

Electrical Abbreviations		
1P A, Amp AC ADA ADO AF AF/AT AFF AFG AFI AHU AHJ AIC AL ALT ANNUN APPROX ARCH AS ASIAF AT ATS AUTO AUX AV Ave AWG BATT BD BLDG BMS C CAB CATV CB CCTV CEC CFCI CKT CLG COMB CMRP CONN CONST CONT CO CPT CT CU DEPT DET DIA DISC DIST DS DWG E EB EC EG EGC EI EL ELEC ELEV ELU EM EMS EMT EN EQUIP ER EV EVCS FABP FAC FACP FC FCU FLA FLR GA GAL GALV GC GID GEN GEC GFI GND GRS GYP HOA HP HT HTR HV HVAC IDF IG IMC INV J-B-BOX KOMIL KV KVA KW KWH LCL LTG LV LVL	1 Pole (2P, 3P, 4P, ETC.) Ampere Above Counter Americans with Disabilities Act Automatic Door Opener Amp Frame, Amp Fuse Amp Frame, Amp Trip Above Finished Floor Above Finished Grade Arc Fault Circuit Interrupter Air Handling Unit Authority Having Jurisdiction Ampere Interrupting Capacity Aluminum Alternate Annunciator Approximately Architect, Architectural Amp Switch Amp Switch, Amp Frame Amp Trip Automatic Transfer Switch Automatic Auxiliary Audio Visual Average American Wire Gauge Battery Board Building Building Management System Conduit Cabinet Cable Television Circuit Breaker Closed Circuit Television California Electrical Code Contractor Furnished, Contractor Installed Circuit Ceiling Combination Compressor Connection Construction Continuation Or Continuous Conduit Only Control Power Transformer Current Transformer Copper Department Detail Diameter Disconnect Distribution Safety Disconnect Switch Drawing Existing Emergency Battery Electrical Contractor Emergency Generator Equipment Grounding Conductor Emergency Inverter Existing To Be Relocated Electric, Electrical Elevator Emergency Lighting Unit Emergency Energy Management System Electrical Metallic Tubing New Location Of Relocated Emergency Power Off Equipment Existing To Be Removed Electric Vehicle Electric Vehicle Charging Station Fire Alarm Fire Alarm Booster Power Supply Panel Fire Alarm Control Panel Footcandle Fan Coil Unit Full Load Amps Floor Gauge Gallon Galvanized General Contractor Garbage Disposal Generator Grounding Electrode Conductor Ground Fault Circuit Interrupter Ground Galvanized Rigid Steel (Conduit) Gypsum Board Hands-Off-Automatic Switch Horsepower Height Heater High Voltage Heating, Ventilating And Air Conditioning Intermediate Distribution Frame Isolated Ground Intermediate Metal Conduit Inverter Junction Box Thousand Circular Mils Kilovolt Kilovolt-Ampere Kilowatt Kilowatt Hour Long Continuous Load Lighting Low Voltage Level	M Meter M/M Meter / Main MAX Maximum M/C Momentary Contact MC Mechanical Contractor MCB Main Circuit Breaker MDF Main Distribution Frame MCC Motor Control Center MFR Manufacturer MH Manhole MIC Microphone MIN Minimum MCA Minimum Circuit Amps MISC Miscellaneous MLO Main Lugs Only MOCP Maximum Overcurrent Protection MT Mount MTD Mounted MTS Manual Transfer Switch MTR Motor, Motorized MW Microwave N.C. Normally Closed NEC National Electrical Code NEMA National Electrical Manufacturer's Association NIC Not In Contract NL Night Light N.O. Normally Open NTS Not To Scale OC On Center OFCI Owner Furnished, Contractor Installed OH Overhead OL Overloads PS Pull Section PA Public Address PB Pull Box Or Pushbutton PC Photocell PF Power Factor PH Phase PIV Post Indicating Valve PNL Panel PP Power Pole PR Pair PRI Primary PROJ Projection PT Potential Transformer PVC Polyvinyl Chloride (Conduit) PWR Power REC Receptacle REF Refrigerator RGS Rigid Galvanized Steel (Conduit) RM Room RSC Rigid Steel Conduit RTU Roof Top Unit SC Surface Conduit SCCR Short