

### GENERAL ELECTRICAL NOTES:

- "IES" INDICATES DETAIL NUMBER/SHEET NUMBER.
- "I" INDICATES KEYED NOTE USED TO DESCRIBE ADDITIONAL INFORMATION OF WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL IT IS SHOWN WITH.
- ALL ELECTRICAL CONDUCTORS SHALL BE COPPER.
- INDICATES NUMBER OF WIRES IN CONDUIT.
- ABBREVIATION KEY:  
 E.C. ELECTRICAL CONTRACTOR  
 C CONDUIT  
 TYP TYPICAL
- LINE TYPE KEY:

### ELECTRICAL INSTALLATION NOTES:

- CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED. COMMON NEUTRALS MAY BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
- A #8 GREEN INSULATED LEAD ON CONDUIT SHALL BE INSTALLED WITH CIRCUIT CONDUCTORS TO ALL RECEPTACLES.
- ALL WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY STANDARDS. CONTRACTOR SHALL FURNISH TO THE ARCHITECT/ENGINEER CERTIFICATES QUALIFYING EACH WELDER, PRIOR TO START OF WORK. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REQUIRE QUALIFYING DEMONSTRATION, AT THE CONTRACTOR'S EXPENSE, OF ANY WELDERS ASSIGNED TO THE JOB.

