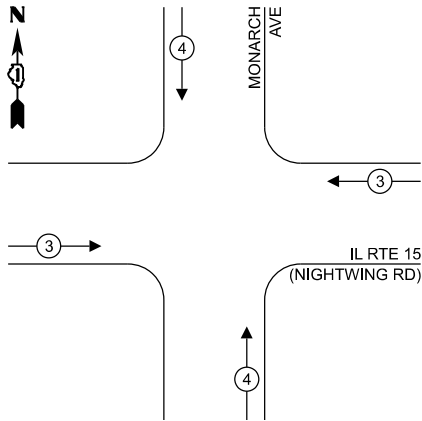
TEMPORARY CONTROLLER
PHASE DIAGRAM



LEGEND:

- ← (⊛) — PROTECTED PHASE
- ← - (⊛) - PROTECTED/PERMISSIVE PHASE
- ← (⊛) → PEDESTRIAN PHASE

TEMPORARY EMERGENCY VEHICLE
PREEMPTION PHASE DIAGRAM



TRAFFIC SIGNAL
ELECTRIC SERVICE REQUIREMENTS

| EQUIPMENT TYPE | QUANTITY | UNIT WATTAGE | TOTAL WATTAGE |
|----------------------------|----------|--------------|---------------|
| SIGNAL HEAD 1 OR 3-SECTION | 4 | 11 | 44 |
| 4-SECTION | - | 14 | - |
| 5-SECTION | 8 | 13 | 104 |
| PROGRAMMABLE 3-SECTION | - | 22 | - |
| 4-SECTION | - | 32 | - |
| 5-SECTION | - | 28 | - |
| PEDESTRIAN SIGNAL | 2 | 15 | 30 |
| CONTROLLER | 1 | 150 | 150 |
| MASTER CONTROLLER | - | 100 | - |
| UPS | 1 | 25 | 25 |
| DETECTION VIDEO | 4 | 20 | 80 |
| BLANK-OUT SIGN | - | 25 | - |
| NETWORK SWITCH II OR III | 1 | 35 | 35 |
| CELLULAR MODEM | - | 15 | - |
| PTZ CAMERA | - | 75 | - |
| TOTAL UPS SIZING | | | 468 |
| UPS CHARGING | 1 | 225 | 225 |
| BATTERY HEATER MAT | 1 | 180 | 180 |
| CABINET HEATER | 1 | 200 | 200 |
| FLASHER | - | 15 | - |
| LED STREET NAME SIGN | - | 120 | - |
| LUMINAIRE | - | 240 | - |
| TOTAL SERVICE WIRE SIZING | | | 1,073 |

ENERGY COSTS TO:

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 W CENTER CT
SCHAUMBURG, IL 60196

