

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAU ROUTE 3562: JOLIET ROAD  
AT WILLOW SPRINGS ROAD  
SECTION 430Y-TS(14)

TRAFFIC SIGNAL MODERNIZATION  
COOK COUNTY  
C-91-334-14

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	SECTION 430Y-TS(14)	COOK	27	1
ILLINOIS			CONTRACT NO. 60Y20	

D-91-441-12

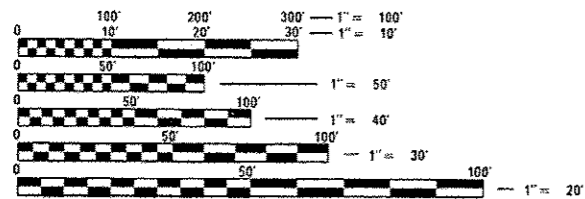


FOR INDEX OF SHEETS, SEE SHEET NO. 2

**DESIGN DESIGNATIONS:**

JOLIET RD- OTHER PRINCIPAL ARTERIAL  
2010 ADT: 18,300  
POSTED SPEED LIMIT: 40 MPH

THE PROJECT IS LOCATED IN  
THE VILLAGE OF COUNTRYSIDE AND COOK  
COUNTY.

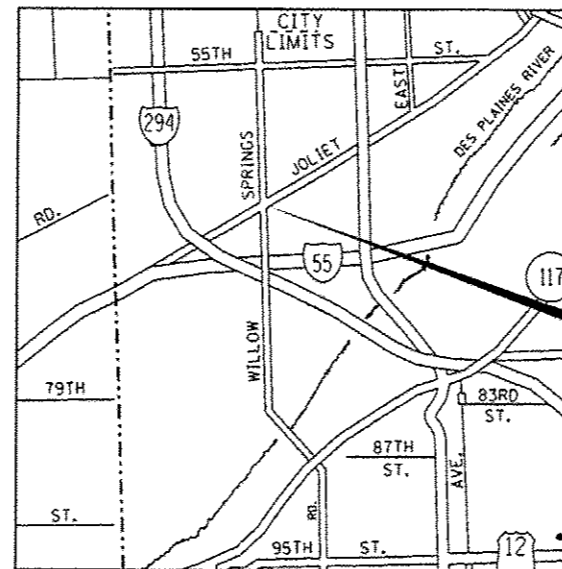


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD  
ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT  
CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS  
ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION

PROJECT ENGINEER: SHAR-DAY SMITH  
PROJECT MANAGER: SUDUD MAHMOUD (847) 708-4420

CONTRACT NO. 60Y20



JOLIET RD AT  
WILLOW SPRINGS RD

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED March 27 2015 *AW*

*Julian Fortson*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

May 8 2015  
*John D. Baranzelli* P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

May 8 2015  
*Omer Osman* P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

**INDEX OF SHEETS**

**HIGHWAY STANDARDS**

**GENERAL NOTES**

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, AND GENERAL NOTES
3 - 6	SUMMARY OF QUANTITIES
7 - 14	DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAILS (TS-05)
15	TEMPORARY TRAFFIC SIGNAL INSTALLATION AND REMOVAL PLAN JOLIET RD AND WILLOW SPRINGS RD.
16	TEMPORARY CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE JOLIET RD AND WILLOW SPRINGS RD.
17	TRAFFIC SIGNAL MODERNIZATION PLAN JOLIET RD AND WILLOW SPRINGS RD.
18-19	SCHEDULE OF QUANTITIES, CABLE PLAN, PHASE DESIGNATION DIAGRAM AND EMERGENCY VEHICLE PREEMPTION SEQUENCE JOLIET RD AND WILLOW SPRINGS RD.
20	TEMPORARY INTERCONNECT PLAN
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22-24	INTERCONNECT PLANS
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26	ARTERIAL ROAD INFORMATION SIGN (TC-22)
27	TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS (TC-10)

SID. NO.	SIDING	TITLE
000001-06		STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02		AREAS OF REINFORCEMENT BARS
001006		DECIMAL OF AN INCH AND OF A FOOT
701101-04		OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 M) TO 24" (600 MM) FROM PAVEMENT EDGE
701106-02		OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5 M) AWAY
701421-07		LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY, FOR SPEEDS >= 45 MPH TO 55 MPH
701426-07		LANE CLOSURE, MULTILANE, INTERMITTENT OR MOVING OPERATION, FOR SPEEDS >= 45 MPH
701601-09		URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN
701701-09		URBAN LANE CLOSURE, MULTILANE INTERSECTION
701901-04		TRAFFIC CONTROL DEVICES
720001-01		SIGN PANEL MOUNTING DETAILS
720006-04		SIGN PANEL ERECTION DETAILS
805001-01		ELECTRICAL SERVICE INSTALLATION DETAILS
814001-03		HANDHOLES
814006-02		DOUBLE HANDHOLES
857001-01		STANDARD PHASE DESIGNATION DIAGRAMS AND PHASE SEQUENCES
862001-01		UNINTERRUPTABLE POWER SUPPLY (UPS)
873001-02		TRAFFIC SIGNAL GROUNDING & BONDING
877001-05		STEEL MAST ARM ASSEMBLY AND POLE 16' THROUGH 55'
878001-10		CONCRETE FOUNDATION DETAILS
880001-01		SPAN WIRE MOUNTED SIGNALS AND FLASHING BEACON INSTALLATION
880006-01		TRAFFIC SIGNAL MOUNTING DETAILS
886001-01		DETECTOR LOOP INSTALLATIONS

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL CONTACT THE TRAFFIC CONTROL SUPERVISOR AT (847) 705-4470 72 HOURS IN ADVANCE OF BEGINNING WORK.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS AND CONDITIONS EXISTING IN THE FIELD PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. THIS SHALL INCLUDE LOCATING THE MAST ARM FOUNDATIONS AND VERIFYING THE MAST ARMS LENGTHS.

THE EXACT LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE ORDERING ANY MATERIALS AND STARTING ANY WORK. FOR LOCATIONS OF UTILITIES, LOCALLY OWNED EQUIPMENT, LEASED ENFORCEMENT CAMERA SYSTEM FACILITIES AND IDOT UNDERGROUND FACILITIES, CONTACT THE LOCAL COUNTIES, MUNICIPALITIES AND IDOT FOR LOCATES. THE CONTRACTOR SHALL CALL "JULIE" AT (800) 892-0123 OR 811. IN THE CITY OF CHICAGO CONTACT DIGGER AT (312) 744-7000 FOR FIELD LOCATIONS OF BURIED UTILITIES (48 HOURS NOTIFICATION REQUIRED).

THE CONTRACTOR SHALL CHECK THE PROPOSED TRAFFIC SIGNAL EQUIPMENT LOCATIONS FOR OVERHEAD UTILITY CONFLICTS. THE CONTRACTOR SHALL COORDINATE ANY CONFLICTS WITH THE UTILITY COMPANIES AND THE RESIDENT ENGINEER BEFORE ORDERING MATERIALS.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES, LOCAL GOVERNMENT AGENCIES AND IDOT.

ALL TRAFFIC SIGNAL BACKPLATES SHALL HAVE RETROREFLECTIVE SHEETING APPLIED TO THE OUTSIDE PERIMETER OF THE FACE OF THE BACKPLATE.

FILE NAME *	USER NAME * smjshv	DESIGNED - SS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INDEX OF SHEETS, HIGHWAY STANDARDS &amp; GENERAL NOTES</b>				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\pwork\smjshv\0334658\VP154\02-shc-ts.dgn	DRAWN - SS	REVISED -	3562						430Y-TS(14)	COOK	27	2	
PLOT SCALE * 100.0000 / in.	CHECKED - JC	REVISED -	SCALE: NONE SHEET NO. OF SHEETS STA. TO STA.					CONTRACT NO. 60Y20					
PLOT DATE * 3/25/2015	DATE - 03/20/2015	REVISED -	ILLINOIS FED. AID PROJECT										

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				100% STATE	100% STATE	100% PLEASEANTVIEW
				TRAFFIC SIGNALS	INTERCONNECT	FIRE DEPARTMENT
				0021	0021	EVP
				URBAN	URBAN	URBAN
* 66900200	NON-SPECIAL WASTE DISPOSAL	CU YD	15	15		
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	6		
* 66900450	SPECIAL WASTE PLANS AND REPORTS	L SUM	1	1		
67100100	MOBILIZATION	L SUM	1	1		
* 66900530	SOIL DISPOSAL ANALYSIS	EACH	1	1		
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1		
70100825	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	L SUM	1	1		
70102630	TRAFFIC CONTROL AND PROTECTION, STANDARD 701601	L SUM	1	1		
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1		
* 72000100	SIGN PANEL - TYPE 1	SO FT	13.5	13.5		
* 72000200	SIGN PANEL - TYPE 2	SQ FT	24	24		
80500010	SERVICE INSTALLATION - GROUND MOUNTED	EACH	1	1		
81028200	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1038	1022	16	
81028210	UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	79	79		
81028220	UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	164	164		
81028240	UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	399	399		
81400100	HANDHOLE	EACH	6	6		

FILE NAME *	USER NAME * amthov	DESIGNED - SS	REVISED -
c:\pwwork\pwwork\amthov\08334658\PI5492-sh1-tt.dgn		DRAWN - SS	REVISED -
PLOT SCALE * 100.0000' / in.		CHECKED - JC	REVISED -
PLOT DATE * 3/25/2015		DATE - 03/20/2015	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES (SHEET 1 OF 4)			
SCALE: NONE	SHEET NO.	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	3
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				

\*specialty Hems Rev.

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE		
				100% STATE	100% STATE	100% PLEASEANTVIEW FIRE DEPARTMENT
				TRAFFIC SIGNALS	INTERCONNECT	EVP
				0021	0021	0021
				URBAN	URBAN	URBAN
81400200	HEAVY-DUTY HANDHOLE	EACH	4	4		
81400300	DOUBLE HANDHOLE	EACH	2	2		
85000200	MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2		2	
86400100	TRANSCEIVER - FIBER OPTIC	EACH	1		1	
87300925	ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	6430		6430	
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	427			427
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2564	2564		
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1830	1830		
87301305	ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3096	3096		
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	180	180		
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1,256	1,256		
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4	4		
87700210	STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1	1		
87700220	STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	3	3		

FILE NAME =	USER NAME = smithsv	DESIGNED - SS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SUMMARY OF QUANTITIES (SHEET 2 OF 4)</b>			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwork\smithsv\08334658\PI3492-shr-11.dgn	DRAWN - SS	REVISIONS	REVISED -		3562	430Y-TS(14)	COOK	27	4			
PLOT SCALE = 1/8"=1'-0"	CHECKED - JC	REVISIONS	REVISED -		SCALE: NONE			SHEET NO. OF SHEETS	STA. TO STA.	CONTRACT NO. 60Y20		
PLOT DATE = 3/25/2015	DATE = 03/20/2015	REVISIONS	REVISED -					ILLINOIS FED. AID PROJECT				





# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE			
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE			
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA			
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED			
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F			
UNINTERRUPTABLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F			
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				UNDERGROUND CONDUIT, GALVANIZED STEEL (UC)				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM24F			
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM				STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED			
SIGNAL POST				REMOVE ITEM				ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED			
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM				STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED			
GUY WIRE				ABANDON ITEM				SIGNAL POST AND FOUNDATION TO BE REMOVED			
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				INTERSECTION & SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				SAMPLING (SYSTEM) DETECTOR			
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				QUEUE DETECTOR			
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE. "P" INDICATES PROGRAMMED HEAD				PREFORMED QUEUE DETECTOR			
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				"RB" INDICATES REFLECTIVE BACKPLATE				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR			
PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED							
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID							
ILLUMINATED SIGN "NO LEFT TURN"				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER							
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO INTERCONNECT							
DETECTOR LOOP, TYPE I				RADIO REPEATER							
PREFORMED DETECTOR LOOP				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED							
MICROWAVE VEHICLE SENSOR				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)							
VIDEO DETECTION CAMERA											
VIDEO DETECTION ZONE											
PAN, TILT, ZOOM CAMERA											
WIRELESS DETECTOR SENSOR											
WIRELESS ACCESS POINT											

## RAILROAD SYMBOLS

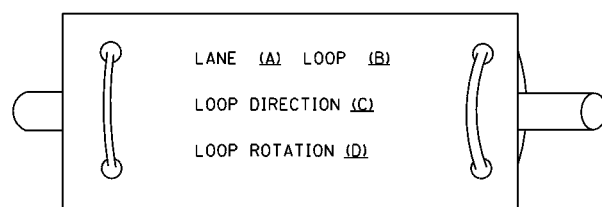
	EXISTING	PROPOSED
RAILROAD CONTROL CABINET		
RAILROAD CANTILEVER MAST ARM		
FLASHING SIGNAL		
CROSSING GATE		
CROSSBUCK		

TS SHT NO. 1

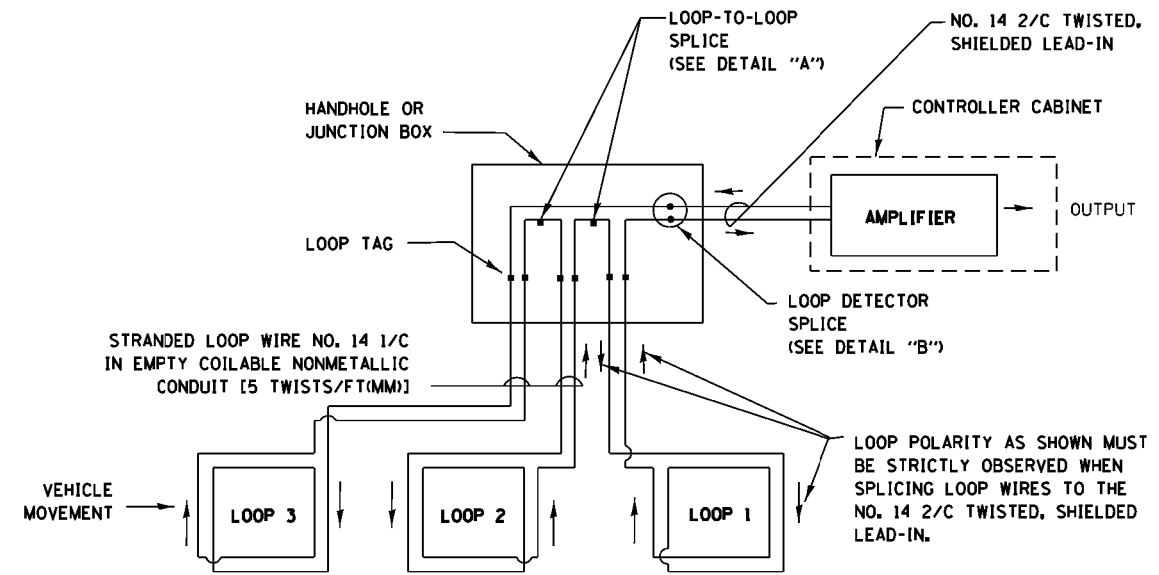
**LOOP DETECTOR NOTES**

1. EACH PAIR OF LOOP WIRES SHALL BE PLACED IN A SEPARATE EMPTY COILABLE NONMETALLIC CONDUIT FROM THE EDGE OF PAVEMENT TO THE HANDHOLE. SPACING BETWEEN THE HOLES DRILLED IN THE PAVEMENT SHALL NOT BE LESS THAN 6" (150 mm). EMPTY COILABLE NONMETALLIC CONDUIT SHALL BE INCLUDED IN THE COST OF THE LOOP WIRE.
2. 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.
3. EACH LOOP LEAD-IN SHALL BE IDENTIFIED AND PERMANENTLY TAGGED IN THE HANDHOLE. EACH LEAD-IN CABLE TAG SHALL INDICATE THE LOCATION OF THE LOOP, LOOP ROTATION (CLOCKWISE/COUNTERCLOCKWISE), LOOP LEAD-IN DIRECTION (IN OR OUT), LOOP CABLE NUMBER AND LOCATION IN CABINET, AND NUMBER OF TURNS IN THE DETECTOR LOOPS IN WATER PROOF INK AS INDICATED ON THE DISTRICT 1 STANDARD TRAFFIC SIGNAL DESIGN DETAIL. THE CONTRACTOR SHALL MARK LOOP LOCATIONS ON RECORD DRAWINGS AND PRESENT TO THE ENGINEER AFTER FINAL INSPECTION. LOOPS SHALL BE MARKED BY LANE AND LOOP NUMBER. SEE DETAIL BELOW.
4. ALL LOOP CABLE SHALL BE FASTENED WITH PLASTIC TIE WRAP TO THE HANDHOLE HOOKS.
5. IN ASPHALT PAVEMENT, LOOPS SHOULD BE PLACED IN THE BINDER AND DIVEHOLES 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" (450 mm) APART.
6. 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. SEE DETAIL BELOW RIGHT.
7. PREFORMED DETECTOR LOOPS SHALL BE USED, AS SHOWN ON THE PLANS, 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.

**LOOP LEAD-IN CABLE TAG**

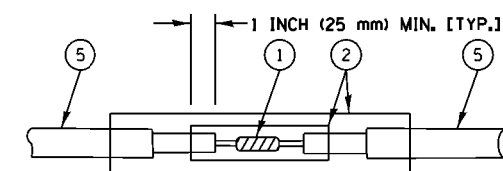


- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP \*1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.

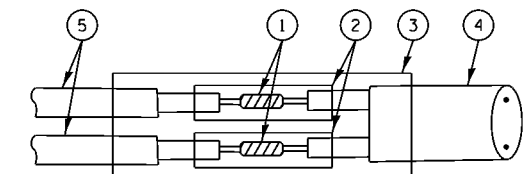


**DETECTOR LOOP WIRING SCHEMATIC**

- LOOPS SHALL BE SPLICED IN SERIES.
- SAW-CUTS SHALL BE A MINIMUM WIDTH OF 5/16" (8 mm).
- SAW-CUT DEPTHS SHALL BE 3" (75 mm). IF IN CONCRETE, THE SAW-CUT DEPTH SHALL BE TO THE TOP OF THE REINFORCEMENT.
- LOOP CORNERS SHALL BE DRILLED WITH A 2" (50 mm) DIAMETER CORE.

