

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(S) L-1	SANGAMON	9	1
		ILLINOIS	CONTRACT NO. 72G04	

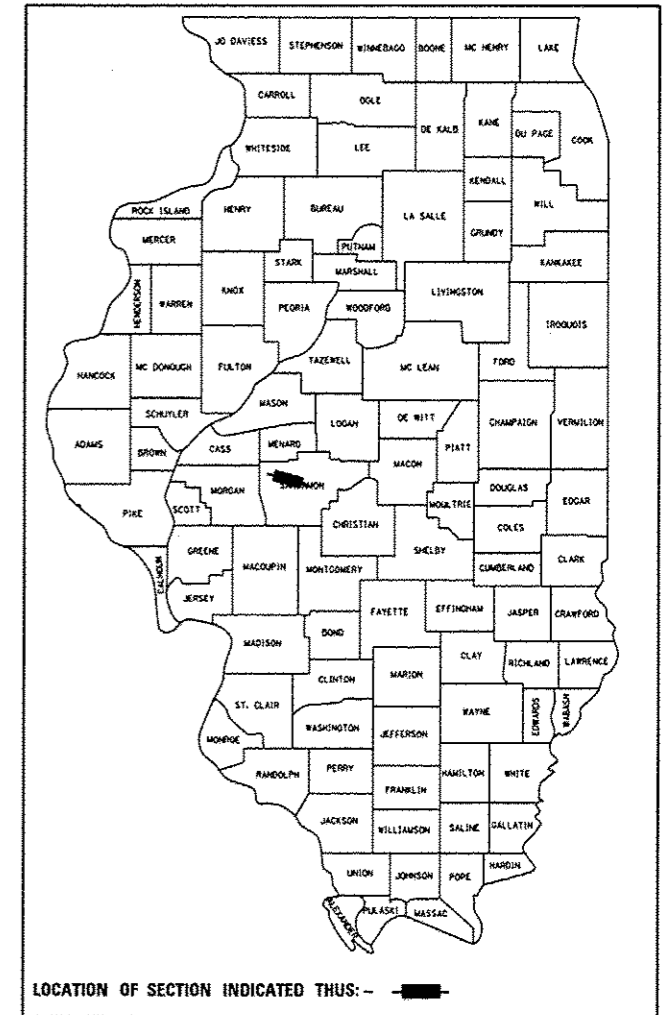
**INDEX OF SHEETS**

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2	GENERAL NOTES
3	SUMMARY OF QUANTITIES
4-7	PLAN SHEETS
8	LUMINAIRE PERFORMANCE TABLE
9	PLAN DETAILS

# PROPOSED HIGHWAY PLANS

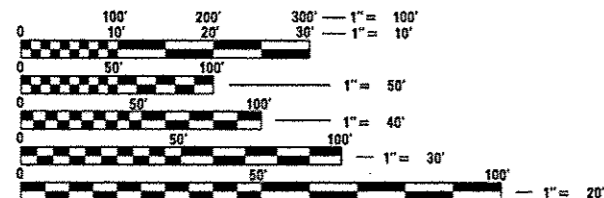
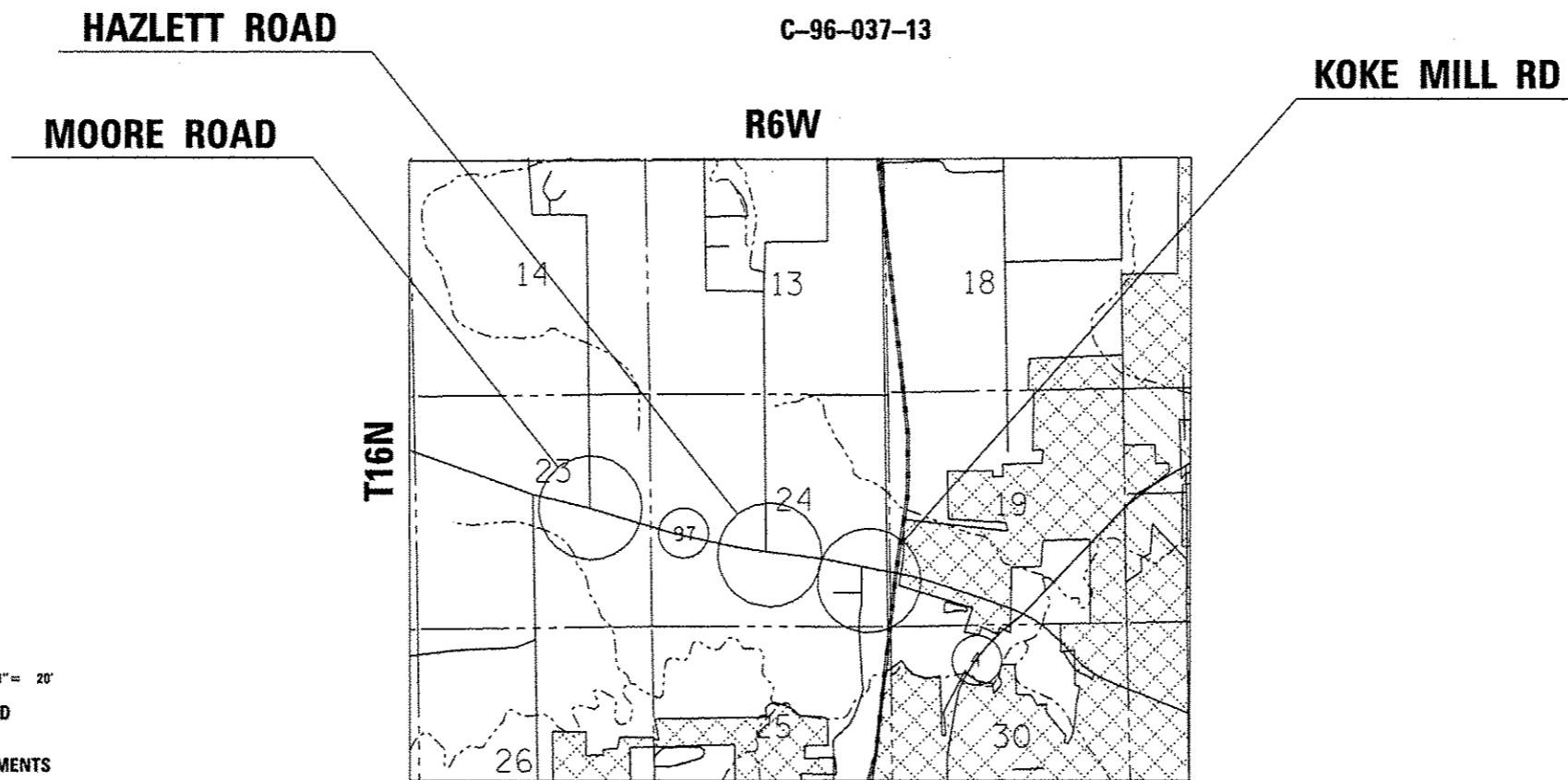
FAP ROUTE 67 (IL 97)  
SECTION (S) L-1  
PROJECT HSIP-0067(084)  
ADDITION OF OVERHEAD LIGHTING  
SANGAMON COUNTY

