

03-08-13 LETTING ITEM 021

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

FAP ROUTE 75 (IL 29)
SECTION (6) L
PROJECT HSIP-0075 (157)
ADDITION OF OVERHEAD LIGHTING
SANGAMON COUNTY
C-96-046-12

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
75	(6) L	SANGAMON	7	1
ILLINOIS			CONTRACT NO.	72F31

* 7+1=8

D-96-046-12



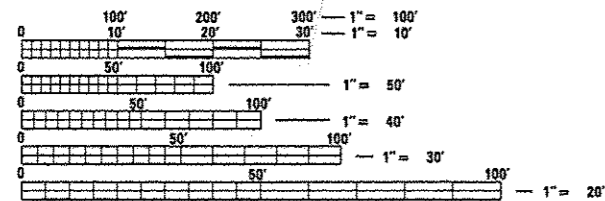
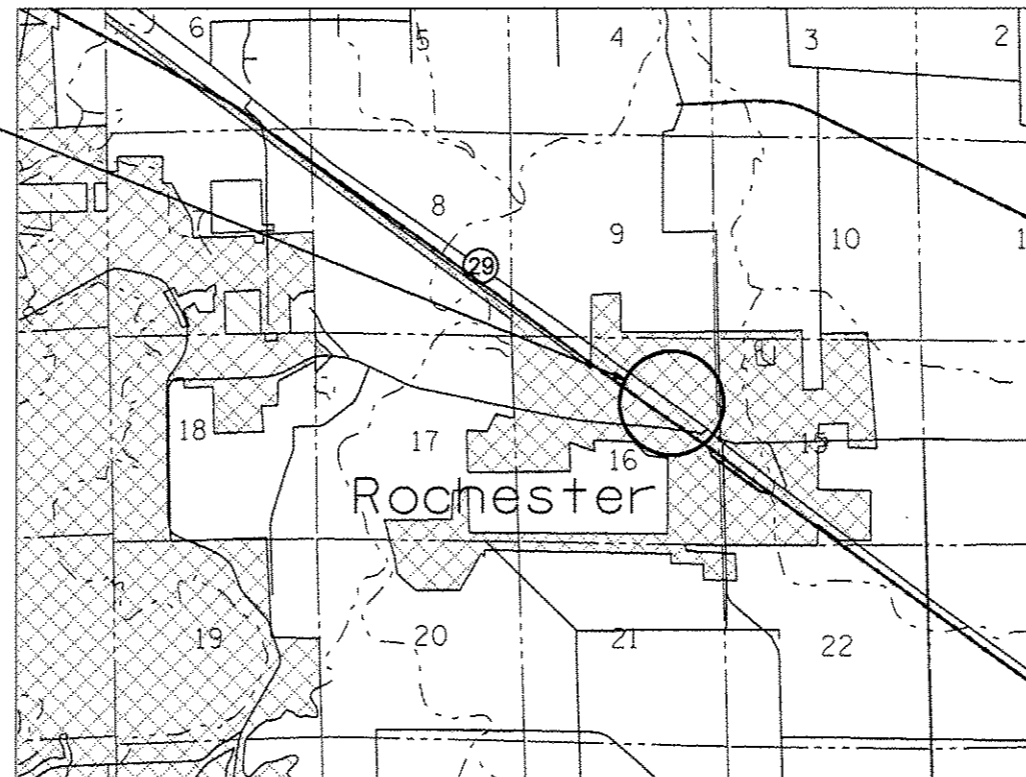
INDEX OF SHEETS

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- 2 GENERAL NOTES
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- 4-5 PLAN SHEETS
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STANDARDS

- 000001-06
- 001006
- 701101-03
- 701106-02
- 701421-05
- 701701-08
- 701901-02
- 825001-01
- 830006-01
- 836001-02

PROJECT LOCATION



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: GARY TURNER (217) 524-0946

GROSS LENGTH = 2215.37 FT. = 0.42 MILE
NET LENGTH = 2215.37 FT. = 0.42 MILE

CONTRACT NO. 72F31

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Dec 14 20 12
Roy Z. Dinkley
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Feb 1 20 13
John D. Baranzelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Feb 1 20 13
Chris Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

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.
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.
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.