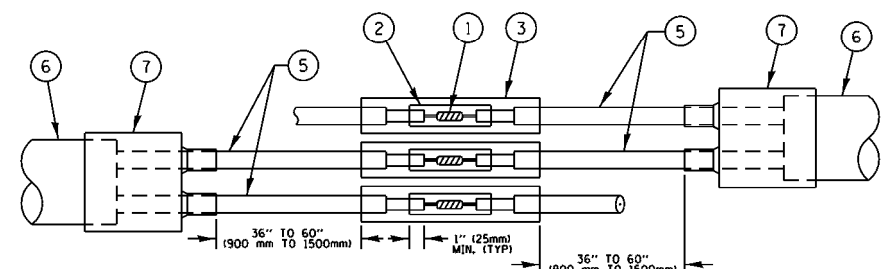


**DETAIL "A"  
LOOP-TO-LOOP SPLICE**

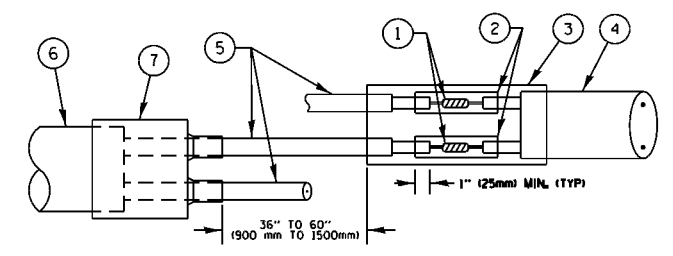


**DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE**

**TYPE I LOOP**



**DETAIL "A"  
LOOP-TO-LOOP SPLICE**



**DETAIL "B"  
LOOP-TO-CONTROLLER SPLICE**

**PREFORMED LOOP**

**LOOP DETECTOR SPLICE**

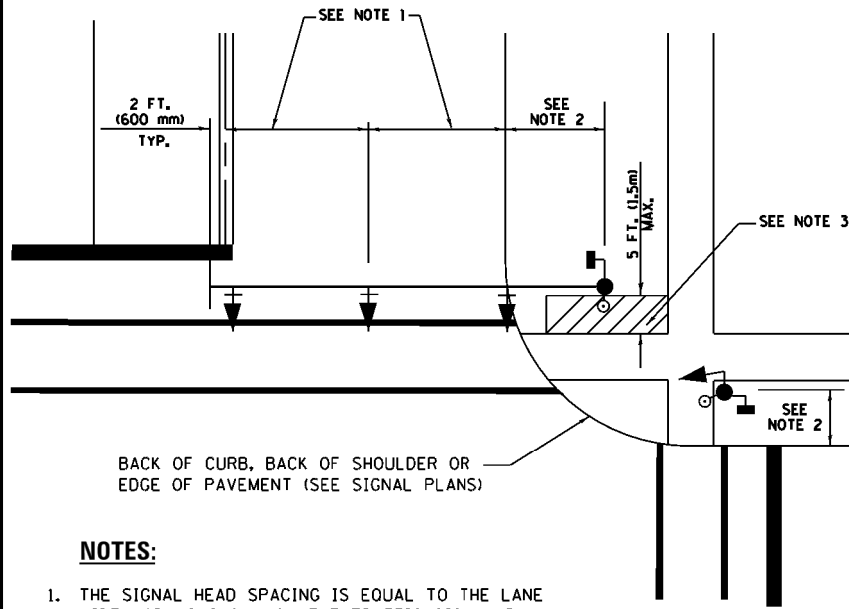
- ① WESTERN UNION SPLICE SOLDERED WITH ROSIN CORE FLUX. ALL EXPOSED SURFACES OF THE SOLDER SHALL BE SMOOTH, THE WESTERN UNION SPLICES SHALL BE STAGGERED.
- ② WCSMW 30/100 HEAT SHRINK TUBE, MINIMUM LENGTH 3" (75 mm), UNDERWATER GRADE.
- ③ WCS 200/750 HEAT SHRINK TUBE, MINIMUM LENGTH 6" (150 mm), UNDERWATER GRADE.
- ④ NO. 14 2/C TWISTED, SHIELDED CABLE.
- ⑤ LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- ⑥ PREFORMED LOOP
- ⑦ XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS, TYCO CBR-2 OR APPROVED EQUAL

TS SHT NO. 2

FILE NAME =	USER NAME = smj.thsv	DESIGNED - SS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>DISTRICT ONE STANDARD TRAFFIC SIGNAL DESIGN DETAILS</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ci:\pwr\work\pwidot\smj.thsv\d0334658\PI5492-2-sht-ts.dgn	DRAWN - SS	REVISED -	3562			430Y-TS(14)	COOK	26	8	
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED - SS	REVISED -			TS-05		CONTRACT NO. 60Y20		
	PLOT DATE = 3/24/2015	DATE - 3/20/2015	REVISED -			SCALE: NONE	SHEET 2 OF 7 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT	



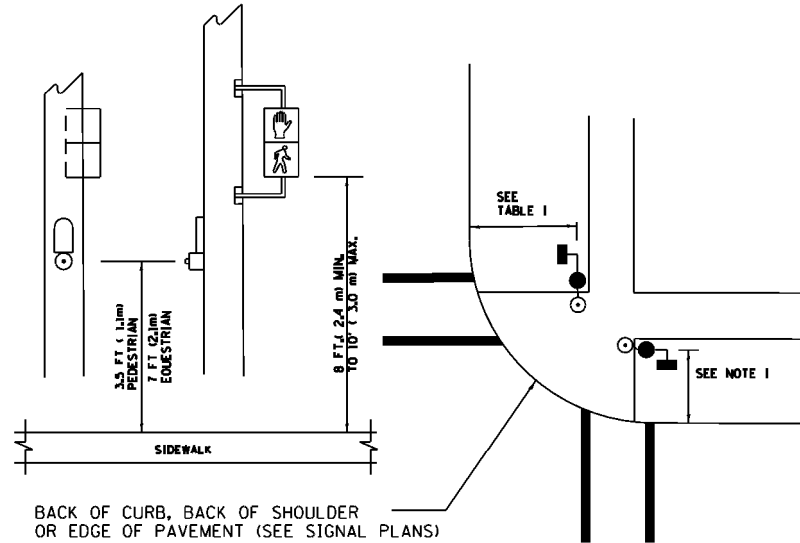
**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**  
**MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR**  
**FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN**  
**WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.**



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

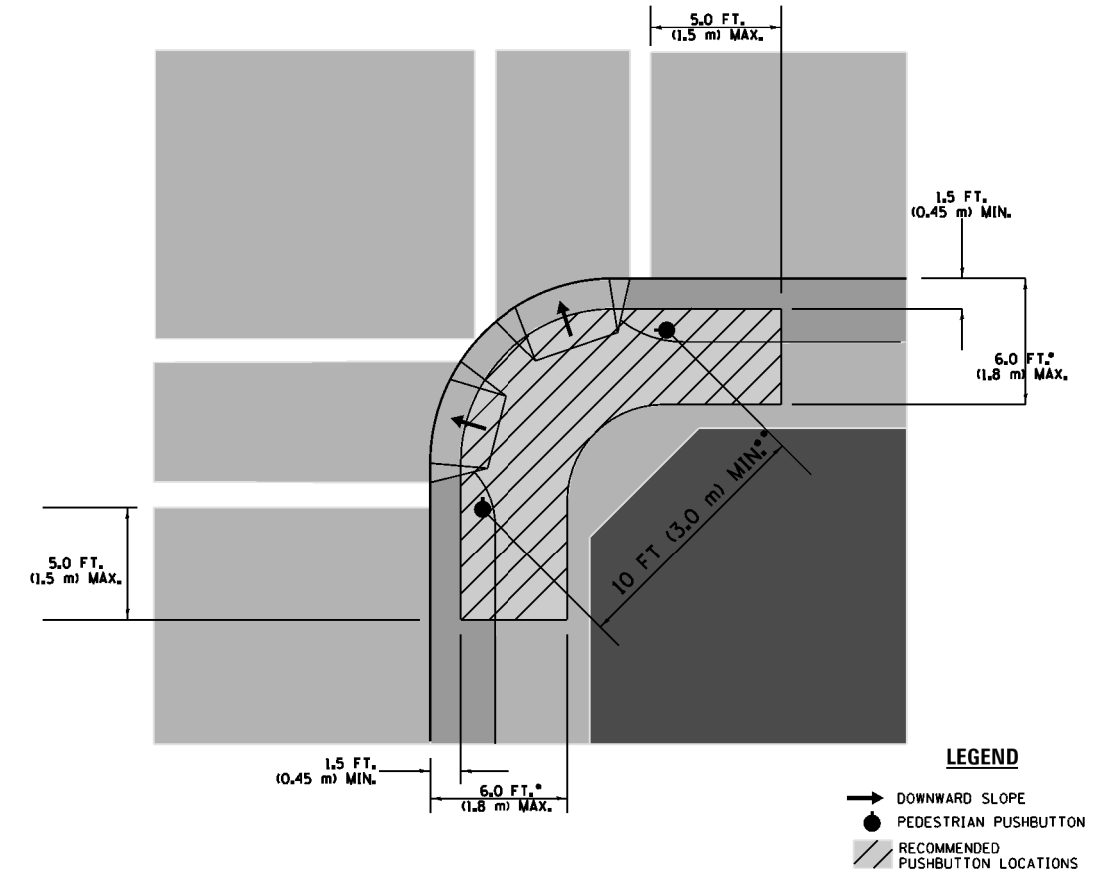
**PEDESTRIAN SIGNAL POST**  
**AND**  
**PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



- WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT ( 1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (5.0 m) AND A MAXIMUM OF 18 FT. (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

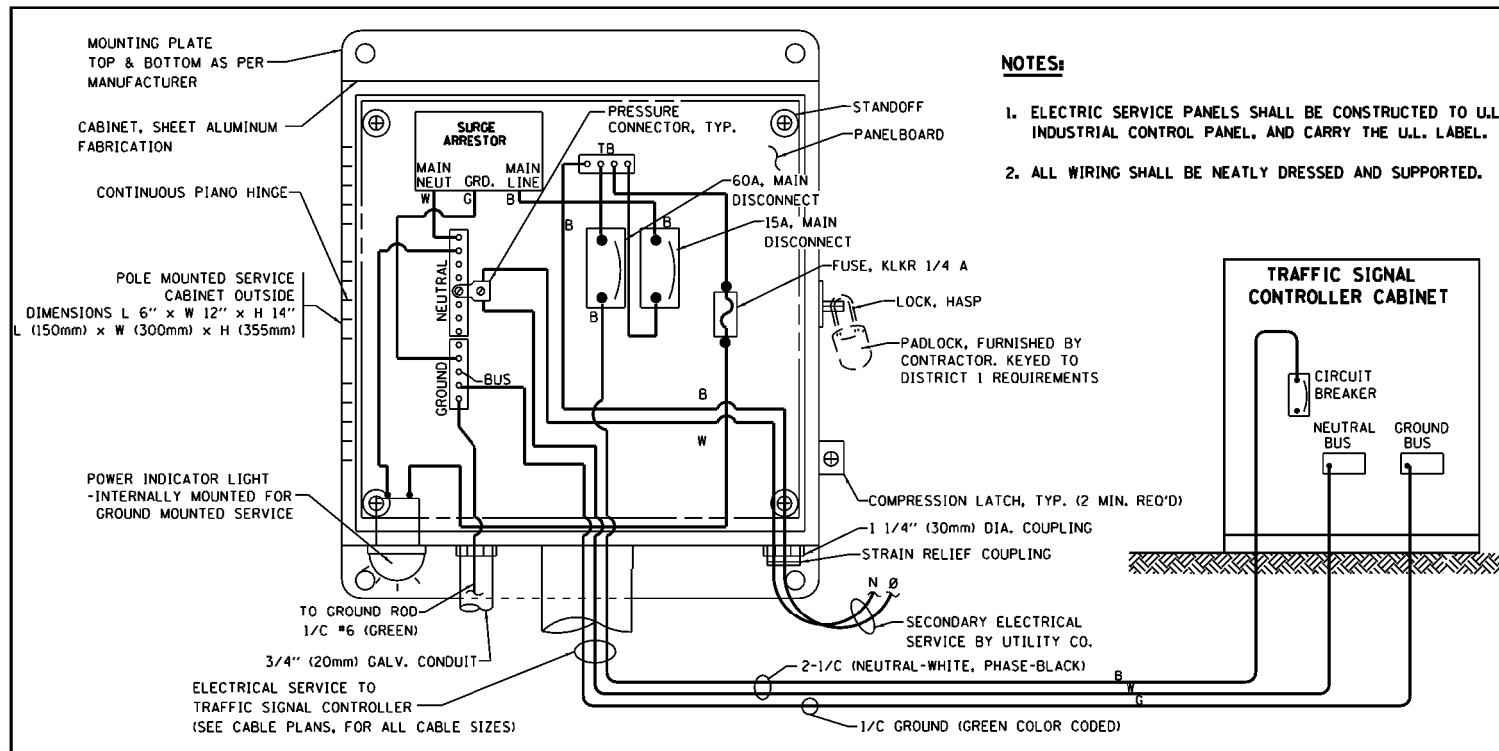
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

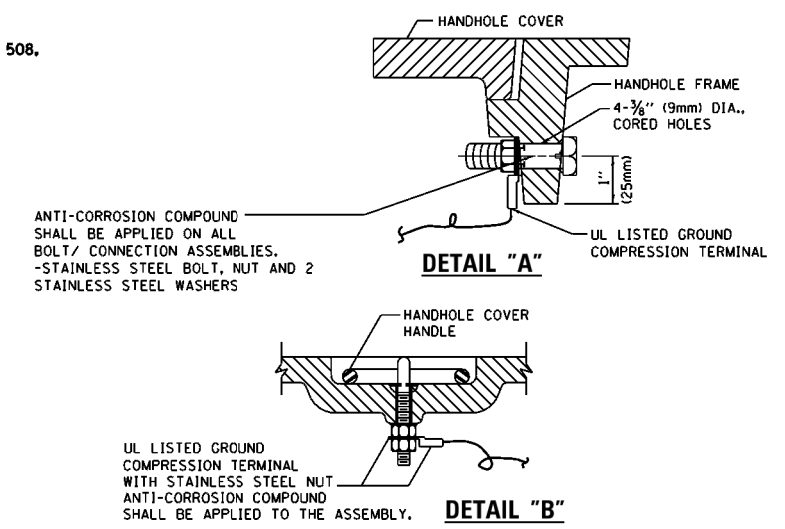
1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT 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" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.

TS SHT NO. 3

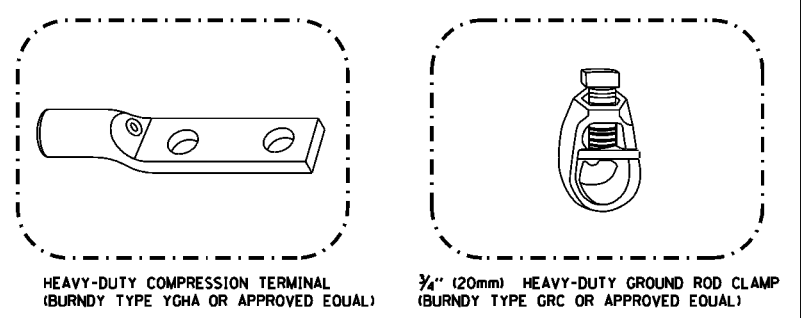
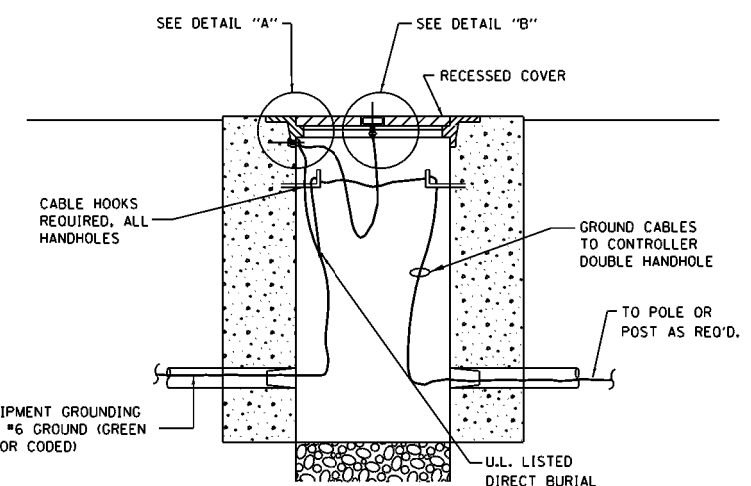
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Default	PLOT SCALE = 100.0000' / 1in.	CHECKED - JC	REVISIED -			TS-05		CONTRACT NO. 60Y20		
	PLOT DATE = 3/24/2015	DATE - 3/20/2015	REVISIED -			SCALE: NONE	SHEET 3 OF 7 SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT	