D-96-037-13



**STANDARDS**

- 000001-06
- 001006
- 701011-03
- 701001-02
- 701006-04
- 701301-04
- 701901-02
- 825001-01
- 830006-01
- 836001-02



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

J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123  
OR 811

PROJECT ENGINEER: JEFF MYERS (217)782-4761  
PROJECT MANAGER: KEITH DONOVAN (217)557-6349

GROSS LENGTH = 6185 FT. = 1.17 MILE  
NET LENGTH = 6185 FT. = 1.17 MILE

CONTRACT NO. 72G04

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED MAR 15 20 13  
Raja Z. Osman  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

April 26 20 13  
John D. Baramzelli, P.E.  
ENGINEER OF DESIGN AND ENVIRONMENT

April 26 20 13  
Osman Osman, P.E.  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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**GENERAL NOTES:**

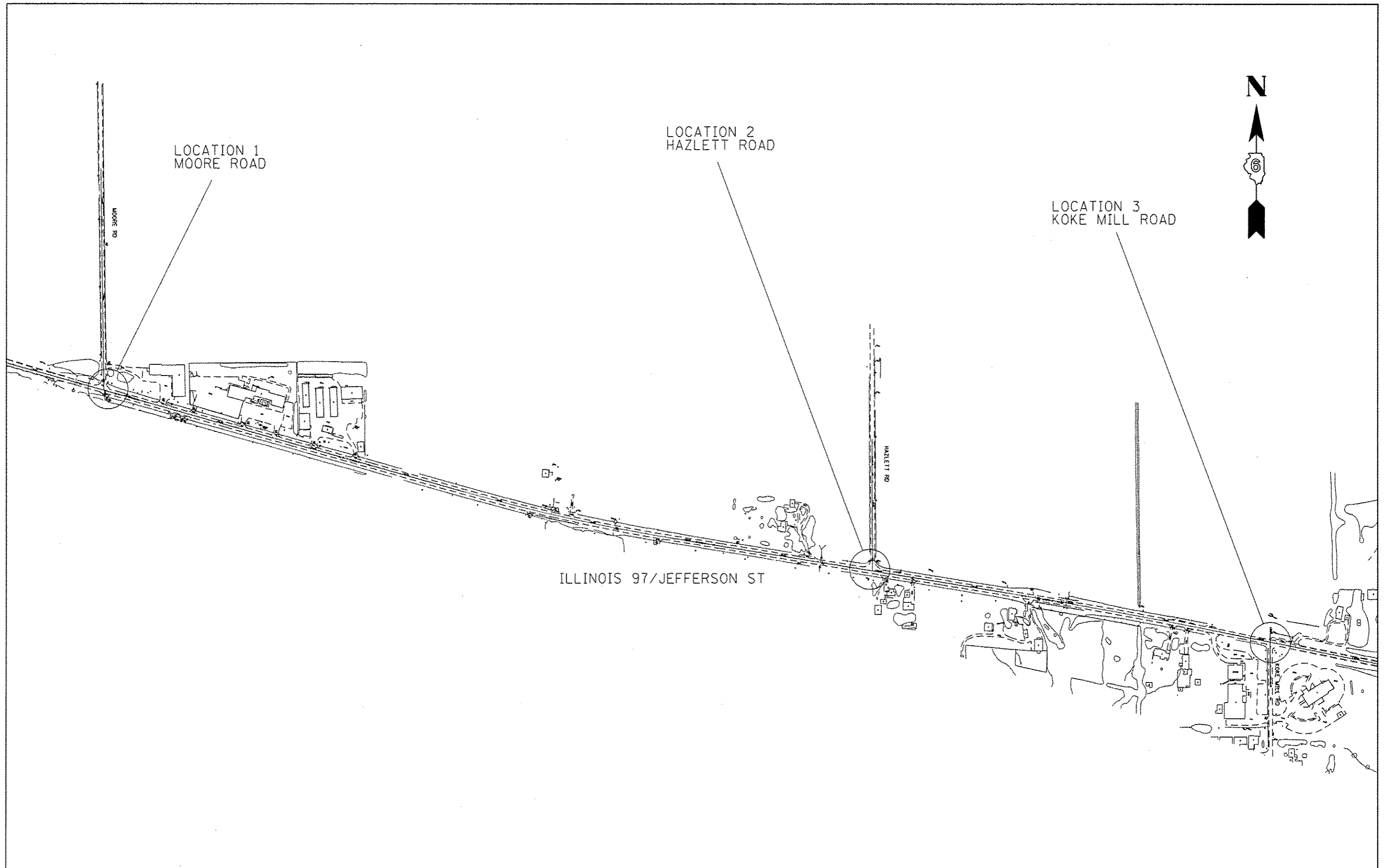
1. ALL PROPOSED LIGHTING UNITS SHALL BE LABELED ACCORDING TO THE STANDARD SPECIFICATIONS, WITH POLE NUMBERS ATTACHED WITH STAINLESS STEEL BANDING. LIGHTING UNIT NUMBERING SHALL BE AS DIRECTED BY THE ENGINEER.
2. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ELECTRICAL WORK WITH OTHER TRADES.
3. LIGHT POLE FOUNDATIONS SHALL BE INSTALLED PLUMB AND FLUSH WITH THE PROPOSED GRADE AND SHALL MEET THE HEIGHT REQUIREMENTS OF ARTICLE 836.03 OF THE STANDARD SPECIFICATIONS. AFTER UNIT DUCT IS INSTALLED, FOUNDATIONS SHALL BE FILLED WITH FINE AGGREGATE ACCORDING TO ARTICLE 836.03. WASHERS USED TO INSTALL THE POLE SHALL BE LARGE ENOUGH TO FULLY COVER THE SLOTTED HOLES IN THE POLE BASE PLATE. **THE VOIDS ON THE BOTTOM SIDE OF THE ALUMINUM POLE MUST BE SEALED FROM RODENT ENTRY WITH STAINLESS STEEL SCREEN.**
4. CONTRACTOR SHALL INSTALL LIGHT POLES AT THE LOCATIONS INDICATED ON THE PLANS, MAINTAINING ADEQUATE CLEARANCE FROM UTILITY LINES. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY CLEARANCES PER THE NATIONAL ELECTRICAL SAFETY CODE AND/OR THE REQUIREMENTS OF THE UTILITY COMPANIES. THE LOCATION OF BURIED AND ABOVE GROUND UTILITIES SHOWN ARE APPROXIMATE AND ARE SHOWN FOR INFORMATION ONLY. REROUTING, DISCONNECTION, RELOCATION, PROTECTION ETC., OF ANY UTILITIES MUST BE COORDINATED BETWEEN THE CONTRACTOR, UTILITY COMPANY, AND OWNER. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY. THE COST OF THIS WORK IS TO BE INCLUDED WITH THE "UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 2 1/2" DIA." AND "UNIT DUCT, 600V, 2-1C NO.8, 1/C NO.8 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE" PAY ITEMS, AS APPLICABLE.
6. THE CONTRACTOR SHALL PROVIDE AND INSTALL A CONCRETE WORK PAD IN FRONT OF THE LIGHTING CONTROLLER PER SECTION 825 OF THE STANDARD SPECIFICATIONS.
7. INSTALL HORIZONTAL MOUNT LUMINAIRES PERPENDICULAR TO THE CENTERLINE OF THE ROADWAY AS REQUIRED BY ARTICLE 821.04 OF THE STANDARD SPECIFICATIONS.
8. UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 2 1/2" DIA. SHALL BE SCHEDULE 80 AS NOTED IN THE PLANS.
9. NO POLE TO BE INSTALLED IN THE FLOWLINE OF DITCH. POLE SETBACK TO BE INCREASED IF NECESSARY AS DIRECTED BY THE ENGINEER.
10. UNDERGROUND CONDUIT WILL BE BORED AND PULLED UNDER THE SIDE ROADS ACCORDING TO ARTICLE 810.04. PATCHES WILL NOT BE ALLOWED.

