LIGHTING

- 2x4 FLUORESCENT FIXTURE — A — ASSOCIATED CONTROL DEVICE; FIXTURE TYPE (SEE LIGHT FIXTURE SCHED.)
- 1x4 FLUORESCENT FIXTURE
- 1x8 FLUORESCENT FIXTURE
- 2x2 FLUORESCENT FIXTURE
- UNDERCABINET FLUORESCENT FIXTURE
- FIXTURE WIRED TO UNSWITCHED EMERGENCY CIRCUIT
- FIXTURE WIRED TO UNSWITCHED NORMAL CIRCUIT
- FIXTURE WIRED TO SWITCHED EMERGECY CIRCUIT
- DOWN LIGHT
- FLUORESCENT STRIP
- WALL MOUNTED FIXTURES
- TRACK LIGHTING
- POLE MOUNTED SITE LIGHTING FIXTURE — A — FIXTURE TYPE (SEE LIGHT FIXTURE SCHED.)
- FLOOD LIGHT
- WALL WASH LIGHT FIXTURE
- EXIT SIGN, CEILING MOUNTED — SHADING INDICATES SIGN FACE; ARROW INDICATES EGRESS DIRECTION
- EXIT SIGN, WALL MOUNTED
- DUAL HEAD EMERGENCY LIGHT BATTERY PACK
- REMOTE EMERGENCY LIGHTING HEAD
- WP — WALL PACK
- OCCUPANCY SENSOR — X — INDICATES CONTROLLED FIXTURE; INDICATES AIMING DIRECTION
- HOME RUN
- $3 — 3-WAY TOGGLE SWITCH
- $X — SINGLE POLE TOGGLE SWITCH — INDICATES CONTROLLED FIXTURE
- $D — DIMMER SWITCH, INCANDESCENT OR FLUORESCENT AS REQUIRED
- $OS — OCCUPANCY SENSOR SWITCH
- DS — DAYLIGHT SENSOR
- LC — LIGHTING CONTACTOR
- OSR — OCCUPANCY SENSOR RELAY
- PC — PHOTO CONTROL

POWER

- (E) (N) — NON-FUSED SAFETY SWITCH — NEMA ENCLOSURE; AMPERE RATING
- (N) F 60A5 60AP — FUSED SAFETY SWITCH, TOP NUMBER INDICATES SWITCH AMPERE RATING, LOWER NUMBER INDICATES FUSE RATING — NEMA ENCLOSURE
- T (N) — MAGNETIC MOTOR STARTER, FVNR UNLESS INDICATED OTHERWISE — NEMA ENCLOSURE; NEMA SIZE (TYP.)
- CB 20/1 — COMBINATION FUSED DISCONNECT/MAGNETIC MOTOR STARTER — FIRST NUMBER INDICATES CIRCUIT BREAKER AMPERE RATING; SECOND NUMBER INDICATES CIRCUIT NEMA STARTER SIZE
- F 20/1 — COMBINATION FUSED DISCONNECT/MAGNETIC MOTOR STARTER — NUMBERS INDICATE DISCONNECT AMPERE RATING/FUSE RATING/NEMA STARTER SIZE
- 20/1 — NON-FUSED DISCONNECT/MAGNETIC MOTOR STARTER — FIRST NUMBER INDICATES AMPERE RATING; SECOND NUMBER INDICATES NEMA STARTER SIZE
- 1 XP — ELECTRIC MOTOR, NUMBER INDICATES HORSEPOWER RATING — XP - EXPLOSION PROOF
- EPO — EMERGENCY POWER OFF PUSH BUTTON STATION
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- WALL MOUNTED SIMPLEX
- WALL MOUNTED DUPLEX
- WALL MOUNTED FOURPLEX
- WALL MOUNTED DEDICATED DUPLEX
- WALL MOUNTED SEPARATE DUPLEX
- WALL MOUNTED DEDICATED FOURPLEX
- WALL MOUNTED HALF DEDICATED FOURPLEX
- SURFACE MOUNTED SIMPLEX
- SURFACE MOUNTED DUPLEX
- SURFACE MOUNTED FOURPLEX
- SURFACE MOUNTED DEDICATED DUPLEX
- SURFACE MOUNTED SEPARATE DUPLEX
- SURFACE MOUNTED DEDICATED FOURPLEX
- SURFACE MOUNTED HALF DEDICATED FOURPLEX
- MILLWORK/FURNITURE MOUNTED SIMPLEX
- MILLWORK/FURNITURE MOUNTED DUPLEX
- MILLWORK/FURNITURE MOUNTED FOURPLEX
- MILLWORK/FURNITURE MOUNTED DEDICATED DUPLEX
- MILLWORK/FURNITURE MOUNTED SEPARATE DUPLEX
- MILLWORK/FURNITURE MOUNTED DEDICATED FOURPLEX
- MILLWORK/FURNITURE MOUNTED HALF DEDICATED FOURPLEX
- F — FLUSH FLOOR SYSTEMS PANEL POWER IN-FEED
- FLUSH FLOOR SIMPLEX
- FLUSH FLOOR DUPLEX
- FLUSH FLOOR FOURPLEX
- FLUSH FLOOR DEDICATED DUPLEX
- FLUSH FLOOR SEPARATE DUPLEX
- FLUSH FLOOR DEDICATED FOURPLEX
- FLUSH FLOOR HALF DEDICATED FOURPLEX
- FLUSH FLOOR SIMPLEX 240V, L6-30R
- FLUSH FLOOR DUPLEX/VOICE/DATA
- FLUSH FLOOR DEDICATED DUPLEX/VOICE/DATA**
- FLUSH FLOOR SEPARATE DUPLEX/VOICE/DATA**
- FLUSH FLOOR DEDICATED FOURPLEX/VOICE/DATA**
- FLUSH FLOOR HALF DEDICATED FOURPLEX/VOICE/DATA**
- FLUSH FLOOR DUPLEX/DATA**