Circuit Current Rating SEC Secondary SFD Smoke Fire Damper SHT Sheet SIM Similar SLD Single-Line Diagram SPD Surge Protective Device SPEC Specification SS Stainless Steel STD Standard SW Switch SWBD Switchboard SYS System TEL Telephone TR Tampor Resistant TV Television TYP Typical UC Under Counter UG Underground UGPS Underground Pull Section UNO Unless Noted Otherwise (or UNO Unless Otherwise Noted) UPS Uninterruptible Power Supply UT Underground Telephone UTIL Utility V Volt VA Volt-Amperes VD Voltage Drop VFD Variable Frequency Drive W Watt W/ With WH Water Heater W/O Without WP Weatherproof XFMR Transformer
ALT ANNUN APPROX ARCH AS ASIAF AT ATS AUTO AUX AV Ave AWG BATT BD BLDG BMS C CAB CATV CB CCTV CEC CFCI CKT CLG COMB CMRP CONN CONST CONT CO CPT CT CU DEPT DET DIA DISC DIST DS DWG E EB EC EG EGC EI EL ELEC ELEV ELU EM EMS EMT EN EQUIP ER EV EVCS FABP FAC FACP FC FCU FLA FLR GA GAL GALV GC GID GEN GEC GFI GND GRS GYP HOA HP HT HTR HV HVAC IDF IG IMC INV J-B-BOX KOMIL KV KVA KW KWH LCL LTG LV LVL	1 Pole (2P, 3P, 4P, ETC.) Ampere Above Counter Americans with Disabilities Act Automatic Door Opener Amp Frame, Amp Fuse Amp Frame, Amp Trip Above Finished Floor Above Finished Grade Arc Fault Circuit Interrupter Air Handling Unit Authority Having Jurisdiction Ampere Interrupting Capacity Aluminum Alternate Annunciator Approximately Architect, Architectural Amp Switch Amp Switch, Amp Frame Amp Trip Automatic Transfer Switch Automatic Auxiliary Audio Visual Average American Wire Gauge Battery Board Building Building Management System Conduit Cabinet Cable Television Circuit Breaker Closed Circuit Television California Electrical Code Contractor Furnished, Contractor Installed Circuit Ceiling Combination Compressor Connection Construction Continuation Or Continuous Conduit Only Control Power Transformer Current Transformer Copper Department Detail Diameter Disconnect Distribution Safety Disconnect Switch Drawing Existing Emergency Battery Electrical Contractor Emergency Generator Equipment Grounding Conductor Emergency Inverter Existing To Be Relocated Electric, Electrical Elevator Emergency Lighting Unit Emergency Energy Management System Electrical Metallic Tubing New Location Of Relocated Emergency Power Off Equipment Existing To Be Removed Electric Vehicle Electric Vehicle Charging Station Fire Alarm Fire Alarm Booster Power Supply Panel Fire Alarm Control Panel Footcandle Fan Coil Unit Full Load Amps Floor Gauge Gallon Galvanized General Contractor Garbage Disposal Generator Grounding Electrode Conductor Ground Fault Circuit Interrupter Ground Galvanized Rigid Steel (Conduit) Gypsum Board Hands-Off-Automatic Switch Horsepower Height Heater High Voltage Heating, Ventilating And Air Conditioning Intermediate Distribution Frame Isolated Ground Intermediate Metal Conduit Inverter Junction Box Thousand Circular Mils Kilovolt Kilovolt-Ampere Kilowatt Kilowatt Hour Long Continuous Load Lighting Low Voltage Level	M Meter M/M Meter / Main MAX Maximum M/C Momentary Contact MC Mechanical Contractor MCB Main Circuit Breaker MDF Main Distribution Frame MCC Motor Control Center MFR Manufacturer MH Manhole MIC Microphone MIN Minimum MCA Minimum Circuit Amps MISC Miscellaneous MLO Main Lugs Only MOCP Maximum Overcurrent Protection MT Mount MTD Mounted MTS Manual Transfer Switch MTR Motor, Motorized MW Microwave N.C. Normally Closed NEC National Electrical Code NEMA National Electrical Manufacturer's Association NIC Not In Contract