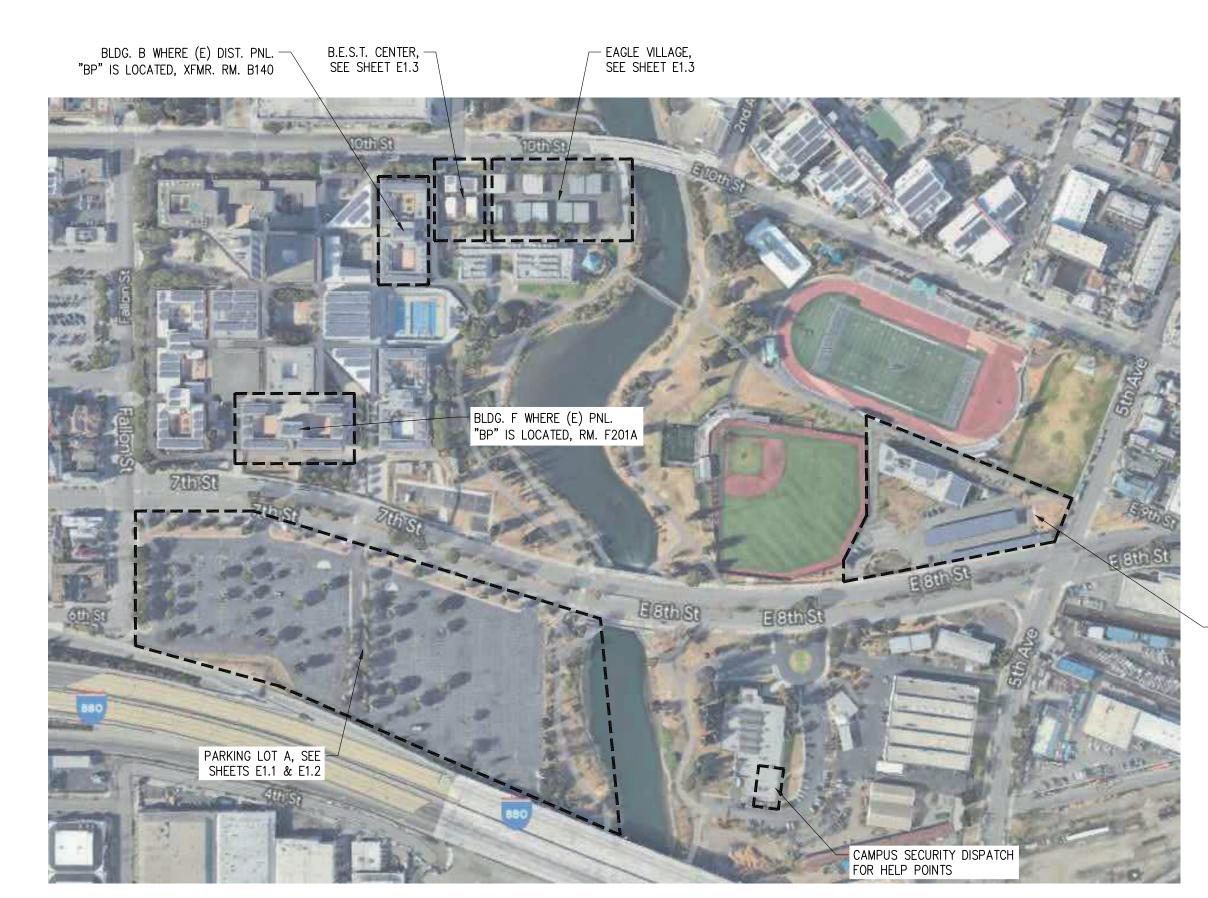
Laney Community College - Lighting and Security Repairs at Parking Lot A, Eagle Village, B.E.S.T. Center, and Field House

900 Fallon St. Oakland, CA 94607



FIELD HOUSE, SEE SHEET E1.4 SHEET INDEX

G0.1 COVER SHEET

EO.1 SHEET INDEX, SCOPE, SYMBOLS AND ABBREVIATIONS

ELECTRICAL SHORTHAND SPECIFICATIONS

ELECTRICAL GENERAL NOTES

ELECTRICAL EQUIPMENT AND FEEDER SCHEDULES

SITE PLAN PARKING LOT A - SHEET 1 OF 2

SITE PLAN PARKING LOT A - SHEET 2 OF 2

SITE PLAN B.E.S.T. CENTER & EAGLE VILLAGE

E1.4 SITE PLAN FIELD HOUSE

PANEL SCHEDULES

ELECTRICAL DETAILS

E6.2 ELECTRICAL DETAILS

APPLICABLE CODES

(MOST CURRENT VERSIONS AS ADOPTED BY CITY OF OAKLAND, CA AS OF JANUARY 2023)

TITLE 24 C.C.R. PART 2, CALIFORNIA BUILDING CODE (CBC)

TITLE 24 C.C.R. PART 3, CALIFORNIA ELECTRICAL CODE (CEC)

TITLE 24 C.C.R. PART 4, CALIFORNIA MECHANICAL CODE (CMC) TITLE 24 C.C.R. PART 5, CALIFORNIA PLUMBING CODE (CPC)

TITLE 24 C.C.R. PART 6, CALIFORNIA ENERGY CODE (CEC)

TITLE 24 C.C.R. PART 9, CALIFORNIA FIRE CODE (CFC)

TITLE 24 C.C.R. PART 10, CALIFORNIA EXISTING BUILDING CODE (CEBC) TITLE 24 C.C.R. PART 11, CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen) AND BUILDING ENERGY EFFICIENCY STANDARDS

NFPA 70E, STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE

NFPA 70, NATIONAL ELECTRICAL CODE

NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE

NFPA 101, LIFE SAFETY CODE

NFPA 110, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS.

DEFERRED SUBMITTALS

STRUCTURAL DETAILS AND CALCULATION PACKAGE FOR THE (N) REPLACEMENT

PROJECT GENERAL NOTES

- THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY ALL DIMENSIONS AND CONDITIONS OF THE WORK. IMMEDIATELY NOTIFY PROJECT TEAM OF ALL DISCREPANCIES BETWEEN DRAWINGS AND THE PROJECT SITE CONDITIONS.
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY CHANGES WITHOUT THE APPROVAL OF PROJECT TEAM.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR JOB CONDITIONS ON THE JOB SITE INCLUDING SAFETY OF PUBLIC, WORKERS, PROPERTY, AND ENSURE COMPLIANCE WITH STATE OSHA AND DISTRICT GUIDELINES AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL ENSURE THAT ALL WORK PERFORMED MEETS OR EXCEEDS THE REQUIREMENTS OF THE LATEST ADOPTED EDITIONS OF THE APPLICABLE CODES REFERENCED AS PART OF THESE
- THE CONTRACTOR SHALL PROTECT THE EXISTING STRUCTURES AND LANDSCAPING ADJACENT TO THE CONSTRUCTION SITE, AND THEIR EQUIPMENT, FINISHES, AND FURNISHINGS FROM ANY DAMAGE DURING THE COURSE OF CONSTRUCTION. PUBLIC ACCESS TO ALL AREAS MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL REPAIR ALL
- THE CONTRACTOR SHALL COORDINATE WITH THEIR SUBCONTRACTORS O IDENTIFY ALL LONG LEAD MATERIALS. THE CONTRACTOR AND THEIR SUBCONTRACTORS SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS
- REQUESTS FOR INFORMATION TO THE DESIGN CONSULTANT FOR THE RESPECTIVE DISCIPLINE AND FOLLOW FORMAL CONSTRUCTION INFORMATION EXCHANGE PRACTICES.
- ACCESS TO THE JOB SITE AND STAGING AREAS (IF REQUIRED) ON ROADS AND PARKING LOTS SHALL BE ARRANGED BETWEEN CONTRACTORS AND DISTRICT REPRESENTATIVE.
- THE CONTRACTOR SHALL SCHEDULE WORK WITH MINIMUM INTERFERENCE TO PROJECT SITE AND THE ACTIVITIES AND OPERATIONS OF ITS FACILITIES, COORDINATE WITH OWNER TO CLEARLY LEGALLY DISPOSE OF DEBRIS AFTER EACH WORKING DAY SO AS TO NOT DISTURB THE NORMAL FUNCTION AND ACTIVITIES AT THE PROJECT SITE, DO NOT OBSTRUCT FIRE LANES AND EXITS.
- 10. AFTER THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COMPLETELY DEMOBILIZE FROM AND CLEAN THE PROJECT SITE.

ABBREVIATIONS

SEE E0.1

SYMBOLS

SEE E0.1

PROJECT SCOPE

BACKGROUND:

PERALTA COMMUNITY COLLEGE DISTRICT IS REQUESTING REPLACEMENT OF (E) VANDALIZED, DAMAGED, AND OR MALFUNCTIONING (E) EQUIPMENT W/(N) LIKE-FOR-LIKE REPLACEMENT AS SPECIFIED TO ACCOMMODATE (E) SITE CONDITIONS AND IN-LINE W/PRESENT DAY INDUSTRY STANDARDS. THE (E) EQUIPMENT IS LOCATED AT LANEY COMMUNITY COLLEGE AND IS FURTHER CATEGORIZED BY AREA AND TYPE OF EQUIPMENT BELOW.

THE SCOPE OF THIS PROJECT IS PRIMARILY ELECTRICAL

THE CONTRACTOR SHALL SYSTEMATICALLY AND WITH MINIMAL IMPACT TO THE PROJECT SITE REPLACE THE FOLLOWING (E) EQUIPMENT AS SPECIFIED:

PARKING LOT A:

(4) (E) EMERGENCY HELP POINTS

EAGLE VILLAGE:

- (1) (E) POWER DISTRIBUTION PANEL (1) (E) 30'-0" POLE
- (3) (E) EXTERIOR LIGHTING BRANCH CIRCUITS (1) (E) MESH ACCESS POINT BRANCH CIRCUIT
- B.E.S.T. CENTER:

(1) (E) MESH ACCESS POINT BRANCH CIRCUIT

FIELD HOUSE:

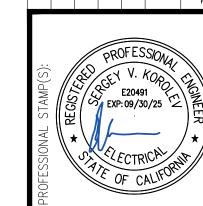
(1) (E) IN-GRADE ENCLOSURE LID (2) (E) EXTERIOR LIGHTING BRANCH CIRCUITS (2) (E) MESH ACCESS POINT BRANCH CIRCUITS

NOTE: QUANTITIES OF (E) EQUIPMENT MAY NOT NECESSARILY REPRESENT THE QUANTITY OF (N) MATERIALS OR EQUIPMENT REQ. TO COMPLETE REPAIRS AS SPECIFIED, SEE RESPECTIVE SHEETS.

CONTRACTOR SHALL COORDINATE DEMOLITION AND NEW CONSTRUCTION SCOPE AND SCHEDULE WITH DISTRICT REPRESENTATIVE AND OTHER TRADES.

ALL PERMIT AND DISPOSAL FEES ARE CONTRACTORS RESPONSIBILITY. ALL WASTE MATERIAL RESULTING FROM DEMOLITION SHALL BE DISPOSED OF PER STATE AND FEDERAL REGULATIONS.

THIS PROJECT HAS BEEN DETERMINED BY DISTRICT TO NOT BE SUBJECT TO DSA REVIEW PER DSA IR A-22 SECTION 1.3.1 - MAINTENANCE WORK PER CAC SECTION 4-315 AS DEFINED IN CAC SECTION 4-314.



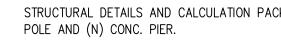
COMMUNIT COMMUNITY

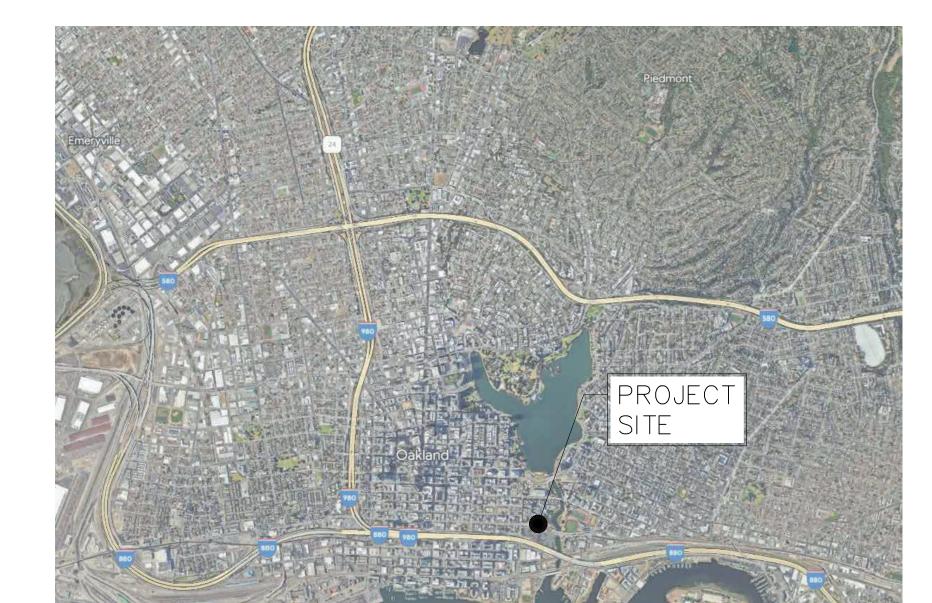
02/23/2023

HLP2022-001

ROJECT SITE OVERVIEW







SCALE: N.T.S.

ELECTRICAL SHEET INDEX: G0.1 COVER SHEET ELECTRICAL SHEET INDEX, SCOPE, SYMBOLS AND ABBREVIATIONS E0.2 ELECTRICAL SHORTHAND SPECIFICATIONS ELECTRICAL GENERAL NOTES ELECTRICAL EQUIPMENT AND FEEDER SCHEDULES SITE PLAN PARKING LOT A - SHEET 1 OF 2 SITE PLAN PARKING LOT A - SHEET 2 OF 2 SITE PLAN B.E.S.T. CENTER & EAGLE VILLAGE SITE PLAN FIELD HOUSE PANEL SCHEDULES ELECTRICAL DETAILS ELECTRICAL DETAILS DISCLAIMER: THESE DOCUMENTS, AND THE INFORMATION CONTAINED HEREIN, ARE THE CONSULTANT'S INSTRUMENTS OF SERVICE AND ARE THE SOLE PROPERTY OF THE CONSULTANT, ANY USE OR MODIFICATION OF THESE DOCUMENTS OR INFORMATION, IN WHOLE OR IN PART, WITHOUT THE WRITTEN CONSENT FROM THE CONSULTANT IS STRICTLY PROHIBITED. **ELECTRICAL SCOPE OF WORK:** THE FOLLOWING IS A GENERAL DESCRIPTION OF THE ELECTRICAL SCOPE OF WORK ASSOCIATED WITH THE LANEY COMMUNITY COLLEGE - LIGHTING AND SECURITY REPAIRS AT PARKING LOT A, EAGLE VILLAGE, B.E.S.T. CENTER, AND FIELD HOUSE PROJECT. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO REVIEW AND CLEARLY UNDERSTAND ALL ELECTRICAL CONSTRUCTION DRAWINGS AND SPECIFICATIONS; AND, FURTHERMORE IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO CLARIFY ANY ASPECT OF THE DESIGN AS PRESENTED ON THESE CONSTRUCTION DOCUMENTS WITH THE PROJECT TEAM, INCLUDING THE ELECTRICAL ENGINEER OF RECORD (EEOR), AND DURING CONSTRUCTION, ACCORDING TO FORMAL CONSTRUCTION DOCUMENTATION AND INFORMATION EXCHANGE PROCESS BASED ON AIA STANDARDS. ALL CONTRACTORS PERFORMING CONSTRUCTION SHALL GIVE THE DESIGN TEAM REASONABLE TIME TO RESPOND TO SUCH INQUIRIES. GENERAL ELECTRICAL SCOPE OF WORK: A. RECEIVE THE LATEST SET(S) OF CONSTRUCTION DOCUMENTS INCLUDING CONSTRUCTION DRAWINGS, PARTIAL SUBMITTALS, AND SPECIFICATIONS. B. REVIEW ALL PROJECT RELATED DOCUMENTATION AND SEEK COMPLETE UNDERSTANDING OF WHAT IS REQUIRED TO COMPLETELY SATISFY ALL PROJECT REQUIREMENTS AS DETERMINED BY THE PROJECT TEAM. C. THE CONTRACTOR SHALL NOT PROCEED WITH ANY CHANGES WITHOUT THE APPROVAL OF THE DISTRICT REPRESENTATIVE AND THE PROJECT TEAM. D. PROVIDE SUBMITTAL PACKAGE FOR ALL (N) EQUIPMENT AND (N) MATERIALS TO EEOR FOR REVIEW AND APPROVAL PRIOR TO FURNISHING AND ANY INSTALLATION, DO NOT PROCEED WITH INSTALLATION WITHOUT APPROVAL. E. PROVIDE ALL SHOP DRAWINGS TO EEOR FOR REVIEW PRIOR TO INSTALLATION, DO NOT PROCEED WITH INSTALLATION WITHOUT APPROVAL. F. VISIT SITE AS NEEDED TO ASSESS (E) ELECTRICAL CONDITIONS AND REVIEW FEASIBILITY OF PROPOSED (N) CONSTRUCTION, ALTERATION, AND OR MODIFICATION, AND INFORM THE PROJECT TEAM OF ANY DISCREPANCIES OR ADVERSE SITE CONDITIONS FOUND. G. DEVISE A PLAN, COORDINATED WITH DISTRICT REPRESENTATIVE AND ALL OTHER TRADES OF THE CONSTRUCTION TEAM, FOR TEMPORARY POWER AND LIGHTING DURING THE COURSE OF CONSTRUCTION WHEN NORMAL POWER SHUTOFF IS REQUIRED FOR ELECTRICAL WORK, PROVIDE TEMPORARY POWER AND LIGHTING ACCORDING TO THE DEVISED AND COORDINATED PLAN FOR THE ELECTRICAL SCOPE OF WORK AND ALL OTHER TRADES THAT REQUIRE TEMPORARY POWER AND LIGHTING DURING EXECUTION. REMOVE ALL TEMPORARY PROVISIONS WHEN NO LONGER REQUIRED OR UPON DEMOBILIZATION FROM SITE. H. PROVIDE REQUIRED MATERIALS AND LABOR AS REQUIRED FOR REPAIRS, INSTALLATION, AND TO ACHIEVE FULL FUNCTIONALITY OF THE ELECTRICAL SYSTEMS BEING REPAIRED, SEE RESPECTIVE SHEETS FOR EACH AREA. I. PROVIDE ALL ADDITIONAL MATERIALS AND LABOR WHEN REQUIRED BY THE COMPLIANCE RULES, CODES OR REGULATIONS, WHETHER INDICATED ON RESPECTIVE CONSTRUCTION DRAWINGS OR SPECIFICATIONS OR NOT. J. COORDINATE WITH OTHER TRADES, AND ASSIST THEM WITH INSTALLATION, INTERCONNECTION, AND COMMISSIONING FOR (N) EQUIPMENT THAT REQUIRES (N) ELECTRICAL CONNECTIONS. K. COORDINATE WITH DISTRICT REPRESENTATIVE, CITY OF OAKLAND DBI, AND OTHER THIRD PARTIES AS REQUIRED TO COMPLETE THE SCOPE OF WORK. L. PROVIDE ALL UPDATED AS-BUILT DRAWINGS TO EEOR FOR REVIEW AND APPROVAL. AS-BUILT DRAWINGS AND APPROVAL IS REQUIRED FOR PROJECT COMPLETION.

