

# GENERAL NOTES

- ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF NATIONAL ELECTRIC CODE AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL CODES. WHERE THE PLANS SHOW MORE RESTRICTIVE REQUIREMENTS, THE PLANS SHALL GOVERN BUT NOTHING ON THESE PLANS SHALL BE INTERPRETED AS AUTHORITY TO VIOLATE ANY CODE OR REGULATION.
- PROVIDE ALL LABOR, MATERIALS, APPLIANCES, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION, AND SERVICES NECESSARY FOR AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING, INSTALLATION AND MAKING FULLY OPERATIONAL THE WORK OF THIS DIVISION, COMPLETE, AND AS SHOWN AND/OR SPECIFIED HEREIN, EXCEPT SUCH MATERIAL OR EQUIPMENT SPECIFICALLY INDICATED AS PROVIDED BY THE OWNER OR BY OTHERS.
- IN THE EVENT OF CONFLICT OR INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR SPECIFICATIONS, THE PLAN, NOTE OR SPECIFICATION WHICH PRESCRIBES AND ESTABLISHES THE MORE COMPLETE JOB OR THE HIGHER STANDARD SHALL PREVAIL.
- THE CONTRACTOR SHALL EXAMINE THE SITE AND THE AREA WHERE THE WORK IS TO BE PERFORMED, BY SUBMITTING A BID ON THE WORK, HE SHALL BE DEEMED TO HAVE ACCEPTED THE SITE CONDITION.
- FINISH AND INSTALL ALL CONDUITS, WIRES, BOXES, SWITCHES, LIGHT FIXTURES(WITH LAMPS), RECEPTACLES, SERVICE DEVICES, SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, AND ALL RELATED ITEMS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.
- FURNISH AND INSTALL CONDUIT AND CONDUCTORS FOR CABLE TV, TELEPHONE, DATA SYSTEMS, AND SECURITY SYSTEM AS OUTLINED IN PLANS.
- ALL MATERIAL SHALL BE NEW AND OF THE HIGHEST QUALITY, AND SHALL MEET THE FULL APPROVAL OF OWNER OR ENGINEER.
- MATERIALS FURNISHED SHALL BE STANDARD PRODUCTS OF THE MANUFACTURER REGULARLY ENGAGED IN MANUFACTURING OF SUCH PRODUCT. USE LATEST DESIGN THAT COMPLIES WITH THE SPECIFICATION REQUIREMENTS WITH AT LEAST 12 MONTH OF SUCCESSFUL RECORD.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BEAR THE UNDERWRITERS' LABEL (UL) AND SHALL BE INSTALLED IN THE MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
- ALL WORK AND MATERIALS OF THIS CONTRACT SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE. LIGHTING FIXTURES BALLASTS SHALL BE GUARANTEED FOR TWO(2) YEARS. BATTERY PACKS SHALL BE GUARANTEED FOR FIVE YEARS.
- NO EXTRA WORK SHALL BE UNDERTAKEN WITHOUT WRITTEN APPROVAL OF THE OWNER OR HIS REPRESENTATIVE.
- CONTRACTOR SHALL OBTAIN AND PAY FOR PERMIT AND INSPECTIONS REQUIRED.
- THE DRAWINGS INDICATE DIAGRAMMATICALLY THE DESIRED LOCATIONS OR ARRANGEMENTS OF CONDUIT RUNS ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE WORK AS TO SERVE THE POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF STRUCTURAL CONDITIONS ENCOUNTERED.
- LOCATIONS SHOWN ON THE INTERIOR AND MECHANICAL DRAWINGS TAKE PRECEDENCE OVER THOSE SHOWN ON THE ELECTRICAL DRAWINGS. REFER TO MECHANICAL, PLUMBING AND HEAT/AC DRAWINGS FOR THE EXACT LOCATIONS, RATINGS, TYPE, CONNECTIONS, WIRING DIAGRAM AND AUXILIARY DEVICES.
- REFER TO THE REFLECTED CEILING PLAN AND THE INTERIOR FLOOR PLANS FOR THE EXACT LOCATIONS OF LIGHTING FIXTURES AND DEVICES. VERIFY LOCATION OF LIGHTS WITH EXPOSED DUCTWORK AND PIPING.
- WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- THE ELECTRICAL CONTRACTOR IN COOPERATION WITH THE MECHANICAL CONTRACTOR SHALL DEMONSTRATE THAT ALL EQUIPMENT IS IN PERFECT WORKING ORDER. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL POWER CONNECTIONS OVER 100V TO A/C EQUIPMENT.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CONDUIT ONLY WITH PULL ROPE FOR LOW VOLTAGE CONTROL WIRING FOR THE A/C EQUIPMENT. CONTROL WIRING FROM THERMOSTATS AND OVERRIDES TO A/C UNITS IS BY THE MECHANICAL CONTRACTOR.
- THE CONTRACTOR MAY USE TEMPORARY POWER AND WATER AVAILABLE FOR LIGHTING AND SMALL TOOLS. TOILET FACILITIES ON SITE MAY BE USED BY CONTRACTOR PERSONNEL.
- SUBMIT THREE (3) SETS OF SHOP DRAWINGS FOR APPROVAL TO ENGINEER FOR ALL PANELBOARDS. DRAWINGS SHALL BE PICTORIAL AND INDICATE ALL MATERIAL RATINGS, DIMENSIONS AND FINISHES.
- CONTRACTOR SHALL MAINTAIN, ON THE JOB, A SET OF PRINTS OF WHICH ALL DAILY CHANGES IN LOCATION OR RUNS ARE CAREFULLY INDICATED. THESE PRINTS SHALL BE DELIVERED TO THE OWNER AT THE CONCLUSION OF THE PROJECT, INDICATING 'AS BUILT' CONDITION.
- ACCOMPLISH ALL TEST NECESSARY TO DEMONSTRATE TO THE SATISFACTION OF THE OWNER THAT ALL EQUIPMENT IS IN PROPER WORKING ORDER AND IS IN COMPLIANCE WITH THE PLANS.
- CLEAN UP ALL TRASH AND DEBRIS BY THE WORK DAY.
- THE GENERAL CONDITIONS OF THE CONTRACT APPLY TO ALL WORK HEREIN SPECIFIED.
- CUTTING, DRILLING, AND PATCHING SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE SPECIFICATIONS.
- ROUGH- AND FINISHED-CONCRETE WORK REQUIRED SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE SPECIFICATIONS.
- SUBSTITUTIONS: MANUFACTURER AND CATALOG NUMBERS INDICATED ARE FOR THE PURPOSES OF ESTABLISHING STANDARDS OF QUALITY, ALLOWABLE SIZE OF COMPONENTS, AND THE TYPE OF MATERIALS TO BE USED, PRODUCTS BY OTHER MANUFACTURERS WILL BE CONSIDERED IF THE SUBMITTAL ASSOCIATED WITH THAT ITEM IS CLEARLY MARKED " THIS ITEM IS A SUBSTITUTION" AND IT COMPLIES WITH THE FOLLOWING: (1) QUALITY AND CAPACITY ARE EQUAL TO OR BETTER THAN SPECIFIED ITEM, AND (2) COMPONENTS FIT IN ALLOWED SPACES AND ARE SIMILAR IN APPEARANCE. NO SUBSTITUTION ITEMS MAY BE FURNISHED OR INSTALLED WITHOUT WRITTEN APPROVAL OF THE OWNER.
- OPERATIONS AND MAINTENANCE MANUALS: THREE COPIES OF OPERATING AND MAINTENANCE DATA FOR ALL ELECTRICAL EQUIPMENT, FOUND IN A HARDCOVER THREE-RING PLASTIC BINDER WITH A TABLE OF CONTENT.
- COORDINATION: PROVIDE NECESSARY COORDINATION WITH SERVING UTILITY COMPANIES TO ESTABLISH SERVICE ENTRANCE FACILITIES, AND TO MEET OTHER REQUIREMENTS FOR A COMPLETE AND OPERABLE INSTALLATION. VERIFY SIZE AND ORIENTATION OF EQUIPMENT TO BE ENSURE ADEQUATE WORKING CLEARANCE AND VENTILATION. COORDINATE THE WORK OF OTHER TRADES, VERIFY REQUIRED WORKING CLEARANCES, SUPPORTS, BRACKETS, DOOR SWINGS, AND OTHER ITEMS AFFECTING THE WORK OF THIS SECTION. VERIFY THE METHODS OF INSTALLING AND CONNECTING EQUIPMENT, OUTLETS, AND OTHER ITEMS.
- QUALITY ASSURANCE: ALL MATERIALS AND THE MANNER IN WHICH THEY ARE APPLIED AND INSTALLED SHALL BE IN COMPLIANCE WITH THE LATEST RULES AND REGULATIONS OF THE CALIFORNIA CODE OF REGULATIONS TITLE 24, PART 3 "CALIFORNIA ELECTRICAL CODE" THE NATIONAL ELECTRICAL CODE; AND OTHER APPLICABLE STATE- AND LOCAL-LAWS AND REGULATIONS. PROTECTION AND CLEANING: ALL PARTS OF EQUIPMENT AND MATERIALS SHALL BE THOROUGHLY CLEANED. PROTECT ALL WORK, MATERIALS AND EQUIPMENT FROM DAMAGE FROM ANY CAUSE AND PROVIDE ADEQUATE AND PROPER STORAGE FACILITIES DURING THE PROGRESS OF THE WORK. PROVIDE FOR THE SAFETY AND GOOD CONDITION OF ALL THE WORK UNTIL FINAL ACCEPTANCE BY THE OWNER. REPLACE ALL DAMAGED OR DEFECTIVE WORK, MATERIALS AND EQUIPMENT PRIOR TO REQUESTING FINAL ACCEPTANCE. PROVIDE AND MAINTAIN SUITABLE BARRIERS, WARNING SIGNS, LIGHTS, ETC. WHERE REQUIRED FOR PROTECTION OF THE PUBLIC AND OCCUPANTS ABOUT THE SITE. AT THE CONCLUSION OF EACH WORKDAY, THE PREMISES SHALL BE LEFT FREE FROM DEBRIS INCIDENTAL TO THE WORK, AND IN A CONDITION ACCEPTABLE TO THE OWNER OR TENANT.

# MATERIAL

- CONDUITS OUTSIDE THE BUILDING SHALL BE RIGID STEEL STANDARD WEIGHT HOT DIPPED GALVANIZED THREADED AT BOTH ENDS OR EMT WHERE APPLICABLE.
- UNDERGROUND CONDUITS IF ANY SHALL BE PVC SCHEDULE 40.
- THE WIRING CAN BE ROMEX WHERE PERMITTED BY LOCAL JURISDICTION. ALL OTHER CONDUITS INSIDE THE BUILDING SHALL BE ELECTRICAL METALLIC TUBING (EMT) OR MC CABLE UNLESS IF SUBJECT TO DAMAGE. CONDUITS SUBJECT TO PHYSICAL DAMAGE SHALL BE RIGID GALVANIZED STEEL CONDUIT.
- FLEXIBLE LIQUID TIGHT METAL CONDUITS SHALL BE USED FOR FINAL CONNECTION TO ROTATING EQUIPMENT, CONDENSING UNITS, EXHAUST FAN AND FAN COILS. A GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FLEXIBLE METALLIC CONDUIT RUNS.
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH IT MAY BE SUBJECTED.
- ALL DEVICES INSTALLED OUTSIDE OR IN DAMP LOCATIONS SHALL BE APPROVED WEATHERPROOF.
- CONDUCTORS SHALL BE COPPER WITH THHN/THWN INSULATION. INSULATED WIRES AND CABLES MANUFACTURED MORE THAN SIX (6) MONTHS PRIOR TO DATE OF DELIVERY TO THE SITE SHALL NOT BE USED. ALL WIRE SHALL BE UL LISTED, RATED FOR 600 VOLTS, NO 12 MINIMUM SIZE EXCEPT FOR CONTROLS OR OTHERWISE AS NOTED.
- GROUNDING CONDUCTORS SHALL BE SOFT DRAWN INSULATED COPPER WIRE AS INDICATED WITH GREEN COLORED INSULATION OR GREEN PLASTIC IDENTIFICATION BENDS. GROUNDING AND BONDING OF EQUIPMENT SHALL CONFORM TO UL 467.
- WIRES SHALL BE SPLICED WITH AN INSULATED CONNECTOR. SPLICES OF WIRES NO. 8 AWG AND LARGER SHALL BE MADE WITH APPROVED SOLDERLESS CONNECTORS AND THEN SHALL BE COVERED NEATLY WITH INSULATING TAPES, HOT MOLDED COMPOSITION COVERS, OR OTHER APPROVED EQUIVALENT TO THE CONDUCTOR INSULATION.
- CONNECTORS AND TERMINALS CONFORMING TO UL 486 SHALL BE DESIGNATED FOR USE WITH THE SPECIFIC ASSOCIATED CONDUCTOR MATERIAL, AND SHALL PROVIDE A UNIFORM COMPRESSION OVER THE ENTIRE CONTACT SURFACE. TERMINATION LUGS SHALL BE USED ON ALL STRANDED CONDUCTORS.
- ELECTRICAL TAPES USED FOR ELECTRICAL INSULATION AND OTHER PURPOSES IN WIRE AND CABLE SPLICES, TERMINATIONS, REPAIRS, AND MISCELLANEOUS PURPOSES SHALL CONFORM TO THE REQUIREMENT OF UL STANDARD 510.
- OUTLET BOXES, EXTENSION RINGS AND COVERS SHALL BE PRESSED STEEL, GALVANIZED, KNOCKOUT TYPE OR PLASTIC AS LOCAL JURISDICTION PERMITS. BOX SIZES SHALL BE AS REQUIRED BY CODE FOR THE NUMBER OF WIRES ENTERING BOX. PLASTER RINGS SHALL BE PROVIDED FOR FLUSH MOUNTING.
- DISCONNECT SWITCHES FUSED OR UNFUSED SHALL BE HEAVY DUTY TYPE, SIZED FOR LOAD NOTED ON THE PLANS, UL LISTED AND HORSEPOWER RATED, WITH PROVISIONS TO PAD LOCK HANDLE IN "ON" OR "OFF" POSITION. ENCLOSURE SHALL BE NEMA 3R FOR OUTSIDE OR NEMA 1 FOR INSIDE.
- THREE (3) SPARE FUSES OF EACH TYPE SHALL BE PROVIDED TO THE OWNER. FUSES SHALL BE DUAL ELEMENT, TIME DELAY, HIGH INTERRUPTING TYPE, UL APPROVED. FUSE SIZES IN SWITCHES FOR HVAC EQUIPMENT SHALL BE AS SPECIFIED BY EQUIPMENT MANUFACTURER.
- FURNISH ALL RELAYS, TIME CLOCKS, CONTROL TRANSFORMERS, ETC., REQUIRED FOR INSTALLATION.
- PANELBOARDS MAY BE PLUG-IN CIRCUIT BREAKER TYPE. DEAD FRONT IN BREAKERS SHALL BE RATED AS INDICATED ON PLANS. NEMA 1 ENCLOSURE FOR INTERIOR PANELS, NEMA 3R ENCLOSURE FOR EXTERIOR PANELS.
- LIGHTING FIXTURES SHALL BE FURNISHED COMPLETE WITH ALL COMPONENTS, LAMPS AND MOUNTING ACCESSORIES. ALSO SEE FIXTURE SCHEDULE.
- RECEPTACLES: DUPLEX, THREE-WIRE GROUNDING TYPE, RATED 20A AT 125V, NEMA CONFIGURATION 5-20R. PROVIDE GFCI (SELF-CONTAINED) TYPE AT LOCATIONS SHOWN. FOR EXTERIOR LOCATIONS, PROVIDE WITH WEATHERPROOF BOX, AND ALUMINUM GASKETED SPRING-SHUT COVER. HUBBELL 53XX-SERIES, OR EQUAL FROM PASS & SEYMOUR OR LEVITON.
- SWITCHES: TOGGLE TYPE, NUMBER OF POLES AS SHOWN, QUIET TYPE, RATED 20A AT 120/277V. HUBBELL HBL 12XX-SERIES, OR EQUAL FROM PASS & SEYMOUR OR LEVITON.
- SWITCHBOARDS (SEE SINGLE LINE DIAGRAM): NEMA PB 2; UL 891. RATED AS SHOWN. CU/AL BUS. SIEMENS, CUTLER HAMMER, OR EQUAL BY SQUARE-D OR GE.
- DISCONNECT SWITCHES: NEMA KS 1, UL 98, UL 198C AND 198E. RATED AS SHOWN, HEAVY DUTY TYPE, EXTERNALLY-OPERATED, QUICK-MAKE QUICK-BREAK TYPE, THREE-POLE EXCEPT AS OTHERWISE SHOWN. FOR FUSIBLE TYPE, PROVIDE DUAL-ELEMENT TIME-DELAY CLASS RK-1 CURRENT-LIMITING FUSES. FOR EXTERIOR LOCATIONS, AND WHERE INDICATED, PROVIDE NEMA 3R ENCLOSURES. SQUARE-D, OR EQUAL BY GE OR WESTINGHOUSE.
- MOTOR CONTROLLERS: A. NEMA ICS 2/ICS 6/250/AB 1/FU 1/KS 1; UL 98/198C/198E/489/508. PROVIDE MANUAL MOTOR CONTROLLERS FOR SINGLE-PHASE MOTORS RATED BELOW 2 HP, AND COMBINATION MOTOR CONTROLLERS AS SHOWN. B. MANUAL MOTOR CONTROLLERS: MANUAL MOTOR STARTING SWITCH WITH INTEGRAL THERMAL TYPE OVERLOAD PROTECTION, TOGGLE LEVER TYPE, ALLEN-BRADLEY BULLETIN 609, OR EQUAL BY SQUARE-D, GE OR WESTINGHOUSE. C. COMBINATION MOTOR CONTROLLERS: ENCLOSED COMBINATION STARTER, FUSIBLE DISCONNECT SWITCH TYPE, ALLEN-BRADLEY BULLETIN 512, OR EQUAL BY SQUARE-D, GE OR WESTINGHOUSE.
- PHOTOELECTRIC CONTROLLERS: RATED FOR CONNECTED LOAD, 20A MINIMUM, PARAGON, TORK, SANGAMO, OR EQUAL. 24. TELEPHONE SYSTEM: A. PROVIDE TELEPHONE SYSTEM AS FOLLOWS, EXCEPT AS OTHERWISE SHOWN: B. SERVICE ENTRANCE FACILITY: PROVIDE WALL-MOUNTED 3/4" x 4" x 8" (OR SIZE AS INDICATED) PLYWOOD "MAIN TELEPHONE BACKBOARD" AT THE LOCATION SHOWN WITH (1) A DEDICATED 20A/120V BRANCH CIRCUIT /QUADRAPLEX POWER RECEPTACLE AND (2) A GROUNDING ELECTRODE PISTAL (#8 AWG BARE STRANDED COPPER CABLE ROUTED IN 1" CONDUIT DIRECTLY TO FACILITY GROUNDING ELECTRODE AND CONNECTED THEREON), AT THE TELEPHONE BACKBOARD LOCATION. C. VOICE DROPS AND CABLING PATHWAYS: PROVIDE FLUSH MOUNTED 4" SQUAREBOX/WALLPLATE WITH TELEPHONE JACK AT EACH OF THE LOCATIONS SHOWN, INCLUDING 1/2" CONDUIT (WITH PULLROPE) CONTINUOUS TO THE TELEPHONE BACKBOARD LOCATION AT THE SERVICE ENTRANCE FACILITY. TELEPHONE JACKS SHALL BE PROVIDED AS SPECIFIED BY OWNER. CABLING AND ENTRANCE FACILITY TELEPHONE EQUIPMENT/CROSS-CONNECT FRAMES/NETWORK INTERFACE DEVICES WILL BE PROVIDED BY OWNER

# GREEN BLDG. NOTES

- THE OUTDOOR LIGHTING SYSTEMS SHALL BE DESIGNED AND INSTALLED TO COMPLY WITH ALL THE FOLLOWING:
  - 1.1. THE MINIMUM REQUIREMENTS IN CALIFORNIA ENERGY CODE FOR LIGHTING ZONES 1-4.
  - 1.2. BACKLIGHT, UPLIGHT AND GLARE(BUG) RATING AS DEFINED IN IESNA TM-15-11.
  - 1.3. ALLOWABLE BUG RATINGS NOT EXCEEDING THOSE SHOWN IN TABLES 5.106.8.
- NEW RESIDENTIAL GRADE EQUIPMENT AND APPLIANCES PROVIDED AND INSTALLED SHALL BE ENERGY STAR LABELED IF ENERGY STAR IS APPLICABLE TO THAT EQUIPMENT OR APPLIANCE