**COMMITMENTS:**

1. THE FIELD/RESIDENT ENGINEER SHALL CONTACT STUDIES AND PLANS COVERING ANY MAJOR PLAN CHANGES TO MAKE SURE NO PREVIOUS COMMITMENTS (NOT LISTED) WERE MADE AFFECTING THE DESIGN, AND TO ALLOW IMPROVED DESIGN FOR THE FUTURE.

DISTRICT SIX	
EXAMINED <u>3/5</u>	20 <u>13</u>
<i>Bill Ryan</i>	
OPERATIONS ENGINEER	
EXAMINED <u>MARCH 5, 2013</u>	20 _____
<i>Jerry L. [Signature]</i>	
PROJECT IMPLEMENTATION ENGINEER	
EXAMINED <u>March 13;</u>	20 <u>13</u>
<i>ARMU</i>	
PROGRAM DEVELOPMENT ENGINEER	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE
				90% FED 10% STATE HSIP ROADWAY 0021
67100100	MOBILIZATION	L SUM	1	1
80400100	ELECTRIC SERVICE INSTALLATION	EACH	3	3
81028760	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 2 1/2" DIA.	FOOT	85	85
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	243	243
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	4	4
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	3	3
83003600	LIGHT POLE, ALUMINUM, 45 FT. M. H., 15 FT. DAVIT ARM	EACH	4	4
83600355	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 6'	EACH	4	4
83800650	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN	EACH	16	16

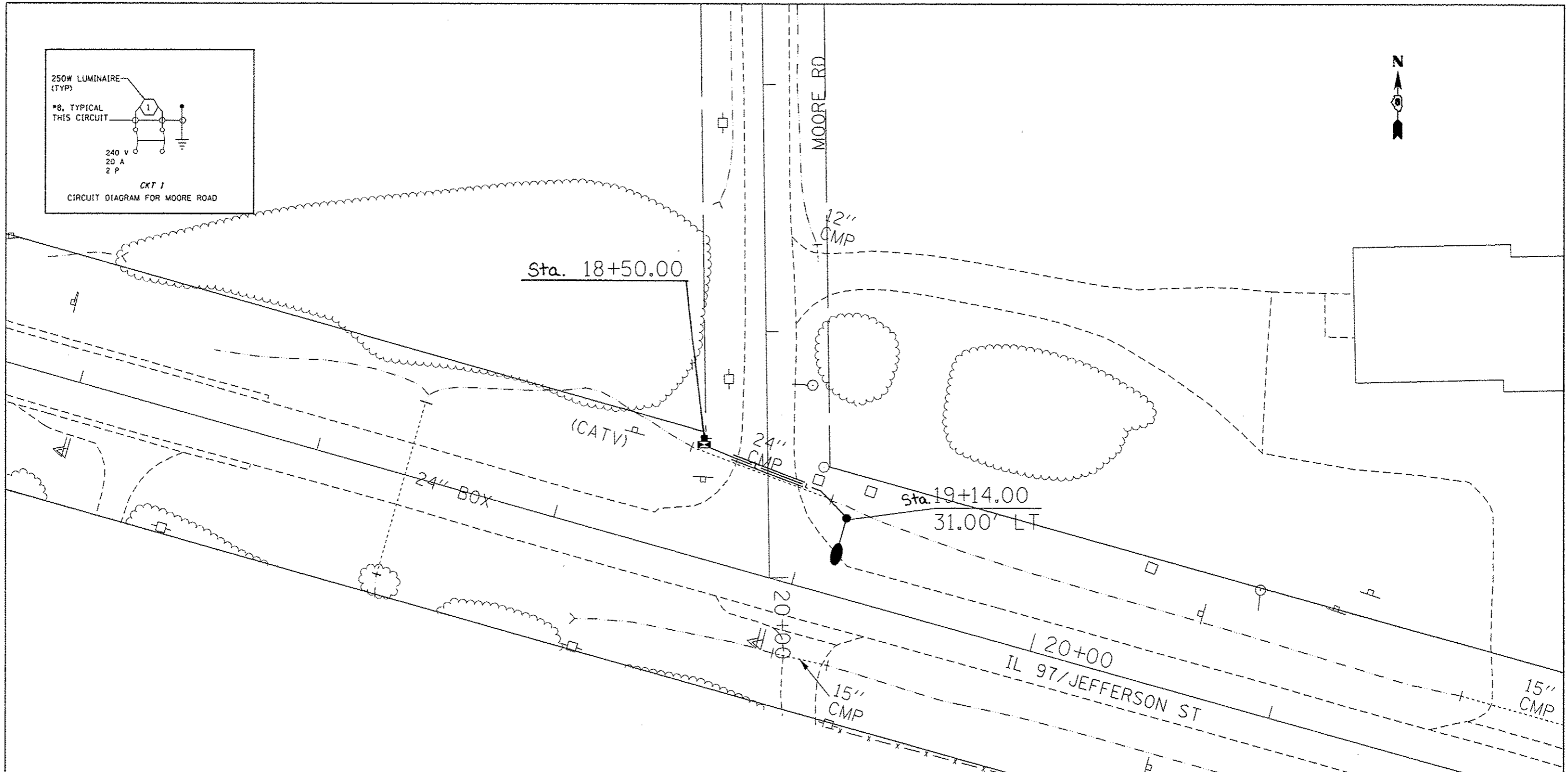
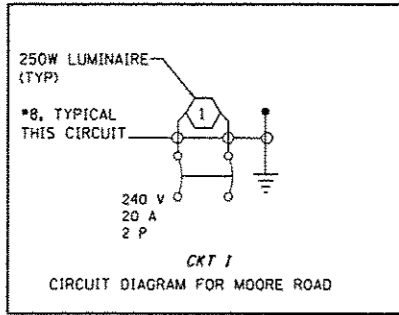


