

GENERAL ELECTRICAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND VERIFYING JOB CONDITIONS PRIOR TO SUBMITTING BID.
- THE ELECTRICAL CONTRACTOR SHALL EXAMINE SHALL EXAMINE THE DRAWINGS OF ALL OTHER TRADES AND COORDINATE THE INSTALLATION OF ELECTRICAL SYSTEMS WITH OTHER BUILDING SYSTEMS.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL COMPLETE AND OPERATING ELECTRICAL SYSTEMS, INCLUDING ELECTRICAL SERVICE AND CONNECTIONS TO ALL ITEMS REQUIRING ELECTRICAL POWER, REGARDLESS OF THE INSTALLING TRADE.
- THE ELECTRICAL CONTRACTOR SHALL INSTALL A TEMPORARY ENETRICAL PANELBOARD IN EACH CONSTRUCTION AREA FOR USED BY ALL TRADES.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 70, AS ADOPTED AND ENFORCED BY THE COMMONWEALTH OF KENTUCKY, AND ANY STATE OR LOCAL AMMENDMENTS.
- THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. THE ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATIONS OF ELECTRICAL EQUIPMENT, WIRING, AND DEVICES WITH OTHER TRADES AND DESIGN DISCIPLINES. DIMENSIONS SHOWN ON ARCHITECTURAL DRAWINGS SHALL GOVERN.
- THE ELECTRICAL CONTRACTOR SHALL ARRANGE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS, AND SHALL LEAVE WORK EXPOSED UNTIL APPROVED BY THE INSPECTOR.
- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF UPDATED "AS-BUILT" PROGRESS DRAWINGS AT THE SITE. THE ELECTRICAL CONTRACTOR SHALL SUBMIT "RED-LINED" AS BUILT DRAWINGS AT THE COMPLETION OF CONSTRUCTION.
- THE ELECTRICAL CONTRACTOR SHALL PREPARE TYPEWRITTEN PANEL LEDGERS FOR ALL PANELBOARDS.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ETCHED PLASTIC LAMINATED LABELS FOR ALL ELECTRICAL DISTRIBUTION EQUIPMENT.
- THE ELECTRICAL CONTRACTOR SHALL MARK ALL JUNCTION BOXES WITH THE SOURCE PANEL DESIGNATION AND CIRCUIT NUMBERS.
- ALL NEW OR RELOCATED MATERIAL INSTALLED IN CEILING PLENUMS SHALL BE U.L. LABELED AND LISTED FOR PLENUM INSTALLATION.
- ALL NEW OR RELOCATED ELECTRICAL EQUIPMENT SHALL BE U.L. LISTED.
- EXISTING BRANCH CIRCUITS MAY BE REUSED IF FEASIBLE, AND SUITABLE FOR REUSE. PANELBOARDS AND DEVICES SHALL BE NEW.
- THE MINIMUM WIRE SIZE FOR BRANCH CIRCUITS IS NO. 12.
- THE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE. ALL GROUNDING ELECTRODES SHALL BE BONDED TO FORM A SINGLE GROUNDING SYSTEM.
- ELECTRICAL CIRCUITS MAY BE COMBINED IN RACEWAYS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

