

# TRAFFIC SIGNAL LEGEND

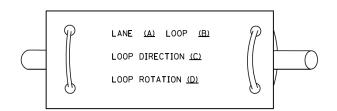
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ITEM	EXISTING	<u>PROPOSED</u>	<u>ITEM</u>	EXISTING	PROPOSED	ITEM	EXISTING	PROPOSED
CONTROLLER CABINET	$\boxtimes$	$\blacksquare$	HANDHOLE -SQUARE			SIGNAL HEAD -(P) PROGRAMMABLE SIGNAL HEAD	R R	R Y Y
COMMUNICATION CABINET	ECC	СС	-ROUND					Y G G G 4Y 4Y 4G 4G
MASTER CONTROLLER	EMC	MC	HEAVY DUTY HANDHOLE -SQUARE -ROUND		<b>H B</b>			<b>4</b> G <b>4</b> G <b>₽</b>
MASTER MASTER CONTROLLER	EMMC	ммс	DOUBLE HANDHOLE			CICNAL HEAD WITH DACKDLATE		ı
UNINTERRUPTABLE POWER SUPPLY	<b>3</b>	<b>7</b>	JUNCTION BOX		0	SIGNAL HEAD WITH BACKPLATE  -(P) PROGRAMMABLE SIGNAL HEAD  -(RB) RETROREFLECTIVE BACKPLATE		R R Y G G G
SERVICE INSTALLATION -(P) POLE MOUNTED	<b>-</b> □- <sup>P</sup>	<b>-</b> ₽	RAILROAD CANTILEVER MAST ARM	X <del>OX X</del> X	X <del>eX X</del>			Y         Y         Q
SERVICE INSTALLATION			RAILROAD FLASHING SIGNAL	<del>∑⊙</del> ∑	X <del>+X</del>		P RB	P RB
-(G) GROUND MOUNTED -(GM) GROUND MOUNTED METERED	$\boxtimes^{G} \boxtimes^{GM}$	$lackbox{\square}^{G}$ $lackbox{\square}^{GM}$	RAILROAD CROSSING GATE	<del>∑0∑</del> >	X+X-	PEDESTRIAN SIGNAL HEAD		•
TELEPHONE CONNECTION	ET	T	RAILROAD CROSSBUCK	否	*	AT RAILROAD INTERSECTIONS	<b>(P</b> )	<b>₽</b> <b>₹</b>
STEEL MAST ARM ASSEMBLY AND POLE	O	•——	RAILROAD CONTROLLER CABINET		<b>&gt;</b> ∢	PEDESTRIAN SIGNAL HEAD WITH COUNTDOWN TIMER	<b>()</b> C	<b>₽</b> C <b>₹</b> D
ALUMINUM MAST ARM ASSEMBLY AND POLE			UNDERGROUND CONDUIT (UC), GALVANIZED STEEL		<del></del> -			
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE	o;¤—	•*	TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE			ILLUMINATED SIGN "NO LEFT TURN"/"NO RIGHT TURN"		
SIGNAL POST -(BM) BARREL MOUNTED - TEMPORARY	0	<ul> <li>● BM</li> </ul>	SYSTEM ITEM	S	SP	NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE.		
WOOD POLE	⊗	•	INTERSECTION ITEM	I	ΙP	ALL DETECTOR LOOP CABLE TO BE SHIELDED		C
GUY WIRE	<b>⋄</b> ≻	<b>ĕ</b> ≻	REMOVE ITEM		R	GROUND CABLE IN CONDUIT, NO. 6 SOLID COPPER (GREEN)	<u>- 1#6</u> -	<b></b> 1 <b>*</b> 6 <b></b> -
SIGNAL HEAD	<i>→</i>	<i>→</i>	RELOCATE ITEM		RL	ELECTRIC CABLE IN CONDUIT, TRACER NO. 14 1/C		<u>—1</u> —
SIGNAL HEAD WITH BACKPLATE	+1>	+►	ABANDON ITEM  CONTROLLER CABINET AND		А		•	
SIGNAL HEAD OPTICALLY PROGRAMMED	-P +P	<b>→</b> P + <b>→</b> P	FOUNDATION TO BE REMOVED		RCF	COAXIAL CABLE	— <u>©</u> —	—©—
FLASHER INSTALLATION	op F op FS	•► FS	MAST ARM POLE AND FOUNDATION TO BE REMOVED		RMF	VENDOR CABLE	—	<u></u>
-(FS) SOLAR POWERED	FS DH⊃FS	FF FFS	SIGNAL POST AND FOUNDATION TO BE REMOVED		RPF	COPPER INTERCONNECT CABLE, NO. 18, 3 PAIR TWISTED, SHIELDED	<b>6*18</b>	<del></del>
PEDESTRIAN SIGNAL HEAD	-0	-1	DETECTOR LOOP, TYPE I			FIBER OPTIC CABLE -NO. 62.5/125, MM12F	12F	——————————————————————————————————————
PEDESTRIAN PUSH BUTTON -(APS) ACCESSIBLE PEDESTRIAN PUSH BUTTON			PREFORMED DETECTOR LOOP	[P] (P)	РР	-NO. 62.5/125, MM12F SM12F -NO. 62.5/125, MM12F SM24F		—
RADAR DETECTION SENSOR	R	R.■	SAMPLING (SYSTEM) DETECTOR	$[\underline{s}]$ $(\underline{s})$	s s			——36F
VIDEO DETECTION CAMERA	(V)	<b>₩</b>	INTERSECTION AND SAMPLING (SYSTEM) DETECTOR		IS (S)			
RADAR/VIDEO DETECTION ZONE			QUEUE AND SAMPLING	[ <u>0</u> 5] ( <u>0</u> \$)	as as	GROUND ROD -(C) CONTROLLER -(M) MAST ARM	<u>.</u> C <u>.</u> M <u>.</u> P <u>.</u> S	<u></u> C ≟ <sup>M</sup> ≟ <sup>P</sup> ≟ <sup>S</sup>
PAN, TILT, ZOOM (PTZ) CAMERA	PTZ	PTZ¶	(SYSTEM) DETECTOR WIRELESS DETECTOR SENSOR	(I)	<b>⊚</b>	-(P) POST -(S) SERVICE		
EMERGENCY VEHICLE LIGHT DETECTOR	$\bowtie$	<b>~</b>	WIRELESS ACCESS POINT		_			
CONFIMATION BEACON	o <b>-</b> (I	•-1			_			
WIRELESS INTERCONNECT	<del>⊶-   </del>	• <del>   </del>						
WIRELESS INTERCONNECT RADIO REPEATER	ERR	RR						
TILE NAME = USER NAME = plascencial USER NAME = plasce	DESIGNED -		91/	ATE OF ILLINOIS		DISTRICT ONE	F.A.P. SECTION	JILL I J IV
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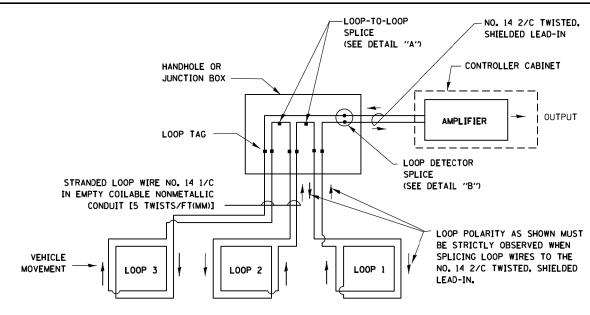
### LOOP DETECTOR NOTES

- 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

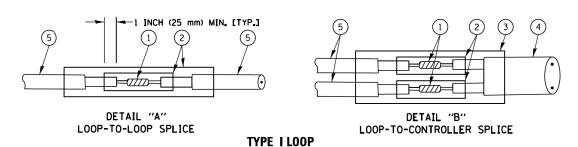


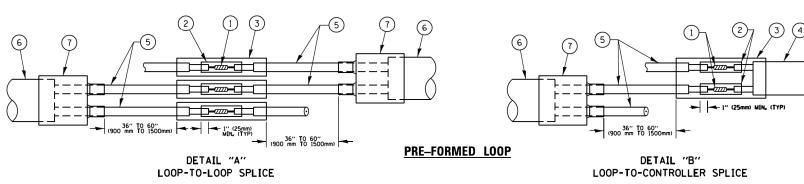
- A. LANE 1 IS THE LANE CLOSEST TO THE CENTERLINE OF THE ROADWAY
- B. LOOP \*1 IS THE LOOP IN THE LANE CLOSEST TO THE INTERSECTION.
- C. LABEL LOOP CABLE "IN" OR LOOP CABLE "OUT".
- D. LABEL LOOP CABLE CLOCKWISE OR LOOP CABLE COUNTERCLOCKWISE.



# **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.





# 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 LENGHT 6" (150 mm), UNDERWATER GRADE.

SCALE: NONE

(4) NO. 14 2/C TWISTED, SHIELDED CABLE.

- (5) LOOP CONDUCTOR WITH FLEXIBLE PLASTIC TUBE.
- 6 PRE-FORMED LOOP
- 7 XL POLYOLEFIN 2 CONDUCTOR BREAKOUT SEALS. TYCO CBR-2 OR APPROVED EQUAL

COUNTY

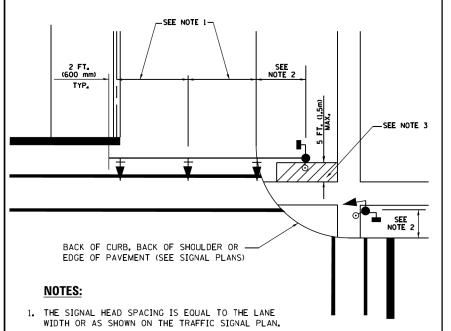
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<b>DEPARTMENT OF TRANSPORTATION</b>	

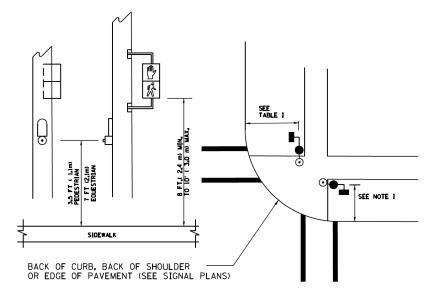
DISTRICT OF	VE	F.A.P. RTE.	SECTION
STANDARD TRAFFIC SIGNAL	DESIGN DETAILS	351	2016-002N
STANDARD TRAFFIC SIGNAL	. DESIGN DETAILS		TS-05
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# TRAFFIC SIGNAL MAST ARM AND SIGNAL POST MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALKBICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



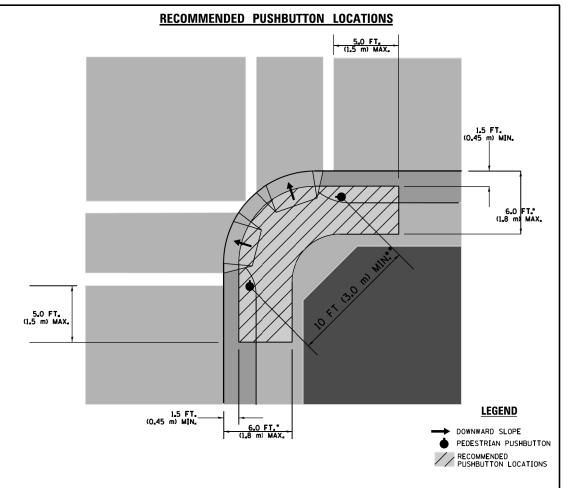
- 2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
- PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
- 4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE 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."



- 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:

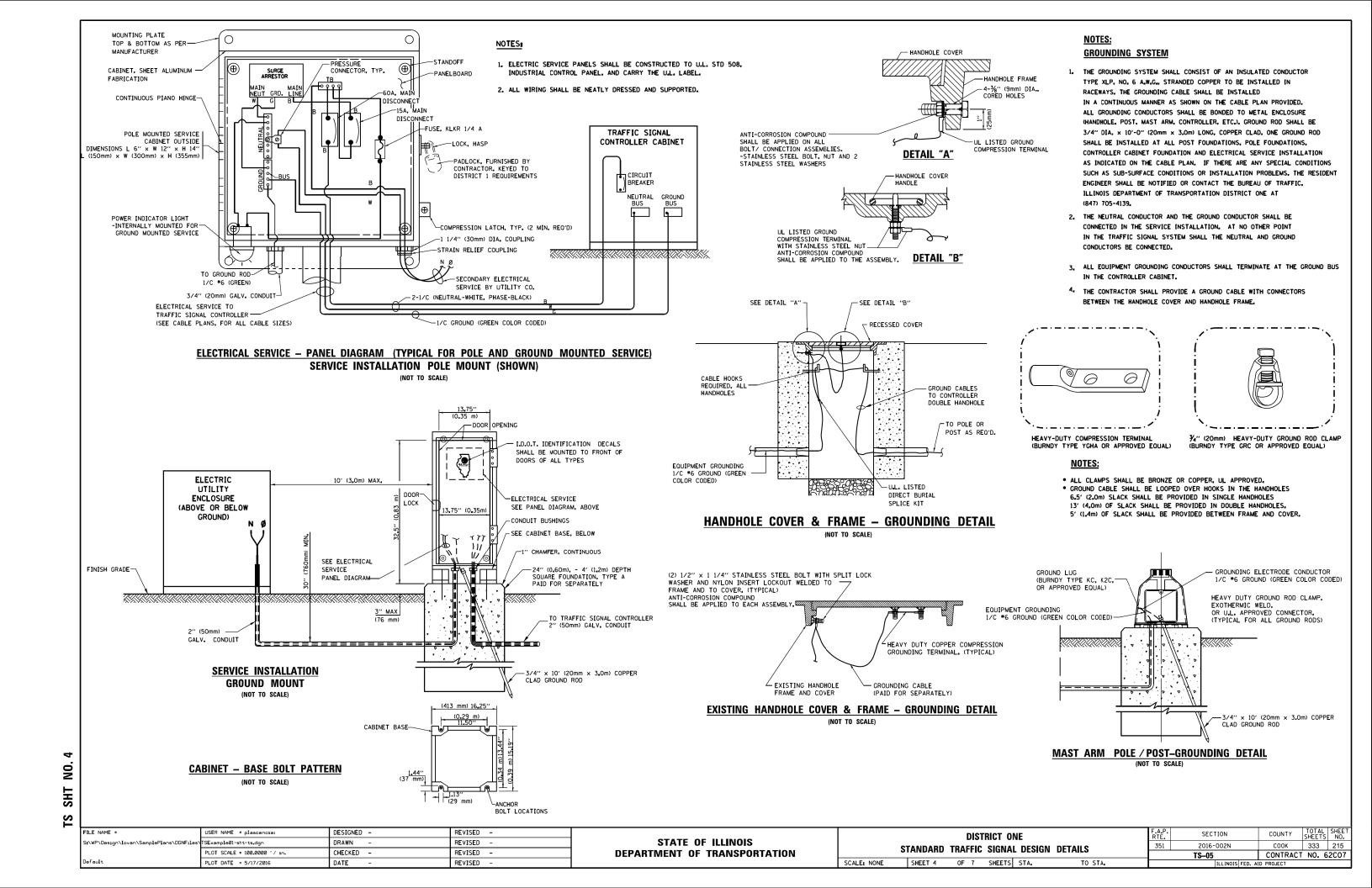
- 1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
- 2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
- 3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TOTHE 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.

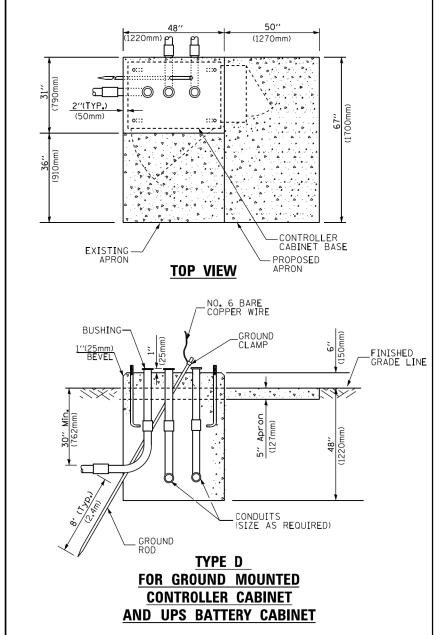
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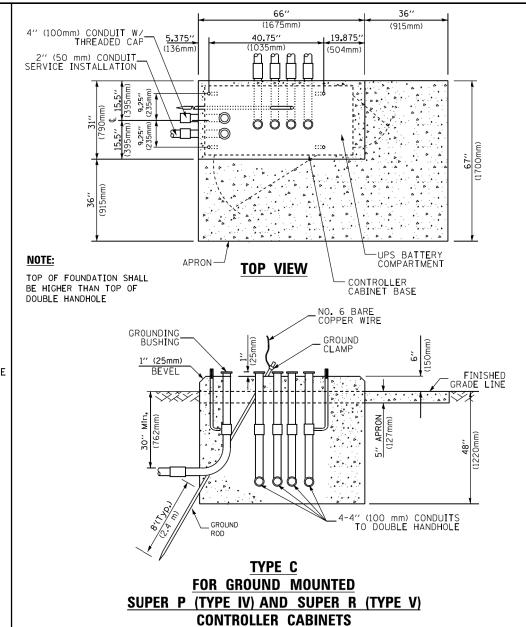
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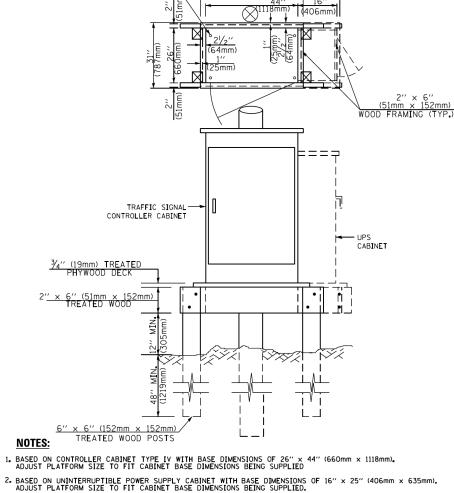
# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

DISTRICT ONE					F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
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SEE NOTE 5-

- 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

<b>VERTICAL</b>	<b>CABLE</b>	LENGTH
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FOUNDATION	DEPTH
TYPE A - Signal Post	4'-0" (1 <u>.</u> 2m)
TYPE C - CONTROLLER W/ UPS	4'-0" (1 <sub>•</sub> 2m)
TYPE D - CONTROLLER	4'-0" (1 <sub>2</sub> 2m)
SERVICE INSTALLATION, GROUND MOUNT, TYPE A - SOUARE	4'-0'' (1 <sub>•</sub> 2m)

### **DEPTH OF FOUNDATION**

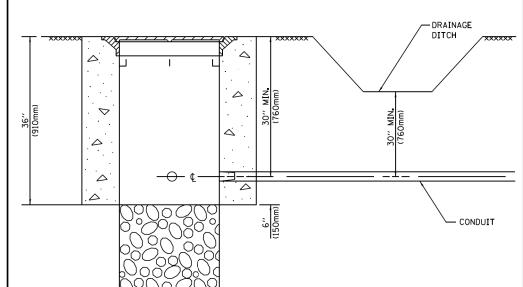
Mast Arm Length	① Foundation Depth	Foundation Diameter	Spiral Diameter	Quantity of Rebars	Size of Rebars
Less than 30' (9.1 m)	10'-0" (3.0 m)	30" (750mm)	24" (600mm)	8	6(19)
Greater than or equal to	13'-6" (4 <b>.</b> 1 m)	30" (750mm)	24" (600mm)	8	6(19)
30' (9.1 m) and less than 40' (12.2 m)	11'-0'' (3,4 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 40' (12.2 m) and less than 50' (15.2 m)	13'-0'' (4.0 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 50' (15.2 m) and up to 55' (16.8 m)	15'-0'' (4.6 m)	36" (900mm)	30" (750mm)	12	7(22)
Greater than or equal to 56' (16.8 m) and less than 65' (19.8 m)	21'-0'' (6.4 m)	42" (1060mm)	36" (900mm)	16	8(25)
Greater than or equal to 65' (19.8 m) and up 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 (Ou) > 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 most arm assemblies with dual arms refer to state standard 878001...

# DEPTH OF MAST ARM FOUNDATIONS, TYPE E

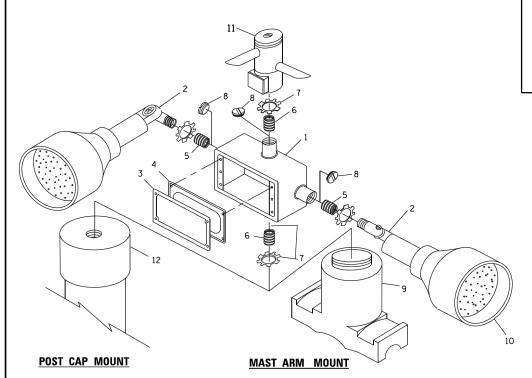
-													•		
	FILE NAME =	USER NAME = plascencial	DESIGNED -	REVISED -					DISTRIC	T ONE		F.A.P.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
	S:\WP\Design\Iovan\SamplePlans\DGNFiles\	TSExample01-sht-ts.dgn	DRAWN -	REVISED -	STATE OF ILLINOIS	6	STANDARD TRAFFIC SIGNAL DESIGN DETAILS			351	2016-002N	соок	333 216		
		PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPOR	DRTATION	31	IANDAKD IK	AFFIC SI	JNAL DESIGN	N DETAILS		TS-05	CONTRACT	T NO. 62CO7
	Default	PLOT DATE = 5/17/2016	DATE -	REVISED -			SCALE: NONE	SHEET 5 C	F 7 SH	EETS STA.	TO STA.		ILLINOIS FED.	ID PROJECT	



### NOTES:

- CONDUIT DEPTH SHALL BE A MINIMUM OF 30" (760mm) BELOW THE BOTTOM OF THE DRAINAGE DITCH OR ANY SLOPING GROUND
- 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



# (1675mm) (915mm) 19.875" 40.75" (136mm (1035mm) (504mm) 0::: **~**d: $\bigcirc$ PROPOS**E**D -APRON -CONTROLLER CABINET BASE **TOP VIEW** NO. 3 DOWEL 18" (450mm) LONG (8 REQ.) BUSHING -\_GROUND CLAMP / EXISTING ANCHOR BOLTS FINISHED GRADE LINE BEVEL

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

-EXISTING CONDUITS

EXISTING GROUND ROD

300mm)

(NOT TO SCALE)

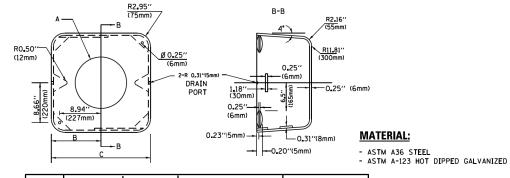
# ITEM NO. IDENTIFICATION 1 OUTLET BOX- GALV, 21 CU,IN, (0,000344 CU-M) 2 LAMP HOLDER AND COVER 3 OUTLET BOX COVER 4 RUBBER COVER GASKET 5 REDUCING BUSHING 6 ¼"(19 mm) CLOSE NIPPLE 7 ¼"(19 mm) CLOSE NIPPLE 7 ¼"(19 mm) HOLE PLUG 9 SADDLE BRACKET - GALV. 10 6 WATT PAR 38 LED FLOOD LAMP 11 DETECTOR UNIT 12 POST CAP [18 FT. (5,4 m) POST MIN.]

# NOTES:

- 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
- POST CAP MOUNT

  MAST ARM MOUNT

  MOUNTING 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.

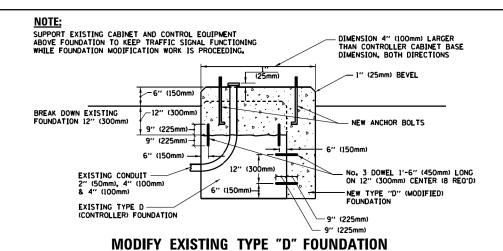


A	В	С	HEIGHT	WEIGHT
VARIES	9.5′′(241mm)	19''(483mm)	7" (178mm) - 12" (300mm)	53 lbs (24kg)
VARIES	VARIES 10.75"(273mm) 21.5"		7" (178mm) - 12" (300mm)	68 lbs (31 kg)
VARIES	13 <sub>•</sub> 0''(330mm)	26"(660mm)	7" (178mm) - 12" (300mm)	81 lbs (37 kg)
VARIES	18.5''(470mm)	37''(940mm)	7" (178mm) - 12" (300mm)	126 lbs (57 kg)

# **SHROUD**

#### NOTES:

- 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 VERIFIED 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.



# GAL VANIZED STEEL HOOKS 21 1/2" MIN. (545mm) CONDUIT BUSHING EXISTING CONDUIT TO BE REMOVED CONDUIT TO REMAIN ELEVATION

### NOTES:

SCALE: NONE

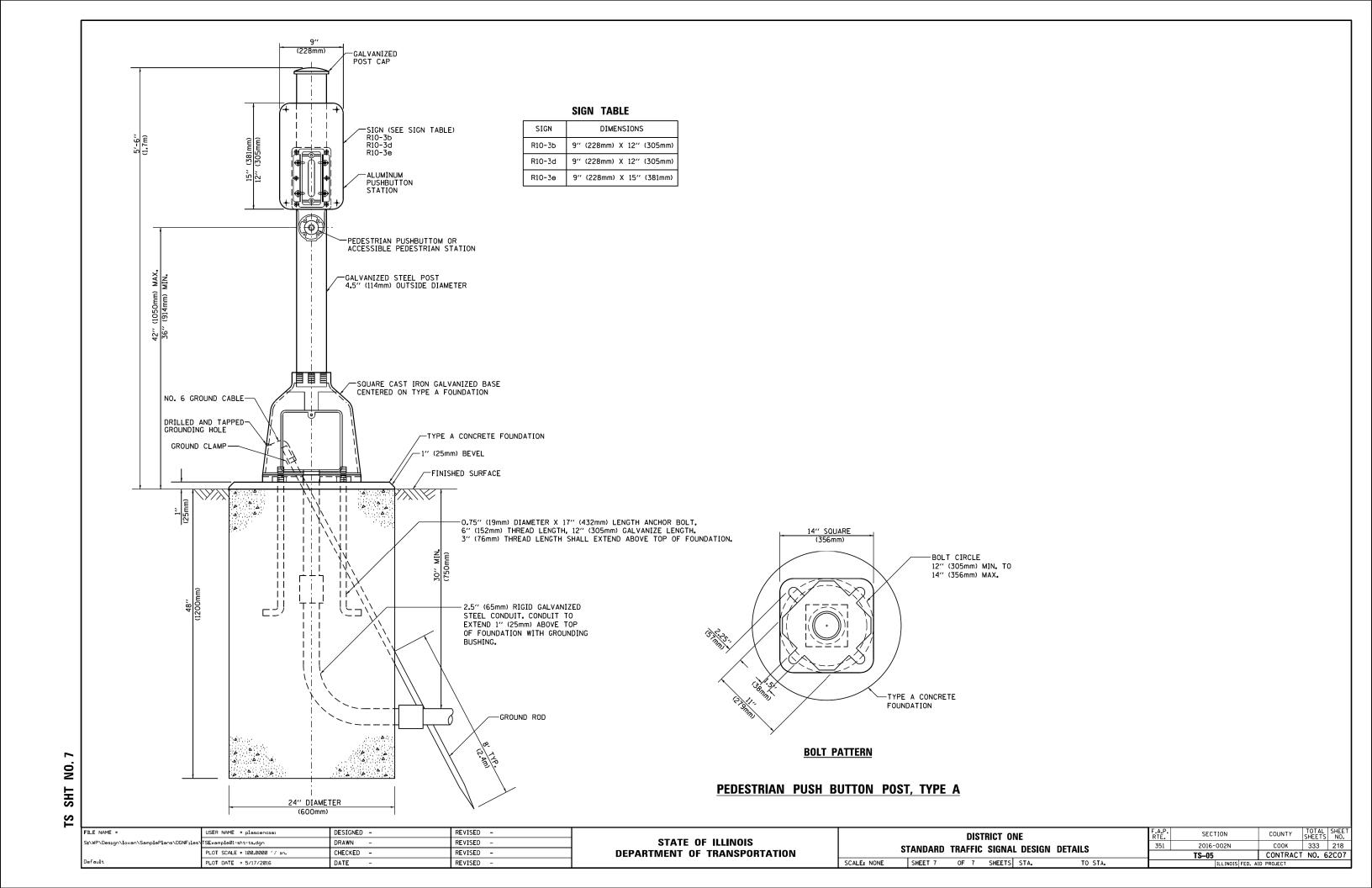
- 1. HANDHOLE CONSTRUCTED PER STATE STANDARD 814001.
- 2. REMOVAL OF THE EXISTING CONDUIT FROM THE HANDHOLE AND THE INSTALLATION OF THE CONDUIT BUSHINGS SHALL BE INCLUDED WITH THE COST OF THE HANDHOLE.

# **HANDHOLE TO INTERCEPT EXISTING CONDUIT**

FILE NAME =	USER NAME = plascencial	DESIGNED -	REVISED -
S:\WP\Design\Iovan\SamplePlans\DGNFiles\	TSExample01-sht-ts.dgn	DRAWN -	REVISED -
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -
Default	PLOT DATE = 5/17/2016	DATE -	REVISED -

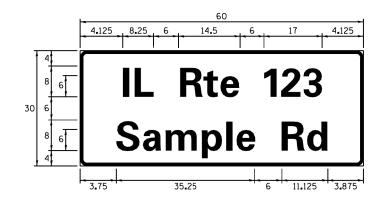
# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

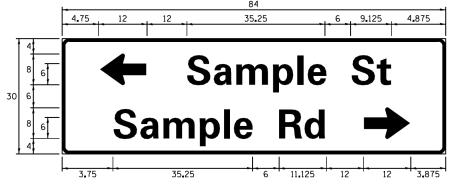
DISTRICT ONE							F.A.P. RTE.	SECTION	COUNTY	SHEET NO.	
STANDARD TRAFFIC SIGNAL DESIGN DETAILS						DETAILS	351	2016-002N	соок	333	217
STANDARD TRAFFIC SIGNAL DESIGN DETAILS						TS-05	CONTRACT NO. 62CO7				
	SHEET 6	OF	7	SHEETS	STA.	TO STA.		ILLINOIS FED. A	ID PROJECT		



# SIGN PANEL – TYPE 1 OR TYPE 2

# 3.75 35.25 6 11.125 3.875 Sample Rd





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

ALL DIMENSIONS ARE IN INCHES EXCEPT NOTED OTHERWISE

# COMMON STREET NAME ABBREVIATIONS AND WIDTHS

NAME	ABBREVATION	WIDTH	(INCH)
NAME	ADDREVALION	SERIES "C"	SERIES "D"
AVENUE	Ave	15.000	18.250
BOULEVARD	Blvd	17.125	20.000
CIRCLE	Cir	11.125	13.000
COURT	C†	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	PI	7. 125	7. 750
ROAD	Rd	9.625	11.125
ROUTE	R†e	12.625	14.500
STREET	S†	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**

- 1. 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.
- 2. ALL SIGNS SHALL CONSIST OF A WHITE LEGEND AND BORDER (TYPE ZZ SHEETING) ON A GREEN BACKGROUND (TYPE ZZ SHEETING)
- 3. THE SIGN LENGTH SHALL BE IN 6-INCH INCREMENTS, BUT THE OVERALL LENGTH SHALL NOT EXCEED 8'-0". ALL BORDERS SHALL BE ⅓" 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.
- 4. 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 THE ABBREVIATION CANNOT FIT ON THE FIRST LINE.
- 5. 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 REQUIREMENT AS LISTED ABOVE (COLOR, FONT, SIZE, ETC.) MUST BE FOLLOWED.
- 6. SIGNFIX ALUMINUM CHANNEL FRAMING SYSTEM SHALL BE USED FOR ALL SIGNS ATTACHED TO SIGNAL POLES AND POSTS.

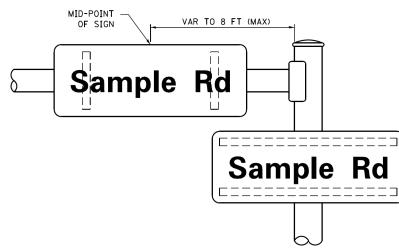
### LOCAL SUPPLIERS: PARTS LISTING:

<ul> <li>J.O. HERBERT COMPANY, INC MIDLOTHIAN, VA</li> </ul>	SIGN CHANNEL SIGN SCREWS	PART *HPN053 (MED. CHANNEL) 1/4" × 14 × 1" H.W.H. *3
		SELF TAPPING WITH NEOPRENE WASHER
- WESTERN REMAC, INC.	BRACKETS	PART #HPNO34 (UNIVERSAL)
WOODRIDGE, IL		CHANNEL CLAMPS WITH STAINLESS STEEL STRAPPING

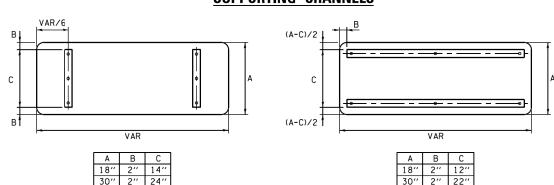
OTHER BRANDS OF MOUNTING HARDWARE ARE ACCEPTABLE, BASED UPON THE DEPARTMENT'S APPROVAL AND COMPATIBILITY WITH THE CHANNEL/BRACKET OF THE ABOVE PRODUCT.

# **MOUNTING LOCATION**





# **SUPPORTING CHANNELS**



SCALE:

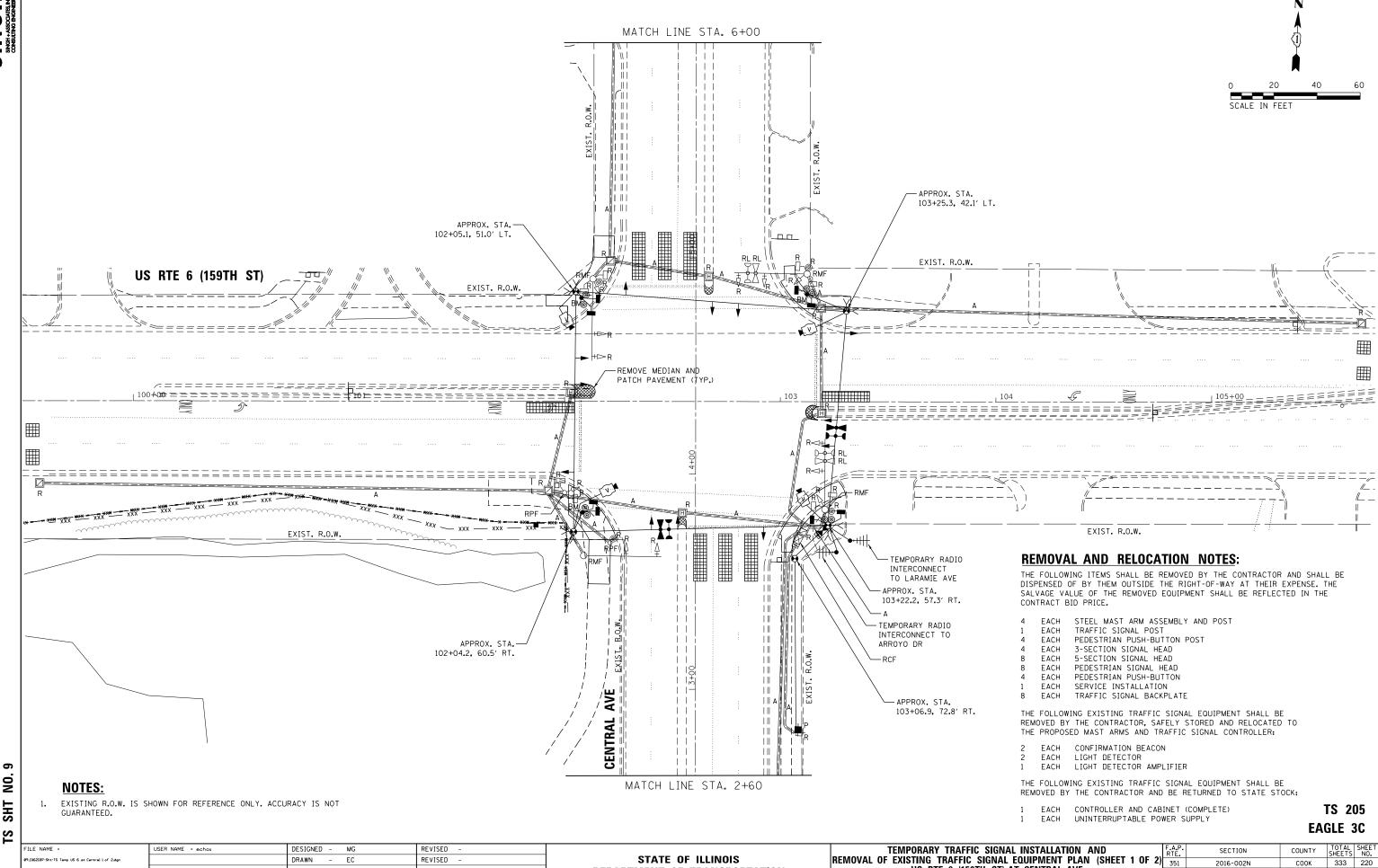
# STANDARD ALPHABETS SPACING CHART

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

	FHWA SEF	RIES "C"		FHWA SERIES "D"					
CHARACTER	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)	CHARACTER	LEFT SPACING (INCH)	WIDTH (INCH)	RIGHT SPACING (INCH)		
Α	0.240	5.122	0.240	Α	0.240	6.804	0. 240		
В	0.880	4.482	0.480	В	0.960	5.446	0.400		
С	0.720	4.482	0.720	С	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 4.482	0.240	F	0.960	4.962	0. 240		
G H	0.720		0.720	G H	0.800	5.446	0.800		
I	0.880 0.880	4.482 1.120	0.880 0.880	I	0.960 0.960	5.446 1.280	0.960 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	М	0.960	6. 244	0.960		
N	0.880	4.482	0.880	N	0.960	5.446	0.960		
0	0.720	4.722	0.720	0	0.800	5.684	0.800		
Р	0.880	4.482	0.720	Р	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		
٧	0.240	4.962	0.240	٧	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	Х	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		
а	0.320	3.842	0.640	a	0.400	4.562	0.720		
Ь	0.720	4.082	0.480	Ь	0.800	4.802	0.480		
С	0.480	4.002	0.240	С	0.480	4.722	0.240		
d	0.480	4.082	0.720	d	0.480	4.802	0.800		
е	0.480	4.082	0.320	е	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 0.640	g	0.480	4.802	0.800		
h i	0.720 0.720	4.082		h i	0.800	4.722	0.720		
j	0. 720	1.120 2.320	0.720 0.720	j	0.800	1.280 2.642	0.800		
k	0.720	4. 322	0.160	k	0.800	5. 122	0.160		
Ī	0.720	1.120	0.720	ı .	0.800	1. 280	0. 100		
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		
0	0.480	4.082	0.480	0	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		
٧	0.160	4.722	0.160	٧	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	×	0.000	6. 244	0.000		
У	0.160	4.962	0.160	У	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		
-	0.720 0.240	4. 722 2. 802	0.720 0.240	0 -	0.800 0.240	5.684 2.802	0.800 0.240		
	U . Z HU	Z. 0UZ	. 0.240		U. 24U	Z . OUZ	U 240		

# FILE NAME = | USER NAME = plascencial | DESIGNED - LP/IP | REVISED - LP 07/01/2015 | St\WP\Design\Iovan\SamplePlans\DGNFiles | TSExample01-sht-ts.dgn | DRAWN - LP | REVISED - | PLOT SCALE = 100.0000 '/ in. | CHECKED - IP | REVISED - | PLOT DATE = 5/17/2016 | DATE - 10/01/2014 | REVISED - |

DISTRICT ONE	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
MAST ARM MOUNTED STREET NAME SIGNS	351	2016-002N	COOK	333	219
MAST ANN MODITED STREET NAME SIGNS		TS-02	CONTRACT	NO. 6	52CO7
SHEET OF SHEETS STA. TO STA.		TILINOIS FED A	D PROJECT		



**DEPARTMENT OF TRANSPORTATION** 

US RTE 6 (159TH ST) AT CENTRAL AVE

OF

SHEETS STA.

