

# DAVIDSON MIDDLE SCHOOL HVAC IMPROVEMENTS - ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

# 280 WOODLAND AVE, SAN RAFAEL, CA 94901 SAN RAFAEL CITY SCHOOLS

# PRELIMINARY **NOT FOR CONSTRUCTION**

DSA SUBMITTAL

**DSA APPLICATION NO:** 01-120022

ARCHITECT

Quattrocchi Kwok Architects 636 Fifth Street Santa Rosa, CA 95404 Phone: 707-576-0829 Fax: 707-576-0295 Email: lyannes@gka.com

# STRUCTURAL ENGINEER

**PROJECT TEAM** 

ZFA Structural Engineers 1212 Fourth Street, Suite Z Santa Rosa, CA 95404 Phone: 707-526-0992 Fax: 707-526-0217 Email: chrisw@zfa.com

## MECHANICAL ENGINEER

Costa Engineers 3274 Villa Lane Napa, CA 94558 Phone: 707-252-9177 Fax: 707-252-6473 Email: cdelcore@costaengineers.com

310 Nova Albion Way San Rafael, CA 94903 Phone: 415-492-3285 **PTN:** 65458-61

**ELECTRICAL ENGINEER** 

O'Mahony & Myer 4340 Redwood Highway, Suite 245 San Rafael, CA 94903 Phone: 415-492-0420 Fax: 415-479-6962 Email: pcolenbrander@ommconsulting.com



# ABBREVIATIONS

FURR

FURRING

GAUGE

PAVEMENT

REFRIGERATOR

REGULAR

ROOM

REDWOOD

REQUIRED REINFORCED

ROOF HATCH

ROUGH OPENING

RAIN WATER LEADER

ROUND HEAD MACHINE SCREW ROUND HEAD WOOD SCREW

RISER RADIUS ROOF DRAIN REFERENCE

POLYVINYL CHLORIDE

& L	AND ANGLE	ga Galv
@ ¢	AT CENTERLINE	GB GC
, <b>L</b> ,	FEET	GI GI
d	PENNY	GLB
#	POUND/ NUMBER	GND GR
AB ABBREV	ANCHOR BOLT ABBREVIATION	GYP BD
AC A/C	ASPHALT CONCRETE	HB HC
ACC	ACCESSIBLE	HDR
ACOUS AC T	ACOUSTICAL ACOUSTICAL TILE	HDWD HDWR
AD AD.I	AREA DRAIN AD.IUSTABI E	HM HOR
A.F.F.	ABOVE FINISH FLOOR	HP
A.F.G. AGG	ABOVE FINISH GRADE AGGREGATE	HR HSS
ALUM ANOD	ALUMINUM ANODIZED	HT HTG
APPROX	APPROXIMATE	HVAC
ARCH ASPH	ASPHALT	
BD	BOARD	ID INSUL
BITUM	BITUMINOUS	
BLK	BLOCK	INTERMED
BLKG BM	BLOCKING BEAM	INV
BOT BO	BOTTOM BY OWNER	JH JST
BRK	BREAK	JT
BRG BTWN	BEARING BETWEEN	KIT
BU BUR	BUILT-UP BUILT-UP ROOFING	KP
CAR		LAB LAM
CAB	CATCH BASIN	LAV
CBC CEM	CALIFORNIA BUILDING CODE CEMENT	LP
CER CI	CERAMIC CAST IRON	LI
CIR		MAT MAX
CORR	CORRIDOR	MB MC
CL CLG	CLOSET/ CENTER LINE CEILING	MECH
CLR CLS	CLEAR CLOSURE	MED MEMB
CMU	CONCRETE MASONRY UNIT	MFR MH
COL	CLEANOUT COLUMN	MIN
COMB COMP	COMBINATION COMPOSITION	MIR MISC
CONC	CONCRETE	MO MOD
CONN	CONNECTION	MR
CONT CONTR	CONTINUOUS CONTRACTOR	MTL
CT	CERAMIC TILE	MUL
CTSK	COUNTERSINK	N (N)
CUST CW	CUSTODIAN COLD WATER	NAT
DBL		NO
DEPT	DEPARTMENT	NOM N.T.S.
DET		0/
DG	DECOMPOSED GRANITE	OA OBS
DI	DRAIN INLET DIAMETER	OC OC
DIAG	DIAGONAL	OD OF
DIM DISP	DIMENSION DISPOSAL	OFCI
DIV DN	DIVISION DOWN	O.L.F.
DO	DOOR OPENING	OPNG
DR	DOOR	OPP OVHD
DSA DS	DIVISION OF STATEARCHITECT DOWN SPOUT	PC
DSP DT	DRY STAND PIPE DRAIN TILE	P.C.F.
DW	DISHWASHER	PDA PERF
DWR	DRAWING	PH PL
E	EAST	P/L PLAM
(E) FA	EXISTING FACH	PLAS
EB		PLF PLYWD
EF	EXHAUST FAN	P.O.C. PR
EJ EL	EXPANSION JOINT ELEVATION GRADE	PROP
ELEC ELEV	ELECTRICAL ELEVATION	PSI
EMER		PTDF
		PTN
EP EQ	ELECTRIC PANEL EQUAL	PTR PVC
EQUIP	EQUIPMENT FOUIVALENT	PVMT
ES EM/		R
EVV EXH	EXHAUST	R / RAD RD
EXIST EXP	EXISTING EXPANSION	REF
EXT		
	EXTERIOR	
F FA	EXTERIOR FACE FIRE ALARM	REG REQD REINF
F FA FCO	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT	REG REQD REINF RH RHMS
F FA FCO FD FDN	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION	REG REQD REINF RH RHMS RHWS RM
F FA FCO FD FDN FE FEC	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET	REG REQD REINF RH RHMS RHWS RM RO RM/I
F FA FCO FD FDN FE FEC FF FG	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FE FG FGL FH FHMS	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FE FG FGL FH FHMS FHS FHWS	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHS FHWS FIN FIN	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURF	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHS FHWS FIN FIXT FL	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHS FHWS FIN FIXT FL FLASH FLUOR	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLASHING FLUORESCENT	REG REQD REINF RH RHMS RHWS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLR FM / FOM	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLASHING FLUORESCENT FLOOR FACE OF MASONRY	REG REQD REINF RH RHMS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLR FM / FOM FN FOC	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD MOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR FACE OF MASONRY FACE NAIL FACE OF CONCRETE	REG REQD REINF RH RHMS RM RO RWL RWD
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F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHWS FIN FIXT FL FLASH FLUOR FLR FLASH FLUOR FLR FM / FOM FN FOC FOF FOS FRMG FR FR	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD MOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR FACE OF MASONRY FACE NAIL FACE OF FINISH FACE OF STUD FRAMING FIRE-RESISTANT FIBERGLASS REINFORCED	REG REQD REINF RH RHMS RM RO RWL RWD
F FA FCO FD FDN FE FEC FF FG FGL FH FHMS FHS FHWS FIN FLS FHWS FIN FIXT FL FLASH FLUOR FLR FLASH FLUOR FLR FM / FOM FN FOC FOF FOS FRMG FR FRP	EXTERIOR FACE FIRE ALARM FLOOR CLEAN OUT FLOOR DRAIN FOUNDATION FINE EXTINGUISHER FIRE EXTINGUISHER CABINET FINISH FLOOR FINISH GRADE FIBERGLAS FIRE HYDRANT FLAT HEAD MACHINE SCREW FIRE HOSE STATION FLAT HEAD WOOD SCREW FINISH FIXTURE FLOOR LINE FLOOR LINE FLOOR LINE FLOOR FACE OF MASONRY FACE NAIL FACE OF FINISH FACE OF STUD FRAMING FIRE-RESISTANT FIBERGLASS REINFORCED PANEL FET	REG REQD REINF RH RHMS RM RO RWL RWD

GALVANIZED	S.A.D.	
GRAB BAR GENERAL CONTRACTOR	S.AV.D. SC	SOLID CORE
GALVANIZED IRON	S.C.D.	SEE CIVIL DRAWINGS
GLASS/ GLAZING	SCHED SD	SCHEDULE STORM DRAIN
GROUND	SECT	SECTION
GRADE	S.E.D.	SEE ELECTRICAL DRAWINGS
GYPSUM BOARD	SEP S F PD	SEPARATION
HOSE BIBB	SHTG	SHEATHING
HOLLOW CORE	SIM	SIMILAR
	SL	SLIDING
HARDWOOD	SM	SHEET METAL
HOLLOW METAL	S.M.D.	SEE MECHANICAL DRAWING
	SOV	SHUT OFF VALVE
HOUR	SPEC	SPECIFICATION
HOLLOW STEEL SECTION	SPKR	SPEAKER
	SQ	SQUARE STAINI ESS STEEL
HEATING HEATING, VENTILATING,	S.S.D.	SEE STRUCTURAL DRAWINGS
AIR-CONDITIONING	S.TH.D.	SEE THEATER DRAWINGS
	STA STD	STATION STANDARD
INSIDE DIAMETER	STL	STEEL
INTERIOR	STOR	STORAGE
	STRUCT	
INVERT	SYM	SYMMETRICAL
	_	
JOIST HANGER	T T&B	
JOINT	TC	TOP OF CURB
	TEL	TELEPHONE
KITCHEN	TER	
	TH	THICK
LABORATORY	THRU	THROUGH
LAMINATE LAVATORY		TOOL JOINT
LIVE LOAD	T.O.D.	TOP OF DECK
LOW POINT	T.O.P.	TOP OF PLATE
LIGHT	T.O.R.	TOP OF ROOF
MATERIAL	T.O.W. T.P.	TOP OF WALL
MAXIMUM	TRN	TRANSOM
MACHINE BOLT	TRANS	TRANSPARENT
MECHANICAL	TUB	
MEDIUM	TV	TELEVISION
	TW	TACKWALL
MANUFACTURER	ТҮР	TYPICAL
MINIMUM	UNF	UNFINISHED
MIRROR	U.O.N.	UNLESS OTHERWISE NOTED
MISCELLANEOUS MASONRY OPENING	UR	
MODULAR	OTIL	UTIETT
MOISTURE RESISTANT	VB	VAPOR BARRIER
MOUNTED METAI		VINYL COMPOSITION TILE
MULLION	VEST	VESTIBULE
	V.I.F.	VERIFY IN FIELD
	VTR	
NATURAL	VVVC	VINTE WALL COVERING
NOT IN CONTRACT	W	WEST
	W/	
NOT TO SCALE	WD	WOOD
	WDW	WINDOW
OVER	WH	WATER HEATER
OBSCURE	wv/O WP	WITHOUT WATER PROOF
ON CENTER	W.P.	WORK POINT
	WR	WATER RESISTANT
OWNER FURNISHED/	WSCT	WEIGHT
CONTRACTOR INSTALLED		
OCCUPANT LOAD FACTOR	YD	YARD
OPENING		
OPPOSITE		
OVERHEAD		
PORTLAND CEMENT		
POUNDS PER CUBIC FOOT		
POWER DRIVEN ANCHOR		
PLATE HEIGHT		
PLATE		
PLASTIC LAMIINATE		
POUNDS PER LINEAL FOOT		
PLYWOOD		
PROPERTY		
POUNDS PER SQUARE FOOT		
POUNDS PER SQUARE INCH		
PRESSURE TREATED		
DOUGLAS FIR		
PARTITION PAPER TOWEL RECEPTACLE		

SOUTH

S

	LEGEND		G	ENER	RAL NOTES
NGS	ALL NOTES AND SYMBO	ARE INTENDED TO APPLY AT ALL OTHER GRAPHIC REPRESENTATION. SUCH INDICATIONS	1.	ALL WORK IS SPECIFICAT	S SHOWN, DESCRIBED OR SPECIFIED IN THE DRAWINGS INDEXED ON TI IONS.
	INTENDED EXCEPT AS	SPECFICALLY NOTED.		ALL WORK	NOT INDICATED AS EXISTING (E) IS NEW.
	ÂA		2.	ALL FRAMIN •DO NOT SC •VERIFY ALL	G DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. CALE DRAWINGS. L DIMENSIONS WHERE WORK INVOLVES FRAMING FOR WINDOWS, DOOI
		COLUMN GRIDS A AND 1 IN BUILDING A	3	ONLY WORK	SO NOTED IS NOT IN CONTRACT (N.I.C.) ALL N.I.C. ITEMS ARE NOT PAR
/INGS	(A1)		4.	GOVERNING CALIFORNIA PAR PAR	CODES: A COPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON THE JOB AT CODE OF REGULATIONS TITLE 24 BUILDING STANDARDS CODE: T 1 2019 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CC T 2 2019 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
	6'-0"	DIMENSION TO FACE OF STUD OR MASONRY		PAR	(2018 INTERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2016 CALIFO T 3 2019 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR (2017 NATIONAL ELECTRICAL CODE AND 2016 CALIFORNIA AMENDME
	< <u>    6'-0"    </u> ≯	DIMENSION TO FACE OF FINISH		PAR <sup>-</sup> PAR <sup>-</sup>	T 4 2019 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR (2018 IAPMO UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AM T 5 2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR (2018 IAPMO UNIFORM PLUMBING CODE AND 2016 CALIFORNIA AMEN
	6'-0"	DIMENSION TO CENTER LINE OR COLUMN LINE		PAR PAR PAR	T 6 2019 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR T 9 2019 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR (2018 INTERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMEN T 10 2019 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE
3		RELATIVE ELEVATION DIMENSION		PAR PAR TITLE 19 CC 2010 ADA ST 2016 ASME A	(2018 INTERNATIONAL EXISTING BUILDING CODE AND 2016 CALIFORI T 11 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL-GREEN T 12 2019 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE R, PUBLIC SAFETY CODE, STATE FIRE MARSHAL REGULATIONS TANDARDS FOR ACCESSIBILITY DESIGN A17.1-16/CSA B44-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS
	M101	MECHANICAL CLOSET DOOR IN ROOM NUMBER 101 SEE -	5.	STANDARD A NFPA 13 NFPA 14 NFPA 17 NFPA 17A NFPA 20 NFPA 24	AND GUIDES: INSTALLATION OF FIRE SPRINKLER SYSTEMS (CA AMENDED) INSTALLATION OF STANDPIPE AND HOSE SYSTEMS DRY CHEMICAL EXTINGUISHING SYSTEMS WET CHEMICAL FIRE EXTINGUISHING SYSTEMS INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE
		WINDOW NUMBER 03		NFPA 25 NFPA 72 NFPA 80	CALIFORNIA EDITION - TESTING, MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED) STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES
	11 A-9.12	DETAIL NUMBER 11 ON SHEET NUMBER A-9.12		NFPA 110 NFPA 170 NFPA 2001	EMERGENCY AND STANDBY POWER SYSTEMS STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS
	3 A-B6.2	SECTION NUMBER 3 ON SHEET NUMBER A-B6.2		UL 464 UL 521	FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE
	2 A-B5 3	ELEVATION NUMBER 2 ON SHEET NUMBER A-B5.3		UL 1971 UL 2034	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED STANDARD FOR SINGLE AND MULTIPLE CARBON MONOXIDE ALARMS
			6.	IN ACCORDA	AND GRANDSTANDS
	PLAN A204	ROOM NUMBER 204 IN 20s WING		THE STATE A •4-331 DSA \$ •4-332 WHE	ARCHITECT STRUCTURAL SAFETY (DSA/SS) SHALL BE NOTIFIED AT THE START OF CONSTRUCTION. N CONSTRUCTION IS SUSPENDED FOR MORE THAN ONE MONTH, THE P
		ARCHITECTURAL LOUVER TYPE L01, SEE ELEVATIONS AND LOUVER SCHEDULE. DOOR LOUVERS ARE NOT TAGGED, SEE DOOR SCHEDULE.		INFORM DSA •4-333(a) OE •4-333(b) TH •4-334 SUPI •4-335 STPI	A. 3SERVATION OF THE WORK SHALL BE BY ARCHITECT OR REGISTERED B 1E DISTRICT MUST PROVIDE AND PAY FOR PROJECT INSPECTOR. ERVISION OF CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH ICTURAL TESTS AND INSPECTION ARE REQUIRED IN ACCORDANCE WITH
		RELATIVE ORIGIN OR WORK POINT		MATERIALS EMPLOY ANI	AND TESTING LAB SHALL BE IN ACCORDANCE WITH SECTION 4-335 AND D PAYTHE LAB. COSTS OF RE-TEST MAY BE BACKCHARGED TO THE CO

BY AR SH	Statement CHITECT UTILIZIN IOP DRAWINGS) F PROFESSI	of General NG PLANS (INCLU PREPARED BY OTH ONALS AND/OR C	Confor DING BUT NO HER LICENSI CONSULTANT	T <b>MANCE</b> OT LIMITED TO ED DESIGN TS
DS	Application No	01-120022	File No	21-39
Thes listed by ot and/o It has	e drawings and/or s I (marked Structural her design profession or authorized to pre s been examined by	specifications and/o l, Mechanical, and I onals or consultants pare such drawings v me for:	r calculations Electrical), hav s who are licen in this state.	for the items ve been prepared nsed
1) de Title prepa	esign intent and app 24, California Code ared by me, and	pears to meet the a of Regulations and	ppropriate red the project s	quirements of specifications
2) co incor	ordination with my poration into the co	plans and specifica nstruction of this pr	tions and is a oject.	cceptable for
The 5 reliev 1730 4-344	Statement of Gener /ing me of my rights /2 and 81138 of the 4" of Title 24, Part I.	al Conformance "s s, duties, and respo Education Code ar . (Title 24, Part 1, S	hall not be consibilities und nd Sections 4- ection 4-317	nstrued as ler Sections -336, 4-341, and (b))

Je for it Signature

January 31, 2022 Date Architect or Engineer designated to be in general responsible charge

Steven Kwok C20161 Print Name License Number

April 30, 2023 Expiration Date

## APPROVED BY DSA PRIOR TO COMMENCEMENT OF WORK. • 4-341(a) THE ARCHITECT AND THE REGISTERED ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTIONS 4-333(a) AND 4-341. • 4-341(d) INSPECTOR SHALL BE APPROVED BY DSA. • 4-342 INSPECTION SHALL BE IN ACCORDANCE WITH SECTION 4-333 THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH THIS SECTION. •.4-343 THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH THIS SECTION. THE REPAIR WORK. (TITLE 24 PART 1, SECTION 4-338(c)) CHAPTER 33, SAFETY DURING CONSTRUCTION SHALL BE ENFORCED. 9. PRIOR TO LOADING THE SITE WITH COMBUSTIBLE MATERIALS. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS, AND ENVIRONMENTAL 10. HEALTH CONSIDERATIONS SHALL COMPLY WITH APPLICABLE LOCAL ORDINANCES.

SECTIONS 4-337.

# PROJECT DESCRIPTON

- UPGRADE TO MECHANICAL SYSTEMS, AND ELECTRICAL WORK IN SUPPORT OF MECHANICAL UPGRADE; INCLUDES REPLACEMENT OF EXISTING MECHANICAL EQUIPMENT AT ROOM 37
- "MAKER SPACE" BUILDING, BAND BUILDING, MUSIC BUILDING, AND WING 70 "ANNEX". • SELECTIVE DEMOLITION OF EXISTING FURNACES, ROOFTOP AC UNIT, AND APPURTENANCES.
- INSTALLATION OF EXTERIOR GROUND MOUNTED UNITS ON HOUSEKEEPING PADS. • SECURITY ENCLOSURES TO PROTECT MECHANICAL UNITS.
- NEW HVAC INFRASTRUCTURE WILL BE ELECTRICAL-ONLY AND NOT RELY ON NATURAL GAS.
- MOUNTED UNITS WILL BE OUTSIDE THE PATH OF TRAVEL.