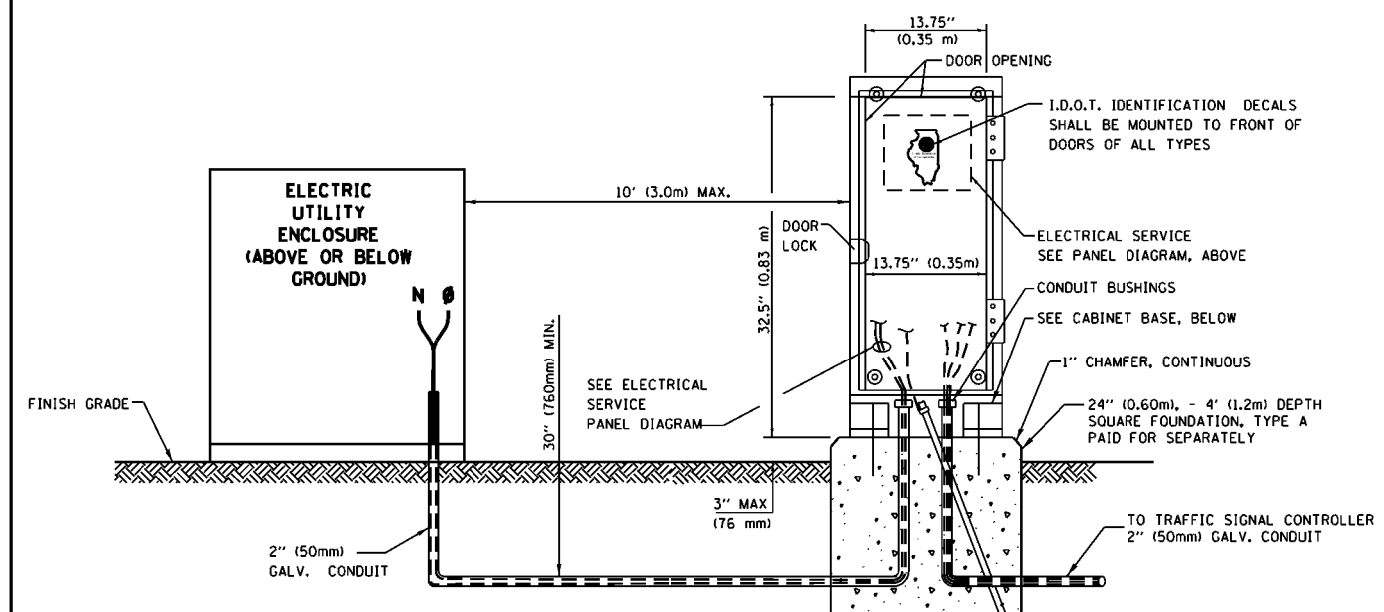
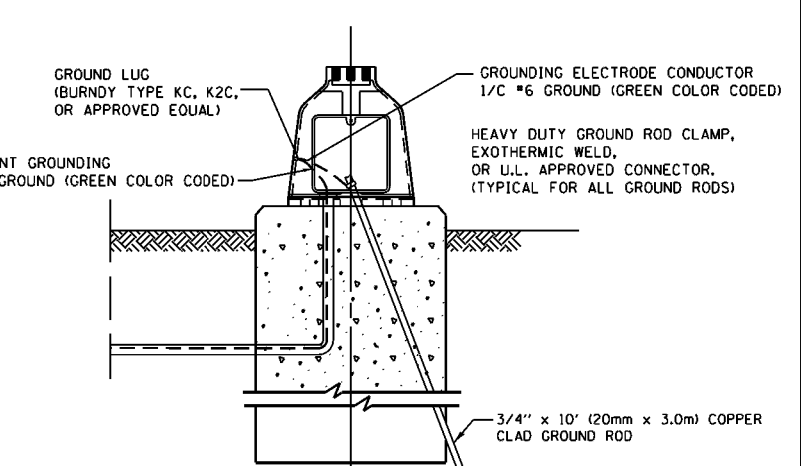
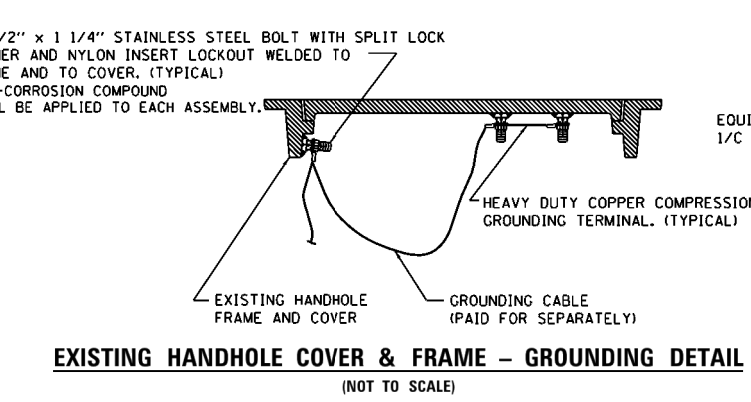
**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
 (NOT TO SCALE)



- NOTES:**
- GROUNDING SYSTEM**
1. THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD. ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN. IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (847) 705-4139.
  2. THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
  3. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
  4. THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

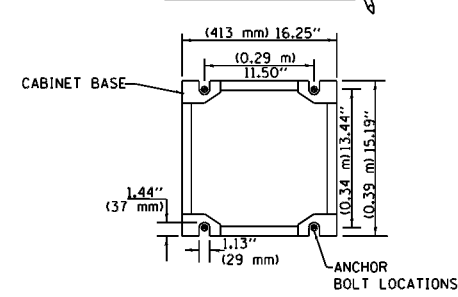


- NOTES:**
- ALL CLAMPS SHALL BE BRONZE OR COPPER, UL APPROVED.
  - GROUND CABLE SHALL BE LOOPED OVER HOOKS IN THE HANDHOLES
  - 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES
  - 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES.
  - 5' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



**SERVICE INSTALLATION GROUND MOUNT**  
 (NOT TO SCALE)

**CABINET - BASE BOLT PATTERN**  
 (NOT TO SCALE)



TS SHT NO. 4

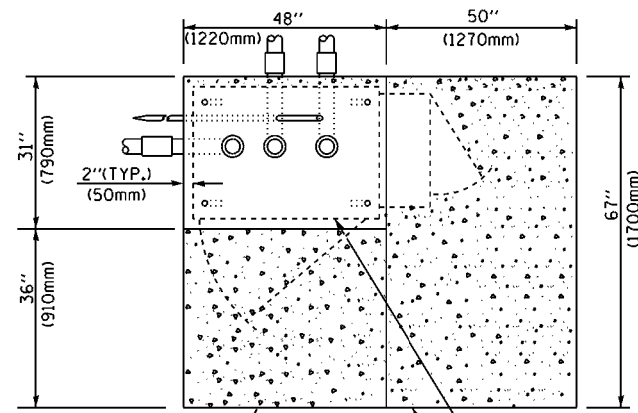
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**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

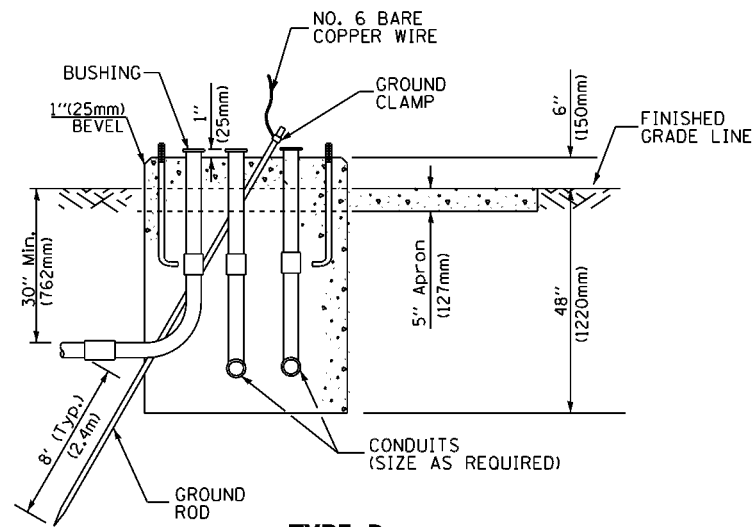
**DISTRICT ONE**  
**STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 3 OF 7 SHEETS STA. TO STA.

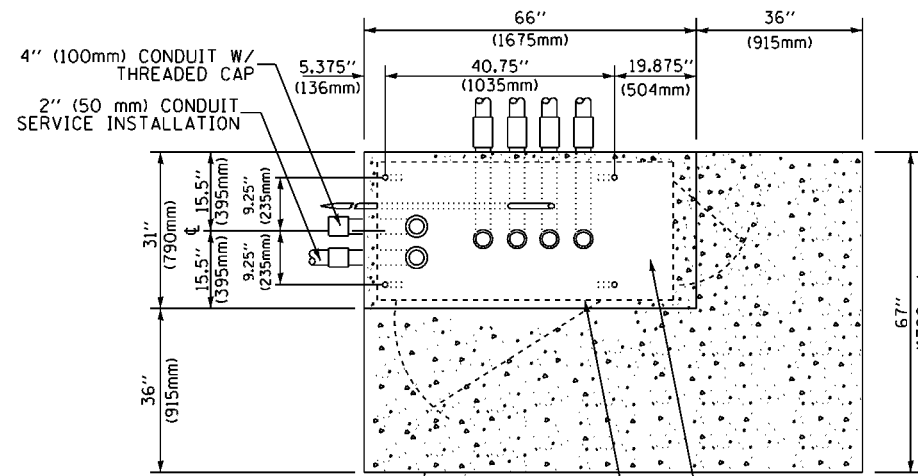
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3562	430Y-TS(14)	COOK	26	10
	TS-05	CONTRACT NO. 60Y20		
ILLINOIS FED. AID PROJECT				



**TOP VIEW**

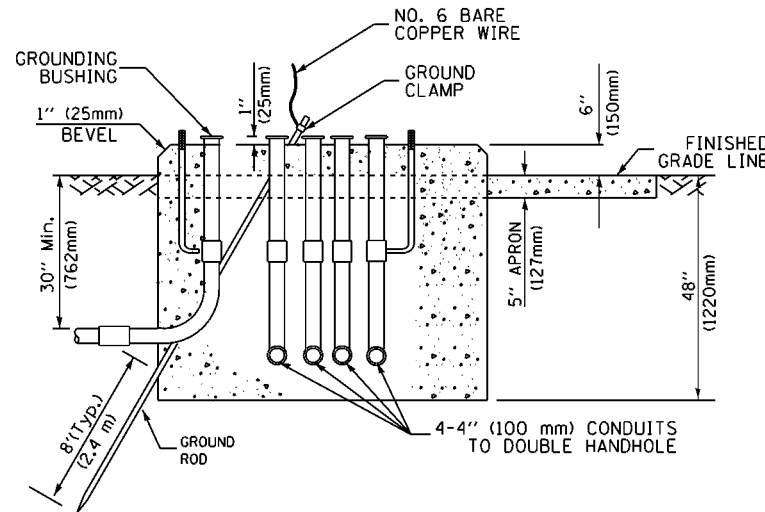


**TYPE D  
FOR GROUND MOUNTED  
CONTROLLER CABINET  
AND UPS BATTERY CABINET**

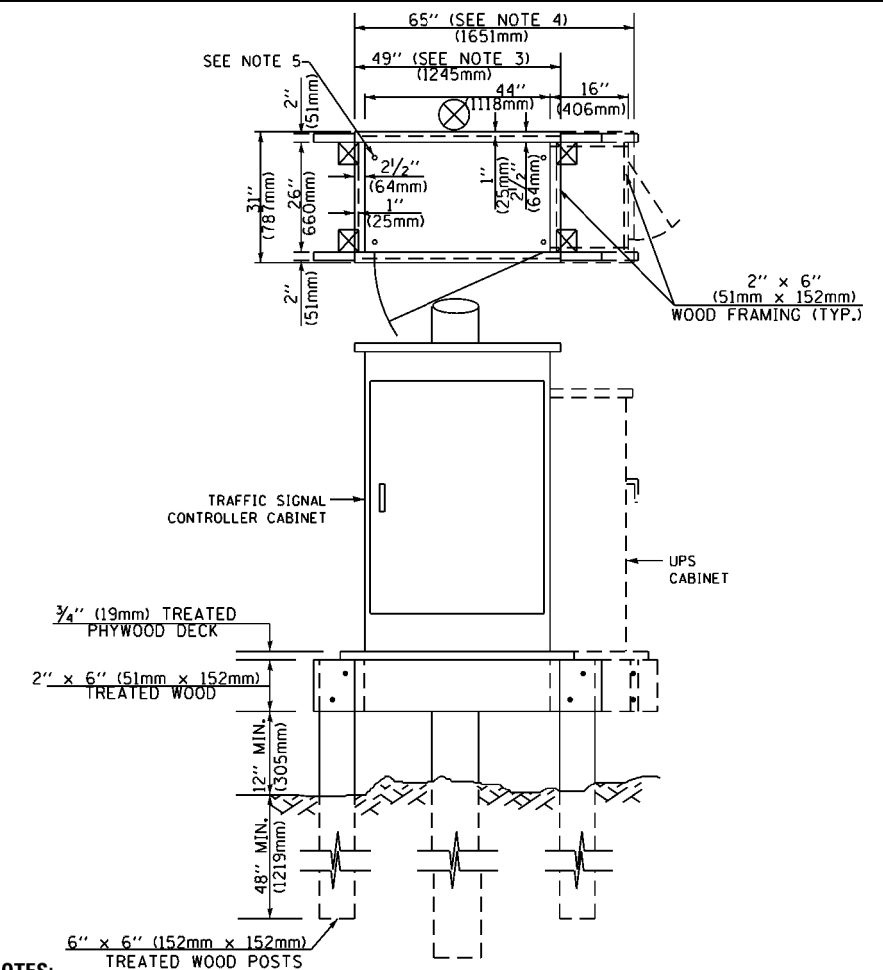


**TOP VIEW**

**NOTE:**  
TOP OF FOUNDATION SHALL BE HIGHER THAN TOP OF DOUBLE HANDHOLE



**TYPE C  
FOR GROUND MOUNTED  
SUPER P (TYPE IV) AND SUPER R (TYPE V)  
CONTROLLER CABINETS**



**NOTES:**

1. BASED ON CONTROLLER CABINET TYPE IV WITH BASE DIMENSIONS OF 26" x 44" (660mm x 1118mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
2. BASED ON UNINTERRUPTIBLE POWER SUPPLY CABINET WITH BASE DIMENSIONS OF 16" x 25" (406mm x 635mm). ADJUST PLATFORM SIZE TO FIT CABINET BASE DIMENSIONS BEING SUPPLIED.
3. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV.
4. PLATFORM SIZE FOR CONTROLLER CABINET TYPE IV AND UNINTERRUPTIBLE POWER SUPPLY CABINET.
5. DRILLED HOLES THROUGH THE PLATFORM BASE TO MATCH THE CONTROLLER CABINET BOLT TEMPLATE. FASTEN THE CONTROLLER CABINET TO THE PLATFORM WITH CARRIAGE BOLTS, WASHERS AND NUTS.
6. FASTEN ALL SUPPORT WOOD FRAMING TO THE WOOD POSTS WITH 2 LAG SCREWS FOR EACH CONNECTION.

**TEMPORARY SIGNAL CONTROLLER  
WOOD SUPPORT PLATFORM**

CABLE SLACK LENGTH	FEET	METER
HANDHOLE	6.5	2.0
DOUBLE HANDHOLE	13.0	4.0
SIGNAL POST	2.0	0.6
MAST ARM	2.0	0.6
CONTROLLER CABINET	1.5	0.5
FIBER OPTIC AT CABINET	13.0	4.0
ELECTRIC SERVICE AT (CABINET OR SERVICE LOCATION)	1.5	0.5
GROUND CABLE (SIGNAL POST, MAST ARM, CABINET)	1.5	0.5
GROUND CABLE (BETWEEN FRAME AND COVER)	5.0	1.6

**CABLE SLACK**

VERTICAL CABLE LENGTH	FEET	METER
MAST ARM POLE ( MAST ARM MOUNTED SIGNAL HEAD) (L = MAST ARM LENGTH - DISTANCE TO SIGNAL HEAD FROM END OF ARM)	20.0+L	6.0+L
BRACKET MOUNTED (MAST ARM POLE OR SIGNAL POLE)	13.0	4.0
PEDESTRIAN PUSH BUTTON	6.0	2.0
SERVICE INSTALLATION POLE MOUNT TO SERVICE DROP	13.5	4.1
SERVICE INSTALLATION POLE MOUNT TO GROUND	13.5	4.1
SERVICE INSTALLATION GROUND MOUNT	6.0	2.0
FOUNDATION (SIGNAL POST, MAST ARM POLE, CONTROLLER CABINET, SERVICE-GROUND MOUNT)	3.0	1.0

**VERTICAL CABLE LENGTH**

FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1.2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1.2m)
TYPE D - CONTROLLER	4'-0" (1.2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SQUARE	4'-0" (1.2m)

**DEPTH OF FOUNDATION**

MAST ARM LENGTH	① FOUNDATION DEPTH	FOUNDATION DIAMETER	SPIRAL DIAMETER	QUANTITY OF REBARS	SIZE OF REBARS
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 30' (9.1 m) and less than 40' (12.2 m)	13'-6" (4.1 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	11'-0" (3.4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	13'-0" (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 55' (16.8 m) and up to 65' (19.8 m)	15'-0" (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 65' (19.8 m) and less than 75' (22.9 m)	21'-0" (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 75' (22.9 m)	25'-0" (7.6 m)	42" (1060mm)	36" (900mm)	16	8(25)

**NOTES:**

1. These foundation depths are for sites which have cohesive soils (clayey silt, sandy clay, etc.) along the length of the shaft, with an average Unconfined Compressive Strength (Qu) > 1.0 tsf (100 kpa). This strength shall be verified by boring data prior to construction or with testing by the Engineer during foundation drilling. The Bureau of Bridges & Structures should be contacted for a revised design if other conditions are encountered.
2. Combination mast arm assemblies under 55 feet (16.8 m) shall use 36" (900 mm) diameter foundations.
3. Combination mast arm assemblies under 56 feet (16.8 m) through 75 feet (22.9 m) shall use 42" (1060 mm) diameter foundations.
4. For mast arm assemblies with dual arms refer to state standard 878001.

**DEPTH OF MAST ARM FOUNDATIONS, TYPE E**

TS SHT NO. 5

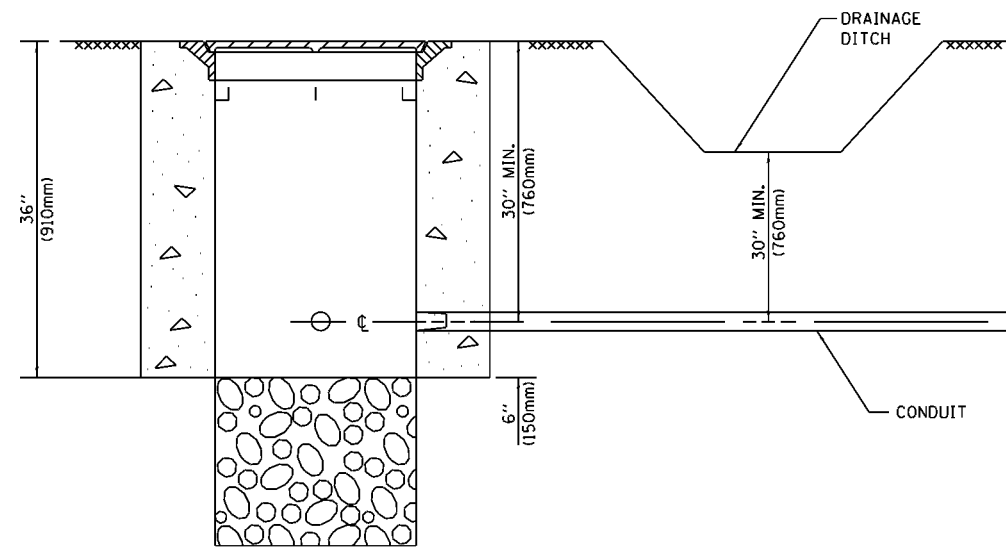
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 5 OF 7 SHEETS STA. TO STA.