### LIGHTING NOTES:

- B-1. THE OWNER OF THE PROPOSED ROADWAY LIGHTING SYSTEM SHALL BE THE CITY OF DES PLAINES.
- B-2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MARK THE PROPOSED LOCATIONS OF ALL LIGHT POLES AND THE LIGHTING CONTROLLER FOR EXAMINATION AND CONFIRMATION WITH THE ENGINEER AT THE PRECONSTRUCTION INSPECTION. THE EXACT LOCATIONS OF ALL ITEMS SHALL BE CONFIRMED WITH THE ENGINEER PRIOR TO STARTING WORK.
- B-3. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR GROUNDING. GROUNDING CONNECTIONS AT THE FOUNDATION SHALL BE EXOTHERMICALLY WELDED, AS SPECIFIED, AND SHALL BE INSPECTED AND APPROVED BY THE RESIDENT ENGINEER PRIOR TO POURING CONCRETE OR BACKFILLING, AS APPLICABLE.
- B-4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ESTABLISHMENT OF FINISHED GRADE. THE ENGINEER MAY ASSIST THE CONTRACTOR AS APPLICABLE, BUT THE RESPONSIBILITY FOR COORDINATING FINISHED GRADE ELEVATION WITH THE TOP OF THE FOUNDATION HEIGHTS SHALL REMAIN WITH THE CONTRACTOR.
- B-5. ALL LIGHT POLES SHALL BE LOCATED WITHIN THE CORRECT SET BACK IDOT REQUIREMENTS FROM THE BACK OF CURB TO THE FACE OF THE PROPOSED LIGHT POLE.
- B-6. NO POLES SHALL BE ERECTED UNTIL THE RESPECTIVE FOUNDATIONS HAVE CURED, AS APPROVED BY THE ENGINEER.
- B-7. POLES WITH MAST ARMS SHALL NOT BE ERECTED AND LEFT TO STAND WITHOUT LUMINAIRES, TO MAINTAIN THE STRUCTURAL INTEGRITY OF POLES. NOTE THAT THE PROPOSED LIGHT POLES WILL NOT BE CONSIDERED COMPLETE WITHOUT THE LUMINAIRES INSTALLED.
- B-8. UNLESS OTHERWISE NOTED, ALL CONDUIT PROVIDED BY THIS CONTRACT SHALL BE 2" GALVANIZED STEEL CONDUIT CONFORMING TO IDOT SRSB SECTION 108B.01 (c).
- B-9. UNLESS OTHERWISE NOTED, ALL CONVENTIONAL POLES SHALL BE FRANGIBLE WITH BREAKAWAY COUPLINGS AS SPECIFIED.
- B-10. THE CONTRACTOR SHALL MAKE NOTE OF THE SPECIAL CONTROL CABINET, AUXILIARY CABINET AND LIGHTING UNIT IDENTIFICATION REQUIREMENTS NOTED ON THE DRAWINGS.
- B-11. ALL WIRING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. PARTICULAR ATTENTION IS DIRECTED TO THE REQUIREMENTS FOR ELECTRIC SERVICE, GROUNDING, AND OVERCURRENT PROTECTION.
- B-12. THE ELECTRICAL SUPPLY SHALL BE A PROPERLY GROUNDED AC SYSTEM. DC SERIES WIRING WILL NOT BE PERMITTED.
- B-13. THE AC SYSTEM SHALL BE PROPERLY GROUNDED AT THE ASSOCIATED SERVICE DISCONNECTING MEANS. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXTENDED CONTINUOUS WITH ALL CIRCUIT WIRING AND SHALL BE BONDED TO THE SYSTEM GROUND AT THE SERVICE DISCONNECTING MEANS. EQUIPMENT GROUNDING CONDUCTOR IS TO BE INSULATED. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE IN INTEGRAL PART OF ANY MULTI-CONDUCTOR CABLE OR SHALL BE RUN WITH THE CIRCUIT CONDUCTORS IN THE SAME RACEWAY. A SEPARATE GROUNDING CONDUCTOR WILL NOT BE PERMITTED. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE SPLICED AND BONDED VIA A RIGID CONNECTION AT EACH POLE.
- B-14. ALL CONDUCTORS AND EQUIPMENT SHALL HAVE PROPER OVERCURRENT PROTECTION. OVERCURRENT PROTECTION SHALL BE PROVIDED FOR EACH LUMINAIRE AND ITS ASSOCIATED BRANCH CIRCUIT EITHER BY THE USE OF INDIVIDUAL POLE BASE FUSING, FUSING WITHIN THE LUMINAIRE, OR OTHER MEANS AS APPROVED BY THE ENGINEER.
- B-15. THE ANCHOR BOLTS SHALL BE PROPERLY SECURED IN PLACE BEFORE THE CONCRETE IS PLACED IN THE FORMS.
- B-16. EXCAVATION FOR THE POLE FOUNDATION SHALL BE MADE WITH AN AUGER, 24 INCHES IN DIAMETER.
- B-17. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, THE LATEST EDITION OF THE ILLINOIS DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND ANY APPLICABLE LOCAL CODES.
- B-18. BEFORE INSTALLING LIGHT STANDARDS NEAR OVERHEAD UTILITIES CALL LOCAL UTILITY FOR LOCATION APPROVAL.
- B-19. LOCATION OF CONTROLLER CABINET SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER BEFORE FOUNDATION IS EXCAVATED OR POURED.
- B-20. NO MATERIALS SHALL BE DELIVERED TO THE JOB SITE UNTIL ALL PERTINENT EQUIPMENT SUBMITTALS HAVE BEEN APPROVED BY THE ENGINEER.
- B-21. CONTRACTOR TO COORDINATE ALL SERVICE CONNECTIONS WITH LOCAL UTILITY COMPANY. CONTRACTOR SHALL PROVIDE THE PAD FOR TRANSFORMER PER LOCAL UTILITY REQUIREMENTS AND COIL SUFFICIENT CABLES AT TRANSFORMER FOR UTILITY CONNECTION.
- B-22. UPON COMPLETION OF THE PERMANENT LIGHTING SYSTEMS THE CONTRACTOR SHALL REQUEST IN WRITING A REQUEST FOR PRELIMINARY INSPECTION A MINIMUM OF THREE DAYS NOTICE TO THE CITY OF DES PLAINES SHALL BE THE ULTIMATE MAINTAINING AGENCY FOR THE LIGHTING SYSTEMS ON MINER STREET AND ELLINWOOD AVENUE.
- B-23. ALL PAY ITEMS REFER TO THE IDOT STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION, UNLESS OTHERWISE NOTED.

