

ELECTRICAL ABBREVIATIONS		ELECTRICAL SYMBOLS - DIAGRAM		ELECTRICAL SYMBOLS - POWER PLAN		ELECTRICAL SYMBOLS - POWER PLAN		ELECTRICAL SYMBOLS - LIGHTING PLAN	
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 AIRCONDITIONING 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 AFC ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT AFF 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 BFB BELOW FINISH FLOOR BIL BASIC INSULATION LEVEL BLDG BUILDING BPMP BOILER PLANT INSTRUMENTATION PANEL BRKR BREAKER BYP BYPASS C CONDUIT CAB CABINET CALC CALCULATE CAP CAPACITY CAT CATALOG CATY COMMUNITY ANTENNA TELEVISION CCR CONTROL CONTACTOR CCV CLOSED CIRCUIT TELEVISION CS CANDLE 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 COMM COMMUNICATION COMP COMPARTMENT CONC CONCRETE CONT CONTINUOUS 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 C DEGREES CELSIUS DEG F DEGREES FAHRENHEIT DEM DEMOLITION DIAG DIAGRAM DISC DISCONNECT DISTR DISTRIBUTION DISTR PNL DISTRIBUTION PANEL DMR SW DIMMER SWITCH DN DOWN DPDT DOUBLE POLE, DOUBLE THROW DPST DOUBLE POLE, SINGLE THROW DRSW DOOR SWITCH DS DISCONNECT SWITCH DWG DRAWING EG EMPTY CONDUIT EG EQUIPMENT GROUND EL ELEVATION ELEC ELECTRIC OR ELECTRICAL ELEV ELEVATOR EMCP EMERGENCY MONITORING CONTROL PANEL EMER EMERGENCY EMI ELECTROMAGNETIC INTERFERENCE EMT ELECTRICAL METALLIC TUBING ENCL ENCLOSURE EPO EMERGENCY POWER OFF EPRF EXPLOSION PROOF ESMT EASEMENT EWG ELECTRIC WATER COOLER EWH ELECTRIC WATER HEATER EXIST EXISTING (E) EXISTING FA FIRE ALARM FAAP FIRE ALARM ANNUNCIATOR PANEL FABL FIRE ALARM BELL FABX FIRE ALARM BOX FACP FIRE ALARM CONTROL PANEL FATC FIRE ALARM TERMINAL CABINET FC FOOTCANDLE FI FILM ILLUMINATOR FIXT FIXTURE FLA FULL LOAD AMPS FLX FLEXIBLE METALLIC CONDUIT FLT FLOODLIGHT FLUOR FLUORESCENT FLUOR FIXT FLUORESCENT FIXTURE FOUTT TELEPHONE FLOOR OUTLET FP FIRE PROTECTION FT FEET OR FOOT FU FUSED SWITCH FVNR FULL VOLTAGE NON-REVERSING FVR FULL VOLTAGE REVERSING G OR GND GROUND OR GENERATOR GEN GENERATOR GFCI GROUND FAULT CIRCUIT INTERRUPTER GTB 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 KVAH 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 LTG LIGHTING LTG 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 MTR MANUAL TRANSFER SWITCH MV MEDIUM VOLTAGE MVA MEGAVOLT-AMPERE MW MEGAWATT MICROWAVE NA NOT APPLICABLE NEC NATIONAL ELECTRICAL CODE NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NEUT OR N NEUTRAL (N) NEW NFPA NATIONAL FIRE PROTECTION ASSOCIATION NIC 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 PBPB 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 RECP 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 SWBD SWITCHBOARD SWGR SWITCHGEAR TC TIME CLOCK TEL TELEPHONE TP TWISTED PAIR TPS TWISTED PAIR SHIELDED TTB TELEPHONE TERMINAL BOARD TV TELEVISION TYP TYPICAL UF UNDERFLOOR DUCT UGND UNDERGROUND UL UNDERWRITERS LABORATORY UN 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 XFR TRANSFER XFMR TRANSFORMER	REC RECESSED RECP 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 SWBD SWITCHBOARD SWGR SWITCHGEAR TC TIME CLOCK TEL TELEPHONE TP TWISTED PAIR TPS TWISTED PAIR SHIELDED TTB TELEPHONE TERMINAL BOARD TV TELEVISION TYP TYPICAL UF UNDERFLOOR DUCT UGND UNDERGROUND UL UNDERWRITERS LABORATORY UN 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 XFR TRANSFER XFMR TRANSFORMER	⊖ MOTOR, SINGLE-PHASE ⊖⊖ MOTOR, THREE-PHASE ⊖⊖⊖ TRANSFORMER ⊖⊖⊖ WYE CONNECTION ⊖⊖⊖⊖ EARTH GROUND ⊖⊖⊖⊖⊖ JUNCTION BOX ⊖⊖⊖⊖⊖ PULL BOX ⊖⊖⊖⊖⊖ FUSE WITH RATING ⊖⊖⊖⊖⊖ MOLDED CASE CIRCUIT BREAKER ⊖⊖⊖⊖⊖ SWITCH AND FUSE UNIT ⊖⊖⊖⊖⊖ RELAY ⊖⊖⊖⊖⊖ 50 = INSTANTANEOUS OVERCURRENT OR RATE-OF-RISE ⊖⊖⊖⊖⊖ 51 = AC-TIME OVERCURRENT ⊖⊖⊖⊖⊖ 67 = AC-DIRECTIONAL OVERCURRENT ⊖⊖⊖⊖⊖ 86 LOCKING OUT ⊖⊖⊖⊖⊖ DISCONNECT SWITCH, FUSED ⊖⊖⊖⊖⊖ DISCONNECT SWITCH, UNFUSED ⊖⊖⊖⊖⊖ METER ⊖⊖⊖⊖⊖ AMMETER ⊖⊖⊖⊖⊖ VOLTMETER ⊖⊖⊖⊖⊖ WATTMETER	⊖ MOTOR, SINGLE-PHASE ⊖⊖ MOTOR, THREE-PHASE ⊖⊖⊖ TRANSFORMER, PLAN ⊖⊖⊖⊖ EARTH GROUND ⊖⊖⊖⊖⊖ WYE CONNECTION ⊖⊖⊖⊖⊖ JUNCTION BOX ⊖⊖⊖⊖⊖ PULL BOX ⊖⊖⊖⊖⊖ FLOOR OUTLET, DATA COMMUNICATION ⊖⊖⊖⊖⊖ OUTLET, DATA COMMUNICATION ⊖⊖⊖⊖⊖ PUSH BUTTON ⊖⊖⊖⊖⊖ DISTRIBUTION PANEL ⊖⊖⊖⊖⊖ PANELBOARD CABINET, FLUSH MOUNTED ⊖⊖⊖⊖⊖ PANELBOARD CABINET, SURFACE MOUNTED ⊖⊖⊖⊖⊖ RECEPTACLE, DUPLEX ⊖⊖⊖⊖⊖ RECEPTACLE, DUPLEX ON EMERGENCY POWER ⊖⊖⊖⊖⊖ RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER ⊖⊖⊖⊖⊖ RECEPTACLE, QUADRAPLEX ⊖⊖⊖⊖⊖ RECEPTACLE, SINGLE ⊖⊖⊖⊖⊖ RECEPTACLE, SINGLE WITH SWITCH ⊖⊖⊖⊖⊖ RECEPTACLE, SPECIAL PURPOSE A = 120V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 5-20R. B = 208V, 20A, 1 PHASE, 2-POLE, 3W, NEMA 6-20R. C = 120V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 5-30R. D = 208V, 30A, 1 PHASE, 2-POLE, 3W, NEMA 6-30R. E = 208V, 60A, 1 PHASE, 3-POLE, 4W, NEMA 14-60R. F = 208V, 30A, 3 PHASE, 3-POLE, 4W, NEMA 15-30R. G = 208V, 50A, 3 PHASE, 3 POLE, 4W, NEMA 15-30R. H = 208V, 60A, 3 PHASE, 3 POLE, 4W, NEMA 15-60R.	