NL Night Light N.O. Normally Open NTS Not To Scale OC On Center OFCI Owner Furnished, Contractor Installed OH Overhead OL Overloads PS Pull Section PA Public Address PB Pull Box Or Pushbutton PC Photocell PF Power Factor PH Phase PIV Post Indicating Valve PNL Panel PP Power Pole PR Pair PRI Primary PROJ Projection PT Potential Transformer PVC Polyvinyl Chloride (Conduit) PWR Power REC Receptacle REF Refrigerator RGS Rigid Galvanized Steel (Conduit) RM Room RSC Rigid Steel Conduit RTU Roof Top Unit SC Surface Conduit SCCR Short Circuit Current Rating SEC Secondary SFD Smoke Fire Damper SHT Sheet SIM Similar SLD Single-Line Diagram SPD Surge Protective Device SPEC Specification SS Stainless Steel STD Standard SW Switch SWBD Switchboard SYS System TEL Telephone TR Tampor Resistant TV Television TYP Typical UC Under Counter UG Underground UGPS Underground Pull Section UNO Unless Noted Otherwise (or UNO Unless Otherwise Noted) UPS Uninterruptible Power Supply UT Underground Telephone UTIL Utility V Volt VA Volt-Amperes VD Voltage Drop VFD Variable Frequency Drive W Watt W/ With WH Water Heater W/O Without WP Weatherproof XFMR Transformer

Electrical Symbol Legend		
Lighting Symbols		
	Lighting Fixtures, Typical, Rectangular (Various Symbols) Filled circles indicate recessed. Open circles indicate surface-mounted. Diagonal line indicates lensed. Outer dots indicate suspended.	
	Lighting Fixtures, Typical, Round (Various Symbols) Center dot indicates pendant. Diagonal line indicates lensed. Chevron indicates wall wash.	
	Strip Fixture	
	Directional Light, Track Light, Flood Light	
	Linear Light, Tape Light	
	Emergency Lighting Unit, Ceiling-Mounted, Integral Battery	
	Emergency Lighting Unit, Ceiling-Mounted, Remote Battery	
	Emergency Lighting Unit, Wall-Mounted, Integral Battery	
	Emergency Lighting Unit, Wall-Mounted, Remote Battery	
	Exit Light, Ceiling-Mounted. Shading and arrows indicate faces and directional chevrons.	
	Exit Light, Wall-Mounted. Shading and arrows indicate faces and directional chevrons.	
	Exit/ELU Combo	
	Pole/Area Lights	
	Post-Top Area Light	
	Bollard Light	
	Diagonal hatch indicates light on a critical circuit.	
	Solid hatch indicates light on an emergency or life safety circuit.	
	Single-Pole Switch (for lighting) Switch Modifiers: 3: 3-Way 4: 4-Way K: Keyed D: Dimming T: Timer OS: Occupancy Sensor VS: Vacancy Sensor LV: Low-Voltage M: Motor-Rated	
	Occupancy Sensor	
	Daylight Harvesting Sensor	
	1 Button Dimming Switch, With Occupancy Sensor	
	0-10V Dimming Controller With Integral Relays	
	Emergency Lighting Control Unit	
	Low Voltage Wall Switch With Dimming Zones # = Zone	
Lighting Tags		
	Top Value: Fixture Type ID (Underlined) Bottom Value, Lowercase Letter: Switch ID Bottom Value, Number(s): Circuit Number Bottom Value, Uppercase Letter(s): Panel ID Indicates Source of Emergency Power: EG: Emergency Generator EB: Emergency Battery EI: Emergency Inverter	
Absence of a switch designation on a lighting fixture indicates fixture is controlled by the only switch in the space. An "x" in place of the switch designation indicates unswitched.		
	a Switch ID indicated by a lowercase letter. Switch IDs are unique per space. A switch with an ID "a" controls all devices within the space in which it is located tagged with "a". A switch without a tagged ID controls all lighting fixtures within a space. ID tags may be used on control devices other than switches, such as occupancy sensors or contactors.	
