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**CLIENT:**  
**MARYLAND ZOO**  
 THE MARYLAND ZOO IN BALTIMORE  
 1 SAFARI PLACE  
 BALTIMORE, MD 21217

**RED PANDA**  
 THE MARYLAND ZOO  
 IN BALTIMORE  
 1 SAFARI PLACE  
 BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

**SEAL:**

DATE: JANUARY 14, 2025	PROJECT NO: 2023-10.04
DRAWN BY: KWA	CHECKED BY: KWA
SUBMISSION DATE: 01/14/2025	ADDENDUM #2: 02/06/2025
REVISION	DATE

**DRAWING TITLE:**  
 LEGEND

**DRAWING NO:**  
 E-001

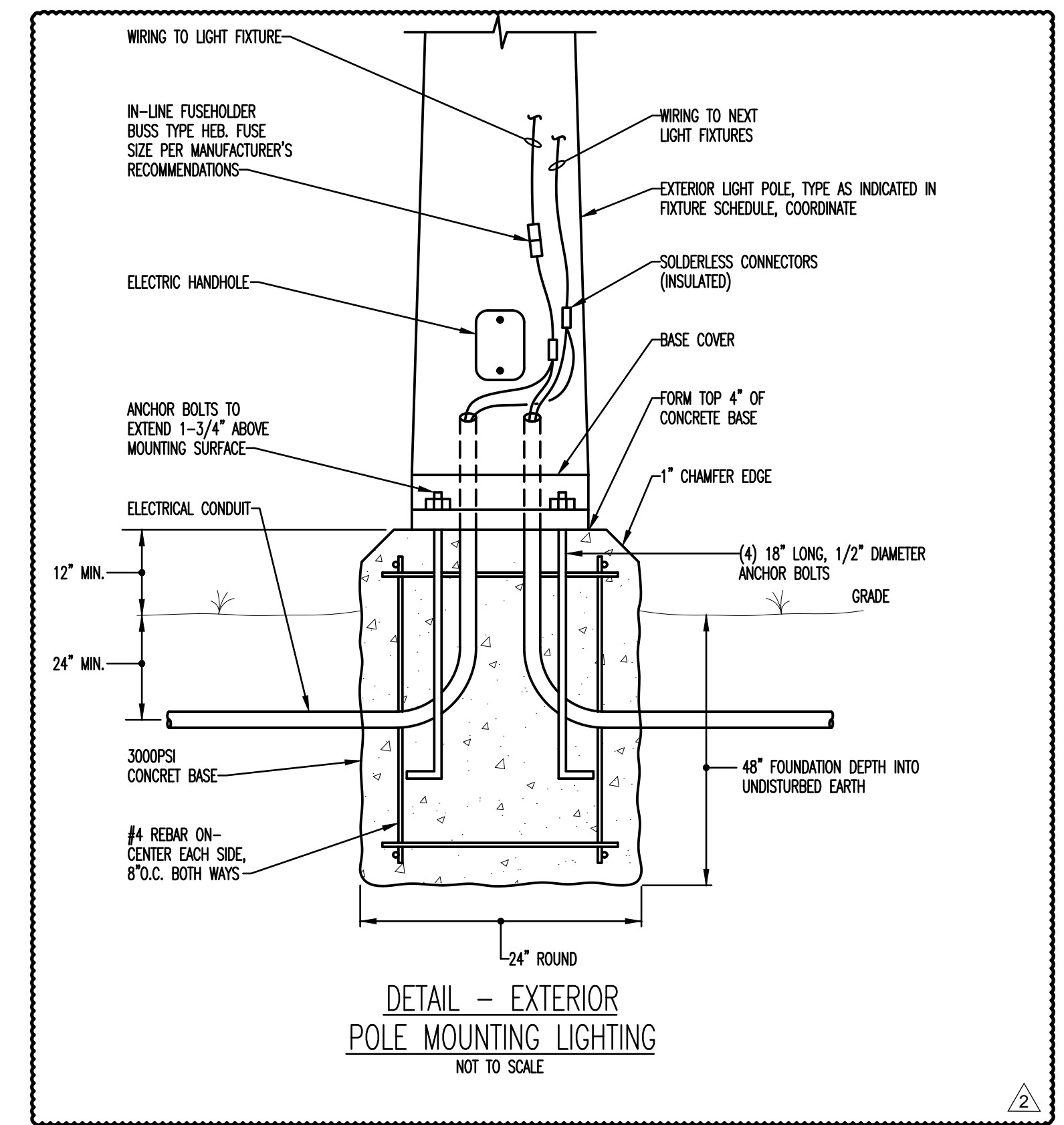
10877 - RED PANDA

**LIGHTING FIXTURE SCHEDULE**

TYPE	DESCRIPTION	MANUFACTURER	LAMPS	VOLTS	REMARKS
A	12" W X 48" L X 3-1/2"D, SLOPED SIDES, VANDAL RESISTANT, CONFINEMENT/ CORRECTIONAL SURFACE, FLUSH LENS	COOPER LIGHTING SOLUTIONS #FUSL-12-4-LD4-2L0-35-UNV-80-84-EDD	LED 5300L 47W	120	
AE	SAME AS FIXTURE 'A' BUT CONNECTED TO EMERGENCY BATTERY PACK	COOPER LIGHTING SOLUTIONS #FUSL-12-4-LD4-2L0-35-UNV-80-84-EDD	LED 5300L 47W	120	PROVIDE BATTERY PACK AND SELF-DIAGNOSTIC FIXTURES
B	48" LONG SUSPENDED LED LINEAR STRIP FIXTURE, STEEL HOUSING, NO DIFFUSER, WHITE FINISH	COOPER LIGHTING SOLUTIONS #4SNX-33SL-LW-UNV-L835-CD #ATC-CHAIN/SET-U, #WG-SNX/SN-4FT-B	LED 3300L 21W	120	PROVIDE WIREGUARD
BE	SAME AS FIXTURE 'B' BUT CONNECTED TO EMERGENCY BATTERY PACK	COOPER LIGHTING SOLUTIONS #4SNX-33SL-LW-UNV-L835-CD #ATC-CHAIN/SET-U, #WG-SNX/SN-4FT-B	LED 3300L 21W	120	PROVIDE BATTERY PACK AND SELF-DIAGNOSTIC FIXTURES
B1	48" LONG SURFACE MOUNTED LED LINEAR STRIP FIXTURE, STEEL HOUSING, NO DIFFUSER, WHITE FINISH, WITH INTEGRAL OCCUPANCY SENSOR	COOPER LIGHTING SOLUTIONS #4SNX-48SL-LW-UNV-L835-CD #WLS	LED 4800L 32W	120	