# INSTALLATION

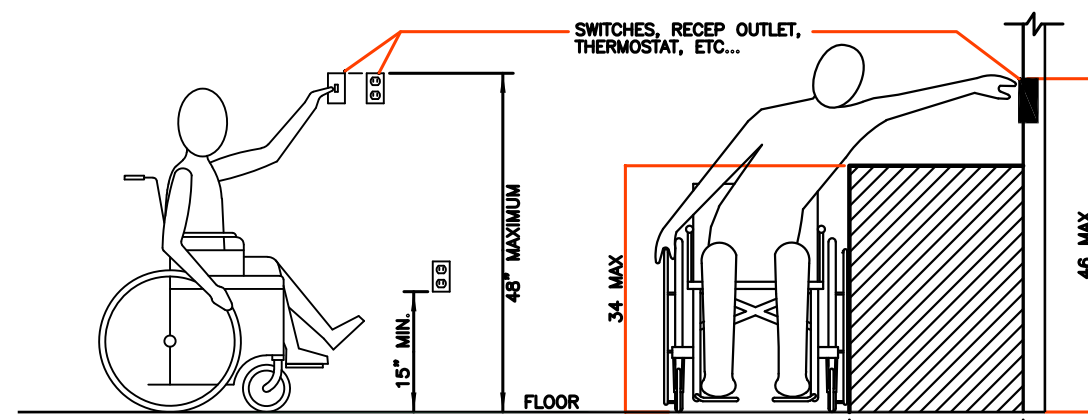
- THE CONTRACTOR SHALL INSTALL ALL CONDUITS AND WIRES WITH A MINIMUM NUMBER OF BENDS AND IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEAD ROOM, KEEP OPENINGS AND PASSAGE WAYS CLEAR AND MEET ALL STRUCTURAL CODE REQUIREMENTS. CODE-SIZED PULL BOXES SHALL BE INSTALLED IN RUNS OF OVER 100 FEET OR MORE THAN 4 BENDS.
- SUPPLY AND INSTALL ALL SUPPORTS AND BRACING NECESSARY FOR THE PROPER INSTALLATION OF THE EQUIPMENT.
- ALL EXPOSED CONDUIT SHALL BE INSTALLED AT RIGHT ANGLE TO ROOM OR STRUCTURE OR ALONG EXPOSED BEAMS. CONDUITS SHALL BE SUPPORTED FROM BUILDING STRUCTURE WITH APPROVED PIPE HANGERS.
- ALL PULL BOXES AND ALL JUNCTION BOXES MUST BE ACCESSIBLE AFTER THE CONSTRUCTION IS COMPLETE, ESPECIALLY IN CONCEALED CONDUIT INSTALLATIONS. FINISH FOR ALL EXPOSED J-BOXES AND PULL BOXES SHALL BE PER INTERIOR DESIGN.
- ALL CONDUITS ARE SIZED TO MEET THE REQUIREMENT OF CEC TABLE 3A, "MAXIMUM NUMBER OD CONDUCTORS IN TRADE SIZES OF CONDUIT OR TUBING". CONTRACTOR SHALL CONSIDER THESE SIZES AS A MINIMUM REQUIREMENT AND INCREASE THE CONDUIT SIZE IF NECESSARY TO FACILITATE HIS CABLE PULLING.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS SHOWN AND AS REQUIRED BY ALL APPLICABLE CODES AND THE SERVING UTILITY. NO CONDUIT SHALL BE USED AS A GROUND, EXCEPT FOR LIGHTING CIRCUIT.
- INCLUDE A GREEN-WIRE SIZED AS REQUIRED BY NATIONAL ELECTRICAL CODE IN ALL CONDUIT RUN D FOR EQUIPMENT GROUND AND GREEN-YELLOW STRIPE WIRE FOR ISOLATED GROUND AS SHOWN ON PARTICULAR CONDUIT RUNS ALONG WITH THE GREEN WIRE. SAME APPLIES TO FLEXIBLE CONDUITS EVEN IF UL LABELED FOR GROUND, UNLESS USED IN LIGHTING CIRCUITS.
- PROVIDE FIRE PROOFING FOR PENETRATIONS THROUGH RATED WALLS AND FLOORS.
- ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF THE ELECTRICAL WORK SHALL BE DONE BY THIS CONTRACTOR. DO NOT CUT OR DRILL STRUCTURAL MEMBERS WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL ENGINEER. ALL CUTTING AND PATCHING SHALL BE NEAT, AND PATCHING SHALL MATCH ADJACENT SURFACE AS TO TEXTURE AND FINISH. ALL SURFACE SHALL BE REPLACED IN KIND.
- BACK TO BACK INSTALLATION OF OUTLET IS NOT PERMITTED IN ROOMS INSULATED FOR SOUND, BECAUSE OF SOUND TRANSFERENCE THROUGH OUTLETS. SEAL SUCH OUTLETS AIR TIGHT.
- DIMENSIONS SHOWN ON OUTLET BOXES SHALL BE FROM THE FINISHED FLOOR TO THE CENTER OF THE BOX.
- FLOURESCENT FIXTURES SHALL BE SUPPORTED FROM STRUCTURE ABOVE.
- ALL PENETRATION THROUGH ROOF SHALL BE FLASHED AND COUNTER FLASHED TO MAKE WATER-TIGHT.
- PROVIDE A MANUAL DISCONNECTING MEANS AT MOTOR FOR ALL MOTORS NOT WITHIN SIGHT OF THE SERVING PANEL OR THEIR DISCONNECT.
- INSTALL BLANK PLATES AS REQUIRED TO CLOSE OPENINGS IN SWITCHBOARDS OR PANELS WHERE IDENTIFICATION HAS BEEN REMOVED.
- ELECTRICAL IDENTIFICATION: PROVIDE NAMEPLATES FOR SWITCHBOARDS, PANELBOARDS, DISCONNECT SWITCHES, CONTACTORS/RELAYS, AND TERMINAL CABINET/BACKBOARDS, MOTOR CONTROLLERS, INDIVIDUALLY-MOUNTED ANY OTHER CONTROL DEVICE OR MAJOR ITEMS OF ELECTRICAL EQUIPMENT.
- NAMEPLATES SHALL BE BLACK-ON-WHITE LAMINATED PLASTIC, ATTACHED WITH MACHINE SCREWS. LETTERING SHALL BE 3/4" HIGH MINIMUM, CORRESPONDING TO THE DESIGNATION OR (A DIFFERENT INFORMATION) SHOWN. COLOR CODE ALL WIRE WITH INSULATION/JACKET (FACTORY-APPLIED) COLOR FOR PHASE IDENTIFICATION (CONTINUOUS FOR CIRCUIT FROM OUTLET-TO OUTLET, PULL BOX, OR CABINET) AS FOLLOWS:
 

PHASE	208Y/120	480Y/277
A	BLACK	YELLOW
B	RED	BROWN
C	BLUE	ORANGE
NEUTRAL	WHITE	WHITE
GROUND	GREEN	GREEN
- LIGHT FIXTURE IN CONTACT WITH INSULATION TO BE U.L. LISTED FOR THERMAL BARRIER OR PROVIDE 3" MINIMUM CLEARANCE.
- PANEL CIRCUIT DIRECTORY TO COMPLY WITH SECT. 408.4, CEC.
- W.P. COVER OF OUTLETS TO COMPLY WITH SECT. 406.8(B)(1), CEC.

# START-UP

- TEST THE ENTIRE WIRING SYSTEM FOR SHORT CIRCUITS, GROUNDS AND INSULATION RESISTANCE BETWEEN CONDUCTORS AND TO GROUND.
- DEMONSTRATE THAT THE EQUIPMENT OPERATES IN ACCORDANCE WITH THE REQUIREMENTS OF THESE DRAWINGS. DEMONSTRATE THAT PROTECTIVE FUNCTIONS ARE OPERATING PROPERLY AND INCORPORATED IN THE CONTROL SYSTEM CIRCUIT BREAKER, AND MOTOR CONTROL CENTER CIRCUITRY.
- CHECK VOLTAGE AMPLITUDE AND BALANCE BETWEEN PHASES FOR LOADED AND UNLOADED CONDITIONS.
- SET THE OVERLOAD HEATERS OF INDIVIDUAL MOTORS ACCORDING TO SERVICE, CODE AND MANUFACTURER'S REQUIREMENT.
- CHECK AND CORRECT THE ROTATION OF ALL MOTORS. CHECKS WITH THE CONTRACTOR RESPONSIBLE FOR DRIVEN EQUIPMENT.
- ALL TESTS TO BE PERFORMED IN PRESENCE OF THE OWNER. SUBMIT THE REPORTS TO THE ENGINEER FOR REVIEW.

# RECEPT. MOUNTING HEIGHT



# ELECTRICAL CODE

- PROVIDE A GROUNDING SYSTEM FOR A SEPARATE STRUCTURE PER CEC 250-32(B).
- PROVIDE WORKING CLEARANCES @ NEW & EXISTING EQUIPMENT. CEC ART. 110-26.
- GROUNDING ELECTRODE CONDUCTOR INSTALLATION SHALL COMPLY WITH CEC ART.250-64.
- GROUNDING ELECTRODE CONDUCTOR ENCLOSURE SHALL COMPLY WITH CEC. ART.250-64(E)
- GROUNDING ELECTRODE CONDUCTOR CONNECTION TO THE ELECTRODE SHALL COMPLY WITH CEC 250-70.
- COMPLY WITH CEC ART 670 FOR INSTALLATION OF INDUSTRIAL MACHINERY.
- METHOD OF GROUNDING OF ALL TRANSFORMERS SHALL COMPLY WITH CEC. ART.250-30.
- GROUND FAULT PROTECTION @ SERVICES SHALL BE PROVIDED PER CEC, ART.230-95.
- CONDUIT BURIAL DEPTH PER CEC TABLE 300-5
- BONDING FOR CIRCUITS OF OVER 250 VOLTS TO GROUND SHALL COMPLY WITH CEC, ART.250-97. NOTE THAT STANDARD LOCK NUTS ARE NOT PERMITTED IN THE INSTALLATION OF THE RACEWAY.
- TORQUING OF TERMINATIONS SHALL BE IN ACCORDANCE WITH THE EQUIPMENT LABEL AND PRIOR OF TORQUE IS REQUIRED PRIOR TO FINAL CEC, ART.110-3(B).
- ALL EQUIPMENT SHALL BE LISTED & LABELED BY AN APPROVED TESTING AGENCY. TESTING BY AN APPROVED TESTING LABORATORY WILL BE REQUIRED BEFORE FINAL APPROVAL IS GRANTED.
- PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR FOR ALL CIRCUITS PER CEC, ART.250-110 AND ART.250-118.
- GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH CEC, ART.250-50.
- BONDING SHALL COMPLY WITH CEC 250, PART 5.
- THE CONTRACTOR SHALL PROVIDE TO THE CITY THE AIC VALUE AND THE NOMINAL CIRCUIT VOLTAGE SUPPLIED TO THE SERVICE BY THE ELECTRICAL UTILITY IN THE FORM OF LETTER THAT SHALL BE WRITTEN UPON THE ELECTRICAL UTILITY'S LETTERHEAD. A COPY OF THIS SHALL BE PLACED ON THE PLAN.
- THE ELECTRICAL EQUIPMENT SHALL BE RATED FOR THE AVAILABLE FAULT CURRENT AS SPECIFIED IN THE SINGLE LINE DIAGRAM NOTES PER CEC, ART.110-9.
- ISOLATED GROUNDING CONDUCTORS SHALL TERMINATE AT THE SERVICE. CEC, ART.250-96(B).
- ALARM SYSTEMS AND ELECTRIC SIGNS SHALL BE ON A SEPARATE PLAN. ART.210-19(A).
- DERATING OF CONDUCTORS WILL APPLY PER CEC, ART.310-15(B) (2) (A) PERMIT.
- A 125V RECEPTACLE (GFCI PROTECTED & WP) IS REQUIRED WITHIN 25 FEET OF ROOF MOUNTED EQUIPMENT. CEC, ART.210-63, ART. 210-8(B).
- COMMUNICATION & DATA CONDUCTORS RUN IN CONDUIT OR OTHER RACEWAYS SHALL HAVE A BUSHING, OR OTHER TERMINAL FITTING, WITH AN INTEGRAL BUSHED OPENING @ THE END OF THE CONDUIT OR RACEWAY. CEC, ART.300-4.
- BREAKERS USED AS SWITCHES IN LIGHTING SYSTEMS SHALL BE MARKED'SWD' PER CEC, ART.240-83(D). 25. ELECTRICAL CONTRACTOR TO PREPARE CONDUITS AND BACK BOXES, SUPPORT, ETC. FOR FIRE ALARM SYSTEM INSTALLATION.

# ABBREVIATIONS

WP	WEATHER PROOF
C.O.	CONDUIT ONLY
A/C	AIR CONDITIONING
CKT	CIRCUIT
FLA	FULL LOAD AMPERE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSEPOWER
LTG	LIGHTING
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NL	UNSWITCHED NIGHT LIGHT
PB	PULL BOX
UG	UNDERGROUND
U.O.N.	UNDERGROUND UNLESS OTHERWISE NOTED
V.L.	VERIFY LOCATION
AHJ	AUTHORITY HAVING JURISDICTION
VOC	OPEN CIRCUIT VOLTAGE
Isc	SHORT CIRCUIT CURRENT
A	AMPERES
P	POLE
B.C	BARE COPPER
COND	CONDUIT
C	CONDUIT
CU	COPPER
AL	ALUMINUM
EGC	EQUIPMENT GROUNDING CONDUCTOR
N.E.C.	NATIONAL ELECTRICAL CODE
C.E.C.	CALIFORNIA ELECTRICAL CODE

# LEGEND OF SYMBOLS

SYMBOL	DESCRIPTION
	LIGHT OUTLET
	A-FIXTURE DESIGNATION
	g-SWITCH DESIGNATION
	3- CIRC. NO. (SEE PANEL)
	CONDUIT RUN CONCEALED IN WALL OR CEILING.
	CROSS LINES INDICATE NO. OF #12 COPPER WIRES EXCLUDING GROUND CONDUCTORS WHERE REQ'D (1/2" CONDUIT U.O.N)
	CONDUIT RUN IN FLOOR OR U.G.
	CONDUIT RUN EXPOSED
	GROUND CONNECTION
	CONDUIT STUB OUT WITH CAP
	PANEL MOUNTED CIRCUIT BREAKER
	PANEL MOUNTED FUSED SWITCH
	ALL SWITCHES (36" MIN TO 48" MAX AFF, SEE NOTE1)
	SINGLE POLE SWITCH
	S3 THREE WAY SWITCH
	S4 FOUR WAY SWITCH
	D DIMMER SWITCH
	D3 THREE WAY DIMMER SWITCH
	DISCONNECT SWITCH, FUSED
	DISCONNECT SWITCH, NON FUSED
	MAGNETIC MOTOR STARTER
	PANELBOARD
	SWITCHBOARD
	TELEPHONE BACKBOARD
	TRANSFORMER
	PUSH BUTTON
	ALL RECEPTACLES AT 15" MIN TO 48" MAX AFF. MINIMUM DIMENSION IS MEASURED FROM THE BOTTOM OF THE BOX AND MAXIMUM IS MEASURED FROM THE TOP OF THE BOX.
	GROUND DUPLEX RECEPTACLE (15A)
	QUAD RECEPTACLE
	GFCI GROUND FAULT CIRCUIT INTERRUPTER DOUBLE DUPLEX RECEPTACLE
	GFCI GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
	AFCI ARC FAULT CIRCUIT INTERRUPTER RECEPTACLE
	USB GROUND DUPLEX RECEPTACLE WITH USB CHARGER (15A)
	D DEDICATED RECEPTACLE (20A)
	SWITCHED RECEPTACLE
	FLOOR MOUNTED RECEPTACLE
	CEILING MOUNTED RECEPTACLE
	SIMPLEX RECEPTACLE
	JUNCTION BOX
	FLOOR MOUNTED J-BOX
	TELEPHONE OUTLET (+18 U.O.N.)
	TELEPHONE CLG. MOUNTED OUTLET
	TELEPHONE FLOOR MOUNTED OUTLET
	INTERCOM OUTLET
	CABLE TELEVISION OULET
	DATA (CAT 6) OUTLET (+18" U.O.N.)
	DATA (CAT 6) CLG. MOUNTED OUTLET
	DATA (CAT 6) FLR. MOUNTED OUTLET
	DUPLEX DATA (CAT 6) OUTLET (+18" U.O.N.)
	SMOKE FIRE DAMPER
	EQUIPMENT
	SMOKE DETECTOR
	SMOKE DETECTOR/CARBON MONOXIDE DETECTOR

# PROJECT SCOPE

- NEW SINGLE FAMILY HOME

**PLAN REVIEW ACCEPTANCE**  
 FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
<input checked="" type="checkbox"/> ELECTRICAL	<input checked="" type="checkbox"/> ENERGY
<input checked="" type="checkbox"/> ACCESSIBILITY	<input checked="" type="checkbox"/> FIRE

PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED WITHOUT THE WRITTEN AUTHORIZATION OF ABRARI AND ASSOCIATES INC. STATE, OR LOCAL REGULATIONS.

BY: **MEM** DATE: 10/30/19  
 WEST COAST CODE CONSULTANTS, INC.

DESCRIPTION	BY	DATE	REV.
	X		1
	X		2

**ABRARI ASSOCIATES ELECTRICAL ENGINEERS**

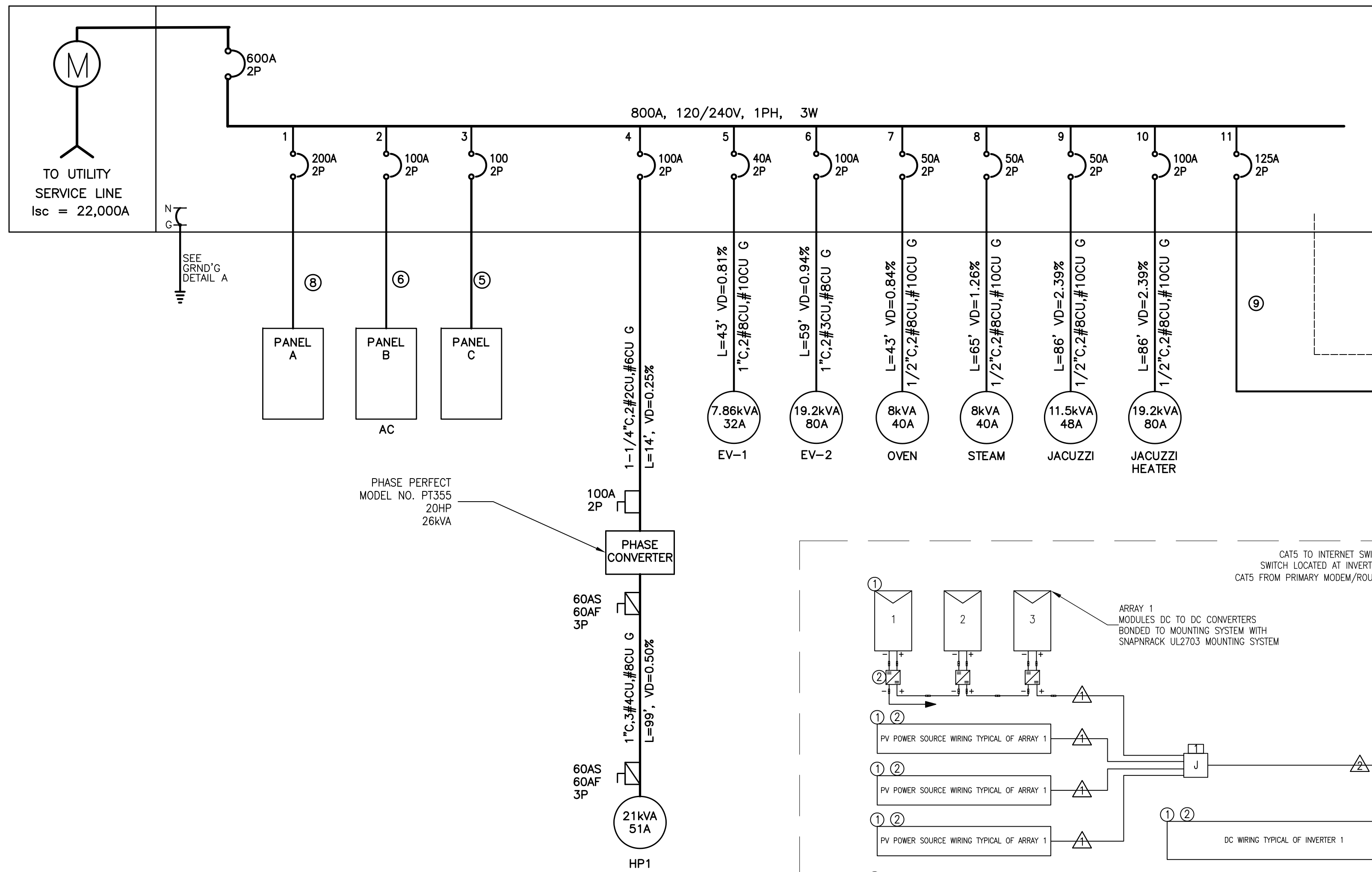
1713 STANDARD AVE.  
 GLENDALE, CA 91201  
 W 818.956.1900  
 MAIL@ABRARI.COM

**POWDER MOUNTAIN HOUSE**  
 8645 EAST COPPER CREST,  
 EDEN, UT 84310

**Heng R. Alkan**

SHEET TITLE	
<b>NOTES &amp; SYMBOLS</b>	
PROJECT NO.:	2213
SCALE:	NONE
DATE:	06-04-18
BY:	VA
CHECKED:	HRA
DRAWING NO.	<b>E-1.0</b>

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY ABRARI AND ASSOCIATES AND WERE CREATED AND DEVELOPED FOR USE AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF THE IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN AUTHORIZATION OF ABRARI AND ASSOCIATES INC.