COMMITMENTS:

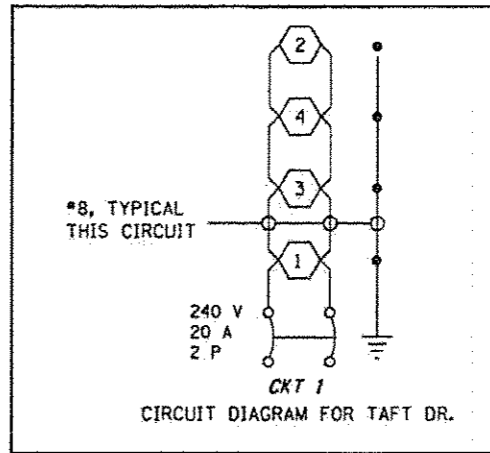
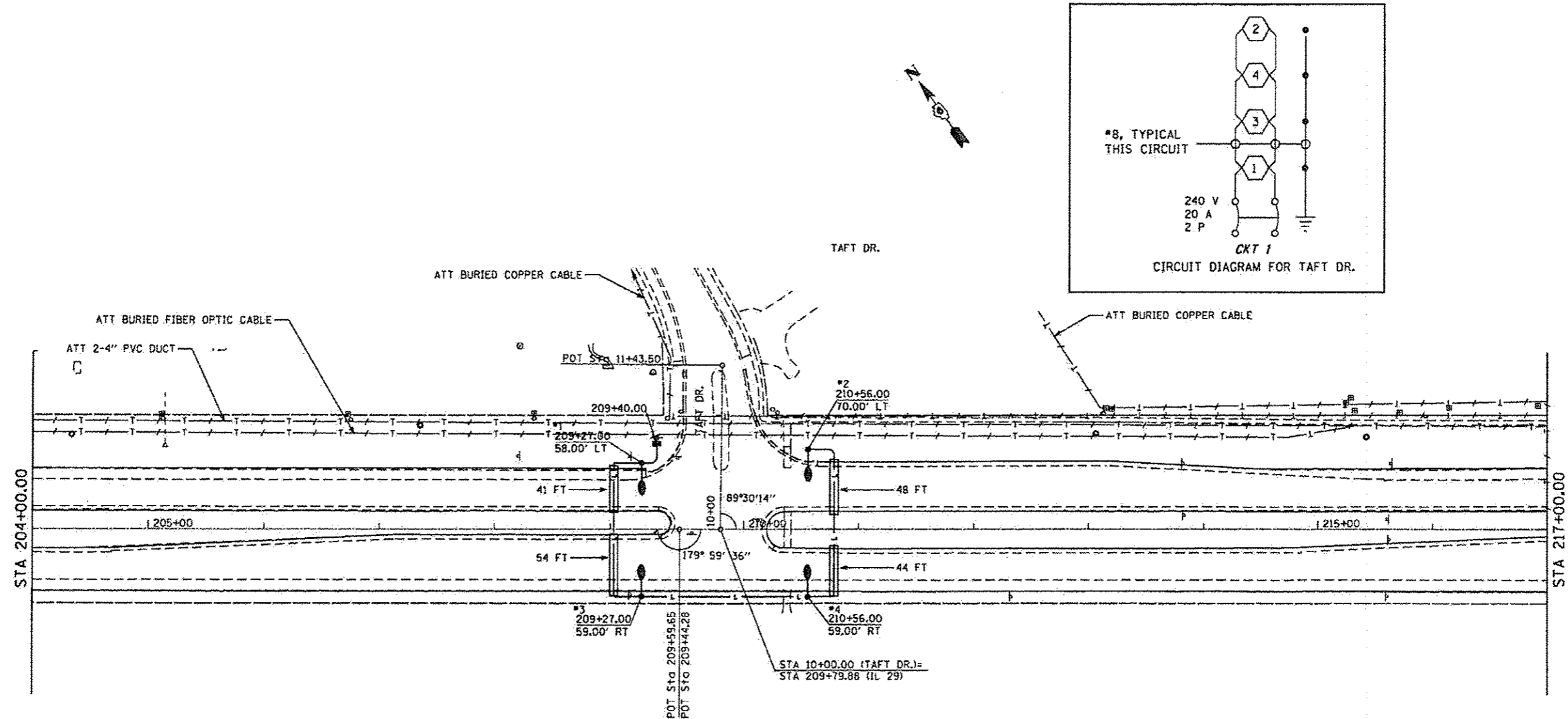
1. THE FIELD/RESIDENT ENGINEER SHALL CONTACT STUDIES AND PLANS COVERING ANY MAJOR PLAN CHANGES TO MAKE SURE NO PREVIOUS COMMITMENTS (NOT LISTED) WERE MADE AFFECTING THE DESIGN, AND TO ALLOW IMPROVED DESIGN FOR THE FUTURE.