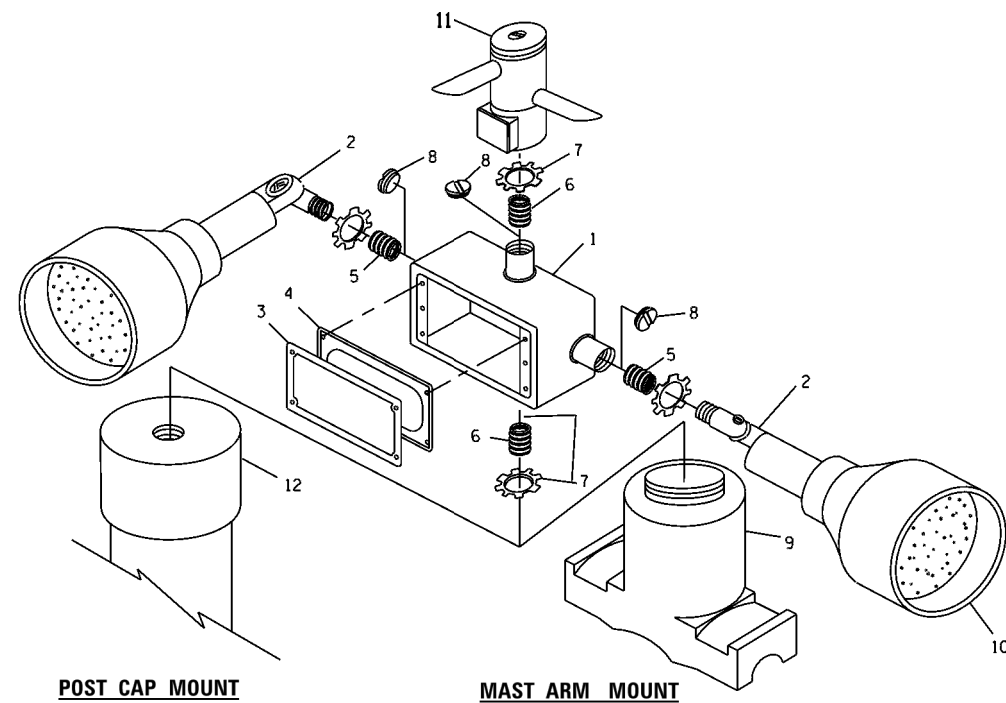
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TS-05		CONTRACT NO. 60Y20		
ILLINOIS FED. AID PROJECT				



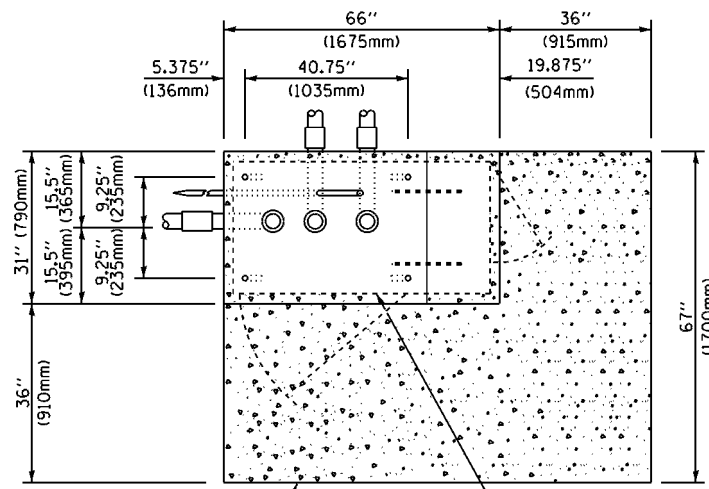
**NOTES:**

1. CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) 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.

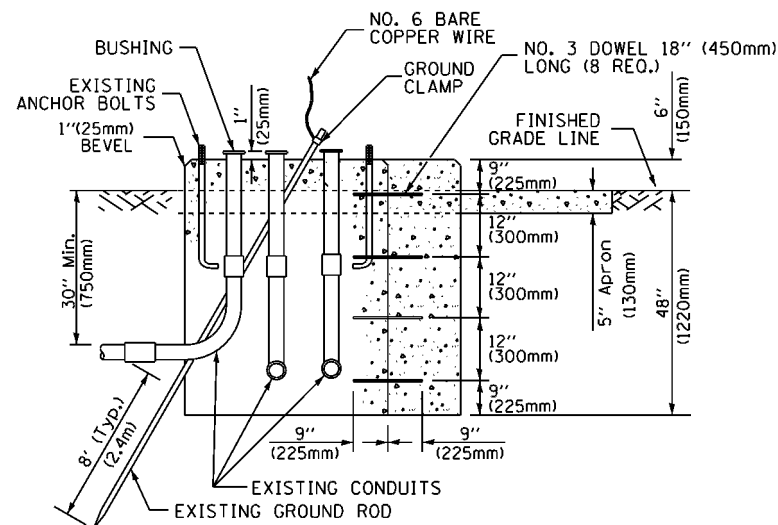
**HANDHOLE WITH MINIMUM CONDUIT DEPTH**  
(NOT TO SCALE)



**EMERGENCY VEHICLE DETECTOR WITH CONFIRMATION BEACON MOUNTING DETAIL**



**TOP VIEW**  
(NOT TO SCALE)

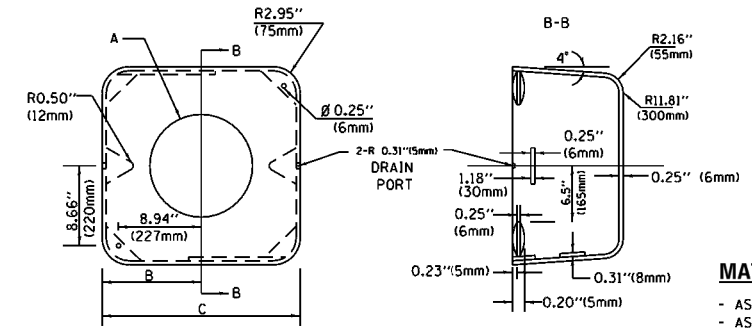


**MODIFY EXISTING TYPE "D" FOUNDATION TO TYPE "C" FOUNDATION**  
(NOT TO SCALE)

ITEM NO.	IDENTIFICATION
1	OUTLET BOX- GALV. 21 CU.IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4" (19 mm) CLOSE NIPPLE
7	3/4" (19 mm) LOCKNUT
8	3/4" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

**NOTES:**

1. ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
2. ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BAND-IT" SADDLE BRACKET OR EQUIVALENT
3. WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



**MATERIAL:**  
- ASTM A36 STEEL  
- ASTM A-123 HOT DIPPED GALVANIZED

A	B	C	HEIGHT	WEIGHT
VARIABLES	9.5" (241mm)	19" (483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIABLES	10.75" (273mm)	21.5" (546mm)	7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIABLES	13.0" (330mm)	26" (660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIABLES	18.5" (470mm)	37" (940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

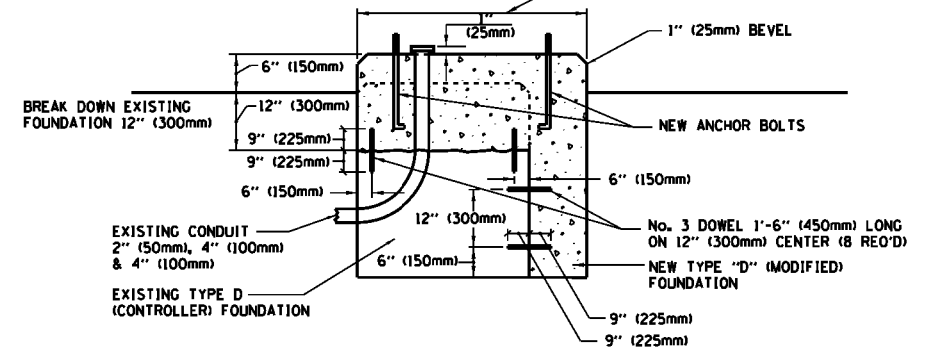
**SHROUD**

**NOTES:**

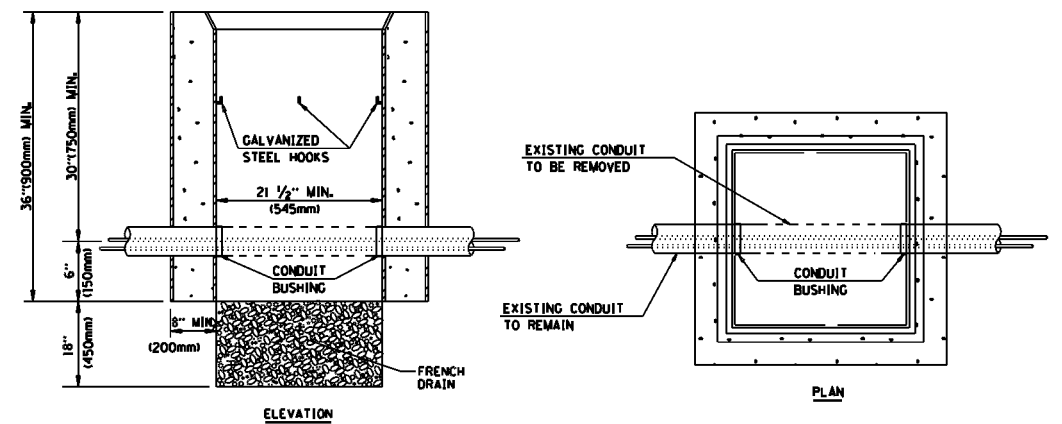
1. DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
2. THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
3. THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.

**NOTE:**

SUPPORT EXISTING CABINET AND CONTROL EQUIPMENT ABOVE FOUNDATION TO KEEP TRAFFIC SIGNAL FUNCTIONING WHILE FOUNDATION MODIFICATION WORK IS PROCEEDING.



**MODIFY EXISTING TYPE "D" FOUNDATION**



**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**

TS SHT NO. 6

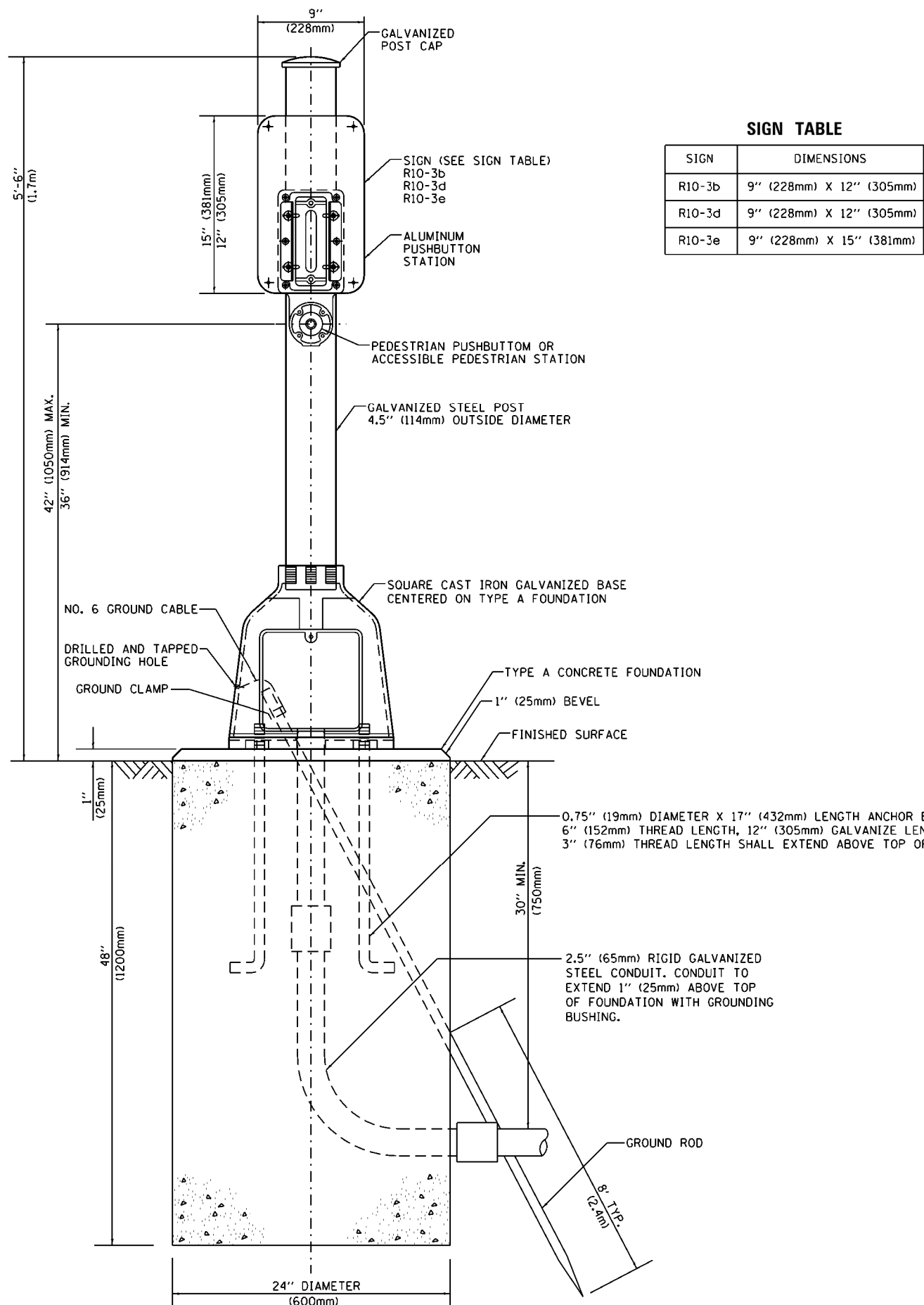
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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS

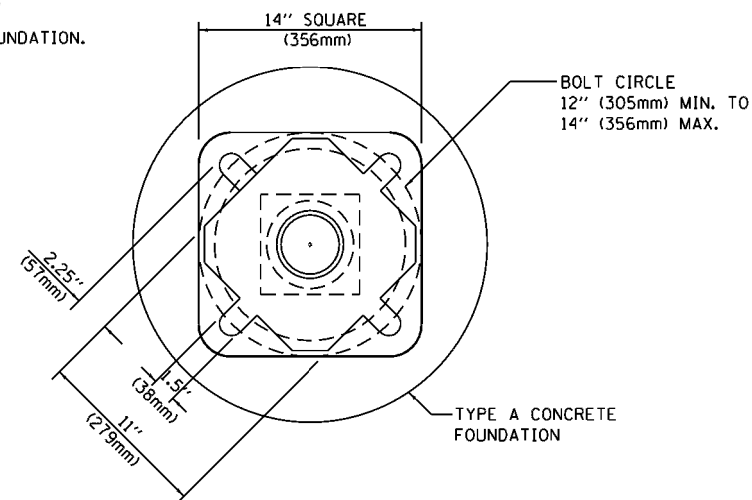
SCALE: NONE SHEET 6 OF 7 SHEETS STA. TO STA.

F.A.P. RTE. 3562	SECTION 430Y-TS(14)	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 12
TS-05		CONTRACT NO. 60Y20		
ILLINOIS FED. AID PROJECT				



**SIGN TABLE**

SIGN	DIMENSIONS
R10-3b	9" (228mm) X 12" (305mm)
R10-3d	9" (228mm) X 12" (305mm)
R10-3e	9" (228mm) X 15" (381mm)



**BOLT PATTERN**

**PEDESTRIAN PUSH BUTTON POST, TYPE A**

TS SHT NO. 7

FILE NAME =	USER NAME = smj thsv	DESIGNED -	REVISED - SS
ci:\pwork\pwork\ts\d0334658\p15492-shit-ts.dgn		DRAWN -	REVISED - SS
Default	PLOT SCALE = 100.0000' / 1in.	CHECKED -	REVISED - JC
	PLOT DATE = 3/11/2015	DATE -	REVISED - 03/20/2015

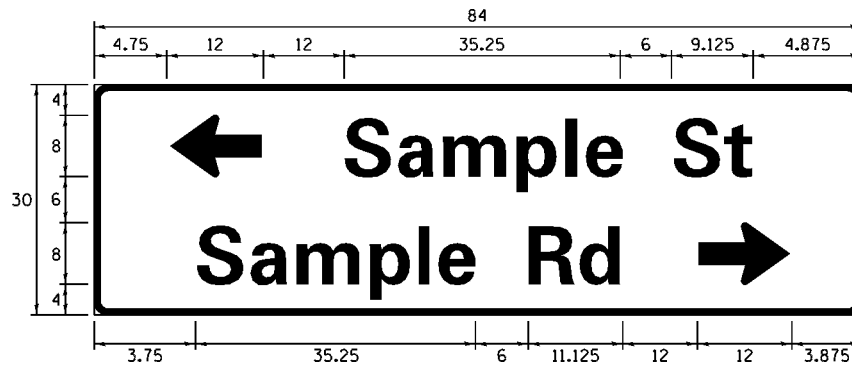
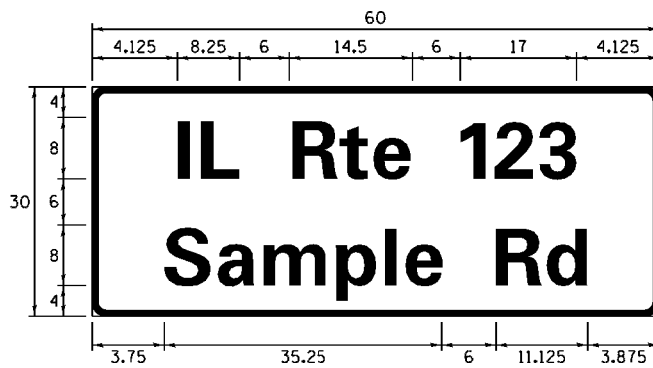
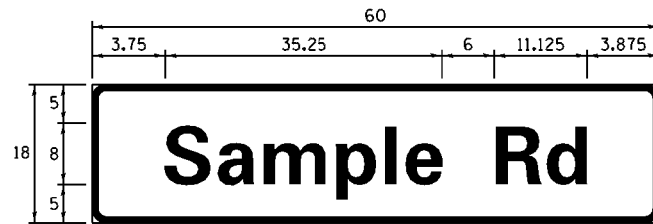
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**DISTRICT ONE  
STANDARD TRAFFIC SIGNAL DESIGN DETAILS**

SCALE: NONE SHEET 7 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	26	13
TS-05		CONTRACT NO. 60T12		
ILLINOIS FED. AID PROJECT				

**SIGN PANEL – TYPE 1 OR TYPE 2**



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

**COMMON STREET NAME ABBREVIATIONS AND WIDTHS**

NAME	ABBREVIATION	WIDTH (INCH)	
		SERIES "C"	SERIES "D"
AVENUE	Ave	15.000	18.250
BOULEVARD	Blvd	17.125	20.000
CIRCLE	Cir	11.125	13.000
COURT	Ct	8.250	9.625
DRIVE	Dr	8.625	10.125
HIGHWAY	Hwy	18.375	22.000
ILLINOIS	IL	7.000	8.250
LANE	Ln	9.125	10.750
PARKWAY	Pkwy	23.375	27.375
PLACE	Pl	7.125	7.750
ROAD	Rd	9.625	11.125
ROUTE	Rte	12.625	14.500
STREET	St	8.000	9.125
TERRACE	Ter	12.625	14.625
TRAIL	Tr	7.750	9.125
UNITED STATES	US	10.375	12.250