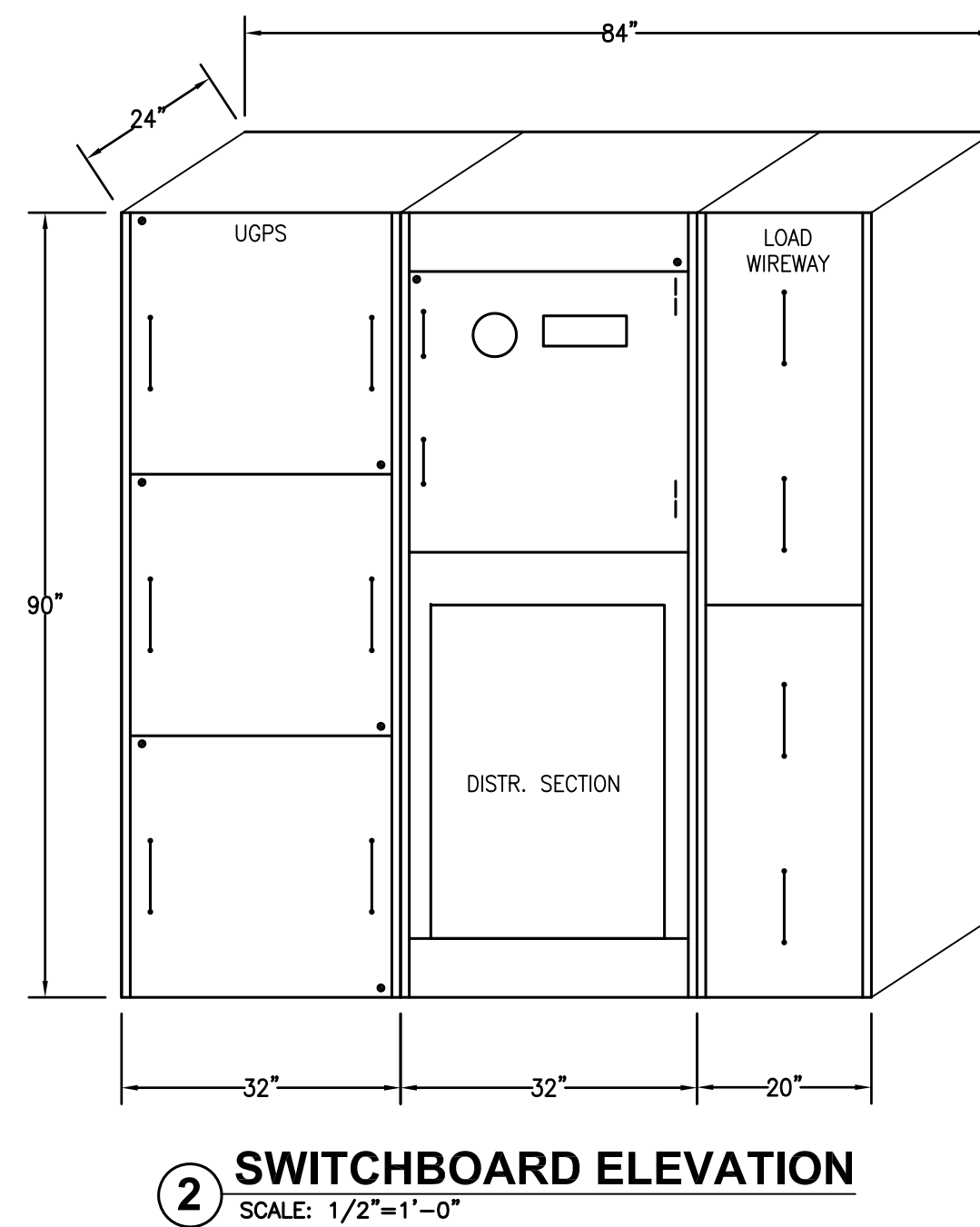


**1 SINGLE LINE DIAGRAM**  
SCALE: NONE

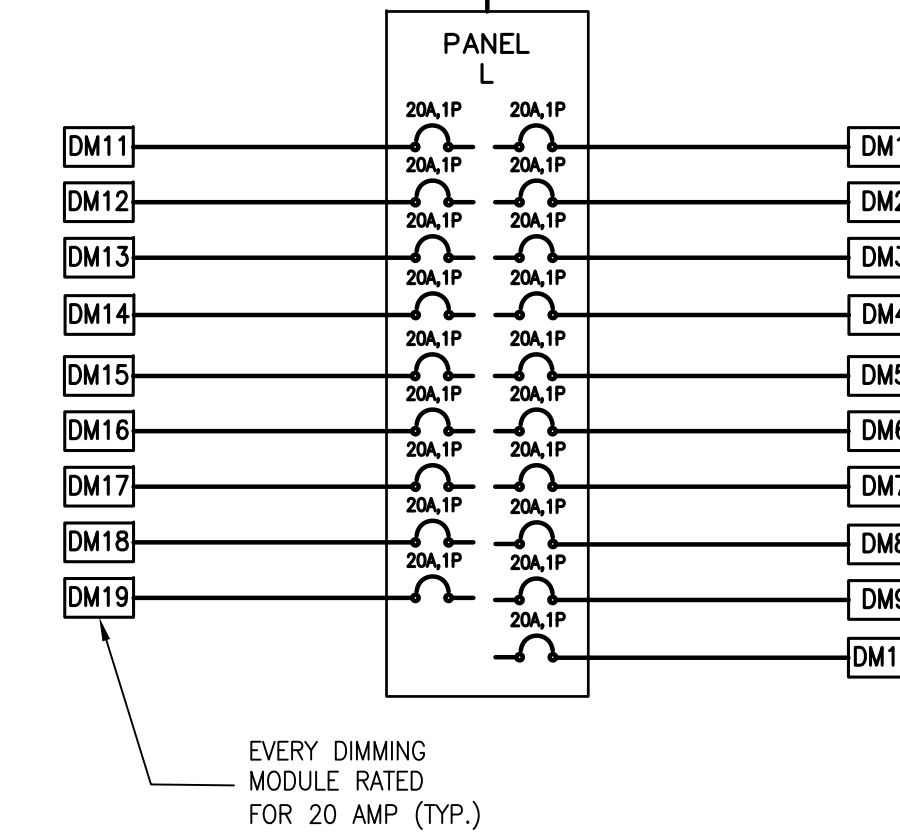
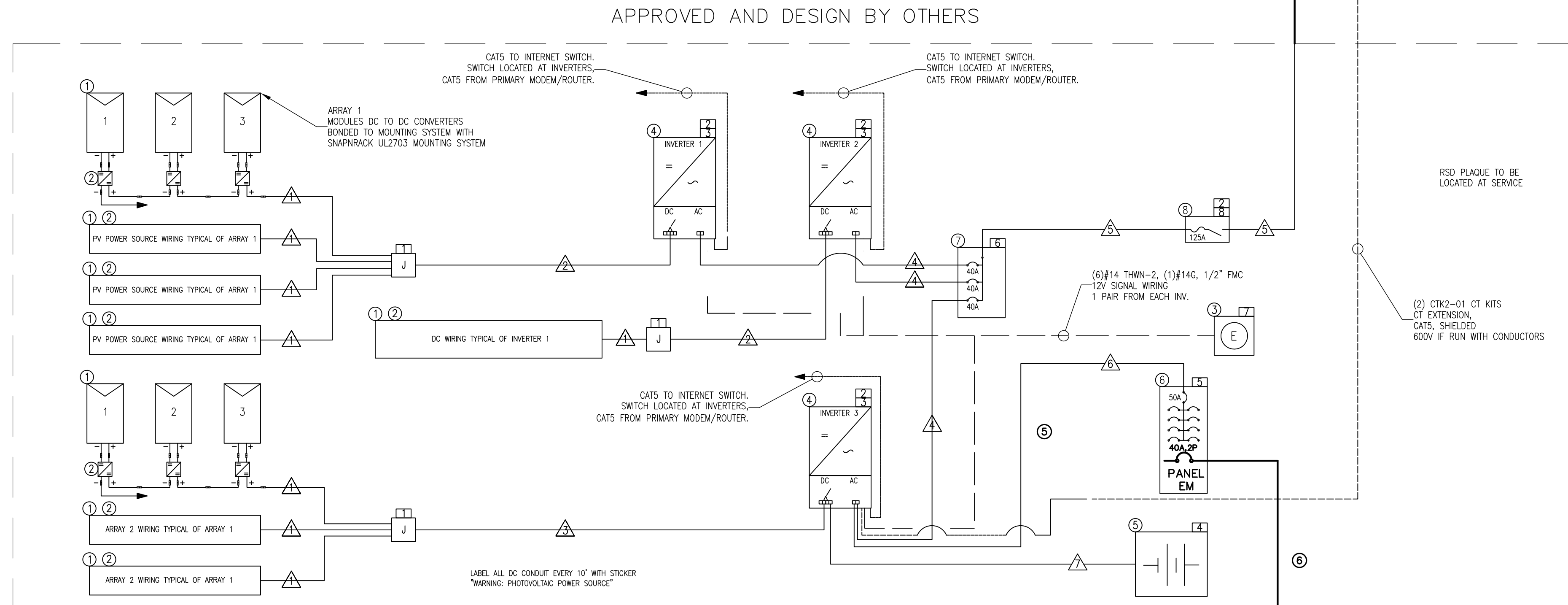
LOAD CALCULATION			
GENERAL LIGHTING	6331 X 3W/Sq Ft.	15993	
LAUNDRY		1500	
3X SMALL APPLIANCES CIRCUIT		4500	
TOTAL		21993	
	1ST: 3000 VA at 100%		3000
	REMAINDER at 35%		6648
DISHWASHER		1500	
RANGE HOOD		750	
GARBAGE DISPOSER		700	
MICROWAVE		1500	
SUBZERO REFRIGERATOR		1500	
DOUBLE OVEN		8000	
TRASH COMPACTOR		1200	
STEAM		8000	
BATHROOM EXHAUST FANS 6		3000	
GARAGE DOOR OPENER		500	
JACUZZI		11520	
JACUZZI HEATER		19200	
BOILER X4		1800	
UPS15-58FC PUMP X4		720	
UPS26-99FC PUMP X10		700	
SEWER EJECTOR		3840	
CAR CHARGER#1		7680	
CAR CHARGER#2		19200	
FLOOR HEATING		6000	
GUTTER MELT X5		10800	
LANDSCAPING		3000	
TOTAL FIXED APPLIANCES @ 75%	111110 X 75%	83333	
HRU-1		500	
HRU-2		500	
HP-1		21000	
FC-1		600	
FC-2		800	
FC-3		600	
FC-4		600	
FC-5		850	
FC-6		600	
FC-7		600	
CU		2100	
FC		300	
TOTAL A/C LOADS @ 100%	29050 X 100%	29050	
TOTAL		122030	
I (CURRENT)		508	AMPS
<b>SERVICE SIZE REQUIRED</b>			
<b>1-600AMP, 120/240 V, SINGLE PHASE, THREE WIRE</b>			

FEEDER SCHEDULE		
ID	CONDUIT AND FEEDER	FEEDING THESE DEVICES
1	1/2" C, 1#12, #12N, #12G	DM1, DM2, DM3, DM4, DM5, DM6, DM7, DM8, DM9, DM10, DM11, DM12, DM13, DM14, DM15, DM16, DM17, DM18, DM19
2	1/2" C, 2#10CU, #10CU N, #8CU G	SE
3	1" C, 2#8CU, #10CU G	CAR CHARGER-1
4	1/2" C, 2#8CU, #10CU G	DOUBLE OVEN, JACUZZI, STEAM
5	3/4" C, 2#8CU, #8CU N, #10CU G	EM
6	3/4" C, 2#8CU, #6CU N, #10CU G	L
7	1" C, 2#3CU, #8CU G	CAR CHARGER-2
8	1" C, 2#3CU, #3CU N, #8CU G	B, C
9	1-1/4" C, 2#1CU, #1CU N, #6CU G	S
10	2" C, 2#4/0CU, #4/0CU N, #4CU G	A
11	(2)2-1/2" C, 2#350kcmilCU, #350kcmilCU N, #3/0CU G	MS

SIZING METHOD: COPPER/ALUMINUM, 75%dc #12 AND ABOVE



EQUIPMENT SCHEDULE					DC RATINGS			
ITEM	DESCRIPTION	PART NUMBER	LOCATION	NOTES	#	MANUFACTURER	POWER(W)	TOTAL P (kW)
1	SOLAR MODULE	FS-6430	BUILDING ROOF		33	FIRST SOLAR	430	14.19
2	PV LINK	S2501	UNDER EACH SOLAR MODULE	1:1 RATIO, PV LINK TO MODULE				
3	DC RAPID SHUTDOWN SWITCH	HW1X-BV411-R	EXTERIOR WALL OF BUILDING	EXTERNAL DC DISCONNECT				
4	SOLAR INVERTER	X7602	INTERIOR BUILDING MECH. RM		3	PIKA ENERGY	7,600	22.80
5	BATTERY	HARBOR PLUS	INTERIOR BUILDING MECH RM					
6	AC BACKUP PANEL	60A, 240V, 1-PH	INTERIOR BUILDING MECH RM.					
7	INVERTER COMBINER PANEL	225A, 240V, 1-PH, 3R	INTERIOR BUILDING MECH RM.	INSTALL (3) 40A BREAKERS				
8	SOLAR AC DISCONNECT	200A, 240V, 1-PH, FUSIBLE, 3R	DISTANCE < 10' ADJACENT UTILITY METER	VIS. BREAK, LOCKABLE, ON/OFF INDICATED, INSTALL 125A FUSES				
							TOTAL	22.80



CONDUCTOR AND CONDUIT SCHEDULE				SIGN SCHEDULE	
ITEM	WIRE, CABLE, TYPE	RATED CURRENT	125% RATED CURRENT	WIRE AND CONDUIT	NOTE
1	PV WIRE	8.0	10.0	(2)#10, (1)#6G	FREE AIR
2	THWN-2	8.0	10.0	(8)#10, (1)#10G, 3/4" EMT	35.6% FILL
3	THWN-2	8.0	10.0	(6)#10, (1)#10G, 3/4" EMT	27.7% FILL
4	THWN-2	32.0	40.0	(3)#8, (1)#10G, 3/4" EMT	24.6% FILL
5	THWN-2	96.0	120.0	(3)#1, (1)#6G, 1 1/4" EMT	34.7% FILL
6	THWN-2	50.0		(3)#8, (1)#10G, 3/4" EMT	24.6% FILL
7	THWN-2	28.0	35.0	(2)#8, (1)#6G, (1) CATS, 3/4" EMT	60V RATED CATS IF INSTALLED W/CONDUCTORS, 30.1% FILL

MANUAL DISCONNECT FOR PARALLEL GENERATION SOLAR ELECTRIC SYSTEM 240 VAC, 1-PHASE, 96.0 A MAX CURRENT
8
9
10
11
12
13

\*\*\*CONDUIT SIZES NOTED ARE MINIMUMS. CU CONDUCTORS UNLESS OTHERWISE NOTED

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW:  
 BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE  
 PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.  
 BY: MEM    DATE: 10/30/19  
 WEST COAST CODE CONSULTANTS, INC.

**ABRARI ASSOCIATES ELECTRICAL ENGINEERS**  
1713 STANDARD AVE. GLENDALE, CA 91201 W 818.956.1900 MAIL@ABRARI.COM

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
EDEN, UT 84310

PROJECT: HENRY R. ABRARI  
REGISTERED PROFESSIONAL ENGINEER  
NO. 13294  
EXP. 03-31-20  
ELECTRICAL  
STATE OF CALIFORNIA

**SHEET TITLE**  
**SINGLE LINE DIAGRAM & LOAD CALCS.**  
PROJECT NO.: 2213  
SCALE: AS SHOWN  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO. **E-2.0**

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY ABRARI AND ASSOCIATES AND WERE CREATED AND DEVELOPED FOR USE AND IN CONNECTION WITH THE SPECIFIC PROJECT. NONE OF THE IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN AUTHORIZATION OF ABRARI AND ASSOCIATES, INC.

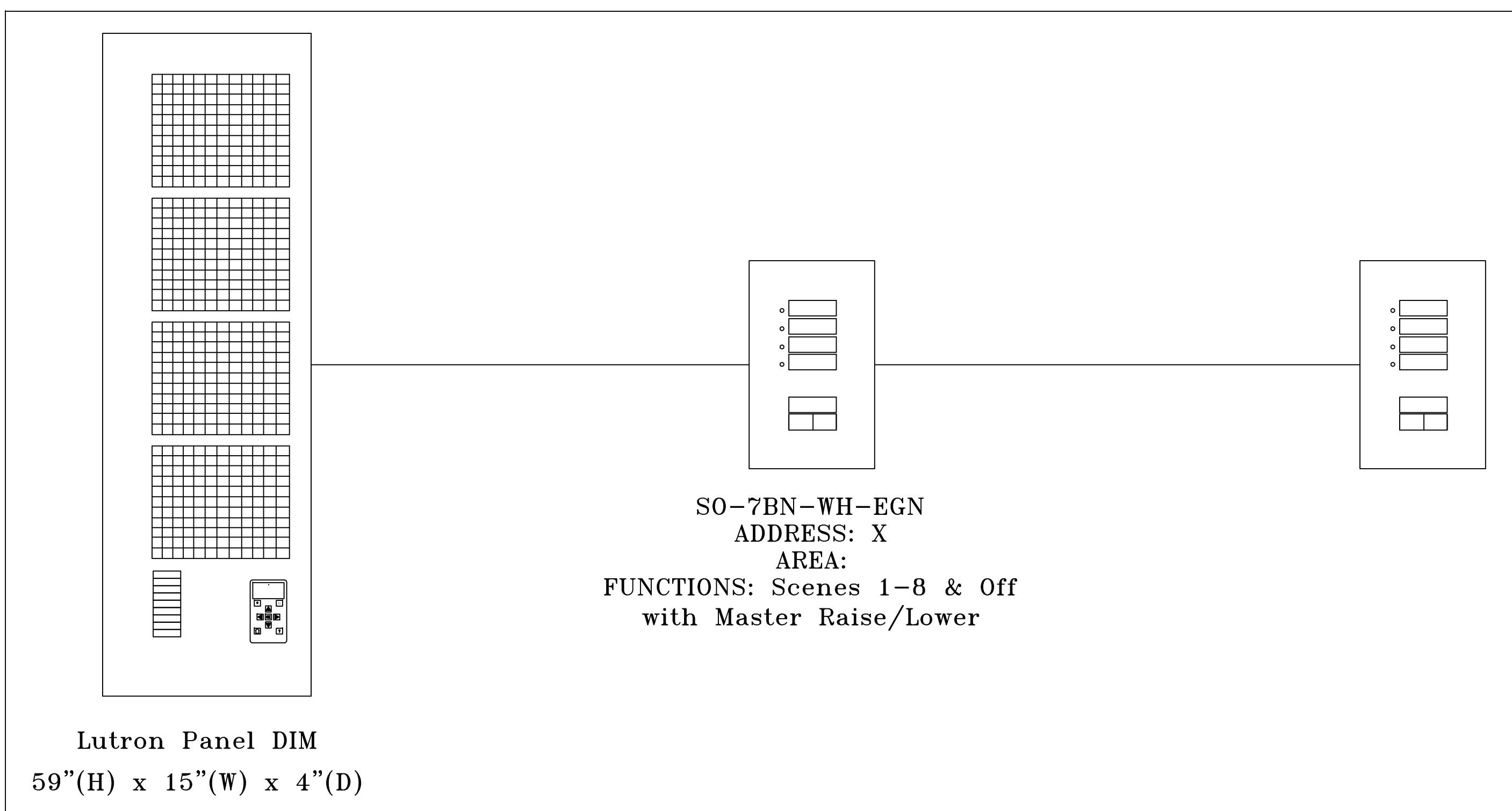
DEVICE	FEEDER		BRANCH CIRCUIT		TOTAL VOLTAGE DROP
	VOLTAGE DROP	WIRE SIZE	MAX VOLTAGE DROP	WIRE SIZE	
C	0%	#3CU	1.05% (CKT 13)	#12	1.05%
MS	0%	(2)#350kcmilCU	2.37% (TAP 5)	#2CU	2.37%
A	0.21%	#4/OCU	2.11% (CKT 14)	#12	2.31%
B	0.38%	#3CU	0.54% (CKT 18)	#12	0.92%
S	0.33%	#1CU	-	-	0.33%
EM	0.63%	#8CU	2.33% (CKT 4)	#12	2.97%
L	0.73%	#6CU	-	-	0.73%
DM1	0.8%	#12	0.09% (CKT 3)	#12	0.89%
DM10	0.77%	#12	0.18% (CKT 4)	#12	0.95%
DM11	0.83%	#12	0.31% (CKT 4)	#12	1.14%
DM12	0.79%	#12	0.1% (CKT 4)	#12	0.89%
DM13	0.82%	#12	0.19% (CKT 1)	#12	1%
DM14	0.84%	#12	0.43% (CKT 1)	#12	1.26%
DM15	0.77%	#12	0.07% (CKT 3)	#12	0.84%
DM16	0.75%	#12	0.09% (CKT 1)	#12	0.85%
DM17	0.76%	#12	0.08% (CKT 1)	#12	0.82%
DM18	0.74%	#12	0.05% (CKT 1)	#12	0.79%
DM19	0.76%	#12	0.16% (CKT 1)	#12	0.92%
DM2	0.74%	#12	0.01% (CKT 2)	#12	0.75%
DM3	0.78%	#12	0.07% (CKT 1)	#12	0.84%
DM4	0.78%	#12	0.08% (CKT 1)	#12	0.86%
DM5	0.75%	#12	0.08% (CKT 4)	#12	0.82%
DM6	0.78%	#12	0.06% (CKT 4)	#12	0.83%
DM7	0.8%	#12	0.1% (CKT 3)	#12	0.9%
DM8	0.76%	#12	0.16% (CKT 2)	#12	0.92%
DM9	0.8%	#12	0.23% (CKT 1)	#12	1.03%
SE	0%	#10CU	-	-	0%

