

3/29/2025 2:13 PM GRANTW
E:\SOLANO CC\24035 BUILDING 1800B LIGHTING UPGRADES\SCC_A0.0 COVER SHEET.DWG

ABBREVIATIONS

& ∠ @ A.B. A.C. ADD'L A.F.F. ALUM. APPROX.	AND ANGLE AT ANCHOR BOLT ASPHALTIC CONCRETE ADDITIONAL ABOVE FINISH FLOOR ALUMINUM APPROXIMATE	LAV. LBS. LVT MAX. MECH. MFR. MIN. MISC. MTL.	LAVATORY POUND LUXURY VINYL TILE MAXIMUM MECHANICAL MANUFACTURER MINIMUM MISCELLANEOUS METAL
BLDG. BLK'G. BTM.	BUILDING BLOCKING BOTTOM	(N) N.I.C. NO., # N.T.S.	NEW NOT IN CONTRACT NUMBER NOT TO SCALE
C.L. CLG. CLR. C.J. CMU COL. CONC. CONT. C.W.	CENTER LINE CEILING CLEAR CONTROL JOINT CONCRETE MASONRY UNIT COLUMN CONCRETE CONTIGUOUS COLD WATER	O.C. O.D. O/ ± P.LAM. PLYWD. PSI P.M. P.T.R. P.T.	ON CENTER OUTSIDE DIAMETER OVER PLUS OR MINUS PLASTIC LAMINATE PLYWOOD POUNDS PER SQUARE INCH PRESS METAL PENETRATION THRU ROOF PRESSURE TREATED
DBL. DEMO. DEPT. D.F. DIA., Ø DIM. DIST. DTL. DWG. DS.	DOUBLE DEMOLITION DEPARTMENT DRINKING FOUNTAIN DIAMETER DIMENSION DISTRICT DETAIL DRAWING DOWNSPOUT	R.D. REINF. REQ'D. REV. R.O. RWD.	ROOF DRAIN REINFORCED REQUIRED REVISIONS ROUGH OPENING REDWOOD
(E) EA. ELECT. ELEV. EQ. EQUIP. E.W. ETC. EXP. E.J. EXT.	EXISTING EACH ELECTRICAL ELEVATION EQUAL EQUIPMENT EACH WAY ET CETERA EXPANSION EXPANSION JOINT EXTERIOR	SCHED. SIM. S.M. SPEC'S. SQ. FT. S.STL. STD. STL STRUCT. S.T.S.M.S.	SCHEDULE SIMILAR SHEET METAL SPECIFICATIONS SQUARE FEET STAINLESS STEEL STANDARD STEEL STRUCTURAL SELF TAPPING SHEET METAL SCREW SANITARY SEWER
F.D. F.E. FDTN. F.A. FLR. F.O.S. FT.	FLOOR DRAIN FIRE EXTINGUISHER FOUNDATION FINISHED FLOOR FLOOR FACE OF STUD FOOT OR FEET	T & G T.O.C. T.O.F. T.O.M. T.O.P. T.O.W. TYP.	TONGUE & GROOVE TOP OF CONCRETE/CURB TOP OF FRAMING TOP OF MASONRY TOP OF PLATE/PARAPET TOP OF WALL TYPICAL
GA. GALV. G.C. G.J. GLB GYP. BD.	GAUGE GALVANIZED GENERAL CONTRACTOR GALVANIZED IRON GLUE LAMINATED BEAM GYPSUM BOARD	U.O.N.	UNLESS OTHERWISE NOTED
H.B. H.M. HORIZ. HR. HSS HT. HVAC	HOSE BIB HOLLOW METAL HORIZONTAL HOUR HOLLOW STRUCTURAL SECTION HEIGHT HEATING VENTILATION AIR CONDITIONING	V.I.F. VCT VTR. W/ WD. W.H. WT. W.W.F.	VERIFY IN FIELD VINYL COMPOSITE TILE VENT THRU ROOF WITH WOOD WATER HEATER WEIGHT WELDED WIRE FABRIC
I.D. INFO.	INSIDE DIAMETER INFORMATION		
J-BOX JT.	JUNCTION BOX JOINT		

SYMBOLS LEGEND

	SECTION NUMBER		ROOM NUMBER
	SHEET WHERE SECTION IS DRAWN		WINDOW TYPE
	DETAIL NUMBER		DOOR NUMBER
	SHEET WHERE DETAIL IS DRAWN		HARDWARE GROUP
	ELEVATION NUMBER		KEYNOTE
	SHEET WHERE ELEVATION IS DRAWN		EQUIPMENT NUMBER
	LOCATION NUMBER		REVISION NUMBER
	SHEET WHERE ENLARGED PLAN IS DRAWN		
	DATUM, WORK OR CONTROL NUMBER		
	GRID LINE NUMBER		

SOLANO COMMUNITY COLLEGE
BUILDING 1800B LIGHTING UPGRADES - BID ALT #2
4000 SUISUN VALLEY ROAD
FAIRFIELD CA 94534

GENERAL NOTES

- ALL WORK IS NEW UNLESS SPECIFICALLY NOTED AS EXISTING. ALL WORK SHALL BE BY G.C. UNLESS SPECIFICALLY NOTED BY OWNER, BY OTHERS, OR BY N.I.C.
- CONTRACTOR SHALL VISIT THE SITE PRIOR TO HIS BID TO DETERMINE ACTUAL JOB SITE CONDITIONS AND REQUIRED EXTENT OF WORK FOR THIS PROJECT
- CONTRACTOR SHALL VERIFY OWNER REQUIREMENTS FOR WORK HOURS, ETC. WITH PROJECT MANAGER PRIOR TO BIDDING AND COMMENCEMENT OF WORK. CONTRACTOR SHALL COMPLY WITH ALL OWNER REQUIREMENTS
- CONTRACTOR SHALL PROVIDE A JOB SITE PHONE & EMAIL WITHIN (5) WORKING DAYS AND INFORM ARCHITECT OF PHONE NUMBER AT CONSTRUCTION KICK-OFF MEETING. G.C. SHALL MAINTAIN A COMPUTER W/ EMAIL CAPABILITIES ON SITE AT ALL TIMES
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXISTING CONDITIONS AND NOTING ANY DISCREPANCIES WITH THE CONTRACT DOCUMENTS PRIOR TO BIDDING THE PROJECT. CONTRACTOR SHALL CONTACT ARCHITECT FOR RESOLUTION PRIOR TO PROCEEDING WITH RELATED WORK. OTHERWISE, CONTRACTOR IS RESPONSIBLE FOR CORRECTIONS AT NO EXTRA COST TO OWNER
- G.C. SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ALL FINISH MATERIALS & EQUIPMENT AS SPECIFIED HEREIN. ANY DEVIATION IN COST DUE TO SHIPPING DELAYS, MATERIAL UPGRADES, SHALL BE BORN BY THE G.C. ALL MATERIALS NOT IDENTIFIED AS PROBLEMS PRIOR TO BID, SHALL BE THE RESPONSIBILITY OF THE G.C. TO SUPPLY AS NOTED ON THE BID FORM
- ALL DEMOLITION IS INCLUDED IN THE BASE BID. CONTRACTOR SHALL PROVIDE ALL DEMOLITION NECESSARY TO COMPLETE ALL NEW WORK AS INDICATED ON THE PLANS
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL ADJACENT WORK AND SHALL COORDINATE WITH ALL OTHER TRADES SO AS TO FACILITATE THE GENERAL PROGRESS OF THE WORK. EACH TRADE SHALL AFFORD ALL OTHER TRADES EVERY REASONABLE OPPORTUNITY FOR THE INSTALLATION OF THEIR WORK AND FOR THE STORAGE OF THEIR MATERIAL
- GENERAL CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS AND QUANTITIES OF ITEMS TO BE REMOVED/REPLACED OR TO BE REINSTALLED PRIOR TO SUBMITTAL OF BID. G.C. SHALL NOTIFY ARCHITECT IN WRITING OF ANY DISCREPANCIES PRIOR TO THE BID DUE DATE FOR FURTHER CLARIFICATION - AS DEFINED IN BID INSTRUCTIONS
- G.C. WILL BE HELD RESPONSIBLE FOR COMPLETION OF ENTIRE WORK IN A MANNER/INTENT FOR THIS TYPE OF PROJECT REGARDLESS OF QUANTITIES SHOWN IN PLANS
- ANY EXISTING ITEMS SHOWN WITHOUT NOTATION FOR REMOVAL SHALL BE PROTECTED THROUGHOUT DEMOLITION AND RENOVATIONS. G.C. WILL BE REQUIRED TO REPLACE ANY/ALL ITEMS TO REMAIN THAT ARE DAMAGED BY WORK AT NO ADDITIONAL COST TO OWNER AND ALSO AT A QUALITY LEVEL EQUAL TO OR EXCEEDING THE ORIGINAL CONDITIONS
- ITEMS SHOWN TO BE REMOVED SHALL BE DISPOSED OF PROPERLY BY THE G.C. UNLESS OTHERWISE NOTED

NOTES

THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE CONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE THESE DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CONSTRUCTION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS DETAILING AND SPECIFYING THE REQUIRED WORK, SHALL BE SUBMITTED TO AND APPROVED BY DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

INSPECTOR

A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. CLASS 3 INSPECTOR REQUIRED.

DEFERRED APPROVALS

- NONE

OWNER

SOLANO COMMUNITY COLLEGE DISTRICT
4000 SUISUN VALLEY ROAD
FAIRFIELD CA 94534
CONTACT: TONY VELASCO
DIRECT: (916) 347-8396
Email: Tony.Velasco@solano.edu

ARCHITECT

HMR ARCHITECTS
2130 21st STREET
SACRAMENTO CA 95818
(916) 736-2724
CONTACT: GRANT WATKINS
Email: grantw@hmrarchitects.com

ELECTRICAL ENGINEER

WHITTINGTON ELECTRIC
1940 INDUSTRIAL DR
AUBURN CA 95603
(530) 823-3055
CONTACT: NATHAN BAER
Email: nathan@whittingtonelectric.com

ADDITIVE ALTERNATE SCOPE #2

- EXISTING LUMINAIRES ARE TO BE REPLACED IN KIND. RE-USE EXISTING MOUNTING, AND RE-USE EXISTING CIRCUITING AND SWITCH LEGS

PROJECT CODE DATA

DSA NUMBERS	NONE
CODE	2022 CBC

CONSTRUCTION SHALL COMPLY WITH TITLE 24, CALIFORNIA CODE REGULATIONS, INCLUDING THE FOLLOWING:

2022 CALIFORNIA ADMINISTRATIVE CODE, CCR, TITLE 24, PART 1
2022 CALIFORNIA BUILDING CODE, VOL. 1 & 2, CCR, TITLE 24, PART 2
2022 CALIFORNIA RESIDENTIAL CODE, CCR, TITLE 24, PART 2.5
2022 CALIFORNIA ELECTRICAL CODE, CCR, TITLE 24, PART 3
2022 CALIFORNIA MECHANICAL CODE, CCR, TITLE 24, PART 4
2022 CALIFORNIA PLUMBING CODE, CCR, TITLE 24, PART 5
2022 CALIFORNIA ENERGY CODE, CCR, TITLE 24, PART 6
2022 CALIFORNIA FIRE CODE, CCR, TITLE 24, PART 9
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, CCR, TITLE 24, PART 11
2022 CALIFORNIA EXISTING BUILDING CODE, CCR, TITLE 24, PART 10
STATE FIRE MARSHAL REGULATIONS, CCR, TITLE 19, PUBLIC SAFETY

NFPA 13:	INSTALLATION OF SPRINKLER SYSTEMS,	2022 EDITION
NFPA 14:	INSTALLATION OF STANDPIPE & HOSE SYSTEMS,	2019 EDITION
NFPA 17:	DRY CHEMICAL EXTINGUISHING SYSTEMS,	2021 EDITION
NFPA 20:	STATIONARY PUMPS FOR FIRE PROTECTION,	2019 EDITION
NFPA 24:	PRIVATE FIRE MAINS & THEIR APPURTENANCES,	2022 EDITION
NFPA 72	NATIONAL FIRE ALARM & SIGNALING CODE,	2022 EDITION
NFPA 2001:	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS,	2018 EDITION