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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

<b>PLAN SHEET</b>			
SCALE:	SHEET	OF	SHEETS
	STA.		TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(S) L-1	SANGAMON	9	4
			72G04	
ILLINOIS FED. AID PROJECT				



**LEGEND**

- LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM WITH 250 WATT HORIZONTAL MOUNT LUMINAIRE, WITH BREAKAWAY COUPLINGS
- ELECTRIC SERVICE INSTALLATION, 120/240V, 1 PHASE, 4 WIRE
- PROPOSED LIGHTING CONTROLLER, POLE MOUNTED, 240 VOLT, 30 AMP
- PROPOSED UNIT DUCT, 600 V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE
- UNDERGROUND CONDUIT, COILABLE NON-METALLIC CONDUIT, 2 1/2" DIA. (SCH.80)

**BILL OF MATERIALS - THIS SHEET**

PAY ITEM	DESCRIPTION	UNIT	QUANTITY
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1
81028760	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 2 1/2" DIA.	FOOT	31
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA.	FOOT	78
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	1
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1
83003600	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM	EACH	1
83600355	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 6'	EACH	1
83800650	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN	EACH	4

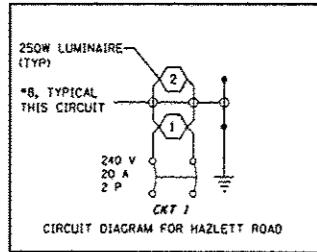
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