CONTRACT NO. 62CO7

<u>8</u> SHT

CHECKED -

- 4/13/2018

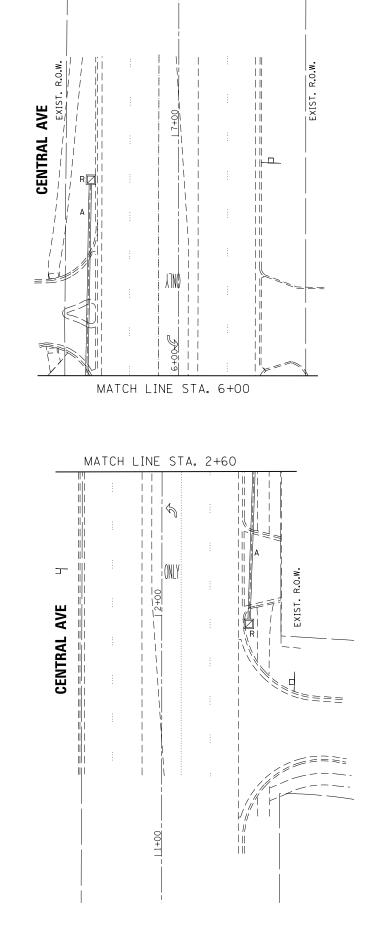
DATE

PLOT DATE = 10/23/2018

REVISED

REVISED

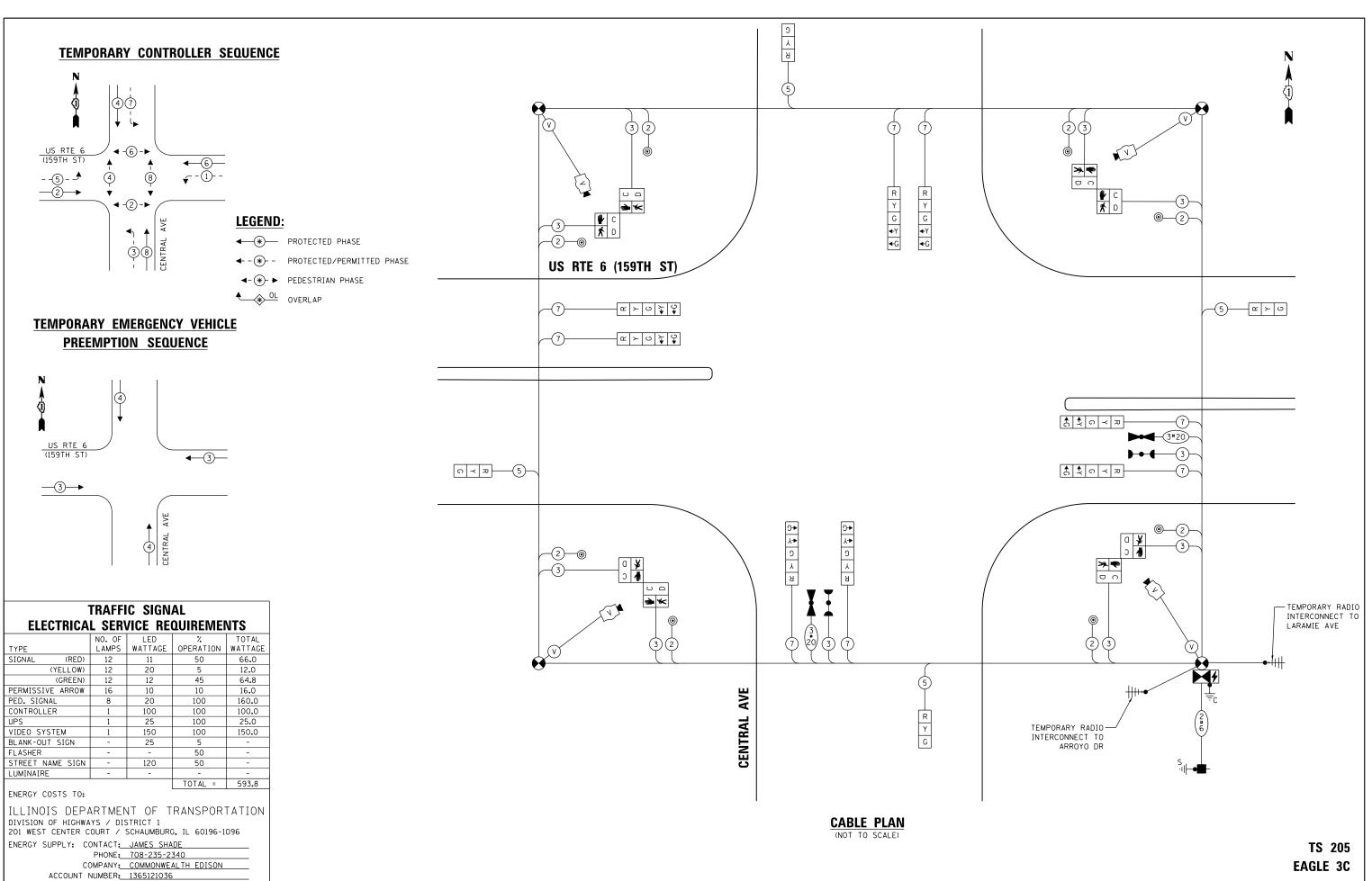






SCALE IN FEET

ř l															
.	FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -		TEN	MPORARY 1	<b>TRAFFIC</b>	SIGNA	L INSTALLAT	ION AND	F.A.P.	SECTION	COUNTY	TOTAL SHEET
	18.0162087-Sht-TS Temp US 6 at Central 2 of 2.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS	REMOVAL OF EX					PLAN (SHEET 2 OF 2	351	2016-002N	соок	333 221
		PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION		US RTE	6 (159T	H ST) A	AT CENTRAL	AVE				T NO. 62CO7
	Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEET	S STA.	TO STA.		ILLINOIS FED.	AID PROJECT	



S SHT NO. 11

LD162C07-Sht-TS Temp Cable US 6 at Central.dgn

DESIGNED - MG

DRAWN - EC

CHECKED - KP

DATE - 4/13/2018

USER NAME = mgarvida

PLOT DATE = 4/13/2018

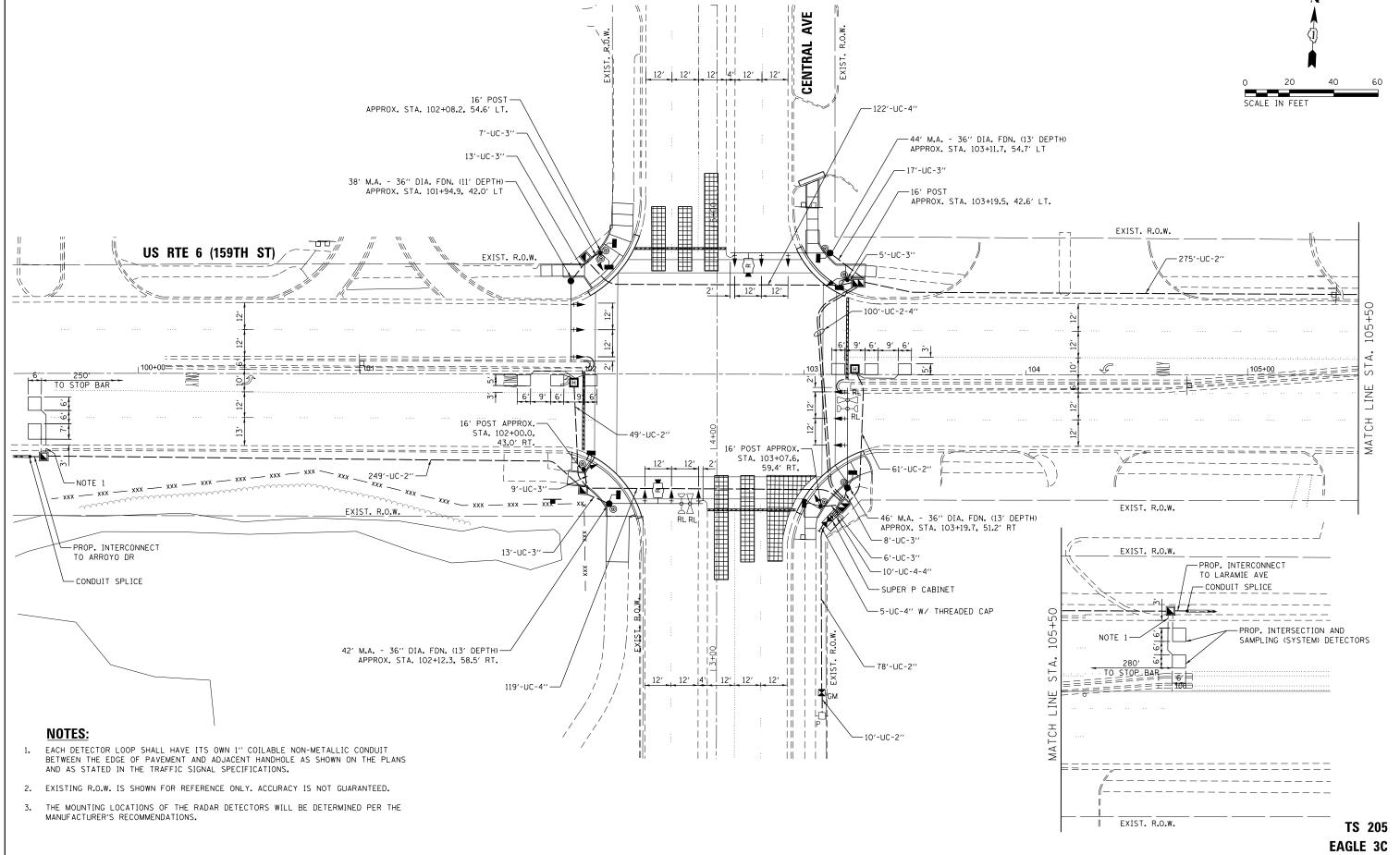
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REVISED

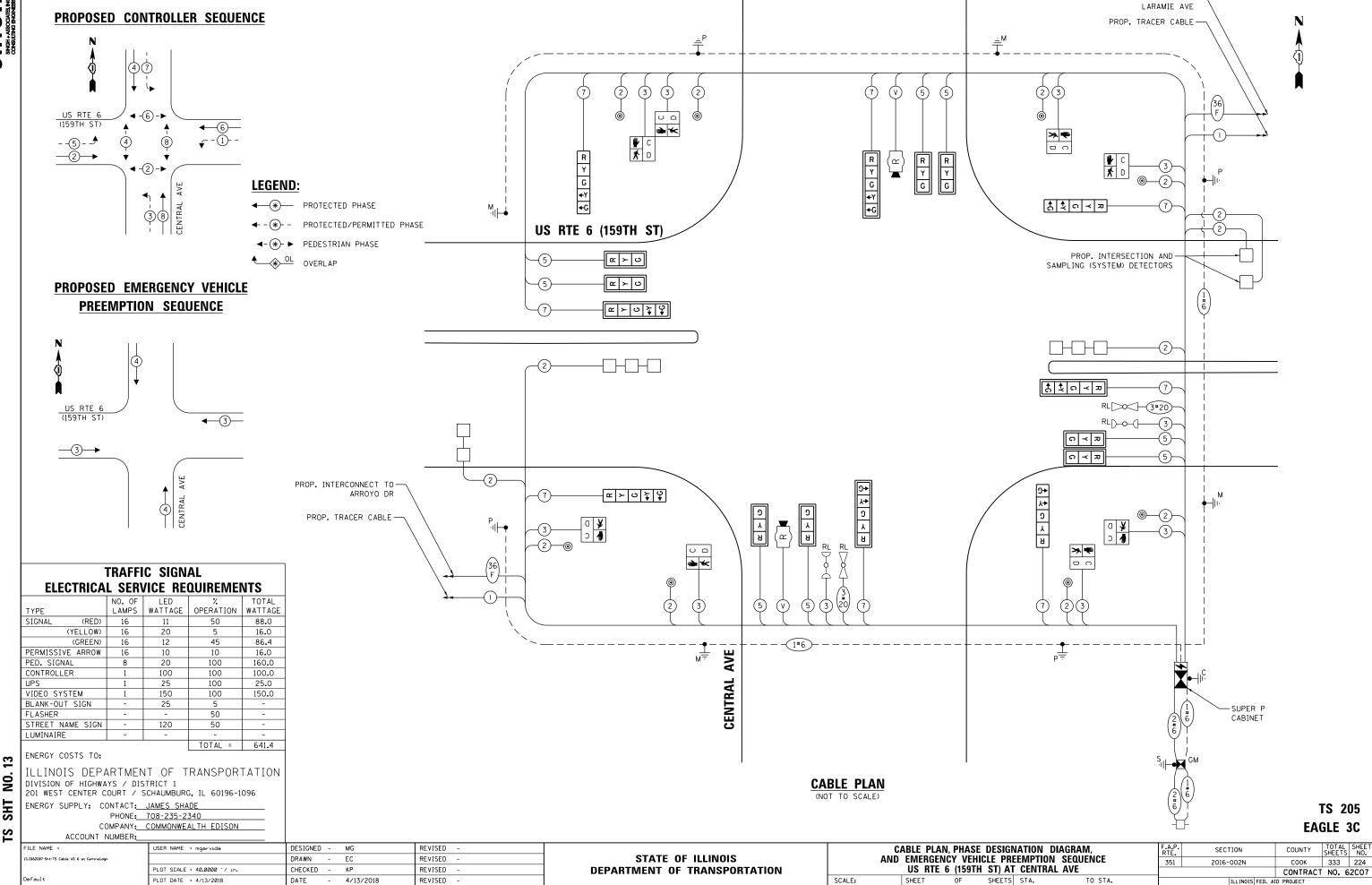
REVISED

STATE OF ILLINOIS AND TEN
DEPARTMENT OF TRANSPORTATION



S SHT NO. 12

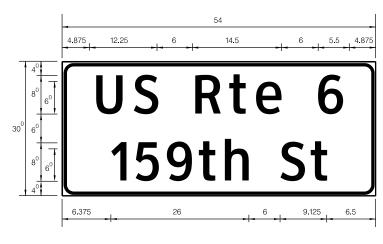
DESIGNED - MG REVISED USER NAME = mgarvida SECTION COUNTY TRAFFIC SIGNAL MODERNIZATION PLAN STATE OF ILLINOIS 2.D162C87-Sht- TS Prop US 6 at Central 1 of 2 .dgr DRAWN EC REVISED COOK 333 223 US RTE 6 (159TH ST) AT CENTRAL AVE 2016-002N PLOT SCALE = 40.0000 '/ in. CHECKED -REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 62CO7 SCALE: SHEETS STA. PLOT DATE = 4/13/2018 DATE 4/13/2018 REVISED



PROP. INTERCONNECT TO-

# SIGN PANEL – TYPE 2

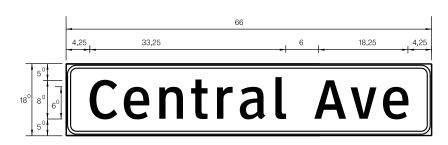
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN	AREA	SIGN PANEL	SHEETING	QTY.
SERIES	(SQ FT)	TYPE	TYPE	REQUIRED
D	11.25	2	ZZ	2

# SIGN PANEL - TYPE 1

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN	AREA	SIGN PANEL	SHEETING	QTY.
SERIES	(SQ FT)	TYPE	TYPE	REQUIRED
D	8. 25	1	ZZ	2

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

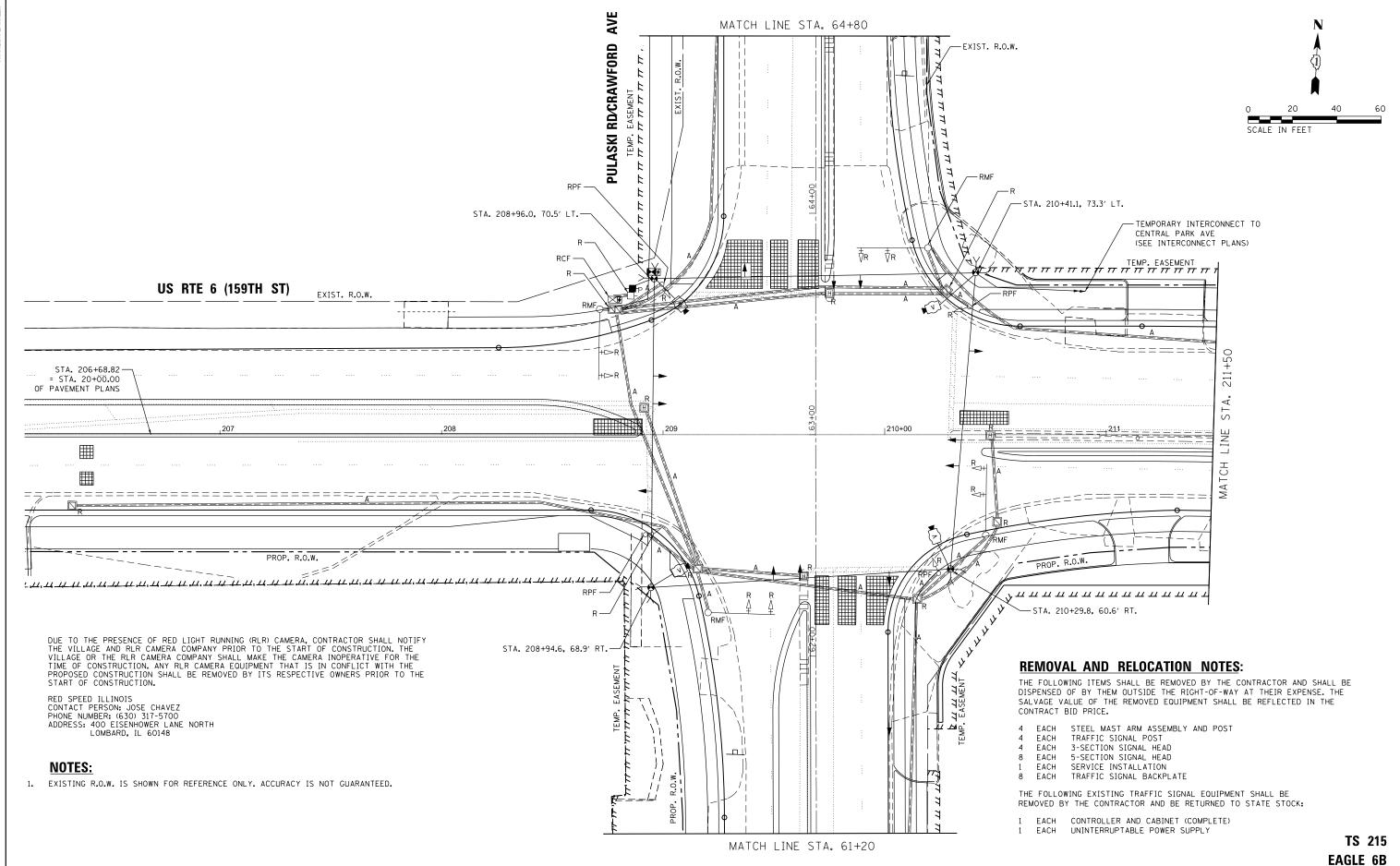
# **SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY.
SIGN PANEL - TYPE 1	SQ FT	16.5
SIGN PANEL - TYPE 2	SQ FT	22.5
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	722
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	78
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	486
HANDHOLE	EACH	4
HEAVY-DUTY HANDHOLE	EACH	2
DOUBLE HANDHOLE	EACH	2
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1340
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1728
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1662
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1591
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR  ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	F00T F00T	1556 125
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C  ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	850
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 38 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 42 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 46 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	20
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	50
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	12
INDUCTIVE LOOP DETECTOR	EACH	5
DETECTOR LOOP, TYPE I	FOOT	324
PEDESTRIAN PUSH-BUTTON	EACH	8
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, DETECTOR UNIT	EACH	2
RELOCATE EXISTING EMERGENCY VEHICLE PRIORITY SYSTEM, PHASING UNIT	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	11
REMOVE EXISTING DOUBLE HANDHOLE	EACH	7
REMOVE EXISTING CONCRETE FOUNDATION  FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH EACH	1
SERVICE INSTALLATION, GROUND MOUNTED, METERED		1
RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR	EACH EACH	2
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	332
UNINTERRUPTABLE POWER SUPPLY. SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

\* 100% COST TO THE VILLAGE OF OAK FOREST

TS 205 EAGLE 3C

FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -						STREET NA	AME SIGNS		F.A.P.	SECTION	COUNTY	TOTAL	SHEET
14.0162007-Sht-TS 500 US 6 at Central.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS		AN			OF QUANTI			351	2016-002N	соок	333	225
	PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION		US RTI	6 (159	TH ST	() AT CENT					CONTRAC	T NO. (	2C07ذ
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF		EETS STA.	TO	STA.		ILLINOIS FED.	ID PROJECT		

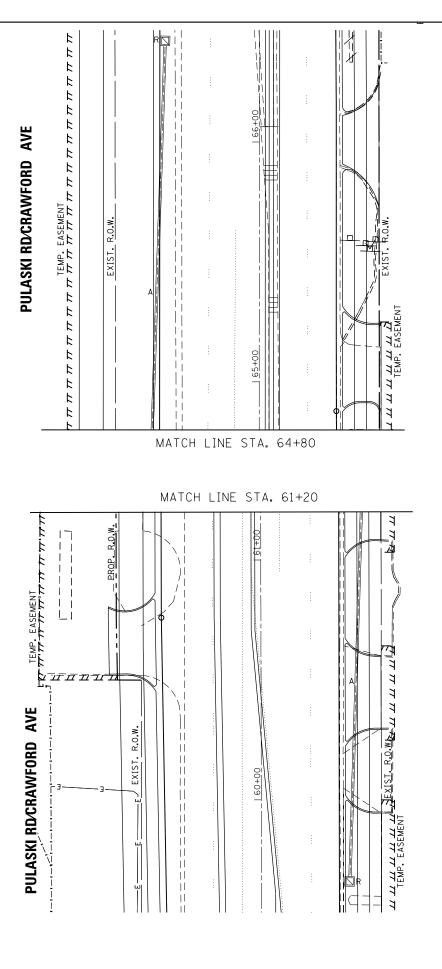


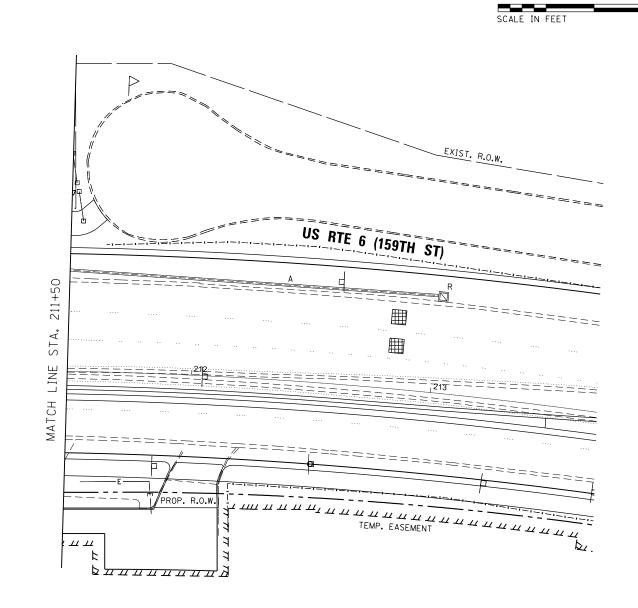
SHT NO. 15  $\mathbf{S}$ 

_ L															
	FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -		1	TEMPORARY T	RAFFIC	SIGNAL INSTA	ALLATION AND	F	F.A.P.	SECTION	COUNTY	TOTAL SHEET
	15.0162087-Sht-TS Temp US 6 at Pulaski I of 2vdgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS	REMOVAL OF					1 OF 2) ├	351	2016-002N	соок	333 226
		PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION	US	RTE 6 (159T)	H ST) A	T PULASKI RD	CRAWFORD AVE				CONTRACT	NO. 62CO7
L	Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEETS STA.	TO STA.			ILLINOIS FED. A	ID PROJECT	



**TS SHT NO. 16** 





TS 215 EAGLE 6B

<u> </u>													
FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -		TEMPORAR	Y TRAFFIC	SIGNAL	INSTALLATI	ON AND	F.A.P.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
16.0162087-Sht-TS Temp US 6 at Pulaski 2 of 2.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS	REMOVAL OF EXISTING					2) 351	2016-002N	соок	333 227
	PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION	US RTE 6 (1	59TH ST) A	T PULAS	SKI RD/CRAW	FORD AVE				T NO. 62CO7
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE: SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED.	AID PROJECT	

USER NAME = mgarvida

PLOT DATE = 4/13/2018

PLOT SCALE = 40.0000 '/ in.

DESIGNED - MG

DRAWN - EC

CHECKED - KP

- 4/13/2018

DATE

REVISED

REVISED

REVISED

REVISED

PULASKI RDCRAWFORD AVE PULASKI RD⁄CRAWFORD AVE US RTE 6 (159TH ST) **US RTE 6 (159TH ST) TS SHT NO.17** PRE-STAGE STAGE 1 TS 215 EAGLE 6B

STATE OF ILLINOIS

**DEPARTMENT OF TRANSPORTATION** 

COUNTY SHEETS NO.

COOK 333 228

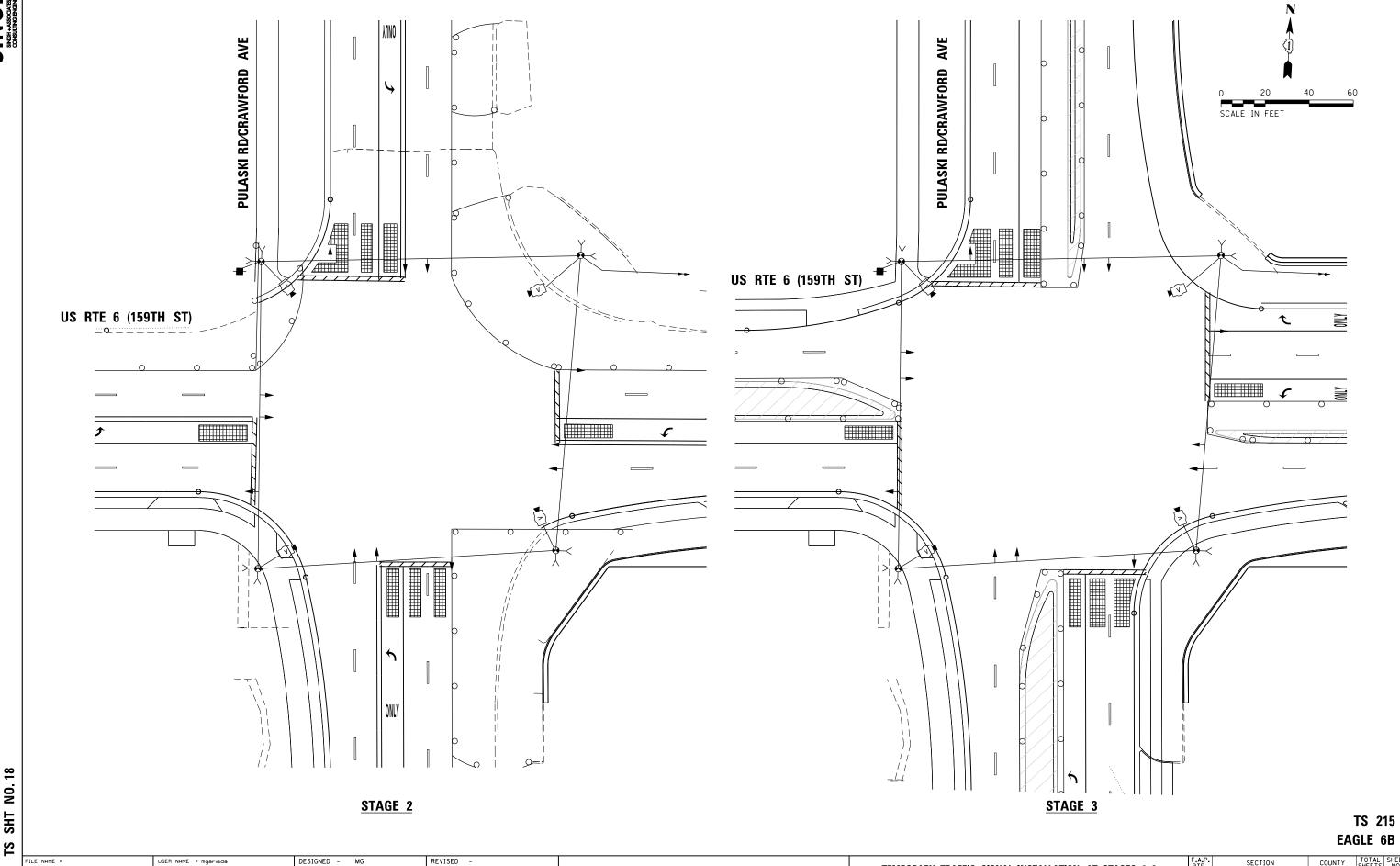
CONTRACT NO. 62CO7

SECTION

2016-002N

TEMPORARY TRAFFIC SIGNAL INSTALLATION AT PRE-STAGE & STAGE 1 US RTE 6 (159TH ST) AT PULASKI RD/CRAWFORD AVE

SHEETS STA.



DRAWN - EC

CHECKED - KP

DATE - 4/13/2018

PLOT SCALE = 40.0000 '/ in.

PLOT DATE = 4/13/2018

REVISED

REVISED

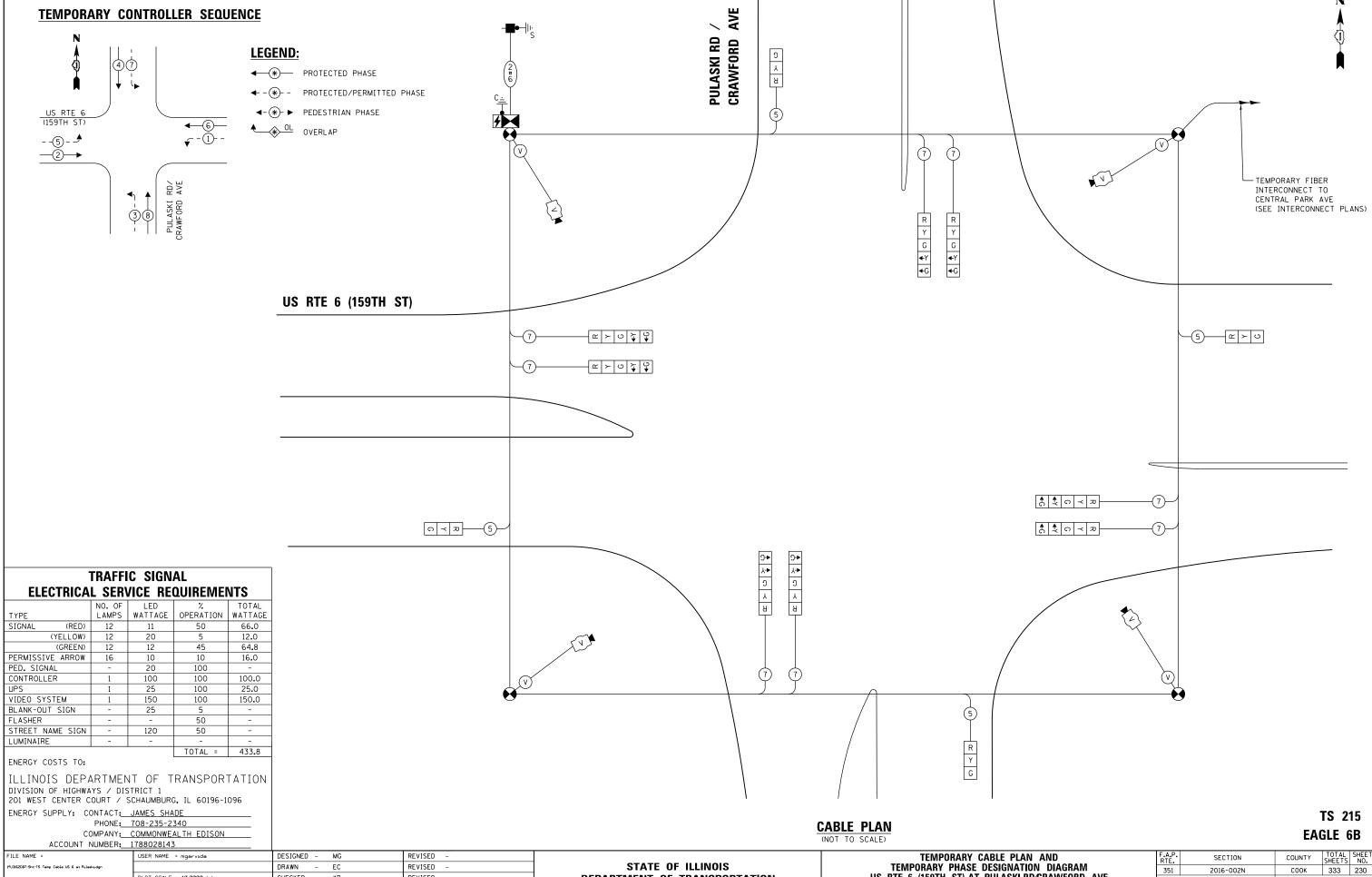
REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY TRAFFIC SIGNAL INSTALLATION AT STAGES 2-3
US RTE 6 (159TH ST) AT PULASKI RD/CRAWFORD AVE

TEMPORARY TRAFFIC SIGNAL INSTALLATION AT STAGES 2-3
US RTE 6 (159TH ST) AT PULASKI RD/CRAWFORD AVE

| F.A.P. | SECTION | COUNTY | SHEETS | NO. |
| 331 | 229 |
| CONTRACT | NO. 62COT



STATE OF ILLINOIS

**DEPARTMENT OF TRANSPORTATION** 

351

US RTE 6 (159TH ST) AT PULASKI RD/CRAWFORD AVE

SHEETS STA.

SHEET

2016-002N

CONTRACT NO. 62CO7

REVISED

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REVISED

DRAWN - EC

CHECKED - KP

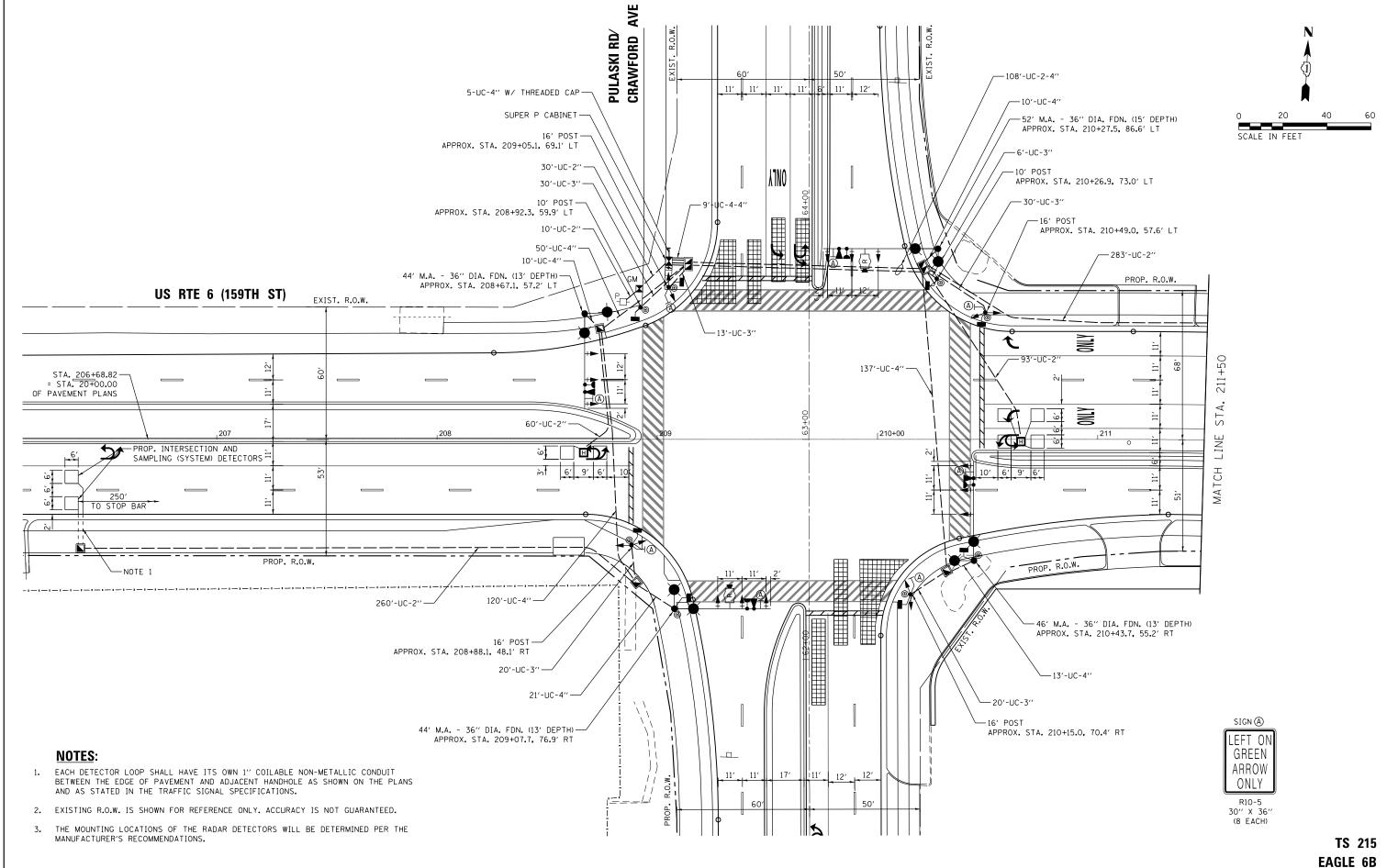
DATE - 4/13/2018

NO. 19 SHT TS

.D162C07-Sht-TS Temp Cable US 6 at Pulaski.dgm

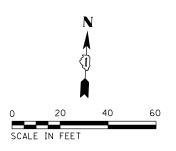
PLOT SCALE = 40.0000 '/ in.

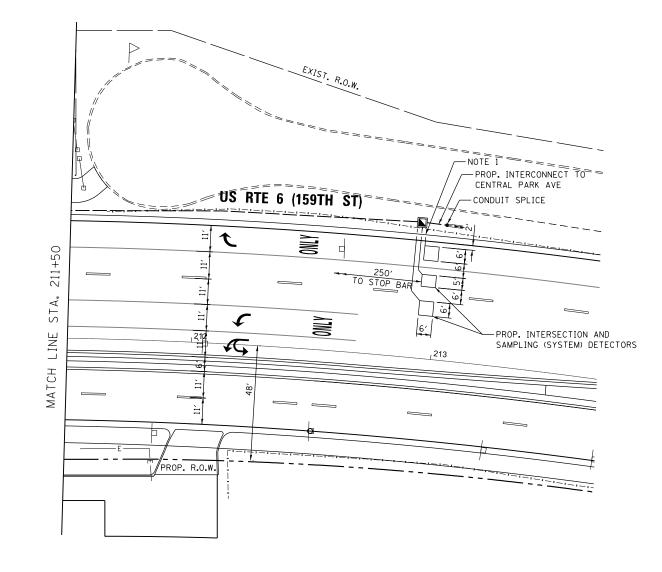
PLOT DATE = 4/13/2018



**TS SHT NO. 20** 

DESIGNED - MG REVISED FILE NAME : USER NAME = mgarvida SECTION COUNTY TRAFFIC SIGNAL MODERNIZATION PLAN (SHEET 1 OF 2) US RTE 6 (159TH ST) AT PULASKI RD/CRAWFORD AVE STATE OF ILLINOIS B.DI62CØ7-Sht-TS Prop US 6 at Pulasks 1 of 2.dgn DRAWN - EC REVISED СООК 333 231 351 2016-002N CHECKED -REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 62CO7 SHEETS STA. PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED





# NOTE:

1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND ADJACENT HANDHOLE AS SHONW ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.

TS 215 EAGLE 6B

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	FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -						N. (OUEET 0 OF 0)	F.A.P.	SECTION	COUNTY	TOTAL SHEET
	21.0162087-Sht-TS Prop US 6 at Pulaski 2 of 2.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS	IKA				IN (SHEET 2 OF 2) CRAWFORD AVE	351	2016-002N	СООК	333 232
		PLOT SCALE = 40.0000 '/ in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION	US	5 HIE 0 (159	III 31) F	AI PULASKI KL	CRAWFURD AVE			CONTRAC	T NO. 62CO7
L	Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEETS STA.	TO STA.		ILLINOIS FED.	AID PROJECT	

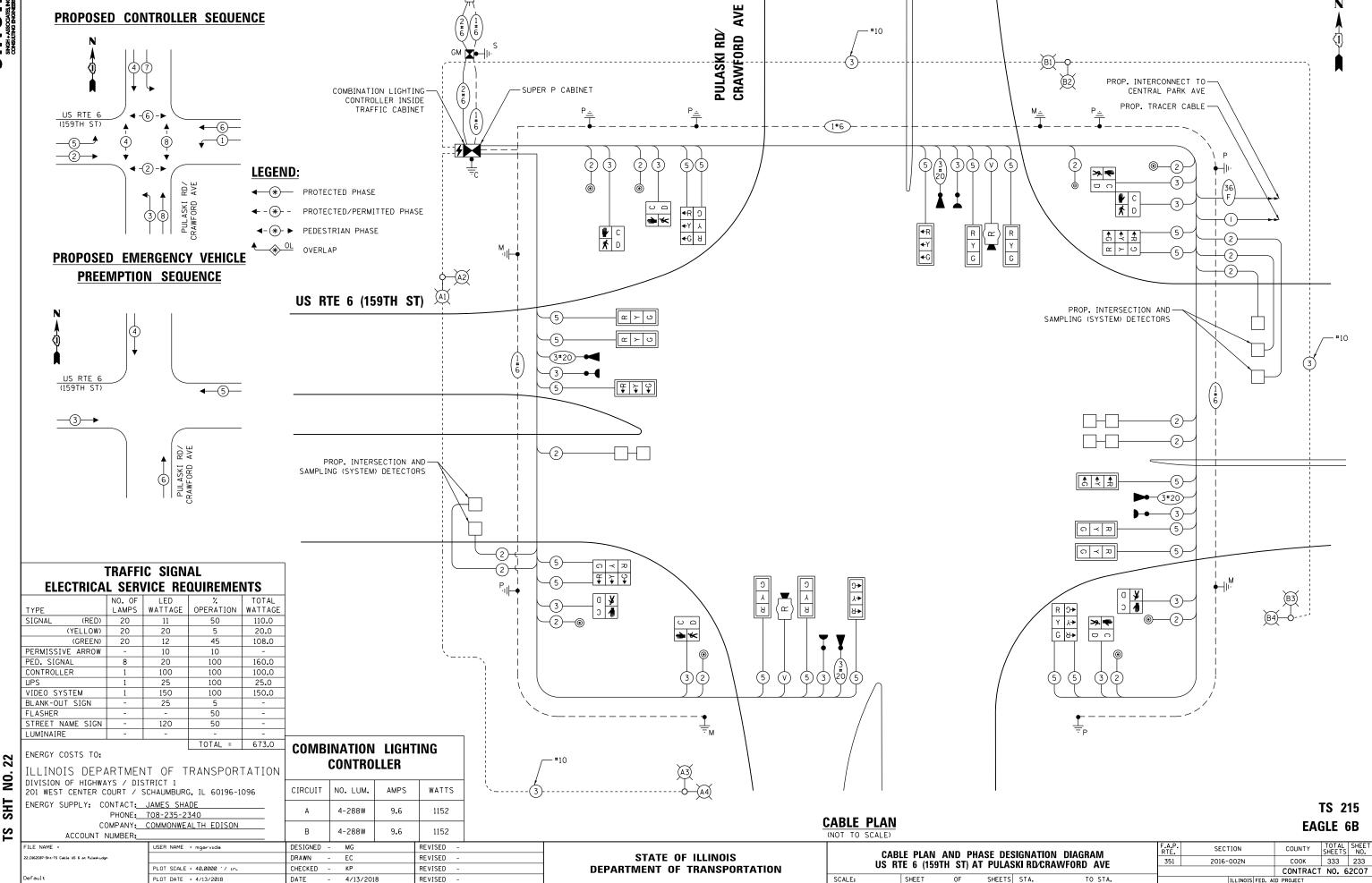
TS SHT NO. 21

PLOT DATE = 4/13/2018

DATE

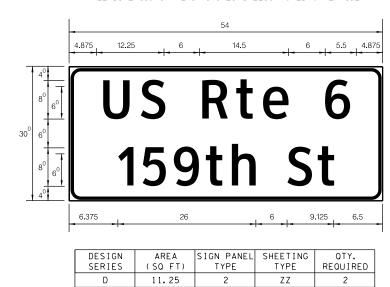
- 4/13/2018

REVISED



# SIGN PANEL – TYPE 2

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



# SIGN PANEL - TYPE 2

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE 13.875 11.125 Pulaski Rd **Crawford Ave** 

DESIGN	AREA	SIGN PANEL	SHEETING	QTY.
SERIES	(SQ FT)	TYPE	TYPE	REQUIRED
D	16.25	2	ZZ	2

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

# SCHEDULE OF QUANTITIES

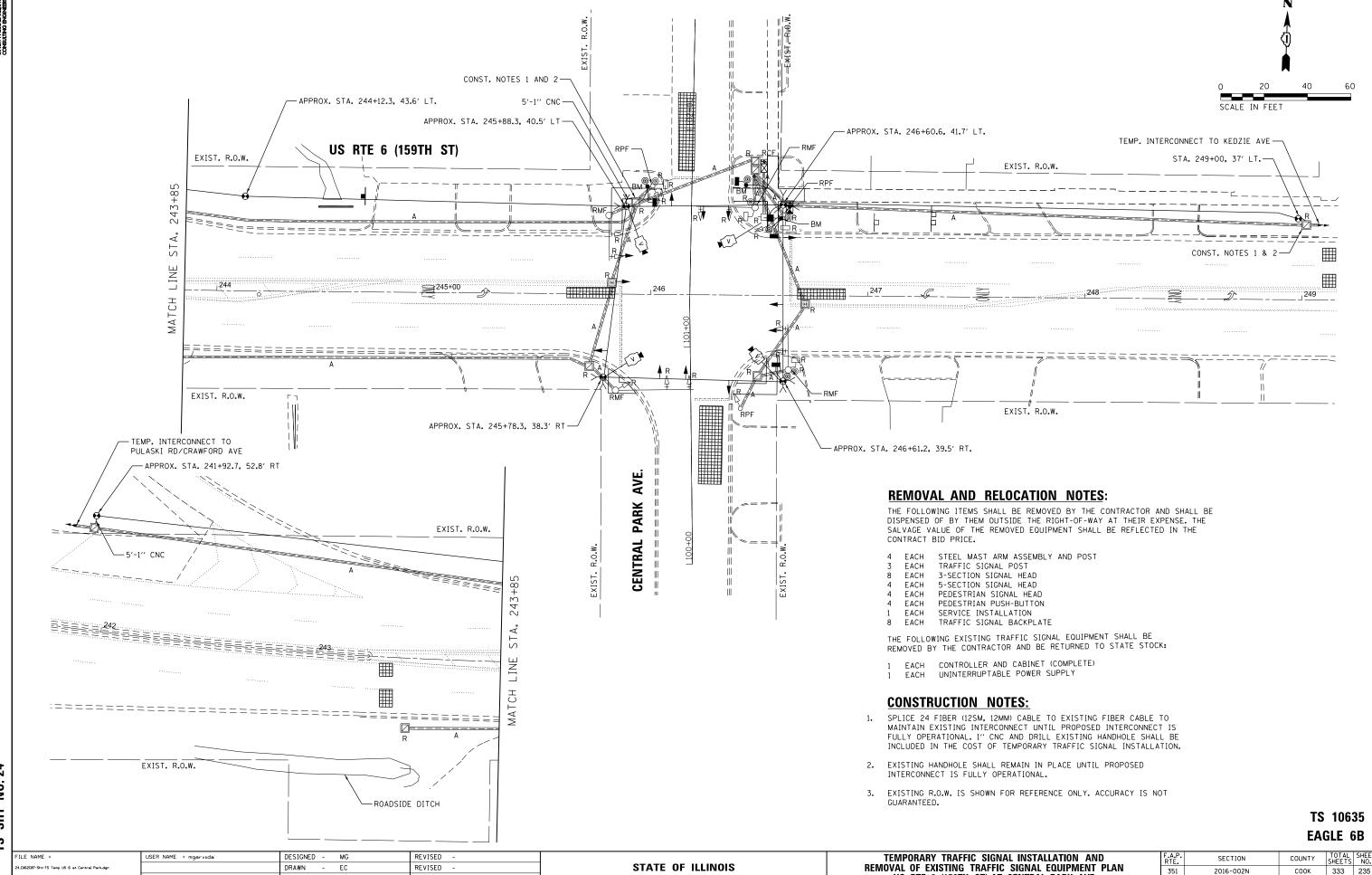
ITEM DESCRIPTION	UNITS	TOTAL OTY.
SIGN PANEL - TYPE 1	SQ FT	60
SIGN PANEL - TYPE 2	SQ FT	55
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	736
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	119
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	618
HANDHOLE	EACH	5
HEAVY-DUTY HANDHOLE	EACH	2
DOUBLE HANDHOLE	EACH	2
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1590
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2701
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	4714
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2894
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	77
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1000
TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	2
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 44 FT.	EACH	2
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 46 FT.	EACH	1
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 52 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	28
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	54
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	12
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	8
LIGHT DETECTOR	EACH	4
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	12
INDUCTIVE LOOP DETECTOR	EACH	8
DETECTOR LOOP, TYPE I	FOOT	403
PEDESTRIAN PUSH-BUTTON	EACH	8
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	12
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH	1
SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1
RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR	EACH	2
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1055
UNINTERRUPTABLE POWER SUPPLY. SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

