ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY, ROHNERT PARK, CA 94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA FILE NO: 49-17 **DSA APPLICATION NO:** 01-120920 **PTN:** 73882-47

PROJECT TEAM

OWNER

Cotati-Rohnert Park Unified School District
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Fax: 707-792-4537

ARCHITECT

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ELECTRICAL ENGINEER

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QUATTROCCHI KWOK ARCHITECTS
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East Bay:
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(707) 576-0829

LICENSED ARCHITECT
KEVIN CHAPIN
LICENSE # C31640
EXP MAY 31, 2025
STATE OF CALIFORNIA

SIGNED: JULY 19, 2023

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920

ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE: N.T.S.
PTN: 73882-47 FILE NO: 49-17

CD

JULY 19, 2023

SHEET TITLE

COVER SHEET

SHEET NUMBER

G-0.1

ABBREVIATIONS

&	AND	FE	FIRE EXTINGUISHER	PLAS	PLASTER/ PLASTIC
<	ANGLE	FEC	FIRE EXTINGUISHER CABINET	PLF	POUNDS PER LINEAL FOOT
@	AT	FF	FINISH FLOOR	PLYWD	PLYWOOD
C	CENTERLINE	FG	FINISH GRADE	P.O.C.	POINT OF CONTACT
'	FEET	FGL	FIBERGLAS	PR	PAIR
"	INCHES	FH	FIRE HYDRANT	PROP	PROPERTY
d	PENNY	FHMS	FLAT HEAD MACHINE SCREW	PSF	POUNDS PER SQUARE FOOT
P	PLATE/ PROPERTY LINE	FHS	FIRE HOSE STATION	PSI	POUNDS PER SQUARE INCH
#	POUND/ NUMBER	FHWS	FLAT HEAD WOOD SCREW	PT	PAPER TOWEL DISPENSER
AB	ANCHOR BOLT	FIN	FINISH	PTDF	PRESSURE TREATED
ABBREV	ABBREVIATION	FIXT	FIXTURE		DOUGLAS FIR
AC	ASPHALT CONCRETE	FL	FLOOR LINE	PTN	PARTITION
A/C	AIR CONDITIONING	FLASH	FLASHING	PTR	PAPER TOWEL RECEPTACLE
ACC	ACCESSIBLE	FLUOR	FLUORESCENT	PVC	POLYVINYL CHLORIDE
ACOUS	ACOUSTICAL	FLR	FLOOR	PVMT	PAVEMENT
AC T	ACOUSTICAL TILE	FM / FOM	FACE OF MASONRY	R	RISER
AD	AREA DRAIN	FN	FACE NAIL	R / RAD	RADIUS
ADJ	ADJUSTABLE	FOB	FACE OF BUILDING	RB	RESILIENT BASE
A.F.F.	ABOVE FINISH FLOOR	FOC	FACE OF CONCRETE	RD	ROOF DRAIN
AGG	AGGREGATE	FOF	FACE OF FINISH	REF	REFERENCE
ALUM	ALUMINUM	FOS	FACE OF STUD	REFR	REFRIGERATOR
ANOD	ANODIZED	FRMG	FRAMING	REG	REGULAR
APPROX	APPROXIMATE	FR	FIRE-RESISTANT	REQ	REQUIRED
ARCH	ARCHITECTURAL	FRP	FIBERGLASS REINFORCED PANEL	REINF	REINFORCED
ASPH	ASPHALT			RAF	RESILIENT ATHLETIC FLOOR
BD	BOARD	FT	FEET	RH	ROOF HATCH
BITUM	BITUMINOUS	FTG	FOOTING	RHMS	ROUND HEAD MACHINE SCREW
BLDG	BUILDING	FURR	FURRING	RHWS	ROUND HEAD WOOD SCREW
BLK	BLOCK	FUT	FUTURE	RM	ROOM
BLKG	BLOCKING			RO	ROUGH OPENING
BM	BEAM	GA	GAUGE	RWL	RAIN WATER LEADER
BOT	BOTTOM	GALV	GALVANIZED	RWD	REDWOOD
BO	BY OWNER	GB	GRAB BAR		
BRK	BREAK	GC	GENERAL CONTRACTOR	S	SOUTH
BRG	BEARING	GI	GALVANIZED IRON	S.A.D.	SEE ARCHITECTURAL DRAWINGS
BRZ	BRONZE	GL	GLASS/ GLAZING	S BLK	SOLID BLOCK
BTWN	BETWEEN	GLB	GLUE LAMINATED BEAM	SC	SOLID CORE
BU	BUILT-UP	GND	GROUND	S.C.D.	SEE CIVIL DRAWINGS
BUR	BUILT-UP ROOFING	GR	GRADE	SCHED	SCHEDULE
		GYP BD	GYPSUM BOARD	SD	STORM DRAIN
C	CARPET	HB	HOSE BIBB	SC	SEALED CONCRETE
C	AB CABINET	HC	HOLLOW CORE	SECT	SECTION
CB	CATCH BASIN	HDR	HEADER	S.E.D.	SEE ELECTRICAL DRAWINGS
CEM	CEMENT	HDWD	HARDWOOD	SEP	SEPARATION
CER	CERAMIC	HDWR	HARDWARE	SHR	SHOWER
CH	COAT HOOK	HM	HOLLOW METAL	SHTG	SHEATHING
CI	CAST IRON	HORIZ	HORIZONTAL	SIM	SIMILAR
CIR	CIRCLE	HP	HIGH POINT	S.K.E.D	SEE KITCHEN EQUIPMENT DWG'S
CJ	CONTROL JOINT	HR	HOUR	SL	SLIDING
CORR	CORRIDOR	HT	HEIGHT	S.L.D.	SEE LANDSCAPE DRAWINGS
CL	CLOSET/ CENTER LINE	HTG	HEATING	SM	SHEET METAL
CLG	CEILING	HVAC	HEATING, VENTILATING, AIR-CONDITIONING	S.M.D.	SEE MECHANICAL DRAWING
CLR	CLEAR			SND	SANITARY NAPKIN DISPENSER
CLS	CLOSURE	ID	INSIDE DIAMETER	SNR	SANITARY NAPKIN RECEPTACLE
CMU	CONCRETE MASONRY UNIT	INSUL	INSULATION	SOG	SLAB ON GRADE
CO	CLEANOUT	INT	INTERIOR	SOV	SHUT OFF VALVE
COL	COLUMN	INTEG	INTEGRAL	SPEC	SPECIFICATION
COMB	COMBINATION	INTERMED	INTERMEDIATE	SPKR	SPEAKER
COMP	COMPOSITION	INV	INVERT	SQ	SQUARE
CONC	CONCRETE			SS	STAINLESS STEEL
CONN	CONNECTION	JH	JOIST HANGER	S.S.D.	SEE STRUCTURAL DRAWINGS
CONST	CONSTRUCTION	JST	JOIST	STA	STATION
CONT	CONTINUOUS	JT	JOINT	STD	STANDARD
CONTR	CONTRACTOR			S.T.D.	SEE THEATRICAL DRAWINGS
CT	CERAMIC TILE	KIT	KITCHEN	STL	STEEL
CTR	CENTER	KP	KICK PLATE	STN	STAIN
CTSK	COUNTERSINK			STOR	STORAGE
CUST	CUSTODIAN	LAB	LABORATORY	STRUCT	STRUCTURAL
CW	COLD WATER	LAM	LAMINATE	SUSP	SUSPENDED
		LAV	LAVATORY	SYM	SYMMETRICAL
DBL	DOUBLE	LB	LAG BOLT	T	TREAD
DEPT	DEPARTMENT	LH	LEFT HAND	T&B	TOP & BOTTOM
DET	DETAIL	LL	LIVE LOAD	TC	TOP OF CURB
DF	DRINKING FOUNTAIN	LP	LOW POINT	TEL	TELEPHONE
DG	DECOMPOSED GRANITE	LT	LIGHT	TEM	TEMPERED
DI	DRAIN INLET	MAS	MASONRY	TER	TERRAZZO
DIA	DIAMETER	MAT	MATERIAL	T&G	TONGUE & GROOVE
DIAG	DIAGONAL	MAX	MAXIMUM	TH	THICK
DIM	DIMENSION	MB	MACHINE BOLT	THRU	THROUGH
DISP	DISPOSAL	MBR	MODIFIED BITUMEN ROOFING	TJ	TOOL JOINT
DIV	DIVISION	MC	MEDICINE CABINET	TN	TOE NAIL
DN	DOWN	MECH	MECHANICAL	T.O.D.	TOP OF DECK
DO	DOOR OPENING	MED	MEDIUM	T.O.L.	TOP OF LOUVER
DIR	DIRECTLY	MEMB	MEMBRANE	T.O.P.	TOP OF PARAPET
DR	DOOR	MFR	MANUFACTURER	T.O.PL.	TOP OF PLATE
DS	DOWN SPOUT	MH	MANHOLE	T.O.R.	TOP OF ROOF
DSP	DRY STAND PIPE	MIN	MINIMUM	T.O.W.	TOP OF WALL
DT	DRAIN TILE	MIR	MIRROR	T.P.	TOP OF PAVEMENT
DW	DISHWASHER	MISC	MISCELLANEOUS	TPD	TOILET PAPER DISPENSER
DWG	DRAWING	MO	MASONRY OPENING	TRN	TRANSOM
DWR	DRAWER	MOD	MODULAR	TRANS	TRANSPARENT
		MR	MOISTURE RESISTANT	TS	TUBE STEEL
E	EAST	MTD	MOUNTED	TUB	TUBULAR
(E)	EXISTING	MTL	METAL	TV	TELEVISION
EA	EACH	MUL	MULLION	TW	TACKWALL
EB	EXPANSION BOLT	N	NORTH	TYP	TYPICAL
EE	EACH END	(N)	NEW	UNF	UNFINISHED
EF	EXHAUST FAN	NAT	NATURAL	U.O.N.	UNLESS OTHERWISE NOTED
EJ	EXPANSION JOINT	N.I.C.	NOT IN CONTRACT	UR	URINAL
EL	ELEVATION GRADE	NO	NUMBER	UTIL	UTILITY
ELEC	ELECTRICAL	NOM	NOMINAL		
ELEV	ELEVATION	N.T.S.	NOT TO SCALE	VB	VAPOR BARRIER
EMER	EMERGENCY	O/	OVER	VCT	VINYL COMPOSITION TILE
EMT	ELECTRIC METALLIC TUBING	OA	OVERALL	VERT	VERTICAL
ENCL	ENCLOSURE	OBS	OBSCURE	VEST	VESTIBULE
EP	ELECTRIC PANEL	OC	ON CENTER	V.I.F.	VERIFY IN FIELD
EQ	EQUAL	OD	OUTSIDE DIAMETER	VT	VINYL TILE
EQUIP	EQUIPMENT	OF	OVERFLOW	VTR	VENT THROUGH ROOF
EQUIV	EQUIVALENT	OFCI	OWNER FURNISHED/ CONTRACTOR INSTALLED	VWC	VINYL WALL COVERING
ES	EACH SIDE	OFF	OFFICE	W	WEST
EW	EACH WAY	OPNG	OPENING	W/	WITH
EXH	EXHAUST	OPP	OPPOSITE	WC	WATER CLOSET
EXIST	EXISTING	OVHD	OVERHEAD	WD	WOOD
EXP	EXPANSION			WDW	WINDOW
EXT	EXTERIOR	QT	QUARRY TILE	WH	WATER HEATER
		P	PAINT	W/O	WITHOUT
F	FACE	PC	PORTLAND CEMENT	WP	WATER PROOF
FA	FIRE ALARM	P.C.F.	POUNDS PER CUBIC FOOT	W.P.	WORK POINT
FB	FACE BRICK	PDA	POWER DRIVEN ANCHOR	WR	WATER RESISTANT
FBO	FURNISHED BY OTHERS	PERF	PERFORATED	WSCT	WAINSCOT
FCO	FLOOR CLEAN OUT	PH	PLATE HEIGHT	WT	WEIGHT
FD	FLOOR DRAIN	PL	PLATE		
FDN	FOUNDATION	P/L	PROPERTY LINE		
		PLAM	PLASTIC LAMINATE		

GENERAL NOTES:

1. ALL WORK IS SHOWN, DESCRIBED OR SPECIFIED IN THE DRAWINGS INDEXED ON THIS PAGE OR IN THE SPECIFICATIONS.

   ALL WORK NOT INDICATED AS EXISTING (E) IS NEW.

2. ALL FRAMING DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.
   - DO NOT SCALE DRAWINGS.
   - VERIFY ALL DIMENSIONS WHERE WORK INVOLVES FRAMING FOR WINDOWS, DOORS, OR CABINETS.

3. ONLY WORK SO NOTED IS NOT IN CONTRACT (N.I.C.) ALL N.I.C. ITEMS ARE NOT PART OF DSA APPROVAL

4. GOVERNING CODES: A COPY OF TITLE 24 PARTS 1-5 AND PART 9 SHALL BE KEPT ON THE JOB AT ALL TIMES.
   CALIFORNIA CODE OF REGULATIONS TITLE 24 BUILDING STANDARDS CODE:
   PART 1 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
   PART 2 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
   (2021 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, 2022 CALIFORNIA AMENDMENTS)
   PART 3 2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
   (2020 NATIONAL ELECTRICAL CODE, 2022 CALIFORNIA AMENDMENTS)
   PART 4 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
   (2021 IAPMO UNIFORM MECHANICAL CODE, 2022 CALIFORNIA AMENDMENTS)
   PART 5 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
   (2021 IAPMO UNIFORM PLUMBING CODE, 2022 CALIFORNIA AMENDMENTS)
   PART 6 2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
   PART 9 2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
   (2021 INTERNATIONAL FIRE CODE, 2022 CALIFORNIA AMENDMENTS)
   PART 10 2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
   (2021 INTERNATIONAL EXISTING BUILDING CODE, 2022 CALIFORNIA AMENDMENTS)
   PART 11 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL-GREEN), PART 11, TITLE 24 CCR
   PART 12 2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
   TITLE 19 CCR, PUBLIC SAFETY CODE, STATE FIRE MARSHAL REGULATIONS
   2010 ADA STANDARDS FOR ACCESSIBILITY DESIGN
   2016 ASME A17.1-16/CSA B44-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS
   NOTE: CAL/OSHA ELEVATOR UNIT ENFORCES CCR TITLE 8 AND USES THE 2004 ASME 17.1 BY ADOPTION

5. STANDARD AND GUIDES:

NFPA 13	INSTALLATION OF FIRE SPRINKLER SYSTEMS (CA AMENDED)	2022 EDITION
NFPA 14	INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED)	2019 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 17A	WET CHEMICAL FIRE EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 20	INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION	2019 EDITION
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (CA AMENDED)	2019 EDITION
NFPA 25	CALIFORNIA EDITION - TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS	2013 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED)	2022 EDITION
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2019 EDITION
NFPA 110	EMERGENCY AND STANDBY POWER SYSTEMS	2019 EDITION
NFPA 170	STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS	2018 EDITION
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CA AMENDED)	2018 EDITION
UL 38	1999 EDITION	
UL 268	2018 EDITION	
UL 300	STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2010)
UL 305	2012 EDITION	
UL 464	AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 EDITION
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 EDITION
UL 864	2014 EDITION	
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	2008 EDITION
UL 2034	STANDARD FOR SINGLE AND MULTIPLE CARBON MONOXIDE ALARMS	2017 EDITION
ICC 300	STANDARD FOR BLEACHERS, FOLDING AND TELESCOPIC SEATING, AND GRANDSTANDS	2017 EDITION

   ALSO, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

6. ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (C.C.R.) IN ACCORDANCE WITH TITLE 24 PART 1 CHAPTER 4: THE ADMINISTRATIVE REGULATIONS FOR THE DIVISION OF THE STATE ARCHITECT STRUCTURAL SAFETY (DSA/SS)
   - 4-331 DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION.
   - 4-332 WHEN CONSTRUCTION IS SUSPENDED FOR MORE THAN ONE MONTH, THE PROJECT INSPECTOR SHALL INFORM DSA.
   - 4-333(a) OBSERVATION OF THE WORK SHALL BE BY ARCHITECT OR REGISTERED ENGINEER.
   - 4-333(b) A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
   - 4-334 SUPERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH THIS SECTION.
   - 4-335 A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT IN ACCORDANCE WITH THIS SECTION. COSTS OF RE-TEST MAY BE BACKCHARGED TO THE CONTRACTOR. ALL TESTS AND TESTING LAB SHALL CONFORM TO THE REQUIREMENTS OF SECTION 4-33 AND APPROVED T & I SHEET (DSA-103)
   - 4-336 VERIFIED REPORTS SHALL BE SUBMITTED BY CONTRACTORS (DSA 006-C), INSPECTORS (DSA 006-PI), ARCHITECTS AND ENGINEERS (DSA 006-AE) IN ACCORDANCE WITH SECTIONS 4-336 AND 4-343.
   - 4-337 SEMI-MONTHLY REPORTS SHALL BE SUBMITTED BY INSPECTORS (DSA - 155), IN ACCORDANCE WITH SECTIONS 4-337.
   - 4-338 WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE APPROVED PLANS, ADDENDA AND CONSTRUCTION DOCUMENTS. CHANGES TO THE APPROVED PLANS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR. ADDENDA AND CHANGE DOCUMENTS SHALL BE STAMPED AND SIGNED BY THE ARCHITECT OR REGISTERED ENGINEER IN CHARGE
   - 4-341(a) THE ARCHITECT AND THE REGISTERED ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4 333(a) AND 4-341.
   - 4-343 THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH THIS SECTION.

7. THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, C.C.R. SHOULD ANY EXISTING CONDITIONS BE DISCOVERED WHICH ARE NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID TITLE 24 C.C.R. A CONSTRUCTION CHANGE DOCUMENT DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK. (TITLE 24 PART 1, SECTION 4-338(c))

8. COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC CHAPTER 33, SAFETY DURING CONSTRUCTION SHALL BE ENFORCED.

9. EMERGENCY VEHICLE ACCESS ROADS AND ON-SITE FIRE HYDRANTS SHALL BE IN SERVICE AND OPERABLE PRIOR TO LOADING TH SITE WITH COMBUSTIBLE MATERIALS.

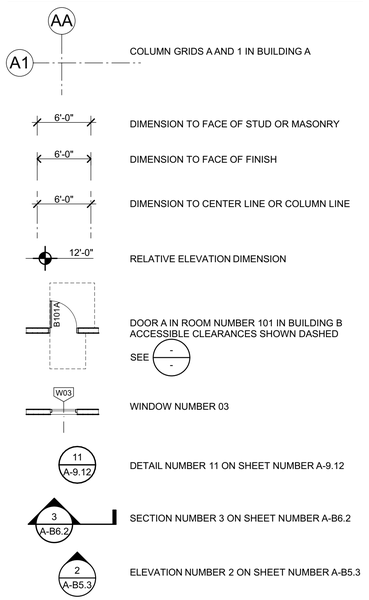
10. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH APPLICABLE LOCAL ORDINANCES.

11. SUBSTITUTIONS OF PRODUCTS OR CONSTRUCTION PROCESSES THAT AFFECT THE STRUCTURAL SAFETY, FIRE AND LIFE-SAFETY, OR ACCESSIBILITY OF THIS PROJECT SHALL BE SUBMITTED TO DSA FOR REVIEW AND APPROVAL AS AN ADDENDUM OR CONSTRUCTION CHANGE DOCUMENT.

12. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.
   - LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
   - MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
   - ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER / ARCHITECT OF RECORD, OR OWNER'S AGENT.
   - A LISTING OF CERTIFIED ATT CAN BE FOUND AT HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE
   - THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.
   - PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

LEGEND:

ALL NOTES AND SYMBOLS ARE INTENDED TO APPLY AT ALL OTHER LOCATIONS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY. NO LIMITATION OF APPLICATION IS INTENDED EXCEPT AS SPECIFICALLY NOTED.



COLUMN GRIDS A AND 1 IN BUILDING A

DIMENSION TO FACE OF STUD OR MASONRY

DIMENSION TO FACE OF FINISH

DIMENSION TO CENTER LINE OR COLUMN LINE

RELATIVE ELEVATION DIMENSION

DOOR A IN ROOM NUMBER 101 IN BUILDING B
ACCESSIBLE CLEARANCES SHOWN DASHED

SEE - -

WINDOW NUMBER 03

DETAIL NUMBER 11 ON SHEET NUMBER A-9.12

SECTION NUMBER 3 ON SHEET NUMBER A-B6.2

ELEVATION NUMBER 2 ON SHEET NUMBER A-B5.3

FLOOR PLAN

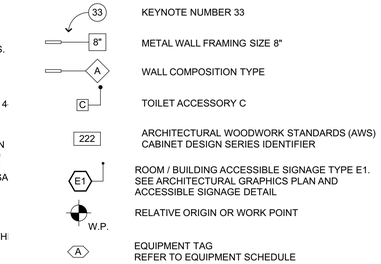
CLASSROOM	ROOM NAME
A204	ROOM NUMBER 204 IN BUILDING A
A-A7.6	INTERIOR ELEVATION SHOWN ON SHEET A-A7.6

REFLECTED CLG PLAN

CLASSROOM	ROOM NAME
A204	ROOM NUMBER 204 IN BUILDING A
CL-6	CEILING FINISH CODE CL-6
10'-0"	FINISH CEILING HEIGHT 10'-0"

FINISH FLR PLAN

CLASSROOM	ROOM NAME
A204	ROOM NUMBER 204 IN BUILDING A
P1	WALL FINISH CODE P1
B1	WALL BASE FINISH CODE B1
CPT1	FLOOR FINISH CODE CPT1



KEYNOTE NUMBER 33

METAL WALL FRAMING SIZE 8"

WALL COMPOSITION TYPE

TOILET ACCESSORY C

ARCHITECTURAL WOODWORK STANDARDS (AWS) CABINET DESIGN SERIES IDENTIFIER

ROOM / BUILDING ACCESSIBLE SIGNAGE TYPE E1. SEE ARCHITECTURAL GRAPHICS PLAN AND ACCESSIBLE SIGNAGE DETAIL

RELATIVE ORIGIN OR WORK POINT

EQUIPMENT TAG
REFER TO EQUIPMENT SCHEDULE

Statement of General Conformance

BY ARCHITECT UTILIZING PLANS (INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS) PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS

DSA Application No. 01-120920 File No 49-17

These drawings (marked Civil, Structural, Mechanical, Electrical and Fire Protection) and/or specifications and/or calculations for the items listed, have been prepared by other design professionals or consultants who are licensed and/or authorized to prepare such drawings in this state. It has been examined by me for:

1) design intent and appears to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications perpared by me, and

2) coordination with my plans and specifications and is acceptable for incorporation into the construction of this project.

The Statement of General Conformance "shall not be construed as relieving me of my rights, duties, and responsibilities under Sections 17302 and 81138 of the Education Code and Sections 4-336, 4-341, and 4-344" of Title 24, Part 1. (Title 24, Part 1, Section 4-317 (b))

Signature — 7/18/2023 Date

Architect or Engineer designated to be in general responsible charge

Kevin Chapin	C31640	May 31, 2025
Print Name	License Number	Expiration Date

PROJECT DESCRIPTION:

THIS PROJECT INCLUDES THE FOLLOWING SCOPE OF WORK:
MODERNIZATION OF MECHANICAL SYSYEM TO CLASSROOM BUILDING A; INCLUDES, REPLACE HVAC SYSTEM, COVER OPEN MECHANICAL WELL TO MATCH EXISTING BUILDING ROOF LINE AND NEW FIRE ALARM SYSTEM.

DSA DEFERRED ITEMS:

NONE

SHEET INDEX (36 TOTAL SHEETS)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
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STATE OF CALIFORNIA

SIGNED: JULY 19, 2023

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920

ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE: N.T.S.
PTN: 73882-47 FILE NO: 49-17

CD

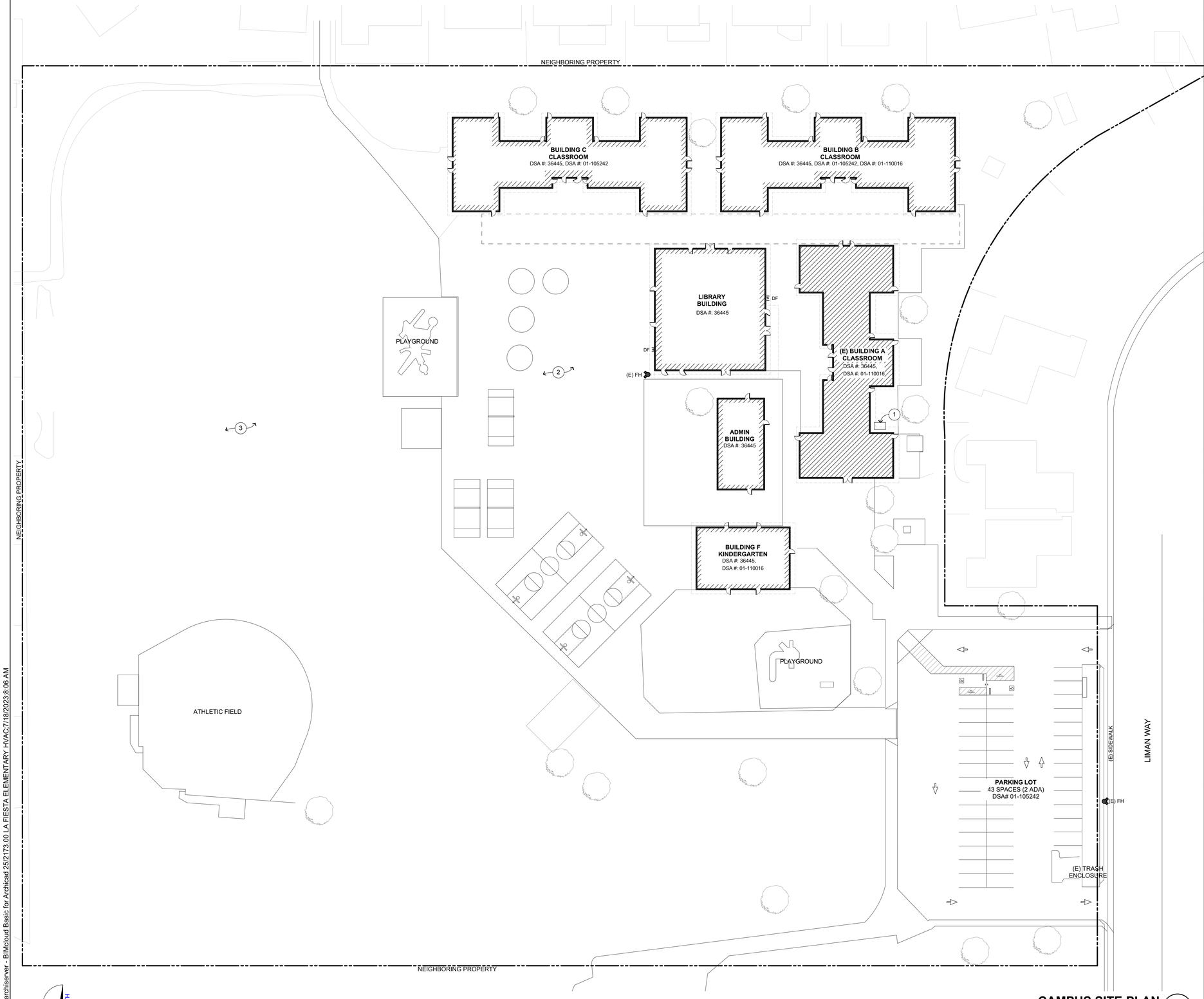
JULY 19, 2023

SHEET TITLE

ABBREVIATIONS NOTES AND INDEX

SHEET NUMBER

G-0.2



CAMPUS SITE PLAN 1

1" = 30'

SITE KEYNOTES

1. NEW CONCRETE HOUSEKEEPING PAD FOR ALL NEW MECHANIACL EQUIPMENT, W/ NEW CHAIN LINK FENCE AND GATE, S.M.D. (2 / A-2.1)
2. (E) PLAYGROUND AREA (ASPHALT PAVING)
3. (E) TURF AREA

SITE GENERAL NOTES

1. NO CHANGE TO EXISTING CONDITIONS.
2. PER IR-22 MAINTENANCE PROJECTS DO NOT REQUIRE ACCESS
3. SITE IN NOT WITHIN A WILDLAND URBAN INTERFACE.
4. SEE ELECTRICAL AND MECHANICAL DRAWINGS FOR SITE F.A. SYSTEM AND MECHANICAL EQUIPMENT
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY CONFIRM EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
6. THE CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING ABOVE AND UNDERGROUND UTILITIES AND SERVICES. PROTECT ALL EXISTING UNDERGROUND UTILITIES UNLESS OTHERWISE NOTED ON THE PLANS. WHERE DEMOLISHED.
7. IF UTILITIES TO REMAIN IN PLACE ARE DAMAGED, CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY AND MAKE REPAIRS TO SAID LINES AS QUICKLY AS POSSIBLE, AT NO EXPENSE TO THE OWNER.
8. WITHIN THE LIMIT OF SITE DEMOLITION, REMOVE ALL PAVING, PLANTS, TOPSOILS, ORGANIC MATERIAL AND MISCELLANEOUS ITEMS UNLESS OTHERWISE NOTED ON PLANS. EXCAVATE TO PAD ELEVATION OR SUBGRADE DEPTH FOR PROPOSED CONSTRUCTION AS INDICATED ON PROJECT DOCUMENTS.

CODE REFERENCE

BUILDING	DESCRIPTION	OCC.	TYPE OF CONST.	ALLOW. AREA	ACTUAL AREA
BUILDING A	OFFICE	B	V-B	9,000 SF	6,946 SF
BUILDING B	OFFICE	B	V-B	9,000 SF	6,946 SF
BUILDING C	CLASSROOM	E	V-B	9,500 SF	6,946 SF
BUILDING F	CLASSROOM	E	V-B	9,500 SF	2,518 SF
ADMINISTRATION	OFFICE	B	V-B	9,000 SF	1,905 SF
MULTI-USE	ASSEMBLY	A-3	V-A	11,500 SF	5,820 SF

SITE LEGEND

- (E) BUILDING (NO WORK)
- (E) BUILDING TO MODERNIZED HVAC SYSTEM
- (E) PROPERTY LINE
- (E) ITEM OVERHANGING ABOVE
- (E) CHAINLINK FENCE
- FH (E) FIRE HYDRANT
- DF (E) ACCESSIBLE DRINKING FOUNTAIN

KEYPLAN

IDENTIFICATION STAMP
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SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
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(707) 576-0829

LICENSED ARCHITECT
KEVIN CHAPIN
LICENSE # C31640
EXP MAY 31, 2025
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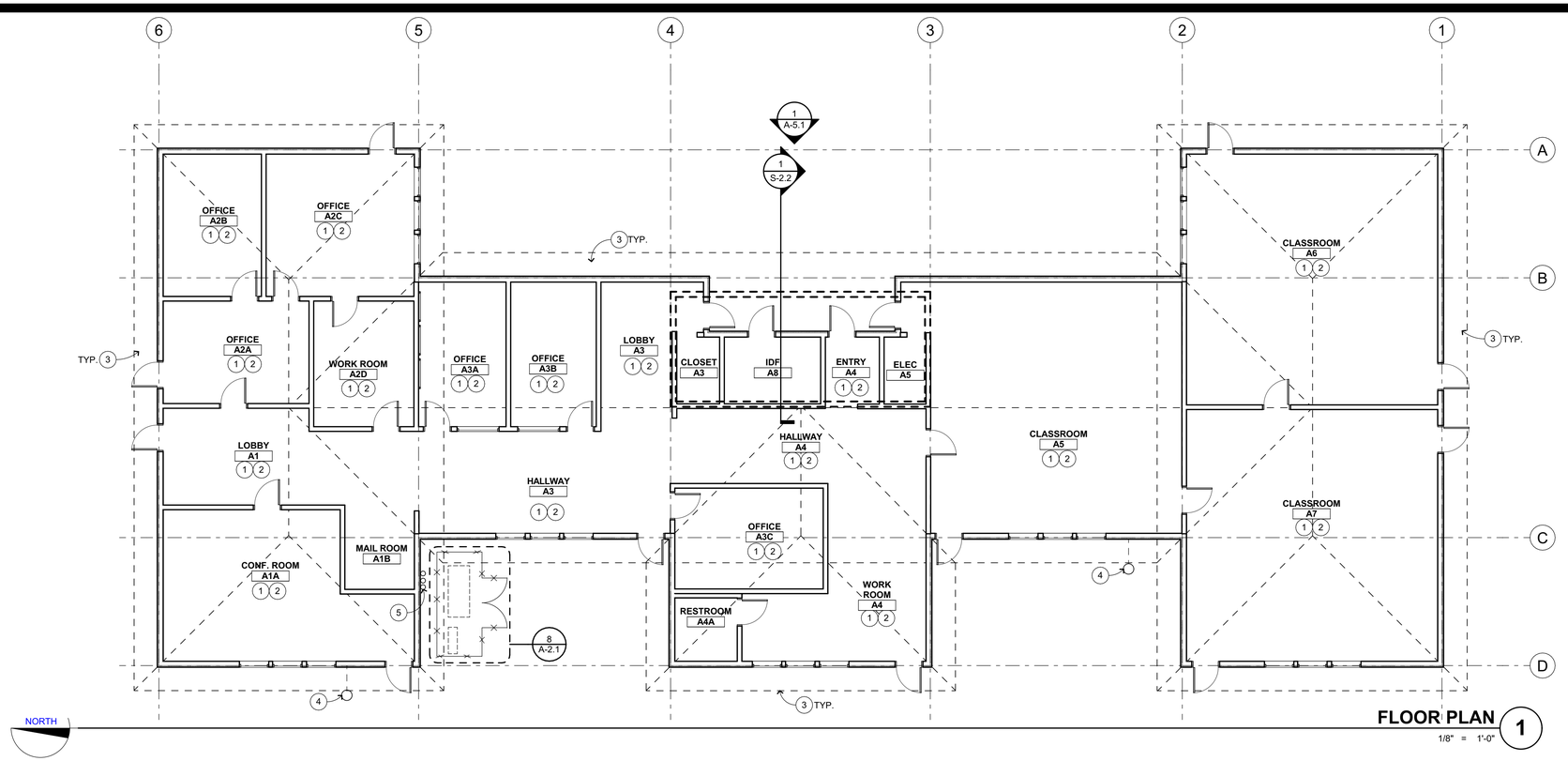
CAMPUS SITE PLAN

SHEET NUMBER

A-1.1



FLOOR PLAN KEYNOTES

1. ALL EXISTING FLOOR AND WALLS TO REMAIN. PROTECT AND PRESERVE EXISTING CONDITIONS AS REQUIRED DUE TO THE DEMOLITION AND INSTALLATION OF THE NEW MECHANICAL EQUIPMENT.
2. REPLACE/ REPAIR ANY DAMAGED FLOOR, WALL FINISHES AND FURNISHINGS AS REQUIRED TO MATCH EXISTING DUE TO REMOVAL/ INSTALLATION OF NEW MECHANICAL EQUIPMENT
3. EDGE OF ROOF ABOVE
4. FLOOR DRYWELL FOR HVAC CONDENSATION, S.M.D. C/M-A3.3
5. PATCH, REPAIR AND PAINT EXTERIOR CEMENT PLASTER DUE TO HVAC PIPE PENETRATION TO MATCH EXISTING, S.M.D.
6. CHAIN LINK FENCE AND GATE 6'-0" HIGH (15 / A-2.1)
7. CONCRETE HOUSEKEEPING PAD, SEE 6/ S-1.1 INSTALL PIERS FOR POST BEFORE PAD.
8. MECHANICAL EQUIPMENT, S.M.D.
9. HVAC PIPE PENETRATION TO WALL SEE F /M-A3.1
10. ROOF OVERHEAD LINE
11. CONTROL JOINTS, EQUALLY SPACED

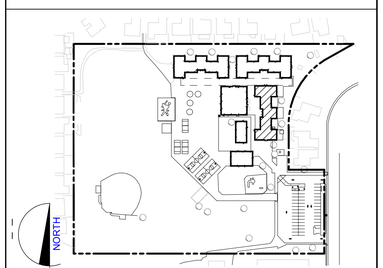
FLOOR PLAN GENERAL NOTES

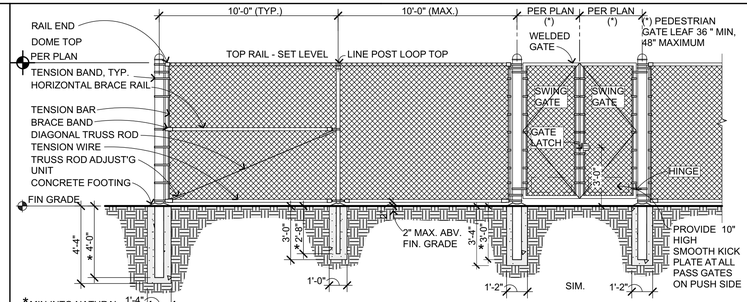
1. ALL INTERIOR FINISHES AFFECTED BY THE REMODEL TO MATCH EXISTING
2. SEE EXTERIOR ELEVATION FOR ADDITIONAL EXTENT OF WORK DUE TO MECHANICAL IMPROVEMENTS.
3. (E) BUILDING A CONSTRUCTION TYPE IS V-B

FLOOR PLAN LEGEND

(E) WOOD FRAMED WALL

KEY PLAN

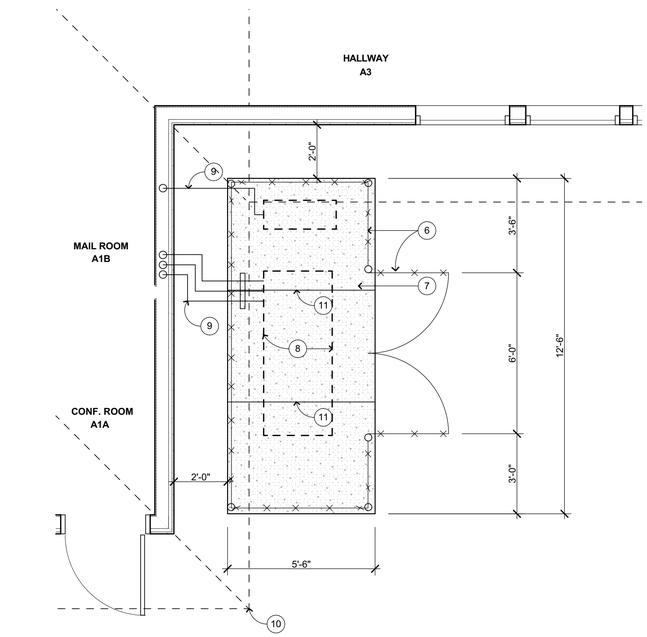




SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REFERENCES

CHAIN LINK FENCE AND GATE 15

1/4" = 1'-0" G204101



CONCRETE HOUSEKEEPING PAD 8

3/8" = 1'-0"

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DRAWING SCALE:	1/8" = 1'-0"
PTN: 73882-47	FILE NO: 49-17

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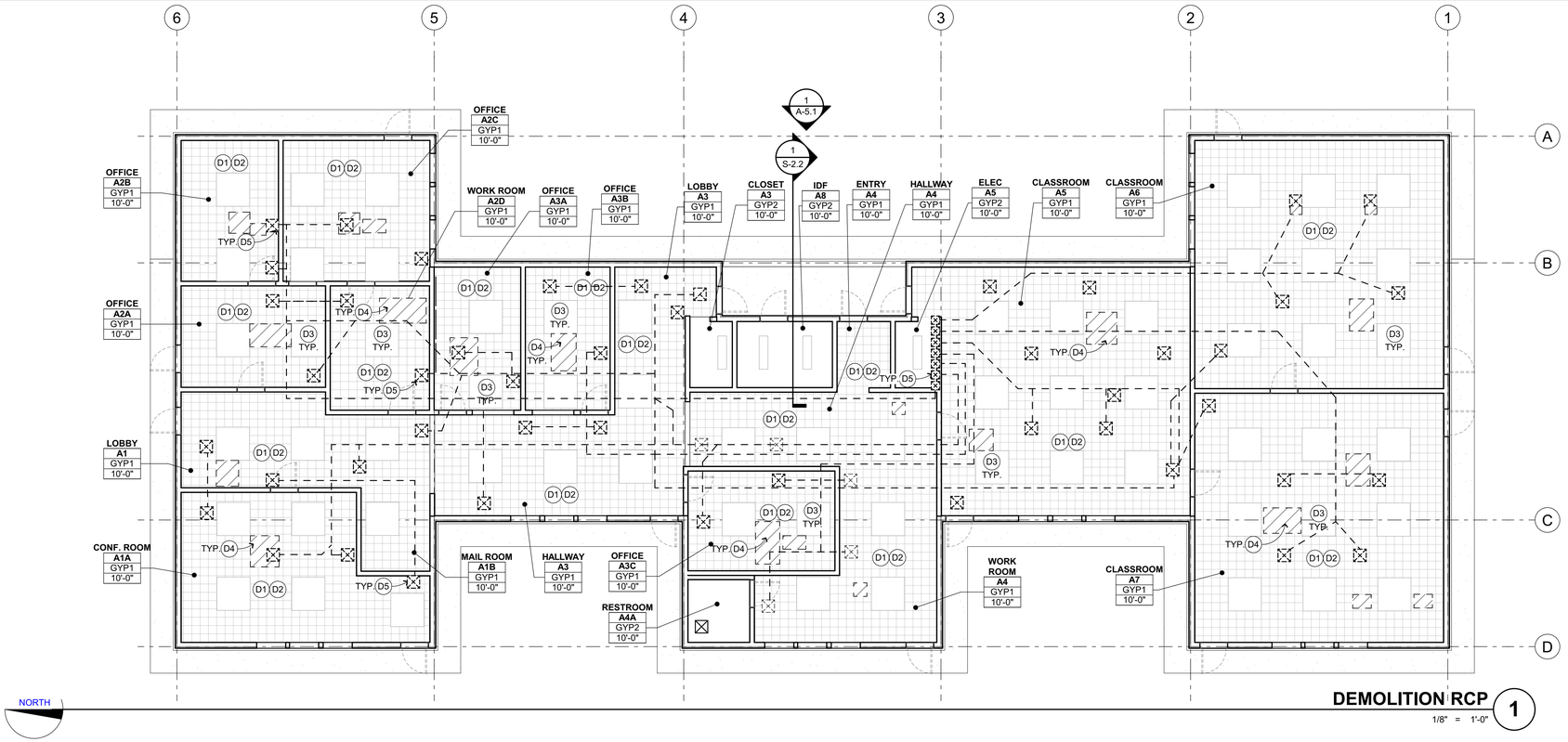
SHEET TITLE