DISTRICT SIX	
EXAMINED <u>12 / 14</u>	20 <u>12</u>
<i>William M. Ryan</i>	
OPERATIONS ENGINEER	
EXAMINED <u>DEC 14</u>	20 <u>12</u>
<i>Tommy F...</i>	
PROJECT IMPLEMENTATION ENGINEER	
EXAMINED <u>Dec. 14</u>	20 <u>12</u>
<i>ARML</i>	
PROGRAM DEVELOPMENT ENGINEER	

CODE NO.	ITEM		TOTAL QUANTITY	CONSTRUCTION CODE	
				90% FED. 10% STATE	0021
67100100	MOBILIZATION	L SUM	1	1	
70100310	TRAFFIC CONTROL AND PROTECTION, STANDARD 701421	L SUM	1	1	
70102635	TRAFFIC CONTROL AND PROTECTION, STANDARD 701701	L SUM	1	1	
80400100	ELECTRIC SERVICE INSTALLATION	EACH	2	2	
81028760	UNDERGROUND CONDUIT, COILABLE NONMETALLIC CONDUIT, 2 1/2" DIA.	FOOT	450	450	
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	1154	1154	
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	6	6	
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 WATT	EACH	2	2	
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	2	2	
83003600	LIGHT POLE, ALUMINUM, 45 FT. M. H., 15 FT. DAVIT ARM	EACH	6	6	
83004600	LIGHT POLE, ALUMINUM, 50FT. M.H., 15FT DAVIT ARM	EACH	2	2	
83600355	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 6'	EACH	6	6	
83600357	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 8'	EACH	2	2	
X8380096	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN AND ALUMINUM SKIRT	EACH	32	32	

114

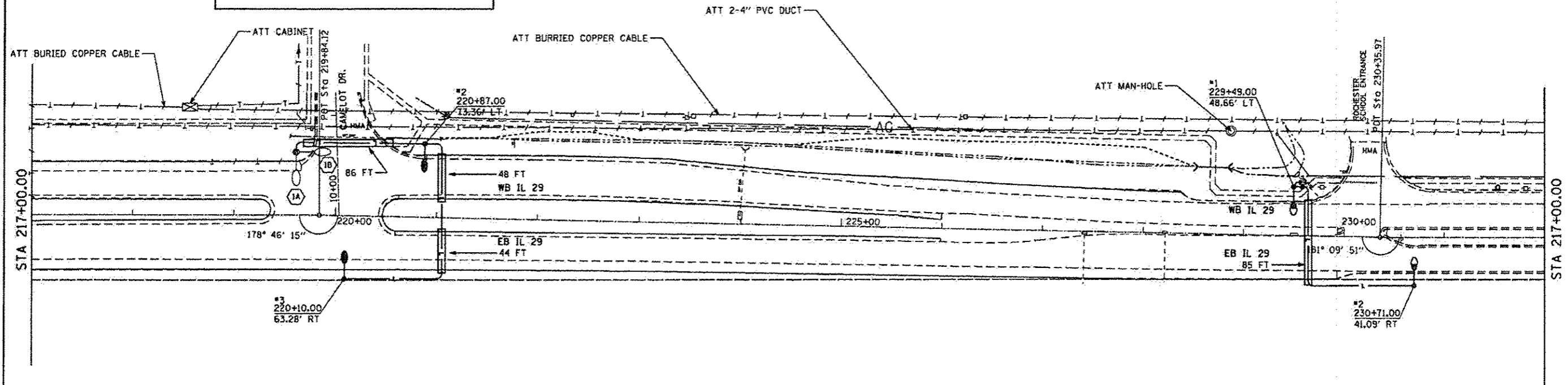
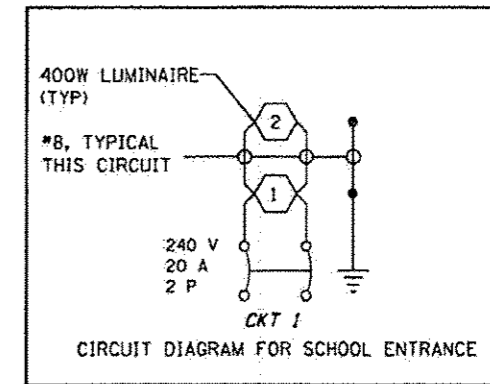
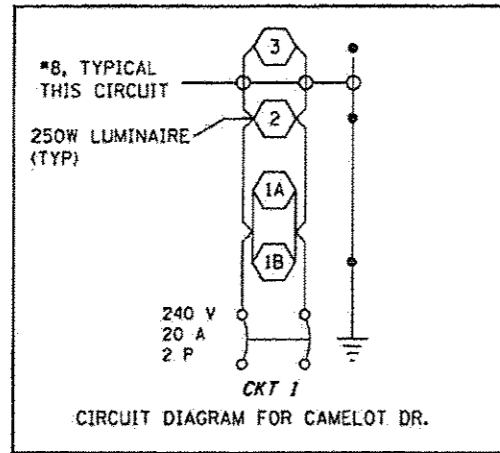
FILE NAME :	USER NAME : sparkgs	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwork\puidot\sparkgs\02296789\062	PJ1-shr-500.dgn	DRAWN -	REVISED -					75	16JL	SANGAMON	7	3
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	PLOT DATE = Dec-14-2012 04:24:39PM	DATE -	REVISED -		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, 240V, 30A
- 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)
- EXISTING LIGHT POLE