B1E	SAME AS FIXTURE 'B1' BUT CONNECTED TO EMERGENCY BATTERY PACK	COOPER LIGHTING SOLUTIONS #4SNX-48SL-LW-UNV-L835-CD #WLS	LED 4800L 32W	120	
B2	24" LONG SUSPENDED LED LINEAR STRIP FIXTURE, STEEL HOUSING, NO DIFFUSER, WHITE FINISH	COOPER LIGHTING SOLUTIONS #2SNX-19SL-LW-UNV-L835-CD #ATC-CHAIN/SET-U, #WG-SNX/SN-2FT-B	LED 1900L 12W	120	
C	WALL MOUNTED SEALED AND GASKETED ARCHITECTURAL FIXTURE, REGRESSED DIFFUSED LENS, ALUMINUM HOUSING BLACK FINISH	LITHONIA #ARC2LED-P4-30K-MVOLT-DBLXD	LED 4000L 30W	120	SELECTED BY ARCHITECT
CE	SAME AS FIXTURE 'C' BUT CONNECTED TO EMERGENCY BATTERY PACK	LITHONIA #ARC2LED-P4-30K-MVOLT-E4WH-DBLXD	LED 4000L 30W	120	SELECTED BY ARCHITECT COORDINATE TO PROVIDE EM BATTERY BACKUP
D	POLE MOUNTED, EXTERIOR 18" LED SHADE FIXTURE, BLACK FINISH, GOOSENECK MOUNTING OPTION	HI-LITE #H-15118-91/HL-E-91/WGR-91/ 6LED435WBCM-PHCL/BCM	LED 850L 6W	120	PROVIDE DRIVER AND MOTION SENSOR TO REDUCE LIGHT SOW WHEN NO MOTION IS DETECTED. WIRE VIA TIMELOCK WITH OVERRIDE SWITCH. COORDINATE WITH MANUFACTURER 14' POLES.
F	VICTORIAN LED POST TOP FIXTURE, SYMMETRIC DISTRIBUTION, DECORATIVE ALUMINUM POLE WITH RECEPTACLE, CONTROLLED BY TIMELOCK	HADCO #MV-G-CA-G1-350-5-730-A-SRD-R-N- -SP1-BKS #2063-14-A-Z-D-M-N	LED 42W	120	SELECTED BY ARCHITECT COORDINATE POLE AND FIXTURE WITH MANUFACTURER
G	LED STRING LIGHTS	TBD	TBD	TBD	COORDINATE WITH ARCHITECT. MINIMUM SAG AT 12' ABOVE GRADE
H	FLOOD LIGHT	ABOVE ALL #SMFL-50-1-PC-KN	LED 50W	120	CONFIRM WITH ARCHITECT
X	EXIT SIGN, SINGLE SIDED, ALUMINUM HOUSING, GREEN LETTERING, UNIVERSAL	EMERGI-LITE #BA-P-2-G	LED 2W	120	PROVIDE BATTERY PACK AND SELF-DIAGNOSTIC FIXTURES