### CONTROLLER ELECTRICAL NOTES:

ALL CONTROL CABINET ITEMS SHALL HAVE SUITABLE IDENTIFICATION. OPEN CIRCUIT BREAKERS, CONTACTORS AND OTHER OPEN DEVICES SHALL HAVE PERMANENT SELF-STICKING TAGS. DEVICES IN ENCLOSURES SHALL HAVE ENGRAVED 3-COLOR LAMINATED PLASTIC NAMEPLATES ATTACHED TO ENCLOSURES WITH SCREWS. NAMEPLATES SHALL BE ENGRAVED TO CORRESPOND TO DESIGNATIONS ON THE DRAWINGS. INTERNAL CABINET WIRING SHALL BE IDENTIFIED OR AS DIRECTED BY THE ENGINEER BY MEANS OF SELF-STICKING TAGS APPLIED AT EACH CONNECTED END. IDENTIFICATION SHALL BE MADE BY THE CABINET MANUFACTURER.

CABINET SHALL BE FABRICATED FROM 3.175 (0.125-INCH) SHEET ALUMINUM # 3003H14, FORMED AND ARC WELDED ASSEMBLY.

ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL.

ONE INCH THICK POLYSOCYANURATE INSULATION SHALL BE INSTALLED AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.

ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.

THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL", ASSEMBLED PANEL SHALL BE IDOT APPROVED.

METAL MOUNTING PANEL SHALL BE #10 GAUGE GALVANIZED SHEET STEEL FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.

CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 3.175 (0.125-INCH) THICK GLASSIC INSULATION BACK PANEL.

ALL DEVICES SHALL BE FRONT REMOVEABLE.

BUS BARS SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. NEUTRAL BUS SHALL BE PAINTED WHITE. GROUND BUS SHALL BE PAINTED GREEN.

ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.

ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.

ALL CONTROL WIRING SHALL BE 600V MACHINE TOOL WIRE TYPE MTW. ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.

ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED USING THESE ABBREVIATIONS:

R - RED Y - YELLOW  
 B - BLACK W - WHITE  
 BL - BLUE G - GREEN

ELEMENTARY DIAGRAMS SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED.

A LAMINATED COPY OF THE CIRCUIT SCHEMATIC DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER.

PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL.

ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.

### LUMINAIRE SCHEDULE

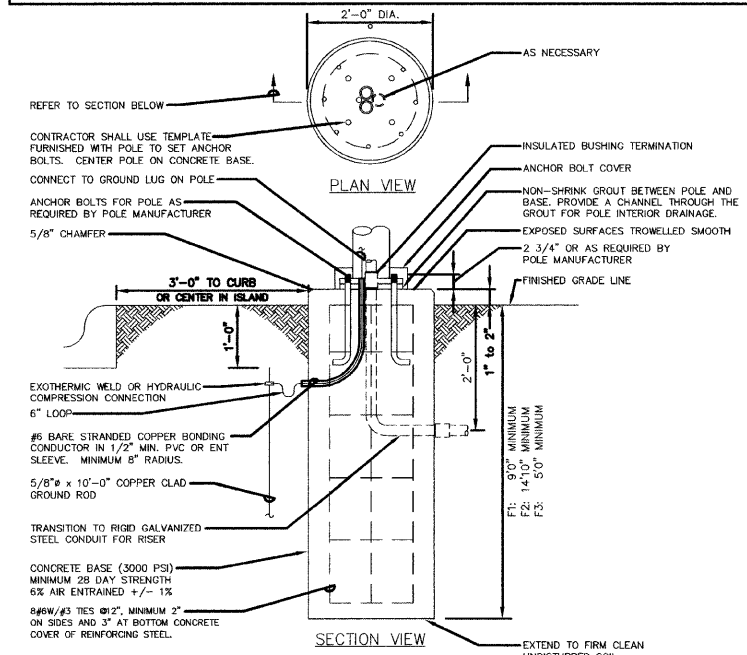
MOUNTING: (MTG)	LAMP TYPE:	LENS/SLOUVER: (LL)
RE- RECESSED	FL- FLUORESCENT	A- 125' ACRYLIC
SP- SUSPENDED	CF- COMPACT FLUORESCENT	B- BLACK BAFFLE
CL- CEILING SURFACE	IN- INCANDESCENT	C- CLEAR ALZAK
WL- WALL	LED- LIGHT EMITTING DIODE	D- PARABOLIC
UC- UNDER CABINET	HS- HIGH PRESSURE SODIUM	F- FRESNEL
CV- COVE	MH- METAL HALIDE	G- TEMPERED GLASS
PL- POLE	LV- LOW VOLTAGE	H- WALL WASHER
O- OTHER (SEE DESCRIPTION)	SMH- SUPER METAL HALIDE	P- POLYCARBONATE
	PSMH- PULSE START METAL HALIDE	K- KSH12, 125' ACRYLIC
	O- OTHER (SEE DESCRIPTION)	L- LOW IRESCENT SPECULAR ALUM.
	XL- EXTENDED LIFE 24,000 HR	N- NONE
	XLP- EXTENDED LIFE & OUTPUT 24,000 HOURS 3100 LUMENS	R- HIGH IMPACT DR ACRYLIC
		O- OTHER (SEE DESCRIPTION)
		##BF- BALLAST FACTOR
		HL- HIGH LOW LEVEL BALLAST
		HP- HIGH PERFORMANCE
		ML- MULTI-VOLTAGE ELECTRONIC
		MV- MULTI-VOLTAGE ELECTRONIC