# DEFERRED APPROVALS · NONE

# VICINITY MAP



UILS	
SCRIBED OR SPECIFIED IN THE DRAWINGS INDEXED ON THIS PA	GE OR IN THE
ED AS EXISTING (E) IS NEW.	
IS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE. GS.	
S WHERE WORK INVOLVES FRAMING FOR WINDOWS, DOORS, OR	CABINETS.
S NOT IN CONTRACT (N.I.C.) ALL N.I.C. ITEMS ARE NOT PART OF D	SA APPROVAL
DPY OF TITLE 24 PARTS 1-5 SHALL BE KEPT ON THE JOB AT ALL TI GULATIONS TITLE 24 BUILDING STANDARDS CODE: FORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR FORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR ERNATIONAL BUILDING CODE, VOL. 1 & 2, AND 2016 CALIFORNIA A FORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR IONAL ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR IONAL ELECTRICAL CODE (CMC), PART 4, TITLE 24 CCR IONAL ELECTRICAL CODE (CMC), PART 4, TITLE 24 CCR IO UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENTS) FORNIA MECHANICAL CODE (CMC), PART 5, TITLE 24 CCR IO UNIFORM MECHANICAL CODE AND 2016 CALIFORNIA AMENDMENT FORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR IO UNIFORM PLUMBING CODE (CPC), PART 6, TITLE 24 CCR FORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR FORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR ERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS) IFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CC ERNATIONAL FIRE CODE AND 2016 CALIFORNIA AMENDMENTS) IFORNIA GREEN BUILDING STANDARDS CODE (CAL-GREEN), PAR' IFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCI FETY CODE, STATE FIRE MARSHAL REGULATIONS IR ACCESSIBILITY DESIGN 344-16 SAFETY CODE FOR ELEVATORS AND ESCALATORS	MES. MENDMENTS) ENTS) TS) R ENDMENTS) T 11, TITLE 24 CCR R
TION OF FIRE SPRINKLER SYSTEMS (CA AMENDED) TION OF STANDPIPE AND HOSE SYSTEMS /ICAL EXTINGUISHING SYSTEMS MICAL FIRE EXTINGUISHING SYSTEMS TION OF STATIONARY PUMPS FOR FIRE PROTECTION DEOR THE INSTALLATION OF PRIVATE FIRE SERVICE	2016 EDITION 2016 EDITION 2017 EDITION 2017 EDITION 2016 EDITION
D THEIR APPURTENANCES IIA EDITION - TESTING, MAINTENANCE OF WATER-BASED	2016 EDITION
TECTION SYSTEMS FIRE ALARM AND SIGNALING CODE (CA AMENDED) D FOR FIRE DOORS AND OTHER OPENING PROTECTIVES ICY AND STANDBY POWER SYSTEMS D FOR FIRE SAFETY AND EMERGENCY SYMBOLS D ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2013 EDITION 2016 EDITION 2016 EDITION 2016 EDITION 2018 EDITION 2015 EDITION

2017 EDITION

2005 (R2010)

2003 EDITION

1999 EDITION

2002 EDITION

2017 EDITION

TLE 24 PART 1 CHAPTER 4: THE ADMINISTRATIVE REGULATIONS FOR THE DIVISION OF TRUCTURAL SAFETY (DSA/SS) TIFIED AT THE START OF CONSTRUCTION. CTION IS SUSPENDED FOR MORE THAN ONE MONTH, THE PROJECT INSPECTOR SHALL

F THE WORK SHALL BE BY ARCHITECT OR REGISTERED ENGINEER. MUST PROVIDE AND PAYFOR PROJECT INSPECTOR.

CONSTRUCTION BY DSA SHALL BE IN ACCORDANCE WITH THIS SECTION. S AND INSPECTION ARE REQUIRED IN ACCORDANCE WITH THIS SECTION. TESTS OF LAB SHALL BE IN ACCORDANCE WITH SECTION 4-335 AND THE DISTRICT SHALL . COSTS OF RE-TEST MAY BE BACKCHARGED TO THE CONTRACTOR. ALL TESTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 4-335 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

•4-338 WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE APPROVED PLANS, ADDENDA AND CONSTRUCTION DOCUMENTS. CHANGES IN THE APPROVED PLANS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS STAMPED AND SIGNED BY THE ARCHITECT OR REGISTERED ENGINEER IN CHARGE. ADDENDA AND CHANGE DOCUMENTS SHALL BE SUBMITTED TO AND

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

COMPLIANCE WITH CFC CHAPTER 33, FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION AND CBC

EMERGENCY VEHICLE ACCESS ROADS AND ON-SITE FIRE HYDRANTS SHALL BE IN SERVICE AND OPERABLE

INSTALLATION OF ALL INTERIOR MECHANICAL REPLACEMENT UNITS AND EXTERIOR GROUND

PER IR 11B-6, THIS IS A MECHANICAL ONLY PROJECT AND DOES NOT REQUIRE ACCESS REVIEW.

# SHEET INDEX TOTAL SHEET COUNT: 45

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M-2.1 M-2.2 M-2.3	MECHANICAL MAKER SPACE AND BAND ROOM FLOOR PLAN MECHANICAL 70'S WING ANNEX FLOOR PLAN MUSIC ROOM FLOOR PLAN
M-3.2	MECHANICAL 70'S WING ANNEX ROOF PLAN
MD-2.1 MD-2.2 MD-2.3	DEMOLITION MECHANICAL MAKER SPACE AND BAND ROOM FLOOR PLAN DEMOLITION MECHANICAL 70'S WING ANNEX FLOOR PLAN DEMOLITION MECHANICAL MUSIC ROOM FLOOR PLAN
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E-3.1 E-3.2 E-3.3	BAND ROOM & MAKER SPACE FLOOR PLAN - POWER MUSIC ROOM DEMO & FLOOR PLANS - POWER 70's WING ANNEX FLOOR PLAN - POWER
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BUILDING	CODE A	NALYSIS			
DSA APP #	BUILDING WING	OCCUPANCY	CONSTRUCTION TYPE	ACTUAL AREA (square feet)	ACTUAL STORIES
EXISTING BUILDIN CLASSIFICATION, <sup>-</sup> MAINTAIN THEIR P	EXISTING BUILDINGS BELOW HAVE NO CHANGE IN USE, BUILDING SQUARE FOOTAGE, OCCUPANCY CLASSIFICATION, TYPE OF CONSTRUCTION, BUILDING AREA OR NUMBER OF STORIES. BUILDINGS BELOW MAINTAIN THEIR PREVIOUSLY APPROVED BUILDING CODE ANALYSIS.				
9889, 01-106020	BAND	E-1 OCC., CLASSROOM	V-NR	1,726 SF	ONE
29115, 01-106020	MAKER SPACE	E-1 OCC., CLASSROOMS	V-NR	2,451 SF	ONE
34129, 01-106020	MUSIC	E-1 OCC., CLASSROOM	V-NR	2,958 SF	ONE
20938	WING 70 "ANNEX"	E-1 OCC., CLASSROOMS	V-B	12,646 SF	ONE

# SITE PLAN KEYNOTES

NOT ALL KEYNOTES MAY APPLY TO THIS SHEET

- 1) HEAT PUMP ENCLOSURE ON HOUSEKEEPING PAD, SEE FLOOR PLANS, ENLARGED PLANS, AND S.M.D. & S.E.D.
- (2) CONDENSING UNIT ENCLOSURE ON HOUSEKEEPING PAD (TYP OF 3), SEE FLOOR PLAN, ENLARGED PLAN, AND S.M.D. & S.E.D.
- 3 ) SEE CEILING & ROOF PLANS FOR ARCHITECTURAL SCOPE AT
- MECHANICAL & ELECTRICAL WORK, AND S.M.D. & S.E.D. 4) MECHANICAL DEMOLITION ON ROOF, SEE ROOF PLAN,
- AND S.M.D. & S.E.D.

# SITE PLAN GENERAL NOTES

- . PER IR 11B-6, MECHANICAL PROJECTS DO NOT REQUIRE ACCESS REVIEW.
- 2. SITE IS NOT WITHIN A WILDLAND URBAN INTERFACE.
- SITE IS LOCATED IN A FLOOD HAZARD AREA. HOWEVER, THE VALUE OF THIS PROJECT DOES NOT EXCEED 50 PERCENT OF THE MARKET VALUE OF THE STRUCTURE PRIOR TO THE IMPROVEMENTS BEING MADE. THEREFORE COMPLIANCE WITH FLOOD HAZARD AREA DOCUMENTATION IS NOT REQUIRED.
- REFER TO MECHANICAL & ELECTRICAL ENGINEERING DWGS FOR MECHANICAL AND ELECTRICAL WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY CONFIRM EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
- 5. 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, CAP AS REQUIRED AND IDENTIFY FOR OWNER. EXISTING MAINS AND SERVICE LINES SHOWN HAVE NOT BEEN VERIFIED IN THE FIELD.
- 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. DEMOLITION OF UTILITIES TO BE STAGED AS REQUIRED SO THAT EXISTING SERVICE TO REMAINING BUILDINGS ARE NOT INTERRUPTED.
- WITHIN THE LIMIT OF DEMOLITION, REMOVE ALL PAVING AND AGGREGATE BASE, TREES AND 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
- 10. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAINS, SANITARY SEWERS AND STREETS.
- 11. DUST CONTROL SHALL BE IMPLEMENTED DURING DEMOLITION.

# SITE PLAN LEGEND



(E) BUILDING AT AREA OF WORK (E) BUILDING (E) PROPERTY LINE

(E) FIRE ACCESS

(E) FIRE HYDRANT



PROJECT SITE PLAN

1" = 50'





DSA APP NO. 01-120022 1900.03 ARCH PROJECT NO: DRAWN BY: BSC 1" = 50'-0" DRAWING SCALE: PTN: 65458-61 FILE NO: 21-39 DSA SUBMITTAL JANUARY 31, 2022 SHEET TITLE

PROJECT SITE

PLAN

SCHOOLS

SAN RAFAEL CITY

280 WOODLAND AVE SAN RAFAEL, CA 94901









QUATTROCCHI KWOK ARCHITECTS Main: 636 Fifth Street, Santa Rosa, CA 95404 East Bay: 55 Harrison Street, Suite 525, Oakland, CA 94607 (707) 576-0829 NSED ARCHIN STEVEN KWOK LICENSE # C20161 EXP APRIL 30, 2023 SIGNED: JANUARY 31, 2022



ENLARGED SITE PLAN GENERAL NOTES	
1. REFER TO MECHANICAL ENGINEERING DWGS FOR MECHANICAL UNIT INSTALLATIONS NOT OTHERWISE INDICATED.	8. DUST CONTROL SHALL BE IMPLEMENTED DURING DEMOLIT
<ol> <li>THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY CONFIRM EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.</li> </ol>	
3. 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, CAP AS REQUIRED AND IDENTIFY FOR OWNER. EXISTING MAINS AND SERVICE LINES SHOWN HAVE NOT BEEN VERIFIED IN THE FIELD.	
4. 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.	
5. DEMOLITION OF UTILITIES TO BE STAGED AS REQUIRED SO THAT EXISTING SERVICE TO REMAINING BUILDINGS ARE NOT INTERRUPTED.	
6. WITHIN THE LIMIT OF DEMOLITION, REMOVE ALL PAVING AND AGGREGATE BASE, TREES AND 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.	
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAINS, SANITARY SEWERS AND STREETS.	

![](_page_3_Picture_2.jpeg)

ITION.

![](_page_4_Figure_0.jpeg)

![](_page_4_Picture_1.jpeg)

+4'-4" A.F.G.

+0'-6" A.F.G.

![](_page_4_Picture_6.jpeg)

PARTIAL ENLARGED PLAN AT ANNEX BUILDING 1/4" = 1'-0

![](_page_4_Picture_8.jpeg)

![](_page_4_Figure_9.jpeg)

![](_page_4_Figure_10.jpeg)

ENLARGED SITE PLAN GENERAL NOTES	
1. REFER TO MECHANICAL ENGINEERING DWGS FOR MECHANICAL UNIT INSTALLATIONS NOT OTHERWISE INDICATED.	8. DUST CONTROL SHALL BE IMPLEMENTED DURING DEMOLIT
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY CONFIRM EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF WORK.	
3. 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, CAP AS REQUIRED AND IDENTIFY FOR OWNER. EXISTING MAINS AND SERVICE LINES SHOWN HAVE NOT BEEN VERIFIED IN THE FIELD.	
4. 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.	
5. DEMOLITION OF UTILITIES TO BE STAGED AS REQUIRED SO THAT EXISTING SERVICE TO REMAINING BUILDINGS ARE NOT INTERRUPTED.	
6. WITHIN THE LIMIT OF DEMOLITION, REMOVE ALL PAVING AND AGGREGATE BASE, TREES AND 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.	
7. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAINS, SANITARY SEWERS AND STREETS.	

![](_page_4_Picture_12.jpeg)

ITION.

![](_page_5_Figure_0.jpeg)

ctiveProjectFiles/1900.03 - Davidson MS HVAC Upgrades-Annex Rm37, SRCS/Drawings\04-CD\1900.03 DAVIDSON ANNEX & OTHERS HVAC.pln;1/21/2022;

![](_page_6_Figure_1.jpeg)

 MAKER SPACE AND BAND ROOM FLOOR PLANS

 S.M.D. FOR LIMITED MECHANICAL DEMOLITION SCOPE

 1/8" = 1'-0"

FI	LOOR PLAN KEYNOTES
	MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MAKER BLDG, S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE
(2	MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT MUSIC BLDG, S.M.D. FOR MECHANICAL WORK, FOR ENCLOSURE SEE
3	A-1.2 MECHANICAL ENCLOSURE ON HOUSEKEEPING PAD AT ANNEX, S.M.D. FOR MECHANICAL WORK,
4	A-1.3 MECHANICAL CONDENSING UNITS ENCLOSURE ON HOUSEKEEPING PAD, S.M.D. FOR MECHANICAL 2
5	REPLACEMENT INTERIOR MECHANICAL ITEMS, S.M.D.
	MODERNIZED (E) INTERIOR MECHANICAL ITEMS, S.M.D.
(7)	<ul> <li>(E) MECHANICAL ITEMS TO REMAIN, PRESERVE &amp; PROTECT, S.M.D.</li> <li>(E) ELECTRICAL ITEM/S, S.E.D.</li> </ul>
FI	LOOR PLAN GENERAL NOTES
1.	COORDINATE ALL WORK WITH THAT SHOWN IN MECHANICAL AND ELECTRICAL DRAWINGS.
2.	INTERIOR ARCHITECTURAL WORK IS LIMITED TO MECHANICAL CLOSET DOOR & FRAME REPLACEMENT & PAINTING UNCLUDING
	CLOSE I DOOR & FRAME REPLACEMENT & PAINTING, INCLUDING RELATED WOOD TRIM, AND INCIDENTAL PATCH/REPAIR & PAINTING RELATED TO DOOR REPLACEMENT.
3.	PRESERVE & PROTECT (E) DOOR HANDLES W/ INTEGRAL LOCKS AT TIME OF MECHANICAL CLOSET DOOR DEMOLITION. REMOVE HANDLES
	W/ LOCKS AND STORE SAFELY FOR REINSTALLATION INTO REPLACEMENT DOOR ASSEMBLY.
4.	DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE (N) WORK SHOWN IN THE DRAWINGS. NEATLY CUT AND REMOVE FINISHES AS
	CONCEALED TO A MATURAL POINT OF DIVISION TO ENABLE INSTALLATION OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR (N) WORK, REFER TO MECHANICAL AND ELECTRICAL DRAMANCO
	FOR CONCEALED WORK.
5.	EFAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO EXISTING UNDISTURBED WORK.
6. 7.	INSPECT EXPOSED STRUCTURE FOR DAMAGE AND ADVISE ARCHITECT SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.
8.	FOR PATCH/REPAIR AT (E) ROOFING & ROOF PENETRATIONS, SEE $\begin{pmatrix} 13 \\ A-1.4 \end{pmatrix}$ AND S.M.D. FOR LOCATIONS.
9.	REFER TO MECHANICAL & ELECTRICAL DWGS FOR MECHANICAL UNIT INSTALLATIONS NOT OTHERWISE INDICATED
10.	PATCH & PAINT AT LOCATIONS OF THERMOSTAT REMOVAL OR REPLACEMENT SMD FOR THERMOSTATLOCATIONS
11.	REFER TO REFLECTED CEILING PLAN FOR CLERESTORY WINDOWS.
12.	PROVIDE NON-SLIP SURFACE AT ALL PAVING, INCLUDING HOUSEKEEPING PADS. HEAVY BROOM FINISH AT EXTERIOR
	CONCRETE PAVING WHERE SLOPED >6%, MEDIUM BROOM FINISH AT SLOPES <6%.
FI	LOOR PLAN LEGEND
S.S	S.D. FOR WOOD FRAMING SIZES
	(E) ITEM TO BE DEMOLISHED
=	(E) WALL TO REMAIN, PROTECT AND PRESERVE
κ	EYPLAN
	[]
	<u>ר</u> ה
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	-

![](_page_6_Picture_5.jpeg)

SAN RAFAEL CITY SCHOOLS

280 WOODLAND AVE SAN RAFAEL, CA 94901

![](_page_6_Picture_8.jpeg)

![](_page_6_Picture_9.jpeg)

![](_page_6_Picture_10.jpeg)

![](_page_6_Picture_11.jpeg)

QUATTROCCHI KWOK

ARCHITECTS

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STEVEN KWOK

LICENSE # C201 EXP APRIL 30, 2023

SIGNED: JANUARY 31, 2022

![](_page_6_Picture_12.jpeg)

![](_page_7_Figure_1.jpeg)

![](_page_7_Figure_2.jpeg)

![](_page_8_Figure_0.jpeg)

FLOOR PLAN LEGEND	FLOOR PLAN GENERAL NOTES	
S.S.D. FOR WOOD FRAMING SIZES         (E) ITEM TO REMAIN         (E) ITEM TO BE DEMOLISHED         (E) WALL TO REMAIN, PROTECT AND PRESERVE	<ol> <li>FLOOR PLAN GENERAL NOTES</li> <li>COORDINATE ALL WORK WITH THAT SHOWN IN MECHANICAL AND ELECTRICAL DRAWINGS.</li> <li>INTERIOR ARCHITECTURAL WORK IS LIMITED TO MECHANICAL CLOSET DOOR &amp; FRAME REPLACEMENT &amp; PAINTING, INCLUDING RELATED WOOD TRIM, AND INCIDENTAL PATCH/REPAIR &amp; PAINTING RELATED TO DOOR REPLACEMENT.</li> <li>PRESERVE &amp; PROTECT (E) DOOR HANDLES W/ INTEGRAL LOCKS AT TIME OF MECHANICAL CLOSET DOOR DEMOLITION. REMOVE HANDLES W/ LOCKS AND STORE SAFELY FOR REINSTALLATION INTO REPLACEMENT DOOR ASSEMBLY.</li> <li>DEMOLITION SHALL BE SUFFICIENT TO COMPLETE THE (N) 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</li> </ol>	<ol> <li>FOR PATCH/REPAIR AT (E) ROG AND S.M.D. FOR LOCATIONS.</li> <li>REFER TO MECHANICAL &amp; E UNIT INSTALLATIONS NOT O</li> <li>PATCH &amp; PAINT AT LOCATION REPLACEMENT. S.M.D. FOR</li> <li>REFER TO REFLECTED CEIL</li> <li>PROVIDE NON-SLIP SURFAC HOUSEKEEPING PADS. HEA CONCRETE PAVING WHERE AT SLOPES &lt;6%.</li> </ol>
	OF BLOCKING, BACKING, FRAMING, SHEATHING, UTILITIES OR OTHER CONCEALED WORK, WHETHER SPECIFICALLY SHOWN OR INFERRED FOR (N) WORK. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR CONCEALED WORK.	
	5. REPAIR AND REPLACE ALL EXISTING SURFACES AND FINISHES TO EXISTING UNDISTURBED WORK.	
	6. INSPECT EXPOSED STRUCTURE FOR DAMAGE AND ADVISE ARCHITECT.	
	7. SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR.	