ENERGY SUPPLY: CONTACT: NEW BUSINESS

PHONE: ---

COMPANY: COMED

ACCOUNT NUMBER: ---

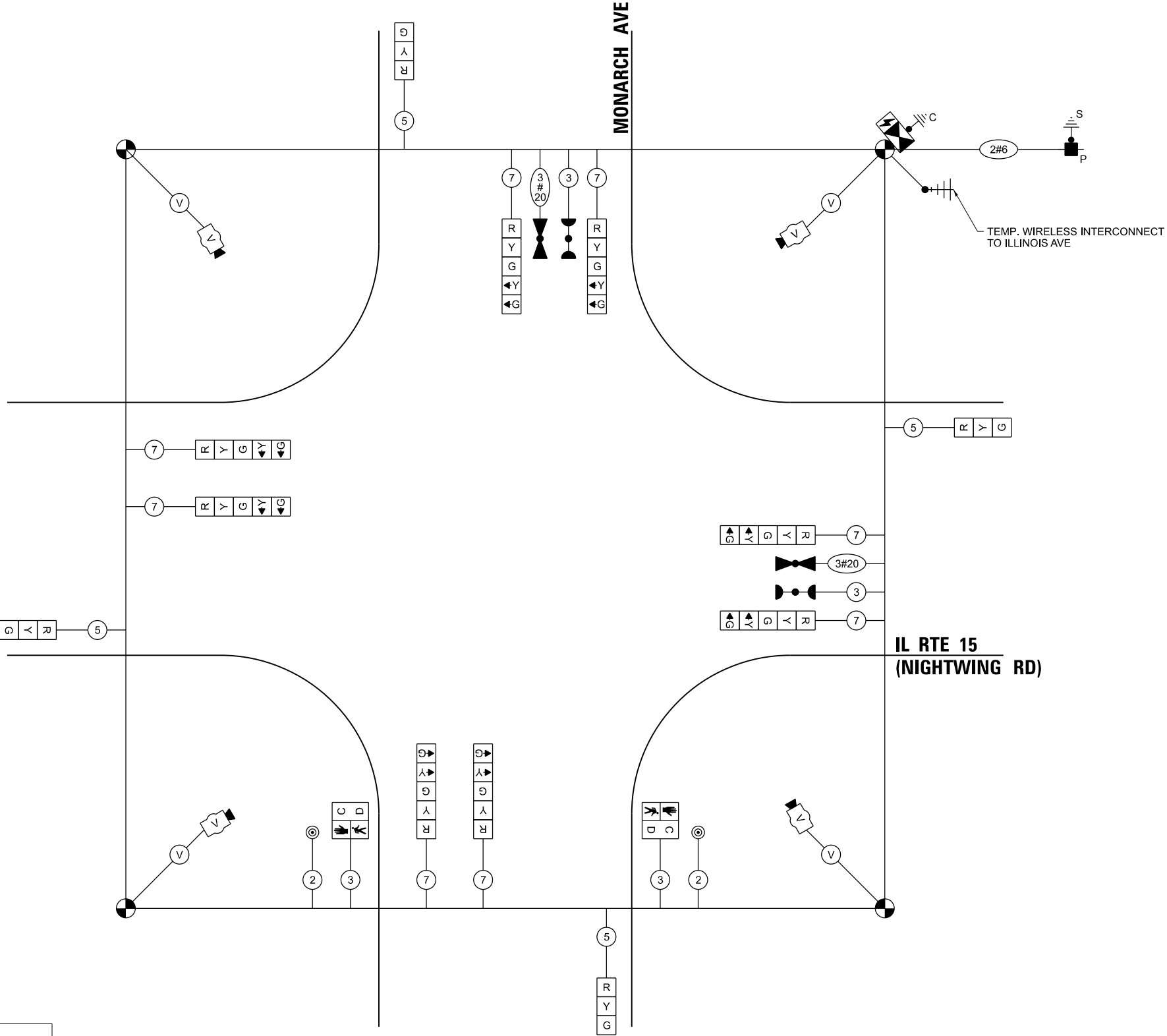
METER NUMBER: ---

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CABLE PLAN, CONTROLLER PHASE DIAGRAM,
AND EMERGENCY VEHICLE PREEMPTION PHASE DIAGRAM
IL RTE 15 (NIGHTWING RD) AT MONARCH AVE

SCALE: SHEET OF SHEETS STA. TO STA.

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------|--------|--------------|-----------|
| | | | | |
| CONTRACT NO. | | | | |
| ILLINOIS FED. AID PROJECT | | | | |



CABLE PLAN

TS 40830
IDOT CENTRACS
FORMER ECON 2115

LEFT ON
GREEN
ARROW
ONLY

SIGN (A)
R10-5
30" X 36"
4 REQUIRED

NOTES:

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND THE ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
2. SEE THE DETECTOR LOOP LAYOUT PLAN SHEET FOR DETECTOR LOOP DIMENSIONING.
3. ALL PROPOSED PUSH-BUTTONS SHALL BE APS.
4. THIS LOCATION HAS BEEN DESIGNED TO BE PROWAG/ MUTCD COMPLIANT. ANY DEVIATION FROM THIS PLAN FOR THE TRAFFIC SIGNAL MAST ARMS AND/OR POSTS THAT HAVE PEDESTRIAN EQUIPMENT WILL HAVE TO BE APPROVED BY THE ENGINEER TO ENSURE COMPLIANCE.
5. THE EXISTING LAYER II SWITCH SHALL BE RELOCATED FROM THE TEMPORARY CONTROLLER CABINET TO THE PROPOSED CONTROLLER CABINET AFTER THE PROPOSED TRAFFIC SIGNAL TURN-ON.

| | | | |
|-------------|-------------|------------|----|
| PLOT DATE = | USER NAME = | DESIGNED - | IP |
| | | DRAWN - | IP |
| | | CHECKED - | NB |
| | DATE - | 10/15/2025 | |

| | |
|-----------|--|
| REVISED - | |
| REVISED - | |
| REVISED - | |
| REVISED - | |

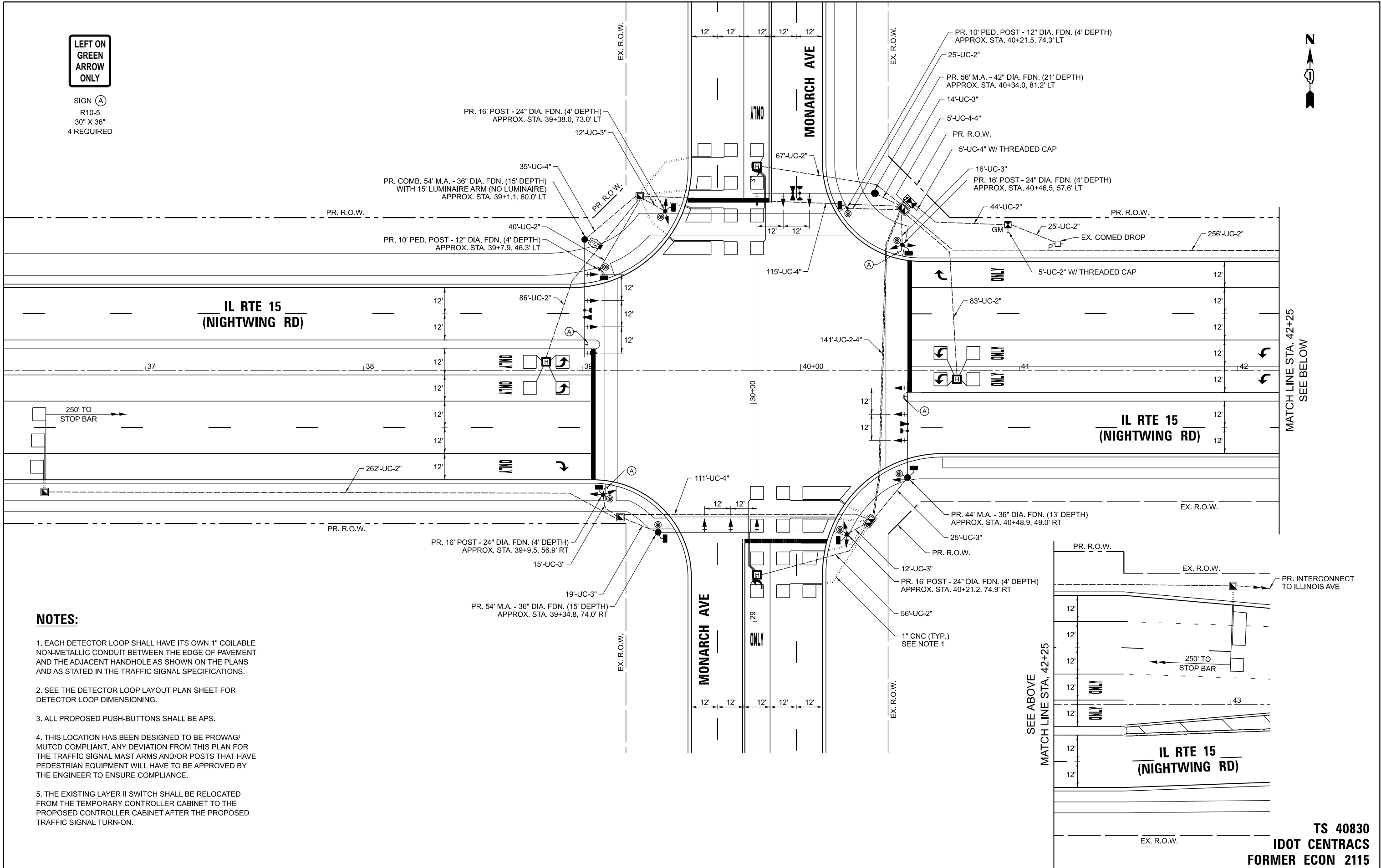
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