CATALOG NUMBER SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBER ONLY. THE COMPLETE DESCRIPTION AND THE SPECIFICATION SHALL BE COORDINATED WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE FIRST MANUFACTURER LISTED IS THE BASIS FOR DESIGN.

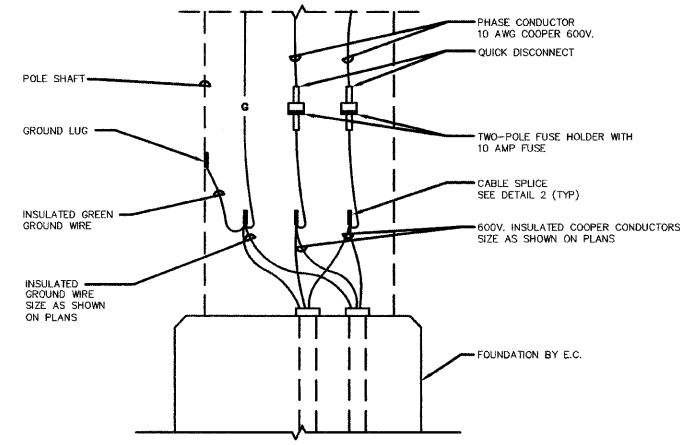
ALL LAMPS FOR THIS PROJECT SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.

ITEM	DESCRIPTION	SIZE	MTG	TYPE	LAMPS QUANTITY & SIZE	VOLTS	LL	APPROVED MANUFACTURER
F1	CAST ALUMINUM SMALL METROPOLIS LUMINAIRE MOUNTED ON 6" COBRA ARM WITH 30" OVERALL HEIGHT. UV STABILIZED POLYCARBONATE TYPE V PRISMATIC. INTERNAL FUSING. BLACK SEMI GLOSS. WET LISTED. 6" OD EXTRUDED FLUTED ALUMINUM SHAFT. LOCATION FOR RECEPTACLE TO BE MOUNTED AT TOP OF POLE. INSTALL BREAKAWAY COUPLINGS.	28" H 16" DIA	PL	MH	1 250W MOGUL BASE	240V	P	BEACON AP-10225-1400 AA-101 AL-32000-GC5-250MH2400-FS2-BKT
F2	TWO CAST ALUMINUM SMALL METROPOLIS LUMINAIRE MOUNTED ON 6" COBRA ARM WITH 30" OVERALL HEIGHT. UV STABILIZED POLYCARBONATE TYPE V PRISMATIC. BLACK SEMI GLOSS. WET LISTED. 6" OD EXTRUDED FLUTED ALUMINUM SHAFT. LOCATION FOR RECEPTACLE TO BE MOUNTED AT TOP OF POLE. INSTALL BREAKAWAY COUPLINGS.	28" H 16" DIA	PL	MH	2 250W MOGUL BASE	240V	P	BEACON AP-10225-1400 AA-101 AL-32000-GC5-250MH2400-FS2-BKT
F3	CAST ALUMINUM SMALL METROPOLIS LUMINAIRE MOUNTED ON 2" COBRA ARM WITH 14" POLE. UV STABILIZED POLYCARBONATE TYPE V PRISMATIC. BLACK SEMI GLOSS. WET LISTED. 6" OD EXTRUDED FLUTED ALUMINUM SHAFT. LOCATION FOR RECEPTACLE TO BE MOUNTED AT TOP OF POLE. INSTALL BREAKAWAY COUPLINGS.	28" H 16" DIA	PL	MH	1 150W MEDIUM BASE	240V	P	BEACON AP-10225-1400 AA-101 AL-32000-GC5-150MH2400-FS2-BKT