DESIGN TEAM: ELECTRICAL SYMBOLS: \bigcirc HELP POINT SARA PAREDES (SDP) — BIM TECHNICIAN INTEGRATED POWER CENTER GREG LIGHT (GWL) - PROJECT COORDINATOR SERGEY KOROLEV, P.E. (SVK) - ELECTRICAL ENGINEER GROUND CONNECTION SURFACE & FLUSH MOUNTED PANEL BOARD INFO@VEKTORENGINEERINGINC.COM +1 (925) 835-8671

CONTACT US:

PETER PRIOR

JEROME ISIP

VENDOR INFO:

CODE BLUE / TMG REP. GRP:

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JEROME@TMGREPGROUP.COM

REFERENCE & BOM TMG/CODE BLUE QUOTE # SLQT231031

SHEET ANN	OTATION SYMBOLS:
/	LINE CONTINUE BREAK
# X0.0	DETAIL REFERENCE: TOP DESIGNATES DETAIL NUMBER BOTTOM DESIGNATES SHEET NUMBER "-" FOR SHEET NUMBER INDICATES CURRENT SHEET
#	KEY NOTE DESIGNATION
PNL	EQUIPMENT DESIGNATION: TOP DESIGNATES EQUIPMENT ABBREVIATION BOTTOM DESIGNATES EQUIPMENT NUMBER
REFER X0.0	PLAN CONTINUATION DESIGNATION AS REFERENCED BY MATCH LINE
<u>/#</u> \	REVISION NUMBER DESIGNATION
#	ROOM NUMBER DESIGNATION
# X0.0	SECTION REFERENCE: TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES SHEET NUMBER "—" FOR SHEET NUMBER INDICATES CURRENT SHEET

─ / <u></u>	LINE CONTINUE BREAK
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<u>/</u> #\	REVISION NUMBER DESIGNATION
#	ROOM NUMBER DESIGNATION
# X0.0	SECTION REFERENCE: TOP DESIGNATES SECTION NUMBER BOTTOM DESIGNATES SHEET NUMBER "-" FOR SHEET NUMBER INDICATES CURRENT SHEET

CONDUIT & GRO	DUNDING SYMBOLS:
	CONDUIT WITH CONDUCTORS CONCEALED IN CEILING OR WALL, 3/4" GALV. EMT CONDUIT, USE COMPRESSION FITTINGS, W/(2) #12AWG + (1) #12AWG GND., U.O.N CONCEAL CONDUITS AS MUCH AS POSSIBLE, SURFACE MOUNTED RACEWAYS ARE EXPLICITLY CALLED OUT ON THE RESPECTIVE DRAWINGS
	CONDUIT WITH CONDUCTORS OR CABLE CONCEALED UNDER FLOOR OR GROUND, $3/4$ " RPVC CONDUIT W/(2) #12AWG + (1) #12AWG GND., U.O.N.
	CABLE OR CONDUIT TURNING DOWN
 0	CABLE OR CONDUIT TURNING UP
— 	BRANCH CIRCUIT HOMERUN TO PANEL "A" CKT. "13" IN 3/4" GALV. EMT CONDUIT, USE COMPRESSION FITTINGS, W/(2) #12AWG + (1) #12AWG GND., U.O.N. NOTE: HOMERUN "TAIL" ONLY SHOWN FOR BRANCH CIRCUITS CONTAINING MULTIPLE DEVICES HOMERUN ALL BRANCH CIRCUITS WHETHER A "TAIL" IS SHOWN OR NOT
$\sim\sim$	FLEXIBLE CONDUIT OR MC CABLE, 3/4" USE WATER TIGHT FOR EXTERIOR OR WET LOCATIONS, LAST 6" OF CONDUIT RUN TO EASE PLACEMENT, E.G. LIGHTS OR MOTORS
	END OF MAJOR CONDUIT RUN, PROVIDE FINAL CONNECTION, COORDINATE WITH RESPECTIVE DISCIPLINES FOR FINAL CONNECTION REQUIREMENTS
GEC _	CONNECTION TO PHYSICAL EARTH, SIZE GEC PER NEC
•	COPPER CLAD GROUND ROD, 3/4" DIA. x 10'-0" LONG
₩₩	COPPER GROUND BUS BAR, 4" WIDE x 24" LONG IN THICK MIN., U.O.N.
PHASE CONDUCTOR FIGURE #12 CONDUCTOR	NO HASH MARK INDICATES 3/4" CONDUIT W/(2) #12AWG + (1) #12AWG GND., HASH MARKS ON CONDUIT INDICATES NUMBER OF UNGROUNDED CONDUCTORS AND HOOK INDICATES GND. CONDUCTORS, NUMBER BELOW INDICATES AWG SIZE OF UNDERGROUND CONDUCTORS, SIZE EGC AND OTHER GND. CONDUCTORS PER NEC

CONDUIT & GRO	DUNDING SYMBOLS:
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GEC =	CONNECTION TO PHYSICAL EARTH, SIZE GEC PER NEC
•	COPPER CLAD GROUND ROD, 3/4" DIA. x 10'-0" LONG
	COPPER GROUND BUS BAR, 4" WIDE x 24" LONG IN THICK MIN., U.O.N.
PHASE CONDUCTOR ——EGC NEUTRAL ——#12 CONDUCTOR	NO HASH MARK INDICATES 3/4" CONDUIT W/(2) #12AWG + (1) #12AWG GND., HASH MAR ON CONDUIT INDICATES NUMBER OF UNGROUNDED CONDUCTORS AND HOOK INDICATES GNE CONDUCTORS, NUMBER BELOW INDICATES AWG SIZE OF UNDERGROUND CONDUCTORS, SIZE EGC AND OTHER GND. CONDUCTORS PER NEC

TY	P. USA W	IRE COLO	R CODE:								
TYPE	120/208/240VAC	277/480VAC	208VAC OR 480VAC (L-L)								
L1	BLACK	BROWN	BLACK								
L2	RED	ORANGE	RED								
L3	BLUE	YELLOW	_								
NEUT.	WHITE	GREY	-								
GND.	GREEN, GREEN/YELLOW, BARE	GREEN, GREEN/YELLOW, BARE	-								
NOTES:											
1.	IF CONDUCTORS DO NOT HAVE INSULATION OF APPROPRIATE COLOR OR ARE ONLY AVAILABLE IN BLACK INSULATION, THEN WRAP ELECTRICAL TAPE AT BOTH ENDS TO COLOR CODE, USE AT LEAST 10 WRAPS MINIMUM AT EITHER END.										
2.	TYPICAL CKT. BREAK	ER ORIENTATION:									
3.	OF THE PHASES "CC CHANNELS OF THE F WERE ARE ATTACHED	OTATION ONLY SPECIF W" OR "CW" IN RELA PHASE ROTATION METE O TO THE PHASES CO TAKE CARE WHEN ME	TION TO THE ER AND HOW THEY NNECTED TO THE								

ELECTRICAL PANEL LABEL LOGIC: ——— FLOOR — TYPE — SYSTEM/SOURCE _____ VOLTAGE — SEQUENCE NUMBER 4 DP E L 1 — NUMBERS IN SEQUENCE | H - 480/277V \Box L - 240 \acute{V} OR 208V/120V| C - CRITICAL BRANCH EMERGENCY I - ISOLATION PANEL K - KITCHEN PANELBOARD L - LIFE SAFETY BRANCH N - NORMAL Q - EQUIPMENT BRANCH T - TECHNICAL - DP - DISTRIBUTION PANELBOARD (WHERE APPLICABLE) | S - SUBBASEMENT B - BASEMENT - GROUND FLOOR FIRST FLOOR 2 - SECOND FLOOR M – MEZZANINE

ABBRE	EVIATIONS: (ALL ABBREVIATIONS	SHOWN ARE	NOT NECESSARI	LY ON DRAWINGS)
A A/C	AMPERE AIR CONDITIONER		LCP LTG	LIGHTING CONTROL PANEL LIGHTING
AC ADJ	ALTERNATING CURRENT ADJACENT		LV M MAX	LOW VOLTAGE METER MAXIMUM
AIC AF	MINIMUM AMPERE INTERRUPTING CAPACITY AMPERE FRAME OR FUSE		MBJ MBS	MAIN BONDING JUMPER MANUAL BY-PASS SWITCH
AF/AT AFC AFF	AMP FRAME/AMP TRIP AVAILABLE FAULT CURRENT ABOVE FINISHED FLOOR		MC MCA	MECHANICAL CONTRACTOR MINIMUM CIRCUIT AMPACITY
AFG AFS	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AUTOMATIC FIRE SPRINKLER		MCB MCC	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER
AHJ AHU	AUTHORIZES HAVING JURISDICTION AIR HANDLING UNIT		MCM MDF	THOUSAND CIRCULAR MILS MAIN DATA FRAME
AMP ANSI	AMPERE AMERICAN NATIONAL STANDARDS INSTITUTE		MECH MFD	MECHANICAL MULTI-FUNCTION DEVICE (TYP. PRINTER/SCANNER)
APPROX ARCH	APPROXIMATE ARCHITECT/ARCHITECTURAL		MFR MGB	MANUFACTURER MAIN GROUND BAR
AS AS/AF	AMPERE SWITCH AMP SWITCH/AMP FUSE		MIN MISC	MINIMUM MISCELLANEOUS
ASSY AT	ASSEMBLY AMPERE TRIP		MLO MOCP	MAIN LUG(S) ONLY MAXIMUM OVER CURRENT PROTECTION
ATS AUX	AUTOMATIC TRANSFER SWITCH AUXILIARY		MSG MSB	MAIN SWITCHGEAR MAIN SWITCHBOARD
A/V AWG	AUDIO/VISUAL AMERICAN WIRE GAUGE		MTD MV	MOUNTED MEDIUM VOLTAGE
BAS BD	BUILDING AUTOMATION SYSTEM BOARD		(N) N	NEW NEUTRAL CONDUCTOR
BJ BLDG	BONDING JUMPER BUILDING		NC NEC	NORMALLY CLOSED NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
BOF BMS	BOTTOM OF FIXTURE BUILDING MANAGEMENT SYSTEM		NEMA NETA NFPA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION INTERNATIONAL ELECTRICAL TESTING ASSOCIATION NATIONAL FIRE PROTECTION ASSOCIATION
C CAT CATV	CONDUIT CATEGORY		NIC NO	NOT IN CONTRACT NORMALLY OPEN
CATV CAB CB	CABLE TELEVISION CABINET CIRCUIT BREAKER		NTS OC	NOT TO SCALE ON CENTER
CBC CCTV	CALIFORNIA BUILDING CODE CLOSED CIRCUIT TELEVISION		OFCI OFOI	OWNER FURNISHED CONTRACTOR INSTALLED OWNER FURNISHED OWNER INSTALLED
CFC CKT	CALIFORNIA FIRE CODE CIRCUIT		OFR OH	OVER FLOOR RACEWAY OVERHEAD
CL CLG	CENTER LINE CEILING		OL P	OVERLOAD POLE
CNTL CO	CONTROL CONDUIT ONLY		PA PB	PUBLIC ADDRESS PULL BOX
COAX CONT	COAXIAL CABLE CONTINUATION		PC PH , ø	PHOTOCELL PHASE
CP CT	CONTROL PANEL CURRENT TRANSFORMER		PIV PM PNL	POST INDICATOR VALUE PLUG MOLD PANEL
CU CWP	COPPER COLD WATER PIPE		POC PSF	POINT OF CONNECTION POUNDS PER SQUARE FEET
COL COMM CONC	COLUMN COMMUNICATIONS CONCRETE		PT PV	POTENTIAL TRANSFORMER PHOTOVOLTAIC
CONT CDP	CONTINUOUS CONDENSATE DRAIN PUMP		PVC PWR	POLYVINYL CHLORIDE DUCT POWER
DC DCW	DIRECT CURRENT DOMESTIC COLD WATER		RAD RAP	RADIUS REMOTE ANNUNCIATOR PANEL
DEMO DIA	DEMOLITION DIAMETER		RCP REC	RELAY CONTROL PANEL RECESSED
DISC DIST	DISCONNECT DISTRIBUTION		RECEPT REF	RECEPTACLE REFERENCE
DN DWG	DOWN DRAWING		RGS RM	RIGID GALVANIZED STEEL ROOM
(E) EA	EXISTING EACH		RSC RTU	RIGID STEEL CONDUIT ROOF TOP UNIT
EBJ EC	EQUIPMENT BONDING JUMPER ELECTRICAL CONTRACTOR		SAD SBJ SSD	SEE ARCHITECTURAL DOCUMENTS SYSTEM BONDING JUMPER SEE STRUCTURAL DOCUMENTS
EF EGC	EXHAUST FAN EQUIPMENT GROUNDING CONDUCTOR		SEC SECT	SECURITY SECTION
EJ EL	EXPANSION JOINT ELEVATION		SF SHT	SUPPLY FAN SHEET
ELECT/ELEC EMERG EMS	EMERGENCY ENERGY MANAGEMENT SYSTEM		SLD SM	SEE LANDSCAPE DRAWINGS SINGLE-MODE
EMT EOL	ELECTRICAL METALLIC TUBING END OF LINE		SMD SPECS	SEE MECHANICAL DRAWINGS SPECIFICATIONS
EQUIPT EQUIV	EQUIPMENT EQUIVALENT		SPKR SPST	SPEAKER SINGLE POLE SINGLE THROW
FA FAAP	FIRE ALARM FIRE ALARM ANNUNCIATOR PANEL		SSBJ STBY	SUPPLY SIDE BONDING JUMPER STANDBY
FACP FAPS	FIRE ALARM CONTROL PANEL FIRE ALARM POWER SUPPLY		STC SW SWBD	SIGNAL TERMINAL CABINET SWITCH SWITCHBOARD
FATC FBO	FIRE ALARM TERMINAL CABINET FURNISHED BY OTHER DIV. OF WORK		SWGR SYM	SWITCHGEAR SYMBOL
FC FDR	FAN COIL FEEDER		SYS T	SYSTEM TRANSFORMER
FF FIXT FL	FINISHED FLOOR FIXTURE FLOOR		TBB TELE	TELEPHONE BACKBOARD TELEPHONE
FLA FLASH'G	FULL LOAD AMPS FLASHING		TEMP THERM	TEMPERATURE THERMOSTAT
FLEX FP	FLEXIBLE FIRE PROTECTION		TOP TRANSF	TOP OF PANEL TRANSFORMER
FPL(S) FS	FIRE ALARM POWER LIMITED (SHIELDED) FLOW SWITCH		TS TTB	TAMPER SWITCH TELEPHONE TERMINAL BOARD
FSD FT	FIRE SMOKE DAMPER FEET/FOOT		TV TVSS TX	TELEVISION TRANSIENT VOLTAGE SURGE SUPPRESSER TRANSFORMER
FTC G	FIRE ALARM TERMINAL CABINET GROUND		TYP UC	TYPICAL UNDER COUNTER
GC GEC	GROUNDED CONDUCTOR GROUNDING ELECTRODE CONDUCTOR		UGPS UG	UNDERGROUND PULL SECTION UNDERGROUND
GFI (GFCI) GND	GROUND FAULT CIRCUIT INTERRUPTER GROUND		UL UMC	UNDERWRITERS LABORATORIES UNIFORM MECHANICAL CODE
GRS GYP	GALVANIZED RIGID STEEL CONDUIT GYPSUM		UON UPS	UNLESS OTHERWISE NOTED UNINTERRUPTED POWER SUPPLY
HACR HH	HEATING, AIR CONDITIONING AND REFRIGERATION HANDHOLE		V VA	VOLT/VOLTAGE VOLT AMPERE(S)
HID HOA	HIGH INTENSITY DISCHARGE HAND OFF AUTOMATIC HORSE DOWER HEAT DIMP		VAV VDC	VARIABLE AIR VOLUME VOLTAGE DIRECT CURRENT
HP HT HV	HORSE POWER, HEAT PUMP HEIGHT HIGH VOLTAGE		VERT VFD	VERTICAL VARIABLE FREQUENCY DRIVE
HV HZ IBC	HERTZ INTERNATIONAL BUILDING CODE		VIF VM	VERIFY IN FIELD VOLT METER
IC ICBO	INTERNATIONAL BOILDING CODE INTERRUPTING CAPACITY INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS		W WAP WAO	WATT WIRELESS ACCESS POINT WORK AREA OUTLET
ICC IDF	INTERNATIONAL CODE COUNCIL INTERMEDIATE DISTRIBUTION FRAME		WAO W/	WORK AREA OUTLET WITH
IMC ISC	INTERMEDIATE METALLIC CONDUIT SHORT CIRCUIT CURRENT		W/O WH WM	WITHOUT WATER HEATER WIRE MOLD
JB KCMIL	JUNCTION BOX THOUSAND CIRCULAR MILS		WM WP WT	WIRE MOLD WEATHERPROOF WEIGHT
KVA KW	KILOVOLT AMPERES KILOWATT		WV WW XFMR	WIRE WAY TRANSFORMER

E20491 EXP: 09/30/25

DISTRICT

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YTINUMMO

PERAL

02/23/2023

AS NOTED

DRAWN BY: S. PAREDES

JOB NO. HLP2022-001

SCALE:

SHEET NO.