5 REPLACEMENT INTERIOR MECHANICAL ITEMS, S.M.D.
6 MODERNIZED (E) INTERIOR MECHANICAL ITEMS, S.M.D.
(7) (E) MECHANICAL ITEMS TO REMAIN PRESERVE & PROT

![](_page_8_Picture_4.jpeg)

![](_page_8_Picture_5.jpeg)

# FLOOR PLAN

70s	WING	A	١N	EX
СІ		DI	A N	

DSA	APP NC	01-120022	
ARCH PRO	JECT NO:	1900.03	
DRAWN BY:		PG, BSC	
DRAWING SCALE:		1/8" = 1'-0"	
PTN: 65458-61		FILE NO: 21-39	
DSA SUBMITTAL			
JANUARY 31, 2022			
SHEET TIT	LE		

SAN RAFAEL CITY SCHOOLS

280 WOODLAND AVE SAN RAFAEL, CA 94901

![](_page_8_Picture_11.jpeg)

![](_page_8_Picture_12.jpeg)

![](_page_8_Picture_13.jpeg)

![](_page_8_Picture_14.jpeg)

![](_page_8_Picture_15.jpeg)

![](_page_9_Figure_1.jpeg)

MAKER SPACE AND BAND ROOM RCP 1/8" = 1'-0"

# **RCP KEYNOTES**

(1) (E) DUCTS TO REMAIN, S.M.D.

- (2) DUCTWORK, S.M.D.
- (3) MECHANICAL PENETRATION THRU (E) ROOF/CEILING ASSEMBLY,
- SEE ROOF PLAN & S.M.D.
- (4) REPLACEMENT MECHANICAL ITEMS BELOW, CONNECT TO (E) DUCTS, S.M.D.
- (5) (E) THRU-WALL MECHANICAL PENETRATION TO REMAIN, S.M.D.
- 6 THRU-WALL MECHANICAL PENETRATION, S.M.D. AND (A-1.4)
- (7) (E) LIGHT FIXTURES TO REMAIN, S.E.D.
- (8) (E) MECHANICAL ITEM TO REMAIN, PRESERVE & PROTECT
- (9) (E) CEILINGS TO REMAIN
- (10) (E) COVERED WALK TO REMAIN
- (11) (E) PRACTICE ROOM CEILINGS BELOW, SEE  $\begin{pmatrix} 2 \\ A-3.2 \end{pmatrix}$
- (12) WALL MTD MECHANICAL EQUIPMENT, S.M.D.
- (13) PATCH/REPAIR AT (E) ROOF/CEILING ASSEMBLY MECHANICAL PENETRATION, SEE ROOF PLAN, S.M.D., S.E.D.

# **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. LIGHT FIXTURES TO REMAIN, PRESERVE & PROTECT, TYP
- 3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, AND OTHER FEATURES NOT OTHERWISE SHOWN.
- 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.
- 5. PATCH / REPAIR WALL PENETRATIONS, WHERE OCCUR, SEE  $\begin{pmatrix} 14 \\ A-1.4 \end{pmatrix}$

# **REFLECTED CEILING PLAN LEGEND**

S.S.D. FOR WO	OD FRAMING SIZES
CLASSROOM	CLASSROOM NUMBER 11 X'-X" REFERS TO FINISHED CEILING HEIGHT A WHERE CEILING HEIGHT IS INDICATED AS "OF " - ", ROOM IS OPEN TO STRUCTURE ABOVE.
	(E) GYPSUM BOARD TO REMAIN, PRESERVE &
	(E) 2'x2' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PRO
	(E) 2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PRO
	(E) 1'x1' ADHESIVE-APPLIED ACOUSTIC TILE C SYSTEM O/ WD FRMG OR SHTG TO REMAIN, PRESERVE & PROTECT
	(E) EXPOSED 1"x6" WD CEILING FINISH O/ WD
	DOORS SHOWN DASHED INDICATE DOOR BEI NO DEMOLITION SCOPE AT DOORS
	(E) ITEM TO REMAIN
	(E) ITEM TO BE DEMOLISHED

(E) WALL TO REMAIN, PROTECT AND PRESERVE

KEYPLAN

![](_page_9_Figure_28.jpeg)

![](_page_9_Picture_30.jpeg)

![](_page_9_Picture_31.jpeg)

# BAND ROOM RCP

MAKER SPACE &

JANUARY 31, 2022 SHEET TITLE

\_\_\_\_\_ DSA APP NO. 01-120022 1900.03 ARCH PROJECT NO: DRAWN BY: PG, BSC DRAWING SCALE: 1/8" = 1'-0" PTN: 65458-61 FILE NO: 21-39 -----DSA SUBMITTAL

SAN RAFAEL CITY SCHOOLS

280 WOODLAND AVE SAN RAFAEL, CA 94901

HVAC **IMPROVEMENTS** -ANNEX, MAKER SPACE, BAND & MUSIC ROOMS

![](_page_9_Picture_40.jpeg)

![](_page_9_Picture_42.jpeg)

![](_page_9_Picture_43.jpeg)

![](_page_9_Picture_44.jpeg)

T A.F.F. OPEN" OR

& PROTECT

ROTECT

ROTECT CEILING

D FRMG

ELOW,

![](_page_10_Picture_1.jpeg)

![](_page_10_Picture_2.jpeg)

# (3) MECHANICAL PENETRATION THRU (E) ROOF/CEILING ASSEMBLY, SEE ROOF PLAN & S.M.D. (4) REPLACEMENT MECHANICAL ITEMS BELOW, CONNECT TO (E) DUCTS, S.M.D. (5) (E) THRU-WALL MECHANICAL PENETRATION TO REMAIN, S.M.D. 6 THRU-WALL MECHANICAL PENETRATION, S.M.D. AND (A-1.4) (7) (E) LIGHT FIXTURES TO REMAIN, S.E.D. (8) (E) MECHANICAL ITEM TO REMAIN, PRESERVE & PROTECT (9) (E) CEILINGS TO REMAIN (10) (E) COVERED WALK TO REMAIN (11) (E) PRACTICE ROOM CEILINGS BELOW, SEE $\begin{pmatrix} 2 \\ A-3.2 \end{pmatrix}$ (12) WALL MTD MECHANICAL EQUIPMENT, S.M.D. (13) PATCH/REPAIR AT (E) ROOF/CEILING ASSEMBLY MECHANICAL PENETRATION, SEE ROOF PLAN, S.M.D., S.E.D. **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. LIGHT FIXTURES TO REMAIN, PRESERVE & PROTECT, TYP 3. S.E.D. FOR HORNS, SPEAKERS, PULL STATIONS, AND OTHER FEATURES NOT OTHERWISE SHOWN. 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. 5. PATCH / REPAIR WALL PENETRATIONS, WHERE OCCUR, SEE $\begin{pmatrix} 14 \\ A-1.4 \end{pmatrix}$ PRACTICE 2 7'-4" PRACTICE ROOMS RCP REFLECTED CEILING PLAN LEGEND S.S.D. FOR WOOD FRAMING SIZES CLASSROOM NUMBER 11 X'-X" REFERS TO FINISHED CEILING HEIGHT A.F.F. CLASSROOM WHERE CEILING HEIGHT IS INDICATED AS "OPEN" OR " - ", ROOM IS OPEN TO STRUCTURE ABOVE. X'-X" (E) GYPSUM BOARD TO REMAIN, PRESERVE & PROTECT (E) 2'x2' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT (E) 2'x4' SUSPENDED CEILING SYSTEM W/ ACOUSTIC TILE TO REMAIN, PRESERVE & PROTECT (E) 1'x1' ADHESIVE-APPLIED ACOUSTIC TILE CEILING SYSTEM O/ WD FRMG OR SHTG TO REMAIN, PRESERVE & PROTECT (E) EXPOSED 1"x6" WD CEILING FINISH O/ WD FRMG DOORS SHOWN DASHED INDICATE DOOR BELOW, NO DEMOLITION SCOPE AT DOORS (E) ITEM TO REMAIN ----- (E) ITEM TO BE DEMOLISHED (E) WALL TO REMAIN, PROTECT AND PRESERVE KEYPLAN DID. MUSIC CLASSROOM RCP

**RCP KEYNOTES** 

(2) DUCTWORK, S.M.D.

(1) (E) DUCTS TO REMAIN, S.M.D.

![](_page_10_Picture_4.jpeg)

![](_page_10_Picture_5.jpeg)

CLASSROOM RCP

SHEET TITLE

MUSIC

DSA APP NO. 01-120022 1900.03 ARCH PROJECT NO: PG, BSC DRAWN BY: DRAWING SCALE: 1/8" = 1'-0" PTN: 65458-61 FILE NO: 21-39 DSA SUBMITTAL JANUARY 31, 2022

SAN RAFAEL CITY SCHOOLS

280 WOODLAND AVE SAN RAFAEL, CA 94901

![](_page_10_Picture_11.jpeg)

![](_page_10_Picture_12.jpeg)

![](_page_10_Picture_13.jpeg)

![](_page_10_Picture_14.jpeg)

![](_page_10_Picture_15.jpeg)

PRELIMINARY

![](_page_11_Figure_0.jpeg)

![](_page_11_Picture_2.jpeg)

![](_page_11_Picture_3.jpeg)

# 70s WING ANNEX RCP

SHEET	TITLE	

DSA	APP NC	0. 01-120022
ARCH PRO	JECT NO:	1900.03
DRAWN BY:		PG, BSC
DRAWING SCALE:		1/8" = 1'-0"
PTN: 65458-61 FILE NO: 21-39		
DSA SUBMITTAL		
JANUARY 31, 2022		

SAN RAFAEL CITY SCHOOLS

280 WOODLAND AVE SAN RAFAEL, CA 94901

![](_page_11_Picture_9.jpeg)

![](_page_11_Picture_10.jpeg)

![](_page_11_Picture_11.jpeg)

![](_page_11_Picture_12.jpeg)

![](_page_11_Picture_13.jpeg)

![](_page_11_Picture_14.jpeg)

33-01/ActiveProjectFiles/1900.03 - Davidson MS HVAC Upgrades-Annex Rm37, SRCS\Drawings\04-CD\1900.03 DAVIDSON ANNEX & OTHERS HVAC.pln;1/21/2022;4:09 PM

![](_page_12_Figure_1.jpeg)

MAKER SPACE AND BAND ROOM ROOF PLAN 1/8" = 1'-0"

	ROOF PLAN GENERAL NOTES
	1       PATCH / REPAIR OF (E) ROOFING AT LOCATIONS OF REMOVED MECHANICAL ITEMS, S.M.D. AND       13         2       MECHANICAL ROOFING PENETRATION, S.M.D. AND       18         3       MECHANICAL GRAVITY VENT AT (E) BUILT-UP ROOFING, S.M.D. AND       12         4       DEMOLISH (E) MECHANICAL UNIT, S.M.D.
	<ul> <li>ROOF PLAN GENERAL NOTES</li> <li>1. LOCATE ALL ROOF PENETRATIONS BETWEEN (E) JOISTS.</li> <li>2. MAINTAIN MIN 1/4":12" SLOPE TO DRAIN AT BUR.</li> <li>3. ALL ROOFING TO BE CLASS A.</li> <li>4. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR ROOF PENETRATION LOCATIONS NOT OTHERWISE INDICATED, TYPICAL.</li> <li>5. PRESERVE, PROTECT, AND REUSE MECHANICAL UNIT MOUNTING CURBS (AS OCCURS), S.M.D.</li> </ul>
	ROOF PLAN LEGEND
	ROOF CURB OR PATCH / REPAIR AT (E) MODIFIED BITUMEN ROOFING (E) EXTERIOR WALLS BELOW (E) ITEM TO REMAIN (E) ITEM TO BE DEMOLISHED
NORTH	KEYPLAN

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![](_page_12_Picture_6.jpeg)

![](_page_13_Figure_0.jpeg)

ROOF PLAN LEGEND	ROOF PLAN GENE
(E) MODIFIED BITUMEN ROOFING, PRESERVE & PROTECT         ROOF CURB OR PATCH / REPAIR AT (E) MODIFIED BITUMEN ROOFING         (E) EXTERIOR WALLS BELOW         (E) ITEM TO REMAIN         (E) ITEM TO BE DEMOLISHED	<ol> <li>LOCATE ALL ROOF PENETR</li> <li>MAINTAIN MIN 1/4":12" SLOF</li> <li>ALL ROOFING TO BE CLASS</li> <li>REFER TO MECHANICAL AN PENETRATION LOCATIONS</li> <li>PRESERVE, PROTECT, ANE CURBS (AS OCCURS), S.M.I</li> </ol>

![](_page_13_Picture_2.jpeg)

![](_page_13_Picture_3.jpeg)

# 70s WING ANNEX **ROOF PLAN**

JANUARY 31, 2022
SHEET TITLE

DSA APP NO. 01-120022		
ARCH PRO	JECT NO:	1900.03
DRAWN BY:		PG, BSC
DRAWING SCALE:		1/8" = 1'-0"
PTN: 65458-61 FILE NO: 21-3		
DSA SUBMITTAL		

SAN RAFAEL CITY SCHOOLS

280 WOODLAND AVE SAN RAFAEL, CA 94901

![](_page_13_Picture_9.jpeg)

![](_page_13_Picture_10.jpeg)

![](_page_13_Picture_11.jpeg)

![](_page_13_Picture_12.jpeg)

![](_page_13_Picture_13.jpeg)

![](_page_14_Figure_0.jpeg)

2500 PSI MIN CONCRETE				
MIN EMBED UNO H <sub>ef</sub>	MIN EDGE DISTANCE C <sub>min</sub>	MIN SPCG S <sub>min</sub>	MIN CONC DEPTH H <sub>min</sub>	
4"	1¾"	3"	H <sub>ef</sub> + 3½"	
4"	1¾"	2½"	H <sub>ef</sub> + 1¼"	

2x/3x

N EDGE STANCE C <sub>min</sub>	MIN SPCG S <sub>min</sub>	MIN CONC THICKNESS H <sub>min</sub>	INSTALL TORQUE (FT-LB)
6"	3"	3¼"	30
8"	8"	3 <sup>3</sup> ⁄8"	20

- ANCHOR PER PLAN & DETAILS PILOT HOLE DEPTH PER MFR

CHORS IN 2500 PSI MIN CONC								
IN EDGE STANCE C <sub>min</sub>	MIN SPACING S <sub>min</sub>	MIN CONC THICKNESS H <sub>min</sub>	INSTALL TORQUE (FT-LB)					
6"	10"	3¼"	30					
5"	8"	3¼"	30					
ANCHOR PER PLAN & DETAILS								

![](_page_14_Figure_22.jpeg)

![](_page_14_Figure_23.jpeg)

NEW 24" MAXIMUM OPENING

![](_page_14_Figure_25.jpeg)

ALUN ARCH AYC BF BLDG BLK/BLKG BLW BM BN BOT BRG BTWN BU BU BYND CONC CONN CONT COORD DBA DBL DCW DF DIA or Ø DIAG DIM DIST DJ ELEC ELEV EMBE EQ EQUI ES EXP EXT FDN FIN FG FLR FOC FOM FOS FRM

RAMING AR SIDE

# WOOD FRAMING NOTES

1. ALL BEAMS AND JOISTS SHALL BE SEAT CUT FOR FULL UNIFORM BEARING AT SUPPORTS, INCLUDING BEAM SEATS AND COLUMN CAPS.

2. SEE 1/S-0.1 FOR SHEATHING NAILING REQUIREMENTS. ALL NAILING NOT NOTED OR DETAILED OTHERWISE SHALL BE PER <u>2/S-0.1</u>. 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. FOR ROOF DRAINAGE, TOP OF FRAMING BETWEEN NOTED POINTS IS A STRAIGHT

4. ALL MECHANICAL SUPPLY AND RETURN OPENINGS TO BE BETWEEN FRAMING UNO. 5. JOISTS, RAFTERS AND BLOCKING ARE PER PLAN. HANGER SIZE TO BE CORRECT

6. ROUND HOLES IN STEEL PLATES TO BE 1/16" OVERSIZE. SLOTTED HOLES IN STEEL PLATES SHALL BE  $\frac{1}{6}$ " 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.

7. 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 1<sup>1</sup>/<sub>2</sub>" EDGE OF THE MEMBER.

8. 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.

9. VENTING IS REQUIRED IN ENCLOSED FRAMING AREAS, SAD. DRILL BLOCKING AND LEDGERS AND PROVIDE SKIP BLOCKING AS DETAILED.

11. ALL SHEATHING SHALL HAVE 1/8" GAP AT ALL EDGES AND JOINTS. TYPICAL

A. ROOF SHEATHING: APA RATED SHEATHING (40/20) EXP 1 WITH THICKNESS TO MATCH EXISTING SHEATHING THICKNESS WITH 10d @ 6"oc EDGES (PEN) AND 12"oc FIELD. LAY PERPENDICULAR TO FRAMING MEMBERS. BLOCK EDGES WITH 2x4 LAID FLAT. NO PANELS LESS THAN 24" WIDE SHALL BE USED. STAGGER

# - MATERIAL DATA

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

ANGLES, CHANNELS, AND PLATES - ASTM A36 (Fy = 36,000 PSI)

MACHINE BOLTS SHALL BE ASTM A307 GRADE A HIGH STRENGTH BOLTS SHALL BE ASTM F3125 GRADE A325 OR F1852 UNO ANCHOR RODS SHALL BE ASTM F1554 GR 36 UNO ARC-WELDING ELECTRODES SHALL BE E70

WOOD BASE DESIGN STRESSES (UNO):

MBER MEMBER	SPECIES AND MINIMUM GRADE, UNO	F <sub>b</sub> (PSI)	$F_{v}$ (PSI)	E (PSI)
OCKING	DOUGLAS FIR - #1	1000	180	1.7x10 <sup>6</sup>
TS & BEAMS	DOUGLAS FIR - #1	1000	180	1.7x10 <sup>6</sup>
TS, RAFTERS	DOUGLAS FIR - #1	1000	180	1.7x10 <sup>6</sup>