**ELECTRICAL LEGEND**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
[Symbol]	1'x4' SURFACE TROFFER	[Symbol]	ACCESS CARD READER; MH=36" AFF
[Symbol]	1'x4' SURFACE TROFFER WITH EMERGENCY BATTERY PACK	[Symbol]	SECURITY KEYPAD; MH=48" AFF
[Symbol]	STRIP FIXTURE	[Symbol]	SECURITY CAMERA; CEILING MOUNT
[Symbol]	STRIP FIXTURE WITH EMERGENCY BATTERY PACK	[Symbol]	CCTV CAMERA; CEILING/WALL MOUNT
[Symbol]	LED STRING LIGHTS	[Symbol]	FIRE ALARM SMOKE DETECTOR
[Symbol]	DECORATIVE CEILING FIXTURE	[Symbol]	FIRE ALARM HEAT DETECTOR
[Symbol]	RECESSED DOWNLIGHT	[Symbol]	FIRE ALARM DUCT SMOKE DETECTOR
[Symbol]	EXIT LIGHT WITH DIRECTIONAL ARROWS AS INDICATED; CEILING/ WALL MTD; SHADED PORTION DENOTES LIGHTED FACE	[Symbol]	FIRE ALARM FLAME DETECTOR
[Symbol]	EXTERIOR WALL LIGHT WITH EMERGENCY BATTERY PACK, FURNISHED BY OTHERS INSTALLED BY EC	[Symbol]	FIRE ALARM MANUAL PULLSTATION; MH=48" AFF
[Symbol]	SINGLE POLE SWITCH; SUBSCRIPT DENOTES SWITCHING SCHEME; MH=48" AFF	[Symbol]	FIRE ALARM STROBE; MH=80" AFF
[Symbol]	THREE-WAY SWITCH; MH=48" FF	[Symbol]	FIRE ALARM STROBE; CEILING MOUNT
[Symbol]	0-10VDC DIMMER SWITCH; MH=48" AFF	[Symbol]	FIRE ALARM AUDIO/VISUAL DEVICE; MH=80" AFF
[Symbol]	SWITCH WITH PILOT LIGHT; MH=48" FF	[Symbol]	FIRE ALARM AUDIO/VISUAL DEVICE; CEILING MOUNT
[Symbol]	WALL SENSOR SWITCH; MH=48" AFF	[Symbol]	FIRE ALARM DUCT SMOKE DETECTOR REMOTE TEST SWITCH
[Symbol]	TIMER SWITCH; MH=48" FF	[Symbol]	FIRE ALARM REMOTE INDICATOR LIGHT
[Symbol]	TIMER SWITCH WITH 0-10VDC DIMMING CAPABILITY; MH=48" FF	[Symbol]	FIRE ALARM ANNUNCIATOR
[Symbol]	OCCUPANCY SENSOR, LOWER CASE LETTERING TO DENOTE CONTROLLED FIXTURES; CEILING MOUNTED	[Symbol]	FIRE ALARM CONTROL PANEL
[Symbol]	PHOTOCELL SENSOR; CEILING MOUNTED	[Symbol]	FIRE ALARM WIRING IN CONDUIT
[Symbol]	TIME CLOCK	[Symbol]	WIRE IN CONDUIT; HATCH MARKS DENOTE QUANTITY OF #12 CONDUCTORS IN 3/4" I.D. UNLESS INDICATED OTHERWISE; ARROW DENOTES HOME RUN TO PANEL INDICATED
[Symbol]	BLUE FAN, FURNISHED BY OTHERS, INSTALLED BY EC PATTERSON 14" HIGH VELOCITY, 120V, 2.8A, 1HP	[Symbol]	0-10VDC WIRING
[Symbol]	DUPLEX RECEPTACLE; MH=18" AFF; UNO	[Symbol]	UNDERGROUND CONDUIT
[Symbol]	DOUBLE DUPLEX RECEPTACLE; MH=18" AFF	[Symbol]	NEW WORK
[Symbol]	JUNCTION BOX; CEILING/WALL MOUNTED	[Symbol]	EXISTING WORK TO REMAIN
[Symbol]	EXISTING ELECTRIC PANELBOARD	[Symbol]	REMOVE EXISTING WORK
[Symbol]	NEW ELECTRIC PANELBOARD	[Symbol]	NEW UNDERGROUND FIBER OPTIC CABLE
[Symbol]	DISCONNECT SWITCH	[Symbol]	EXPOSED HVAC DUCT BELOW CEILING SHOWN FOR COORDINATION
[Symbol]	COMBINATION STARTER		
[Symbol]	MANUAL MOTOR STARTER SWITCH		
[Symbol]	VARIABLE FREQUENCY DRIVE		
[Symbol]	MOTOR		
[Symbol]	TRANSFORMER		
[Symbol]	RELAY IN NEMA 1 ENCLOSURE		
[Symbol]	AIR TERMINAL: 1/2"x12" GENTLY TAPERED SOLID COPPER AIR TERMINAL WITH COPPER SADDLE BASE MOUNTED HORIZONTALLY		
[Symbol]	THRU ROOF CONNECTION		
[Symbol]	CLASS II COPPER DOWNLEAD RUN EXPOSED AND IN CONDUIT THAT IS CONCEALED; 3/4"x10" COPPER CLAD GROUND		
[Symbol]	GROUND BAR		
[Symbol]	GROUND ROD		
[Symbol]	CORD REEL		
[Symbol]	WALL MOUNTED TELEPHONE OUTLET; MH=54" AFF		
[Symbol]	DATA OUTLET; MH=18" AFF		