FLOOR PLAN

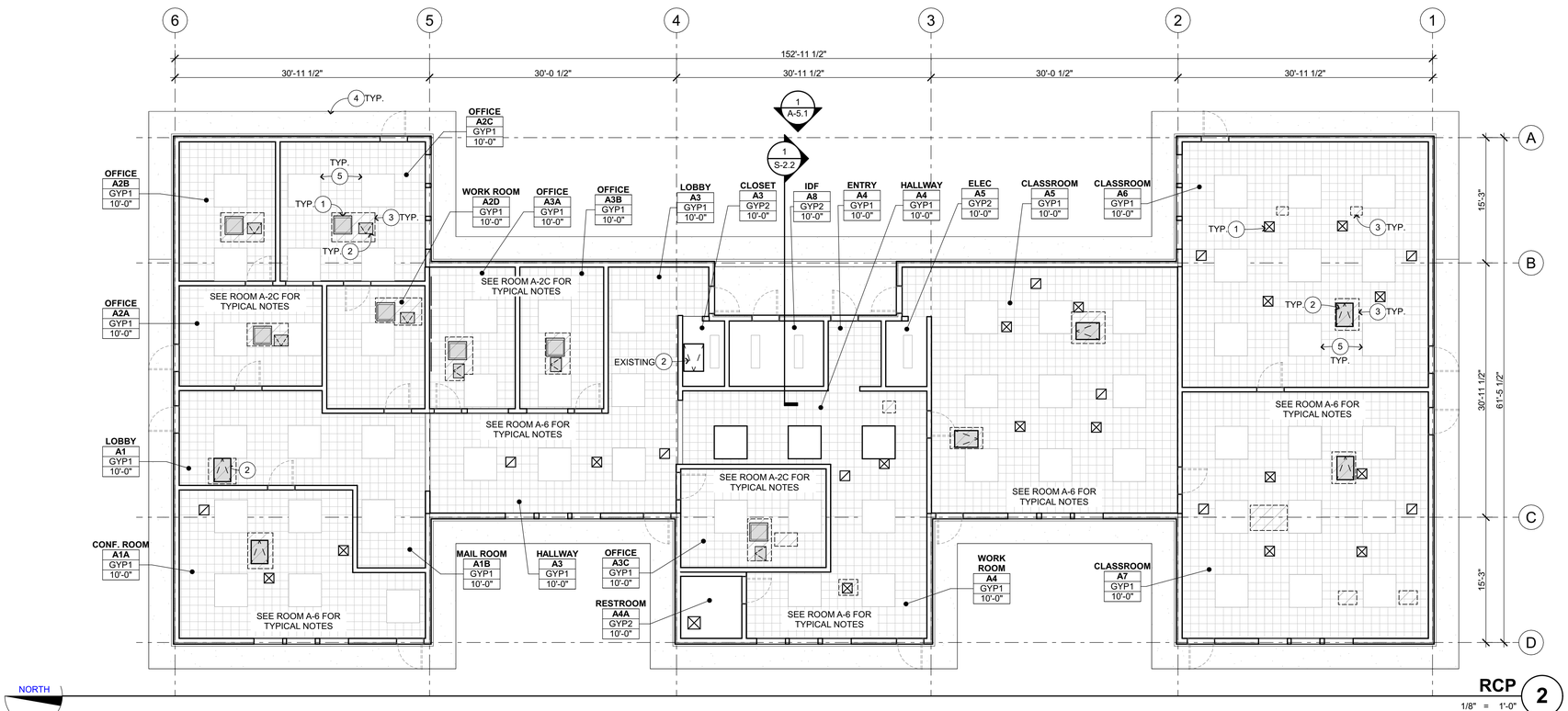
SHEET NUMBER

A-2.1



DEMOLITION RCP 1

1/8" = 1'-0"



RCP 2

1/8" = 1'-0"

RCP DEMOLITION KEYNOTES

- D1 DEMO ALL MECHANICAL ITEM, SEE DEMO LEGEND, S.M.D.
- D2 AT ATTIC SPACE, ALL MECHANICAL DUCTWORK, PIPING, CONTROLS, ELECTRICAL CONNECTIONS, INSULATION (BATT & LOOSE), ETC. TO BE DEMOLISHED AND REMOVED, S.M.D., S.E.D.
- D3 LIGHT FIXTURE TO REMAIN, PROTECT AND PRESERVE. IF TEMP. REMOVED, REINSTALL AT SAME LOCATION.
- D4 AREA OF CEILING DEMOLITION TO ALLOCATE NEW MECHANICAL EQUIPMENT, PROTECT AND PRESERVE (E) CEILING. ADDITIONAL DEMOLITION MAY BE REQUIRED TO INSTALL FULL LENGHT CEILING JOISTS, REFERT TO 1,2,3/ S-2.1
- D5 DUE TO CEILING DEMOLITION ABOVE MINIMIZE WALL AND FLOOR DAMAGE BELOW

DEMOLITION RCP GENERAL NOTES

1. NEATLY CUT AND REMOVE SURFACES AND FINISHES AS REQUIRED OR TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR SUPPORT OR RENOVATION. REFER TO ELECTRICAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR CONCEALED WORK NOT SHOWN ON ARCHITECTURAL DRAWINGS.
2. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES AFFECTED BY THE DEMOLITION OR NEW WORK TO MATCH EXISTING.

DEMOLITION LEGEND

- (E) ITEM TO BE DEMOLISHED
- (E) ITEM TO REMAIN
- MECHANICAL ITEMS TO BE DEMOLISHED, S.M.D.
- APPROXIMATE DEMO AREAS OF CEILING CUT WORK, S.M.D.,S.S.D., V.I.F.

REFLECTED CEILING PLAN KEYNOTES

1. MECHANICAL ITEM SEE S.M.D. AND S.S.D.
2. ACCESS PANEL, S.M.D. FOR SIZES AND LOCATION, S.S.D. (11 / A-5.1)
3. PATCH & REPAIR (E) GYP BD W/ ADHESIVE-APPLIED ACCOUSTIC TILES AS REQ WHERE (E) CLG. INTERSECTS (N) WORK, PRESERVE AND PROTECT (E) CLG.
4. (E) ROOF OVERHANG, PRESERVE & PROTECT -NO WORK- TYP U.O.N.
5. LIGHT FIXTURE TO REMAIN, PROTECT AND PRESERVE. IF TEMP. REMOVED, REINSTALL AT SAME LOCATION.
6. PROVIDE NEW INSULATION BATT R-30 BETWEEN RAFTERS

RCP GENERAL NOTES

1. NOTES & SYMBOLS ARE TO APPLY TO ALL AREAS OF SIMILAR GRAPHIC REPRESENTATION. SUCH INDICATIONS MAY BE LIMITED TO PROMOTE CLARITY OR AVOID REDUNDACY. NO LIMITATION OF APPLICATION SHALL BE CONSTRUED WITHOUT SPECIFIC NOTATION.
2. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, LIGHT FIXTURES AND OTHER FEATURES NOT OTHERWISE SHOWN.
3. S.E.D. FOR EXIT SIGNS & EMERGENCY LIGHTING CONDITIONS.
4. S.M.D. FOR PIPING, REGISTERS & VENTS NOT OTHERWISE SHOWN. MECHANICAL DUCT LOCATION DIMENSIONS ARE NOMINAL. VERIFY IN FIELD TO MAINTAIN CLEARANCES TO FIXED ELEMENTS.

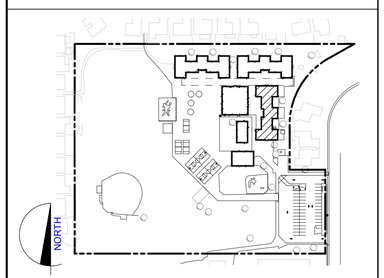
REFLECTED CEILING PLAN LEGEND

- DOORS SHOWN DASHED INDICATE DOOR BELOW.
- ELECTRICAL ITEMS, S.E.D.
- MECHANICAL ITEMS, S.M.D.

CEILING FINISH CODES

- GYP 1 (E) 1'x1' GLUE-ON-TILE O/ GYP BOARD CEILING
- GYP 2 (E) GYPSUM BOARD
- CP1 (E) EXTERIOR CEMENT PLASTER W/ CONTROL JOINTS AS SHOWN

KEY PLAN



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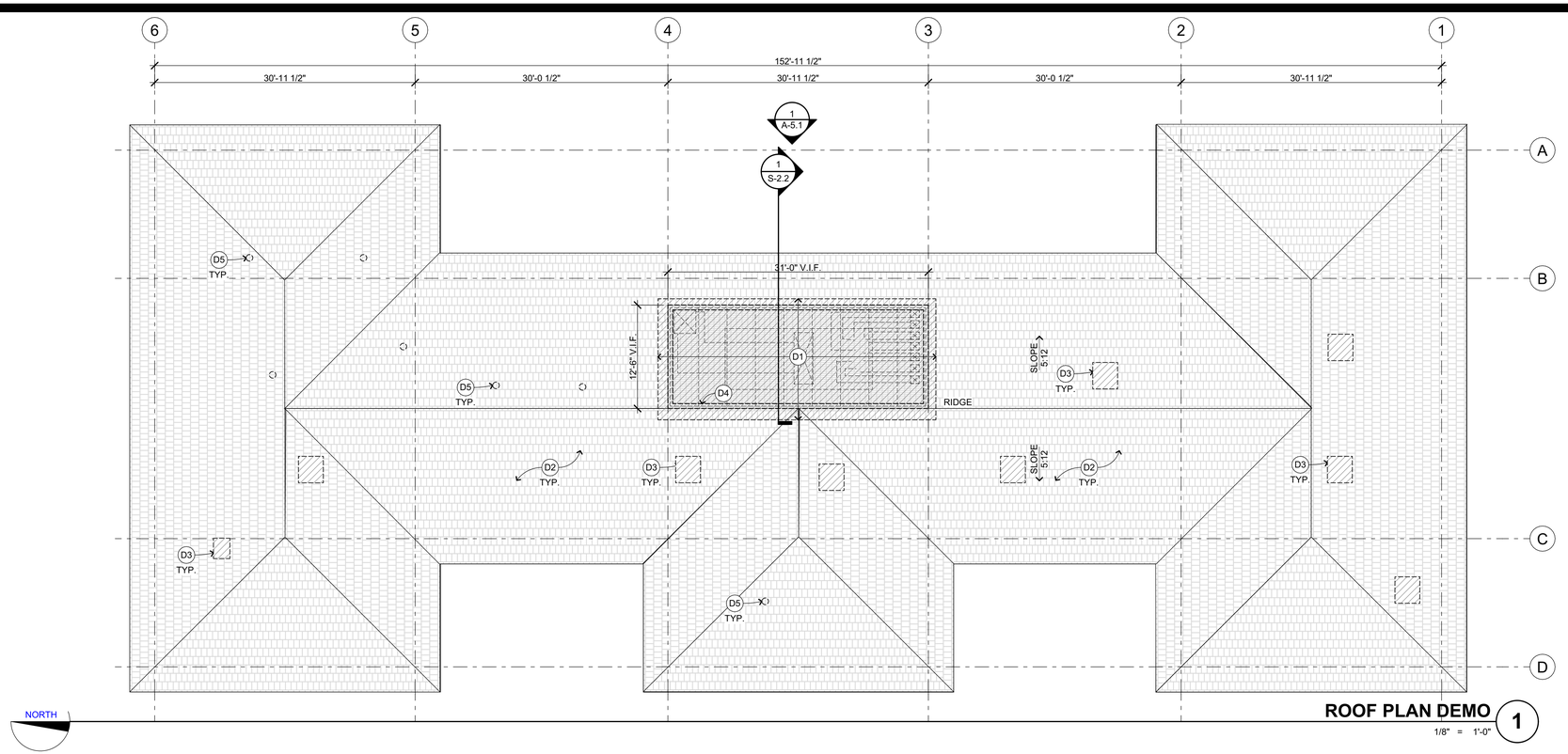
SHEET TITLE

REFLECTED CEILING PLAN

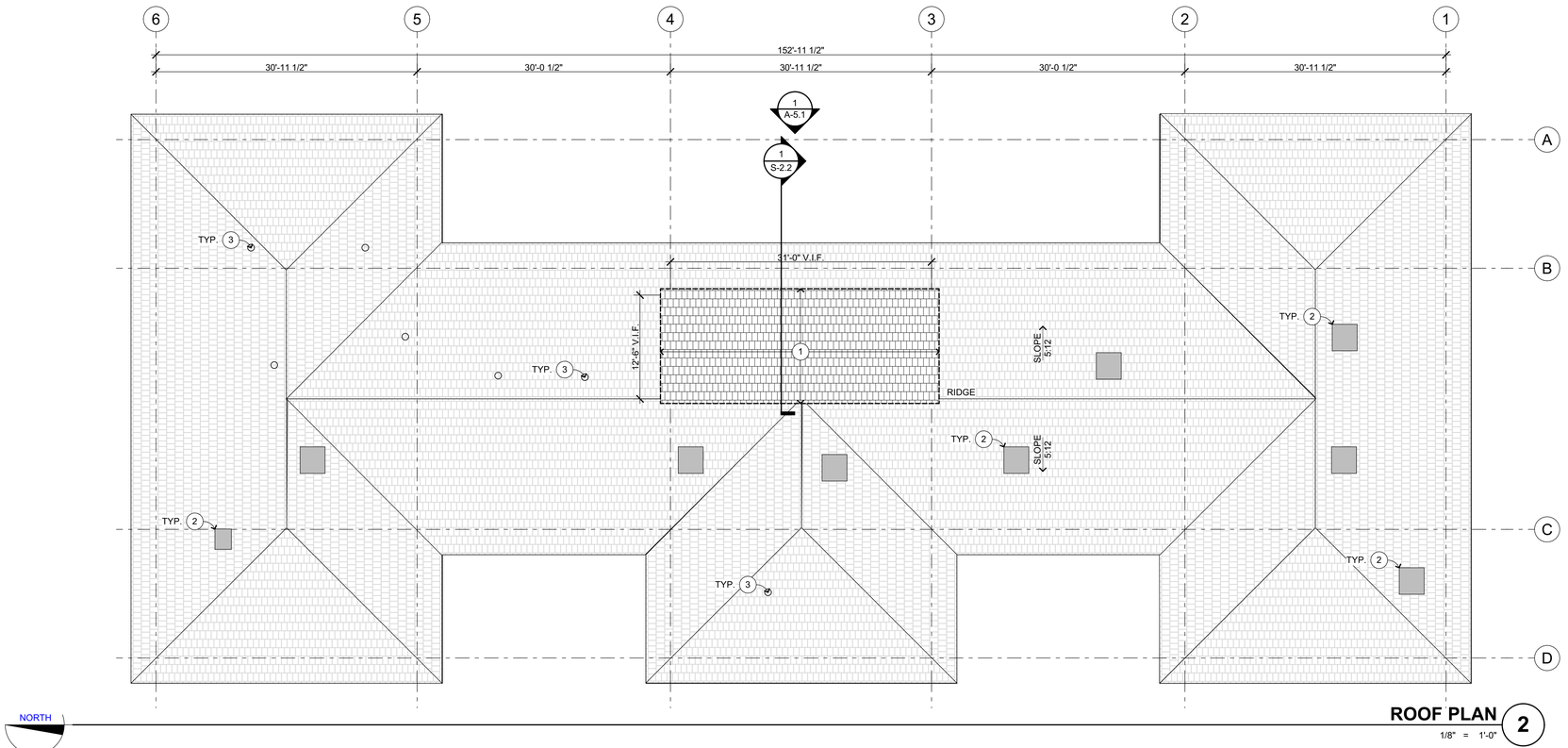
SHEET NUMBER

A-3.1



ROOF PLAN DEMO 1

1/8" = 1'-0"



ROOF PLAN 2

1/8" = 1'-0"

DEMOLITION ROOF KEYNOTES

D1 (E) MECHANICAL WELL:
- ALL (E) MECHANICAL EQUIPMENT & ASSOCIATED PIPING TO BE DISCONNECTED, DEMOLISHED AND REMOVED.
- (E) STEEL CANOPY ASSEMBLY TO BE DEMOLISHED COMPLETE, REMOVE CURB AT RIDGE TO MATCH RIDGE LINE.
- SELECTIVELY REMOVED ALL B.U.R. AT FLOOR, EQUIPMENT CURBS, DRAINS, RWL, WALL FINISHES CEMENT PLASTER AND FLASHING BACK TO MAIN PLYWOOD SHEATHING DECK AND WALL PLYWOOD SHEATHING (AS OCCURS), PRESERVE & PROTECT STRUCTURAL ELEMENTS TO REMAIN, S.M.D., S.P.D., S.S.D., AND S.E.D.

D2 (E) SHINGLES ROOF TO REMAIN - PROTECT IN PLACE, TYP.

D3 (E) ROOFING TO BE SELECTEVLY REMOVED FOR NEW MECHANICAL EQUIPMENT,SEE NEW WORK PLAN AND, S.M.D.

D4 (E) ACCESS DOOR TO REMAIN, PROTECT IN PLACE (TYP.)

D5 6" DIA. ROOF PENETRATION FOR MECH. DUCT (TYP.

DEMOLITION ROOF GENERAL NOTES

1. REFER TO MECHANICA AND ELECTRICAL DRAWINGS FOR DETAILS, MECHANICAL AND ELECTRICAL INFORMATION, AND REQUIREMENTS.
3. REFER TO STRUCTURAL DRAWINGS FOR DETAILED STRUCTURAL INFORMATION AND REQUIREMENTS.
4. EXISTING PIPING AND CONDUITS ON ROOF ARE NOT SHOWN FOR CLARITY, S.M.D. & S.E.D.
5. INSPECT EXPOSED STRUCTURE FOR DAMAGE AND ADVISE ARCHITECT. DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE NEW WORK SHOWN IN THE DRAWINGS. NEATLY CUT AND REMOVE FINISHES AS REQUIRED TO A NATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR NEW WORK. REFER TO OTHER DRAWINGS FOR CONCEALED WORK.

DEMOLITION ROOF PLAN LEGEND

EXISTING MECHANICAL WELL TO BE DEMOLISHED - COMPLETE-

EXISTING COMP. SHINGLE ROOFING TO REMAIN

ROOF KEYNOTES

1 NEW ROOFING FRAMING AND ROOFING SYSTEM TO MATCH EXISTING S.S.D. — 3/A-5.1, 4/A-5.1

2 PATCH AND REPAIR (E) ROOFING SYSTEM TO MATCH EXISTING DUE TO NEW MECHANICAL DUCT PENETRATION. 7/A-5.1 SIM.

ROOF PLAN GENERAL NOTES

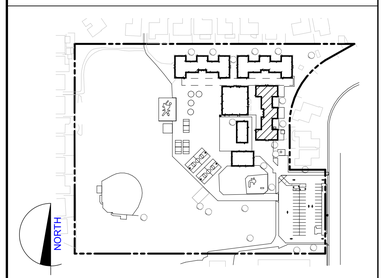
1. ALL ROOFING TO BE CLASS A. TO MATCH EXISTING
2. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.
3. REFER TO STRUCTURAL DRAWINGS FOR NEW ROOF FRAMING TO MATCH (E) ROOF LINE.
5. MECHANICAL UNIT MOUNTING CURBS PER B/M-A3.1 S.M.D.
6. MECHANICAL OR PLUMBING VENT FLASHING,

ROOF PLAN LEGEND

EXISTING COMP. SHINGLE ROOFING TO REMAIN

COMP. SHINGLE ROOFING TO MATCH EXISTING 3/A-5.1

KEY PLAN



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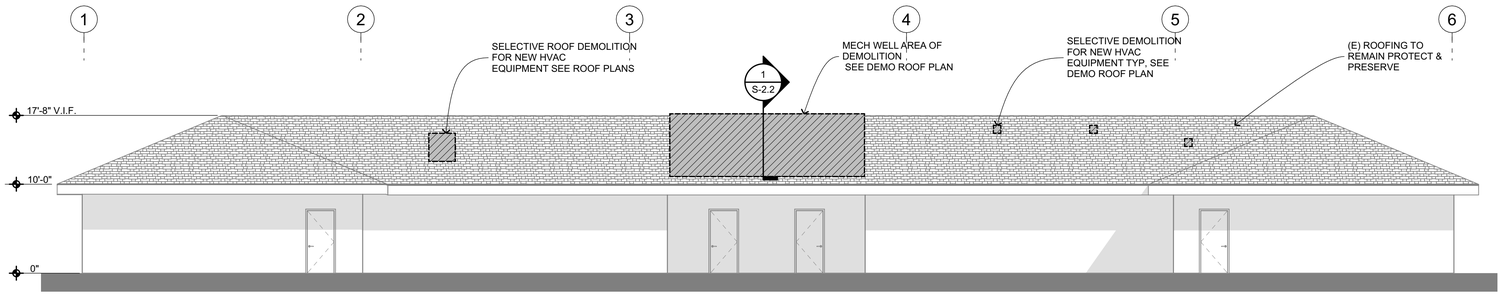
SHEET TITLE

ROOF PLAN

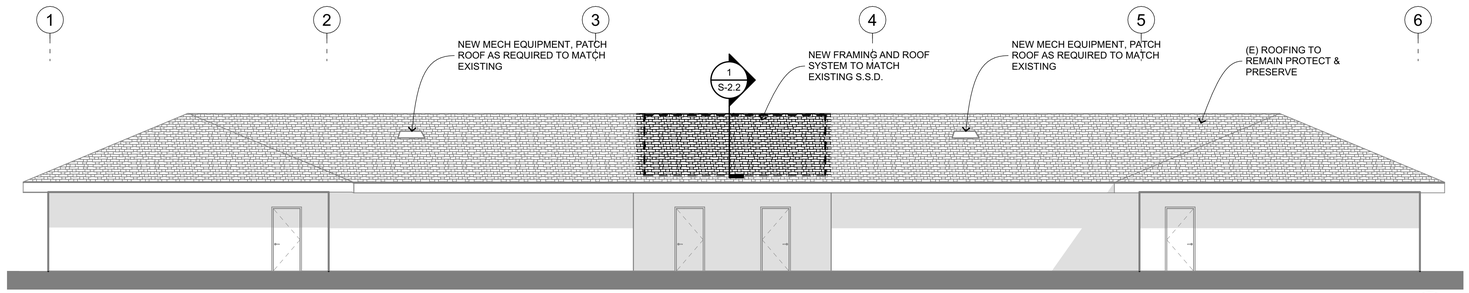
SHEET NUMBER

A-4.1



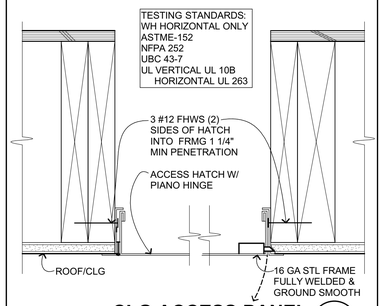
NORTH ELEVATION DEMO 1

1/8" = 1'-0"



NORTH ELEVATION NEW 2

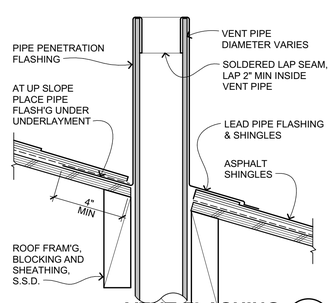
1/8" = 1'-0"



CLG ACCESS PANEL 11

3" = 1'-0"

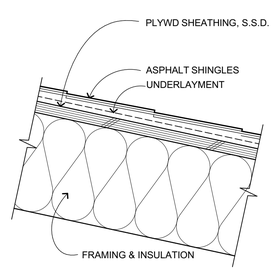
C303302



VENT FLASHING 7

3" = 1'-0"

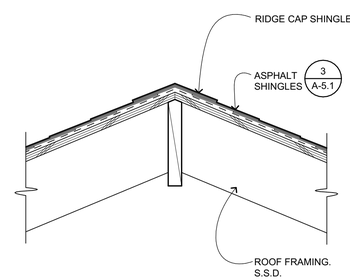
B3013013



NEW ASPHALT SHINGLES 3

3" = 1'-0"

B301311N



ASPHALT SHINGLE RIDGE 4

1 1/2"= 1'-0"

B301301

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EXTERIOR ELEVATION AND DETAILS

SHEET NUMBER

A-5.1

C WOOD FRAMING NOTES

1. ALL JOISTS SHALL BE SEAT CUT FOR FULL UNIFORM BEARING AT SUPPORTS.
2. SEE 5/S-1.1 FOR SHEATHING NAILING REQUIREMENTS. ALL NAILING NOT NOTED OR DETAILED OTHERWISE SHALL BE PER 4/S-1.1. NAIL LENGTH TO BE SUFFICIENT TO MEET CBC PENETRATION REQUIREMENTS. NAILS INTO PRESSURE TREATED MATERIAL SHALL BE HOT DIP GALVANIZED. NAILS AT BORATE TREATED LUMBER MAY BE CLEAR ZINC COATED. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AT EXTERIOR EXPOSURES.
3. ALL MECHANICAL SUPPLY AND RETURN OPENINGS TO BE BETWEEN FRAMING UNO.
4. JOISTS AND RAFTERS ARE PER PLAN WITH "HU" HANGERS (SKEWED AND/OR SLOPED AS REQUIRED). HANGER SIZE TO BE CORRECT FULL SIZE FOR JOIST SIZE (I.E. HU210 FOR 2x10).
5. ROUND HOLES IN STEEL PLATES TO BE 1/16" OVERSIZE. SLOTTED HOLES IN STEEL PLATES SHALL BE 1/16" WIDER THAN THE BOLT DIAMETER AND HAVE A LENGTH OF 2 TIMES THE BOLT DIAMETER. THE DIRECTION OF THE SLOTTED LENGTH IS INDICATED ON THE DETAILS (VSH OR HSH). INSTALL BOLT AT THE CENTER LINE OF THE HOLE. BOLT HOLES IN WOOD SHALL BE ROUND AND 1/32" OVERSIZE. CUT OFF BOLT THREADED END FLUSH WITH NUT WHEN REQUIRED BY FINISHES AND 1" MAXIMUM FROM NUT OTHERWISE. PROVIDE STANDARD CUT WASHERS UNDER HEAD AND NUT WHERE BOLT BEARS ON WOOD. USE PLATE OR MALLEABLE IRON WASHERS AT EXPOSED CONDITIONS OR AS INDICATED.
6. ALL BOLTED OR NAILED STRAP CONNECTIONS SHALL HAVE AN EQUAL NUMBER OF BOLTS OR NAILS EACH SIDE OF THE SPLICE JOINT. THE FIRST BOLT OR NAIL FROM EACH SIDE OF THE SPLICED OR STRAPPED MEMBER SHALL BE EQUIDISTANT FROM THE SPLICE. STRAPS USING 16d NAILS ON 2x MATERIAL TO BE INSTALLED ON THE 1½" EDGE OF THE MEMBER.
7. THE CONTRACTOR SHALL VERIFY THAT THE MOISTURE CONTENT OF ALL FRAMING LUMBER AND SHEATHING MEET THE REQUIREMENTS OF THE SPECIFICATIONS AT THE TIME OF INSTALLATION AND AT CLOSE-IN. THE CONTRACTOR SHALL PROVIDE ALLOWANCE FOR DIFFERENTIAL SHRINKAGE BETWEEN FLOORS, ETC.
8. ALL SHEATHING SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS. TYPICAL SHEATHING:

   A. SLOPING ROOF SHEATHING (SLOPE GREATER THAN 2:12): 15/32" APA RATED SHEATHING (32/16) EXP 1 WITH 10d @ 6"oc EDGES (PEN) AND 12"oc FIELD UNO ON PLANS. LAY PERPENDICULAR TO FRAMING MEMBERS. BLOCK EDGES WITH 2x4 LAID FLAT. NO PANELS LESS THAN 24" WIDE SHALL BE USED. STAGGER SHEETS.

D MATERIAL DATA

(INFORMATION SHOWN IS FOR STRUCTURAL DESIGN REFERENCE ONLY. SEE THE PROJECT SPECIFICATIONS FOR ALL MATERIAL SPECIFICATIONS.)

CONCRETE 28-DAY MINIMUM DESIGN STRENGTH:
F'_c = 3,000 PSI MECH PADS

REINFORCING STEEL:
ASTM A615 GRADE 60 OR A706 GRADE 60 (F_y = 60,000 PSI)

FASTENERS:
MACHINE BOLTS SHALL BE ASTM A307 GRADE A

WOOD BASE DESIGN STRESSES (UNO):

SAWN LUMBER MEMBER	SPECIES AND MINIMUM GRADE, UNO	F_b (PSI)	F_v (PSI)	E (PSI)
6x POSTS	DOUGLAS FIR - #1	1200	170	$1.6x10^6$
6x BEAMS	DOUGLAS FIR - #1	1350	170	$1.6x10^6$
4x POSTS & BEAMS	DOUGLAS FIR - #1	1000	180	$1.7x10^6$
2x JOISTS, RAFTERS	DOUGLAS FIR - #1	1000	180	$1.7x10^6$
PL MATERIAL	DOUGLAS FIR - #1	1000	180	$1.7x10^6$
2x STUDS	DOUGLAS FIR - #1	1000	180	$1.7x10^6$

FOR METAL CONNECTOR DESIGNATION REFER TO SIMPSON STRONG-TIE PER SPECIFICATIONS.

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AC	AIR CONDITIONING
ADJ	ADJACENT
ADDL	ADDITIONAL
ALT	ALTERNATE
ALUM	ALUMINUM
ARCH	ARCHITECT
AYC	ALASKAN YELLOW CEDAR
@	AT
BF	BRACED FRAME
BLDG	BUILDING
BLK/BLKG	BLOCK/BLOCKING
BLW	BELOW
BM	BEAM
BN	BOUNDARY NAIL
BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
BU	BUILT-UP
BYND	BEYOND
C	AMERICAN STANDARD CHANNEL
CA	CALIFORNIA
CANT	CANTILEVER
CB	CARRIAGE BOLT
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CGL	CERTIFIED GLUED LUMBER
CJ	CONTROL JOINT
CL	CENTERLINE
CJP	COMPLETE JOINT PENETRATION
CLG	CEILING
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
COORD	COORDINATE/ COORDINATION
CMU	CONCRETE MASONRY UNIT
CSK	COUNTERSINK
CW	CUT WASHER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DCW	DEMAND CRITICAL WELD
DF	DOUGLAS FIR
DIA or Ø	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DJ	DOWEL JOINT
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DWG	DRAWING
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
ELEC	ELECTRICAL
ELEV	ELEVATOR/ELEVATION
EMBED	EMBEDMENT
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
EW	EACH WAY
(E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FIN	FINISH
FG	FINISH GRADE
FLR	FLOOR
FN	FACE NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FRMG	FRAMING
FS	FAR SIDE
FTG	FOOTING
GA	GAGE or GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GL	GRIDLINE
GLB	GLUE LAMINATED BEAM
GR	GRADE
HD	HOLD DOWN
HDG	HOT-DIP GALVANIZED
HDR	HEADER
HGR	HANGER
HK	HOOK
HORIZ	HORIZONTAL
HSB	HIGH STRENGTH BOLT
HSG	HIGH STRENGTH GROUT
HSH	HORIZONTAL SLOTTED HOLE
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
ID	INSIDE DIAMETER
IJ	I SHAPED WOOD BUILT UP TRUSS
INT	INTERIOR
JST	JOIST
JT	JOINT
KP	KING POST
L	STEEL ANGLE
Lb or #	POUND(s)
LGMF	LIGHT GAGE METAL FRAMING
LGMFC	LIGHT GAGE METAL FRAMING CONTRACTOR
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LS	LAG SCREW
LSL	LAMINATED STRAND LUMBER
LVL	LAMINATED VENEER LUMBER
LWC	LIGHTWEIGHT CONCRETE
MAX	MAXIMUM
MB	MACHINE BOLT
MBM	METAL BUILDING MANUFACTURER
MC	MISCELLANEOUS CHANNEL
MECH	MECHANICAL
MEZZ	MEZZANINE
MF	MOMENT FRAME
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MIW	MALLEABLE IRON WASHER
MTL	METAL
MU	MECH UNIT
(N)	NEW
N/A	NOT APPLICABLE
NO or #	NUMBER
NS	NEAR SIDE
NSG	NON-SHRINK GROUT
NTS	NOT TO SCALE
NWC	NORMAL-WEIGHT CONCRETE
O/	OVER
oc	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OVS	OVERSIZED
OW	OTHERWISE
OWT	OPEN WEB TRUSS
PL	PLATE or PROPERTY LINE
PA	POST ABOVE
PAF	POWER ACTUATED FASTENERS
PEN	PANEL EDGE NAIL
PERP	PERPENDICULAR
PES	PANEL EDGE SCREWS
PJP	PARTIAL JOINT PENETRATION
PLF	POUNDS PER LINEAR FOOT
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PTDF	PRESSURE TREATED DOUGLAS FIR
PT	POINT
R	RADIUS
RBS	REDUCED BEAM SECTION
RFTR	RAFTER
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
RET	RETAINING
REV	REVISION
RF	ROOF
RWD	REDWOOD
S	AMERICAN STANDARD BEAM
SAD	SEE ARCHITECTURAL DRAWINGS
SB	SOLID BLOCK
SC	SLIP CRITICAL
SCD	SEE CIVIL DRAWINGS
SCHED	SCHEDULE
SED	SEE ELECTRICAL DRAWINGS
SEOR	STRUCTURAL ENGINEER OF RECORD
SFRS	SEISMIC FORCE RESISTING SYSTEM
SHTG	SHEATHING
SIM	SIMILAR
SKYLT	SKYLIGHT
SLD	SEE LANDSCAPE DRAWINGS
SMS	SHEET METAL SCREW
SMD	SEE MECHANICAL DRAWINGS
SOG	SLAB ON GROUND
SPCG	SPACING
SPD	SEE PLUMBING DRAWINGS
SPEC	SPECIFICATION
SQ	SQUARE
SS	SELECT STRUCTURAL or STAINLESS STEEL
STGR	STAGGERED
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SW	SHEAR WALL
SYM	SYMMETRICAL
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
THK	THICK
THRD	THREADED
THRU	THROUGH
TL	TOTAL LOAD
TN	TOE NAIL
TOC	TOP OF CONCRETE
TOF	TOP OF FRAMING
TOM	TOP OF MASONRY
TOP	TOP OF PLYWOOD
TOS	TOP OF STEEL
TOT	TOTAL
TU	TILT UP
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VSH	VERTICAL SLOTTED HOLE
W	WIDE FLANGE STEEL BEAM
W/	WITH
W/O	WITHOUT
WD	WOOD
WHS	WELDED HEADED STUD
WLD	WELDED
WP	WORK POINT/WATERPROOF
WS	WOOD SCREW
WT	WEIGHT
WTS	WELDED THREADED STUD
WWR	WELDED WIRE REINFORCEMENT

A DESIGN CRITERIA

DESIGN CRITERIA: 2022 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC)
ROOF LIVE LOAD: 20 PSF (REDUCIBLE)
RISK CATEGORY: II
WIND DATA: ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 91
WIND EXPOSURE: C
INTERNAL WIND PRESSURE COEFFICIENT (GCPI) = ±0.18
COMPONENTS AND CLADDING DESIGN PRESSURES FOR SYSTEMS DESIGNED BY OTHERS SHALL COMPLY WITH THE "ASCE 7-16" DESIGN STANDARD
EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, I_e: 1.00
MAPPED SPECTRAL RESPONSE ACCELERATIONS: S_S = 1.70; S_1 = 0.65
SITE CLASS: D BY DEFAULT
SPECTRAL RESPONSE COEFFICIENTS: S_{DS} = 1.36; S_{D1} = 0.73
SEISMIC DESIGN CATEGORY: D
SEISMIC FORCE RESISTING SYSTEM: WOOD FRAMED SHEAR WALLS

SCOPE: NEW WOOD FRAMING INFILL AT THE ROOF AFTER REMOVAL OF EXISTING MECHANICAL WELL.
ADDITION OF GRAVITY FRAMING FOR REPLACEMENT OF MECHANICAL SYSTEM.

B GENERAL NOTES

1. REFER TO SHEET S-1.1 FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
2. BUILDING DIMENSIONS SHOWN ARE FOR GENERAL REFERENCE ONLY. SEE ARCHITECTURAL DRAWINGS (SAD) FOR ALL ACTUAL BUILDING DIMENSIONS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER SO CLARIFICATION CAN BE MADE PRIOR TO COMMENCING WORK.
3. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK.
4. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
5. COORDINATION OF MECHANICAL, ELECTRICAL, PLUMBING, AND SITE UTILITY SYSTEMS WITH THE STRUCTURAL SYSTEM IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. USE DETAILS ON SHEET S-1.1, AT CONDITIONS WHERE THESE DETAILS DO NOT APPEAR TO APPLY, NOTIFY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. AT CONDITIONS WHERE FIELD MODIFICATIONS OF MECHANICAL, ELECTRICAL, PLUMBING, OR SITE UTILITIES AFFECT STRUCTURAL SYSTEMS, NOTIFY STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
6. VERIFY WEIGHTS AND LOCATIONS OF MECHANICAL UNITS WITH MECHANICAL ENGINEER PRIOR TO PLACEMENT. UNITS VARYING OVER 10% IN WEIGHT SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION (MECHANICAL WEIGHTS SHOWN ARE MAXIMUM). CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS, ETC.
7. SHORING AND BRACING DESIGN, MATERIALS AND INSTALLATION SHALL BE PROVIDED BY THE GENERAL CONTRACTOR, AND SHALL BE ADEQUATE FOR ALL LOADS. LEAVE IN PLACE AS LONG AS MAY BE REQUIRED FOR SAFETY AND UNTIL FINAL STRUCTURAL CONSTRUCTION IS COMPLETED. THE CONTRACTOR SHALL ENGAGE A LICENSED CIVIL OR STRUCTURAL ENGINEER TO PROVIDE SHORING
8. IN PREPARING THE PROJECT PLANS, THE SOURCE OF INFORMATION WAS BASED ON THE EXISTING BUILDING PLANS PREPARED BY, FELCIANO, JEFFRIES, & ASSOCIATES, WITH APPLICATION NUMBER 36445, DATED NOVEMBER 12, 1973. ADDITIONAL INFORMATION WAS BASED ON THE MODERNIZATION DRAWINGS PREPARED BY KETELSEN ARCHITECTURE AND PLANNING, WITH APPLICATION NUMBER 110016, DATED OCTOBER 09, 2008. THE CONTRACTOR SHALL VERIFY ALL EXISTING JOB CONDITIONS, REVIEW THE PLANS AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL DISCREPANCIES AND EXCEPTIONS BEFORE PROCEEDING WITH ANY WORK. DRAWINGS FOR THE EXISTING CONSTRUCTION ARE AVAILABLE FOR REVIEW.
9. ALL WORK NOT INDICATED AS EXISTING (E) SHALL BE ASSUMED TO BE NEW (N).
10. ANY REMOVAL, CUTTING, DRILLING, ETC OF EXISTING WORK SHALL BE PERFORMED WITH GREAT CARE. SMALL TOOLS SHALL BE USED IN ORDER NOT TO JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE STRUCTURE. IF STRUCTURAL MEMBERS OR MECHANICAL, ELECTRICAL, OR ARCHITECTURAL ELEMENTS NOT INDICATED FOR REMOVAL INTERFERE WITH THE NEW WORK, THE ARCHITECT/ENGINEER SHALL BE IMMEDIATELY NOTIFIED AND PRIOR APPROVAL SHALL BE OBTAINED BEFORE REMOVAL OF THE MEMBERS.
11. DO NOT OVER CUT EXISTING WOOD, CONCRETE, MASONRY OR OTHER WORK TO REMAIN. CUTS SHALL BE MADE NEATLY TO A CORNER, THEN ALTERNATE MEANS SHALL BE USED TO REMOVE REMAINING MATERIAL. CONTRACTOR IS RESPONSIBLE FOR REPAIR/REPLACEMENT OF OVER CUT MATERIAL AS DIRECTED BY THE ARCHITECT AND/OR ENGINEER.
12. EXISTING DAMAGED STRUCTURAL MEMBERS WHICH ARE UNCOVERED SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND REPAIR.
13. NOTIFY ZFA FOR GENERAL ON SITE REVIEW OF:
    - STRUCTURAL WOOD FRAMING.