SINGLE FAMILY ELECTRICAL NOTES:

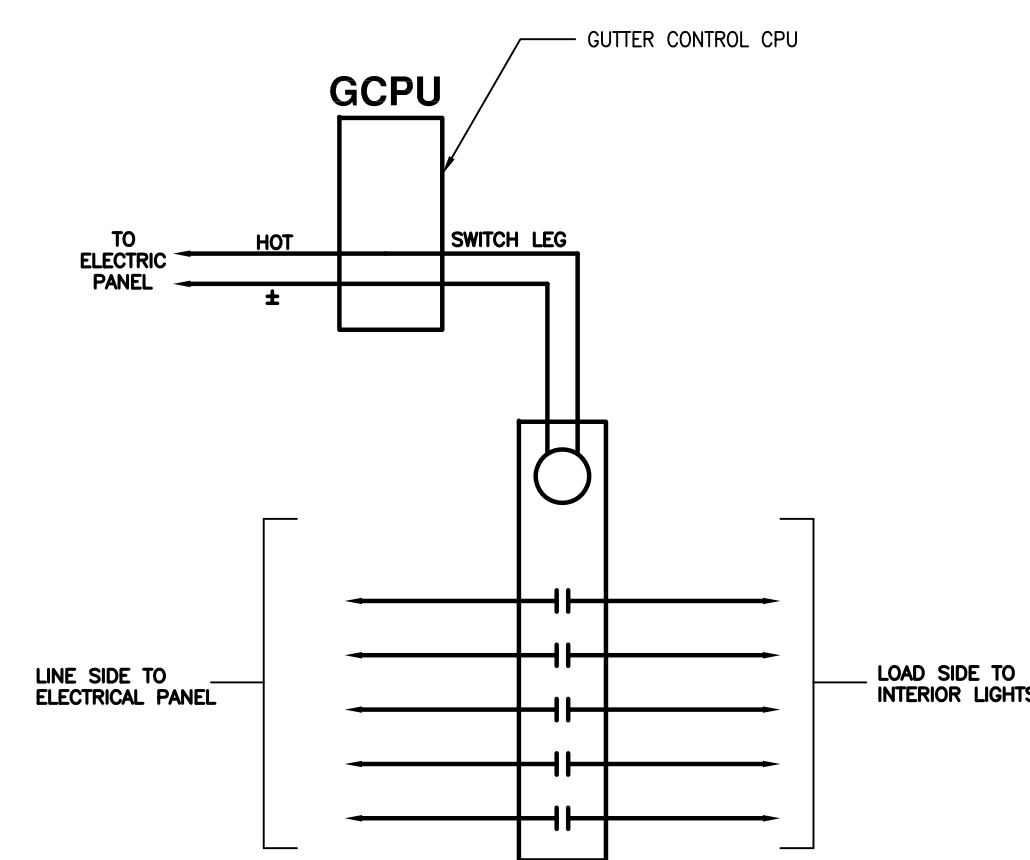
- CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE PRODUCTS, DEVICES AND EQUIPMENT AS DESCRIBED IN THE "LIGHTING & ELECTRICAL LEGEND", AND PER THESE ELECTRICAL NOTES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL ELECTRICAL PERMITS, AND INCLUDING THE COST OF ALL NECESSARY FEES FOR SAID PERMITS IN THE BID.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ASSISTING THE OWNER IN SECURING ALL ELECTRIC/POWER UTILITY APPROVALS, AND ENSURING THAT ALL WORK IS INSTALLED IN COMPLIANCE WITH THE REGULATIONS OF SAID UTILITY COMPANY. ALL UTILITY FEES SHALL BE PAID BY THE OWNER.
- BEFORE INSTALLING ANY LIGHTING FIXTURES AND OTHER ELECTRICAL DEVICES THE CONTRACTOR SHALL REVIEW ALL CONSTRUCTION DOCUMENTS, INCLUDING STRUCTURAL AND LANDSCAPE DRAWINGS TO VERIFY THAT ADEQUATE POWER AND WIRING, SPACE REQUIREMENTS AND POINTS OF CONNECTION AVAILABLE FOR ALL EQUIPMENT AND DEVICES.
- MINOR ADJUSTMENTS IN THE WORK (CHANGES TO RESOLVE PHYSICAL AND ENGINEERING CONFLICTS WHICH DO NOT AFFECT COST, SCHEDULE OR THE LOCATION OF FIXTURES AND DEVICES) MAY BE INITIATED AND APPROVED BY THE CONTRACTOR.
- MAJOR ADJUSTMENTS IN THE WORK (CHANGES TO RESOLVE PHYSICAL AND ENGINEERING CONFLICTS WHICH DO AFFECT COST, SCHEDULE OR THE LOCATION OF FIXTURES AND DEVICES) MUST BE INITIATED BY THE CONTRACTOR, AND APPROVED BY THE ARCHITECT IN WRITING PRIOR TO INSTALLATION.
- ALL ELECTRICAL EQUIPMENT, DEVICES, LAMPS AND TRIM KITS SHALL BE SUPPLIED TO THE PROJECT AS SPECIFIED IN NEW, UNOPENED CONTAINERS, FREE OF DEFECTS, AND INSTALLED LEVEL, PLUMB, AND/OR IN ALIGNMENT WITH THE ADJACENT FINISHED SURFACE.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED PER MFG. RECOMMENDATIONS, AND ALL COMPONENTS INCLUDING LAMPS, TRIM KITS, COVERPLATES, ETC. WILL BE LEFT CLEAN OF FINGERPRINTS, LUBRICANTS, ETC.
- CONTRACTOR WILL LAY OUT AND ROUGH-IN THE LOCATION OF ALL ELECTRICAL LIGHTING FIXTURES, EQUIPMENT AND DEVICES IN THE CEILINGS, WALLS AND FLOORS, AND SHALL SCHEDULE AND CONDUCT A WALK-THROUGH FOR THE EXPLICIT PURPOSE OF SECURING THE ARCHITECT'S APPROVAL PRIOR TO BEGINNING ROUGH-IN OF WIRING.
- ALL RECESSED ELECTRICAL FIXTURES IN INSULATED CEILINGS MUST BE I.C. RATED.
- CONTRACTOR SHALL VERIFY THE LOCATIONS AND ELECTRICAL REQUIREMENTS OF ALL EQUIPMENT AND APPLIANCES REQUIRED BY THIS PROJECT, AND SHALL PROVIDE COMPLETE STANDARD VOLTAGE DISCONNECTS AND OUTLETS PER CODE FOR SAID EQUIPMENT.
- CONTRACTOR SHALL PROVIDE THE MAIN SERVICE, BREAKER PANEL(S), AND SUB-PANELS COMPLETE FOR THE PROJECT, AND WILL SECURE THE WRITTEN APPROVAL OF THE OWNER AND ARCHITECT FOR ALL SUB-PANEL LOCATIONS PRIOR TO INSTALLATION.
- WHERE ELECTRICAL PANELS, CONDUIT AND/OR WIRING PENETRATE A FIRE-RATED ALL, CONTRACTOR SHALL PROVIDE FIRE-RESISTANCE RATED COMPONENTS AND/OR PROTECTED OPENING AS REQUIRED BY THE UNIFORM BUILDING CODE (U.B.C.), SECTION # 709.6, THE UNIFORM FIRE CODE (U.F.C.), THE N.E.C., OR PER THE LOCAL ADOPTED CODE.
- CONTRACTOR SHALL PROVIDE UFER GROUNDS, PROPERLY INSTALLED, INSULATED AND GROUNDED PER CODE. WHERE REQUIRED BY THE AGENCY WITH JURISDICTION, CONTRACTOR WILL PROVIDE LIGHTNING RODS PER CODE, AND SUBMIT DRAWINGS TO THE ARCHITECT FOR REVIEW.
- CONTRACTOR SHALL REVIEW AND CONFIRM THAT GENERAL PURPOSE LIGHTING IN THE KITCHEN AND ALL BATHROOMS WILL BE PROVIDED BY FIXTURES USING LED LAMPS IN COMPLIANCE WITH THE ENERGY CONSERVATION REGULATIONS OF THE CALIFORNIA STATE BUILDING CODE, "TITLE 24". VERIFY THIS REQUIREMENT AND THE FIXTURES NOTED IN THE "LIGHTING & ELECTRICAL LEGEND".
- CONTRACTOR SHALL PROVIDE POWER PER CODE TO ALL LIGHTING FIXTURES AND SWITCHES, OUTLETS, ETC.
- CONTRACTOR SHALL PROVIDE POWER PER CODE TO ALL INTERIOR ELECTRICAL EQUIPMENT, INCLUDING APPLIANCES, KITCHEN EXHAUST HOODS, MECHANICAL EQUIPMENT, GARAGE DOOR MOTORS, SECURITY PANEL(S), BUILT-IN VACUUM MOTORS, ELEVATOR EQUIPMENT, ETC.
- CONTRACTOR SHALL PROVIDE POWER PER CODE TO ALL EXTERIOR ELECTRICAL EQUIPMENT, INCLUDING MECHANICAL EQUIPMENT, POOL EQUIPMENT, TENNIS COURT LIGHTING, FOUNTAINS, SECURITY GATES, IRRIGATION CONTROLS, LANDSCAPE LIGHTING, ETC. FINAL CONNECTIONS TO ALL EQUIPMENT SHALL BE BY RESPECTIVE CONTRACTOR FOR THAT TRADE OR EQUIPMENT.
- CONTRACTOR SHALL PROVIDE "FLEX" CONDUIT PER CODE FOR ALL ELECTRICAL WIRING THROUGHOUT THE PROJECT'S BUILDING, AND PVC OR SIMILAR EXTERIOR-RATED CONDUIT PER CODE FOR ALL EXTERIOR WIRING. IF ROMEX IS APPROVED FOR USE AS INTERIOR WIRING BUY LOCAL JURISDICTION, APPROVAL FOR ITS USE SHALL BE OBTAINED FROM THE GC/OWNER.
- ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL WIRING FOR SECURITY LIGHTING, PHOTO CELLS, ENTRY GATE MOTORS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE WATER PROOF/WEATHER RESISTANCE FIXTURES (AS CERTIFIED BY U.L. OR OTHER CODE- ACCEPTED TESTING AGENCY) IN OR NEAR ALL BATH TUBS AND SHOWERS AND AT ALL EXTERIOR LOCATIONS. ALL FIXTURES SHALL BE INSTALLED PER CODE AND MANUFACTURER'S INSTRUCTIONS.
- ELECTRICAL CONTRACTOR SHALL PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (G.F.C.I.) OUTLETS IN THE KITCHEN, BATHROOMS, AND OTHER APPLICABLE ROOMS AND AREAS AS PER CODE.
- ELECTRICAL CONTRACTOR SHALL USE A SINGLE COVER PLATE TO COVER MULTIPLE SWITCHES AND DIMMERS WHEREVER MULTIPLE CONTROLS ARE INDICATED ON THE LIGHTING DESIGN PLANS.
- ELECTRICAL CONTRACTOR SHALL INSTALL ALL WALL-MOUNTED FIXTURES. SEE INTERIOR ELEVATIONS FOR LOCATIONS.
- ELECTRICAL CONTRACTOR SHALL VERIFY WEIGHT OF ALL LIGHTING FIXTURES, AND PROVIDE ADEQUATE SUPPORT FOR EACH FIXTURE AT ALL J-BOXES AS REQUIRED. IF ADDITIONAL BACKING OR BLOCKING IS REQUIRED TO SECURELY ANCHOR A J-BOX IT WILL BE PROVIDED BY THE CONTRACTOR WHERE DIRECTED BY THE ELECTRICAL CONTRACTOR.
- CONTRACTOR SHALL COORDINATE WITH OWNER THE LOCATION OF ALL EAVE OUTLETS FOR CHRISTMAS LIGHTS.

SINGLE LINE DIAGRAM NOTES:

- ALL WORK SHALL BE PERFORMED PER 2014 NATIONAL ELECTRICAL CODE.
- ~~ALL ELECTRICAL EQUIPMENT AND SWITCHBOARDS SHALL BE FULLY RATED.~~
- ALL ELECTRICAL EQUIPMENT AND SWITCHBOARDS SHALL BE SERIES RATED.
- PROVIDE A CAUTIONARY LABEL TO THE SERIES RATED DEVICE COVER STATING "CAUTION-SERIES COMBINATION SYSTEM RATED \_\_\_\_\_A. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED".
- ALL ELECTRICAL EQUIPMENT, SWITCHBOARDS, ETC. TO WITHSTAND AVAILABLE FAULT CURRENT. VERIFY WITH SERVING UTILITY COMPANY.
- ELECTRICAL EQUIPMENT SHALL BE LISTED BY A CITY OF LOS ANGELES RECOGNIZED ELECTRICAL TESTING LABORATORY OR UL.
- PROVIDE SEISMIC BRACING FOR ALL SERVICE EQUIPMENT, SWITCHBOARDS AND OTHER FLOOR STANDING EQUIPMENT BY INSTALLING APPROVED ANCHORS TO THE BUILDING STRUCTURE FROM EACH EQUIPMENT ENCLOSURE.
- FURNISH ELECTRICAL EQUIPMENT OF THE SAME TYPE OR CLASS FROM ONE MANUFACTURER.
- EQUIP ALL DISTRIBUTION FUSIBLE SWITCHES WITH REJECTION TYPE FUSE CLIPS FOR USE WITH CURRENT LIMITING, U.L. CLASS "R" FUSES.
- PROVIDE FUSES FROM ONE MANUFACTURER OF THE FOLLOWING TYPES:
  - "RK-1" - U.L. CLASS "RK-1" CURRENT LIMITING FUSES, "BUSSMANN" LOW-PEAK TYPE LPN-RK\_SP.
  - "RKS" - U.L. CLASS "RKS" CURRENT LIMITING, DUAL ELEMENT FUSES, "BUSSMANN" LOW-PEAK TYPE LPN-RK\_SP.
- ALL CONDUCTORS SHALL BE COPPER WITH TYPE "THWN/THHN" INSULATION RATED FOR 600 VOLTS.
- FEEDER LENGTHS NOTED ON DRAWINGS ARE FOR VOLTAGE DROP AND SHORT CIRCUIT CALCULATIONS ONLY AND ARE NOT TO BE USED FOR ESTIMATE OR MATERIAL TAKE-OFF.
- NO PIPING, DUCTS OR EQUIPMENT FOREIGN TO ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE LOCATED WITHIN THE DEDICATED SPACE.
- ALL TERMINALS/LUGS SHALL BE DUAL RATED 60/75° C.
- ELECTRICAL ROOM DOOR SHALL OPEN OUTWARD AND SHALL BE EQUIPPED WITH PANIC HARDWARE.
- THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO WATER PIPE (GROUNDING ELECTRODE) WITHIN 5' FROM THE POINT OF ENTRANCE INTO THE BUILDING.
- PROVIDE SEISMIC ANCHORING AND BRACING FOR MAIN SWITCHBOARD AND ALL STANDING SECTIONS.
- ELEVATOR CIRCUIT BREAKER SHALL BE EQUIPPED W/ SHUNT TRIP (SIEMENS C/B TYPE FXD6 OR EQ.)
- INSTALL A 1" CONDUIT FROM THE MAIN SWITCHBOARD TO THE ROOF AND TERMINATE IN A 12"x12"x6" NEMA 3R BOX FOR FUTURE SOLAR. THE CONDUIT FOR THE FUTURE ELECTRICAL SOLAR SYSTEM SHALL BE LABELED AS PER LOS ANGELES FIRE DEPARTMENT REQUIREMENTS
- CIRCUIT BREAKERS USED AS SWITCHES IN 120 AND 277 VOLT FLUORESCENT LIGHTING CIRCUITS SHALL BE LISTED AND MARKED AS "SWD" OR "HID".
- PROVIDE A LABEL STATING "EV CAPABLE" IS A CONSPICUOUS PLACE AT THE SERVICE PANEL OR SUBPANEL AND NEXT TO THE RACEWAY TERMINATION POINT.
- CONDUCTORS OF A MULTI-WIRE BRANCH CIRCUIT SHALL CONSPICUOUSLY ORIGINATE FROM THE SAME PANELBOARD. THE BRANCH CIRCUIT SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES (210.4, 240.15(B)(1))
- ANY CONDUIT RUN OR MULTICONDUCTOR CABLE LEAVING THE CLASS 1, DIVISION 1 OR CLASS 1, DIVISION 2 LOCATION SHALL BE PROVIDED WITH A CONDUIT OR CABLE SEAL. THE CABLE SHALL BE INCAPABLE OF TRANSMITTING GASSES OR VAPORS THROUGH THE CABLE CORE. THE SEAL SHALL BE INSTALLED ON EITHER SIDE WITHIN 10 FEET OF THE SPECIFIED HAZARDOUS AREA BOUNDARY, UNLESS SHORTER DISTANCE IS REQUIRED BY METHANE STANDARD. (501.15(A)(4),(B)(2),(D)(3))
- EACH ELECTRICAL SERVICE SHALL HAVE PERMANENTLY INSTALLED USER-ACCESSIBLE METERING OF TOTAL ELECTRICAL ENERGY USE PER TABLE 130.5(A)
- ALL SWITCHBOARD EQUIPMENT AND CIRCUIT BREAKERS GREATER THAN 400A SHALL BE RATED FOR 100%.