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

#### **ABBREVIATIONS** ANCHOR BOL FOOTING FTG PANEL POUNDS PER SQUARE FOO ABOVE AIR CONDITIONING GAGE or GAUGE GALVANIZED GRADE BEAM GA GALV OUNDS PER SQUARE INC ADJACENT PARALLEL STRAND LUMBE DDITIONAL ALTERNATE ALUMINUM ARCHITECT GRIDLINE GLUE LAMINATED BEAM PRESSURE TREATED GLB DOUGLAS FIR GRADE HOLD DOWN HOT-DIP GALVANIZED REDUCED BEAM SECTION RAFTER ALASKAN YELLOW CEDAR HDC HEADER REFERENCE REINFORCING BRACED FRAME HANGER HOOK UILDING LOCK/BLOCKING HORIZ HSB HORIZONTAL REQE REQUIRED RETAINING JELOW BEAM HIGH STRENGTH BOLT HSG HSH HIGH STRENGTH GROUT REVISION ROOF BOUNDARY NAIL HORIZONTAL SLOTTED REDWOOD BEARING 3ETWEEN AMERICAN STANDARD BEAM SEE ARCHITECTURAL HOLLOW STRUCTURAL HSS SECTION BUILT-UP INSIDE DIAMETER SOLID BLOCK AMERICAN STANDARD I SHAPED WOOD BUILT SLIP CRITICAL UP TRUSS SEE CIVIL DRAWINGS SCHEDULE SEE ELECTRICAL DRAWING CALIFORNIA SCHED CANTILEVER CARRIAGE BOLT JOIST SEOR STRUCTURAL ENGINEER OF OLD FORMED STEEL KING POST STEEL ANGLE SEISMIC FORCE RESISTING SYSTEM SFRS CERTIFIED GLUED LUMBER Lb or # CONTROL JOINT LGMF POUND(s) LIGHT GAGE METAL SHTG SHEATHING SIMILAR CENTERLINE COMPLETE JOINT LIGHT GAGE METAL PENETRATION FRAMING CONTRACTOR SEE LANDSCAPE DRAWING EILING LIVE LOAD LONG LEG HORIZONTAL SHEET METAL SCREW CLEAR COLUMN CONCRETE SEE MECHANICAL DRAWIN LONG LEG VERTICAL LOCATION LAB ON GRADE CONNECTION CONTINUOUS COORDINATE/ COORDINATION AG SCREW SEE PLUMBING DRAWINGS AMINATED STRAND LUMBER SPEC SPECIFICATION LAMINATED VENEER LUMBER SO IGHTWEIGHT CONCRETE SELECT STRUCTURAL ONCRETE MASONRY UNIT | MAX MAXIMUM or STAINLESS STEE UNTERSINK T WASHER INE BOLT STGR TAGGERE METAL BUILDING MANUFACTURER FANDARD FIFFENER EFORMED BAR ANCHOR MISCELLANEOUS CHANNEL STEEL STRUCTURAL DEMAND CRITICAL WELD DOUGLAS FIR STL STRUCT MECHANICAL MEZZANINE MECH MEZZ STRUCTURAL SHEAR WALL SYMMETRICAL TOP AND BOTTOM TONGUE AND GROOVE THICK THREADED THROUGH TOTAL LOAD TOE NAIL TOP OF CONCRETE TOP OF FRAMING DIAMETER DIAGONAL DIMENSION DISTANCE DOWEL JOINT DEAD LOAD MOMENT FRAM SYM T&B MANUFACTURER MINIMUM MISCELLANEOUS MALLEABLE IRON WASHER METAL MECH UNIT NEW NOT APPLICABLE DRAWING DOWEL EACH EACH END NUMBER NEAR SIDE NO or # TOP OF MASONRY NON-SHRINK GROUT TOP OF PLYWOOD NOT TO SCALE TO NORMAL-WEIGHT CONCRETE TO TOP OF STEEL ECTRICAL EVATOR/ELEVATION IBEDMENT TYPICAL UNLESS NOTED OTHERWISE ON CENTER EQUAL EQUIPMENT EACH SIDE UTSIDE DIAMETER UNO VER OPPOSITE HAND VERIEV IN FIELD OPNO OPENING OVS OW OW OVERSIZED OTHERWISE OPEN WEB TRUSS EXISTING WIDE FLANGE STEEL BEAM WIDE FLANGE STEEL BEAN WITH WITHOUT WOOD WELDED HEADED STUD WELDED EXPANSION EXTERIOR FOUNDATION W/O WD WHS WLD WP PLATE or PROPERTY LINE POST ABOVE FINISH FINISH GRADE POWER ACTUATED PAF FLOOR FACE NAIL FACE OF CONCRETE FACE OF MASONRY FACE OF STUD WORK POINT/WATERPROOF FASTENERS WS WOOD SCREW WEIGHT PANEL EDGE NAIL PERPENDICULAR PANEL EDGE SCREWS PERP PES PJP PARTIAL JOINT PENETRATION POUNDS PER LINEAR FOOT WELDED THREADED STUD WELDED WIRE

REINFORCEMENT

# DESIGN CRITERIA

DESIGN CRITERIA: ROOF LIVE LOAD: RISK CATEGORY:

2019 CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2 (CBC) 20 PSF (REDUCIBLE)

ULTIMATE WIND SPEED (3 SEC GUST) IN MPH: 98 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

MAPPED SPECTRAL RESPONSE ACCELERATIONS:  $S_8 = 1.50$ ;  $S_1 = 0.60$ SITE CLASS: D - DEFAULT SPECTRAL RESPONSE COEFFICIENTS: S<sub>DS</sub> = 1.20; S<sub>D1</sub> = 0.68 SEISMIC DESIGN CATEGORY: D

## PROVIDE DEFORMATION COMPATIBILITY PER ASCE 7 SECTION 12.12.5 FOR NON-STRUCTURAL ITEMS, INCLUDING CLADDING,

SCOPE:

STAIRS, GLAZING, ETC.

MECHANICAL UPGRADES AT (4) ONE-STORY WOOD-FRAMED BUILDINGS.

# GENERAL NOTES

- 1. REFER TO SHEET <u>S-0.1</u> FOR STANDARD DETAILS OF CONSTRUCTION. REFER TO THE PROJECT SPECIFICATIONS FOR MATERIALS AND METHODS.
- 2. STRUCTURAL DRAWINGS SHALL NOT BE SCALED. ALL DIMENSIONS AND FIT SHALL BE DETERMINED AND VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCING WORK
- 3. DETAILS NOT FULLY OR SPECIFICALLY SHOWN SHALL BE OF SAME NATURE AS OTHER SIMILAR CONDITIONS.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
- 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-0.1. 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. CONTRACTOR TO VERIFY MECHANICAL UNIT SIZES AND WEIGHTS AS INSTALLED PRIOR TO INSTALLATION OF SPECIAL FRAMING TO ENSURE CORRECT PLACEMENT UNDER CURBS. ETC. SEE MECHANICAL DRAWINGS FOR ANCHORAGE DETAILS.
- 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. SPECIAL INSPECTIONS ARE REQUIRED PER THE TESTING AND INSPECTION FORM SEE SPECIFICATIONS.
- 9. VEHICULAR TRAFFIC, HEAVY EQUIPMENT AND MATERIAL STAGING SHALL NOT BE ALLOWED ADJACENT TO ANY RETAINING/BASEMENT WALL, NEW OR EXISTING WITHIN A HORIZONTAL DISTANCE EQUAL TO THE WALL HEIGHT MEASURED FROM THE BOTTOM OF FOOTING OR 5'-0" WHICHEVER IS GREATER, UNLESS APPROVED BY THE STRUCTURAL ENGINEER OR NOTED OTHERWISE. WITHIN THIS ZONE, ONLY HAND-OPERATED EQUIPMENT ("WHACKERS". VIBRATORY PLATES, OR PNEUMATIC COMPACTORS) SHALL BE USED TO COMPACT THE BACKFILL SOILS.

**EXISTING CONSTRUCTION NOTES** 

- 1. IN PREPARING THE PROJECT PLANS, THE SOURCE OF INFORMATION WAS BASED ON THE EXISTING BUILDING PLANS: DSA APPLICATION #9889 DATED 1952, DSA APPLICATION #20938 DATED 1962 AND DSA APPLICATION #29115 DATED 1967. 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.
- 2. ALL WORK NOT INDICATED AS EXISTING (E) SHALL BE ASSUMED TO BE NEW (N).
- 3. 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.
- 4. 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.
- 5. EXISTING DAMAGED STRUCTURAL MEMBERS WHICH ARE UNCOVERED SHALL BE REPORTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND REPAIR.
- 6. EXISTING CONCRETE SURFACE ABUTTING NEW CONCRETE SHALL BE ROUGHENED TO ¼" AMPLITUDE AND THOROUGHLY CLEANED OF DUST, LOOSE AGGREGATE, LAITANCE, ETC.
- 7. EXISTING REINFORCING AND/OR STEEL EMBEDS THAT ARE EXPOSED DURING DEMOLITION SHALL BE WIRE-BRUSHED AND FOREIGN MATERIAL REMOVED PRIOR TO PLACEMENT OF NEW CONCRETE.

SHEET INDEX

S-0.1 GENERAL NOTES AND SPECIFICATIONS

<u>WIND DATA</u>:

EARTHQUAKE DATA: SEISMIC IMPORTANCE FACTOR, Ie: 1.25

![](_page_14_Picture_80.jpeg)

![](_page_15_Figure_0.jpeg)

OIL SYSTEM INDOOR UNIT SCHEDULE										
IEATING	EATING ELECTRICAL DATA									
OUTPUT	V-Ø-HZ	MCA	MOCP	FILTER	WEIGHT	SERVICE	REMARKS			
6000 Btu/h	208/230-1-60	32	35	MERV 13	167 lb	BAND CLASSROOM	1,2,3,4,6			
6000 Btu/h	208/230-1-60	32	35	MERV 13	167 lb	MAKER SPACE	1,2,3,4,7			
6000 Btu/h	208/230-1-60	32	35	MERV 13	150 lb	MUSIC CLASSROOM	1,2,3,4,8			
6000 Btu/h	208/230-1-60	32	35	MERV 13	150 lb	MUSIC CLASSROOM	1,2,3,4,8			
6000 Btu/h	208/230-1-60	32	35	MERV 13	150 lb	LIBRARY 11, CLERK 14, PRINCIPAL 15, CHILD PSYCH 17	1,2,3,4,5,9			
'700 Btu/h	208/230-1-60	8	15	MERV 13	20 lb	ANNEX PRINCIPAL OFFICE	1,2,3,5,10			

	HEAT PUMP OUTDOOR UNIT SCHEDULE												
		TOTAL	TOTAL		ELEC	TRICAL	DATA						
EL BER	UNIT SIZE	COOLING (MBH)	HEATING CAPACITY	SEER	V-Ø-Hz	MCA	MOCP	WEIGHT	SERVICE	REMARKS			
AVJUA	5	57.5	57.0	18.00	208-1-60	29.1	35	225 lb	FC 27-1	1,2			
AVJUA	5	57.5	57.0	18.00	208-1-60	29.1	35	225 lb	FC 37-1	1,2			
AVJUA	4	45.5	49.5	18.00	208-1-60	29.1	35	176 lb	FC 60-1	1,2			
AVJUA	4	45.5	49.5	18.00	208-1-60	29.1	35	176 lb	FC 60-2	1,2			
AVJUA	4	45.5	49.5	18.00	208-1-60	29.1	35	176 lb	FC 70-1	1,2			
LVJU	3/4	9.0	12.0	15.30	208-1-60	8.0	15	75 lb	FC 70-2	1,2			

1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & ACCESSORIES FOR USE WITH R410A REFRIGERANT.

EXHALIST FAN SCHEDLILE									
				CONLOC					
				ELECTRIC	AL DATA				
	FAN	INLET	MOTOR						
AIRFLOW	RPM	SONES	HP	OPER. HP	WATTS	V-Ø-Hz	WEIGHT	SERVICE	REMARKS
300 CFM	1200	4	1/15	0.07	52 W	115-1-60	24.00 lbf	NURSE OFFICE	1

1. UNIT SHALL HAVE GALVANIZED STEEL SCROLL AND HOUSING, NON-YELLOWING GRILLE, SPRING LOADED BDD, PLUG TYPE DISCONNECT, VARI-GREEN MOTOR WITH POTENTIOMETER, UL 507 LISTING, POLYPROPYLENE WHEEL.

CONDENSING UNIT SCHEDULE											
	UNIT CAPACITIES (MBH)		ELEC	TRICAL D	ATA						
MODEL NO.	COOLING	SEER	V-Ø-HZ	MCA	MOCP	WEIGHT	SERVICE	REMARKS			
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 1				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 2				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 3				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 4				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 5				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 6				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 7				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 8				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 9				
DZ17VSA361BA	34.2	17.5	208-1-60	22.7	25	135	CLASSROOM 10				

1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING & ACCESSORIES FOR USE WITH R410A REFRIGERANT.

				COIL APDF, "				
MARK	MFR	MODEL	AIRFLOW	WG	SERVICE	REMARKS		
CC 70-1	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 1	1-7		
CC 70-2	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 2	1-7		
CC 70-3	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 3	1-7		
CC 70-4	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 4	1-7		
CC 70-5	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 5	1-7		
CC 70-6	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 6	1-7		
CC 70-7	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 7	1-7		
CC 70-8	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 8	1-7		
CC 70-9	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 9	1-7		
CC 70-10	DAIKIN	CAPEA3026B4	1010 CFM	0.19	CLASSROOM 10	1-7		
NOTES:								

EACH FURNACE. 3. FURNISH & INSTALL CONDENSATE PUMP IN EACH ENCLOSURE. 4. CHANGE MOTOR CONNECTION TO NEW HIGHER SPEED TAP C TO MAINTAIN AIRFLOW WITH INCREASED AIR

PRESSURE DROP FROM NEW MERV13 2" FILTERS AND COIL. 5. OUTDOOR AIR SHALL BE UPDGRADED TO 2019 STANDARD WITH DCV/ECONOMIZER.

CLASSROOM TITLE 24 MINIMUM OA 345 CFM, DCV MINIMUM OA 135 CFM. TEACHER ROOM TITLE 24 MINIMUM OA 290 CEM. DCV MINIMUM OA 90 CEM.

6. PROVIDE CONDENSATE PUMP WITH EACH NEW COOLING COIL. SEE PLANS FOR CD PIPE ROUTING.
7. MOUNT COOLING COIL PER DETAIL D/M-4.1

VENTILATION RATING PROCEDURE									
					DESING	OCCUPANCY			
			VACANT	OCCUPIED	OSA	SENSOR			
DOM NAME	Area	ASHRAE 62.1 OCCUPANCY	OSA (MIN)	OSA (MAX)	(MIN/MAX)	(Y/N)			
CLASSROOM	897	62-Educational Facilities - Classrooms Age 9 Plus	135	341	150/350	Y			
CLASSROOM	897	62-Educational Facilities - Classrooms Age 9 Plus	135	341	150/350	Y			
CLASSROOM	900	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y			
CLASSROOM	897	62-Educational Facilities - Classrooms Age 9 Plus	135	341	150/350	Y			
OFFICES	528	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y			
CLASSROOM	900	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y			
CLASSROOM	901	62-Educational Facilities - Classrooms Age 9 Plus	136	343	150/350	Y			
ACHER ROOM	576	62-Office Buildings - Breakrooms	87	288	100/300	Y			
CLASSROOM	898	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y			
CLASSROOM	900	62-Educational Facilities - Classrooms Age 9 Plus	135	342	150/350	Y			
RECEPTION	384	62-Educational Facilities - Libraries	102	102	105/105	N			
NURSE	123	62-Office Buildings - Office Space	19	19	25/25	N			
COPY RM	186	62-Office Buildings - Office Space	28	28	30/30	N			
ONFERENCE	138	62-Office Buildings - Office Space	21	21	25/25	N			
OFFICE	68	62-Office Buildings - Office Space	11	11	25/25	N			
VESTIBULE	19	62-Office Buildings - Main Entry Lobbies	3	10	25/25	N			
CORRIDOR	779	62-General - Corridor	117	117	125/125	N			
CORRIDOR	451	62-General - Corridor	68	68	75/75	N			
BAND ROOM	978	62-Educational Facilities - Classrooms Age 9 Plus	147	372	150/375	Y			
SHOP	1971	62-Educational Facilities - Classrooms Age 9 Plus	296	749	300/750	Y			
OFFICE	259	62-Office Buildings - Office Space	39	39	50/50	N			
OFFICE	315	62-Office Buildings - Office Space	48	48	50/50	N			
PRACTICE 2	66	62-Office Buildings - Office Space	10	10	25/25	N			
PRACTICE 1	66	62-Office Buildings - Office Space	10	10	25/25	N			
	2161	62-Educational Facilities - Classrooms Age 9 Plus	325	822	325/825	Y			

# Applicable Code: 2019 CBC

MEP Componet Anchorage N All mechanical, plumbing, and approved construction docum displacement requirements p

- 16 Chapters 13, 26, and 30: 1. All permanent equipm 2. Temporary, movable utility services such as connections except plu
- 3. Temporary, movable feet or more above the restrained in a manner

The following mechanical and demonstrate design compliar connections provided betweer connections must allow mover

- 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.

CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

А	AIR TERMINAL SCHEDULE (EXCEPT AS NOTED)								
RG		RETURN GRILLE	50F - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM GRID						
SDG		SPIRAL DUCT SUPPLY GRILLE	SERIES S301FS: ALUMINUM DUCT GRILLE, WHITE POWDER COATED FINISH, 3/4" BLADE SPACING; DIRECT MOUNT TO SPIRAL DUCT; PROVIDE WITH AIR SCOOP. INSTALL IN 45 DEGREE UNLESS OTHERWISED NOTED.						
CR	2	CEILING RETURN	50F - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM GRID						
EG	<u> </u>	EXHAUST GRILLE	50F - 1/2" x 1/2" x 1/2" EGGCRATE, ALUMINUM GRID						
NC	NOTES: 1. ADAPTER NEEDED FOR TRANSITION FROM SQUARE NECK TO ROUND DUCT. <u>2. SIZE (NECK/FACE) TYPE</u> CFM (NO. OF THROW)								

02/05/2020	Revised: 02/14/2020
<u>Note</u>	
d electrical components shall be anchored and installed per t nents. The following components shall be anchored or braced prescribed in the 2019 CBC Sections 1617A.1.18 through 161	he details on the DSA- 1 to meet the force and 7A.1.26 and ASCE 7-
nent and components.	
or mobile equipment that is permanently attached (e.g. hard v s electricity, gas or water. "Permanently attached" shall includ lugs for 110/220 volt receptacles having a flexible cable.	wired) to the building de all electrical
or mobile which is heavier than 400 pounds or has a center one adjacent floor or roof level that directly support the componer approved by DSA.	of mass located 4 ent is required to be
d electrical components shall be positively attached to the str nce with the references noted above. These components sha en the component and associated ductwork, piping, and cond ement in both trasverse and longitudinal directions:	ucture but need not Il have flexible uit. Flexible

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

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 2019 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., 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 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 MPX MDX PP E Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM #) #OPM-0043-13

> APPLICABLE GOVERNING CODES: 2019 CALIFORNIA BUILDING CODE 2019 CALIFORNIA ELECTRICAL CODE 2019 CALIFORNIA MECHANICAL CODE 2019 CALIFORNIA PLUMBING CODE 2019 CALIFORNIA ENERGY CODE 2019 CALIFORNIA FIRE CODE 2019 CALIFORNIA GREEN BUILDING STANDARDS

![](_page_15_Figure_35.jpeg)

<b>MECHAN</b>										
ABBREVIATION	DESCRIPTION									
	EQUIPMENT TYPE									
	DETAIL / DRAWING NUMBER SHEET NUMBER									
SA OR OA	SECTION THRU SUPPLY AIR OR OUTSIDE AIR DUCT									
RA	SECTION THRU RETURN AIR									
EXH	SECTION THRU EXHAUST AIR									
	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 @ 48" AFF MAX TO TOP									
	CO2 SENSOR									
	PRESSURE SENSOR									
AP	ACCESS PANEL									
POC										
POD										
ВНР	BRAKE HORSEPOWER									
SSD										
SCD										
AFC										
CR	CLASSROOM									
BDD	BACKDRAFT DAMPER									
RAD										
KO/KL	REFRIGERANT SUCTION / REFRIGERANT LIQUID									

	MECHANICAL SHEET LIST
M-1.1	MECHANICAL SCHEDULES & LEGENDS
MD-2.1	DEMOLITION MECHANICAL FLOOR PLAN - MAKER SPACE AND BAND ROOM
MD-2.2	DEMOLITION MECHANICAL FLOOR PLAN - MUSIC CLASSROOM
MD-2.3	DEMOLITION MECHANICAL FLOOR PLAN - ANNEX
MD-3.1	DEMOLITION MECHANICAL ROOF PLAN - ANNEX
M-2.1	MECHANICAL FLOOR PLAN - MAKER SPACE AND BAND ROOM
M-2.2	MECHANICAL FLOOR PLAN - MUSIC CLASSROOM
M-2.3	MECHANICAL FLOOR PLAN - ANNEX
M-3.1	MECHANICAL ROOF PLAN - ANNEX
M-4.1	MECHANICAL DETAILS
M-4.2	MECHANICAL DETAILS
M-4.3	MECHANICAL DETAILS
M-5.1	CONTROL DIAGRAMS
M-5.2	CONTROL DIAGRAMS

UP THRU ROOF

UTR

![](_page_15_Picture_38.jpeg)

![](_page_16_Figure_1.jpeg)

![](_page_16_Figure_2.jpeg)

![](_page_16_Figure_3.jpeg)

# **GENERAL NOTES**

- A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, **REFER TO SHEET M-1.1** 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, ETC. 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
- F PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS. G ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL
- H TEMPORARY CAP EXISTING OPEN DUCTS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.