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	187
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4\" DIA.	FOOT	502
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	4
82500300	LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1
83003600	LIGHT POLE, ALUMINUM, 45 FT. M. H., 15 FT. DAVIT ARM	EACH	4
83600355	LIGHT POLE FOUNDATION, METAL, 15\" BOLT CIRCLE, 8\" X 6\"	EACH	4
	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN AND ALUMINUM SKIRT	EACH	16



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	263
81603000	UNIT DUCT, 600V, 2-1C NO. 8, 1/C NO. 8 GROUND, (XLP-TYPE USE), 3/4" DIA.	FOOT	652
82102250	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 250 WATT	EACH	2
82102400	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 400 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
83004600	LIGHT POLE, ALUMINUM, 50 FT. M.H., 15 FT. DAVIT ARM	EACH	2
83600355	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 6'	EACH	2
83600357	LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8" X 8'	EACH	2
	BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN AND ALUMINUM SKIRT	EACH	16

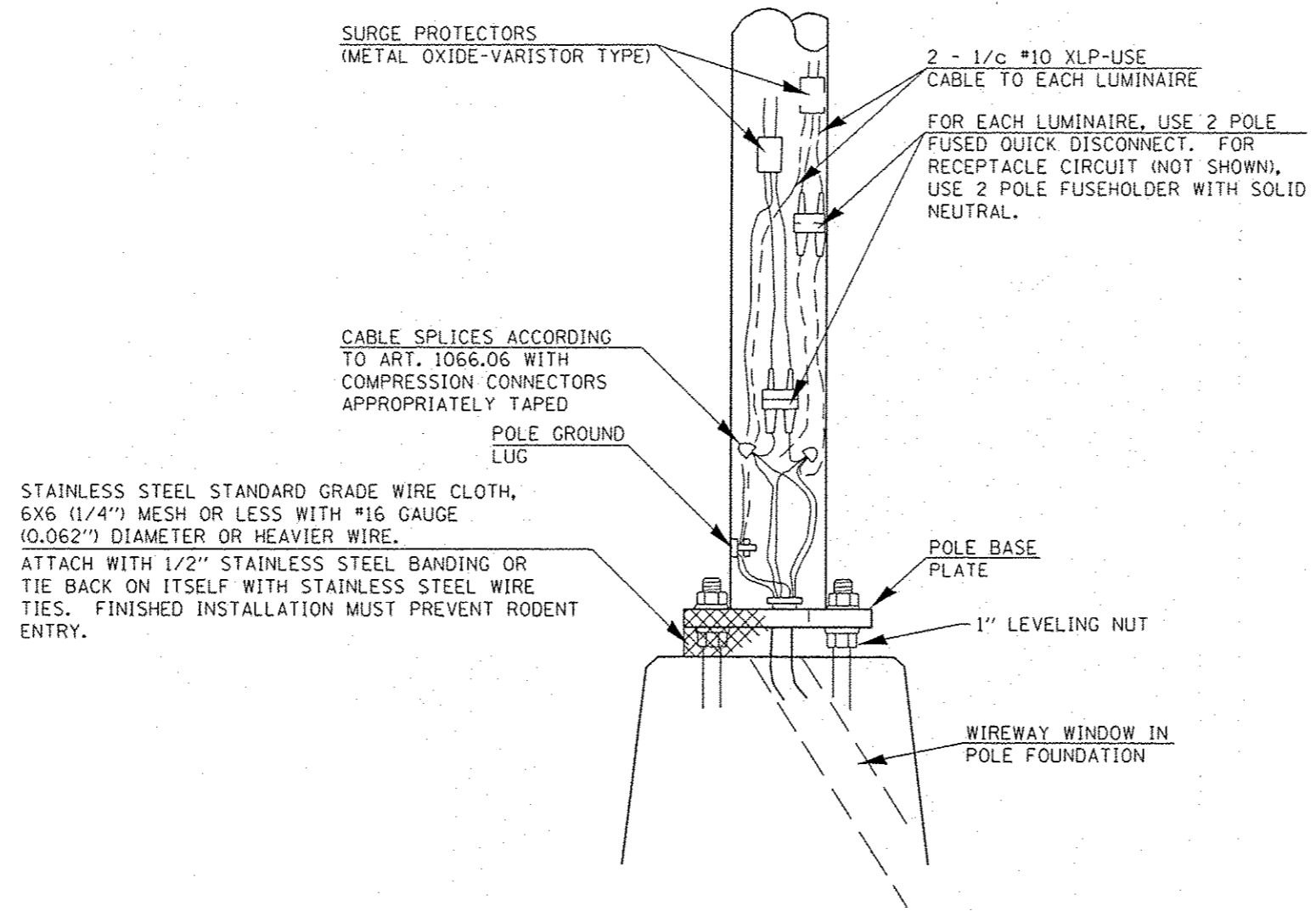
LEGEND	
	LIGHT POLE, ALUMINUM, 50 FT. M.H., 15 FT. DAVIT ARM WITH 400 WATT HORIZONTAL MOUNT LUMINAIRE, WITH BREAKAWAY COUPLINGS
	LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM WITH 250 WATT HORIZONTAL MOUNT LUMINAIRE, WITH BREAKAWAY COUPLINGS
	ELECTRIC SERVICE INSTALLATION, 240V, 30A
	PROPOSED LIGHTING 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)
	EXISTING LIGHT POLE