**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 ON STANDARDS 877001, 877002, 877006, 877011 AND 877012, AS APPLICABLE, PLUS TWO (2) 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", IF POSSIBLE, BUT MAY BE REDUCED TO 5" 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.
- A PREFERRED METHOD FOR THE SIGN DESIGN IS TO USE SERIES "D" LETTER ON A ONE-LINE SIGN 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 8'-0" SIGN, A 30" HIGH TWO-LINE SIGN CAN BE USED. THE CROSSROAD DESIGNATION AS TO STREET, AVENUE, ETC. SHOULD BE SPELLED OUT ON THE SECOND LINE, IF THERE IS SPACE AVAILABLE.
- LED ILLUMINATED STREET NAME SIGNS CAN BE USED IN PLACE OF REGULAR SIGN PANELS BUT ANY SPECIAL WORDING AND SYMBOLGY MUST BE APPROVED BY THE DEPARTMENT. GENERAL DESIGN REQUIREMENT 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:**

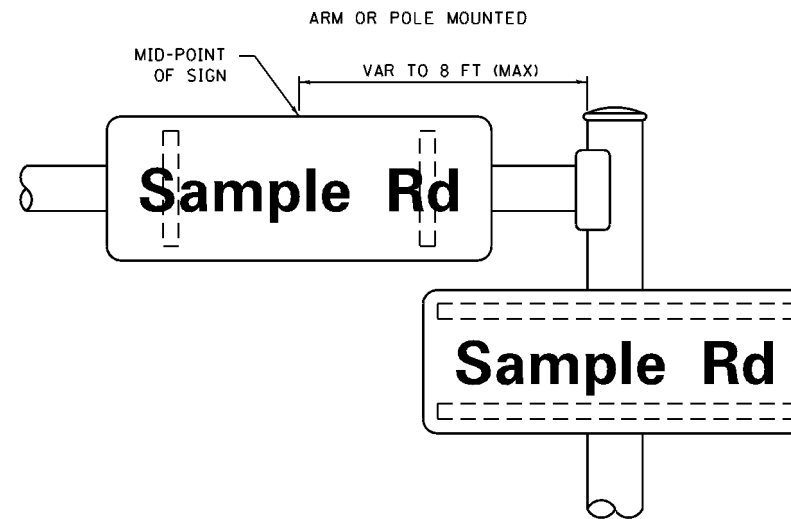
- J.O. HERBERT COMPANY, INC  
MIDLOTHIAN, VA
- WESTERN REMAC, INC.  
WOODRIDGE, IL

**PARTS LISTING:**

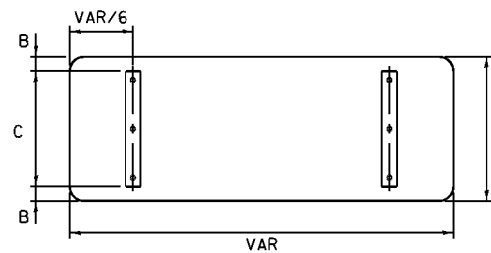
- SIGN CHANNEL PART \*HPN053 (MED. CHANNEL)  
1/4" x 14 x 1" H.W.H. #3  
SELF TAPPING WITH NEOPRENE WASHER
- SIGN SCREWS PART \*HPN034 (UNIVERSAL)  
CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING
- BRACKETS

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

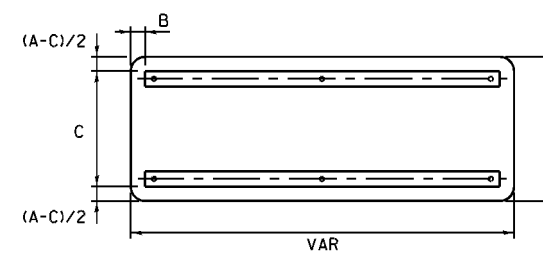
**MOUNTING LOCATION**



**SUPPORTING CHANNELS**



A	B	C
18"	2"	14"
30"	2"	24"



A	B	C
18"	2"	12"
30"	2"	22"

**STANDARD ALPHABETS SPACING CHART**

( 8" ) UPPER CASE AND ( 6" ) LOWER CASE

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

TS SHT NO. 8

FILE NAME =	USER NAME = smj.thsv	DESIGNED - SS	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS	F.A.P. RTE. 3562	SECTION 430Y-TS(14)	COUNTY COOK	TOTAL SHEETS 26	SHEET NO. 14
ci:\pwwork\pwwork\smj.thsv\d0334658\p15452-shit-ts.dgn	DRAWN - SS	REVISED -	TS-02			CONTRACT NO 60Y20				
Default	PLOT SCALE = 100.0000 ' / 1in.	CHECKED - JC	REVISED -			ILLINOIS FED. AID PROJECT				
	PLOT DATE = 3/11/2015	DATE - 03/20/2015	REVISED -			SCALE: SHEET OF SHEETS STA. TO STA.				

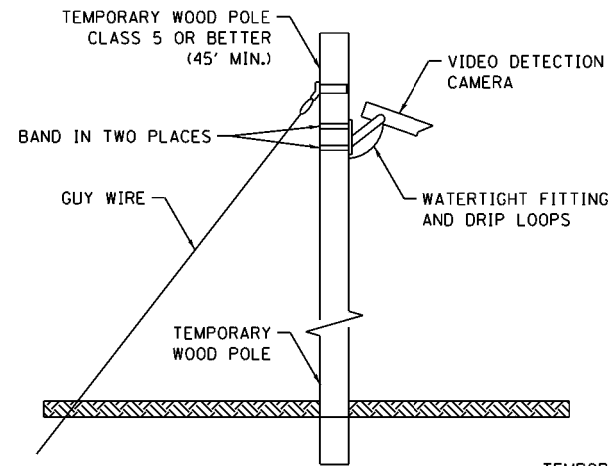
**REMOVAL AND RELOCATION NOTES:**

THE FOLLOWING ITEMS SHALL BE REMOVED BY THE CONTRACTOR AND SHALL BE DISPOSED OF BY THEM OUTSIDE THE RIGHT-OF-WAY AT THEIR EXPENSE. THE SALVAGE VALUE OF THE REMOVED EQUIPMENT SHALL BE REFLECTED IN THE CONTRACT BID PRICE.

- 1 EACH CONTROLLER AND CABINET (COMPLETE)
- 4 EACH STEEL MAST ARM ASSEMBLY AND POST
- 4 EACH TRAFFIC SIGNAL POST
- 8 EACH 3-SECTION SIGNAL HEAD
- 8 EACH 5-SECTION SIGNAL HEAD
- 1 EACH SERVICE INSTALLATION
- 8 EACH TRAFFIC SIGNAL BACKPLATE

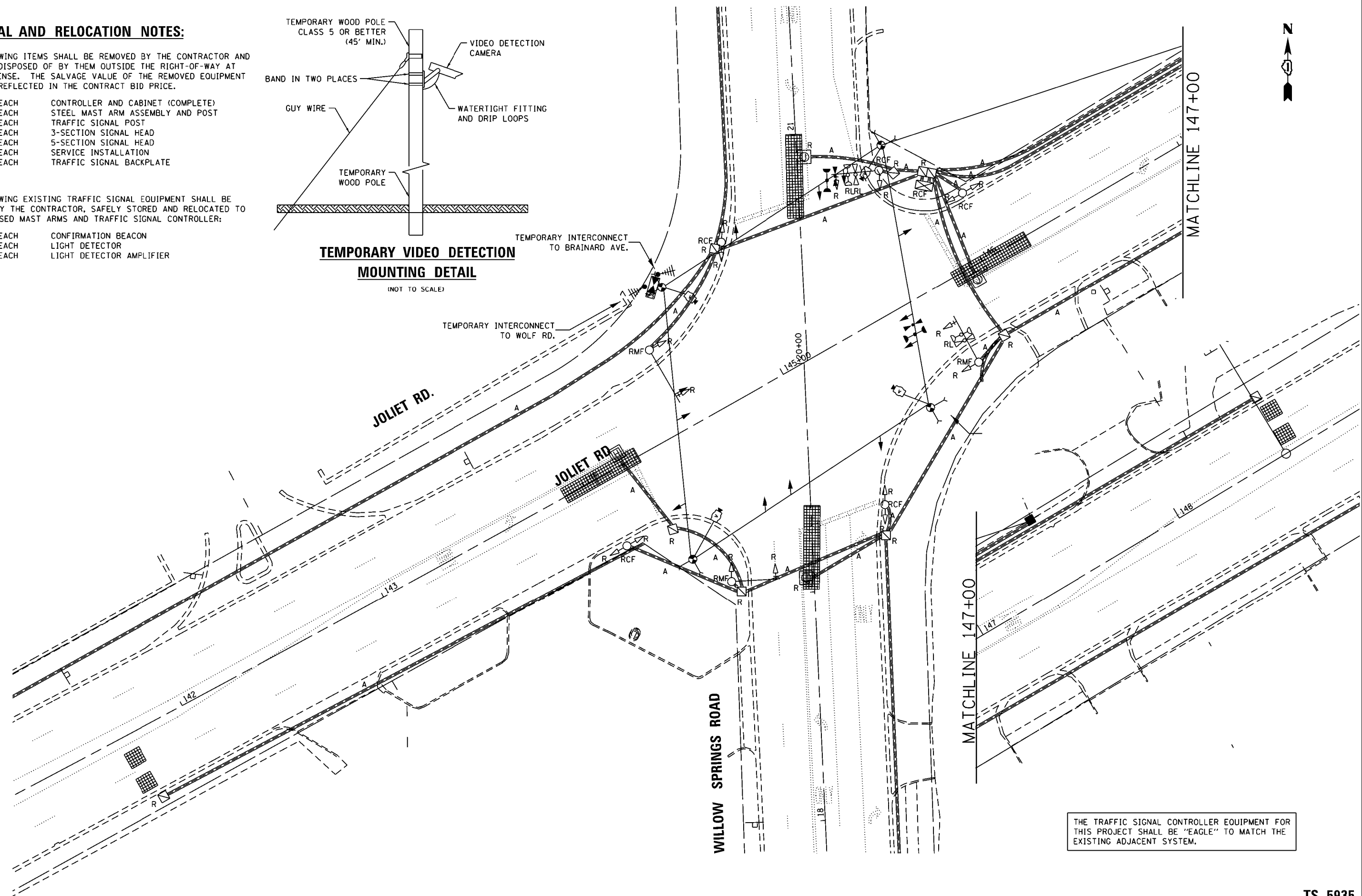
THE FOLLOWING EXISTING TRAFFIC SIGNAL EQUIPMENT SHALL BE REMOVED BY THE CONTRACTOR, SAFELY STORED AND RELOCATED TO THE PROPOSED MAST ARMS AND TRAFFIC SIGNAL CONTROLLER:

- 2 EACH CONFIRMATION BEACON
- 2 EACH LIGHT DETECTOR
- 1 EACH LIGHT DETECTOR AMPLIFIER



**TEMPORARY VIDEO DETECTION MOUNTING DETAIL**

(NOT TO SCALE)



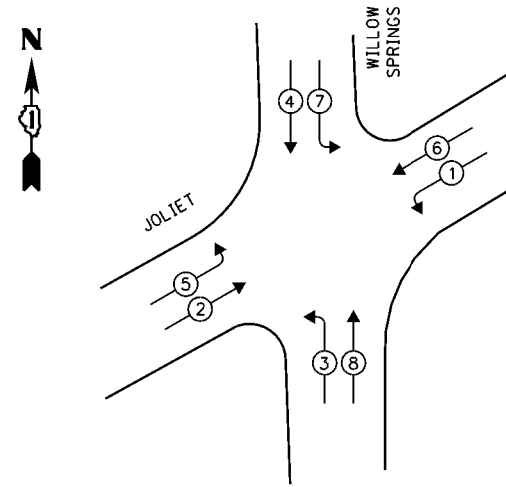
THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.



FILE NAME =	USER NAME = smj.thsv	DESIGNED - SS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY TRAFFIC SIGNAL INSTALLATION PLAN JOLIET RD AND WILLOW SPRINGS ROAD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ci:\pwwork\p\idat\smj.thsv\d0334658\p154\2-shit-ts.dgn	DRAWN - SS	REVISED -	3562			430Y-TS(14)	COOK	27	15		
Default	PLOT SCALE = 48.0000' / in.	CHECKED - JC	REVISED -			CONTRACT NO. 60Y20					
	PLOT DATE = 3/25/2015	DATE - 03/20/2015	REVISED -			ILLINOIS FED. AID PROJECT					
					SCALE:	SHEET	OF	SHEETS	STA.	TO	STA.

TS 5935

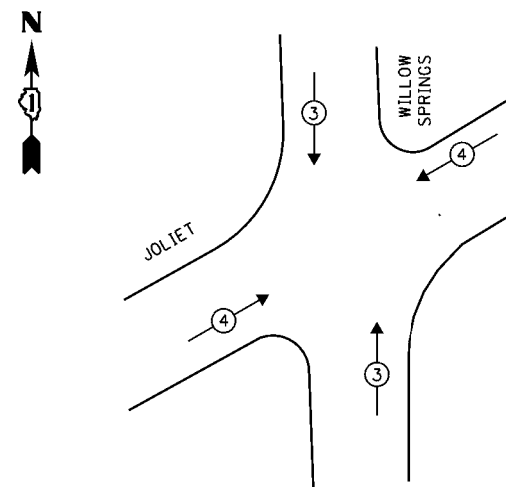
**TEMPORARY CONTROLLER SEQUENCE**



**LEGEND:**

- ◻ SINGLE ENTRY PHASE
- ◉ DUAL ENTRY PHASE
- ◉ PEDESTRIAN PHASE
- ◊ OL OVERLAP

**TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE**



**TRAFFIC SIGNAL ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	WATTAGE		TOTAL WATTAGE
		LED	% OPERATION	
SIGNAL (RED)	12	11	0.50	66
(YELLOW)	12	20	0.25	60
(GREEN)	12	12	0.25	36
PERMISSIVE ARROW	16	10	0.10	16
PED. SIGNAL	-	-	-	-
CONTROLLER	1	100	1.00	100.0
UPS	1	25	1.00	25.0
VIDEO SYSTEM	1	150	1.00	150
ILLUM. SIGN	-	25	0.05	-
FLASHER	-	-	0.50	-
-	-	-	-	-
TOTAL =				453

ENERGY COSTS TO:

VILLAGE OF COUNTRYSIDE  
5550 EAST AVENUE  
COUNTRYSIDE, IL 60525

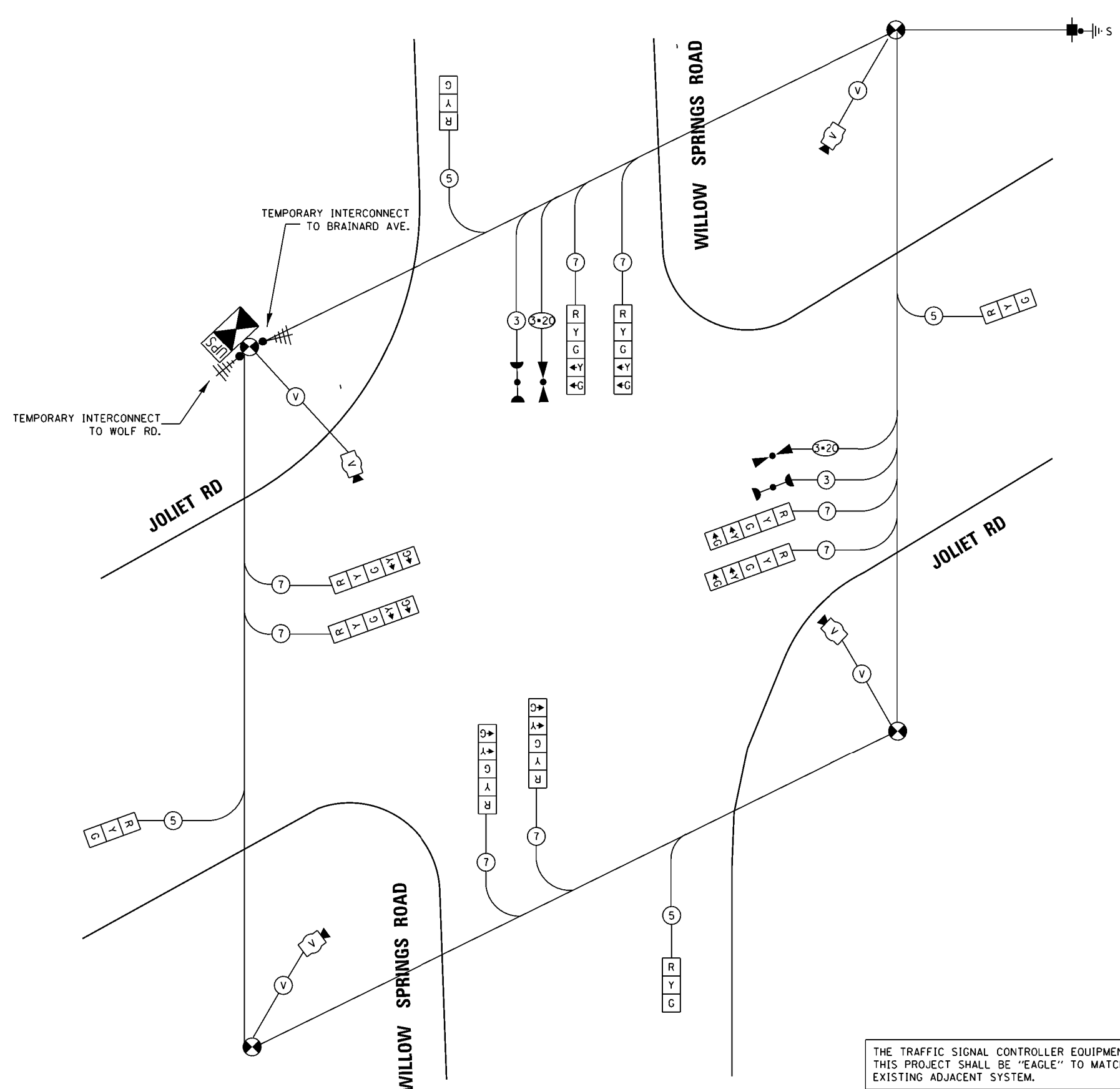
ENERGY SUPPLY: CONTACT: IYAS MOHIUDDIN  
PHONE: 708-235-2692  
COMPANY: COMMONWEALTH EDISON  
ACCOUNT NUMBER: ---