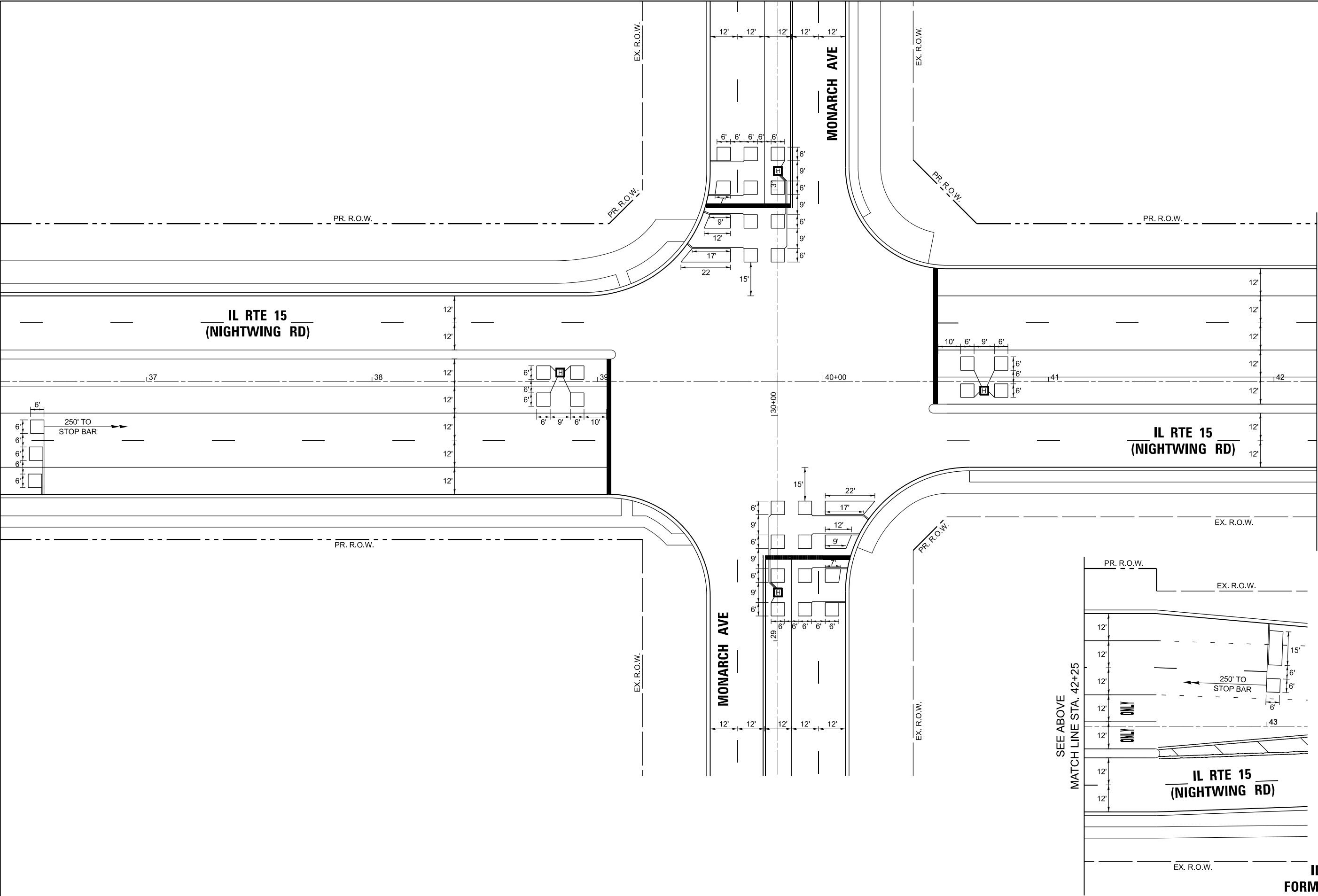
TRAFFIC SIGNAL MODERNIZATION PLAN
IL RTE 15 (NIGHTWING RD) AT MONARCH AVE

SCALE: SHEET OF SHEETS STA. TO STA.

| | | | | |
|---------------------------|---------|--------|--------------|-----------|
| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | | | |
| CONTRACT NO. | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

TS 40830
IDOT CENTRACS
FORMER ECON 2115





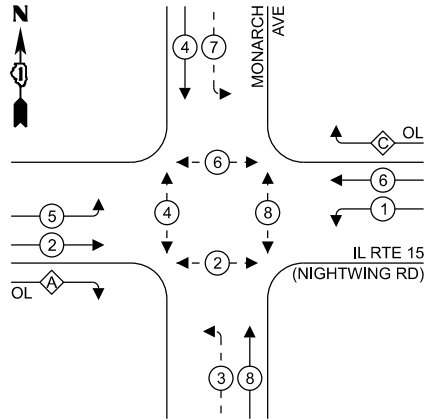
SEE ABOVE
MATCH LINE STA. 42+25

MATCH LINE STA. 42+25
SEE BELOW

| | | | | | | | | | | | | | |
|--|-----------------------------|-------------------|-----------|---|--|-------|----|--------|-----------|---------|--------------|--------------|-----------|
| | USER NAME = Ivan,plascencia | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | DETECTOR LOOP LAYOUT PLAN IL RTE 15 (NIGHTWING RD) AT MONARCH AVE | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | | |
| | | CHECKED - NB | REVISED - | | | | | | | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | SCALE: | SHEET | OF | SHEETS | STA. | TO STA. | CONTRACT NO. | | |
| | | | | | ILLINOIS FED. AID PROJECT | | | | | | | | |