1 DIMMING PANEL "DIM" DETAIL SCALE: NONE



2 GUTTER CONTROL SCHEMATIC SCALE: NONE

**PLAN REVIEW ACCEPTANCE**  
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<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
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BY: MEM DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

SERVICE SIZE	M.B.J. SIZE
0-1000 A	# 3/0
1200 A	# 4/0
1600 A	250 MCM
2000 A	300 MCM
2500 A	500 MCM
3000 A	500 MCM
4000 A	600 MCM

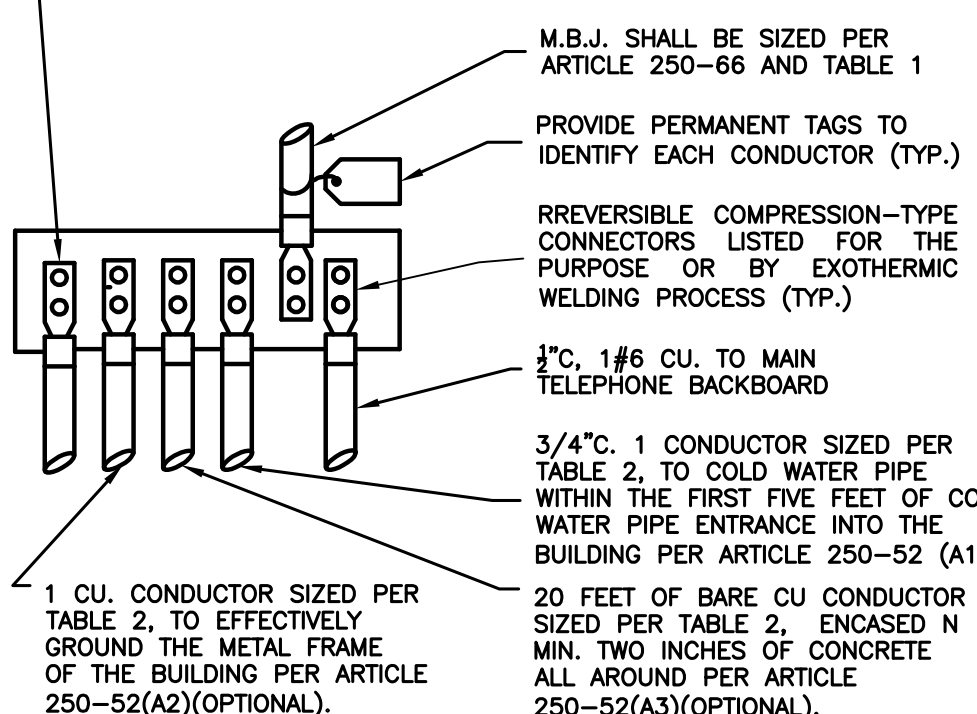
MAIN BONDING JUMPER TABLE 1

Service Size	G.E.C. Size
0-200 A	#4
201-400 A	#1/0
Over 401 A	#3/0

GROUNDING ELECTRODE CONDUCTOR TABLE 2

- 1 CU. CONDUCTOR SIZED PER TABLE 2, TO BE CONNECTED TO A 1/2"-10' LONG CU. ROD, BURIED A MIN. OF 8' IN GROUND. A SINGLE ROD, PIPE, OR PLATE ELECTRODE SHALL BE SUPPLEMENTED BY AN ADDITIONAL ELECTRODE OF A TYPE SPECIFIED IN 250.52(A)(2) THROUGH (A)(B). THE SUPPLEMENTAL ELECTRODE SHALL BE PERMITTED TO BE BONDED TO ONE OF THE FOLLOWING:
  - ROD, PIPE, OR PLATE ELECTRODE
  - GROUNDING ELECTRODE CONDUCTOR
  - GROUNDING SERVICE-ENTRANCE CONDUCTOR
  - NONFLEXIBLE GROUNDED SERVICE RACEWAY
  - ANY GROUNDED SERVICE ENCLOSURE

EXCEPTION: IF A SINGLE ROD, PIPE, OR PLATE GROUNDING ELECTRODE HAS A RESISTANCE TO EARTH OF 25 OHMS OR LESS, THE SUPPLEMENTAL ELECTRODE SHALL NOT BE REQUIRED PER ARTICLE 250-52.



3 GROUNDING DETAIL SCALE: NONE

REV.	DATE	DESCRIPTION
1	X	
2	X	
3	X	
4	X	
5	X	
6	X	
7	X	
8	X	
9	X	
10	X	

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
EDEN, UT 84310

PROJECT

SHEET TITLE

**SINGLE LINE DIAGRAM & LOAD CALCS.**

PROJECT NO.: 2213  
SCALE: AS SHOWN  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO. **E-2.1**

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY ABRARI AND ASSOCIATES AND WERE CREATED AND DEVELOPED FOR USE AND IN CONNECTION WITH THE SPECIFIED PROJECT. NONE OF THE IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN AUTHORIZATION OF ABRARI AND ASSOCIATES, INC.

ROOM MOUNTING FLUSH FED FROM MS NOTE		VOLTS 240/120V 2P 3W BUS AMPS 225 NEUTRAL 100%		AIC 22,000 MAIN BKR MLO LUGS STANDARD		LOAD KVA				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B				A	B	
1	20/1	FREEZER	1.50		2	20/1	FOYER FAN, REC.	1.15		
3	20/1	REC., SHADE WINDOW	0.77		4	20/1	BATHROOM REC.	0.18		
5	20/1	DINING REC., SHADE WINDOW	1.31		6	20/1	GARAGE REC.	0.54		
7	20/1	DINING PATIO REC.	0.54		8	20/1	HOOD FAN	0.80		
9	20/1	REC., SHADE WINDOW	0.95		10	20/1	DISHWASHER	1.20		
11	20/1	LIVING ROOM REC., SHADE WINDOW	0.95		12	20/1	GD	0.87		
13	20/1	KID'S ROOM FAN, REC.	0.95		14	20/1	FAN, REC., SHADE WINDOW	1.46		
15	20/1	GUEST ROOM FAN, REC.	1.13		16	20/1	MA. BATHROOM REC.	0.18		
17	20/1	BOOT WARMER REC.	0.36		18	20/1	BATHROOM REC.	0.54		
19	20/1	SD SC. SMOKE DETECTOR	0.01		20	20/1	GUEST ROOM REC.	1.44		
21	20/1	SITE REC.	0.72		22	20/1	FAN, REC.	1.31		
23	20/1	SITE REC.	0.72		24	20/1	UNFINISHED BASEMENT REC.	0.72		
25	20/1	MA. BATHROOM REC.	0.18		26	20/1	LAUNDRY, REC.	1.68		
27	20/1	W.H.	0.04		28	20/1	JACUZZI DECK REC.	0.36		
29	20/1	UNFINISHED BASEMENT REC.	0.90		30	-/1	SPACE	0.00		
31	-/1	SPACE	0.00		32	-/1	SPACE	0.00		
33	-/1	SPACE	0.00		34	-/1	SPACE	0.00		
35	-/1	SPACE	0.00		36	-/1	SPACE	0.00		
37	-/1	SPACE	0.00		38	-/1	SPACE	0.00		
39	-/1	SPACE	0.00		40	-/1	SPACE	0.00		
41	-/1	SPACE	0.00		42	-/1	SPACE	0.00		
			TOTAL CONNECTED KVA BY PHASE				14.75		8.71	
			TOTAL CONNECTED AMPS BY PHASE				72.55			
			CONN KVA	CALC KVA			CONN KVA	CALC KVA		
			LIGHTING	0.01	0.01	(125%)	CONTINUOUS	0.00	0.00	(125%)
			LARGEST MOTOR	0.05	0.06	(125%)	HEATING	0.00	0.00	(N/A)
			OTHER MOTORS	0.55	0.55	(100%)	COOLING	0.00	0.00	(N/A)
			RECEPTACLES	22.85	16.43	(50%>10)	NONCONTINUOUS	0.00	0.00	(100%)
			KITCHEN EQUIP	0.00	0.00	(N/A)	DIVERSE	0.00	0.00	(N/A)
						METERED DEMAND	0.00	0.00	(125%)	
			TOTAL KVA		23.46		17.05			
			BALANCED AMPS		71.02					

1 CIRCUIT BREAKER SHALL BE AFCI RATED

ROOM MOUNTING FLUSH FED FROM EM NOTE		VOLTS 240/120V 2P 3W BUS AMPS 60 NEUTRAL 100%		AIC 22,000 MAIN BKR MLO LUGS STANDARD		LOAD KVA				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B				A	B	
1	20/1	PANEL DM1	0.23		2	20/1	PANEL DM11	0.32		
3	20/1	PANEL DM2	0.04		4	20/1	PANEL DM12	0.19		
5	20/1	PANEL DM3	0.15		6	20/1	PANEL DM13	0.27		
7	20/1	PANEL DM4	0.17		8	20/1	PANEL DM14	0.33		
9	20/1	PANEL DM5	0.07		10	20/1	PANEL DM15	0.12		
11	20/1	PANEL DM6	0.16		12	20/1	PANEL DM16	0.07		
13	20/1	PANEL DM7	0.23		14	20/1	PANEL DM17	0.08		
15	20/1	PANEL DM8	0.10		16	20/1	PANEL DM18	0.03		
17	20/1	PANEL DM9	0.23		18	20/1	PANEL DM19	0.09		
19	20/1	PANEL DM10	0.13		20	-/1	SPACE	0.00		
21	-/1	SPACE	0.00		22	-/1	SPACE	0.00		
23	-/1	SPACE	0.00		24	-/1	SPACE	0.00		
25	-/1	SPACE	0.00		26	-/1	SPACE	0.00		
27	-/1	SPACE	0.00		28	-/1	SPACE	0.00		
29	-/1	SPACE	0.00		30	-/1	SPACE	0.00		
31	-/1	SPACE	0.00		32	-/1	SPACE	0.00		
33	-/1	SPACE	0.00		34	-/1	SPACE	0.00		
35	-/1	SPACE	0.00		36	-/1	SPACE	0.00		
37	-/1	SPACE	0.00		38	-/1	SPACE	0.00		
39	-/1	SPACE	0.00		40	-/1	SPACE	0.00		
			TOTAL CONNECTED KVA BY PHASE				1.78		1.21	
			TOTAL CONNECTED AMPS BY PHASE				14.83		10.05	
			CONN KVA	CALC KVA			CONN KVA	CALC KVA		
			LIGHTING	2.98	3.73	(125%)	CONTINUOUS	0.00	0.00	(125%)
			LARGEST MOTOR	0.00	0.00	(N/A)	HEATING	0.00	0.00	(N/A)
			OTHER MOTORS	0.00	0.00	(100%)	COOLING	0.00	0.00	(N/A)
			RECEPTACLES	0.00	0.00	(50%>10)	NONCONTINUOUS	0.00	0.00	(100%)
			KITCHEN EQUIP	0.00	0.00	(N/A)	DIVERSE	0.00	0.00	(N/A)
						METERED DEMAND	0.00	0.00	(125%)	
			TOTAL KVA		2.98		3.73			
			BALANCED AMPS		15.54					

1 CIRCUIT BREAKER SHALL BE AFCI RATED

ROOM MOUNTING FLUSH FED FROM UTILITY NOTE		VOLTS 240/120V 2P 3W BUS AMPS 30 NEUTRAL 100%		AIC 22,000 MAIN BKR MLO LUGS STANDARD		LOAD KVA				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B				A	B	
1	20/2	SE-1	0.96		2	20/2	SE-2	0.96		
3			0.96		4			0.96		
			TOTAL CONNECTED KVA BY PHASE				1.92		1.92	
			TOTAL CONNECTED AMPS BY PHASE				16.00		16.00	
			CONN KVA	CALC KVA			CONN KVA	CALC KVA		
			LIGHTING	0.00	0.00	(125%)	CONTINUOUS	0.00	0.00	(125%)
			LARGEST MOTOR	1.92	2.40	(125%)	HEATING	0.00	0.00	(N/A)
			OTHER MOTORS	1.92	1.92	(100%)	COOLING	0.00	0.00	(N/A)
			RECEPTACLES	0.00	0.00	(50%>10)	NONCONTINUOUS	0.00	0.00	(100%)
			KITCHEN EQUIP	0.00	0.00	(N/A)	DIVERSE	0.00	0.00	(N/A)
						METERED DEMAND	0.00	0.00	(125%)	
			TOTAL KVA		3.84		4.32			
			BALANCED AMPS		18.00					

ROOM MOUNTING FLUSH FED FROM MS NOTE		VOLTS 240/120V 2P 3W BUS AMPS 125 NEUTRAL 100%		AIC 22,000 MAIN BKR MLO LUGS STANDARD		LOAD KVA				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B				A	B	
1	20/2	FC-1	0.30		2	20/2	FC-6	0.30		
3	20/1	FC-1	0.30		4	20/1	FC-6	0.30		
5	20/2	FC-2	0.40		6	20/2	FC-7	0.30		
7			0.40		8			0.30		
9	20/2	FC-3	0.30		10	20/2	HURU-1	0.25		
11			0.30		12			0.25		
13	20/2	FC-4	0.30		14	20/2	HURU-2	0.03		
15			0.30		16			0.03		
17	20/2	FC-5	0.40		18	20/1	EF-6	0.42		
19			0.43		20	20/1	EF-4	0.50		
21	20/2	CU	1.06		22	-/1	SPACE	0.00		
23			1.06		24	-/1	SPACE	0.00		
25	-/1	SPACE	0.00		26	-/1	SPACE	0.00		
27	20/2	FC	0.15		28	-/1	SPACE	0.00		
29			0.15		30	-/1	SPACE	0.00		
			TOTAL CONNECTED KVA BY PHASE				4.23		4.31	
			TOTAL CONNECTED AMPS BY PHASE				35.21		35.88	
			CONN KVA	CALC KVA			CONN KVA	CALC KVA		
			LIGHTING	0.00	0.00	(125%)	CONTINUOUS	0.00	0.00	(125%)
			LARGEST MOTOR	2.11	2.64	(125%)	HEATING	0.00	0.00	(N/A)
			OTHER MOTORS	6.42	6.42	(100%)	COOLING	0.00	0.00	(N/A)
			RECEPTACLES	0.00	0.00	(50%>10)	NONCONTINUOUS	0.00	0.00	(100%)
			KITCHEN EQUIP	0.00	0.00	(N/A)	DIVERSE	0.00	0.00	(N/A)
						METERED DEMAND	0.00	0.00	(125%)	
			TOTAL KVA		8.53		9.06			
			BALANCED AMPS		37.74					

ROOM MOUNTING FLUSH FED FROM UTILITY NOTE		VOLTS 240/120V 2P 3W BUS AMPS 125 NEUTRAL 100%		AIC 22,000 MAIN BKR MLO LUGS STANDARD		LOAD KVA				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		
			A	B				A	B	
1	20/2	RECEPTACLE	0.27		2	30/2	GUTTER MELT	1.08		
3			0.27		4	30/2	GUTTER MELT	1.08		
5	30/2	GUTTER MELT	1.08		6	30/2	GUTTER MELT	1.08		
7			1.08		8			1.08		
9	20/1	PUMP-UPS15-58FC	0.70		10	30/2	GUTTER MELT	1.08		
11	20/1	PUMP-UPS26-99FC	0.80		12			1.08		
13	20/1	BOILER	1.80		14	30/2	GUTTER MELT	1.08		
15	20/1	CONTROLS & PUMPS	0.00		16			1.08		
17	20/1	BOILERS	0.00		18	-/1	SPACE	0.00		
19	-/1	SPACE	0.00		20	-/1	SPACE	0.00		
21	-/1	SPACE	0.00		22	-/1	SPACE	0.00		
23	-/1	SPACE	0.00		24	-/1	SPACE	0.00		
25	-/1	SPACE	0.00		26	-/1	SPACE	0.00		
27	-/1	SPACE	0.00		28	-/1	SPACE	0.00		
29	-/1	SPACE	0.00		30	-/1	SPACE	0.00		
			TOTAL CONNECTED KVA BY PHASE				8.17		6.47	
			TOTAL CONNECTED AMPS BY PHASE				68.08		53.92	
			CONN KVA	CALC KVA			CONN KVA	CALC KVA		
			LIGHTING	0.00	0.00	(125%)	CONTINUOUS	0.00	0.00	(125%)
			LARGEST MOTOR	2.16	2.70	(125%)	HEATING	0.00	0.00	(N/A)
			OTHER MOTORS	11.94	11.94	(100%)	COOLING	0.00	0.00	(N/A)
			RECEPTACLES	0.54	0.54	(50%>10)	NONCONTINUOUS	0.00	0.00	(100%)
			KITCHEN EQUIP	0.00	0.00	(N/A)	DIVERSE	0.00	0.00	(N/A)
						METERED DEMAND	0.00	0.00	(125%)	
			TOTAL KVA		14.64		15.18			
			BALANCED AMPS		63.25					

ROOM MOUNTING FLUSH FED FROM MS NOTE		VOLTS 240/120V 2P 3W BUS AMPS 125 NEUTRAL 100%		AIC 22,000 MAIN BKR MLO LUGS STANDARD		LOAD KVA			
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA		CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA	
			A	B				A	B
1	50/2	PANEL EM	4.86		2	-/1	SPACE	0.00	
3			4.81		4	-/1	SPACE	0.00	
5	-/1	SPACE	0.00		6	-/1	SPACE	0.00	
7	-/1	SPACE	0.00		8	-/1	SPACE	0.00	
9	-/1	SPACE	0.00		10	-/1	SPACE	0.00	
11	-/1	SPACE	0.00		12	-/1	SPACE	0.00	
13	-/1	SPACE	0.00		14	-/1	SPACE	0.00	
15	-/1	SPACE	0.00		16	-/1	SPACE	0.00	
17	-/1	SPACE	0.00		18	-/1	SPACE	0.00	
19	-/1	SPACE	0.00		20	-/1	SPACE	0.00	
21	-/1	SPACE	0.00		22	-/1	SPACE	0.00	
23	-								



DM13									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	STAIRS LTG	0.12	2	-/1	FAMILY MEDIA ROOM LTG	0.05		
3	-/1	LIVING ROOM LTG	0.03	4	-/1	STAIRS LTG	0.07		
TOTAL CONNECTED KVA BY PHASE							0.27		
TOTAL CONNECTED AMPS BY PHASE							2.22		
CONN KVA			0.27	CALC KVA			0.33		
LIGHTING	0.27	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.27	TOTAL KVA			0.33		
TOTAL AMPS			2.78	TOTAL AMPS			2.78		

DM14									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	LIVING ROOM LTG	0.20	2	-/1	MASTER BEDRM. LTG	0.10		
3	-/1	SPACE	0.00	4	-/1	ART WALL LTG	0.02		
TOTAL CONNECTED KVA BY PHASE							0.33		
TOTAL CONNECTED AMPS BY PHASE							2.71		
CONN KVA			0.33	CALC KVA			0.41		
LIGHTING	0.33	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.33	TOTAL KVA			0.41		
TOTAL AMPS			2.78	TOTAL AMPS			3.39		

DM15									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	MA. BATHROOM LTG	0.02	2	-/1	MA. BATHROOM LTG	0.02		
3	-/1	MA. BATHROOM LTG	0.05	4	-/1	MA. BATHROOM LTG	0.03		
TOTAL CONNECTED KVA BY PHASE							0.12		
TOTAL CONNECTED AMPS BY PHASE							0.98		
CONN KVA			0.12	CALC KVA			0.15		
LIGHTING	0.12	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.12	TOTAL KVA			0.15		
TOTAL AMPS			0.98	TOTAL AMPS			1.23		

DM16									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	MASTER BEDRM. LTG	0.05	2	-/1	MASTER BEDRM. LTG	0.01		
3	-/1	SPACE	0.00	4	-/1	SPACE	0.00		
TOTAL CONNECTED KVA BY PHASE							0.07		
TOTAL CONNECTED AMPS BY PHASE							0.55		
CONN KVA			0.07	CALC KVA			0.08		
LIGHTING	0.07	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.07	TOTAL KVA			0.08		
TOTAL AMPS			0.68	TOTAL AMPS			0.68		

DM17									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	BATHROOM LTG	0.06	2	-/1	LOWER FOYER LTG	0.02		
3	-/1	SPACE	0.00	4	-/1	SPACE	0.00		
TOTAL CONNECTED KVA BY PHASE							0.08		
TOTAL CONNECTED AMPS BY PHASE							0.64		
CONN KVA			0.08	CALC KVA			0.10		
LIGHTING	0.08	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.08	TOTAL KVA			0.10		
TOTAL AMPS			0.80	TOTAL AMPS			0.80		

DM18									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	LTG	0.03	2	-/1	SPACE	0.00		
3	-/1	SPACE	0.00	4	-/1	SPACE	0.00		
TOTAL CONNECTED KVA BY PHASE							0.03		
TOTAL CONNECTED AMPS BY PHASE							0.24		
CONN KVA			0.03	CALC KVA			0.04		
LIGHTING	0.03	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.03	TOTAL KVA			0.04		
TOTAL AMPS			0.30	TOTAL AMPS			0.30		

DM19									
ROOM MOUNTING FLUSH FED FROM L NOTE		VOLTS 120V 1P 2W BUS AMPS 60 NEUTRAL 100%			AIC 10,000 MAIN BKR MLO LUGS STANDARD				
CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A		
1	-/1	SITE LTG	0.06	2	-/1	SITE LTG	0.03		
3	-/1	SPACE	0.00	4	-/1	SPACE	0.00		
TOTAL CONNECTED KVA BY PHASE							0.09		
TOTAL CONNECTED AMPS BY PHASE							0.75		
CONN KVA			0.09	CALC KVA			0.11		
LIGHTING	0.09	(125%)	0.00	CONTINUOUS	0.00	(125%)			
LARGEST MOTOR	0.00	(N/A)	0.00	HEATING	0.00	(N/A)			
OTHER MOTORS	0.00	(100%)	0.00	COOLING	0.00	(N/A)			
RECEPTACLES	0.00	(50%>10)	0.00	NONCONTINUOUS	0.00	(100%)			
KITCHEN EQUIP	0.00	(N/A)	0.00	DIVERSE	0.00	(N/A)			
TOTAL KVA			0.09	TOTAL KVA			0.11		
TOTAL AMPS			0.94	TOTAL AMPS			0.94		

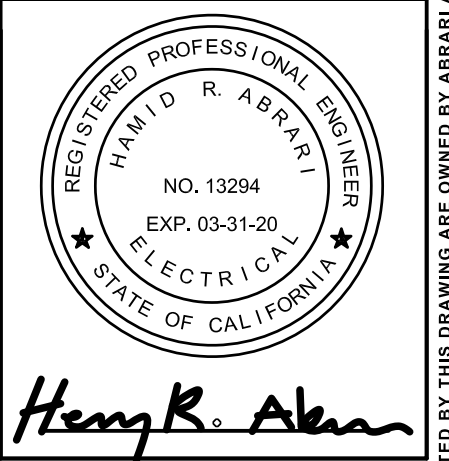
REV.	DATE	DESCRIPTION
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2		
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7		
8		
9		
10		

**ABRARI ASSOCIATES**  
ELECTRICAL ENGINEERS

1713 STANDARD AVE.  
GLENDALE, CA 91201  
W 818.956.1900  
MAIL@ABRARI.COM

**PROJECT**

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
EDEN, UT 84310



**SHEET TITLE**

**PANEL SCHEDULES**

PROJECT NO.: 2213  
SCALE: NONE  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO. **E-2.4**

**PLAN REVIEW ACCEPTANCE**

FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW:

BUILDING  STRUCTURAL  
 MECHANICAL  PLUMBING  
 ELECTRICAL  ENERGY  
 ACCESSIBILITY  FIRE

PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.

