

## ELECTRICAL ABBREVIATIONS

1PH SINGLE-PHASE  
1P SINGLE POLE  
2/C TWO-CONDUCTOR  
3/C THREE-CONDUCTOR  
3PH THREE-PHASE  
4/C FOUR-CONDUCTOR  
4W FOUR-WIRE  
A/C UNIT AIR-CONDITIONING UNIT  
A/E ARCHITECT/ENGINEER  
AAP ALARM ANNUNCIATOR PANEL  
AC ALTERNATING CURRENT OR ARMORED CABLE  
ACC ACCESSIBLE  
ADDL ADDITIONAL  
ADJ ADJACENT, ADJOINING  
ADO AUTOMATIC DOOR OPENER  
AF AMPERE FRAME OR AMP FUSE  
AFB ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT  
AFT ABOVE FINISHED FLOOR  
AFG ABOVE FINISHED GRADE  
AH AMPERE HOUR  
AHJ AUTHORITY HAVING JURISDICTION  
AIC AMPERE INTERRUPTING CAPACITY  
ALT ALTERNATE  
AMB OR A AMBIENT  
AMP AMPERE  
ARCH ARCHITECT  
ASC AMPS SHORT CIRCUIT  
AT AMPERE TRIP  
ATS AUTOMATIC TRANSFER SWITCH  
AUTO AUTOMATIC  
AV AUDIO VISUAL  
BAT BATTERY  
BC BARE COPPER  
BD BOARD  
BFBF BELOW FINISH FLOOR  
BIL BASIC INSULATION LEVEL  
BLDG BUILDING  
BRP BRULER PLANT INSTRUMENTATION PANEL  
BRKR BREAKER  
BYP BYPASS  
C CONDUIT  
CAB CABINET  
CALC CALCULATE  
CAPCAPACITY  
CAT CATALOG  
CATV COMMUNITY ANTENNA TELEVISION  
CCR CONTROL CONTACTOR  
CCTV CLOSED CIRCUIT TELEVISION  
CD CABLE  
CD CONSTRUCTION DOCUMENTS  
CF CONTRACTOR FURNISHED  
CF/CI CONTRACTOR FURNISHED/CONTRACTOR INSTALLED  
CF/OI CONTRACTOR FURNISHED/OWNER INSTALLED  
CFE CONTRACTOR FURNISHED EQUIPMENT  
CHW CHILLED WATER  
CHWP CHILLED WATER PUMP  
CKT CIRCUIT  
CKT BRKR CIRCUIT BREAKER  
CLF CURRENT LIMITING FUSE  
CLG CEILING  
CMU CONCRETE MASONRY UNIT  
COAX COAX CABLE  
COMM COMMUNICATION  
COMP COMPARTMENT  
CONC CONCRETE  
CONT CONTINUE  
CONTR CONTRACTOR  
COORD COORDINATE  
CPT CONTROL POWER TRANSFORMER  
CRI COLOR RENDERING INDEX  
CT CURRENT TRANSFORMER  
CTV CABLE TELEVISION  
CU COPPER  
CU FT CUBIC FEET  
CUR CURRENT  
DB DECIBEL OR DIRECT BURIAL  
DC DIRECT CURRENT  
DCP DIMMER CONTROL PANEL  
DEG DEGREES  
DEG F DEGREES FAHRENHEIT  
DEMO DEMOLITION  
DIAG DIAGRAM  
DISC DISCONNECT  
DISTR DISTRIBUTION  
DISTR PNL DISTRIBUTION PANEL  
DMR SW DIMMER SWITCH  
DN DOWN  
DPST DOUBLE POLE, DOUBLE THROW  
DPST DOUBLE POLE, SINGLE THROW  
DRSW DOOR SWITCH  
DS DISCONNECT SWITCH  
DWG DRAWING  
EC EMPTY CONDUIT  
EG EQUIPMENT GROUND  
EL ELEVATION  
ELEC ELECTRIC OR ELECTRICAL  
ELEV ELEVATOR  
EMCP EMERGENCY MONITORING CONTROL PANEL  
EM EMERGENCY  
EMI ELECTROMAGNETIC INTERFERENCE  
EMT ELECTRICAL METALLIC TUBING  
ENC ENCLOSURE  
EPO EMERGENCY POWER OFF  
EPRF EXPLOSION PROOF  
ESMT EASMENT  
EWC ELECTRIC WATER COOLER  
EWH ELECTRIC WATER HEATER  
EXIST EXISTING  
(E) EXISTING