    NOTIFY ZFA FOR REVIEW PRIOR TO COVERING ABOVE LISTED WORK. PROVIDE 2 WORKING DAYS MINIMUM SCHEDULING NOTICE PRIOR TO REVIEW DATE.

SHEET INDEX

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z
santa rosa ca 95404
zfa job no. 23209
zfa.com
707.526.0992

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT
PARK UNIFIED
SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-120920

ZFA NO: 23209
ENGR / PM: TK / SCH
DRAWING SCALE: As indicated
PTN: 73882-47 FILE NO: 49-17

CD

JULY 19, 2023

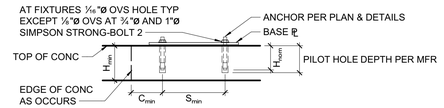
SHEET TITLE

GENERAL NOTES

SHEET NUMBER

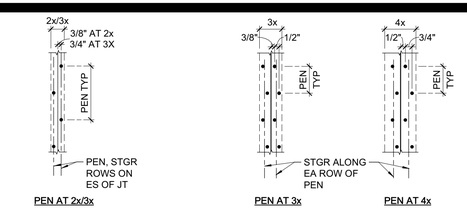
S-0.1

STAINLESS STEEL EXPANSION ANCHORS IN 3000 PSI MIN CONC						
ANCHOR TYPE	ANCHOR & PILOT HOLE DIA	MIN NOMINAL EMBED H_{nom}	MIN EDGE DISTANCE C_{min}	MIN SPACING S_{min}	MIN CONC THICKNESS H_{min}	INSTALL TORQUE (FT-LB)
SIMPSON STRONG-BOLT 2 (ICC-ESR 3037)	⅜"	1⅞"	6"	10"	3½"	30
	½"	2¾"	6½"	8"	4½"	65
	⅝"	3⅜"	4"	8"	5½"	80
	¾"	4⅛"	6"	6½"	6¾"	150
HILTI KB-TZ2 (ICC-ESR 4266)	⅜"	1⅛"	5"	8"	3¼"	30
	½"	2⅛"	2¾"	5½"	4"	40
	⅝"	3¼"	4"	7"	5"	60
	¾"	4"	5"	11"	5½"	125



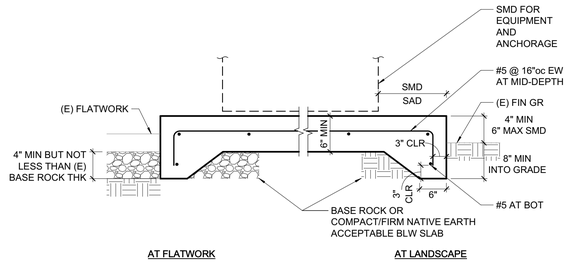
NOTES:
1. INSTALL EXPANSION ANCHORS PER MANUFACTURER'S INFORMATION AND ICC REPORT INSTRUCTIONS. SPECIAL INSPECTION IS REQUIRED PER SECTION 1705A AND THE REQUIREMENTS OF THE ICC REPORTS.
2. CONTRACTOR TO VERIFY MINIMUM EDGE DISTANCES, SPACING AND THICKNESS ARE IN ACCORDANCE W/ SCHEDULE PRIOR TO INSTALLING ANCHOR.
3. NO CORE DRILLING PERMITTED. USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCING BARS. MAINTAIN 1" CLEARANCE BETWEEN REINFORCEMENT AND THE DRILLED-IN ANCHOR. FILL ABANDONED HOLES W/ HIGH STRENGTH GROUT.
4. THE SPECIAL INSPECTOR SHALL PERFORM PERIODIC/CONTINUOUS INSPECTION IN ACCORDANCE WITH TABLE 1705A.3. THE SPECIAL INSPECTOR SHALL INSPECT ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE CLEANLINESS, EMBEDMENT DEPTH, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, DRILL BIT DIAMETER, HOLE DEPTH, EDGE DISTANCE(S), ANCHOR SPACING(S), CONCRETE THICKNESS, AND TIGHTENING TORQUE.
5. TEST ANCHORS IN ACCORDANCE W/ CBC SECTION 1910A.5.

8 EXPANSION ANCHOR IN CONCRETE
3/4" = 1'-0"



NOTE:
SHEATHING SHEETS ARE TO BE AS LARGE AS POSSIBLE. STAGGER SHEETS. JOINTS ARE TO BE CENTERED OVER BEARING. NAIL HEADS SHALL BE DRIVEN FLUSH W/ SHEATHING. MINIMUM SHEATHING SIZE IS 24" WIDTH x 48" LENGTH AT FLOOR AND ROOF, AND 12"x48" AT WALLS.

5 SHEATHING NAILING
1 1/2" = 1'-0"



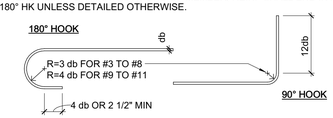
6 MECHANICAL PAD
3/4" = 1'-0"

MINIMUM BAR LAPS FOR REINFORCING STEEL CONCRETE STRENGTH: 3000 PSI OR GREATER - (STAGGER SPLICES)	
SIZE	LAP LENGTH
#3	17"
#4	24"
#5	34"⁎

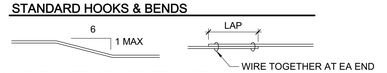
(CLASS B TOP BAR)
BAR SPCG SHALL NOT BE LESS THAN 4x BAR DIA OR 4".
⁎ WHERE COVER NOT LESS THAN 1½", #5 LAP LENGTH = 28"

CONC COVER FOR REINF STL	'CLR'
CAST AGAINST EARTH OR GR	3"
EXPOSED TO EARTH (FORMED) OR WEATHER	
#5 & SMALLER	1½"
#6 & LARGER	2"
NOT EXPOSED TO EARTH OR WEATHER	
#5 & SMALLER	1"
#6 & LARGER, & ALL BM STIRRUPS, COL TIES & SPIRALS	1½"

ALL REINF SHALL EXTEND AS FAR AS POSSIBLE. WHERE BAR SPLICES ARE REQUIRED, BARS SHALL BE LAPPED PER SCHEDULE ABOVE UNLESS DETAILED OTHERWISE. WHERE REINF TERMINATES AT END OF MEMBER, REINF SHALL END IN A STD 90° OR 180° HK UNLESS DETAILED OTHERWISE.

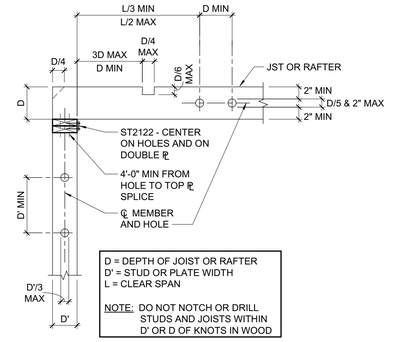


STANDARD HOOKS & BENDS

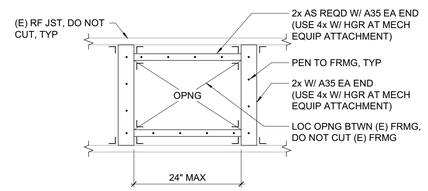


COL BAR & STRUCT OFFSET | SPLICE

7 TYPICAL REINFORCING DETAILS (f'c = 3000psi MIN)
3/4" = 1'-0"

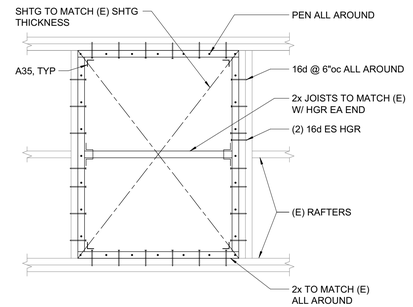


1 HOLES AND NOTCHES IN WOOD STUDS, JOISTS, AND PLATES
3/4" = 1'-0"



PLAN VIEW

2 PENETRATION AT EXISTING ROOF
3/4" = 1'-0"



3 INFILL AT EXISTING ROOF
3/4" = 1'-0"

RIM JOIST/BLKG TO TOP ℄, TOE NAIL	10d @ 6"oc
TRUSSES, JOISTS OR RAFTERS AT ALL BEARING POINTS	
TOE NAILS EACH SIDE	(2) 10d
TRUSSES, JOISTS OR RAFTERS TO SIDE OF STUDS	
EIGHT (8) INCH JOISTS OR LESS	(3) 16d
FOR EACH ADDITIONAL 4 INCHES OF DEPTH OF JOIST	(1) 16d
BLOCKING BETWEEN JOISTS OR RAFTERS:	
TO JOIST OR RAFTERS - TOE NAILS EA SIDE, EA END	(2) 10d
TO JOIST OR RAFTER BEARINGS - TOE NAILS EA SIDE	(2) 10d
BLOCKING BETWEEN STUDS, EACH END TOE NAILS	(2) 10d OR (2) 16d
BRIDGING TO JOIST, TOE NAIL EACH END	(2) 8d
2" SUBFLOOR TO JOIST OR GIRDER, BLIND & FACE NAIL	(2) 16d
SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @ 16"oc
SOLE PLATE TO JOIST OR BLOCKING AT	
BRACED WALL PANELS	(3) 16d @ 16"oc
TOP PLATE TO STUD, END NAIL	(2) 16d
STUD TO SOLE PLATE, TOE NAIL	(4) 8d
DOUBLE STUDS AT EXTERIOR WALLS, FACE NAIL	16d @ 12"oc
DOUBLE STUDS, FACE NAIL	16d @ 24"oc
DOUBLE TOP PLATES, FACE NAIL	16d @ 12"oc
TOP PLATES, LAPS & INTERSECTIONS, FACE NAIL	(3) 16d
CONTINUOUS HEADER, TWO PIECES	16d @ 16"oc ALONG EACH EDGE
DOUBLE TOP PLATE LAP AT CORNER	(3) 16d
CONTINUOUS HEADER TO STUD, TOE NAIL	(4) 8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	(3) 16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	(3) 16d
BUILT-UP CORNER STUDS	16d @ 12"oc
POST TO SILL/SOLE/TOP PLATE, EACH SIDE TOE NAIL	(4) 10d

4 NAILING SCHEDULE
3/4" = 1'-0"

QUATTROCCHI KWOK ARCHITECTS
Main:
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Oakland, CA 94607
(707) 576-0829

ZFA STRUCTURAL ENGINEERS
1212 fourth street | suite z **zfa.com**
santa rosa ca 95404 **707.526.0992**
zfa job no. 23209

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO. 01-120920

ZFA NO:	23209
ENGR / PM:	TK / SCH
DRAWING SCALE:	As indicated
PTN: 73882-47	FILE NO: 49-17

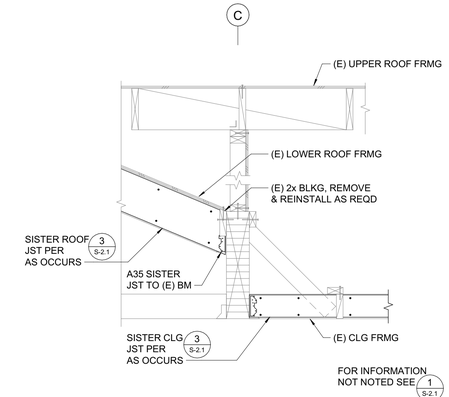
CD

JULY 19, 2023
SHEET TITLE

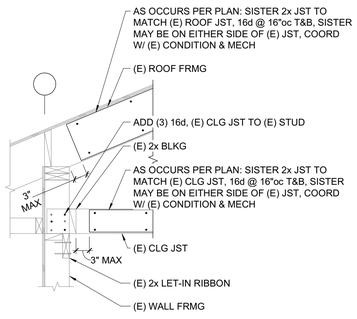
TYPICAL DETAILS

SHEET NUMBER

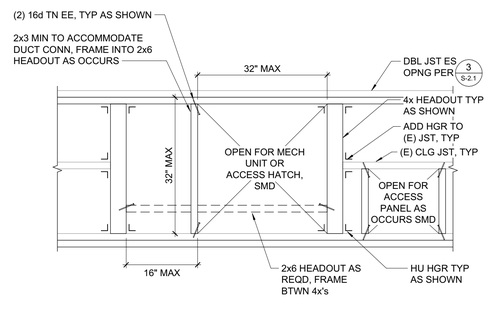
S-1.1



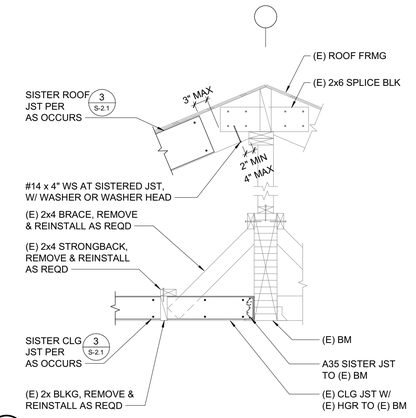
4 FRAMING AT BEAM
3/4" = 1'-0"



3 FRAMING AT WALL
3/4" = 1'-0"



2 CEILING JOIST PLAN
3/4" = 1'-0"



1 FRAMING AT BEAM
3/4" = 1'-0"

FRAMING PLAN NOTES:

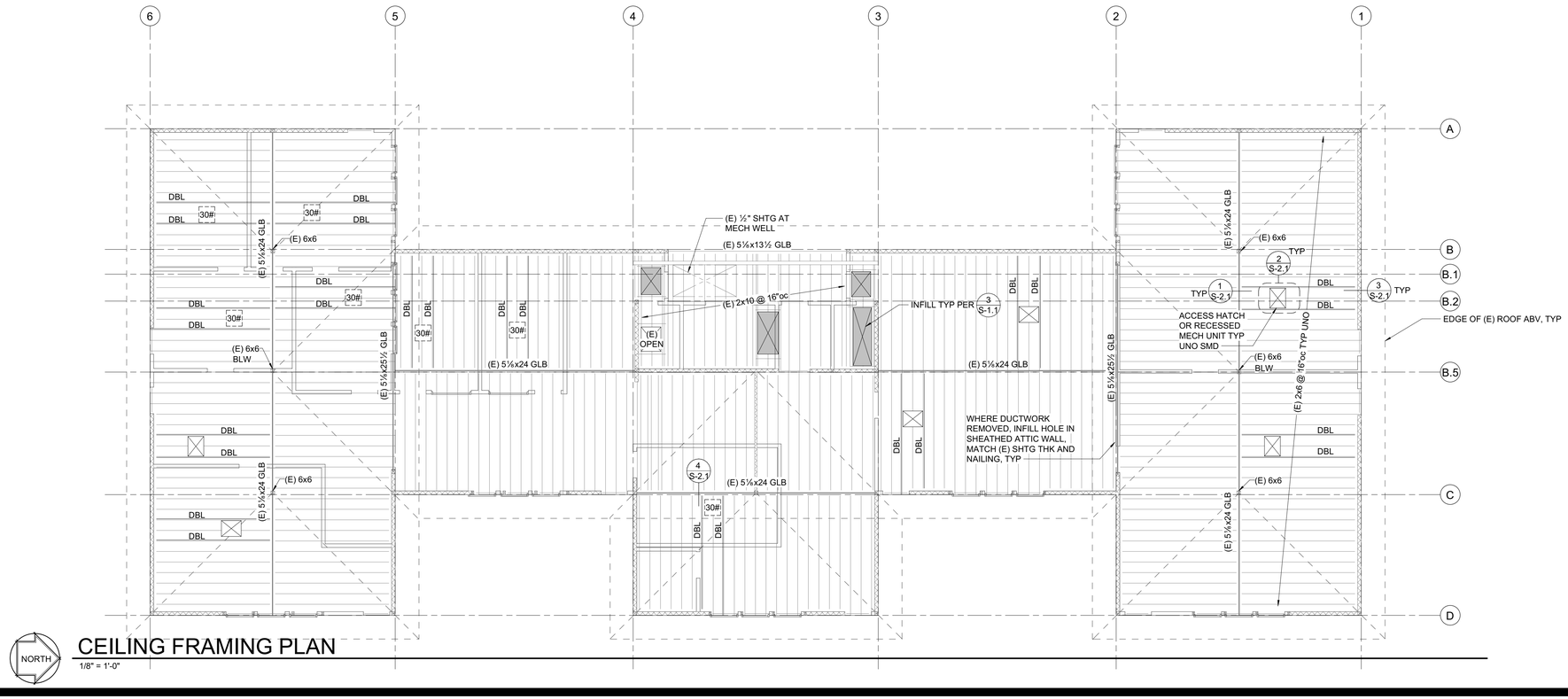
1. REFER TO SHEETS S-0.1 AND S-1.1 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
2. DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
3. MECHANICAL, ELECTRICAL AND PLUMBING PENETRATIONS THROUGH WALLS, ROOFS OR FLOORS SHALL BE PER REFERENCES BELOW UNLESS SHOWN AND DETAILED OTHERWISE ON THE STRUCTURAL PLANS. NOTIFY ARCHITECT/ENGINEER PRIOR TO ANY INSTALLATION NOT CONFORMING TO THESE DETAILS.

PENETRATIONS THROUGH FLOORS/ROOFS SHALL BE PER 2/S-1.1.

PENETRATIONS THROUGH STUDS/JOISTS SHALL BE PER 1/S-1.1.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
⊏——	C/S-0.1	INDICATES HANGER.
——– – ——–		INDICATES LEDGER.
88		INDICATES GRIDLINE.
1,000#		INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
		INDICATES EXISTING FRAMING.
		INDICATES EXISTING SHEAR WALL BELOW.



NORTH

CEILING FRAMING PLAN
1/8" = 1'-0"

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REVISIONS

DSA APP NO. 01-120920

ZFA NO:	23209
ENGR / PM:	TK / SCH
DRAWING SCALE:	As indicated
PTN: 73882-47	FILE NO: 49-17

CD

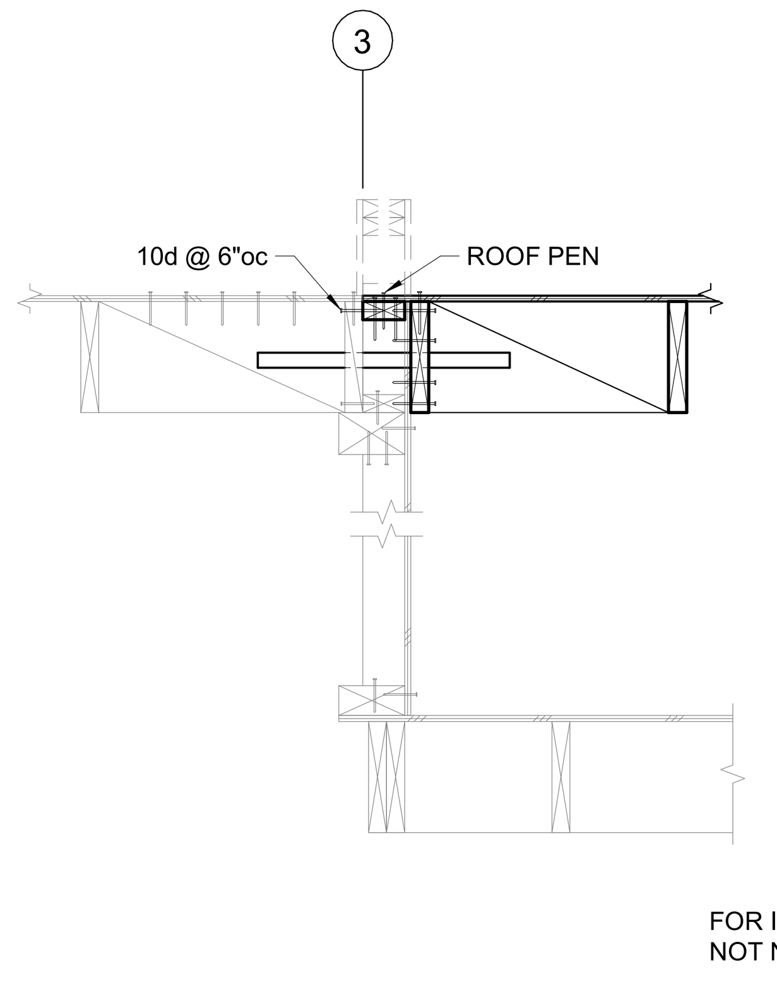
JULY 19, 2023

SHEET TITLE

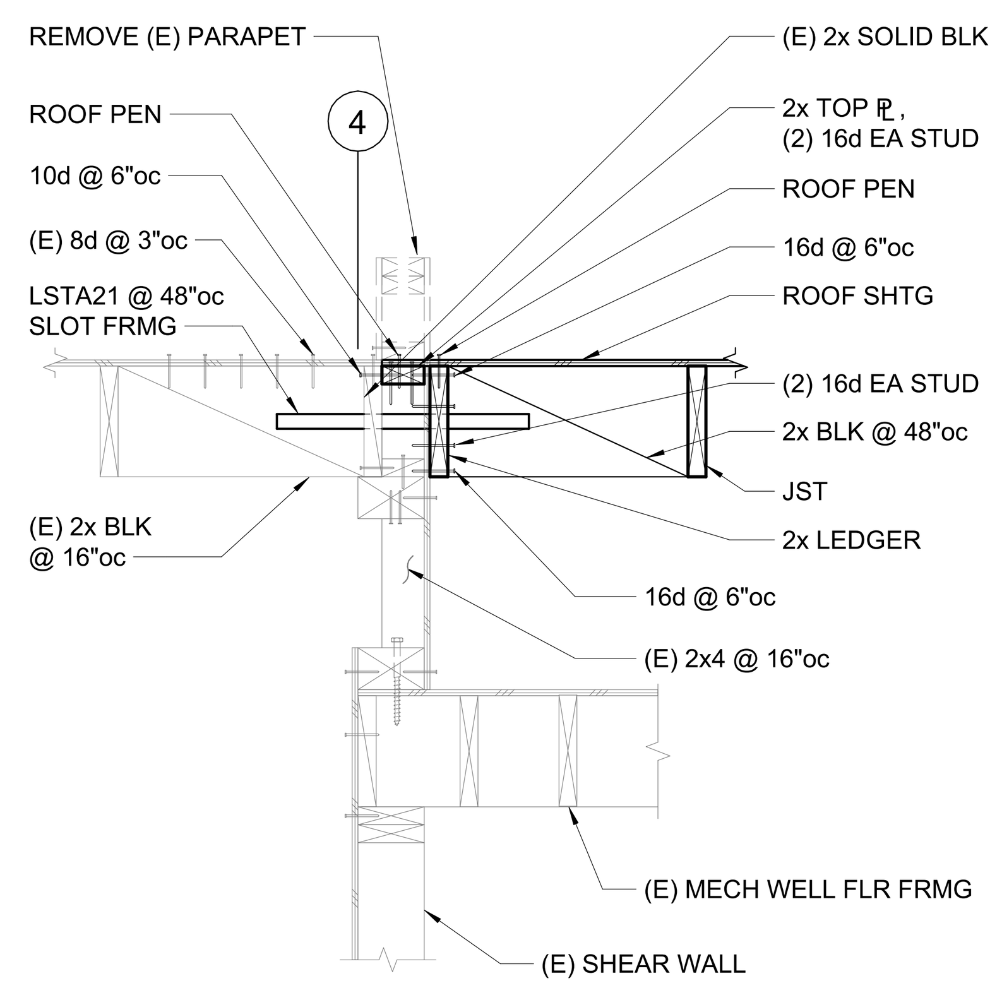
CEILING FRAMING PLAN

SHEET NUMBER

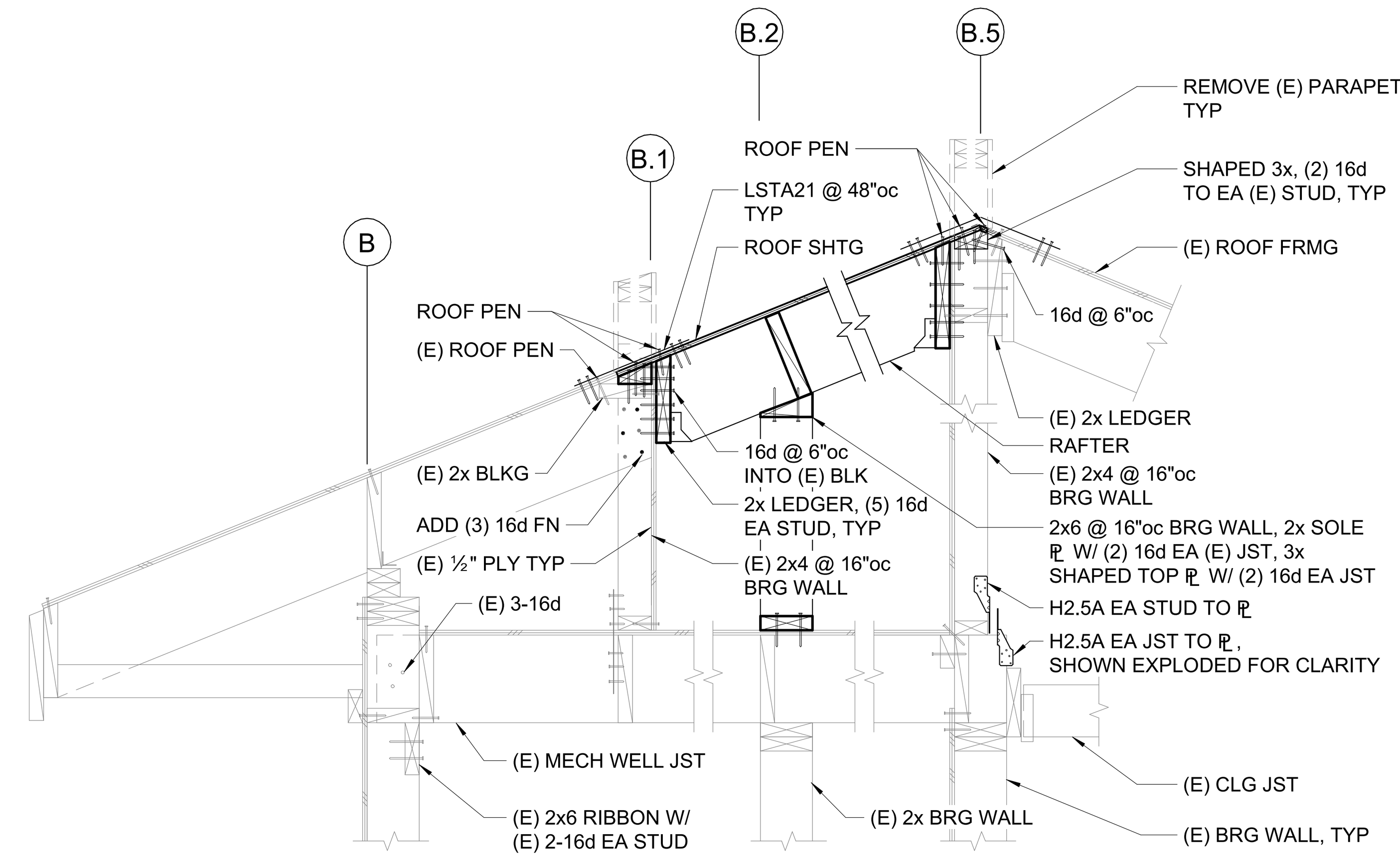
S-2.1



3 MECHANICAL WELL - FRAMING PARALLEL
3/4" = 1'-0"



2 MECHANICAL WELL - FRAMING PARALLEL
3/4" = 1'-0"



1 MECHANICAL WELL - FRAMING PERPENDICULAR
3/4" = 1'-0"

FRAMING PLAN NOTES:

1. REFER TO SHEETS S-0.1 AND S-1.1 FOR GENERAL NOTES AND TYPICAL DETAILS. THE FOLLOWING DETAIL REFERENCES ARE PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. ALL GENERAL NOTES AND TYPICAL DETAIL SHEETS NOTED ABOVE ARE APPLICABLE AND SHALL BE FOLLOWED.
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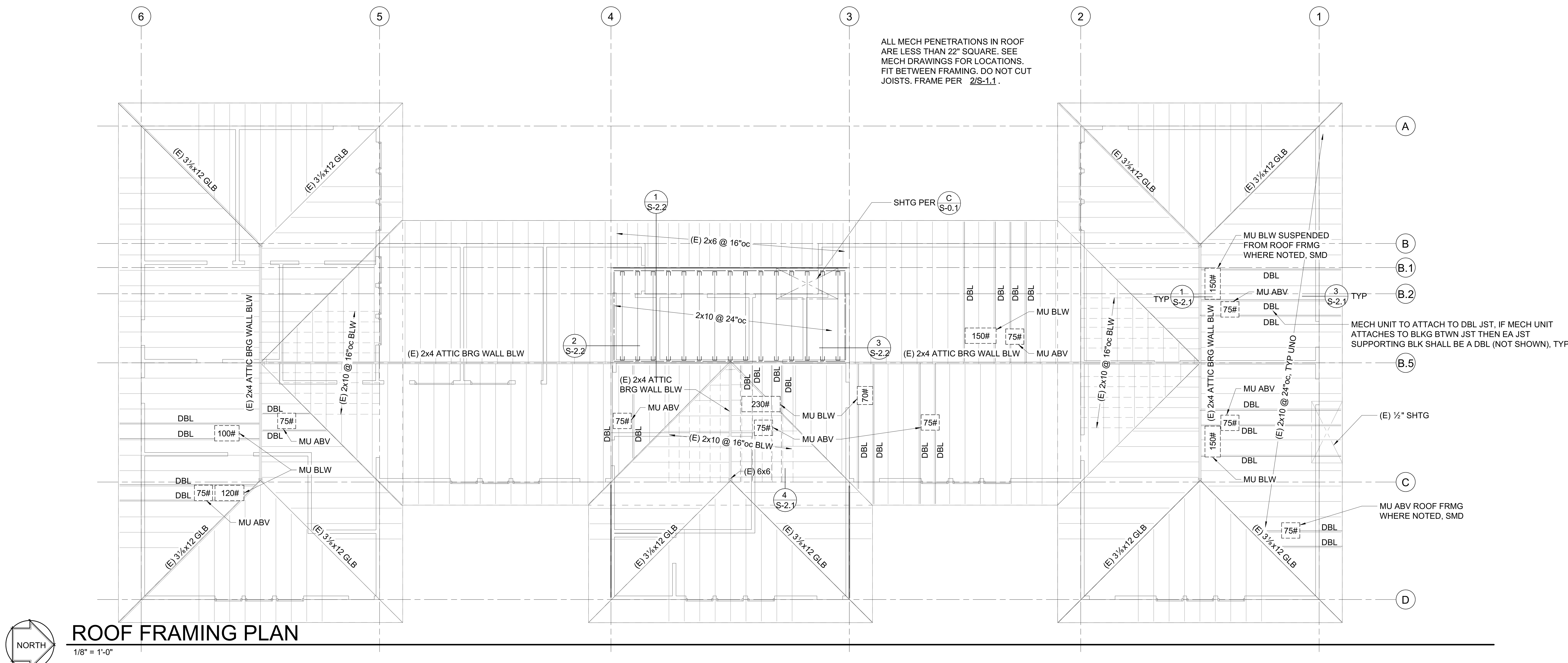
PENETRATIONS THROUGH STUDS/JOISTS SHALL BE PER 1/S-1.1.

PLAN LEGEND

SYMBOL	REFERENCE DETAIL	DESCRIPTION
	C/S-0.1	INDICATES HANGER.
		INDICATES LEDGER.
88		INDICATES GRIDLINE.
1,000#		INDICATES APPROXIMATE LOCATION, SIZE AND MAXIMUM WEIGHT OF MECHANICAL UNIT. SEE MECHANICAL DRAWINGS FOR ANCHORAGE AND ADDITIONAL INFORMATION.
		INDICATES EXISTING FRAMING.
		INDICATES EXISTING SHEAR WALL BELOW.



ROOF FRAMING PLAN
1/8" = 1'-0"

\\zfa.com\SR\Projects\2023\23209 University ES at La Fiesta Mech Upgrade\Drawings_23209_Univ ES at La Fiesta_S22.rvt

7/5/2023 3:56:00 PM

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

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REGISTERED PROFESSIONAL ENGINEER CHRIS S. WARNER No. S4616 STRUCTURAL STATE OF CALIFORNIA

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HVAC REPLACEMENT

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CD

JULY 19, 2023

SHEET TITLE

ROOF FRAMING PLAN

SHEET NUMBER

S-2.2

APPLICABLE GOVERNING CODES:

2022 CALIFORNIA BUILDING CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA FIRE CODE
2022 CALIFORNIA GREEN BUILDING STANDARDS

AIR TERMINAL SCHEDULE

MANUFACTURER: TITUS (EXCEPT AS NOTED)

CD-1		CEILING DIFFUSER	TDC - COMPLETE WITH EQUALIZING GRID, THROW-REDUCING VANES, STEEL CONSTRUCTION
CR		CEILING RETURN	50F - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM CORE WITH ALUMINUM GRID

NOTES: 1. ADAPTER NEEDED FOR TRANSITION FROM SQUARE NECK TO ROUND DUCT.
2. SIZE (NECK/FACE) TYPE / CFM (NO. OF THROW) FACE SIZE FOR T-BAR CEILING ONLY

Applicable Code: 2022 CBC 04/11/2023 Revised: 04/11/2023

MEP Componet 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:

1. All permanent equipment and components.
2. 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.
3. Temporary, movable or mobile 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 trasverse 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 of 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.

Piping, Ductwork, and 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 haging 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 the applicable HCAi Pre-Approval (OPM #) #OPM-0043-13

ACCEPTANCE TESTING

WHEN CERTIFICATION IS REQUIRED BY TITLE 24, PART 1, SECTION 10-103.2, THE ACCEPTANCE TESTING SPECIFIED BY SECTION 120.5(a) SHALL BE PERFORMED BY A CERTIFIED MECHANICAL ACCEPTANCE TEST TECHNICIAN (CMATT). IF THE CMATT IS OPERATING AS AN EMPLOYEE, THE CMATT SHALL BE EMPLOYED BY A CERTIFIED MECHANICAL ACCEPTANCE TEST EMPLOYER. THE CMATT SHALL DISCLOSE ON THE CERTIFICATE OF ACCEPTANCE A VALID CMATT CERTIFICATION IDENTIFICATION NUMBER ISSUED BY AN APPROVED ACCEPTANCE TEST TECHNICIAN CERTIFICATION PROVIDER. THE CMATT SHALL COMPLETE ALL CERTIFICATE OF ACCEPTANCE DOCUMENTATION IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS IN SECTION 10-103(a)4.