POWER WIRING

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE A COMPLETE AND OPERATING POWER DISTRIBUTION SYSTEM AS SHOWN ON THE DRAWINGS. TO INCLUDE BRANCH CIRCUITS AND CONNECTIONS TO ALL BUILDING EQUIPMENT REQUIRING ELECTRICAL POWER.
- POWER WIRING SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, NFPA 70, AS ADOPTED AND ENFORCED BY THE COMMONWEALTH OF KENTUCKY, AND AS AMENDED BY STATE OR LOCAL AUTHORITIES HAVING JURISDICTION. WIRING METHODS USED SHALL BE APPROVED WIRING METHODS.
 - ALL CONDUCTORS SHALL BE COPPER.
 - WIRING EXPOSED TO VIEW SHALL BE INSTALLED IN METALLIC RACEWAYS.
 - ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE A GROUNDING CONDUCTOR.
 - BACK-TO-BACK OUTLETS AND THROUGH-WALL BOXES WILL NOT BE PERMITTED.
 - INSTALL DUPLEX RECEPTACLES IN 4X4 BOXES WITH MUD RINGS.
 - CONNECT RECEPTACLES TO BRANCH CIRCUITS WITH STRANDED WIRE PIGTAILS.
 - GFCI RECEPTACLES MAY BE USED TO PROTECT DOWN STREAM STANDARD RECEPTACLES IF INSTALLED IN ACCORDANCE WITH RECEPTACLE MANUFACTURER'S INSTRUCTIONS.
 - PROVIDE SAFETY DISCONNECT SWITCHES AT ALL FIXED BUILDING EQUIPMENT. INSURE THAT SAFETY DISCONNECT SWITCHES FURNISHED WITH EQUIPMENT ARE IN COMPLIANCE WITH THE NEC. FURNISH AND INSTALL FUSES AND CIRCUIT BREAKERS ARE RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
 - PROVIDE DOOR-IN-DOOR PANELBOARDS WITH QUICK-MAKE, QUICK-BREAK CIRCUIT BREAKERS. FULL-SIZE GROUND BUS AND NEUTRAL BUS. ALL BUSES SHALL BE COPPER. LOAD CENTERS ARE NOT ACCEPTABLE.
 - LABEL RECEPTACLES WITH PANEL DESIGNATION AND CIRCUIT NUMBER.
 - ALL WALL-MOUNTED SWITCHES AND RECEPTACLES SHALL BE RATED AT 20A UNLESS NOTED OTHERWISE.
 - MINIMUM WIRE SIZE IS 12 GA.

LEGEND - ELECTRICAL NOTES

LIGHTING FIXTURE SCHEDULE								
Type Mark	Description	Manufacturer	Model	Luminous Flux	Electrical Data	Lamp	Wattage	Panel
EL	Wall mounted emergency light	Cooper Lighting Sure-Lite	APEL		120 V/1-100 VA	LED		LP1
EL-RH	Up to 60 Feet Coverage	Cooper Lighting	SRM	90 lm	Power In 120 V/1-3 VA	LED	3 W	
EX-EL	Exit sign with side emergency lights	Cooper Lighting Sure-Lite	AP WITH LIGHT	1380 lm	120 V/1-100 VA	LED	9 W	LP1
L1	General Recessed LED	Cooper Lighting	2GR	1380 lm	Power In 120 V/1-0 VA	LED	9 W	LP1
L2	Surface mounted 2 x 4 LED fixture	Cooper Industries, Inc.	HVL LED LD4	8700 lm	120 V/1-96 VA	LD4	96 W	LP1
L3	Pendant LED fixture	Cooper Halo	H2220-RLM	2780 lm	120 V/1-150 VA	A-21	150 W	LP1
L4	16000 Nominal Delivered Lumens, 4000K, General Distribution	Philips Day-Brite - Philips CFI	FBX16LL40-UNV	15819 lm	Luminaire 120 V/1-95 VA	LED	116 W	LP1
L5	Insulated ceiling recessed light fixture	Cooper Industries, Inc.	AIR-TITE	1380 lm	120 V/1-19 VA	LED	19 W	LP1
L6	Surface mounted LED strip light	Cooper Lighting	SNLED BASE	3806 lm	120 V/1-64 VA	LED	42 W	LP1
L7 (MS)	LED Wall Pack with Moiton Sensor	Cooper Lighting	WPLLED-100	6443 lm	120 V/1-70 VA	LED	82 W	LP1

POWER TO BUILDING COMPONENTS

ARCHITECTURAL:

- PROVIDE A DEDICATED BRANCH CIRCUIT TO EACH MOTOR -OPERATED OVERHEAD DOOR, REVOLVING DOOR, OR OTHER MOTOR-OPERATED DOOR.
- PROVIDE A BRANCH CIRCUIT OR CIRCUITS TO PROVIDE POWER TO ALL DOORS WITH ELECTRIC STRIKES, ELECTRIC HOLD-OPEN DEVICES, KEYPADS, OR OTHER DOOR OPERATORS OR CONTROLS REQUIRING ELECTRICAL POWER.
- PROVIDE BRANCH CIRCUITS FOR ELEVATOR POWER UNITS AND CAB LIGHTING. COORDINATE ELECTRICAL REQUIREMENTS WITH THE ELEVATOR VENDOR.
- PROVIDE BRANCH CIRCUITS FOR ILLUMINATED SIGNAGE FURNISHED AND/OR INSTALLED BY THE GENERAL CONTRACTOR.