WORKERS, THE STAFF, AND THE PUBLIC.

- J DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- K DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- L SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE OPM-0043-13
- M 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 OR FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

# **DEMOLITION SHEET NOTES**

- (1) DEMOLISH THERMOSTAT. SEE PLANS FOR NEW THERMOSTATS.
- 2 DEMOLISH FURNACE & COMBINATION FLUE. SAD FOR ROOF PATCHING WORK.
- 3 DEMOLISH GAS PIPING BRANCH TO FURNACE IN ELECTRICAL ROOM.
- (4) DEMOLISH MANUAL DAMPER AND OUTSIDE AIR DUCT TO MOXING BOX. IN PREPARATION OF NEW OA DAMPER.
- 5 RETURN DUCT TO REMAIN.
- 6 DEMOLISH GAS PIPING IN CLASSROOM & CAP EXISTING GAS PIPE OUTSIDE. PATCH WALL SAD
- 7 DEMOLISH CD PIPING. PREPARE CD PIPE ABOVE FLOOR FOR NEW CONNECTION. SEE SHEET M-2.1 FOR NEW WORK.
- 8 EXISTING SMOKEETER AIR CLEANER, CEILING EXHAUST GRILLES AND ROOF MOUNTED EXHAUST FANS TO REMAIN.
- 9 DEMOLISH SUPPLY AIR DIFFUSERS AND MANUAL VOLUME DAMPERS. TYP. 8.

KEYPLAN

![](_page_16_Figure_28.jpeg)

![](_page_16_Picture_29.jpeg)

ers\mquevedo@costaengineers.com.rvt 1126/202 6:25:49

![](_page_17_Figure_1.jpeg)

![](_page_17_Figure_2.jpeg)

# **GENERAL NOTES**

- A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1
  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, ETC.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
- F PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
- G ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
- H TEMPORARY CAP EXISTING OPEN DUCTS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
- J DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- K DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- L SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE OPM-0043-13
- M 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 OR FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

# **DEMOLITION SHEET NOTES**

1	DEMOLISH (E) FURNACE , SEE SHEET M-2.2 FOR NEW WORK.
2	DEMOLISH (E) CONDENSING UNIT, EXISTING DUCTWORK TO REMAIN. SEE SHEET M-2.2 FOR NEW FURNACE WORK
3	DEMOLISH FLUE. PATCH ROOF. DEMOLISH GAS PIPING AS SHOWN.
4	RECOVER REFRIGERANT. DEMOLISH REFRIGERANT LINES AND COOLING COIL.
5	CUT AND REMOVE SECTION OF DUCT ON FLOOR TO MAKE ROOM FOR NEW UNIT BASE AND NEW ECONOMIZER. CLEAN AND PREPARE CLOSET FOR INSTALLATION OF NEW FAN/COIL, UNIT MOUNTING BASE, EXTERNAL FILTER RACK, CUBE ECONOMIZER.
6	DEMOLISH CONDENSATE DRAIN PIPING
7	DEMOLISH ABANDONED OA DUCTWORK. EXISTING OVERHEAD SUPPLY DUCT AND COMBUSTION AIR LOUVER TO REMAIN.
8	DEMOLISH EXISTING THERMOSTAT.
9	DEMOLISH INSULATION ON WALL IN LIEU OF CLEANING. CLEAN CLOSETS. CLEAN AND REFURBISH LOUVERS TO LIKE NEW CONDITION.

KEYPLAN

![](_page_17_Figure_18.jpeg)

![](_page_17_Picture_19.jpeg)

![](_page_18_Figure_0.jpeg)

![](_page_18_Picture_16.jpeg)

![](_page_19_Figure_0.jpeg)

![](_page_19_Picture_13.jpeg)

![](_page_20_Figure_1.jpeg)

# **1 MECHANICAL FLOOR PLAN - MAKER SPACE AND BAND ROO** 1/8" = 1'-0"

## A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1 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, ETC. 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 F PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS. G ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC. H TEMPORARY CAP EXISTING OPEN DUCTS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION. J DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW. K DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW. L SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE OPM-0043-13 M 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 OR FIELD INSPECTOR OF THE GOVERNING AUTHORITY. SHEET NOTES (1) INTAKE LOUVER IN WALL. SAD FOR LOUVER DETAIL. LOUVER SHALL NOT INTERFERE WITH EXISTING SHEAR WALL. (2) INSTALL GRAVITY RELIEF ON ROOF PER DETAIL M-4.2 (3) INSTALL UPRIGHT FAN/COIL AS SHOWN IN DETAIL M-4.1 (4) INSTALL HORIZONTAL FAN/COIL AS SHOWN IN DETAIL M-4.1 5 INSTALL DUCTWORK AS SHOWN IN DETAIL M-4.3 A M-4.2 (6) INSTALL HEAT PUMP AS SHOWN IN DETAIL F M-4.2 (7) REFRIGERANT PIPE THRU WALL PER DETAIL 8 SLEEVED UNDERGROUND REFRIGERANT PIPING PER G DETAIL G M-4.2

9 CONNECT NEW CD PIPING TO EXISTING ADJACENT CD PIPE ABOVE FLOOR.

(10) CD PIPING TO DRYWELL PER DETAIL

B M-4.3

**GENERAL NOTES** 

KEYPLAN

![](_page_20_Figure_6.jpeg)

![](_page_20_Picture_7.jpeg)

![](_page_21_Picture_1.jpeg)

![](_page_21_Picture_2.jpeg)

1 MECHANICAL FLOOR PLAN - MUSIC CLASSROOM

# **GENERAL NOTES**

- A. FOR MECHANICAL GENERAL NOTES, LEGENDS, AND SYMBOLS, REFER TO SHEET M-1.1 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, ETC. 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 F PATCH ALL WALLS, CEILINGS, ROOF AND OTHER SURFACES TO MATCH EXISTING CONDITIONS.
- G ASBESTOS CONTAINING PRODUCTS MAY BE PRESENT IN THE EXISTING BUILDING CONSTRUCTION. IF SUSPECT MATERIALS ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE FOR INSTRUCTIONS PRIOR TO PROCEEDING WITH ADDITIONAL WORK. THE CONTRACTOR SHALL IMMEDIATELY POST NOTICES AND TAKE PRECAUTIONS NECESSARY TO ENSURE THE HEALTH AND SAFETY OF ALL WORKERS, THE STAFF, AND THE PUBLIC.
- H TEMPORARY CAP EXISTING OPEN DUCTS DURING CONSTRUCTION. PREPARE DUCT FOR RECONNECTION.
- J DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- K DEMO AND REMOVE ALL CONTROLS CONDUCTORS, CONDUITS AND ROOF JACKS AND PREPARE FOR NEW.
- L SUPPORT AND BRACING OF ALL PIPING AND DUCTWORK SHALL BE IN ACCORDANCE WITH THE OPM-0043-13
- M 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 OR FIELD INSPECTOR OF THE GOVERNING AUTHORITY.

# SHEET NOTES

1) INSTALL NEW T'STAT & CO2 SENSOR.

- (2) INSTALL NEW FC MAKE CONNECTIONS TO EXISTING DUCTWORK. SEE DETAIL
- (3) INSTALL NEW HP AS SHOWN IN DETAIL M-4.2
- (4) INSTALL NEW REFRIGERANT LINES. ROUTE THRU WALL AS SHOWN IN DETAIL
- 5 INSTALL NEW CONDENSATE PIPING. ROUTE THRU WALL AND TERMINATE IN NEW DRY WELL. SEE BM-4.3
- 6 INSTALL 2" DUCT LINER BOARD ON WALL IN LIEU OF INSULATION.

![](_page_21_Figure_24.jpeg)

![](_page_21_Figure_25.jpeg)

![](_page_21_Picture_26.jpeg)

![](_page_22_Figure_0.jpeg)

![](_page_22_Picture_18.jpeg)

![](_page_23_Figure_0.jpeg)

![](_page_23_Picture_12.jpeg)

![](_page_24_Figure_0.jpeg)

![](_page_24_Picture_5.jpeg)

![](_page_25_Figure_0.jpeg)

![](_page_25_Picture_2.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_26_Picture_4.jpeg)

![](_page_27_Figure_0.jpeg)

![](_page_27_Picture_5.jpeg)

# Fan Coil Unit with DX heating, DX Cooling, Economizer

- 1. System Overview
- b. EMS unitary controller will be connected to a wall mounted electronic zone temperature sensor with integral relative humidity sensor and CO2 sensor.
- c. Electronic zone temperature sensor shall have a touch screen LCD interface which includes: 1) digital pushbuttons for warmer/cooler setpoint control; 2) visual display of room temperature, room humidity, room CO2 and ambient OSA temperature; and 3) digital pushbutton after-hours override timer control, with user adjustable duration. The after-hours override duration shall have the ability to be limited from the front-end.
- 2. Unit Fan Operation a. When the zone is in Occupied Mode or in Afterhours Mode, the fan shall run continuously.
- b. During the Unoccupied Mode as determined by EMS time schedule, the unit fan cycles with demand and the temperature is controlled by the unoccupied space temperature heating and cooling setpoints.
- 3. Minimum Outdoor Air Ventilation a. During Occupied Mode or Afterhours Mode, the economizer damper shall be commanded 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. 4. Automatic Demand Reduction Controls a. EMS shall be programmed with capability to implement centralized demand shed for all non-critical zones upon call for
- 5. Zone Pre-Occupancy Purge d. The EMS shall schedule the zone to be in Occupied Mode one hour prior to the actual time of anticipated occupancy.
- 6.Heating operation a. The controller compares the heating setpoint with the space temperature and determines a need-heating control signal to
- maintain room setpoint. b. Economizer to be commanded to Min CFM setting during heating mode.
- 7.Cooling operation a. The controller compares the cooling setpoint with the space temperature and determines a need-cooling signal. b. The first stage of cooling will enable the economizer to provide free cooling for as long as possible.
- c. The second stage will enable the compressor(s) to maintain room setpoint. 8.Fault Detection Diagnostics a. The EMS DDC Controller shall monitor the following economizer actuator Fault Detection Diagnostic conditions and
- broadcast results via EMS network:
- i. Temperature Sensor Failure/Fault ii. Economizer not economizing when enabled
- iii. Economizer economizing when disabled
- iv. Economizer damper modulation failure v. Excess outdoor air
- 9. Monitoring The following conditions shall be monitored and displayed at EMS Operator Workstation/Graphical User Interface:
- a. Supply air temperature.
- b. Room temperature. c. Room CO2 concentration.
- d. Current mode (heating/cooling/fan).
- e. Supply air temperature f. Current command status of fan, economizer, compressor(s).
- g. Run time meter on fan.
- h. Fan Status thru Current Switch. i. Economizer actuator feedback status.

WIRING BY EMS CONTRACTOR.

![](_page_28_Picture_25.jpeg)

![](_page_28_Picture_48.jpeg)

B SCALE: NONE

# GAS FIRE FURNACE w/ ECONOMIZER & DEMAND CONTROL VENTILATION

![](_page_28_Figure_52.jpeg)

![](_page_28_Picture_53.jpeg)

![](_page_29_Figure_1.jpeg)

# SYMBOLS LIST

- 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 FOUIPMENT MANUFACTURER
- MOTOR DISCONNECT SWITCH; HORSEPOWER RATED, NON FUSE COMBINATION MAGNETIC MOTOR STARTER & MOTOR CIRCUIT PROTECTOR
- MAGNETIC MOTOR STARTER
- VARIABLE FREQUENCY DRIVE, FURNISHED BY MECHANICAL, INSTALLED & CONNECTED COMPLETE BY ELECTRICAL
- MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
- MOTOR WITH FLEXIBLE CONDUIT CONNECTION AND DISCONNECT LINE VOLTAGE MOTOR RATED TOGGLE SWITCH INSTALLED AT EQPT SHOWN
- TRANSFORMER CONCRETE PULLBOX, SIZE AS REQUIRED OR SHOWN - CHRISTY OR EQUAL WITH LABELED LID PER USE
- COPPER GROUND ROD
- FLUSH CEILING MOUNTED JUNCTION BOX, U.O.N.
- FLUSH WALL MOUNTED JUNCTION BOX, UP 18" U.O.N. 20A 3PG 125V DUPLEX RECEPTACLE, UP 18" U.O.N.
- 20A 3PG 125V DUPLEX RECEPTACLE, WEATHERPROOF, UP 18" U.O.N. 20A 3PG 125V DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER
- TYPE, UP 18" U.O.N. 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
  - 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 DOWN
- G #4/0 COPPER GROUNDING ELECTRODE CONDUCTOR, U.O.N.
  - MECHANICAL EQUIPMENT DESIGNATION SEE MECHANICAL PLANS
  - NUMBERED SHEET NOTE
  - UTILITY METER
  - CURRENT TRANSFORMERS
  - CIRCUIT BREAKER. NUMBER INDICATES 30A 3-POLE
  - FEEDER SIZE <u>SEE</u> POWER SINGLE LINE DIAGRAMS & FEEDER SCHEDULE

# ABBREVIATIONS

- AFF ABOVE FINISHED FLOOR
  - ABOVE FINISHED GRADE
  - ELECTRICAL CONTRACTOR
  - ENERGY MANAGEMENT SYSTEM
  - EXISTING EQUIPMENT TO BE RELOCATED
  - EXISTING EQUIPMENT TO BE DISCONNECTED AND REMOVED
  - GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE
  - LOW VOLTAGE
  - MAIN CIRCUIT BREAKER
- N.E.C. NATIONAL ELECTRICAL CODE
- O.F.C.I. OWNER FURNISHED, CONTRACTOR INSTALLED
- S.A.D. SEE ARCHITECTURAL DRAWINGS
- STC SIGNAL TERMINAL CABINET

  - VAV BOX, SEE MECHANICAL DIVISION DRAWINGS FOR LOCATIONS. PROVIDE TOGGLE TYPE DISCONNECT SWITCH
  - WEATHER PROOF, NEMA 3R
- WPIU WEATHER PROOF WHILE IN USE

# **GENERAL NOTES**

- 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.
- 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.
- . PROVIDE PULLROPE IN ALL EMPTY CONDUITS THROUGHOUT THE PROJECT.
- 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.
- 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. 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 EOUIPMENT LOCATIONS.
- COORDINATE TRENCHING WITH OWNER AND OTHER TRADES BEFORE BEGINNING WORK.

PRIOR TO BID.

- 3. ALL CONDUIT PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS SHALL BE SEALED AND EOUIPPED 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. 0. THE CONTRACTOR SHALL VERIFY ALL CEILING TYPES BEFORE ORDERING OF LUMINAIRE(S). ALSO VERIFY THAT ALL FEATURES CALLED FOR IN LUMINAIRE DESCRIPTIONS ON THE LUMINAIRE SCHEDULE ARE INCLUDED WITH CATALOG NUMBERS LISTED ON THE LUMINAIRE SCHEDULE WHEN LUMINAIRE ORDERS ARE PLACED, AND ARE INCLUDED AS PART OF THE LIGHTING SUBMITTALS FOR THIS PROJECT IF A DISCREPANCY EXISTS, CONTACT THE ARCHITECT AND ELECTRICAL ENGINEER FOR CLARIFICATION
- 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.
- 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.
- 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.
- 14. UNLESS OTHERWISE NOTED, ALL WORK SHOWN ON DRAWINGS IS NEW AND TO BE PROVIDED AND INSTALLED COMPLETE UNDER THIS CONTRACT.
- 5. ALL EQUIPMENT GROUNDING SHALL CONFORM TO ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LATEST EDITION.
- L6. 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.
- 17. 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. 18. ALL CONDUIT SHALL BE CONCEALED, UNLESS OTHERWISE NOTED.
- 19. 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.
- 20. EQUIPMENT OVERLOADS AND FUSES SHALL BE PROVIDED AND INSTALLED AS PER NAME PLATE ON THE EQUIPMENT ACTUALLY PROVIDED.
- 21. THE CONTRACTOR SHALL PAY FOR ALL REQUIRED PERMITS AND INSPECTION FEES. 22. THE CONTRACTOR SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- 23. ALL EXIT SIGNS SHALL COMPLY WITH THE RELEVANT PORTIONS OF SECTIONS 1008 AND 1013 OF THE 24. ALL MECHANICAL DIVISION EQUIPMENT LOW VOLTAGE CONTROL WIRING AND RACEWAY SHALL BE PROVIDED AND INSTALLED AS SPECIFIED IN MECHANICAL DIVISION U.O.N.
- 25. COORDINATE INSTALLATION OF ALL RECESSED LUMINAIRE(S) WITH MECHANICAL DIVISION PRIOR TO INSTALLATION OF HVAC DUCTS AND SPRINKLER HEADS. ENSURE AFTER INSTALLATION OF LUMINAIRE(S) THAT THERE IS NO CONTACT BETWEEN DUCTS AND LUMINAIRE(S) TO AVOID VIBRATION IN LUMINAIRE(S).
- 26. 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.
- PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR ALL BRANCH CIRCUITS FEEDING OUTLETS AS NOTED ON THE DRAWINGS.
- 28. 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. 29. 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. 30. 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.
- 31. 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.
- 32. ALL LOCATIONS OF BARE METAL SURFACE MOUNTED CONDUIT, BOXES, PANEL COVERS, 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 EXISTING STRIPING 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.
- . 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.
- 34. 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.
- 35. TWO OR THREE DIFFERENT PHASES SUPPLIED BY A 3-PHASE PANEL MAY SHARE A SINGLE NEUTRAL ONLY IF CIRCUIT POSITIONS ARE ADJACENT IN THE PANEL. PROVIDE COMMON HANDLE-TIE ON BREAKERS FOR MULTI-WIRE BRANCH CIRCUITS, WITH COMMON NEUTRAL, PER NEC REQUIREMENTS.
- 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.
- 37. 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.

# LIST OF DRAWINGS

- E-0.1 SYMBOLS LIST, GENERAL NOTES & LIST OF DRAWINGS
- E-1.2 70's WING ANNEX SITE PLAN POWER
- E-2.1 BAND AND MAKER SPACE DEMO PLANS POWER E-2.3 70's WING ANNEX DEMO PLAN - POWER

E-7.1 DETAILS

- E-3.1 BAND AND MAKER SPACE FLOOR PLANS POWER E-3.2 MUSIC CLASSROOM DEMO & FLOOR PLANS - POWER
- E-3.3 70's WING ANNEX FLOOR PLAN POWER E-5.1 SINGLE LINE DIAGRAM - POWER & PANEL SCHEDULES

![](_page_29_Picture_102.jpeg)

![](_page_30_Figure_0.jpeg)

![](_page_31_Figure_1.jpeg)

![](_page_31_Figure_2.jpeg)

# BAND ROOM AND MAKER SPACE DEMO PLAN - POWER SCALE: 1/8" = 1'-0"

1 E-2.1

![](_page_31_Picture_7.jpeg)

![](_page_31_Figure_8.jpeg)

![](_page_32_Figure_0.jpeg)

![](_page_32_Picture_4.jpeg)

	BAND ROOM & N	/IAKER SPACE	MECHANI	CAL EQUIP	MENT - E	ELECTRI	CAL FEEI	DER SCHED
FEEDER TAG	FEEDER	PANEL	#	ELEC	CTRICAL	RATING	iS	NOTES
-	-	-	-	Voltage	Phase	MCA	MOCP	-
HP 27-1	(2) #8 + (1) #10G. IN 3/4" C.	(E) DP1	25/27	208	1	29.1	35	
HP 37-1	(2) #8 + (1) #10G. IN 3/4" C.	(E) DP1	26/28	208	1	29.1	35	
FC 27-1	(2) #6 + (1) #8G. IN 3/4" C.	(E) DP1	29/31	208	1	32	35	1
FC 37-1	(2) #8 + (1) #10G. IN 3/4" C.	(E) DP1	30/32	208	1	32	35	
Notes:								

<u>Notes:</u> 1. WIRE SIZES ADJUSTED FOR VOLTAGE DROP.