FA FIRE ALARM  
FAP FIRE ALARM ANNUNCIATOR PANEL  
FASL FIRE ALARM SELL  
FABX FIRE ALARM BOX  
FACP FIRE ALARM CONTROL PANEL  
FATC FIRE ALARM TERMINAL CABINET  
FC FOOTCANDLE  
FI FILM ILLUMINATOR  
FMT FIXTURE  
FLA FULL LOAD AMPS  
FLX FLEXIBLE METALLIC CONDUIT  
FLT FLOODLIGHT  
FLUOR FLUORESCENT  
FLUOR FXT FLUORESCENT FIXTURE  
FOJTT TELEPHONE FLOOR OUTLET  
FP FIRE PROTECTION  
FT FEET OR FOOT  
FW SW FUSED SWITCH  
FVNR FULL VOLTAGE NON-REVERSING  
FVR FULL VOLTAGE REVERSING  
G OR GND GROUND OR GENERATOR  
GEN GENERATOR  
GEO GROUND FAULT CIRCUIT INTERRUPTER  
GTS GROUND TERMINAL BOX  
HID HIGH INTENSITY DISCHARGE  
HOA HAND-OFF-AUTOMATIC  
HP HORSEPOWER  
HT HEIGHT  
HZ HERTZ  
IESNA ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA  
IMC INTERMEDIATE METAL CONDUIT  
INCAND INCANDESCENT  
IR INFRARED  
IWH INSTANTANEOUS WATER HEATER  
J-BOX JUNCTION BOX  
KV KILOVOLT  
KVA KILOVOLT AMPERE  
KWAN KILOVOLT AMPERE PER HOUR  
KVAR KILOVOLT AMPERE REACTIVE  
KW KILOWATT  
KWH KILOWATT HOUR  
KWHM KILOWATT HOUR METER  
LED LIGHT EMITTING DIODE  
LF LINEAR FEET (FOOT)  
LM LUMEN  
LP LIGHT POLE  
LPS LOW PRESSURE SODIUM  
LRA LOCKED ROTOR AMPS  
LTC LOCAL TEMPERATURE CONTROL PANEL  
LT LIGHT  
LTS LIGHTING  
LTS PNL LIGHTING PANEL  
LTNG LIGHTNING  
LV LOW VOLTAGE  
MATV MASTER ANTENNA TELEVISION SYSTEM  
MAX MAXIMUM  
MC METAL-CLAD  
MCA MINIMUM CIRCUIT AMPS  
MCB MAIN CIRCUIT BREAKER  
MCC MOTOR CONTROL CENTER  
MDP MAIN DISTRIBUTION PANEL  
MECH MECHANICAL  
MG MOTOR GENERATOR  
MH MANHOLE  
MIN MINIMUM  
MOCP MAXIMUM OVERCURRENT PROTECTION  
MLO MAIN LUGS ONLY  
MT MOUNT  
MTD MOUNTED  
MTG MOUNTING  
MTS MANUAL TRANSFER SWITCH  
MV MEDIUM VOLTAGE  
MVA MEGAVOLT-AMPERE  
MW MEGAWATT MICROWAVE  
NA NOT APPLICABLE  
NEC NATIONAL ELECTRICAL CODE  
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION  
NETUT OR N NEUTRAL  
(N) NEW  
NFPA NATIONAL FIRE PROTECTION ASSOCIATION  
NFC NOT IN CONTRACT  
NL NIGHT LIGHT  
NO NORMALLY OPEN  
NS NO SCALE  
NTS NOT TO SCALE  
OC ON CENTER  
OD OUTSIDE DIAMETER  
OL OVERLOAD  
P POLE  
PA PUBLIC ADDRESS  
PB PANELBOARD, PULL BOX, OR PUSHBUTTON  
PBPV PREFABRICATED BEDSIDE PATIENT UNIT  
PCB POLYCHLORINATED BIPHENYL  
PEC PHOTOELECTRIC CELL  
PED PEDESTAL  
PEND PENDANT  
PF POWER FACTOR  
PH PHASE  
PNL PANEL  
POD POWER OPERATED DAMPER  
PT POTENTIAL TRANSFORMER  
PTRV POWER TYPE ROOF VENTILATION  
PVC POLYVINYL CHLORIDE (PLASTIC)  
PWR POWER