TS 40830
IDOT CENTRACS
FORMER ECON 2115

PROPOSED CONTROLLER
PHASE DIAGRAM



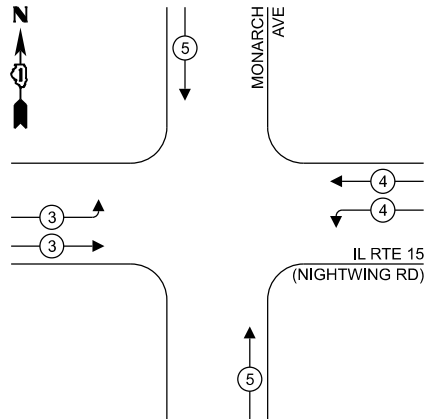
LEGEND:

- ← (⊙) ← PROTECTED PHASE
- ← - (⊙) ← PROTECTED/PERMISSIVE PHASE
- ← (⊙) → PEDESTRIAN PHASE
- ← (⊙) OL OVERLAP

RIGHT TURN OVERLAP
PHASE DESIGNATION:

| OVERLAP LETTER | | PERMISSIVE PHASE | | PROTECTED PHASE |
|-------------------|---|---------------------|---|--------------------|
| A | = | 2 | + | 3 |
| C | = | 6 | + | 7 |

PROPOSED EMERGENCY VEHICLE
PREEMPTION PHASE DIAGRAM



NOTES:

- ALL RED SIGNAL INDICATIONS SHALL HAVE A LENS COVER.

TRAFFIC SIGNAL
ELECTRIC SERVICE REQUIREMENTS

| EQUIPMENT TYPE | QUANTITY | UNIT WATTAGE | TOTAL WATTAGE |
|----------------------------|----------|-----------------|------------------|
| SIGNAL HEAD 1 OR 3-SECTION | 14 | 11 | 154 |
| 4-SECTION | - | 14 | - |
| 5-SECTION | 8 | 13 | 104 |
| PROGRAMMABLE 3-SECTION | - | 22 | - |
| 4-SECTION | - | 32 | - |
| 5-SECTION | - | 28 | - |
| PEDESTRIAN SIGNAL | 8 | 15 | 120 |
| CONTROLLER | 1 | 150 | 150 |
| MASTER CONTROLLER | - | 100 | - |
| UPS | 1 | 25 | 25 |
| DETECTION VIDEO | - | 20 | - |
| BLANK-OUT SIGN | - | 25 | - |
| NETWORK SWITCH II OR III | 1 | 35 | 35 |
| CELLULAR MODEM | - | 15 | - |
| PTZ CAMERA | 1 | 75 | 75 |
| TOTAL UPS SIZING | | 663 | |
| UPS CHARGING | 1 | 225 | 225 |
| BATTERY HEATER MAT | 1 | 180 | 180 |
| CABINET HEATER | 1 | 200 | 200 |
| FLASHER | - | 15 | - |
| LED STREET NAME SIGN | - | 120 | - |
| LUMINAIRE | - | 240 | - |
| TOTAL SERVICE WIRE SIZING | | 1,268 | |

ENERGY COSTS TO:

ILLINOIS DEPARTMENT OF TRANSPORTATION
201 W CENTER CT
SCHAUMBURG, IL 60196

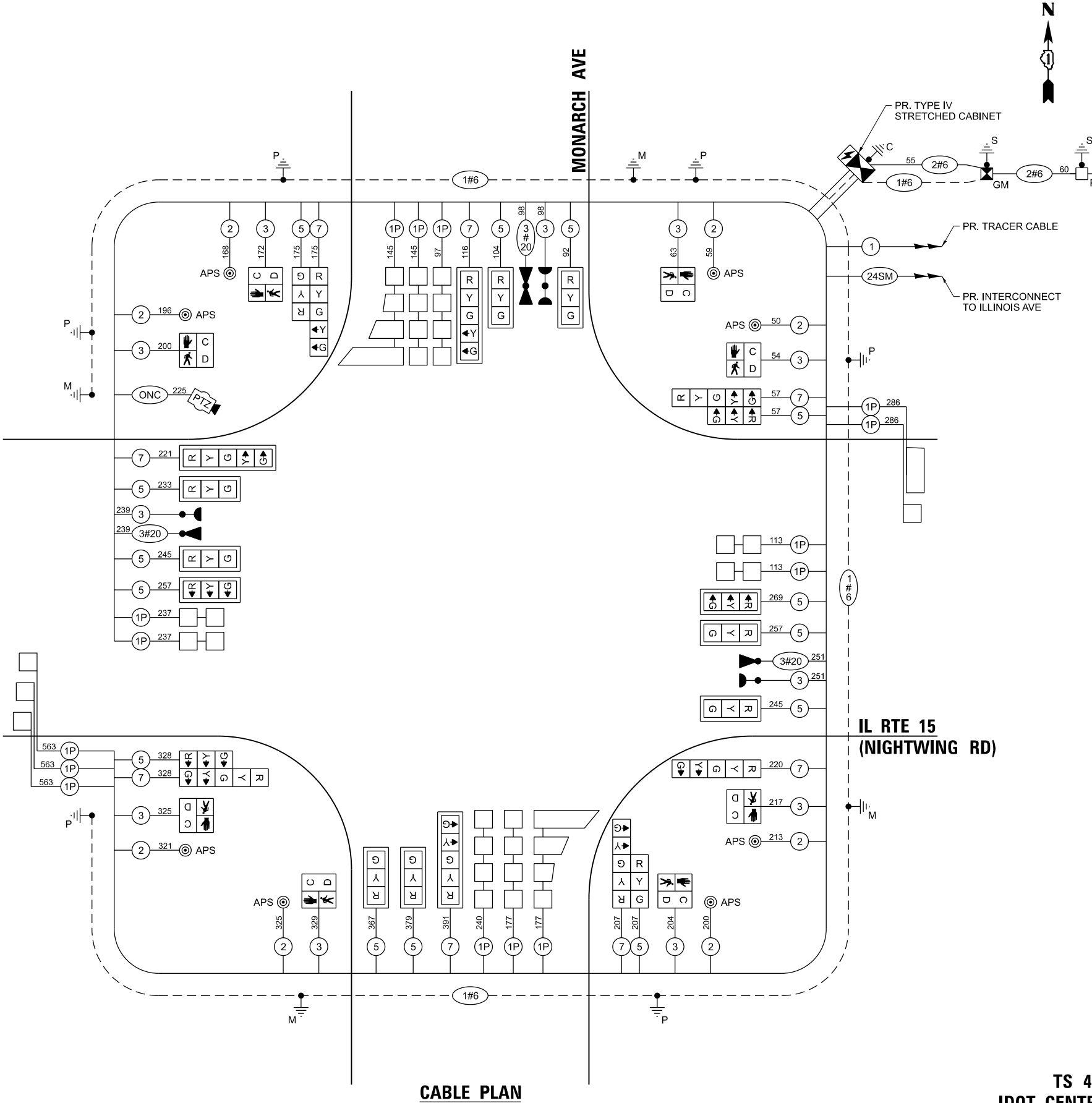
ENERGY SUPPLY: CONTACT: NEW BUSINESS

PHONE: ---

COMPANY: COMED

ACCOUNT NUMBER: ---

METER NUMBER: ---



CABLE PLAN

IL RTE 15
(NIGHTWING RD)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE PLAN, CONTROLLER PHASE DIAGRAM, AND
EMERGENCY VEHICLE PREEMPTION PHASE DIAGRAM
IL RTE 15 (NIGHTWING RD) AT MONARCH AVE

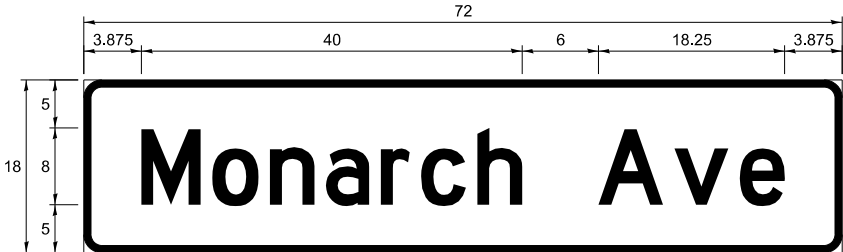
SCALE: SHEET OF SHEETS STA. TO STA.

| F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|---------------------------|---------|--------|-----------------|--------------|
| | | | | |
| CONTRACT NO. | | | | |
| ILLINOIS FED. AID PROJECT | | | | |

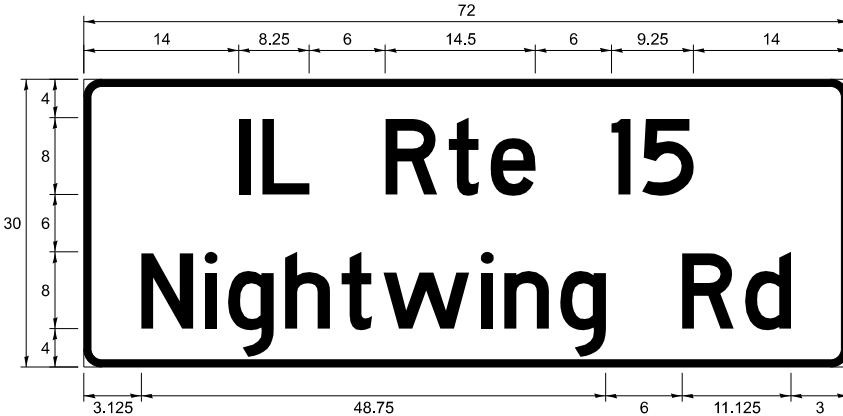
TS 40830
IDOT CENTRACS
FORMER ECON 2115

SIGN PANEL – TYPE 1 OR TYPE 2

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



| DESIGN SERIES | AREA (SQ FT) | SIGN PANEL TYPE | SHEETING TYPE | QTY REQUIRED |
|---------------|--------------|-----------------|---------------|--------------|
| D | 9 | 1 | ZZ | 2 |



| DESIGN SERIES | AREA (SQ FT) | SIGN PANEL TYPE | SHEETING TYPE | QTY REQUIRED |
|---------------|--------------|-----------------|---------------|--------------|
| D | 15 | 2 | ZZ | 2 |

NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION SEE DISTRICT STANDARD TS-02 - MAST ARM MOUNTED STREET NAME SIGNS.