⊖ SWITCH F = FUSED SWITCH K = KEY OPERATED L = LOCK LM= LOW VOLTAGE MASTER M = MANUAL MOTOR STARTING MC= MOMENTARY CONTACT MP= MOTOR SNAP WITH PILOT LIGHT P = WITH PILOT LIGHT (THERMAL TYPE) PB= PUSH BUTTON STATION RC= REMOTE CONTROL WP= WEATHER PROOF X = EXPLOSION PROOF ① ELECTRICAL NOTES Ⓢ SECURITY CAMERA OUTLET Ⓢ SECURITY CAMERA Ⓢ CODE BLUE EMG CALL STATION Ⓢ FIRE ALARM MANUAL PULL STATION Ⓢ SMOKE DETECTOR, CEILING MOUNTED Ⓢ HEAT DETECTOR, CEILING MOUNTED Ⓢ FIRE SPRINKLER WATER FLOW SWITCH Ⓢ FIRE SPRINKLER TAMPER SWITCH Ⓢ POST INDICATING VALVE	⊖ SWITCH BLANK = SINGLE POLE 2 = DOUBLE POLE 3 = THREE-WAY 4 = FOUR-WAY D = DIMMER K = KEY OPERATED L= LOW VOLTAGE L = LOCK LM= LOW VOLTAGE MASTER P = WITH PILOT LIGHT P= PUSH BUTTON STATION RC= REMOTE CONTROL T = TIMER OPERATED WP= WEATHER PROOF X = EXPLOSION PROOF M= OCCUPANCY SENSOR ① ELECTRICAL NOTES Ⓢ SECURITY CAMERA OUTLET Ⓢ SECURITY CAMERA Ⓢ CODE BLUE EMG CALL STATION Ⓢ FIRE ALARM MANUAL PULL STATION Ⓢ SMOKE DETECTOR, CEILING MOUNTED Ⓢ HEAT DETECTOR, CEILING MOUNTED Ⓢ FIRE SPRINKLER WATER FLOW SWITCH Ⓢ FIRE SPRINKLER TAMPER SWITCH Ⓢ POST INDICATING VALVE ⊖ STREET LIGHT WITH BRACKET ⊖ LIGHT POLE, ONE LUMINAIRE ⊖ LIGHT POLE, ONE LUMINAIRE ⊖ LIGHT POLE, TWO LUMINAIRES ⊖ EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN ⊖ EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN ⊖ EXIT SIGN, WALL MOUNTED ⊖ EXIT SIGN, CEILING MOUNTED ⊖ LIGHTING, WALL MOUNTED ⊖ LETTER INDICATES FIXTURE TYPE				

GENERAL NOTES

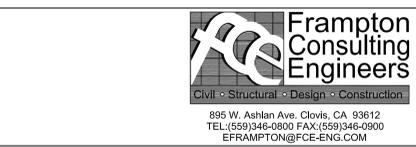
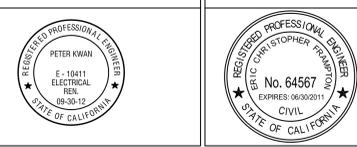
A. (NOT USED).

B. 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.

C. (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.

D. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

Revisions:	Date	CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title ELECTRICAL SYMBOLS & LEGEND	Project Title: VA Northern California Health Care System Parking Structure	Project Number: 612-CS1-102	Office of Construction and Facilities Management	
						Approved: Project Director	Location: 10535 Hospital Way, Mather, CA 95655	Drawing Number: E001		
							Date: 05/19/2011	Checked: PK	Drawn: PK/LS	Dwg. 109 of 122



CONSTRUCTION DOCUMENTS - FINAL SUBMISSION