OCCUPANCY CLASSIFICATION AND USE: B

BUILDING CONSTRUCTION TYPE: III-B

NUMBER OF STORIES: ONE STORY

BUILDING AREA IN SQUARE FEET: 27,145 SF

FIRE SPRINKLERED: NO

FIRE ALARM : YES

YEAR BUILDING WAS CONSTRUCTED: 1972

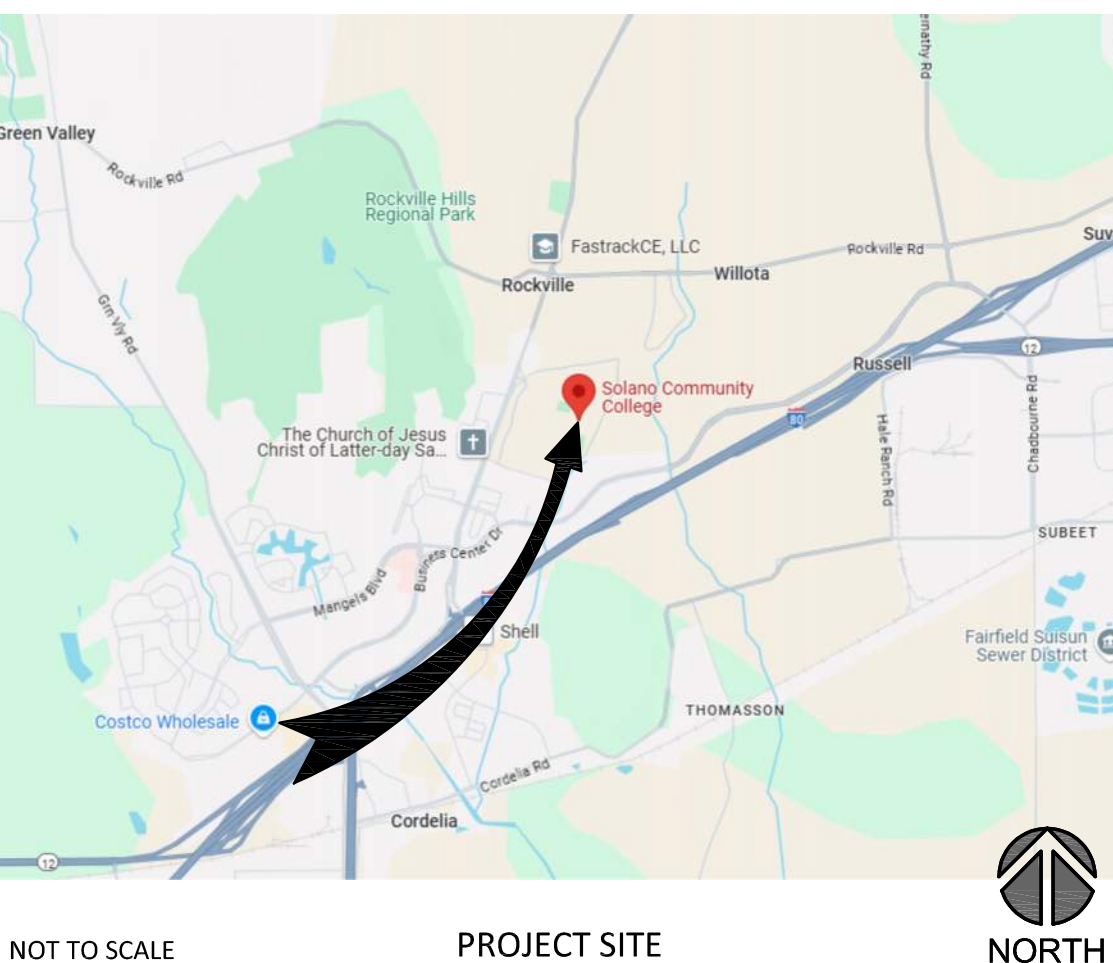
IS THE BLDG. IN A HIGH FIRE HAZARD SEVERITY ZONE: NO

FIRE SAFETY CONSTRUCTION AND DEMOLITION SHALL COMPLY WITH CFC AND CBC CHAPTER 33

INDEX TO DRAWINGS

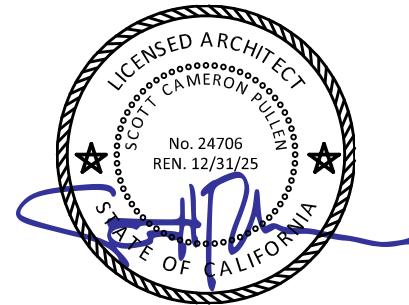
SHEET NUMBER	DESCRIPTION
A0.0 AS1	ARCHITECTURAL COVER SHEET OVERALL SITE PLAN ELECTRICAL
E0.1 E1.0 E2.1 E2.2 E3.1 E4.1 E4.2 E5.1 E6.1 E6.2	SHEET INDEX, SYMBOL LIST, ABBREVIATIONS, AND GENERAL NOTES OVERALL FLOOR PLAN - ELECTRICAL LIGHTING PLAN - WEST LIGHTING PLAN - EAST EXISTING BUILDING 1800B ONE-LINE POWER DIAGRAM SCHEDULES SCHEDULES ELECTRICAL DETAILS TITLE 24 INDOOR LIGHTING COMPLIANCE FORMS TITLE 24 INDOOR LIGHTING COMPLIANCE FORMS
TOTAL SHEET COUNT = 12	

VICINITY MAP



HMRARCHITECTS

2130 21st Street
Sacramento, CA 95818
T 916 736 2724



BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2

SOLANO COMMUNITY
COLLEGE

4000 SUISUN VALLEY RD.
FAIRFIELD, CA 94534

REVISIONS

NO.	DESCRIPTION	DATE
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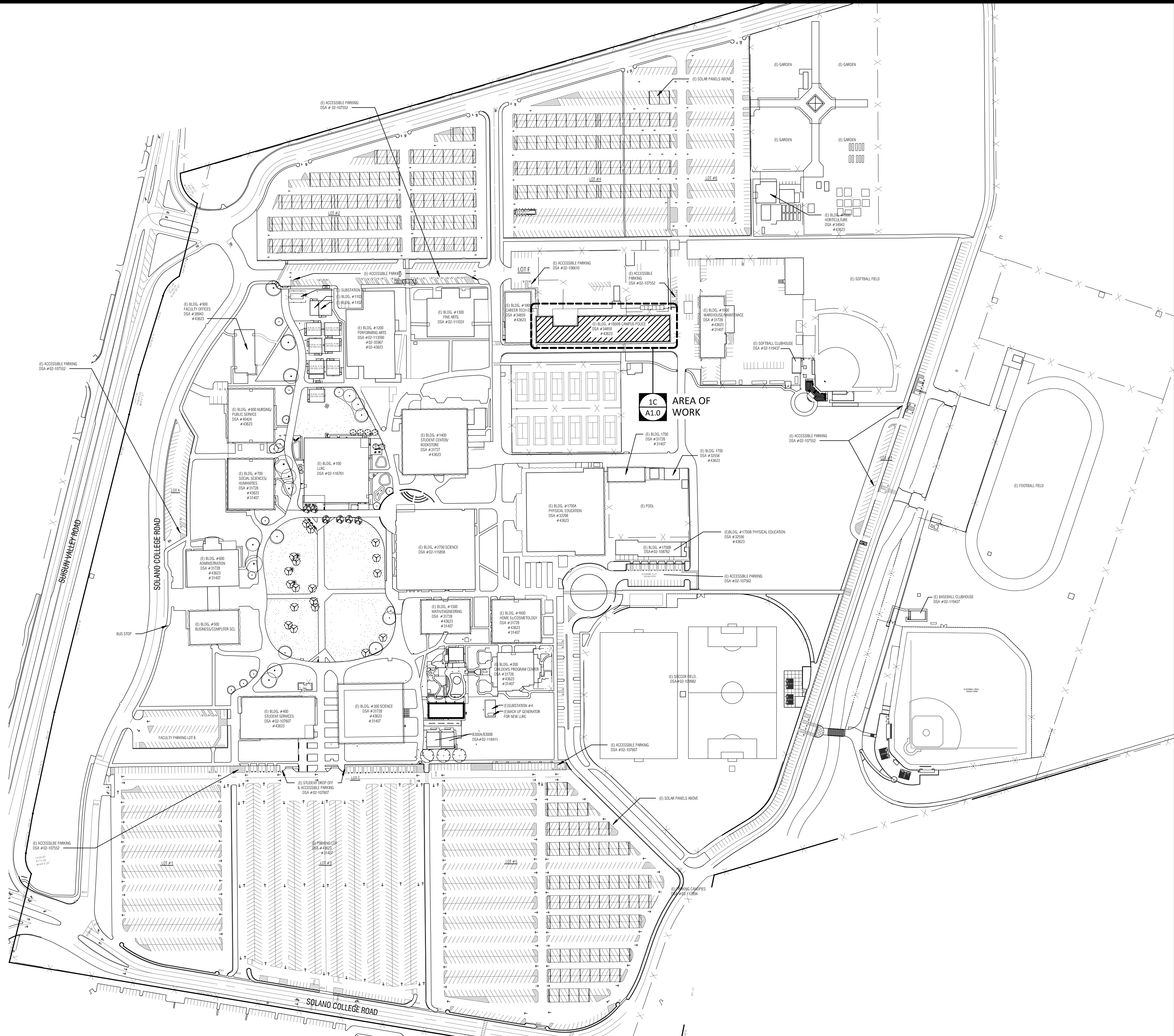
COVER SHEET

MARCH 20, 2025

DRAWN BY: GW
CHECKED BY: KD
JOB NO: 24035

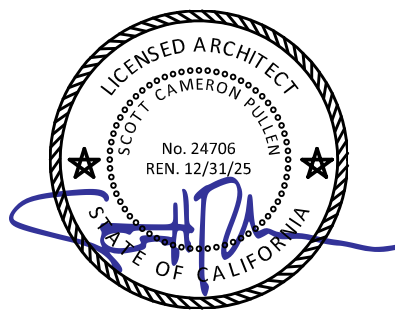
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3/20/2025 2:15 PM GRANTV
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■■■
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2130 21st Street
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■■■
**BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2**

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COLLEGE**
4000 SUISUN VALLEY RD.
FAIRFIELD, CA 94534

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REVISIONS

NO.	DESCRIPTION	DATE
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ALL DRAWINGS AND WRITTEN MATERIAL APPEARING
HEREIN CONSTITUTE ORIGINAL & UNPUBLISHED
WORK OF HMR ARCHITECTS AND MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT THE
WRITTEN CONSENT OF HMR ARCHITECTS

OVERALL SITE PLAN

MARCH 20, 2025

DRAWN BY:
GW
CHECKED BY:
YD
JOB NO:
24035

AS1

SCALE: 1/128" = 1'-0"

3/29/2025 10:30 AM NB&ES
C:\DESIGN\PHMR\24-005 SOLANO CC-BLDG 1800B ELECTRICAL IMPROVEMENTS\LIGHTING REPLACEMENT\CA024-006_LR_E01.DWG

ABBREVIATIONS					
Δ	DELTA	GC	GENERAL CONTRACTOR	OC	ON CENTER
@	AT	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	OCp	OVERCURRENT PROTECTION
2W,3W,4W	2 WIRE, 3 WIRE, 4 WIRE			OL	THERMAL OVERLOAD RELAY
A, AMPS	AMPERES	GFP	GROUND FAULT PROTECTION	OFCl	OWNER FURNISHED
AC	ALTERNATING CURRENT	HOA	HAND-OFF-AUTO		CONTRACTER INSTALLED
A/C	AIR CONDITIONER	HP	HORSEPOWER	OFOI	OWNER FURNISHED OWNER INSTALLED
AF	AMPERE FRAME	HV	HIGH VOLTAGE	OS	OCCUPANCY SENSOR
AFF	ABOVE FINISHED FLOOR	HVAC	HEATING, VENTILATION, AND AIR CONDITIONING	P	POLE
AHJ	AUTHORITY HAVING JURISDICTION	HZ	HERTZ	PA	PUBLIC ADDRESS
AHU	AIR HANDLING UNIT	IMC	INTERMEDIATE METAL CONDUIT	PB	PULLBOX
AIC	AMPERE INTERRUPTING CAPACITY	ISO	ISOLATED	PC	PHOTOCELL
AL	ALUMINUM	JB	JUNCTION BOX	PF	POWER FACTOR
ARCH	ARCHITECT	KCMIL	THOUSAND CIRCULAR MILS	PFB	PROVISION FOR FUTURE BREAKER
AT	AMPERE TRIP	KO	KNOCK-OUT	PH	PHASE
ATS	AUTOMATIC TRANSFER SWITCH	KVA	KILOVOLT AMPERE	PNL	PANEL
AUX	AUXILIARY	KVAR	KILOVOLT AMPERE REACTIVE	PT	POTENTIAL TRANSFORMER
AV	AUDIO VISUAL	KW	KILOWATT	PVC	POLYVINYL CHLORIDE
AWG	AMERICAN WIRE GAUGE	KWH	KILOWATT HOUR	(R)	REMOVE
BC	BARE COPPER	LB	ELBOW	RCPT	RECEPTACLE
BLDG	BUILDING	LCD	LIQUID-CRYSTAL DISPLAY	(RE)	RELOCATE EXISTING
BMS	BUILDING MANAGEMENT SYSTEM	LCP	LIGHTING CONTROL PANEL	RLA	RUNNING LOAD AMPS
C	CONDUIT	LED	LIGHT-EMITTING DIODE	RM	ROOM
CAB	CABINET	LF	LINEAR FEET	RMC	RIGID METAL CONDUIT
CB	CIRCUIT BREAKER	LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT	RF	RADIO FREQUENCY
CEC	CALIFORNIA ELECTRICAL CODE	LRC	LOCKED-ROTOR CURRENT	SF	SQUARE FOOT/FEET
CKT	CIRCUIT	LT	LIGHT	SM	SHEET METAL
CLG	CEILING	LTS	LIGHTS	SMS	SHEET METAL SCREW
CO	CONDUIT ONLY	LTG	LIGHTING	SP	SPARE
CT	CURRENT TRANSFORMER	LV	LOW VOLTAGE	SPD	SURGE PROTECTION DEVICE
CU	COPPER	MAX	MAXIMUM	SPKR	SPEAKER
dB	DECIBEL	MC	METAL CLAD CABLE	SS	STAINLESS STEEL
DC	DIRECT CURRENT	MCA	MINIMUM CIRCUIT AMPACITY	STD	STANDARD
DDC	DIRECT DIGITAL CONTROL	MCB	MAIN CIRCUIT BREAKER	SW	SWITCH
DIA	DIAMETER	MCC	MOTOR CONTROL CENTER	SWBD	SWITCHBOARD
DISC	DISCONNECT	MCM	THOUSAND CIRCULAR MILS	SWGR	SWITCHGEAR
DIST	DISTRIBUTION	MDP	MAIN DISTRIBUTION PANEL	TEMP	TEMPORARY
DN	DOWN	MECH	MECHANICAL	TER	TELEPHONE EQUIPMENT ROOM
(E)	EXISTING	MFR	MANUFACTURER	TP	TAMPER PROOF
EA	EACH	MIN	MINIMUM	TR	TELECOM ROOM
EC	ELECTRICAL CONTRACTOR	MISC	MISCELLANEOUS	TV	TELEVISION
EL	EVENING LIGHT	MLO	MAIN LUGS ONLY	TYP	TYPICAL
ELEC	ELECTRICAL	MOCp	MAXIMUM OVERCURRENT PROTECTION	UC	UNDER CABINET
EM	EMERGENCY	MSB	MAIN SWITCHBOARD	UF	UNDERFLOOR
EMT	ELECTRICAL METALLIC TUBING	MT	EMPTY CONDUIT W/ PULL LINE	UG	UNDERGROUND
ENCL	ENCLOSURE	MTD	MOUNTED	UL	UNDERWRITERS LAB
EQUIP	EQUIPMENT	MTG	MOUNTING	UON	UNLESS OTHERWISE NOTED
(ER)	EXISTING RELOCATED	MTS	MANUAL TRANSFER SWITCH	UPS	UNINTERRUPTIBLE POWER SUPPLY
(F)	FUTURE	(N)	NEW	UTIL	UTILITY
FA	FIRE ALARM	N	NEUTRAL	V	VOLT
FACP	FIRE ALARM CONTROL PANEL	NA	NON-AUTOMATIC	VA	VOLT-AMPERE
FATC	FIRE ALARM TERMINAL CABINET	N/A	NOT APPLICABLE	VAC	VOLTAGE, ALTERNATING CURRENT
FBO	FURNISHED BY OTHERS	NC	NORMALLY CLOSED	VDC	VOLTAGE, DIRECT CURRENT
FC	FOOTCANDLE	NEC	NATIONAL ELECTRICAL CODE	VFD	VARIABLE FREQUENCY DRIVE
FLA	FULL LOAD AMPERES	NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION	W	WATT
FLEX	FLEXIBLE	NF	NON-FUSIBLE	W/	WITH
FLR	FLOOR	NIC	NOT IN CONTRACT	W/O	WITHOUT
FMC	FLEXIBLE METAL CONDUIT	NIES	NOT INCLUDED IN ELECTRICAL SCOPE	WW	WIREWAY
FT	FOOT OR FEET	NL	NIGHT LIGHT	WP	WEATHER PROOF
FURN	FURNITURE	NO	NORMALLY OPEN	WR	WEATHER RESISTANT
FVNR	FULL VOLTAGE NON-REVERSING	NTS	NOT TO SCALE	XFMR	TRANSFORMER
G	GROUND			Y	WYE
GA	GAUGE				
GALV	GALVANIZED				

MEP COMPONENT ANCHORAGE NOTE

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2022 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26, and 30:

- All permanent equipment and components.
- Temporary, movable or mobile equipment that is permanently attached (e.g., hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
- Temporary, movable or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions:

- A. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
- B. Components weighing less than 20 pounds, 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.