(ASHRAE 15:8.10.1) CMC 1109.4.1 Protection from Mechanical Damage. Passages shall not be obstructed by refrigerant piping. Refrigerant piping shall not be located in an elevator, dumbwaiter, or other shaft containing a moving object, or in a shaft that has openings to living quarters, or to means of egress. Refrigerant piping shall not be installed in an enclosed public stairway, stair landing, or means of egress. (ASHRAE 15:8.10.2)

OSA MECHANICAL VENTILATION SCHEDULE

				CEC TABLE 120.1-A				SYSTEM DESIGN		
ROOM #	ROOM NAME	SF	ROOM CLASSIFICATION	(MIN MIN) OA RATE CFM/FT2	(MIN MAX) OA RATE CFM/FT2	(MIN MIN) * SF	(MIN MAX) * SF	DESIGN (OA) (MIN MIN)	DESIGN (OA) (MIN MAX)	UNIT
A1	LOBBY	315	62-Office Buildings - Main Entry Lobbies	0.15	0.5	48	158	50	175	FC-A4
A1A	CONFERENCE ROOM	409	62-General - Conference/Meeting	0.15	0.5	62	205	65	210	FC-A1A
A1B	MAIL ROOM	123	62-Office Buildings - Office Space	0	0.15	0	19	50	50	FC-A4
A2A	OFFICE	212	62-Office Buildings - Office Space	0	0.15	0	32	50	50	FC-A2A / SF-A2A
A2B	OFFICE	198	62-Office Buildings - Office Space	0	0.15	0	30	50	50	FC-A2B / SF-A2B
A2C	OFFICE	300	62-Office Buildings - Office Space	0	0.15	0	45	50	50	FC-A2C / SF-A2C
A2D	WORK ROOM	179	62-Office Buildings - Office Space	0	0.15	0	27	50	50	FC-A2D / SF-A2D
A3	OFFICE	367	62-Office Buildings - Office Space	0	0.15	0	56	50	60	FC-A4
A3	OFFICE	148	62-Office Buildings - Office Space	0	0.15	0	23	50	50	FC-A4
A3A	OFFICE	180	62-Office Buildings - Office Space	0	0.15	0	27	50	50	FC-A3A / SF-A3A
A3B	OFFICE	176	62-Office Buildings - Office Space	0	0.15	0	27	50	50	FC-A3B / SF-A3B
A3C	OFFICE	212	62-Office Buildings - Office Space	0	0.15	0	32	50	50	FC-A3C / SF-A3C
A4	HALL	349	62-Office Buildings - Office Space	0	0.15	0	53	50	55	FC-A4
A4	WORK ROOM	255	62-Office Buildings - Office Space	0	0.15	0	39	50	50	FC-A4
A4	ENTRY	51	62-Office Buildings - Office Space	0	0.15	0	8	50	50	FC-A4
A5	CLASSROOM	918	62-Educational Facilities - Classrooms Age 9 Plus	0.15	0.38	138	349	140	350	FC-A5
A6	CLASSROOM	895	62-Educational Facilities - Classrooms Age 9 Plus	0.15	0.38	135	341	140	345	FC-A6
A7	CLASSROOM	898	62-Educational Facilities - Classrooms Age 9 Plus	0.15	0.38	135	342	140	345	FC-A7

HVAC LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
		EQUIPMENT TYPE / EQUIPMENT NUMBER
		DETAIL / DRAWING NUMBER / SHEET NUMBER
	SA OR OA	SECTION THRU SUPPLY AIR OR OUTSIDE AIR DUCT
	RA OR EA	SECTION THRU RETURN AIR OR EXHAUST AIR DUCT
		ROUND DUCT DOWN
	DN OR UP	SLOPE DUCT DOWN OR UP IN DIRECTION OF FLOW
	AL	ACOUSTICAL LINING
	FC	FLEXIBLE DUCT CONNECTION
	VD	VOLUME DAMPER
	FD	FIRE DAMPER
	TV	TURNING VANES
		FLEXIBLE DUCT
		45° ROUND DUCT TAKE-OFF
		45° RECTANGULAR DUCT TAKE-OFF
		90° TURN - ROUND DUCT
		90° RADIUS TURN - ROUND OR RECTANGULAR DUCT
		SQUARE TO ROUND DUCT TRANSITION
		DUCT TRANSITION
		RECTANGULAR DUCT 90° SPLIT
		THERMOSTAT @ 46" AFF MAX TO CENTER LINE
	AP	ACCESS PANEL
	POC	POINT OF CONNECTION
	POD	POINT OF DEMOLITION
	BHP	BRAKE HORSEPOWER
	HP	HORSEPOWER
	SAD	SEE ARCHITECTURAL DRAWINGS
	SSD	SEE STRUCTURAL DRAWINGS
	SCD	SEE CIVIL DRAWINGS
	AFC	ABOVE FINISH CEILING

BLDG A 'MECHANICAL' SHEET LIST

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

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COSTA ENGINEERS INC.
851 Napa Valley Corporate Way, Suite D,
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UNIVERSITY ELEMENTARY AT LA FIESTA HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO 01-120920

ARCH PROJECT NO: 2173.00
DRAWN BY: BM/MQ
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17

CD

JULY 19, 2023

SHEET TITLE

BLDG A MECHANICAL SHEDULES & LEGENDS

M-A1.1

FAN COIL INDOOR UNIT SCHEDULE

MARK	MFR	MODEL	NOMINAL CAPACITY TONS	CFM	DESIGN OA (MIN/MIN) CFM	DESIGN OA (MIN/MAX) CFM	TOTAL EXTERNAL STATIC PRESSURE IN WG	COOLING HEATING CAPACITY		ELECTRICAL DATA			ELECTRIC HEATER	FILTER	WEIGHT	FAN OUTPUT(W)	BRANCH SELECTOR	SERVICE	REMARKS
								COOLING CAPACITY (BTUH)	HEATING CAPACITY (BTUH)	V-Ø-HZ	MCA	MOCP							
FC-A1A	SAMSUNG	AM018TNZDCH/AA	1.5	430	65	210	0.7	18000	22000	208-230/1/60	13.63	15	3 KW	2" MERV 13 FILTER	109 lb	290	BS A1	CONFERENCE ROOM A1A	1,2,4,5,6,7,10,11
FC-A2A	SAMSUNG	AM007NNNDCH/AA	0.5	318	50	50	-	7500	8700	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	OFFICE A2A	1,2,9,12
FC-A2B	SAMSUNG	AM007NNNDCH/AA	0.5	318	50	50	-	7500	8700	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	OFFICE A2B	1,2,9,12
FC-A2C	SAMSUNG	AM009NNNDCH/AA	0.75	353	50	50	-	9500	10500	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	OFFICE A2C	1,2,9,12
FC-A2D	SAMSUNG	AM007NNNDCH/AA	0.5	318	50	50	-	7500	8700	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	WORK ROOM A2D	1,2,9,12
FC-A3A	SAMSUNG	AM007NNNDCH/AA	0.5	318	50	50	-	7500	8700	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	OFFICE A3A	1,2,9,12
FC-A3B	SAMSUNG	AM007NNNDCH/AA	0.5	318	50	50	-	7500	8700	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	OFFICE A3B	1,2,9,12
FC-A3C	SAMSUNG	AM007NNNDCH/AA	0.5	318	50	50	-	7500	8700	208-230/1/60	0.24	15	NA	WASHABLE FILTER	26 lb	65	BS A1	OFFICE A3C	1,2,9,12
FC-A4	SAMSUNG	AM048TNZDCH/AA	4	1410	350	500	1.0	48000	54000	208-230/1/60	24.6	30	5 KW	2" MERV 13 FILTER	214 lb	590	BS A2	HALL A4	1,2,4,5,6,7,10,11
FC-A5	SAMSUNG	AM036TNZDCH/AA	3	1053	140	350	1.0	36000	40000	208-230/1/60	24.20	30	5 KW	2" MERV 13 FILTER	138 lb	410	BS A2	CLASSROOM A5	1,2,4,5,6,7,10,11
FC-A6	SAMSUNG	AM036TNZDCH/AA	3	1053	140	345	1.0	36000	40000	208-230/1/60	24.20	30	5 KW	2" MERV 13 FILTER	138 lb	410	BS A2	CLASSROOM A6	1,2,4,5,6,7,10,11
FC-A7	SAMSUNG	AM036TNZDCH/AA	3	1053	140	345	1.0	36000	40000	208-230/1/60	24.20	30	5 KW	2" MERV 13 FILTER	138 lb	410	BS A2	CLASSROOM A7	1,2,4,5,6,7,10,11

REMARKS
1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R401A REFRIGERANT
2. SEE REFRIGERATION PLAN FOR T-STAT AND CO2 SENSOR LOCATIONS SEE SHEET M-A2.2
3. HORIZONTAL POSITION FAN COIL MOUNT PER DETAIL A/M-A3.1
4. FOR CONTROLS FOR DUCTED FAN COIL WITH ECONOMIZER SEE SHEET M-A5.1
5. PROVIDE W/ FILTER RACK FOR 2" MERV 13 FILTER.
6. PROVIDE WITH MIRCOMETL MIXING BOX
7. PROVIDE WITH ELECTRIC STRIP HEATER
8. PROVIDE WITH CONDENSATE PUMP
9. FOR CONTROLS FOR CEILING CASSETT WITH INTERLOCKED SUPPLY FAN SEE SHEET M-A5.2
10. OWNER PROVIDED CONTRACTOR INSTALLED, PROVIDE WITH ECONOMIZER MIXING BOX WITH ULTRA LOW LEAK DAMPERS WITH BELIMO ACTUATORS
11. PROVIDE WITH CONDENSATE FLOW SWITCH (LITTLE GIANT ACS-4 SERIES OR EQUAL). PROVIDED, INSTALLED, AND WIRED BY CONTROL CONTRACTOR. UPON DETECTION OF FLOW THE POWER OF UNIT SHALL BE INTERRUPTED.
12. FOR CEILING CASSETT MOUNTING DETAIL SEE D/M-A3.1

VRF OUTDOOR UNIT SCHEDULE

MARK	MFR.	MODEL NO.	UNIT CAPACITIES (BTUH)		EER	IEER	SCHE	COP	ELECTRICAL DATA	MCA	MOP	WEIGHT	REMARKS
			HEATING	COOLING					V-Ø-HZ				
VRF-A1	SAMSUNG	AM240BXVGFR/AA	27000.0	240000.0	10.60	22.95	25.05	3.30	208-230/3/60	68	80	915.4	1,2,3

REMARKS
1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R401A REFRIGERANT
2. SEE C/M-A3.1 FOR MOUNTING DETAIL
3. FOR PIPING AND WIRING SEE M-A4.1

BRANCH SELECTOR SCHEDULE

MARK	MFR	MODEL NUMBER	ELECTRICAL DATA			WEIGHT	REMARKS
			V-Ø-HZ	MCA	MOCP		
BS A1	SAMSUNG	MCU-S8NEK1UN	208-230/1/60	2	15	89 lb	1,2,3
BS A5	SAMSUNG	MCU-S4NEK3N	208-230/1/60	2	15	54 lb	1,2,3

REMARKS
1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R401A REFRIGERANT; SEE PIPING AND WIRING DIAGRAM
2. PROVIDE WITH SHUTOFF VALVES AT EACH SET OF INDOOR UNIT BRANCHES
3. SEE E/M-A3.1 FOR MOUNTING DETAIL

SUPPLY FAN SCHEDULE

MARK	MFR	MODEL NO	AIRFLOW	V-Ø-HZ	WATTS	AMPS	WEIGHT	SERVICE	REMARKS
SF-A2B	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A2B	1,2,3
SF-A2C	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A2C	1,2,3
SF-A2A	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A2A	1,2,3
SF-A2D	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A2D	1,2,3
SF-A3A	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A3A	1,2,3
SF-A3B	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A3B	1,2,3
SF-A3C	PANASONIC	FV-15NLFS1	150 CFM	208-1-60	27 W	0.5 A	18 lb	FC-A3C	1,2,3

REMARKS
1. PROVIDE WITH MERV 13 FILTER
2. PROVIDE WITH ELECTRONIC SPEED CONTROLLER AND CABINET TYPE INLINE FILTER BOX.
3. INTERLOCK WITH FAN COIL. SEE CONTROL DIAGRAM A/M-A5.2

SINGLE SPLIT SYSTEM OUTDOOR UNIT SCHEDULE

MARK	MFR.	MODEL NO.	SEER	EER	COP	HSPF	ELECTRICAL DATA			WEIGHT	SERVICE	REMARKS
							V-Ø-HZ	MCA	MOCP			
SHP-1	SAMSUNG	AR12TSFACWKXCV	23	13.5	4.25	12.5	208-230/1/60	12.5	20	71	SFC-A8	1-3

REMARKS
1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R401A REFRIGERANT
2. SYSTEM TO BE CONFIGURED TO COOLING ONLY, HEATING TO BE LOCKED OUT
3. SEE J/M-A3.1 FOR MOUNTING DETAIL

SPLIT SYSTEM INDOOR UNIT SCHEDULE

MARK	MFR	MODEL	AIRFLOW	ELECTRICAL DATA			MAX HEATING OUTPUT	RATED MAX COOLING	FILTER	WEIGHT	SERVICE	REMARKS
				V-Ø-HZ	MCA	MOCP						
SFC-A8	SAMSUNG	AR12TSFABWKNCV	593 CFM	POWERED BY OUTDOOR UNIT			LOCKED	15000.0 Btu/h	WASHABLE	23 lb	IDF A8	1-5

REMARKS
1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & APPURTENANCES; R401A REFRIGERANT
2. SYSTEM COMPLETE WITH WIRED THERMOSTAT .
3. PROVIDE WITH CONDENSATE PUMP AND DRAIN SLOPED TO APPROVED RECEPTACLE
4. MOUNT PER DETAIL H/M-A3.1
5.POWERED BY OUTDOOR UNIT

GRAVITY INTAKE SCHEDULE.

MARK	MFR	MODEL NO	THROAT WIDHT X LENGTH	CURB CAP WIDTH X LENGHT	HOOD WIDTH X LENGHT	SP	WEIGHT	REMARKS
GI 1	GREENHECK	FGI 20X20	20"x20"	26"x26"	37"x39"	0.25 in-wg	61 lb	1,2
GI 2	GREENHECK	FGI 14X14	14"x14"	20"x20"	29"x27"	0.25 in-wg	43 lb	1,2

REMARKS
1. PROVIDE WITH BACKDRAFT DAMPER
2. PROVIDE WITH SLOPED SOUND ATTENUATED CURB FOR MOUNTING SEE DETAIL B/M-A3.1

GRAVITY RELIEF SCHEDULE.

MARK	MFR	MODEL NO	THROAT WIDHT X LENGTH	CURB CAP WIDTH X LENGHT	HOOD WIDTH X LENGHT	SP	WEIGHT	REMARKS
GR 1	GREENHECK	FGR 24X24	24"x24"	30"x30"	38"x39"	0.25 in-wg	69 lb	1,2

REMARKS
1. PROVIDE WITH BACKDRAFT DAMPER
2. PROVIDE WITH SLOPED SOUND ATTENUATED CURB FOR MOUNTING SEE DETAIL B/M-A3.1

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REVISIONS

DSA APP NO 01-120920

ARCH PROJECT NO: 2173.00
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DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17

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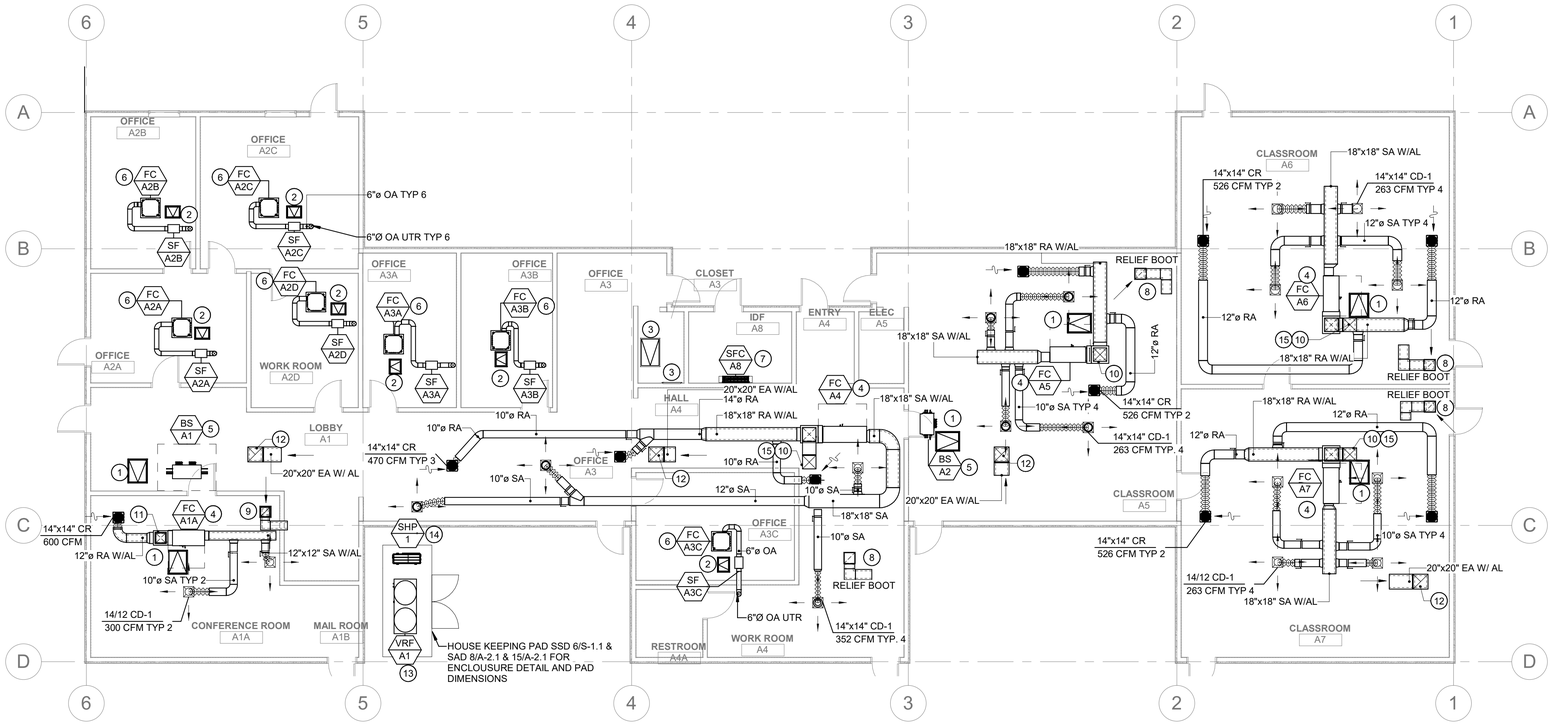
JULY 19, 2023

SHEET TITLE

BLDG A MECHANICAL SHEDULES

M-A1.2



TRUE NORTH

1 MECHANICAL PLAN

1/8" = 1'-0"

GENERAL NOTES

A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-A1.1

B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ELECTRICAL CONDUITS, DATA WIRING ETC..

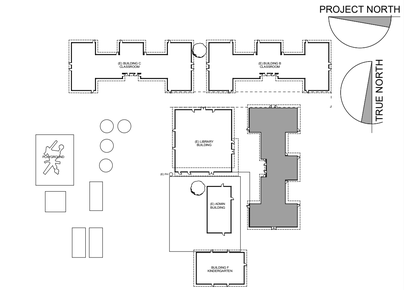
C. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES, SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.

D. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

SHEET NOTES

1. PROVIDE WITH 24"x30" MECHANICAL ACCESS CEILING HATCH SAD
2. PROVIDE WITH 14"x18" MECHANICAL ACCESS CEILING HATCH SAD
3. EXISTING ACCESS HATCH
4. INSTALL HORIZONTAL FAN COIL WITH MICROMTL MIXING BOX PLENUM WITH BELIMO ACTUATORS FOR OUTSIDE AIR AND RETURN AIR DAMPERS. ISTALL MERV13 FILTER RACK & SPRING ISOLOLATOR AT EACH CORNER INSTALL PER DETAIL (A / M-A3.1)
5. INSTALL BRANCH SELECTOR. FOR MOUNTING DETAIL SEE (E / M-A3.1)
6. INSTALL CEILING CASSETT FAN COIL WITH INTERLOCKED SUPPLY FAN FOR OUTSIDE AIR INTAKE. PROVIDE WITH SPRING ISOLOLATOR AT EACH CORNER INSTALL PER DETAIL (D / M-A3.1)
7. INSTALL WALL MOUNTED FAN COIL. MOUNT AS HIGH AS POSIBLE. PROVIDE WITH CONDENSATE PUMP. FOR MOUNTING DETAIL SEE (H / M-A3.1)
8. INSTALL 14"X14" W/1" AL RELIEF BOOT WITH 14"X14" CR GRILLE. DISCHARGE RELIEF INTO ATTIC
9. INSTALL 12"X12" W/1" AL RELIEF BOOT WITH 14"X14" CR GRILLE. DISCHARGE RELIEF INTO ATTIC
10. 18"X18" DUCT W/ 1" AL UP THROUGHT ROOF TO GRAVITY INTAKE ON ROOF W/ BACKDRAFT DAMPER. DO NOT CUT EXISTING ROOF JOIST OR EXISTING RAFTERS. OFFSET DUCT AS REQUIRED.
11. 12"X12" DUCT W/ 1" AL UP THROUGHT ROOF TO GRAVITY INTAKE ON ROOF W/ BACKDRAFT DAMPER. DO NOT CUT EXISTING ROOF JOIST OR EXISTING RAFTERS. OFFSET DUCT AS REQUIRED.
12. 20"X20" DUCT W/ 1" AL UP THROUGHT ROOF TO GRAVITY RELIEF ON ROOF W/ BACKDRAFT DAMPER. DO NOT CUT EXISTING ROOF JOIST OR EXISTING RAFTERS. OFFSET DUCT AS REQUIRED.
13. FOR VRF OUTDOOR UNIT SEE DETAIL (C / M-A3.1)
14. FOR SPLIT SYSTEM OUTDOOR UNIT SEE DETAIL (J / M-A3.1)
15. OFFSET OUTSIDE AIR DUCTWORK TO AVOID FRAMING

KEYPLAN



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APP: 01-120920 INC:
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DATE: 8/22/2023

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No. 33000
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MECHANICAL
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REVISIONS

DSA APP NO 01-120920

ARCH PROJECT NO:	2173.00
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DRAWING SCALE:	1/8" = 1'-0"
PTN: 73882-47	FILE NO: 49-17

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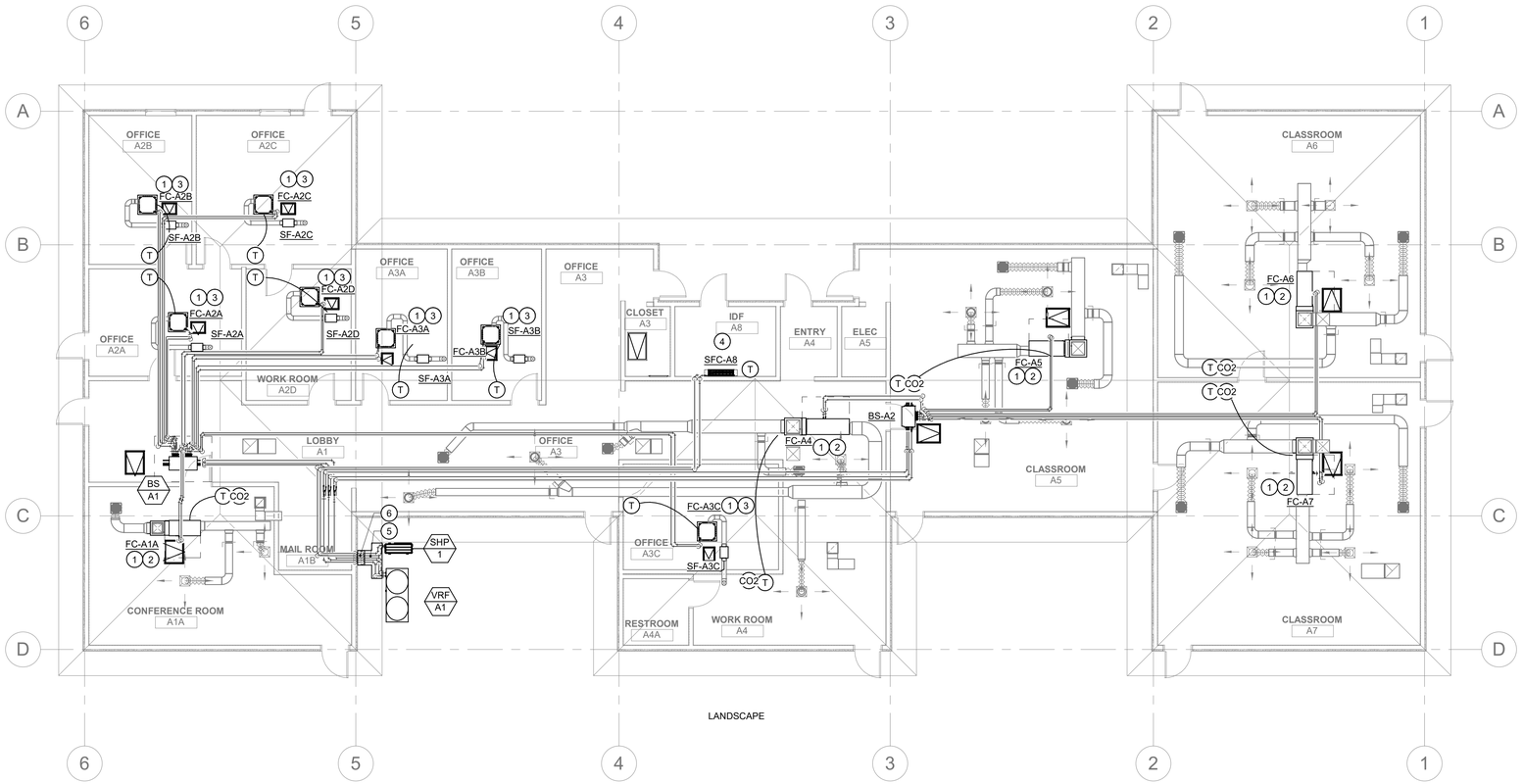
JULY 19, 2023

SHEET TITLE

BLDG A MECHANICAL FLOOR PLAN

M-A2.1



TRUE NORTH

1 MECHANICAL REFRIGERATION PIPING PLAN

1/8" = 1'-0"

GENERAL NOTES

A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-A1.1

B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ELECTRICAL CONDUITS, DATA WIRING ETC..

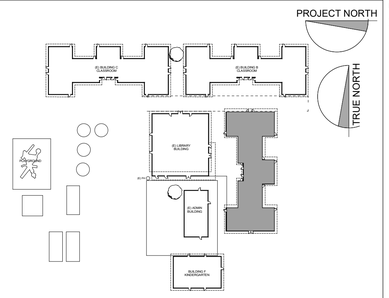
C. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES, SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.

D. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

SHEET NOTES

1. FOR PIPE SIZES AND DIAGRAMS SEE SHEER M-A4.1
2. FOR CONTROLS FOR DUCTED FAN COIL WITH ECONOMIZER SEE SHEET M-A5.1
3. FOR CONTROLS FOR CEILING CASSETT WITH INTERLOCKED SUPPLY FAN SEE SHEET M-A5.2
4. FOR SPLIT SYSTEM PROVIDE WITH WIRE THERMOSTAT
5. REFRIGERATION PIPING MOUNTED ON SLAB WITH COVER SEE DETAIL G / M-A3.1
6. REFRIGERATION PIPING THRU WALL WITH COVER SEE DETAIL F / M-A3.1

KEYPLAN



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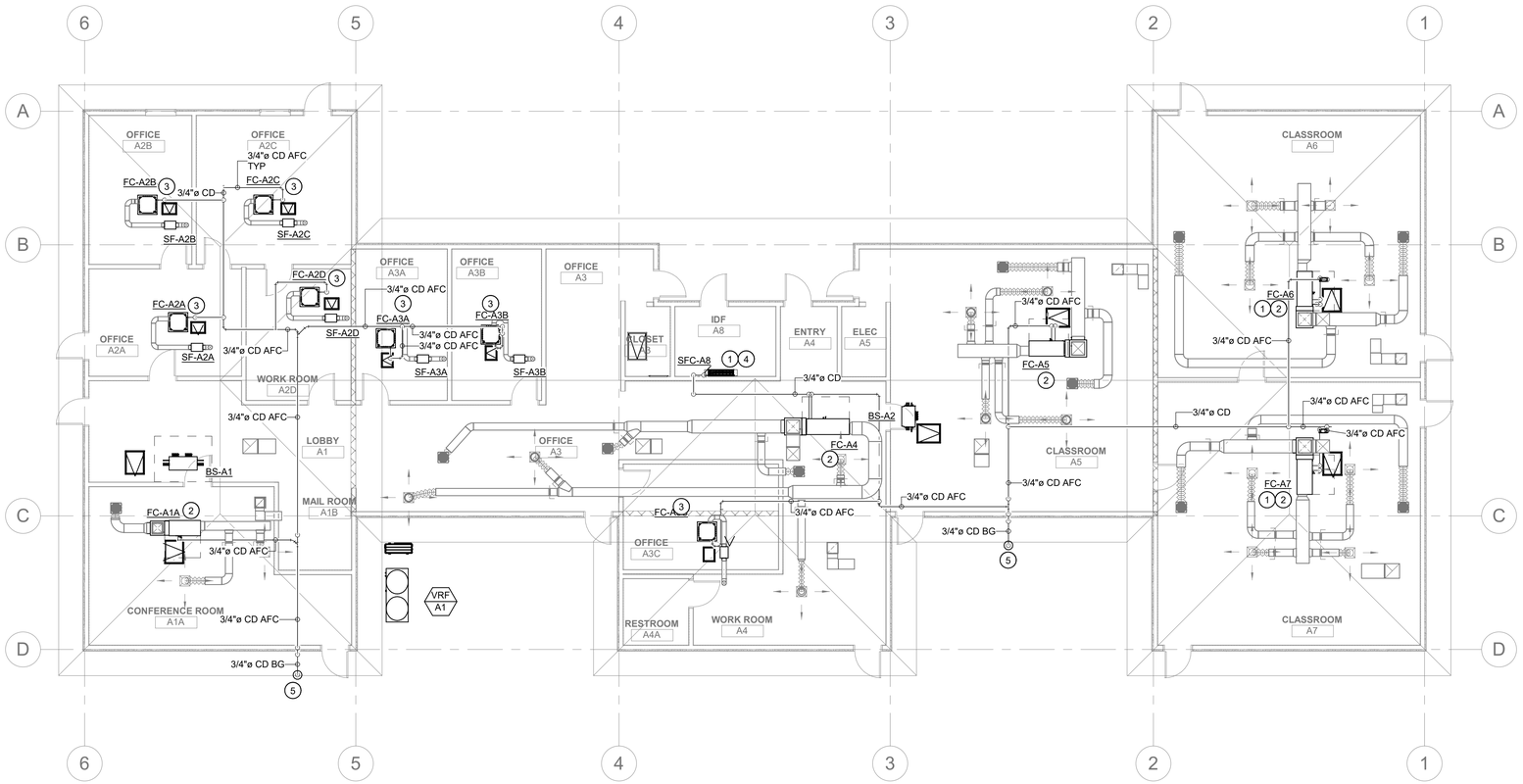
SHEET TITLE

BLDG A MECHANICAL PIPING PLAN

M-A2.2



TRUE NORTH

1 MECHANICAL CONDESATE PIPING PLAN

1/8" = 1'-0"

GENERAL NOTES

A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-A1.1

B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ELECTRICAL CONDUITS, DATA WIRING ETC..

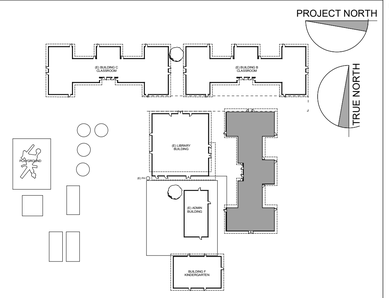
C. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES, SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.

D. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

SHEET NOTES

1. PROVIDE WITH CONDENSATE PUMP
2. INSTALL PRIMARY AND SECONDARY DRAIN WITH OVER FLOW SHUTOFF SWITH IN SECONDARY DRAIN SEE DETAIL A/M-A3.3
3. FOR CEILING CASSETT CONDENSATE CONNECTION SEE DETAIL D/M-A3.3
4. FOR WALL MOUNTED FANCOIL CONDENSATE CONNECTION INSTALL SIMILAR TO DETAIL D/M-A3.3
5. CONDENSATE DOWN IN WALL AND TERMINATE INTO DRYWELL SEE DETAIL C/M-A3.3

KEYPLAN



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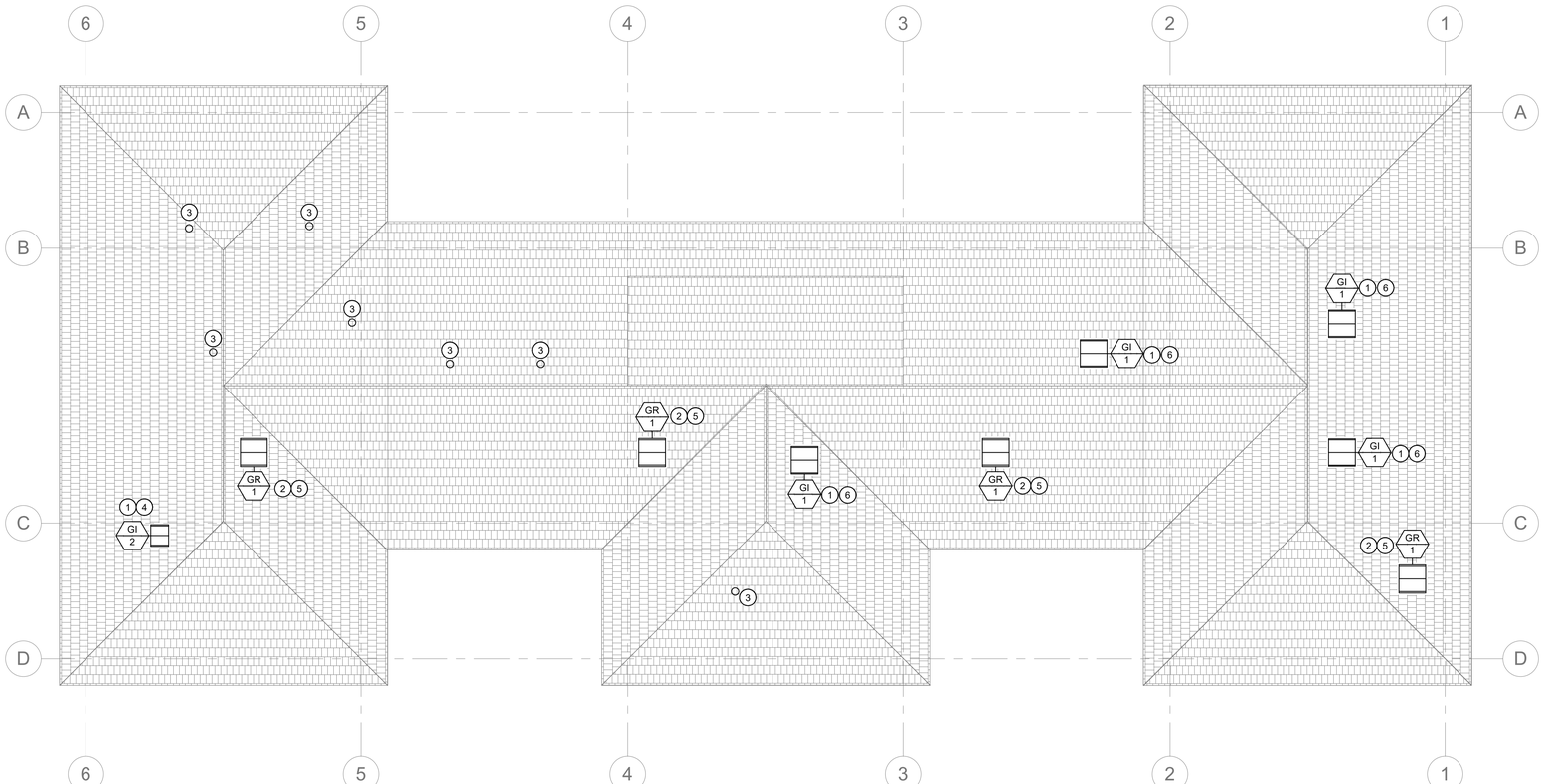
SHEET TITLE

BLDG A MECHANICAL CONDENSATE PIPING PLAN

M-A2.3



TRUE NORTH

1 MECHANICAL ROOF PLAN

1/8" = 1'-0"

GENERAL NOTES

A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-A1.1

B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES. MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, SKYLIGHTS, ELECTRICAL CONDUITS, DATA WIRING ETC..

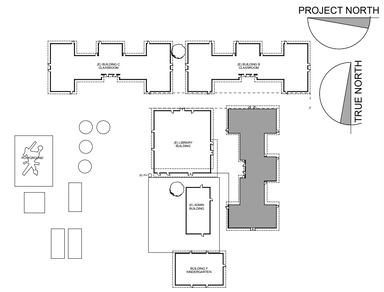
C. CONTRACTOR SHALL COORDINATE ALL GRILLE LOCATIONS AND CEILING TYPES PRIOR TO ORDERING GRILLES. SEE ARCHITECTURAL CEILING PLANS AND ELECTRICAL LIGHTING PLANS.

D. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWING OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

SHEET NOTES

1. GRAVITY INTAKE WITH SLOPED CURB & BACKDRAFT DAMPER SEE DETAIL B/M-A3.1
2. GRAVITY RELIEF WITH SLOPED CURB & BACKDRAFT DAMPER SEE DETAIL B/M-A3.1
3. 6"Ø OA CAP FOR CEILING CASSETT
4. 12"x12" w/ 1" AL DOWN THRU ROOF DO NOT CUT EXISTING ROOF JOIST OR EXISTING RAFTERS. OFFSET DUCT AS REQUIRED.
5. 20"x20" w/ 1" AL DOWN THRU ROOF DO NOT CUT EXISTING ROOF JOIST OR EXISTING RAFTERS. OFFSET DUCT AS REQUIRED.
6. 18"x18" w/ 1" AL DOWN THRU ROOF DO NOT CUT EXISTING ROOF JOIST OR EXISTING RAFTERS. OFFSET DUCT AS REQUIRED.

KEYPLAN



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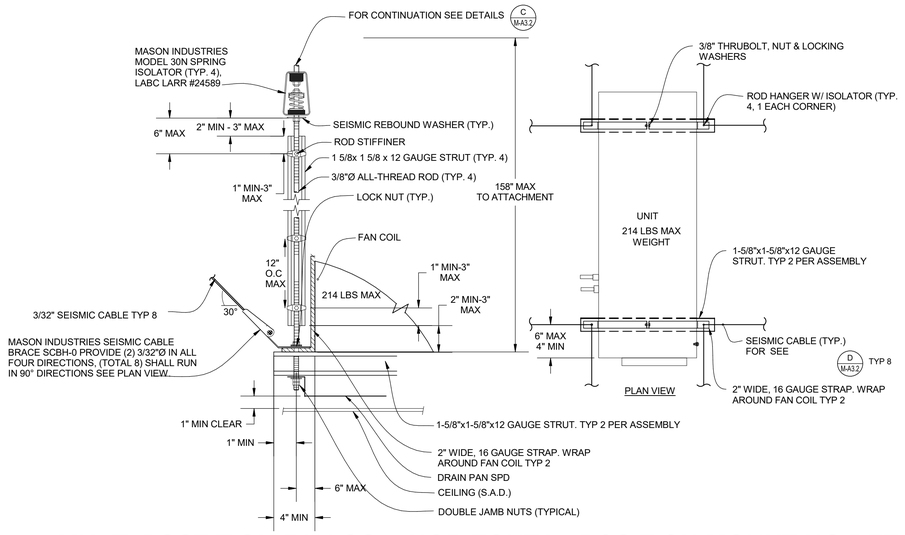
JULY 19, 2023

SHEET TITLE

BLDG A MECHANICAL ROOF PLAN

M-A2.4



A MULTI POSTITION FAN COIL-HORIZONTAL POSITION MOUNTING DETAIL

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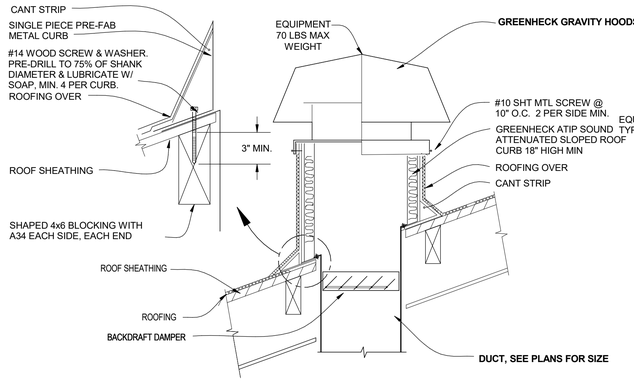
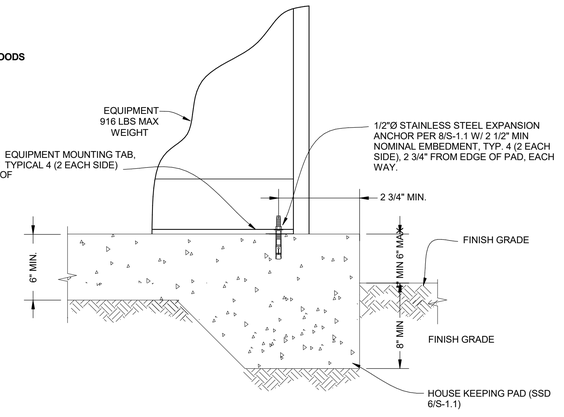


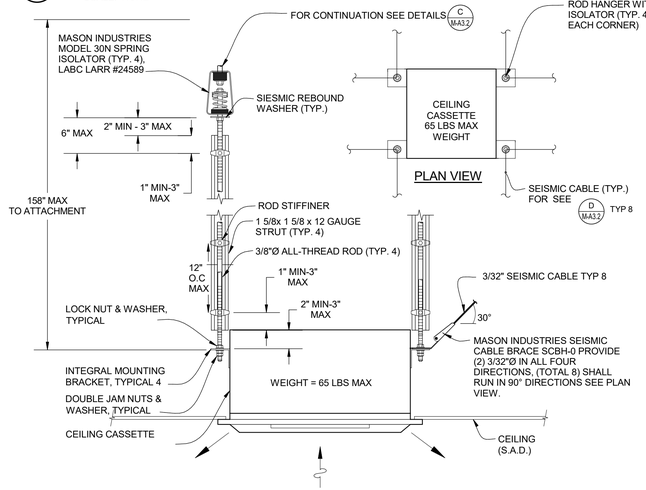
B TYPICAL GRAVITY RELIEF/INTAKE HOODS

SCALE: NONE



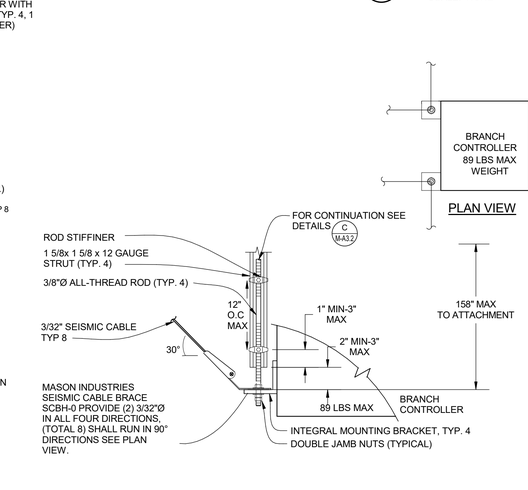
C VRF UNIT MOUNTING DETAIL

SCALE: NTS



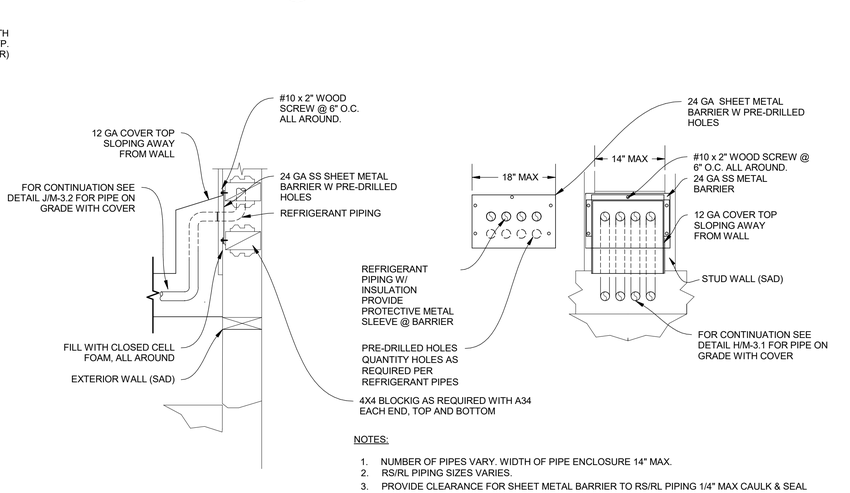
D CEILING CASSETTE MOUNTING DETAIL

SCALE: NTS



E BS MOUNTING DETAIL

SCALE: NONE



F REFRIGERATION PIPE THRU WALL

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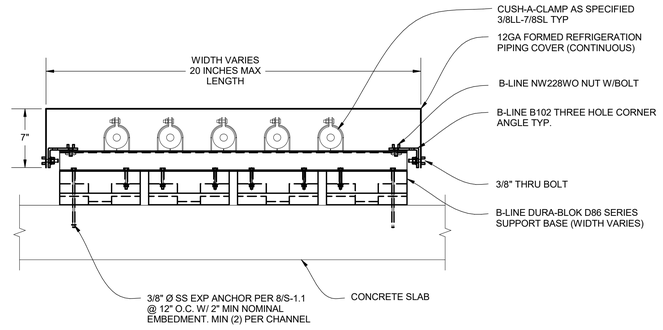
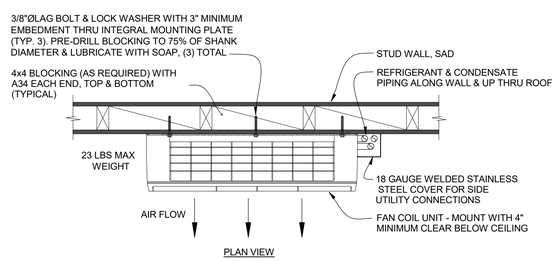


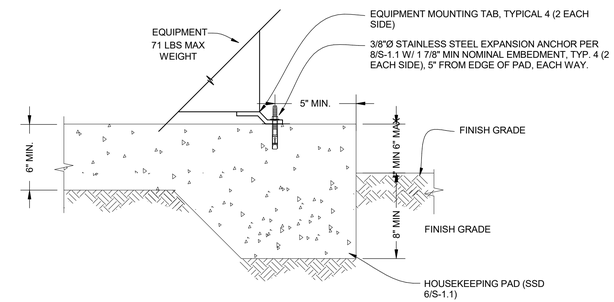
G REFRIGERANT PIPING MOUNTED ON SLAB W/ COVER

SCALE: NTS



H WALL MOUNTED FAN COIL DETAIL

SCALE: NTS



J OUTDOOR SPLIT SYSTEM DETAIL

SCALE: NTS

7/17/2023 11:11:48 AM C:\Users\mquevedo\Documents\22010 La Fiesta ES RVT21_mquevedo@costaengineers.com.rvt

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DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
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No. 34000
Exp. 12-31-24
MECHANICAL
STATE OF CALIFORNIA

UNIVERSITY ELEMENTARY AT LA FIESTA HVAC REPLACEMENT

8511 LIMAN WAY
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94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO 01-120920

ARCH PROJECT NO:	2173.00
DRAWN BY:	BM/MQ
DRAWING SCALE:	
PTN: 73882-47	FILE NO: 49-17

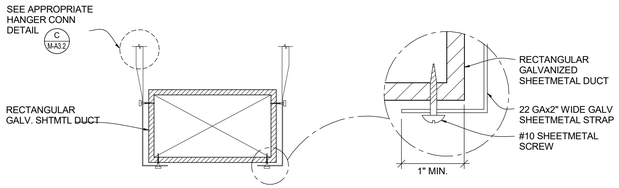
CD

JULY 19, 2023

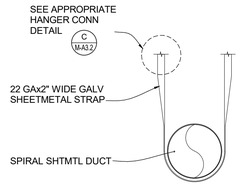
SHEET TITLE

MECHANICAL DETAILS

M-A3.1



RECTANGULAR DUCT (EXPOSED/CONCEALED)
(31" WIDE AND SMALLER)



ROUND DUCT (EXPOSED/CONCEALED)
(16"Ø AND SMALLER)

DUCT SUPPORT NOTES:

A. ALL STRAPS, RODS, TRAPEZE ANGLES AND TRAPEZE CHANNELS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST SMACNA REQUIREMENTS.