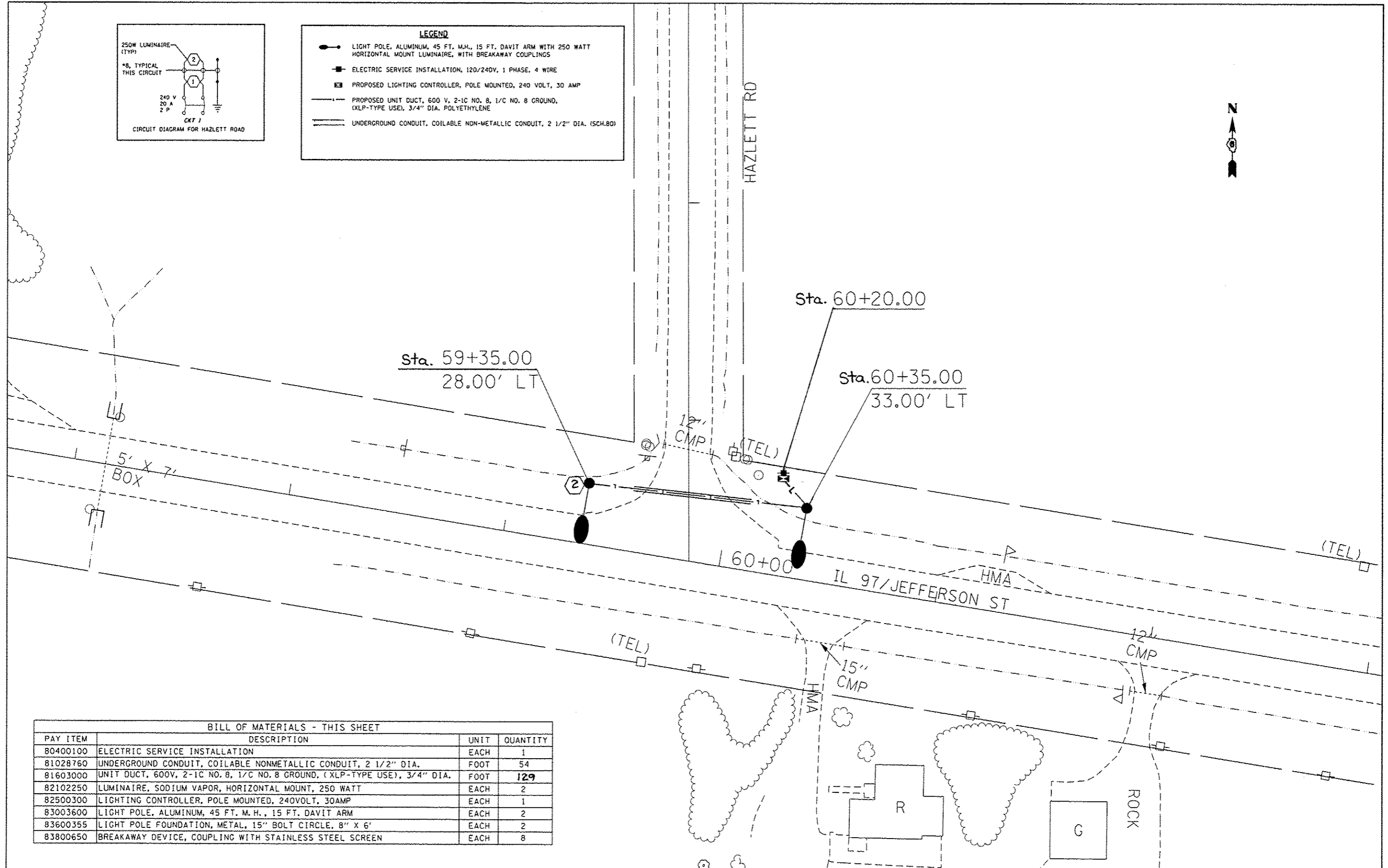
**PLAN SHEET - MOORE ROAD**

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(S) L-1	SANGAMON	9	5
CONTRACT NO. 72G04			ILLINOIS FED. AID PROJECT	



LEGEND	
	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM WITH 250 WATT HORIZONTAL MOUNT LUMINAIRE, WITH BREAKAWAY COUPLINGS
	ELECTRIC SERVICE INSTALLATION, 120/240V, 1 PHASE, 4 WIRE
	PROPOSED LIGHTING CONTROLLER, POLE MOUNTED, 240 VOLT, 30 AMP
	PROPOSED UNIT DUCT, 600 V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE
	UNDERGROUND CONDUIT, COILABLE NON-METALLIC CONDUIT, 2 1/2" DIA. (SCH.80)



BILL OF MATERIALS - THIS SHEET			
PAY ITEM	DESCRIPTION	UNIT	QUANTITY
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1
81028760	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 2 1/2" DIA.	FOOT	54