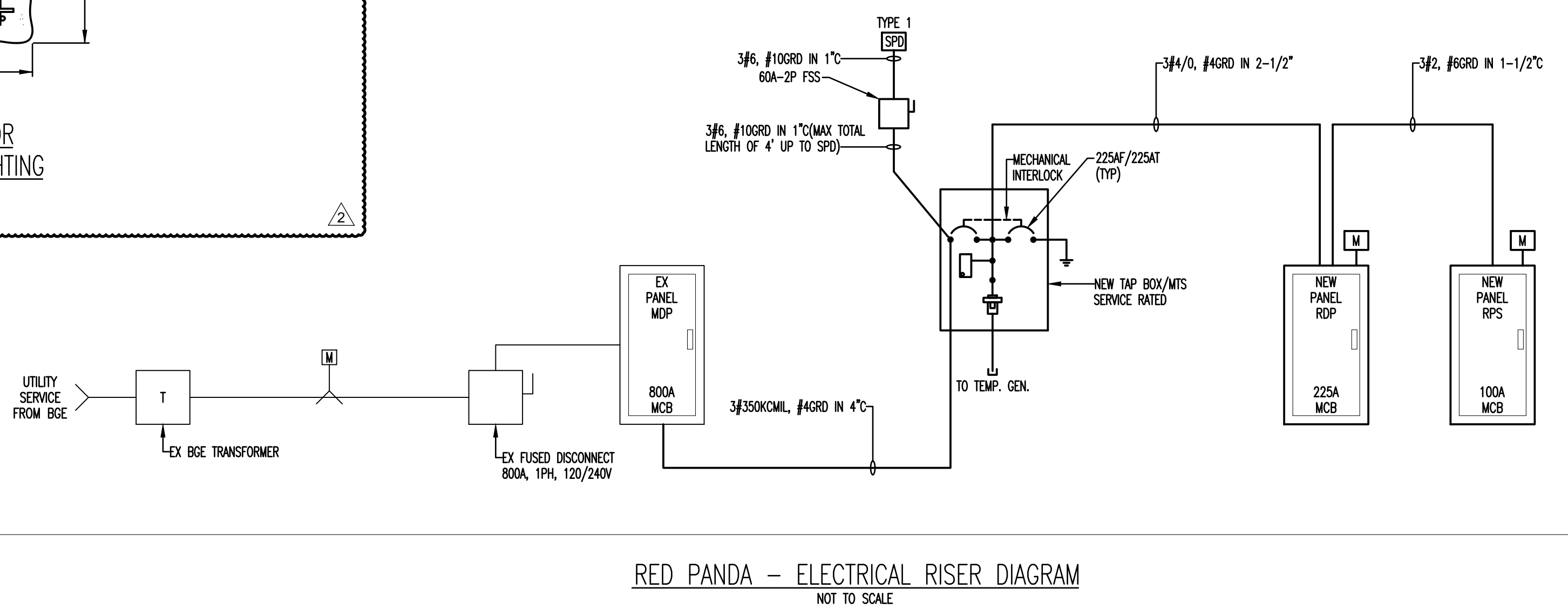
**VOLTAGE DROP CALCULATIONS**

1. PARAMETERS  
 A. COMMERCIAL 75 DEGREES C  
 B. POWER FACTOR 0.85  
 C. SINGLE PHASE  
 D. 240V  
 E. COPPER CONDUCTOR  
 F. CONDUIT (NON STEEL)  
 G. LENGTH OF RUN 343'

2. VOLTAGE DROP = 2.8% IF FEEDER IS 400KCMIL SINGLE SET

**LIGHTING POWER DENSITY CALCULATIONS**

1. STORAGE ROOM - 0.26 W/FF<sup>2</sup>  
 2. KEEPING ROOM - 1.0 W/FF<sup>2</sup>  
 3. MECHANICAL ROOM - .69 W/FF<sup>2</sup>  
 4. EXTERIOR RED PANDA BUILDING WALK WAY - 0.01W/FF<sup>2</sup>  
 5. EXTERIOR PARK WALK WAY - 0.03W/FF<sup>2</sup>



- GENERAL NOTES:**
- USE MINIMUM OF 3/4" DIAMETER EMT FOR POWER CIRCUIT.
  - REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF LUMINAIRES.