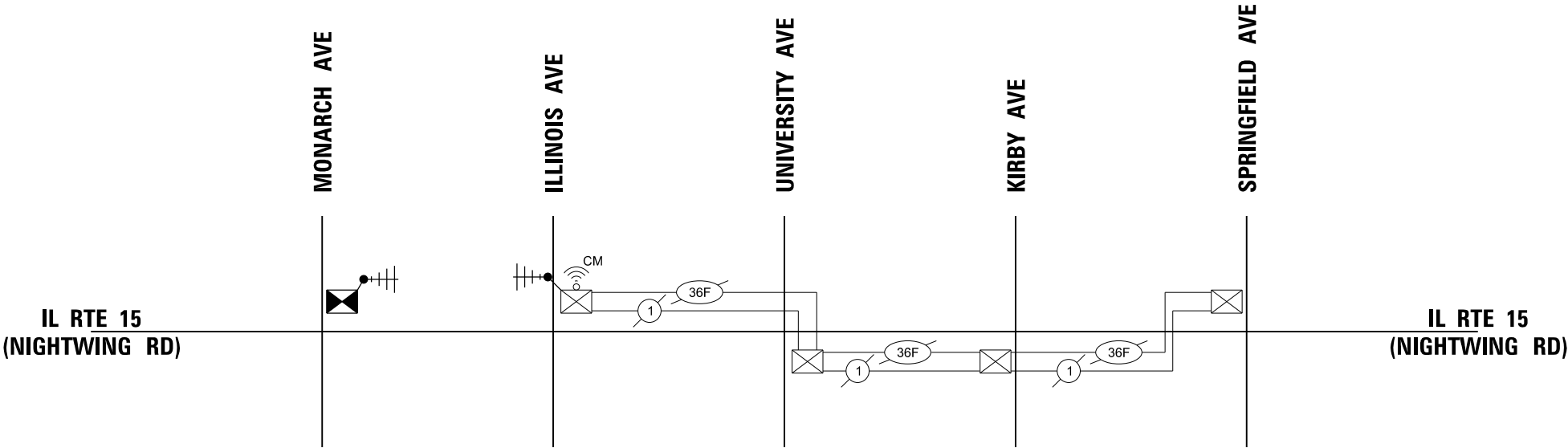
SCHEDULE OF QUANTITIES

| ITEM DESCRIPTION | UNITS | TOTAL QTY |
|---|-------|-----------|
| SIGN PANEL - TYPE 1 | SQ FT | 48 |
| SIGN PANEL - TYPE 2 | SQ FT | 30 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 949 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA. | FOOT | 113 |
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA. | FOOT | 568 |
| HANDHOLE | EACH | 4 |
| HEAVY-DUTY HANDHOLE | EACH | 4 |
| DOUBLE HANDHOLE | EACH | 2 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C | FOOT | 1,532 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C | FOOT | 2,152 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C | FOOT | 3,215 |
| ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C | FOOT | 1,715 |
| ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR | FOOT | 3,942 |
| ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C | FOOT | 115 |
| ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C | FOOT | 965 |
| TRAFFIC SIGNAL POST, 16 FT. | EACH | 4 |
| STEEL MAST ARM ASSEMBLY AND POLE, 44 FT. | EACH | 1 |
| STEEL MAST ARM ASSEMBLY AND POLE, 54 FT. | EACH | 1 |
| STEEL MAST ARM ASSEMBLY AND POLE, 56 FT. | EACH | 1 |
| STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 54 FT. | EACH | 1 |
| CONCRETE FOUNDATION, TYPE A | FOOT | 20 |
| CONCRETE FOUNDATION, TYPE D | FOOT | 4 |
| CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER | FOOT | 43 |
| CONCRETE FOUNDATION, TYPE E 42-INCH DIAMETER | FOOT | 21 |
| SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED | EACH | 10 |
| SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED | EACH | 4 |
| SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED | EACH | 5 |
| SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED | EACH | 3 |
| PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER | EACH | 8 |
| TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC | EACH | 13 |
| INDUCTIVE LOOP DETECTOR | EACH | 15 |
| DETECTOR LOOP, TYPE I | FOOT | 1,400 |
| * LIGHT DETECTOR | EACH | 3 |
| * LIGHT DETECTOR AMPLIFIER | EACH | 1 |
| TEMPORARY TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT | EACH | 1 |
| REMOVE EXISTING HANDHOLE | EACH | 10 |
| REMOVE EXISTING CONCRETE FOUNDATION | EACH | 9 |
| * EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C | FOOT | 588 |
| OUTDOOR RATED NETWORK CABLE | FOOT | 225 |
| SERVICE INSTALLATION, GROUND MOUNTED, METERED | EACH | 1 |
| LAYER II (DATALINK) SWITCH | EACH | 1 |
| PEDESTRIAN SIGNAL POST, 10 FT. | EACH | 2 |
| FULL-ACTUATED CONTROLLER AND TYPE IV STRETCHED CABINET (SPECIAL) | EACH | 1 |
| UNINTERRUPTABLE POWER SUPPLY AND CABINET (SPECIAL) | EACH | 1 |
| ACCESSIBLE PEDESTRIAN SIGNALS | EACH | 8 |
| CONCRETE FOUNDATION, TYPE A 12-INCH DIAMETER | FOOT | 8 |
| LED SIGNAL FACE, LENS COVER | EACH | 22 |
| TEMPORARY TRAFFIC SIGNAL TIMING | EACH | 1 |
| REMOTE CONTROLLED VIDEO SYSTEM | EACH | 1 |
| RE-OPTIMIZE TRAFFIC SIGNAL SYSTEM LEVEL 2 | EACH | 1 |
| | | |
| | | |
| | | |