SHORTHAND ELECTRICAL SPECIFICATIONS:

<u> PART 1 — GENERAL:</u>

- .01 FURNISH ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, SUPERINTENDENCE, SERVICES, EQUIPMENT, FACILITIES AND TEMPORARY CONSTRUCTION REQUIRED AND NECESSARY TO PROVIDE ALL ELECTRICAL SYSTEMS INDICATED ON THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL REVIEW ALL CONSTRUCTION DRAWINGS AND SPECIFICATIONS TO COMPLETELY UNDERSTAND THE SCOPE OF WORK, AND ACCOUNT FOR ALL ADDITIONAL RESOURCES AND EQUIPMENT NOT SPECIFICALLY INDICATED, BUT INFERRED AND IMPLIED, FOR A COMPLETE AND FUNCTIONAL INSTALLATION INCLUDING, BUT NOT LIMITED TO, ALL ACCESSORIES AND APPURTENANCES REQUIRED FOR TESTING AND COMMISSIONING THE VARIOUS SYSTEMS. ALL ELECTRICAL SYSTEMS MENTIONED IN THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE AND SHALL BE INSTALLED AS COMPLETE, FUNCTIONAL AND FULLY OPERATIONAL SYSTEMS.
- A. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- 1. SEE EO.1 FOR A SUMMARY OF THE ELECTRICAL SCOPE OF WORK.
- 2. THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY ALL DIMENSIONS AND CONDITIONS OF THE WORK PRIOR TO SUBMITTING BID. IMMEDIATELY NOTIFY DISTRICT REPRESENTATIVE AND PROJECT TEAM OF ALL DISCREPANCIES BETWEEN THESE CONSTRUCTION DOCUMENTS AND THE PROJECT SITE CONDITIONS. THE PRIME CONTRACTOR SHALL INCLUDE THE COST TO CORRECT THESE DISCREPANCIES IN THEIR BID. NO EXTRA COST SHALL BE CHARGED AFTER BID AWARD.
- 3. THE CONTRACTOR SHALL NOT PROCEED WITH ANY CHANGES WITHOUT THE APPROVAL OF DISTRICT REPRESENTATIVE AND PROJECT TEAM.
- 4. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR JOB CONDITIONS AT THE JOB SITE INCLUDING SAFETY OF PUBLIC, WORKERS, PROPERTY, AND ENSURE COMPLIANCE WITH STATE OSHA AND OWNER'S GUIDELINES AND SAFETY REQUIREMENTS.
- 5. THE CONTRACTOR SHALL ENSURE THAT ALL WORK PERFORMED MEETS OR EXCEEDS THE REQUIREMENTS OF THE LATEST ADOPTED EDITIONS OF THE APPLICABLE CODES REFERENCED AS PART OF THESE CONSTRUCTION DOCUMENTS.
- 6. THE CONTRACTOR SHALL PROTECT THE EXISTING BUILDINGS ADJACENT TO THE CONSTRUCTION SITE, THEIR EQUIPMENT, SYSTEM, FINISHES, AND FURNISHINGS FROM ANY DAMAGE DURING THE COURSE OF CONSTRUCTION. PUBLIC ACCESS TO ALL BUILDING AREAS MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL REPAIR ALL DAMAGES TO THE ORIGINAL CONDITIONS AT NO COST. THIS COST SHALL BE PAID BY THE PRIME CONTRACTOR.
- 7. THE CONTRACTOR SHALL COORDINATE WITH THEIR SUBCONTRACTORS TO IDENTIFY ALL LONG LEAD MATERIALS IMMEDIATELY UPON BEING AWARDED THE CONTRACT. THE CONTRACTOR AND THEIR SUBCONTRACTORS SHALL SUBMIT SHOP DRAWINGS AND SUBMITTALS FOR APPROVAL TO THEIR RESPECTIVE DESIGN CONSULTANT WITHIN (2) WEEKS TIME AFTER BID AWARD OTHERWISE CONTRACTOR SHALL BARE THE COSTS CAUSED BY THE DELAY.
- 8. THE CONTRACTOR AND THEIR RESPECTIVE SUBCONTRACTORS SHALL BE COMPLETELY RESPONSIBLE FOR ALL GENERAL NOTES, SPECIFICATIONS, AND OTHER PERTINENT INFORMATION AS INDICATED WITHIN THE RESPECTIVE CONSTRUCTION DRAWINGS FOR THEIR DISCIPLINE AND FOLLOW FORMAL CONSTRUCTION INFORMATION EXCHANGE PRACTICES.
- 9. ACCESS TO THE JOB SITE ON ROADS, PATHWAYS, AND PARKING LOTS SHALL BE ARRANGED BETWEEN CONTRACTOR AND DISTRICT REPRESENTATIVE. THE CONTRACTORS' ENTRANCE TO THE BUILDING WILL BE LIMITED TO LOCATIONS AS DESIGNATED BY DISTRICT REPRESENTATIVE. DO NOT OBSTRUCT FIRE LANES AND EXITS.
- 10. THE CONTRACTOR SHALL SCHEDULE WORK WITH MINIMUM INTERFERENCE TO THE PROJECT SITE AND THE ACTIVITIES AND OPERATIONS OF ITS FACILITIES, COORDINATE WITH DISTRICT TO CLEARLY UNDERSTAND THE IMPACTS DURING THE COURSE OF CONSTRUCTION. LEGALLY DISPOSE OF DEBRIS AFTER EACH WORKING DAY SO AS TO NOT DISTURB THE NORMAL FUNCTION AND ACTIVITIES AT THE PROJECT SITE, DO NOT OBSTRUCT FIRE LANES AND EXITS.
- 11. THE CONTRACTOR SHALL PROVIDE WITHOUT EXTRA CHARGE, ALL ADDITIONAL MATERIALS AND LABOR WHEN REQUIRED BY THE COMPLIANCE RULES, CODES OR REGULATIONS, WHETHER INDICATED ON RESPECTIVE CONSTRUCTION DRAWINGS OR SPECIFICATIONS OR NOT. NO CHANGE ORDERS SHALL BE ALLOWED FOR ANY MISINTERPRETATION OF THE REQUIREMENTS OF THESE DOCUMENTS.
- 12. THE CONTRACTOR SHALL PROVIDE SUBMITTAL PACKAGE FOR ALL EQUIPMENT AND MATERIALS TO ELECTRICAL ENGINEER OF RECORD FOR REVIEW PRIOR TO FURNISHING.
- 13. THE CONTRACTOR SHALL PROVIDE ALL AS-BUILT DRAWINGS TO ELECTRICAL ENGINEER OF RECORD FOR REVIEW PRIOR TO COMPLETION OF PROJECT, DO NOT RELEASE RETENTION OR CLOSE PROJECT WITHOUT
- 14. AFTER COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL CLEAN THE PROJECT SITE BEFORE ACCEPTANCE BY DISTRICT REPRESENTATIVE AND DEMOBILIZATION.

1.02 CODES AND STANDARDS (<u>ADDITIONAL TO THOSE ON E0.3</u>):

- WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING:
- 1. TITLE 24 C.C.R. PART 2. CALIFORNIA BUILDING CODE (CBC)
- 2. TITLE 24 C.C.R. PART 3, CALIFORNIA ELECTRICAL CODE (CEC) 3. TITLE 24 C.C.R. PART 4, CALIFORNIA MECHANICAL CODE (CMC)
- 4. TITLE 24 C.C.R. PART 5, CALIFORNIA PLUMBING CODE (CPC)
- 5. TITLE 24 C.C.R. PART 6, CALIFORNIA ENERGY CODE (CEC)
- 6. TITLE 24 C.C.R. PART 9, CALIFORNIA FIRE CODE (CFC)
- 7. TITLE 24 C.C.R. PART 10, CALIFORNIA EXISTING BUILDING CODE (CEBC) 8. TITLE 24 C.C.R. PART 11, CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen) AND BUILDING
- ENERGY EFFICIENCY STANDARDS 9. NFPA 70E, STANDARD FOR ELECTRICAL SAFETY IN THE WORKPLACE
- 10. NFPA 70, NATIONAL ELECTRICAL CODE
- 11. NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE
- 12. NFPA 101, LIFE SAFETY CODE
- 13. NFPA 110, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS 14. ILLUMINATING ENGINEERING SOCIETY (IES) LIGHTING HANDBOOK, 10TH EDITION
- 1.03 CONTRACTOR SHALL BECOME FAMILIAR WITH THE CONDITIONS OF THE JOB SITE, CONSTRUCTION DRAWINGS AND SPECIFICATIONS, AND PLAN THE INSTALLATION OF THE ELECTRICAL WORK TO CONFORM WITH THE EXISTING CONDITIONS AND THOSE SHOWN AND SPECIFIED SO AS TO PROVIDE THE BEST POSSIBLE ASSEMBLY OF THE COMBINED WORK OF THE TRADES.
- 1.04 CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS REQUIRED, AND DISPOSAL FEES.
- .05 CONTRACTOR AND THEIR SUB-CONTRACTORS SHALL VISIT THE SITE AS NECESSARY PRIOR TO SUBMITTING BID TO VERIFY EXISTING CONDITIONS, DIMENSIONS, LOCATIONS, AND ANY OTHER PERTINENT INFORMATION SHOWN ON PLANS AND ADJUST BID TO COVER ALL WORK SHOWN OR REASONABLY IMPLIED ON PLANS AND ANY ADDITIONAL WORK DISCOVERED THAT IS REQUIRED IN FIELD. REQUIRED CHANGES DUE TO EXISTING CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGEMENT TEAM.
- .06 CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES DURING DEMOLITION OR CONSTRUCTION.
- 1.07 ALL MATERIALS SHALL BE UL LISTED AND AS SPECIFIED. ANY SUBSTITUTIONS SHALL BE SUBMITTED AND APPROVED PRIOR TO FURNISHING.

1.08 WARRANTIES:

- A. ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS SPECIFICATION AND/OR CONSTRUCTION DRAWINGS SHALL BE GUARANTEED BY CONTRACTOR IN WRITING FOR A PERIOD OF AT LEAST (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE AGAINST DEFECTIVE MATERIALS, DESIGN AND WORKMANSHIP. CONTRACTOR SHALL APPLY FOR ALL REQUIRED EQUIPMENT AND MATERIAL WARRANTIES WITH RESPECTIVE MANUFACTURER'S AND REMAIN DIRECTLY RESPONSIBLE FOR FULFILLING THE MANUFACTURER WARRANTY OBLIGATIONS FOR THE FULL DURATION LISTED BY EACH MANUFACTURER FOR THE RESPECTIVE MATERIALS OR EQUIPMENT.
- B. UPON RECEIPT OF NOTICE FROM THE OWNER OF FAILURE OF ANY MATERIAL OR EQUIPMENT OR SECTIONS OF THE ELECTRICAL SYSTEM, DURING THE WARRANTY PERIOD, THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENT AND CORRECTIONS PROMPTLY AND WITHOUT EXPENSE OR INCONVENIENCE TO

- THE OWNER. REPLACE OR REPAIR MATERIALS AND EQUIPMENT IN THIS SCOPE OF WORK AND ANY DAMAGE
- 1.09 VERIFY ELECTRICAL RATING, LOAD, CIRCUIT REQUIREMENTS, AND CONNECTIONS FOR ALL EQUIPMENT SHOWN ON CONSTRUCTION DRAWINGS, AND FURNISHED BY OTHER DISCIPLINES PRIOR TO ROUGH IN, NOTIFY ELECTRICAL ENGINEER OF RECORD AND THE ENGINEER OF RECORD OF THE RESPECTIVE DISCIPLINE OF THIS CHANGE.
- 1.10 PROVIDE WIRING TEST UPON COMPLETION OF WORK AND MAKE ADJUSTMENTS AS NECESSARY FOR SATISFACTORY OPERATION OF ALL ELECTRICAL SYSTEMS AS DETERMINED BY CONSTRUCTION MANAGEMENT

1.11 DEFINITIONS

- A. "CONNECT": CONSTRUED TO MEAN MAKE FINAL ELECTRICAL CONNECTIONS FOR A COMPLETE INSTALLATION OF A FULLY OPERATING PIECE OF EQUIPMENT WITH NECESSARY ACCESSORIES.
- B. "AS DIRECTED": AS COMMUNICATED BY THE OWNER OR THEIR AUTHORIZED REPRESENTATIVE.
- C. "WORK": CONSTRUED TO MEAN ALL LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES, AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION TO REALIZE INTENDED FUNCTION OF THE EQUIPMENT TO BE INSTALLED.
- D. "WIRING": RACEWAY, FITTINGS, CONDUCTORS, CABLE, BOXES AND OTHER ITEMS REQUIRED FOR A PROPER AND COMPLETE ELECTRICAL CONNECTION.
- E. "CONCEALED": HIDDEN FROM SIGHT AS OBSERVED BY A REGULAR USER OF THE FACILITY OR PREMISES.
- E. "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
- F. "INDICATED", "SHOWN" OR "NOTED": AS INDICATED, SHOWN, OR NOTED ON RESPECTIVE CONSTRUCTION DRAWINGS OR SPECIFICATIONS.
- G. ALL OTHER DEFINITIONS AS PER THE ACCEPTED DEFINITIONS OF THE AMERICAN INSTITUTE OF ARCHITECTS (AIA).

1.12 SAFETY AND INDEMNITY

- A. SAFETY: THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK, THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. SEE ALSO THOSE REQUIREMENTS DESCRIBED BY THE GENERAL NOTES ON EO.3 AND SCOPE OF WORK ON EO.1.
- B. NO ACT, SHOP DRAWING REVIEW OR CONSTRUCTION REVIEW BY THE OWNER, THE ENGINEERS OR THEIR CONSULTANTS IS INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURE, IN, ON, OR NEAR THE CONSTRUCTION SITE.
- C. INDEMNITY: THE CONTRACTOR SHALL HOLD HARMLESS, INDEMNIFY AND DEFEND THE OWNER, THEIR CONSULTANTS AND EACH OF THEIR OFFICERS, EMPLOYEES AND AGENTS, FROM ANY AND ALL LIABILITY CLAIMS, LOSSES OR DAMAGE ARISING OR ALLEGED TO ARISE FROM THE PERFORMANCE OF THE WORK DESCRIBED HEREIN, BUT NOT INCLUDING THE SOLE NEGLIGENCE OF THE OWNER, AND THEIR CONSULTANTS, AND EACH OF THEIR OFFICERS, EMPLOYEES AND AGENTS.

1.13 SUBMITTALS:

ELECTRICAL CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS FOR MATERIALS AND EQUIPMENT, AND RESPECTIVE SPECIFICATION SHEETS (IN A SINGLE COMPLETE SUBMITTAL) FOR REVIEW BY ELECTRICAL ENGINEER OF RECORD, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:

A. LIGHTING FIXTURES.

- B. LIGHTING CONTROL SYSTEM AND DEVICES.
- C. WIRING DEVICES.
- D. WIRE, CONDUCTORS AND CABLES.
- E. CONDUIT, RACEWAYS, PULL BOXES, BOXES, FITTINGS, HANGERS AND SUPPORTS.
- F. TRANSFORMERS, PANELS AND DISCONNECTS.
- G. OTHER MAIN EQUIPMENT AS PART OF THIS WORK.

1.14 PROJECT CLOSEOUT:

- A. <u>SEE REQUIREMENTS ON E0.3.</u>
- 1.15 CLEAN-UP AND DEMOBILIZATION:
 - A. REMOVE AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS, TRASH AND DEBRIS DURING CONSTRUCTION AND TOWARDS COMPLETION OF THE PROJECT. LEAVE THE PREMISES AND SURROUNDING AREA IN A CLEAN AND ORDERLY CONDITION AS DIRECTED BY THE CONSTRUCTION MANAGEMENT TEAM. ALL MATERIALS AND EQUIPMENT SHALL BE DISPOSED OF PER GOVERNMENT REGULATIONS.

PART 2 - BASIC MATERIALS AND METHODS:

2.01 GENERAL:

A. MATERIALS AND EQUIPMENT SHALL BE NEW, CURRENT MODELS THAT ARE SUPPORTED BY MANUFACTURER'S, AND SHALL BEAR COMPLETE IDENTIFICATION AND LABELS. PANELS AND DISCONNECT SHALL BEAR SHORT CIRCUIT CURRENT STUDY LABELS IDENTIFYING APPROACH DISTANCES AND P.P.E. REQUIRED.

2.02 CONDUITS:

- A. ELECTRICAL METALLIC TUBING (EMT) SHALL BE GALVANIZED WITH COMPRESSION STYLE FITTINGS. COUPLINGS, FITTINGS AND CONNECTORS SHALL BE INSULATED THROAT TYPE AND GALVANIZED. SETSCREW TYPE FITTINGS ARE NOT PERMITTED.
- B. RIGID (RMC) OR INTERMEDIATE METAL CONDUIT (IMC) SHALL BE GALVANIZED WITH THREADED STYLE FITTINGS. COUPLINGS AND CONNECTORS SHALL BE INSULATED THROAT TYPE AND GALVANIZED.
- C. FLEXIBLE CONDUIT SHALL BE STEEL METAL STRIP INTERLOCK CONSTRUCTION, ZINC COATED OR WITH EXTERNAL PLASTIC ARMOR, INCLUDING SUITABLE ACCESSORIES. AND SHALL BE WATER TIGHT IN WET OR
- D. ALL EXTERIOR CONDUITS SHALL BE GALVANIZED RIGID (GALV. RMC) OR GALVANIZED INTERMEDIATE METAL CONDUIT (GALV. IMC). LAST 6' MAY BE FLEXIBLE CONDUIT TO EASE DEVICE PLACEMENT.
- E. ALL UNDERGROUND CONDUIT SHALL BE RIGID PVC SCHEDULE 80.
- F. ALL INTERIOR BRANCH CIRCUIT CONDUIT SHALL BE ELECTRICAL METAL TUBING (EMT) 3/4" MIN.
- G. ALL CONDUIT FITTINGS IN WET LOCATIONS, AND FOR EXTERIOR OR UNDERGROUND CONDUIT SHALL BE WATER TIGHT TYPE SPECIFIED FOR THE TYPE OF CONDUIT TO BE INTERCONNECTED AT THOSE LOCATIONS.