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA.	FOOT	129
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	2
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1
83003600	LIGHT POLE, ALUMINUM, 45 FT. M. H., 15 FT. DAVIT ARM	EACH	2
83600355	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 6"	EACH	2
83800650	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN	EACH	8

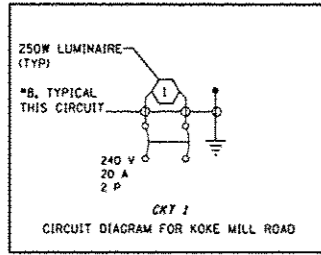
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**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN SHEET - HAZLETT ROAD**

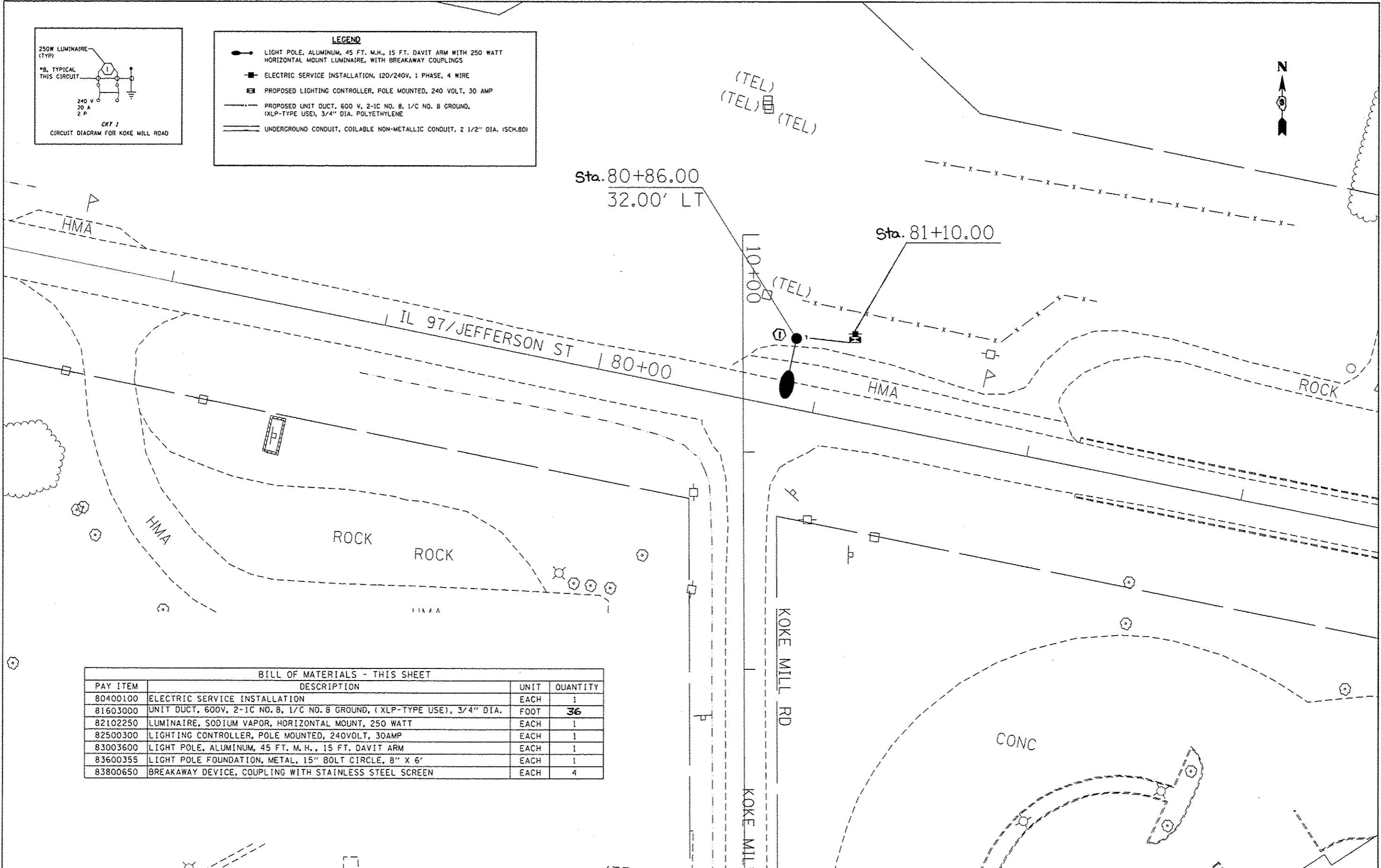
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(S) L-1	SANGAMON	9	6
CONTRACT NO. 72004				
ILLINOIS FED. AID PROJECT				