MECHANICAL:

- PROVIDE BRANCH CIRCUITS FOR ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER, WHETHER SHOWN IN ELECTRICAL PANEL SCHEDULES, IN NOTES, OR IN MECHANICAL EQUIPMENT SCHEDULES INDICATING EQUIPMENT REQUIRES ELECTRICAL POWER. COORDINATE WITH MECHANICAL CONTRACTOR.
- PROVIDE HEATING TRACING AND POWER TO HEAT TRACING FOR EXPOSED PIPING INSTALLED BY THE MECHANICAL CONTRACTOR, OR OTHER PIPING AND EQUIPMENT REQUIRING FREEZE PROTECTION.
- PROVIDE BRANCH CIRCUITS TO POWER CONTROL PANELS FURNISHED AND/OR INSTALLED BY THE MECHANICAL CONTRACTOR.
- PROVIDE BRANCH CIRCUITS FOR WATER TREATMENT EQUIPMENT AND OTHER ANCILLARY EQUIPMENT FURNISHED AND/OR INSTALLED BY THE MECHANICAL CONTRACTOR.
- PROVIDE BRANCH CIRCUITS FOR EQUIPMENT AND/OR CONTROLS INSTALLED BY THE FIRE PROTECTION CONTRACTOR. COORDINATE WITH THE FIRE PROTECTION CONTRACTOR.

PLUMBING:

- PROVIDE BRANCH CIRCUITS FOR ALL PLUMBING EQUIPMENT REQUIRING ELECTRICAL POWER, WHETHER SHOWN IN ELECTRICAL PANEL SCHEDULES, IN NOTES, OR IN PLUMBING EQUIPMENT SCHEDULES INDICATING EQUIPMENT REQUIRES ELECTRICAL POWER. COORDINATE WITH PLUMBING CONTRACTOR.
- HARD-WIRED AUTOMATIC FLUSH VALVES AND AUTOMATIC FAUCETS MAY BE CONNECTED TO LIGHTING CIRCUITS OR RECEPTACLE CIRCUITS IF NOT SHOWN ON DEDICATED CIRCUITS.

DATA & COMMUNICATION ROUGH-IN

- PROVIDE DATA AND TELEPHONE OUTLET ROUGH-IN AS SHOWN ON THE DRAWINGS. COORDINATE EXACT LOCATIONS WITH THE ARCHITECTURAL PLANS AND/OR FURNITURE LAYOUT.
- PROVIDE DATA/COMMUNICATION RACEWAYS CONSISTING OF A 4 X 4 BOX, 1/2" METALLIC RACEWAY TO THE SERVER BOX, AND A PULL STRING.
- PROVIDE PLYWOOD MOUNTING BOARDS FOR TELEPHONE AND DATA SERVICE ENTRY POINTS.
- PROVIDE TWO (2) 4" CONDUITS FOR TELEPHONE AND DATA SERVICE UNLESS OTHERWISE NOTED.
- DO NOT INSTALL SEPARATE OR ISOLATED GROUND RODS FOR DATA/TELEPHONE SYSTEMS. GROUNDING CONDUCTORS FOR THESE SYSTEMS SHALL BE BONDED TO THE BUILDING GROUNDING ELECTRODE SYSTEM.