2.03 CONDUCTORS AND CABLE:

- A. ALL CONDUCTORS AND CABLE SHALL BE COPPER. ALUMINUM CONDUCTORS ARE NOT PERMITTED.
- B. CONDUCTORS: PROVIDE SOFT DRAWN, ANNEALED COPPER WIRE 98% CONDUCTIVITY OR BETTER, BARING THE UL LABEL, WITH 600V MIN. ELECTRICAL INSULATION RATING, #12AWG MINIMUM (USE #10AWG FOR BRANCH CIRCUIT RUNS OVER 100' OR AS INDICATED ON RESPECTIVE CONSTRUCTION DRAWINGS).
- C. CONDUCTORS #1AWG AND SMALLER USED IN DRY LOCATIONS SHALL HAVE THHN TYPE INSULATION, U.O.N.
- D. CONDUCTORS #1AWG AND SMALLER USED IN WET LOCATIONS SHALL HAVE THWN TYPE INSULATION, U.O.N.
- E. INSULATED EQUIPMENT GROUNDING CONDUCTORS, EQUIPMENT OR SYSTEM BONDING JUMPERS, AND OTHER INSULATED GROUNDING CONDUCTORS SHALL HAVE THHN TYPE INSULATION FOR DRY LOCATIONS AND THWN

- INSULATION FOR WET LOCATIONS, U.O.N.
- F. ALL BARE GROUNDING SYSTEM OR RING CONDUCTORS SHALL BE STRANDED COPPER #4AWG MIN. U.O.N.
- G. ALL BARE GROUNDING ELECTRODE CONDUCTORS SHALL BE STRANDED COPPER #6AWG.
- H. UNGROUNDED AND NEUTRAL CONDUCTORS #1/OAWG THROUGH #4/OAWG SHALL HAVE XHHW (55 MILS) INSULATION OR THICKER AND MORE DURABLE.
- I. UNGROUNDED AND NEUTRAL CONDUCTORS #250MCM (KCMIL) AND LARGER SHALL HAVE XHHW (65 MILS) INSULATION OR THICKER AND MORE DURABLE.
- J. ALL INSULATION SHALL HAVE A TEMPERATURE RATING OF 75 DEG. C MINIMUM.
- K. #8AWG AND LARGER SHALL BE STRANDED COPPER CONDUCTORS. SOLID CONDUCTORS MAY BE USED FOR #10AWG AND SMALLER WHERE VIBRATION IS PRESENT OR SPECIAL FLEXIBILITY IS REQUIRED; HOWEVER, ELECTRICAL ENGINEER OF RECORD SHALL APPROVE USE OF ANY SOLID CONDUCTORS PRIOR TO INSTALLATION.
- L. ALL SPLICES SHALL HAVE IN-LINE COLD SHRINK CONNECTION INSULATORS.

M. WIRING CONNECTORS:

- #8AWG AND SMALLER INTERIOR WIRING SHALL BE CONNECTED WITH CONNECTORS HAVING INSULATED PRESSURE TYPE LIVE SPRING, WITH INSULATION RATED FOR 600V, 105 DEG. C MIN., USE INSULATION RATING OF 1000V, 105 DEG. C MIN. FOR LIGHTING BRANCH CIRCUITS.
- 2. #6AWG AND LARGER SHALL BE CONNECTED WITH COMPRESSION TYPE CONNECTORS WITH #33+ OR SUPERIOR ELECTRICAL TAPE TO COVER PER INDUSTRY STANDARDS.

N. GROUNDING SHALL COMPLY WITH CEC REQUIREMENTS.

2.04 PANELS:

- A. ENCLOSURES SHALL BE SINGLE DOOR, DEAD FRONT OF CODE GAUGE STEEL WITH TRIM AND DOOR OF 12 GAUGE STRETCHER-LEVELED STEEL. ENCLOSURES SHALL BE 20" (MIN.) WIDE BY 5-3/4" DEEP (MAX.), U.O.N. ALL PANELS FOR THIS PROJECT SHALL BE MANUFACTURED BY THE SAME MANUFACTURER.
- 1. FINISH SHALL CONSIST OF ONE COAT RUST RESISTANT PRIMER, ONE COAT GRAY ENAMEL INSIDE AND
- 2. ENCLOSURES SHALL BE LOCKABLE WITH FLUSH TYPE COMBINATION LATCH, AND TWO KEYS SHALL BE FURNISHED. NO PLASTIC PARTS IN THE LATCH AND LOCK MECHANISM ARE PERMITTED.
- 3. PANEL RATING AND BUS CAPACITIES PER RESPECTIVE PANEL SCHEDULES. BUSSES SHALL BE MADE OF 98% CONDUCTIVITY OR BETTER COPPER BARS SIZED FOR CURRENT DENSITY OF 1,000 AMP/SQ. INCH OF CROSS SECTION (OR EQUIVALENT CURRENT DENSITY RATING TIN PLATED ALUMINUM).
- 4. CIRCUIT BREAKERS SHALL BE BOLT ON ONLY.

2.05 WIRING DEVICES:

- A. ALL WIRING DEVICES AND COVER PLATES SHALL BE COORDINATED TO MATCH FINISHES PROPOSED BY ARCHITECT PRIOR TO BEING FURNISHED AND INSTALLED.
- B. ASIDE FROM THE ENLIGHTED LIGHTING CONTROL DEVICES, SWITCHES, RECEPTACLES, PLATES, ETC. SHALL BE PURCHASED FROM THE SAME MANUFACTURER.

2.06 BOXES:

- A. OUTLET BOXES SHALL BE 4 INCH SQUARE BY 1-1/2 INCH DEEP (OR LARGER) GALVANIZED SHEET STEEL KNOCK-OUT TYPE WITH PLASTER RING AND COVER FOR GENERAL INTERIOR USE, AND CAST METAL, FERRIS STANDARD OR SHALLOW, OR FERRIS BOX DEEP WITH MATCHING SCREW COVERS FOR EXTERIOR LOCATIONS OR LOCATIONS EXPOSED TO WATER, PROVIDE GASKETED COVERS IN EXTERIOR, WET OR DAMP LOCATIONS.
- B. COVERS FOR WEATHER PROOF EXTERIOR SERVICE OR CONVENIENCE RECEPTACLES NEAR HVAC EQUIPMENT SHALL BE IN-USE WEATHER PROOF.
- C. NEW BRANCH CIRCUIT JUNCTION BOXES SHALL USE THE SAME TYPE OF BOX AS THOSE USED FOR NEW RECEPTACLES, COORDINATE TYPE WITH OTHER DISCIPLINES.
- D. ALL EXTERIOR PULL BOXES SHALL BE OF TRAFFIC RATED CONSTRUCTION AND SHALL HAVE A TRAFFIC RATED COVER. COVER SHALL HAVE PRE-CAST OR ENGRAVED SIGN INDICATING TYPE OF CONDUCTORS OR CABLING INSIDE, E.G. "ELECTRIC" OR "COMMS"

2.07 CONDUIT HANGERS (SEE SUPPORT AND ANCHORAGE REQUIREMENTS ON E0.3):

- A. INDIVIDUAL CONDUIT RUNS 1 INCH AND SMALLER SHALL BE ATTACHED TO STRUCTURAL MEMBERS DIRECTLY USING CONDUIT CLAMPS WITH FASTENERS ON BOTH SIDES OF THE CLAMP. USE ROD HANGERS WHEN CONDUIT RUN NEEDS TO BE EXTENDED LOWER THAN THE DIRECT ATTACHMENT TO STRUCTURAL MEMBERS
- B. INDIVIDUAL CONDUIT RUNS 1-1/4 INCH AND LARGER, OR MULTIPLE PARALLEL RUNS OF CONDUIT, SHALL BE ATTACHED TO STRUCTURAL MEMBERS USING A GALVANIZED METAL CHANNEL WITH MULTIPLE FASTENERS AS REQUIRED TO SUPPORT THE ASSEMBLY AND AN APPROPRIATELY SIZED CONDUIT CLAMP SPECIFIED FOR THE SIZE CONDUIT BY MANUFACTURER OF THE METAL CHANNEL.
- C. CONTRACTOR SHALL USE METAL CHANNEL TRAPEZE TYPE CONDUIT SUPPORT FOR CONDUIT RUNS THAT REQUIRE CONDUIT RUNS 1-1/4 INCH AND LARGER, OR MULTIPLE PARALLEL RUNS OF CONDUIT, WHERE CONDUIT RUNS NEED TO BE EXTENDED LOWER THAN THE DIRECT ATTACHMENT TO STRUCTURAL MEMBERS
- D. CONDUIT SUPPORT SYSTEMS SHALL BE DESIGNED FOR A MAXIMUM DEFLECTION NOT GREATER THAN 1/8
- E. DIAMETER OF HANGER ROD SHALL NOT BE LESS THAN 3/8 INCH.

2.08 LIGHTING AND RECEPTACLE COMPLIANCE:

- A. CONTRACTOR SHALL PROVIDE A COMPLETE AND FUNCTIONING LIGHTING CONTROL SYSTEM THAT COMPLIES WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY COMMISSION TITLE 24 REQUIREMENTS.
- B. CONTRACTOR SHALL PROVIDE ADDITIONAL LIGHTING CONTROL DEVICES AND COMMISSIONING TO ACCOMMODATE OCCUPANCY CONTROL OF VARIOUS RECEPTACLES THROUGHOUT.

2.09 LIGHTING

- A. INSTALL EMERGENCY EGRESS LIGHTING FIXTURES AS INDICATED ON RESPECTIVE PLANS ALONG THE EGRESS PATH IDENTIFIED BY ARCHITECT. PROVIDE EMERGENCY EGRESS LIGHTING FIXTURE CONTROL AND COMPLY WITH REQUIREMENTS OF UL924. PROVIDE A UL924 COMPLIANT CENTRAL LIGHTING INVERTER WITH 90-MINUTE BATTERY CAPACITY.
- B. CONTRACTOR SHALL COORDINATE WITH CONSTRUCTION MANAGEMENT TEAM FOR ACCESS, QUANTITY, TRANSPORTATION AND STORAGE OF THE EXIT SIGNS, LIGHTING FIXTURES AND LIGHTING CONTROL DEVICES TO BE RE-USED.

PART 3 – EXECUTION:

3.01 GENERAL:

- A. ELECTRICAL CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND SHALL BE USED AS CLOSELY AS POSSIBLE AS ACTUAL CONSTRUCTION OF OTHER TRADES WILL PERMIT. VERIFY EXACT ROUTING OF CONDUITS AND RACEWAYS IN FIELD. EXACT LOCATIONS, DISTANCES, DIMENSIONS SHALL BE TAKEN FROM FIELD MEASUREMENTS. REPORT ALL MAJOR DEVIATIONS AND DISCREPANCIES THAT RESULT IN A 15% INCREASE IN ROUTE LENGTH TO ELECTRICAL ENGINEER OF RECORD.
- B. CONTRACTOR SHALL VERIFY ALL SCALED DIMENSIONS AND REPORT CONFLICTS TO ELECTRICAL ENGINEER OF RECORD.

- C. CONTRACTOR SHALL COORDINATE WORK WITH ALL OTHER DISCIPLINES, AND SHALL PLAN ADDITIONAL TIME TO ACCOUNT FOR ANY DEPENDENCY REQUIRED OF THEM OR REQUIRED BY THEM PRIOR TO SUBMITTING BID.
- D. ALL HOME RUNS TO RESPECTIVE PANELS ARE INDICATED AS STARTING FROM THE OUTLET CLOSEST TO THE PANEL, THE BRANCH CIRCUIT CONTINUES TOWARDS THE NEXT CLOSEST OUTLET WITH THE SAME BRANCH CIRCUIT DESIGNATION, AND SO ON, CONTINUE SUCH CIRCUITS TO THE PANEL AS THOUGH THE ROUTES WERE COMPLETELY INDICATED.
- E. CONTRACTOR SHALL NOT CUT, NOTCH OR BORE HOLES THROUGH ANY STRUCTURAL MEMBERS WITHOUT PERMISSION OF STRUCTURAL ENGINEER OF RECORD.

3.02 CONDUIT:

- A. CONTRACTOR SHALL USE GALVANIZED RIGID METAL CONDUIT (RMC) FOR ALL WIRING EXCEPT IN OR UNDER CONCRETE, IN EARTH, FILL, MASONRY WALLS, CONCRETE WALLS WHICH SHALL BE RIGID SCHEDULE 80 PVC.
- B. CONTRACTOR SHALL USE ELECTRICAL METAL TUBING (EMT) OR METAL CLAD (MC) CABLES IN TYPICAL WALLS AND CEILING AREAS.
- C. USE FLEXIBLE CONDUIT TO EASE FINAL CONNECTION, BUT IT SHALL NOT EXCEED 6' AS MEASURED FROM FINAL CONNECTION ALONG ROUTE.
- D. CONCEAL ALL CONDUIT IN WALLS AND ABOVE CEILING SPACES WHERE POSSIBLE. PROVIDE SLEEVES AND CHASES WHERE RACEWAYS PASS THROUGH WALLS. KEEP RACEWAYS WITHIN FURRING LINES ESTABLISHED ON THE DRAWINGS UNLESS SHOWN EXPOSED. AVOID OBSTRUCTION OF OPENINGS, PASSAGEWAYS AND REQUIRED CLEARANCES. ROUTE CONDUITS TO AVOID CONFLICTS WITH DUCTS, PIPING, LIGHTING FIXTURES, ETC. LOCATE ALL ADDITIONAL OPENINGS AND SPACES AND COORDINATE WITH OTHER DISCIPLINES.
- E. CONTRACTOR SHALL ALLOW FOR THE REQUIRED TIME TO PLAN AND NEATLY LAYOUT ROUTES TO AVOID UNNECESSARY CUTTING AND FITTING.
- F. CONTRACTOR SHALL INSTALL CONDUIT ROUTES PARALLEL TO EACH OTHER AND OTHER EXISTING CONDUIT ROUTES THAT ARE TO REMAIN AS PART OF THIS PROJECT. PARALLEL CONDUITS AND RACEWAYS SHALL RUN STRAIGHT AND TRUE WITH OFFSETS THAT ARE UNIFORM AND SYMMETRICAL.
- G. CONTRACTOR SHALL INSTALL CONDUIT ROUTES PERPENDICULAR TO STRUCTURAL MEMBERS IN WALLS AND ABOVE CEILINGS TO SPREAD THE WEIGHT OF THE CONDUIT THROUGH ANCHORS AND SUPPORTS AMONGST MULTIPLE STRUCTURAL MEMBERS ALONG ROUTE. DO NOT CONCENTRATE WEIGHT ON A SINGLE STRUCTURAL
- H. SEAL AND CAP ALL SPARE CONDUITS AT BOTH ENDS.
- I. PROVIDE #4 PULL CORD IN ALL CONDUITS

3.03 CONDUCTORS AND CABLE:

- A. PROVIDE NO CONDUCTORS SMALLER THAN #12AWG. PROVIDE STRANDED CONDUCTORS LARGER THAN #10AWG.
- B. ALL CONDUCTORS, INCLUDING, BUT NOT LIMITED TO UNGROUNDED CONDUCTORS, EQUIPMENT GROUNDING CONDUCTORS, BONDING JUMPERS, NEUTRALS, GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED AND INSTALLED PER CEC.

3.04 OUTLET AND JUNCTION BOXES:

- A. INSTALL BOXES SECURELY TO THE STRUCTURE. LOCATE BOXES SUCH THAT THE EXTENSION RING IS FLUSH WITH THE SURFACE.
- B. INSTALL JUNCTION AND PULL BOXES IN ACCESSIBLE LOCATION AS REQUIRED FOR SPLICING, CONNECTIONS AND PULLING OF CONDUCTORS.
- C. BOXES SHALL BE MOUNTED ON ADJUSTABLE BAR HANGERS ABOVE SUSPENDED CEILING AND ADJACENT TO STRUCTURAL MEMBERS IN WALLS.

3.05 DEVICES:

- A. INSTALL SWITCH, RECEPTACLE AND OTHER FLUSH DEVICE PLATES WITH THE VERTICAL CENTER LINE PLUMB WITH ALL EDGES OF THE PLATE IN CONTACT WITH THE FINISHED SURFACE. COORDINATE COLOR WITH ARCHITECT BASED ON SURROUNDING FINISHES AT RESPECTIVE MOUNTING LOCATION.
- B. BOXES FOR SWITCHES SHALL BE LOCATED WHERE INDICATED ON THE RESPECTIVE CONSTRUCTION DRAWINGS AT A MOUNTING HEIGHT OF 48" U.O.N.

3.06 PENETRATIONS

- A. PROVIDE FIRE STOP SYSTEMS AT ALL PENETRATIONS THROUGH EXTERIOR AND FIRE RATED WALLS AND CEILINGS, FINAL ASSEMBLY SHALL MEET OR EXCEED THE FIRE RATING OF THE WALL BEING PENETRATED.
- B. ALL PENETRATIONS TO THE EXTERIOR SHALL BE SLEEVED AND CAULKED WITH WATER PROOFING MATERIALS TO ENSURE A WATER TIGHT SEAL.
- C. PROVIDE SEAL FITTINGS FOR CONDUIT PENETRATIONS ENTERING PLENUMS.