FILE NAME *	USER NAME * mgarap	DESIGNED -	REVISED -
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PLDT SCALE * 1/8"=1'-0"		CHECKED -	REVISED -
PLDT DATE * Feb-25-2013 02:59:50PM		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN SHEETS

SCALE: _____	SHEET 5 OF 7 SHEETS	STA. _____ TO STA. _____	F.A.P. RTE. 75	SECTION (6H)	COUNTY SANGAMON	TOTAL SHEETS 7	SHEET NO. 5
						CONTRACT NO. 72F31	
ILLINOIS FED. AID PROJECT							



WIRING DETAIL
(NO SCALE)

GENERAL NOTES

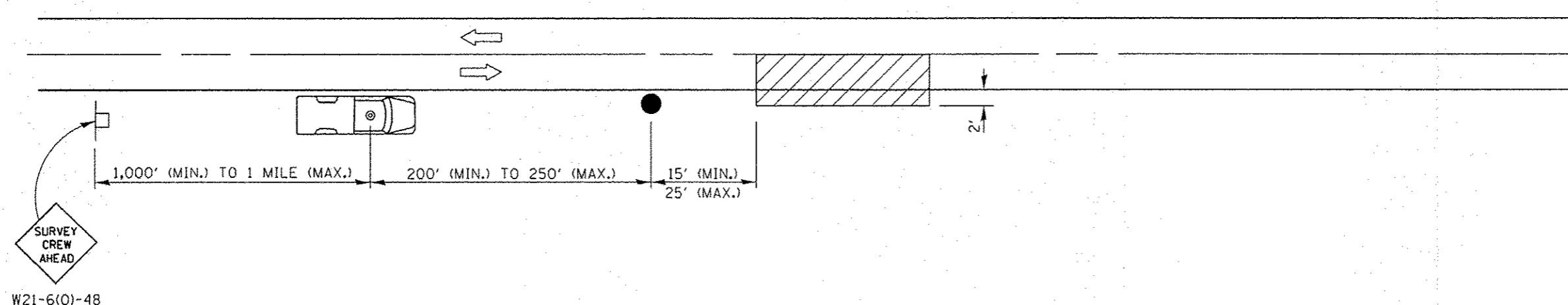
ALL TAPED SPLICES SHALL USE 2 LAYERS OF ELECTRICAL TAPE OVER 3 LAYERS OF RUBBER TAPE AS REQUIRED BY THE STANDARD SPECIFICATIONS. COAT THE FINISHED TAPED SPLICE WITH BONDING COMPOUND.