B. ALL BOLTS, NUTS, SCREWS AND OTHER FASTENING DEVICES SHALL BE LOAD-RATED AND SHALL MEET ALL CODE REQUIREMENTS AND SAFETY FACTORS WHICH APPLY.

C. WIRE, USED IN LIEU OF STRAPS AND RODS, IS NOT ALLOWED.

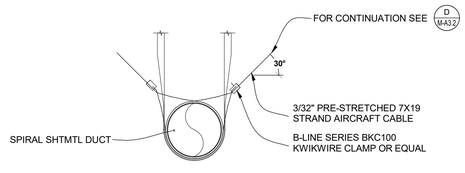
D. WHERE APPLICABLE, INSTALL INSULATION AFTER INSTALLING DUCT HANGERS.

E. LATERAL BRACING REQUIRED ON 32" WIDE AND LARGER RECTANGULAR DUCTS, AND ON 18" DIAMETER AND LARGER ROUND DUCTS. SEE OPM-0043-13

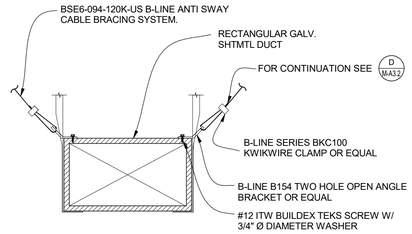
F. SUPPORTS SHALL BE PLACED AT 8'-0" ON CENTER (MAX) AND AT ALL CHANGES IN DIRECTION.

GENERAL NOTE : ALL DUCTS GREATER THAN 12" FROM STRUCTURE SHALL HAVE ANTI SWAY CABLE BRACING IF ANY PART OF DUCT RUN IS GREATER THAN 12" FROM STRUCTURE AT EACH SUPPORT.

SEISMIC BRACING NOT REQUIRED ON RECTANGULAR AND ROUND DUCT WITH CROSS SECTIONAL AREA EQUAL TO 6 sq.ft OR LESS, OR WEIGH 10 lbs/ft OR LESS, ARE WITHIN 12" OF STRUCTURE PER OPM 0043-13 PAGE A4.0., AND WEIGH LESS THAN 100 LBS PER SUPPORT



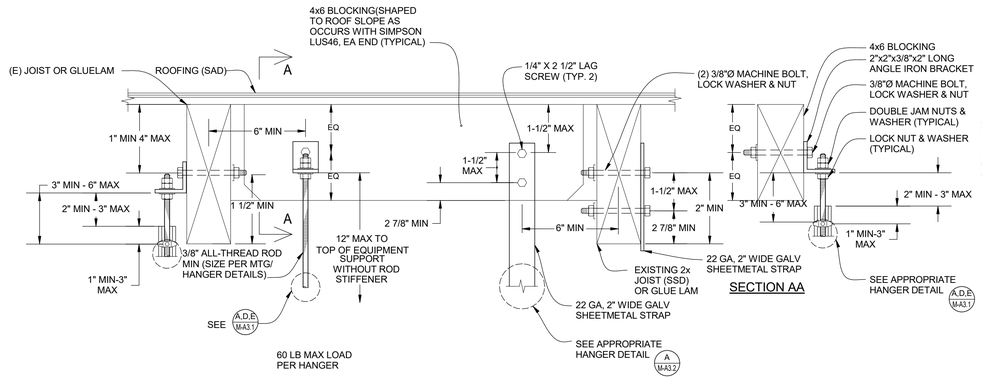
ROUND DUCT (EXPOSED/CONCEALED) W/ ANTISWAY SYSTEM
(16" ROUND AND SMALLER, 16'-0" O.C. MAX SPACING)



RECTANGULAR DUCT W/ ANTISWAY SYSTEM
(SMALLER THAN 6sq FT 16'-0" O.C. MAX SPACING)

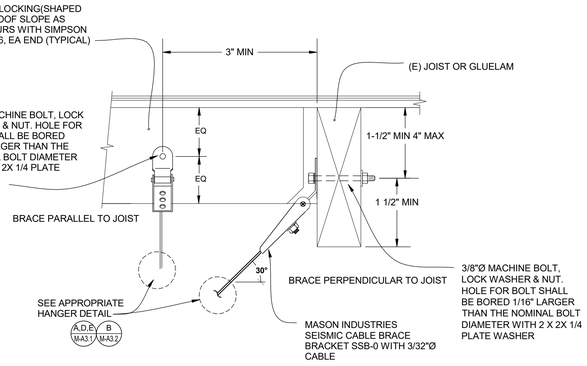
A TYPICAL DUCT HANGER DETAILS

SCALE: NONE



B TYPICAL DUCT ANTI-SWAY DETAILS

SCALE: NONE



C HANGER CONNECTION @ 2X JOIST OR GLULAM

SCALE: NONE

D SEISMIC BRACE CONNECTION @ 2X JOIST OR GLULAM

SCALE: NONE

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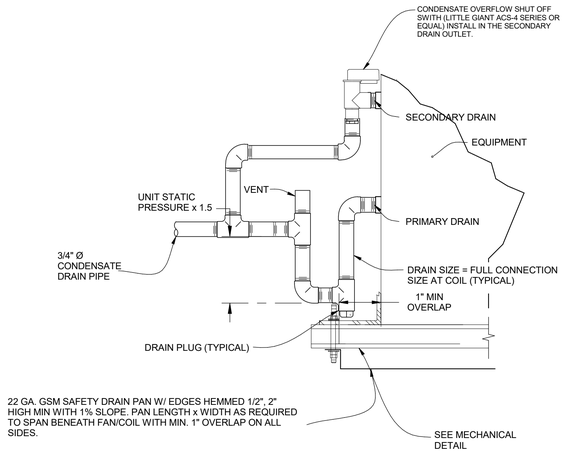
JULY 19, 2023

SHEET TITLE

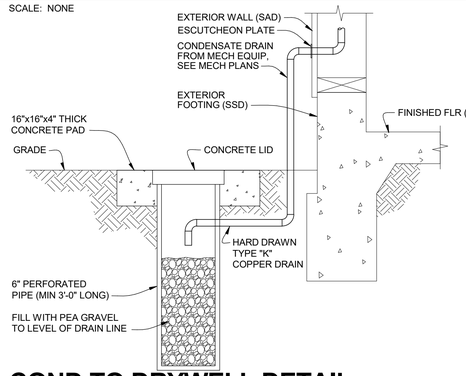
MECHANICAL DETAILS

M-A3.2



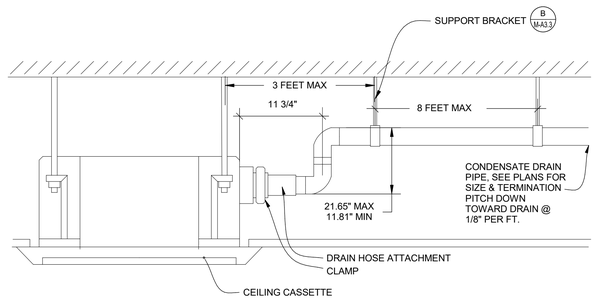
A PRIMARY AND SECONDARY DRAIN W/ OVER FLOW SWITCH DETAIL

SCALE: NONE



C COND TO DRYWELL DETAIL

SCALE: NTS

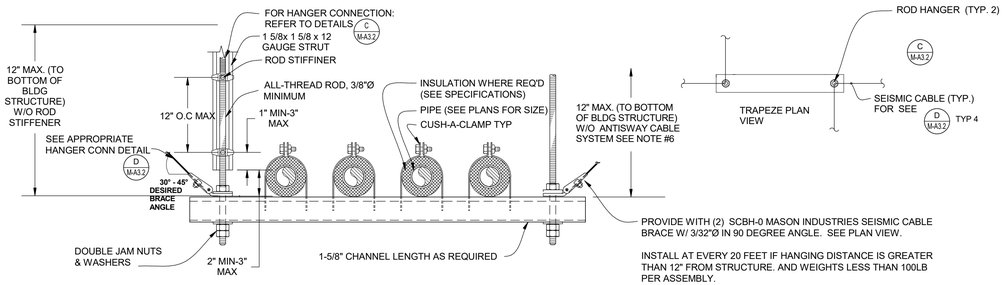


D TYPICAL CONDENSATE FOR FC CASSETTE

SCALE: NONE

TRAPEZE GENERAL NOTES:

1. RUN PIPING TRAPEZE AS CLOSE AS POSSIBLE TO STRUCTURE.
2. SUPPORT TRAPEZE AT A MAXIMUM OF 8'-0" INTERVALS.
3. SEE PLANS & PIPING DIAGRAMS FOR PIPE SIZES.
4. CHANNEL DEFLECTION SHALL NOT EXCEED 1/360 OF THE SPAN BETWEEN RODS. DOUBLE-UP CHANNELS AS REQUIRED.
5. MASON ROD STIFFENER @ ALL-THREAD WHERE DIAGONAL BRACE OCCURS. SEE OPM-0043-13 For INFORMATION & ITEMS NOT SHOWN.
6. NO BRACING IS REQUIRED ON TRAPEZE ASSEMBLY WHEN ASSEMBLIES ARE SUPPORTED BY 3/8" Ø ROD OR 1/2" Ø ROD SUPPORTED LESS THAN 12" FROM BOTTOM OF STRUCTURE AND THE TOTAL WEIGHT IS LESS THAN 100 LBS PER 2022 CBC 1617A.1.26, section 13.6.7.3 EXCEPTION 1. AND NO SINGLE PIPE EXCEEDS 2" DIAMETER.
7. PIPING SUPPORTED MORE THAN 12" FROM BOTTOM OF ROOF STRUCTURE SHALL HAVE ANTI SWAY CABLE BRACING AT EACH SUPPORT TO RESIST THE FORCES PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, AND 13.6.8, AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26 RESPECTIVELY.

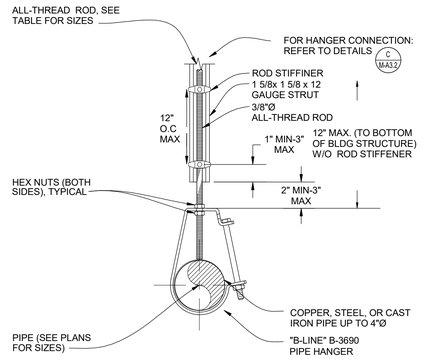


F TRAPEZE SUPPORTS DETAIL

SCALE: NONE

SINGLE PIPE GENERAL NOTES:

1. RUN PIPING AS CLOSE AS POSSIBLE TO STRUCTURE.
2. SUPPORT PIPING AT A MAXIMUM OF 8'-0" INTERVALS AND AT EVERY CHANGE IN DIRECTION.
3. SEE PLANS FOR PIPE SIZES.
4 MASON ROD STIFFENER @ ALL-THREAD WHERE DIAGONAL BRACE OCCURS. SEE OPM-0043-13 For INFORMATION & ITEMS NOT SHOWN.



B SINGLE PIPE SUPPORT DETAIL

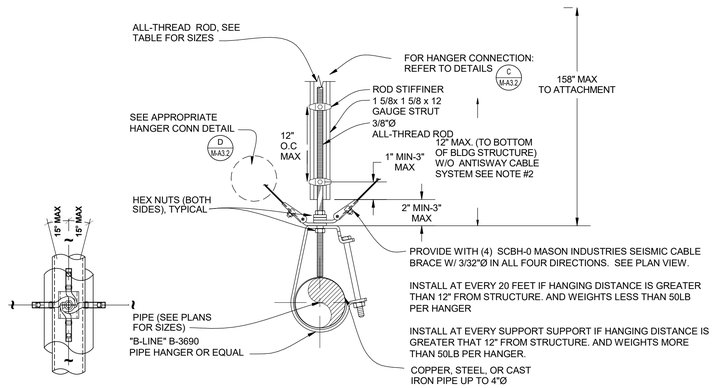
SCALE: NONE

SINGLE PIPE BRACING GENERAL NOTES:

1 MASON ROD STIFFENER @ ALL-THREAD WHERE DIAGONAL BRACE OCCURS. SEE OPM-0043-13 For INFORMATION & ITEMS NOT SHOWN.

2 NO BRACING IS REQUIRED ON SINGLE FUEL PIPES WITH LESS THAN 1" I.D. AND ALL OTHER PIPES LESS THAN 2-1/2" IN DIAMETER, AND WHEN SUPPORTED LESS THAN 12" BY A 3/8" Ø ROD OR 1/2" Ø ROD FROM BOTTOM OF ROOF STRUCTURE AND THE TOTAL WEIGHT SUPPORTED IS 50 LBS OR LESS PER 2022 CBC 1617A.1.24 EXCEPTION 1B.

3. PIPING SUPPORTED MORE THAN 12" FROM BOTTOM OF ROOF STRUCTURE SHALL HAVE ANTI SWAY CABLE BRACING AT EACH SUPPORT TO RESIST THE FORCES PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, AND 13.6.8, AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26 RESPECTIVELY.



E SINGLE PIPE BRACING DETAIL

SCALE: NONE

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DRAWN BY: BM/MQ
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PTN: 73882-47 FILE NO: 49-17

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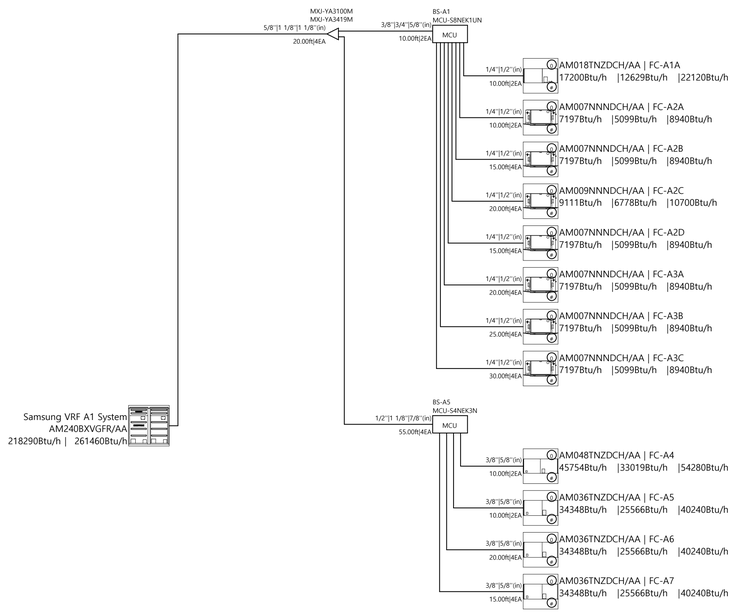
JULY 19, 2023

SHEET TITLE

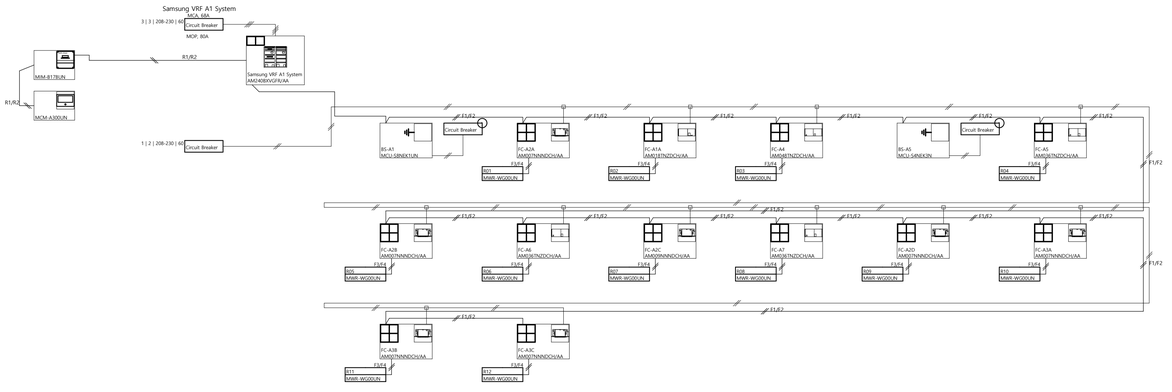
MECHANICAL & PLUMBING DETAILS

M-A3.3



A PIPING SYSTEM DIAGRAM

SCALE: NONE



B WIRING SYSTEM DIAGRAM

SCALE: NONE

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PIPING AND WIRING DIAGRAMS

M-A4.1

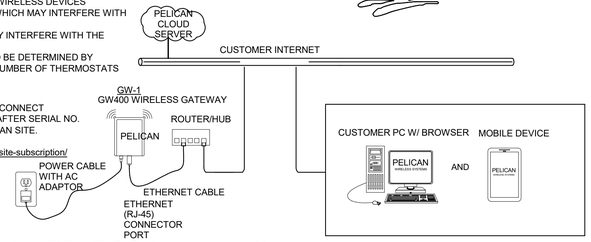
THE WIRELESS GATEWAY IS DESIGNATED TO BE WALL MOUNTED USING THE INCLUDED 3M COMMAND REMOVABLE STRIPS.

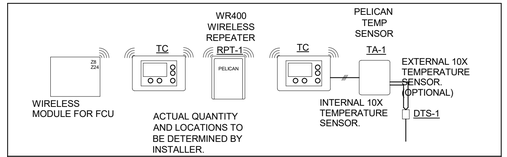
FIND A SUITABLE LOCATION WHICH IS:

-WITHIN 10 FEET OF YOUR INTERNET ROUTER
-WITHIN 4 FEET OF AN ELECTRICAL OUTLET
-AT LEAST 4 FEET AWAY FROM OTHER WIRELESS DEVICES
-AWAY FROM LARGE METAL OBJECTS WHICH MAY INTERFERE WITH THE WIRELESS SIGNAL
-ABOVE OFFICE EQUIPMENT WHICH MAY INTERFERE WITH THE WIRELESS SIGNAL
-ACTUAL QUANTITY AND LOCATIONS TO BE DETERMINED BY INSTALLER. NO PRACTICAL LIMITS TO NUMBER OF THERMOSTATS SUPPORTED BY A SINGLE GATEWAY

FACTORY IP ADDRESS GATE WAY WILL CONNECT AUTOMATICALLY TO PELICAN SERVER AFTER SERIAL NO. OF GATEWAY IS REGISTERED ON PELICAN SITE.

GO TO: http://www.pelicanwireless.com/new-site-subscription/

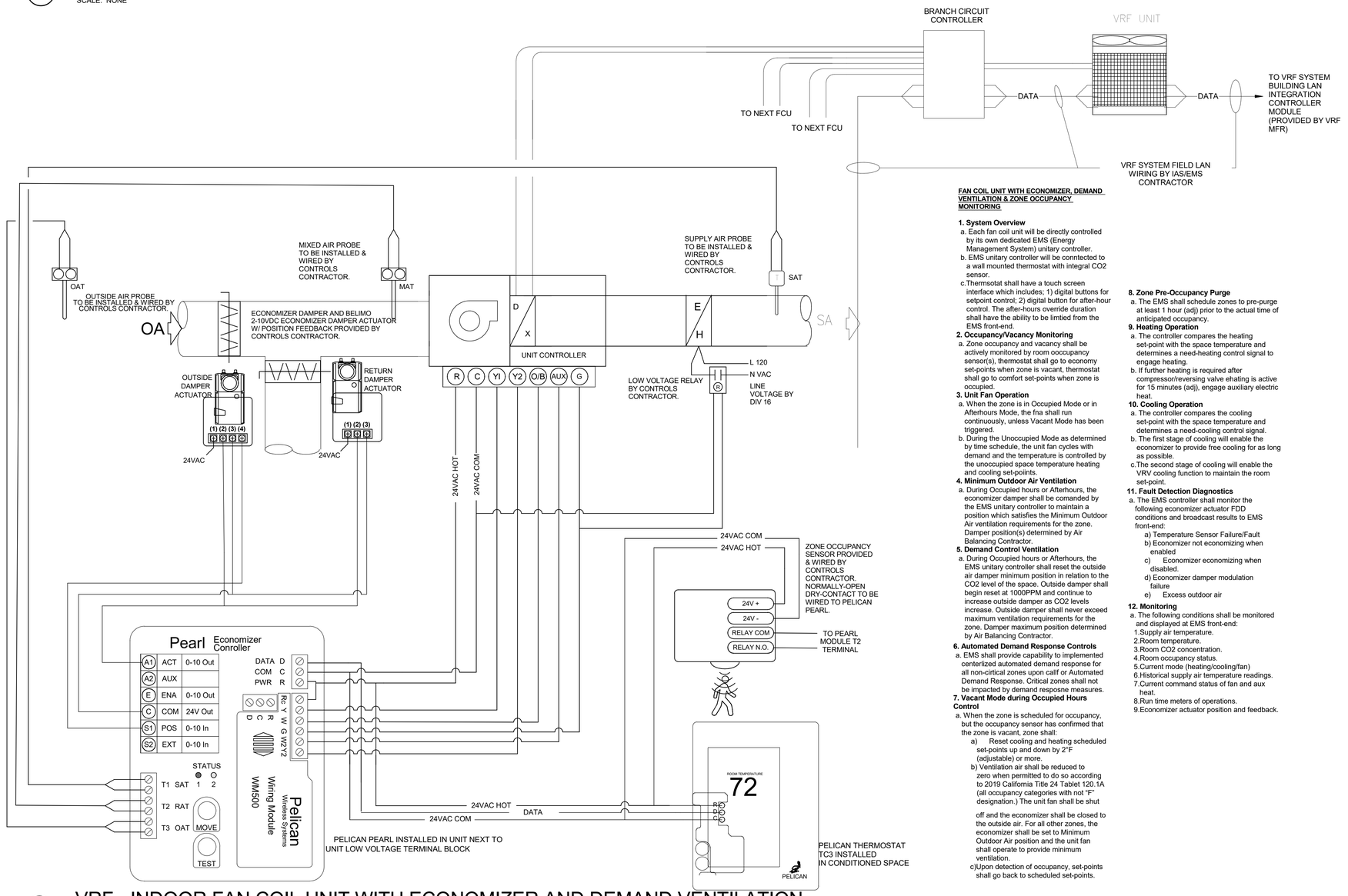




WIRELESS COMPONENTS		
TAG	PART NUMBER	DESCRIPTION
RPT-1	PEL WR400	WIRELESS REPEATER, WITH POWER ADAPTOR
GW-1	PEL GW400	WIRELESS GATEWAY, WITH POWER ADAPTOR
TC	TC3	THERMOSTAT WITH CO2 SENSOR

A TYPICAL PELICAN WIRELESS LAN LAYOUT

SCALE: NONE



B VRF - INDOOR FAN COIL UNIT WITH ECONOMIZER AND DEMAND VENTILATION

SCALE: NONE

FAN COIL UNIT WITH ECONOMIZER, DEMAND VENTILATION & ZONE OCCUPANCY MONITORING

1. System Overview
a. Each fan coil unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
b. EMS unitary controller will be conntected to a wall mounted thermostat with integral CO2 sensor.
c. Thermsotat shall have a touch screen interface which includes; 1) digital buttons for setpoint control; 2) digital button for after-hour control. The after-hours override duration shall have the ability to be limtied from the EMS front-end.

2. Occupancy/Vacancy Monitoring
a. Zone occupancy and vacancy shall be actively monitored by room occcupancy sensor(s), thermostat shall go to economy set-points when zone is vacant, thermostat shall go to comfort set-points when zone is occupied.

3. Unit Fan Operation
a. When the zone is in Occupied Mode or in Afterhours Mode, the fna shall run continuously, unless Vacant Mode has been triggered.
b. During the Unoccupied Mode as determined by time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling set-points.

4. Minimum Outdoor Air Ventilation
a. During Occupied hours or Afterhours, the economizer damper shall be comanded by the EMS unitary controller to maintain a position which satisfies the Minimum Outdoor Air ventilation requirements for the zone. Damper position(s) determined by Air Balancing Contractor.

5. Demand Control Ventilation
a. During Occupied hours or Afterhours, the EMS unitary controller shall reset the outside air damper minimum position in relation to the CO2 level of the space. Outside damper shall begin reset at 1000PPM and continue to increase outside damper as CO2 levels increase. Outside damper shall never exceed maximum ventilation requirements for the zone. Damper maximum position determined by Air Balancing Contractor.

6. Automated Demand Response Controls
a. EMS shall provide capability to implemented centerlized automated demand response for all non-cirtical zones upon callf or Automated Demand Response. Critical zones shall not be impacted by demand response measures.

7. Vacant Mode during Occupied Hours Control
a. When the zone is scheduled for occupancy, but the occupancy sensor has confirmed that the zone is vacant, zone shall:
  a) Reset cooling and heating scheduled set-points up and down by 2°F (adjustable) or more.
  b) Ventilation air shall be reduced to zero when permitted to do so according to 2019 California Title 24 Tablet 120.1A (all occupancy categories with not "F" designation.) The unit fan shall be shut off and the economizer shall be closed to the outside air. For all other zones, the economizer shall be set to Minimum Outdoor Air position and the unit fan shall operate to provide minimum ventilation.
  c) Upon detection of occupancy, set-points shall go back to scheduled set-points.

8. Zone Pre-Occupancy Purge
a. The EMS shall schedule zones to pre-purge at least 1 hour (adj) prior to the actual time of anticipated occupancy.

9. Heating Operation
a. The controller compares the heating set-point with the space temperature and determines a need-heating control signal to engage heating.
b. If further heating is required after compressor/reversing valve ehating is active for 15 minutes (adj), engage auxiliary electric heat.

10. Cooling Operation
a. The controller compares the cooling set-point with the space temperature and determines a need-cooling control signal.
b. The first stage of cooling will enable the economizer to provide free cooling for as long as possible.
c. The second stage of cooling will enable the VRV cooling function to maintain the room set-point.

11. Fault Detection Diagnostics
a. The EMS controller shall monitor the following economizer actuator FDD conditions and broadcast results to EMS front-end:
  a) Temperature Sensor Failure/Fault
  b) Economizer not economizing when enabled
  c) Economizer economizing when disabled.
  d) Economizer damper modulation failure
  e) Excess outdoor air

12. Monitoring
a. The following conditions shall be monitored and displayed at EMS front-end:
1. Supply air temperature.
2. Room temperature.
3. Room CO2 concentration.
4. Room occupancy status.
5. Current mode (heating/cooling/fan)
6. Historical supply air temperature readings.
7. Current command status of fan and aux heat.
8. Run time meters of operations.
9. Economizer actuator position and feedback.

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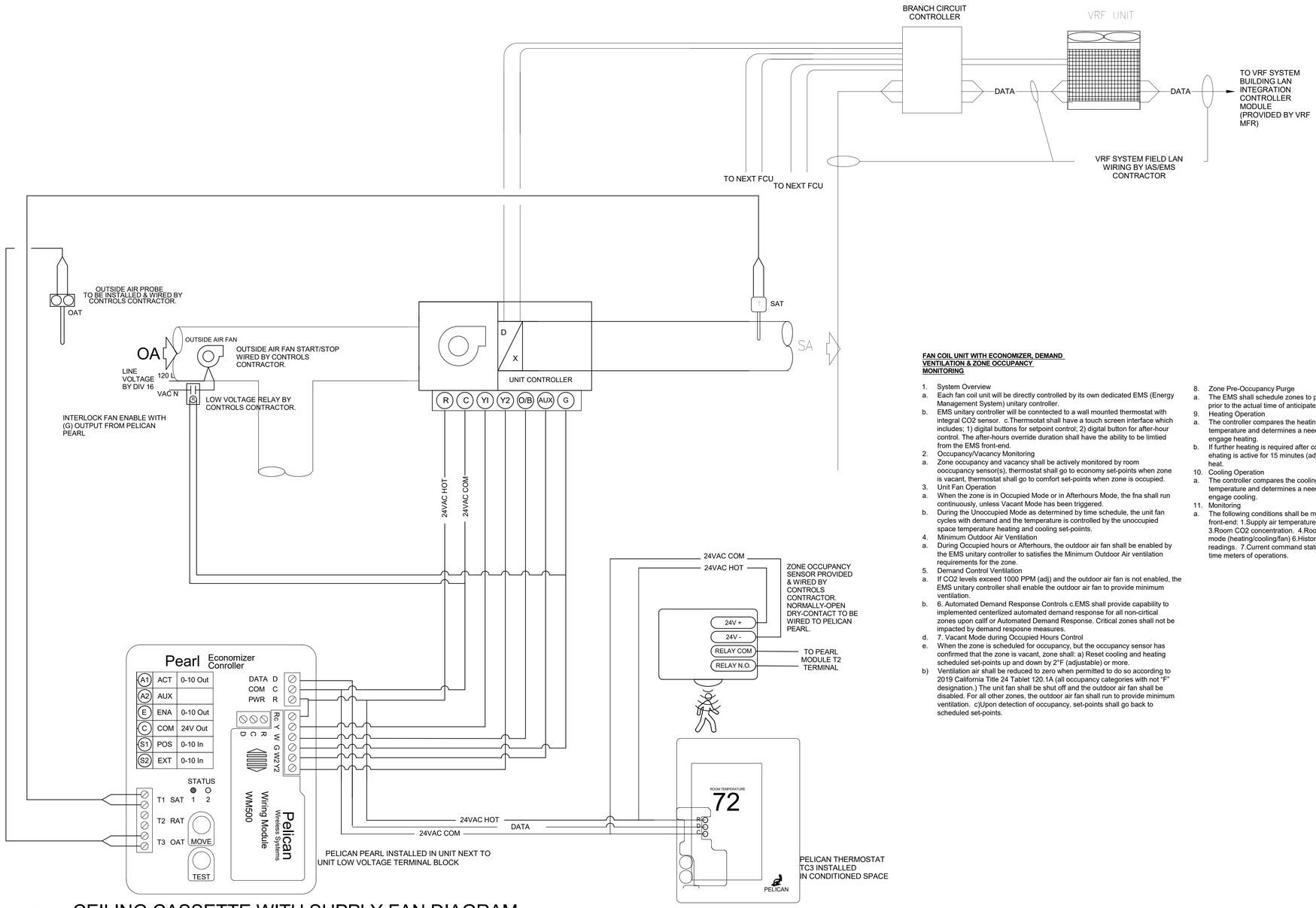
JULY 19, 2023

SHEET TITLE

MECHANICAL CONTROLS

M-A5.1



A CEILING CASSETTE WITH SUPPLY FAN DIAGRAM

SCALE: NONE

FAN COIL UNIT WITH ECONOMIZER, DEMAND VENTILATION & ZONE OCCUPANCY MONITORING

1. System Overview
a. Each fan coil unit will be directly controlled by its own dedicated EMS (Energy Management System) unitary controller.
b. EMS unitary controller will be conntected to a wall mounted thermostat with integral CO2 sensor. c.Thermsotat shall have a touch screen interface which includes; 1) digital buttons for setpoint control; 2) digital button for after-hour control. The after-hours override duration shall have the ability to be limtied from the EMS front-end.
2. Occupancy/Vacancy Monitoring
a. Zone occupancy and vacancy shall be actively monitored by room ooccupancy sensor(s), thermostat shall go to economy set-points when zone is vacant, thermostat shall go to comfort set-points when zone is occupied.
3. Unit Fan Operation
a. When the zone is in Occupied Mode or in Afterhours Mode, the fna shall run continuously, unless Vacant Mode has been triggered.
b. During the Unoccupied Mode as determined by time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling set-poiints.
4. Minimum Outdoor Air Ventilation
a. During Occupied hours or Afterhours, the outdoor air fan shall be enabled by the EMS unitary controller to satisfies the Minimum Outdoor Air ventilation requirements for the zone.
5. Demand Control Ventilation
a. If CO2 levels exceed 1000 PPM (adj) and the outdoor air fan is not enabled, the EMS unitary controller shall enable the outdoor air fan to provide minimum ventilation.
b. 6. Automated Demand Response Controls c.EMS shall provide capability to implemented centerlized automated demand response for all non-cirtical zones upon callf or Automated Demand Response. Critical zones shall not be impacted by demand resposne measures.
d. 7. Vacant Mode during Occupied Hours Control
e. When the zone is scheduled for occupancy, but the occupancy sensor has confirmed that the zone is vacant, zone shall: a) Reset cooling and heating scheduled set-points up and down by 2°F (adjustable) or more.
b) Ventilation air shall be reduced to zero when permitted to do so according to 2019 California Title 24 Tablet 120.1A (all occupancy categories with not "F" designation.) The unit fan shall be shut off and the outdoor air fan shall be disabled. For all other zones, the outdoor air fan shall run to provide minimum ventilation. c)Upon detection of occupancy, set-points shall go back to scheduled set-points.
8. Zone Pre-Occupancy Purge
a. The EMS shall schedule zones to pre-purge at least 1 hour (adj) prior to the actual time of anticipated occupancy.
9. Heating Operation
a. The controller compares the heating set-point with the space temperature and determines a need-heating control signal to engage heating.
b. If further heating is required after compressor/reversing valve ehating is active for 15 minutes (adj), engage auxiliary electric heat.
10. Cooling Operation
a. The controller compares the cooling set-point with the space temperature and determines a need-cooling control signal to engage cooling.
11. Monitoring
a. The following conditions shall be monitored and displayed at EMS front-end: 1.Supply air temperature. 2.Room temperature. 3.Room CO2 concentration. 4.Room occupancy status. 5.Current mode (heating/cooling/fan) 6.Historical supply air temperature readings. 7.Current command status of fan and aux heat. 8.Run time meters of operations.

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No. 34000
Exp. 12-31-24
MECHANICAL
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UNIVERSITY ELEMENTARY AT LA FIESTA HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
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COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

REVISIONS

DSA APP NO 01-120920

ARCH PROJECT NO: 2173.00
DRAWN BY: BM/MQ
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17

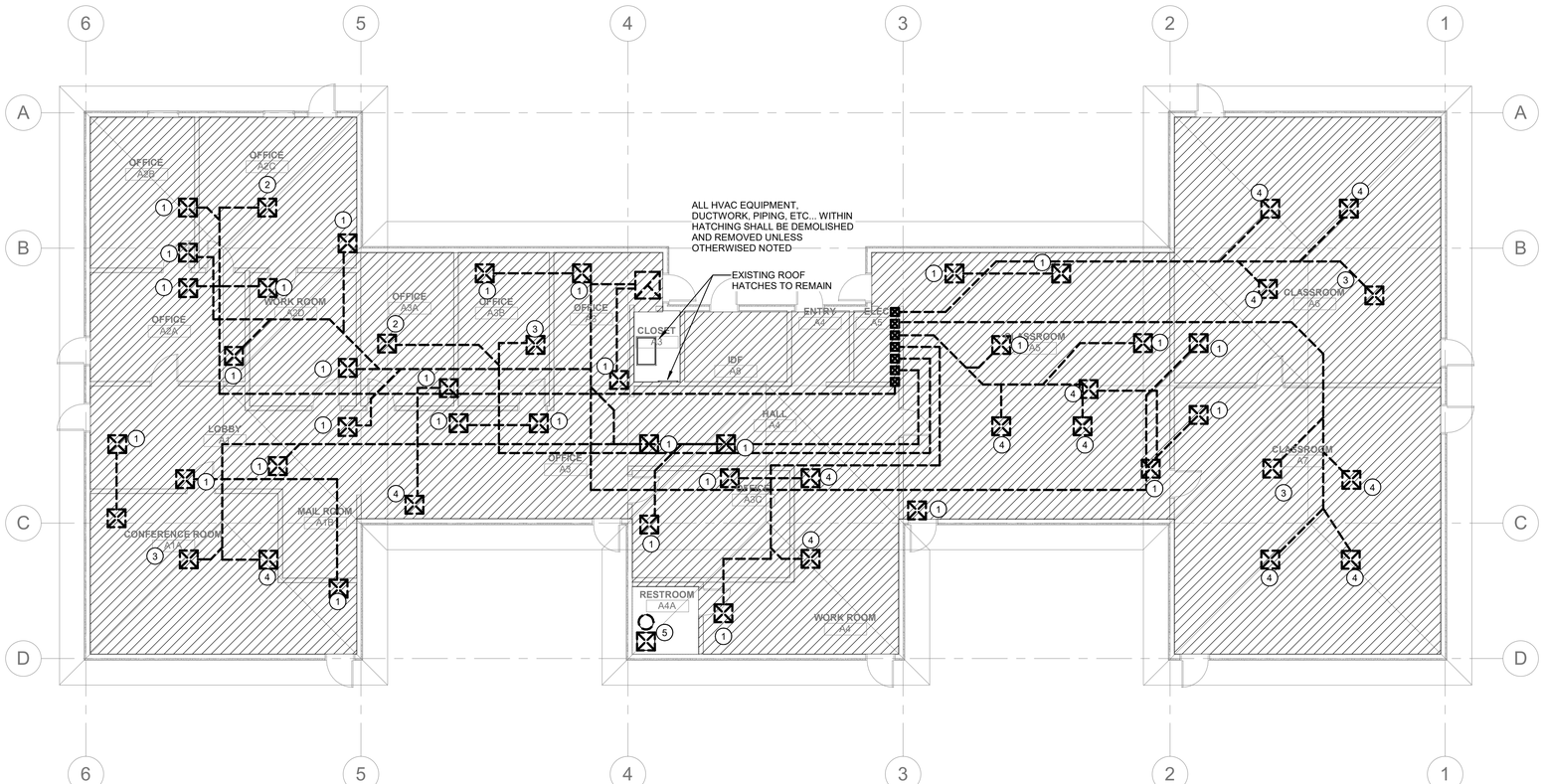
CD

JULY 19, 2023

SHEET TITLE

MECHANICAL CONTROLS

M-A5.2



TRUE NORTH

1 MECHANICAL DEMOLITION PLAN

1/8" = 1'-0"

MECH DEMOLITION NOTES

A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-A1.1

B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES.

C. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.

D. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE

E. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK.

E. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS SAD.