![](_page_33_Figure_3.jpeg)

![](_page_33_Figure_4.jpeg)

# BAND ROOM AND MAKER SPACE FLOOR PLAN - POWER SCALE: 1/8" = 1'-0"

NUMBERED SHEET NOTES
1 PROVIDE (4) 35A/2P AND (1) 20A/1P CIRCUIT BREAKERS NEW MECHANICAL UNITS AND NEW SERVICE OUTLET. MA AIC RATING AND MANUFACTURER OF EXISTING BREAKERS
<ul> <li>2 RISE UP EXTERIOR WALL OUT OF EXISTING PANEL WITH CONDUIT PAINTED TO MATCH ADJACENT SURFACES AND PENETRATE BUILDING EAVE. SEAL PENETRATION WEATHI TIGHT. SEE 6/E-7.1. CONTINUE ACROSS ROOF AND DOV</li> </ul>
OPPOSITE EXTERIOR WALL TO MECHANICAL UNIT DISCON SWITCH SHOWN. <u>SEE</u> 5/E-7.1 AND ELECTRICAL FEEDER SCHEDULE ON THIS SHEET.
CONDUIT PAINTED TO MATCH ADJACENT SURFACES. PEN EXTERIOR WALL NEAR CEILING HEIGHT AND CONTINUE O INTERIOR CEILING SURFACE TO NEW CEILING MECHANIC SEAL WALL PENETRATION WEATHER TIGHT. CONNECT CO TO NEW 2-POLE MOTOR RATED SWITCH. <u>SEE</u> ELECTRICA FEEDER SCHEDULE ON THIS SHEET.
4 PROVIDE HEAVY DUTY FUSED DISCONNECT SWITCH WITH CONDUIT AND WIRE CONNECTION FROM DISCONNECT TO MECHANICAL UNIT. SIZE DISCONNECT FUSES PER MECHA UNIT MANUFACTURER'S NAMEPLATE SPECIFICATION.
<ul> <li>5 PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFI RECEPTACLE WITH LATCHING AND LOCKABLE COVER.</li> <li>6 DISE UD EXTERIOR WALL OUT OF EXISTING DANEL WITH</li> </ul>
CONDUIT PAINTED TO MATCH ADJACENT SURFACES AND PENETRATE BUILDING EAVE. SEAL PENETRATION WEATH TIGHT. <u>SEE</u> 6/E-7.1. CONTINUE ACROSS ROOF AND DOV OPPOSITE EXTERIOR WALL TO SERVICE OUTLET SHOWN.
7 PROVIDE FEEDER FOR NEW BAND ROOM HVAC UNIT. PAIL MATCH ADJACENT SURFACES. CONNECT COMPLETE TO NU DISCONNECT SWITCH. <u>SEE</u> ELECTRICAL EQUIPMENT FEEL SCHEDULE ON THIS SHEET FOR CONDUIT AND WIRE SIZE
QUANTITY. 8 PROVIDE NEMA 3R CANOPY MOUNTED PULLCAN. SIZE PER 9 PENETRATE EXTERIOR WALL AND CONTINUE ON INTERIOF SURFACE TO NEW MECHANICAL UNIT. SEAL EXTERIOR W
PENETRATION WEATHER TIGHT.
GENERAL SHEET NOTES
<ol> <li>CONTRACTOR SHALL FIELD LOCATE, IDENTIF PROTECT IN PLACE ALL EXISTING UTILITIES WITHIN PROJECT SCOPE.</li> </ol>
KEYPLAN

![](_page_33_Picture_7.jpeg)

NORTH

![](_page_33_Picture_8.jpeg)

TDSON MS HVAC SYSTEM ASSESSMENT - 220064\\_Admin. & Library

![](_page_34_Figure_1.jpeg)

MUSIC CLASSROOM DEMO PLAN - POWER SCALE: 1/8" = 1'-0"

![](_page_34_Figure_3.jpeg)

MUSIC CLASSROOM FLOOR PLAN - POWERSCALE:1/8" = 1'-0"

DEMOLITION SHEET NOTES
1 EXISTING HVAC UNIT AT THIS LOCATION TO BE REMO DISCONNECT EXISTING POWER CIRCUITRY FROM UNI EXISTING DISCONNECT SWITCH AND REMOVE ASSOC WIRING AND CONDUIT BACK TO SOURCE. ABANDON EXISTING CONDUIT CONCEALED IN WALLS OR FLOOR
2 EXISTING HVAC UNIT AT THIS LOCATION TO BE REMO DISCONNECT EXISTING POWER CIRCUITRY FROM UNI EXISTING DISCONNECT SWITCH AND REMOVE ASSOC WIRING BACK TO SOURCE. PRESERVE EXISTING CON REUSE. <u>SEE</u> NOTE 4.
3 PROVIDE SURFACE WALL MOUNTED GUTTER FOR NEW CONDUITS AND WIRING. CUT AND PATCH WALL TO T CONDUIT AND WIRING FROM PANEL TO GUTTER. PAI PATCH WORK TO MATCH EXISTING WALL.
4 INTERCEPT EXISTING CONDUIT REMAINING FROM DE PHASE WITH SURFACE MOUNTED WEATHER-PROOF JU BOX. PROVIDE 3/4" CONDUIT FROM JUNCTION BOX T SERVICE RECEPTACLE. <u>SEE</u> NOTE 5.
5 PROVIDE NEW SERVICE OUTLET ADJACENT TO NEW H UTILIZE EXISTING CONDUIT REMAINING FROM DEMO PHASE AND NEW JUNCTION BOX TO ROUTE NEW CIRC RECEPTACLE. <u>SEE</u> PANEL SCHEDULE ON E-5.1.

- 6 PROVIDE HEAVY DUTY FUSED DISCONNECT SWITCH WITH FLEX CONDUIT AND WIRE CONNECTION FROM DISCONNECT TO NEW HVAC UNIT. SIZE DISCONNECT FUSES PER HVAC UNIT MANUFACTURER'S NAMEPLATE SPECIFICATION.
- PROVIDE WALL MOUNTED CONDUIT FOR NEW HVAC UNITS, PAINTED TO MATCH ADJACENT SURFACES. MOUNT CONDUIT HIGH ON WALL. CONDUIT AND WIRE SIZES AND QUANTITIES AS FOLLOWS:
   A = (2) 1" C. WITH (2) #4 + (1) #8G. IN EACH
- B = (1) 1" C. WITH (2) #4 + (1) #8G.8 SPLICE AND EXTEND CIRCUITRY CALLED FOR IN NOTE 7 TO NEW
- HVAC UNIT AS SHOWN.(9) SEAL EXTERIOR WALL PENETRATION WEATHER-TIGHT. PAINT
- EXTERIOR CONDUIT TO MATCH ADJACENT SURFACES.
   REMOVE EXISTING 40A/2P CIRCUIT BREAKERS FORMERLY SERVING REMOVED OUTDOOR CONDENSING UNITS AND RETURN TO THE DISTRICT. REPLACE WITH (2) 70A/2P CIRCUIT BREAKERS FOR NEW MECHANICAL UNITS. MATCH AIC RATING AND MANUFACTURER OF EXISTING BREAKERS CURRENTLY IN PANEL. SEE E-5.1.

![](_page_34_Figure_11.jpeg)

![](_page_34_Figure_12.jpeg)

![](_page_34_Figure_13.jpeg)

![](_page_34_Picture_14.jpeg)

2 E-3.2

![](_page_34_Picture_15.jpeg)

![](_page_35_Figure_0.jpeg)

FAG F	EEDER	PANEL	#	ELEC	CTRICAL	RATING	iS	NOTES
-		-	-	Voltage	Phase	MCA	MOCP	-
(2	2) #8 + (1) #10G. IN 3/4" C.	LLA	18/20	208	1	32	35	
(2	2) #12 + (1) #12G. IN 3/4" C.	LLA	22/24	208	1	8	15	
				_	-			
(2	2) #8 + (1) #10G. IN 3/4" C.	LLA	26/28	208	1	29.1	35	
(2	2) #12 + (1) #12G. IN 3/4" C.	LLA	25/27	208	1	8	15	
(2	2) #8 + (1) #8G SEE PLAN FOR CONDUIT SIZE	LLA	1/3	208	1	22.7	25	1
(2	2) #8 + (1) #8G SEE PLAN FOR CONDUIT SIZE	LLA	5/7	208	1	22.7	25	1
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	9/11	208	1	22.7	25	
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	13/15	208	1	22.7	25	
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	17/19	208	1	22.7	25	
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	21/23	208	1	22.7	25	
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	2/4	208	1	22.7	25	
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	6/8	208	1	22.7	25	
(2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	10/12	208	1	22.7	25	
) (2	2) #10 + (1) #10G SEE PLAN FOR CONDUIT SIZE	LLA	14/16	208	1	22.7	25	
				ELEC		RATING	iS	
				Voltage	Phase	WATTS	MOCP	
(2	2) #12 + (1) #12G. IN 3/4" C.	LLA	29	115	1	52W	-	

OTES	NUMBERED SHEET NOTES	KEYPLAN
LL HOMERUN TO PANEL 'LAA'.	<ol> <li>PROVIDE RECEPTACLE FOR CONDENSATE PUMP. MOUNT DIRECTLY UNDER EXISTING HVAC UNIT DISCONNECT SWITCH.</li> <li>PROVIDE HEAVY-DUTY NEMA 3R FUSED DISCONNECT SWITCH FOR NEW MECHANICAL UNIT. SIZE FUSE PER MANUFACTURER'S RECOMMENDATION. CONNECT CIRCUITRY SHOWN ON THIS SHEET'S ELECTRICAL FEEDER SCHEDULE COMPLETE TO NEW MECHANICAL UNIT, VIA FUSED DISCONNECT.</li> <li>SURFACE MOUNT CONDUIT TO EXTERIOR WALL, ABOVE WINDOWS AND DOORS. PAINT CONDUIT TO MATCH ADJACENT SURFACES.</li> <li>PROVIDE NEMA-3R SURFACE MOUNTED PULLBOX. SIZE PULLBOX PER NEC. PAINT PULLBOX TO MATCH ADJACENT SURFACES.</li> <li>CONNECT COMPLETE TO PANEL LLA. SEE ELECTRICAL EQUIPMENT FEEDER SCHEDULE ON THIS SHEET FOR CONDUIT AND CIRCUITRY INFORMATION.</li> <li>ROUTE BRANCH CONDUIT AND WIRE ABOVE CEILING.</li> <li>TRANSITION CONDUIT UP EXTERIOR WALL WITH CONDUIT PAINED TO MATCH ADJACENT SURFACES AND PENETRATE EXTERIOR WALL ABOVE CEILING. SEAL PENETRATION WEATHER-TIGHT. CONTINUE CONDUIT RUN ABOVE CEILING.</li> <li>PROVIDE NEW SURFACE MOUNTED WEATHERPROOF GFI RECEPTACLE WITH LATCHING AND LOCKABLE COVER.</li> </ol>	

![](_page_35_Picture_5.jpeg)

TDSON MS HVAC SYSTEM ASSESSMENT - 220064\\_Admin. & Library

						()	E) F	PAN	EL	DP	1				
	VOLTS:	120 / 208					_							MAIN B	RKR: EXISTING
	PHASE:	3 PH		* = NEW	CIRCUIT BREA	KER. MATC	HAIC RATING	SAND MANU	JFACTURER (	OF EXISTING B	REAKERS.			FEEDEF	R: EXISTING
	WIRE:	4 W												CONDU	IT: EXISTING
	BUSSING:	250A												MOUNT	ED: SURFACE
	POLES:	42P												AIC RAT	EXISTING
	LOAD DESC		TYPE	Α	В	С	BRKR.	CKT.	CKT.	BRKR.	Α	В	С	TYPE	LOAD DESCRIPTION
SPARE							90/2	1	2	90/2					SPARE
SPARE							-	3	4	-			]		SPARE
SPARE							90/2	5	6	90/2					SPARE
SPARE					] '		-	7	8	_		]			SPARE
SPARE							100/2	9	10	90/2			]		SPARE
SPARE							-	11	12	-					SPARE
SPARE					] '		100/2	13	14	100/2		ľ			SPARE
SPARE							-	15	16	-			]		SPARE
SPARE							100/2	17	18	100/2		L			SPARE
SPARE					] '		-	19	20			[			SPARE
SPARE							20/1	21	22	50/2		4.16	I	M	(E) PORTABLE RESTROOM
SPARE							20/1	23	24	-		L	4.16	M	1
HP 27-1			Н	2.42	] '		*35/2	25	26	*35/2	2.42			Н	HP 37-1
1			Н		2.42		-	27	28	-		2.42	]	Н	1
FC 27-1			Н			2.66	*35/2	29	30	*35/2			2.66	Н	FC 37-1
1			Н	2.66	] '		-	31	32		2.66			Н	1
EXTERI	OR SERVICE	OUTLET	R		0.18		*20.1	33	34				]		SPACE
SPAC	E							35	36						SPACE
SPAC	E				] '			37	38						SPACE
SPAC	E							39	40				]		SPACE
SPAC	E							41	42						SPACE
			·	5.08	2.60	2.66					5.08	6.58	6.82		
			,							•				-	
					CONN.	DEN	AND			Ī					
		EIVIAND LOAD SUIV			KVA	FAC	TOR	DEMAN	NURVA						
TYPE "M": NON-CONTINUOUS / MISC. LOADS 8.				8.32	10	0%	8.	32	1			PH/	ASE A:	10.17 <b>KVA</b>	
	TYPE "L": LIGHTING / CONTINUOUS LOADS 0.00			0.00	12	5%	0.	00				PH/	ASE B:	9.18 <b>KVA</b>	
	TYPE "R": RE	ECEPTACLES (FIR	ST 10KV	۹)	0.18	10	0%	0.	18				PH/	ASE C:	9.48 KVA
	TYPE "R": RE	CEPTACLES (OV	ER 10KVA	A)	0.00	50	)%	0.	00						
	TYPE "H": HV	AC / MECHANICAL	L LOADS		20.33	10	0%	20	.33						84.73 MAX AMPS / PHASE
			Т	OTALS	28.83			28	.83	]					

				DA			00							
			(E)	PAI	NEL	. BL	_DG	55						
<b>VOLTS:</b> 120 / 240 V											MAIN BRKR: EXISTING			
PHASE: 1 PH	* = NEW CIRCUIT BREAKER. MATCH AIC RATING AND MANUFACTURER OF EXISTING BREAKERS.										FEEDER: EXISTING			
<b>WIRE</b> : 3 W	CONDU									CONDUIT: EXISTING				
BUSSING: 400A											MOUNTED: SURFACE			
POLES: 42P											AIC RATING: EXISTING			
LOAD DESCRIPTION	TYPE	Α	В	BRKR.	CKT.	СКТ.	BRKR.	Α	в	TYPE	LOAD DESCRIPTION			
(E) LIGHTING	L	1.00		20/1	1	2	20/1	1.00		L	(E) LIGHTING			
(E) LIGHTING	L		1.00	20/1	3	4	20/1		1.00	L	(E) LIGHTING			
(E) LIGHTING	L	1.00		20/1	5	6	20/1	1.00		L	(E) LIGHTING			
(E) LIGHTING	L		1.00	20/1	7	8	20/1		1.00	L	(E) LIGHTING			
(E) LIGHTING	L	1.00		20/1	9	10	20/1	1.00		L	(E) LIGHTING			
(E) LIGHTING	L		1.00	20/1	11	12	20/1		1.00	L	(E) LIGHTING			
(E) LIGHTING	L	1.00		20/1	13	14	20/1	1.00		L,	(E) LIGHTING			
(E) LIGHTING	L		1.00	20/1	15	16	20/1		1.00	L	(E) LIGHTING			
(E) LIGHTING	L	1.00		20/1	17	18	20/1	0.72		R	(E) RECEPTACLES			
(E) LIGHTING	L		1.00	20/1	19	20	20/1		0.72	R	(E) RECEPTACLES			
(E) RECEPTACLES	R	0.72		20/1	21	22	20/1	0.72		R	(E) RECEPTACLES			
(E) LIGHTING	L		1.00	20/1	23	24	20/1		1.00	L	(E) LIGHTING			
(E) LIGHTING	L	1.00		20/1	25	26	20/1	0.72		R	(E) RECEPTACLES			
(E) TIME CLOCK	М		0.20	20/1	27	28	20/1		0.72	R	(E) RECEPTACLES			
(E) RECEPTACLES	R	0.72		20/1	29	30	20/1	0.18		R	EXTERIOR SERVICE OUTLET			
EXTERIOR SERVICE OUTLET	R		0.18	20/1	31	32	*70/2		5.08	Н	HP 60-2 & FC 60-2			
(E) LOAD	М	1.00		20/1	33	34	-	5.08		н	1			
HP 60-1 & FC 60-1	н		5.08	*70/2	35	36	40/2		2.08	М	(E) LOAD			
1	н	5.08		-	37	38	-	2.08		M	1			
(E) LOAD	М		2.08	40/2	39	40	40/2		2.08	M	(E) LOAD			
1	M	2.08		-	41	42	-	2.08		M	1			
		15.60	13.54					15.58	15.68					
				4			L			+				
		CONN.	DEN	IAND	DEMAN		1							
DEMAND LOAD SUMMARY	KVA	FAC	TOR	DEMA	ND KVA									
TYPE "M": NON-CONTINUOUS / MISC. LC	13.68	10	0%	13	.68				PH/	ASE A: 31.19 KVA				
TYPE "L": LIGHTING / CONTINUOUS LOA	21.00	12	5%	26	.25				PH/	ASE B: 29.23 KVA				
TYPE "R": RECEPTACLES (FIRST 10KV	5.40	10	0%	5.	40									
TYPE "R": RECEPTACLES (OVER 10KV	0.00	50	)%	0.	00									
TYPE "H": HVAC / MECHANICAL LOADS		20.33	10	0%	20	.33					259.89 MAX AMPS / PHASE			
L	TOTALS:	60.41			65	.66	1							