The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

RECEPTACLES AND OUTLET SYMBOLS

Ⓢ Ⓢ- JUNCTION BOX, SIZE AS INDICATED OR REQUIRED PER CODE

TELECOM/DATA SYMBOLS

Ⓢ SINGLE DATA OUTLET, 4-11/16" SQUARE x 2-7/8" DEEP BOX WITH 2-DEVICE RING AND PLATE, MOUNT AT +18" AFF UON. STUB 1" CONDUIT WITH INSULATED BUSHING INTO ACCESSIBLE CEILING SPACE.

LUMINAIRES SYMBOLS

○ DOWNLIGHT OR CYLINDER LUMINAIRE, SURFACE MOUNTED ON CEILING

● DOWNLIGHT LUMINAIRE, RECESSED IN CEILING

⊙ PENDANT LUMINAIRE, SUSPENDED FROM CEILING

⊙ LUMINAIRE, WALL MOUNTED

○ SURFACE MOUNTED LUMINAIRE - CEILING

▧ RECESSED LUMINAIRE - T-BAR CEILING

▧ RECESSED LUMINAIRE - HARD-LID CEILING

▬ STRIP LUMINAIRE - SURFACE MOUNTED ON CEILING

▬ SUSPENDED LINEAR LUMINAIRE

▬ LINEAR LUMINAIRE, WALL MOUNTED

Ⓢ BATTERY BACKUP LUMINAIRE - WALL MOUNTED

▧ SHADED LUMINAIRE DENOTES EMERGENCY EGRESS LIGHT

▧ EXISTING LUMINAIRE TO REMAIN SHOWN THIN/FADED.

LUMINAIRE SUBSCRIPTS:

a,b,c,... - LOWER CASE LETTER DENOTES SWITCH LEG
A,B,C,... - UPPER CASE LETTER DENOTES LUMINAIRE TYPE, SEE LUMINAIRE SCHEDULE
1,2,3,... - NUMBER INDICATES CIRCUIT

LIGHTING CONTROL SYMBOLS

Ⓢ SWITCH - SINGLE POLE

Ⓢ₃ SWITCH - THREE WAY

Ⓢ_D SWITCH - MANUAL DIMMING

Ⓢ_o SWITCH - OCCUPANCY

Ⓢ_o OCCUPANCY SENSOR - CEILING MOUNTED

Ⓢ_o DAYLIGHT PHOTOCELL - CEILING MOUNTED

LUMINAIRE CONTROLS SUBSCRIPTS:

a,b,c,... - LOW CASE LETTER DENOTES SWITCH LEG
K - KEYED SWITCH
P - PILOT LIGHT
T - TIMER

LIGHTING GENERAL NOTES

- ALL LIGHTING AND LIGHTING CONTROLS SHALL COMPLY WITH TITLE 24 REQUIREMENTS.
- LIGHTING CONTROL SYSTEM SHALL BE SUBMITTED AS A SHOP DRAWING BY CONTRACTOR.
- COORDINATE/SCHEDULE WORK WITH UNIVERSITY AND PUBLIC SAFETY TO MINIMIZE IMPACT TO FACILITY OPERATIONS.
- THIS IS A ENERGY SAVINGS PROJECT. ALL LUMINAIRES ARE A NET LOAD DECREASE TO EXISTING CIRCUITING.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

Piping, ductwork, and electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Sections 13.6.5, 13.6.6, 13.6.7, 13.6.8; and 2022 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a preapproved installation guide (e.g., HCAI OPM for 2013 CBC or later), copies of the bracing system installation guide or manual shall be available on the jobsite prior to the start of and during the hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP), Electrical Distribution Systems (E):

MP MD PP **E** Option 1: Detailed on the approved drawings with project specific notes and details.

MP MD PP **E** Option 2: Shall comply with HCAI (OSHPD) Preapproval (OPM #) #_____, as included in these drawings with project-specific notes and details.

SHEET INDEX

SHEET NO. DESCRIPTION

E0.1 SHEET INDEX, SYMBOL LIST, ABBREVIATIONS, AND GENERAL NOTES
E1.0 OVERALL FLOOR PLAN - ELECTRICAL
E2.1 LIGHTING PLAN - WEST
E2.2 LIGHTING PLAN - EAST
E3.1 PARTIAL EXISTING ONE-LINE POWER DIAGRAM
E4.1 SCHEDULES
E4.2 SCHEDULES
E5.1 ELECTRICAL DETAILS
E6.1 TITLE 24 INDOOR LIGHTING COMPLIANCE FORMS
E6.2 TITLE 24 INDOOR LIGHTING COMPLIANCE FORMS

ELECTRICAL EQUIPMENT SYMBOLS

▬ ELECTRICAL PANELBOARD - SURFACE MOUNTED. SEE PANEL SCHEDULE.

▬ ELECTRICAL PANELBOARD - FLUSH MOUNTED. SEE PANEL SCHEDULE.

▬ SWITCHBOARD

RACEWAY AND WIRING SYMBOLS

└─┘ BRANCH CIRCUIT WITHOUT CROSS HATCHES INDICATES 3/4" CONDUIT WITH 2 #12 AWG AND 1 #12 AWG GROUND, UON.

└─┘ BRANCH CIRCUIT WITH STRAIGHT CROSS HATCHES INDICATE NUMBER OF #12 AWG CONDUCTORS. CURVED HATCH INDICATES NUMBER OF #12 AWG GROUNDING ELECTRODE, 3/4" CONDUIT, UON.

└─┘ BRANCH CIRCUIT HOMERUN TO PANELBOARD INDICATED.

└─┘ CONDUIT RUN UNDERGROUND OR UNDERFLOOR

└─┘ EXISTING CONDUIT RUN. FIELD VERIFY ROUTING.

✱✱ EXISTING CONDUIT TO BE REMOVED OR ABANDONED. REMOVE WIRES. COORDINATE WITH OWNER.

GENERAL ELECTRICAL SYMBOLS

① NUMBERED SHEET NOTE TAG

① E0.1 PLAN OR DETAIL REFERENCE TAG. TOP VALUE DENOTES DETAIL NUMBER. BOTTOM VALUE DENOTES SHEET.

① REVISION TAG

☁ REVISION CLOUD

▨▨▨ 1-HOUR FIRE WALL SEPARATION

▨▨▨ 2-HOUR FIRE WALL SEPARATION

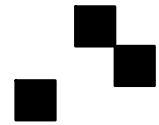
CORRD ─── ROOM NAME
1234 ─── ROOM NUMBER

GENERAL ELECTRICAL NOTES

- WHERE PROVIDED, THROUGH-PENETRATION FIRESTOP SYSTEM AND MEMBRANE PENETRATION DETAILS ARE FOR REFERENCE ONLY. THROUGH-PENETRATIONS AND MEMBRANE PENETRATIONS SHALL BE PROTECTED BY AN APPROVED PENETRATION FIRESTOP SYSTEM OR MEMBRANE PENETRATION FIRESTOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH A MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 Pa) OF WATER OR AS OTHERWISE PERMITTED IN CBC, SECTION 714. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS AND MEMBRANE PENETRATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION DETAILS FOR THE LISTED SYSTEMS. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS, MEMBRANE PENETRATION PROTECTION SHALL BE SUBMITTED FOR OSHPD FDD REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER DRIVEN PINS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. WHEN INSTALLING THEM INTO EXISTING PRE-STRESSED CONCRETE (PRE- OR POST-TENSIONED) LOCATE THE PRE-STRESSED TENDONS BY USING A NON-DESTRUCTIVE METHOD PRIOR TO INSTALLATION. EXERCISE EXTREME CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE TENDONS DURING INSTALLATION. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE DRILLED-IN ANCHOR AND/OR PIN.
- CONTRACTOR SHALL MAKE ALL SITE CONDITIONS KNOWN PRIOR TO BID.



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Electric Inc.

Project #: 424-006 1940 Industrial Drive • Auburn, CA 95603
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BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2

SOLANO COMMUNITY
COLLEGE

4000 SUISUN VALLEY RD.
FAIRFIELD, CA 94534



REVISIONS

NO.	DESCRIPTION	DATE
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ELECTRICAL SYMBOLS,
ABBREVIATIONS, AND
GENERAL NOTES

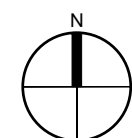
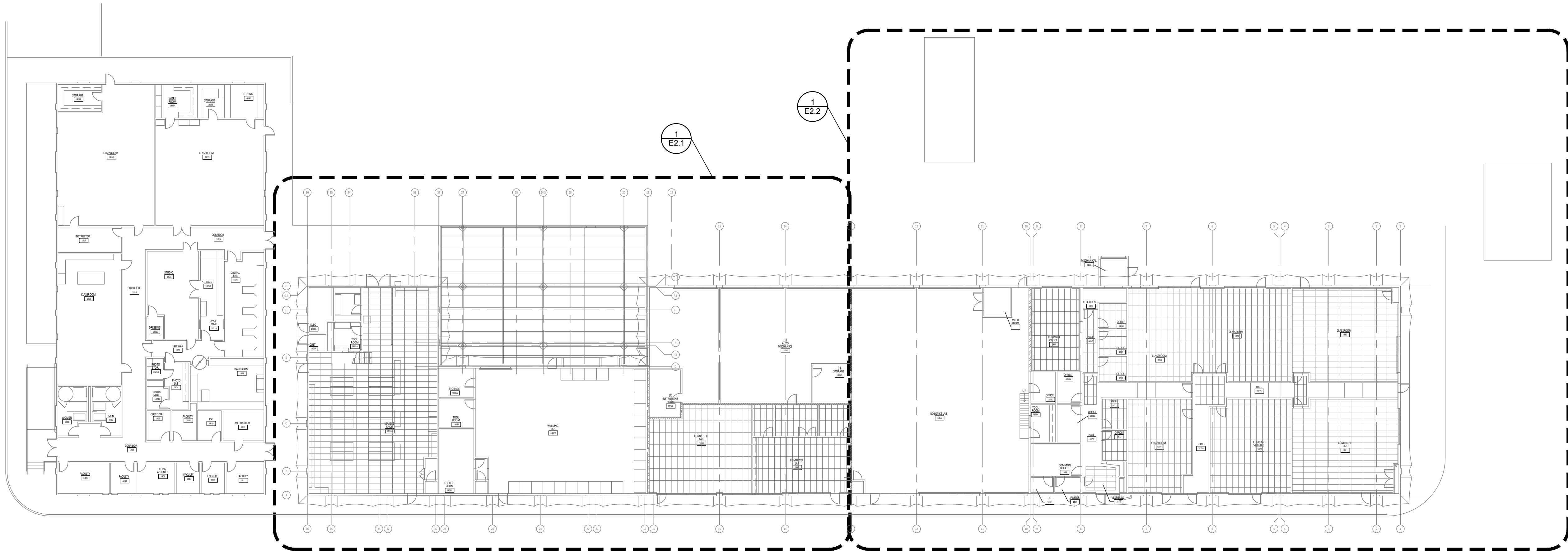
MARCH 20, 2025

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E0.1

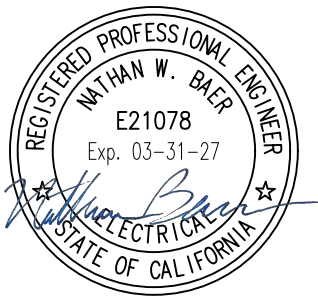
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1 OVERALL FIRST FLOOR PLAN - ELECTRICAL
SCALE: 1" = 20'-0"



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**OVERALL FIRST FLOOR PLAN -
ELECTRICAL**