3.07 LIGHTING FIXTURES

- A. INSTALL LIGHTING FIXTURES OF THE TYPES, SIZES, ETC. AS SHOWN IN THE LIGHTING FIXTURE SCHEDULE.
- 1. CONSTRUCTION DRAWINGS INDICATE FIXTURE TYPES THAT SHALL BE INSTALLED AT LOCATION BY MEANS OF FIXTURE TAG, WHERE NO TAG IS SHOWN, FIXTURE TYPE INDICATED FOR A SIMILAR AREA SHALL BE INSTALLED. CONSULT WITH ELECTRICAL ENGINEER OF RECORD IF ANY QUESTIONS OR CONFLICTS ARISE.
- 2. LOCATION OF FIXTURES SHOWN ON RESPECTIVE CONSTRUCTION DRAWINGS IS GENERAL, CONTRACTOR SHALL VERIFY LOCATIONS OF LIGHTING FIXTURES TO BE INSTALLED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND OTHER REFERENCE DATA TO DETERMINE EXACT AND FINAL LOCATION PRIOR TO INSTALLATION, INCLUDING HEADROOM CLEARANCES, AND INTERFERENCE WITH CEILING COMPONENTS, DUCTS OR OPENINGS.
- B. CONTRACTOR SHALL COORDINATE BETWEEN ELECTRICAL AND CEILING TRADES TO VERIFY THAT ACCEPTED LIGHTING FIXTURES ARE FURNISHED IN THE PROPER SIZES, AND INSTALLED WITH THE PROPER HANGERS, CLIPS, TRIM, FRAMES, FLANGES, ETC. TO BE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED.
- C. CONTRACTOR SHALL ALIGN, MOUNT, AND LEVEL LIGHTING FIXTURES UNIFORMLY. FINAL DECISION FOR ACCEPTANCE OF INSTALLATION IS RESERVED FOR THE ARCHITECT.
- D. CONTRACTOR SHALL NOT INTERFERE WITH AND PROVIDE CLEARANCES FOR EQUIPMENT BEING INSTALLED BY OTHER TRADES, COORDINATE WORK WITH OTHER DISCIPLINES PRIOR TO INSTALLATION. REPORT ALL CONFLICTS TO ELECTRICAL ENGINEER OF RECORD, THE REPORT SHALL INDICATE A NEW PLAN TO ADJUST INDICATED LOCATIONS FOR LIGHTING FIXTURES BY THE MINIMUM DISTANCES NECESSARY AS ACCEPTED BY ARCHITECT
- E. PROVIDE 12 GAUGE WIRE HANGERS AT EACH CORNER OF MOUNTING BOX FOR LIGHTING FIXTURES RECESSED IN SUSPENDED OR HARD LID CEILING EXTENDED TO STRUCTURAL MEMBERS ABOVE.
- F. PROVIDE ALL NECESSARY SEISMIC RESTRAINTS FOR PENDANT OR SUSPENDED MOUNTED LIGHTING FIXTURES TO RESTRAIN LIGHTING FIXTURE FROM SWINGING INTO WALLS, ADJACENT LIGHTING FIXTURES OR OTHER DEVICES OR EQUIPMENT IN A 45 DEG. SWAY PATH IN ANY DIRECTION.

G. LIGHTING FIXTURE SUPPORTS SHALL MAINTAIN FIXTURE POSITION AFTER CLEANING AND MAINTENANCE. SUPPORTS SHALL BE INSTALLED SUCH TO NOT DEFLECT THE CEILING OR PARTITION THE LIGHTING FIXTURE

3.08 GROUNDING:

- A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS SIZED PER CEC.
- B. PROVIDE A GROUNDING BUS, OR FURNISH EQUIPMENT WITH GROUNDING BUS ALREADY INSTALLED, FOR ALL PANELS, TRANSFORMERS AND DISCONNECT SWITCHES. PROVIDE CONNECTION OF EQUIPMENT GROUNDING CONDUCTORS, BONDING JUMPERS, GROUNDING ELECTRODE CONDUCTORS AS INDICATED ON CONSTRUCTION DRAWINGS

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AS NOTED DRAWN BY: S. PAREDES

SHEET NO.

02/23/2023

JOB NO. **HLP2022-001**

GENERAL NOTES: 1. EVERYONE'S SAFETY IS ALWAYS THE TOP PRIORITY! BE RESPONSIBLE FOR WORKING CONDITIONS ON THE JOB SITE; INCLUDING, BUT NOT LIMITED TO, THE SAFETY OF ALL PERSONS AND PROPERTY DURING PROJECT PLANNING AND CONSTRUCTION, AND WORK THAT IS PERFORMED OUTSIDE OF NORMAL WORKING HOURS. 2. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER UPON DISCOVERY OF CONFLICTS, ADVERSE SITE CONDITIONS OR DISCREPANCIES. ALL QUESTIONS REGARDING THIS PROJECT AND THE CONSTRUCTION DOCUMENTS, INCLUDING THOSE ADDRESSED TO THE ENGINEER OF RECORD FOR VARIOUS CONDITIONS, SOME OF WHICH ARE LISTED FURTHER IN THE GENERAL NOTES, SHALL BE COORDINATED THROUGH THE CONSTRUCTION MANAGER BY FORMAL CONSTRUCTION ADMINISTRATION PROCESS. 3. THE LATEST EDITION OF THE OWNER'S AND OR ARCHITECT'S GENERAL, SPECIAL AND SUPPLEMENTARY CONDITIONS, ESPECIALLY SPECIFICATION SECTIONS OF CONSTRUCTION SPECIFICATION INSTITUTE'S (CSI) DIVISIONS 25, 26, 27, 28 AND 48, AS WELL AS SEPARATE SPECIFICATIONS OR PROJECT MANUALS REQUIRED FOR THIS PROJECT, AND THESE CONSTRUCTION DRAWINGS, TOGETHER AS A COMPLETE SET ARE A PART OF THE CONSTRUCTION DOCUMENTS; AND, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ATTAIN. INTERPRET AND COMPLETELY UNDERSTAND THE LATEST EDITIONS OF THESE CONSTRUCTION DOCUMENTS PRIOR TO ANY PROPOSAL, BID AND EXECUTION OF WORK. THIS INCLUDES CONSTRUCTION DOCUMENTS APPLICABLE TO OTHER DIVISIONS WHICH MAY INTERFERE OR OTHERWISE AFFECT THE WORK OF THE CONTRACTOR AND THEIR DISCIPLINE AND OR THEIR SUB-CONTRACTORS AND THEIR RESPECTIVE DISCIPLINES; THIS IS ESPECIALLY IMPORTANT TO COORDINATE FOR THE CONTRACTOR AND THEIR SUB-CONTRACTORS. 4. IF ANY CONSTRUCTION DOCUMENTS ARE UNCLEAR, THEN THE CONTRACTOR SHALL NOT PROCEED WITH ANY CONSTRUCTION AFFECTED BY THE PORTION OF THE CONSTRUCTION DRAWINGS IN QUESTION. INCONSISTENCIES AND OR DISCREPANCIES IN THE CONSTRUCTION DRAWINGS OR SPECIFICATIONS SHALL BE CLARIFIED WITH THE ENGINEER OF RECORD THROUGH FORMAL CONSTRUCTION ADMINISTRATION PROCESS IMMEDIATELY UPON DISCOVERY AND PRIOR TO INSTALLATION. 5. AFTER ACHIEVING A COMPLETE UNDERSTANDING OF THE CONSTRUCTION DOCUMENTS AND THE SCOPE OF THIS PROJECT, THE CONTRACTOR SHALL VISIT THE JOBSITE PRIOR TO SUBMITTING A FINAL PROPOSAL OR BID TO BECOME FAMILIAR WITH EXISTING CONDITIONS, AND INFORM THE ENGINEER OF RECORD OF ANY ADVERSE CONDITIONS, CONFLICTS OR INCONSISTENCIES DISCOVERED WITH THE PLANNED WORK AS DESCRIBED BY THE CONSTRUCTION DOCUMENTS THROUGH FORMAL WRITTEN CONSTRUCTION ADMINISTRATION PROCESS. 6. THESE GENERAL NOTES AND THE MINIMAL REQUIREMENTS THEY DESCRIBE FOR ELECTRICAL WORK SHALL ENCOMPASS AND SHALL ALSO BE REQUIREMENTS TO SUB-DISCIPLINES OF ELECTRICAL WORK SUCH AS FIRE ALARM, SECURITY, COMMUNICATION, AND OTHER ELECTRICAL SPECIALTY TRADES. HOWEVER, IT SHALL BE NOTED THAT. THERE MAY BE ADDITIONAL SPECIFIC REQUIREMENTS IDENTIFIED BY THESE CONSTRUCTION DOCUMENTS FOR THAT SPECIFIC SUB-DISCIPLINE AND ARE LISTED UNDER THE RESPECTIVE CONSTRUCTION DOCUMENT SECTIONS RELEVANT TO THAT SUB-DISCIPLINE OR TRADE 7. THESE GENERAL NOTES ARE INTENDED TO ASSIST THE CONTRACTOR DURING CONSTRUCTION. HOWEVER, THEY DO NOT COVER ALL POSSIBLE SCENARIOS AND THE DOCUMENTS USED TO MAKE UP THE OVERALL CONSTRUCTION DOCUMENTS COME FROM MULTIPLE SOURCES. IF ANY CONFLICTS OR CONTRADICTIONS EXIST BETWEEN SPECIFICATIONS, PROJECT MANUALS, CONSTRUCTION DRAWINGS OR ANY OTHER CONSTRUCTION DOCUMENTS, THEN THE STRICTER REQUIREMENT SHALL GOVERN AS DETERMINED BY THE ENGINEER OF RECORD FOR THE BENEFIT OF THE CLIENT UNDER OVERSIGHT BY THE AHJ. 8. THE SCOPE OF WORK SHALL INCLUDE LABOR, MATERIALS, FOUIPMENT, TOOLS AND OTHER SERVICES REQUIRED FOR ALL NECESSARY DEMOLITION AND COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS AS INDICATED AND OR SPECIFIED BY THE CONSTRUCTION DOCUMENTS. 9. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR DAMAGES INCURRED TO WALLS, FLOORS, CARPET, PAVEMENT, SIDEWALK, FENCES, CEILINGS AND OR OTHER SURFACES DURING CONSTRUCTION; AND THE CONTRACTOR SHALL PATCH, REPAIR, AND PAINT DAMAGED SURFACES TO RETURN THEM TO THEIR ORIGINAL CONDITION. 10. ELECTRICAL CONSTRUCTION DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL JUNCTION BOXES, PULL BOXES, OFFSETS, BENDS, ELBOWS OR OTHER SPECIFIC ELEMENTS WHICH MAY BE REQUIRED FOR PROPER INSTALLATION. SIZE, LOCATION OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT IN SOME CASES, SUCH AS LARGE SCALE SITE PLANS, ETC. NOT TO SCALE TO ENSURE OVERALL CLARITY. 11. CONTRACTOR SHALL MAINTAIN HEADROOM, AND KEEP OPENINGS, ACCESS AREAS, ACCESS HATCHES OR DOORS, PATHS OF EGRESS, AND PASSAGEWAYS CLEAR DURING ALL PERIODS OF CONSTRUCTION AND ENSURE THAT THE INSTALLED EQUIPMENT AND SYSTEMS DO NOT CREATE ANY OBSTRUCTION. 12. ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED. EQUIPMENT SHALL BE LISTED, LABELED, AND INSTALLED PER A RECOGNIZED ELECTRICAL TESTING LABORATORY ADHERING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND THE MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA & NBFU. CONTRACTOR SHALL REPLACE NONCOMPLIANT, DEFECTIVE AND OR DAMAGED MATERIALS AS DETERMINED BY THE ENGINEER OF RECORD FOR THE BENEFIT OF THE CLIENT UNDER OVERSIGHT BY THE AHJ. A. "FURNISH": SUPPLY AND DELIVER TO PROJECT SITE, UNLOAD, UNPACK AND ASSEMBLE, AND PUT IN PLACE. B. "INSTALL": OPERATIONS AT PROJECT SITE INCLUDING, TEMPORARILY STORING, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. C. "PROVIDE": FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE. D. "SHALL": USED TO QUALIFY AN ACTION WHICH IS MANDATORY. 14. CONTRACTOR SHALL PROVIDE SEISMIC SUPPORT DEVICES, RESTRAINTS AND APPURTENANCES INCLUDING HANGERS, ANCHORS, SLEEVES, INSERTS, SEALS, FOR ELECTRICAL EQUIPMENT AND SYSTEMS REQUIRING SUCH SEISMIC SUPPORT IN ACCORDANCE WITH STATE, COUNTY, CITY, AND LOCAL CODES. SEISMIC RESTRAINTS AND ATTACHMENTS FOR ELECTRICAL EQUIPMENT AND SYSTEM COMPONENTS SHALL BE PROVIDED IN ACCORDANCE WITH CBC AND SMACNA REQUIREMENTS, SEE RESPECTIVE STRUCTURAL CONSTRUCTION DRAWINGS FOR REQUIREMENTS. SEE EQUIPMENT ANCHORAGE AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES. 15. CONTRACTOR SHALL PROVIDE MEANS TO KEEP CONSTRUCTION MATERIALS SUCH AS CONDUITS, CONDUIT OR PIPE OPENINGS, SURFACE FINISHES, CABLES, ASSEMBLIES, FIXTURES, EQUIPMENT, CONDUCTORS, ETC. PROTECTED DURING CONSTRUCTION TO PREVENT ENTRY OF FOREIGN MATTER AND EXPOSURE TO THE ELEMENTS. CONTRACTOR SHALL RESTORE OR REPLACE ANY CONSTRUCTION MATERIALS THAT ARE DAMAGED BY NEGLECTING THESE MEANS. 16. CONTRACTOR SHALL DELIVER CONSTRUCTION MATERIALS TO THE CONSTRUCTION SITE AS REQUIRED; AND, THE CONTRACTOR SHALL ENSURE THE DELIVERED CONSTRUCTION MATERIAL IS PROPERLY PACKED, CRATED AND STORED ON SITE. COORDINATE STORAGE LOCATION WITH OWNER THROUGH CONSTRUCTION MANAGER. 17. UNDERTAKE THE WORK IN ITS ENTIRETY IN ACCORDANCE WITH ITS DESIGN AND PURPOSE. WORK SHALL BE CARRIED OUT IN A PROFESSIONAL MANNER WITH MAXIMUM EFFICIENCY, EXCELLENT WORKMANSHIP AND SHALL MEET THE REQUIREMENTS OF, BUT NOT LIMITED TO, THE LATEST EDITION FOR THE FOLLOWING: A. CALIFORNIA CODE OF REGULATIONS: TITLE 8 - INDUSTRIAL RELATIONS (ELEVATOR SAFETY ORDERS). TITLE 19 – PUBLIC SAFETY. TITLE 22 – SOCIAL SECURITY - TITLE 24 - CALIFORNIA BUILDING STANDARDS CODE, (PARTS 1, 2 (CALIFORNIA BUILDING CODE), 3 (CALIFORNIA ELECTRICAL CODE), 4, 5, 6 (CALIFORNIA ENERGY CODE), 7, 8, 9, 10 & 11). B. CALIFORNIA STATE AND LOCAL FIRE MARSHAL. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). D. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE). INSTITUTE OF CABLE ENGINEERS ASSOCIATION (ICEA). . NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION STANDARDS FOR CONSTRUCTION (NECA). G. UNDERWRITERS LABORATORIES, INC, (UL). H. INSTRUMENT SOCIETY OF AMERICA (ISA). NFPA 70E, 70, 72, 101, 110, J. STATE INDUSTRIAL ACCIDENT COMMISSION. K. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). NATIONAL ELECTRICAL TESTING ASSOCIATION (NETA). M. ALL AMENDMENTS TO THE ITEMS ABOVE AS ADOPTED BY AUTHORITIES HAVING JURISDICTION. 18. CONTRACTOR SHALL SECURE AND PAY FOR PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING BUT NOT LIMITED TO, CHARGES BY STATE, COUNTY, CITY, AND LOCAL GOVERNMENT AND AGENCIES. OBTAIN REQUIRED CERTIFICATES OF INSPECTION FOR THE ELECTRICAL WORK AND DELIVER THE COMPLETED DOCUMENTS TO THE OWNER BEFORE REQUESTING ACCEPTANCE AND FINAL PAYMENT FOR WORK. 19. ALL DEMOLISHED MATERIALS SHALL BE DISPOSED OF PER STATE AND FEDERAL REGULATIONS BY CONTRACTOR AND OR THEIR SUB-CONTRACTORS. THE RESPECTIVE CONTRACTORS ARE RESPONSIBLE FOR ALL DISPOSAL FEES APPLICABLE TO THEIR TRADE. 20. CONTRACTOR SHALL CAREFULLY LAY OUT WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES. STRUCTURAL MEMBERS SHALL NOT BE CUT OR DRILLED WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD AND OWNER. HOWEVER, WHERE SUCH WORK IS NECESSARY PROVIDE CUTTING, CORING AND PATCHING OF THE CONSTRUCTION WORK WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF THE ELECTRICAL WORK, PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH, AND SHALL ACCURATELY MATCH SURROUNDING WORK. AFTER COMPLETION OF WORK, CLEAN UP RESULTANT DEBRIS AND REMOVE FROM SITE. 21. EQUIPMENT, ENCLOSURES, J-BOXES, GUTTERS, ETC., INSTALLED OUTDOORS OR SUBJECT TO WEATHER SHALL BE WEATHER PROOF AND UL LISTED FOR SUCH USE. RECEPTACLES INSTALLED OUTDOORS SHALL BE GFCI TYPE WITH "IN USE" TYPE WEATHERPROOF ENCLOSURES. GFCI TYPE RECEPTACLES LOCATED ON ROOF SHALL HAVE "IN USE" TYPE WEATHER PROOF ENCLOSURES, AND MUST BE LOCATED WITHIN 25' OF ROOF MOUNTED EQUIPMENT. 22. CONTRACTOR SHALL INSTALL EXPOSED CONDUITS PARALLEL TO OR AT RIGHT ANGLES TO NEARBY SURFACES OR STRUCTURAL MEMBERS, AND FOLLOW SURFACE CONTOURS AS MUCH AS POSSIBLE. 23. CONTRACTOR SHALL PROVIDE ELECTRICAL FINAL CONNECTIONS TO ELECTRICAL EQUIPMENT AND OUTLETS FOR A COMPLETE AND OPERABLE SYSTEM UNLESS OTHERWISE SPECIFICALLY NOTED ON THE RESPECTIVE CONSTRUCTION DRAWINGS. 24. PENETRATIONS OF FLOORS, ROOF, WALLS, AND WALL MEMBRANES REQUIRED TO HAVE A FIRE RESISTANCE RATING SHALL BE PROTECTED WITH THROUGH PENETRATION FIRE STOPS SUITABLE FOR THE METHOD OF PENETRATION. THROUGH PENETRATION FIRE STOPS SHALL BE TESTED IN ACCORDANCE WITH UL AND CBC REQUIREMENTS. 25. CONTRACTOR SHALL PROVIDE ENGRAVED LAMINATED PLASTIC NAMEPLATES FOR THE FOLLOWING EQUIPMENT INCLUDING BUT NOT LIMITED TO: METERS, PANELBOARDS, SWITCHBOARDS INCLUDING EACH INDIVIDUAL DEVICE OR PIECE OF EQUIPMENT WITHIN THE SWITCHBOARD, MOTOR CONTROL CENTERS (MCC) INCLUDING EACH DEVICE WITHIN THE MCC, ENCLOSED SWITCHES, STARTERS, CONTACTORS, CIRCUIT BREAKERS AND TRANSFORMERS.