NOTE**:
VOICE/DATA CONNECTIONS SHALL BE PROVIDED BY OTHERS

- CEILING MOUNTED SIMPLEX 240V, L6-30R
- CEILING MOUNTED DUPLEX
- CEILING MOUNTED FOURPLEX
- CEILING MOUNTED FLOOR POKE THRU DEDICATED DUPLEX
- CEILING MOUNTED SEPARATE DUPLEX
- CEILING MOUNTED DEDICATED FOURPLEX
- CEILING MOUNTED HALF DEDICATED FOURPLEX
- PANELBOARD, NORMAL POWER
- PANELBOARD, EMERGENCY POWER
- CB 100A — ENCLOSED CIRCUIT BREAKER — AMPERE RATING
- HS H/O/A — LOCAL SELECTOR SWITCH — H/O/A - HAND/OFF/AUTO
- J — JUNCTION BOX
- M — MANUAL MOTOR STARTER, TOGGLE OPERATED, SINGLE PHASE, 1 OR 2 POLE AS REQUIRED (NO OVERLOAD PROTECTION)
- M OL — MANUAL MOTOR STARTER, TOGGLE OPERATED, SINGLE PHASE. 1,2 OR 3 POLE AS REQUIRED, OVERLOAD PROTECTION
- PB — PUSH BUTTON STATION
- T — TRANSFORMER
- TC — TIME CLOCK
- VAV — VARIABLE AIR VOLUME CONTROL ACTUATORS
- VFD — VARIABLE FREQUENCY DRIVE