\* 100% COST TO THE CITY OF MARKHAM

# SCHEDULE OF COMBINATION LIGHTING QUANTITIES

ITEM DESCRIPTION	UNITS	TOTAL QTY.
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 3-1/C NO.10	FOOT	578
LUMINAIRE, LED, HORIZONTAL MOUNT, TYPE C	EACH	8
COMBINATION LIGHTING CONTROLLER	EACH	1
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	8

TS 215 **EAGLE 6B** 



24 <u>8</u> SHT

CHECKED -

- 4/13/2018

DATE

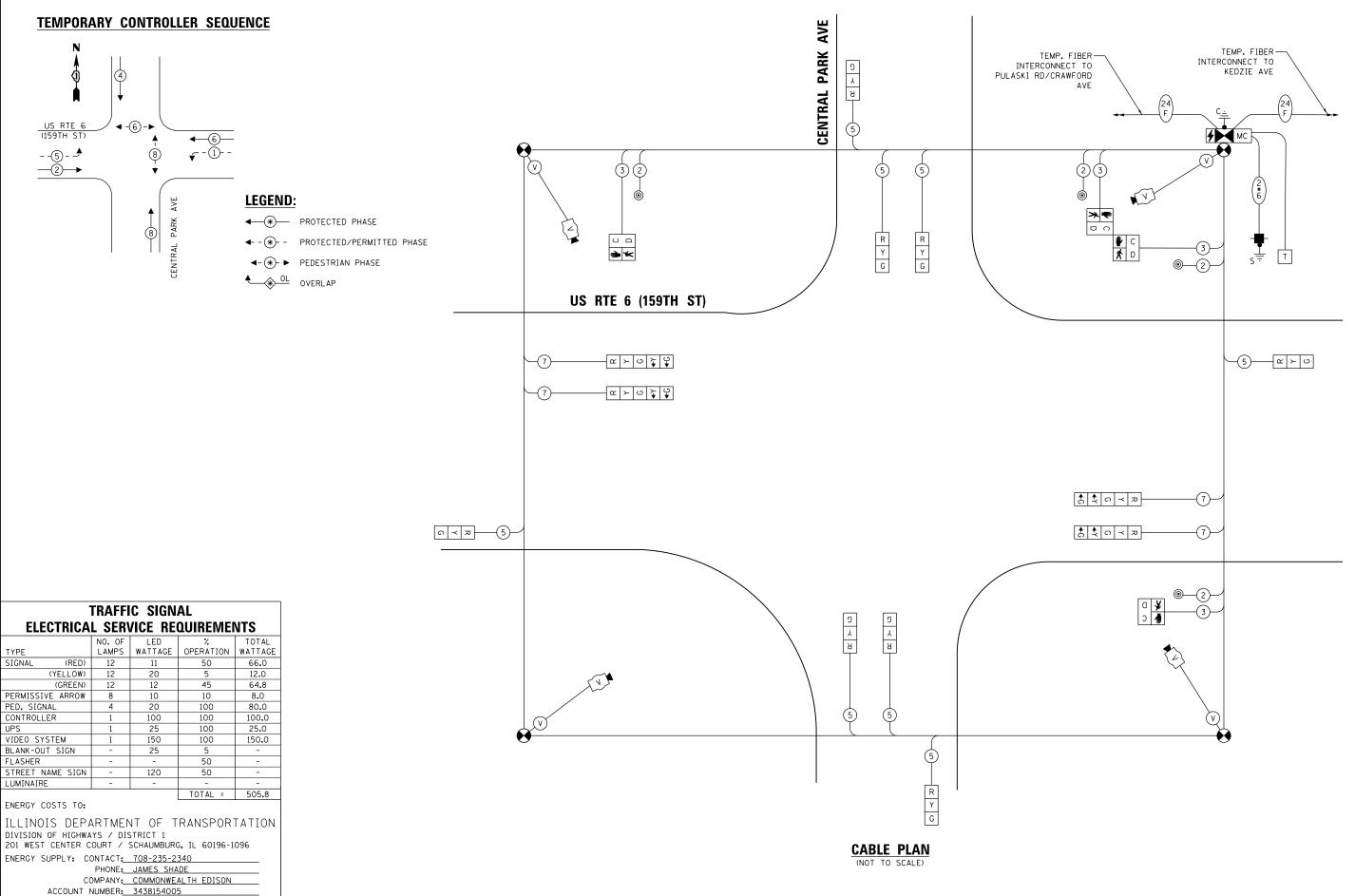
PLOT DATE = 4/13/2018

REVISED

REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** US RTE 6 (156TH ST) AT CENTRAL PARK AVE SHEETS STA. SHEET OF

COOK 333 235 351 2016-002N CONTRACT NO. 62CO7



**TS SHT NO. 25** 

FILE NAME = 25.0162087-Sht-15 Temp Cable US 6 at Central Park.dgr

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION TEMPORARY CABLE PLAN AND
TEMPORARY PHASE DESIGNATION DIAGRAM
US RTE 6 (159TH ST) AT CENTRAL PARK AVE

SHEET OF SHEETS STA. TO ST

SCALE:

EAGLE 6B

TS 10635

# NOTES:

26

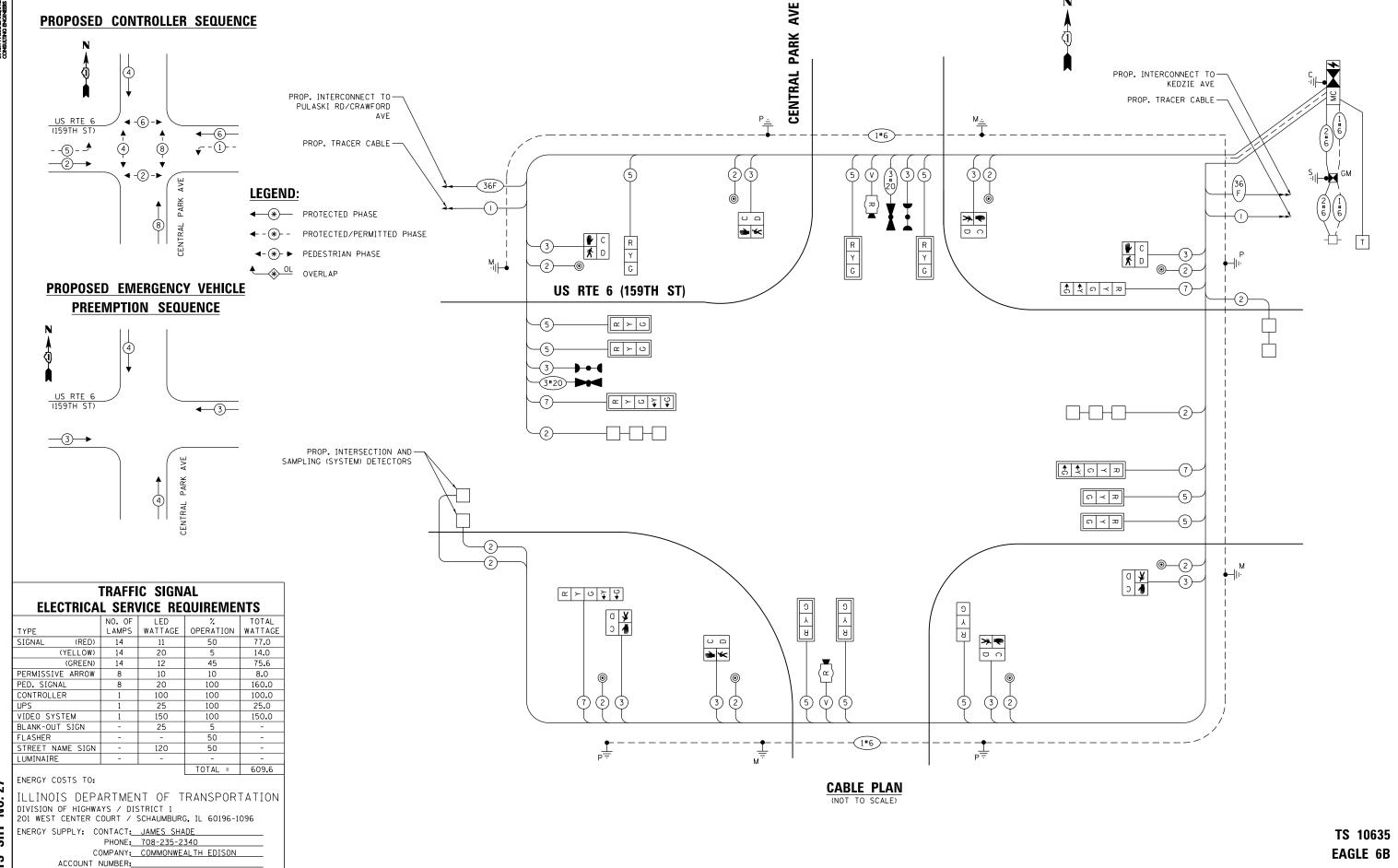
<u>8</u>

SHT

- 1. EACH DETECTOR LOOP SHALL HAVE ITS OWN 1" COILABLE NON-METALLIC CONDUIT BETWEEN THE EDGE OF PAVEMENT AND ADJACENT HANDHOLE AS SHOWN ON THE PLANS AND AS STATED IN THE TRAFFIC SIGNAL SPECIFICATIONS.
- 2. EXISTING R.O.W. IS SHOWN FOR REFERENCE ONLY. ACCURACY IS NOT GUARANTEED.
- 3. THE MOUNTING LOCATIONS OF THE RADAR DETECTORS WILL BE DETERMINED PER THE MANUFACTURER'S RECOMMENDATIONS.

# TS 10635 EAGLE 6B

Z														EAGLE 6B
· [	FILE NAME =	USER NAME = mgarvida	DESIGNED -	MG	REVISED -			TDAEELC	CICNIAI	MODERNIZATION	I DIAN	F.A.P.	SECTION	COUNTY TOTAL SHEET
	26.D162C07-Sht-TS Prop US 6 at Central Park .dgn		DRAWN -	EC	REVISED -	STATE OF ILLINOIS				ST) AT CENTRAL		351	2016-002N	COOK 333 237
		PLOT SCALE = 40.0000 '/ in.	CHECKED -	KP	REVISED -	DEPARTMENT OF TRANSPORTATION		00 1112 0	(130111	OI/AI CENTILAE	I AIIN AVE			CONTRACT NO. 62CO7
L	Default	PLOT DATE = 4/13/2018	DATE -	4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEETS STA.	TO STA.		ILLINOIS FED. A	NID PROJECT



STATE OF ILLINOIS

**DEPARTMENT OF TRANSPORTATION** 

27 SHT

7.D162CØ7-Sht-TS Cable US 6 at Central Park.dgn

DESIGNED - MG

DRAWN - EC

CHECKED - KP

DATE - 4/13/2018

USER NAME = mgarvida

PLOT DATE = 4/13/2018

REVISED

REVISED

REVISED

REVISED

COUNTY

СООК 333 238

CONTRACT NO. 62CO7

SECTION

2016-002N

351

CABLE PLAN AND PHASE DESIGNATION DIAGRAM

US RTE 6 (159TH ST) AT CENTRAL PARK AVE

OF SHEETS STA.

SCALE:

# SIGN PANEL – TYPE 2

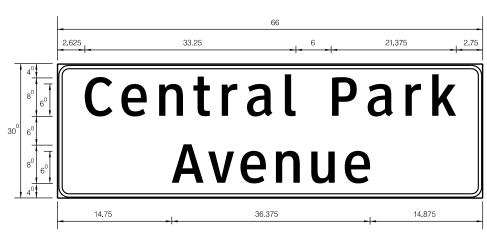
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



11.25

### SIGN PANEL – TYPE 2

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN	AREA	SIGN PANEL	SHEETING	QTY.
SERIES	(SQ FT)	TYPE	TYPE	REQUIRED
D	13.75	2	ZZ	

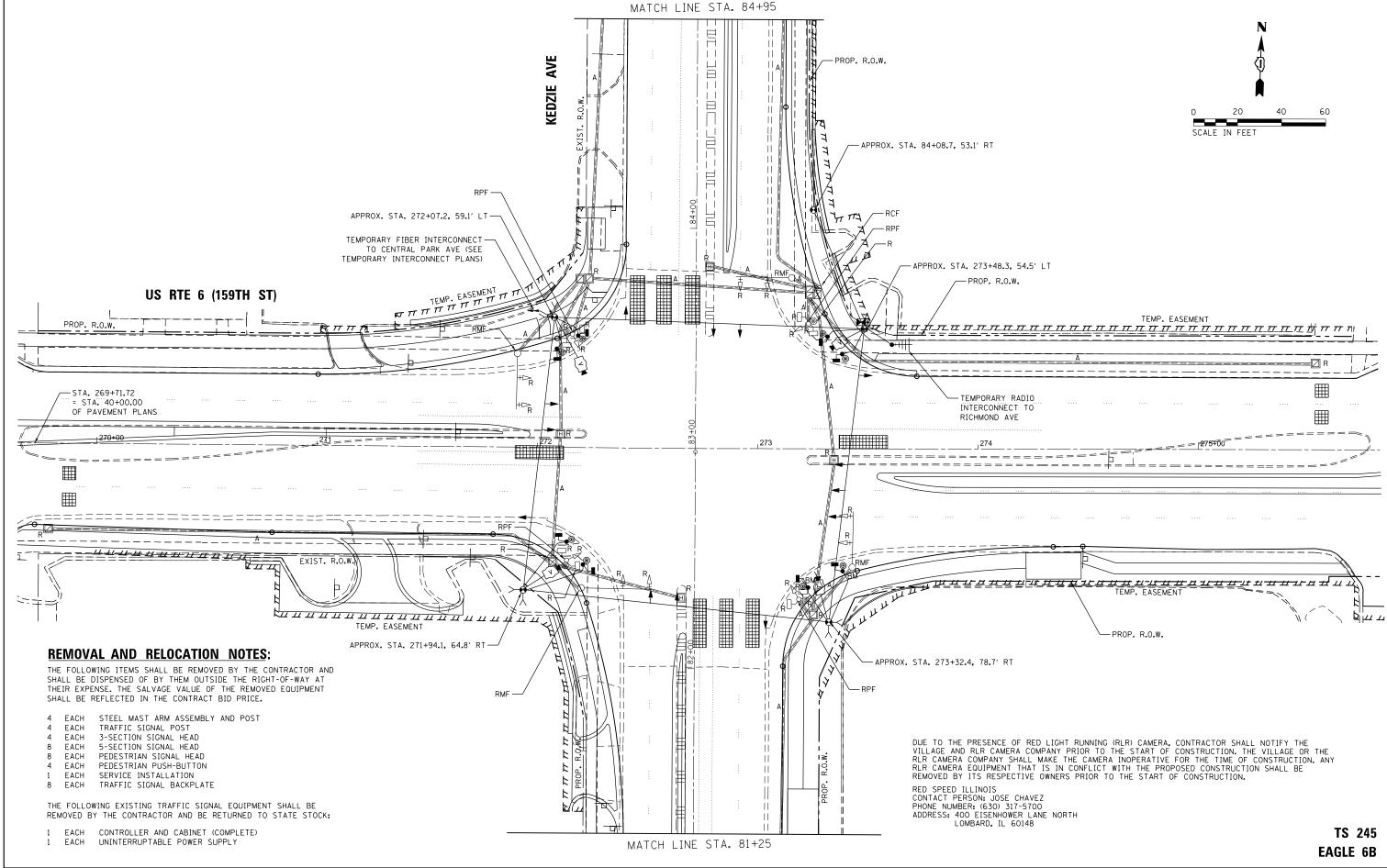
# SCHEDULE OF QUANTITIES

ITEM DESCRIPTION	UNITS	TOTAL QTY.
SIGN PANEL - TYPE 2	SQ FT	50
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	626
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	136
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	268
HANDHOLE	EACH	5
HEAVY-DUTY HANDHOLE	EACH	2
DOUBLE HANDHOLE	EACH	1
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1166
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1439
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	1754
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	682
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	1445
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	58
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	596
TRAFFIC SIGNAL POST, GALVANIZED STEEL 10 FT.	EACH	1
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	3
STEEL MAST ARM ASSEMBLY AND POLE, 26 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 32 FT.	EACH	2
STEEL MAST ARM ASSEMBLY AND POLE, 40 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	20
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION, TYPE E 30-INCH DIAMETER	FOOT	10
CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	33
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	8
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	2
SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	2
LIGHT DETECTOR	EACH	2
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	10
INDUCTIVE LOOP DETECTOR	EACH	5
DETECTOR LOOP, TYPE I	FOOT	357
PEDESTRIAN PUSH-BUTTON	EACH	8
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	7
REMOVE EXISTING DOUBLE HANDHOLE	EACH	1
REMOVE EXISTING CONCRETE FOUNDATION	EACH	8
FULL-ACTUATED CONTROLLER AND TYPE SUPER R CABINET (SPECIAL)	EACH	1
SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1
RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR	EACH	2
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	231
MASTER CONTROLLER (SPECIAL)	EACH	1
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1
TENI ONAN'I INAFFIC SIGNAL TIMING	LACH	1 1

\*100% COST TO THE CITY OF MARKHAM

TS 10635 **EAGLE 6B** 

FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -			MAST ARI					F.A.P. RTF.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
28_D162C07-Sht-TS SOO US 6 at Central Park.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS					QUANTITIES		351	2016-002N	соок	333 239
	PLOT SCALE = 40.0000 '/ in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION		US RTE 6	(156TH S	ST) AT C	ENTRAL PA	ARK AVE			CONTRAC	CT NO. 62CO7
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FEE	D. AID PROJECT	



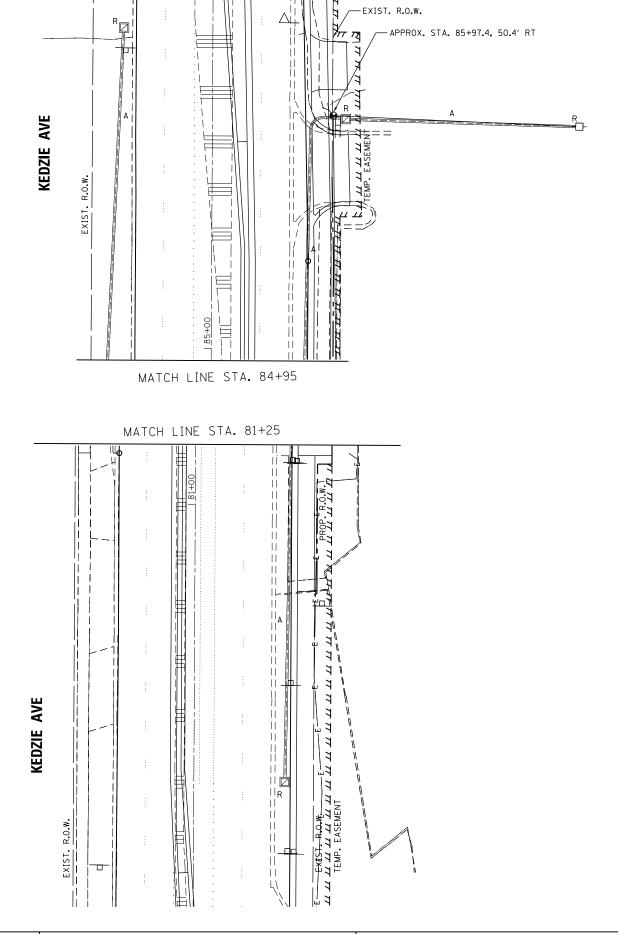
S SHT NO. 29

DESIGNED - MG TEMPORARY TRAFFIC SIGNAL INSTALLATION AND RTE.

REMOVAL OF EXISTING TRAFFIC SIGNAL EQUIPMENT PLAN (SHEET 1 OF 2)

351 FILE NAME : REVISED USER NAME = mgarvida SECTION COUNTY STATE OF ILLINOIS .D162C07-Sht-TS Temp US 6 at Kedzie 1 of 2.dgm DRAWN EC REVISED 2016-002N COOK 333 240 US RTE 6 (159TH ST) AT KEDZIE AVE PLOT SCALE = 40.0000 '/ in. CHECKED -REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 62CO7 PLOT DATE = 4/13/2018 DATE 4/13/2018 REVISED

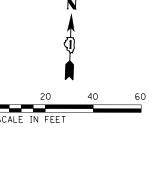
TS SHT NO. 30

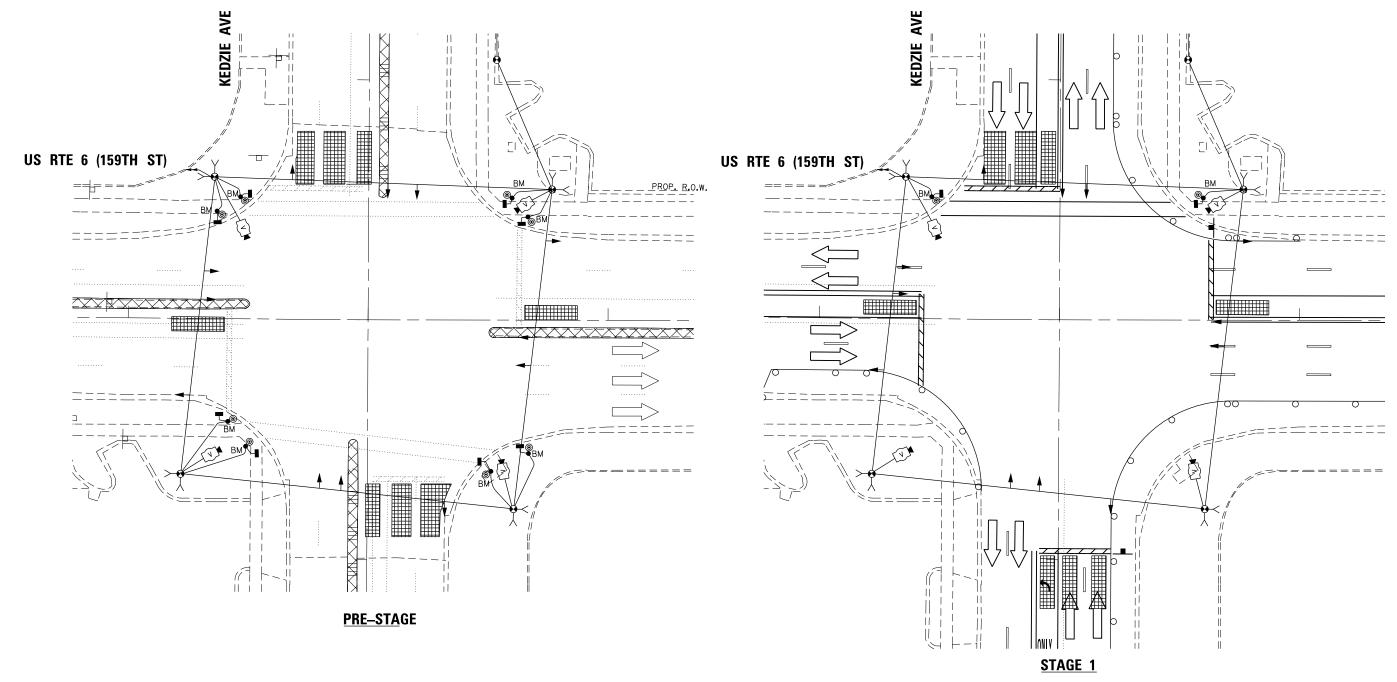


TS 245 EAGLE 6B

SCALE IN FEET

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· [	FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -		TEN	/IPORARY TE	RAFFIC S	IGNAL	INSTALLATIO	N AND	F.A.P.	SECTION	COUNTY	TOTAL	SHEET
	30.D162C07-Sht-TS Temp US 6 at Kedzie 2 of 2.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS	REMOVAL OF EX	ISTING TRA	FFIC SIG	NAL E	QUIPMENT PI	LAN (SHEET 2 OF 2	351	2016-002N	соок	333	241
		PLOT SCALE = 40.0000 '/ in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION		US RTE	6 (159TH	ST) A	T KEDZIE AV	E `	1		CONTRAC	T NO.	62C07
	Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FEE	. AID PROJECT		

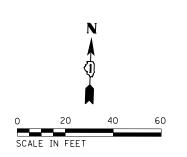


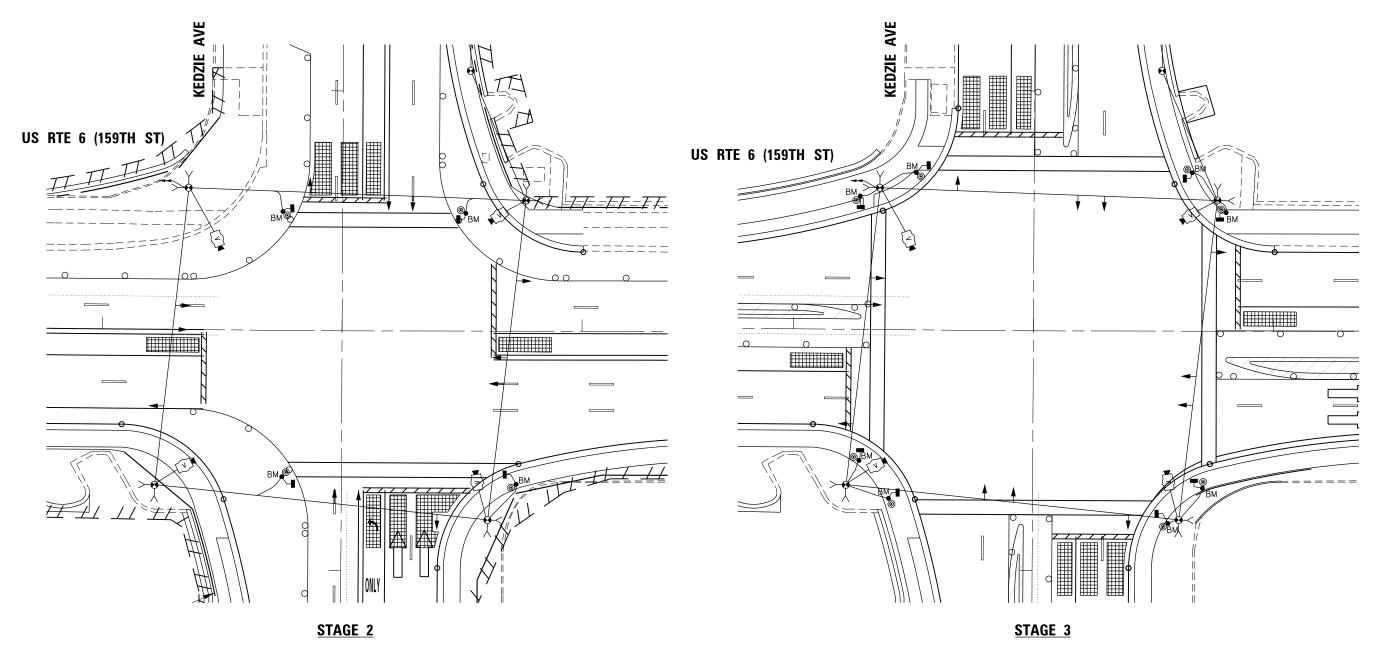


TS 245 EAGLE 6B

NO. 31														
SH														TS 245
တ														EAGLE 6B
FILE NAI	AME =	USER NAME = mgarvida	DESIGNED -	MG	REVISED -		TEMPODARY T	DAFFIC CIC	NIAL INC	TALLATION AT I	DE CTACE C CTACE 4	F.A.P.	SECTION	COUNTY TOTAL SHEE
31.D162CØ7-S	-Sht-TS Temp US 6 at Kedzie Pre-Stage & Stage lidgn		DRAWN -	EC	REVISED -	STATE OF ILLINOIS	I EIVIPUKAKY I				PRE-STAGE & STAGE 1	351	2016-002N	COOK 333 242
		PLOT SCALE = 40.0000 ' / in.	CHECKED -	KP	REVISED -	DEPARTMENT OF TRANSPORTATION		US NIE	0 (1391	'H ST) AT KEDZIE	AVE			CONTRACT NO. 62CO
Default	t	PLOT DATE = 4/13/2018	DATE -	4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEETS STA.	TO STA.		ILLINOIS FED.	

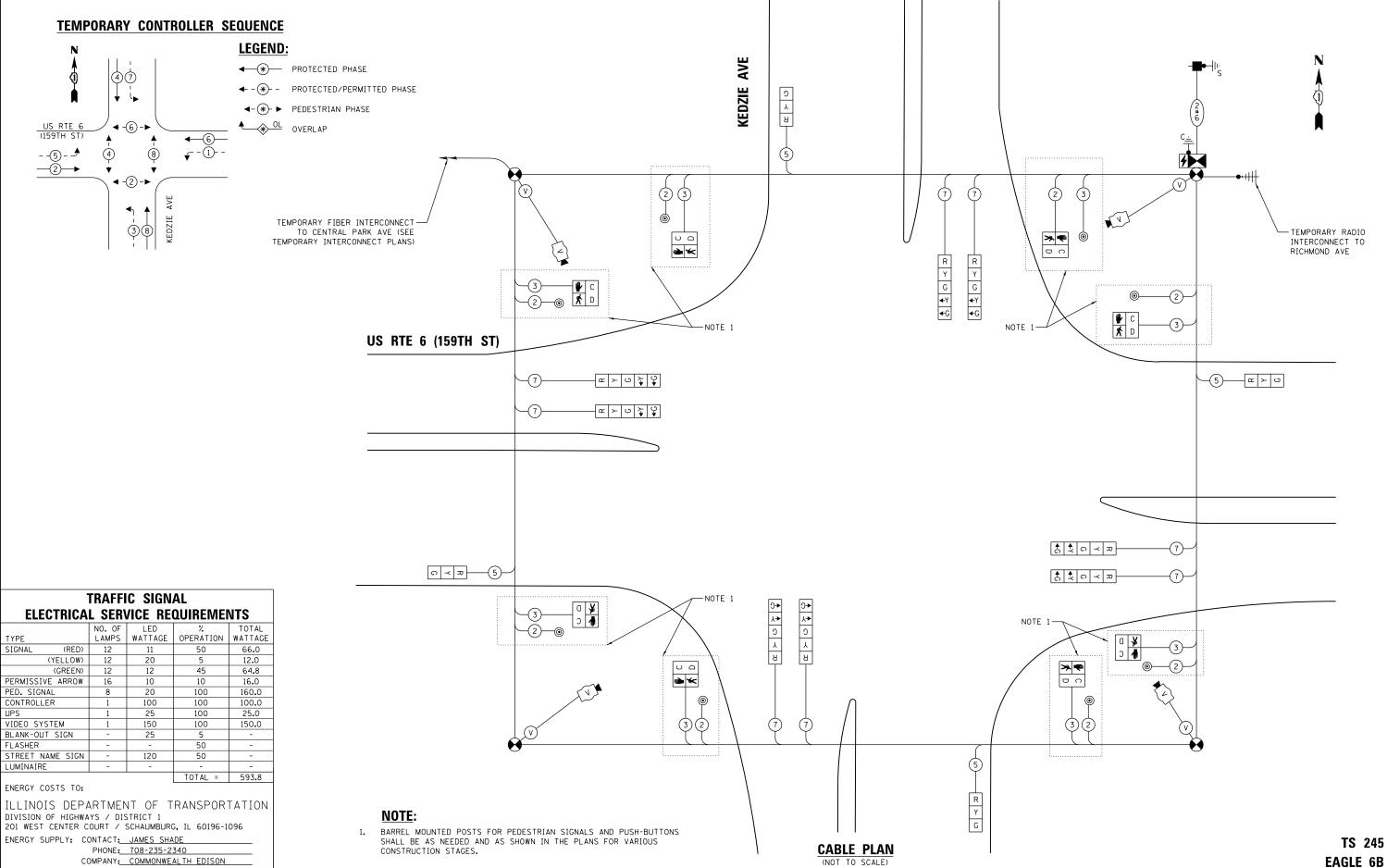






TS 245 EAGLE 6B

FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -		TEMPOR/	ADV TDAE	FIC CICN	IAI INIC	TALLATIO	N AT CTACEC 2 2	F.A.P.	SECTION	COUNTY	CHEETS	SHEET NO.
32_D162C07-Sht-TS Temp US 6 at Kedzie Stage 2-3.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS	TEMPORA				AT KEDZI		351	2016-002N	соок	333	243
	PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION		- 00 111	L 0 (133	,,,,	AI KLDZI	IL AVL	_		CONTRAC	T NO. 6	2C07
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	OF	SHEET		TO STA.		ILLINOIS FED. A			



<u>8</u> SHT TS

FILE NAME = 3.D162C07-Sht-TS Temp Cable US 6 at Kedzie.dg

COMPANY: COMMONWEALTH EDISON ACCOUNT NUMBER: 5553056059

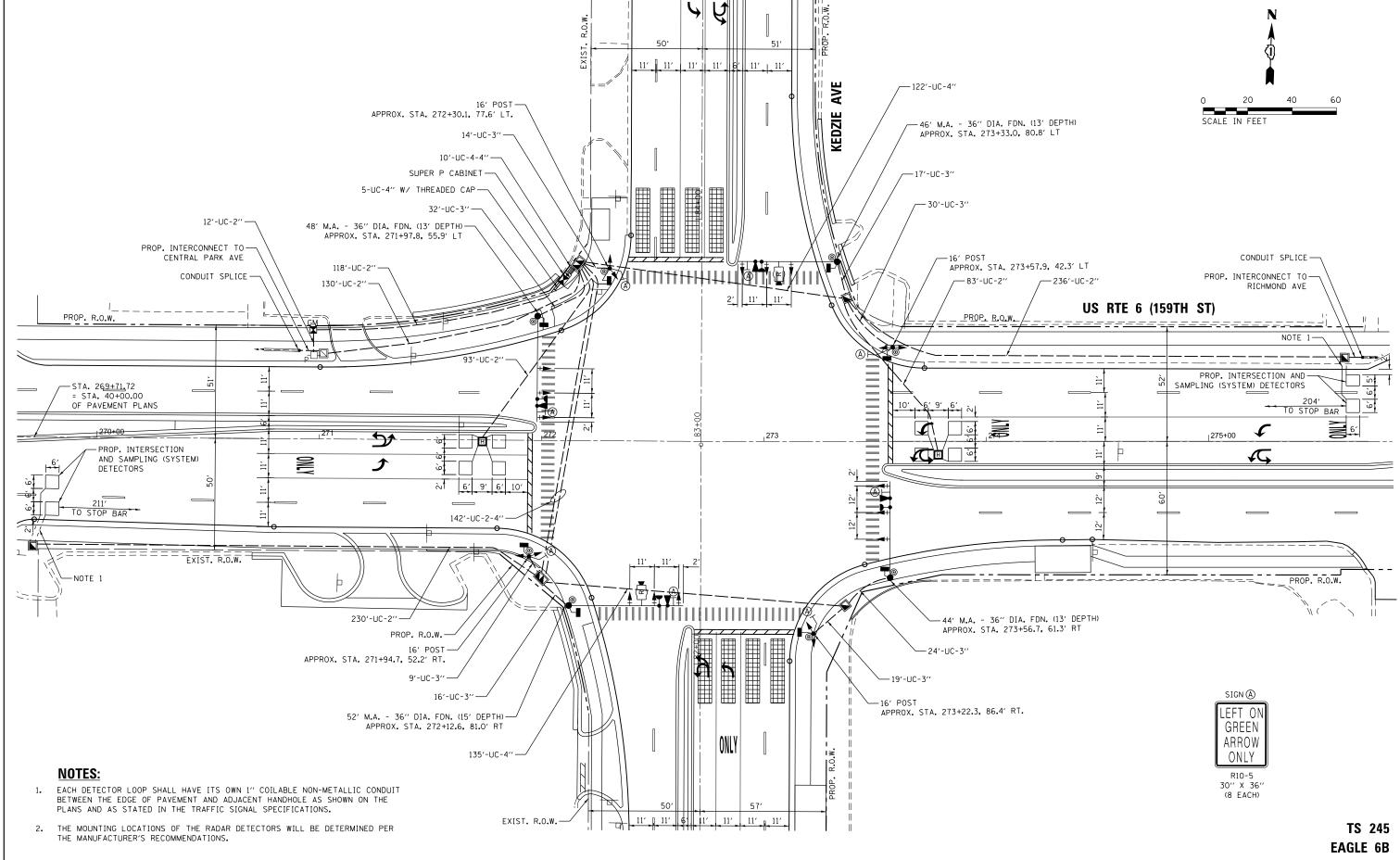
DESIGNED - MG REVISED USER NAME = mgarvida REVISED DRAWN - EC PLOT SCALE = 40.0000 '/ in. CHECKED - KP REVISED PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**  TEMPORARY CABLE PLAN AND TEMPORARY PHASE DESIGNATION DIAGRAM US RTE 6 (159TH ST) AT KEDZIE AVE OF SHEETS STA.

SCALE:

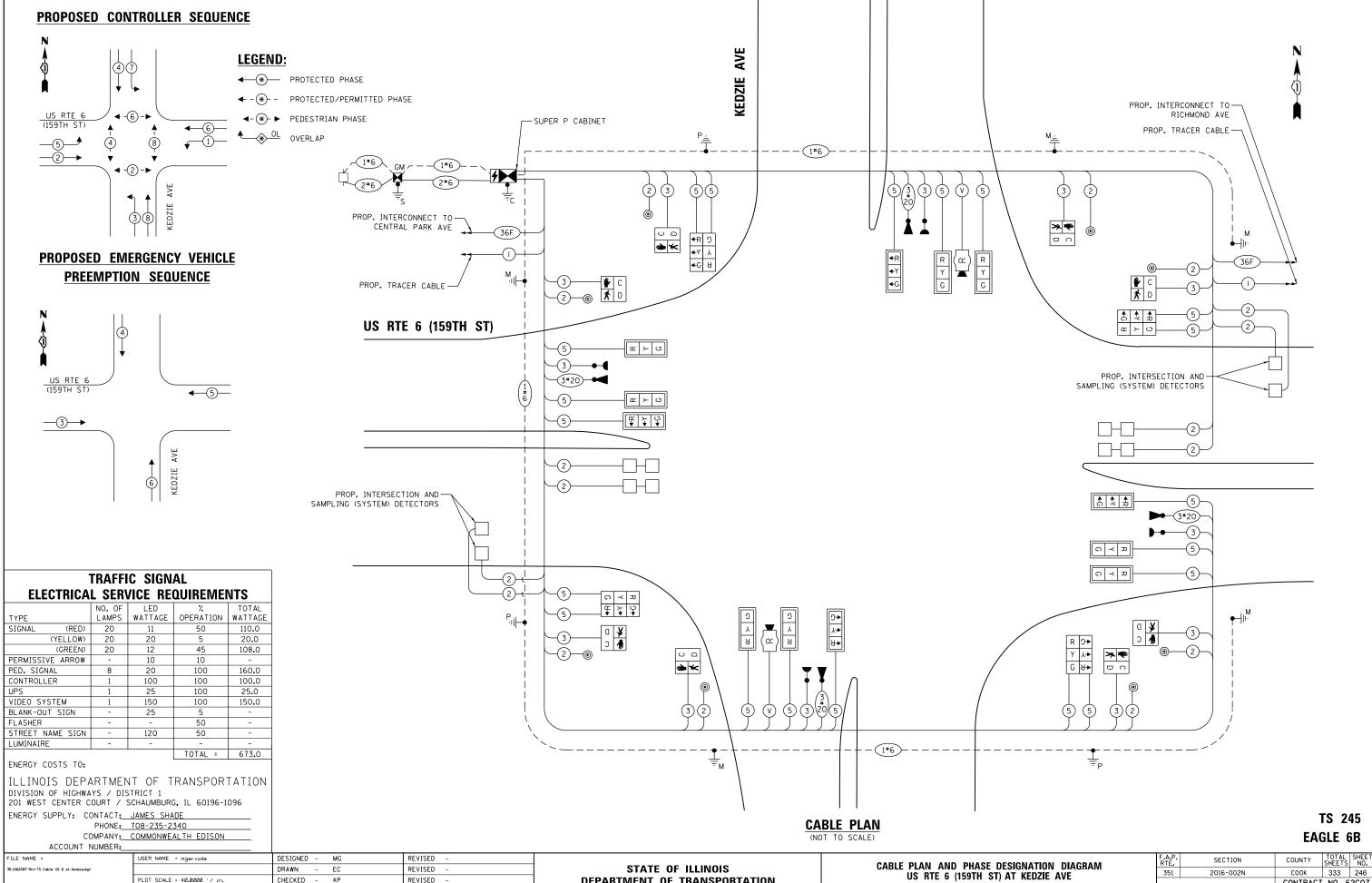
COUNTY TOTAL SHEET NO.

COOK 333 244 SECTION COUNTY 2016-002N 351 CONTRACT NO. 62CO7



S SHT NO. 34

DESIGNED - MG REVISED FILE NAME = USER NAME = mgarvida SECTION COUNTY TRAFFIC SIGNAL MODERNIZATION PLAN STATE OF ILLINOIS LD162C07-Sht-TS Prop US 6 at Kedzieldo DRAWN - EC REVISED COOK 333 245 2016-002N US RTE 6 (159TH ST) AT KEDZIE AVE CHECKED - KP REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 62CO7 SCALE: SHEETS STA. PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED



**DEPARTMENT OF TRANSPORTATION** 

SCALE:

OF SHEETS STA.

351

TO STA.

2016-002N

CONTRACT NO. 62CO7

<u>8</u> SHT Z

PLOT SCALE = 40.0000 '/ in.