MARCH 20, 2025

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IDB NO:	24035

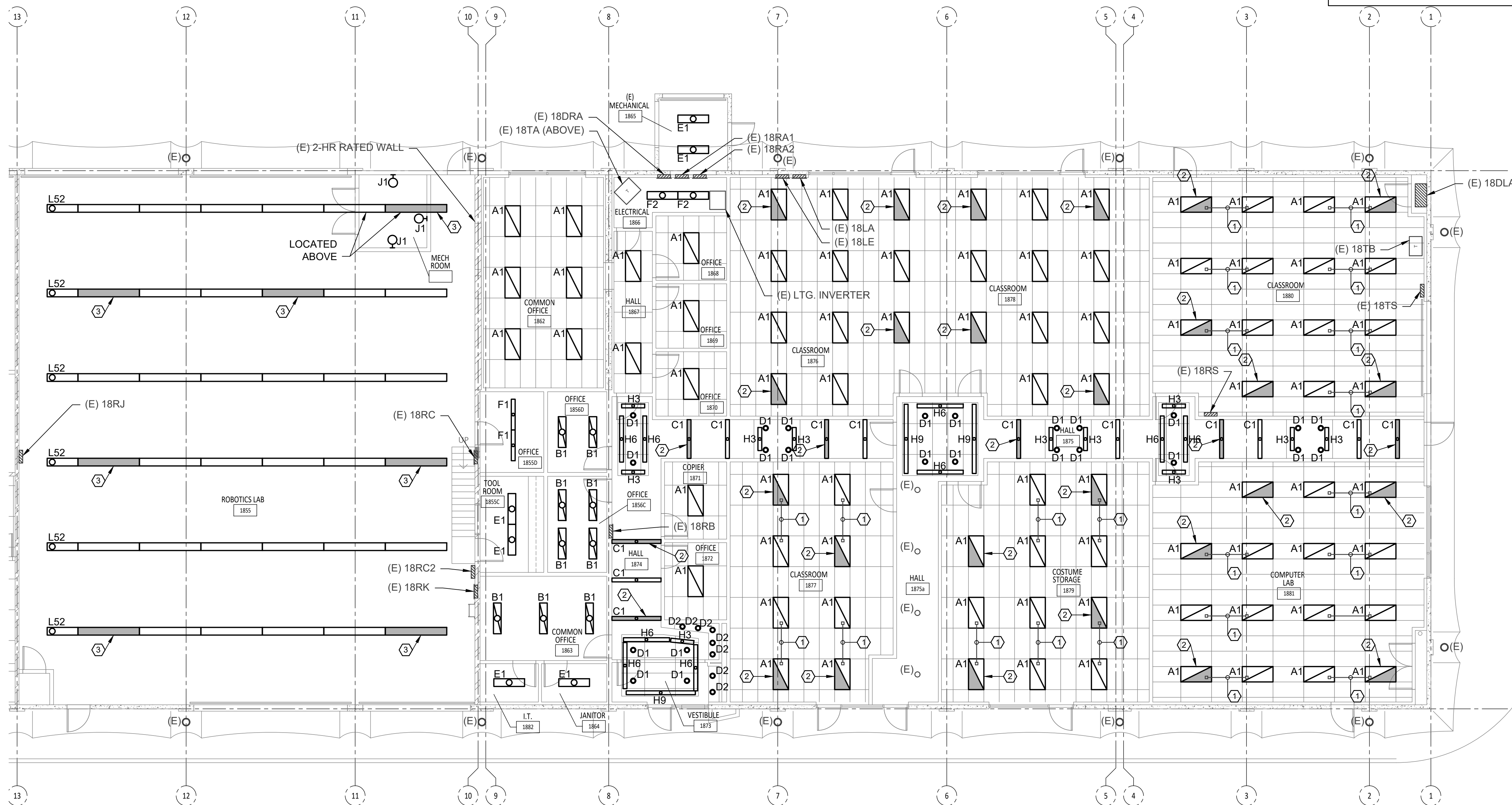
E1.0

GENERAL SHEET NOTES

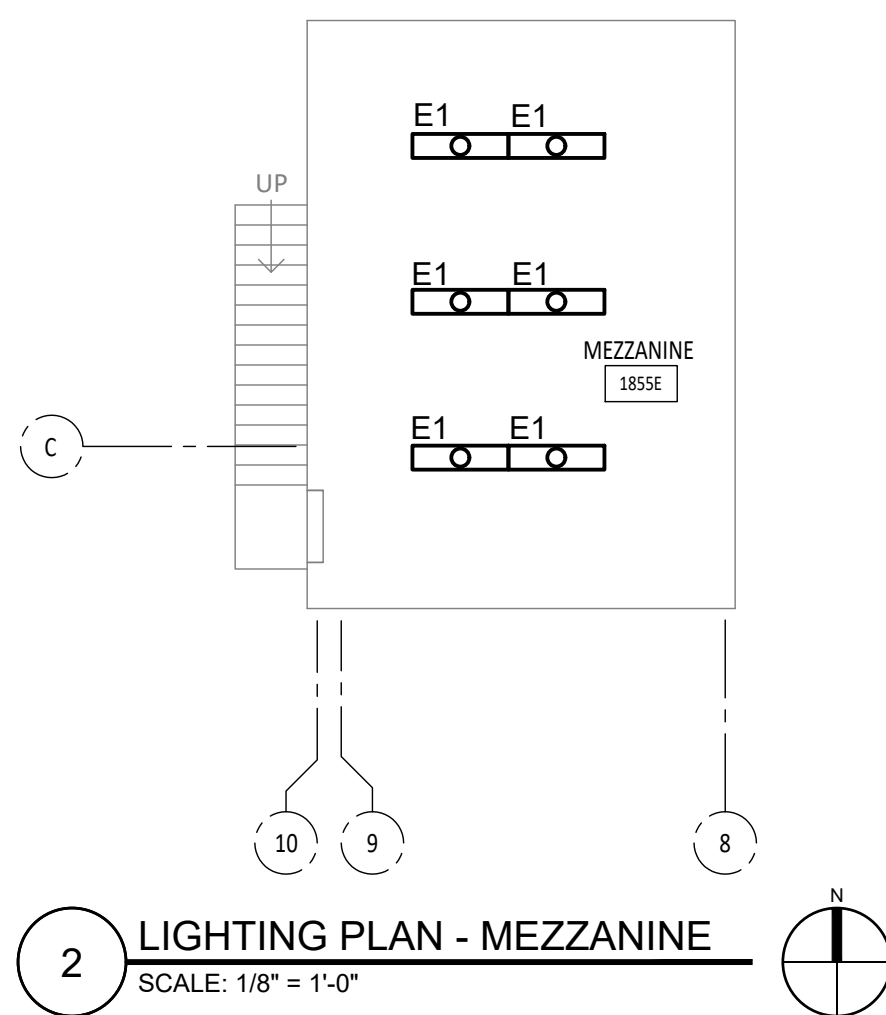
- LUMINAIRE TO BE REPLACED IN KIND, RE-USE EXISTING MOUNTING, RE-USE EXISTING CIRCUITING AND SWITCH LEGS (EXCEPT WHERE NOTED ON PLANS). CONTRACTOR SHALL FIELD VERIFY CIRCUITING PRIOR TO WORK.
- NEW LIGHTING CONTROL SYSTEM SHALL BE A VIVE WIRELESS CONTROL SYSTEM (OR APPROVED EQUAL). PROVIDE CONTROLS SHOP DRAWINGS BASED UPON CONTROL SEQUENCE OF OPERATIONS MATRIX ON E4.2.

NUMBERED SHEET NOTES

- EXISTING TANDEM WIRED FIXTURES. REMOVE OLD TANDEM WIRING AND PROVIDE NEW FIXTURE WHIP BETWEEN LIGHTS AND CONNECT TO SWITCH LEG.
- EXISTING FIXTURE WIRED TO EMERGENCY LIGHTING INVERTER AND UTILITY POWER CIRCUIT. PROVIDE UL 924 OPERATION PER CONTROLS SEQUENCE OF OPERATIONS MATRIX.
- PROVIDE EMERGENCY BATTERY PACK OPTION AND UNSWITCHED NORMAL POWER CIRCUIT FOR EMERGENCY EGRESS LIGHTING. PROVIDE UL 924 OPERATION PER CONTROLS SEQUENCE OF OPERATIONS MATRIX.



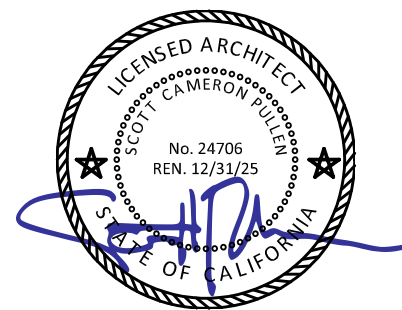
1 LIGHTING PLAN - EAST
SCALE: 1/8" = 1'-0"



2 LIGHTING PLAN - MEZZANINE
SCALE: 1/8" = 1'-0"

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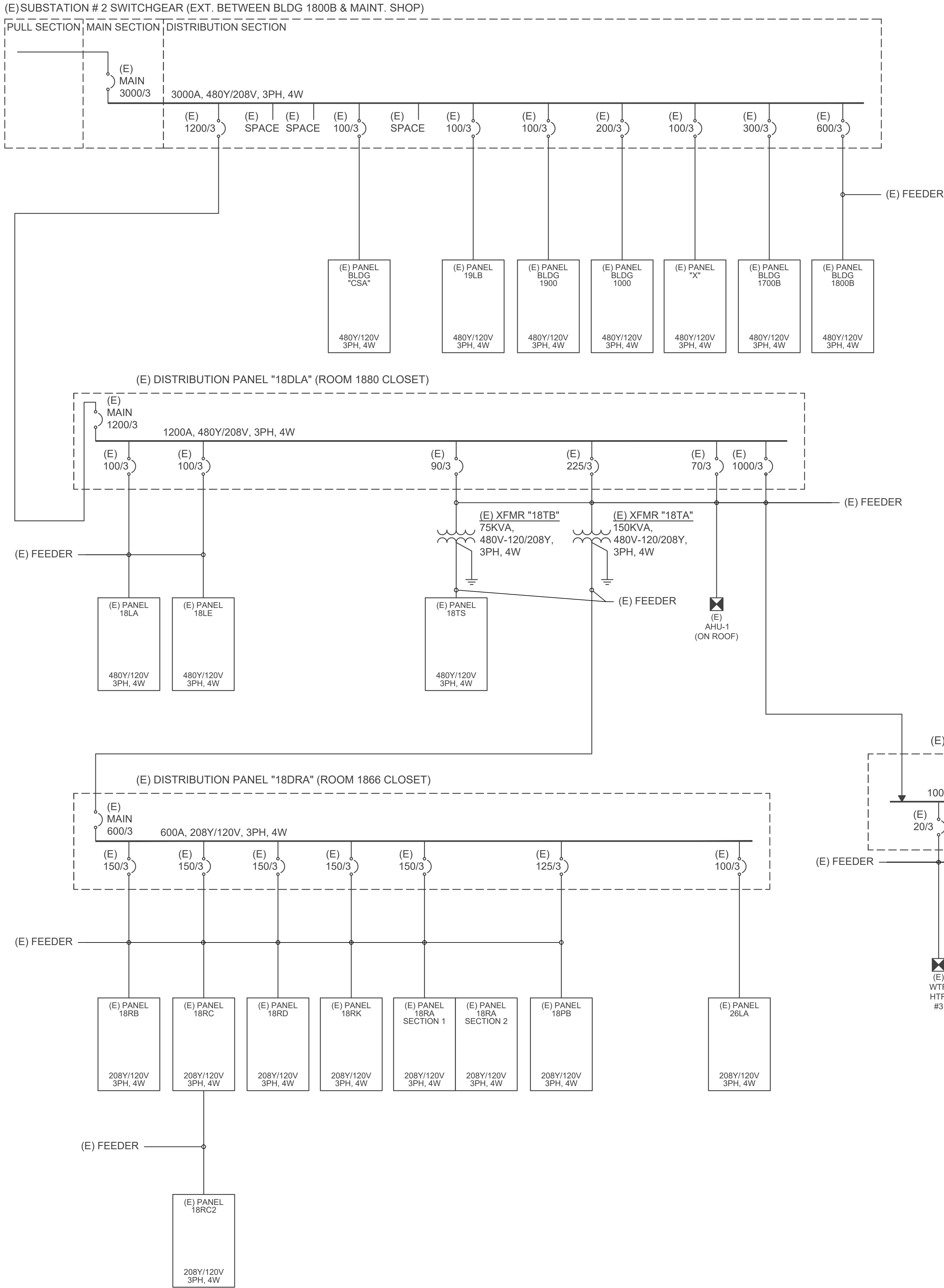
LIGHTING PLAN - EAST

MARCH 20, 2025

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E2.2

3/20/2025 10:30 AM N84E5
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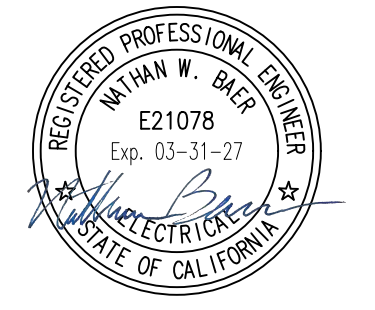
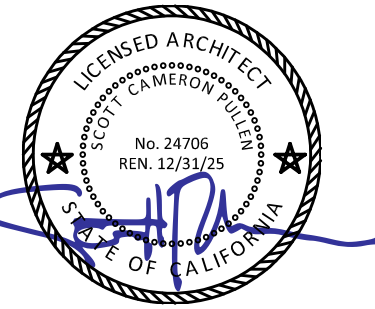