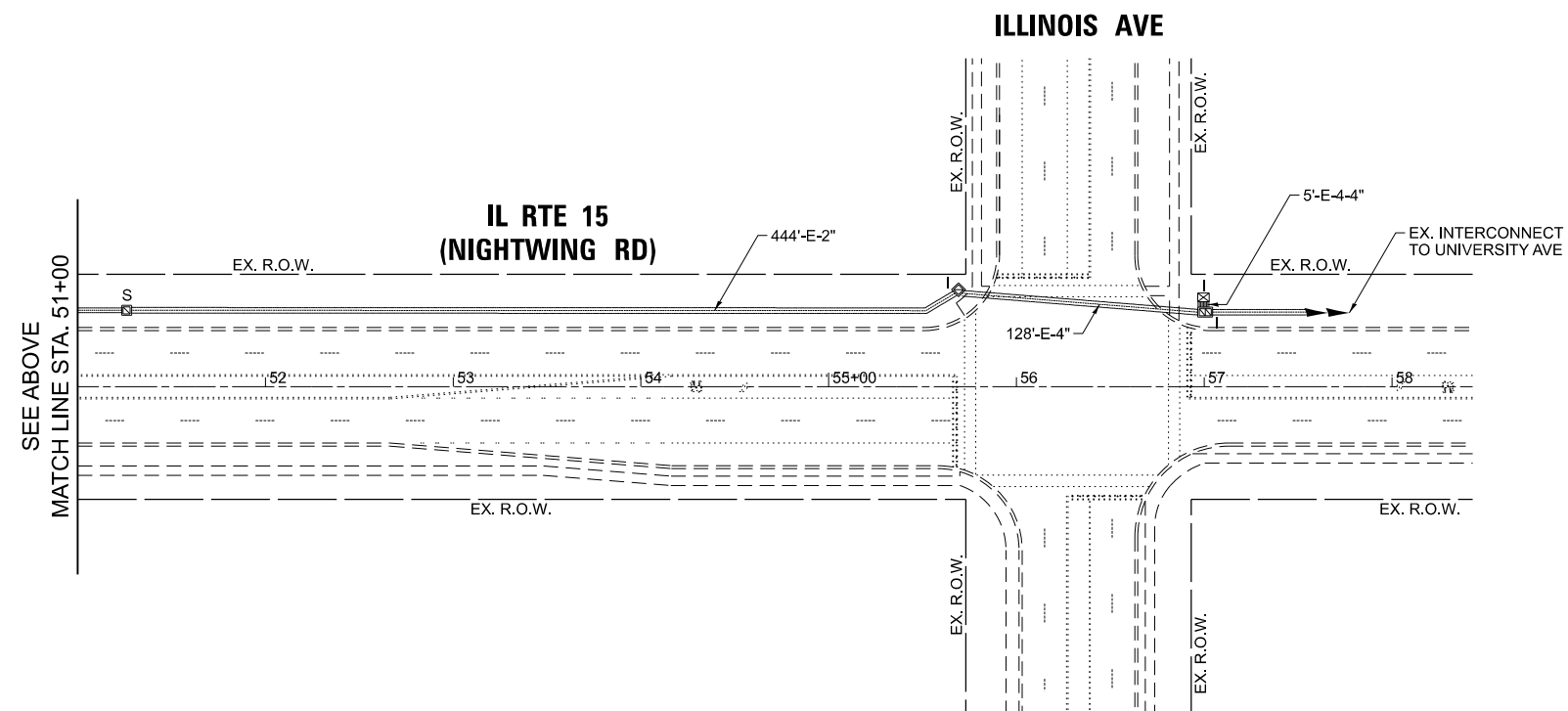
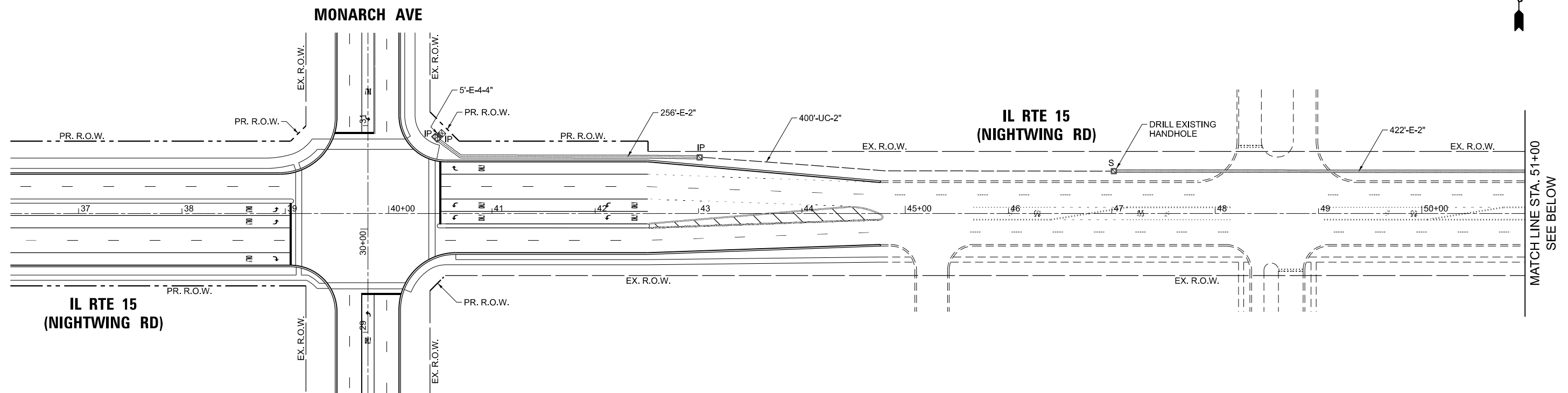
* 100% COST TO THE CITY OF JUNIPER

TS 40830
IDOT CENTRACS
FORMER ECON 2115

| | | | | | | | | | | |
|--|-------------------------------------|-------------------|-----------|---|---|--------------|------------------|--------|--------------|-----------|
| | USER NAME = Iovan,plascencia | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | MAST ARM MOUNTED STREET NAME SIGNS AND SCHEDULE OF QUANTITIES IL RTE 15 (NIGHTWING RD) AT MONARCH AVE | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | |
| | | CHECKED - NB | REVISED - | | | | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | | CONTRACT NO. | | | | |
| | SCALE: SHEET OF SHEETS STA. TO STA. | | | | | ILLINOIS | FED. AID PROJECT | | | |