BY: MEM DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

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LUMINAIRE SCHEDULE

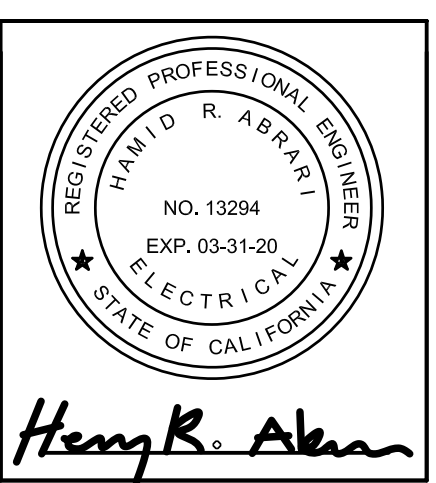
CALLOUT	SYMBOL	LAMP	DESCRIPTION	BALLAST	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE 1
F1		(1) 17W LED	RECESSED FLANGELESS ROUND PINHOLE ADJUSTABLE DOWNLIGHT	DIMMING	RECESSED	TECH LIGHTING. E2R-L-LH-927-40(40')-A-I-010 + E2R-LF-O-W INTEGRAL LED. 2700K-915-DELIVERED LUMENS	17	120V 1P 2W	
F1A		(1) 17W LED	RECESSED FLANGELESS ROUND PINHOLE ADJUSTABLE DOWNLIGHT, BLACK FINISH	DIMMING	RECESSED	TECH LIGHTING E2R-L-LH-927-40(40')-A-I-010 + E2R-LF-O-B INTEGRAL LED 2700K 1250 DELIVERED LUMENS	17	120V 1P 2W	
F4		(1) 17W LED	RECESSED FLANGELESS ROUND DOWNLIGHT (WET)	DIMMING	RECESSED	TECH LIGHTING. E2R-L-LH-927-40(40')-A-I-010 + E2R-LF-H-W INTEGRAL LED 2700K 1250 DELIVERED LUMENS	17	120V 1P 2W	
F5		(1) 2.9W LED	MIRROR WITH INTEGRAL LIGHTING	ELECTRONIC	WALL	OFCI - OWNER FURNISHED CONTRACTOR INSTALLED	2.9	120V 1P 2W	
F6		(1) 3W LED	LINEAR STRIP LIGHT IN ARCHITECTURAL COVE	ELECTRONIC	PENDANT	LUMINII LL30-27K-SECTION START-SECTION END-LENGTH + PSD-POWER-24 INTEGRAL LED 2700K - 98CRI 203 LUMENT/FT	3	120V 1P 2W	
F7		(1) 3.2W LED	LINEAR MILLWORK LIGHT	ELECTRONIC	WALL	LUMINII KRM-LENGTH-27K-SO-HF-FINISH-POWER FEED + PSD-OWER-24 INTEGRAL LED 2700K - 98CRI 118 LUMENT/FT	3.2	120V 1P 2W	
F8		(1) 100W LED	DECORATIVE PENDANT FIXTURE	ELECTRONIC	PENDANT	OFCI - OWNER FURNISHED CONTRACTOR INSTALLED	100	120V 1P 2W	
F9		(1) 5.2W LED	RECESSED LINEAR REVIEW LIGHT IN CEILING IN SHOWER	ELECTRONIC	RECESSED	LUMINII (2)LIN-LENGTH PER DRAWING-27K-HOLE-MOD-WET + LIN-IC-90-27K-HO-FMOD-WET + PSD-POWER-24 INTEGRAL LED 2700K - 98CRI 213 LUMENT/FT	5.2	120V 1P 2W	
F10		(1) 29W LED	GENERAL ILLUMINATION FIXTURE	ELECTRONIC	SURFACE	WAC FM-4615-27 INTEGRAL LED 2700K 90-CRI 1485 DELIVERED LUMENS	29	120V 1P 2W	
F11		(1) 56W LED	SURFACE MOUNTED AMBIENT FIXTURE	DIMMING	RECESSED	FLOS USA   LUKAS Lighting FU157009TR INTEGRAL LED 2700K 90CRI 4200 LUMEN	56	120V 1P 2W	
F12		(1) 7.2W LED	SEMI-RECESSED DOWNLIGHT / MONOPOINT SPOT LIGHT	DIMMING	RECESSED	FLOS USA   LUKAS Lighting 39.3707-FINISH + SP40W600MA-10V-A01 INTEGRAL LED 2700K 504 LUMENS	7.2	120V 1P 2W	
F12A		(1) 7.2W LED	SEMI-RECESSED DOWNLIGHT / MONOPOINT SPOT LIGHT, BLACK FINISH	DIMMING	RECESSED	FLOS USA   LUKAS Lighting 7.2w 0-10V 39.3707-14 + SP40W600MA-10V-A01 INTEGRAL LED 2700K 504 LUMENS	7.2	120V 1P 2W	
F13		(1) 3W LED	RECESSED INDIRECT LINEAR STRIP LIGHT	DIMMING	RECESSED	WAC (2)ROWS LED-TC-1.5-RGB + LED-TRCH3 INTEGRAL LED RGB	3	120V 1P 2W	
F14		(1) 13W LED	SURFACE MOUNTED LINEAR TUNABLE WHITE AMBIENT FIXTURE	DIMMING	SURFACE	COLOR KINETICS 100'X100' + DATA ENABLER PRO +IPLAYER3 + AUXBOX INTERFACE INTEGRAL LED TUNNABLE WHITE	13	120V 1P 2W	
F15		(1) 6W LED	RECESSED LED ADJUSTABLE DOWNLIGHT UNDER STAIRS	DIMMING	RECESSED	HUNZA. EAVE/T6/L-D10-EBK(BLACK)-60-2-LF INTEGRAL LED 2700K 600 LUMENS	6	120V 1P 2W	
F16		(1) 100W LED	DECORATIVE RECESSED FIXTURE	DIMMING	RECESSED	OFCI - OWNER FURNISHED CONTRACTOR INSTALLED INTEGRAL LED 2700K	100	120V 1P 2W	
F17		(1) 100W LED	DECORATIVE PENDANT FIXTURE	DIMMING	PENDANT	OFCI - OWNER FURNISHED CONTRACTOR INSTALLED SCREW IN LED OR HALOGEN 120 PENDANT 2700K	100	120V 1P 2W	
FX1		(1) 1W LED	HANDRAIL MOUNTED STAIR LIGHT	DIMMING	RECESSED	ALPHABET (LEDRA BRANDS -WILA) 750-2-3-FACE-THICKNESS + P70414 -500-SOLO DRIVER INTEGRAL LED 3000K 80+CRI 111 LUMENS	1	120V 1P 2W	EQUIPPED WITH MOTION SENSOR
FX2		(1) 3W LED	EXTERIOR RECESSED LED STEPLIGHT	DIMMING	WALL	BEGA 33017+K3 INTEGRAL LED 3000K 150 LUMENS	3	120V 1P 2W	EQUIPPED WITH MOTION SENSOR
FX3		(1) 6W LED	EXTERIOR RECESSED LED DOWNLIGHT	DIMMING	RECESSED	HUNZA EAVE/T6/L-D10-EBK(BLACK)-60-2-LF INTEGRAL LED 2700K 600 LUMENS	6	120V 1P 2W	
FX4		(1) 10W LED	EXTERIOR WALL MOUNTED DOWNLIGHT	DIMMING	WALL	EATON - LUMIERE 9002-W1-RW-LED2797-F-STD FINISH1-UNV-WIS INTEGRAL LED 2700K 97-CRI 711 LUMENS	10	120V 1P 2W	
SC		NONE	SMOKE DETECTOR/CARBON MONOXIDE DETECTOR		CEILING		1	120V 1P 2W	
SD		NONE	SMOKE DETECTOR		CEILING		1	120V 1P 2W	

REV.	DATE	DESCRIPTION
1	X	
2	X	
3	X	
4	X	
5	X	
6	X	
7	X	
8	X	
9	X	
10	X	

**ABRARI ASSOCIATES**  
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MAIL@ABRARI.COM

PROJECT  
**POWDER MOUNTAIN HOUSE**  
**8645 EAST COPPER CREST,**  
**EDEN, UT 84310**



**SHEET TITLE**

**LIGHTING SCHEDULES**

PROJECT NO.: 2213  
 SCALE: NONE  
 DATE: 06-04-18  
 BY: VA  
 CHECKED: HRA  
 DRAWING NO.  
**E-2.5**

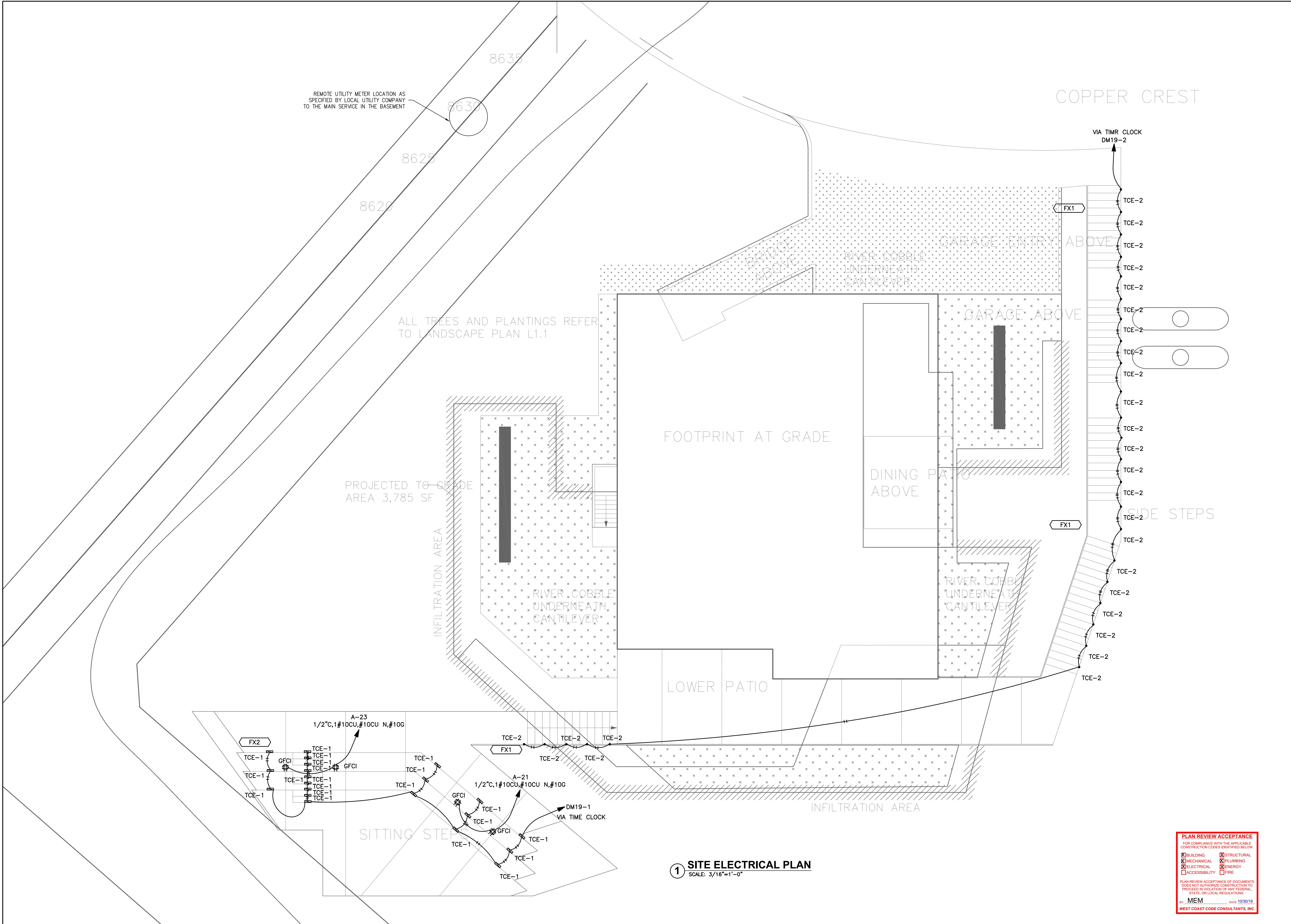
**PLAN REVIEW ACCEPTANCE**  
 FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW:

BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE

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By: MEM Date: 10/30/19  
 WEST COAST CODE CONSULTANTS, INC.

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REMOTE UTILITY METER LOCATION AS SPECIFIED BY LOCAL UTILITY COMPANY TO THE MAIN SERVICE IN THE BASEMENT

ALL TREES AND PLANTINGS REFER TO LANDSCAPE PLAN L1.1

PROJECTED TO GRADE AREA 3,785 SF

**1 SITE ELECTRICAL PLAN**

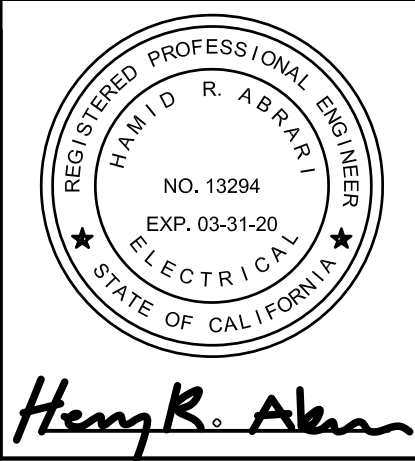
SCALE: 3/16"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
 FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.  
 BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE  
 PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.  
 BY: MEM    DATE: 10/30/19  
 WEST COAST CODE CONSULTANTS, INC.

REV.	DATE	BY	DESCRIPTION
1	X		
2	X		
3	X		
4	X		

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 ELECTRICAL ENGINEERS  
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 GLENDALE, CA 91201  
 W 818.956.1900  
 MAIL@ABRARI.COM

**POWDER MOUNTAIN HOUSE**  
 8645 EAST COPPER CREST,  
 EDEN, UT 84310



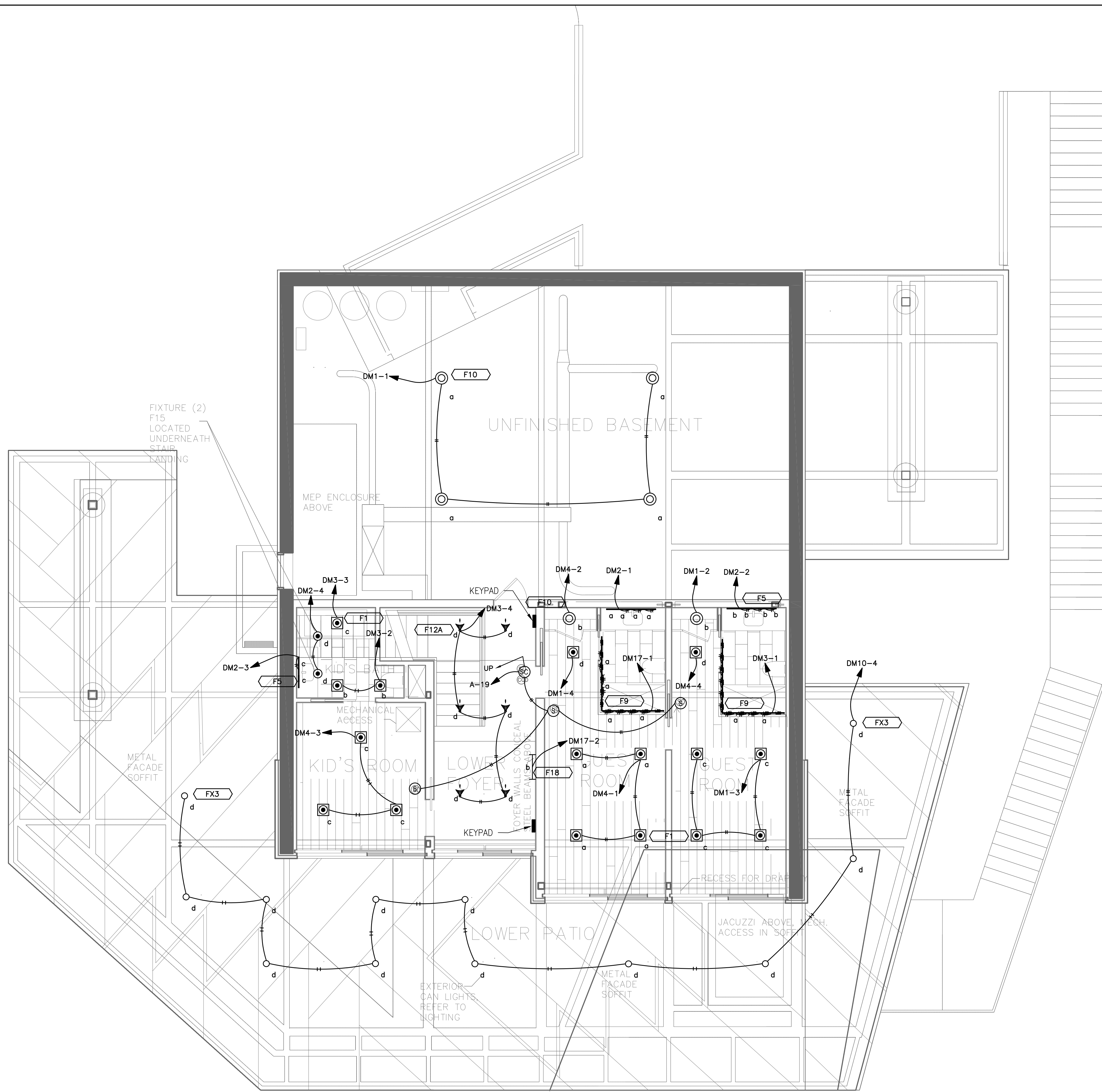
**SHEET TITLE**

**SITE ELECTRICAL PLAN**

PROJECT NO.:	2213
SCALE:	1/8"=1'-0"
DATE:	06-04-18
BY:	VA
CHECKED:	HRA
DRAWING NO.:	<b>E-3.0</b>

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**1 BASEMENT LIGHTING PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
<input checked="" type="checkbox"/> ELECTRICAL	<input checked="" type="checkbox"/> ENERGY
<input type="checkbox"/> ACCESSIBILITY	<input type="checkbox"/> FIRE

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BY: MEM DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

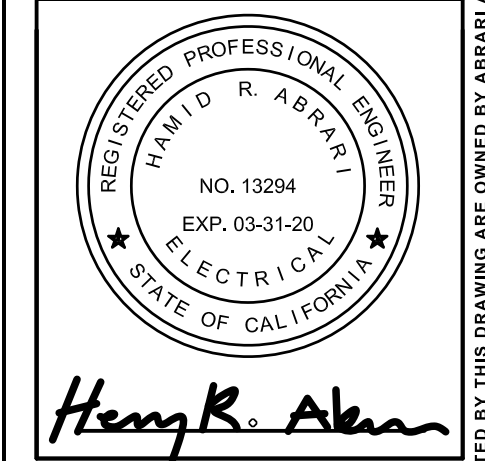
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3	X	X	
4	X	X	

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ELECTRICAL ENGINEERS

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GLENDALE, CA 91201  
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MAIL@ABRARI.COM