PLOT DATE = 4/13/2018

CHECKED -

DATE - 4/13/2018

REVISED

REVISED

# SIGN PANEL – TYPE 2

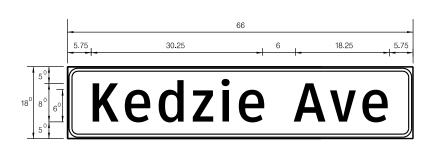
ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN	AREA	SIGN PANEL	SHEETING	QTY.
SERIES	(SQ FT)	TYPE	TYPE	REQUIRED
D	11.25	2	ZZ	2

# SIGN PANEL - TYPE 1

ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE



DESIGN	AREA	SIGN PANEL	SHEETING	QTY.
SERIES	(SQ FT)	TYPE	TYPE	REQUIRED
D	8. 25	1	ZZ	

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

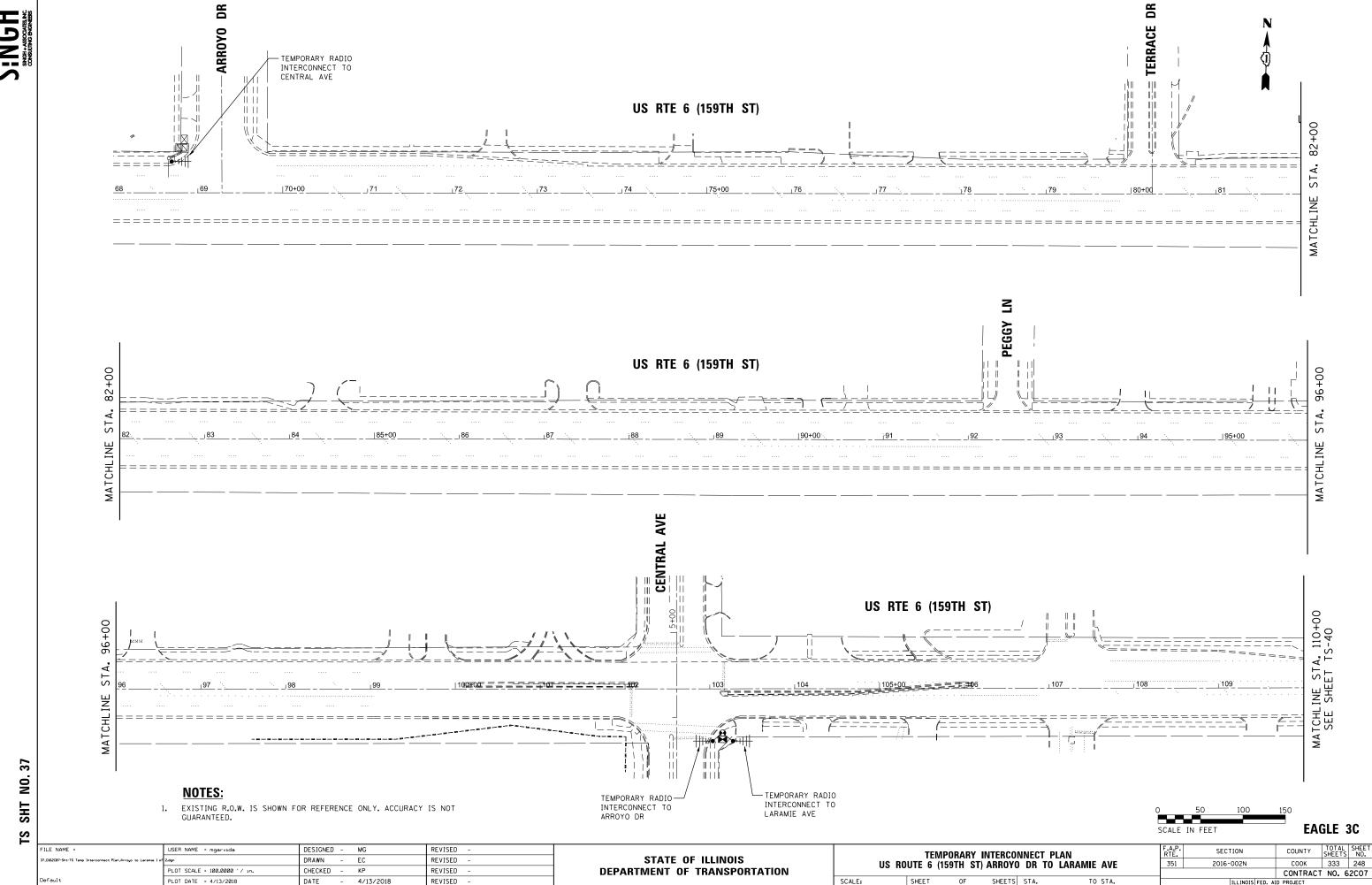
# **SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY.
SIGN PANEL - TYPE 1	SQ FT	76.5
SIGN PANEL - TYPE 2	SQ FT	22.5
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	902
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	161
UNDERGROUND CONDUIT, GALVANIZED STEEL, 4" DIA.	FOOT	598
HANDHOLE	EACH	4
HEAVY-DUTY HANDHOLE	EACH	2
DOUBLE HANDHOLE	EACH	2
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1628
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	2738
ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	4714
ELECTRIC CABLE IN CONDUIT, LEAD-IN, NO. 14 1 PAIR	FOOT	2380
ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 2 2 C	FOOT	167
ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO. 6 1C	FOOT	1100
TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
STEEL MAST ARM ASSEMBLY AND POLE, 44 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 46 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 48 FT.	EACH	1
STEEL MAST ARM ASSEMBLY AND POLE, 52 FT.	EACH	1
CONCRETE FOUNDATION, TYPE A	FOOT	20
CONCRETE FOUNDATION, TYPE C	FOOT	4
CONCRETE FOUNDATION. TYPE E 36-INCH DIAMETER	FOOT	54
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	12
SIGNAL HEAD, LED, 1-FACE, 3-SECTION, BRACKET MOUNTED	EACH	8
LIGHT DETECTOR	EACH	4
LIGHT DETECTOR AMPLIFIER	EACH	1
PEDESTRIAN SIGNAL HEAD, LED, 1-FACE, BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
TRAFFIC SIGNAL BACKPLATE, LOUVERED, FORMED PLASTIC	EACH	12
INDUCTIVE LOOP DETECTOR	EACH	8
DETECTOR LOOP, TYPE I	FOOT	408
PEDESTRIAN PUSH-BUTTON	EACH	8
TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	1
REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT	EACH	1
REMOVE EXISTING HANDHOLE	EACH	11
REMOVE EXISTING DOUBLE HANDHOLE	EACH	2
REMOVE EXISTING CONCRETE FOUNDATION	EACH	9
FULL-ACTUATED CONTROLLER AND TYPE SUPER P CABINET (SPECIAL)	EACH	1
SERVICE INSTALLATION, GROUND MOUNTED, METERED	EACH	1
RADAR VEHICLE DETECTION SYSTEM, SINGLE APPROACH, STOP BAR	EACH	2
EMERGENCY VEHICLE PRIORITY SYSTEM LINE SENSOR CABLE, NO. 20 3/C	FOOT	1053
UNINTERRUPTABLE POWER SUPPLY, SPECIAL	EACH	1
TEMPORARY TRAFFIC SIGNAL TIMING	EACH	1

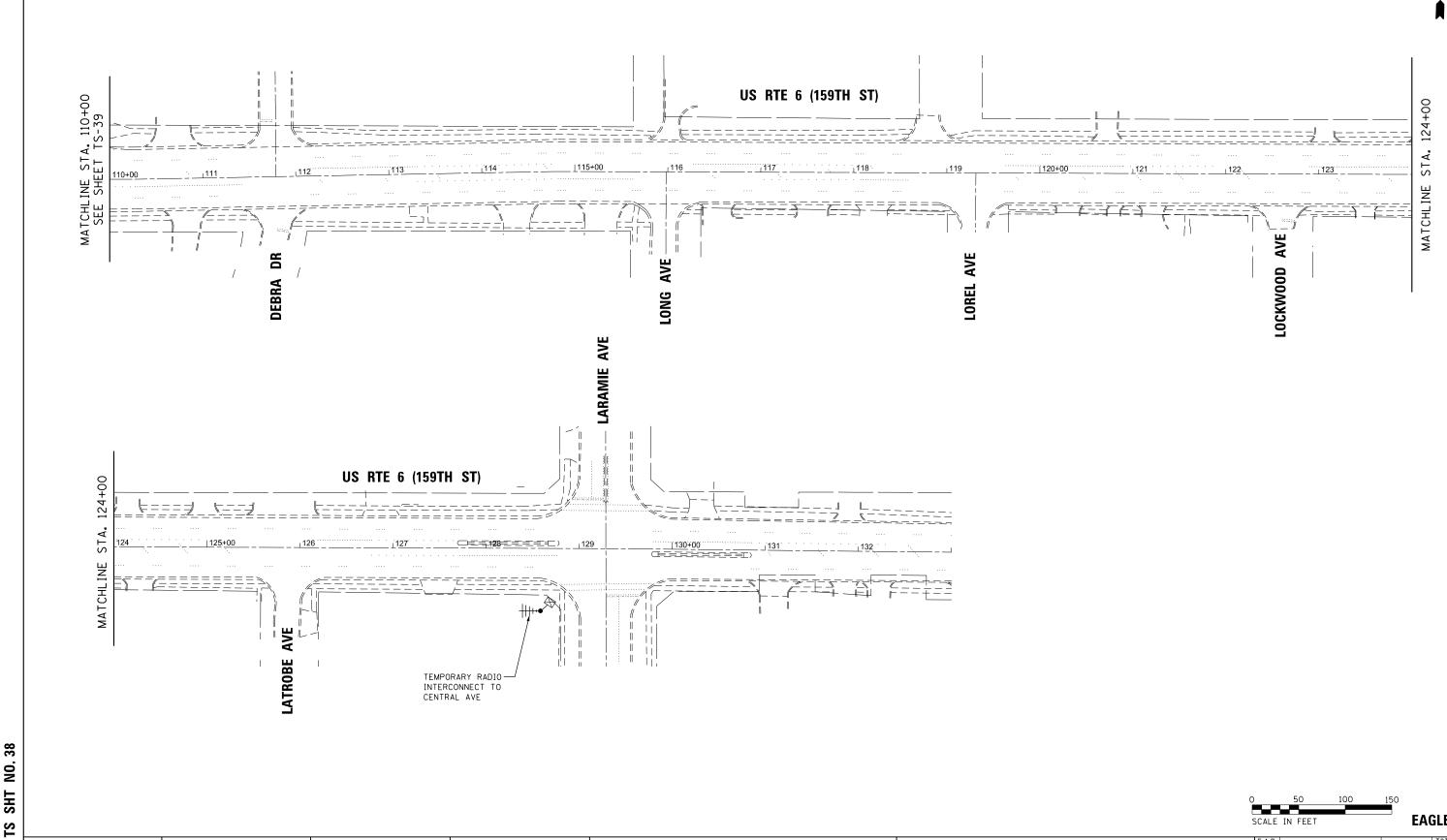
\*100% COST TO THE CITY OF MARKHAM

TS 245 **EAGLE 6B** 

FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -			MAST ARI	м мои	UNTED	STREET N	IAME SIGI	VS	F.A.P.	SECTION	COUNTY	TOTAL	SHEET
36.D162C07-Sht-TS S00 US 6 at Kedzie.dgn		DRAWN - EC	REVISED -	STATE OF ILLINOIS			D SCHE		OF QUANT			351	2016-002N	соок	333	247
	PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION		US R1	ΓE 6 (15	56TH	ST) AT KED	ZIE AVE				CONTRAC	T NO. /	32C07
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE:	SHEET	0F	SI	HEETS STA.		TO STA.		ILLINOIS FED. A	ID PROJECT		



EAGLE 3C F.A.P. RTE. 351 FILE NAME = DESIGNED - MG REVISED TEMPORARY INTERCONNECT PLAN
US ROUTE 6 (159TH ST) ARROYO DR TO LARAMIE AVE SECTION STATE OF ILLINOIS DRAWN - EC REVISED 2016-002N **DEPARTMENT OF TRANSPORTATION** PLOT SCALE = 100.0000 '/ in. CHECKED - KP REVISED PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED SHEETS STA.



ILL. RTE. 43 (HARLEM AVE) 151ST ST WHEELER DR TEMPORARY RADIO INTERCONNECT TO CENTRAL AVE LARAMIE AVE 157TH ST 71ST COURT ARROYO DR RIDGELAND **US RTE 6 (159TH ST)** PARK CENTER DR 161ST ST TEMPORARY RADIO — INTERCONNECT TO ARROYO DR TEMPORARY RADIO INTERCONNECT TO LARAMIE AVE TEMPORARY RADIO INTERCONNECT TO CENTRAL AVE 163RD ST 167TH ST 171ST ST 175TH ST **TS SHT NO. 39** EAGLE 3C COUNTY TOTAL SHEET NO.

COOK 333 250

CONTRACT NO. 62CO7 USER NAME = mgarvida DESIGNED - MG REVISED SECTION TEMPORARY INTERCONNECT SCHEMATIC STATE OF ILLINOIS DRAWN - EC REVISED 2016-002N US RTE 6 (159TH ST) - ARROYO DR TO LARAMIE AVE **DEPARTMENT OF TRANSPORTATION** PLOT SCALE = 40.0000 '/ in. CHECKED - KP REVISED PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED SHEETS STA.

TERRACE DR **US RTE 6 (159TH ST)** 82+00 STA. MATCHL INE — 579′-Е-2′′ — 585′-E-2" -45'-E-3'' **US RTE 6 (159TH ST)** STA. MATCHLINE MATCHLINE **CENTRAL AVE** -635′-E-2" -600'-E-2' -592′-E-2′′ MATCHLINE STA, 110+00 SEE SHEET TS-43 MATCHL SHT NO. 40 -INTERSECTION AND SAMPLING (SYSTEM) DETECTOR LOOP -20'-UC-2'' NOTE: 1. EXISTING R.O.W. IS SHOWN FOR REFERENCE ONLY. ACCURACY IS NOT GUARANTEED. -CONDUIT SPLICE EAGLE 3C S COUNTY SHEETS NO.

COOK 333 251

CONTRACT NO. 62C07 FILE NAME : DESIGNED - MG REVISED PROPOSED INTERCONNECT PLAN
US RTE 6 (159TH ST) – ARROYO DR TO LARAMIE AVE STATE OF ILLINOIS DRAWN - EC REVISED 2016-002N **DEPARTMENT OF TRANSPORTATION** PLOT SCALE = 100.0000 '/ in. CHECKED - KP REVISED PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED SCALE: SHEETS STA.

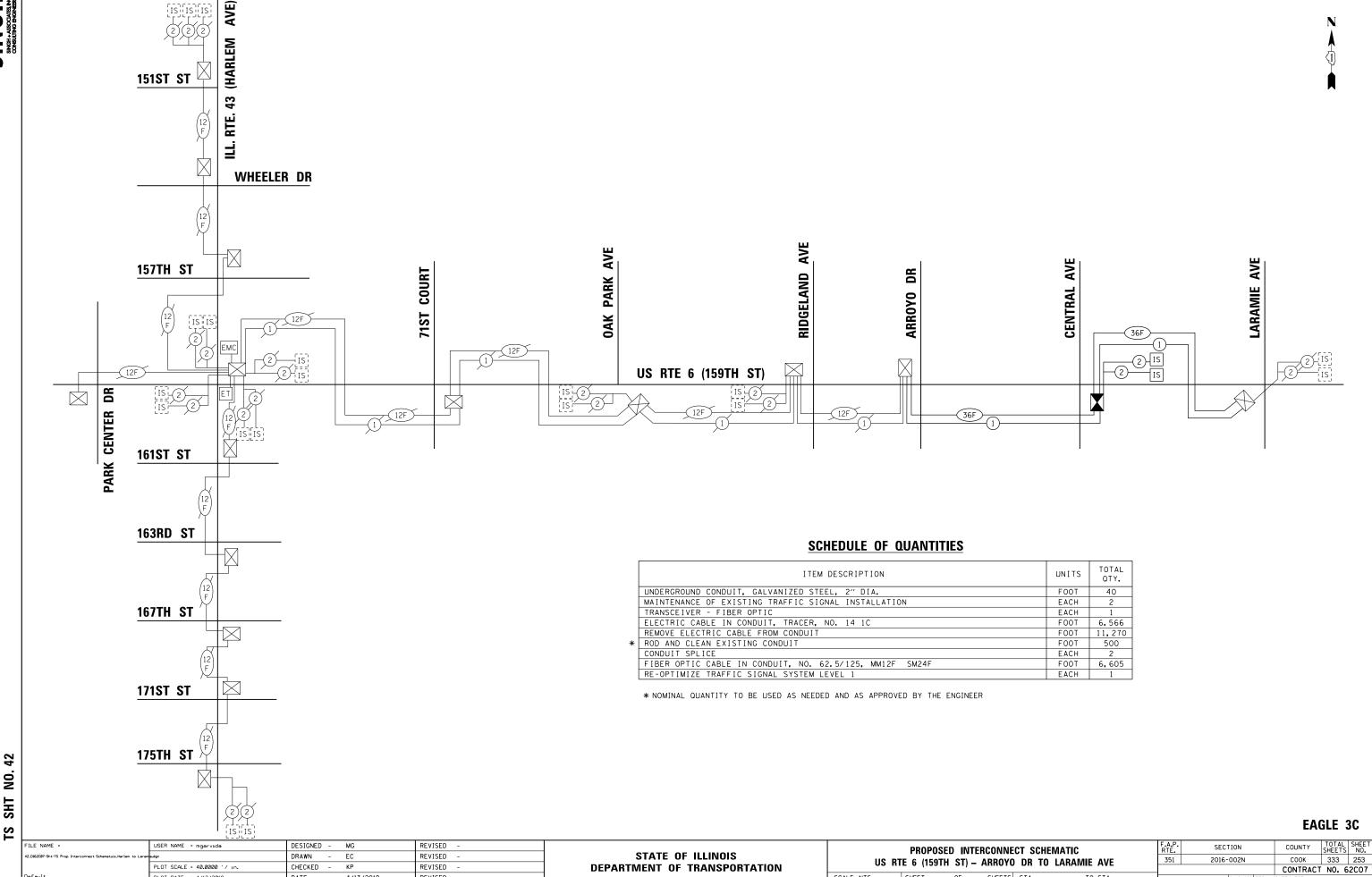
EAGLE 3C TS CTION COUNTY SHEETS NO.

5-002N COOK 333 252

CONTRACT NO. 62CO7

||ILLINOIS|| FED. AID PROJECT FILE NAME = DESIGNED - MG REVISED SECTION PROPOSED INTERCONNECT PLAN
US RTE 6 (159TH ST) – ARROYO DR TO LARAMIE AVE STATE OF ILLINOIS DRAWN - EC REVISED 2016-002N DEPARTMENT OF TRANSPORTATION PLOT SCALE = 100.0000 '/ in. CHECKED - KP REVISED PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED SHEETS STA.

US RTE 6 (159TH ST) — 537'-E-2'' -582'-E-2'' MATCHLINE STA. SEE SHEET TS STA. 120+00 MATCHLINE LOCKWOOD AVE 308'-E-2' LOREL AVE 71'-E-3' US RTE 6 (159TH ST) -INTERSECTION AND SAMPLING (SYSTEM) DETECTOR LOOP 124+00 -262'-E-2'' STA. |125+00 MATCHLINE 308'-E-2' 240'-E-2' LATROBE AVE SHT NO. 41



**DEPARTMENT OF TRANSPORTATION** 

2016-002N

US RTE 6 (159TH ST) - ARROYO DR TO LARAMIE AVE

OF SHEETS STA.

DRAWN - EC

CHECKED - KP

DATE - 4/13/2018

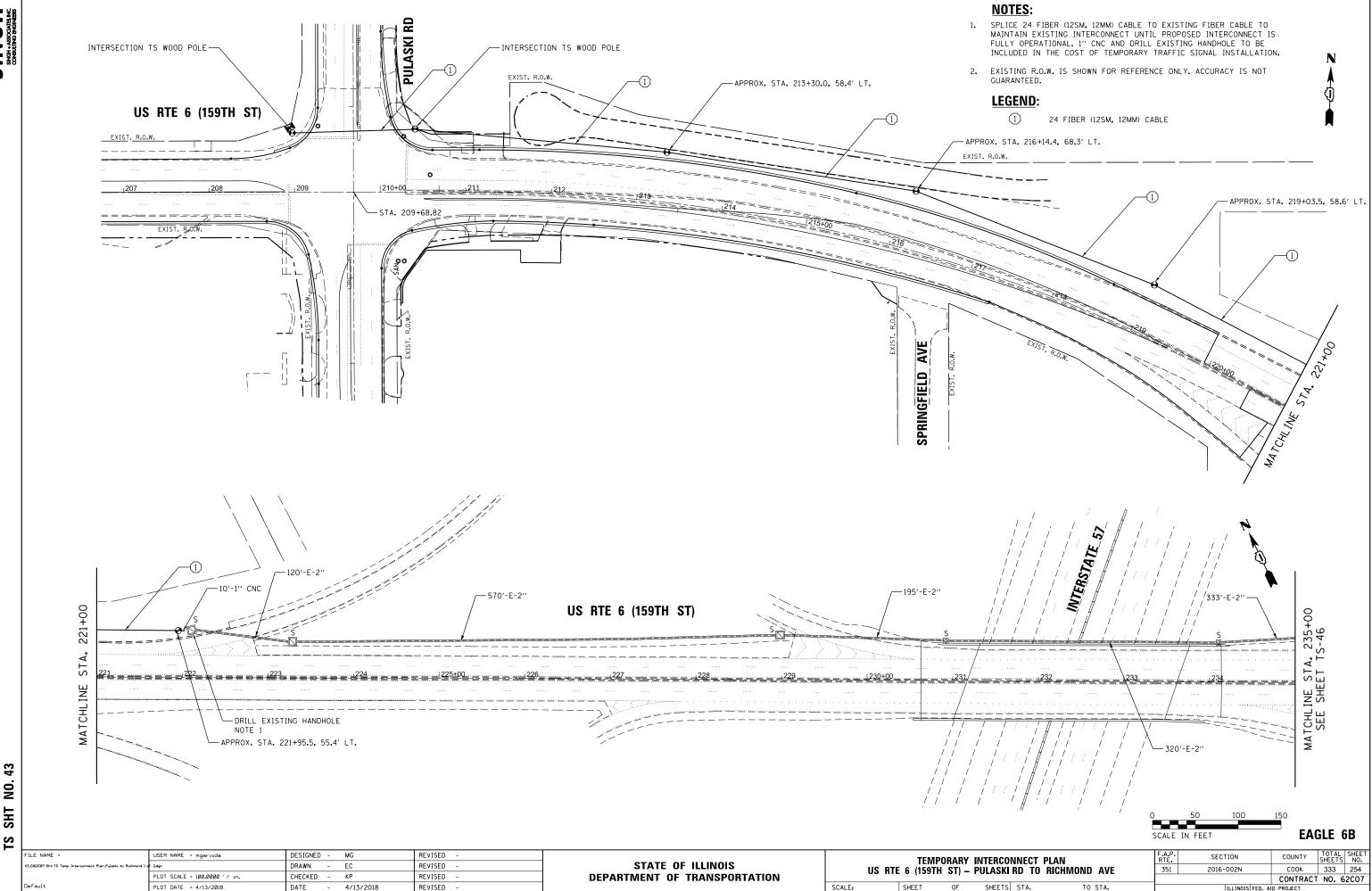
PLOT SCALE = 40.0000 '/ in.

PLOT DATE = 4/13/2018

REVISED

REVISED

REVISED

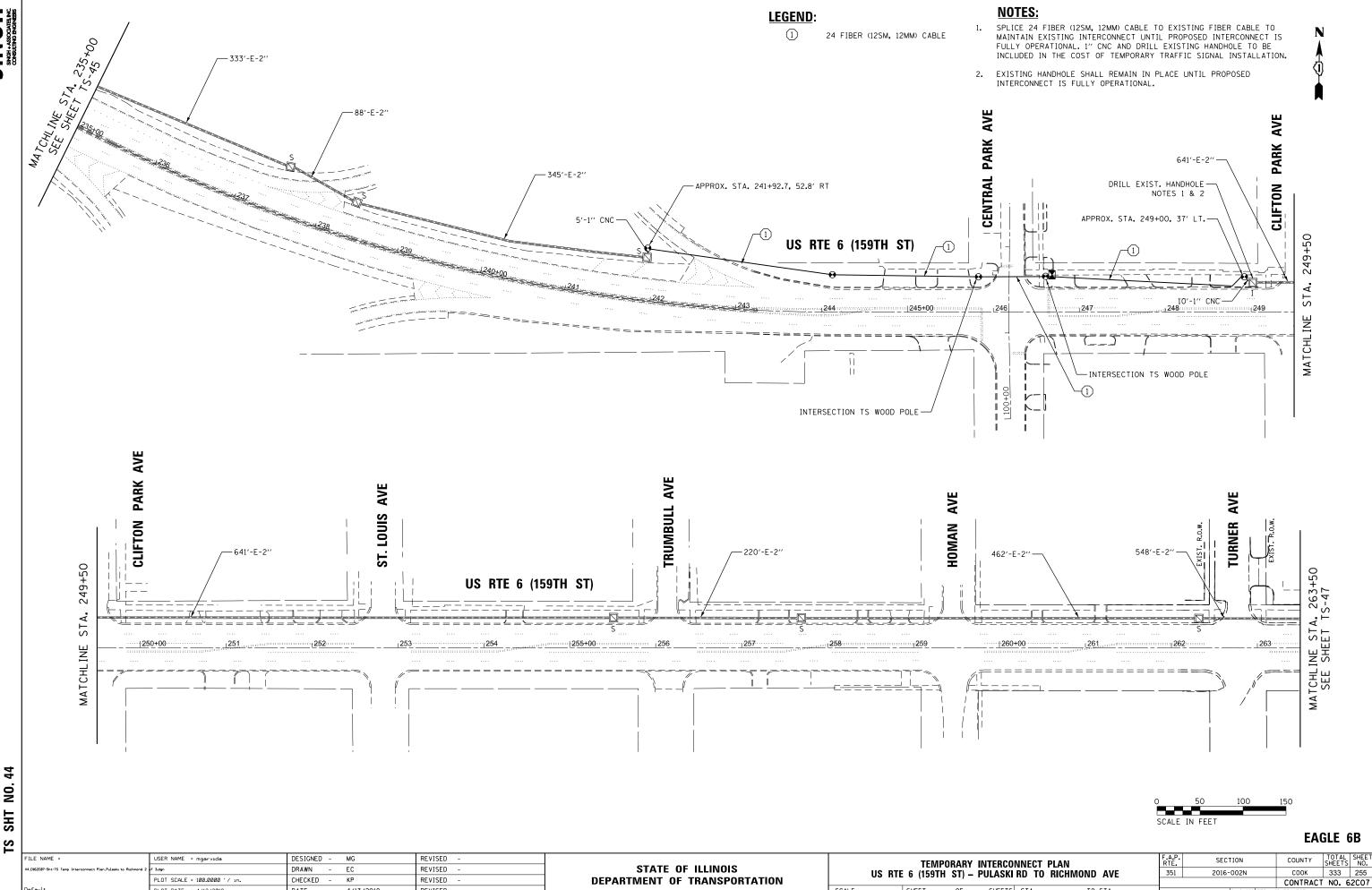


PLOT DATE = 4/13/2018

DATE

- 4/13/2018

REVISED



SHEETS STA.

PLOT SCALE = 100.0000 '/ in.

PLOT DATE = 4/13/2018

CHECKED -

- 4/13/2018

DATE

REVISED

REVISED

**DEPARTMENT OF TRANSPORTATION** 

COOK 333 256

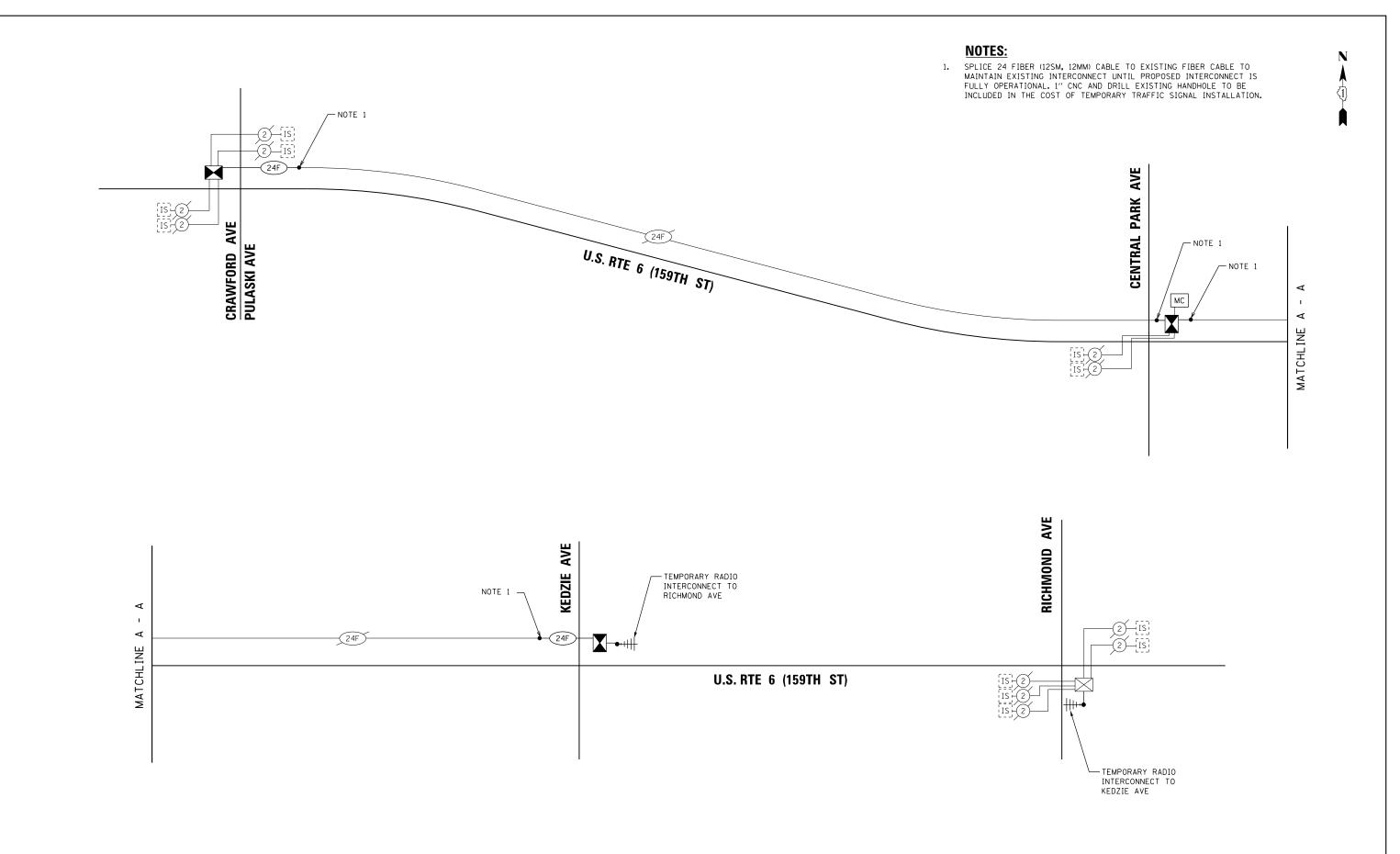
CONTRACT NO. 62CO7

2016-002N

US RTE 6 (159TH ST) - PULASKI RD TO RICHMOND AVE

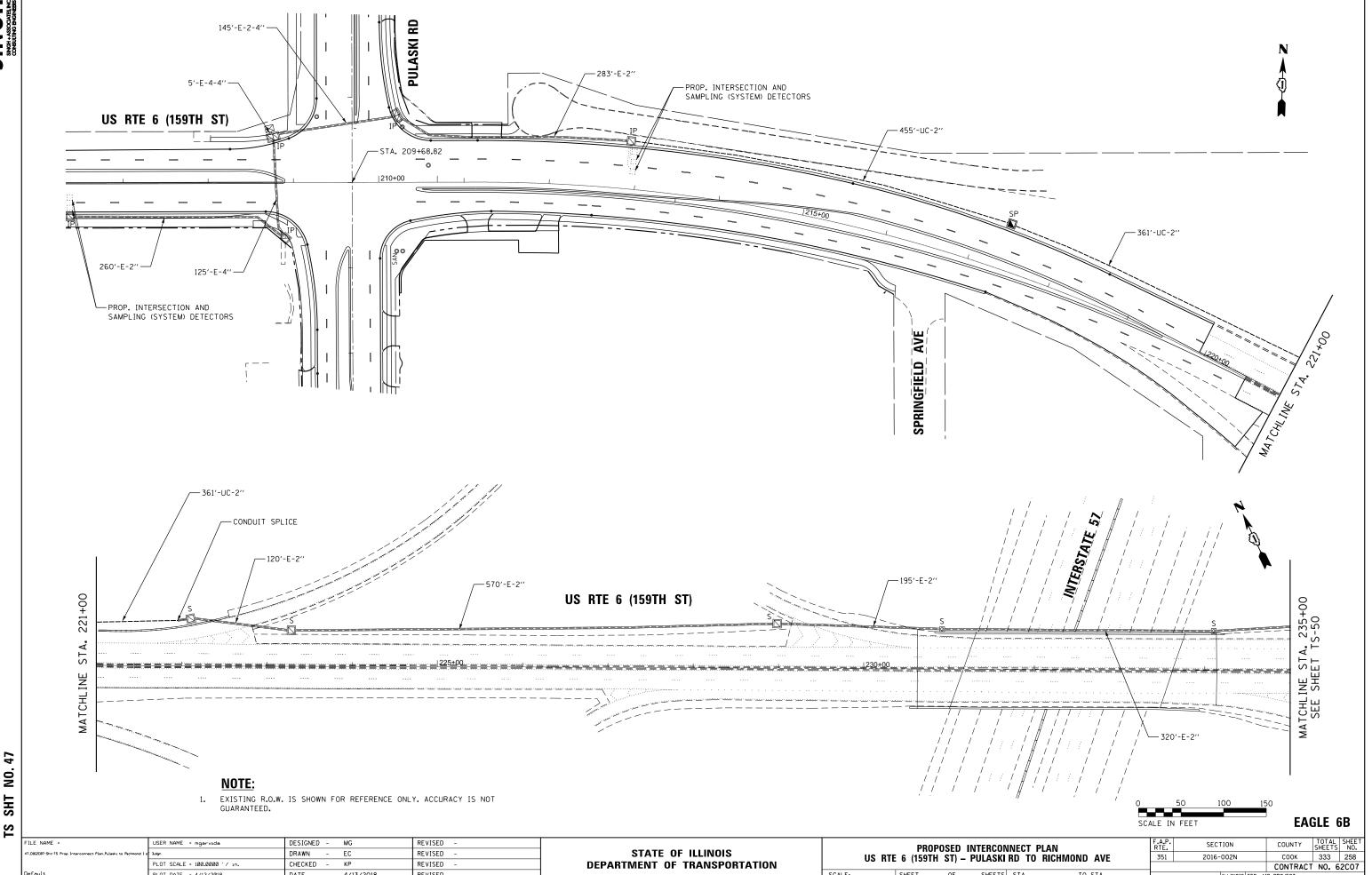
SHEETS STA.

**TS SHT NO. 46** 



EAGLE 6B

FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -			TEMPO	RARY IN	TERCON	NECT SO	CHEMATIC	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
46.DI62C07-Sht-TS Temp Interconnect Schematics.Pulasks to Richs	mend,dgn	DRAWN - EC	REVISED -	STATE OF ILLINOIS	110					O RICHMOND AVE	351	2016-002N	соок	333 257
	PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION	US	MIE O (139	in 3i <sub>j</sub> –	FULASI	יו עחוא	NICHIVIOND AVE			CONTRA	CT NO. 62CO7
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE: NTS	SHEET	OF	SHEET	S STA.	TO STA.		ILLINOIS FED.	AID PROJECT	



SHEETS STA.

S

PLOT DATE = 4/13/2018

DATE

- 4/13/2018

REVISED

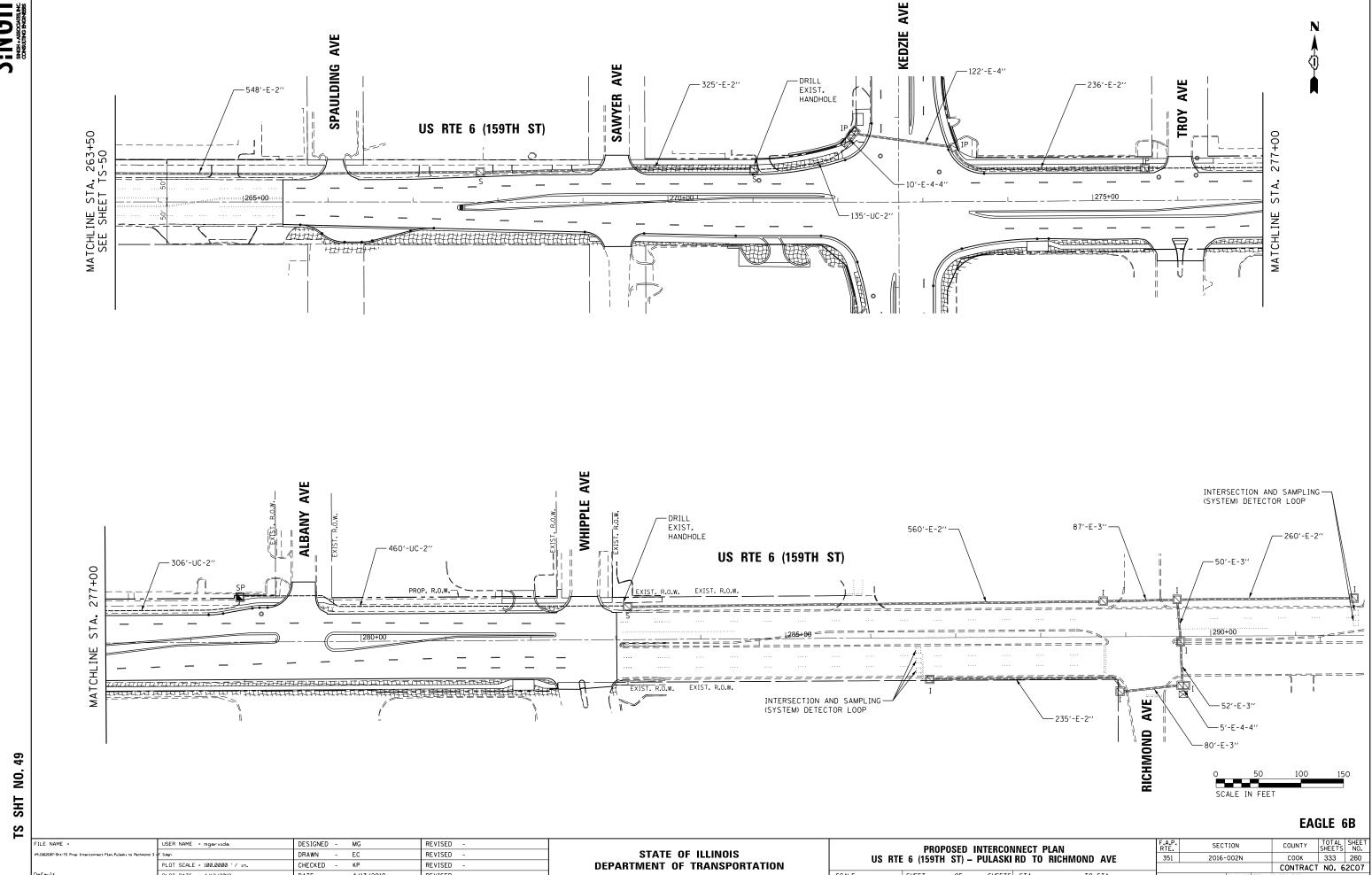
- 333′-E-2′′ **CENTRAL PARK AVE** 88'-E-2" **CLIFTON PARK AVE** CONDUIT SPLICE -— 270'-E-2'' US RTE 6 (159TH ST) STA. MATCHLINE - PROP. INTERSECTION AND
SAMPLING (SYSTEM) DETECTORS **CLIFTON PARK AVE** TRUMBULL AVE TURNER AVE HOMAN AVE 249+50 MATCHLINE STA, 263+50 SEE SHEET TS-51 **US RTE 6 (159TH ST)** STA. MATCHLINE **TS SHT NO. 48** SCALE IN FEET **EAGLE 6B** DESIGNED - MG REVISED SECTION PROPOSED INTERCONNECT PLAN
US RTE 6 (159TH ST) – PULASKI RD TO RICHMOND AVE STATE OF ILLINOIS DRAWN - EC REVISED 2016-002N **DEPARTMENT OF TRANSPORTATION** PLOT SCALE = 100.0000 '/ in. CHECKED - KP REVISED PLOT DATE = 4/13/2018 DATE - 4/13/2018 REVISED SHEETS STA.

PLOT DATE = 4/13/2018

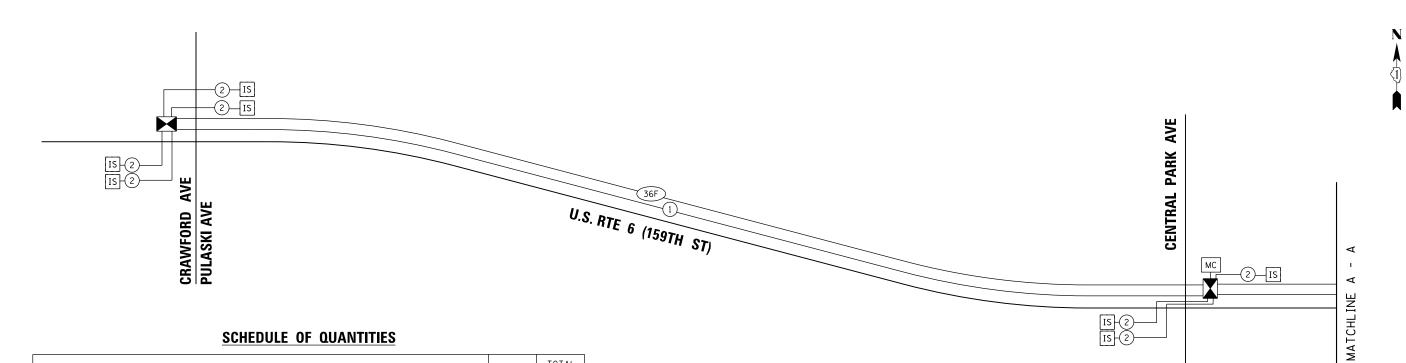
DATE

- 4/13/2018

REVISED



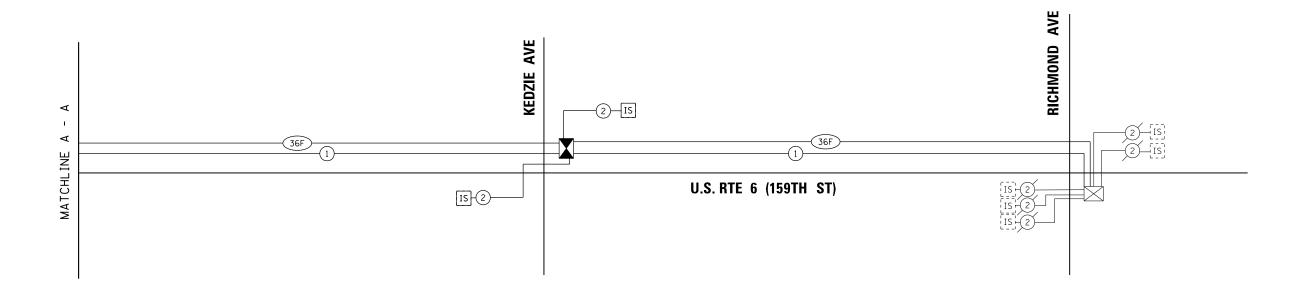
SHEETS STA.