1 BUILDING 1800B ONE-LINE POWER DIAGRAM
SCALE: NONE

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**EXISTING BUILDING 1800B
ONE-LINE POWER DIAGRAM**

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E3.1

Existing Panel:			18LV (NEMA 3R)				Location:				EXT. WELDING SHOP				Volts: 120/208Y				Mainns: MAIN LUGS ONLY			
Supply From:			Surface				Phases: 3				Wires: 4				Bus Rating: 200A				A/C Rating:			
Load Description	Load (VA)	Load Type	Phase	Circuit	Breaker	Ckt #	Ckt #	Amps	Breaker	Poles	Phase	Load Type	Load (VA)	Load Description								
RECEPT WEST			A	20	1	1	2	20	2	A				METAL LIGHTING BAND SAW								
RECEPT EAST			B	20	1	3	4	-	-	B				-								
ELECTRIC REEL			C	20	1	5	6	20	1	C				RECEPTACLE								
CANOPY LIGHTING			A	20	1	7	8	20	1	A				RECEPTACLE								
YARD LIGHTING			B	20	1	9	10	20	1	B				LIGHT CONTROL LCC								
GRINDER			C	20	1	11	12	20	3	C				GRINDER								
GRINDER			A	20	1	13	14	-	-	A				-								
GRINDER			B	20	1	15	16	-	-	B				-								
GRINDER			C	20	1	17	18	50	3	C				CHOP SAW								
SPACE			A			19	20	-	-	A				-								
SPACE			B			21	22	-	-	B				-								
SPACE			C			23	24			C				SPACE								
SPACE			A			25	26			A				SPACE								
SPACE			B			27	28			B				SPACE								
SPACE			C			29	30			C				SPACE								
SPACE			A			31	32			A				SPACE								
SPACE			B			33	34			B				SPACE								
SPACE			C			35	36			C				SPACE								
SPACE			A			37	38			A				SPACE								
SPACE			B			39	40			B				SPACE								
SPACE			C			41	42			C				SPACE								

[illegible]

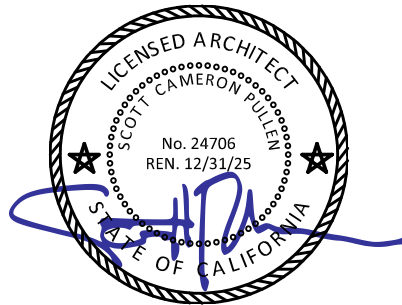
Existing Panel:			18LC			Location:			ROOM 1800A			Volts:			277/480Y			Mains:			MAIN LUGS ONLY		
Supply From:			Surface			Wires:			4			Bus Rating:			100A								
Mounting:												A/C Rating:											
Load Description		Load (VA)	Load Type	Phase	Circuit	Breaker	Ckt #	Ckt #	Circuit	Breaker	Phase	Load Type	Load (VA)	Load Description									
LIGHTS MACH SHOP				A	20	1	1	2	20	1	A			LIGHTS WELD SHOP									
SPARE				B	20	1	3	4	20	1	B			LIGHTS WELD SHOP									
LIGHTS MACH SHOP				C	20	1	5	6	20	1	C			LIGHTS WELD SHOP									
LIGHTS WELD BOOTH				A	20	1	7	8	20	1	A			LIGHTS 1803,06,09, ME									
LIGHTS ON ROOF				B	20	1	9	10	20	1	B			SPARE									
SPARE				C	20	1	11	12	20	1	C												
SPARE				A	20	1	13	14	20	3	A			CHWP PUMP									
SPARE				B	20	1	15	16	-	-	B			-									
SPARE				C	20	1	17	18	-	-	C			-									
SPARE				A	20	3	19	20	20	3	A			SPARE									
-				B	-	-	21	22	-	-	B			SPARE									
-				C	-	-	23	24	-	-	C			-									
WATER HEATER				A	20	3	25	26			A			SPACE									
-				B	-	-	27	28			B			SPACE									
-				C	-	-	29	30			C			SPACE									
SPACE				A			31	32			A			SPACE									
				B			33	34			B												
				C			35	36			C												
				A			37	38			A												
				B			39	40			B												
				C			41	42			C												

[illegible]

Existing Panel:			18RC											
Location:			ROOM 1855			Volts: 120/208Y			Mains: 200A					
Supply From:						Phases: 3			Bus Rating: 225A					
Mounting:			Flush			Wires: 4			A/C Rating:					
Load Description	Load (VA)	Load Type	Phase	Circuit	Breaker	Ckt #	Amps	Poles	Phase	Load Type	Load (VA)	Load Description		
RECPTS E. & N. WALL			A	20	1	1	2	20	1	A		HYD CORD DROP		
GARAGE DOOR RCPT			B	20	1	3	4	20	1	B		HYD CORD DROP		
RECPTS 1855 C & D			C	20	1	5	6	20	1	C		HYD CORD DROP		
EXIT LIGHTS			A	20	1	7	8	20	1	A		FANUC CORD REEL		
SPARE			B	20	1	9	10	20	1	B		FANUC CORD REEL		
SPARE			C	20	1	11	12	20	1	C		FANUC CORD REEL		
RECEPT IV			A	20	1	13	14	20	1	A		RECPTS E. & S. WALL		
RECEPT AUDIO & VIS.			B	20	1	15	16	20	1	B		RECPTS S. WALL JAN.		
RECEPT AUDIO & VIS.			C	20	1	17	18	20	1	C		LIGHTS		
CORD DROPS			A	20	3	19	20	20	1	A		LIGHTS		
-			B	-	-	21	22	30	2	B		WALL HEATER		
-			C	-	-	23	24	-	-	C		-		
CORD DROPS			A	20	1	25	26	100	3	A		PANEL 18RC2		
CORD DROPS			B	20	1	27	28	-	-	B		-		
CORD DROPS			C	20	1	29	30	-	-	C		-		
ROBERT DRILL 45 KVA TO 480V			A	60	3	31	32	70	3	A		VF2 CNC		
-			B	-	-	33	34	-	-	B		-		
-			C	-	-	35	36	-	-	C		-		
PWR DROP MACH UP			A	20	1	37	38	20	1	A		CORD REEL 28		
PWR DROP MACH UP			B	20	1	39	40	20	1	B		SHUNT		
P			C	20	1	41	42	20	1	C		DROP 51		

Notes:

1. No load change.
2. Add Alternate #1. See Plans.



BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2

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SCHEDULES

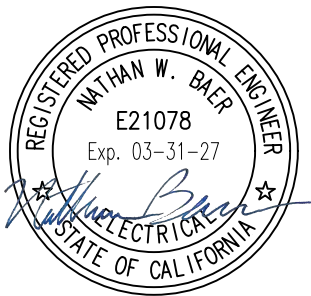
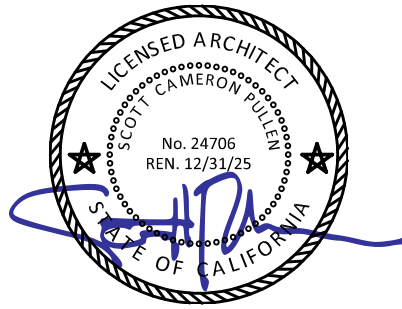
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LUMINAIRE SCHEDULE											
Label	Manufactuer	Mounting	CCT	Voltage	Input Wattage	CRI	Efficacy (lm/W)	Controls			Notes
	Catalog #	Description				Lumens		Dimming	Occupancy	Daylighting	
A1	H.E. Williams	Ceiling Recessed T-Bar	3500K	120-277V	28.5 W	80	133	Wireless	Integral	Integral	1
	PTR-24-L38/835-RA-VDO/DSR-UNV	2'x4' Retrofit LED Luminaire				3,782					
A2	H.E. Williams	Ceiling Surface	3500K	120-277V	28.5 W	80	133	Wireless	Integral	Integral	1
	PTR-24-L38/835-RA-VDO/DSR-UNV	2'x4' Retrofit LED Luminaire				3,782					
B1	H.E. Williams	Ceiling Recessed Gypsum	3500K	120-277V	18.8 W	80	140	Wireless	Integral	Integral	1
	PTR-14-L27/835-RA-VDO/DSR-UNV	1'x4' Retrofit LED Luminaire				2,626					
C1	Green Creative	Lamp Retrofit	3500K	120-277V	12.0 W	82	142	No	No	No	2
	12T8/4F/835/DEB	4ft T8 Bypass LED Retrofit				1,700					
D1	H.E. Williams	Celing Recessed T-Bar	3500K	120-277V	11.9 W	90	102	0-10V	No	No	3
	6CRD-LS/9CS0WH-DIM-UNV	6" Round LED Downlight				1200					
D2	H.E. Williams	Celing Recessed Gypsum	3500K	120-277V	11.9 W	90	102	0-10V	No	No	3
	6CRD-LS/9CS0WH-DIM-UNV	6" Round LED Downlight				1200					
E1	H.E. Williams	Ceiling Surface	3500K	120-277V	21.4 W	80	127	Wireless	Integral	Integral	1
	PTS-14-L27/835-RA-VDO/DSR-UNV	1'x4 LED Luminaire				2,723					
F1	H.E. Williams	Ceiling Surface	3500K	120-277V	19.7 W	80	148	0-10V	No	No	
	75R-4-L30-80-35-DIM-UNV	4ft Narrow Linear LED Strip				2,916					
F2	H.E. Williams	Chain Mounted	3500K	120-277V	33.0 W	80	148	0-10V	No	No	
	75R-4-L50-80-35-DIM-UNV	4ft Narrow Linear LED Strip				4,867					
G1	H.E. Williams	Welding Booth Mounted	3500K	120-277V	37.6 W	80	139	0-10V	No	No	4
	80R-4-L52-8-DIM-UNV	4ft Industrial Linear LED Strip				5,224					
H3	MARK ARCHITECTURAL LIGHTING	Cove	3500K	120-277V	10.2 W	80	128	0-10V	No	No	
	MCV504-LLP-3FT-MSL3-MCFMC-80CRI-35K-400LMF-ASYM-MIN1-MVOLT-SGW	3ft LED Cove Light				1,200					
H6	MARK ARCHITECTURAL LIGHTING	Cove	3500K	120-277V	20.4 W	80	128	0-10V	No	No	
	MCV504-LLP-6FT-MSL3-MCFMC-80CRI-35K-400LMF-ASYM-MIN1-MVOLT-SGW	6ft LED Cove Light				2,400					
H9	MARK ARCHITECTURAL LIGHTING	Cove	3500K	120-277V	30.6 W	80	128	0-10V	No	No	
	MCV504-LLP-9FT-MSL3-MCFMC-80CRI-35K-400LMF-ASYM-MIN1-MVOLT-SGW	9ft LED Cove Light				3,600					
J1	Signify Stonco	Wall Surface	3500K	120-277V	22.0 W	70	122	0-10V	No	No	
	LPW16-20W-NW-G3-4-UNV-DGY	LED Wall Sconce				2,725					
L16	H.E. Williams	Existing Strut on Joist	3500K	120-277V	116.8 W	80	109	0-10V	No	No	
	MX4-16'00-L8/835-F-DIM-UNV	16ft Continous Linear LED				13,184					
L36	H.E. Williams	Existing Strut on Joist	3500K	120-277V	262.8 W	80	109	0-10V	No	No	
	MX4-36'00-L8/835-F-DIM-UNV	36ft Continous Linear LED				29,664					
L52	H.E. Williams	Existing Strut on Joist	3500K	120-277V	379.6 W	80	109	0-10V	No	No	
	MX4-52'00-L8/835-F-DIM-UNV	52ft Continous Linear LED				42,848					
Notes: 1. Includes integral occupancy sensor, photocell, and Lutron Vive controller. 2. Bypass and remove fluorescent ballast. Provide line voltage tombstones. 3. Field selectable luminaire. Select indicated lumens and CCT. 4. Welding Booth Task Lighting											

LIGHTING SEQUENCE OF OPERATIONS MATRIX									
ROOM TYPE	CONTROL TYPE								
	OCCUPANCY SENSOR			DAYLIGHT SENSOR		WALLSTATIONS	UL924 EMERGENCY DEVICES	DEMAND RESPONSE	NOTES
	ON OPERATION	OFF OPERATION	TIMEOUT	PRIMARY ZONE	SECONDARY ZONE				
Classrooms	MANUAL ON	VACANCY OFF OR MANUAL OFF	20 MIN	YES IN DAYLIGHT AREAS		WIRELESS DIMMING	WHERE INDICATED ON PLANS	NETWORK CONNECTED DEVICES DIM TO 75% OUTPUT UPON RECEIPT OF DEMAND RESPONSE SIGNAL.	1,2,4
Electrical/Mechanical Equipment Rooms	MANUAL ON	MANUAL OFF	-	-		EXISTING ON/OFF			-
Custodian/Janitor, Tool, Instrument, Storage Rooms	MANUAL ON	VACANCY OFF OR MANUAL OFF	5 MIN	-		OCCUPANCY ON/OFF			3
IT Room	MANUAL ON	VACANCY OFF OR MANUAL OFF	15 MIN	-		OCCUPANCY ON/OFF			3
Offices	MANUAL ON	VACANCY OFF OR MANUAL OFF	15 MIN	-		WIRELESS DIMMING			1,4
Welding Bays	MANUAL ON	MANUAL OFF	-	-		WIRELESS DIMMING			1,4
Corridors	OCCUPANCY ON	DIM UPON VACANCY, SCHEDULE OFF	15 MIN	-		WIRELESS ON/OFF			1,2,4
Numbered Notes:									
1. Remove existing light switches and connect switch leg to line voltage.									
2. Provide emergency battery pack where indicated on plans.									
3. Replace existing wall switches									
4. Provide Lutron Vive load controllers or integral sensors for wireless control of lighting. Load controllers must be 0-10V and emergency type where connected to emergency lights.									
5. Provide Vive wireless occupancy sensors in classrooms with luminaires without integral Vive controllers (L16, L36, L52, H3, H6, H9, D1, D2, ETC)									
General Notes:									
1. Provide Lutron Vive Hubs for building wide scheduling, programming, and UL924 compliance. Connect Hub to nearby lighting inverter circuit. Provide with Lutron LUT-ELI Emergency Lighting Interface connected to inverter circuit and an unswitched utility power circuit for loss of utility detection.									
2. Contractor to provide Control Shop drawings.									
3. Alternate equivalent manufacturers accepted. Submit alternate fixtures and controls for approval.									



BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2

SOLANO COMMUNITY
COLLEGE
4000 SUISUN VALLEY RD.
FAIRFIELD, CA 94534

REVISIONS

NO.	DESCRIPTION	DATE
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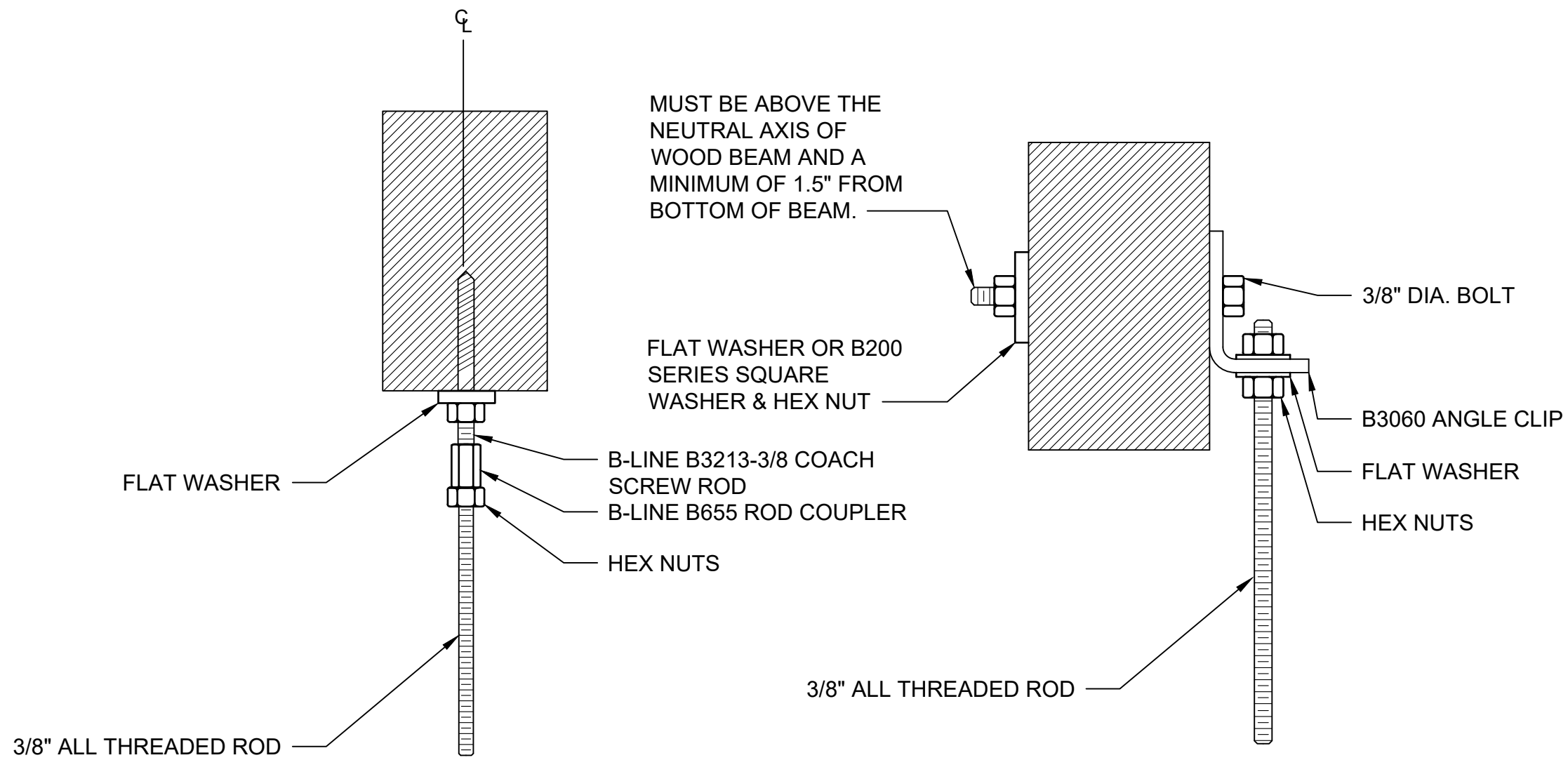
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SCHEDULES

MARCH 20, 2025

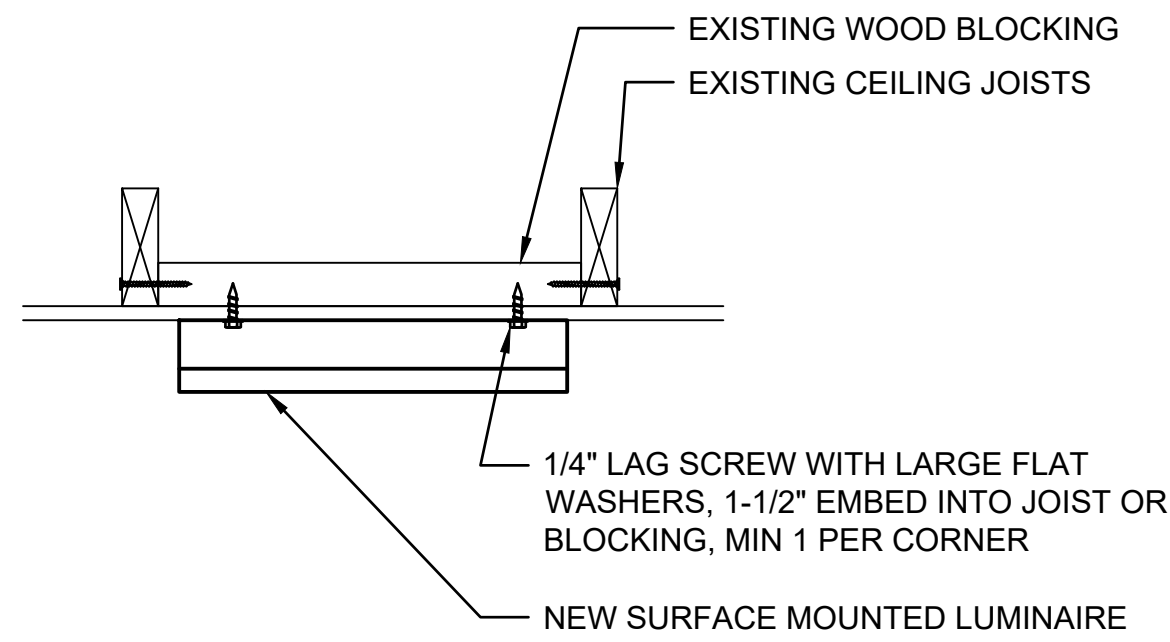
DRAWN BY: GW	E4.2
CHECKED BY: KD	
IDB NO. 24035	

3/25/2025 10:30 AM NB455
C:\DESIGN\PHMR\24-006 SOLANO CC BLDG 1800 ELECTRICAL IMPROVEMENTS\LIGHTING REPLACEMENT\CAD\24-006_LR_E51.DWG

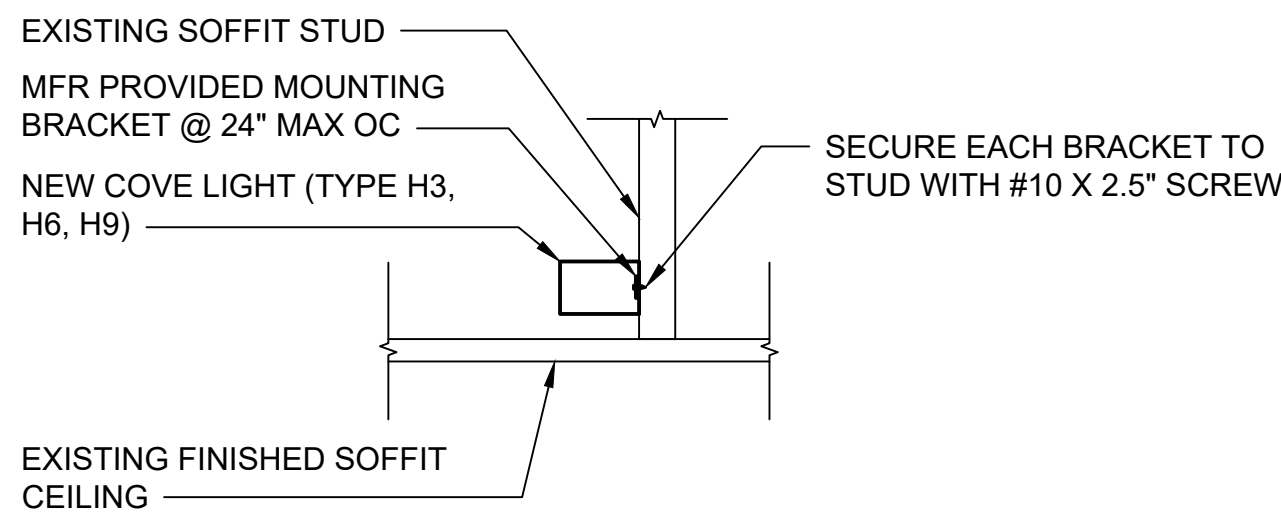


- NOTES:
- GENERAL SUPPORT DETAIL FOR THREADED ROD CONDUIT SUPPORT HANGERS, SEE DETAIL 11/E5.1.
 - MAX WT PER ROD: 100 LBS.

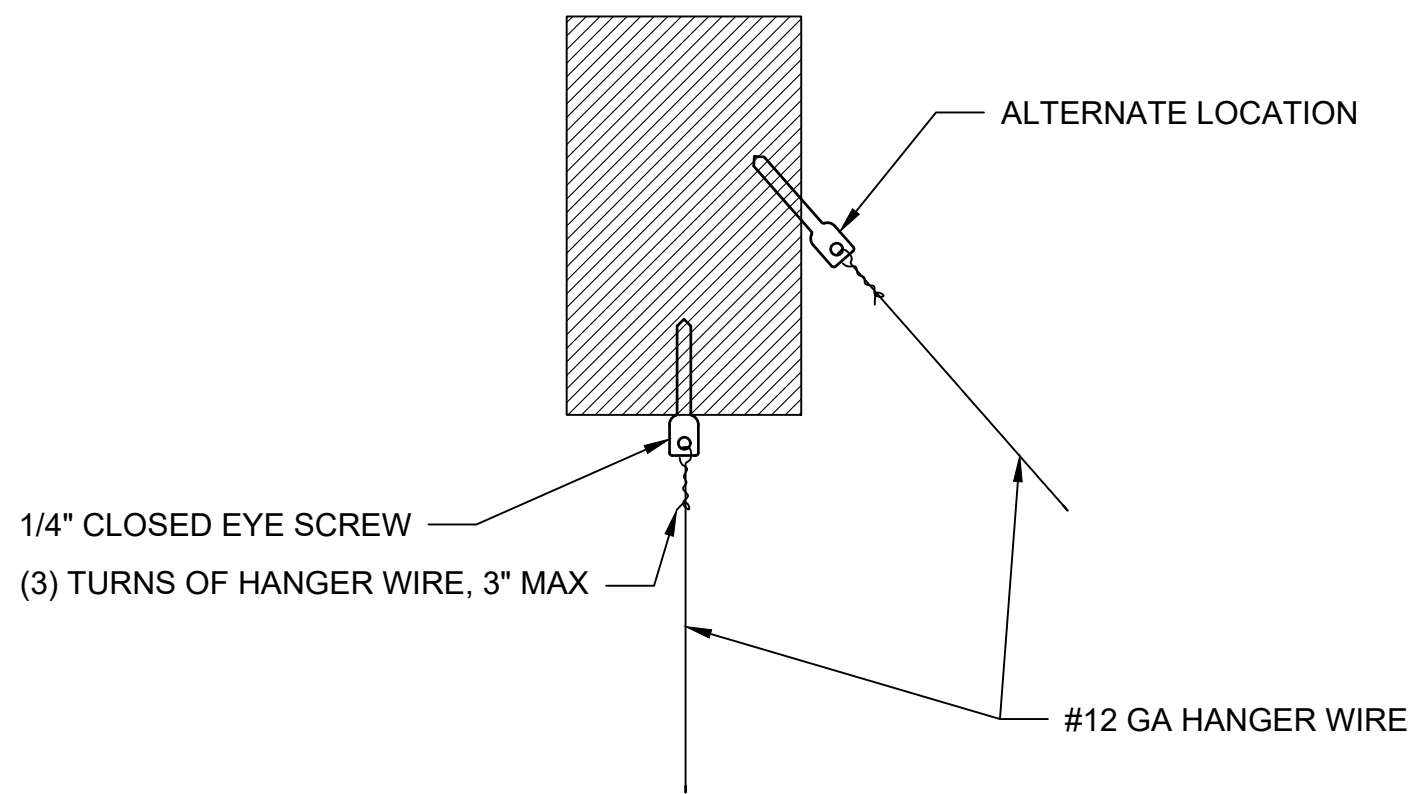
1 THREADED ROD ATTACHMENT TO STRUCTURAL MEMBERS
SCALE: NONE



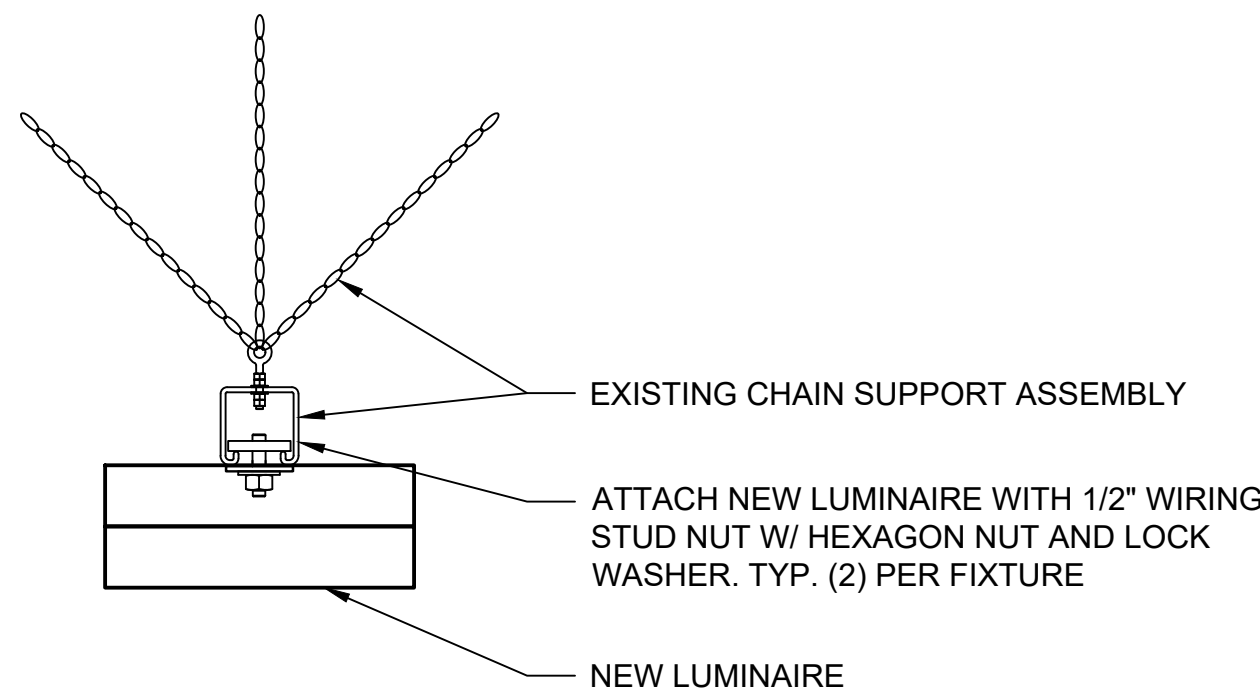
3 EXISTING REPLACED SURFACE MOUNTED LUMINAIRE
SCALE: NONE