  - ARC FLASH STUDY IS INCLUDED IN THIS PROJECT, AS REQUIRED BY CODE.
  - EMERGENCY AND EXIT LIGHTS SHALL BE PROVIDED WITH EMERGENCY BATTERY PACKS.
  - LUMINAIRES WITH "E" NEXT TO FIXTURE TYPE PER SCHEDULE ARE DESIGNATED AS EMERGENCY.
  - ALL LUMINAIRES SHALL BE ACCREDITED BY DESIGN LIGHTS CONSORTIUM.
  - PROVIDE DIVIDERS BETWEEN 120V AND TELECOM CABLES IN WIREMOLD.
  - EXIT LIGHTS SHALL BE WIRED AHEAD OF SWITCHING.
  - PROVIDE DIVIDERS BETWEEN NORMAL AND EMERGENCY CIRCUITS WITHIN PULLBOXES CONTAINING BOTH SYSTEMS.
  - FIRE ALARM VENDOR SHALL SUBMIT DETAILED NOTIFICATION DEVICE LOCATIONS FOR APPROVAL. SEPARATE PERMIT REQUIRED FOR ALTERATION OF FIRE ALARM SYSTEM. A SEPARATE SHOP DRAWING SUBMITTAL, REVIEW AND PERMIT IS REQUIRED FOR FIRE ALARM SYSTEM.