					PA	NE	LL	AA					
VOLTS:	120 / 208											MAIN B	<b>RKR:</b> 225A/3P
PHASE:	3 PH											FEEDE	R: SEE SINGLE LINE
WIRE:	4 W											CONDU	IT: SEE SINGLE LINE
BUSSING:	225A											MOUNT	ED: SURFACE
POLES:	42P											AIC RA	TING: 22k
LOAD DESCRIPTIO	ON TYPE	Α	В	С	BRKR.	CKT.	CKT.	BRKR.	Α	В	С	TYPE	LOAD DESCRIPTION
CU 70-1	Н	1.89			25/2	1	2	25/2	1.89		_	Н	CU 70-7
1	Н		1.89		-	3	4	-		1.89		Н	1
CU 70-2	Н			1.89	25/2	5	6	25/2			1.89	Н	CU 70-8
1	H	1.89			-	7	8	-	1.89			Н	1
CU 70-3	Н		1.89		25/2	9	10	25/2		1.89		н	CU 70-9
1	Н			1.89	-	11	12	-	1		1.89	Н	1
CU 70-4	H	1.89	]	ļ	25/2	13	14	25/2	1.89		,	н	CU 70-10
1	Н		1.89		-	15	16	-		1.89		н	1
CU 70-5	Н	-		1.89	25/2	17	18	35/2			2.66	Н	FC 70-1
1	Н	1.89		ļ	-	19	20	-	2.66			н	1
CU 70-6	Н		1.89		25/2	21	22	15/2		0.67	]	н	FC 70-2
1	H			1.89	-	23	24	-			0.67	Н	1
HP 70-2	Н	0.67			15/2	25	26	35/2	2.66	Ī		н	HP 70-1
1	н		0.67		-	27	28	-		2.66	]	н	1
EF 70-1	Н			0.05	20/1	29	30	20/1			0.90	н	CONDENSATE PUMPS
EXTERIOR SERVICE OUTLE	TS R	0.90			20/1	31	32	20/1	0.90	-		н	CONDENSATE PUMPS
SPACE						33	34						SPACE
SPACE						35	36		Ī				SPACE
SPACE				<u>.</u>		37	38						SPACE
SPACE						39	40						SPACE
SPACE						41	42		1				SPACE
		9.12	8.22	7.61					11.89	8.99	8.01		
					-							-	
DEMAND	LOAD SUMMARY		CONN. KVA	DEN		DEMAN	ND KVA						
			0.00	10	0%	0	00	+			БЦ		21.01 <b>KVA</b>
			0.00	10	5%	0.	00						
			0.00	12	0%	0.	90 90						
	ACLES (FIRST TURV	A)	0.90	50	10 /0 10/	0.	00				FU	AJE U.	
	CLES OVER TUKY	A)	52.04	10	0.00/	U. 50	04						
TTPE H": HVAC/M	ECHANICAL LOADS	TOTALC	52.94	10	0 %	52	.94	-					
	53.84			53	.64	]							

COPPER FEEDER SCHEDULE									
FEEDER	CONDUIT	CONDUCTORS							
2254	3"	(4) 250 KCMIL & (1) #3 G. (ADJUSTED FOR VOLTAGE DRC							
	FEEDER TAG KEY								
	—— INDICATES DOI —— WIRE QUANTIT —— FEEDER AMPAC	JBLE NEUTRAL Y ITY							

![](_page_36_Figure_5.jpeg)

# 70's WING ANNEX SINGLE LINE DIAGRAM - POWER 1 SCALE: NO SCALE

![](_page_36_Picture_7.jpeg)

![](_page_37_Figure_1.jpeg)

![](_page_37_Figure_2.jpeg)

![](_page_37_Figure_3.jpeg)

![](_page_37_Figure_4.jpeg)

STATE OF CALIFORNIA
<b>Mechanical Systems</b>

NRCC-MCH-E									CALI
CERTIFICATE OF COMPLIANCE									
This document is used to de path outlined in <u>\$140.4</u> , or g	monstrate complianc <u>§141.0(b)2</u> for altera	e for mechar tions.	nical systen	ns that are within th	e scop	e of the permit application	on and are	demonstra	ting comp
Project Name:	DAV	DSON MIDDL	E SCHOOL: E	Band and Maker Space	Repor	t Page:			
Project Address:				280 WOODLAND AVE	Date P	Prepared:			
A. GENERAL INFORMATIO	ON								
01 Project Location (city)			SAN R	AFAEL	04	Total Conditioned Floor	<sup>-</sup> Area		
02 Climate Zone			2	2	05	Total Unconditioned Flo	oor Area		
03 Occupancy Types Withi	n Project:				06	# of Stories (Habitable .	Above Grad	de)	
Office (B)		🔲 Retail (I	M)			Non-refrigerated Warel	nouse (S)		
Hotel/ Motel Guest Roo	School	(E)			Healthcare Facility (I)				
High-Rise Residential (F	R-2/R-3)	🛛 Relocat	able Class	Bldg (E)		Other (write in)			
B. PROJECT SCOPE									
This table Includes mechani <u>§140.4</u> , or <u>§141.0(b)2</u> for a	cal systems or compo Iterations.	nents that ai	re within th	ne scope of the perm	nit appl	lication and are demonst	trating com	pliance usi	ng the pre
	01			0	)2				0
Air	System(s)			Wet System	Comp	onents		Dr	y System (
Heating Air Syst	tem			Water Economizer	r			Air Econ	omizer
Cooling Air Syst	em			Pumps				Electric I	Resistance
Mechai	nical Controls			System Piping				Fan Syste	ems
Mechanical Cor or new)	ntrols (existing to rem	ain, altered		Cooling Towers				Ductwor	<sup>.</sup> k (existing
				Chillers				Ventilati	on
				Boilers				Zonal Sy	stems/ Te

<b>Registration Number:</b>	

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: Project Name: 280 WOODLAND AVE Date Prepared: Project Address:

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

y system Equipmer	nt Efficiency (other than Package Ter		oners (PIAC) and I	Package Terminal	Heat Pumps (PTHP	<i>'</i> 11
01	02	03	04	05	06	07
			Heati	ng Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit
FC 27-1 / HP 27-1	<65,000		HSPF	8.2	10.5	SEER
FC 37-1 / HP 37-1	<65,000		HSPF	8.2	10.5	SEER

G. PUMPS This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is us exempt from t	sed to demonstrate o these requirements o	complianc and do not	e with pr t need to	escriptive requirements foui be included in Table H.	nd in <u>§140</u>	<u>).4(c)</u> , <u>§</u>	<u>140.4(e)</u> c	and <u>§140.4(m)</u> for fan :	systems. Fan systems	
System Name:	FC 27-1 / HP 27-1	Econor	nizer:1	NA: Special OA filtration	Economizer Des Controls:			Designed per §140.4(e)trols:(m)		
01	02		03	04			05	06	07	
Fan Name or	Name or			Maximum Design Supply				Fan Power Pressure		
Item Tag	Fan Functio	n	Qty (CFM) HP Uni		Unit <sup>2</sup>	Design HP	Device			
SF	Supply		1	1800		ВНР		0.77	NA	
Total Sys	tem Design Supply A	M):	1800	Total S	System I (B)HP:	Design	0.77	Maximum System Power (B)HP		

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF	COMPLIANCE								
Project Name:	DAVIDSC	N MIDDLE SCH	OOL: Band and	Maker Space	e Report Pa	ge:			
Project Address:	:		280 WO	ODLAND AVI	E Date Prep	ared:			
J. VENTILATIO	ON AND INDOOR AIR QUALITY								
	04		05				06		
System Name	FC 37-1 / HP 37-1	System Desi Airfl	gn OA CFM ow <sup>1</sup>	834	System Transfer	Design Air CFM	0	Air Filtration p Provide	
08	09	10	11	12	13	14	15		
	Mechanical Ventila	tion Required	3 <sup>3</sup>		Exh.	Vent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people <sup>5</sup>	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sen <u>§120.</u>	
Maker Space	Lecture / nostcecondary classroom	2047 470144			778	0	0	DCV	
		2047.470144			//8	0	0	Occ Sens	
Office	Office space	287 828848			12.2	0	0	DCV	
Once	Once space	207.020040			43.2	0	0	Occ Sens	
Maker	Occupiable storage rooms for dry	82 / 90/185			12.4	0	0	DCV	
Storage	materials	02.490403			12.4	0	0	Occ Sens	
17	Total System Required Min OA CFM				834	18	Ventilation for this	System Complie	

<sup>1</sup> FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system <sup>2</sup> Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : 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.

<sup>3</sup> Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

<sup>4</sup> See Standards Tables 120.1-A and 120.1-B. <sup>5</sup> For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code.

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003 Schema Version: rev 20200601

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION
NRCC-MCH-E
g compliance using the prescriptive
(Page 1 of 12)
12/21/2021
4113.289477
0
1
See Table J
the prescriptive path outlined in
03
ystem Components
izer
istance Heat
s
existing to remain, altered or new)
ms/ Terminal Boxes

CERTIFICATE O	F COMP	LIANCE														NRCC-MCH
Project Name:				DAVIDSON	MIDDLE	SCHOOL: Band	and Ma	aker Space	Repor	t Page	:					(Page 2 of 1
Project Addres	s:					280	WOOD	LAND AVE	Date I	Prepare	ed:					12/21/20
C. COMPLIA	NCE R	ESULTS														
Table C will in NOT COMPLY	dicate " or "Cl	if the project o OMPLIES with	data inp Except	out into the co ional Conditior	mplian ns" refe	ce document i er to Table D., d	s comp or the t	liant with able indica	mech ated d	nanica as not	l requirements compliant for	s. This i guidar	table is not ed nce.	itable b	by the user. If this to	able says "DOES
01		02		03		04		05			06		07		08	09
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2,</u> <u>§120.2,</u> <u>§140.4(f)</u>	AND	Ventilatio §120.1	on	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(I)</u>	AND	Cooling Towers <u>§110.2(e)2</u>	Compliance Resul
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table	e J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes		AND		AND	Yes	AND		COMPLIES
				Mandatory	Measu	ires Complian	ce (See	Table Q fo	or De	etails)				COMP	LIES	,
D. EXCEPTIO	NAL C	ONDITIONS														
This table is a	uto-fill	ed with unedit	table co	omments beca	use of s	selections mad	de or de	ata entered	d in t	ables t	throughout th	e form.				
E. ADDITION	IAL RE	MARKS														
This table incl	ludes re	emarks made	by the <sub>l</sub>	permit applica	nt to th	e Authority H	aving J	urisdiction								
This table incl	ludes re	emarks made	by the J	permit applica	nt to th	e Authority H	aving J	urisdiction								

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CALIFORNIA ENERGY COMMISSION

	INKCC-IVICH-E										
		(Page 4 of 12)									
		12/21/2021									
0	8	09									
cooling	g Mode										
Minii Effici Requir ables Title	mum ency ed per 110.2 / e 20	Design Efficiency									
14	1.0	18									
14	1.0	18									
servin	g only pro	ocess loads are									
:	Con	stant Volume									
		08									
Drop A	Adjustme	nt - Table 140.4-B									
	Design De	Airflow through evice (CFM)									
		NA									
Fan		1.69									

Registration Provider: Energysoft Report Generated: 2021-12-21 16:01:52

ALIFORNIA ENERGY COMMISSION									
NRCC-MCH-E									
	(Page 7 of 12)								
	12/21/2021								
0	7								
n per <u>§120</u>	.1(c) and <u>§141.0(b)2</u> <sup>2</sup>								
ded per <u>§1</u>	20.1(c) (NR and								
Hotel/I	Votel))								
1	6								
ensor Controls per <u>§120.1(d)3</u> , 0.1(d)5, and <u>§120.1(e)3</u> <sup>6</sup>									
v	NA: Not required per §120.1(d)3								
nsor NA: Not required space type									
V	NA: Not required per								

sor	NA: Not required space type
	NA: Not required per §120.1(d)3
sor	NA: Not required space type
	NA: Not required per §120.1(d)3
sor	NA: Not required space type
es?	Yes

Registration Provider: Energysoft Report Generated: 2021-12-21 16:01:52

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA

NRCC-MCH-E

Mechanical Systems

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-12-21 16:01:52

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

CERTIFICATE OF COMPLIANCE DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: Project Name: 280 WOODLAND AVE **Date Prepared**: Project Address:

H. FAN SYSTI	EMS & AIR ECONO	MIZERS									
System Name:	FC 37-1 / HP 37-1	Econon	nizer:1	NA: Special OA filtration	Econon Contro	i <b>izer</b> Designed p bls:		d per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume	
01	02		03	04		05		06	07	08	
Fan Name or	n Name or Fan Function Qty			Maximum Design Supply	Airflow				Fan Power Pressure Drop Adjustment - Table 140.4-B		
Item Tag			Qty	(CFM)	CFM)		2	Design HP	Device	Design Airflow through Device (CFM)	
SF	Supply		1	1800		BHP		0.77	NA	NA	
Total Syst	stem Design Supply Airflow (CFM):		M):	1800 Total Sy		ystem Design (B)HP:		0.77	Maximum System Fan Power (B)HP:	1.69	

<sup>1</sup> FOOTNOTES: Computer room economizers must meet requirements of <u>§140.9(a)</u> and will be documented on the NRCC-PRC-E document. <sup>2</sup> The unit used for HP must be consistent for all fans within a system.

# I. SYSTEM CONTROLS

This table is used to demons space conditioning systems.	strate complia	nce with mand	atory controls in <u>§110.2</u> ana	<u>§120.2</u> and p	rescriptive con	trols in <u>§140.4(f)</u> and (n) or	requirements i	n <u>§141.0(b)2E</u> for altered
01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft <sup>2</sup> )	Thermostats <u>§110.2(b)</u> & (c) <sup>1</sup> , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset <u>§140.4(f)</u>	Window Interlocks per <u>§140.4(n)</u>
FC 27-1 / HP 27-1	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
FC 37-1 / HP 37-1	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
<sup>1</sup> FOOTNOTES: Gravity gas w	all heaters, gro	avity floor heat	ers, gravity room heaters, no	on-central elec	tric heaters, fir	eplaces or decorative gas ap	pliances, wood	d stoves are not required to

have setback thermostats. \*Notes: Controls with a \* require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d); EXCEPTION 1 to <u>§140.4(f)</u>

**Registration Number:** Registration Date/Time: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-12-21 16:01:52

STATE OF CALIFORNIA Mechanical Systems

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: Project Name: 280 WOODLAND AVE **Date Prepared**: Project Address: J. VENTILATION AND INDOOR AIR QUALITY <sup>6</sup> §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<sup>2</sup> or smaller, multipurpose rooms less than 1,000 ft<sup>2</sup>, 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). 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 <u>§120.3</u> and prescriptive requirements found in <u>§140.4(1)</u> for duct leakage testing. Duct Leakage Sealing The answers to the questions below apply to the following duct systems: FC 27-1 / HP 27-1 Duct leakage testing triggered for these systems? No 11 No The scope of the project includes only duct systems serving healthcare facilities 12 Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system. 13 Yes The space conditioning system serves less than 5,000 ft<sup>2</sup> of conditioned floor area. The <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system: 14 No

Outdoors In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces In an unconditioned crawl space n other unconditioned spaces The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos. 15 The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification 16 and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2. 17 Yes Duct system shall be sealed in acordance with the California Mechanical Code

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#### STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-E

CERTIFICATE OF COMPLIANCE

Project Name:

Project Address:

### CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page: 280 WOODLAND AVE Date Prepared:

## F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

This table is used <u>§140.4(b)</u> and <u>§1</u>	to demonstrate compliance <u>.</u> 1 <u>40.4(k)</u> or <u>§141.0(b)2</u> for al	for mechanical equipment with mandato Iterations.	ry requirements j	found in <u>§11</u>	<u>0.1</u> and <u>§1</u>	<u>10.2(a)</u> ana	l prescriptive	e requireme	nts found in	<u>§140.4(a)</u> ,
Dry System Equip	oment Sizing (includes air co	nditioners, condensers, heat pumps, VR	F, furnaces and u	unit heaters)						
01	02	03	04	05	06	07	08	09	10	11
					Equipme	ent Sizing pe	er Mechanic <u>§140.4</u> (a&b	al Schedule )	(kBtu/h)	
			Smallest Size	Hea	ating Outpu	t <sup>2,3</sup>	Cooling (	Dutput <sup>2,3</sup>	Load Calc	ulations <sup>3,4</sup>
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Available <sup>1</sup> <u>§140.4(a)</u>	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)
FC 27-1 / HP 27-1	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Load Controls	45.8	66	0	48.55	41.3	49.06	56.27
FC 37-1 / HP 37-1	Unitary Heat Pumps	Air-cooled, split (1phase)	NA: Load Controls	45.8	66	0	51.59	41.3	78.07	91.46

<sup>1</sup>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 <u>§140.4(a)</u>. Healthcare facilities are excepted.

<sup>2</sup>It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables. <sup>3</sup> If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

<sup>4</sup> Authority Having Jurisdiction may ask for load calculations used for compliance per <u>§140.4(b)</u>.

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# **Registration Number:**

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STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE Project Name:

ect Name:	DAVIDSON MIDDLE SCHOOL: Band and Maker Space	Report Page:
ect Address:	280 WOODLAND AVE	Date Prepared
ENTILATION AND INDOOR AIR QUAI	LITY	

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

This table occupanci outdoor ve	is used ies. For entilati	d to demons r alterations ion rates an	strate compliance with mandatory ventilation requirements in <u>§120.1</u> and <u>§120.2(e)3B</u> for all nonresidential, high-rise residential and hotel/motel s, only ventialtion systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required 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.
0.2		$\boxtimes$	Check this box if the project included Nonresidential or Hotel/Motel spaces
02			Check this box if the project included new or altered high-rise residential dwelling units.
03			Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per <u>§120.1(c)2</u> .

Nonresidential	and Hotel/ Motel Ventilation System	S										
	04		05				06	C	)7			
System Name	FC 27-1 / HP 27-1	System Desi Airfle	gn OA CFM ow <sup>1</sup>	453	System Transfer	Design Air CFM	0	Air Filtration per <u>§120</u> Provided per <u>§1</u> Hotel/	0.1(c) and §141.0(b)2 <sup>2</sup> 20.1(c) (NR and Motel))			
08	09	10	11	12	13	14	15	1	.6			
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	<mark>3</mark> <sup>3</sup>		Exh.	Vent per <u>§120.1(c)4</u>					
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	rrols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> <sup>6</sup>			
Music Storage	Occupiable storage rooms for dry	467 5			70.1	0	0	DCV	NA: Not required per §120.1(d)3			
Widsle Storage	materials	407.5			70.1	0			Ŭ	0	Occ Sensor	NA: Not required space type
Rand Room	Lactura / postsocondary classroom	1009			202	0	0	DCV	NA: Not required per §120.1(d)3			
Band Room		1008			365	0	0	Occ Sensor	NA: Not required space type			
Mach/El ac	All others	220			0	0	0	DCV	NA: Not required per §120.1(d)3			
IVIELIT ELEC	All others	220				0	U	Occ Sensor	NA: Not required space type			
17	Total System Required Min OA CFM				453	18	Ventilation for this S	System Complies?	Yes			

Registration Date/Time:

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STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

![](_page_38_Picture_81.jpeg)

L. DISTRIBUTION	(DUCTWORK	(and PIPING)				
The answers to the	questions bel	ow apply to the foll	owing duct systems:	FC 37-1 / HP 37-1	Duct leakage testing triggered for these systems?	No
11	No	The scope of the	project includes only	duct systems serving healthca	re facilities	
12	Yes	Duct system prov	vides conditioned air to	o an occupiable space for a co	nstant volume, single zone, space-conditioning system.	
13	Yes	The space condit	ioning system serves l	ess than 5,000 ft <sup>2</sup> of conditior	ed floor area.	
14	No	The <u>combined</u> su	rface area of the duct	s in the following locations is r	more than 25% of the total surface area of the entire duct	system:
			Outdoors			
			In a space directly un requirements of <u>§140</u>	der a roof that has a U-factor ( <u>.3(a)1B</u> or if the roof has fixe	greater than the u-factor of the ceiling, or if the roof does d vents or openings to the outside/ unconditioned spaces	not meet the
			In an unconditioned o	rawl space		
			In other unconditione	ed spaces		
15		The scope of the	project includes exter	nding an existing duct system,	which is constructed, insulated or sealed with asbestos.	
16		The scope of the and diagnostic te	project includes an ex sting in accordance w	isting duct system that is docu ith procedures in the Reference	umented to have been previously sealed as confirmed three the confirmed three three the confirmed three thre	ough field verification
17	Yes	Duct system shal	l be sealed in acordan	ce with the California Mechan	ical Code	
M. COOLING TOV	VERS					
This section does n	ot apply to thi	s project.				
<u></u>						
N. DECLARATION	OF REQUIRE	D CERTIFICATES C	OF INSTALLATION			

280 WOODLAND AVE Date Prepared:

DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page:

L	This section does not apply to this project.
Γ	N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
9	Selections have been made based on information provided in previous tables of this document. If any selection

Selections ho	ave been mad	le based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Tabl	e E Additiona	l Remarks.
These documents must be provided to the building inspector during construction and can be found online at				
https://www	.energy.ca.go	ov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/		
Voc	No	Form/Title	Field Inspector	
163	NO	romy nite	Pass	Fail
۲	$\bigcirc$	NRCI-MCH-01-E - Must be submitted for all buildings		

**Registration Number:** 

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![](_page_38_Picture_91.jpeg)

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CALIFORNIA ENERGY COMMISSION

![](_page_38_Picture_92.jpeg)

![](_page_38_Figure_93.jpeg)

NRCC-MCH	-E		CA
CERTIFICA	TE OF CO	MPLIANCE	
Project N	ame:	DAVIDSON MIDDLE SCHOOL: Band and Maker Space Report Page:	
Project A	ddress:	280 WOODLAND AVE Date Prepared:	
O. DECL	ARATIO	N OF REQUIRED CERTIFICATES OF ACCEPTANCE	
Selection These do https://v	is have be cuments vww.enei	een made based on information provided in previous tables of this document. If any selection needs t must be provided to the building inspector during construction and can be found online at rgy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/	to be changed, please explain why
Yes	No	Form/Title	Systems To Be Field Verif
۲	•	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.	
۲	0	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".	
$\bigcirc$		NRCA-MCH-04-A - Air Distribution Duct Leakage	
$\bigcirc$		NRCA-MCH-05-A - Air Economizer Controls	
$\bigcirc$	•	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to <u>§120.1(c)3</u> ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO <sub>2</sub> ) concentration setpoints.	
$\bigcirc$		NRCA-MCH-07-A Supply Fan Variable Flow Controls	
		NRCA-MCH-08-A Valve Leakage Test	

NRCA-MCH-11-A Automatic Demand Shed Controls NRCA-MCH-12-A FDD for Packaged Direct Expansion Units NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".