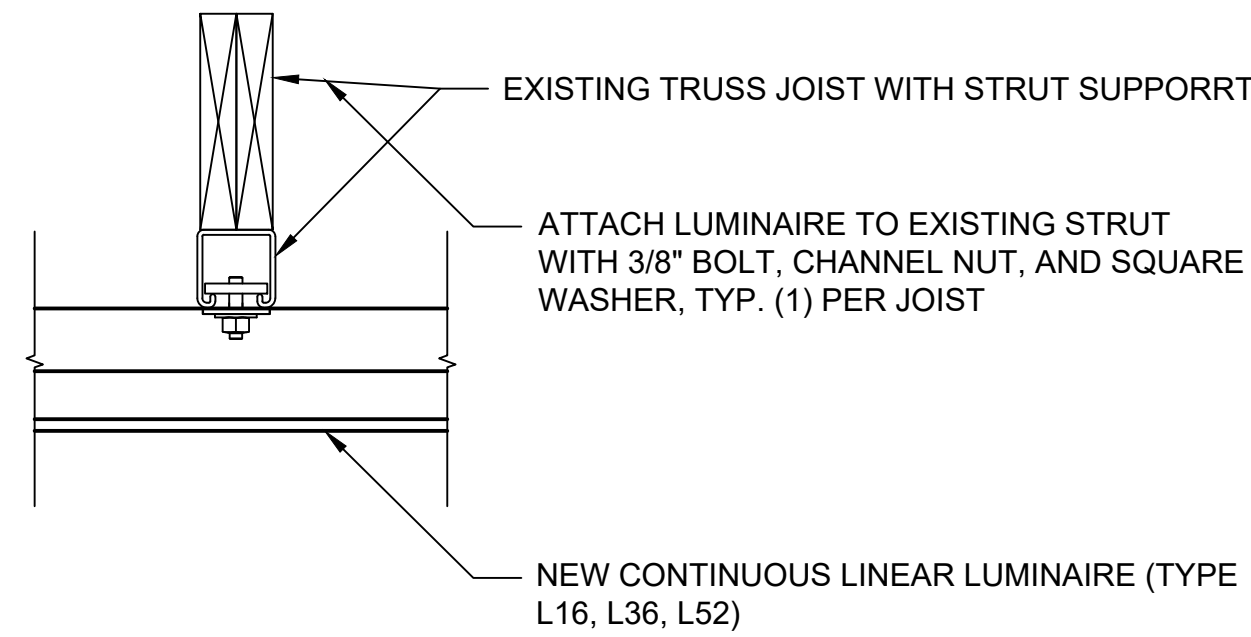
6 EXISTING REPLACED COVE LUMINAIRE
SCALE: NONE



2 HANGER WIRE ATTACHMENT TO WOOD STRUCTURAL MEMBERS
SCALE: NONE



4 EXISTING REPLACED CHAIN MOUNTED LUMINAIRE
SCALE: NONE

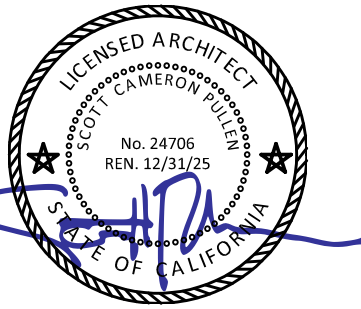


5 EXISTING REPLACED CONTINOUS LINEAR JOIST MOUNTED LUMINAIRE
SCALE: NONE

■ ■ ■
HMRARCHITECTS

2130 21st Street
Sacramento, CA 95818
T 916 736 2724

■ ■ ■



Whittington Electric Inc.
Project #: 424-006 1940 Industrial Drive • Auburn, CA 95603
Office (530) 823-3055 • Fax (530) 823-3066

■ ■ ■

**BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2**

**SOLANO COMMUNITY
COLLEGE**

**4000 SUISUN VALLEY RD.
FAIRFIELD, CA 94534**

■ ■ ■

■ ■ ■

REVISIONS

NO.	DESCRIPTION	DATE
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ELECTRICAL DETAILS

MARCH 20, 2025

DRAWN BY:	GW
CHECKED BY:	KD
IDB NO.	24035

E5.1

3/23/2025: 10:30 AM, NB&ES, C:\DESIGN\PHMR\24-006 SOLANO CC BLDG 1800 ELECTRICAL IMPROVEMENTS\LIGHTING REPLACEMENT\CA\24-006_LR_E61.DWG

STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

Indoor Lighting

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 1 of 9)

Project Address:

Date Prepared: 2025-03-06T14:40:14-05:00

A. GENERAL INFORMATION

01 Project Location (city) Fairfield

02 Climate Zone 12

03 Occupancy Types Within Project (select all that apply):

04 Total Conditioned Floor Area (ft²) 21,001

05 Total Unconditioned Floor Area (ft²) 0

06 # of Stories (Habitable Above Grade) 2

Classroom

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work

Conditioned Spaces

Unconditioned Spaces

01

02

03

04

05

My Project Consists of (check all that apply):

Calculation Method

Area (ft²)

Calculation Method

Area (ft²)

☐ New Lighting System

N/A

0

N/A

0

☐ New Lighting System - Parking Garage

N/A

0

N/A

0

☒ Altered Lighting System

Complete Building Method

21001

N/A

0

Total Area of Work (ft²)

21001

Generated Date/Time:

Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000

Compliance ID: 278912-0325-0002

Schema Version: rev 20220101

Report Generated: 2025-03-06 11:40:18

STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

Indoor Lighting

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 4 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

F. INDOOR LIGHTING FIXTURE SCHEDULE

²Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01

02

03

Mandatory Demand Response 110.12(c)

Shut-off controls 130.1(c) / 160.5(b)4C

Field Inspector

Pass

Fail

Required >= 4,000W subject to multilevel

Whole Building Auto Time Switch

☐

☐

Generated Date/Time:

Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000

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STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

Indoor Lighting

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 2 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)

Allowed Lighting Power per 140.6(b) / 170.2(e) (Watts)

Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)

Compliance Results

01

02

03

04

05

06

07

08

09

Complete Building

Area Category

Area Category Additional

Tailored

=

Total Allowed

≥

Total Designed

PAF Lighting Control Credits

=

Total Adjusted

05 must be >= 08 140.6 / 170.2(e)

(See Table I)

(See Table I)

(See Table J)

(See Table K)

(See Table F)

(See Table P)

Conditioned

13,073.4

11,106.8

11106.8

COMPLIES

Unconditioned

Controls Compliance (See Table H for Details)

COMPLIES

Rated Power Reduction Compliance (See Table Q for Details)

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Generated Date/Time:

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

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Compliance ID: 278912-0325-0002

Schema Version: rev 20220101

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STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

Indoor Lighting

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 5 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04

05

06

07

08

09

10

11

12

Area Description

Complete Building or Area Category Primary Function Area

Manual Area Controls

Multi-Level Controls

Shut-Off Controls

Primary/Sky lit Daylighting

Secondary Daylighting

Interlocked Systems

Field Inspector

Classrooms

School or Classroom

Readily Accessible

Dimmer

Occupancy Sensor

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

Electrical/Mechanical Rooms

School or Classroom

Readily Accessible

NA: General Ltg <= 0.5W/SF

Occupancy Sensor

NA: Elec. equip. rm

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

Custodian/Janitor, Tool, Instrument, Storage Rooms

School or Classroom

Readily Accessible

NA: Not daylight zone

Occupancy Sensor

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

IT Room

School or Classroom

Readily Accessible

NA: Enclosed area <100SF

Occupancy Sensor

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

Offices

School or Classroom

Readily Accessible

Dimmer

Occupancy Sensor

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

Welding Bays

School or Classroom

Readily Accessible

Dimmer

See Building Level

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

Corridors

School or Classroom

Readily Accessible

NA: General Ltg <= 0.5W/SF

See Building Level

NA: Not daylight zone

NA: Not daylight zone

No

☐

☐

Classrooms 1860, 1861, 1871, 1876, 1878, 1879, 1881

School or Classroom

Readily Accessible

Dimmer

Occupancy Sensor

Included

Included

No

☐

☐

13

Plan Sheet Showing Daylit Zones: E2.1 and E2.2

Generated Date/Time:

Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

Report Version: 2022.0.000

Compliance ID: 278912-0325-0002

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STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

Indoor Lighting

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 3 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01

02

03

04

05

06

07

08

09

10

Name or Item Tag

Complete Luminaire Description

Modular (Track) Fixture

Small Aperture & Color Change¹

Watts per luminaire²

How is Wattage determined

Total Number of Luminaires

Excluded per 140.6(a)3 / 170.2(e)2C

Design Watts

Field Inspector

A1

2'x4' Retrofit LED Luminaire

No

NA

28.5

Mfr. Spec

153

No

4,360.5

☐

☐

A2

2'x4' Retrofit LED Luminaire

No

NA

28.5

Mfr. Spec

5

No

142.5

☐

☐

B1

1'x4' Retrofit LED Luminaire

No

NA

18.8

Mfr. Spec

9

No

169.2

☐

☐

C1

4ft T8 Bypass LED Relamp

No

NA

12

Mfr. Spec

13

No

156

☐

☐

D1

6" Round LED Downlight

No

NA

11.9

Mfr. Spec

25

No

297.5

☐

☐

D2

6" Round LED Downlight

No

NA

11.9

Mfr. Spec

7

No

83.3

☐

☐

E1

1'x4 LED Luminaire

No

NA

21.4

Mfr. Spec

28

No

599.2

☐

☐

F1

4ft Narrow Linear LED Strip

No

NA

19.7

Mfr. Spec

6

No

118.2

☐

☐

F2

4ft Narrow Linear LED Strip

No

NA

33

Mfr. Spec

2

No

66

☐

☐

G1

4ft Industrial Linear LED Strip

No

NA

37.6

Mfr. Spec

23

No

864.8

☐

☐

H3

3ft LED Cove Light

No

NA

10.2

Mfr. Spec

11

No

112.2

☐

☐

H6

6ft LED Cove Light

No

NA

20.4

Mfr. Spec

9

No

183.6

☐

☐

H9

9ft LED Cove Light

No

NA

30.6

Mfr. Spec

3

No

91.8

☐

☐

J1

LED Wall Sconce

No

NA

22

Mfr. Spec

3

No

66

☐

☐

L16

16ft Continuous Linear LED

No

NA

116.8

Mfr. Spec

4

No

467.2

☐

☐

L36

36ft Continuous Linear LED

No

NA

262.8

Mfr. Spec

4

No

1,051.2

☐

☐

L52

52ft Continuous Linear LED

No

NA

379.6

Mfr. Spec

6

No

2,277.6

☐

☐

Total Designed Watts: CONDITIONED SPACES

11,106.8

¹FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance

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Compliance ID: 278912-0325-0002

Schema Version: rev 20220101

Report Generated: 2025-03-06 11:40:18

STATE OF CALIFORNIA

CALIFORNIA ENERGY COMMISSION

Indoor Lighting

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 6 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used.

Conditioned Spaces

01

02

03

04

05

06

Area Description

Complete Building or Area Category Primary Function Area

Allowed Density (W/ft²)

Area (ft²)

Allowed Wattage (Watts)

Additional Allowance / Adjustment

Classrooms

School or Classroom

0.6

11,051

6,630.6

No

No

Electrical/Mechanical Rooms

School or Classroom

0.6

358

214.8

No

No

Custodian/Janitor, Tool, Instrument, Storage Rooms

School or Classroom

0.6

1,574

944.4

No

No

IT Room

School or Classroom

0.6

38

22.8

No

No

Offices

School or Classroom

0.6

1,598

958.8

No

No

Welding Bays

School or Classroom

0.6

382

229.2

No

No

Corridors

School or Classroom

0.6

1,031

618.6

No

No

Classrooms 1860, 1861, 1871, 1876, 1878, 1879, 1881

School or Classroom

0.6

5,757

3,454.2

No

No

TOTALS:

21,789

13,073.4

See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

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Report Version: 2022.0.000

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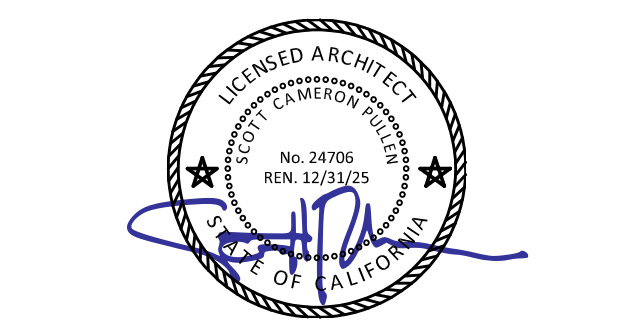
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HMRARCHITECTS

2130 21st Street
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T 916 736 2724

■■■



■■■

BUILDING 1800B LIGHTING UPGRADES BID ALT #2

SOLANO COMMUNITY
COLLEGE

4000 SUISUN VALLEY RD.
FAIRFIELD, CA 94534

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REVISIONS

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TITLE 24 INDOOR LIGHTING
COMPLIANCE FORMS

MARCH 20, 2025

DRAWN BY: GW	E6.1
CHECKED BY: KD	
IDB NO. 24035	

3/20/2025: 10:30 AM, NB&ES
C:\DESIGN\PHMR\24-006 SOLANO CC BLDG 1800 ELECTRICAL IMPROVEMENTS\LIGHTING REPLACEMENT\CAD\24-006_IR_E61.DWG

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 7 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

Generated Date/Time: Documentation Software: Energy Code Ace

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 278912-0325-0002 Report Generated: 2025-03-06 11:40:18

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 8 of 9)

Date Prepared: 2025-03-06T14:40:14-05:00

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title

NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: <http://www.energy.ca.gov/title24/attcp/providers.html>

Form/Title

Systems/Spaces To Be Field Verified

NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.