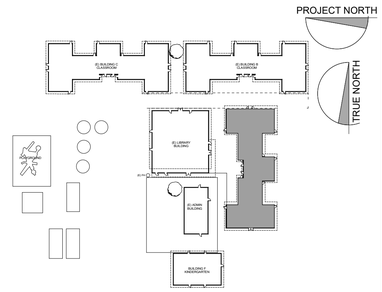
SHEET NOTES

1. INFILL EXISTING HOLE FROM EXISTING REMOVED GRILLE. MATCH EXISTING CONDITIONS SAD
2. PREPARE EXISTING HOLE FROM EXISTING REMOVED GRILLE FOR NEW CEILING CASSETTE. INCREASE SIZE AND FRAME AS REQUIRED. FIELD VERIFY FOR EXACT LOCATION.
3. PREPARE EXISTING HOLE FROM EXISTING REMOVED GRILLE FOR NEW ACCESS HATCH. INCREASE SIZE AND FRAME AS REQUIRED. FIELD VERIFY FOR EXACT LOCATION.
4. PREPARE EXISTING HOLE FROM EXISTING REMOVED GRILLE FOR NEW GRILLE. INCREASE SIZE AND FRAME AS REQUIRED. FIELD VERIFY FOR EXACT LOCATION.
5. EXISTING EXHAUST FAN TO REMAIN

DEMO LEGEND

DEMOLISH AND REMOVE EXISTING GRILLES, DUCTWORK, MECHANICAL EQUIPMENT, SUPPORTS, PIPING AND ALL ASSOCIATED APPURTENANCES. WITHIN THE HATCH UNLESS OTHERWISED NOTED.

KEYPLAN



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

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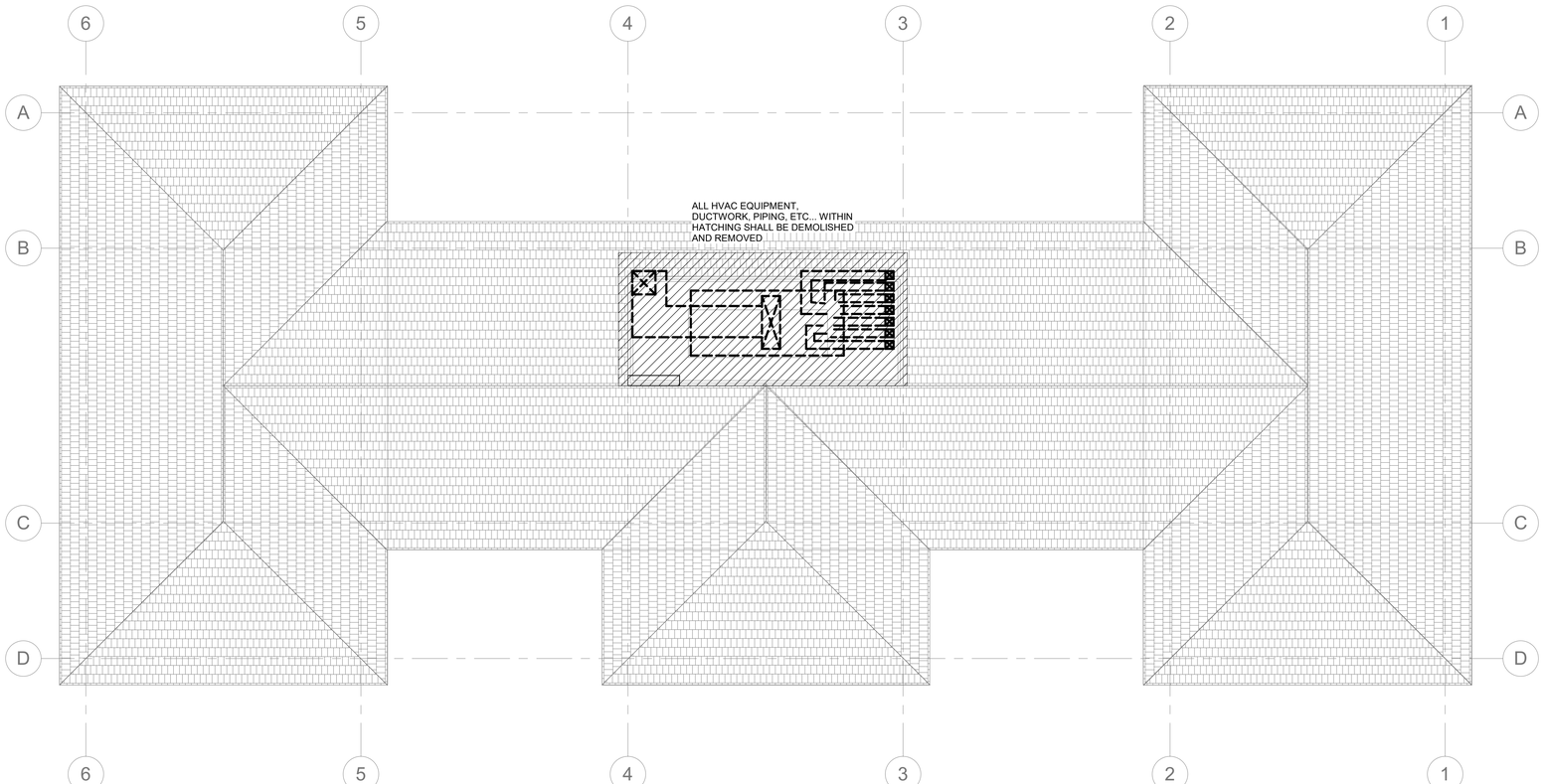
JULY 19, 2023

SHEET TITLE

BLDG A MECHANICAL DEMOLITION PLAN

MD-A2.1



TRUE NORTH

1 MECHANICAL DEMOLITION ROOF PLAN

1/8" = 1'-0"

MECH DEMOLITION NOTES

A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-A1.1

B. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE MECHANICAL WORK WITH OTHER TRADES.

C. THIS CONTRACTOR SHALL RETAIN SPECIFIC EQUIPMENT AS DIRECTED BY OWNER AND DELIVER TO OWNER SPECIFIED LOCATION.

D. ALL EQUIPMENT, MECHANICAL EQUIPMENT, PIPING, VALVING, CONTROLS, ETC. RENDERED USELESS BY THIS WORK SHALL BE DEMOLISHED AND REMOVED FROM THE SITE

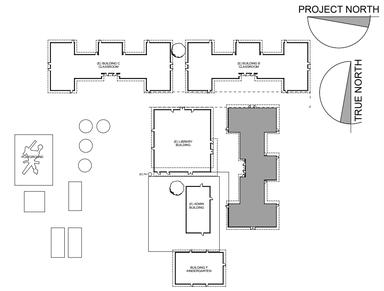
E. LOCATION OF EXISTING MECHANICAL EQUIPMENT, DUCTWORK, AIR OUTLETS, PIPING, CONTROLS, VALVING, ETC. HAS BEEN BASED ON THE BEST AVAILABLE INFORMATION OBTAINABLE AT THE SITE AND THROUGH RECORD DRAWINGS. VERIFY EXACT LOCATIONS, SIZES, AND EXTENT OF EXISTING SYSTEMS PRIOR TO START OF DEMOLITION WORK

E. PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS SAD.

DEMO LEGEND

DEMOLISH AND REMOVE EXISTING GRILLES, DUCTWORK, MECHANICAL EQUIPMENT, SUPPORTS, PIPING AND ALL ASSOCIATED APPURTENANCES. WITHIN THE HATCH UNLESS OTHERWISED NOTED.

KEYPLAN



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JULY 19, 2023

SHEET TITLE

BLDG A MECHANICAL DEMOLITION ROOF PLAN

MD-A2.2

ELECTRICAL EQUIPMENT ANCHORAGE

ELECTRICAL ANCHORAGE NOTES:

ALL 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, CHAPTER 13, 26, AND 30.

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. 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.
3. 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 ELECTRICAL COMPONENTS SHALL BE 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 CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENT 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 WALL.

THE ANCHORAGE OF ALL ELECTRICAL 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.

ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

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 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2019 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 (eg., OSHPD 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.

ELECTRICAL DISTRIBUTION SYSTEMS ARE: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL VERIFY IN THE FIELD ALL LINES, LEVELS, DIMENSIONS AND EXISTING CONDITIONS. THE INFORMATION ON THE DRAWINGS REGARDING EXISTING ELECTRICAL EQUIPMENT AND BRANCH CIRCUITS IS THE RESULT OF FIELD SURVEY AND IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. IT IS INTENDED, HOWEVER, AS A GUIDE FOR USE IN VERIFICATION ONLY.
2. ANY EXISTING ELECTRICAL EQUIPMENT IN THE AREA OF NEW CONSTRUCTION NOT SHOWN ON THE EXISTING PLANS SHALL BE DOCUMENTED AND SUBMITTED TO THE ENGINEER FOR DETERMINATION OF ACTION REQUIRED.
3. WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS TO BE REMOVED, ALL CONDUIT AND WIRE BACK TO THE PANEL SHALL BE ENTIRELY REMOVED AND THE CIRCUIT IN PANEL SHALL BE MARKED "SPARE". THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
4. WHEREVER THE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT IS CALLED FOR AND ALL EQUIPMENT ON A PARTICULAR BRANCH CIRCUIT IS NOT TO BE REMOVED, THE CIRCUIT SHALL BE MAINTAINED CONTINUOUS TO THE EXISTING EQUIPMENT IN USE WITH MINIMUM INTERRUPTIONS OF POWER. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT, AND WIRE AS WELL.
5. WHENEVER THE REMOVAL OF EXISTING CONSTRUCTION REVEALS ELECTRICAL WORK THAT IS TO REMAIN, BUT IS IN CONFLICT WITH NEW CONSTRUCTION, RELOCATE THE EXISTING ELECTRICAL WORK AS NECESSARY TO AVOID ANY CONFLICT. RELOCATION WORK SHALL BE DONE TO MINIMIZE ANY INTERRUPTIONS OF POWER.
6. CARE SHALL BE TAKEN IN ORDER TO IDENTIFY AND PROTECT ALL EXISTING ELECTRICAL WORK THAT IS TO REMAIN.
7. ENSURE RECONNECTION OF EXISTING DEVICES WHOSE CIRCUITS HAVE BEEN INTERRUPTED BY DEMOLITION BY PROVIDING NEW CONNECTION TO ANOTHER EXISTING TO REMAIN DEVICE OR PANEL.
8. ALL EXISTING ELECTRICAL EQUIPMENT SHOWN ON THE PLANS FOR NEW WORK ARE THOSE WHICH ARE TO BE REUSED DURING SOME PHASE OF THE NEW CONSTRUCTION OR REQUIRE SOME SPECIAL CONSIDERATIONS.
9. WHENEVER THE REMOVAL OF EXISTING ELECTRICAL PANELBOARDS ARE CALLED FOR AND ALL EXISTING BRANCH CIRCUITS ARE NOT TO BE REMOVED, THE EXISTING BRANCH CIRCUITS SHALL BE CONNECTED TO OTHER EXISTING ELECTRICAL EQUIPMENT OR PANELS STILL IN USE WITH MINIMUM INTERRUPTIONS OF POWER. ALSO, IF REQUIRED, THESE SAME BRANCH CIRCUITS SHALL BE RECONNECTED TO RELOCATED EXISTING OR NEW PANELBOARDS AS PART OF THE NEW CONSTRUCTION. THIS APPLIES TO SIGNAL AND COMMUNICATIONS SYSTEMS EQUIPMENT, CONDUIT AND WIRE AS WELL.
10. THE ELECTRICAL CONTRACTOR SHALL REVISE EXISTING PANEL SCHEDULES TO CORRESPOND TO ACTUAL CONDITIONS AFTER ALL DEMOLITION AND NEW WORK IS COMPLETED.
11. REMOVE ALL ABANDONED CONDUIT AND WIRE ABOVE CEILINGS.
12. WHEN ELECTRICAL EQUIPMENT OR DEVICE IS REMOVED FROM AN EXISTING WALL OR CEILING WHICH IS TO REMAIN, PATCH ABANDONED OPENINGS TO MATCH EXISTING FINISH.
13. IN GENERAL, THE DEMOLITION PLANS SHOW ALL EXISTING EQUIPMENT THAT IS TO BE REMOVED UNLESS NOTED OTHERWISE. HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT, WHERE LOCATED IN THE AREA SCHEDULED TO BE DEMOLISHED, SHALL BE REMOVED COMPLETELY (INCLUDING CONDUIT AND WIRES BACK TO THE LAST REMAINING FIXTURE, OUTLET, DEVICE, ETC.) UNLESS OTHERWISE NOTED. COORDINATE DEMOLITION WORK WITH ARCHITECT AND GENERAL CONTRACTOR.
14. EXISTING CONDUIT FEEDS UP THROUGH FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH FLOOR WHERE EXISTING WALLS, ETC., ARE REMOVED. REMOVE CONDUCTORS FROM THE POINT BACK TO LAST OUTLET REMAINING IN SERVICE.
15. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS, EQUIPMENT, ETC. REMAINING IN OPERATION WHICH IS BEING FED BY AN ABANDONED OUTLET. MAINTAINING CONTINUITY SHALL CONSIST OF REROUTING OF CONDUIT, WIRE, ETC. AS REQUIRED.
16. IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF EXISTING CIRCUITS AND ADJUST CIRCUIT NUMBERS ACCORDING TO EXISTING CONDITIONS IF REQUIRED
17. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS, IN AS-FOUND CONDITION. EQUIPMENT THAT IS TO BE TURNED OVER SHALL BE BOXED AND TAGGED TO IDENTIFY THE SPECIFIC EQUIPMENT. EQUIPMENT TO BE TEMPORARILY REMOVED DUE TO THE CONSTRUCTION SHALL BE CLEANED AND RE-INSTALLED IN ITS ORIGINAL CONDITION OR AS REQUIRED.
18. WHERE EXISTING WALLS HAVE BEEN REMOVED, AND THERE ARE EXISTING CONDUIT FEEDS WHICH HAVE BEEN CUT OFF AND CAPPED FLUSH WITH THE FLOOR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND DIMENSION ALL SUCH CONDUITS ON THE "AS-BUILT" DRAWINGS.
19. IF ANY EQUIPMENT THAT IS SCHEDULED TO REMAIN IN OPERATION IS DAMAGED BY THE CONTRACTOR, IT SHALL BE REPLACED TO ITS ORIGINAL CONDITION SATISFACTORY TO THE OWNER AT CONTRACTOR'S EXPENSE.

SYMBOLS LIST

Symbol	Description
H	FIRE ALARM SYSTEM MAGNETIC DOOR HOLD-OPEN
B	WALL-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT; MOUNT 18" BELOW CEILING LEVEL, U.O.N.
B	WALL-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT
B	CEILING-MOUNTED BEAM SMOKE DETECTOR - TRANSMITTING UNIT
B	CEILING-MOUNTED BEAM SMOKE DETECTOR - RECEIVING UNIT; MOUNT IN EXACT HORIZONTAL & VERTICAL ALIGNMENT WITH CORRESPONDING TRANSMITTING UNIT
	FIRE ALARM SYSTEM END-OF-LINE RESISTOR
FSD	FIRE SMOKE DAMPER BY MECHANICAL. COORDINATE WITH MECHANICAL FOR MONITORING TO FIRE ALARM SYSTEM (INCLUDING SMOKE DETECTOR PROVISIONS). CONTROL OF DAMPER TO BE BY MECHANICAL, U.O.N. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
	WEATHERPROOF ENCLOSURE
	CONDUIT AND WIRE CONCEALED IN CEILING OR WALL
	CONDUIT AND WIRE CONCEALED IN OR UNDER SLAB OR UNDERGROUND
	CONDUIT AND WIRE RUN EXPOSED
	CROSSMARKS INDICATE QUANTITY OF #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, NO HASHMARKS INDICATES (2) #12 CONDUCTORS PLUS PARITY SIZED GROUND CONDUCTOR, U.O.N.
	GROUND WIRE
(#10)	WIRE SIZE 10 AWG FOR ALL CONDUCTORS, INCLUDING GROUND WIRE, THROUGHOUT THE COMPLETE CIRCUIT
	FLEXIBLE METALLIC CONDUIT
	HOMERUN TO PANELBOARD OR TERMINAL BOARD, AS NOTED ON PLANS
	COMPLETE CONNECTION OF EQUIPMENT
	CONDUIT STUBBED OUT, CAPPED AND MARKED
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
1	NUMBERED SHEET NOTE

ABBREVIATIONS

Abbreviation	Meaning
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
C	CONDUIT
CATV	CABLE TV
CO	CONDUIT ONLY
CU	COPPER
E.C.	ELECTRICAL CONTRACTOR
E	EMERGENCY LIGHT FIXTURE ON EMERGENCY GENERATOR OR INVERTER, SWITCHABLE, U.O.N.
EM	EMERGENCY LIGHT FIXTURE WITH BATTERY PACK, SWITCHABLE
EMS	ENERGY MANAGEMENT SYSTEM
(E)	EXISTING
EQPT	EQUIPMENT
(ER)	EXISTING EQUIPMENT TO BE RELOCATED
(EX)	EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED
EXT	EXTERIOR
FMC	FLEXIBLE METALLIC CONDUIT
FTL	FEED THROUGH LUGS
GFI	GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE
IDF	INTERMEDIATE DISTRIBUTION FRAME
L	LOCKABLE
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
(N)	NEW
N.E.C.	NATIONAL ELECTRICAL CODE
NEU	NEUTRAL
N.I.E.C.	NOT IN ELECTRICAL CONTRACT
O.A.H.	OVERALL HEIGHT
O.F.C.I.	OWNER FURNISHED, CONTRACTOR INSTALLED
P	INDICATES FIXTURES ON PHOTOCELL CONTROL
PA	PUBLIC ADDRESS
PNL	PANEL
S.A.D.	SEE ARCHITECTURAL DRAWINGS
STC	SIGNAL TERMINAL CABINET
TC	INDICATES FIXTURES ON TIMECLOCK CONTROL
TELE	TELEPHONE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
U.O.N.	UNLESS OTHERWISE NOTED
VAV	VAV BOX, SEE MECHANICAL DIVISION DRAWINGS FOR LOCATIONS. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
WP	WEATHER PROOF, NEMA 3R
WPIU	WEATHER PROOF WHILE IN USE

SYMBOLS LIST

ALL SWITCH AND CONTROL MOUNTING HEIGHTS OF 48" SHALL BE TO TOP OF THE DEVICE BOX. ALL RECEPTACLES WITH MOUNTING HEIGHT OF UP TO 18" SHALL BE NO LOWER THAN 15" TO BOTTOM OF THE DEVICE BOX, TYPICAL, U.O.N.

Symbol	Description
	MAIN SWITCHBOARD, DISTRIBUTION PANEL OR MOTOR CONTROL CENTER
	FLUSH MOUNTED PANELBOARD, 6'-6" TO TOP
	SURFACE MOUNTED PANELBOARD, 6'-6" TO TOP
	FUSED EQUIPMENT DISCONNECT SWITCH WITH FUSE SIZE AS RECOMMENDED BY EQUIPMENT MANUFACTURER
	MOTOR DISCONNECT SWITCH; HORSEPOWER RATED, NON FUSE
	COMBINATION MAGNETIC MOTOR STARTER & MOTOR CIRCUIT PROTECTOR
	MAGNETIC MOTOR STARTER
VFD	VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL, INSTALLED & CONNECTED COMPLETE BY ELECTRICAL
	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
	MOTOR WITH FLEXIBLE CONDUIT CONNECTION AND DISCONNECT
$m	LINE VOLTAGE MOTOR RATED TOGGLE SWITCH INSTALLED AT EQPT SHOWN
T	TRANSFORMER
	CONCRETE PULLBOX, SIZE AS REQUIRED OR SHOWN - CHRISTY OR EQUAL WITH LABELED LID PER USE
	COPPER GROUND ROD
J	FLUSH CEILING MOUNTED JUNCTION BOX, U.O.N.
J	FLUSH WALL MOUNTED JUNCTION BOX, UP 18" U.O.N.
J	JUNCTION BOX FLUSH FLOOR MOUNTED
	20A 3PG 125V DUPLEX RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, WEATHERPROOF, UP 18" U.O.N.
GFI	20A 3PG 125V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER TYPE, UP 18" U.O.N.
IG	20A 3PG 125V DUPLEX RECEPTACLE, ISOLATED GROUND TYPE, UP 18" U.O.N.
	20A 3PG 125V DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.
	20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V DOUBLE DUPLEX RECEPTACLE, MOUNTED ABOVE COUNTER, U.O.N.
	20A 3PG 125V SINGLE RECEPTACLE, UP 18" U.O.N.
	20A 3PG 125V SINGLE TWISTLOCK RECEPTACLE, NEMA L5-20R, UP 18" U.O.N.
	SPECIAL RECEPTACLE AS INDICATED ON PLANS
	HALF CONTROLLED AND IDENTIFIED DUPLEX RECEPTACLE WIRED THROUGH LOCAL PLUG-LOAD CONTROLLER FOR ONE HALF OF DUPLEX, UP 18” U.O.N.
	FLUSH IN FLOOR OUTLET BOX WITH QUANTITY OF 20A 3PG 125V DUPLEX RECEPTACLES AS INDICATED ON PLANS
	FLUSH CEILING MTD. DUPLEX OUTLET, 20A 3PG
T	LINE VOLTAGE THERMOSTAT, PROVIDED & INSTALLED BY ELECTRICAL, CONNECTED COMPLETE BY MECHANICAL
	SURFACE MOUNTED WIREMOLD RACEWAY WITH RECEPTACLES AS INDICATED ON PLANS
	TERMINAL MOUNTING BACKBOARD, 3/4" PLYWOOD, DIMENSIONS AS NOTED ON PLANS, PAINT TO MATCH ADJACENT WALL SURFACE, MAINTAINING UL FIRE LABEL VISIBLE
	TELEPHONE OUTLET, UP 18" U.O.N.
w	TELEPHONE OUTLET, UP 48" U.O.N.
2D	COMBINED TELEPHONE/DATA OUTLET, UP 18" U.O.N. — NUMBER INDICATES QUANTITY OF DATA OUTLET JACKS
	COMBINED VOICE/DATA OUTLET, MOUNTED ABOVE COUNTER U.O.N.
	INTERCOM HANDSET, UP 48" U.O.N.
WAP	WIRELESS ACCESS POINT (WAP) W/CAT6 CABLE/JACKS AT CEILING
	WALL MOUNTED SIGNAL SYSTEM CLOCK, UP 96" U.O.N.
TV	WALL MOUNTED VIDEO OUTLET, UP 18" U.O.N.
S	FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER, UP 96" U.O.N.
S	FLUSH WALL MOUNTED OUTDOOR WEATHERPROOF PUBLIC ADDRESS SPEAKER
S	FLUSH CEILING MOUNTED INDOOR PUBLIC ADDRESS SPEAKER
S	FLUSH WALL MOUNTED INDOOR PUBLIC ADDRESS SPEAKER & SIGNAL SYSTEM CLOCK, UP 96" U.O.N.
F	FIRE ALARM SYSTEM MANUAL PULL STATION, UP 48" U.O.N.
F 110	FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
F 110	WEATHERPROOF FIRE ALARM SYSTEM HORN/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
F 110	FIRE ALARM SYSTEM HORN/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
S 110	FIRE ALARM SYSTEM STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
S 110	FIRE ALARM SYSTEM STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
H	WEATHERPROOF FIRE ALARM SYSTEM HORN, UP 90" U.O.N.
V 110	FIRE ALARM SYSTEM SPEAKER/STROBE, UP 80" U.O.N. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
V 110	FIRE ALARM SYSTEM SPEAKER/STROBE, CEILING MOUNTED. NUMBER ADJACENT INDICATES CANDELA VALUE FOR STROBE
S	FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.
S	WEATHERPROOF FIRE ALARM SYSTEM SPEAKER, UP 90" U.O.N.
S	FIRE ALARM SYSTEM SPEAKER, CEILING MOUNTED
D	WALL MOUNTED ELECTROMAGNETIC DOOR HOLD-OPEN DEVICE, FURNISHED BY DIV. 8, INSTALLED & CONNECTED COMPLETE TO FIRE ALARM SYSTEM BY DIV. 28
FS	FIRE ALARM SYSTEM SPRINKLER FLOW SWITCH. PROVIDE MONITOR MODULE
TS	FIRE ALARM SYSTEM SPRINKLER VALVE SUPERVISORY SWITCH. PROVIDE MONITOR MODULE
PIV	POST INDICATING VALVE
B	SPRINKLER FLOW ALARM (PROVIDE BY SPRINKLER CONTRACTOR). CONNECT COMPLETE VIA WATER FLOW SWITCH AUX. CONTACTS
S	FIRE ALARM SYSTEM SMOKE DETECTOR
E S	FIRE ALARM SYSTEM CEILING MOUNTED SMOKE DETECTOR PROGRAMMED FOR AUTOMATIC RECALL OF ELEVATOR
H	FIRE ALARM SYSTEM HEAT DETECTOR
D	FIRE ALARM SYSTEM HVAC DUCT MOUNTED SMOKE DETECTOR. COORDINATE WITH MECHANICAL FOR SUPPLY, INSTALL AND COMPLETE CONNECTION (INCLUDING CONTROL OF HVAC EQUIPMENT) - SEE SPECIFICATIONS
M	FIRE ALARM SYSTEM MONITOR MODULE
C	FIRE ALARM SYSTEM CONTROL MODULE
R	FIRE ALARM SYSTEM RELAY MODULE
CO	FIRE ALARM SYSTEM CEILING MOUNTED CARBON MONOXIDE DETECTOR WITH SOUNDER BASE
	FIRE ALARM SYSTEM CEILING MOUNTED AIR SAMPLING PORT

GENERAL NOTES

1. PRIOR TO BID THE CONTRACTOR SHALL VISIT THE SITE TO ADEQUATELY DETERMINE ALL PRE-EXISTING CONDITIONS. BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR WILL BE DEEMED TO HAVE COMPLIED WITH THE FOREGOING, TO HAVE ACCEPTED SUCH CONDITIONS, AND TO HAVE MADE ALLOWANCES THEREFORE IN PREPARING THE BID.
2. PROVIDE PARITY SIZED GREEN GROUND WIRE IN ALL POWER CONDUITS, BRANCH CIRCUITS (LIGHTING & POWER) AND HOMERUNS. PROVIDE ADDITIONAL ISOLATED GROUND, GREEN WITH YELLOW STRIPE, TO ALL ISOLATED GROUND RECEPTACLES.
3. PROVIDE PULLROPE IN ALL EMPTY CONDUITS THROUGHOUT THE PROJECT.
4. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION & CONNECTION REQUIREMENTS OF ALL LUMINAIRE(S) AND ALL OUTLET, SWITCH, AND ELECTRICAL RELATED DEVICE MOUNTING HEIGHTS AND LOCATIONS. COORDINATE LOCATIONS OF ALL LUMINAIRE(S) AND JUNCTION BOXES WITH MECHANICAL DIVISION PRIOR TO ROUGH-IN. COORDINATE LOCATIONS OF ELECTRICAL DEVICES WITH FURNITURE PLANS PRIOR TO ROUGH-IN.
5. REFER TO MECHANICAL PLANS FOR EXACT LOCATION(S) OF ALL MECHANICAL EQUIPMENT, AND CONFIRM EXACT CONNECTION REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL DIVISION, PRIOR TO ROUGH-IN. VERIFY EXACT REQUIREMENTS FOR VOLTAGE, PHASE, HORSE-POWER, OR KVA RATINGS, OF ALL MECHANICAL DIVISION EQUIPMENT REQUIRING ELECTRICAL CONNECTION.
6. VERIFY EXACT CONNECTION REQUIREMENTS, OUTLET TYPE(S), MOUNTING HEIGHT(S) AND LOCATION(S) OF ALL OWNER-SUPPLIED EQUIPMENT, AND ALL EQUIPMENT PROVIDED UNDER OTHER SECTIONS OF THE SPECIFICATIONS, PRIOR TO ROUGH-IN. REFER TO ARCHITECTURAL DRAWINGS FOR EQUIPMENT LOCATIONS.
7. COORDINATE TRENCHING WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.
8. ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS SHALL BE SEALED AND EQUIPPED WITH U.L. LISTED FIRE PENETRATION ASSEMBLIES TO MAINTAIN FIRE SEPARATION RATING.
9. DO NOT INSTALL ANY OUTLETS BACK TO BACK IN STUD WALLS OR DE-MOUNTABLE PARTITIONS.
10. CIRCUITRY AND CONDUIT ROUTING SHOWN ON THE PLANS IS DIAGRAMMATIC ONLY. THIS CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PRODUCE A COMPLETELY CONCEALED INSTALLATION WHEREVER INDICATED ON THE PLANS.
11. MAINTAIN "AS-BUILT" RECORDS AT ALL TIMES, SHOWING EXACT LOCATION OF ALL UNDERGROUND AND/OR CONCEALED CONDUITS AND SERVICES INSTALLED UNDER THIS CONTRACT, INCLUDING CIRCUIT IDENTIFICATION WHERE APPLICABLE. PROVIDE OWNER WITH "AS-BUILT" DOCUMENTS AS INDICATED IN THE SPECIFICATIONS, AND/OR CALLED FOR IN THE SPECIFICATIONS.
12. DRAWINGS INDICATE THE LOCATION(S) OF DEVICES, LUMINAIRE(S) AND EQUIPMENT, AND THE CIRCUIT NUMBER AND PANEL DESIGNATED TO SUPPLY THEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETELY CONNECTING ALL ELECTRICAL DEVICES TO CIRCUITS INDICATED ON THE DRAWINGS.
13. UNLESS OTHERWISE NOTED, ALL WORK SHOWN ON DRAWINGS IS NEW AND TO BE PROVIDED AND INSTALLED COMPLETE UNDER THIS CONTRACT.
14. ALL EQUIPMENT GROUNDING SHALL CONFORM TO ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION.
15. ALL EXTERIOR CONDUIT ABOVE GRADE, INCLUDING ALL ROOF MOUNTED CONDUIT, SHALL BE GALVANIZED RIGID STEEL. COAT ALL EXPOSED THREADS WITH GALVANIZING PAINT. PAINT ALL SURFACE MOUNTED RACEWAYS AND PULLBOXES TO MATCH SURROUNDING CONDITIONS, AS DIRECTED BY THE ARCHITECT.
16. ALL ELECTRICAL WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF THE N.E.C., AS WELL AS STATE, AND LOCAL CODES AND REQUIREMENTS.
17. ALL CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
18. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THE AVAILABLE SHORT CIRCUIT CURRENT AT THE MAIN SWITCHBOARD INCOMING TERMINALS WITH THE UTILITY COMPANY, AND TO VERIFY THAT ALL POWER AND SIGNAL SERVICE PROVISIONS, INCLUDING CONCRETE EQUIPMENT PADS, CONDUITS, PULLBOXES AND CLEARANCES, MEET THE UTILITY COMPANY'S REQUIREMENTS, PRIOR TO INSTALLATION.
19. EQUIPMENT OVERLOADS AND FUSES SHALL BE PROVIDED AND INSTALLED AS PER NAME PLATE ON THE EQUIPMENT ACTUALLY PROVIDED.
20. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
21. ALL EXIT SIGNS SHALL COMPLY WITH THE RELEVANT PORTIONS OF SECTIONS 1008 AND 1013 OF THE CBC.
22. ALL MECHANICAL DIVISION EQUIPMENT LOW VOLTAGE CONTROL WIRING AND RACEWAY SHALL BE PROVIDED AND INSTALLED AS SPECIFIED IN MECHANICAL DIVISION U.O.N.
23. USE FLEXIBLE CONDUIT FOR ALL MOTOR, TRANSFORMER, RECESSED LUMINAIRE CONNECTIONS, AND CONNECTIONS BETWEEN TWO SEPARATE STRUCTURES AND FOR ALL FINAL CONNECTIONS TO "CRITICAL EQUIPMENT" AS DEFINED IN SPECIFICATIONS. MINIMUM 1/2" DIAMETER, LIQUID TIGHT TYPE USED OUTDOORS AND IN ALL WET LOCATIONS; PROVIDE WITH CODE-SIZE (MINIMUM #12) BARE GROUND WIRE IN ALL FLEXIBLE CONDUIT.
24. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL BRANCH CIRCUITS FEEDING OUTLETS AS NOTED ON THE DRAWINGS.
25. FOR FLUSH MOUNTED PANELBOARDS THE CONTRACTOR SHALL STUB A MINIMUM OF FOUR (4) 3/4" CONDUITS FROM THE PANEL UP INTO THE ACCESSIBLE CEILING ABOVE FOR FUTURE CIRCUITS.
26. ALL CONDUIT CONNECTORS TO OUTLET OR JUNCTION BOXES SHALL HAVE INSULATED THROATS (MANUFACTURED AS AN INTEGRAL PART OF THE CONNECTOR). AFTER-MARKET INSERTABLE THROATS ARE NOT ACCEPTABLE.
27. ALL CIRCUITS IN ALL JUNCTION BOXES AND DEVICES SHALL BE CLEARLY IDENTIFIED BY MEANS OF "EZ" NUMBERING TAGS OR EQUIVALENT, TO IDENTIFY THE CIRCUIT NUMBER OR RELAY SUPPLYING THE CONDUCTOR. ALL JUNCTION BOXES SHALL BE LABELED PER SPECIFICATIONS.
28. ALL SURFACE MOUNTED POWER AND SIGNAL BOXES IN FINISHED AREAS SHALL BE "WIREMOLD" TYPE, WITH MATCHING RACEWAYS. SURFACE MOUNTED STEEL JUNCTION BOXES AND/OR EMT ARE NOT ACCEPTABLE.
29. ALL LOCATIONS OF BARE METAL SURFACE MOUNTED CONDUIT, BOXES, PANELBOARDS, AND RELATED FITTINGS OR ACCESSORIES INSTALLED IN FINISHED AREAS (BOTH INTERIOR AND EXTERIOR) SHALL BE FINISH PAINTED TO MATCH THE SURFACE TO WHICH THEY ARE MOUNTED TO (AFTER INSTALLATION). PAINTING SHALL INCLUDE DIFFERENT COLORS AS REQUIRED TO MATCH SURROUNDING CONDITIONS OR OTHER BUILDING FEATURES TO WHICH THE EQUIPMENT IS ATTACHED AND VISIBLE. VERIFY EXACT JUNCTION BOX LOCATION(S) AND ROUTING OF EXPOSED RACEWAYS WITH THE ARCHITECT PRIOR TO ROUGH-IN.
30. PROVIDE A BLANK COVER PLATE (COLOR TO MATCH ADJACENT DEVICES OR AS SPECIFICALLY CALLED FOR IN SPECIFICATIONS) FOR ALL JUNCTION BOXES (NEW AND EXISTING) ON THE PROJECT WHEN NO DEVICE IS INSTALLED.
31. FOR OUTDOOR 15 AND 20-AMPERE, 125 AND 250-VOLT RECEPTACLES: RECEPTACLES LOCATED IN "WET" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES PROVIDED AND INSTALLED; RECEPTACLES LOCATED IN "DAMP" LOCATIONS SHALL HAVE "IN-USE" TYPE WEATHERPROOF COVER PLATES IN LOCATIONS DEEMED TO BE "IN-USE" WITH CORD AND PLUG ATTACHED.
32. WHEN SERIES RATING IS USED ON ANY CIRCUIT BREAKER ON THIS PROJECT PROVIDE A FIELD MARKING PER CEC 110-22 ON THE EQUIPMENT COVER THAT IS VISIBLE TO MAINTENANCE PERSONNEL INDICATING THAT THE BREAKER HAS BEEN APPLIED WITH A SERIES COMBINATION RATING.
33. ALL RECEPTACLES IN LOCATIONS IDENTIFIED IN NEC 406.12 (I.E. DWELLING UNITS, HOTEL/MOTEL GUEST ROOMS, CHILD CARE, PRESCHOOL, K-12 SCHOOLS, BUSINESS OFFICE COMMON AREAS, IN CLINICS. MEDICAL AND OUTPATIENT FACILITIES, ASSEMBLY AREA COMMON AREAS, DORMITORY UNITS, AND ASSISTED LIVING UNITS) SHALL BE TAMPER RESISTANT.
34. REMOVE ALL (E) FIRE ALARM DEVICES IN BUILDING A. PROVIDE BLANK COVERPLATES ON (E) FLUSH OUTLET BOXES TO REMAIN.

LIST OF DRAWINGS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
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East Bay:
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(707) 576-0829

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REGISTERED PROFESSIONAL ENGINEER
PIETER J. COLENBRANDER
No.E14738
Exp. 6/25
ELECTRICAL
STATE OF CALIFORNIA

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC AND LIGHTING REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT
PARK UNIFIED
SCHOOL DISTRICT

DSA APP NO. 01-120920
ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17

CD

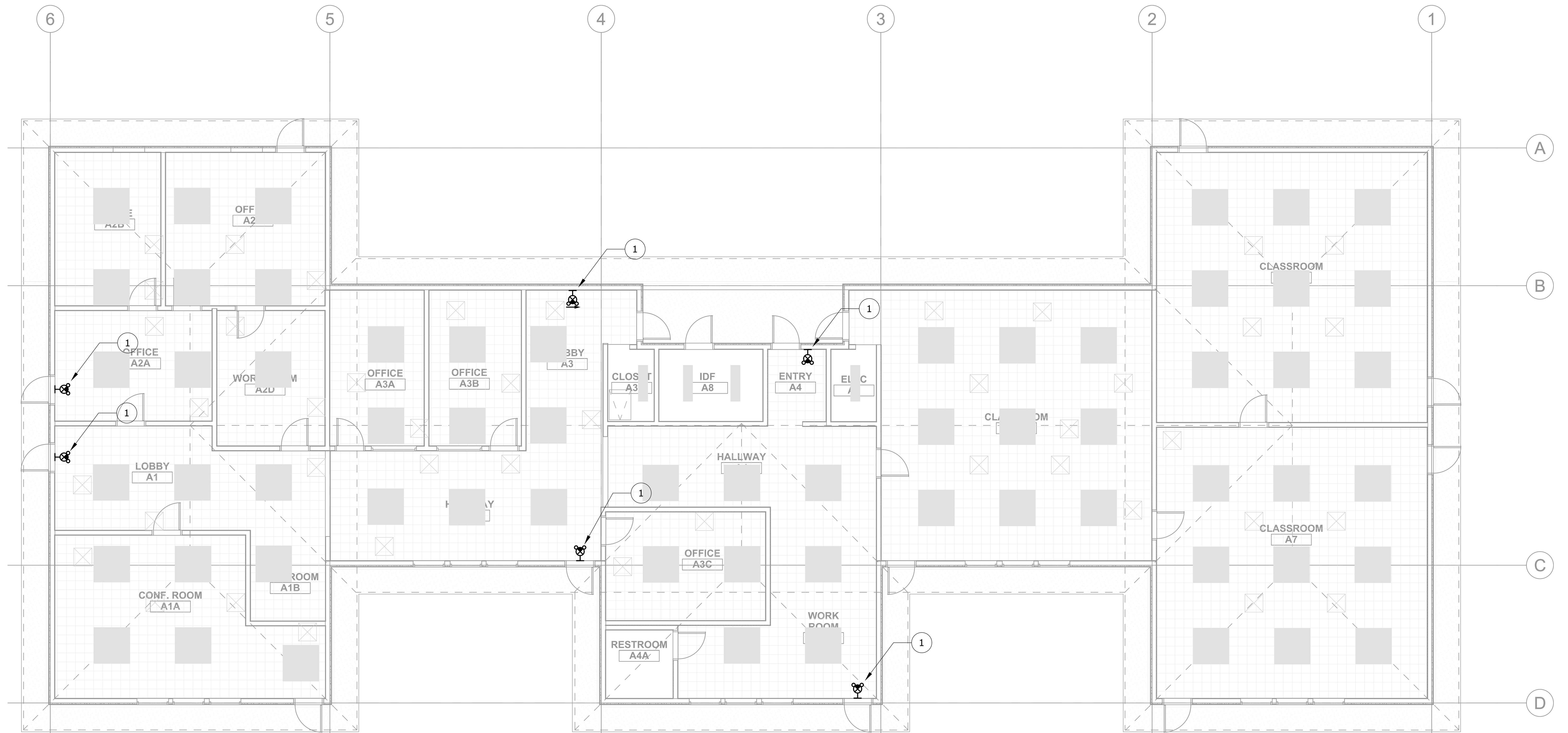
JULY 19, 2023

SHEET TITLE

SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS

SHEET NUMBER

E-0.1



NOTE:
ALL EXISTING LIGHTING SHALL REMAIN AS IS. PROTECT IN PLACE DURING CONSTRUCTION.

FLOOR PLAN - LIGHTING (1 / E-2.1)
SCALE: 1/8" = 1'-0"

REF. NORTH

NUMBERED SHEET NOTES

1. PROVIDE ISOLITE #DCL-G-1-BA-BA-MTEBP WITH 90-MIN BATTERY BACK-UP AND UNIVERSAL MOUNTING. CONNECT TO NEAREST UNSWITCHED HOT LIGHTING CIRCUIT. EXIT SIGN IS LESS THAN 10LB.