# **SCHEDULE OF QUANTITIES**

ITEM DESCRIPTION	UNITS	TOTAL QTY.
UNDERGROUND CONDUIT, GALVANIZED STEEL, 2" DIA.	FOOT	1,779
HANDHOLE	EACH	2
MAINTENANCE OF EXISTING TRAFFIC SIGNAL INSTALLATION	EACH	1
TRANSCEIVER - FIBER OPTIC	EACH	3
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1C	FOOT	8, 295
DRILL EXISTING HANDHOLE	FOOT	2
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	10,652
* ROD AND CLEAN EXISTING CONDUIT	EACH	500
CONDUIT SPLICE	FOOT	2
FIBER OPTIC CABLE IN CONDUIT, NO. 62.5/125, MM12F SM24F	EACH	8,373
OPTIMIZE TRAFFIC SIGNAL SYSTEM	EACH	1

<sup>\*</sup> NOMINAL QUANTITY TO BE USED AS NEEDED AND AS APPROVED BY THE ENGINEER



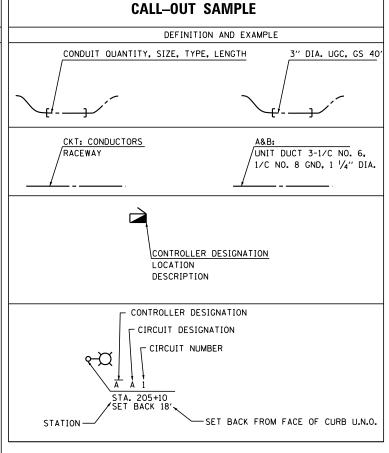
# EAGLE 6B

•															
FILE NAME =	USER NAME = mgarvida	DESIGNED - MG	REVISED -			DBUDU	CED INT	EBCUNNI	CT SCHE	MATIC	F.A.P.	SECTION	COUNTY	CHEETS	SHEET
50.D162C07-Sht-TS Prop Interconnect Schemetics.Pulasks	o Richmondudgn	DRAWN - EC	REVISED -	STATE OF ILLINOIS	LIC DT					ICHMOND AVE	351	2016-002N	соок	333	261
	PLOT SCALE = 40.0000 ' / in.	CHECKED - KP	REVISED -	DEPARTMENT OF TRANSPORTATION	US NI	E 0 (1391	іп 31) –	LULASKI	ח טו עח	ICHIVIOND AVE			CONTRAC	T NO. 6	2C07
Default	PLOT DATE = 4/13/2018	DATE - 4/13/2018	REVISED -		SCALE: NTS	SHEET	OF	SHEETS	STA.	TO STA.		ILLINOIS FED. A	ID PROJECT		

TS SHT NO. 50

LIGHTI	NG AND ELECTRICAL LEGEND
SYMBOL	DESCRIPTION
⊶¤	PROPOSED IDOT LIGHTING UNIT MOUNTED ON BREAKAWAY TRANSFORMER BASE, 47.5FT M.H., LED LUMINAIRE MOUNTED ON 12-FT MAST ARM UNLESS NOTED OTHERWISE
• <del>`</del> Д <b>•</b>	COMBINATION TRAFFIC SIGNAL AND LUMINAIRE LIGHTING UNIT: 45 FT. M.H., 15 FT. MAST ARM, LED LUMINAIRE
<b>⊶</b> 预	TEMPORARY LIGHTING UNIT, 60FT WOOD POLE, 15FT MAST ARM, 400W HPS TYPE III LUMINAIRE AT 50 FT. MOUNTING HEIGHT
o—(R)	EXISTING LIGHTING UNIT TO BE REMOVED
	PROPOSED LIGHTING CONTROLLER-SINGLE DOOR
$\bowtie$	EXISTING LIGHTING CONTROLLER
	ELECTRIC UTILITY SERVICE
•	TEMPORARY WOOD POLE, CLASS 4, 60FT
<del></del>	PROPOSED CABLE OR UNIT DUCT IN UNDERGROUND CONDUIT, SIZE AND TYPE AS NOTED
	PROPOSED UNIT DUCT, SIZE AND TYPE AS NOTED
A/C	PROPOSED AERIAL LIGHTING CABLE WITH MESSENGER WIRE, SIZE AND TYPE AS NOTED
-R	EXISTING UNIT DUCT TO BE ABANDONED

	ABBREVIATIONS					
ABBREVIATION	DESCRIPTION					
AC A/C B.O.C. CB CKT CP	ALTERNATING CURRENT AERIAL CABLE BACK OF CURB CIRCUIT BREAKER CIRCUIT CONTROL PANEL					
DA DIA DP E E.O.P.	DAVIT ARM DIAMETER DISTRIBUTION PANEL EXISTING UNIT TO REMAIN EDGE OF PAVEMENT					
FT FU GND KVA	FEET OR FOOT FUSE GROUND KILOVOLT-AMPERE					
KW LED MA MC M.H.	KILOWATTS LIGHT EMITTING DIODE MAST ARM MULTI-CONDUCTOR MOUNTING HEIGHT					
MW NO. # N.T.S.	MESSENGER WIRE NUMBER NOT TO SCALE PROPOSED					
PNL PVC PVCC RGC R	PANEL POLYVINYL CHLORIDE PVC COATED RIGID GALVANIZED CONDUIT EXISTING UNIT TO BE REMOVED (OWNER SALVAGED U.N.O.)					
RECP RGC R.O.W. SEL SW SPARE	RECEPTACLE RIGID GALVANIZED CONDUIT RIGHT OF WAY SELECTOR SWITCH SPARE					
SPACE SS STA T/F UD	SPACE STAINLESS STEEL STATION TOP OF FOUNDATION UNIT DUCT	ן נ 				
U.N.O. UGC, GS WP XFMR HPS LPS	UNLESS NOTED OTHERWISE UNDERGROUND CONDUIT, GALVANIZED STEEL WOOD POLE TRANSFORMER HIGH PRESSURE SODIUM LOW PRESSURE SODIUM					
LTFM	LIQUID TIGHT FLEXIBLE METALLIC					



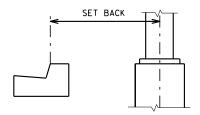
# **GENERAL NOTES**

- I. THE ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST CODES, STANDARDS AND THE IDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED APRIL 1, 2016, AND SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS.
- THE AERIAL CABLE INSTALLATION FOR TEMPORARY LIGHTING SHALL COMPLY WITH NEC (NATIONAL ELECTRICAL CODE) ARTICLE 225.18, NESC AND COMED STANDARDS FOR MINIMUM VERTICAL AND HORIZONTAL CLEARANCES.

# **INDEX OF DRAWINGS:**

TITLE LEGEND, ABBREVIATIONS, GENERAL NOTES, AND INDEX OF DRAWINGS
SCHEDULE OF QUANTITIES
REMOVAL AND TEMPORARY LIGHTING PLANS
PROPOSED LIGHTING PLAN
LIGHTING CONTROLLER WIRING DIAGRAM
COMBINATION LIGHTING CONTROLLER WIRING DIAGRAM
DISTRICT 1 BUREAU OF ELECTRICAL DETAIL STANDARDS

# **IDOT-D1 STANDARDS**:



# **POLE SET BACK DETAIL**

STANDARD NO.	TITLE
BE-215	LIGHTING CONTROLLER, SINGLE DOOR
BE-220	ELECTRIC SERVICE INSTALLATION AERIAL, REMOTE DISCONNECT
BE-240	COMBINATION LIGHTING, TRAFFIC SIGNAL SCHEMATIC
BE-301	LIGHT POLE FOUNDATION 40' TO 47 1/2' M.H. 15" BOLT CIRCLE
BE-400	ALUMINUM LIGHT POLE, 47'-6" (14.478m) MOUNTING HEIGHT
BE-701	LUMINAIRE SAFETY CABLE ASSEMBLY
BE-702	MISC. ELECTRICAL DETAILS SHEET A
BE-800	TEMPORARY LIGHT POLE DETAILS
BF-801	TEMPORARY AFRIAL CARLE INSTALLATION

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

								F.A.P. RTÉ.	SEC1	TION		COUNTY	TOTAL SHEETS	SHEET NO.
l	LEGEND, ABBF	KEVIATIONS, G	IENEKAL	. NOIE	S, AND	INDEX OF	DRAWINGS	351	2016	-002N		соок	333	262
ļ												CONTRACT	NO. 6	2007
l	SCALE: AS NOTED	SHEET NO. 1	OF1 S	SHEETS	STA.	TO STA.		FED. RO	OAD DIST. NO. 1	ILLINOIS FE	ED. AID	PROJECT		

# SCHEDULE OF ROADWAY LIGHTING QUANTITIES

DESCRIPTION	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	1
ELECTRIC UTILITY SERVICE CONNECTION	LSUM	1
UNDERGROUND CONDUIT, GALVANIZED STEEL, 3" DIA.	FOOT	681
UNIT DUCT, 600V, 3-1C NO.4, 1/C NO.6 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	4277
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 2/0	FOOT	225
AERIAL CABLE, 3-1/C NO. 2 WITH MESSENGER WIRE	FOOT	4065
LIGHTING CONTROLLER, BASE MOUNTED, 480VOLT, 100AMP	EACH	1
LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 12 FT. MAST ARM	EACH	12
LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 15 FT. MAST ARM	EACH	5
LIGHT POLE, WOOD, 60 FOOT, CLASS 4, WITH 15FT MAST ARM	FOOT	20
LIGHT POLE FOUNDATION, 24" DIAMETER	FOOT	153
BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	17
REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	20
REMOVAL OF LIGHTING UNIT, NO SALVAGE	EACH	15
REMOVAL OF POLE FOUNDATION	EACH	15
REMOVAL OF LIGHTING CONTROLLER	EACH	1
REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
REMOVE TEMPORARY WOOD POLE	EACH	1
TEMPORARY WOOD POLE, 60 FT., CLASS 4	EACH	1
LUMINAIRE, LED, HORIZONTAL MOUNT, TYPE C	EACH	17
TEMPORARY LUMINAIRE, HIGH PRESSURE SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	28
TEMPORARY MAST ARM, ALUMINUM, 15FT	EACH	8
LUMINAIRE SAFETY CABLE ASSEMBLY	EACH	17
MAINTENANCE OF LIGHTING SYSTEM	CAL MO	12

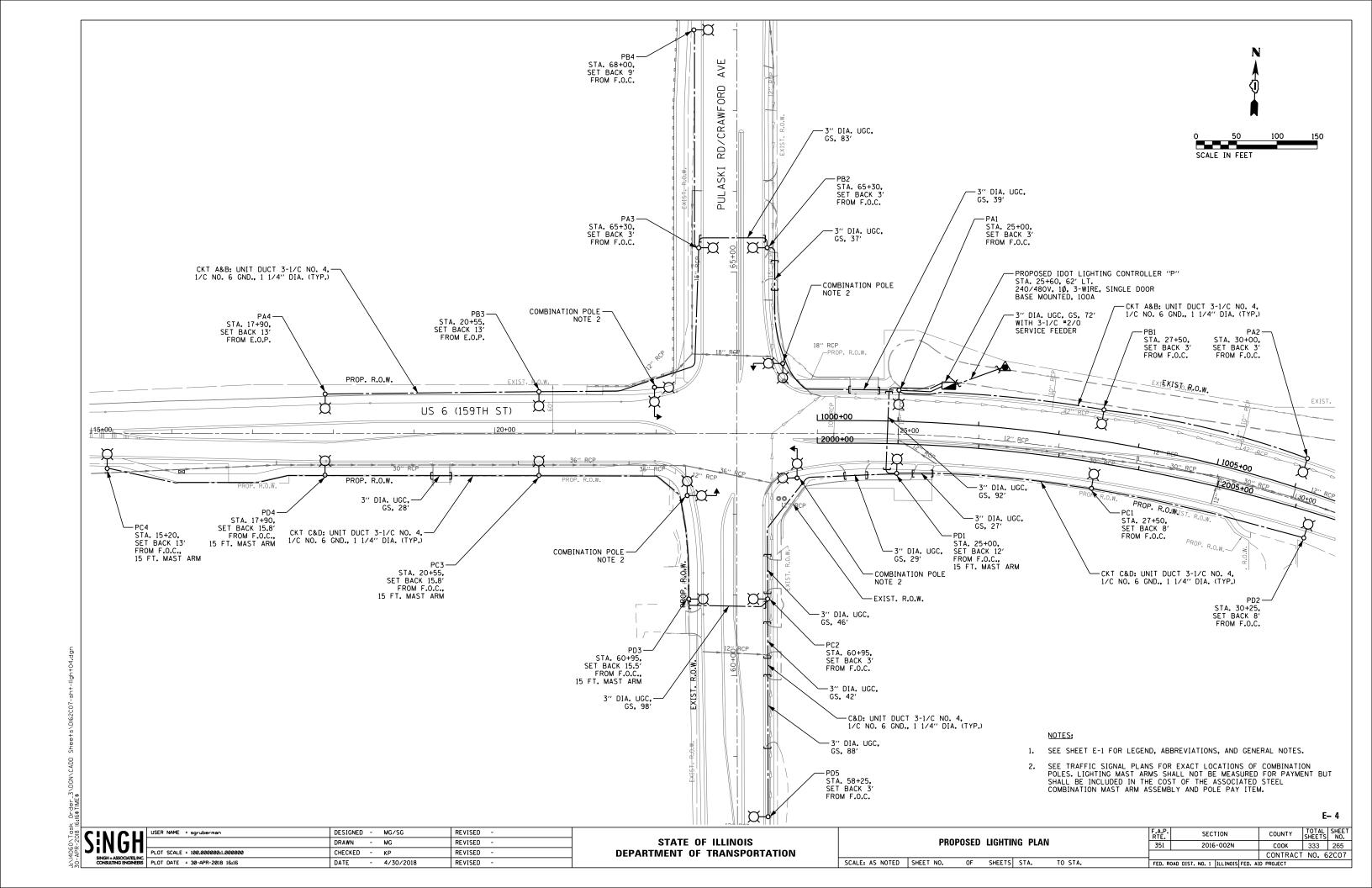
Sheets/Di62007-sht-light(	
14060\Igsk_Order_3\DGN\CADD -APR-2018_16:16\$TIME\$	

LIDINI	USER NAME = sgruberman
\!N(+H	
	PLOT SCALE = 100.0000000:1.0000000
SINGH + ASSOCIATES, INC. CONSULTING ENGINEERS	PLOT DATE = 30-APR-2018 16:16

	USER NAME = sgruberman	DESIGNED -	MG/SG	REVISED -
1		DRAWN -	MG	REVISED -
NC.	PLOT SCALE = 100.0000000:1.000000	CHECKED -	KP	REVISED -
ERS	PLOT DATE = 30-APR-2018 16:16	DATE -	4/30/2018	REVISED -

STATI	E OI	F ILLINOIS
DEPARTMENT	0F	TRANSPORTATION

F ON THE OF CHANTELES							.P. E.	SECTION	COUNTY TOTAL SHEET				
SCHEDULE OF QUANTITIES						351	51	2016-002N	COOK	333	263		
									CONTRACT	NO. 6	2007		
SCALE: AS NOTED	SHEET NO. 1	OF 1	SHEETS	STA.	TO STA.	FED.	FED. ROAD DIST. NO. 1   ILLINOIS FED. AID PROJECT						

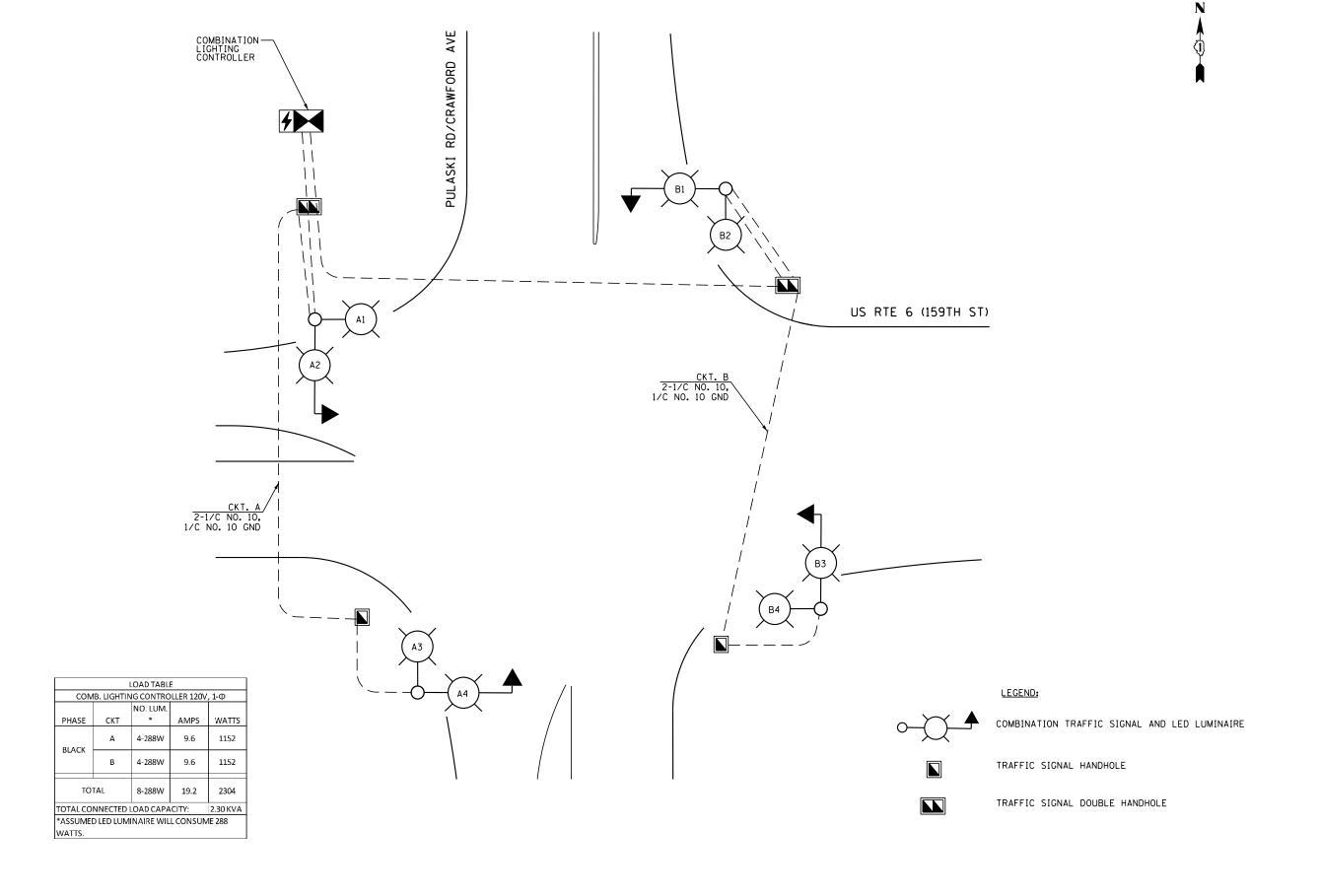


SCALE: AS NOTED SHEET NO. OF SHEETS STA. TO STA.

FED. ROAD DIST. NO. 1 | ILLINOIS FED. AID PROJECT

DATE - 4/30/2018

REVISED -



SIN-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

### PANEL EQUIPMENT

		BILL OF MATERIAL
ITEM	QUANTITY	DESCRIPTION
А	1	MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT 100 AMP. FRAME, 100 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-22000 AMP. AT 480 VOLT.
В	1	REMOTE CONTROL SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, SINGLE THROW, 100 AMP., 600 VOLTS CONTROL CIRCUIT 240 VOLT.
С	8	CIRCUIT BREAKERS, 1 POLE, 100AMP, FRAME, 50 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-10,000 AMP. AT 240 V.
D	2	CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 240 V., 100 AMP. FRAME, 15 AMP. NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA-5000 AMP. AT 240 V.
E	1	ASTRONOMIC MICROPROCESSOR-BASED 2-CHANNEL CONTROLLER [TIME SWITCH].
F	1	20 A., 120 V. FUSE.
G	1	1.5 KVA, SINGLE PHASE, ENCAPSULATED TRANSFORMER 240 X 480 / 120 X 240 VOLT, 60 Hz.
Н	1	SPST 20A SWITCH ON DOOR, TO TURN LIGHT ON WHEN DOOR IS OPEN,
I	1	INCANDESCENT LIGHTING FIXTURE ENCLOSED AND GASKETED WITH 60 WATT, 120 V. LAMP.
J	1	20 A., 120 V., DUPLEX RECEPTACLE, GFCI.
K	1	COPPER GROUND BUS $1/4$ " (6.35) X 1" (25.4) X 12" (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND 4 SPARE LUGS
L	1	TOGGLE SWITCHES MOUNTED IN 4" (101.6) X 4" (101.6 mm) BO
М	1	COPPER GROUND BUS $1/4^{\prime\prime}$ (6.35) X 1 $^{\prime\prime}$ (25.4) X 12 $^{\prime\prime}$ (304.8 mm) LONG MOUNTED ON PANEL WITH LUGS AND SPARE LUGS

- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- 2. FOUNDATION SIZE SHALL BE COORDINATED WITH CABINET SIZE AND MFR.
- 3. IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 2" (50.8 mm) TOP SOIL, LEVEL THE

  12. ALL WIRING WITHIN THE CABINET SHALL BE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 36" (914.4 mm)  $\times$  60" (18.288 m)  $\times$  4" (101 mm) MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- 4. DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- 5. DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP THE BOTTOM.
- 6. DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- 7. ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- 8. CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED
- 9. METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.

- 10. CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- 11. THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
- COLOR CODED AS INDICATED. R = RED BL = BLUE B = BLACK Y = YELLOW
- 13. PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- 14. ALL WIRING SHALL BE NEATLY DRESSED AND
- 15. THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
- 16. 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.

NEMA 3R	PLATE 10TE 16  METER AND BASE	19" (483) MIN.
ENCLOUSERE NAME OF THE PROPERTY OF THE PROPERT	3 POINT LOCKING HANDLE WITH PAD LOCK PROVISION	
CABINET ALUMINUM	2½" (63.5) GALV. STEEL CONDUIT	ANCHOR RODS, 4 MIN. COORD. WITH CABINET MFR. REQUIREMENTS
	GROUND LINE	
1" (25) DIA.	4" (101) DIA. PVC RACEWAYS 6-MIN. COORD. WITH CKT REQUIREMENTS	30,,,(195)
GROUND ROD———————————————————————————————————		21" MIN. (533.4)

CIRCUIT BREAKER

0

**(**J)

(0)

ABCDEFG

BONDING JUMPER -

GROUND ROD 5/8" (15.875)

DIA. x 10' (3.048 m) LONG

PANEL WIRING DIAGRAM

\*6 AWG. 600V

(H)

1/4" (6.35) MINIMUM

-CABINET ENCLOSURE

3-1/C SERVICE ENTRANCE CABLE FROM ELECTRIC

UTILITY METER BOX

240/480 VOLT, 10,3

WIRES, 60 CYCLES.

- GROUNDING CONDUCTOR #2 AWG.

NON-ASBESTOS INORGANIC NONCONDUCTING MATERIAL

- MAIN BREAKER

(POWER)

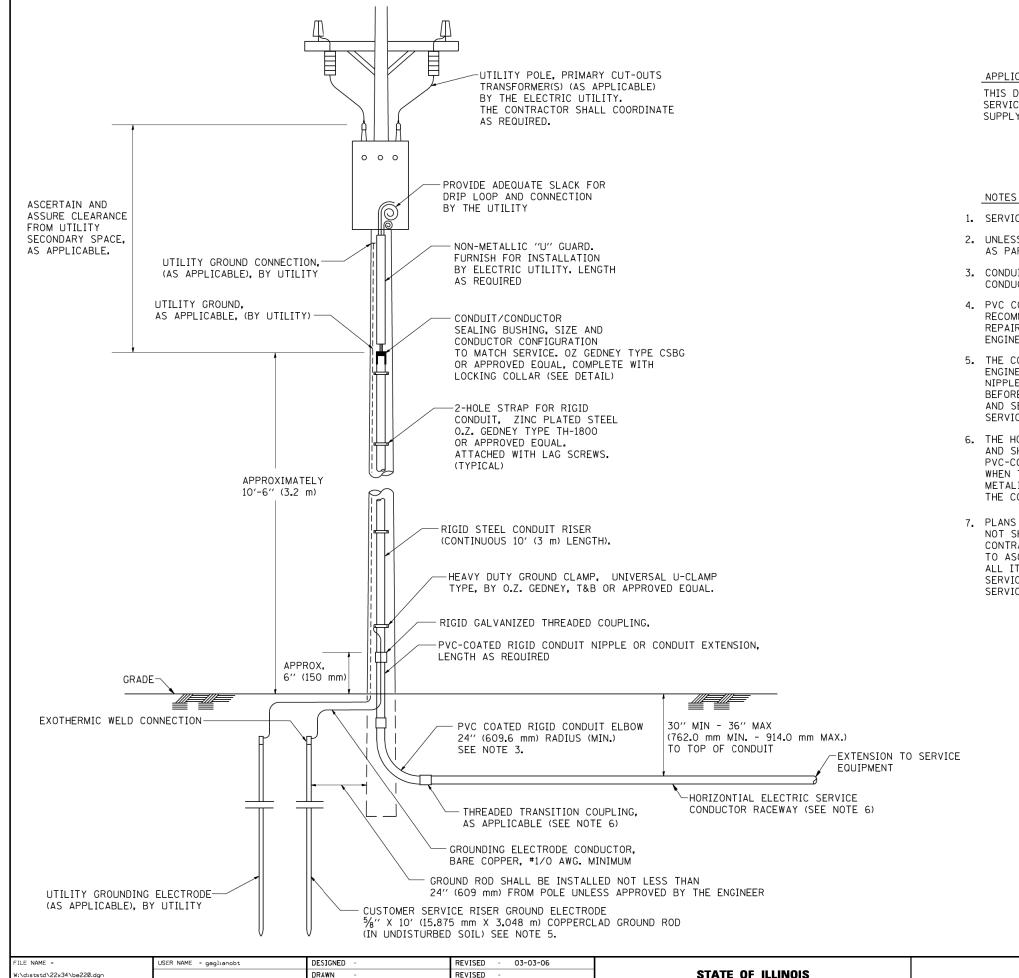
(D)

AUXILIARY -CONTROL RELAY (IF NECESSARY)

TWO POSITION TOGGLE SWITCH

TOGGLE SWITCH MOMENTARY CONTACT TYPE SPDT 20 A. 240V AC AND TOGGLE SWITCH 20A, 240V, TYPE SPDT

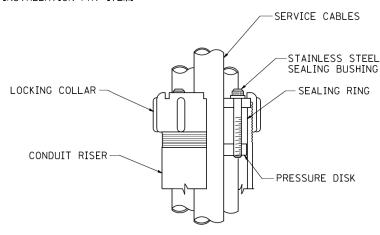
E- 7 DESIGNED REVISED 08-20-04 JSER NAME = gaglianobt SECTION COUNTY LIGHTING CONTROLLER STATE OF ILLINOIS W:\diststd\22x34\be215.dar DRAWN REVISED 351 2016-002N соок 333 268 SINGLE DOOR CHECKED REVISED **DEPARTMENT OF TRANSPORTATION** CONTRACT NO. 62CO7 BE-215 SCALE: NONE TO STA. SHEET NO. 1 OF 1 SHEETS STA. DATE REVISED



#### APPLICATION

THIS DETAIL APPLIES FOR LOW VOLTAGE ELECTRIC SERVICE (660 V OR LESS) FROM AN OVERHEAD UTILITY SUPPLY TO SEPERATLY-MOUNTED SERVICE EQUIPMENT.

- 1. SERVICE VOLTAGE SHALL BE AS INDICATED ELSEWHERE IN THE DRAWINGS.
- 2. UNLESS OTHERWISE INDICATED, ITEMS AND WORK SHALL BE INCLUDED AND PAID AS PART OF THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.
- 3. CONDUIT AND CONNECTOR DIAMETER SHALL MATCH THE DIAMETER OF THE SERVICE CONDUCTOR RACEWAY AS INDICATED ON THE PLANS.
- 4. PVC COATED RACEWAYS AND ACCESSORIES SHALL BE CAREFULLY INSTALLED WITH MFR RECOMMENDED TOOLS AND PROCEDURES TO AVOID DAMAGE. ANY DAMAGE SHALL BE REPAIRED WITH COMPATIBLE PVC TOUCH-UP MATERIAL TO THE SATISFACTION OF THE ENGINEER OR THE DAMAGED MATERIAL SHALL BE REPLACED AT NO ADDITIONAL COST.
- 5. THE CONTRACTOR SHALL OBTAIN INSPECTION AND APPROVAL BY THE ENGINEER OF SERVICE RISER GROUND ELECTRODE, RISER ELBOW, NIPPLE AND CONNECTION TO SERVICE CONDUCTOR RACEWAY EXTENSION BEFORE BACKFILL AND SHALL ALSO OBTAIN INSPECTION OF SERVICE RISER AND SEALING BUSHING BEFORE UTILITY "U" GUARD INSTALLATION AND SERVICE CONNECTION.
- 6. THE HORIZONTAL ELECTRIC SERVICE CONDUCTOR RACEWAY SHALL BE AS INDICATED AND SHALL BE MEASURED SEPARATELY FOR PAYMENT. WHEN THE RACEWAY IS PVC-COATED RIGID GALVANIZED STEEL, THE COUPLING SHALL BE THE SAME. WHEN THE RACEWAY IS PVC CONDUIT (IN CONCRETE), THE COUPLING SHALL BE A METALIC TO NON METALIC ADAPTER. WHEN THE RACEWAY IS ENCASED IN CONCRETE, THE CONCRETE SHALL EXTEND TO COVER THE COUPLING.
- 7. PLANS AND DETAILS INDICATE THE GENERAL NATURE AND REQUIREMENTS. THEY DO NOT SHOW EVERY ACCESSORY AND ATTACHMENT, AND THEY DO NOT RELIEVE THE CONTRACTOR OF THE REQUIREMENTS OF THE SPECIFICATIONS AND SPECIAL PROVISIONS TO ASCERTAIN UTILITY REQUIREMENTS AND TO COORDINATE ACCORDINGLY, FURNISHING ALL ITEMS AND WORK NOT PROVIDED BY THE UTILITY, BUT NECESSARY FOR A COMPLETE. SERVICE INSTALLATION IS REQUIRED AND SHALL BE INCLUDED IN THE ELECTRIC UTILITY SERVICE INSTALLATION PAY ITEM.



SEALING BUSHING DETAIL

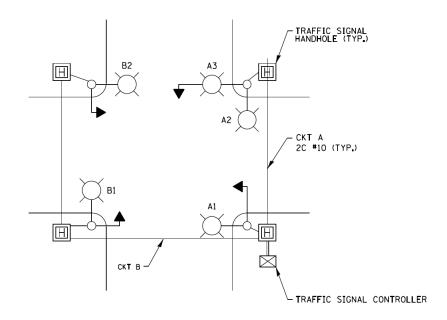
E- 8

DRAWN REVISED CHECKED REVISED DATE REVISED

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION** 

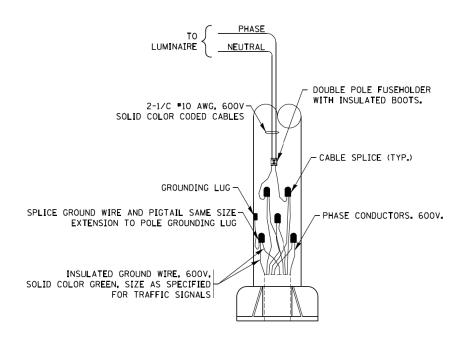
SCALE: NONE

SECTION COUNTY **ELECTRIC SERVICE INSTALLATION** 351 2016-002N COOK 333 269 **AERIAL, REMOTE DISCONNECT** BE-220 CONTRACT NO. 62CO7 SHEET NO. 1 OF 1 SHEETS STA. TO STA.



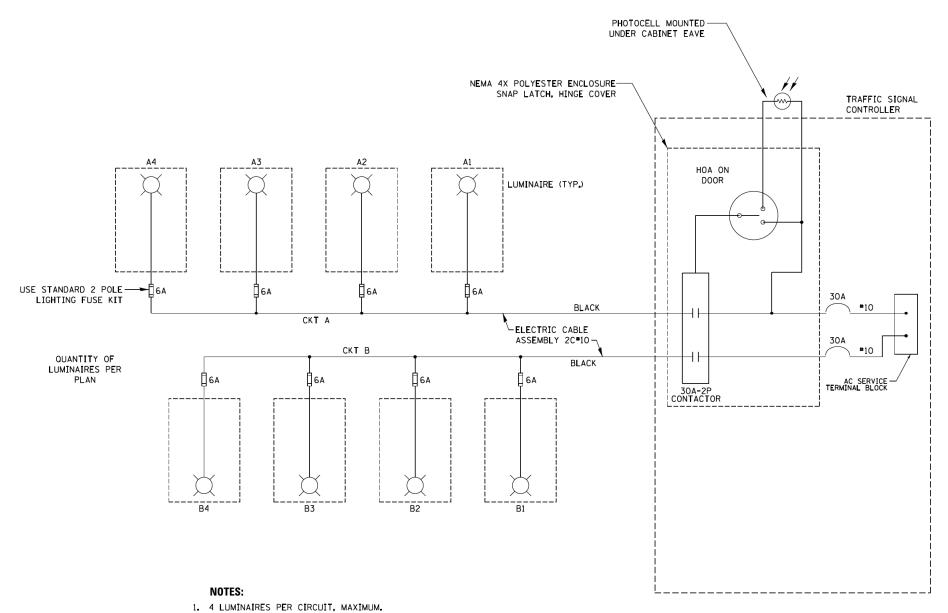
# TYPICAL LIGHTING CIRCUIT

(NOT TO SCALE)



### **COMBINATION POLE WIRING DETAIL**

(NOT TO SCALE)



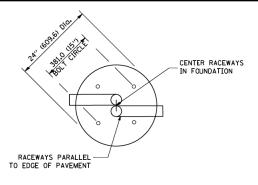
- 2. MULTI-CONDUCTOR CABLE ASSEMBLY FOR LIGHTING CIRCUITS.
- 3. ROUTE LIGHTING CIRCUITS IN TRAFFIC SIGNAL CONDUIT SYSTEM.
- 4. ALL SPLICES AND CONNECTIONS FOR ROADWAY LIGHTING SHALL BE AT POLE BASE ONLY.
- 5. ALL CONTROLLERS TO HAVE TWO FUSED LIGHTING BRANCH CIRCUITS.
- 6. ALL WIRING SHALL BE NEATLY DRESSED, IDENTIFIED BY TAGS, AND SUPPORTED. (UNDERGROUND SPLICING OF LIGHTING CONDUCTORS IS NOT PERMITTED).
- 7. THE H.O.A. SWITCH SHALL BE LABELED AS "LIGHTING CONTROL" WITH THE POSITIONS "AUTO", "OFF" AND "TEST" WITH ENGRAVED NAME PLATES.
- 8. LIGHTING CONNECTED TO UPS BYPASS CIRCUIT.
- 9. COMBINATION LIGHTING MUST BE INSTALLED PRIOR TO SIGNAL TURN ON.
- 10. LUMINAIRE VOLTAGE SHALL BE 120V

FILE NAME =	USER NAME = footemj	DESIGNED - RT	REVISED - 02/10/2015			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
be240.dgn		DRAWN -	REVISED - 10/13/2015	STATE OF ILLINOIS	COMBINATION LIGHTING, TRAFFIC SIGNAL SCHEMATIC	351	2016-002N	соок	222	270
	PLOT SCALE = 50.00000 ' / 10.	CHECKED - RT	REVISED - T.G. 4/12/2017	DEPARTMENT OF TRANSPORTATION		-	BE-240	CONTRACT		
Default	PLOT DATE = 03/22/18	DATE - 08/18/2014	REVISED - R. TOMSONS 3/22/18		SCALE NTS SHEET 1 OF 1 SHEETS STA. TO STA.	FED. ROAD	DIST. NO. 1 ILLINOIS FED.			

E- 9

# LIGHT POLE FOUNDATION DEPTH TABLE 40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

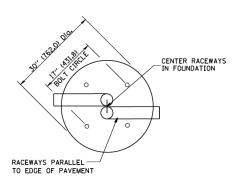
SOIL CONDITIONS	DESIGN DEPTH "D" OF FOUNDATION				
SOIL CONDITIONS	SINGLE ARM POLE	TWIN ARM POLE			
SOFT CLAY	13'-0''	15'-0''			
Qu = 0.375  TON/SQ. FT.	(3₌96 m)	(4,57 m)			
MEDIUM CLAY	9′-6″	10'-9"			
Qu = 0.75 TON/S0.FT	(2.09 m)	(3.23 m)			
STIFF CLAY	7'-0"	8'-0"			
Qu = 1.50 TON/SQ. FT.	(2.13 m)	(2.44 m)			
LOOSE SAND	9'-0"	10'-0"			
Ø = 34°	(2.74 m)	(3 <b>₄</b> 05 m)			
MEDIUM SAND	8'-3"	9'-0"			
Ø = 37.5°	(2 <b>.</b> 52 m)	(2.74 m)			
DENSE SAND	7′-9″	9'-0"			
Ø = 40°	(2.36 m)	(2.74 m)			



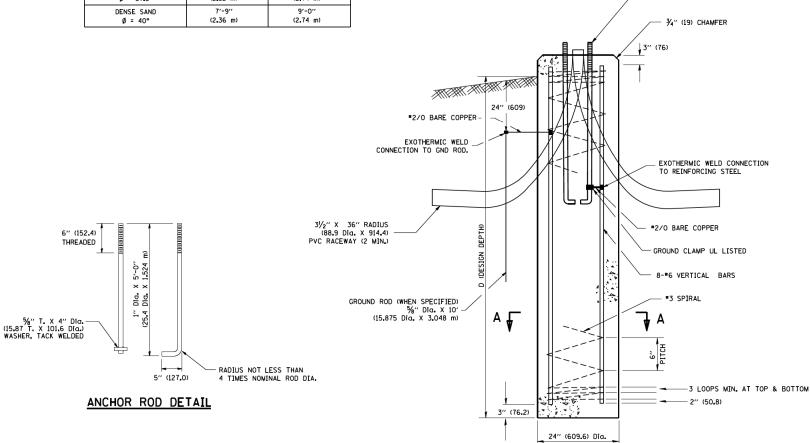
TOP VIEW

ANCHOR ROD 4-1" Dig. X 5'-0"

(4-25.4 Dia. X 1.524 m)

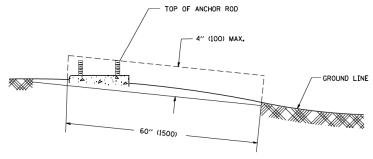


TOP VIEW

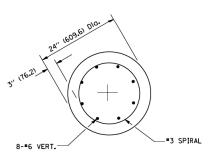


REVISED

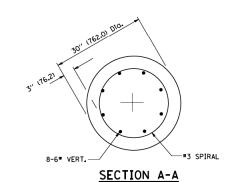








SECTION A-A



#### **NOTES**

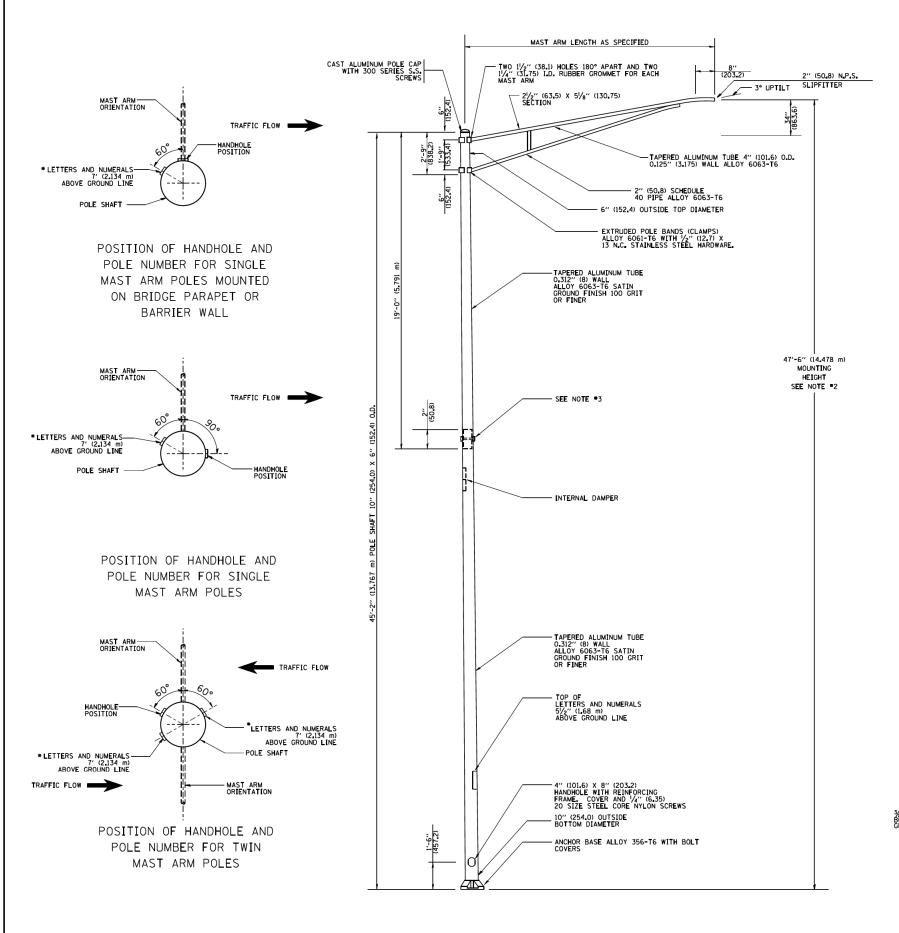
- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IN PLACED.
- 3. THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH AASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- 4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMFERED 3-10. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020.13 BEFORE LIGHT POLES ARE INSTALLED.
- . THE ANCHOR ROD SHALL BE A HOOK ROD TYPE, COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- 8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 435.
- 9. ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO M 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM(6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- 10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- 11. ANCHOR RODS SHALL PROJECT 2¾4" (69.9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- 12. THE CONTRACTOR SHALL USE A \*3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE \*3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- 13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- 14. THE RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

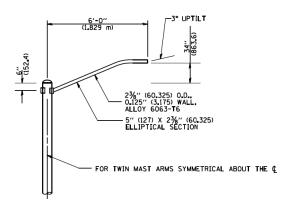
DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

	LIGHT POLE FOUN	IDATION		F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
40' (12.192 m) TO	351	2016-002N	соок	333	271			
40 (12.192 III) 10	7/ V2 (17.7/0 III) IVI.		BE-301	CONTRACT	NO.	62C07		
SCALE: NONE SHEET NO	. 1 OF 1 SHEETS	STA.	TO STA.	FED. RO	DAD DIST. NO. 1   ILLINOIS FED. A	ID PROJECT		

E-10





### 6' (1.8 m) SINGLE MEMBER MAST ARM $(N_{\bullet}T_{\bullet}S_{\bullet})$

#### NOTES:

- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- 2. MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE. 3. TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS, FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED. 4. THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
- CRITERIA AS SPELIFIED.

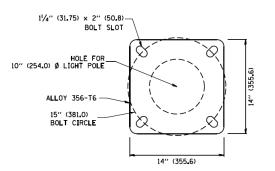
  5. THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B 5F4DL OR APPROVED EOUAL.

  6. LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.

- MASI ARMS AND LUMINARES.

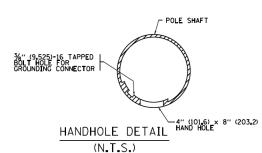
  7. LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.