Telecom Symbols		
	Wall	
	Ceiling	
	Floor	
	Data Outlet	
	Telephone Outlet	
	Data/Telephone Outlet	
Outlet Modifiers: ##: Height AFF OC AC: Above Counter Wireless Access Point		
	TV Outlet	
	Communication System Call Station	
Power Symbols		
	Simplex Receptacle	
	Duplex Receptacle	
	Quadplex Receptacle	
	Special Receptacle, Type as Indicated	
Receptacle Modifiers: ##: Height AFF OC AC: Above Counter GFI: Ground-Fault Circuit Interrupter WP: Weatherproof In-Use Cover		
	Half shading indicates split (typically switched)	
	Outside shading indicates emergency circuit	
	Title-24 Compliant Controlled Receptacle	
	Poke-Thru Flush	
	Poke-Thru Surface Flush	
	Slab Recessed	
	Single-Pole Switch (for power) Switch Modifiers: K: Keyed T: Timer AC: Above-Counter M: Motor-Rated	
	Multiolet Assembly Filled squares indicate 120V outlet Open squares indicate with USB	
	Cord Reel, Device Varies	
	Drop Cord, Device Varies	
	Furniture Feed Ceiling	
	Furniture Feed Wall	
	Furniture Feed Floor Box	
	Junction Box Ceiling	
	Junction Box Wall	
	Seismic Sensor	
	Power Pack Ceiling	
	Emergency Power Off	
	Door Opener Push Plate	
	Power Meter	
	Safety Switch, Fused	
	Safety Switch, Unfused	
	Motor Starter	
	Combination Starter/Disconnect	
	Smoke Fire Damper (Provide With Motor Rated Switch)	
	Motorized Damper (Provide With Motor Rated Switch)	
	Plug Load Controller	
	Media Panel	
	Single Or Dual Electric Vehicle Charging Station - Installed Complete With Wiring	
	Single Or Dual Electric Vehicle Charging Station - Provide J-Box With 1" C.O.	
	Low Power Level 2 Electric Vehicle Charger Station - Provide Level 2 Outlet By Orange Charger (or Equal)	
Power Device and Equipment Tags		
	Electrical Device Tags: Uppercase letter(s) indicates Panel ID and circuit number. Lowercase letter indicates designation of controlling switch (where applicable). Equipment Tags: Equipment ID is indicated by an underlined tag adjacent to the equipment. See the equipment connection schedule for description, electrical requirements, and panel and circuit number. Symbols/graphic appearance of equipment varies.	
	Wiring Wiring Turned Up Wiring Turned Down Concealed EMT conduit with wire 2#12AWG and 1#12AWG green ground, 3/4" minimum. Concealed EMT conduit with wire 3#12AWG and 1#12AWG green ground, 3/4" minimum. Concealed EMT conduit with wire 3#10AWG and 1#10AWG green ground, 3/4" minimum. Underground conduit and #10 wire, unless noted otherwise 3/4" PVC minimum. Home run to branch circuit panelboard. The equipment name and circuit number(s) are indicated, separated by a hyphen. Home runs are only intended to indicate panel and circuit number. Actual homerun location shall be field-determined by the contractor.	
	SB1	
	MDP	
	HP1A	
	LP1A	
	Dry Type Transformer: See Single-Line Diagram for description and requirements.	
Security Symbols		
	Security Camera PTZ: Pan/Tilt/Zoom 360°: 360 Degree. Provide J-Box with 3/4", and CAT-5E back to closest IDF Room. 180°: 180 Degree. Provide J-Box with 3/4", and CAT-5E back to closest IDF Room.	
	Card Reader	
	Card Reader with Keypad	
	Security Keypad	
	Lockdown Button	
	Closed Circuit TV Outlet	
	Door Contact	
	Electric Strike	
	Intercom	
	Magnetic Lock	
	Request to Exit Button	
	Request to Exit Sensor	
	Motion Detector	
	Security Control Unit SCP: Security Control Panel SPS: Security Power Supply Unit	
	On-Line Lock. Locks shall be Salto. Provide complete system.	