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HVAC AND LIGHTING REPLACEMENT

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ROHNERT PARK, CA 94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920
ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17
CD
JULY 19, 2023

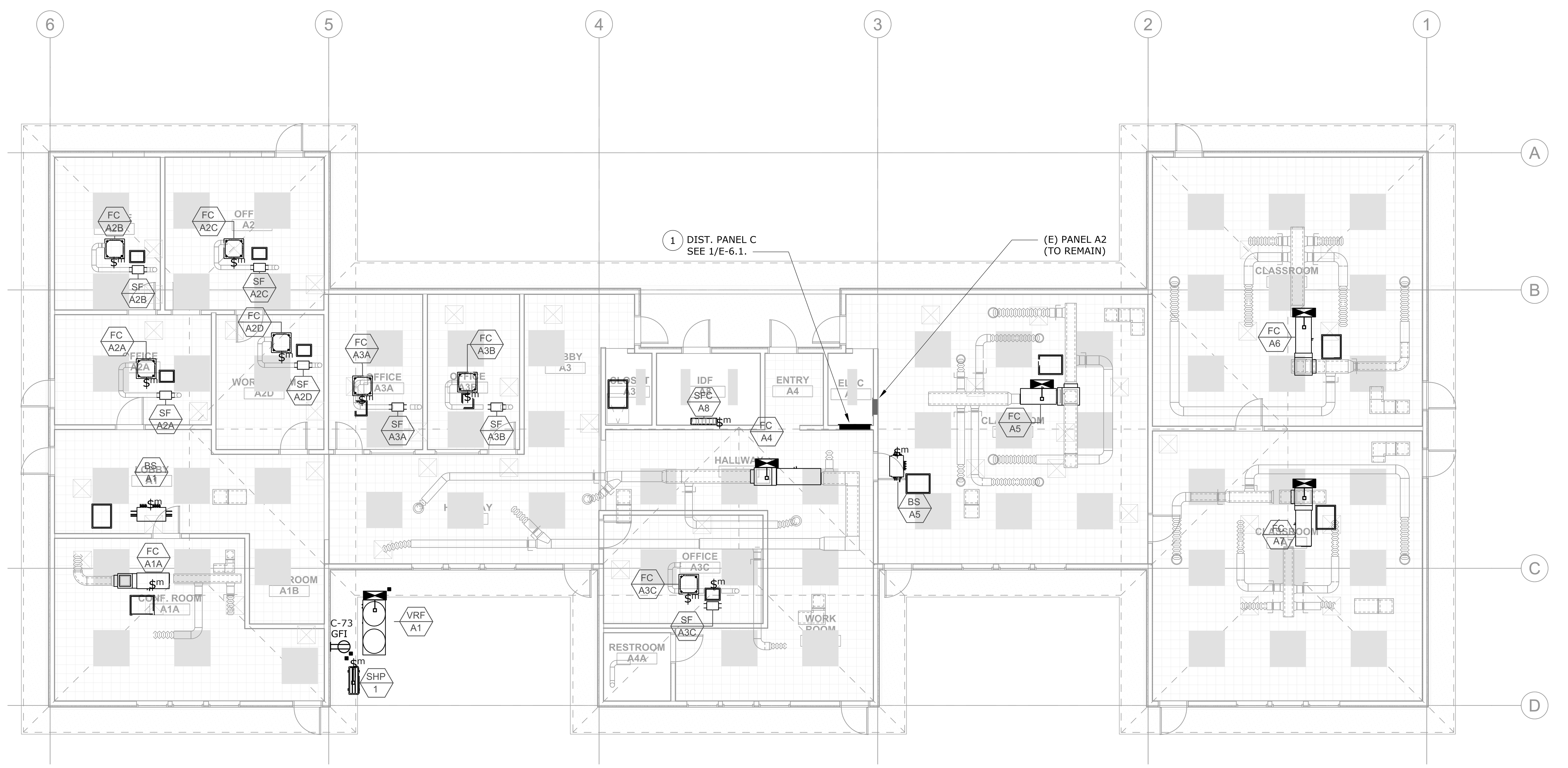
SHEET TITLE
FLOOR PLAN - LIGHTING

SHEET NUMBER
E-2.1

UNIVERSITY ES AT LA FIESTA HVAC REPLACEMENT – 223014

NUMBERED SHEET NOTES

1. REMOVE (E) FLUSH-MOUNTED PANELS AND REPLACE WITH NEW. RECONNECT & EXTEND ALL (E) OUTGOING AND INCOMING FEEDERS TO THE NEW PANELS. PATCH & REPAIR WALLS TO ACCOMMODATE THE NEW PANELS, TO MATCH SURROUNDING CONDITIONS.



FLOOR PLAN - ELECTRICAL

SCALE: 1/8" = 1'-0"

1 / E-3.1

REF. NORTH

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

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ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC AND LIGHTING REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT
PARK UNIFIED
SCHOOL DISTRICT

DSA APP NO. 01-120920

ARCH PROJECT NO:	2173.00
DRAWN BY:	
DRAWING SCALE:	
PTN: 73882-47	FILE NO: 49-17

CD

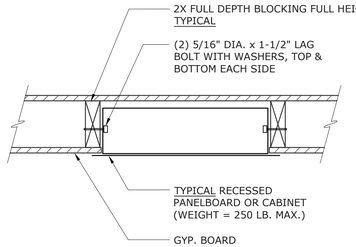
JULY 19, 2023

SHEET TITLE

FLOOR PLAN - ELECTRICAL

SHEET NUMBER

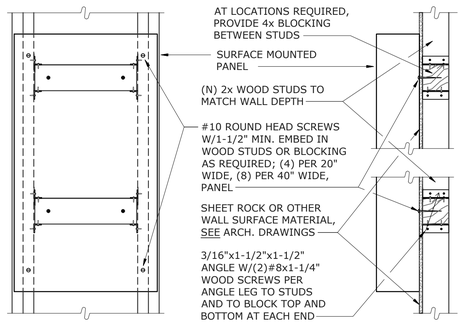
E-3.1



FLUSH MOUNTED PANELBOARD

SCALE: NONE
FILE: L:\DETAILS\POWER\PANEL\PPANE013

1 / E-6.1



NOTE:
MAXIMUM PANEL WEIGHT: 275 POUNDS FOR 20"W x 54"HIGH PANEL

SURFACE PANEL MOUNTING

SCALE: NONE
FILE: L:\DETAILS\POWER\PANEL\PPANE008 (MODIFIED FOR 222027)

2 / E-6.1

MECHANICAL EQPT. FEEDER SCHEDULE

EQPT. TAG	ELECTRICAL RATING	CONDUIT/ CONDUCTOR	PANEL	REMARKS
FC-A1A	208V, 1PH, 13.63MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A2A	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A2B	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A2C	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A2D	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A3A	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A3B	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A3C	208V, 1PH, 24MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
FC-A4	208V, 1PH, 24.6MCA, 30MOCP	3/4"C - (2) #10 & (1) #10G.	C	ALL NOTES
FC-A5	208V, 1PH, 24.6MCA, 30MOCP	3/4"C - (2) #10 & (1) #10G.	C	ALL NOTES
FC-A6	208V, 1PH, 24.6MCA, 30MOCP	3/4"C - (2) #10 & (1) #10G.	C	ALL NOTES
FC-A7	208V, 1PH, 24.6MCA, 30MOCP	3/4"C - (2) #10 & (1) #10G.	C	ALL NOTES
VRF-A1	208V, 3PH, 68MCA, 80MOCP	1-1/2"C - (3) #4 & (1) #8G.	C	ALL NOTES
BS-A1	208V, 1PH, 2MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
BS-A5	208V, 1PH, 2MCA, 15MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A2B	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A2C	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A2A	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A2D	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A3A	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A3B	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SF-A3C	208V, 1PH, 27W	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SHP-1	208V, 1PH, 12.5MCA, 20MOCP	1/2"C - (2) #12 & (1) #12G.	C	ALL NOTES
SFC-A8	208V, 1PH, 12.5MCA, 20MOCP	1/2"C - (2) #12 & (1) #12G.	C	POWERED BY OUTDOOR UNIT

NOTES:
1. PROVIDE NEW EQUIPMENT DISCONNECT SWITCHES, BRANCH CIRCUITS, RACEWAYS (GRS) & WIRING, TYPICAL, U.O.N.
2. COORDINATE ALL ELECTRICAL REQUIREMENTS & CONTROLS WITH MECHANICAL AND INCLUDE ALL WORK IN BID. SEE MECHANICAL DRAWINGS & SPECIFICATIONS.
3. REMOVE AND DISCONNECT ALL (E) MECHANICAL FEEDERS, RACEWAYS, WIRING AND ALL RELATED COMPONENTS. SEE MECHANICAL DRAWINGS & SPECIFICATIONS.

DIST. PANEL C

VOLTS: 120 / 208 V
PHASE: 3 PH
WIRE: 4 W
BUSSING: 400A
POLES:

(SECTION 1 - RIGHT HAND SIDE)

1. PANEL SHALL BE SQUARE D I-LINE SERIES OR EQUAL.
2. PANEL SHALL BE BOTTOM FED.

MAIN BRKR: 400A/3P
ENCLOSURE:
CONDUIT:
MOUNTED: FLUSH
AIC RATING: 10K

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
SF-A2B, SF-A2C & SF-A2A	H	0.04			15/2	1	2	80/3	7.00			H	VRF-A1
WITH CKT 1	H		0.04		-	3	4	-		7.00		H	WITH CKT 2
SF-A2D, SF-A3A, SF-A3B & SF-A3C	H			0.05	15/2	5	6	-			7.00	H	WITH CKT 2
WITH CKT 5	H	0.05			-	7	8	15/2	0.40			H	BS-A1 & BS-A5
SHP-1/SFC-A8	H		1.30		20/2	9	10	-		0.40		H	WITH CKT 8
WITH CKT 9	H			1.30	-	11	12	15/2			1.20	H	FC-A1A
SPACE						13	14	-	1.20			H	WITH CKT 12
SPACE						15	16	15/2		0.07		H	FC-A2A, FC-A2B & FC-A2C
SPACE						17	18	-			0.07	H	WITH CKT 16
SPACE						19	20	15/2	0.07			H	FC-A2D, FC-A3A & FC-A3C
SPACE						21	22	-		0.07		H	WITH CKT 20
SPACE						23	24						SPACE
SPACE						25	26						SPACE
SPACE						27	28						SPACE
SPACE						29	30						SPACE
SPACE						31	32						SPACE
SPACE						33	34						SPACE
SPACE						35	36						SPACE
SPACE						37	38						SPACE
SPACE						39	40						SPACE
SPACE						41	42						SPACE
		0.09	1.34	1.35					8.67	7.54	8.27		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	0.00	125%	0.00
TYPE "R": RECEPTACLES (FIRST 10KVA)	0.00	100%	0.00
TYPE "R": RECEPTACLES (OVER 10KVA)	0.00	50%	0.00
TYPE "H": HVAC / MECHANICAL LOADS	27.26	100%	27.26
TOTALS:	27.26		27.26

THIS SECTION PHASE A: 8.76 KVA
THIS SECTION PHASE B: 8.88 KVA
THIS SECTION PHASE C: 9.62 KVA
THIS SECTION: 80.17 MAX AMPS / PHASE

PANEL TOTAL PHASE A: 20.64 KVA
PANEL TOTAL PHASE B: 19.70 KVA
PANEL TOTAL PHASE C: 20.52 KVA
TOTAL: 172.00 MAX AMPS / PHASE

DIST. PANEL C

VOLTS: 120 / 208 V
PHASE: 3 PH
WIRE: 4 W
BUSSING: 400A
POLES:

(SECTION 2 - LEFT HAND SIDE)

MAIN BRKR: SUB FED, FEED THRU LUGS
ENCLOSURE:
CONDUIT:
MOUNTED: FLUSH
AIC RATING: 10K

LOAD DESCRIPTION	TYPE	A	B	C	BRKR.	CKT.	CKT.	BRKR.	A	B	C	TYPE	LOAD DESCRIPTION
LIGHTING CR 6	L	0.80			20/1	43	44	20/1	0.80			L	LIGHITNG CR 6
LIGHTING CR 6	L		0.80		20/1	45	46	20/1		0.80		L	LIGHTING CR 7
LIGHTING CR 5	L			0.80	20/1	47	48	20/1			0.80	L	LIGHTING CR 4
LIGHTING CR 5	L	0.80			20/1	49	50	20/1	0.80			L	LIGHTING CR 4
LIGHTING CR 3	L		0.80		20/1	51	52	20/1		0.80		L	LIGHTING CR 1
LIGHTING CR 3	L			0.80	20/1	53	54	20/1			0.80	L	LIGHTING CR 1
LIGHTING CR 2	L	0.80			20/1	55	56	20/1	0.54			R	RECEPT A1
LIGHTING CR 2	L		0.80		20/1	57	58	20/1		0.20		L	LIGHTING STORAGE
(E) LOADS	R			0.54	20/1	59	60	20/1			0.54	R	FLOOR RECEPT
(E) LOADS	R	0.54			20/1	61	62	20/1	0.54			R	(E) LOADS
RECEPT CR 6 & 7	R		0.54		20/1	63	64	20/1		0.54		R	RECEPT CR 1 & 2
RECEPT CR 6 & 7	R			0.54	20/1	65	66	20/1			0.54	R	RECEPT CR 1 & 2
RECEPT CR 5	R	0.54			20/1	67	68	20/1	0.54			R	RECEPT CR 3
RECEPT CR 4	R		0.54		20/1	69	70	100/3		5.00		R	(E) PANEL A2
(E) LOADS	R			0.54	20/1	71	72	-			5.00	R	WITH CKT 70
OUTDOOR RECEPT	R	0.18			20/1	73	74	-	5.00			R	WITH CKT 70
SPACE						75	76						SPACE
SPACE						77	78						SPACE
SPACE						79	80						SPACE
SPACE						81	82						SPACE
SPACE						83	84						SPACE
		3.66	3.48	3.22					8.22	7.34	7.68		

DEMAND LOAD SUMMARY	CONN. KVA	DEMAND FACTOR	DEMAND KVA
TYPE "M": NON-CONTINUOUS / MISC. LOADS	0.00	100%	0.00
TYPE "L": LIGHTING / CONTINUOUS LOADS	11.40	125%	14.25
TYPE "R": RECEPTACLES (FIRST 10KVA)	10.00	100%	10.00
TYPE "R": RECEPTACLES (OVER 10KVA)	12.20	50%	6.10
TYPE "H": HVAC / MECHANICAL LOADS	0.00	100%	0.00
TOTALS:	33.60		30.35

THIS SECTION PHASE A: 11.88 KVA
THIS SECTION PHASE B: 10.82 KVA
THIS SECTION PHASE C: 10.90 KVA
THIS SECTION: 99.00 MAX AMPS / PHASE

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DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC: A
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DATE: 8/22/2023

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DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17
CD
JULY 19, 2023

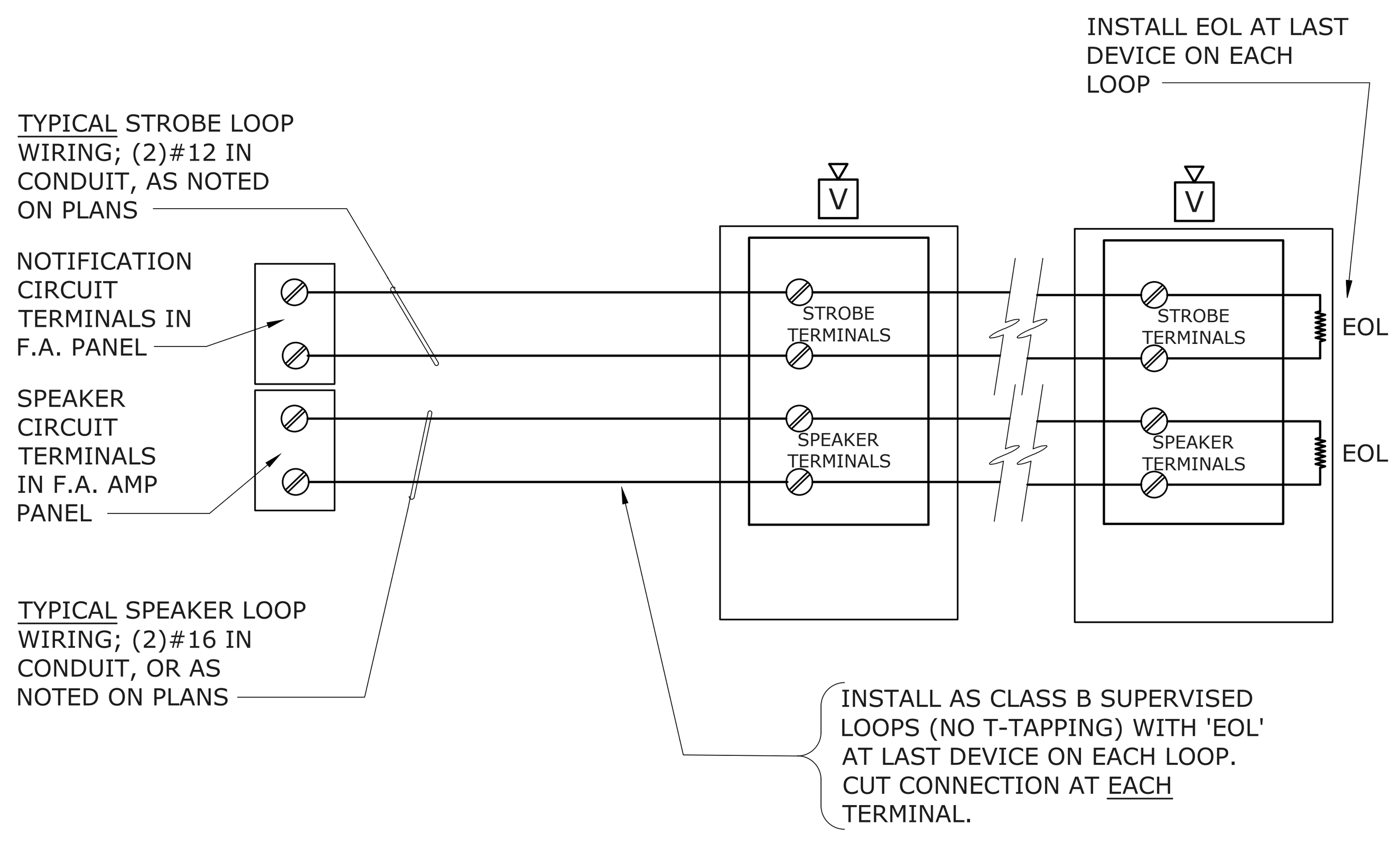
SHEET TITLE

DETAILS & SCHEDULES

SHEET NUMBER

E-6.1

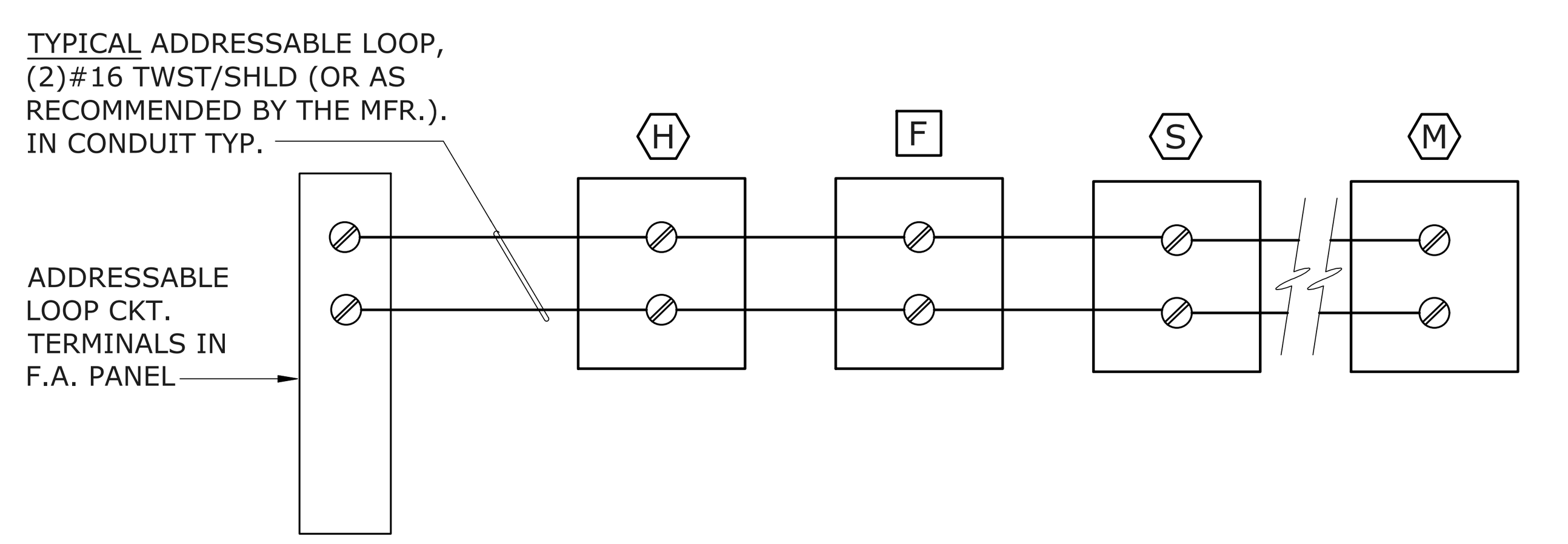
UNIVERSITY ES AT LA FIESTA HVAC REPLACEMENT – 223014



TYPICAL NOTIFICATION / SPEAKER CIRCUIT WIRING

1 FE-0.1

SCALE: NONE
FILE: L:\DETAILS\POWER\FIREALRM\PFIRE012A



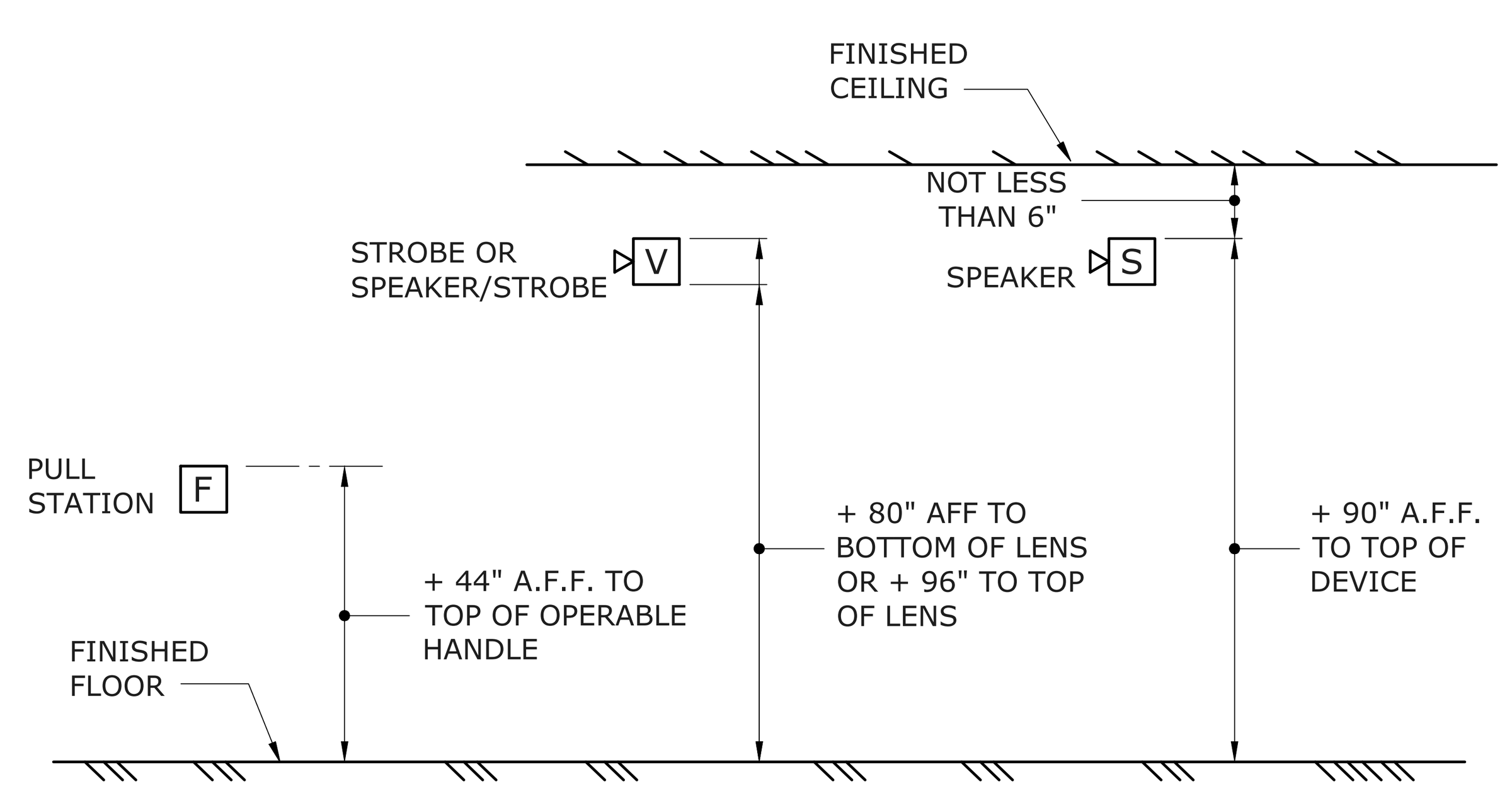
NOTE:

1. T-TAPPING ALLOWED ON ADDRESSABLE LOOPS. NO `EOL' DEVICES REQUIRED. MAXIMUM TOTAL LENGTH OF 3,000 FEET.
2. PROPERLY TERMINATE SHIELDS AND DRAINS AS PER SYSTEM SUPPLIERS RECOMMENDED INSTRUCTIONS.

TYPICAL ADDRESSABLE INITIATION LOOP WIRING

2 FE-0.1

SCALE: NONE
FILE: L:\DETAILS\POWER\FIREALRM\PFIRE013



FIRE ALARM DEVICE MOUNTING HEIGHT DETAIL

3 FE-0.1

SCALE: NOT TO SCALE
FILE: L:\DETAILS\POWER\FIREALRM\PFIRE002

GENERAL FIRE ALARM NOTES

1. FINAL FIRE ALARM TEST SHALL BE MADE WITH THE DSA INSPECTOR OF RECORD (IOR). LOCAL FIRE AUTHORITY SHALL BE NOTIFIED OF DATE AND TIME OF FINAL ALARM TESTING AND SHALL ASSIST/WITNESS SUCH TESTING WHEN ABLE. DSA/ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF (48) HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
2. FIRE ALARM CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2. MONITORING SHALL BE TESTED AND VERIFIED AS SENDING THE CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT AND/OR PROVISIONS
3. UNDERGROUND AND EXTERIOR CONDUITS SHALL HAVE WATERTIGHT FITTINGS.
4. FIRE ALARM DEVICE MOUNTING HEIGHTS:

   PULL STATION: 44" TO TOP OF OPERATOR ABOVE FINISHED FLOOR.

   SPEAKER/HORN: 90" MIN. TO TOP OF DEVICE ABOVE FINISHED FLOOR, OR 100" MAX TO TOP OF DEVICE, BUT NOT LESS THAN 6" FROM CEILING.

   WALL MOUNTED STROBE OR SPEAKER/HORN/STROBE: BETWEEN 80" TO BOTTOM OF DEVICE LENS TO +96" TO TOP OF DEVICE LENS ABOVE FINISH FLOOR, BUT NOT LESS THAN 6" FROM CEILING.
5. AUDIBLE FIRE ALARM SYSTEM LEVEL SHALL BE AT LEAST 15dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL IN ALL OCCUPIABLE AREAS, OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, MEASURED AT 5 FEET ABOVE THE FLOOR. AUDIBLE SIGNALS SHALL NOT BE LESS THAN 75dBA AT 10 FEET, OR MORE THAN 110dBA AT THE MINIMUM HEARING DISTANCE.
6. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL THREE DISTINCTIVE FIRE ALARM SOUND PER NFPA 72.
7. APPLICABLE CODES:
   a. CBC 2022; CEC 2022; CMC 2022; CFC 2022.
   b. STATE FIRE MARSHAL TITLE 19, PUBLIC SAFETY.
   c. NFPA 72, 2019 EDITION W/CA AMENDMENTS, FIRE ALARM CODE.
8. STROBES SHALL FLASH AT A RATE NOT EXCEEDING TWO FLASHES PER SECOND, AND NOT LESS THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55 FEET OF EACH OTHER SHALL BE SYNCHRONIZED.
9. FIRE ALARM CONTRACTOR SHALL PROVIDE A COPY OF NFPA 72 SYSTEM RECORD OF COMPLETION, SYSTEM RECORD OF INSPECTION AND TESTING, AND THE "EMERGENCY COMMUNICATIONS SUPPLEMENTARY RECORD OF COMPLETION", TO THE INSPECTOR OF RECORD IOR/DSA, SCHOOL DISTRICT, ARCHITECT AND LOCAL FIRE AUTHORITY.
10. POWER SERVICE TO THE FACP, REMOTE POWER SUPPLIES, AND CENTRAL STATION AUTO DIALER SHALL BE ON A DEDICATED BRANCH CIRCUIT WITH A RED MARKING AND IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL".
11. INSTALL ALL WIRING IN WIREMOLD RACEWAY OR CONDUIT, MIN. 3/4" CONDUIT. ALL FIRE ALARM SYSTEM WIRING SHALL BE FPL (FIRE POWER LIMITED) OR FPLP (FIRE POWER LIMITED PLENUM RATED) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN AND OSP-RATED FOR UNDERGROUND INSTALLATION.
12. CONDUIT AND WIRING SHALL BE PER MANUFACTURERS REQUIREMENTS.
13. ALL FIRE ALARM COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICES/EQPT. SHALL EXCEED 20LBS. WITHOUT SPECIAL MOUNTING DETAILS.
14. INSTALLATION OF SYSTEM SHALL NOT BE STARTED UNTIL COMPLETE SET OF CONSTRUCTION DOCUMENTS (WITH DEVICE TYPES AND LISTINGS) HAVE BEEN REVIEWED AND APPROVED BY DSA.
15. A STAMPED SET OF APPROVED PLANS SHALL BE ON THE JOB SITE AT ALL TIMES AND SHALL BE USED FOR INSTALLATION.
16. ANY DISCREPANCIES BETWEEN THE CONTRACT DOCUMENTS AND CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND ARCHITECT/ENGINEER OF RECORD.
17. THE CONTRACTOR SHALL INSTALL AND ADJUST ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
18. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1 FOOT FROM FIRE SPRINKLER HEADS OR 3 FEET FROM ANY SUPPLY DIFFUSER. IN AREAS OF CONSTRUCTION OR POSSIBLE DAMAGE /CONTAMINATION, INSTALLED DEVICES SHALL BE COVERED UNTIL AREA IS READY TO BE TURNED OVER TO THE OWNER.
19. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE ALARM DEVICE. DO NOT SPLICE WIRE. THERE MUST BE AT LEAST 6" OF WIRE LEAD FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC FOR PROPER VOLUME WITH INSTALLED WIRING AND DEVICES.
20. SUPERVISING STATION: AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72, AS AMENDED BY CFC CHAPTER 80. THE SUPERVISION STATION SHALL BE LISTED AS EITHER UUFX OR UUJS BY UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011.
21. A DOCUMENTATION CABINET SHALL BE INSTALLED ADJACENT TO THE FACP IN THE MAIN ELECTRICAL ROOM (NFPA 72, 7.7.2.1). SPACE AGE ELECTRONICS INC, ACERBOX FAD SERIES (#SSU00685 OR EQUAL).
22. ALL RECORD DOCUMENTATION SHALL BE STORED IN THE DOCUMENTATION CABINET (NFPA 72, 7.7.2.3): PROVIDE NAMEPLATE "FIRE ALARM SYSTEM RECORD DOCUMENTS" (NFPA 72, 7.7.2.5).
23. FIRE ALARM MANUAL PULLSTATIONS SHALL MEET THE CALIFORNIA ACCESSIBILITY REQUIREMENTS OUTLINED IN THE CBC ("CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE TO ACTIVATE THE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS OF FORCE". REFER TO DSA ACCESSIBILITY STAFF FOR QUESTIONS OR CLARIFICATION.)
24. ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
25. MICROPHONES ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE, INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.

SEQUENCE OF OPERATION

1. MANUAL PULL STATION - WHEN A PULL STATION IS PULLED, IT SHALL ANNUNCIATE AN ALARM AT THE FACP. ALARM SHALL ACTIVATE ALL AUDIO AND VISUAL DEVICES THROUGHOUT THE CAMPUS.
2. SMOKE AND HEAT DETECTORS - WHEN A SMOKE OR HEAT DETECTOR IS ACTIVATED, IT SHALL ANNUNCIATE AN ALARM AT THE FACP. ALARM SHALL ACTIVATE ALL AUDIO AND VISUAL DEVICES THROUGHOUT THE CAMPUS.
3. ANY BUILDING POWER FAILURE- IF THE BUILDING LOSES POWER, THE FAILURE SHALL SHOW UP AS A TROUBLE SIGNAL ON THE FACP. THE SYSTEM SHALL STAY ACTIVE ON BATTERY BACK-UP POWER IN ACCORDANCE WITH THE STATE FIRE CODE.
4. SYSTEM SHALL INDICATE TROUBLE ALARMS FOR ALL SYSTEM FAULTS (i.e. GROUND FAULTS, SHORTS, OPEN CIRCUITS, BATTERY DISCONNECT, ETC.).
5. UPON ALARM CONDITION, AUTO DIALER TO NOTIFY THE SUPERVISING STATION, AND AUTHORIZED SCHOOL PERSONNEL TO NOTIFY THE FIRE DEPARTMENT AND INITIATE EVACUATION OF STUDENTS AND FACULTY AS PER THE SCHOOL'S EVACUATION PLAN.
6. UPON TROUBLE CONDITION, AUTO DIALER TO NOTIFY THE SUPERVISING STATION, AND AUTHORIZED SCHOOL PERSONNEL TO NOTIFY AUTHORIZED TECHNICIAN TO CORRECT THE TROUBLE CONDITION.

FIRE ALARM EQUIPMENT LIST

SYMBOL	DESCRIPTION	MANUFACTURER & MODEL NUMBER	CSFM LISTING NUMBER
FAVCP	FIRE ALARM CONTROL PANEL WITH (2) SLC LOOPS, DIGITAL VOICE COMMANDER (DVC-EM), AMPLIFIER, NCA-2, MIC, UDACT & OTHER MISC MODULES/CARDS. ENCLOSURE SIZE PER MFR RECOMMENDATION	NOTIFIER NFS2-640	7165-0028:0243
FAVEP	FIRE ALARM VOICE EXPANDER PANEL WITH DAA-5070 REMOTE AMPLIFIER	NOTIFIER ACPS-610 W/ CABINET	7315-0028:0248
F	ADDRESSABLE MANUAL PULLSTATION	NOTIFIER NBG-12LX	7150-0028:0199
M	ADDRESSABLE MONITOR MODULE	NOTIFIER FMM-1	7300-0028:0219
S	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	NOTIFIER FSP-951	7272-0028:0503
cp H	ADDRESSABLE FIXED TEMPERATURE HEAT DETECTOR (135F) IN CONCEALED SPACE WITH REMOTE INDICATOR #FG-01-042	NOTIFIER FST-951	7270-0028:0502
-	ADDRESSABLE DETECTOR BASE	NOTIFIER B300-6	7300-1653:0109
S	VISUAL STROBE, WALL MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION	SYSTEM SENSOR SRL	7125-1653:0504 15cd 30cd 75cd 110cd
V	COMBINATION VISUAL STROBE AND SPEAKER (1 WATT), WALL MOUNT, SELECTABLE CANDELA UL 1971 PUBLIC MODE NOTIFICATION, VISUAL DEVICE	SYSTEM SENSOR SPSRL	7320-1653:0505 15cd 30cd 75cd 110cd
S	EXTERIOR AUDIBLE SPEAKER (1 WATT) WITH WEATHER-PROOF BACKBOX	SYSTEM SENSOR SPRK	7320-1653:0201
	DOCUMENTATION CABINET	SPACE AGE ELECT. SSU00672	7300-0553:0110
	GSM DIGITAL ALARM COMMUNICATOR WITH 7AH BATTERIES	HONEYWELL IPGSM-4G	7300-1645:0199

NOTE:

DETECTOR SUBSCRIPTS:

"cp" - DETECTOR IN ACCESSIBLE CEILING SPACE AND WITHIN 36" OF PEAK WITH REMOTE INDICATOR #FG-01-042 INSTALLED ON CEILING DIRECTLY BELOW THE DETECTOR. PROVIDE DETECTOR ADDRESS LABEL ON THE INDICATOR.

FIRE ALARM WIRING LEGEND

TAG	DESCRIPTION	CABLING
A	INITIATION CIRCUIT	(2) #16 TWISTED/UNSHIELDED
B	STROBE NOTIFICATION CIRCUIT(S)	(2) #12 THHN/THWN
C	SPEAKER NOTIFICATION CIRCUIT(S)	(2) #16 TWISTED/SHIELDED
DAL	DIGITAL AUDIO LOOP	6-STR, SM FIBER OPTIC, OSP RATED

NOTE:
CONTRACTOR SHALL VERIFY EXACT CABLE/WIRE TYPES WITH SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. INSTALL WIRING IN WIREMOLD RACEWAYS (IN FINISH AREAS, I.E. CLASSROOMS, OFFICES, HALLWAYS, ETC.) AND IN 3/4" CONDUIT MIN. (IN UTILITY/STORAGE ROOMS).

FIRE ALARM SCOPE OF WORK

1. TERMINATE EACH NOTIFICATION LOOP TO THE FAVCP OR FAEP OR FARA AS SHOWN ON PLANS AND RISER DIAGRAMS.
2. TERMINATE EACH INITIATION LOOP AT THE MAIN FIRE ALARM CONTROL PANEL AS SHOWN.
3. PROVIDE A COMPLETE NETWORK FIRE ALARM SYSTEM, INCLUDING REMOTE POWER SUPPLY TERMINAL CABINETS, EXPANDER PANELS, AMPLIFIERS, MICS, OUTLETS, DEVICES AND WIRING FOR THE FACILITY AS SHOWN.
4. REMOVE ALL EXISTING FIRE ALARM DEVICES, WIRING & SURFACE RACEWAYS/OUTLET BOXES. PROVIDE BLANK COVERPLATE ON FLUSHED OUTLET BOXES TO REMAIN.
5. PROVIDE NEW WIREMOLD SURFACE RACEWAYS AND ACCESSORIES IN ALL FINISH AREAS (I.E., CLASSROOMS, OFFICES, MPR, LIBRARY, ETC.). RIGID CONDUIT OR EMT ARE NOT ACCEPTABLE IN THE FINISH AREAS.
6. FINAL SYSTEM PROGRAMMING SHALL BE DONE BASED ON ACTUAL PHYSICAL ROOM NAMES AND NUMBERS USED AT THE SITE (IF DIFFERENT FROM THE ROOM NAMES OR NUMBERS SHOWN ON THE APPROVED PLANS).
7. THE CONTRACTOR SHALL CONTACT THE LOCAL FIRE DEPARTMENT AND/OR EMERGENCY COMMUNICATIONS AUTHORITY TO OBTAIN LOCAL TESTING AND ACCEPTANCE CRITERIA FOR EMERGENCY RADIO RESPONDER SYSTEMS. REFER TO SECTION 28 3100-1.02 SCOPE OF WORK, FOR TESTING AND DOCUMENTATION REQUIREMENTS.

FIRE ALARM SYSTEM DESCRIPTION

1. THE FIRE ALARM SYSTEM SHALL BE AN AUTOMATIC ADDRESSABLE SYSTEM WITH STYLE 4, CLASS B WIRING FOR IDC'S, NAC'S, AND SLC'S WITH EMERGENCY VOICE / ALARM COMMUNICATIONS.
2. PROVIDE COMPLETE CROSS TRIP CONNECTIONS, PROGRAMMING, AND ALL NECESSARY DEVICES FOR COMPLETE SYSTEMS INTEGRATION WITH THE EXISTING FACP.
3. CIRCUIT PATHWAY SURVIVABILITY SHALL BE LEVEL 1.
4. PROVIDE AND INSTALL NEW EQUIPMENT, DEVICES AND REQUIRED MODULES AND PROVIDE CONNECTIONS COMPLETE FOR A FULLY FUNCTIONING NETWORKED FIRE ALARM SYSTEM.
5. THE NAME OF THE SPECIFIC PERSON RESPONSIBLE FOR THE SYSTEM DESIGN IS ALVIN CHU (O'MAHONY & MYER).
6. SYSTEM INSTALLATION SHALL BE BY A LICENSED ELECTRICAL OR FIRE ALARM CONTRACTOR WITH A CALIFORNIA C-10 LICENSE, REGULARLY ENGAGED IN THE INSTALLATION AND COMMISSIONING OF FIRE ALARM SYSTEMS TO NFPA 72 STANDARDS. FIRE ALARM CONTRACTOR SHALL BE FACTORY-AUTHORIZED OF THE SPECIFIED SYSTEM MANUFACTURER. INSTALLING CONTRACTOR'S NAME AND CONTACT INFORMATION SHALL BE LISTED IN THE NFPA CLOSE OUT DOCUMENTATION AT COMPLETION OF PROJECT.