**PROJECT**

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
EDEN, UT 84310

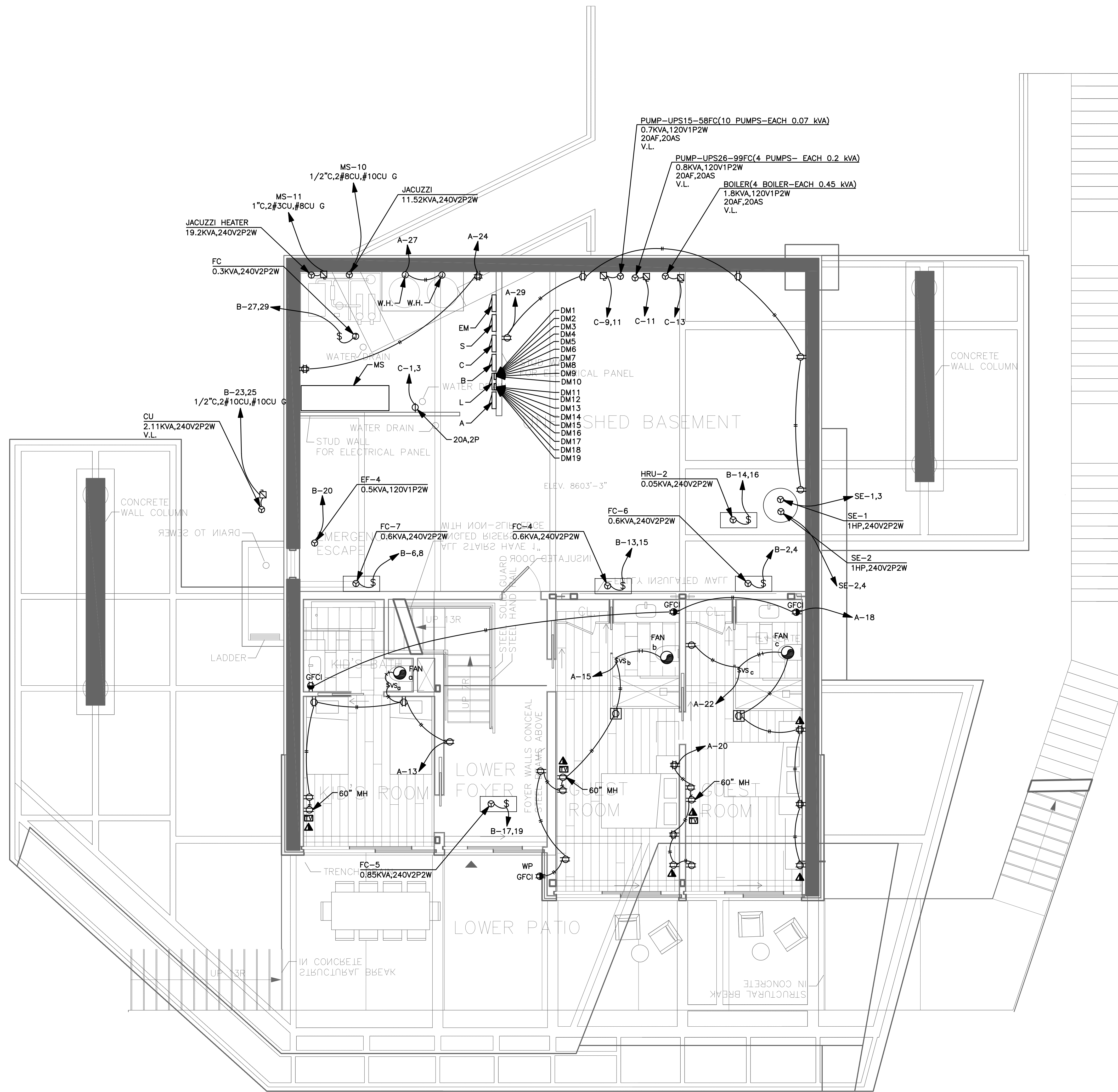


**SHEET TITLE**

**BASEMENT LIGHTING PLAN**

PROJECT NO.:	2213
SCALE:	1/4"=1'-0"
DATE:	06-04-18
BY:	VA
CHECKED:	HRA
DRAWING NO.:	<b>E-4.0</b>

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**1 BASEMENT POWER PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE

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BY: MEM    DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

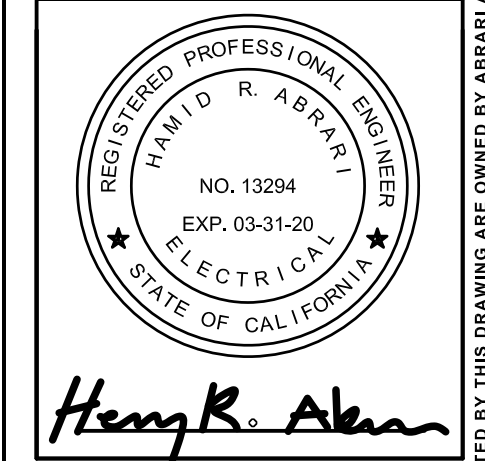
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3	X	X	
4	X	X	

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**PROJECT**

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
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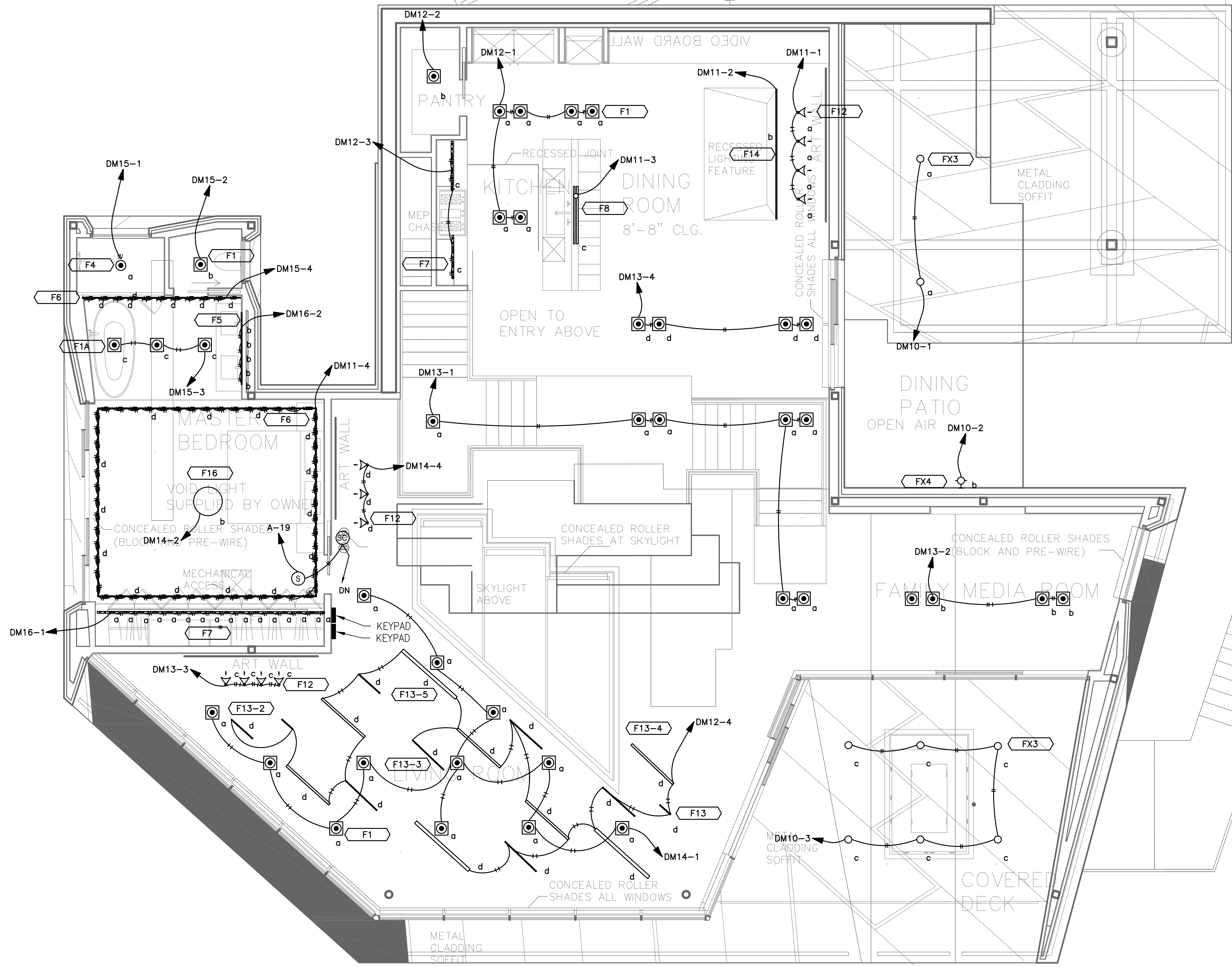


**SHEET TITLE**

**BASEMENT POWER PLAN**

PROJECT NO.: 2213  
SCALE: 1/4"=1'-0"  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO.  
**E-4.1**

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**1 MEZZANINE LEVEL LIGHTING PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
<input checked="" type="checkbox"/> ELECTRICAL	<input checked="" type="checkbox"/> ENERGY
<input type="checkbox"/> ACCESSIBILITY	<input type="checkbox"/> FIRE

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By: MEM Date: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

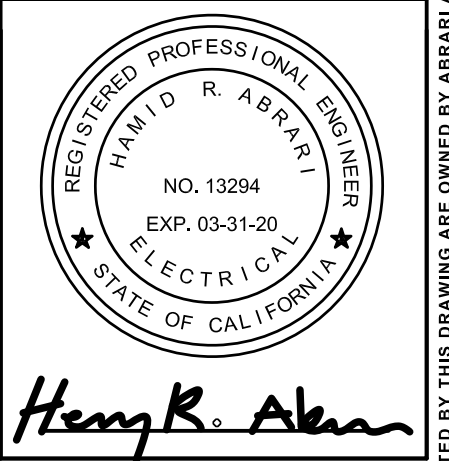
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3	X	X	
4	X	X	
5	X	X	

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**PROJECT**

**POWDER MOUNTAIN HOUSE**  
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EDEN, UT 84310

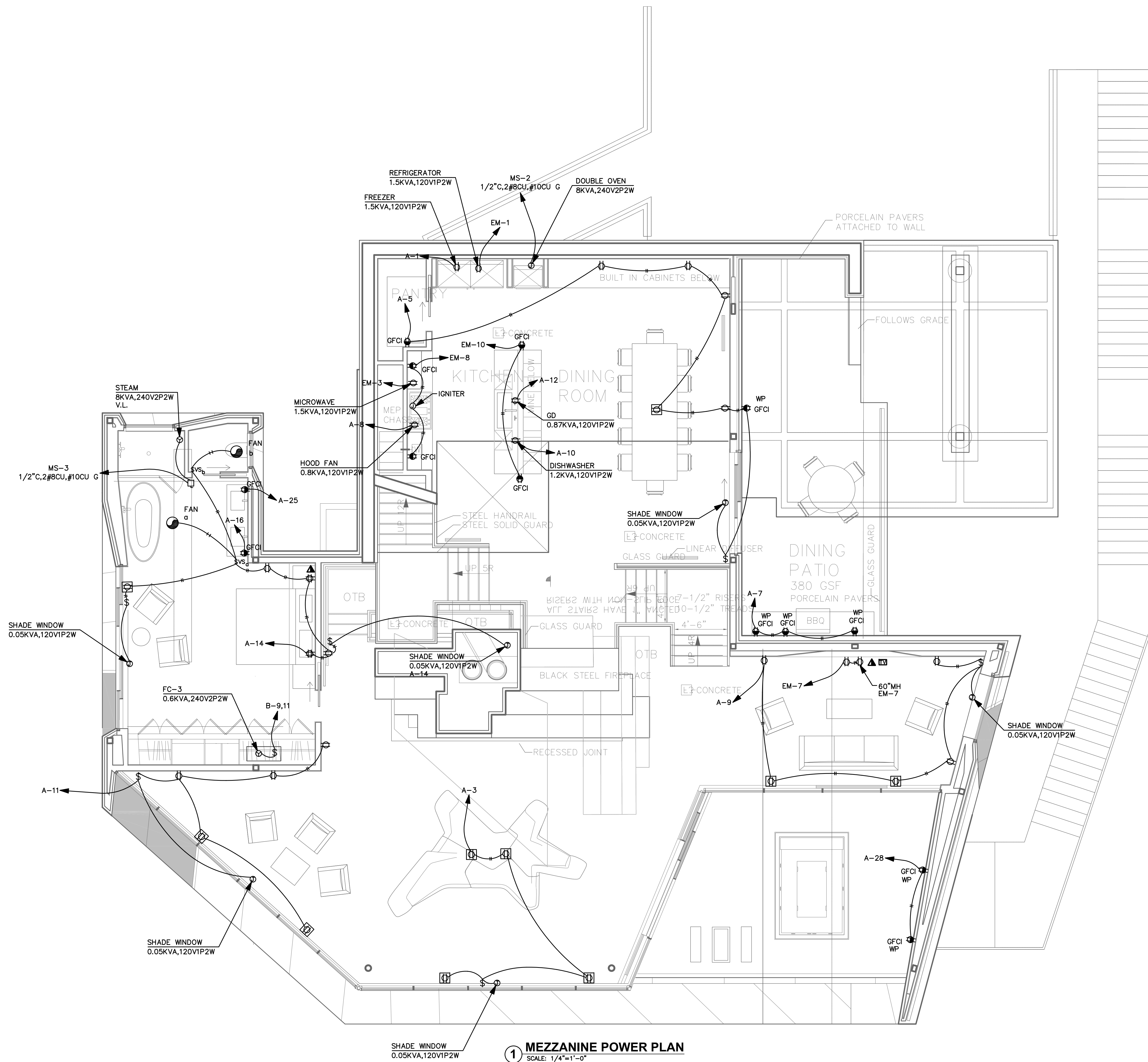


**SHEET TITLE**

**MEZZ. LEVEL LIGHTING PLAN**

PROJECT NO.: 2213  
SCALE: 1/4"=1'-0"  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO.  
**E-5.0**

ALL IDEAS, DESIGNS, ARRANGEMENTS AND PLANS INDICATED OR REPRESENTED BY THIS DRAWING ARE OWNED BY ABRARI AND ASSOCIATES AND WERE CREATED AND DEVELOPED FOR USE AND IN CONNECTION WITH THE SPECIFIC PROJECT. NONE OF THE IDEAS, DESIGNS, ARRANGEMENTS OR PLANS SHALL BE USED BY OR DISCLOSED TO FOR ANY PURPOSE WHATSOEVER WITHOUT THE WRITTEN AUTHORIZATION OF ABRARI AND ASSOCIATES, INC.



**MEZZANINE POWER PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
<input checked="" type="checkbox"/> ELECTRICAL	<input checked="" type="checkbox"/> ENERGY
<input type="checkbox"/> ACCESSIBILITY	<input type="checkbox"/> FIRE

PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.  
BY: MEM DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

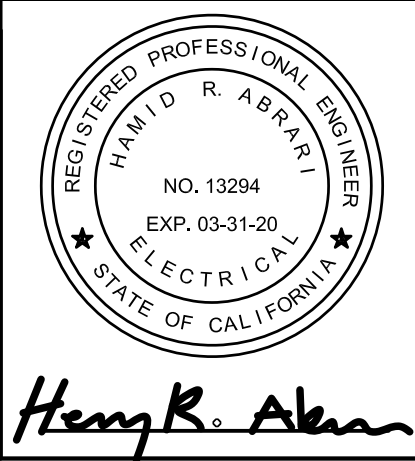
REV.	DATE	BY	DESCRIPTION
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2	X	X	
3	X	X	
4	X	X	

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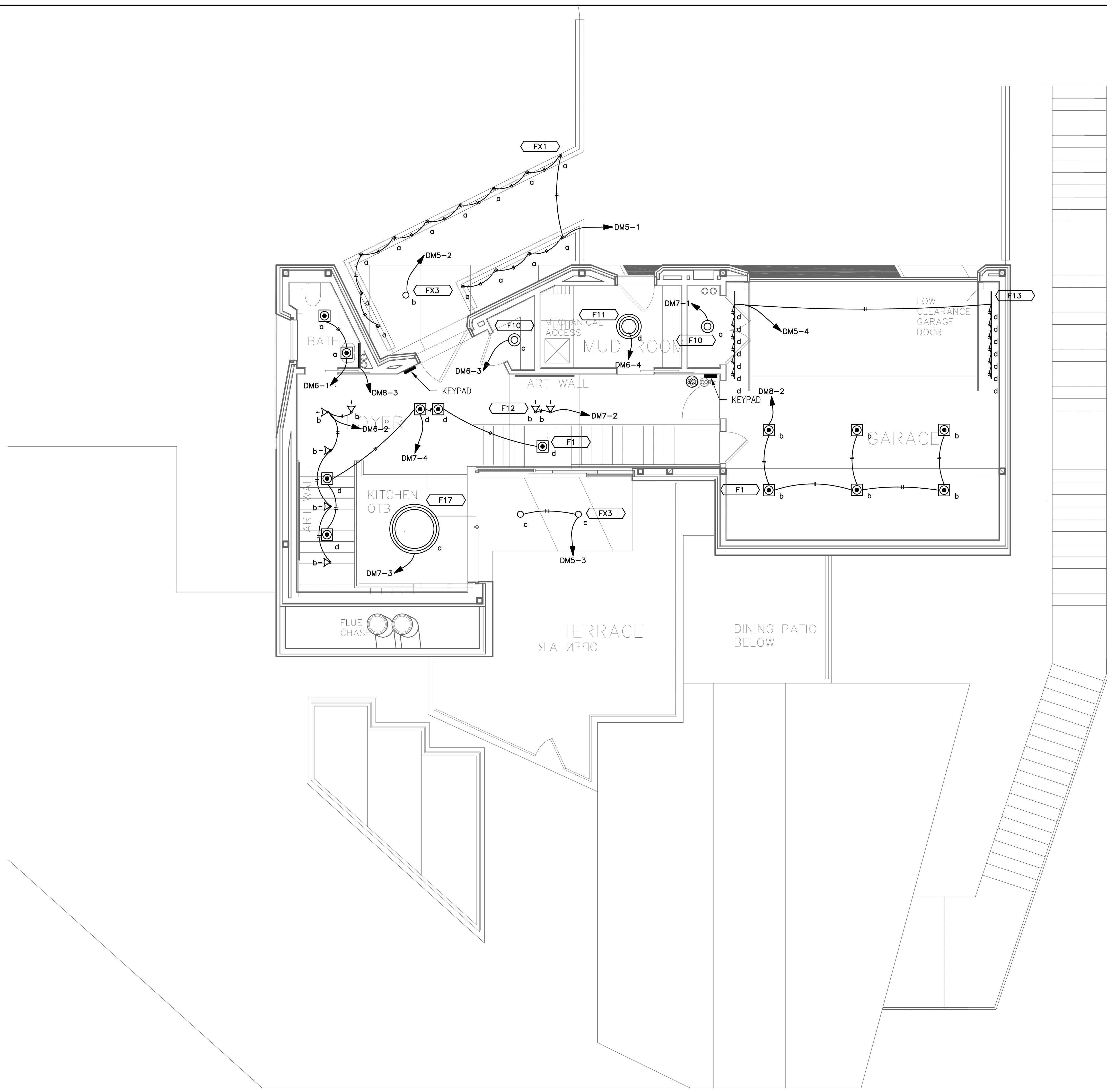
PROJECT



**SHEET TITLE**  
**MEZZANINE POWER PLAN**

PROJECT NO.: 2213  
SCALE: 1/4"=1'-0"  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO.  
**E-5.1**

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**1 ENTRY LEVEL LIGHTING PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE

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BY: MEM    DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

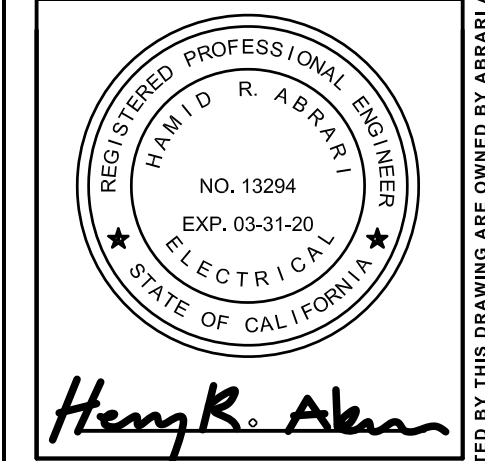
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3	X	X	
4	X	X	
5	X	X	

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8645 EAST COPPER CREST,  
EDEN, UT 84310