**LEGEND**

- LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM WITH 250 WATT HORIZONTAL MOUNT LUMINAIRE, WITH BREAKAWAY COUPLINGS
- ELECTRIC SERVICE INSTALLATION, 120/240V, 1 PHASE, 4 WIRE
- PROPOSED LIGHTING CONTROLLER, POLE MOUNTED, 240 VOLT, 30 AMP
- — — PROPOSED UNIT DUCT, 600 V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE
- — — UNDERGROUND CONDUIT, COILABLE NON-METALLIC CONDUIT, 2 1/2" DIA. (SCH.80)



**BILL OF MATERIALS - THIS SHEET**

PAY ITEM	DESCRIPTION	UNIT	QUANTITY
80400100	ELECTRIC SERVICE INSTALLATION	EACH	1
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA.	FOOT	36
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	1
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1
83003600	LIGHT POLE, ALUMINUM, 45 FT. M. H., 15 FT. DAVIT ARM	EACH	1
83600355	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 6"	EACH	1
83800650	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN	EACH	4

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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**PLAN SHEET - KOKE MILL ROAD**

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
67	(S) L-1	SANGAMON	9	7
CONTRACT NO. 72G04				
ILLINOIS FED. AID PROJECT				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
250W LUMINAIRE PERFORMANCE TABLE

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	24 FT.
	Number Of Lanes (In Direction of Travel)	2
	Median Width	N/A
	IES Surface Classification	R3
	Q-Zero Value	.07
LIGHT POLE DATA:	Mounting Height	45 FT.
	Mast Arm Length	N/A
	Pole Set-Back From Edge Of Pavement	15 FT.
LUMINAIRE DATA:	Lamp Type	HPS
	Lamp Lumens	28500
	IES Vertical Distribution	M
	IES Control Of Distribution	FC
	IES Lateral Distribution	3
	Total Light Loss Factor	0.684
LAYOUT DATA:	Spacing	160 FT.
	Configuration	Single SIDE
	Luminaire Overhang Over Edge Of Pavement Lane	0 FT.

NOTE: Variations from the above specified IES distribution pattern may be requested and acceptance of variations will be subject to review by the Engineer based on how well the performance requirements are met.