Classrooms; Electrical/Mechanical Rooms; Custodian/Janitor, Tool, Instrument, Storage Rooms; IT Room; Offices; Welding Bays; Corridors; Classrooms 1860, 1861, 1871, 1876, 1878, 1879, 1881

NRCA-LTI-03-A - Must be submitted for automatic daylight controls.

Classrooms 1860, 1861, 1871, 1876, 1878, 1879, 1881

NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.

Classrooms; Electrical/Mechanical Rooms; Custodian/Janitor, Tool, Instrument, Storage Rooms; IT Room; Offices; Welding Bays; Corridors; Classrooms 1860, 1861, 1871, 1876, 1878, 1879, 1881

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 278912-0325-0002 Report Generated: 2025-03-06 11:40:18

STATE OF CALIFORNIA

Indoor Lighting

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-LTI-E

Project Name: Solano CC Building 1800B Lighting Upgrades

Report Page: (Page 9 of 9)


Project Address:

Date Prepared: 2025-03-06T14:40:14-05:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Nathan Baer

Documentation Author Signature: 

Company: Whittington Electric, Inc.

Signature Date: 3/20/2025

Address: 1940 Industrial Dr

CEA/HERS Certification Identification (if applicable):

City/State/Zip: Auburn, CA 95603

Phone: 530-823-3055

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.


2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)

3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.

4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Nathan Baer

Responsible Designer Signature: 

Company: Whittington Electric, Inc.

Date Signed: 3/20/2025

Address: 1940 Industrial Dr

License: E21078

City/State/Zip: Auburn, CA 95603

Phone: 530-823-3055

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: 278912-0325-0002 Report Generated: 2025-03-06 11:40:18

Indoor Lighting Mandatory Measures:

130.9 LIGHTING CONTROLS AND COMPONENTS

ALL LIGHTING CONTROL DEVICES AND SYSTEMS, AND ALL LIGHT SOURCES SHALL MEET THE APPLICABLE REQUIREMENTS OF 110.9.

110.12(c) DEMAND RESPONSIVE LIGHTING CONTROLS

BUILDINGS WITH NONRESIDENTIAL LIGHTING SYSTEMS HAVING A TOTAL INSTALLED LIGHTING POWER OF 4,000 WATTS OR GREATER THAT IS SUBJECT TO THE REQUIREMENTS OF SECTION 130.1(b):

1. LIGHTING CONTROLS SHALL DEMONSTRATE A 15 PERCENT OR GREATER REDUCTION IN LIGHTING POWER AS DESCRIBED IN NA7.6.3.

2. FOR BUILDINGS WHERE DEMAND RESPONSE CONTROLS ARE REQUIRED, DEMAND RESPONSIVE CONTROLS SHALL CONTROL THE GENERAL LIGHTING THAT IS SUBJECT TO THE REQUIREMENTS OF SECTION 130.1(b) AND MAY CONTROL ADDITIONAL LIGHTING.

3. GENERAL LIGHTING SHALL BE REDUCED IN A MANNER CONSISTENT WITH THE UNIFORM LEVEL OF ILLUMINATION REQUIREMENTS IN TABLE 130.1-A.

NOTE: THE EXCEPTED SPACES DO NOT COUNT TOWARDS THE 10,000 FT2 THRESHOLD.

130.0 GENERAL LUMINAIRE REQUIREMENTS

ALL LUMINAIRES SHALL BE FACTORY-LABELLED PER 130.0(c).

ENERGY MANAGEMENT CONTROL SYSTEMS (EMCS) SHALL MEET REQUIREMENTS OF 130.0(e).

130.1(a) MANUAL AREA CONTROLS

EACH ROOM OR AREA WITH FLOOR-TO-CEILING WALLS IN THIS BUILDING SHALL HAVE LIGHTING CONTROLS THAT ALLOW LIGHTING TO BE MANUALLY TURNED ON AND OFF MANUAL CONTROLS SHALL:

1. BE READILY ACCESSIBLE

2. BE LOCATED IN THE SAME ENCLOSED AREA WITH THE LIGHTING IT CONTROLS.

3. PROVIDE SEPARATE CONTROL OF GENERAL, FLOOR, WALL, WINDOW CASE DISPLAY, ORNAMENTAL AND SPECIAL EFFECTS LIGHTING SO EACH TYPE CAN BE TURNED ON AND OFF SEPARATELY WITHOUT AFFECTING OTHER LIGHTING OR EQUIPMENT.

130.1(b) MULTILEVEL LIGHTING CONTROLS

GENERAL LIGHTING IN ALL ROOMS AND AREAS 100 FT2 OR GREATER AND WITH MORE THAN 0.5 WATTS PER FT2 OF LIGHTING LOAD SHALL HAVE MULTILEVEL CONTROLS THAT ALLOW LIGHT LEVELS TO BE ADJUSTED UP AND DOWN. CONTROLS SHALL PROVIDE NUMBER OF CONTROL STEPS AND UNIFORM ILLUMINANCE LIGHT LEVELS PER TABLE 130.1-A.

130.1(c): SHUTOFF CONTROLS

ALL INSTALLED INDOOR LIGHTING SHALL BE EQUIPPED WITH CONTROLS TO AUTOMATICALLY REDUCE LIGHTING POWER WHEN SPACE IS TYPICALLY UNOCCUPIED.

130.1(c)1: CONTROL REQUIREMENTS

ALL INSTALLED INDOOR LIGHTING SHALL HAVE ALL OF THE FOLLOWING:

A. CONTROL(S) CAPABLE OF AUTOMATICALLY SHUTTING OFF ALL LIGHTING IN THE SPACE WHEN TYPICALLY UNOCCUPIED (OCCUPANT SENSING CONTROL, AUTOMATIC TIME-SWITCH CONTROL, OR OTHER)

B. SEPARATE CONTROLS FOR LIGHTING ON EACH FLOOR (OTHER THAN STAIRWELLS)

C. SEPARATE CONTROLS FOR A SPACE ENCLOSED BY CEILING HEIGHT PARTITIONS NOT EXCEEDING 5,000 FT2

130.1(c)2: COUNTDOWN TIMER SWITCHES

COUNTDOWN TIMER SWITCHES ONLY ALLOWED TO MEET SHUT-OFF REQUIREMENTS IN CLOSETS <70 FT2 AND SERVER AISLES IN SERVER ROOMS. MAXIMUM TIMER SETTINGS: 10 MINUTES FOR CLOSETS, 30 MINUTES FOR SERVER AISLES

Indoor Lighting Mandatory Measures:

130.1(c)6 PARTIAL OR FULL-OFF OCCUPANT SENSORS

PROVIDE PARTIAL OR FULL-OFF OCCUPANT SENSORS, IN ADDITION TO SHUTOFF CONTROLS PER 130.1(c)1 AND 130.1(c)2, IN THE FOLLOWING SPACES:

AISLE WAYS AND OPEN AREAS IN WAREHOUSES

LIBRARY BOOK STACK AISLES

CORRIDORS AND STAIRWELLS

OFFICES GREATER THAN 250 SQ. FT.

130.1(d) AUTOMATIC DAYLIGHTING CONTROLS

ALL GENERAL LIGHTING IN THE FOLLOWING ZONES SHALL HAVE CONTROLS THAT AUTOMATICALLY ADJUST THE INSTALLED LIGHTING POWER UP AND DOWN TO KEEP TOTAL LIGHT LEVEL STABLE AS INCOMING DAYLIGHT CHANGES:

PRIMARY SIDELIT DAYLIT ZONES

SECONDARY SIDELIT DAYLIT ZONES

COMBINED PRIMARY AND SECONDARY SIDELIT DAYLIT ZONES IN PARKING GARAGES

ALL DAYLIT ZONES MUST BE SHOWN ON PLANS.

NOTE: PARKING AREAS ON THE ROOF OF A PARKING STRUCTURE ARE NOT SKYLIT DAYLIT AREAS.

IN ADDITION, AUTOMATIC DAYLIGHTING CONTROLS SHALL PROVIDE SEPARATE CONTROL FOR LUMINAIRES IN EACH TYPE OF DAYLIT ZONE. LUMINAIRES THAT FALL IN BOTH SKYLIT AND SIDELIT DAYLIT ZONE SHALL BE CONTROLLED AS PART OF THE SKYLIT ZONE.

130.1(d)3 THE AUTOMATIC DAYLIGHTING CONTROLS SHALL ACHIEVE ALL OF THE FOLLOWING:

A. ADJUST LIGHTING VIA CONTINUOUS DIMMING OR THE NUMBER OF CONTROL STEPS PROVIDED BY THE MULTILEVEL CONTROLS (FOR SPACES REQUIRED TO INSTALL MULTILEVEL CONTROLS UNDER SECTION 130.1(b)).

B. FOR EACH SPACE, ENSURE COMBINED ILLUMINANCE FROM CONTROLLED LIGHTING AND DAYLIGHT IS NOT LESS THAN ILLUMINANCE FROM CONTROLLED LIGHTING WHEN NO DAYLIGHT IS AVAILABLE.

C. ENSURE THAT THE GENERAL LIGHTING POWER IN A DAYLIT ZONE SHALL BE REDUCED BY AT LEAST 90% WHEN DAYLIGHT ILLUMINANCE IN THAT ZONE IS GREATER THAN 150% OF DESIGN ILLUMINANCE RECEIVED FROM THE GENERAL LIGHTING SYSTEM AT FULL POWER (NOT APPLICABLE TO PARKING GARAGES).

D. (FOR PARKING GARAGES ONLY) ENSURE THAT WHEN ILLUMINANCE LEVELS MEASURED AT THE FARTHEST EDGE OF THE SECONDARY SIDELIT ZONE AWAY FROM GLAZING OR OPENING ARE GREATER THAN 150% OF THE ILLUMINANCE PROVIDED BY THE CONTROLLED LIGHTING WHEN NO DAYLIGHT IS AVAILABLE, THE CONTROLLED LIGHTING POWER IN THE COMBINED PRIMARY AND SECONDARY SIDELIT DAYLIT ZONES SHALL BE REDUCED BY 100%.

130.1(d)4 WHEN PHOTSENSORS ARE LOCATED WITHIN THE DAYLIT ZONE, AT LEAST ONE PHOTSENSOR SHALL BE LOCATED SO THAT IT IS NOT READILY ACCESSIBLE TO UNAUTHORIZED PERSONNEL.

130.1(d)5 THE LOCATION WHERE CALIBRATION ADJUSTMENTS ARE MADE TO AUTOMATIC DAYLIGHTING CONTROLS SHALL BE READILY ACCESSIBLE TO AUTHORIZED PERSONNEL BUT MAY BE INSIDE A LOCKED CASE OR UNDER A COVER THAT REQUIRES A TOOL FOR ACCESS.

Indoor Lighting Mandatory Measures:

130.1(f) CONTROL INTERACTIONS

EACH LIGHTING CONTROL INSTALLED TO MEET 130.1 REQUIREMENTS SHALL INCORPORATE THE FUNCTIONS OF OTHER LIGHTING CONTROLS REQUIRED BY THIS SECTION.

1. FOR GENERAL LIGHTING, MANUAL AREA CONTROL SHALL PERMIT THE LEVEL OF LIGHT PROVIDED WHILE LIGHTING IS ON TO BE SET OR ADJUSTED BY CONTROLS SPECIFIED IN 130.1(b), (c), (d) and (e).

2. MANUAL AREA CONTROL SHALL PERMIT SHUTOFF CONTROL TO TURN THE LIGHTING DOWN OR OFF.

3. MULTILEVEL CONTROL SHALL PERMIT THE AUTOMATIC DAYLIGHTING CONTROL TO ADJUST ELECTRIC LIGHTING IN RESPONSE TO DAYLIGHT.

4. MULTILEVEL CONTROL SHALL PERMIT THE DEMAND RESPONSIVE (DR) CONTROL TO ADJUST LIGHTING DURING A DR EVENT THEN RETURN IT TO THE LEVEL SET BY THE CONTROL AFTER THE EVENT.

5. SHUTOFF CONTROL SHALL PERMIT THE MANUAL AREA CONTROL TO TURN THE LIGHTING ON.

6. AUTOMATIC DAYLIGHTING CONTROL SHALL PERMIT MULTILEVEL LIGHTING CONTROL TO ADJUST THE LIGHTING LEVEL.

7. FOR LIGHTING CONTROLLED BY MULTILEVEL LIGHTING CONTROLS AND OCCUPANT SENSING CONTROLS THAT PROVIDE AUTOMATIC-ON FUNCTION, CONTROLS SHALL PROVIDE A PARTIAL-ON FUNCTION THAT IS CAPABLE OF AUTOMATICALLY ACTIVATING BETWEEN 50-70% OF CONTROLLED LIGHTING POWER.


8. RESERVED

9. FOR SPACE CONDITIONING SYSTEM ZONES SERVING ONLY SPACES THAT ARE REQUIRED TO HAVE OCCUPANT SENSING CONTROLS SHALL BE CONTROLLED BY OCCUPANCY SENSING CONTROLS.

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BUILDING 1800B
LIGHTING
UPGRADES
BID ALT #2

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REVISIONS

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TITLE 24 INDOOR LIGHTING
COMPLIANCE FORMS

MARCH 20, 2025

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