FILE NAME: ci:\pwr\_work\pwr\dot\tsm\thsv\td0334658\p15492-shit-ts.dgn  
PLOT SCALE: 48.0000' / in.  
PLOT DATE: 3/25/2015

DESIGNED - SS      REVISED -  
DRAWN - SS        REVISED -  
CHECKED - JC      REVISED -  
DATE - 03/20/2015      REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CABLE PLAN  
(NOT TO SCALE)**

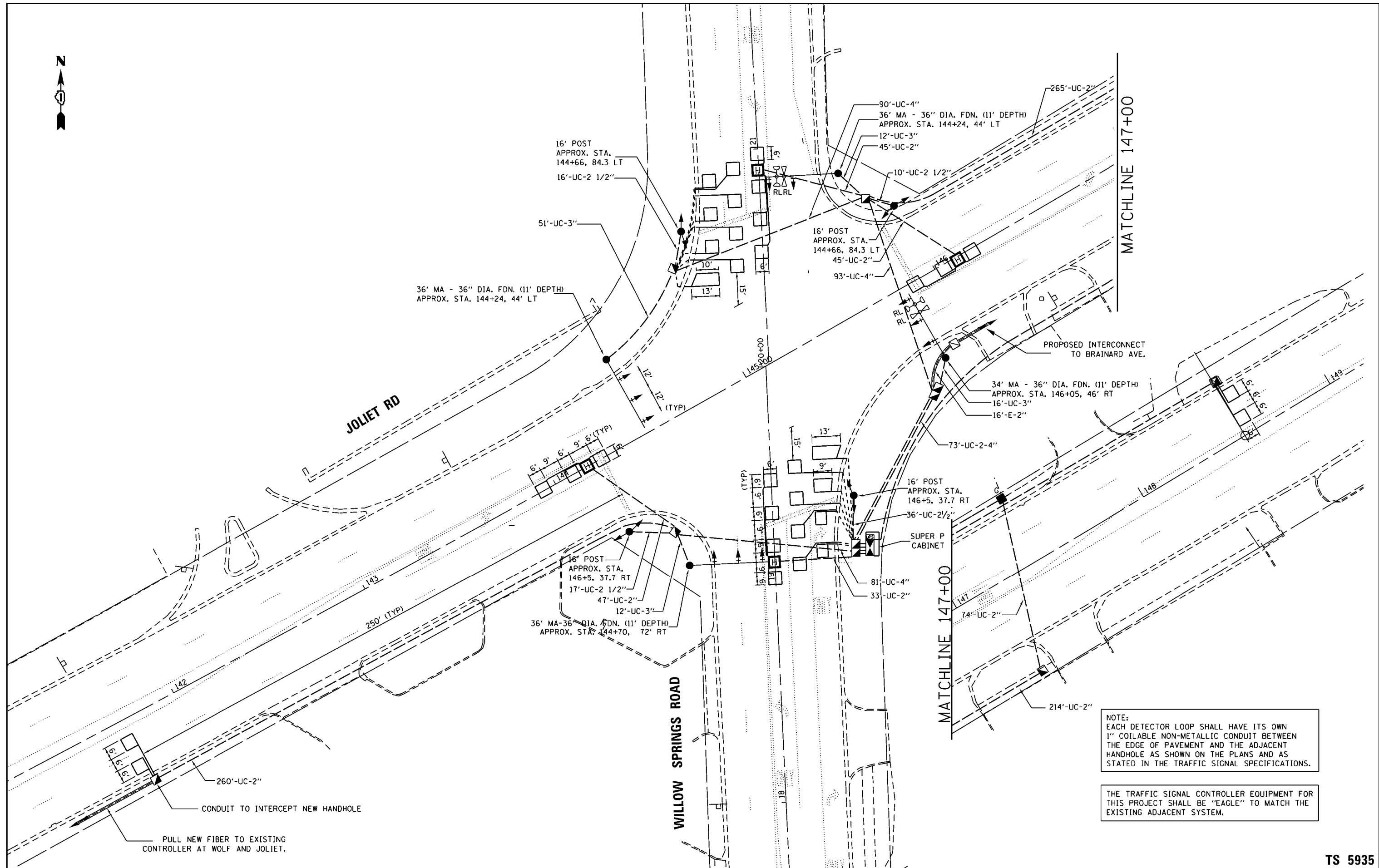


THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**TS 5935**

SCALE:		SHEET	OF	SHEETS	STA.	TO	STA.
		3562		430Y-TS(14)			
		COUNTY		COOK	TOTAL SHEETS		27
		SECTION		430Y-TS(14)	SHEET NO.		16
		CONTRACT NO.		60Y20			
ILLINOIS FED. AID PROJECT							





NOTE:  
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.

THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR  
THIS PROJECT SHALL BE "EAGLE" TO MATCH THE  
EXISTING ADJACENT SYSTEM.

TS 5935

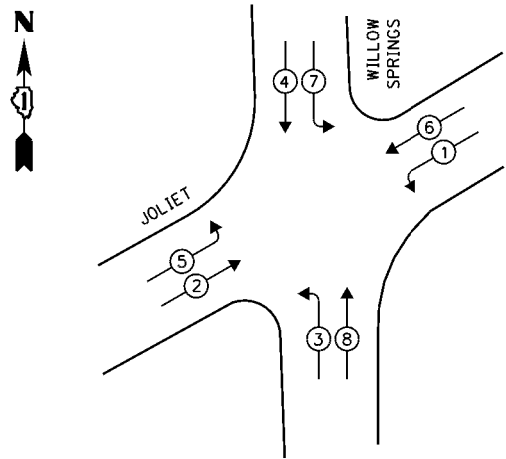
FILE NAME =	USER NAME = smj thsv	DESIGNED - SS	REVISED -
ci:\pwr\work\pwr\tdot\smj thsv\d0334658\p15492-shit-ts.dgn		DRAWN - SS	REVISED -
Default	PLOT SCALE = 48.0000' / in.	CHECKED - JC	REVISED -
	PLOT DATE = 3/25/2015	DATE - 3/20/2015	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

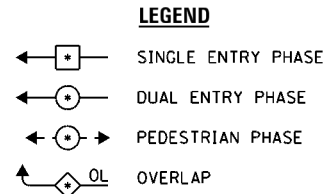
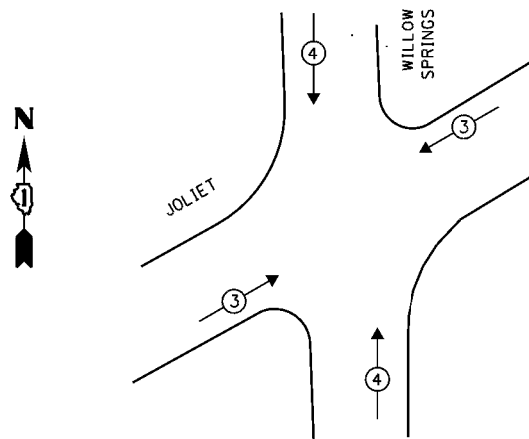
TRAFFIC SIGNAL INSTALLATION PLAN			
JOLIET RD AND WILLOW SPRINGS ROAD			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	17
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				

**PROPOSED CONTROLLER SEQUENCE**



**PROPOSED EMERGENCY VEHICLE  
PREEMPTION SEQUENCE**

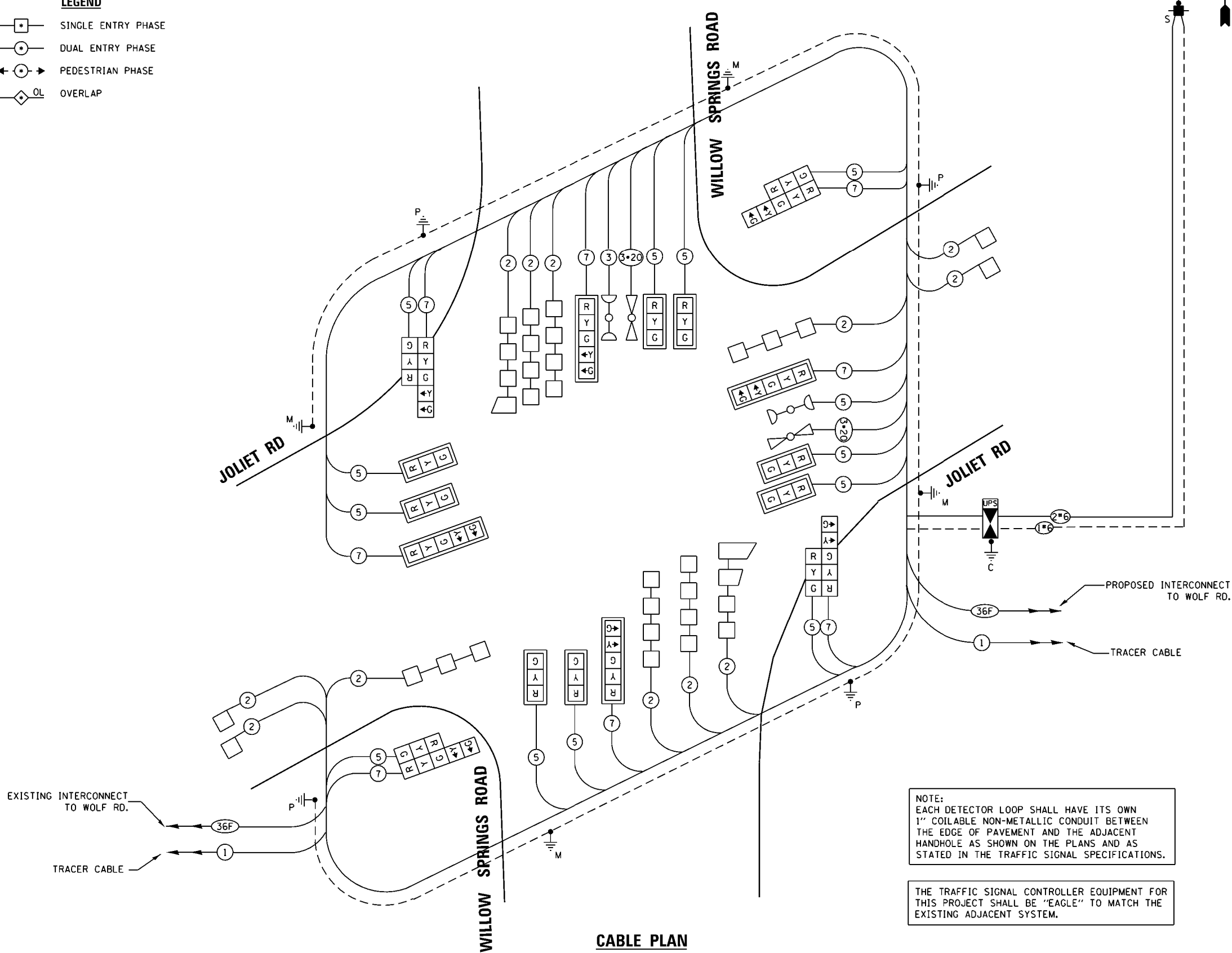


**TRAFFIC SIGNAL  
ELECTRICAL SERVICE REQUIREMENTS**

TYPE	NO. OF LAMPS	WATTAGE		TOTAL WATTAGE
		LED	% OPERATION	
SIGNAL (RED)	20	11	0.50	110
(YELLOW)	20	20	0.25	100
(GREEN)	20	12	0.25	60
PERMISSIVE ARROW	16	10	0.10	16
PED. SIGNAL	-	20	1.00	-
CONTROLLER	1	100	1.00	100.0
UPS	1	25	1.00	25.0
VIDEO SYSTEM	-	150	1.00	-
ILLUM. SIGN	-	25	0.05	-
FLASHER	-	-	0.50	-
-	-	-	-	-
TOTAL =				411

ENERGY COSTS TO:  
**VILLAGE OF COUNTRYSIDE**  
 5550 EAST AVENUE  
 COUNTRYSIDE, IL 60525

ENERGY SUPPLY: CONTACT: IIYAS MOHIUDDIN  
 PHONE: 708-235-2692  
 COMPANY: COMMONWEALTH EDISON  
 ACCOUNT NUMBER: ---



NOTE:  
 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.

THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR  
 THIS PROJECT SHALL BE "EAGLE" TO MATCH THE  
 EXISTING ADJACENT SYSTEM.

**CABLE PLAN**  
 (NOT TO SCALE)

FILE NAME: ci:\pwork\p\id\ts\m\thav\0334658\15492-shit-ts.dgn  
 USER NAME: smi thav  
 PLOT SCALE: 48.0000' / in.  
 PLOT DATE: 3/25/2015

DESIGNED - SS      REVISED -  
 DRAWN - SS        REVISED -  
 CHECKED - JC      REVISED -  
 DATE - 03/20/2015    REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TRAFFIC SIGNAL INSTALLATION PLAN  
 JOLIET RD AND WILLOW SPRINGS ROAD**

SCALE:      SHEET      OF      SHEETS      STA.      TO      STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	18
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				

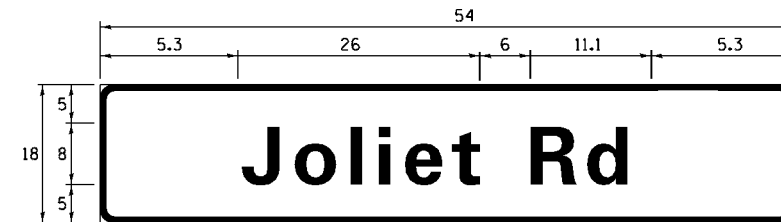
**TS 5935**

**SCHEDULE OF QUANTITIES**

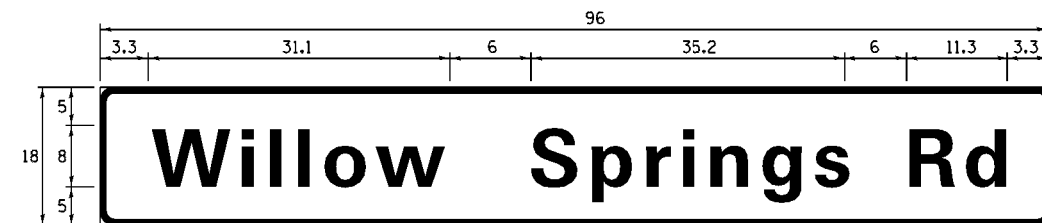
ITEM DESCRIPTION	UNITS	TOTAL QTY.
SIGN PANEL - TYPE 1	SQ FT	13.5
SIGN PANEL - TYPE 2	SQ FT	24
SERVICE INSTALLATION - GROUND MOUNTED	EACH	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1038
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2 1/2" DIA.	FOOT	79
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	164
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	399
HANDHOLE	EACH	6
HEAVY-DUTY HANDHOLE	SQ FT	4
DOUBLE HANDHOLE		
TRANSCEIVER - FIBER OPTIC	EACH	1
* ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	427
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	2564
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1830
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	3096
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	180
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1256
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 34 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 36 FT.	EACH	3
CONCRETE FOUNDATION, TYPE A	FOOT	16
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	44
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	7
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	11
INDUCTIVE LOOP DETECTOR	EACH	12
DETECTOR LOOP, TYPE I	FOOT	576
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
* RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	3
* RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	8
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
REMOVE EXISTING JUNCTION BOX	EACH	3
* EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	427
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
TEMPORARY INFORMATION SIGNING	EACH	102.8
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH	1