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DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17

CD

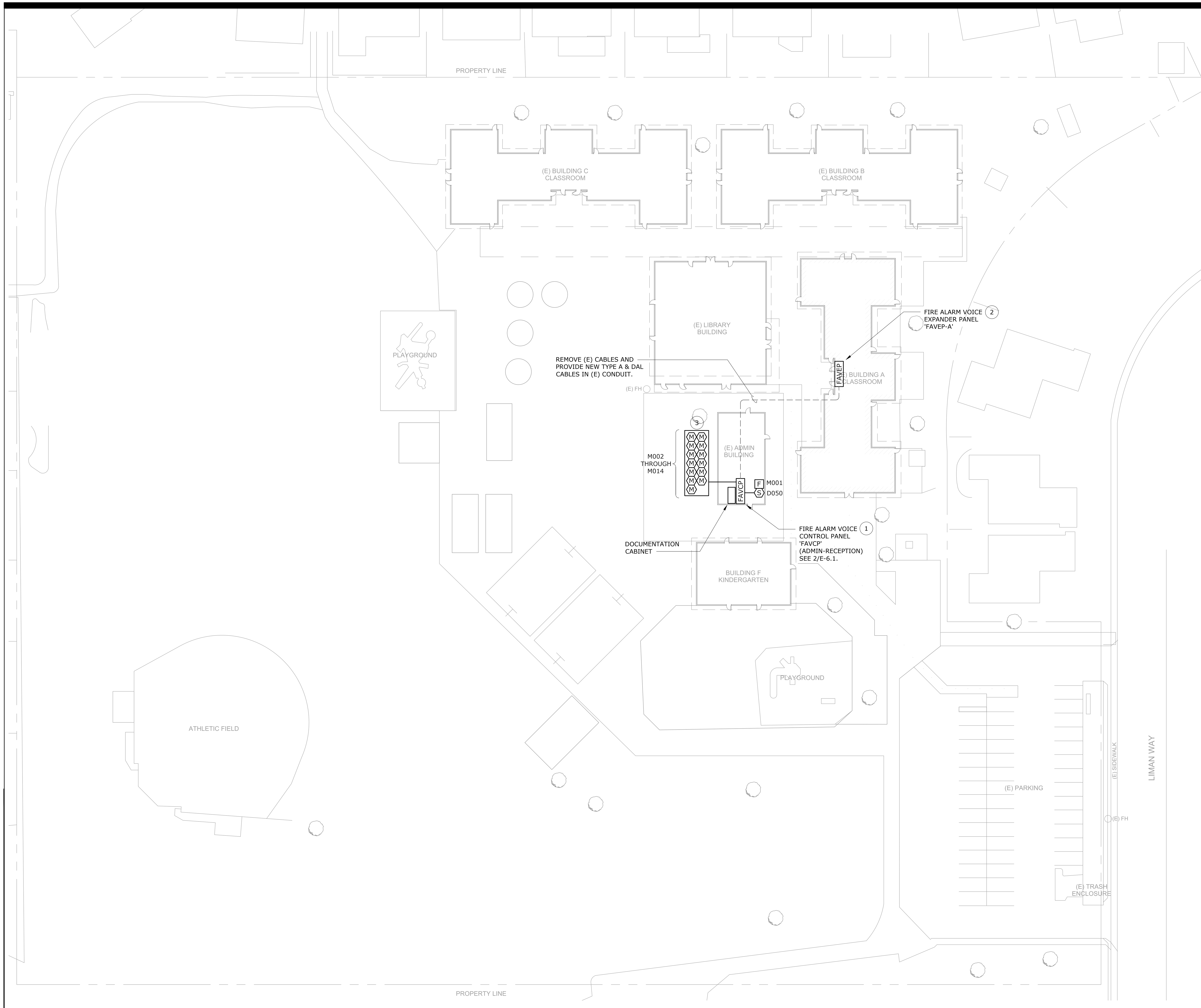
JULY 19, 2023

SHEET TITLE

FIRE COMPONENTS LIST, NOTES & DETAILS

SHEET NUMBER

FE-0.1



SITE PLAN - FIRE ALARM

SCALE: 1" = 30'-0"

1
FE-1.1

REF. NORTH

NUMBERED SHEET NOTES

1. REMOVE & DISCONNECT (E) FACP. REPLACE WITH NEW 'FAVCP'. RECONNECT TO (E) DEDICATED CKT. PROVIDE LOCK-ON DEVICE ON CIRCUIT BREAKER.
2. REMOVE & DISCONNECT (E) FAEP. REPLACE WITH NEW 'FAVEP-A'. RECONNECT TO (E) DEDICATED CKT. PROVIDE LOCK-ON DEVICE ON CIRCUIT BREAKER.
3. INTERCEPT EXISTING (13) CONVENTIONAL INITIATION ZONES AND (4) NOTIFICATION CIRCUITS. COMPLETELY RECONNECT TO NEW FAVCP. PROVIDE CODE-SIZED TERMINAL CABINET. SEE 2/E-6.

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SITE PLAN - FIRE ALARM

SHEET NUMBER

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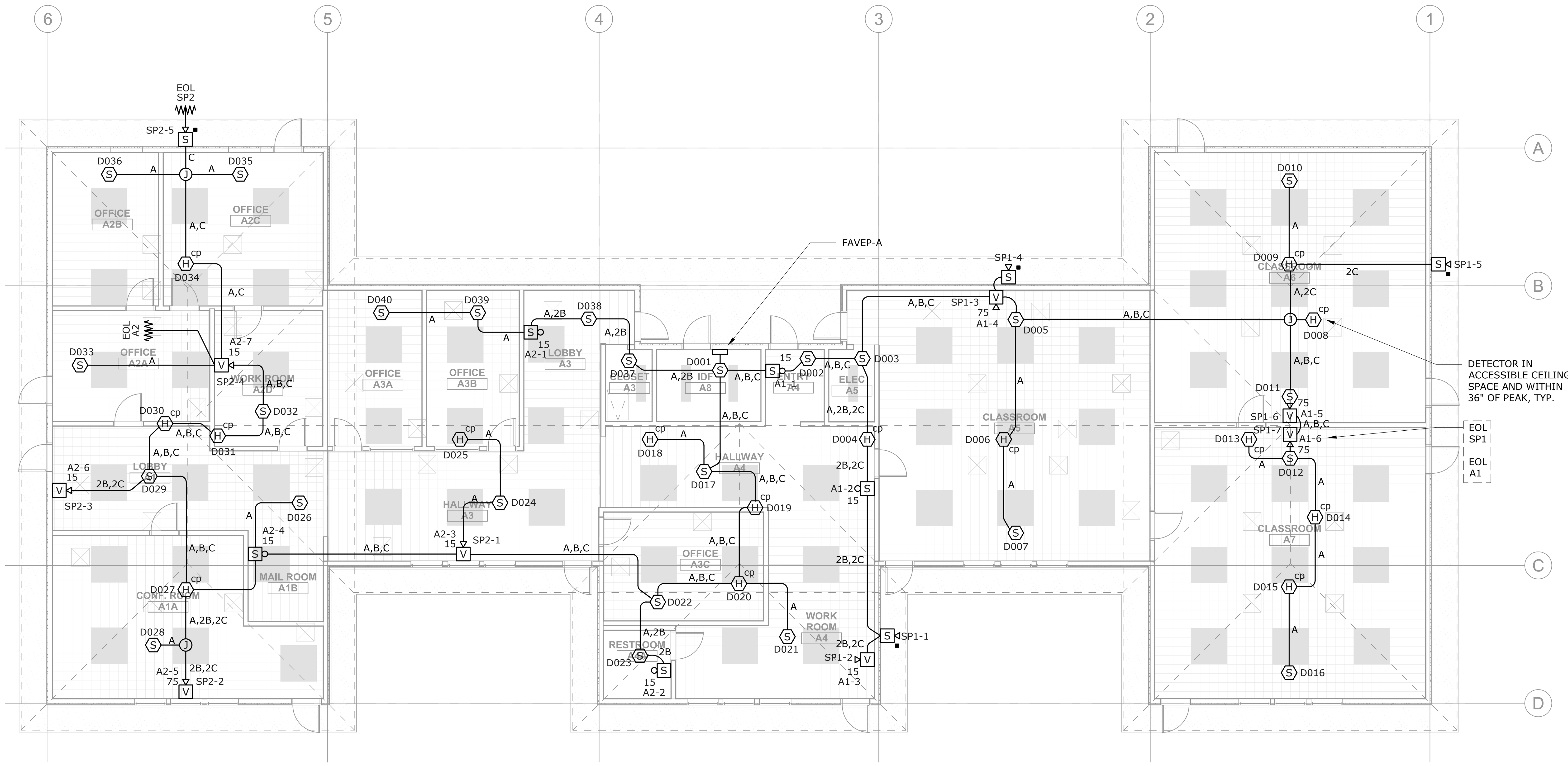
UNIVERSITY ES AT LA FIESTA HVAC REPLACEMENT - 223014



FLOOR PLAN - FIRE ALARM

SCALE: 1/8" = 1'-0"

1 FE-3.1

REF. NORTH

NUMBERED SHEET NOTES

1. NOT USED.

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SHEET TITLE

FLOOR PLAN - FIRE ALARM

SHEET NUMBER

FE-3.1

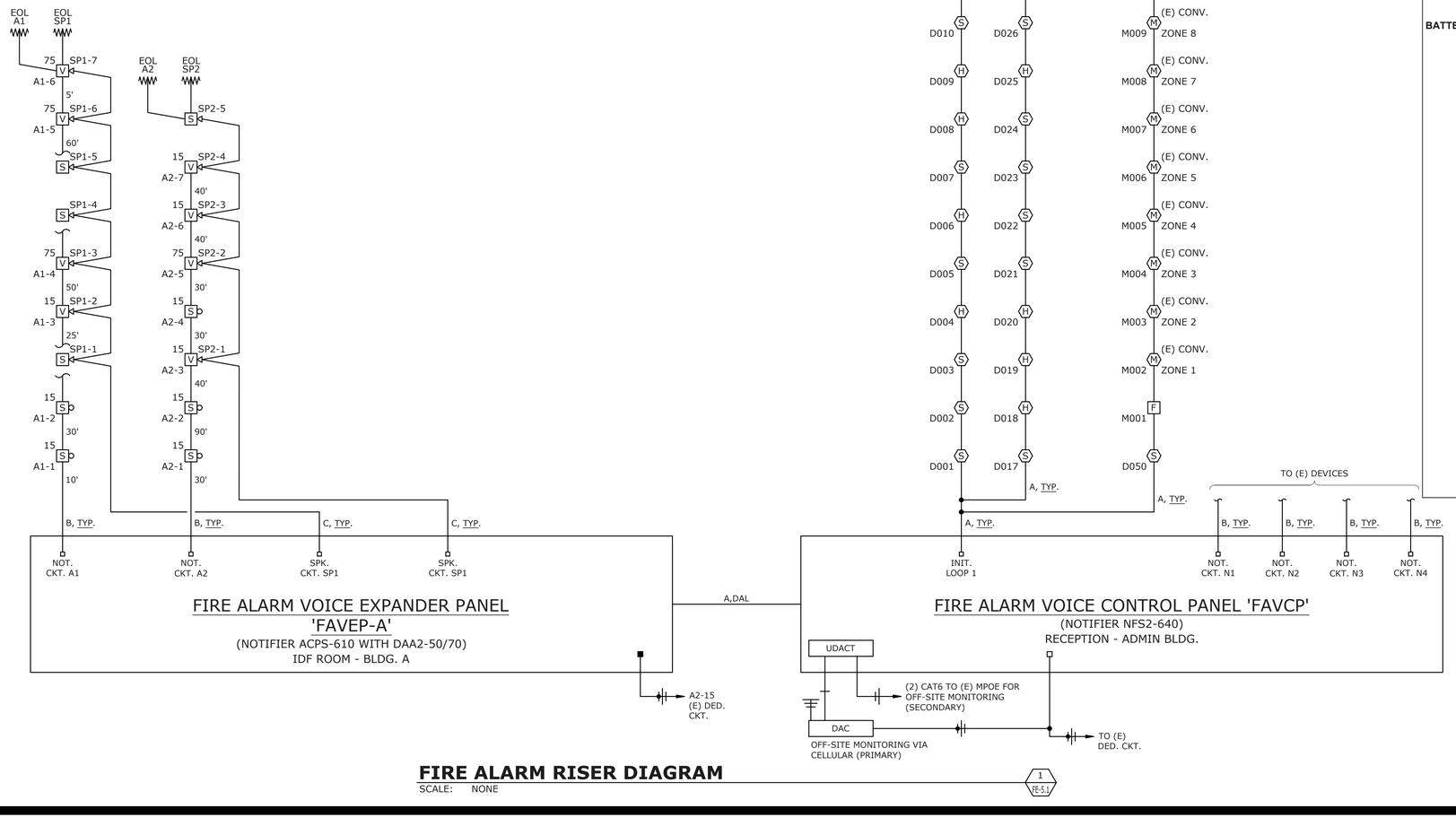
UNIVERSITY ES AT LA FIESTA HVAC REPLACEMENT – 223014

VOLTAGE DROP CALCULATIONS

FIRE ALARM VOICE EXPANDER PANEL 'FAVEP-A'

SIGNAL CIRCUIT:	**A1**							
TOTAL CKT CURRENT =	0.593 A							
MAX VOLT-DROP =	**1.36%**							
SYSTEM VOLTAGE =	20.4 V							
Device Address-->	A1-1		A1-2	A1-3	A1-4	A1-5	A1-6	
Type of Device -->	15STR		15STR	15SPSTR	75SPSTR	75SPSTR	75SPSTR	eol
Current of Device (Amp) -->	0.060		0.060	0.060	0.136	0.136	0.136	0.005
Size of Wire (AWG) -->	#12		#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	10		30	25	50	60	5	5
Current Total (Amp) -->	0.593		0.533	0.473	0.413	0.277	0.141	0.005
Device Volt-drop -->	0.11%		0.41%	0.64%	1.03%	1.34%	1.36%	1.36%
Device Volt -->	20.38		20.32	20.27	20.19	20.13	20.12	20.12

SIGNAL CIRCUIT:	**A2**						
TOTAL CKT CURRENT =	0.441 A						
MAX VOLT-DROP =	**7.44%**						
SYSTEM VOLTAGE =	20.4 V						
Device Address-->	A2-1	A2-2	A2-3	A2-4	A2-5	A2-6	
Type of Device -->	15STR	15STR	15SPSTR	15STR	75SPSTR	15SPSTR	eol
Current of Device (Amp) -->	0.060	0.060	0.060	0.060	0.136	0.060	0.005
Size of Wire (AWG) -->	#12	#12	#12	#12	#12	#12	#12
Distance to each Device (Ft) -->	30	920	40	30	30	40	5
Current Total (Amp) -->	0.441	0.381	0.321	0.261	0.201	0.065	0.005
Device Volt-drop -->	0.25%	6.88%	7.13%	7.27%	7.39%	7.44%	7.44%
Device Volt -->	20.35	19.00	18.95	18.92	18.89	18.88	18.88



FIRE ALARM RISER DIAGRAM

SCALE: NONE

1 FE-5.1

BATTERY CALCULATIONS: **FIRE ALARM VOICE CONTROL PANEL 'FAVCP'**

STANDBY MODE

		EA (A)	QTY.	CURRENT	
CONTROL UNIT		1.2000	1	1.200	
UDACT		0.0400	1	0.040	
DETECTORS		0.0002	37	0.007	
MODULES		0.0004	14	0.005	
			TOTAL STANDBY CURRENT =	1.253	A
			REQUIRED (24 HOURS) =	30.065	AH

ALARM MODE

		EA (A)	QTY.	CURRENT	
CONTROL UNIT		4.9650	1	4.965	
UDACT		0.1000	1	0.100	
DETECTORS		0.0045	37	0.167	
MODULES		0.0050	14	0.070	
NOTIFICATION CKT	N1	1.2000	1	1.200	
NOTIFICATION CKT	N2	1.2000	1	1.200	
NOTIFICATION CKT	N3	1.2000	1	1.200	
NOTIFICATION CKT	N4	1.2000	1	1.200	
			TOTAL ALARM CURRENT =	10.102	A
			REQUIRED (15 MIN) =	2.525	AH

TOTAL POWER REQUIRED WITH 120%
BATTERY DERATING FACTOR = 39.109 AH

PROVIDE WITH (2) 12V, 55AH BATTERIES
(IN MFR-RECOMMENDED ENCLOSURE/CABINET)

BATTERY CALCULATIONS: **FIRE ALARM VOICE EXPANDER PANEL 'FAVEP-A'**

STANDBY MODE

		EA (A)	QTY.	CURRENT	
FAVEP CTRL UNIT		0.150	1	0.150	
DAA2		0.400	1	0.400	
			TOTAL STANDBY CURRENT =	0.550	A
			REQUIRED (24 HOURS) =	13.200	AH

ALARM MODE

		EA (A)	QTY.	CURRENT	
FAVEP CTRL UNIT		0.090	1	0.090	
DAA2		0.550	1	0.550	
NOTIFICATION CKT	A1	0.593	1	0.593	
NOTIFICATION CKT	A2	0.441	1	0.441	
SPEAKERS		0.064	20	1.280	
			TOTAL ALARM CURRENT =	2.954	A
			REQUIRED (15 MIN) =	0.739	AH

TOTAL POWER REQUIRED WITH 120%
BATTERY DERATING FACTOR = 16.726 AH

PROVIDE TWO 12V, 26AH BATTERIES
(IN MFR-RECOMMENDED ENCLOSURE/CABINET)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
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O'MAHONY & MYER
ELECTRICAL ENGINEERS and LIGHTING DESIGN
440 REDWOOD HWY, SUITE 245
SAN RAFAEL, CALIFORNIA 94903
(415) 492-0202/FAX (415) 479-0662
www.omahonyandmyer.com

REGISTERED PROFESSIONAL ENGINEER
PAUL COLEMAN
No.E14738
Exp. 6/25
ELECTRICAL
STATE OF CALIFORNIA

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC AND LIGHTING REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920
ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17
CD
JULY 19, 2023
SHEET TITLE

RISER DIAGRAM & CALCULATIONS - FIRE ALARM

SHEET NUMBER

FE-5.1

STATE OF CALIFORNIA
Envelope Component Approach
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	**Report Page:** (Page 3 of 6)
Project Address:	8511 Liman Way	**Date Prepared:** 4/24/2023

F. ROOF ASSEMBLY SCHEDULE

Framed Roof Assemblies

Tag/Plan Detail ID	Name/Description	Status	Exception to Roof Insulation Requirements in §141.0(b)2Biii (Alts. Only)	Occupancy Type
Altered Roof	Alt Roof	Altered		Nonresidential/ Relocatable 1 CZ

07	08	09	10	11	12	13	14	15		16
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design[2]	Continuous Insulation per Design[2]	Thermal Performance Unit	Required Thermal Performance[3]	U-factor per Design		Net Area[4] ft²
								per JA4		
Alt Roof	JA4 Tables	Wood		30	0	U-factor	0.055	per Software/ Other	0.034	381

[1] *FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Metal building roofs may not be combined with other roof types. The area-weighted compliance option is not available for alterations demonstrating compliance with R-values in Table 141.0-C.*
[2] *For alterations using U-factor as the Thermal Performance Unit, at least R-10 insulation must be above deck.*
[3] *If "R-value" is shown in cell 13 as the Thermal Performance Unit, the R-value shown here is for continuous insulation per Table 141.0-C.*
[4] *Roof area minus any fenestration/ skylight area*

Area-Weighted Average U-factor Compliance Calculation for Framed/ SIPs/ Span Deck & Concrete/ Metal Panel Roofs

01	02	03	04	05
Roof Type	Total Area of Roof Type (ft²)	Area-weighted U-factor for Roof Type		Compliance Results Using Area-Weighted Calculation Option
		Required	Designed	
Framed	381	0.055	0.034	
Total for all Roof Types:	**381**	**0.055**	**0.034**	**COMPLIES**

G. RATED ROOFING MATERIAL (COOL ROOF)

This section does not apply to this project.

Registration Number: Generated Date/Time: Documentation Software: EnergyPro

STATE OF CALIFORNIA
Envelope Component Approach
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	**Report Page:** (Page 6 of 6)
Project Address:	8511 Liman Way	**Date Prepared:** 4/24/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Sean Plikuhn	Sean Plikuhn (Digitally signed by Sean Plikuhn DN: cn=Sean Plikuhn, o=SOLDATA Energy Consulting, email=sean@soldata.com, c=US Date: 2023.04.24 15:04:55 -07'00')
Company: SOLDATA Energy Consulting	**Signature Date:** 4/24/2023
Address: P.O. Box 8579	**CEA/ HERS Certification Identification (if applicable):**
City/State/Zip: Santa Rosa CA 95407	**Phone:** 707-545-4440

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:	Responsible Designer Signature:
Company: Quattrocchi Kwok Architects	**Date Signed:** 2023-04-24
Address: 636 Fifth Street	**License:**
City/State/Zip: Santa Rosa CA 95404	**Phone:** (707) 576-0829

Registration Number: Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220101 — Compliance ID: EnergyPro-1004-0423-0776 Report Generated: 2023-04-24 15:39:51

STATE OF CALIFORNIA
Envelope Component Approach
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	**Report Page:** (Page 2 of 6)
Project Address:	8511 Liman Way	**Date Prepared:** 4/24/2023

B. PROJECT SCOPE

[1] *FOOTNOTE: Doors that are more than 25% glass in area are considered Glazed Doors and should be documented on table K with fenestration.*
[2] *Roof recovers and replacements must also check "Roof Assembly" box and document compliance with insulation requirements in Table F. Roof recoats may document compliance with roof material only in Table G.*

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through L. Note: if any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see the applicable table referenced below.

Opaque Envelope Components					Fenestration	Daylighting Spaces > 5,000ft²	Compliance Results
Roof Assembly	Roofing Materials	Walls	Floors	Doors			
01	02	03	04	05	06	07	08
(See Table F)	(See Table G)	(See Table H)	(See Table I)	(See Table J)	(See Table K)	(See Table L)	COMPLIES
Yes	Yes	Yes		Yes			

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.

F. ROOF ASSEMBLY SCHEDULE

This table demonstrates compliance for prescriptive roof assembly requirements in 140.3(a)1B/ 170.2(a)1B for new construction, 141.0(a)/ 180.1 for additions, or 141.0(b)2Biii/ 180.2 for alterations,

01	Indicate roof types included in the project:	☒ Framed	☐ Framed-Multifamily	☐ SIPS	☐ Span Deck & Concrete	☐ Metal Panels	☐ Metal Building

Framed Roof Assemblies

01	☒	Include Framed Roof Assemblies in Area-Weighted Average U-factor Calculation[1]		
02	03	04	05	06

Registration Number: Generated Date/Time: Documentation Software: EnergyPro

STATE OF CALIFORNIA
Envelope Component Approach
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	**Report Page:** (Page 5 of 6)
Project Address:	8511 Liman Way	**Date Prepared:** 4/24/2023

N. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

Registration Number: Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220101 — Compliance ID: EnergyPro-1004-0423-0776 Report Generated: 2023-04-24 15:39:51

STATE OF CALIFORNIA
Envelope Component Approach
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	**Report Page:** (Page 1 of 6)
Project Address:	8511 Liman Way	**Date Prepared:** 4/24/2023

This document is used to demonstrate compliance with mandatory requirements in 110.8(g) and 120.7(b)/ 160.1 for newly constructed nonresidential, hotel/ motel, multifamily and mixed-use buildings, and 141.0(b)1/ 180.2 for alterations, related to roof, wall and floor assemblies. It is also used to demonstrate compliance with prescriptive requirements in 140.3/ 170.2 for newly constructed buildings, and 141.0/ 180.1/ 180.2 for additions and alterations, related to roof, wall, floor, door, fenestration and daylighting requirements.

A. GENERAL INFORMATION

01	Project Location (city)	Rohnert Park	05	# of Stories (Habitable Above Grade)	1
02	Zipcode	94928	06	Total Conditioned Floor Area (ft²)	6287
03	Climate Zone	2	07	Total Unconditioned Floor Area (ft²)	0
04	Occupancy Types Within Project: (select all that apply): If one occupancy constitutes >= 80% of the conditioned floor area, the entire building envelope may be designed to comply with the provisions of that occupancy per 100.0(f).		08	☐ Project includes unconditioned enclosed space(s) > 5,000 ft² under a roof with a ceiling height of at least 15 ft.[1]	

● Convention Center ● Office ● All Other Occupancies

[1] *FOOTNOTE: Enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15 ft in climate zones 2 through 15 are required to meet the minimum daylighting requirements defined in 140.3(c)/ 170.2(b). Compliance with 140.3(c)/ 170.2(b) is documented in Table L. This is the only prescriptive requirement which applies to unconditioned spaces.*

B. PROJECT SCOPE

This table specifies project envelope components within the permit application demonstrating compliance using the prescriptive paths outlined in 140.3/ 170.2 and 141.0(a)1/ 180.1 and 141.0(b)1 and 2/ 180.2 for additions and alterations.

My project consists of (check all that apply)	Component Types					
01	02					
☐ New Construction or Newly Conditioned Space	☐	Roof	☐	Walls	☐	Exterior Opaque Doors
☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft			☐	Floors	☐	Fenestration/ Glazed Doors[1]
☐ Addition of conditioned space	☐	Roof	☐	Walls	☐	Exterior Opaque Doors
☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft						
☐ Addition is <=700 ft²			☐	Floors	☐	Fenestration/ Glazed Doors[1]
☐ Addition is >700 ft²						
☒ Alteration of conditioned space	☒	Roof Assembly	☒	Walls	☒	Exterior Opaque Doors NA. for Alts.
☐ One or more enclosed spaces > 5,000 ft² directly under roof with ceiling height > 15ft and lighting system installed for the first time	☐	Roofing Material[2]	☐	Floors	☐	Fenestration

Registration Number: Generated Date/Time: Documentation Software: EnergyPro

STATE OF CALIFORNIA
Envelope Component Approach
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-ENV-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	**Report Page:** (Page 4 of 6)
Project Address:	8511 Liman Way	**Date Prepared:** 4/24/2023

H. WALL ASSEMBLY SCHEDULE

This table demonstrates compliance with prescriptive wall assembly requirements in 140.3(a)/ 170.2(a) for new constructions, 141.0(a)/ 180.1 for additions and 141.0(b)1B/ 180.2 for alterations.

01	Indicate wall types included in the project:[1]	☐ Framed	☐ Mass (new only)	☐ Concrete Sandwich Panel (new only)	☐ SIPS	☐ ICF (new only)
		☐ Metal Panels	☐ Metal Building	☐ Spandrel/ Curtain Wall	☐ Straw Bale	☐ Log Home (new only)

[1] *FOOTNOTES: Wall types indicated above as "(new only)" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be clicked above and compliance demonstrated within this table.*

I. FLOOR ASSEMBLY SCHEDULE

This section does not apply to this project.

J. EXTERIOR DOOR SCHEDULE

This section does not apply to this project.

K. FENESTRATION AND GLAZED DOOR SCHEDULE

This section does not apply to this project.

L. DAYLIGHT IN LARGE ENCLOSED SPACES

This section does not apply to this project.

M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-ENV-01-E - Must be submitted for all buildings

Registration Number: Generated Date/Time: Documentation Software: EnergyPro

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance — Report Version: 2022.0.000 Schema Version: rev 20220101 — Compliance ID: EnergyPro-1004-0423-0776 Report Generated: 2023-04-24 15:39:51

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
KEVIN CHAPIN
LICENSE # C31640
EXP MAY 31, 2025
STATE OF CALIFORNIA

SIGNED: JULY 19, 2023

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920
ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17
CD
JULY 19, 2023
SHEET TITLE

TITLE 24

SHEET NUMBER

T-1.1

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters and DOAS systems)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2, 140.4(a)2 and 170.2(c)3aii	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[2,3]			Cooling Output[2,3]		Load Calculations[3,4]	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating Output (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
VRF-A1	Variable Refrigerant Flow	VRF heat pump, air cooled	Yes	236.43	270	0	201.41	168	174.21	204.64
SHP-1 / SFC-A8	PTAC/ PTHP	PTHP newly constructed or newly conditioned space	Yes	8.92	15.1	0	10.07	10.5	0.38	11.12

[1] FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per 140.4(a) and 170.2(c)1. Healthcare facilities are excepted.
[2] It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.
[3] If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.
[4] Authority Having Jurisdiction may ask for load calculations used for compliance per 140.4(b) and 170.2(c).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP), DX-DOAS and Dual Fuel Heat Pumps)

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Heating Mode				Cooling Mode		
		Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
VRF-A1	>=240,000	47 °Fdb/ 43 °Fwb OSA	COP	3.2	3.3	EER IEER	9.5 12.7	10.6 23

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	FC-A2C: 0.75T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	353	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			
System Name	FC-A2D: 0.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	318	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	FC-A2A: 0.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	318	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			
System Name	FC-A2B: 0.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	318	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	FC-A5: 3T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,053	Site Elevation	106	Economizer	NA: Efficiency per Table 140.4-D
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			
System Name	FC-A6: 3T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,053	Site Elevation	106	Economizer	NA: Efficiency per Table 140.4-D
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	FC-A3A: 0.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	318	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			
System Name	FC-A4: 4T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,410	Site Elevation	106	Economizer	NA: Efficiency per Table 140.4-D
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	FC-A3C: 0.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	318	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			
System Name	FC-A3B: 0.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	318	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, or 141.0(b)2 for alterations.

A. GENERAL INFORMATION

01	Project Location (city)	Rohnert Park	04	Total Conditioned Floor Area	6287
02	Climate Zone	2	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

● Classroom ● Convention Center ● Office ● All Other Occupancies

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.4, 170.2(b) or 141.0(b)2 and 180.2(b)2 for alterations.

01	02	03
Air System(s)	Wet System Components	Dry System Components
☒ Heating Air System	☐ Water Economizer	☐ Air Economizer
☒ Cooling Air System	☐ Pumps	☐ Electric Resistance Heat
Mechanical Controls	☐ System Piping	☒ Fan Systems
☒ Mechanical Controls (existing to remain, altered or new)	☐ Cooling Towers	☒ Ductwork (existing to remain, altered or new)
	☐ Chillers	☒ Ventilation
	☐ Boilers	☐ Zonal Systems/ Terminal Boxes

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08	09
System Summary 110.1, 110.2, 140.4, 170.2(c)	AND	Pumps 140.4(k), 170.2(c)4J	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 170.2(c)	AND	Ventilation 120.1, 160.2	AND	Terminal Box Controls 140.4(d), 170.2(c)4B	AND	Distribution 120.3, 140.4(l), 160.2, 160.3	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table Q for Details)											AND	Yes	AND		COMPLIES

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.

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
VRF-A1	1	Multi-zone	New/ Addition		☐
SHP-1 / SFC-A8	1	Single zone	New/ Addition		☐

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry system Equipment Efficiency (Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP) only)

01	02	03	04	05	06	07
Name or Item Tag	Heating Mode			Cooling Mode		
	Rated Output Capacity (kBtu/h)	Minimum COP Required per Table 110.2-E	Design COP	Rated Output Capacity (kBtu/h)	Minimum EER Required per Tables 110.2-E	Design EER
SHP-1 / SFC-A8	15100	3	4.2	15000	9.5	13.5

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	FC-A1A: 1.5T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	460	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design		
											Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
								Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)			

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
KEVIN CHAPIN
LICENSE # C31640
EXP MAY 31, 2025
STATE OF CALIFORNIA

SIGNED: JULY 19, 2023

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA
94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920
ARCH PROJECT NO: 2173.00
DRAWN BY:
DRAWING SCALE:
PTN: 73882-47 FILE NO: 49-17
CD
JULY 19, 2023
SHEET TITLE

TITLE 24

SHEET NUMBER

T-1.2

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Alterations to Building A University Elementary at La Fiesta	Report Page:	(Page 12 of 19)
Project Address:	8511 Liman Way	Date Prepared:	4/24/2023

I. SYSTEM CONTROLS

[1]FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:t24refnolink/]160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O for high-rise residential occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☐	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☒	Check this box if the project included Nonresidential, Hotel/Motel Spaces or Multifamily Common Use Spaces
	☐	
03	☐	Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per 120.1(c)2.

Nonresidential and Hotel/ Motel Multifamily Common Use Ventilation Systems

04		05			06			07	
System Name	VRF-A1	System Design OA CFM Airflow[1]		1694	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]	Provided
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		
FC A1A Zone	Assembly- multiuse	409			204.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type

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H. FAN SYSTEMS & AIR ECONOMIZERS

[1] FOOTNOTES: Fans serving spaces with design background noise goals below NC35

[2] Low-turndown single-zone VAV fan system must be capable of and configured to reduce airflow to 50 percent of design airflow and use no more than 30 percent of the design wattage at that airflow. No more than 10 percent of the design load served by the equipment shall have fixed loads.

H. EXHAUST AIR HEAT RECOVERY 140.4(q), 170.2(c)4O

01	02	03	04	05	06	07	08	09	10	11
Fan System Name	Qty	Hours of Operation per Year	Design Supply Airflow Rate	Outdoor Airflow	% Outdoor Air at Full Design Airflow	Exemptions to Exhaust Air Heat Recovery Requirement per 140.4(q) & 170.2(c)4O	Exhaust Air Heat Recovery 140.4(q) & 170.2(c)4O	Type Of Heat Recovery Rating	Required Recovery Ratio	Energy Recovery Bypass

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in 110.2 and 120.2 and prescriptive controls in 140.4(f) and (n), 170.2(c)4D 170.2(c)4L or requirements in 141.0(b)2E 180.2(b)2 for altered space conditioning systems.

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft^2)	Thermostats 110.2(b) & (c)[1], 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
VRF-A1	Multi-zone w/ DDC to zone	<= 25,000 ft^2	Setback	Auto Timer Switch	NA: Serves < 25k ft^2	DR Tstat per 110.12	NA: Alteration	NA: Alteration Project
SHP-1 / SFC-A8	Single zone	<= 25,000 ft^2	Setback	NA: 7 day per 120.2(e)1	NA: Single Zone	DR Tstat per 110.12	NA: Alteration	NA: Alteration Project

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H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	FC-A7: 3T	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	1,053	Site Elevation	106	Economizer	NA: Efficiency per Table 140.4-D
01	02	03	04						05	06	07	08	09	10	11
											Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
									Fan System Allowance (kW)[3]			Fan System Electrical Output (kW)			
System Name	SHP-1 / SFC-A8	Quantity	1	Fan System Status	New	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	593	Site Elevation	106	Economizer	NA: <=33 kBtu/h cooling
01	02	03	04						05	06	07	08	09	10	11
											Allowance		Design		
Fan Name or Item Tag	Fan Type	Qty	Component						Airflow through Component (%)	Water Gauge (w.g)	Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method	Motor Nameplate Horsepower	Design Electrical Input Power (kW)
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away						593		138		Manufacturer provided		0.17
			MERV 13-16 Filter upstream of thermal conditioning equipment						593		82				
			Hydronic/DX cooling coil or heat pump coil						593		82				
									Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)		

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J. VENTILATION AND INDOOR AIR QUALITY

IDF Zone	All others	102			0	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				0	18	Ventilation for this System Complies?		Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

[2] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

[4] See Standards Tables 120.1-A and 120.1-B.

[5] For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.

[6] 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft^2 or smaller, multipurpose rooms less than 1,000 ft^2, classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by 130.1(c).

Multifamily Dwelling Unit Ventilation Systems

19	20	21	22	23	24	25	26	27
☐	Check the box if the system is using continuous ventilation to meet the ventilation requirements per 160.2(b)2Aivb2							
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(b) & 160.2(b)2				Ventilation per Design		Local Exhaust	Air Filtration per 120.1(c) & 160.2(b)1
	Conditioned Floor Area (ft^2)	# of Bedrooms	# of Dwelling Units	Required Min OA CFM[1]	Supply Air CFM	Exhaust CFM		
28	Is this a balanced system[4]				29	Meeting Outside Air Requirements?		

[1] FOOTNOTES: Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

[2] Kitchen range hood will be verified per NA7.18.1 to confirm model is rated by HVI or AHAM.

[3] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.

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J. VENTILATION AND INDOOR AIR QUALITY

FC A4 Zone	Office space	1608			241.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A5 Zone	Classroom (ages 5-18)	918			348.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A6 Zone	Classroom (ages 5-18)	895			340.1	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A7 Zone	Classroom (ages 5-18)	898			341.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				1694	18	Ventilation for this System Complies?		Yes
04		05			06			07	
System Name	SHP-1 / SFC-A8	System Design OA CFM Airflow[1]		0	System Design Transfer Air CFM		0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2]	Provided
08	09	10	11	12	13	14	15	16	
Space Name or Item Tag	Mechanical Ventilation Required per 120.1(c)3[3] & 160.2(c)3					Exh. Vent per 120.1(c)4 & 160.2(c)4		DCV or Sensor Controls per 120.1(d)3, 120.1(d)5, and 120.1(e)3[6] 160.2(c)5D 160.2(c)5E 160.2(c)5D	
	Occupancy Type[4]	Conditioned Floor Area (ft^2)	# of Shower heads/ toilets	# of people[5]	Required Min OA CFM	Required Min CFM	Provided per Design CFM		

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J. VENTILATION AND INDOOR AIR QUALITY

FC A2A Zone	Office space	212			31.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A2B Zone	Office space	198			29.7	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A2C Zone	Office space	300			45	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A2D Zone	Office space	179			26.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A3A Zone	Office space	180			27	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A3B Zone	Office space	176			26.4	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
FC A3C Zone	Office space	212			31.8	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type

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Mechanical Systems

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O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	VRF-A1: 24T; SHP-1/SFC-A8: 1T;
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	SHP-1/SFC-A8: 1T;
NRCA-MCH-11-A Automatic Demand Shed Controls	VRF-A1: 24T; SHP-1/SFC-A8: 1T;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location
		M-Sheets

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

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L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	No
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	Yes
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	No	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	No	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.	
14	No	The combined surface area of the ducts is more than 25% of the total surface area of the entire duct system:	
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17		All Ductwork and plenums with pressure class ratings shall be constructed to Seal Class A	
18		All ductwork is an extension of an existing duct system	
19		Ductwork serving individual dwelling unit	
20		< 25 ft of new or replacement space conditioning ducts installed	
21	R-4.2	Dust Insulation R-value	

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

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J. VENTILATION AND INDOOR AIR QUALITY

[4] A balanced ventilation system provides ventilation airflow to each dwelling-unit at a rate equal to or greater than the required minimum rate, but not more than twenty percent.

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

L. DISTRIBUTION (DUCTWORK and PIPING)

This table is used to show compliance with mandatory pipe insulation requirements found in 120.3 and mandatory requirements found in 120.4(g) for duct sealing.

01	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space shall have a Class I or Class II vapor retarder. All penetrations and joints of which shall be sealed.

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	VRF-A1	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No

STATE OF CALIFORNIA

Mechanical Systems

CALIFORNIA ENERGY COMMISSION

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Sean Plikuhn	Documentation Author Signature: Sean Plikuhn (Digitally signed by Sean Plikuhn DN: cn=Sean Plikuhn, o=SOLDATA Energy Consulting, email=sean@soldata.com, c=US)
Company: SOLDATA Energy Consulting	Signature Date: 2023-04-24
Address: P.O. Box 8579	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Santa Rosa CA 95407	Phone: 707-545-4440

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:	Responsible Designer Signature:
Company: Costa Engineers Inc.	Date Signed: 2023-04-24
Address: 851 Napa Valley Corporate Way, Suite D	License:
City/State/Zip: Napa CA 94558	Phone: (707) 252-9177

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-120920 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☐
DATE: 8/22/2023

QUATTROCCHI KWOK ARCHITECTS
Main:
636 Fifth Street, Santa Rosa, CA 95404
East Bay:
55 Harrison Street, Suite 525,
Oakland, CA 94607
(707) 576-0829

LICENSED ARCHITECT
KEVIN CHAPIN
LICENSE # C31640
EXP MAY 31, 2025
STATE OF CALIFORNIA

SIGNED: JULY 19, 2023

ALTERATIONS TO BUILDING A AT UNIVERSITY ES @ LA FIESTA

HVAC REPLACEMENT

8511 LIMAN WAY
ROHNERT PARK, CA 94928

COTATI-ROHNERT PARK UNIFIED SCHOOL DISTRICT

DSA APP NO. 01-120920

ARCH PROJECT NO: 2173.00

DRAWN BY:

DRAWING SCALE:

PTN: 73882-47 FILE NO: 49-17

CD

JULY 19, 2023

SHEET TITLE

TITLE 24

SHEET NUMBER

T-1.3