  8. LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



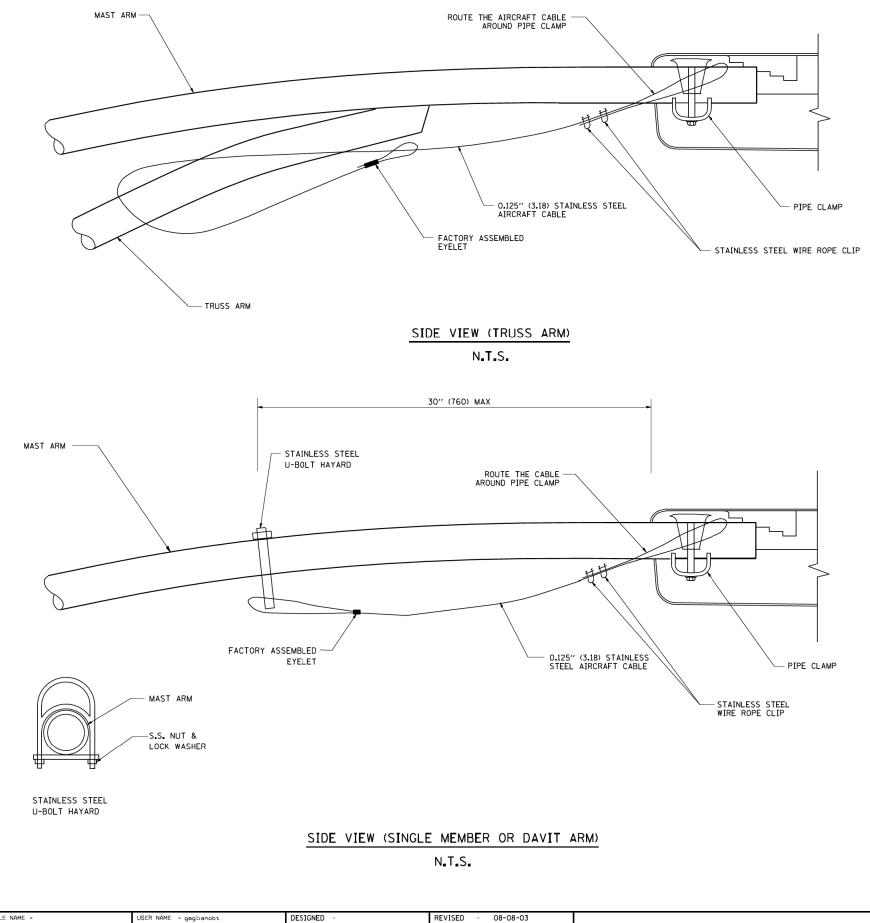
# LIGHT POLE BASE PLATE DETAIL

15 INCH (381.0) BOLT CIRCLE



E- 11

FILE NAME =	USER NAME = drivakosgn	DESIGNED -	REVISED -	- R. TOMSONS 09-06-00		ALUMINUM LIGHT POLE			SECTION	COUNTY	SHEETS	YO.
pw:\\ILØ84EBIDINTEG.:lllno1s.gov:PWIDDT\Do	cuments\IDOT Offices\District 1\Projects\Dist	t <b>@R2W6M</b> \CADD <del>a</del> ta\CADsheets\be400.dgn	REVISED -	- R. TOMSONS 09-03-03	STATE OF ILLINOIS					соок	333 2	72
	PLOT SCALE = 50,000 '/ in. CHECKED -		REVISED - R. TOMSONS 01-18-13		DEPARTMENT OF TRANSPORTATION	47'-6" (14.478 m) MOUNTING HEIGHT			351 2016-002N BE-400		NO. 62C	.07
Default	PLOT DATE = 12/21/2015	DATE -	REVISED -	- R. TOMSONS 03-18-15		SCALE:	SHEET 1 OF 1 SHEETS STA. TO STA.	FED. ROAD DIS	T. NO. 1 ILLINOIS FED. A			



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DATE

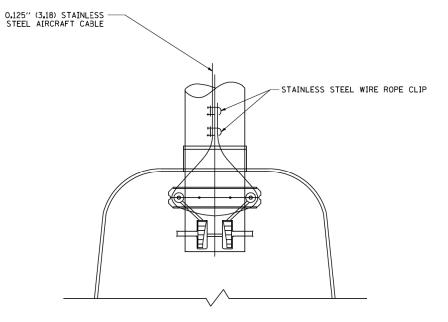
PLOT DATE = 1/4/2008

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W:\diststd\22x34\be701.dgn

STATE OF ILLINOIS

**DEPARTMENT OF TRANSPORTATION** 



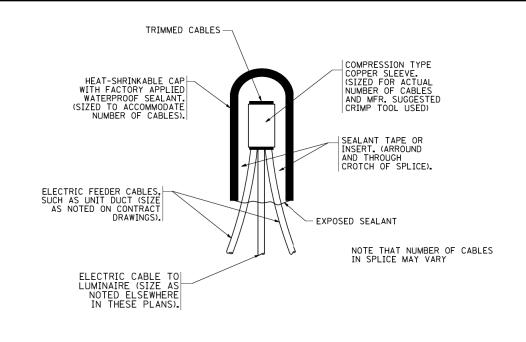
### BOTTOM VIEW

N.T.S.

#### NOTES:

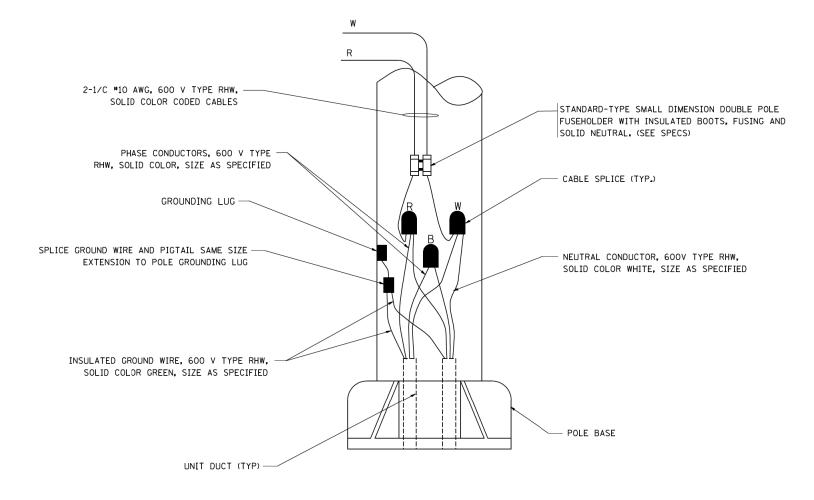
- 1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SHOWN.
- 2. CONTRACTOR SHALL ADJUST THE WIRE CLIP TO ELIMINATE ANY SLACK FROM THE WIRE ROPE.
- 3. THE 0.125" (3.18) STAINLESS STEEL AIRCRAFT CABLE SHALL REMAIN VISIBLE FROM THE GROUND LEVEL.
- 4. THE BREAKING STRENGTH OF THE CABLE SHALL BE 1700 LBS. MIN.

E-12



### TYPICAL SPLICE DETAIL

N.T.S.



# TYPICAL WIRING IN TRENCH DETAIL N.T.S.

30" (762) MINIMUM COVER 12" (305) MAXIMUM WIDTH EXCEPT AS APPROVED BY THE ENGINEER

12" (305)

WARNING TAPE AS SPECIFIED

UNIT DUCT OR OTHER RACEWAY
AND WIRING AS PER PLANS. COMPLETE

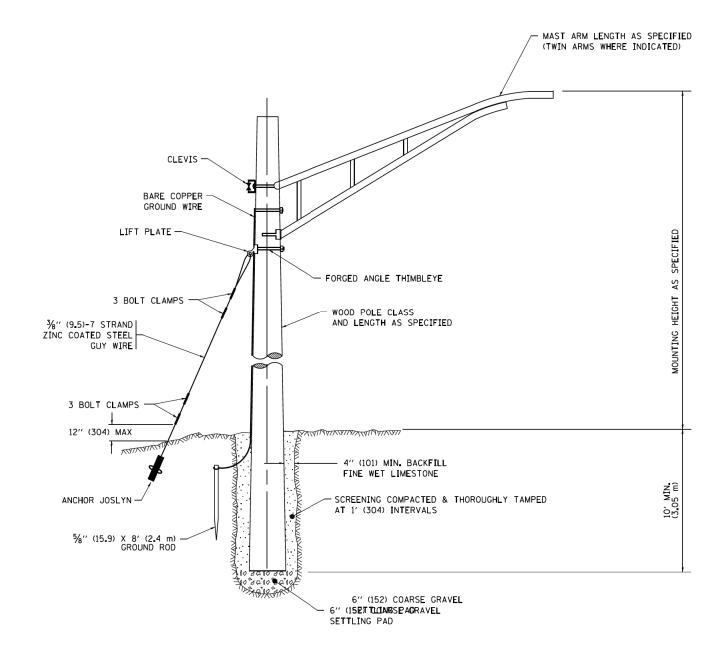
WITH INTERNAL INSULATED EQUIPMENT GROUND WIRE.

POLE WIRING DETAIL

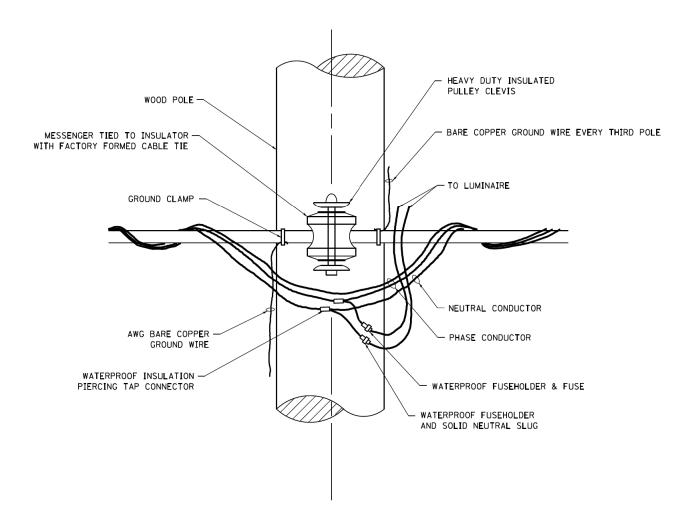
N.T.S.

FILE NAME =	USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03			MISC. ELECTRICAL DETAILS		F.A.P. RTF.	SECTION		TOTAL SHEET
W:\diststd\22x34\be702.dgn		DRAWN -	REVISED -	STATE OF ILLINOIS	SHEET A			351	2016-002N	соок	333 274
	PLOT SCALE = 50.000 '/ IN.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION					BE-702	CONTRACT	T NO. 62CO7
	PLOT DATE = 1/4/2008	DATE -	REVISED -					FED. ROAD I	DIST. NO. 1   ILLINOIS FED. A		

E-13







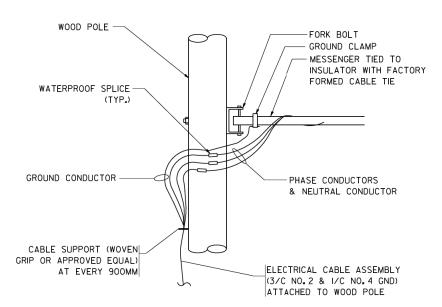
## **TEMPORARY LIGHT POLE ATTACHMENT DETAIL**

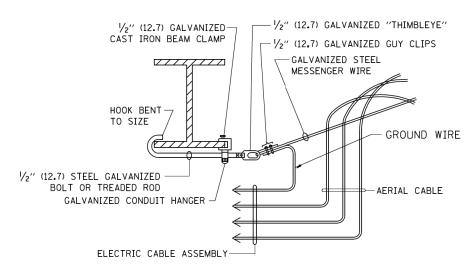
E-14

#### NOTE

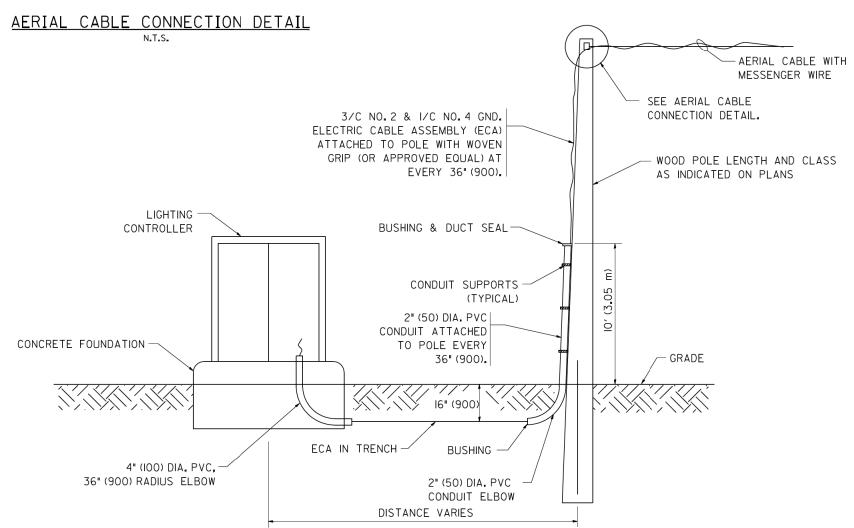
- 1. ALL DIMENSIONS IN INCHES (MILLIMETERS) UNLESS OTHERWISE INDICATED.
- 2. MAST ARM SHALL BE RATED FOR THE SPECIFIED MOUNTING HEIGHT.

FILE NAME =	USER NAME = footemj	DESIGNED -	REVISED - 08-08-03			TEMPORARY LIGHT POLE DETAILS	F.A.P	SECTION		TOTAL SHEET SHEETS NO.
pw:\\ILØ84EBIDINTEG.:lll:nois.gov;PWID0T\Dc	cuments\IDOT Offices\District 1\Projects\Dist	DRAWN\CADDeta\CADsheets\be800.dgn	REVISED - R.T. 07-26-16	STATE OF ILLINOIS		TEMI CHAIT EIGHT TOLL BETALLO	351	2016-002N	соок	333 275
	PLOT SCALE = 50.000 ' / in.	CHECKED -	REVISED -	DEPARTMENT OF TRANSPORTATION				BE-800	CONTRACT	NO. 62CO7
Default	PLOT DATE = 7/27/2016	DATE -	REVISED -		SCALE: NONE	SHEET 1 OF 1 SHEETS STA. TO STA.	FED.	ROAD DIST. NO. 1   ILLINOIS FED. AI		





# AERIAL CABLE ATTACHED TO STRUCTURE NOT TO SCALE



#### NOTES:

- 1. ALL DIMENSIONS IN INCHES (MILLIMETERS)
  UNLESS OTHERWISE INDICATED.
- 2. SEE PROPOSED LIGHTING PLAN FOR CONDUIT, CABLE AND ROUTING.
- 3. THE CONTRACTOR SHALL PROVIDE INTERMEDIATE SUPPORTS TO MAINTAIN MINIMUM CLEARANCES. REFER TO AERIAL AERIAL CABLE ATTACHED TO STRUCTURE DETAIL.
- 4. COST OF SPLICES AND MOUNTING HARDWARE SHALL BE INCLUDED IN THE UNIT PRICE FOR AERIAL CABLE.

## WOOD POLE TO LIGHTING CONTROLLER WIRING CONNECTION DETAIL

N.T.S.

USER NAME = gaglianobt	DESIGNED -	REVISED - 08-08-03
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PLOT SCALE = 50.000 ' / IN.	CHECKED -	REVISED -
PLOT DATE = 1/4/2008	DATE -	REVISED -

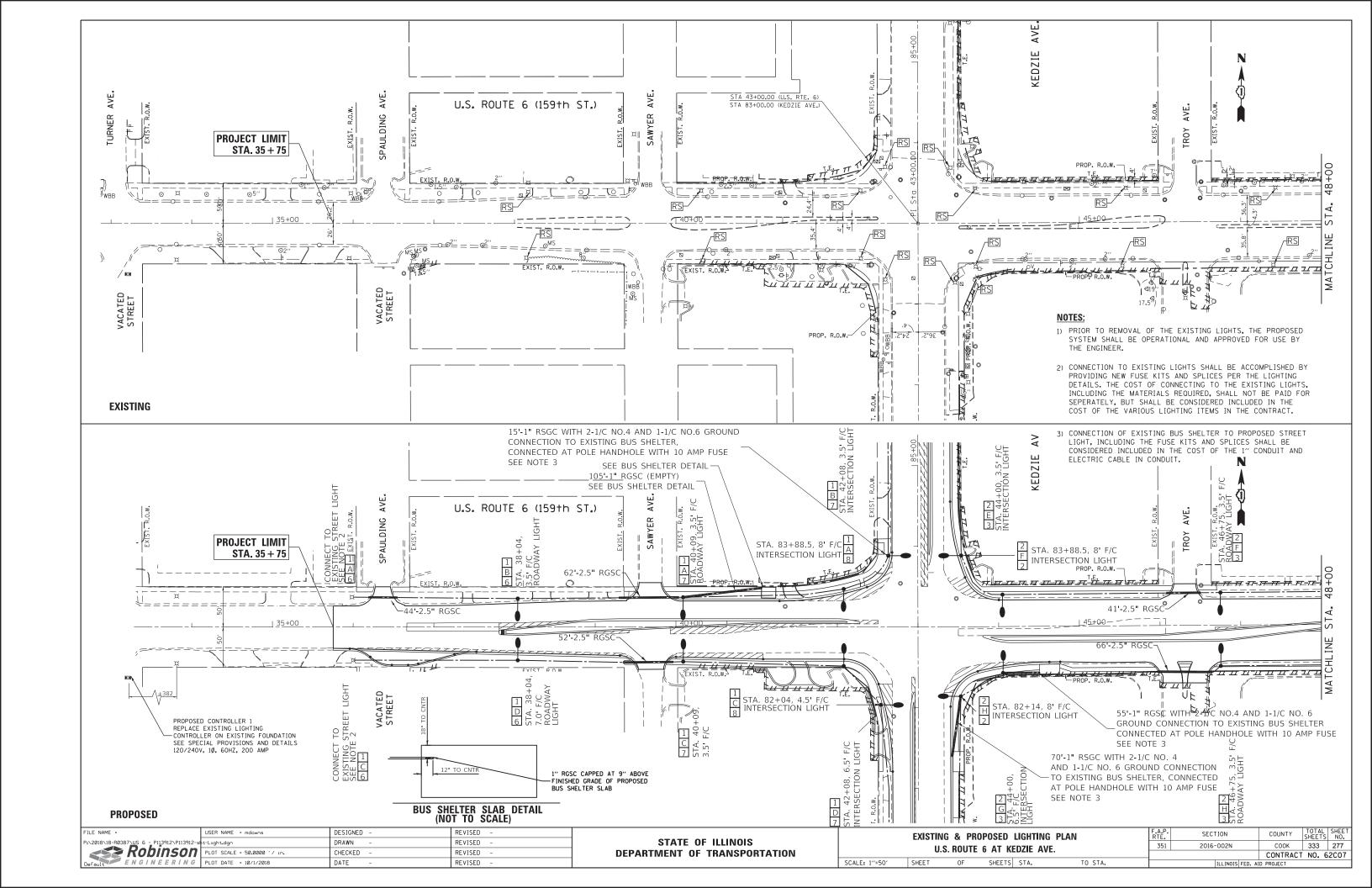
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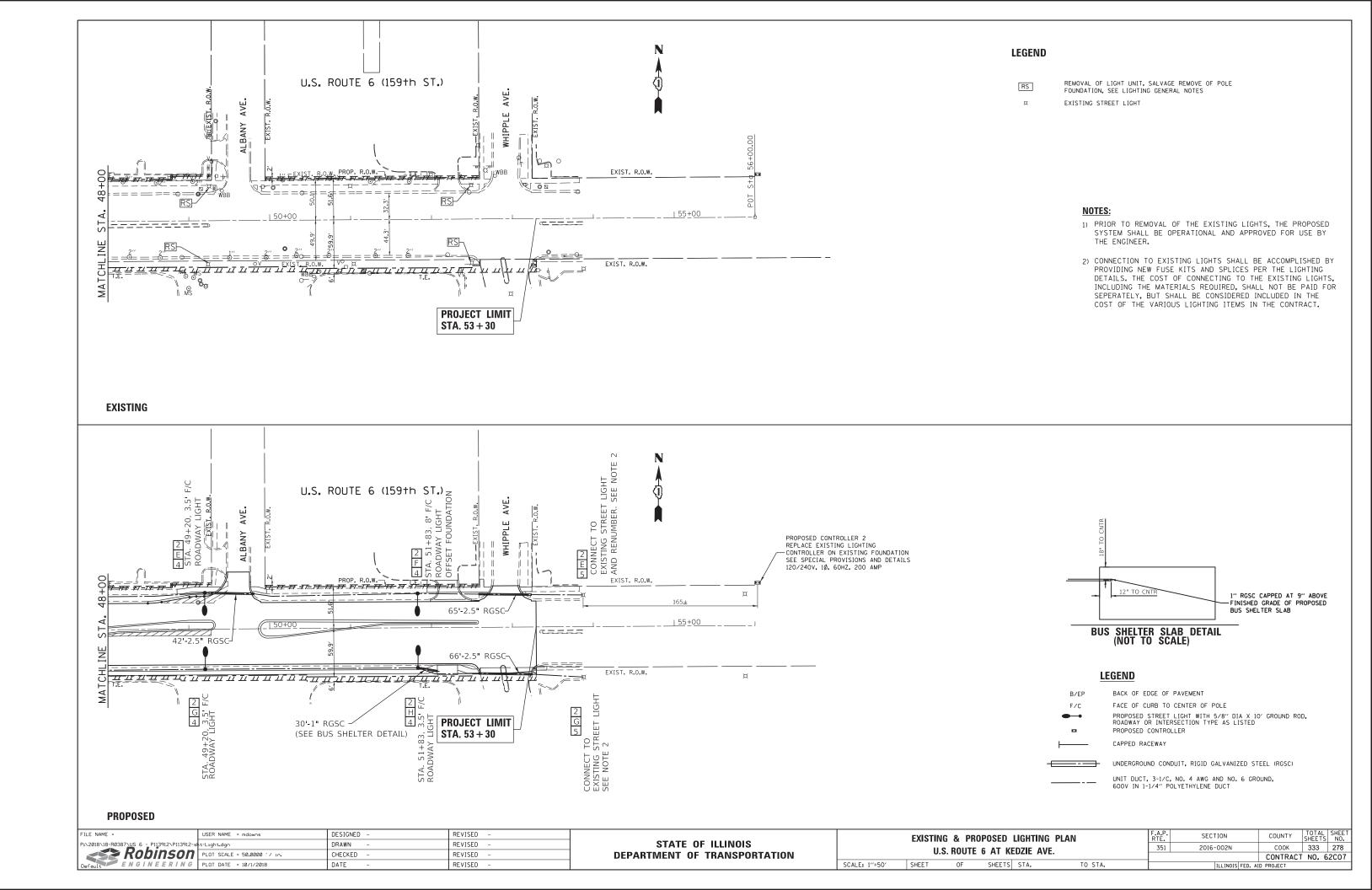
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

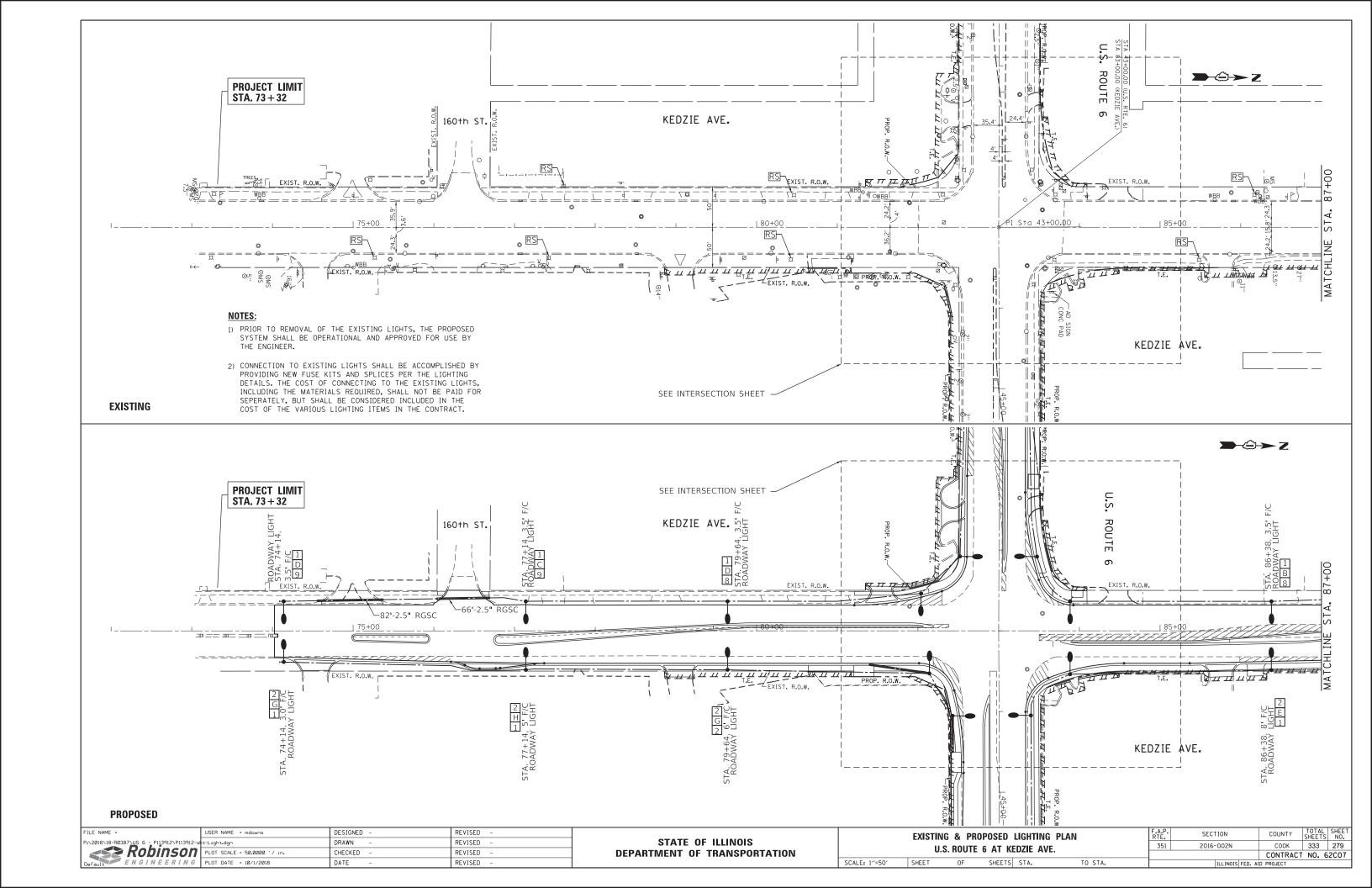
	TEMPORARY AERIAL C	F.A.P. RTÉ.	SECTION	COUNTY		
				351	2016-002N	соок
					BE-801	CONTRAC
SCALE: NONE SHEET NO. 1 OF 1 SHEETS		S STA.	TO STA.	FED. R	OAD DIST. NO. 1   ILLINOIS FED. A	ID PROJECT

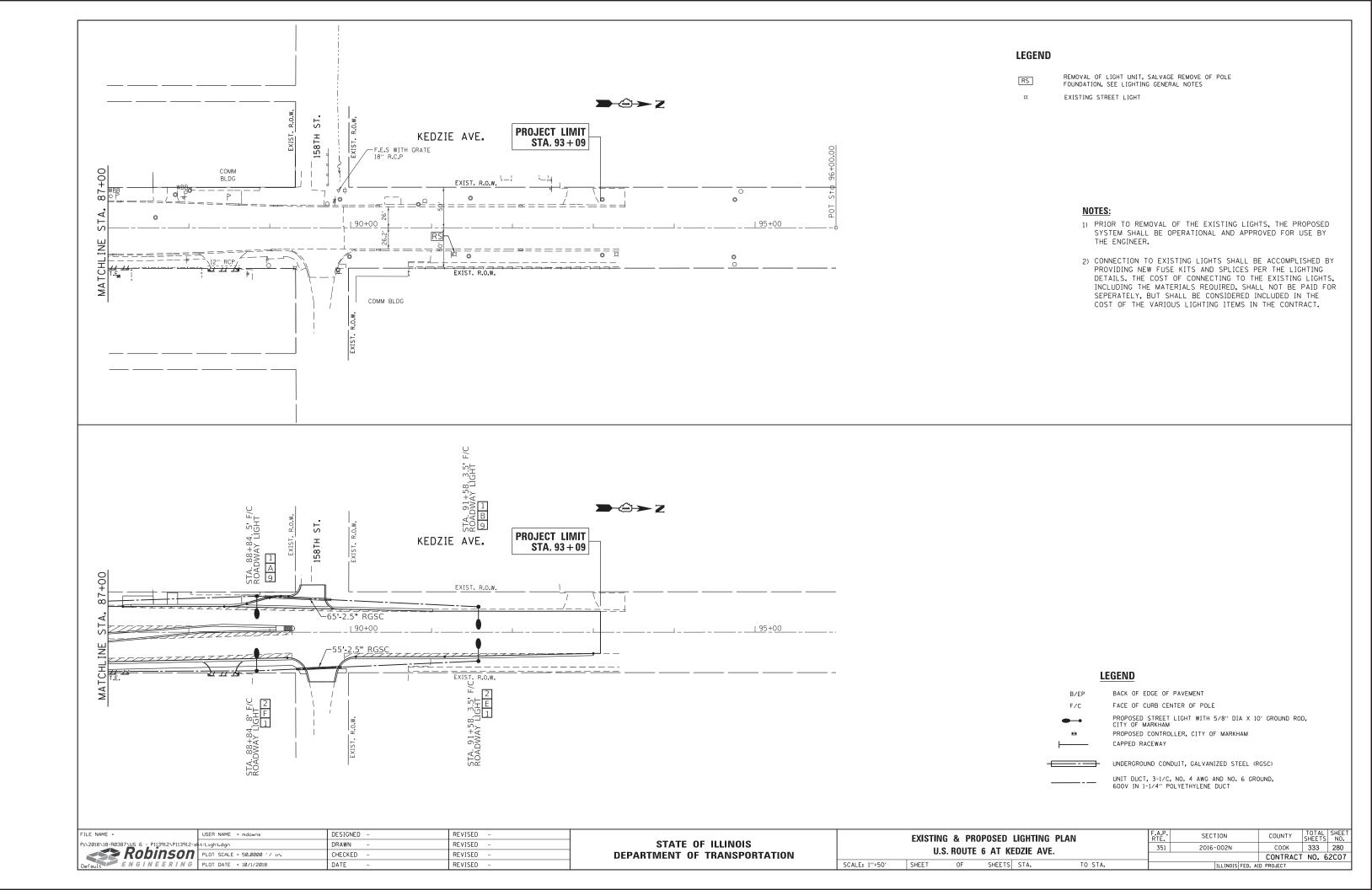
E-15

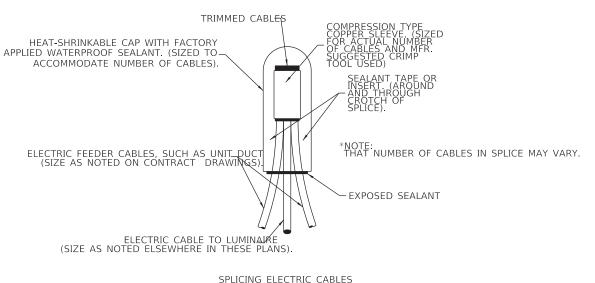
TOTAL SHEET NO. 333 276





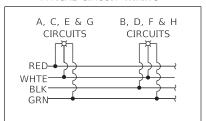






BASIC

TYPICAL CIRCUIT WIRING

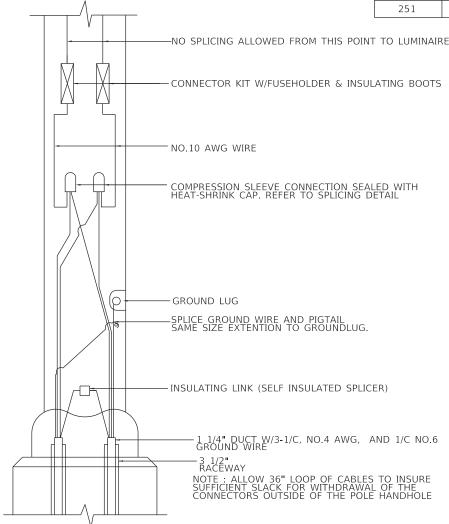


NOMINAL WATTAGE FUSE SIZE 214W ROADWAY LUMINAIRE 3.0 AMP 251W INTERSECTION LUMINAIRE 4.0 AMP **BUS SHELTER** 10 AMP

FUSE SIZE TABLE

Eleme Electric Croses	
MATERIALS AND METHODS	
	NON

INDIVIDUAL LOAD DATA MINAL INPUT VOLTS | MAX INPUT AMPS | INPUT WATTS 214 120 2.0 214 251 120 2.5 251



POLE HANDHOLE WIRING DIAGRAM (TYPICAL FOR SINGLE LUMINAIRE INSTALLATION) LIGHTING GENERAL NOTES

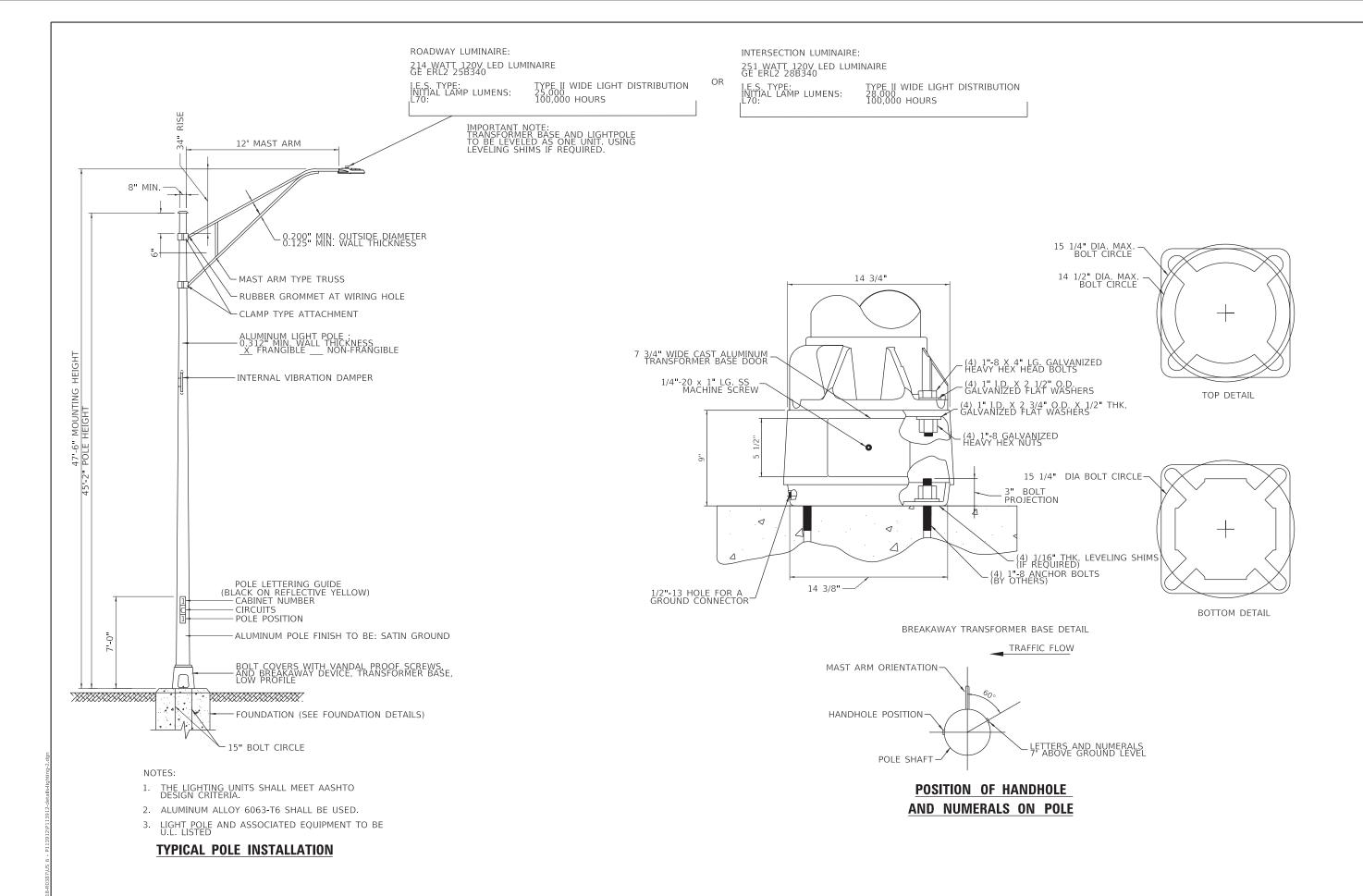
- ALL WORK TO CONFORM TO THE MOST RECENT NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL
- 2. CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES BEFORE TRENCHING OR AUGURING.
- THE EXACT LOCATIONS OF ALL UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR BEFORE THE INSTALLATION OF ANY COMPONENTS OF THE LIGHTING SYSTEM. FOR THE LOCATIONS OF THE UTILITIES. CALL JULIE TOLL FREE AT 1-800-892-0123 AT LEAST 48 HOURS BEFORE ANY EXCAVATION IS TO TAKE PLACE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING TRAFFIC SIGNAL CABLES AND CONDUITS. PRIOR TO CONSTRUCTION, ANY OVERHEAD CLEARANCE CONFLICTS SHOULD BE COORDINATED WITH COMED FOR APPROVAL
- ALL CONDUIT TO BE 2 1/2" DIAMETER UNLESS OTHERWISE SPECIFIED.
- ANY TREE TRIMMING REQUIRED AS DIRECTED BY THE ENGINEER SHALL BE PERFORMED BY THE CONTRACTOR, AND THE COST OF THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT
- CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO AVOID ANY SPECIALIZED LANDSCAPING. (i.e. DECORATIVE ROCKS, SHRUBS, PLANTS, ETC.) OR SHALL REPLACE IT, THE COST OF WHICH SHALL BE CONSIDERED INCLUDED IN THE COST OF THE CONTRACT. CARE IS TO BE TAKEN AS NOT TO DAMAGE ANY OF THE EXISTING TRAFFIC SIGNAL CONDUITS, DETECTORS AND EQUIPMENT. IF ANY OF THE TRAFFIC SIGNAL CONDUIT AND/OR EQUIPMENT IS DAMAGED, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE THE CONDUIT AND/OR EQUIPMENT AT NO COST TO THE COUNTY, STATE, OR THE CITY. CONDUIT AND UNIT DUCT MUST BE POSITIONED IN THE FIELD TO AVOID CONFLICT WITH TREES, BUSHES, DRAINS AND OTHER UTILITIES AND LANDSCAPING.
- THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENT FOR BURIED WARNING TAPE, SEE TRENCH DETAILS THE INSTALLATION OF THE TAPE SHALL BE INSPECTED AND APPROVED BY THE RESIDENT ENGINEER DURING PLOWING OR TRENCHING OPERATIONS, AS APPLICABLE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE RESIDENT ENGINEER MAY ASSIST THE CONTRACTOR, AS APPLICABLE, BUT THE RESPONSIBILITY FOR COORDINATING THE FINISHED GRADE ELEVATION WITH THE TOP OF THE FOUNDATION HEIGHTS AND THE LIGHT SHALL REMAIN WITH THE CONTRACTOR.
- NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR WIRE MARKERS AND SHALL TAG ALL WIRE MARKERS AND ALL WIRE ACCORDINGLY.
- 11. EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BONDED AT EACH LIGHT POLE OR OTHER PIÈCE OF EQUIPMENT.
- 12. UNDERGROUND SPLICING OF CABLES WILL NOT BE ALLOWED. ALL CABLE SPLICES SHALL BE CONSTRUCTED IN POLES.
- 13. BEFORE INSTALLING STANDARDS NEAR OVERHEAD FACILITIES CALL COMED FOR APPROVAL OF LOCATION.
- 14. UNIT DUCT SHALL BE BORED AND PULLED WHERE NEEDED TO MINIMIZE THE NEED FOR RESTORATION. UNDERGROUND CONDUIT SHALL BE PUSHED WHERE POSSIBLE TO MINIMIZE THE NEED FOR RESTORATION. IF THE CONTRACTOR CHOOSES TO TRENCH IN THESE AREAS, THE RESTORATION AND BACKFILL COSTS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM. . IF THE CONTRACTOR CHOOSES TO TRENCH THE CONDUIT IN THESE AREAS, THE RESTORATION AND BACKFILL COSTS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE CONSIDERED INCIDENTAL TO THE PAY ITEM.
- 15. ALL PROPOSED STREET LIGHTS SHALL BE EQUIPPED WITH BREAKAWAY DEVICE TRANSFORMER BASES.
- 16. ALL MEASUREMENTS ARE TO CENTER OF FOUNDATION.
- 17. EXISTING LIGHTING UNITS THAT ARE MARKED AS SALVAGE ARE OWNED BY THE CITY OF MARKHAM. THE FOLLOWING SHALL APPLY TO ALL CITY OWNED LIGHTING UNITS.
- THE CONTRACTOR SHALL COORDINATE MAINTENANCE TRANSFER WITH THE CITY BEFORE • CONSTRUCTION.
- AT ALL TIMES, EQUIPMENT GROUND SHALL BE CONTINUOUS FROM THE CONTROLLER TO THE LAST POLE OF EACH CIRCUIT. RESISTANCE SHALL CONFORM TO IDOT SPECIFICATIONS.
- THE CONTRACTOR SHALL COORDINATE WITH CITY OF MARKHAM PUBLIC WORKS DEPARTMENT OFFICE • AT (708)331-4905 FOR LIGHTING EQUIPMENT SALVAGE DROP OFF LOCATION.
- 18. THE ENGINEER WILL CONFIRM THE CLASS OF SOIL DURING EXCAVATION AND CONFIRM THE DESIGN DEPTH FROM THE FOUNDATION DESIGN TABLES.

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	PLOT DATE = 10/1/2018	DATE -	REVISED -

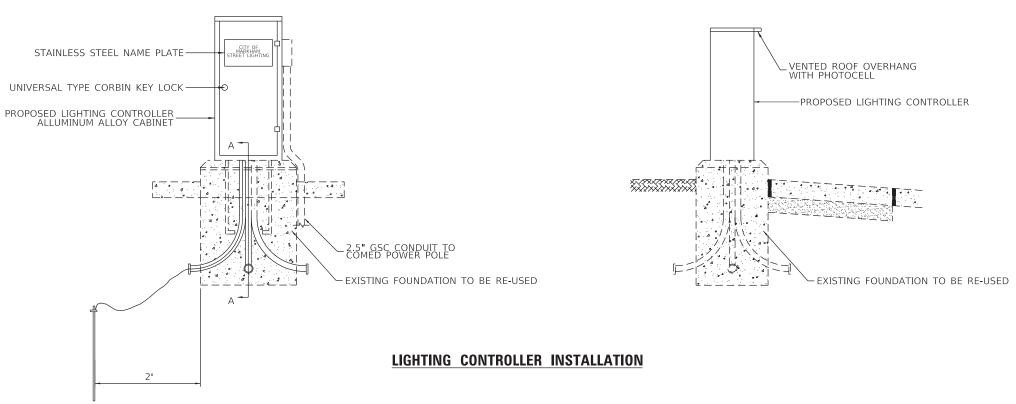
	LIC	GHTING DE	ETAILS		F.A.U RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.
US ROUTE 6 AND KEDZIE AVENUE				AVENUE	351	2016-002N		соок	333	281
- 03	HOUTE	AND KL	DZIL A	AVEIVOE				CONTRACT	NO. 62	2C07
CHEET	0.5	сысстс	CTA	TO CTA		11.111.010	550 1	D DDOUECT		

**DEPARTMENT OF TRANSPORTATION** 

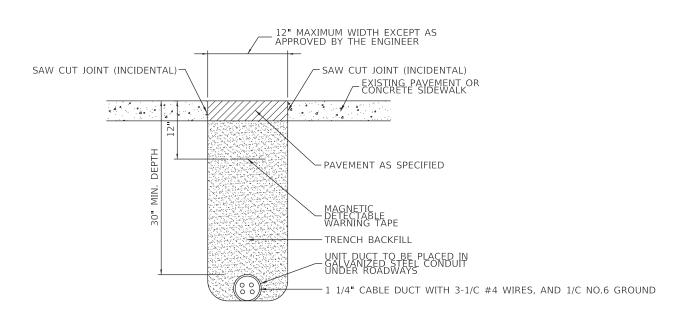
SCALE: NONE



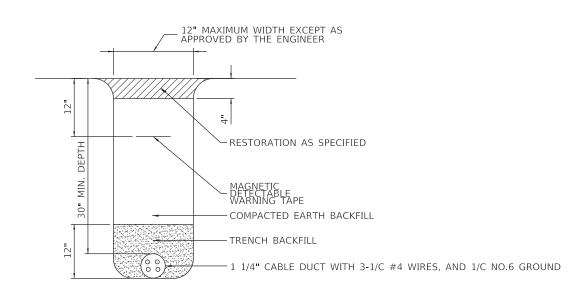
	F.A.U RTE	SEC	TION		COUNTY	TOTAL SHEETS	SHEET NO.					
	351	2016	-002N		COOK	333	282					
										CONTRACT	NO. 62	2C07
SCALE: NONE	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AI			D PROJECT			



- NOTE:
- 1. ORIENT CABINET SO DOOR OPENS AWAY FROM TRAFFIC.
- 2. METER FITTING TO BE LOCATED ON THE SIDE OF THE CABINET CLOSEST TO SERVICE POLE.