\* 100% COST TO PLEASEANTVIEW FIRE DEPARTMENT

**SIGN PANEL - TYPE 1 OR TYPE 2**



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	6.75	1	ZZ	2



DESIGN SERIES	AREA (SQ FT)	SIGN PANEL TYPE	SHEETING TYPE	QTY. REQUIRED
D	12	1	ZZ	2

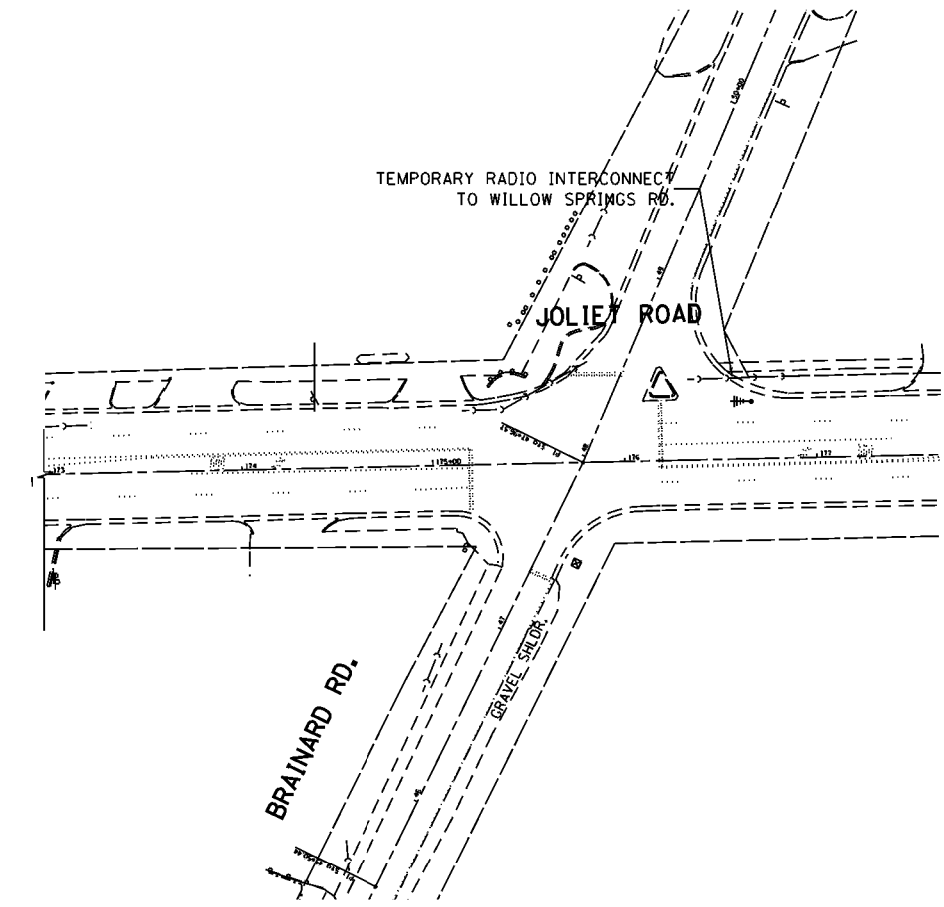
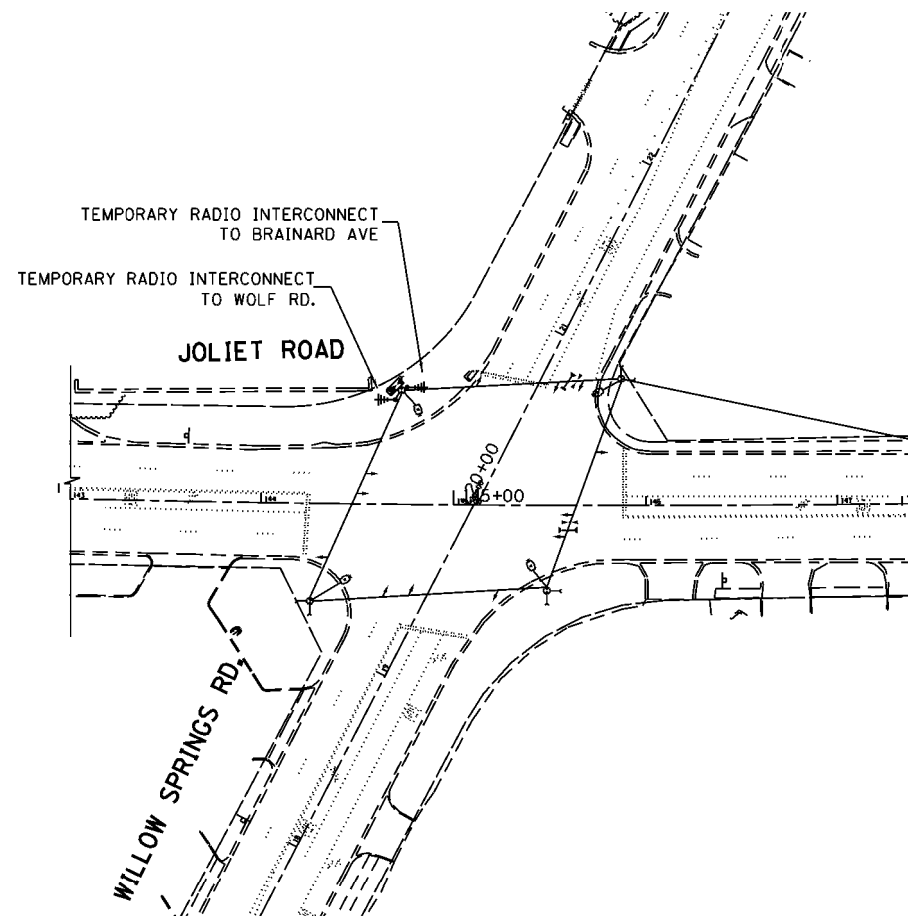
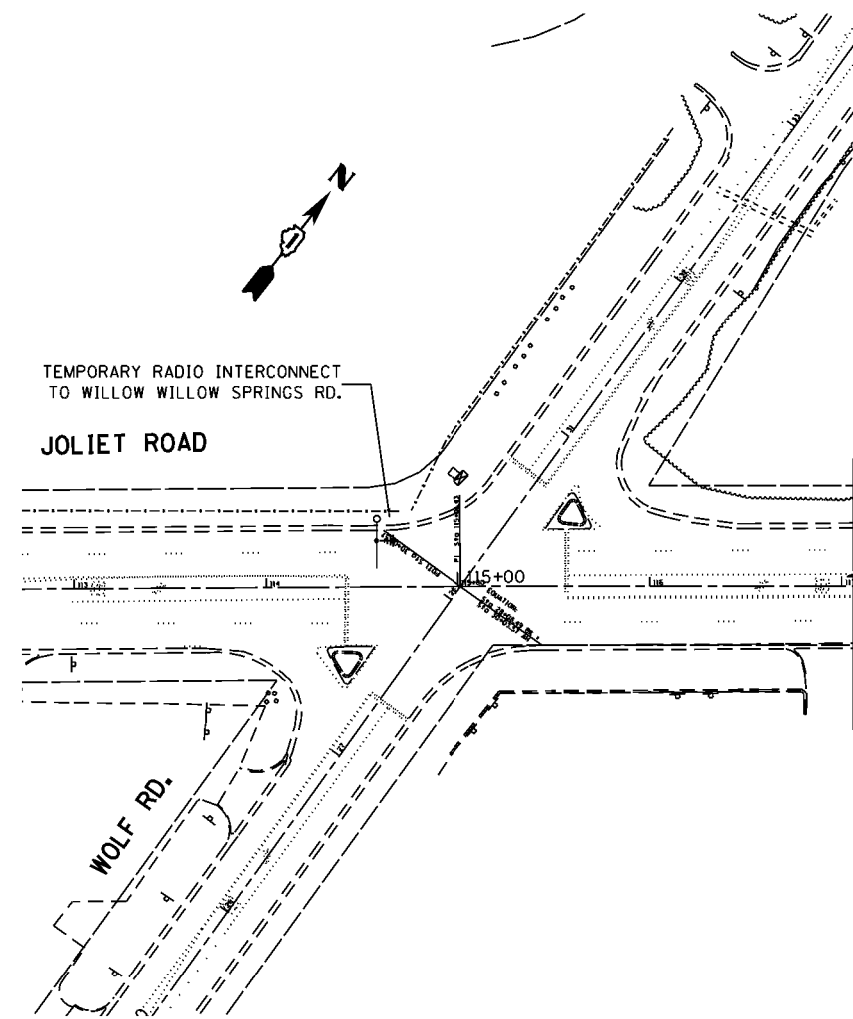
NOTE: FOR ADDITIONAL DESIGN AND INSTALLATION INFORMATION PLEASE SEE DISTRICT ONE MAST ARM MOUNTED STREET NAME SIGNS DETAIL

THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**TS 5935**

FILE NAME =	USER NAME = smj.thsv	DESIGNED - SS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC SIGNAL INSTALLATION PLAN JOLIET RD AND WILLOW SPRINGS ROAD</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
ci:\pwr\work\pwr\dot\smj.thsv\d0334658\PI5492-shit-ts.dgn	DRAWN - SS	REVISIED -	3562			430Y-TS(14)	COOK	27	19		
Default	PLOT SCALE = 48.0000' / in.	CHECKED - JC	REVISIED -			CONTRACT NO. 60Y20					
	PLOT DATE = 3/25/2015	DATE - 03/05/2015	REVISIED -			SCALE:	SHEET	OF	SHEETS	STA.	TO

ILLINOIS FED. AID PROJECT



THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**EAGLE 2B**

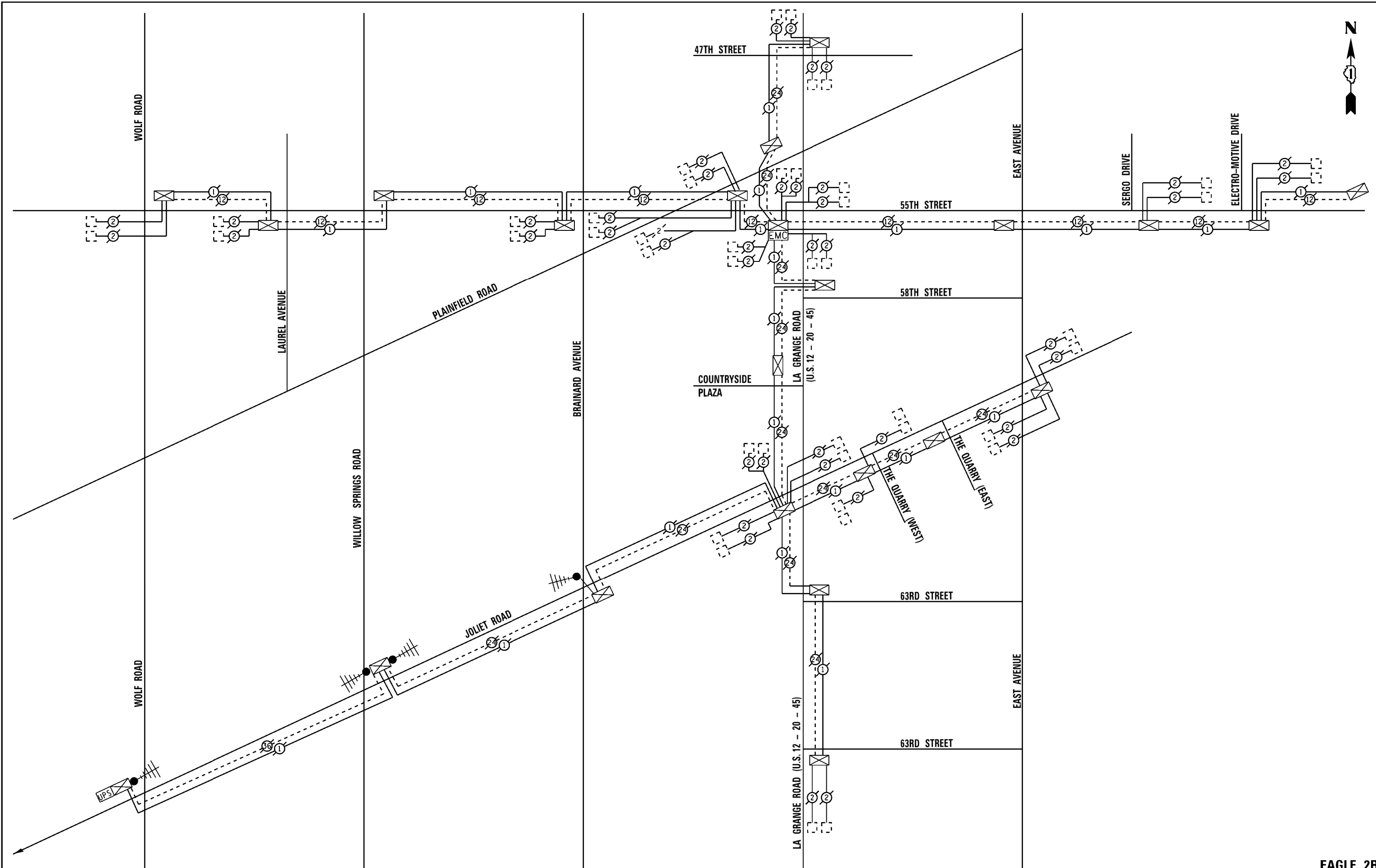
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	PLOT DATE = 3/25/2015	DATE - 03/20/2015	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY INTERCONNECT PLAN AND SCHEMATIC  
JOLIET RD AND WILLOW SPRINGS RD.**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	20
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				



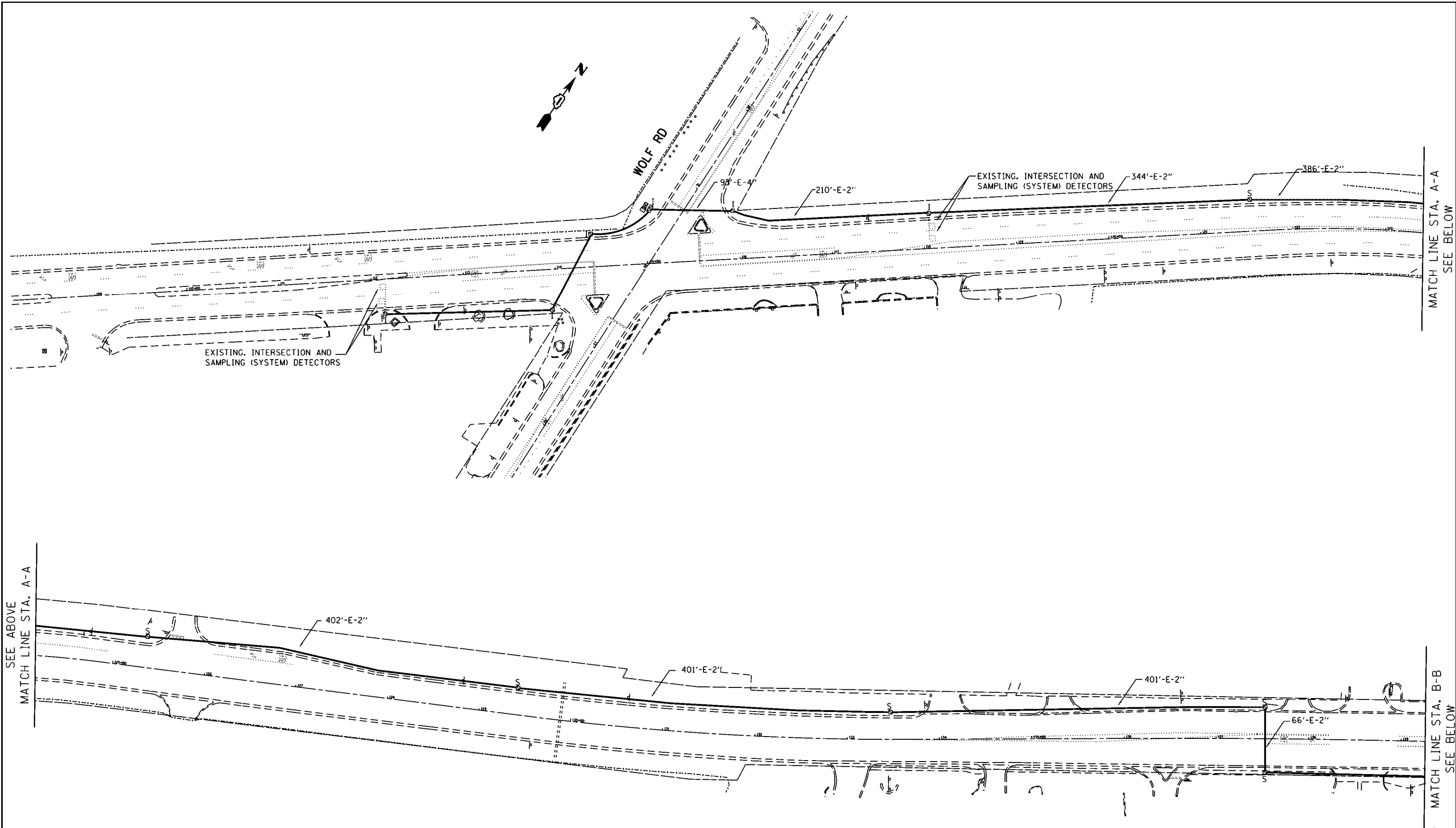
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	PLOT DATE = 3/25/2015	CHECKED - JC	REVISED -
		DATE - 3/20/2015	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TEMPORARY INTERCONNECT SCHEMATIC JOLIET RD AND WILLOW SPRINGS ROAD			
SCALE:	SHEET	OF SHEETS	STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	21
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				



THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**EAGLE 2B**

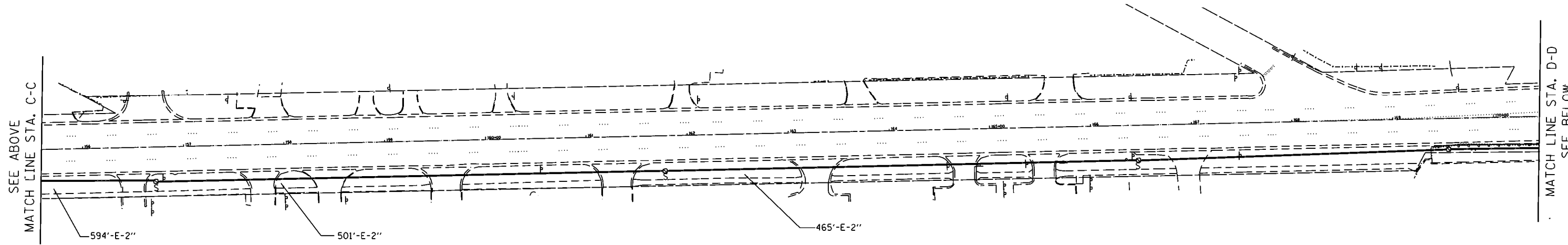
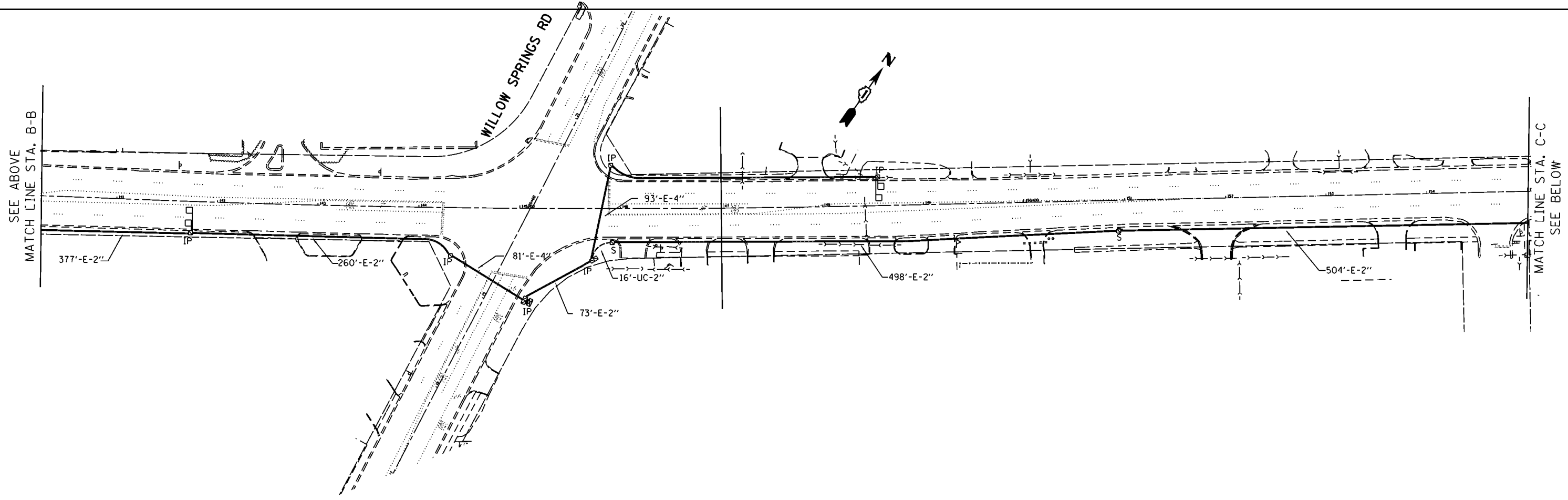
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Default	PLOT SCALE = 100.0000' / 1in.	CHECKED - JC	REVISED -
	PLOT DATE = 3/25/2015	DATE - 3/20/2015	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN AND SCHEMATIC  
JOLIET RD AND WILLOW SPRINGS RD.**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