RCP REFLECTED CEILING PLAN  
REC RECESSED  
REPT RECEPTACLE  
RGS RIGID GALVANIZED STEEL  
RM ROOM  
RMS ROOT MEAN SQUARE  
REQD REQUIRED  
SCC SHORT CIRCUIT CAPACITY  
SES SERVICE ENTRANCE SECTION  
SD SMOKE DETECTOR  
SF SQUARE FOOT (FEET)  
SHT SHEET  
SI INTERNATIONAL SYSTEM OF UNITS  
SPEC SPECIFICATION  
SPST SINGLE POLE, SINGLE THROW  
SURF SURFACE  
SW SWITCH  
SWB SW FUSED SWITCH  
SWBD SWB SWITCHBOARD  
SWGR SWITCHGEAR  
TC TIME CLOCK  
TEL TELEPHONE  
TP TWISTED PAIR  
TPS TWISTED PAIR SHIELDED  
TTB TELEPHONE TERMINAL BOARD  
TV TELEVISION  
TYP TYPICAL  
UFD UNDERFLOOR DUCT  
UGND UNDERGROUND  
UL UNDERWRITERS LABORATORY  
UDN UNLESS OTHERWISE NOTED  
UPS UNINTERRUPTIBLE POWER SUPPLY  
UTIL UTILITY  
V VOLT  
VA VOLT AMPERE  
VAR VOLT AMPERE REACTIVE  
VFD VARIABLE FREQUENCY DRIVE  
VOLT VOLTAGE  
W WATT  
WH WATER HEATER  
WP WEATHERPROOF  
XFER TRANSFER  
XFMR TRANSFORMER

## ELECTRICAL SYMBOLS - DIAGRAM

MOTOR, SINGLE-PHASE  
TRANSFORMER  
EARTH GROUND  
JUNCTION BOX  
PULL BOX  
FUSE WITH RATING  
MOLDED CASE CIRCUIT BREAKER  
SWITCH AND FUSE UNIT  
DISCONNECT SWITCH, FUSED  
DISCONNECT SWITCH, UNFUSED  
METER  
AMMETER  
VOLTMETER  
WATTMETER  
WATT-HOUR METER  
ELECTRICAL NOTE

## ELECTRICAL SYMBOLS - POWER PLAN

MOTOR, SINGLE-PHASE  
TRANSFORMER, PLAN  
EARTH GROUND  
JUNCTION BOX  
BRANCH CIRCUIT HOMERUN. LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN  
PULL BOX  
FLOOR OUTLET, DATA COMMUNICATION  
POKE THRU, POWER/DATA COMBO  
PUSH BUTTON STATION  
PANELBOARD CABINET, FLUSH MOUNTED  
PANELBOARD CABINET, SURFACE MOUNTED  
RECEPTACLE, CLOCK HANGER  
RECEPTACLE, DUPLEX, +15"  
RECEPTACLE, DUPLEX ON EMERGENCY POWER, +15"  
RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, +15"  
RECEPTACLE, QUADRUPLX, +15"  
TELEPHONE / DATA OUTLET  
DISCONNECT SWITCH, FUSED  
DISCONNECT SWITCH, UNFUSED  
SWITCH  
F = FUSED SWITCH  
L = LOCK  
M = MANUAL MOTOR STARTING  
MP = MOTOR SNAP WITH PILOT LIGHT  
(THERMAL TYPE)  
PB = PUSH BUTTON STATION  
WP = WEATHER PROOF  
K = KEY OPERATED  
LM = LOW VOLTAGE MASTER  
MC = MOMENTARY CONTACT  
P = WITH PILOT LIGHT  
RC = REMOTE CONTROL  
X = EXPLOSION PROOF  
DASHED SYMBOLS DENOTE EXISTING  
ELECTRICAL NOTE

## ELECTRICAL SYMBOLS - FIRE ALARM PLAN

FIRE ALARM MANUAL PULL STATION, +45"  
SMOKE DETECTOR, CEILING MOUNTED  
HEAT DETECTOR, CEILING MOUNTED  
DUCT SMOKE DETECTOR, SYSTEM TYPE  
VISUAL STROBE LIGHT  
AUDIBLE/VISUAL (HORN/STROBE)  
"15" DENOTES STROBE CANDELA RATING  
ADDRESSABLE MONITOR MODULE  
ADDRESSABLE CONTROL MODULE  
NOTIFICATION APPLIANCE CIRCUIT  
POWER EXTENDER PANEL  
FIRE SPRINKLER WATERFLOW SWITCH  
FIRE SPRINKLER TAMPER SWITCH  
FIRE SPRINKLER TAMPER SWITCH  
DUCT SMOKE DETECTOR, 120V TYPE  
ELECTRICAL NOTE