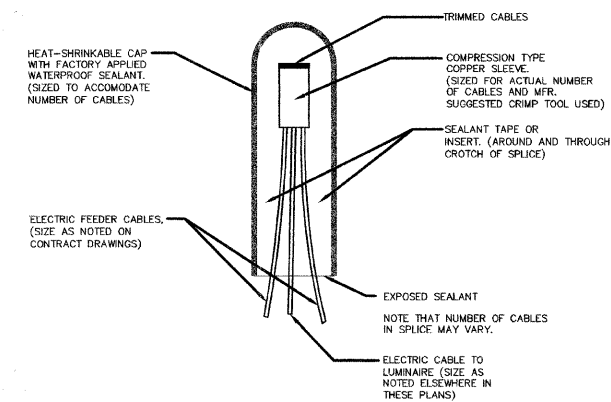
ITEM NO.	SYMBOL	DESCRIPTION	APPROVED MANUFACTURERS
1		RECEPTACLE, GROUND FAULT DUPLEX, 125 VOLT, 20 AMP, SPECIFICATION GRADE, 3 WIRE GROUNDING TYPE, IMPACT RESISTANT THERMOPLASTIC FACE, STRAIGHT BLADE, N.E.M.A. TYPE S-20R, TEST AND RESET BUTTONS IN FACE, WEATHERPROOF COVERPLATE, NEMA 3R RATED WHILE IN USE, CLEAR, NON-LOCKING, STANDARD DEPTH, VERTICAL MOUNT, FEDERAL SPECIFICATION AND U.L. LISTED, 2003 U.L. 943 COMPLIANT.	HUBBELL 6PR-5352ST/WR26WP LEVITON 7889/5977-CL PASS & SEYMOUR 2095/MUC10-C COOPER VOF20/4966
2		HANDHOLE, COMPOSITE POLYMER CONCRETE BODY AND COVER, STAINLESS STEEL HARDWARE, BOLTED NON-SKID COVER RATED FOR 10,000 LB. DESIGN LOAD OCCASIONAL NON-DELIBERATE VEHICULAR TRAFFIC. STACK UNITS TO ACHIEVE DEPTH SHOWN ON PLANS. UNITS IN LANDSCAPED AREAS SHALL BE GREEN IN COLOR. 11"W, 18"L, 18"D	HUBBELL/QUAZITE PC SERIES CARSON INDUSTRIES H SERIES ARMORCAST



3 POLE BASE DETAIL  
NO SCALE



1 POLE BASE WIRING DIAGRAM  
NO SCALE



2 SPLICING ELECTRIC CABLES  
BASIC MATERIALS AND METHODS  
NO SCALE

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REFERENCE SCALE IN INCHES  
 0 1 2 3

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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**E11: ELECTRICAL NOTES & SCHEDULES**

**DES PLAINES LIGHTING IMPROVEMENTS AND STREETScape DES PLAINES, ILLINOIS**

SCALE: NTS  
 DATE: 8-14-2009

DRAWN BY: JOP  
 DESIGNED BY: MCK  
 CHECKED BY: MCK