	Off-Line Lock. Locks shall be Salto. Provide complete system.	
Fire Alarm Symbols		
	Door Holder	
	Smoke Detector	
	Combination Smoke and CO2 Sensor	
	Fire Alarm Control Unit EVAC: Voice Evacuation Control Panel FAA: Fire Alarm Annunciator FACP: Fire Alarm Control Panel FATC: Fire Alarm Terminal Cabinet NACP: Notification Appliance Circuit Panel FAMN: Fire Alarm Mass Notification Control Panel	
Construction Phasing		
(Typical All Symbols and Equipment)		
	(E) Existing	
	(EL) Existing to Be Relocated	
	(EN) New Location Of Relocated	
	(ER) Existing to Be Removed	
	Existing to Be Demolished	
	Area Not in Contract	
	# or # Keynote	
	Underground Line Type	
Single-Line Symbols and Descriptions		
	Through Feed Lugs	
	Panelboard	
	Transformer	
	Grounding Electrode and Conductor	
	Circuit Breaker	
	Utility Meter with C.T.S.	
	Automatic Transfer Switch	
	Circuit Breaker with Electronic Sensing, Timing and Tripping Control with Field Interchangeable with Discrete Field Adjustable Setting Independent of Other Adjustments A: Arch Flash Reduction L: Lone Time Trip S: Short Time Overcurrent Trip I: Instantaneous Trip G: Ground Fault Trip, Ground Fault Sensing Integral with Circuit Breaker	
	Surge Protective Device	
	Digital Submeter Revenue Grade	
	Shunt Trip	

600V CU TRANSFORMER SECONDARY FEEDER SCHEDULE (XXXXX)					
Feeder Designation	Feeder Ampacity	Sets	Conduit Size	Conductor Quantity and size per conduit	
90T	50	1	1"	3 #6, 1 #6 N, 1 #8 G	
100T	100	1	1-1/2"	3 #1, 1 #1 N, 1 #8 G	
150T	150	1	1-1/2"	3 #1/0, 1 #1/0 N, 1 #6 G	
250T	250	1	1-1/2"	3 #250KCMIL, 1 #250KCMIL N, 1 #2 G	
400T	400	1	4"	3 #600KCMIL, 1 #600KCMIL N, 1 #1/0 G	
500T	500	2	3"	3 #250KCMIL, 1 #250KCMIL N, 1 #2/0 G	
800T	800	2	4"	3 #600KCMIL, 1 #600KCMIL N, 1 #3/0 G	
1000T	1000	3	4"	3 #500KCMIL, 1 #500KCMIL N, 1 #3/0 G	
1600T	1600	4	4"	3 #600KCMIL, 1 #600KCMIL N, 1 #3/0 G	
2500T	2500	6	4"	3 #600KCMIL, 1 #600KCMIL N, 1 #3/0 G	

600V 1PH + N CU FEEDER SCHEDULE (XXXX)					
Feeder Designation	Feeder Ampacity	Sets	Conduit Size	Conductor Quantity and size per conduit	
202	20	1	3/4"	2 #12, 1 #12 N, 1 #12 G	
302	30	1	3/4"	2 #10, 1 #10 N, 1 #10 G	
402	40	1	1"	2 #8, 1 #8 N, 1 #10 G	
502	50	1	1"	2 #6, 1 #6 N, 1 #10 G	
602	60	1	1-1/4"	2 #4, 1 #4 N, 1 #10 G	
702	70	1	1-1/4"	2 #4, 1 #4 N, 1 #8 G	
802	80	1	1-1/4"	2 #2, 1 #2 N, 1 #8 G	
902	90	1	1-1/4"	2 #2, 1 #2 N, 1 #8 G	
1002	100	1	1-1/2"	2 #1, 1 #1 N, 1 #8 G	
1252	125	1	1-1/2"	2 #1, 1 #1 N, 1 #6 G	
1502	150	1	1-1/2"	2 #1/0, 1 #1/0 N, 1 #6 G	
1752	175	1	2"	2 #2/0, 1 #2/0 N, 1 #6 G	
2002	200	1	2"	2 #3/0, 1 #3/0 N, 1 #6 G	