## ELECTRICAL SYMBOLS - LIGHTING PLAN

SINGLE POLE SWITCH, +48" TOP OF BOX AFF.  
3-WAY SWITCH, +48" TOP OF BOX AFF.  
KEYED SWITCH, +48" TOP OF BOX AFF.  
LIGHT FIXTURE CEILING MOUNTED  
LIGHT FIXTURE, SURFACE MOUNTED FLUORESCENT, 2'x4'  
LIGHT FIXTURE, SURFACE MOUNTED FLUORESCENT, 1'x4'  
LIGHT TRACK WITH HEADS AS SHOWN  
LIGHT FIXTURE, STRIP/INDUSTRIAL FLUORESCENT; LETTER INDICATES TYPE  
LIGHT FIXTURE, WALL MOUNTED  
LIGHT FIXTURE, 2'x2', RECESSED  
LIGHTING, TWO HEAD EMERGENCY BATTERY POWER  
EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN  
EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN  
OCCUPANCY SENSOR POWER SWITCHPAK, CEILING MOUNTED  
OCCUPANCY SENSOR, CEILING MOUNTED  
OCCUPANCY SENSOR, +45"  
EXISTING LIGHT  
LIGHTING FIXTURE TYPE  
ELECTRICAL NOTE

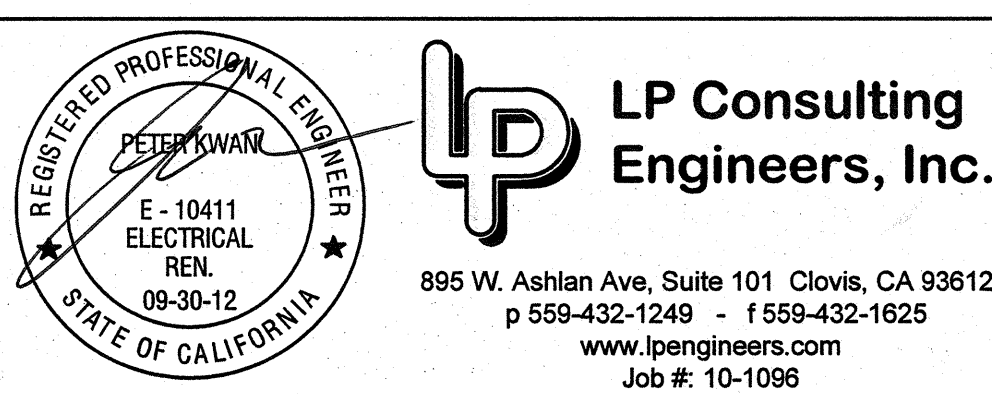
## GENERAL NOTES

- ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.
- LIGHTING FIXTURES WITH MORE THAN TWO LAMPS SHALL HAVE TWO OUTER LAMPS CONTROLLED WITH ONE SWITCH AND INNER LAMP(S) CONTROLLED BY A SECOND SWITCH.
- (1) EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

## GENERAL NOTES - DEMOLITION

- WHERE EXISTING EQUIPMENT, SUCH AS LIGHTING FIXTURES, WIRING DEVICES, CONDUITS, ETC., SHOWN ON PLANS TO BE REMOVED, CUT/OPEN CONDUITS AT THE AREA OF WORK PERIMETER AND REMOVE CONDUIT WITHIN THE WORK AREA, DISCONNECT WIRING AT THE OVERCURRENT PROTECTIVE DEVICE AND REMOVE WIRING COMPLETELY FROM THE ABANDONED CONDUITS.
- REMOVE ALL ACCESSIBLE ABANDONED WIRING OF ALL TYPES, OR CAP AND LABEL IN JUNCTION BOX FOR RE-USE, IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE.
- MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND CONDUCTORS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.
- CONTRACTOR SHALL REMOVE AND REPLACE ANY EXISTING ALUMINUM CONDUCTORS WITH COPPER CONDUCTORS BY CHANGE ORDER. COORDINATE WITH COTR FOR DIRECTION.

## CONSULTANTS:



## ARCHITECT/ENGINEERS:



Drawing Title  
ELECTRICAL SYMBOLS, NOTES AND ABBREVIATIONS

Approved Project Director

Project Title  
BUILDING 24  
SEISMIC CORRECTION  
AND ADDITION

Location  
VAMC FRESNO, CA

Date  
January 31, 2012

Checked  
FK

Drawn  
FK/LB

Project Number  
570-215

Building Number  
24

Drawing Number

ES001  
Dwg. 151 of 180

Office of  
Construction  
and Facilities  
Management