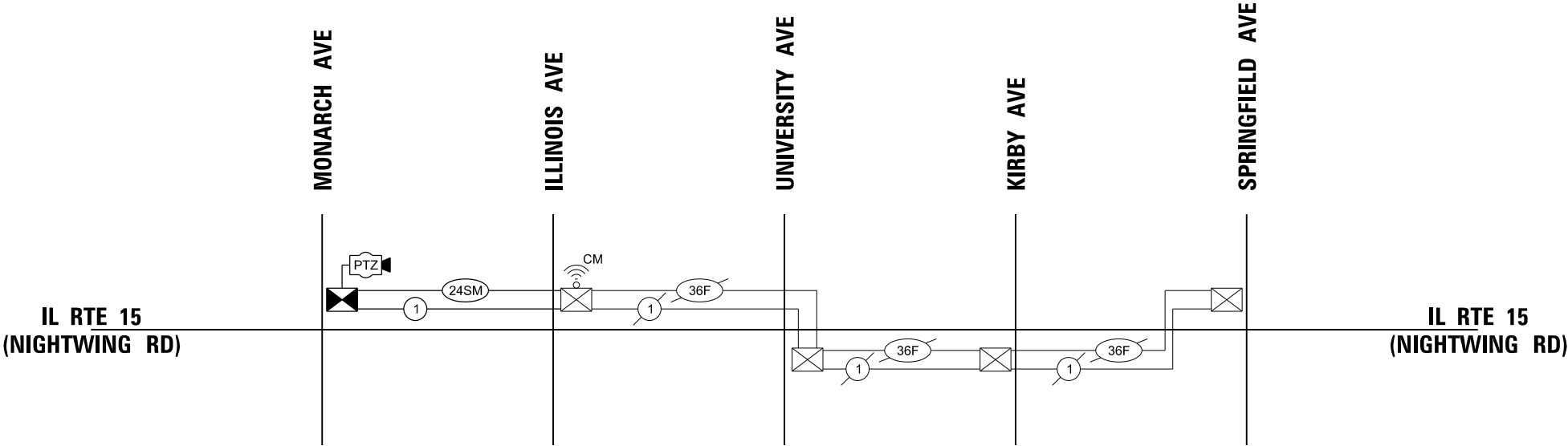
| | | | | | | | | | | | | |
|--|---------------------------|-------------------|-----------|---|--|-------|----|--------------|---------|---------|---------------------------|-----------|
| | USER NAME = Ivan, Ascenda | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | TEMPORARY INTERCONNECT SCHEMATIC IL RTE 15 (NIGHTWING RD) - MONARCH AVE TO SPRINGFIELD AVE | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | |
| | | CHECKED - NB | REVISED - | | | | | CONTRACT NO. | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | SCALE: | SHEET | OF | SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | |



| | | | | | | | | | | | | |
|-----------------------------|-------------------|-----------|---|---|--|--|--|-----------|------------------|--------|--------------|-----------|
| USER NAME = jovan.pascencio | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PROPOSED INTERCONNECT PLAN IL RTE 15 (NIGHTWING RD) - MONARCH AVE TO ILLINOIS AVE | | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | DRAWN - IP | REVISED - | | | | | | | | | | |
| | CHECKED - NB | REVISED - | | CONTRACT NO. | | | | | | | | |
| PLOT DATE = | DATE - 10/15/2025 | REVISED - | | | | | | SCALE: | SHEET | OF | SHEETS | STA. |
| | | | | | | | | ILLINOIS | FED. AID PROJECT | | | |

NOTES:

1. THE SCAT CONSULTANT WILL DETERMINE THE LOCATIONS OF THE SYSTEM DETECTORS.



SCHEDULE OF QUANTITIES

| ITEM DESCRIPTION | UNITS | TOTAL QTY |
|---|-------|-----------|
| UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA. | FOOT | 400 |
| MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION | EACH | 1 |
| ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C | FOOT | 1,690 |
| DRILL EXISTING HANDHOLE | EACH | 1 |
| REMOVE ELECTRIC CABLE FROM CONDUIT | FOOT | 2,080 |
| * ROD AND CLEAN EXISTING CONDUIT | FOOT | 866 |
| FIBER OPTIC CABLE 24 FIBERS, SINGLE MODE | FOOT | 1,750 |
| | | |
| | | |

* NOMINAL QUANTITY TO BE USED AS NEEDED AND AS APPROVED BY THE ENGINEER

IDOT CENTRACS
FORMER ECON 2115

TS SHT NO. 17

| | | | | | | | | | | | | |
|--|-----------------------------|-------------------|-----------|---|--|-------|----|--------------|---------|---------|---------------------------|-----------|
| | USER NAME = Ivan,plascencia | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | PROPOSED INTERCONNECT SCHEMATIC AND SCHEDULE OF QUANTITIES IL RTE 15 (NIGHTWING RD) - MONARCH AVE TO SPRINGFIELD AVE | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | |
| | | CHECKED - NB | REVISED - | | | | | CONTRACT NO. | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | SCALE: | SHEET | OF | SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | |

INSERT FIBER SPLICING DIAGRAM ON THIS SHEET

IDOT CENTRACS
FORMER ECON 2115

| | | | | | | | | | | | | |
|--|--------------------------|-------------------|-----------|---|--|-------|----|--------------|---------|---------|---------------------------|--------------|
| | USER NAME = Ivan,Ascenda | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | FIBER SPLICING DIAGRAM IL RTE 15 (NIGHTWING RD) - MONARCH AVE TO SPRINGFIELD AVE | | | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | | | |
| | | CHECKED - NB | REVISED - | | | | | CONTRACT NO. | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | SCALE: | SHEET | OF | SHEETS | STA. | TO STA. | ILLINOIS FED. AID PROJECT | |

INSERT CABINET DETAILS ON THIS SHEET

IDOT CENTRACS
FORMER ECON 2115

| | | | | | | | | | | |
|--|--------------------------|-------------------|-----------|---|---|--------------|---------|--------------|------------------|--------------|
| | USER NAME = Ivan,Ascenda | DESIGNED - IP | REVISED - | STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION | CABINET DETAILS IL RTE 15 (NIGHTWING RD) - MONARCH AVE TO SPRINGFIELD AVE | F.A. RTE. | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| | | DRAWN - IP | REVISED - | | | | | | | |
| | | CHECKED - NB | REVISED - | | | | | | | |
| | PLOT DATE = | DATE - 10/15/2025 | REVISED - | | | | | CONTRACT NO. | | |
| | | | | | SCALE: | SHEET | OF | SHEETS | STA. | TO STA. |
| | | | | | | | | ILLINOIS | FED. AID PROJECT | |