#### TRENCH DETAIL - PAVED AREAS



### TRENCH DETAIL - UNPAVED AREAS

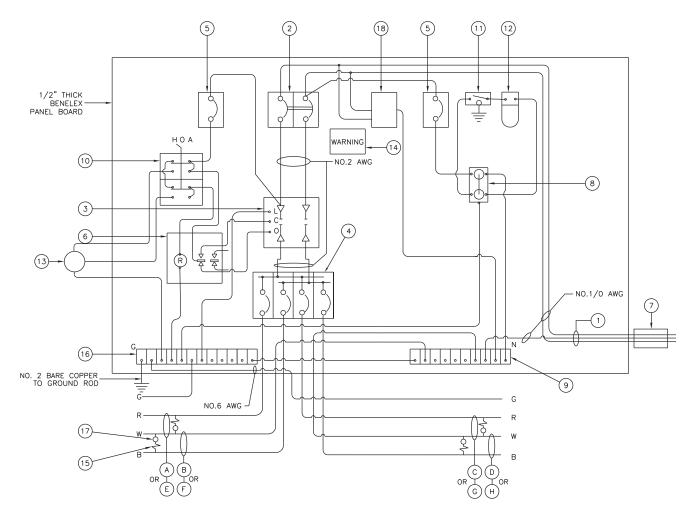
SCALE:



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PLOT DATE = 9/7/2018	DATE -	REVISED -

STATE	OF ILLINOIS	
DEPARTMENT (	OF TRANSPORTATION	V

	RTE.				COUNTY	SHEETS	NO.					
						351	2016	-002N		COOK	333	283
										CONTRACT	NO. 62	C07
NONE SHEET OF SHEETS STA.				STA.	TO STA.			ILLINOIS	FED. Al	ID PROJECT		



PROPOSED CONTROLLER WIRING DIAGRAM

#### **CONTROLLER WIRING DIAGRAM LEGEND**

- $\bigcirc$  3-1/C, NO. 1/0, 600V SERVICE WIRE IN 2.5" DIA. GALVANIZED STEEL CONDUIT FOR 120/240 VOLT, 10, 3 WIRE, 60HZ. SERVICE.
- (1) 200 AMP MAIN CIRCUIT BREAKER, 2 POLE, 600 VOLT, 200 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA 14000 AMP AT 480 V.
- (1) 200  $\,$  AMP REMOTE CONTROL CONTACTOR SWITCH, ELECTRICALLY OPERATED, MECHANICALLY HELD, 2 POLE, 600 VOLT
- (4) 50 AMP CIRCUIT BREAKER, 1 POLE, 120 VOLT, 100 AMP BASE, NON-INTER-CHANGEABLE TRIP RATING NEMA 14000 AMP AT 240 VOLTS.
- (2) 20 AMP CONTROL CIRCUIT-CIRCUIT BREAKER, 1 POLE, 120 VOLT, 100 AMP BASE, NON-INTERCHANGEABLE TRIP INTERRUPTING RATING NEMA 14000 AMP AT 240 V.
- (1) 20 AMP, 1 POLE DOUBLE THROW, 120 VOLT RELAY
- 7) METER SOCKET, 1ø, 3 WIRE, 200A
- (1) 20 AMP, 120 VOLT DUPLEX GFCI RECEPTACLE MOUNTED IN BOX.
- 9 NEUTRAL BUS BAR, 1/4"x1"x12" MINIMUM LENGTH MOUNTED ON PANEL WITH LUGS.
- 3 POSITION SELECTOR SWITCH, 120V.
- SWITCH FOR LIGHTING FIXTURE MOUNTED IN BOX, 20 AMP.
- (12) WEATHER-PROOF LIGHTING FIXTURE WITH 1600 LUMEN, 120 V LED LAMP.
- $\stackrel{\textstyle (13)}{}$  Photocell mounted to cabinet, 120 V. 1000 va Ballast rating, 1-4 FC on 3-12 FC OFF, 30 SECOND MINIMUM DELAY.
- (14) WARNING PLATE TO READ: WARNING, MAINTENANCE CIRCUIT IS LIVE WHEN MAIN BREAKER IS SWITCHED OFF
- 15) IN-LINE FUSEHOLDER WITH FUSE AS NOTED IN FUSE TABLE
- (16) GROUND BUS BAR 1/4"x1"x12" MINIMUM LENGTH MOUNTED ON PANEL WITH LUGS

E

- (17) LUMINAIRE OR GFI OUTLET
- (8) SURGE ARRESTER, UL LISTED, NEC 280 COMPLIANT, 10, 3 WIRE 60 HZ. MAX. 3,405 JOULES

CIRCUIT (RED)

- A CIRCUIT (RED) OR
- B CIRCUIT (BLACK) OR F CIRCUIT (BLACK)
- C CIRCUIT (RED) OR G CIRCUIT (RED)
- D CIRCUIT (BLACK) OR H CIRCUIT (BLACK)

#### **GENERAL NOTES FOR CONTROL CABINET**

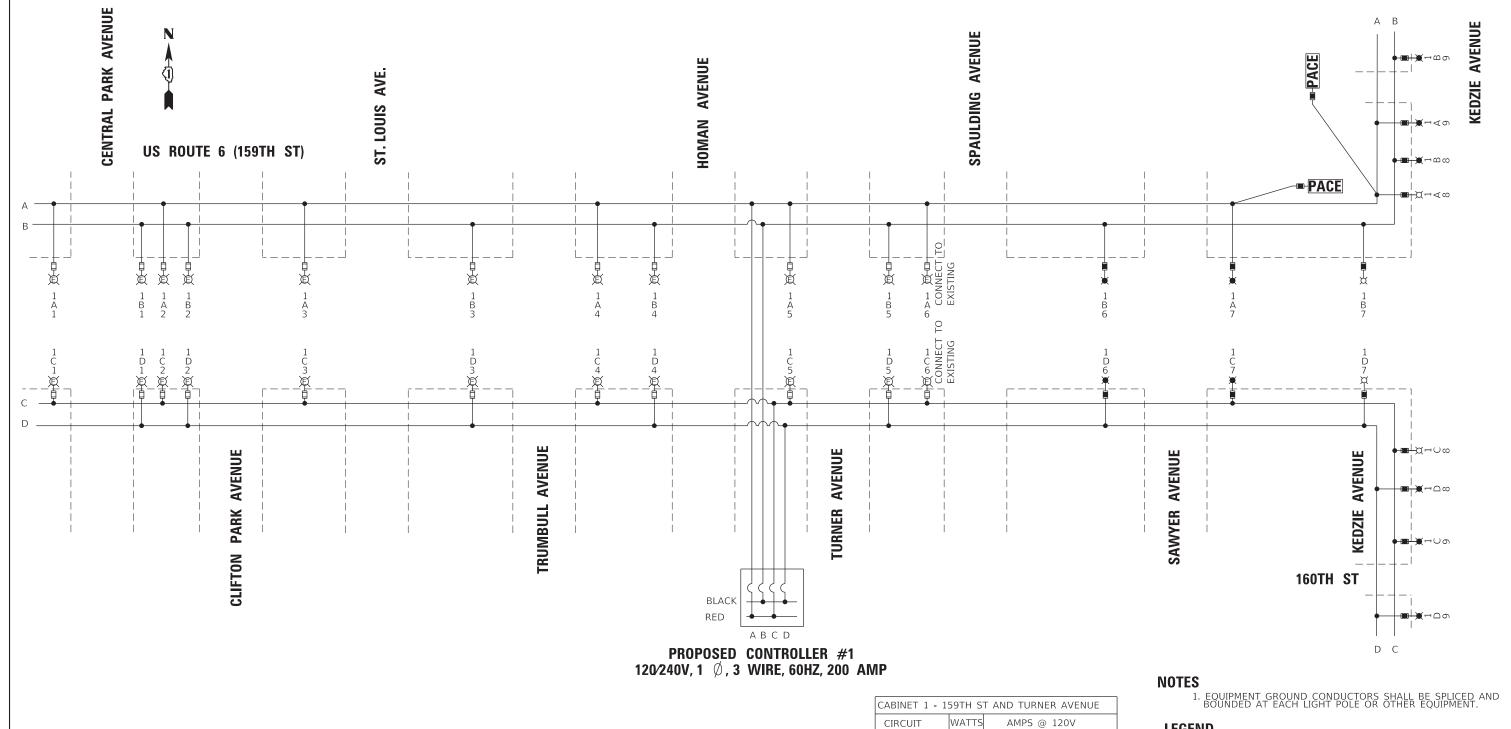
- 1. ENTIRE CONTROL CABINET SHALL BE GROUNDED.
- 2. ALL WIRING SHALL BE TAGGED WITH SELF-STICKING WIRE MARKERS.
- GROUND BUS TO BE COLOR CODED GREEN, NEUTRAL BUS WHITE, AND BONDED TO CABINET ENCLOSURE, BY LISTED PRESSURE CONNECTORS OR LISTED CLAMPS.
- 4. ALL INTERNAL CONTROLLER WIRING TO BE NO.12 AWG UNLESS OTHERWISE SPECIFIED.
- 5. CABINET WIRING INSULATION TO BE TYPE XHHW OR APPROVED EQUAL.
- 6. THE CONTROLLER SHALL BE UL LISTED, NEMA 3R AND SUITABLE FOR USE AS SERVICE ENTRANCE

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					F.A.P RTE	SEC	CTION		COUNTY	TOTAL SHEETS	SHEET NO.		
					351	201	6-002N		соок	333	284		
											CONTRACT	NO. 6	2C07
SCALE: NONE	SHEET	OF	SHEETS	STA.	TO STA.				ILLINOI	FED. A	ID PROJECT		

010(10-N050/05 0 - F115512/F115512-Uctall5-III)



#### **LEGEND**

RED PHASE BLACK PHASE

15.78

15.78

31.55

62.87

15.66

15.66

Α

В

SUBTOTAL

1879

7,544

TOTAL AMPS @ 240 V

**PACE** PACE BUS SHELTER CONNECTION

PROPOSED INTERSECTION LUMINAIRE, 251W LED

PROPOSED ROADWAY LUMINAIRE, 214W LED

PROPOSED FUSE - REFER TO FUSE SIZE TABLE

TOTAL SHEE NO.

COOK 333 285 CONTRACT NO. 62C07

COUNTY

LUMINAIRE CIRCUIT, 120V

CIRCUIT BREAKER

CONNECTION

EXISTING LUMINAIRE - 200 W LED

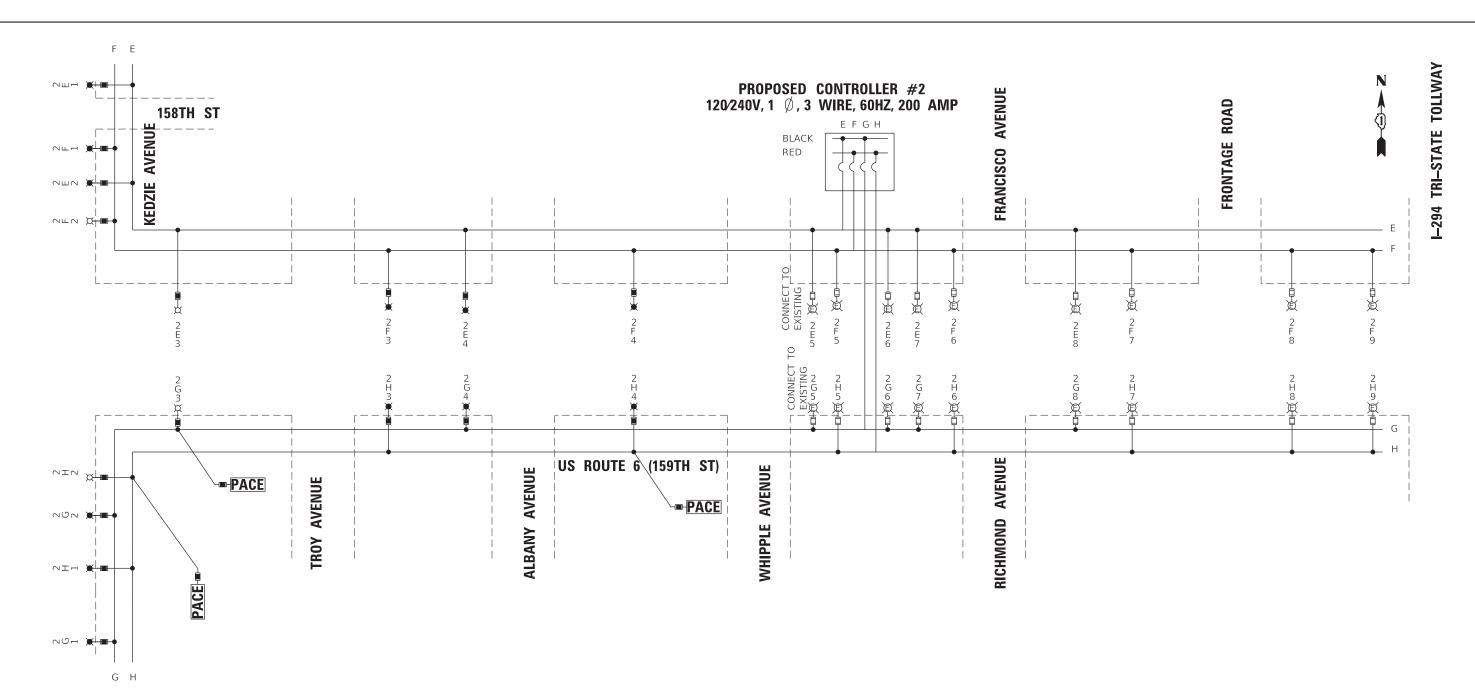
EXISTING FUSE

Ø EXISTING LUMINAIRE

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PLOT DATE = 10/1/2018	DATE -	REVISED -

SINGLE LINE WIRING DIAGRAM	F.A. RTE.	SECTION	
US ROUTE 6 AND KEDZIE AVENU	351	2016-002N	
OS HOUTE O AND REDZIE AVENC	<u>, , , , , , , , , , , , , , , , , , , </u>		
CHEET OF CHEETE CTA	TO CTA		



CABINET 2 - 159TH ST AND PULASKI/CRAWFORD								
CIRCUIT WATTS AMPS @ 120V								
		RED PHASE	BLACK PHASE					
Е	1693	14.11						
F	1693		15.78					
G	1893	14.11						
Н	1893		15.78					
SUBTOTAL	7172	28.22	31.55					
TOTA	L AMPS	@ 240 V	59.77					

SCALE: NONE

#### **NOTES**

1. EQUIPMENT GROUND CONDUCTORS SHALL BE SPLICED AND BOUNDED AT EACH LIGHT POLE OR OTHER EQUIPMENT.

### **LEGEND**

<b>PACE</b>	PACE BUS SHELTER CONNECTION							
¤	PROPOSED INTERSECTION LUMINAIRE, 251W LED							

■ PROPOSED ROADWAY LUMINAIRE, 214W LED

PROPOSED FUSE - REFER TO FUSE SIZE TABLE

A LUMINAIRE CIRCUIT, 120V

CIRCUIT BREAKER

CONNECTION

EXISTING LUMINAIRE - 200 W LED

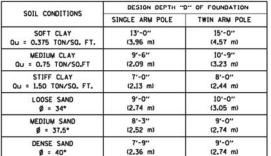
EXISTING FUSE

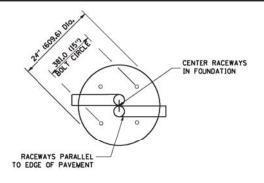
EXISTING LUMINAIRE

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G	PLOT DATE = 9/7/2018	DATE -	REVISED -

#### LIGHT POLE FOUNDATION DEPTH TABLE 40 FT. (12.192 m) TO 47.5 FT. (14.478 m) MOUNTING HEIGHT

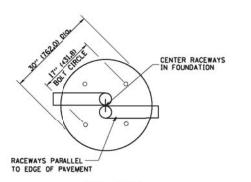




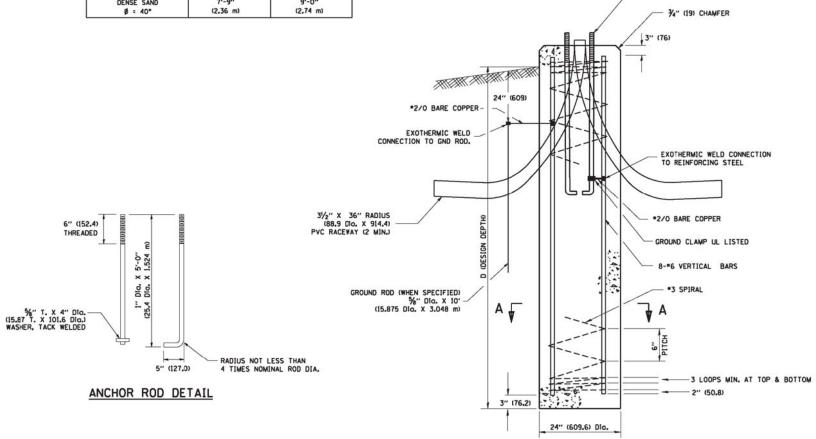
TOP VIEW

4-1" Dtg. X 5'-0"

(4-25.4 Dla. X 1.524 m)



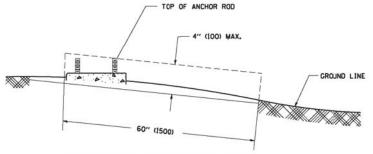
TOP VIEW



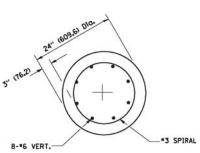
#### NOTES

- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- THE ANCHOR RODS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IN PLACED.
- 5. THE FOUNDATION SHALL NOT PROTRUDE MORE THAN 100MM (4 IN.) ABOVE THE FINISHED GRADE WITHIN A 60 IN. (1.5 m) CHORD ACROSS THE FOUNDATION, WITH ANCHOR RODS INCLUDED, IN ACCORDANCE WITH ASHTO GUIDELINES. IF THE FOUNDATION HEIGHT, INCLUDING ANCHOR RODS, EXTENDS BEYOND THESE SPECIFIED LIMITS, THE FOUNDATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. SEE FOUNDATION EXTENSION DETAIL.
- 4. THE HOLE FOR THE FOUNDATION SHALL BE MADE BY DRILLING WITH AN AUGER, OF THE SAME DIAMETER AS THE FOUNDATION. IF SOIL CONDITIONS REQUIRE THE USE OF A LINER TO FORM THE HOLE, THE LINER SHALL BE WITHDRAWN AS THE CONCRETE IS DEPOSITED.
- THE TOP OF THE FOUNDATION SHALL BE CONSTRUCTED LEVEL. A LINER OR FORM SHALL BE USED TO PRODUCE A UNIFORM SMOOTH SIDE TO THE TOP OF THE FOUNDATION. FOUNDATION TOP SHALL BE CHAMPERD 4-IN. (20 mm).
- THE CONCRETE SHALL BE CLASS SI. CONCRETE SHALL CURE ACCORDING TO ARTICLE 1020,13 BEFORE LIGHT POLES ARE INSTALLED.
- 7. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE. COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD. A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- 8. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 435.
- ANCHOR RODS, NUTS AND WASHERS SHALL BE COMPLETELY GALVANIZED BY EITHER THE HOT-DIPPED PROCESS CONFORMING WITH AASHTO W 232, THE MECHANICAL PLATING METHOD CONFORMING TO AASHTO M 298, CLASS 50 WITH A MAXIMUM COATING THICKNESS OF 150 UM/6 MILS) OR THE ELECTROLYTIC PROCESS ACCORDING TO ASTM F 1136.
- 10. THE ANCHOR RODS SHALL BE THREADED A MINIMUM OF 6 INCHES (150 mm) WITH A MINIMUM OF 3 INCHES (75 mm) OF THREADED ANCHOR ROD EMBEDDED IN THE FOUNDATION.
- 11. ANCHOR RODS SHALL PROJECT 2¾" (69,9 mm) ABOVE THE TOP OF THE FOUNDATION. IF BREAKAWAY COUPLINGS ARE SPECIFIED, THE CONTRACTOR SHALL CAREFULLY COORDINATE THE ANCHOR ROD PROJECTION WITH THE INSTALLATION REQUIREMENTS OF THE BREAKAWAY COUPLINGS.
- 12. THE CONTRACTOR SHALL USE A =3 SPIRAL AT 6" (152.4 mm) PITCH OR MAY SUBSTITUTE =3 TIES AT 12" (304.8 mm) O.C. WITH THE APPROVAL OF THE ENGINEER.
- 13. THE CABLE TRENCHES AND FOUNDATION SHALL BE BACK FILLED AND COMPACTED AS SPECIFIED BEFORE THE LIGHT POLE IS ERECTED.
- 14. THE RACEWAYS SHALL PROJECT I" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.

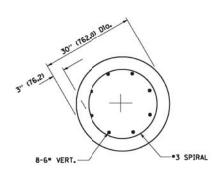
## FOUNDATION DETAIL



FOUNDATION EXTENSION DETAIL



SECTION A-A



	SE	СТ	ION	A-A
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	PLOT SCALE = 50.0000 '/ IN.	CHECKED -	REVISED -
1	PLOT DATE = 1/4/2008	DATE -	REVISED -

	F.A.U RTE						
LIGHT POLE FOUNDATION 40' (12.192 m) TO 47 1/2' (14.478 m) M.H. 15" (381 mm) BOLT CIRCLE						351	
40 (12	.192 111/10 47	VZ (14.	470 III/ IVI.	n. 15 (561 II	IIII) BOLT CINCLE		
SCALE: NONE	SHEET NO. 1	OF 1	SHEETS	STA.	TO STA.		

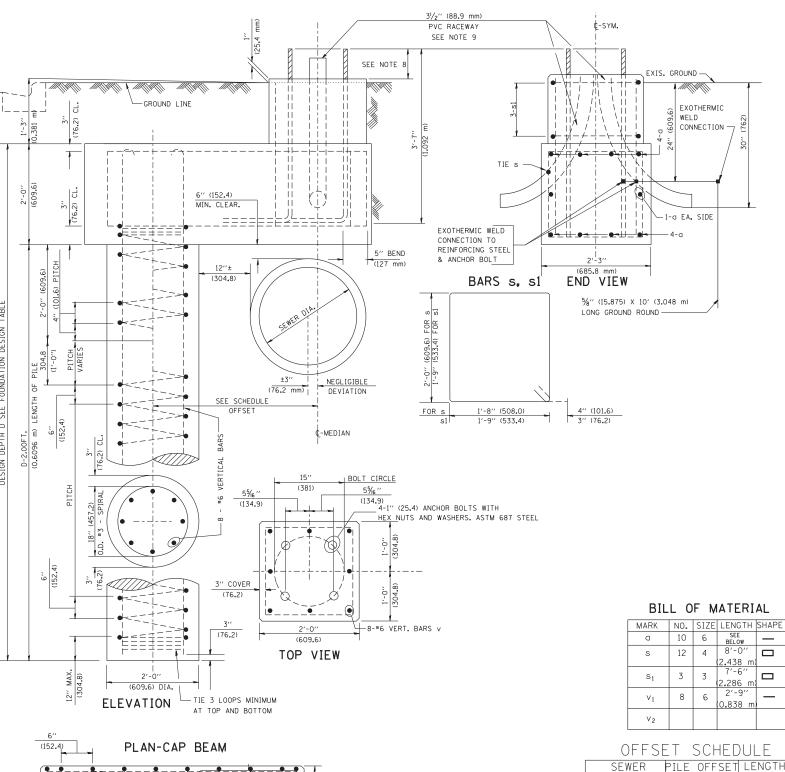
RTE.	RTE. SECTION			COUNTY	SHEETS	NO.
351 2016-002N			соок	333	287	
BE-301				CONTRACT NO. 62C07		
		ILLINOIS	ID PROJECT			

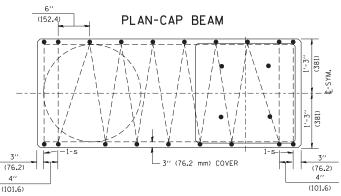
#### FOUNDATION DESIGN TABLE

	DESIGN DEPTH (	OF FOUNDATION	REINFORCEMENT IN FOUNDATION			
TYPE OF SOIL	SINGLE ARM	TWIN ARM	SINGLE	ARM	TWIN ARM	
	D	D	VERT BARS	SPIRAL	VERT BARS	SPIRAL
SOFT CLAY	13'-0''	15'-0''	8-#6X12'-6''	#3X122′	8-#6X14'-3''	#3X141′
	(3.962 m)	(4 <b>.</b> 572 m)	(3.810 m)	(37.186 m)	(4.343 m)	(42.977 m)
MEDIUM CLAY	9'-6''	10'-9''	8-#6X9'-0''	#3X90′	8-#6X10'-0''	#3X100′
	(2.896 m)	(3.277 m)	(2.743 m)	(27.432 m)	(3.048 m)	(30.480 m)
STIFF CLAY	7'-0''	8'-0''	8-#6X6′-6′′	#3X66′	8-#6X7'-6''	#3X76′
	(2.134 m)	(2.438 m)	(1.981 m)	(20.112 m)	(2.286 m)	(23.165 m)
LOOSE SAND	9'-0''	10'-0''	8-#6X8'-6''	#3X85′	8-#6X9'-6''	#3X94'
	(2.743 m)	(3.048 m)	(2.591 m)	(25.908 m)	(2.896 m)	(28.651 m)
MEDIUM SAND	8'-3''	9'-0''	8-#6X8'-0''	#3X78′	8-#6X8'-6''	#3X85′
	(2.515 m)	(2.743 m)	(2.438 m)	(23.774 m)	(2.591 m)	(25.908 m)
DENSE SAND	7′-9′′	9'-0''	8-#6X7'-6''	#3X73′	8-#6X8'-6''	#3X85′
	(2.362 m)	(2.743 m)	(2.286 m)	(22.250 m)	(2.591 m)	(25.908 m)
ROCK OR SOLIDIFIED SLAG	5′-0′′ (1.524 m)	5′-0′′ (1.524 m)	NONE	NONE	NONE	NONE

#### NOTES

- 1. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- 2. THE ENGINEER SHALL DETERMINE THE CLASS OF SOIL DURING EXCAVATION AND SELECT THE DESIGN DEPTH OF FOUNDATION FROM THE DESIGN TABLE.
- 3. EXCAVATION OF THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24" (609.6 mm) OR 30" (762.0 mm) IN DIAMETER.
- 4. THE ANCHOR ROD SHALL BE A HOOK ROD TYPE, COLD BENDING OF THE ANCHOR ROD WILL NOT BE ALLOWED. THE RADIUS OF THE HOOK BEND SHALL NOT BE LESS THAN 4 TIMES THE NOMINAL DIAMETER OF THE ANCHOR ROD, A TACK WELDED ANCHOR ROD MAY BE SUBSTITUTED WITH THE APPROVAL OF THE ENGINEER.
- 5. THE ANCHOR BOLTS AND RACEWAYS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORM.
- 6. THE ANCHOR RODS SHALL BE ACCORDING TO ASTM F1554 GRADE 725 (GRADE 105). NUTS SHALL BE HEXAGON NUTS ACCORDING TO ASTM A 194 2H OR ASTM A 563 DH, AND WASHERS SHALL BE ACCORDING TO ASTM F 436.
- 7. THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF FOUNDATION WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS. IF LIGHT POLE IS MOUNTED WITHOUT BREAKAWAY DEVICE, ANCHOR BOLTS SHALL PROJECT 2¾4" (69.9 mm) ABOVE TOP OF THE FOUNDATION. THE CONTRACTOR SHALL CONFIRM ANCHOR BOLT EXTENTION WITH ENGINEER.
- 8. RACEWAYS SHALL PROJECT 1" (25.4 mm) ABOVE THE TOP OF THE FOUNDATION.
- 9. THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE LIGHT IS ERECTED.





SCALE:

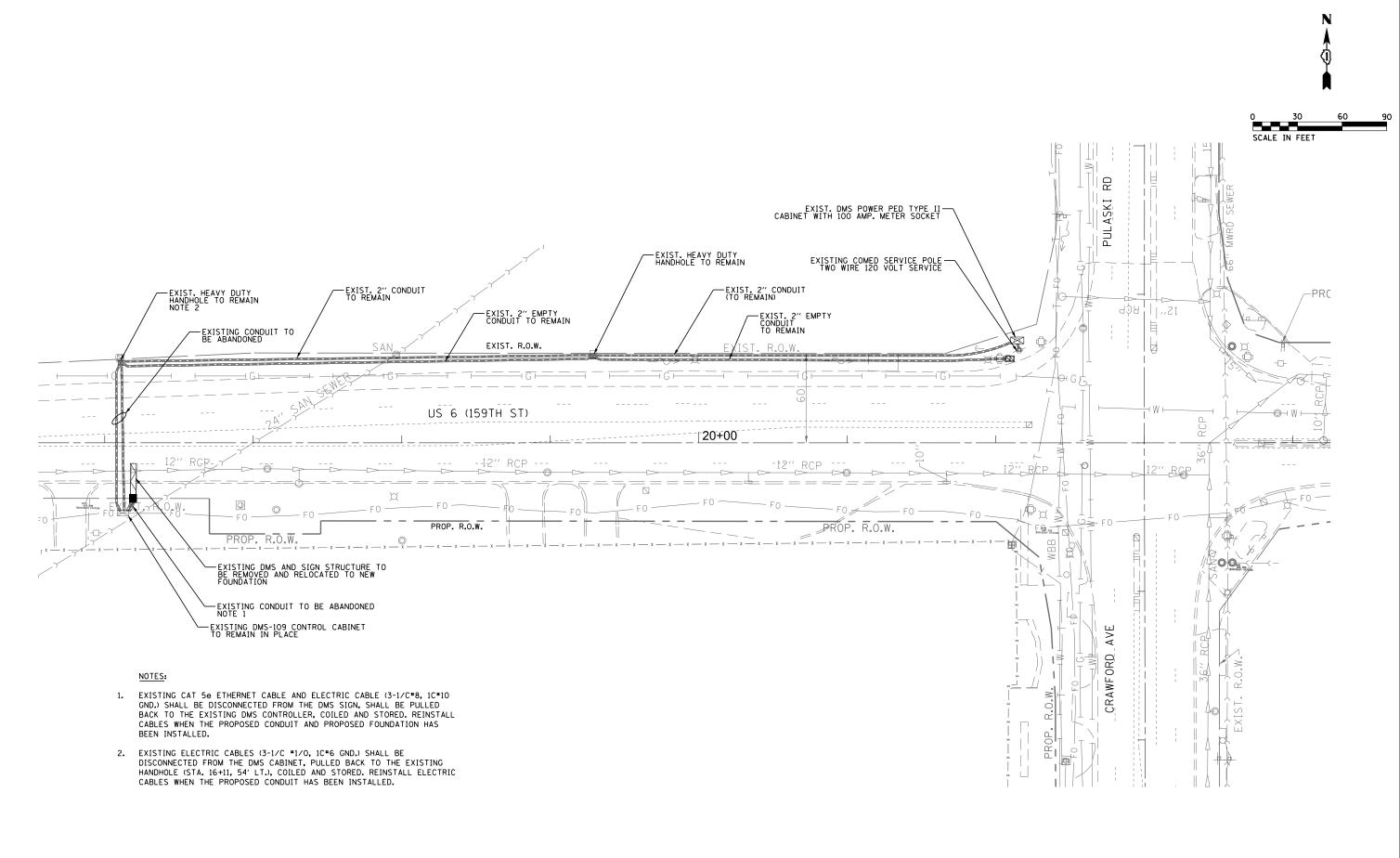
SEWER	PILE OFFSET	LENGIH
DIAM. d	from¢-MED′N	of BAR a
IN.	FT.	FT.
UP TO 24"	3'-3''	#6 × 5′-3′′
(609.6 mm)	(0.991 m)	(1.600 m)
27" (685.8 m)TO	3'-9''	5′-9′′
36" (914.4 mm)	(1.143 m)	(1.753 m)
42" (1066.8 mm) TO	4′-6′′	6′-6′′
48" (1219.2 mm)	(1.372 m)	(1.981 m)
54" (1371.6 mm) TO	5′-0′′	7′-0′′
60" (1524.0 mm)	(1.524 m)	(2.134 m)
66" (1676.4 mm) TO	5′-6′′	7′-6′′
72" (1828.8 mm)	(1.676 m)	(2.286 m)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHT POLE FOUNDATION OFFSET
40' (12.192 m) TO 47 12 ' (14.478 m) M.H.
15" (381 mm) BOLT CIRCLE

SHEET NO. 1 OF 1 SHEETS STA. TO STA.

| SHEET NO. 1 OF 1 SHEETS STA. TO STA. | SHEETS STA. TO STA. |
| F.A.P. RTE. SECTION COUNTY SHEETS NO. 2016-002N COUNTY SHEETS NO. 333 288 |
| BE-310 CONTRACT NO. 62C07



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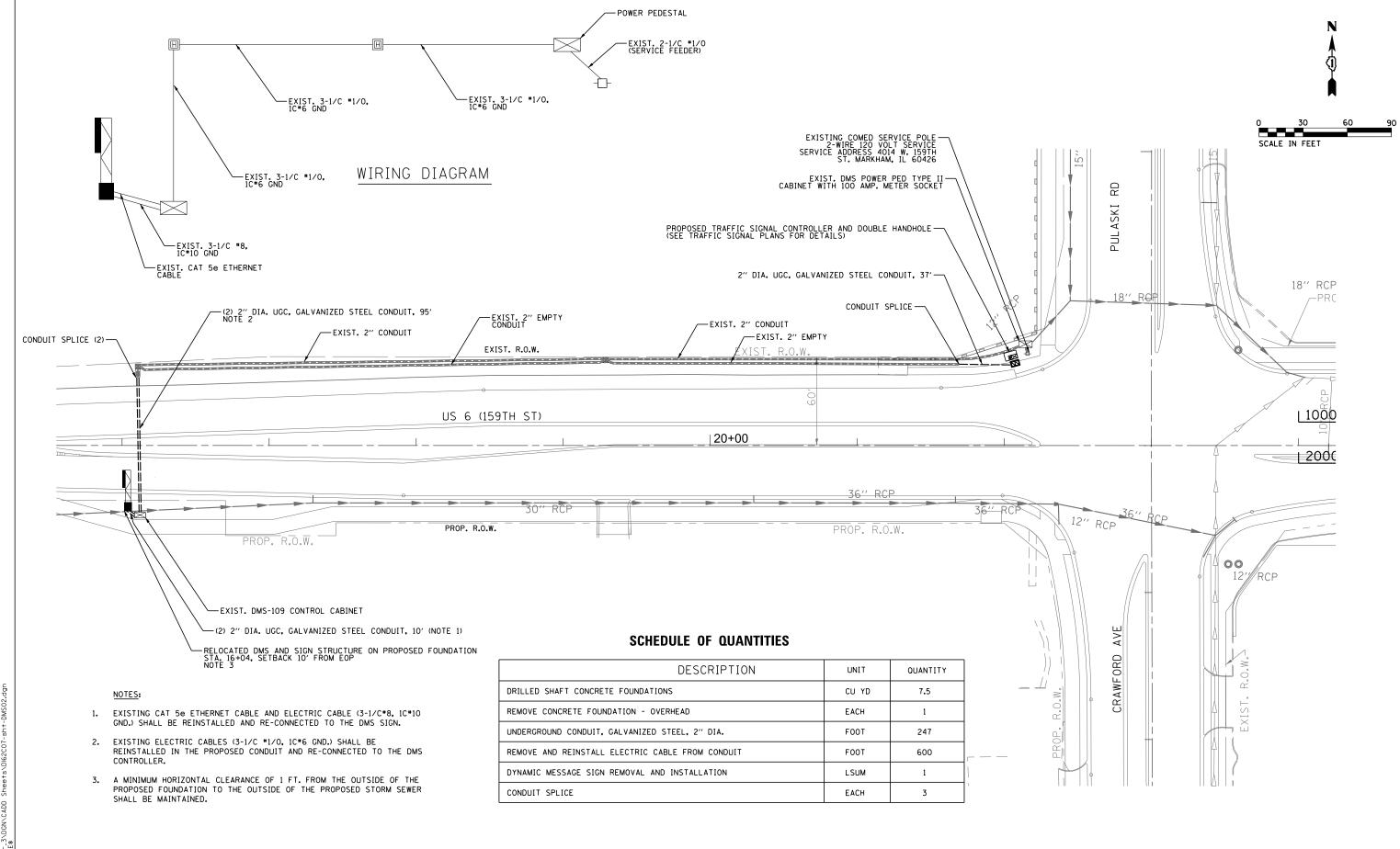
REVISED

ARTERIAL DMS-109 REMOVAL PLAN

US 6 (159TH AVE) AT PULASKI RD/CRAWFORD AVE

SCALE: AS NOTED SHEET NO. OF SHEETS STA. TO STA.

DMS- 1



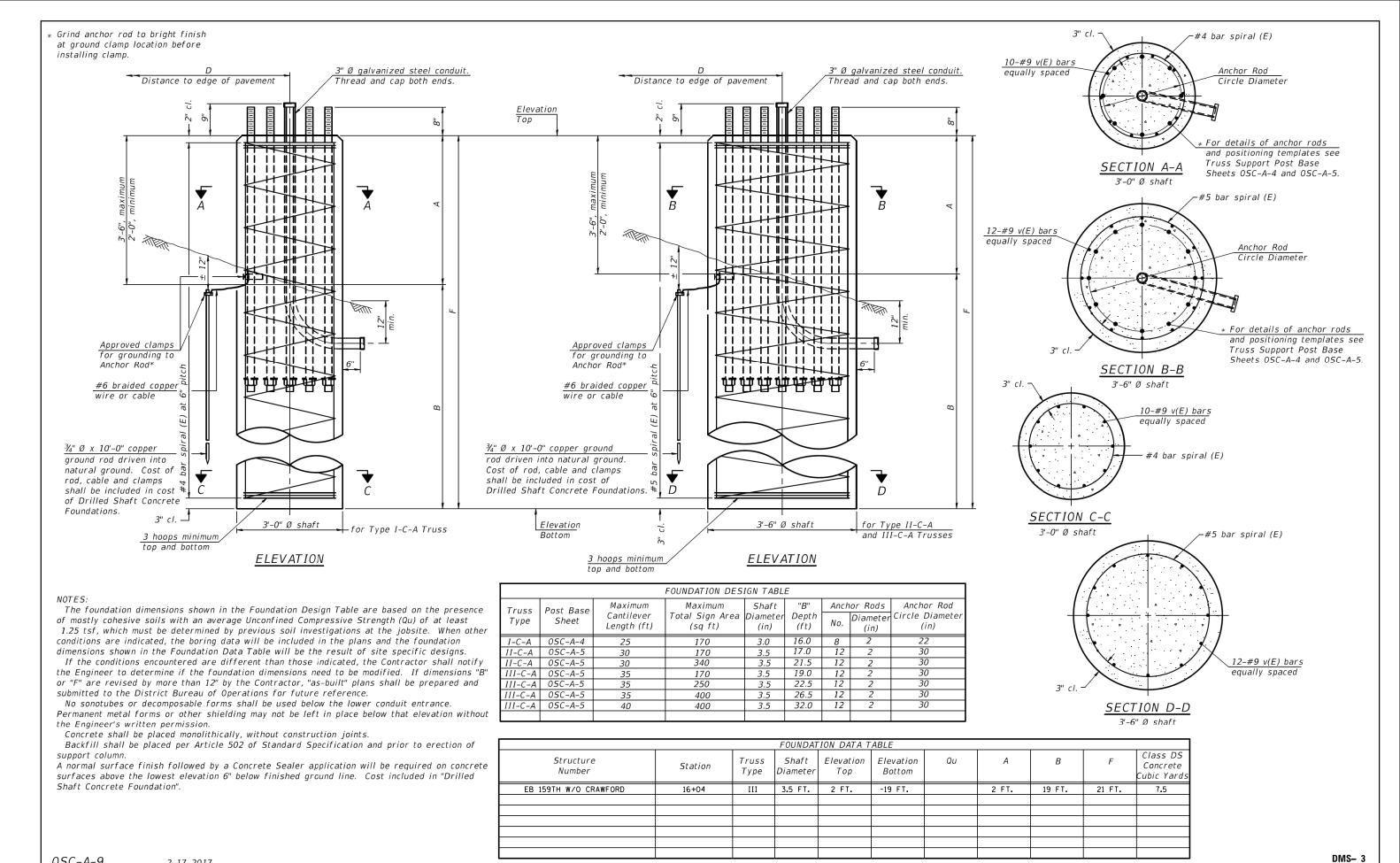
SIN SINGH +-CONSULT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ARTERIAL DMS-109 RELOCATION PLAN
US 6 (159TH AVE) AT PULASKI RD/CRAWFORD AVE

SCALE: AS NOTED SHEET NO. OF SHEETS STA. TO STA.