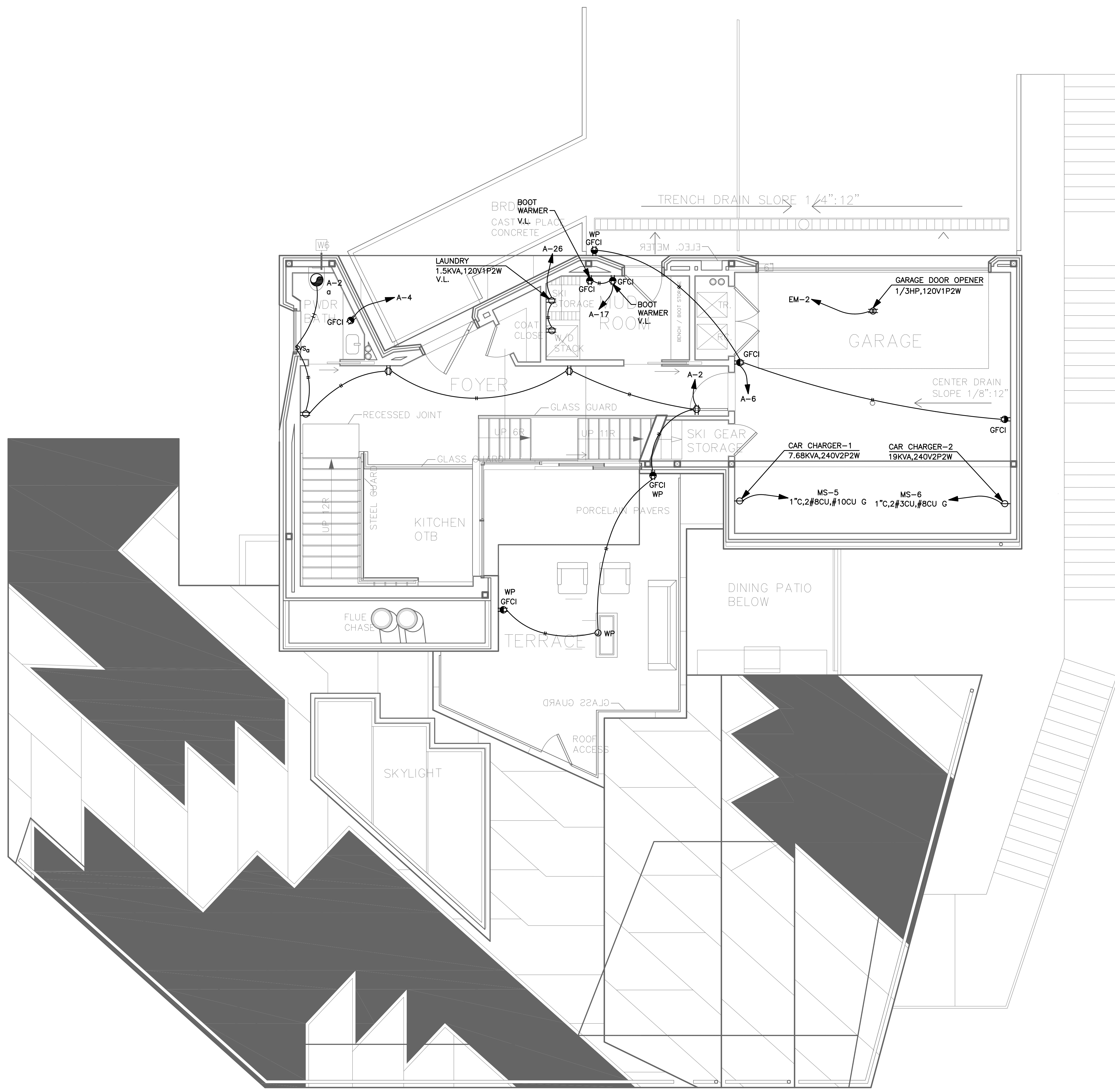


**SHEET TITLE**

**ENTRY LEVEL LIGHTING PLAN**

PROJECT NO.: 2213  
SCALE: 1/4"=1'-0"  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO.  
**E-6.0**

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**1 ENTRY LEVEL POWER PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

<input checked="" type="checkbox"/> BUILDING	<input checked="" type="checkbox"/> STRUCTURAL
<input checked="" type="checkbox"/> MECHANICAL	<input checked="" type="checkbox"/> PLUMBING
<input checked="" type="checkbox"/> ELECTRICAL	<input checked="" type="checkbox"/> ENERGY
<input type="checkbox"/> ACCESSIBILITY	<input type="checkbox"/> FIRE

PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.

By: **MEM** Date: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

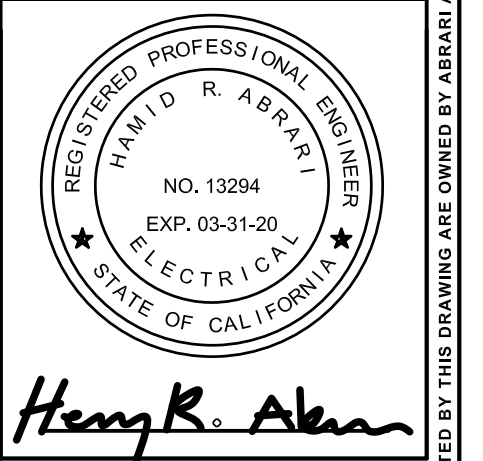
REV.	DATE	BY	DESCRIPTION
A	X	X	
B	X	X	
C	X	X	
D	X	X	

**ABRARI ASSOCIATES**  
ELECTRICAL ENGINEERS

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GLENDALE, CA 91201  
W 818.956.1900  
MAIL@ABRARI.COM

**PROJECT**

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
EDEN, UT 84310

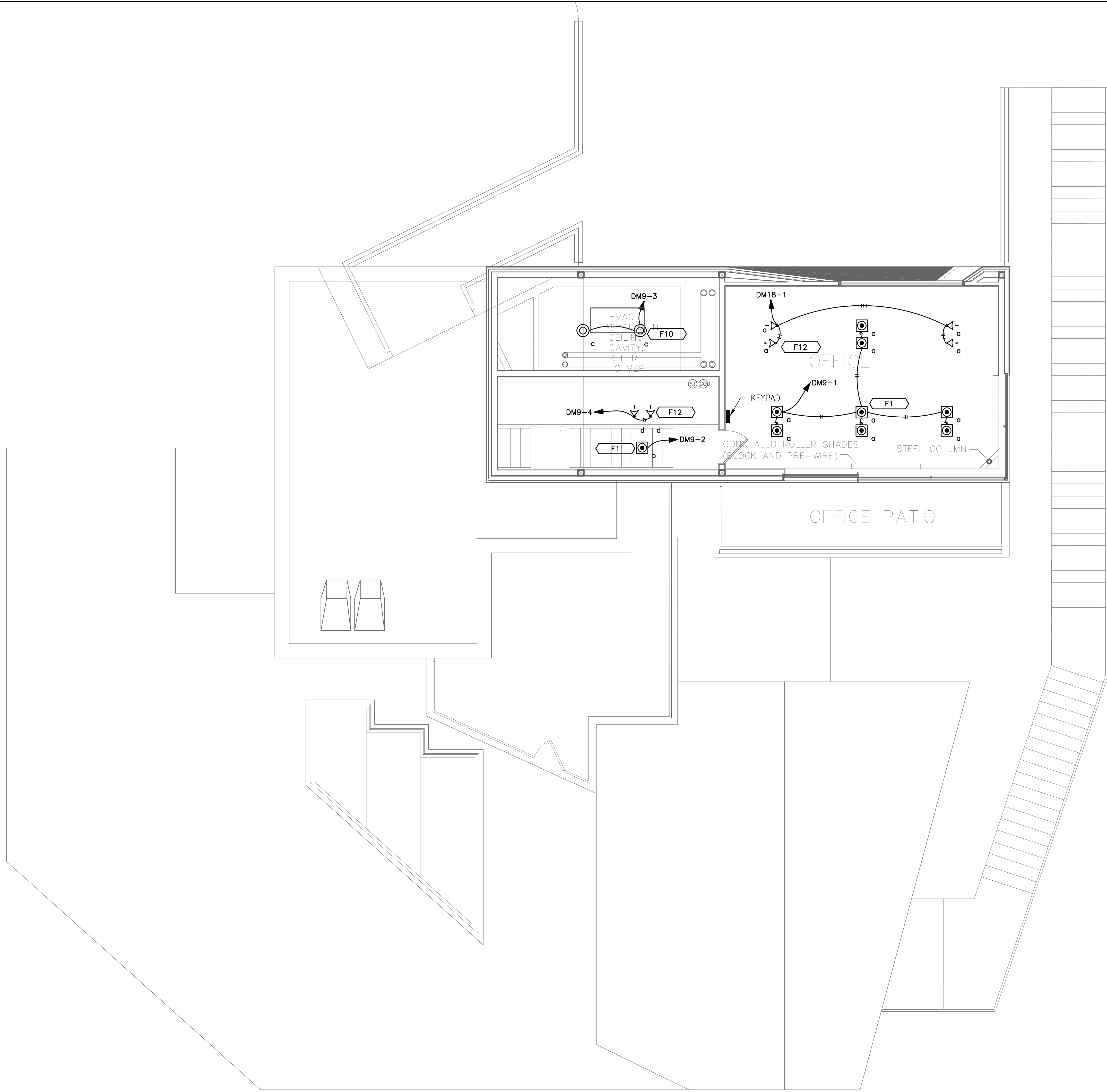


**SHEET TITLE**

**ENTRY LEVEL POWER PLAN**

PROJECT NO.: 2213  
SCALE: 1/4"=1'-0"  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO.  
**E-6.1**

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**1** PENTHOUSE LIGHTING PLAN  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.

BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE

PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.

BY: MEM    DATE: 10/30/19  
WEST COAST CODE CONSULTANTS, INC.

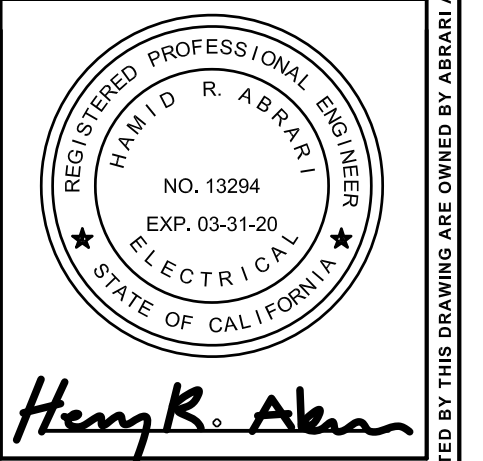
REV.	DATE	BY	DESCRIPTION
A	X	X	
B			
C			
D			
E			
F			
G			
H			
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M			
N			
O			
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R			
S			
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U			
V			
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X			
Y			
Z			

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**PROJECT**

**POWDER MOUNTAIN HOUSE**  
8645 EAST COPPER CREST,  
EDEN, UT 84310

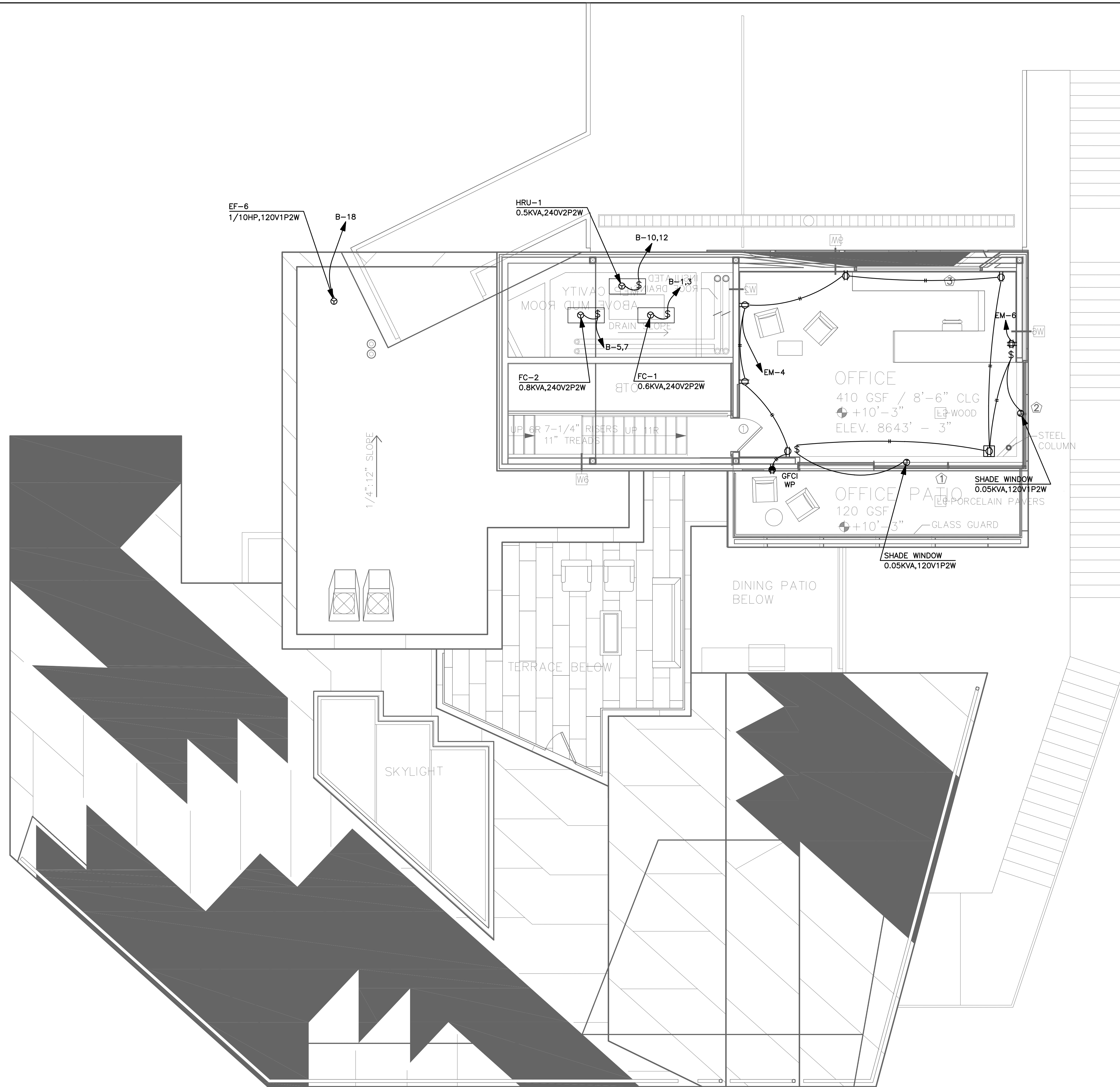


**SHEET TITLE**

**PENTHOUSE LIGHTING PLAN**

PROJECT NO.: 2213  
SCALE: 1/4"=1'-0"  
DATE: 06-04-18  
BY: VA  
CHECKED: HRA  
DRAWING NO.  
**E-7.0**

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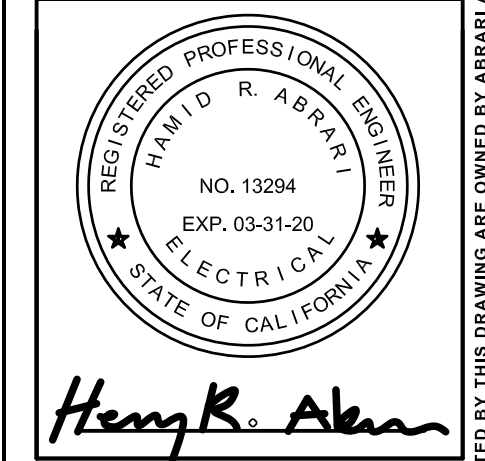
**1 PENTHOUSE POWER PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW.  
 BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE  
 PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.  
 BY: MEM    DATE: 10/30/19  
 WEST COAST CODE CONSULTANTS, INC.

REV.	DATE	BY	DESCRIPTION
1	X	X	
2	X	X	
3	X	X	
4	X	X	

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**PROJECT**  
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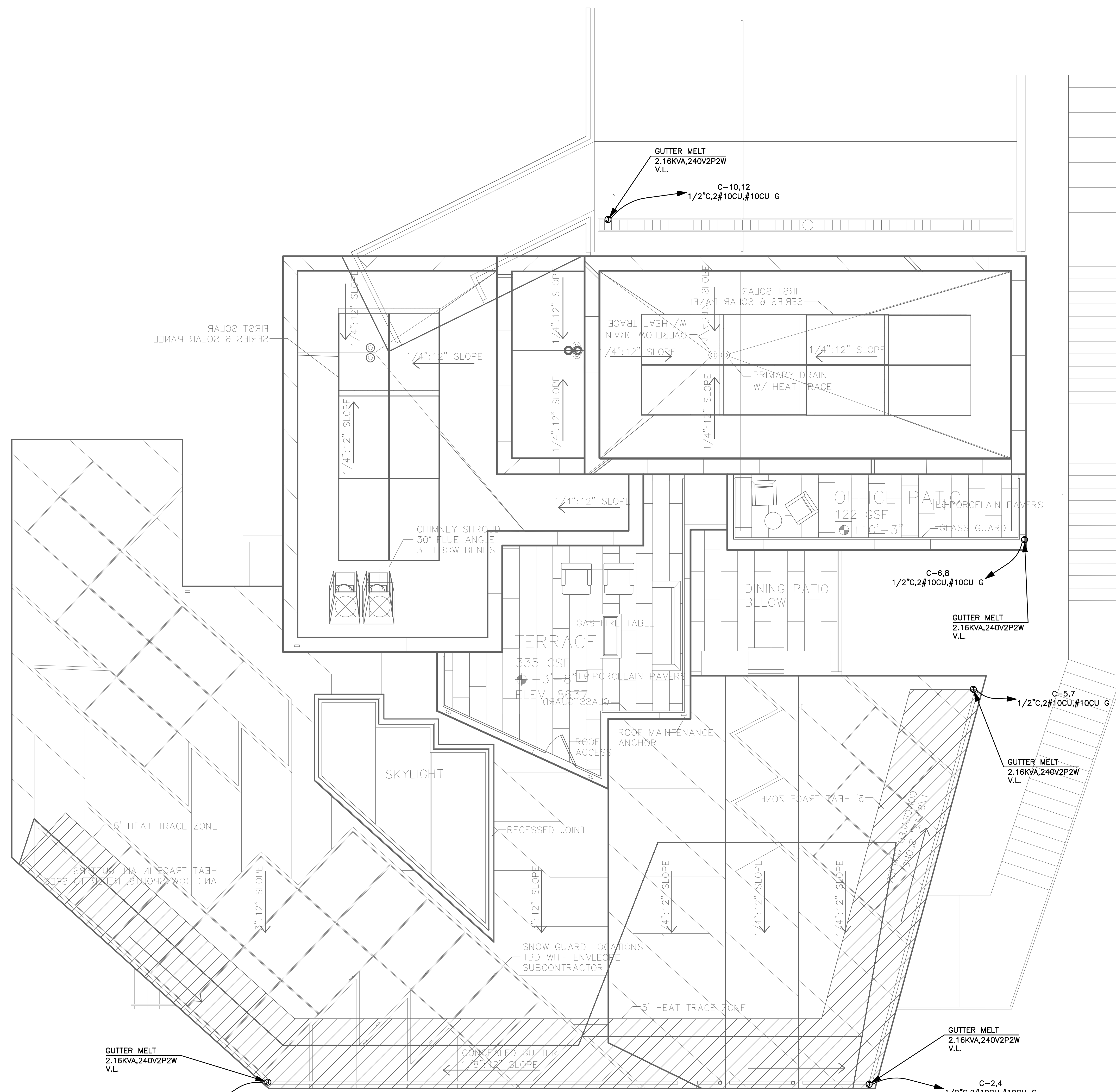


**SHEET TITLE**  
**PENTHOUSE POWER PLAN**

PROJECT NO.:	2213
SCALE:	1/4"=1'-0"
DATE:	06-04-18
BY:	VA
CHECKED:	HRA
DRAWING NO.:	<b>E-7.1</b>

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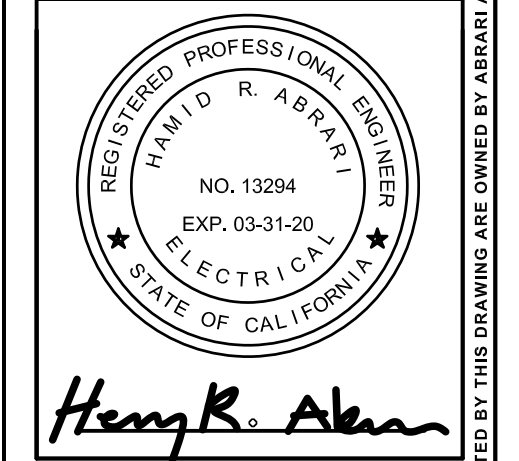
**1 ROOF ELECTRICAL PLAN**  
SCALE: 1/4"=1'-0"

**PLAN REVIEW ACCEPTANCE**  
FOR COMPLIANCE WITH THE APPLICABLE CONSTRUCTION CODES IDENTIFIED BELOW:  
 BUILDING     STRUCTURAL  
 MECHANICAL     PLUMBING  
 ELECTRICAL     ENERGY  
 ACCESSIBILITY     FIRE  
 PLAN REVIEW ACCEPTANCE OF DOCUMENTS DOES NOT AUTHORIZE CONSTRUCTION TO PROCEED IN VIOLATION OF ANY FEDERAL, STATE, OR LOCAL REGULATIONS.  
 BY: MEM    DATE: 10/30/19  
 WEST COAST CODE CONSULTANTS, INC.

REV.	DATE	BY	DESCRIPTION
1	X	X	
2	X	X	
3	X	X	
4	X	X	

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**PROJECT**  
 POWDER MOUNTAIN HOUSE  
 8645 EAST COPPER CREST,  
 EDEN, UT 84310



**SHEET TITLE**  
**ROOF ELECTRICAL PLAN**

PROJECT NO.:	2213
SCALE:	1/4"=1'-0"
DATE:	06-04-18
BY:	VA
CHECKED:	HRA
DRAWING NO.:	<b>E-8.0</b>

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