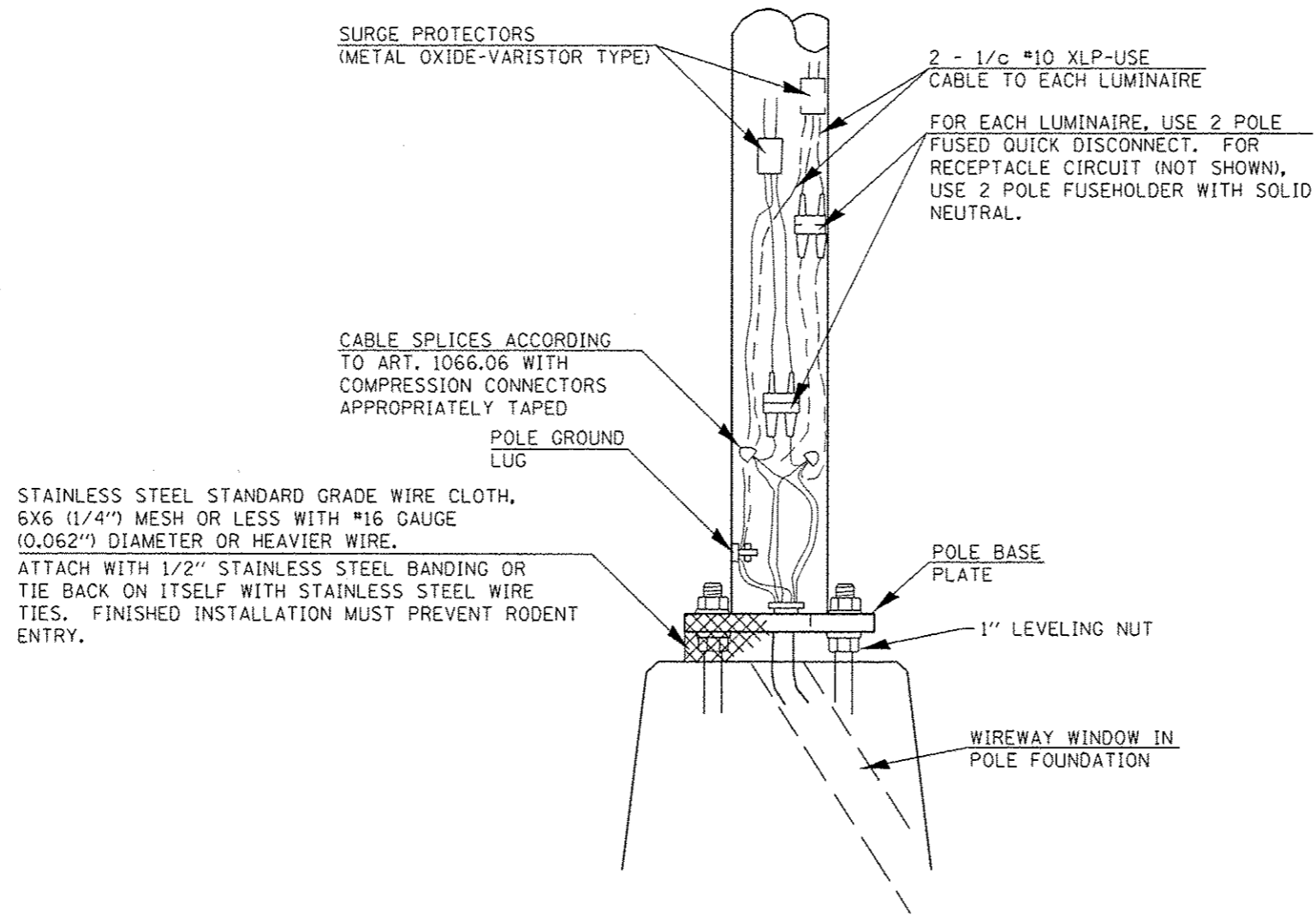
PERFORMANCE REQUIREMENTS

NOTE: These performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions listed above.

ILLUMINATION:	Average Horizontal Illumination, ( $E_{Ave}$ )	0.9 Fc
	Uniformity Ratio, ( $E_{Ave}/E_{Min}$ )	3.0
LUMINANCE:	Average Luminance: ( $L_{Ave}$ )	0.6 Cd/m <sup>2</sup>
	Uniformity Ratios: ( $L_{Ave}/L_{Min}$ )	3.5
	( $L_{Max}/L_{Min}$ )	6.0
	Maximum Veiling Luminance Ratio: ( $L_v/L_{Ave}$ )	0.30

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STAINLESS STEEL STANDARD GRADE WIRE CLOTH, 6X6 (1/4") MESH OR LESS WITH #16 GAUGE (0.062") DIAMETER OR HEAVIER WIRE. ATTACH WITH 1/2" STAINLESS STEEL BANDING OR TIE BACK ON ITSELF WITH STAINLESS STEEL WIRE TIES. FINISHED INSTALLATION MUST PREVENT RODENT ENTRY.

## WIRING DETAIL

(NO SCALE)

### GENERAL NOTES

ALL TAPED SPLICES SHALL USE 2 LAYERS OF ELECTRICAL TAPE OVER 3 LAYERS OF RUBBER TAPE AS REQUIRED BY THE STANDARD SPECIFICATIONS. COAT THE FINISHED TAPED SPLICE WITH BONDING COMPOUND.

ALL CABLE SPLICES SHALL BE TAPED UNLESS ANOTHER METHOD HAS BEEN SPECIFICALLY APPROVED BY THE ENGINEER.

FOR EXAMPLE PURPOSES, THE POLE IS SHOWN ON AN ANCHOR BASE. IF THE POLE IS REQUIRED TO BE SET ON A BREAKWAY BASE, CONSULT THE STANDARD SPECIFICATIONS.

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

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