DMS- 2



0SC-A-9

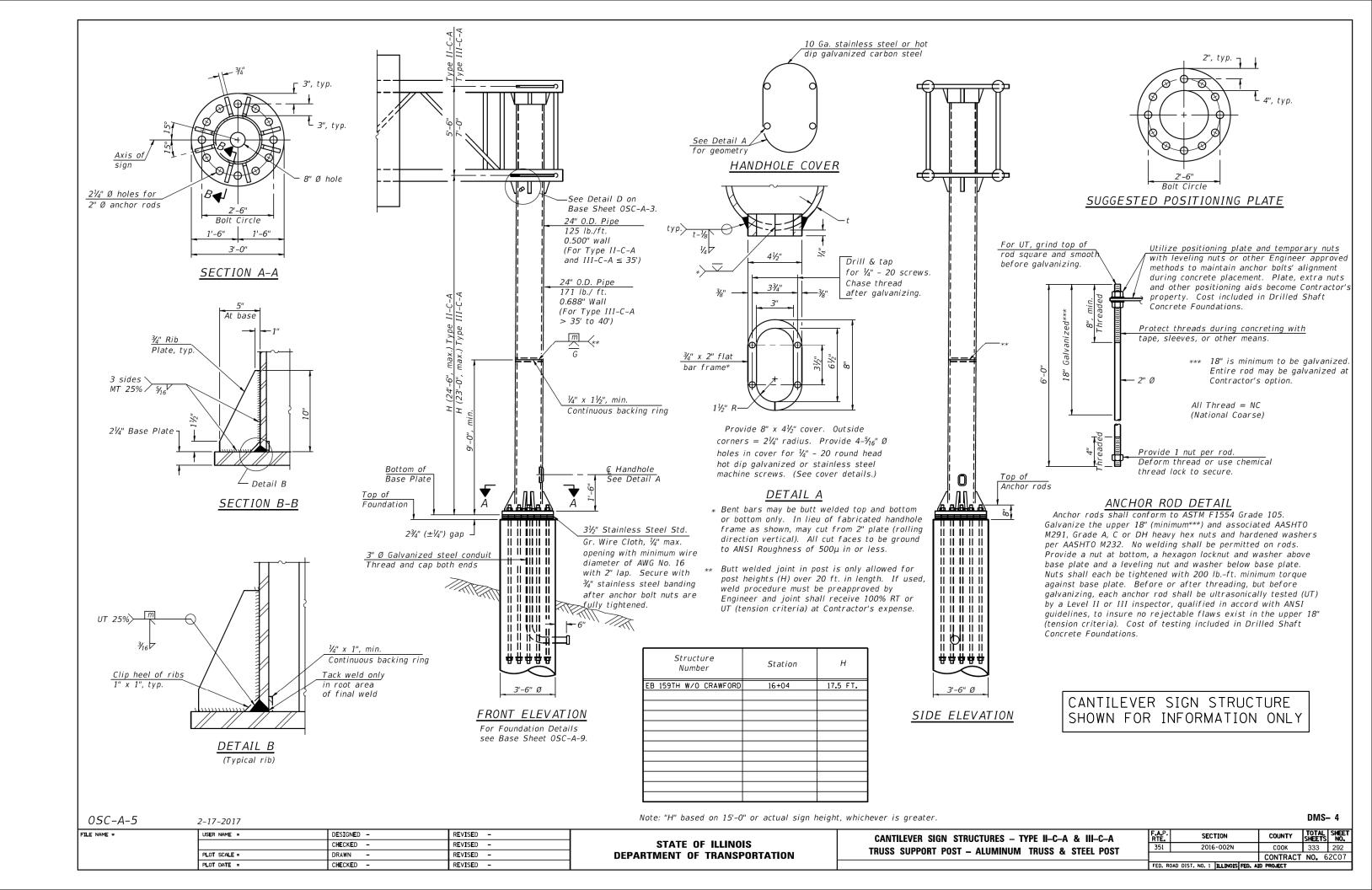
FILE NAME =

2-17-2017

USER NAME = DESIGNED -REVISED -CHECKED -REVISED -PLOT SCALE = DRAWN REVISED -PLOT DATE = CHECKED -REVISED -

STATE OF ILLINOIS **DEPARTMENT OF TRANSPORTATION**  **CANTILEVER SIGN STRUCTURES - DRILLED SHAFT ALUMINUM TRUSS & STEEL POST** 

A.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351	2016-002N	СООК	333	291
		CONTRACT	<b>NO.</b> 6	2C07
FED. R	DAD DIST. NO. 1 ILLINOIS FED. A	ID PROJECT		



#### GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES: Field <sub>c</sub>Units f' = 3,500 p.s.i.

fy = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specificiations.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W\*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer. The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements o ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

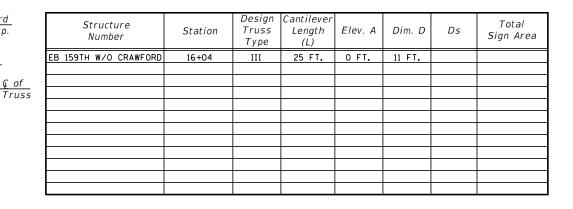
GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

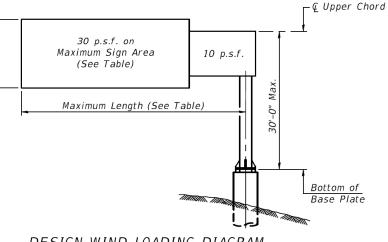
CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

FOUNDATIONS: The contract unit price for Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.



Truss Type	Maximum Sign Area	Maximum Length
I-C-A	170 Sq. Ft.	25 Ft.
II-C-A	340 Sq. Ft.	30 Ft.
III-C-A	400 Sq. Ft.	40 Ft.



#### DESIGN WIND LOADING DIAGRAM

Parameters shown are basis for I.D.O.T. Standards Installations not within dimensional limits shown require special analysis for all components.

Trusses shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The contractor is responsible for maintaining the configuration and protection of the trusses.

- After adjustments to level truss and insure adequate vertical clearance, all top and leveling nuts shall be tightened against the base plate with a minimum torque of 200 lb.-ft. Stainless steel mesh shall then be placed around the perimeter of the base plate. Secure to base plate with stainless steel banding.
- \* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

## SHOWN FOR INFORMATION ONLY

CANTILEVER SIGN STRUCTURE

0SC-A-1

FILE NAME =

Elev. A

(Location varies)

Elev. A = Elevation at point of minimum

the structure.

clearance to sign, walkway support or truss.

2-17-2017

Alternate Direction of Horizontal

Diagonal Bracing for Each Bay in

Sign Panel-

Planes of Upper and Lower Chords

Upper Chord

Bracing, typ.

Lower Chord Bracing, typ.

TYPICAL PLAN

(Walkway not shown)

Alternate Vertical Diagonal Bracing for Each

Cantilever Length (L) and Basis of Payment

Edge of

Pavement

TYPICAL ELEVATION

Sign support structures may be subject to damaging vibrations and

maintenance of the structure. To avoid these vibrations and oscillations,

consideration should be given to attaching temporary blank sign panels to

oscillations when sign panels are not in place during erection or

Looking in Direction of Traffic

a Steel

(along © of truss)

4

Post Support

Bay in Planes of Front and Back Chords

Walkway, railing and

*lights (if required)* 

omitted for clarity

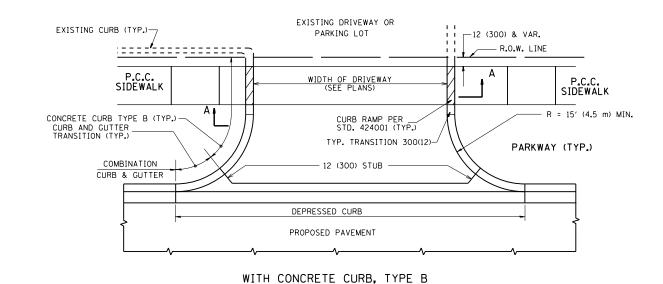
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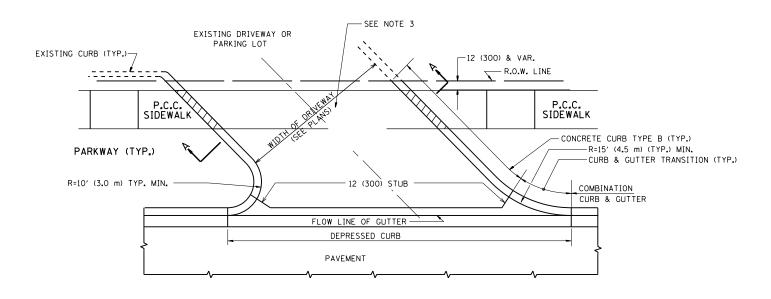
STATE OF ILLINOIS

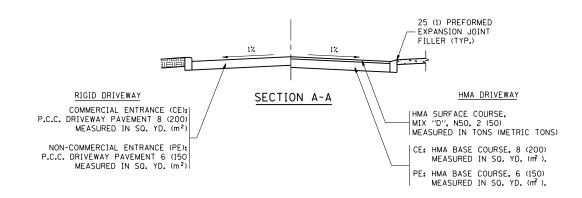
CANTILEVER SIGN STRUCTURES - GENERAL PLAN & ELEVATION **ALUMINUM TRUSS & STEEL POST** 

			DMS-	- 5
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
351 2016-002N		СООК	333	293
		CONTRACT	<b>NO.</b> 6	2C07
FED. R	OAD DIST. NO. 1 ILLINOIS FED. AL	D PROJECT		

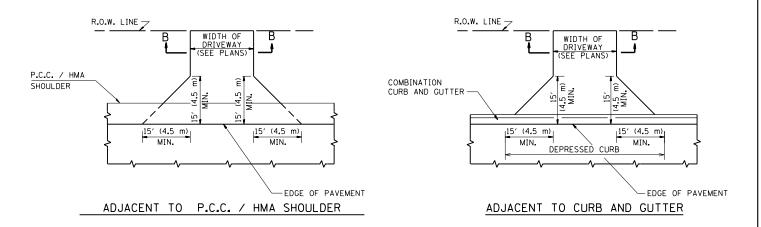
**DEPARTMENT OF TRANSPORTATION** 

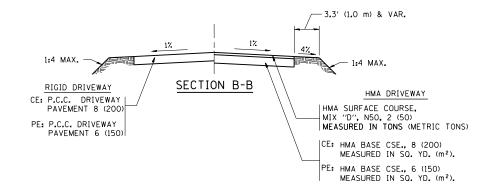






WITH CONCRETE CURB, TYPE B





#### RURAL FIELD ENTRANCE (FE)

HMA SURFACE COURSE, MIX "D", N50, 2 (50) MEASURED IN TONS (METRIC TONS)

AGGREGATE BASE CSE., TYPE B, 8 (200) MEASURED IN SQ. YD.  $(m^2)$ .

#### GENERAL NOTES:

DRIVEWAY SLOPES, LOCATIONS, & GEOMETRIC LAYOUT SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "HANDBOOK FOR POLICY ON PERMITS FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". FOR FURTHER LAYOUT REQUIREMENTS, REFER TO ILLUSTRATIONS IN THE PERMIT HANDBOOK. DRIVEWAYS SHALL BE REPLACED IN KIND, UNLESS OTHERWISE NOTED ON THE PLANS.

COMMERCIAL DRIVEWAYS SHALL BE CONSTRUCTED WITH CONCRETE CURB, TYPE B RETURNS EXCEPT WHEN THE SIDEWALK EDGE IS 4 FEET (1.2 METERS) OR LESS FROM THE BACK OF CURB, CONSTRUCT A FLARE DRIVEWAY WITHOUT CURB.

THE RESIDENT ENGINEER SHALL CONTACT THE TRAFFIC PERMIT OFFICE AT 847/ 705-4131 FOR ANY OUESTIONS ON DRIVEWAYS SHOWN IN THE PLANS; SPECIFICALLY IN REFERENCE TO ADDITIONAL AND/OR RELOCATION/REMOVAL OF A DRIVEWAY.

COMBINATION CONCRETE CURB & GUTTER SHALL BE MEASURED STRAIGHT ACROSS THE DRIVEWAY. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR THE CURB & GUTTER TRANSITION.

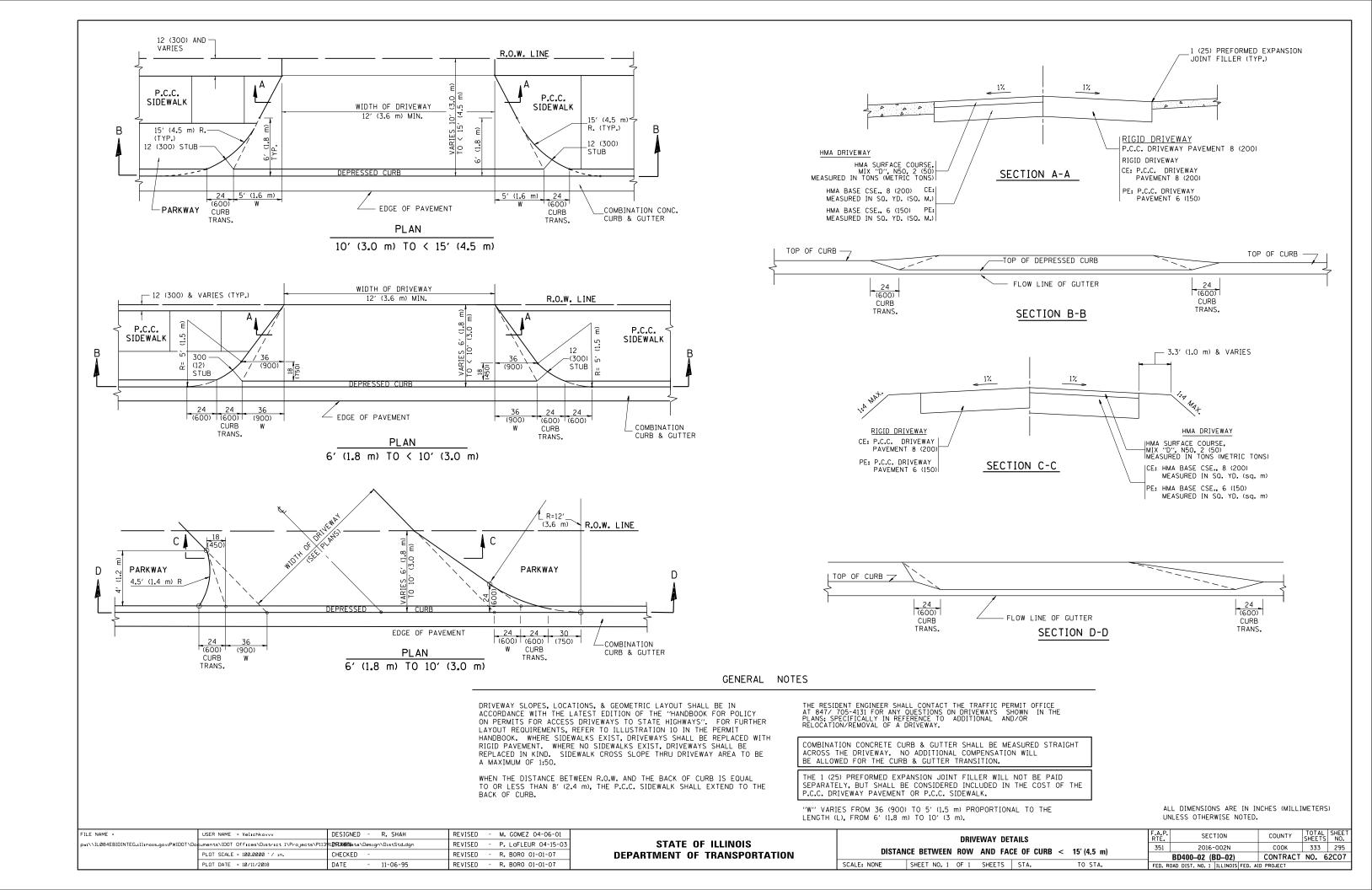
1 (25) PREFORMED EXPANSION JOINT FILLER WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED INCLUDED IN THE COST OF THE P.C.C. DRIVEWAY PAVEMENT OR P.C.C. SIDEWALK.

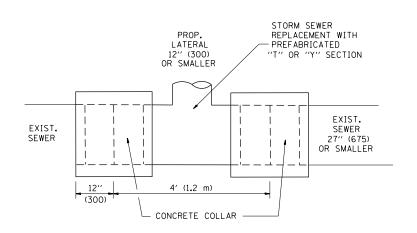
WHEN THE P.C.C. SIDEWALK EXTENDS THROUGH THE DRIVEWAY, THE THICKNESS OF THE SIDEWALK IN THE DRIVEWAY AREA SHALL BE THE SAME AS THE DRIVEWAY THICKNESS. SIDEWALK WILL BE PAID FOR AS P.C.C. SIDEWALK OF THE THICKNESS SPECIFIED. SIDEWALK CROSS SLOPE THRU DRIVEWAY AREA TO BE A MAXIMUM OF 1:50.

SCALE: NON

FILE NAME =	USER NAME = Velichkovvv	DESIGNED - R. SHAH	REVISED - P. LaFLUER 04-15-03
pw:\\ILØ84EBIDINTEG.:ll:nois.gov:PWIDOT\Do	cuments\IDOT Offices\District 1\Projects\P113	RI <b>DRAWN</b> ata\Design\DistStd.dgn	REVISED - R. BORO 01-01-07
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - R. BORO 06-11-08
	PLOT DATE = 10/11/2018	DATE - 11-04-95	REVISED - R. BORO 09-06-11

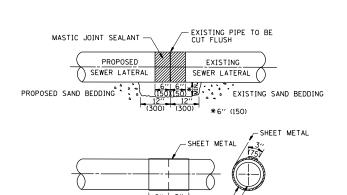
DR	IVEWAY DETAILS – DISTAN	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
AND I	FACE OF CURB & EDGE OF	SUNIII DED 🔍 — 16'//	E m\	351	2016-002N	COOK	333	294
AND	TACE OF COMB & EDGE OF	3000LDEN / - 13 (4	1.5 III)		BD0156-07 (BD-01)	CONTRACT	NO. 6	2C07
٧E	SHEET NO. 1 OF 1 SHEETS	STA. TO	STA.	FED. RO	DAD DIST. NO. 1 ILLINOIS FED. AI	D PROJECT		

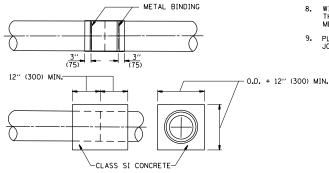




#### DETAIL "A"

LATERAL CONNECTION TO EXISTING SEWER
OF 27" (675) OR SMALLER





<u>DETAIL "B"</u> CLASS SI CONCRETE COLLAR

#### CONSTRUCTION SEQUENCE

- 1. CUT THE EXISTING END OF THE PIPE SO AS TO PRESENT A FLUSH BUTT JOINT. BRUSH AND CLEAN ALL PIPES.
- 2. APPLY THE MASTIC JOINT SEALANT TO THE FIRST 6" (150) OF EACH PIPE.
- 3. BUTT THE PIPES TOGETHER LEAVING A MINIMUM OF 12'  $\times$  6' (300  $\times$  150) DEEP EXCAVATION UNDER AND AROUND EACH PIPE END.
- 4. CUT A PIECE OF SHEET METAL GAGE NO. 19 1.1 (0.0418) 18" (450) WIDE BY THE OUTSIDE CIRCUMFERANCE OF THE PIPE PLUS 3" (75) LONG.
- . WRAP THE SHEET METAL AROUND THE PIPES, 9" (225) ON EACH SIDE OF THE JOINT, STARTING AT THE TOP OF THE PIPE.
- 6. LAP THE SHEET METAL AT LEAST 3" (75) AT THE TOP OF THE PIPE AND PLACE THE MASTIC JOINT SEALANT BETWEEN THE LAP.
- 7. PLACE TWO METAL BANDS AROUND THE SHEET METAL AND TIGHTEN.
- 8. WIPE OFF ANY EXCESS MASTIC JOINT SEALANT THAT OOZES OUT FROM BETWEEN THE SHEET METAL AND THE PIPES.
- 9. PLACE CLASS SI CONCRETE AROUND THE JOINT.

OTHERWISE SHOWN.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS

DETAIL "C"

PROPOSED LATERAL
CONNECTION TO EXISTING SEWER
OF 30" (750) OR LARGER

#### NOTES

#### MATERIAL

MATERIAL USED FOR THE TEE OR WYE SECTION SHALL BE COMPATIBLE WITH THE EXISTING STORM SEWER OR THE PROPOSED STORM SEWER.

#### CONSTRUCTION METHODS

- I. THIS WORK SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE APPLICABLE PORTIONS OF SECTION 550 OF THE STANDARD SPECIFICATIONS.
- II. CONNECTION TO AN EXISTING STORM SEWER SHALL BE BY EITHER OF THE FOLLOWING METHODS: A) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 27" (675) OR SMALLER SEE DETAIL "A" AND "B".
  - B) PROPOSED STORM SEWER CONNECTION TO EXISTING SEWER OF 30" (750) OR LARGER SEE DETAIL "C".

IF THE EXISTING SEWER PIPE IS CRACKED, BROKEN OR OTHERWISE DAMAGED BY THE CONTRACTOR IN MAKING THE CIRCULAR OPENING, THE CONTRACTOR SHALL REPLACE THAT SECTION OF PIPE WITH PIPE EQUAL AND SIMILAR IN ALL RESPECTS TO THE PIPE IN THE EXISTING SEWER, IN A CAREFUL WORKMANLIKE MANNER, WITHOUT EXTRA COMPENSATION.

#### GENERAL

CARE MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE SEWER. ALL DEBRIS WHICH ENTERS THE SEWER MUST BE REMOVED. THE SEWER MUST BE LEFT CLEAN AND UNOBSTRUCTED UPON COMPLETION OF THE CONTRACT.

CARE MUST BE TAKEN TO PREVENT ANY PART OF THE NEW PIPE CONNECTION FROM PROJECTING INTO THE EXISTING SEWER.

#### BASIS OF PAYMENT

TEE OR WYE CONNECTIONS SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STORM SEWER TEE OR WYE OF THE TYPE AND SIZE SPECIFIED IN THE PLANS, THIS PRICE SHALL INCLUDE ALL EXCAVATION OF THE TRENCH, REMOVAL OF THE EXISTING STORM SEWER, FURNISHING AND INSTALLING THE SPECIFIED TEE OR WYE SECTION, FURNISHING AND INSTALLING THE REOUIRED CONCRETE COLLAR, AND ALL OTHER MATERIAL NECESSARY TO COMPLETE THIS WORK AS SHOWN AND SPECIFIED.

REMOVAL AND REINSTALLATION OF EXISTING STORM SEWER ADJACENT TO THE PROPOSED TEE OR WYE SECTION, FOR THE PURPOSE OF FACILITATING THE INSTALLATION OF THE TEE OR WYE SECTION, WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE WORK.

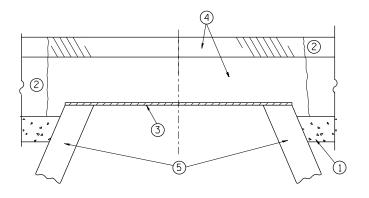
TRENCH BACKFILL, EXCAVATION IN ROCK AND REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL BELOW PLAN BEDDING GRADE WILL BE PAID FOR SEPARATELY.

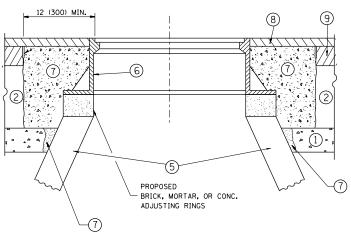
SCALE: NONE

CONCRETE COLLAR FOR CONNECTING A PROPOSED STORM SEWER TO AN EXISTING STORM SEWER
WILL NOT BE PAID PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF THE PROPOSED
STORM SEWER

FILE NAME =	USER NAME = Velichkovvv	DESIGNED - M. DE YONG	REVISED - M. DE YONG 05-08-92
pw:\\IL084EBIDINTEG.:111:no1s.gov:PWIDOT\Do	cuments\IDOT Offices\District 1\Projects\P113	RI <b>DROMBN</b> ata\Design\DistStd.dgn	REVISED - R. SHAH 09-09-94
	PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED - R. SHAH 10-25-94
	PLOT DATE = 10/11/2018	DATE - 07-25-90	REVISED - R. SHAH 06-12-96

	DETAIL OF STORM SEWER					SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CONNECTION TO EXISTING SEWER				351	2016-002N	COOK	333	296
						BD500-01 (BD-7)	CONTRACT	NO. 6	2007
	SHEET NO. 1 OF 1	SHEETS	STA.	TO STA.	FED. R	OAD DIST, NO. 1 ILLINOIS FED.	ID PROJECT		





EXISTING BROKEN FRAMES AND LIDS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AND SHALL BE REPLACED AS DIRECTED BY THE ENGINEER. REPLACEMENT FRAMES AND LIDS WILL BE PAID FOR IN ACCORDANCE WITH ARTICLE 109.04 OF THE STANDARD SPECIFICATIONS UNLESS A SEPARATE PAY ITEM HAS BEEN PROVIDED.

IF THE EXISTING LIDS ARE OPEN, THE FRAME WILL BE ADJUSTED TO THE ELEVATION OF THE MILLED PAVEMENT SURFACE PRIOR TO THE MILLING OPERATION. THE FRAME WILL NOT BE REMOVED AND COVERED BY THE METAL PLATE.

CITY OF CHICAGO CASTINGS ARE THE PROPERTY OF THE CITY AND THE CONTRACTOR SHALL NOTIFY THE CITY FOR REMOVAL AND DISPOSITION OF THE CASTINGS.

THE METAL PLATE USED TO COVER THE STRUCTURE SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.

WHEN STRUCTURES ARE TO BE ADJUSTED OR RECONSTRUCTED, THE LOWERING AND RAISING OF THE FRAMES AND LIDS WILL NOT BE PAID FOR SEPARATELY BUT WILL BE INCLUDED IN THE COST OF THE CORRESPONDING PAY ITEM.

SCALE: NONE

#### CONSTRUCTION PROCEDURES

#### STAGE 1 (BEFORE PAVEMENT MILLING)

- A) REMOVE A MINIMUM OF 12 (300) OF THE PAVEMENT FROM
- AROUND THE STRUCTURE.

  B) REMOVE THE EXISTING FRAME AND LID FROM THE STRUCTURE.
- C) COVER THE STRUCTURE OPENING WITH A 36 (900) DIAMETER METAL PLATE. D) BACKFILL WITH CRUSHED STONE AND A MINIMUM  $1\frac{1}{2}$  (40)
- THICK HMA SURFACE MIX APPROVED BY THE ENGINEER.

#### STAGE 2 (AFTER PAVEMENT MILLING)

- A) REMOVE THE HMA SURFACE MIX AND CRUSHED STONE.
- B) INSTALL THE FRAME AND LID; ADJUST THE FRAME TO ITS FINAL SURFACE ELEVATION.
- C) THE SURROUNDING SPACE SHALL BE FILLED WITH CLASS PP-1\* CONCRETE TO THE ELEVATION OF THE SURFACE OF THE EXISTING BASE COURSE OR THE BINDER COURSE.
- \* UNLESS OTHERWISE SPECIFIED IN THE PLANS.

THE PROCEDURE EXPLAINED ABOVE SHALL CONFORM TO THE APPLICABLE PORTIONS OF SECTIONS 353, 406, 602, AND 603 OF THE STANDARD SPECIFICATIONS EXCEPT THAT "THE CONTRACTOR SHALL ADJUST THE STRUCTURES TO THE FINISHED PAVEMENT ELEVATION NO MORE THAN 5 CALENDAR DAYS PRIOR TO PLACEMENT OF THE FINAL LIFT OF SURFACE UNLESS APPROVED BY THE

#### LEGEND

- 1 SUB-BASE GRANULAR MATERIAL
- (6) FRAME AND LID (SEE NOTES)
- 2 EXISTING PAVEMENT

(5) EXISTING STRUCTURE

- (7) CLASS PP-1\* CONCRETE
- 3 36 (900) DIAMETER METAL PLATE
- (8) PROPOSED HMA SURFACE COURSE
- PROPOSED CRUSHED STONE AND HMA SURFACE MIX
- (9) PROPOSED HMA BINDER COURSE

#### LOCATION OF STRUCTURES:

THE CONTRACTOR WILL BE REQUIRED TO KEEP A RECORD OF THE LOCATIONS OF THE BURIED STRUCTURES ACCORDING TO THE STATION AND DISTANCE LEFT OR RIGHT OF THE CENTERLINE OF PAVEMENT. UPON COMPLETION OF THE WORK. THE CONTRACTOR WILL DELIVER THE RECORD TO THE ENGINEER.

#### BASIS OF PAYMENT:

REMOVING FRAMES AND LIDS ON DRAINAGE AND UTILITY STRUCTURES IN THE PAVEMENT PRIOR TO MILLING, AND ADJUSTING TO FINAL GRADE PRIOR TO PLACING THE SURFACE COURSE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR "FRAMES AND LIDS TO BE ADJUSTED

THIS WORK WILL NOT BE PAID FOR WHEN DRAINAGE AND UTILITY STRUCTURES ARE SPECIFIED FOR PAYMENT AS STRUCTURE RECONSTRUCTION.

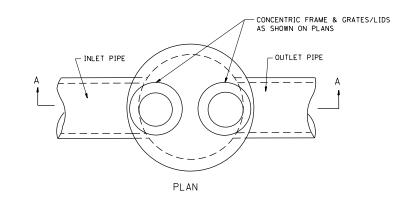
NEW FRAMES AND LIDS, WHEN SPECIFIED, WILL BE PAID FOR SEPARATELY.

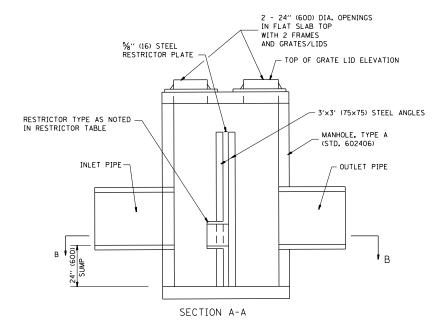
#### DETAILS FOR FRAMES AND LIDS ADJUSTMENT WITH MILLING

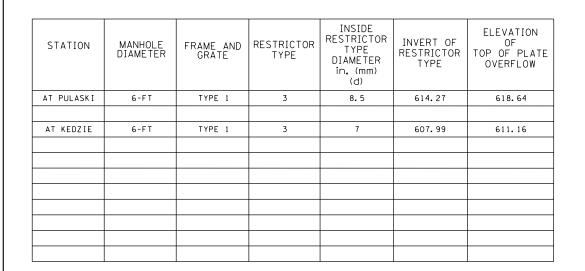
ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN

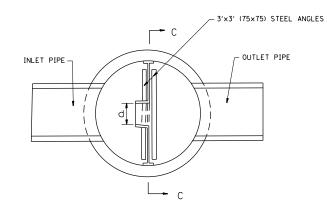
FILE NAME =	USER NAME = Velichkovvv	DESIGNED - R. SHAH	REVISED - R. WIEDEMAN 05-14-04
pw:\\ILØ84EBIDINTEG.:ll:no:s.gov:PWIDOT\Do	cuments\IDOT Offices\District 1\Projects\P113	引 <b>りRCAW N</b> eta \ Design \ DistStd.dgn	REVISED - R. BORO 01-01-07
	PLOT SCALE = 100.0000 '/ in.	CHECKED -	REVISED - R. BORO 03-09-11
	PLOT DATE = 10/11/2018	DATE - 10-25-94	REVISED - R. BORO 12-06-11

DETAILS FOR					F.A.P. RTE.	SECTION	COUNTY TOTA			
	FRAMES AND LIDS ADJUSTMENT WITH MILLING				351	2016-002N	соок	333	297	
	FRANCES AND LIDS ADJUSTIMENT WITH MILLING					BD600-03 (BD-8)	CONTRACT	NO. (	62C07	
	SHEET NO. 1 OF 1	SHEETS	STA.	TO STA.	FED. R	OAD DIST. NO. 1   ILLINOIS FED. A	D PROJECT			

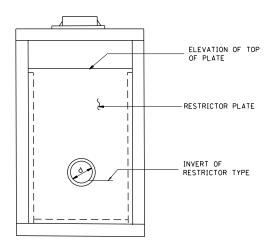




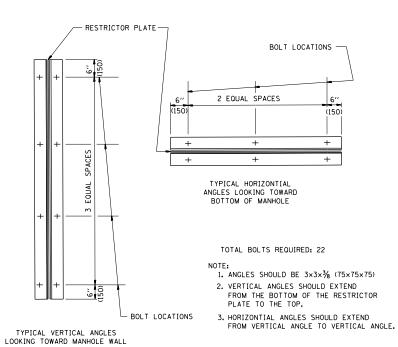


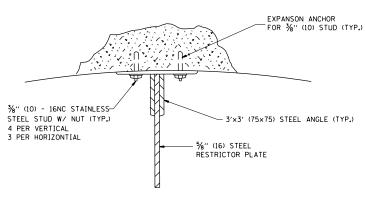


SECTION B-B



SECTION C-C

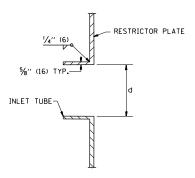




ANGLE FASTENER DETAIL

#### NOTES:

- 1. ALL STEEL ANGLES AND PLATES TO BE GALVANIZED AFTER FABRICATION.
- 2. ALL RESTRICTOR PLATES, ANGLES AND HARDWARE TO BE INCLUDED IN THE COST OF THE MANHOLE.
- 3. BASIS OF PAYMENT: "MANHOLES TYPE A, 6 FT. (1.8 m)-DIAMETER, TYPE 1 FRAME, CLOSED LID, RESTRICTOR PLATE" EACH



INLET TUBE DETAIL

RESTRICTOR TYPE										
1	2	3	4	5	6					
RE-ENTRANT TUBE	SHARP EDGED	SQUARE EDGED	RE-ENTRANT TUBE	SQUARE EDGED	ROUNDED					
LENGTH: 1/2 TO 1 DIA.		STREAM CLEARS SIDES	LENGTH: 2-1/2 DIA.	LENGTH: 2-1/2 DIA.						
C=.52	C=.61	C=.61	C=.73	C=.82	C=.98					

VALUES OF "C" FOR CIRCULAR AND SQUARE ORIFICES

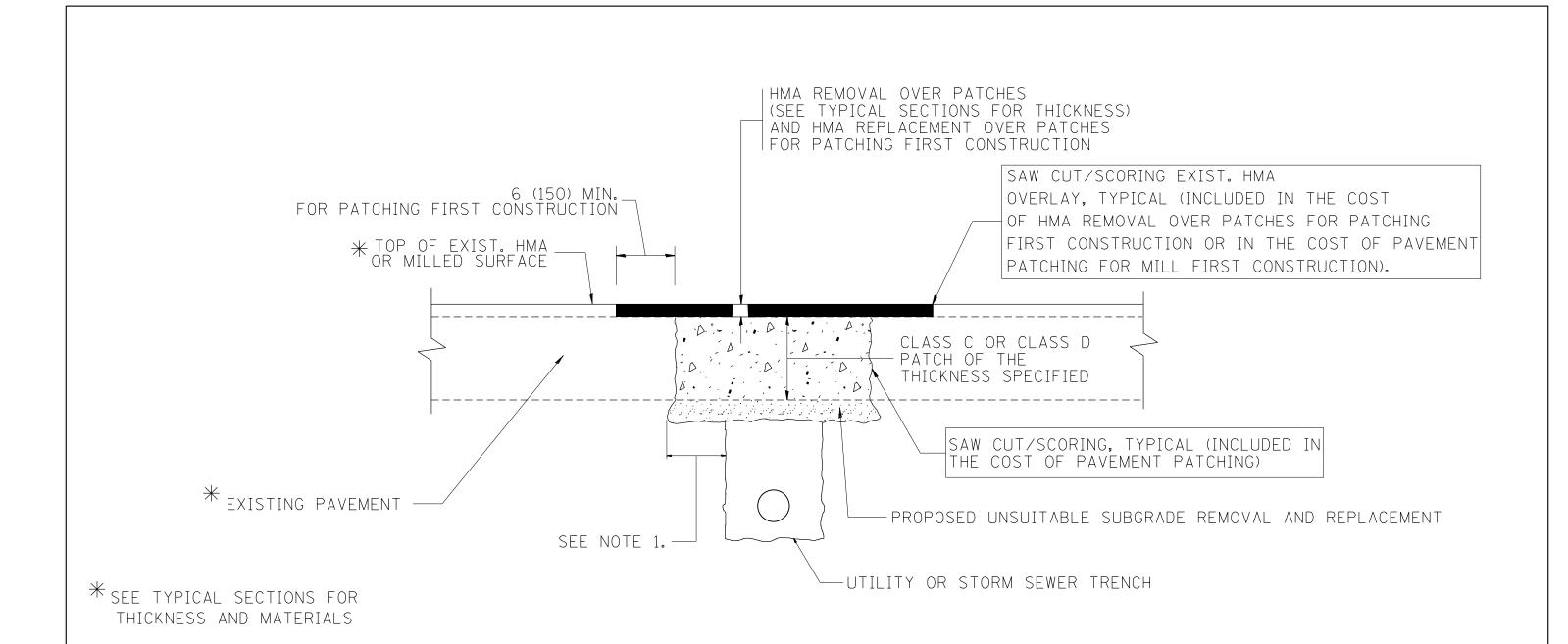
#### STEEL ANGLE BOLTING DETAILS

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

FILE NAME =	USER NAME = Velichkovvv	DESIGNED - R. SHAH	REVISED -	R. SHAH 10-25-94
pw:\\IL084EBIDINTEG.:ll:no:s.gov:PWIDOT\Do	cuments\IDOT Offices\District 1\Projects\P113	11 <b>2 RCAW N</b> ata\Design\DistStd.dgn	REVISED -	E. GOMEZ 08-28-00
	PLOT SCALE = 100.0000 '/ in.	CHECKED -	REVISED -	M. GOMEZ 01-08-01
	PLOT DATE = 10/11/2018	DATE - 09-09-94	REVISED -	

STATE OF ILLINOIS							
DEPARTMENT OF	TRANSPORTATION						

	MANHOLE WITH RESTRICTOR PLATE					F.A.P. SECTION			COUNTY	TOTAL SHEET SHEETS NO.		
						351	2016-	002N	COOK	333	298	
						В	D600-04	(BD-12)	CONTRACT	NO.	62C07	
	SCALE: NONE	SHEET NO. 1 OF 1	SHEETS	STA.	TO STA.	FED. ROAD DIST. NO. 1   ILLINOIS   FED. AID PROJECT						



#### NOTES:

- 1. THE WIDTH OF THE FULL DEPTH PATCH OVER A TRENCH SHALL BE 12 (300) WIDER ON EACH SIDE OF THE TRENCH.
- 2. FOR METHOD OF MEASUREMENT AND BASIS OF PAYMENT, SEE RECURRING SPECIAL PROVISION "PATCHING WITH HOT-MIX ASPHALT OVERLAY REMOVAL".

#### SEQUENCE OF CONSTRUCTION (PATCHING FIRST)

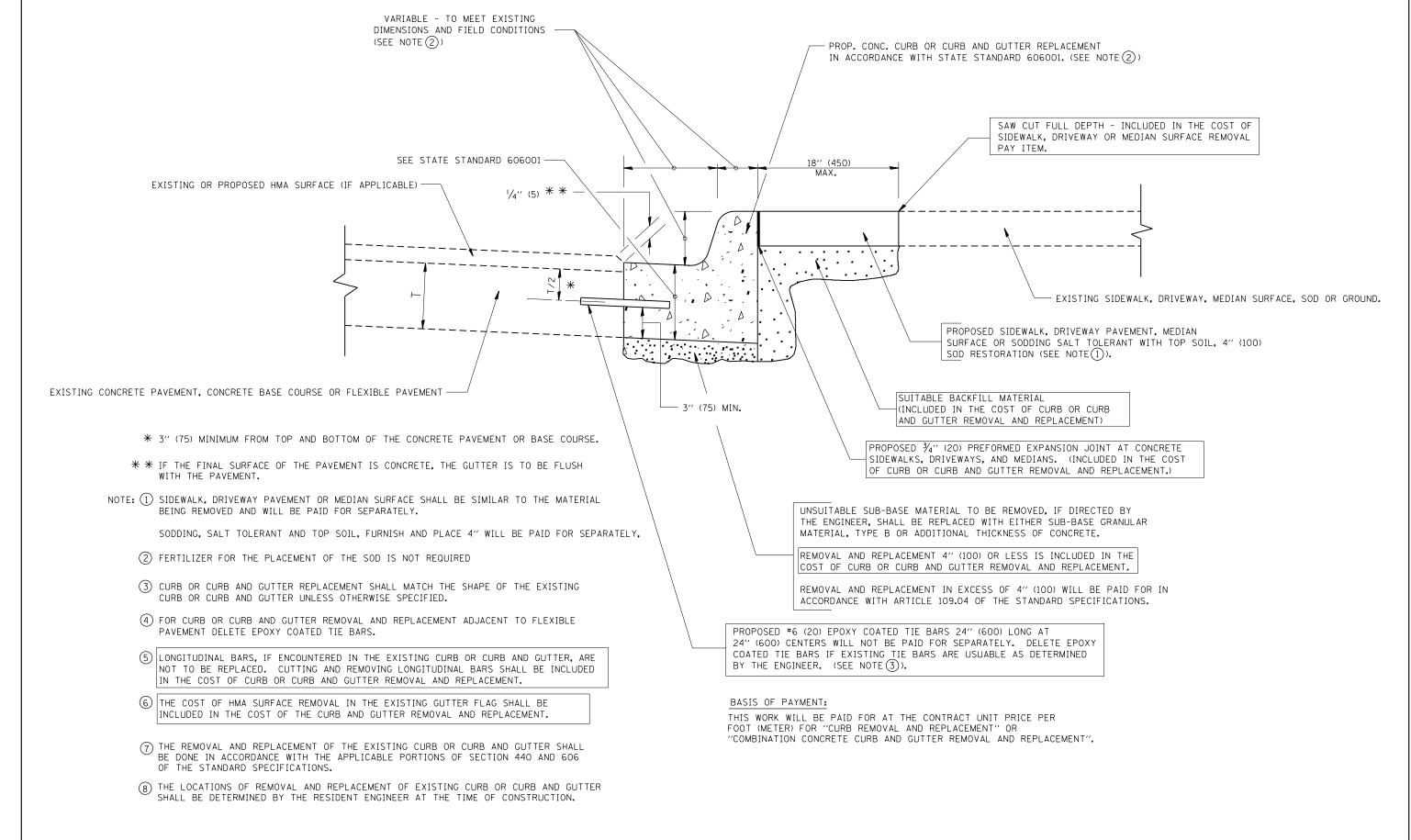
- 1. REMOVE THE EXISTING HMA MATERIAL OVER THE AREA TO BE PATCHED.
- 2. REMOVE AND REPLACE WITH CLASS C OR D PATCH.
- 3. REPLACE HMA MATERIAL OVER THE AREA TO BE PATCHED.

#### SEQUENCE OF CONSTRUCTION (MILLING FIRST)

- 1. MILL HMA FIRST IF THERE IS AT LEAST 41/2 INCHES OR MORE OF HMA MATERIAL ON TOP OF THE EXISTING PAVEMENT OR IF THE PAVEMENT IS FULL DEPTH HMA. A MINIMUM OF 2 INCHES OF HMA MATERIAL SHALL BE IN PLACE AFTER MILLING.
- 2. REMOVE AND REPLACE WITH FULL DEPTH CLASS D PATCHES TO TOP OF MILLED SURFACE.

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

F	FILE NAME =	USER NAME = Velichkovvv	DESIGNED - R. SHAH	REVISED -	A. ABBAS 04-27-98			PAVEMENT PATCHING FOR		F.A.P.	SECTION	COUNTY	TOTAL S	SHEET
F	pw:\\IL084EBIDINTEG.:ll:no:s.gov:PWIDOT\Do	cuments\IDOT Offices\District 1\Projects\P113	31 <b>DRAWN</b> eta\Design\DistStd.dgn	REVISED -	R. BORO 01-01-07	STATE OF ILLINOIS				351	2016-002N	соок	333	299
		PLOT SCALE = 100.0000 ' / in.	CHECKED -	REVISED -	R. BORO 09-04-07	DEPARTMENT OF TRANSPORTATION	HMA SURFACED PAVEMENT		BD	400-04 (BD-22)	CONTRACT	NO. 62	2C07	
		PLOT DATE = 10/11/2018	DATE - 10-25-94	REVISED -	K. ENG 10-27-08		SCALE: NONE	SHEET NO. 1 OF 1 SHEETS STA.	TO STA.	FED. ROAD	DICT NO 1 THE INDICE OF AT			



## CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT

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

FILE NAME =	USER NAME = Velichkovvv	DESIGNED - A. HOUSEH	REVISED -	R. SHAH 10-03-96
pw:\\ILØ84EBIDINTEG.:111:no:s.gov:PWIDOT\Do	cuments\IDOT Offices\District 1\Projects\P113	11 <b>2 RCAW N</b> ata\Design\DistStd.dgn	REVISED -	A. ABBAS 03-21-97
	PLOT SCALE = 100.0000 '/ in.	CHECKED -	REVISED -	M. GOMEZ 01-22-01
	PLOT DATE = 10/11/2018	DATE - 03-11-94	REVISED -	R. BORO 12-15-09

CURB OR CURB AND GUTTER REMOVAL AND REPLACEMENT					SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
					2016-002N	COOK	333	300	
	REINIOVAL AND REPLACEMENT					CONTRACT	NO. 6	52C07	
SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	FED. RO	FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				