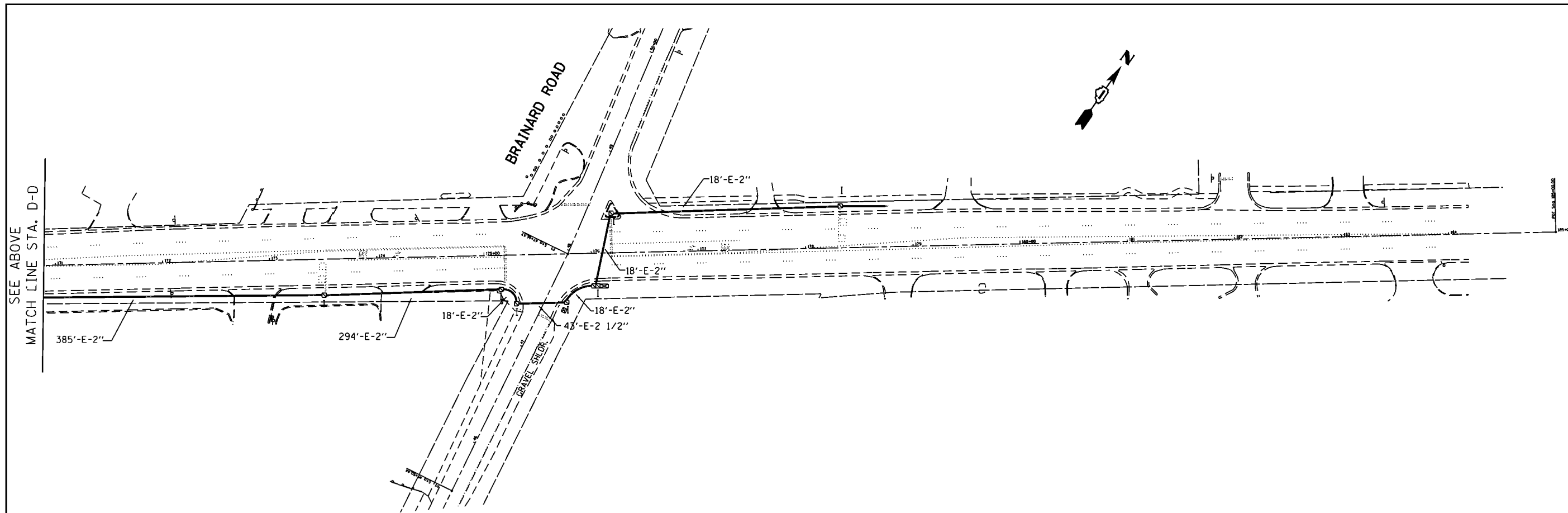
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	22
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				



THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**EAGLE 2B**

FILE NAME = c:\pwr_work\pwr\dot\sm\thsv\d0334658\p15492-shit-ts.dgn Default	USER NAME = sm\thsv	DESIGNED - SS	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT PLAN AND SCHEMATIC JOLIET RD AND WILLOW SPRINGS RD.</b>	F.A.P. RTE. 3562	SECTION 430Y-TS(14)	COUNTY COOK	TOTAL SHEETS 27	SHEET NO. 23
	PLOT SCALE = 100.0000' / 1in.	CHECKED - JC	DATE - 3/20/2015			REVISED -	SCALE: 1"=50'	SHEET OF SHEETS STA. TO STA.	CONTRACT NO. 60Y20 ILLINOIS FED. AID PROJECT	



THE TRAFFIC SIGNAL CONTROLLER EQUIPMENT FOR THIS PROJECT SHALL BE "EAGLE" TO MATCH THE EXISTING ADJACENT SYSTEM.

**EAGLE 2B**

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	PLOT DATE = 3/25/2015	DATE - 3/20/2015	REVISED -

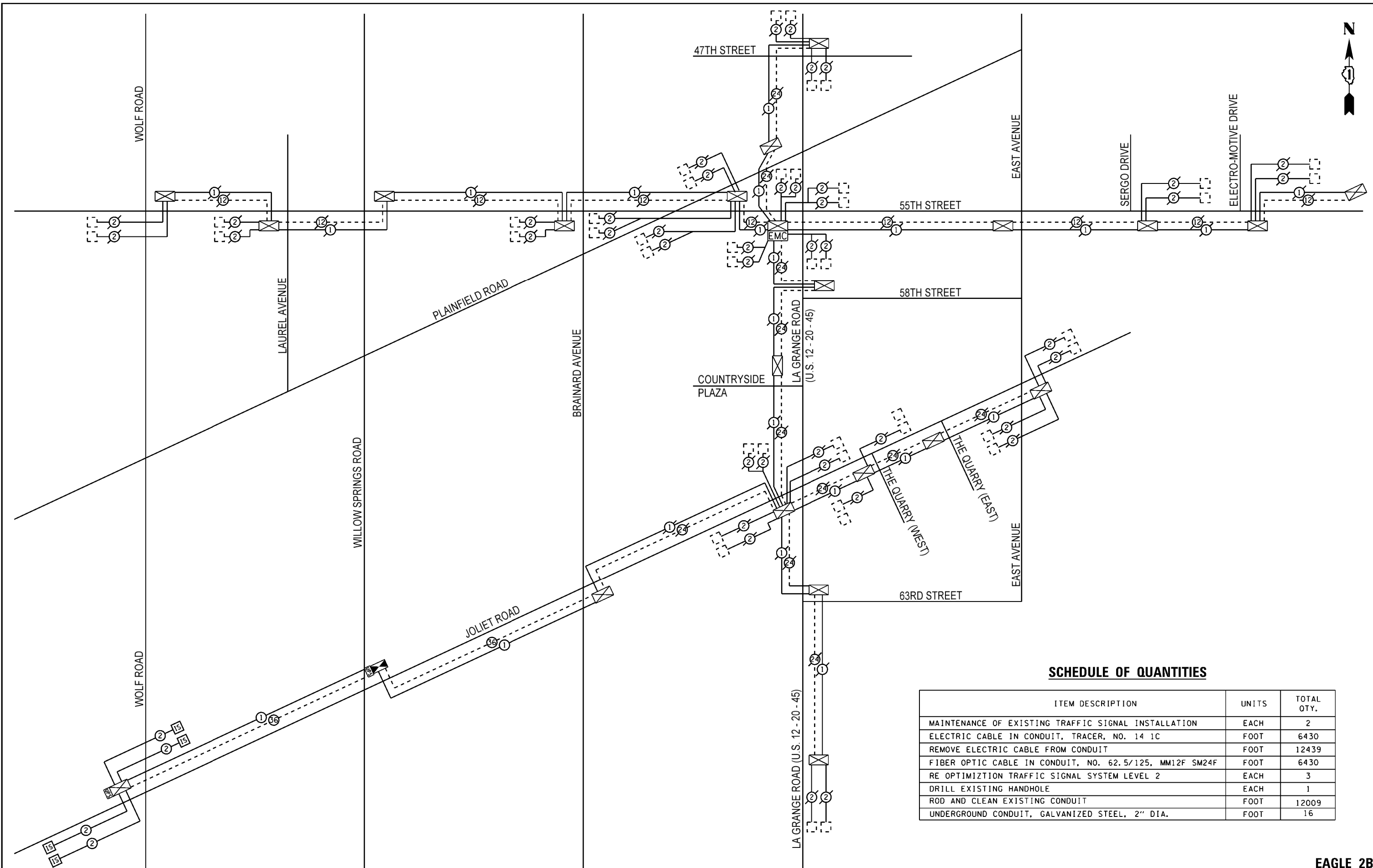
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**INTERCONNECT PLAN AND SCHEMATIC  
JOLIET RD AND WILLOW SPRINGS RD.**

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	24
				CONTRACT NO. 60Y20
ILLINOIS FED. AID PROJECT				



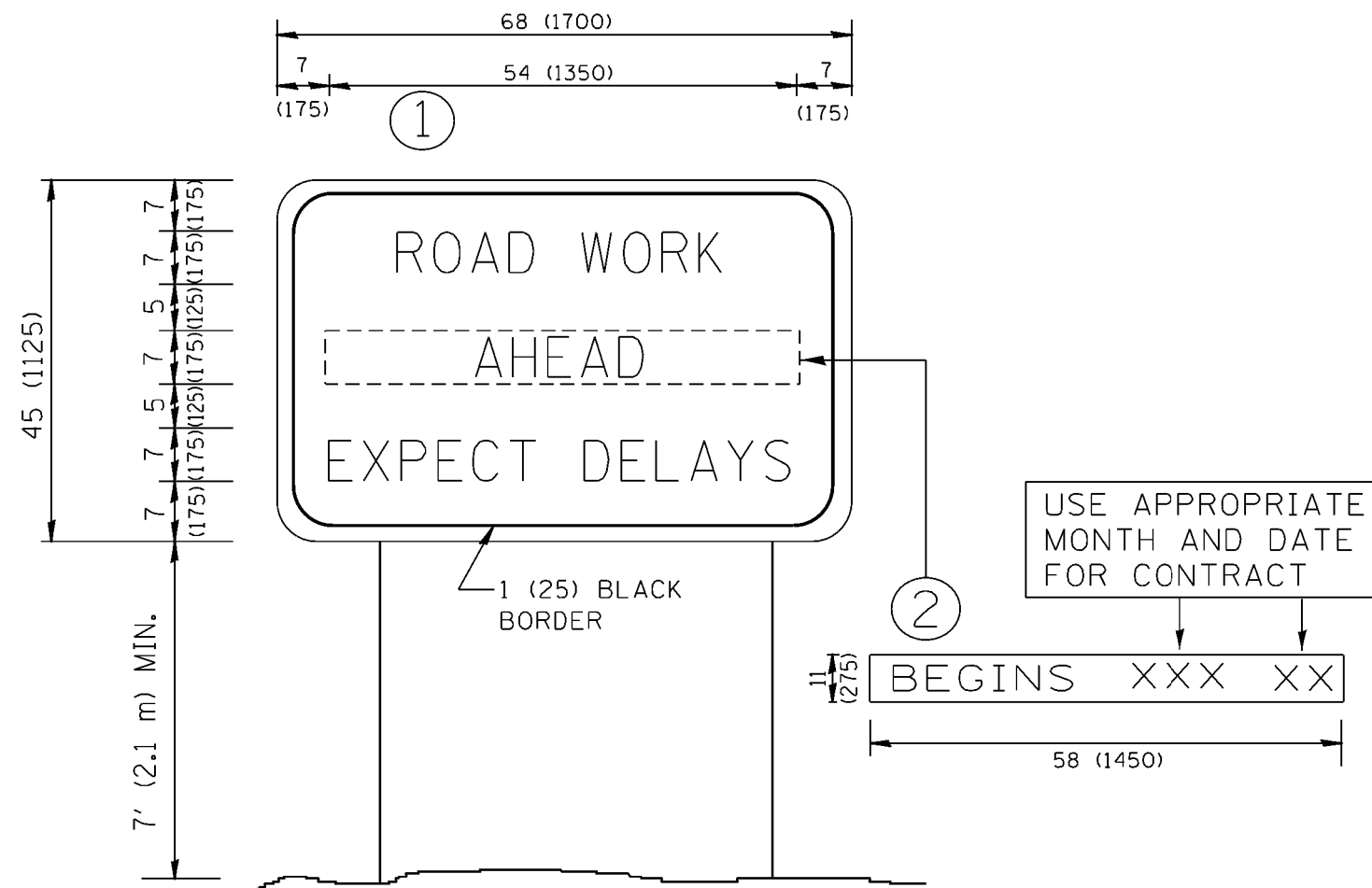


**SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY.
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	2
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	6430
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	12439
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	FOOT	6430
RE OPTIMIZATION TRAFFIC SIGNAL SYSTEM LEVEL 2	EACH	3
DRILL EXISTING HANDHOLE	EACH	1
ROD AND CLEAN EXISTING CONDUIT	FOOT	12009
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	16

**EAGLE 2B**

FILE NAME = c:\pwwork\pwwork\am\thsv\0334658\PI5492-shit-ts.dgn	USER NAME = am\thsv	DESIGNED - SS DRAWN - SS CHECKED - JC DATE - 3/20/2015	REVISED - REVISED - REVISED - REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>INTERCONNECT SCHEMATIC JOLIET RD AND WILLOW SPRINGS ROAD</b>	F.A.P. RTE. 3562	SECTION 430Y-TS(14)	COUNTY COOK	TOTAL SHEETS 27	SHEET NO. 25
PLOT SCALE = 48,0000' / in. PLOT DATE = 3/25/2015				SCALE:      SHEET      OF      SHEETS      STA.      TO      STA.		CONTRACT NO. 60Y20 <small>ILLINOIS FED. AID PROJECT</small>				



**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

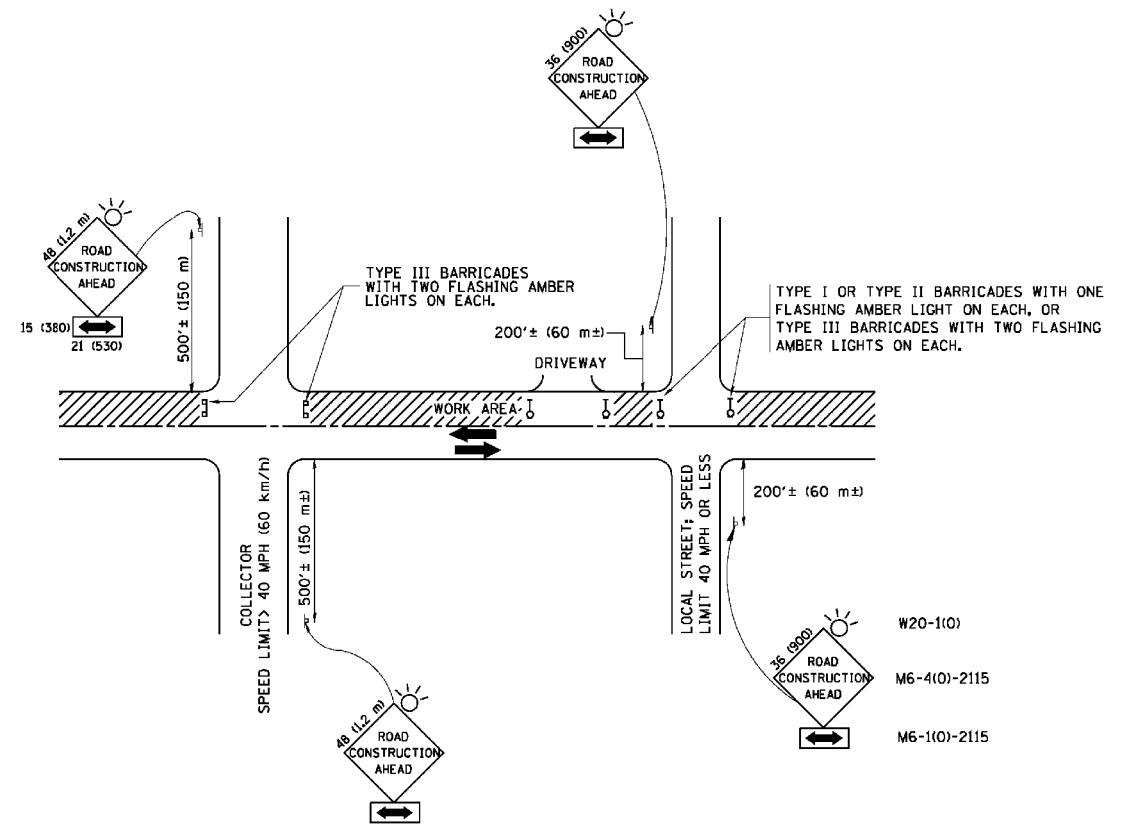
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Default		CHECKED - JC	REVISED -
	PLOT DATE = 3/25/2015	DATE - 3/20/2015	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ARTERIAL ROAD  
SIGN INFORMATION

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	26
CONTRACT NO. 60Y20			ILLINOIS FED. AID PROJECT	



TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

NOTES:

A. FOR NO LANE RESTRICTION ON THE SIDE ROAD OR DRIVEWAYS

1. SIDE ROAD WITH A SPEED LIMIT OF 40 MPH (60 km/h) OR LESS AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE ROAD CONSTRUCTION AHEAD SIGN 36 x 36 (900x900) WITH A FLASHER AND FLAG MOUNTED ON IT APPROXIMATELY 200' (60 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE I, TYPE II OR TYPE III BARRICADES, 1/3 OF THE CROSS SECTION OF THE CLOSED PORTION.
2. SIDE ROAD WITH A SPEED LIMIT GREATER THAN 40 MPH (60 km/h) AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER:
  - a) ONE ROAD CONSTRUCTION AHEAD SIGN 48 x 48 (1.2 m x 1.2 m) WITH A FLASHER MOUNTED ON IT APPROXIMATELY 500' (150 m) IN ADVANCE OF THE MAIN ROUTE.
  - b) THE CLOSED PORTION OF THE MAIN ROUTE SHALL BE PROTECTED BY BLOCKING WITH TYPE III BARRICADES, 1/2 OF THE CROSS SECTION OF THE CLOSED PORTION.
3. WHEN THE SIDE ROAD LIES BETWEEN THE BEGINNING OF THE MAINLINE SIGNING AND THE WORK ZONE, A SINGLE HEADED ARROW (M6-1) SHALL BE USED IN LIEU OF THE DOUBLE HEADED ARROW (M6-4).

B. FOR A LANE CLOSURE ON A SIDE ROAD OR DRIVEWAY:

USE APPLICABLE PORTIONS OF THE TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES (STD. 701501, STD. 701606 OR THE APPROPRIATE STANDARD). THE SPACING OF SIGNS AND BARRICADES SHALL BE ADJUSTED FOR FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. THE DIRECTIONAL ARROW SHALL BE COVERED OR REMOVED WHEN NO LONGER CONSISTENT WITH THE SIDE ROAD LANE CLOSURE.

C. ADVANCE WARNING SIGNS ARE TO BE OMITTED ON DRIVEWAY UNLESS OTHERWISE NOTED.

D. THE TRAFFIC CONTROL AND PROTECTION FOR SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS SHALL BE INCIDENTAL TO THE COST OF SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

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Default	PLOT SCALE = 100.0000' / 1in.	CHECKED - JC	REVISED -
	PLOT DATE = 3/25/2015	DATE - 3/20/2015	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND PROTECTION FOR  
SIDE ROADS, INTERSECTIONS, AND DRIVEWAYS

SCALE: 1"=50' SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
3562	430Y-TS(14)	COOK	27	27
CONTRACT NO. 60Y20				
ILLINOIS FED. AID PROJECT				