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.

FILE NAME =	USER NAME = sperksgw	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	POLE HANDHOLE WIRING				F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
c:\pwwork\pwwork\sporksgw\0296789\0672F31-sh1-details.dgn		DRAWN -	REVISED -		75	(6) L	SANGAMON	7	6				
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PLOT DATE = Dec-14-2012 04:24:42PM		DATE -	REVISED -		ILLINOIS FED. AID PROJECT								

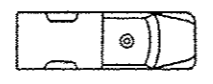



 W21-6(O)-48

SYMBOLS



WORK AREA



TRUCK WITH FLASHING AMBER LIGHT AND DUAL EMERGENCY FLASHERS



FLAGGER WITH TRAFFIC CONTROL SIGN



SIGN ON PORTABLE OR PERMANENT SUPPORT

TYPICAL APPLICATIONS:
UTILITY OPERATIONS

FILE NAME *	USER NAME * sporksgw	DESIGNED -	REVISED -
c:\pr-work\pilot\sporksgw\00296709\0672F31-ght-details.dgn		DRAWN -	REVISED -
PLOT SCALE * 0.0080 1/ in.		CHECKED -	REVISED -
PLOT DATE * Dec-14-2012 04:24:42PM		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

NIGHTTIME LIGHTING INSPECTION
 SCALE: SHEET 7 OF 7 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
75	161L	SANGAMON	7	7
CONTRACT NO. 72F31				
ILLINOIS FED. AID PROJECT				

Luminaire Performance Table 400W

1/1/03

ILLINOIS DEPARTMENT OF TRANSPORTATION LUMINAIRE PERFORMANCE TABLE

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	36	FT
	Number Of Lanes	3	
	Median Width	42	FT
	IES Surface Classification	R3	
	Q-Zero Value	.07	
LIGHT POLE DATA:	Mounting Height	50	FT
	Mast Arm Length	15	FT
	Pole Set-Back From Edge Of Pavement	15	FT
LUMINAIRE DATA:	Lamp Type	HPS	
	Lamp Lumens	50000	
	IES Vertical Distribution	M	
	IES Control Of Distribution	FC	
	IES Lateral Distribution	3	
	Total Light Loss Factor	0.684	
LAYOUT DATA:	Spacing	230	FT
	Configuration	Staggered	
	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})	9.0	Lux
	Uniformity Ratio, (E_{Ave}/E_{Min})	3.0	
LUMINANCE:	Average Luminance: (L_{Ave})	0.6	Cd/m ²
	Uniformity Ratios: (L_{Ave}/L_{Min})	3.5	
	(L_{Max}/L_{Min})	6.0	
	Maximum Veiling Luminance Ratio: (L_v/L_{Ave})	0.3	

Luminaire Performance Table 250W

1/1/03

ILLINOIS DEPARTMENT OF TRANSPORTATION LUMINAIRE PERFORMANCE TABLE

GIVEN CONDITIONS

ROADWAY DATA:	Pavement Width	36	FT
	Number Of Lanes	3	
	Median Width	42	FT
	IES Surface Classification	R3	
	Q-Zero Value	.07	
LIGHT POLE DATA:	Mounting Height	45	FT
	Mast Arm Length	15	FT
	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	145	FT
	Configuration	Opposite	
	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})	9.0	Lux
	Uniformity Ratio, (E_{Ave}/E_{Min})	3.0	
LUMINANCE:	Average Luminance: (L_{Ave})	0.6	Cd/m ²
	Uniformity Ratios: (L_{Ave}/L_{Min})	3.5	
	(L_{Max}/L_{Min})	6.0	
	Maximum Veiling Luminance Ratio: (L_v/L_{Ave})	0.3	

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LUMINAIRE PERFORMANCE TABLES	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
011pm_mch\evistat\mgaraj\02296781\06727	31-ehc-gennaleadn	DRAWN	REVISED			75	(6)L	SANGAMON	7	7A
Default	PLOT DATE = Feb-05-2013 02:15:49PM	CHECKED	REVISED		SCALE: _____ SHEET 7A OF 7 SHEETS STA. _____ TO STA. _____					CONTRACT NO. 72F31
		DATE	REVISED							ILLINOIS FED. AID PROJECT