- 26. EQUIPMENT SHALL BE BONDED AND GROUNDED IN ACCORDANCE WITH STATE, COUNTY, CITY, AND LOCAL CODES, APPLICABLE CODES AND JURISDICTIONS. REFER TO SPECIFICATIONS FOR DETAILS. ALL FEEDERS AND BRANCH CIRCUIT CONDUITS SHALL BE PROVIDED WITH AN INSULATED EQUIPMENT GROUNDING CONDUCTOR.
- 27. EQUIPMENT SHALL BE FULLY RATED FOR THE MAXIMUM AVAILABLE SHORT CIRCUIT CURRENT, REFER TO FEEDER LOAD SUMMARY AND CALCULATIONS TABLES FOR VOLTAGE DROP AND AVAILABLE FAULT CURRENT VALUES. FEEDER LENGTHS SHOWN ARE ESTIMATES FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL DETERMINE ACTUAL LENGTHS BASED ON ROUTING AND FIELD CONDITIONS.
- 28. CONTRACTOR AND THEIR SUB-CONTRACTORS SHALL BE LICENSED IN THE STATE OF CALIFORNIA AND WORKERS SHALL BE CERTIFIED IN ACCORDANCE WITH THE DEPARTMENT OF INDUSTRIAL RELATIONS, DIVISION OF APPRENTICESHIP STANDARDS AND CALIFORNIA LABOR CODE SECTION 3099.
- 29. CONTRACTOR SHALL PROVIDE ADDITIONAL HARDWARE FOR CONNECTION TO DEVICES WHICH LUGS THAT DO NOT ACCEPT OVERSIZED CONDUCTORS, WHICH MAY BE REQUIRED DUE TO VOLTAGE DROP CALCULATIONS OR DUE TO OTHER REASONS. CONTRACTOR SHALL SUBMIT SPECIFICATIONS OR PROPOSAL FOR THIS ADDITIONAL HARDWARE TO ENGINEER OF RECORD FOR REVIEW AND APPROVAL.
- 30. WHERE THE CONDUCTOR SIZE IS NOT SPECIFIED, CONTRACTOR SHALL PROVIDE BRANCH CIRCUIT CONDUCTORS SIZED SO THAT VOLTAGE DROP DOES NOT EXCEED 3% TO THE LAST DEVICE BASED ON OVERALL LENGTH OF CONDUCTORS.
- 31. WHERE NOT SPECIFIED, BRANCH CIRCUITS WITH MORE THAN THREE CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT SHALL HAVE THEIR AMPACITY DERATED PER ELECTRICAL CODE SECTION 315(B)(2), AND BASED ON THIS, THE CONTRACTOR SHALL PROVIDE APPROPRIATELY SIZED CONDUCTORS AND CONDUITS.
- 32. POWER RECEPTACLES SHALL BE 20A RATED, HEAVY DUTY, UNLESS OTHERWISE NOTED.
- 33. ELECTRICAL BOXES FOR POWER RECEPTACLES OR DATA OUTLETS SHALL NOT BE INSTALLED IN A BACK TO BACK CONFIGURATION, BUT SHALL BE INSTALLED SEPARATED HORIZONTALLY BY A MINIMUM OF 18" IN NOT FIRE RATED WALLS, AND A MINIMUM OF 24" IN FIRE RATED WALLS. WHERE THESE SEPARATIONS ARE NOT POSSIBLE TO MAINTAIN, THE CONTRACTOR SHALL PROVIDE SOUND DEADENING, FIRE RATED PADS AROUND THE BOXES, AND SEAL ALL GAPS WITH APPROPRIATE FIRE RATED SEALANT
- 34. 125 VOLT, 20 AMPERE RATED, SINGLE PHASE DUPLEX RECEPTACLES WITH GROUND FAULT CIRCUIT INTERRUPTER PROTECTION SHALL BE INSTALLED OUTDOORS, WITHIN 6 FEET OF A SINK OR WET EQUIPMENT OR OTHER SOURCE OF WATER, ELEVATOR MACHINE ROOMS AND PITS, KITCHENS, AND IN SURFACE METAL RACEWAYS OR ENCLOSURES. FEED THROUGH WIRING OF GROUND FAULT CIRCUIT INTERRUPTER TYPE RECEPTACLES SHALL NOT BE PERMITTED, UNLESS NOTED OTHERWISE.
- 35. ALL POWER RECEPTACLES AND DATA OUTLETS SHALL BE MOUNTED 18" A.F.F. TO THE CENTER OF THE OUTLET BOX, UNLESS OTHERWISE NOTED.
- 36. POWDER ACTUATED FASTENERS ARE NOT PERMITTED FOR USE ON THIS PROJECT.
- 37. FOR EQUIPMENT THAT DOES NOT HAVE SPECIFIC STRUCTURAL CONSTRUCTION DRAWINGS, DETAILS AND OR CALCULATIONS, THE CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR CALIFORNIA BASED PROJECTS AND PROVIDE THE REQUIRED HARDWARE NECESSARY FOR A COMPLETE INSTALLATION. SEE EQUIPMENT ANCHORAGE AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES.
- 38. MINIMUM CONDUIT SIZE SHALL BE 3/4" STEEL, UNLESS OTHERWISE NOTED.
- 39. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG, UNLESS OTHERWISE NOTED.
- 40. EXECUTION OF WORK SHALL BE COORDINATED WITH ALL TRADES TO AVOID CONFLICTS AND/OR DELAYS.
- 41. WHEN NECESSARY ADJUST FIXTURE PLACEMENT TO FIELD CONDITIONS, NOTIFY ARCHITECT OF PROPOSED CHANGES.
- 42. ALL WIRE SHALL BE STRANDED COPPER WITH 75 DEG. THHN/THWN INSULATION, UNLESS OTHERWISE NOTED, OR REQUIRED BY CODE FOR SPECIAL SYSTEMS AND APPLICATIONS, SUCH AS FIRE ALARM AND COMMUNICATION, ETC.
- 43. STRUCTURAL INFORMATION SHOWN IN DETAILS SHALL BE FOR REFERENCE ONLY. VERIFY STRUCTURAL DETAILS WITH STRUCTURAL CONSTRUCTION DRAWINGS, DETAILS AND CALCULATIONS, AND REQUEST CLARIFICATION FROM STRUCTURAL ENGINEER AS NEEDED.
- 44. THE CONTRACTOR SHALL NOTIFY THE PROJECT MANAGER 24 HOURS PRIOR TO PLANNED INSPECTIONS.
- 45. SEE SPECIFICATION SECTION 26 08 00 (IF PROVIDED, OTHERWISE SEE RESPECTIVE DRAWINGS) FOR "TITLE 24" TESTING AND SYSTEM COMMISSIONING REQUIREMENTS.
- 46. COMPLETE, POST, SUBMIT, OR MAKE AVAILABLE TO THE ENFORCEMENT AGENCY AND BUILDING OWNER FOR ALL APPLICABLE INSPECTIONS, DOCUMENTATION IN ACCORDANCE WITH TITLE 24 PART 6 SECTION 120 AND 130 TO INCLUDE, BUT NOT BE LIMITED TO:
 - A. INSTALLATION CERTIFICATE(S) IN COMPLIANCE WITH CEC SECTION 110.9, 130.0-130.5, 140.6-150.0, 150.2 AND APPENDIX NA7.
- B. CERTIFICATE(S) OF ACCEPTANCE FORMS. LIGHTING AND POWER SYSTEMS AND DEVICES SHALL BE TESTED AND FORMS MUST BE FILED BY A CERTIFIED ACCEPTANCE TEST TECHNICIAN TO MEET TITLE 24 PART 1 AND PART 6 REQUIREMENTS.
- C. APPROPRIATE CERTIFICATE(S) OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS, AND COMPONENTS INSTALLED IN THE BUILDING(S) SHALL BE DELIVERED TO THE OWNER WITH INSTRUCTIONS ON HOW TO OPERATE THEM EFFICIENTLY.
- D. MAINTENANCE INFORMATION FOR ALL FEATURES, MATERIALS, COMPONENTS, AND MANUFACTURED DEVICES THAT REQUIRE ROUTINE MAINTENANCE FOR EFFICIENT OPERATION.
- E. COMMISSION SUBMITTALS AND REPORT.
- 47. CONTRACTOR SHALL DELIVER A COMPLETE AND ACCURATE SET OF RECORD DRAWINGS DEPICTING THE COMPLETE, FULLY FUNCTIONING, AND FINAL STATE OF THE INSTALLATION, SOMETIMES REFERRED TO AS AS-BUILT DRAWINGS BY INDUSTRY TERMINOLOGY, TO BUILDING OWNER WITHIN 90 DAYS OF RECEIVING FINAL OCCUPANCY PERMIT OR FINAL INSPECTION SIGNOFF FROM THE ENFORCING AGENCY AND OR AUTHORITY HAVING JURISDICTION. IF ANY ENERGY COMPLIANCE OR EFFICIENCY CHARACTERISTICS CHANGE, THROUGH MATERIAL SUBSTITUTION OR OTHERWISE, BEFORE FINAL CONSTRUCTION AND INSTALLATION, SUCH THAT THE BUILDING NO LONGER COMPLIES WITH TITLE 24, PART 6; THE BUILDING AND OR INSTALLATION MUST BE BROUGHT BACK INTO COMPLIANCE, AND THE CHANGE SHALL BE INDICATED ON AMENDED PLANS, SPECIFICATIONS, AND CERTIFICATE(S) OF COMPLIANCE BY ENGINEER OF RECORD AND SHALL BE RE—SUBMITTED TO THE ENFORCEMENT AGENCY AND OR AUTHORITY HAVING JURISDICTION FOR VERIFICATION AND SIGNOFF, AND RE—ACCEPTED BY CONTRACTOR FOR INSTALLATION, AND RE—CERTIFIED BY THIRD PARTY FOR COMPLIANCE.
- 48. SEE ADDITIONAL SPECIFICATIONS AND REQUIREMENTS ON EO.2.

EQUIPMENT ANCHORAGE NOTES:

ALL ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER RESPECTIVE MOUNTING DETAILS. WHERE NO DETAIL IS INDICATED, THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE LATEST EDITION OF CBC, SECTIONS 1616A.1.18 THROUGH 1616A.1.26 AND ASCE 7-10 CHAPTERS 13, 26 AND 30.

- 1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
- 2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
- 3. MOVEABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 LBS. ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

THE ATTACHMENT OF THE FOLLOWING ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE, BUT NEED NOT BE DETAILED ON THE PLANS. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED CONDUIT OR RACEWAY.

- 1. COMPONENTS WEIGHING LESS THAN 400 LBS. AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.
- 2. COMPONENTS WEIGHING LESS THAN 20 LBS., OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES:

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-10 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.8, 13.6.7, 13.6.5.6 AND THE LATEST EDITION OF CBC, SECTIONS 1616A.1.23, 1616A.1.24, 1616A.1.25 AND 1616A.1.26

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318, APPENDIX D.

COPIES OF THE MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.

THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MP(S):

10 PERMIT SET

REV.

REVISION/ISSUE DESCRIPTION

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ST., OAKLAND, CA 946

LANEY C 900 FALLON ST PROJECT OWNER: PERALTA C 333 E. 8TH ST DRAWING TITLE:

ATE: 02/23/2023

CALE: AS NOTED

DRAWN BY: S. PAREDES

JOB NO. HLP2022-001

SHEET NO.

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			NEW ELECTR	ICAL EQ	UIPME	NT SCHE	DULE:				
TAG	(APPROXIMATE) QUANTITY	DESCRIPTION	MANUFACTURER CATALOG NUMBER	VOLTAGE (L-L/L-N)	PHASE	FRAME RATING (AMPS)	LUG CONDUCTOR RANGE, PER PHASE (AWG)	DIMENSIONS (EA. UNIT) H" x W" x D"	MOUNTING TYPE	APPROXIMATE WEIGHT (LBS.)	REMARKS & AREA OF USE
(IPC)	1	SQUARE D INTEGRATED POWER CENTER W IPC2, 400A RATED, 65KAIC, 480Y/277 VOLT AC PRIMARY, 208Y/120 VOLT AC SECONDARY, 75KVA XFMR., W/NF PRIMARY AND NQ SECONDARY PANELBOARDS W/CIRCUIT BREAKERS SPECIFIED IN E5.1, COMPLETE W/STRIP HEATER, HEATER THERMOSTAT, AND HUMIDISTAT, IN NEMA 3R ENCLOSURE.	SQUARE D: IPC754225MB2225MB	480/277VAC	3	400	#3/0-500KCMIL	91.50 X 42 X 47.5	SURFACE	1277	REPLACEMENT FOR (E) TESCO POWER CENTER AT EAGLE VILLAGE
EQP 001	4	CODE BLUE HELP POINT, W/HIGH INTENSITY LED BEACON/STROBE LIGHT, DURABLE 1/4" CONSTRUCTION, SOLAR PHOTOVOLTAIC (PV) PANEL, 2,000 WH GEL BATTERIES, LS1000 PHONE FACEPLATE W/CAMERA, 4G LTE ANTENNA, LED FACEPLATE LIGHT, COMPLETE W/ALL REQUIRED HARDWARE. REFERENCE & BOM TMG/CODE BLUE QUOTE # SLQT231031, CONTACT TMG FOR MORE INFO, SEE SHEET E0.1. ORDER COMPLETE W/COMMISSIONING AND START-UP SERVICES.	CODE BLUE: CB1-W2	12/24VDC	_	_	_	119.76" X 12.75" DIA.	SURFACE	300	REPLACEMENT FOR (E) HELP POINTS AT PARKING LOT A
EQP 002	2	GRANDSTREAM ENTERPRISE IP PHONE W/4.3" LCD DISPLAY SCREEN, 12 LINE KEYS/LINE APPEARANCES, 6 SIP ACCOUNTS, 48 DIGITAL ON SCREEN SPEED DIAL/BLF KEYS, 160 SPEED DIAL/BLF CONTACTS.	GRANDSTREAM: GXP2170	-	-	-	-	-	-	1.5	(N) IP PHONES AT CAMPUS SECURITY DISPATCH CENTER
EQP 003	1	30'-0" ROUND TAPERED ALUMINUM (RTA) POLE, ONE-PIECE EXTRUDED 6063 AL ALLOY TUBE HEAT TREATED TO A T6 TEMPER, UNIFORM TAPER 8"-4.5" DIA., 3/8-16 THREADED STUD FOR GROUNDING WELDED TO INNER SHAFT WALL, TGIC THERMOSET PLYESTER POWDER COAT FINISH IN GREEN 3.0 MIL THICKNESS, 0.188" WALL THICKNESS, 1" X 36" X 4" ANCHOR BOLTS, COMPLETE W/ALL REQUIRED HARDWARE.	AV POLES & LIGHTING: RTA-3084-188	-	-	-	-	360" X 8" DIA., TAPERS TO 4.5" DIA. AT TOP	SURFACE	220	REPLACEMENT FOR (E) POLE AT EAGLE VILLAGE
TES:		1				1			ı	-1	
1.	NONE.										

		NI	EW "ELE	CTRICAL" IN	N-GRADE EN	IC. SCHEDU	JLE:	
TAG	(APPROXIMATE) QTY.	MANUFACTURER	MANUFACTURER CATALOG NUMBER	MIN. EXTERIOR DIMENSIONS (EA. UNIT) W" x L" x D"	MIN. INTERIOR DIMENSIONS (EA. UNIT) W" x L" x D"	LID TYPE	ETCHED MARKING	REMARKS & AREA OF USE
PB001	4	OLDCASTLE INFRASTRUCTURE	N030	18" X 27-1/2" X 12"	12-1/2" X 22" X 12"	FL30T	"ELECTRICAL"	REPLACEMENT INFRASTRUCTURE FOR EAGLE VILLAGE AND B.E.S.T. CENTER
PB002	1	OLDCASTLE INFRASTRUCTURE	B1324	18-7/8" X 29-5/8" X 12"	14" X 24-5/8" X 12"	BOLT DOWN LOCKING	"ELECTRICAL"	TRAFFIC RATED, REPLACEMENT INFRASTRUCTURE FOR FIELD HOUSE
NOTES:								
1.	PROVIDE ALL REG	QUIRED HARDWARE, VANDA	AL RESISTANT BOL	TS, AND EXPANSIONS RIN	NGS, COVER SHALL BE E	TCHED "ELECTRICAL".		

e engineering and technology drive inno 2603 Camino Ramon, Suite 417 San Ramon, CA 94583 +1 (866) VEKTOR1 (835-8671) Where envir