LIGHTING

- FURNISH AND INSTALL NEW LIGHTING FIXTURES AS SHOWN ON THE DRAWINGS; DO NOT REUSE EXISTING LIGHTING FIXTURES.
- LAY-IN 2 x 4 FLUORESCENT LIGHTING FIXTURES SHALL USE ENERGY EFFICIENT T8 32 WATT LAMPS AND ENERGY EFFICIENT ELECTRONIC "INSTANT START" BALLASTS.
- LAY-IN LIGHT TROFFERS INSTALLED IN ACOUSTIC CEILINGS SHALL BE SECURELY FASTENED TO THE CEILING GRID WITH U.L. LISTED CLIPS. FIXTURES WEIGHING LESS THAN 50 POUNDS SHALL BE SUPPORTED WITH NO. 9 WIRE HANGERS AT TWO DIAGONALLY OPPOSITE CORNERS TO THE STRUCTURE ABOVE. FIXTURES WEIGHING MORE THAN 50 POUNDS SHALL BE SUPPORTED WITH NO. 9 WIRE HANGERS AT ALL FOUR CORNERS TO THE STRUCTURE ABOVE.
- FLEXIBLE WIRING WHIPS SHALL BE SUPPORTED INDEPENDENTLY OF THE FIXTURE.
- CEILING OUTLET BOXES SUPPORTING SURFACE MOUNTED OR PENDANT LIGHT FIXTURES SHALL BE RATED FOR CEILING FAN INSTALLATION, AND SHALL INCORPORATE SUPPORT BARS FASTENED TO TWO JOISTS, TRUSSES, OR BAR JOISTS.

OUTDOOR LIGHTING

- PROVIDE WALL-PACKS AS SHOWN ON THE DRAWINGS. PROVIDE A MINIMUM OF ONE PHOTOCCELL PER WALL.
- PROVIDE MOTION SENSORS AS NOTED.

Branch Panel: LP1

Location: ELECTRICAL 3
 Supply From:
 Mounting: Surface
 Enclosure:

Volts: 120/240 Single
 Phases: 1
 Wires: 3

A.I.C. Rating: 14000
 Mains Type: MCB
 Mains Rating: 225 A
 MCB Rating: 200 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	Poles	Trip	Circuit Description	CKT
1	HVAC Room 5, 4	20 A	1	162 VA	900 VA			Receptacle LOBBY 1	2
3	Receptacle ELECTRICAL 3	20 A	1			360 VA	380 VA	Lighting WAREHOUSE 7	4
5	Lighting - Dwelling Unit	20 A	1	576 VA	1200 VA			Lighting - Dwelling Unit	6
7	Receptacle LOBBY 1	20 A	1			1080 VA	1062 VA	Room 4, 6, 5	8
9	Receptacle OFFICE 2	20 A	1	1260 VA	3750 VA			HP OUTDOOR	10
11	Receptacle WAREHOUSE 7	20 A	1			1080 VA	3750 VA	--	12
13	Power JANITOR 6	20 A	2	4750 VA	180 VA			Receptacle	14
15	--	--	--			4750 VA	180 VA	Receptacle	16
17	Receptacle Room 4, 5, 6	20 A	1	900 VA	1000 VA			FURNACE GF-1	18
19	Room 2	20 A	1			1028 VA	500 VA	HVAC WAREHOUSE 7	20
21	Lighting - Dwelling Unit Room 5, 4, 1	20 A	1	900 VA					22
23									24
25									26
27									28
29									30
31									32
33									34
35	Spare	20 A	1			0 VA	0 VA	Spare	36
37	Spare	20 A	1	0 VA	0 VA			Spare	38
39	Spare	20 A	1			0 VA	0 VA	Spare	40
41	Spare	20 A	1	0 VA	0 VA			Spare	42
				Total Load:	13056 VA		11493 VA		
				Total Amps:	109 A		96 A		

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	8886 VA	100.00%	8886 VA	
Lighting - Dwelling Unit	4260 VA	80.77%	3441 VA	Total Conn. Load: 24532 VA
Lighting - Exterior	420 VA	125.00%	525 VA	Total Est. Demand: 23869 VA
Other	500 VA	100.00%	500 VA	Total Conn.: 102 A
Receptacle	5940 VA	100.00%	5940 VA	Total Est. Demand: 99 A
Power	9500 VA	100.00%	9500 VA	
Lighting	380 VA	100.00%	380 VA	

Notes:

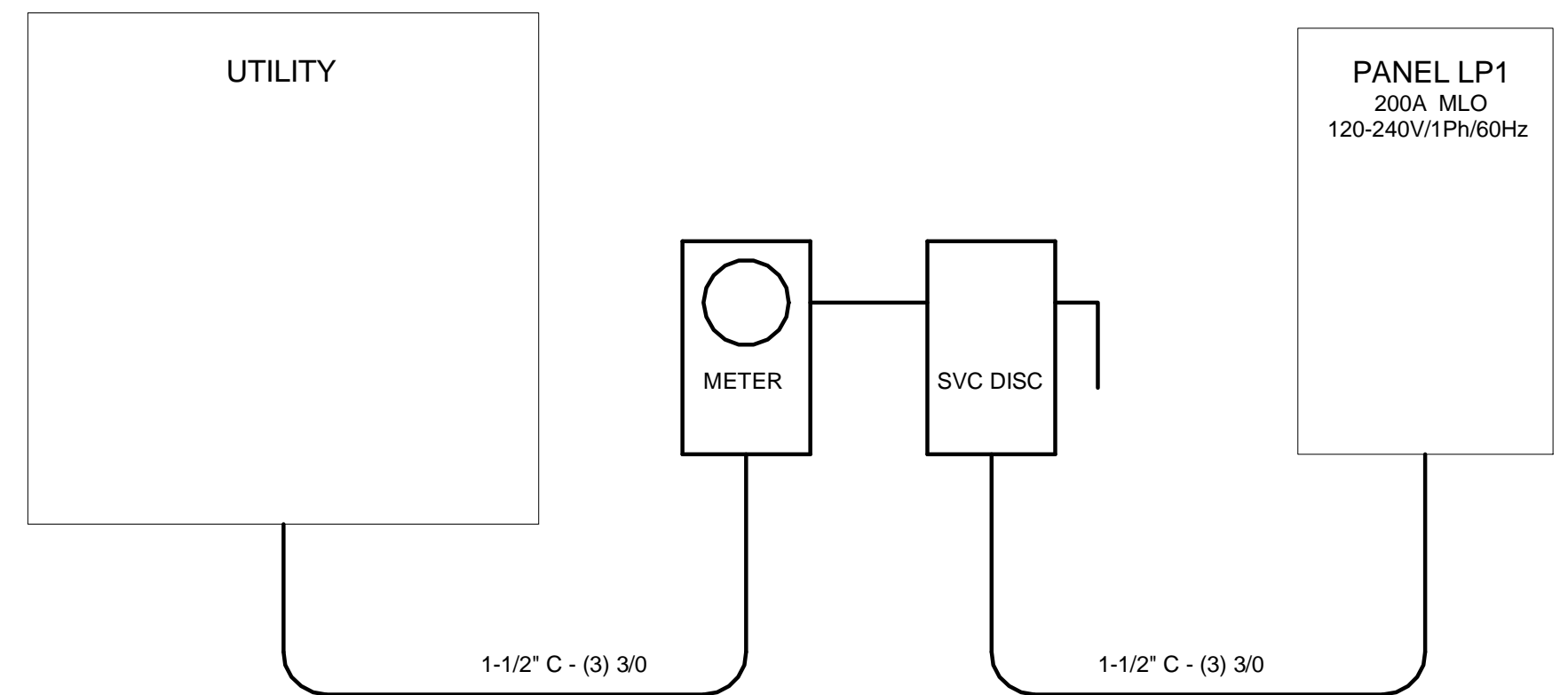
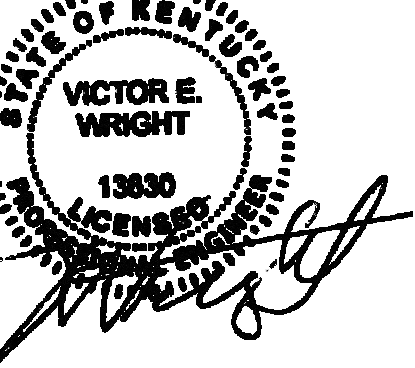


DIAGRAM - ELECTRIAL RISER DIAGRAM



BID DOCUMENTS
FREEMAN LAKE PARK OFFICE
 ELIZABETHTOWN, KY 42701



ELECTRICAL	
PROJECT	2016-1340
DATE	8/18/2017
DRAWN	VW
CHECKED	VW
REVISIONS	
No.	
Date	
Description	

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ELECTRICAL NOTES & SCHEDULES

E-600