ONE-LINE DIAGRAM

- 52 — MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER
- AF AT EO — LOW VOLTAGE DRAWOUT CIRCUIT BREAKER — AF - AMP FRAME; AT - AMP TRIP; EO - ELECTRICALLY OPERATED
- X — MOLDED CASE CIRCUIT — AMPS
- DISCONNECT, ISOLATION OR SAFETY SWITCH
- FUSED CUTOUT
- FUSED LOAD BREAK SWITCH
- MEDIUM VOLTAGE MOTOR STARTER
- CAPACITOR
- DRAWOUT DEVICE
- GROUND
- FUSE
- 4kV — POWER TRANSFORMER — OA - LIQUID TYPE SELF COOLED; AA - DRY TYPE SELF COOLED; FA - FAN COOLED; CONNECTION
- SHIELDED ISOLATION TRANSFORMER
- 480/120V — POTENTIAL TRANSFORMERS — RATIO; NUMBER REQUIRED
- 600/5 — CURRENT TRANSFORMER — RATION; NUMBER REQUIRED
- GROUND FAULT CURRENT TRANSFORMERS
- ATS — TRANSFER SWITCH — ATS - AUTOMATIC; MTS - MANUAL
- T — MAGNETIC MOTOR STARTER FVNR UNLESS OTHERWISE NOTED — FVR - FULL VOLTAGE REVERSING; RVAT - REDUCING VOLTAGE AUTO TRANSFORMER; 2S - TWO SPEED; NEMA SIZE
- 1/2 — MOTOR, NUMBER INDICATES HORSEPOWER
- GENERATOR
- KWH — METER
  - A — AMMETER
  - HZ — FREQUENCY METER
  - KWH — KILOWATT HOUR
  - KVAR — KILOVAR METER
  - PZ — POWER FACTOR METER
  - V — VOLTMETER
  - VAR — VAR METER
  - W — WATTMETER
  - WH — WATT HOURMETER
- AS — AMMETER TRANSFER SWITCH
- DPM — DIGITAL POWER METER
- EO — ELECTRONICALLY OPERATED
- GF — GROUND FAULT
- GT — SHUNT TRIP
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR
- VS — VOLTMETER TRANSFER SWITCH

LIGHTNING PROTECTION & GROUNDING

- ALUMINUM AIR TERMINAL
- EXOTHERMIC WELD CONNECTION
- ROOF PENETRATION AND COPPER DOWNLEAD TO GROUND ROD
- ROOF PENETRATION AND ALUMINUM DOWNLEAD TO LOWER ROOF
- 3/4" x 10'-0" COPPERBOND GROUND ROD

LINE TYPES

- EXISTING
- NEW
- DEMOLITION
- MATCHLINE
- PARTPLAN OUTLINE
- COMMUNICATIONS PROVIDED BY OTHERS
- G — BARE COPPER CONDUCTOR RUN EXPOSED
- G — BARE COPPER CONDUCTOR EMBEDDED IN CONCRETE OR BURIED
- UE — UNDERGROUND ELECTRIC
- OHE — OVHERHEAD ELECTRIC

PANEL DESIGNATORS

H H B 1

- PANEL NUMBER
- SERVICE DESIGNATOR
  - A - SERVICE A
  - B - SERVICE B
  - LSP - LIFE SAFETY PANEL
- VOLTAGE RATING
  - L - LOW VOLTAGE (208V)
  - H - HIGH VOLTAGE (480V)
- POWER TYPE
  - E - EMERGENCY
  - H - HOUSE
  - T - TENANT

ABBREVIATIONS

AMP	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GUARD
BFG	BELOW FINISHED GRADE
BLDG	BUILDING
BOS	BOTTOM OF STEEL
C	CONDUIT, CONDUCTOR
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
DB	DIRECT BURIED
DISC	DISCONNECT
DN	DOWN
E	DENOTES EXISTING TO REMAIN
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EQP	EQUIPMENT
EXIST	EXISTING
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FLR	FLOOR
FWE	FURNISHED WITH EQUIPMENT
FU	FUSE
GEN	GENERATOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
CLG	CEILING
GND	GROUND
HP	HORSEPOWER
HTR	HEATER
IBEC	INSTALLED BY ELECTRICAL CONTRACTOR
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
K	KILO
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KVAR	KILOVOLT-AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT-HOUR
LA	LIGHTNING ARRESTER
LTG	LIGHTING
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MFR	MANUFACTURER
MI	MINERAL INSULATED
MLO	MAIN LUG ONLY
MTD	MOUNTED
MV	MEDIUM VOLTAGE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEG	NEGATIVE
NEUT	NEUTRAL
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OL	OVERLOAD PROTECTION (THERMAL)
PF	POWER FACTOR
PH	PHASE
PVC	POLYVINYL CHLORIDE
RM	ROOM
RSC	RIGID STEEL CONDUIT
RTD	RESISTANCE TEMPERATURE DETECTOR
SN	SOLID NEUTRAL
STP	SHIELDED TWISTED PAIR
STT	SHIELDED TWISTED TRIPLET
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TOS	TOP OF STEEL
TANSF	TRANSFORMER
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
V	VOLT
VA	VOLT-AMPERE
VAR	VOLT-AMPERE REACTIVE
WM	WATT METER
WP	WEATHER PROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