PECSECT OWNER:
PERALTA COMMUNITY COLLEGE DISTRICT ELECTRICAL EQUIPMENT AND FEEDER SCHEDULES

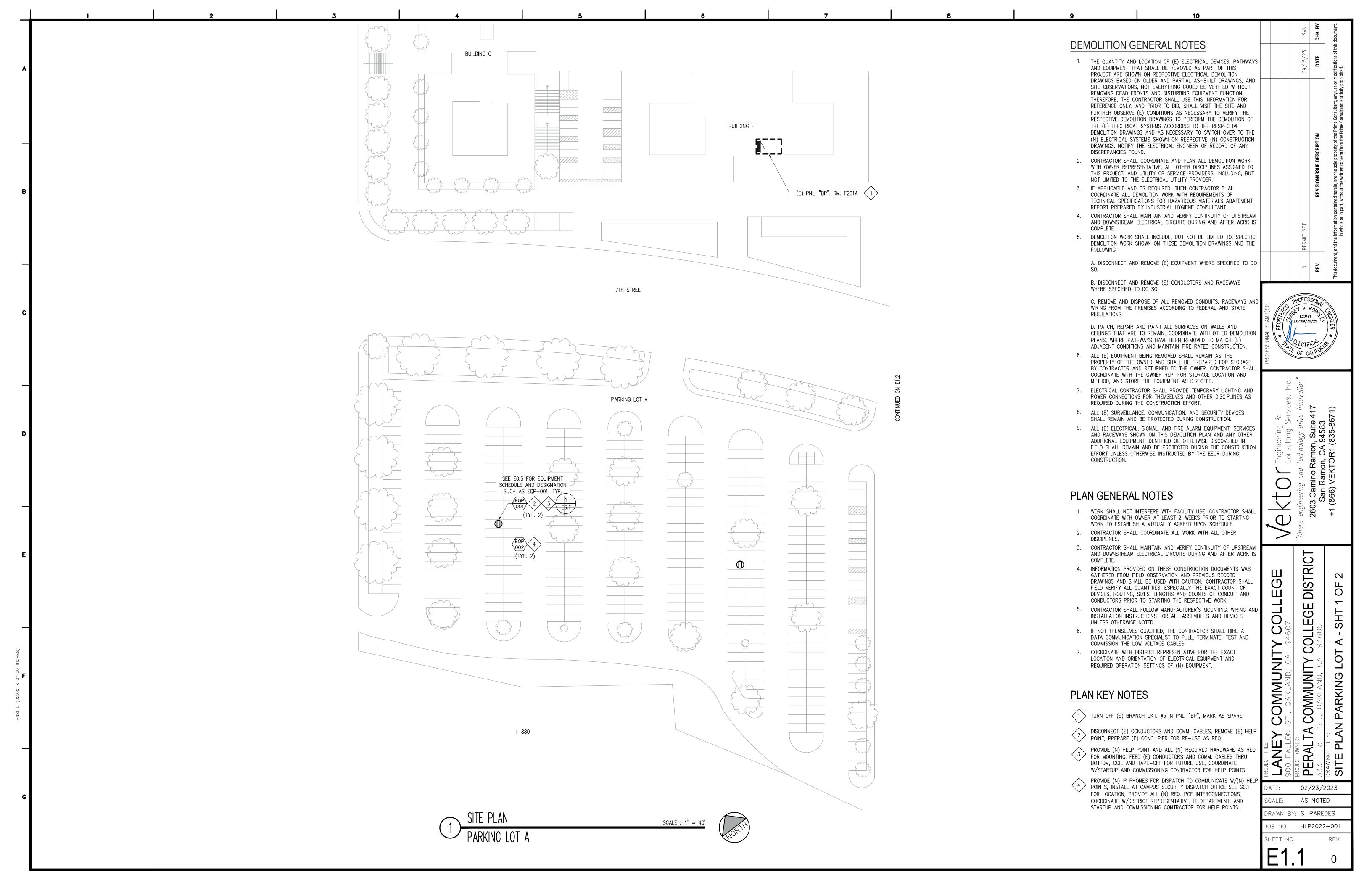
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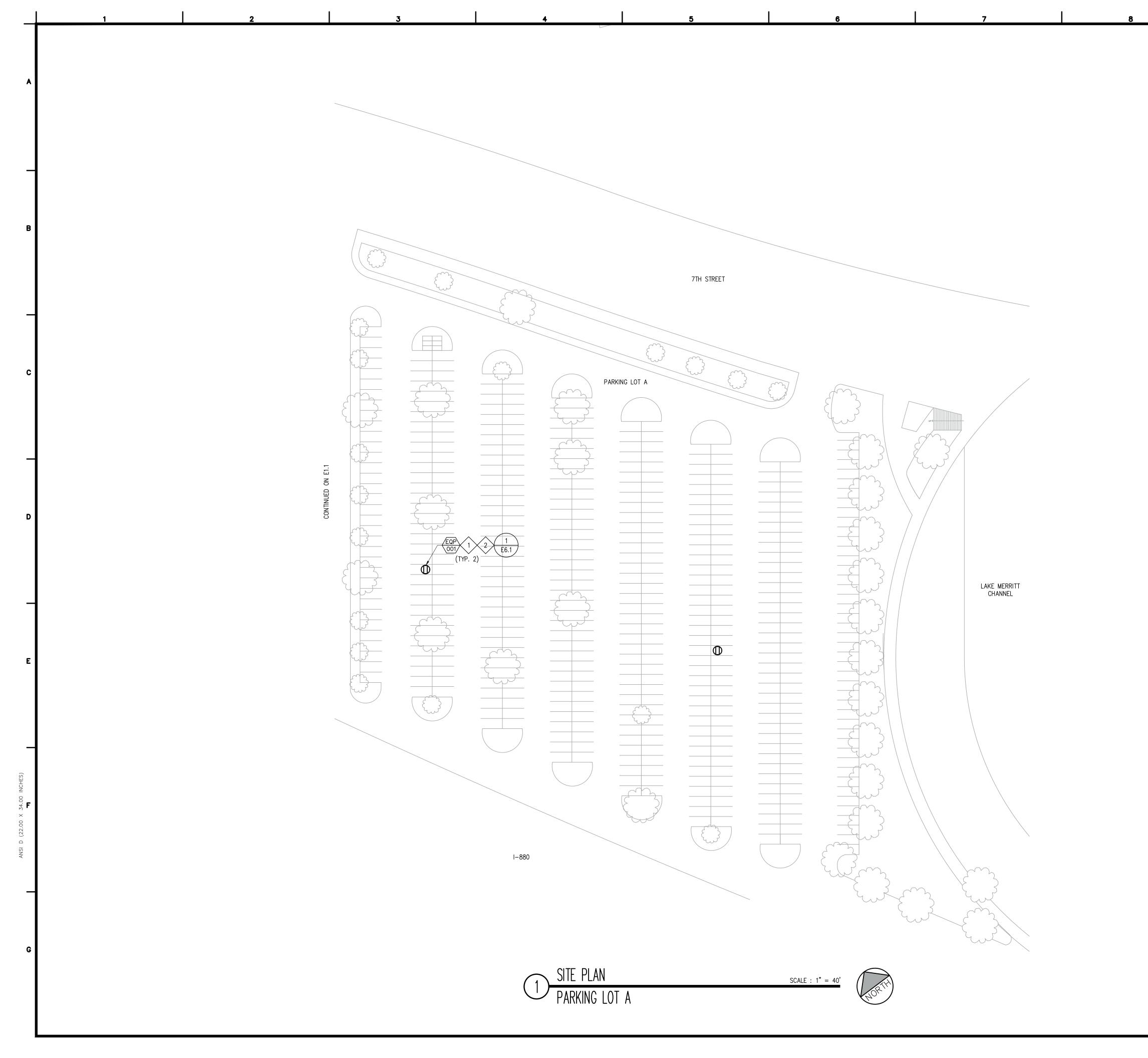
02/23/2023

AS NOTED DRAWN BY: S. PAREDES

JOB NO. HLP2022-001
SHEET NO. REV.

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DEMOLITION GENERAL NOTES

- 1. THE QUANTITY AND LOCATION OF (E) ELECTRICAL DEVICES, PATHWAYS AND EQUIPMENT THAT SHALL BE REMOVED AS PART OF THIS PROJECT ARE SHOWN ON RESPECTIVE ELECTRICAL DEMOLITION DRAWINGS BASED ON OLDER AND PARTIAL AS-BUILT DRAWINGS, AND SITE OBSERVATIONS, NOT EVERYTHING COULD BE VERIFIED WITHOUT REMOVING DEAD FRONTS AND DISTURBING EQUIPMENT FUNCTION. THEREFORE, THE CONTRACTOR SHALL USE THIS INFORMATION FOR REFERENCE ONLY, AND PRIOR TO BID, SHALL VISIT THE SITE AND FURTHER OBSERVE (E) CONDITIONS AS NECESSARY TO VERIFY THE RESPECTIVE DEMOLITION DRAWINGS TO PERFORM THE DEMOLITION OF THE (E) ELECTRICAL SYSTEMS ACCORDING TO THE RESPECTIVE DEMOLITION DRAWINGS AND AS NECESSARY TO SWITCH OVER TO THE (N) ELECTRICAL SYSTEMS SHOWN ON RESPECTIVE (N) CONSTRUCTION DRAWINGS, NOTIFY THE ELECTRICAL ENGINEER OF RECORD OF ANY DISCREPANCIES FOUND.
- CONTRACTOR SHALL COORDINATE AND PLAN ALL DEMOLITION WORK WITH OWNER REPRESENTATIVE, ALL OTHER DISCIPLINES ASSIGNED TO THIS PROJECT, AND UTILITY OR SERVICE PROVIDERS, INCLUDING, BUT NOT LIMITED TO THE ELECTRICAL UTILITY PROVIDER.
- 3. IF APPLICABLE AND OR REQUIRED, THEN CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH REQUIREMENTS OF TECHNICAL SPECIFICATIONS FOR HAZARDOUS MATERIALS ABATEMENT REPORT PREPARED BY INDUSTRIAL HYGIENE CONSULTANT.
- CONTRACTOR SHALL MAINTAIN AND VERIFY CONTINUITY OF UPSTREAM AND DOWNSTREAM ELECTRICAL CIRCUITS DURING AND AFTER WORK IS
- DEMOLITION WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, SPECIFIC DEMOLITION WORK SHOWN ON THESE DEMOLITION DRAWINGS AND THE

A. DISCONNECT AND REMOVE (E) EQUIPMENT WHERE SPECIFIED TO DO

B. DISCONNECT AND REMOVE (E) CONDUCTORS AND RACEWAYS WHERE SPECIFIED TO DO SO.

C. REMOVE AND DISPOSE OF ALL REMOVED CONDUITS, RACEWAYS AND WIRING FROM THE PREMISES ACCORDING TO FEDERAL AND STATE REGULATIONS.

D. PATCH, REPAIR AND PAINT ALL SURFACES ON WALLS AND CEILINGS THAT ARE TO REMAIN, COORDINATE WITH OTHER DEMOLITION PLANS, WHERE PATHWAYS HAVE BEEN REMOVED TO MATCH (E) ADJACENT CONDITIONS AND MAINTAIN FIRE RATED CONSTRUCTION.

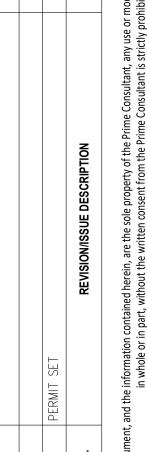
- ALL (E) EQUIPMENT BEING REMOVED SHALL REMAIN AS THE PROPERTY OF THE OWNER AND SHALL BE PREPARED FOR STORAGE BY CONTRACTOR AND RETURNED TO THE OWNER. CONTRACTOR SHALI COORDINATE WITH THE OWNER REP. FOR STORAGE LOCATION AND METHOD, AND STORE THE EQUIPMENT AS DIRECTED.
- ELECTRICAL CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING AND POWER CONNECTIONS FOR THEMSELVES AND OTHER DISCIPLINES AS REQUIRED DURING THE CONSTRUCTION EFFORT.
- 8. ALL (E) SURVEILLANCE, COMMUNICATION, AND SECURITY DEVICES SHALL REMAIN AND BE PROTECTED DURING CONSTRUCTION.
- 9. ALL (E) ELECTRICAL, SIGNAL, AND FIRE ALARM EQUIPMENT, SERVICES AND RACEWAYS SHOWN ON THIS DEMOLITION PLAN AND ANY OTHER ADDITIONAL EQUIPMENT IDENTIFIED OR OTHERWISE DISCOVERED IN FIELD SHALL REMAIN AND BE PROTECTED DURING THE CONSTRUCTION EFFORT UNLESS OTHERWISE INSTRUCTED BY THE EEOR DURING CONSTRUCTION.

PLAN GENERAL NOTES

- WORK SHALL NOT INTERFERE WITH FACILITY USE. CONTRACTOR SHALL COORDINATE WITH OWNER AT LEAST 2-WEEKS PRIOR TO STARTING WORK TO ESTABLISH A MUTUALLY AGREED UPON SCHEDULE.
- 2. CONTRACTOR SHALL COORDINATE ALL WORK WITH ALL OTHER DISCIPLINES.
- 3. CONTRACTOR SHALL MAINTAIN AND VERIFY CONTINUITY OF UPSTREAM AND DOWNSTREAM ELECTRICAL CIRCUITS DURING AND AFTER WORK IS
- 4. INFORMATION PROVIDED ON THESE CONSTRUCTION DOCUMENTS WAS GATHERED FROM FIELD OBSERVATION AND PREVIOUS RECORD DRAWINGS AND SHALL BE USED WITH CAUTION; CONTRACTOR SHALL FIELD VERIFY ALL QUANTITIES, ESPECIALLY THE EXACT COUNT OF DEVICES, ROUTING, SIZES, LENGTHS AND COUNTS OF CONDUIT AND CONDUCTORS PRIOR TO STARTING THE RESPECTIVE WORK.
- 5. CONTRACTOR SHALL FOLLOW MANUFACTURER'S MOUNTING, WIRING AND INSTALLATION INSTRUCTIONS FOR ALL ASSEMBLIES AND DEVICES UNLESS OTHERWISE NOTED.
- 6. IF NOT THEMSELVES QUALIFIED, THE CONTRACTOR SHALL HIRE A DATA COMMUNICATION SPECIALIST TO PULL, TERMINATE, TEST AND COMMISSION THE LOW VOLTAGE CABLES.
- 7. COORDINATE WITH DISTRICT REPRESENTATIVE FOR THE EXACT LOCATION AND ORIENTATION OF ELECTRICAL EQUIPMENT AND REQUIRED OPERATION SETTINGS OF (N) EQUIPMENT.

PLAN KEY NOTES

- DISCONNECT (E) CONDUCTORS AND COMM. CABLES, REMOVE (E) HELP POINT, PREPARE (E) CONC. PIER FOR RE-USE AS REQ.
- PROVIDE (N) HELP POINT AND ALL (N) REQUIRED HARDWARE AS REQ FOR MOUNTING, FEED (E) CONDUCTORS AND COMM. CABLES THRU BOTTOM, COIL AND TAPE-OFF FOR FUTURE USE.





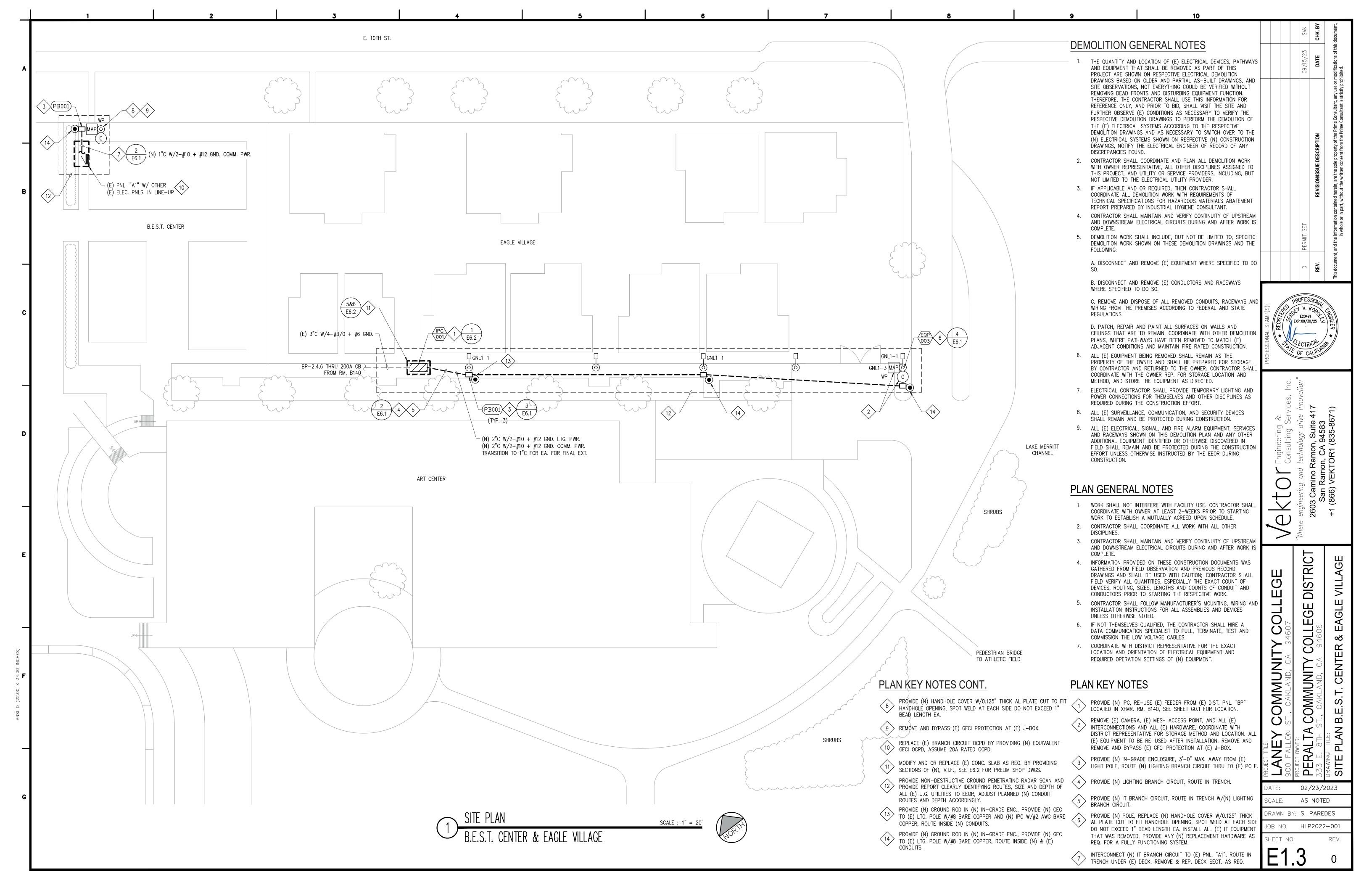
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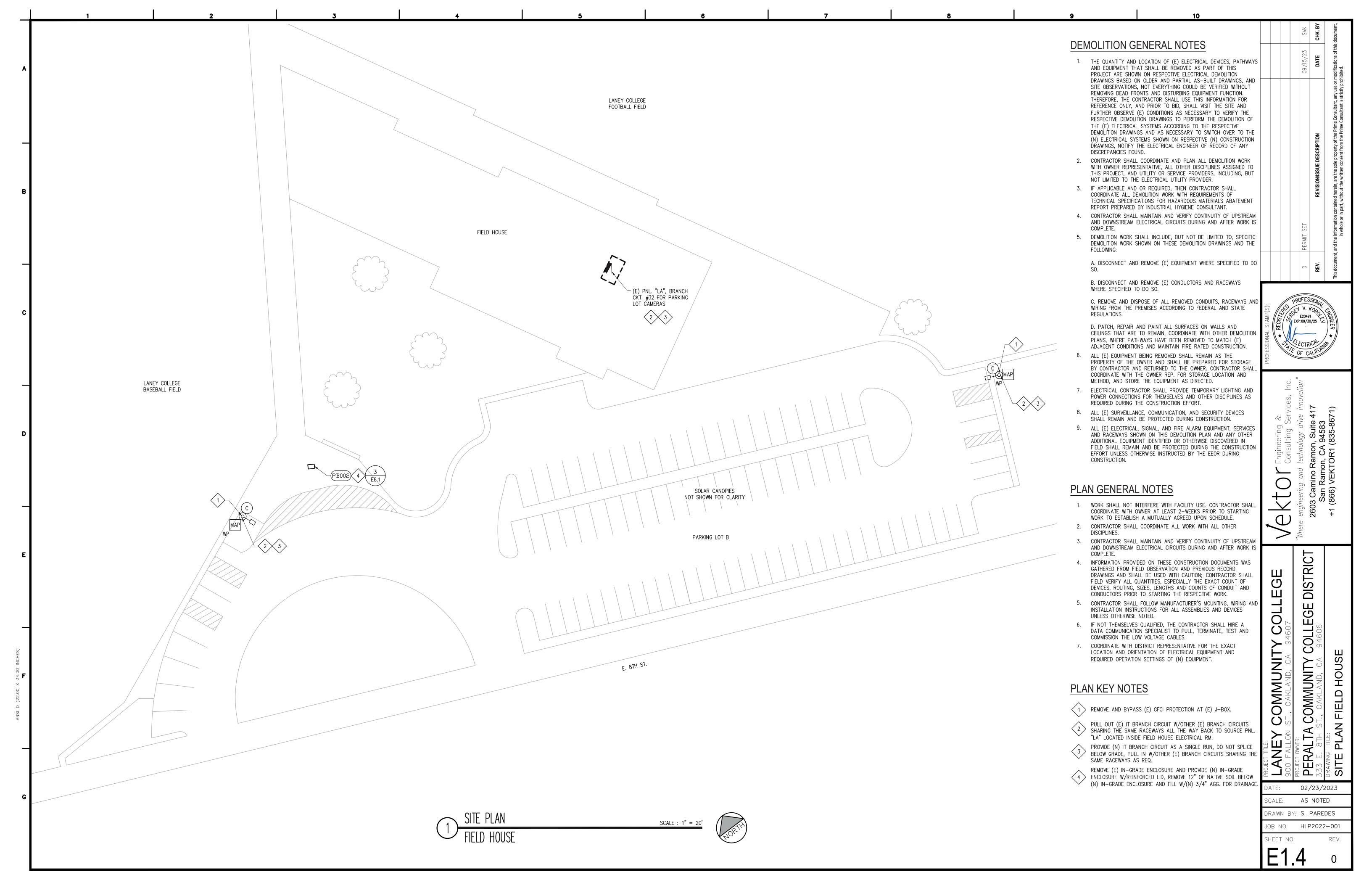
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02/23/2023 AS NOTED SCALE:

DRAWN BY: S. PAREDES JOB NO. **HLP2022-001**

SHEET NO.





CKT # (1 1 3 5 7 7	GNH1 09/18/23 CODE 2 2	3 CB		PANEL VOLTAGE (LI BUS CURF MAIN CIRCUIT B	PHASES:	3 Pt			,	LINE-TO-NE NUMBER C					·	PANEL LOCATION:				
CKT # (1 3 5 7	09/18/23 CODE 2	СВ			RENT RATING:					TACINIDE (C	\mathcal{I}	: 4	WIRES			PANEL MOUNTING:		へって		
CKT # (1 3 5 7	CODE 2	СВ				225 AI	ИР. BU	JS SHOR	T CIRCUI	T CURRENT	T RATING	: 10	KAIC M	1IN.		PANEL ENCLOSURE (NEMA TYPE):	1	-		***************************************
# (1 3 5 7	2							\ \	MA IN CIRC	CUIT BREAT	KER (AF)		AMP.			BRANCH CIRCUIT BREAKER TYPE:		<u> </u>		
# (1 3 5 7	2			MAIN CIRCUIT BREAKER SHORT CIRCUIT CURF						UIT BREAK			TYPE			PANEL COLOR:	GREY	<u> </u>		
# (1 3 5 7	2			LOA D DESIGNATION		ADTYPE		LOAD		PHASES (A	orac -	1	LOAD	1 10	OAD TYPE	LOAD DESIGNATION	СВ		CK	
1 3 5 7	2		POLE	DESCRIPTION			GHT kVA			В	Т с	AMP			REC. MISC.	DESCRIPTION	POLE	TRIP C		#
5 7		20		SPARE	WIIOC.	TALO. LI	0.00					0.00	0.00	12.0111	TALO: IVIICO:	SPARE	1		2	
5 7		20		SPARE			0.00			0.00		0.00	0.00			SPARE	1	<u> </u>	2	4
	2	20		SPARE			0.00				0.00	0.00	0.00			SPARE	1		2	6
	2	20		SPA RE			0.00					0.00	0.00			SPARE	1		2	8
9	2	20		SPARE			0.00			0.00		0.00	0.00			SPARE	1		2	10
11	2	20	1	SPA RE			0.00	0.00			0.00	0.00	0.00			SPARE	1		2	12
13	2	20	1	SPA RE			0.00	0.00	0.00			0.00	0.00			SPARE	1	20	2	14
15	2	20	1	SPA RE			0.00	0.00		0.00		0.00	0.00			SPARE	1	20	2	16
17	2	20	1	SPARE			0.00	0.00			0.00	0.00	0.00			SPARE	1	20	2	18
19	2	20	1	SPARE			0.00	0.00	0.00			0.00	0.00			SPARE	1	20	2	20
21	2	20		SPARE			0.00	0.00		0.00		0.00	0.00			SPARE	1	20	2	22
23	2	20		SPARE			0.00	0.00			0.00	0.00	0.00			SPARE	1	20	2	24
25	2	20		SPA RE			0.00					0.00	0.00			SPARE	1	ļ	2	26
27	2	20		SPA RE			0.00			0.00		0.00	0.00			SPARE	1	 	2	28
29	2	20		SPA RE			0.00				0.00	0.00	0.00			SPARE	1		2	30
31	2	20		SPA RE			0.00	_			1	0.00	0.00			SPARE	1		2	32
33	2	20		SPA RE			0.00			0.00		0.00	0.00			SPARE	1		2	34
35	2	20	1	SPA RE			0.00				0.00	0.00	0.00			SPARE	1	<u> </u>	2	36
37	2	-	-		3.74		1.04					0.00	0.00			SPARE	1		2	38
39	2	125	3P	XFMR. & PNL. GNL1	6.55		1.82		_	6.55		0.00	0.00			SPARE	1		2	40
41	2	-	-		0.00		0.00				0.00	0.00	0.00		ammana	SPARE	1	20	2	42
RCUIT COD								TOTAL	_	6.55	0.00	AMP	С	CALCUL	LATIONS:					
				R MORE THAN OR EQUAL TO 3 HOURS, @125%)				TOTAL		1.82		kVA	****			(CODE 1) CONNECTED A VERAGE PER PH.:	0.00	AMP 0		
				T FOR LESS THAN 3 HOURS, @100%)					DNNECTE		.43	AMP				(CODE 2) CONNECTED A VERAGE PER PH.:	3.43	AMP 0		
				RTICLE 220.44)				/	AVERAG	E 2.	.85	kVA				(CODE 3) CONNECTED A VERA GE PER PH.:	0.00	AMP C		
LARGEST	MOTOR	R, @125% A	DDED TO	O FINAL AMP/KVA)												(CODE 1 W/O DEMAND FACTORS APPLIED) TOTAL:	0.00	AMP 0		
																(CODE 2 W/O DEMAND FACTORS APPLIED) TOTAL:	10.29	AMP 2		
TES:																(CODE 3 W/O DEMAND FACTORS APPLIED) TOTAL:	0.00	AMP 0		
•	1. COLC	OR CODING	SEETYP	P. USA WIRE COLOR CODE ON SHEET E0.1												(CODE 1 W/ DEMAND FACTORS APPLIED) TOTAL:	0.00	AMP 0	.00 KV	Α
2	2. CONT	TRACTOR S	HALL VE	ERIFY THAT PANEL SCHEDULE MATCHES AS-BUILT CO	ONDITIONS PRI	IOR TO ST	ART OF W	/ORK				100				(CODE 2 W/ DEMAND FACTORS APPLIED) TOTAL:	10.29	AMP 2		
Į	UPDATE	E PANEL SC	HEDULE	AS NEEDED TO MATCH AS-BUILT CONDITIONS.												(CODE 3 W/ DEMAND FACTORS APPLIED) TOTAL:	0.00	AMP C	.00 KV	Α
3	3. HVA (C EQUIPMEN	T SHALL	_ HAVE HACR RATED CIRCUIT BREAKERS.												PHASE A W/ DEMAND FACTORS APPLIED:		AMP 1		
	4. ALL E	EXTERIOR B	RA NCH (CIRCUITS SHALL HAVE GFCI CIRCUIT BREAKERS.												PHASE B W/ DEMAND FACTORS A PPLIED:	6.55	AMP 1	.82 KV	Ā
	5. NEUT	RAL AND G	ND. BUS	S SHALL NOT BE BONDED TOGETHER (THIS IS DONE A	T SERVICE PN	JL.)										PHASE C W/ DEMAND FACTORS A PPLIED:	0.00	AMP 0	.00 KV	Ā
																PHASE A DEMAND FACTOR:	100.00%			
																PHA SE B DEMAND FACTOR:	100.00%			
																PHA SE C DEMAND FACTOR:				-
												-				A V ERA GE DEMAND FACTOR:				
								-				-				A VERA GE CONNECTED AMP/PH. @ 208V, 3PH.:		AMP 2	.85 KV	Ā
																LARGEST CONNECTED MOTOR @ 125%:		AMP 0		
																AM PS W/ DEM AND FACTORS APPLIED @ 208V, 3P:	3.43	AMP 2.	852 KV	Α
ISSUF I	DATF:	9/18/2023		BY: VEKTOR ENGINEERING AND CONSULTING SERVI	CES. INC															

	HPL202	22-001		PANEL VOLTAGE (LINE-TO			VAC PHASE		L VOLT		INE-TO-NE NUMBER C			VAC WIRES		PANEL LOCATION: EAGLE \ PANEL MOUNTING: IPC-2 NE			
	GNL 1 09/18/2:			BUS CURRENT R					SHUDT.		CURRENT			KAIC MI	INI	PANEL ENCLOSURE (NEMA TYPE): 1	IVIA SK		
1 I E.	09/10/2			MAIN CIRCUIT BREAKE				503			CURRENT UIT BREAT		225		IIN.	BRANCH CIRCUIT BREAKER TYPE: NQ		-	
				MAIN CIRCUIT BREAKER SHORT CIRCUIT CURRENT R		·.j	ļ	IIN I			JIT BREAK			TYPE		PANEL COLOR: GREY			
CKT		CB		LOAD DESIGNATION		DAD TYI		1	LOAD		HASES (AI		LOAD		LOAD TYPE	LOAD DESIGNATION C	<u> </u>		CKT
	CODE	TRIP	POLE		MISC.				AMP		В		AMP		LIGHT REC. MISC.	DESCRIPTION POLE		COD	
1		20	POLE	EAGLE VILLAGE EXT. LTG.	IVIISC.	REC.		0.84		7.00	В	С	0.00	0.00	LIGHT REC. IVIISC.	DESCRIPTION POLE	_	_	2
3	1	20	1	MESH ACESS POINT	12.00		7.00		12.00	7.00	12.00		0.00	0.00		1	20		4
5	2	20	1	SPARE	12.00			0.00	0.00		12.00	0.00	0.00	0.00		1	20	2	6
7	2	30	1 1	SPARE				0.00		0.00	4 + + +	0.00	0.00	0.00		1	20	2	8
9	2	20	1	SPARE		-		0.00	0.00	0.00	0.00	4	0.00	0.00		1	20	2	10
11	2	20	1	SPARE				0.00	0.00		0.00	0.00	0.00	0.00		1	20	2	12
13	2	20	1	SPARE				0.00		0.00	4	0.00	0.00	0.00		1	20	2	14
15	2	20	1 1	SPARE				0.00	0.00	0.00	0.00	-	0.00	0.00		1	20	2	16
17	2	20	1	SPARE				0.00	0.00		0.00	0.00	0.00	0.00		1	20	2	18
19	2	20	1	SPARE				0.00		0.00		0.00	0.00	0.00		1	20	2	20
21	2	20	1	SPARE				0.00	0.00	5.00	0.00	-	0.00	0.00			20	2	22
23	2	20	1	SPARE				0.00	0.00		5.00	0.00	0.00	0.00			20	2	24
25	2	20	1	SPARE				0.00		0.00			0.00	0.00			20	2	26
27	2	20	1 1	SPARE				0.00	0.00		0.00		0.00	0.00			20	2	28
29	2	20	1	SPARE				0.00	0.00			0.00	0.00	0.00		1	20	2	30
31	2	20	1	SPARE				0.00		0.00			0.00	0.00		1	20	2	32
33	2	20	1	SPARE				0.00	0.00		0.00		0.00	0.00		1	20	2	34
35	2	20	1	SPARE				0.00	0.00			0.00	0.00	0.00		1	20	2	36
37	2	20	1	SPARE				0.00		0.00	1		0.00	0.00		1	20	2	38
39	2	20	1	SPARE				0.00	0.00		0.00		0.00	0.00		1	20	2	40
41	2	20	1	SPARE				0.00	0.00			0.00	0.00	0.00		1	20	2	42
UIT COL	DE:								TOTAL	7.00	12.00	0.00	AMP	C/	ALCULATIONS:				
	E	MAX. CURF	ENT FO	R MORE THAN OR EQUAL TO 3 HOURS, @125%)					TOTAL		1.44		kVA			(CODE 1) CONNECTED A VERAGE PER PH.: 6.33	AMI	0.76	KVA
				IT FOR LESS THAN 3 HOURS, @100%)					CON	NNECTE	6.:		AMP			(CODE 2) CONNECTED A VERAGE PER PH.: 0.00		0.00	
				RTICLE 220.44)					A'	VERAGI			kVA			(CODE 3) CONNECTED A VERAGE PER PH.: 0.00		0.00	
				O FINAL AMP/KVA)								***				(CODE 1 W/O DEWAND FACTORS APPLIED) TOTAL: 19.00		2.28	
	1	, 6														(CODE 2 W/O DEMAND FACTORS APPLIED) TOTAL: 0.00		0.00	
ES:																(CODE 3 W/O DEWAND FACTORS APPLIED) TOTAL: 0.00			KVA
	1 COLO	JB CODING	SEE TVI	P. USA WIRE COLOR CODE ON SHEET E0.1												(CODE 1 W/ DEWAND FACTORS APPLIED) TOTAL: 23.75		2.85	
				ERIFY THAT PANEL SCHEDULE MATCHES AS-BUILT CONDITION		NOR TO	STA PT		nRK							(CODE 2 W/ DEWAND FACTORS APPLIED) TOTAL: 0.00			KVA
				EAS NEEDED TO MATCH AS-BUILT CONDITIONS.	ONO PP	NOIN IO	SIAIN	JI VVO	11/11							(CODE 3 W/ DEWAND FACTORS APPLIED) TOTAL: 0.00		0.00	
				LL HAVE HACR RATED CIRCUIT BREAKERS.												PHASE A W/ DBMAND FACTORS APPLIED: 8.75	_		
				CIRCUITS SHALL HAVE GFCI CIRCUIT BREAKERS.														1.05	
				S BONDING PER NEC, COORDINATE WITH XFMR, BONDING RE								-				PHASE C W/ DEMAND FACTORS APPLIED: 0.00		2 1.80 2 0.00	
	J. INEUT	IIVALAND	JIND. DU	S DOINDING FER INEC, COORDINATE WITH AFIVIR. BUINDING RE	.													- 0.00	IVVA
																PHASE A DEWAND FACTOR: 125.00		1	
																PHASE B DEWAND FACTOR: 125.00		1	<u> </u>
			-									-				PHASE C DEWAND FACTOR: #DIV		1	
																A V ERA GE DEMAND FA CTOR: #DIV/		1 5 5 5	10.4
																		2.28	
	Anna da															LA RGEST CONNECTED MOTOR @ 125%: 0.00	AMI	0.00	KVA
																AMPS W/ DEMAND FACTORS APPLIED @ 208V, 3P: 7.92	AMI	2.852	KVA
10011=				DV VECTOR FLOWERDING AND CONSULTING OFFI															
ISSUE	DATE	9/18/2023		BY: VEKTOR ENGINEERING AND CONSULTING SERVICES, IN	1 U.	100													

PANELS GENERAL NOTES

- CONTRACTOR SHALL COMPLY WILL ALL NOTES AS LISTED FOR EACH RESPECTIVE ELECTRICAL PANEL.
- 2. CONTRACTOR SHALL PROVIDE (N) TYPED PANEL SCHEDULE FOR EACH (N) OR (E) ELECTRICAL PANEL, PLACE IN CLEAR PLASTIC SLEEVE AND
- 3. CONTRACTOR SHALL PROVIDE (N) SURFACE MOUNTED LABELS FOR EACH (N) OR (E) ELECTRICAL EQUIPMENT AND PANEL, SEE PANEL NUMBERING LOGIC ON EO.1.

ÀTTACH TÓ INNER SURFACE OF PANEL DOOR.

4. (N) ARC FLASH LABELS FOR (E) AND (N) ELECTRICAL PANELS SHALL BE FURNISHED BY EEOR TO BE INSTALLED ONTO THE EQUIPMENT BY CONTRACTOR AT SUBSTANTIAL COMPLETION.

TOP 3 ROWS: 3/8" LETTERS BOTTOM ROW: 1/4" LETTERS

OSHA-NEC REGULATIONS

---- AS REQ. ----WHITE LETTERING ON RED BACKGROUND

> TOP 3 ROWS: 3/8" LETTERS BOTTOM ROW: 1/4" LETTERS

OSHA-NEC REGULATIONS

— AS REQ. — WHITE LETTERING ON RED BACKGROUND

E20491 EXP: 09/30/25

LANEY COMMUNITY COLLEGE

PERALTA COMMUNITY COLLEGE

02/23/2023 AS NOTED

JOB NO. HLP2022-001