GENERAL NOTES

1. ALL GENERAL NOTES, SYMBOL LISTS AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.
2. CONTRACTOR SHALL REFER TO FIRE ALARM, SECURITY, IT & PUBLIC ADDRESS SYSTEMS DRAWINGS FOR CONDUITS, WIRING REQUIREMENTS & ANY INFORMATION DIRECTLY RELATED TO THESE COMPONENTS.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-70, NATIONAL ELECTRICAL CODE (NEC).
4. ALL MOTOR SAFETY SWITCHES, DISCONNECTS AND MOTOR STARTERS ARE PROVIDED BY DIVISION 16000 UNLESS NOTED AS FURNISHED WITH EQUIPMENT (FWE).
5. UNLESS OTHERWISE NOTED CONVENIENCE RECEPTACLES SHALL BE MOUNTED 18-INCHES AFF, LIGHTING TOGGLE SWITCHES 48-INCHES AFF. DATA SYSTEM OUTLETS 18-INCHES AFF. FIRE ALARM NOTIFICATION DEVICES 80-INCHES AFF OR 6-INCHES BELOW CEILING, WHICHEVER IS LOWER, AND FIRE ALARM MANUAL PULL STATIONS 48-INCHES TO TOP OF DEVICE.
6. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.
7. ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.
8. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH EVERY FEEDER AND BRANCH CIRCUIT.
9. UNLESS OTHERWISE NOTED WIRING SHALL BE 2#12 AWG CONDUCTORS AND #12 GND IN 3/4" C. HOME RUNS FED FROM 20A-1P CIRCUITS IN EXCESS OF 100 FEET SHALL BE #10 AWG.
10. FLEXIBLE CONNECTIONS TO MOTORS SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT, UNLESS OTHERWISE NOTED.
11. LIGHTING TOGGLE SWITCHES SHALL BE COMMERCIAL SPECIFICATION GRADE 120 VOLT, SIDE WIRED AND PROVIDED WITH GROUNDING SCREW. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. COORDINATE COLOR WITH ARCHITECT.
12. CONVENIENCE RECEPTACLES SHALL BE COMMERCIAL SPECIFICATION GRADE GROUNDING TYPE NEMA 5-20R, SIDE WIRED. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. COORDINATE COLOR WITH ARCHITECT.
13. PROVIDE WALL PLATES FOR ALL WIRING DEVICES, NYLON SMOOTH TYPE IN FINISHED AREAS AND GALVANIZED IN UNFINISHED AREAS.
14. ALL WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION. SERVICE ENTRANCE CONDUCTORS SHALL HAVE XHHW INSULATION.

ELECTRICAL LEGEND & GENERAL NOTES

SCALE: NOT TO SCALE

1

SHEET NOTES

GENERAL NOTES

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Issue	Date & Issue Description	By	Check
01	07/11/08	LAM	BHG
	SCHEMATIC DESIGN		
02	09/22/08	LAM	BHG
	DESIGN DEVELOPMENT		
03	12/03/08	LAM	BHG
	75% CONSTRUCTION DOCUMENTS		
04	01/23/09	LAM	BHG
	95% CONSTRUCTION DOCUMENTS		
05	10/26/09	LAM	BHG
	ISSUED FOR PERMIT		

Seal/Signature

Project Name
PWM Terminal Enhancement

Project Number
09.6395.000

CAD File Name
T:\5330101\Sheets\E00.00.dwg

Description
ELECTRICAL LEGEND & GENERAL NOTES

Scale
1"=1"

E00.00

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