NRCA-MCH-09-A Supply Water Temperature Reset Controls

NRCA-MCH-10-A Hydronic System Variable Flow Controls

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## STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E				CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE				NRCC-MCH-E
This document is used to demonstrate compliance for path outlined in <u>§140.4</u> , or <u>§141.0(b)2</u> for alteration	or mechanical systems that are wi ns.	thin the scope of the permit application	on and are demonstra	nting compliance using the prescriptive
Project Name: DA	AVIDSON MIDDLE SCHOOL: Music Cla	ssroom Report Page:		(Page 1 of 10)
Project Address:	280 WOODLA	ND AVE Date Prepared:		12/21/2021
A. GENERAL INFORMATION				
01 Project Location (city)	SAN RAFAEL	04 Total Conditioned Floor	r Area	2968.259286
02 Climate Zone	2	05 Total Unconditioned Flo	oor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable )	Above Grade)	1
Office (B)	Retail (M)	Non-refrigerated Ware	house (S)	
□ Hotel/ Motel Guest Rooms (R-1) □	School (E)	Healthcare Facility (I)		
☐ High-Rise Residential (R-2/R-3)	Relocatable Class Bldg (E)	Other (write in)		See Table J
B. PROJECT SCOPE				
This table Includes mechanical systems or componer <u>§140.4</u> , or <u>§141.0(b)2</u> for alterations.	nts that are within the scope of th	e permit application and are demonst	trating compliance usi	ing the prescriptive path outlined in
01		02		03
Air System(s)	Wet S	ystem Components	Dr	y System Components
Heating Air System	Water Econ	omizer	Air Econ	omizer
Cooling Air System	Pumps		Electric	Resistance Heat
Mechanical Controls	System Pipi	ng	🛛 🛛 Fan Syst	ems
Mechanical Controls (existing to remain or new)	, altered 🛛 Cooling Tov	vers	Ductwor	rk (existing to remain, altered or new)

Chillers

Boilers

**Registration Number:** 

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## CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 10 of 12) 12/21/2021

in Table E Ada	litional Re	marks.
ied	Field In:	spector
ieu	Pass	Fail

STATE OF CALIFORNIA Mechanical Systems

RTIFICATE	OF COM	PLIANCE				NINCC-IVIN
oject Nam	ne:	DAVIDSON MIDDLE SCHOOL: Band an	nd Maker Space Report Page:		(F	Page 11 o
oject Addr	ress:	280 W	OODLAND AVE Date Prepared:			12/21/2
	RATION					
0	•	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acco automatically move to "Yes". If Chilled water Storage, Ice-ou External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, C Cryogenic or Encapsulated (Ice Ball) Systems are included ir move this form to 'Yes".	eptance NOTE: This form does not n-Coil Internal Melt, Ice-on-Coil Clathrate Hydrate Slurry (CHS), n the scope, permit applicant should			
	$\bigcirc$	NRCA-MCH-16-A Supply Air Temperature Reset Controls				
$\bigcirc$	۲	NRCA-MCH-17-A Condenser Water Temperature Reset Con	trols			
	$\bigcirc$	NRCA-MCH-18-A Energy Management Control Systems				
		NRCA-MCH-19-A Occupancy Sensor Controls				
$\bigcirc$						Г
	•	NRCA-MCH-20 Multi-Family Ventilation				L
DECLAR lections h ese docu	ATION have bee ments m	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> In made based on information provided in previous tables of sust be completed by a HERS Rater and provided to the build	f this document. If any selection needs to be ding inspector during construction. The fina	e changed, please explain why in Tab I documents must be created by a Hi	le E Additional ERS Provider's	Remar registry
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DECLAR DECLAR elections h pase docu tafts can b Yes	CATION Chave bee Iments m be found N	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> In made based on information provided in previous tables of pust be completed by a HERS Rater and provided to the build online at https://www.energy.ca.gov/title24/2019standard o NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be NRCV-MCH-24 Enclosure Air Leakaage Worksheet Note	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater	e changed, please explain why in Tab documents must be created by a Hi ntial_Documents/NRCV/	ele E Additional ERS Provider's Field Ins Pass	Remar registry spector Fai
DECLAR DECLAR dections h bese docu afts can b Yes	ATION Chave been ments m	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> <i>n</i> made based on information provided in previous tables of pust be completed by a HERS Rater and provided to the build online at https://www.energy.ca.gov/title24/2019standard o NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be NRCV-MCH-24 Enclosure Air Leakaage Worksheet No NRCV-MCH-27 High-rise Resdential NOTE: Must be c	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater completed by a HERS Rater	e changed, please explain why in Tab documents must be created by a Hi ential_Documents/NRCV/	ele E Additional ERS Provider's Field Ins Pass	Remar registry spector Fa
	CATION Chave bee Iments m be found N	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> In made based on information provided in previous tables of pust be completed by a HERS Rater and provided to the build online at https://www.energy.ca.gov/title24/2019standard o NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be NRCV-MCH-24 Enclosure Air Leakaage Worksheet No NRCV-MCH-27 High-rise Resdential NOTE: Must be c NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater completed by a HERS Rater st be completed by a HERS Rater	e changed, please explain why in Tab documents must be created by a Hi ential_Documents/NRCV/	ERS Provider's	Remar registry spector Fai
	ATION (	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> In made based on information provided in previous tables of pust be completed by a HERS Rater and provided to the build online at https://www.energy.ca.gov/title24/2019standard o NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be NRCV-MCH-24 Enclosure Air Leakaage Worksheet No NRCV-MCH-27 High-rise Resdential NOTE: Must be c NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater completed by a HERS Rater st be completed by a HERS Rater	e changed, please explain why in Tab documents must be created by a Hi ential_Documents/NRCV/	ele E Additional ERS Provider's Field Ins Pass	Remar registry spector Fai
	ATION Chave been ments methods found for the	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> <i>n made based on information provided in previous tables of</i> <i>nust be completed by a HERS Rater and provided to the build</i> <i>online at https://www.energy.ca.gov/title24/2019standard</i> o NRCV-MCH-04-H Duct Leakaage Test <i>NOTE: Must be</i> NRCV-MCH-24 Enclosure Air Leakaage Worksheet <i>NO</i> NRCV-MCH-27 High-rise Resdential <i>NOTE: Must be c</i> NRCV-MCH-32 Local Mechanical Exhaust <i>NOTE: Must be c</i> MEASURES DOCUMENTATION LOCATION <i>indicate where mandatory measures are documented in th</i>	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater completed by a HERS Rater st be completed by a HERS Rater and the plan set or construction documentation.	e changed, please explain why in Tab documents must be created by a Hi ntial_Documents/NRCV/	le E Additional ERS Provider's d Field Ins Pass	Remained Rem Remained Remained Remain Remained Remained R
	ATION Chave been ments method for the found of the found	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage OF REQUIRED CERTIFICATES OF VERIFICATION In made based on information provided in previous tables of pust be completed by a HERS Rater and provided to the build online at https://www.energy.ca.gov/title24/2019standard o NRCV-MCH-04-H Duct Leakaage Test NOTE: Must be NRCV-MCH-24 Enclosure Air Leakaage Worksheet No NRCV-MCH-27 High-rise Resdential NOTE: Must be o NRCV-MCH-32 Local Mechanical Exhaust NOTE: Must MEASURES DOCUMENTATION LOCATION indicate where mandatory measures are documented in the O1	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater completed by a HERS Rater st be completed by a HERS Rater en plan set or construction documentation.	e changed, please explain why in Tab documents must be created by a Hi intial_Documents/NRCV/	ele E Additional ERS Provider's d Field Ins Pass	Remar registry spector Fai
	ATION  ATION  ATORY  S used to  E with M	NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage <b>OF REQUIRED CERTIFICATES OF VERIFICATION</b> <i>n made based on information provided in previous tables of</i> <i>nust be completed by a HERS Rater and provided to the build</i> <i>online at https://www.energy.ca.gov/title24/2019standard</i> o NRCV-MCH-04-H Duct Leakaage Test <i>NOTE: Must be</i> NRCV-MCH-24 Enclosure Air Leakaage Worksheet <i>NU</i> NRCV-MCH-27 High-rise Resdential <i>NOTE: Must be c</i> NRCV-MCH-32 Local Mechanical Exhaust <i>NOTE: Must be c</i> NRCV-MCH-32 Local Mechanical Exhaust <i>NOTE: Must be c</i> <i>NECS</i> <b>MEASURES DOCUMENTATION LOCATION</b> <i>indicate where mandatory measures are documented in th</i> 01 andatory Measures documented through MCH	f this document. If any selection needs to be ding inspector during construction. The fina ds/2019_compliance_documents/Nonreside Form/Title completed by a HERS Rater OTE: Must be completed by a HERS Rater completed by a HERS Rater st be completed by a HERS Rater e plan set or construction documentation.	e changed, please explain why in Tab documents must be created by a Hi ntial_Documents/NRCV/	n document loo	Remar registry spector Fai

Registration Provider: Energysoft Report Generated: 2021-12-21 16:01:52

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2021-12-21 16:01:52

NRCC-MCH-E compliance using the prescriptive (Page 1 of 10) 12/21/2021 2968.259286 0 1 See Table J the prescriptive path outlined in 03 stem Components istance Heat existing to remain, altered or new) Zonal Systems/ Terminal Boxes

Ventilation

	al Sy	stems												CALIFORNIA FI	NFRGY COMMISSION
	F COMP	PLIANCE													NRCC-MCH-E
Project Name:	oject Name: DAVIDSON MIDDLE SCHOOL: Music Classroom Report Page: (Page									(Page 2 of 10)					
Project Addres	s:		280 WOODLAND AVE Date Prepared: 12							12/21/2021					
C. COMPLIA	NCE R	ESULTS													
Table C will in NOT COMPLY	dicate " or "C(	if the project c OMPLIES with	lata inp Except	out into the co ional Conditior	mplian ns" refe	ce document i er to Table D.,	s comp or the t	liant with mea table indicated	chanica I as not	al requirements compliant for	s. This t guidar	able is not ed nce.	itable b	y the user. If this to	able says "DOES
01		02		03		04		05		06		07		08	09
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilation <u>§120.1</u>	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3,</u> <u>§140.4(l)</u>	AND	Cooling Towers <u>§110.2(e)2</u>	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	Measu	ires Complian	ce (See	Table Q for D	etails)				COMP	LIES	
This tach/s is a			hable er					ata antonodia	tables	+					
This table is a	uto-JIII	ea with unealt		omments beca	use of s	selections mad	1e or ac	ata enterea in	tables	throughout the	e form.				
E. ADDITION	IAL RE	MARKS													
This table inc	ludes re	emarks made l	by the p	permit applica	nt to tł	he Authority H	aving J	urisdiction.							

Registration Provider: Energysoft Report Generated: 2021-12-21 15:42:38

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2021-12-21 15:42:38

## STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E	CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: DAVIDSON MIDDLE SCHOOL: Band and Maker Space	e Report Page: (Page 12 of 12)
Project Address: 280 WOODLAND AVE	Date Prepared: 12/21/2021
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and comple	ete.
Documentation Author Name: Matt Hargadon	Documentation Author Signature: Matt Hargadow
Company: Guttmann & Blaevoet Consulting Engineers	Signature Date: 12/21/2021
Address: 2351 Powell St	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133	Phone: 4156554000
<ul> <li>RESPONSIBLE PERSON'S DECLARATION STATEMENT</li> <li>I certify the following under penalty of perjury, under the laws of the State of California:         <ol> <li>The information provided on this Certificate of Compliance is true and correct.</li> <li>I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the buil</li> <li>The energy features and performance specifications, materials, components, and manufactured device of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li> <li>The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit a</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance is required to Responsible Designer Name:</li> </ol></li></ul>	Iding design or system design identified on this Certificate of Compliance (responsible designer) es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. th the building permit(s) issued for the building, and made available to the enforcement agency for all applicable be included with the documentation the builder provides to the building owner at occupancy.
Chris Del Core	
Company: Costa Engineers Inc.	Date Signed: 2021-12-21
Address: 3274 Villa Lane	License: M31600
City/State/Zip: Napa CA 94558	Phone: (707) 252-9177

gysoft

## **Registration Number:**

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

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STATE OF CALIFORNIA Mechanical Systems

CERTIFICATE OF COMPLIANCE

NRCC-MCH-E

Project Name:

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

93.18 109.06

41.3

2 of 10)	
1/2021	
ES .	
Results	
S	

Project Name:		DAVIDSON MIDDLE SCHOOL: Music Class	sroom Report Page	:					(F	Page 3 of 10)
Project Address:		280 WOODLAN	D AVE Date Prepa	red:						12/21/2021
F. HVAC SYSTEN	/I SUMMARY (DRY & WET	SYSTEMS)								
This table is used <u>§140.4(b)</u> and <u>§</u> 2	to demonstrate compliance , 1 <u>40.4(k)</u> or <u>§141.0(b)2</u> for al	for mechanical equipment with mandator terations.	ry requirements j	found in <u>§11</u>	<u>0.1</u> and <u>§1</u>	<u>10.2(a)</u> ana	l prescriptive	e requireme	nts found in	<u>§140.4(a)</u> ,
Dry System Equi	oment Sizing (includes air co	nditioners, condensers, heat pumps, VR	F, furnaces and u	init heaters)						
01	02	03	04	05	06	07	08	09	10	11
					Equipme	ent Sizing pe	er Mechanic <u>140.4</u> (a&b	al Schedule )	(kBtu/h)	
		Smallest Size	Smallest Size Heating Output <sup>2,3</sup>				Dutput <sup>2,3</sup>	Load Calc	ulations <sup>3,4</sup>	
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Available <sup>1</sup> §140.4(a)	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)

NA: Load Controls FC 60-1&2 / HP Unitary Heat Pumps Air-cooled, split (1phase) 91.6 66 0 81.55 60-1&2 <sup>1</sup>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 <u>§140.4(a)</u>. Healthcare facilities are excepted. <sup>2</sup>It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

<sup>3</sup> If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

<sup>4</sup> Authority Having Jurisdiction may ask for load calculations used for compliance per <u>§140.4(b)</u>. Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

Dry System Equip	ment Enciency (other than Package Termi		oners (PTAC) and	Package lerminal	neat Pumps (PTH	-11		
01	02	03	04	05	06	07	08	09
			Heati	ng Mode			Cooling Mode	
Name or Item Tag	Size Category (Btu/h)	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
FC 60-1&2 / HP 60-1&2	<65,000		HSPF	8.2	9	SEER	14.0	18

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Provider: Energysoft

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![](_page_39_Picture_46.jpeg)

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

Project Name:			DA	VIDSON MIDDLE SCHOOL: Mus	ic Classroom	n Repor	rt Page:		
Project Address:				280 WO	280 WOODLAND AVE Date Prepared:				
G. PUMPS									
This section do	oes not apply to this	s project.							
H. FAN SYSTE	EMS & AIR ECONO	MIZERS							
This table is us exempt from t	sed to demonstrate these requirements o	complianc and do not	e with pr t need to	escriptive requirements four be included in Table H.	nd in <u>§140.</u>	<u>4(c), §:</u>	<u>140.4(e)</u> (	and <u>§140.4(m)</u> for fan :	systems. Fan syste
System Name:	FC 60-1&2 / HP 60-1&2	Econor	nizer:1	NA: <=54 kBtu/h cooling	Econom Contro	izer ols:	Designe	ed per <u>§140.4(e)</u> and (m)	System Fan
01	02		03	04			05	06	07
U1	02		03	04	Airflow		05	06	07 Fan Power Press
01 Fan Name or Item Tag	02 Fan Functio	n	03 Qty	04 Maximum Design Supply (CFM)	Airflow	НР	05 Unit <sup>2</sup>	06 Design HP	07 Fan Power Press Device
U1 Fan Name or Item Tag SF	02 Fan Functio Supply	n	03 Qty 2	04 Maximum Design Supply (CFM) 2400	Airflow	HP	05 Unit <sup>2</sup> BHP	06 Design HP 0.54	07 Fan Power Press Device

## I. SYSTEM CONTROLS

01	02	03	04	05	06	07	0
System Name	System Zoning	Conditioned Floor Area Being Served (ft <sup>2</sup> )	Thermostats <u>§110.2(b)</u> & (c) <sup>1</sup> , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supp Temp. <u>§140</u>
C 60-1&2 / HP 60-1&2	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Inclu

have setback thermostats.

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003
	Schema Version: rev 20200601

Registration Date/Time:

Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE

STATE OF CALIFORNIA

Project Name:	DAVIDSON MIDDLE SCHOOL: Music Classroom	Report Pa
Project Address:	280 WOODLAND AVE	Date Prep

L. DISTRIBUTION		( and PIPING)							
The answers to the	e questions belo	ow apply to the follo	wing duct systems:	FC 60-1&2 / HP 60-1&2	Duct leakage testing triggered for these s				
11	No	The scope of the p	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system provi	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-condition						
13	Yes	The space condition	The space conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.						
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of total surface ar							
			Outdoors						
			In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditi						
			In an unconditioned of	crawl space					
			In other uncondition	ed spaces					
15		The scope of the p	project includes exter	nding an existing duct system, v	which is constructed, insulated or sealed with				
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as co and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.							
17	Yes	Duct system shall	be sealed in acordan	ce with the California Mechani	cal Code				
	-								

M. COOLING TOWERS This section does not apply to this project.

N. DECLAR	ATION OF R	EQUIRED CERTIFICATES OF INSTALLATION
Selections h These docur https://www	ave been maa ments must be w.energy.ca.ge	le based on information provided in previous tables of this document. If any selection needs to be changed, please explain v e provided to the building inspector during construction and can be found online at ov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/
Yes	No	Form/Title
۲	$\bigcirc$	NRCI-MCH-01-E - Must be submitted for all buildings

egistration Number:	Registration Date/Time:
A Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.0

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003	
	Schema Version: rev 20200601	
STATE OF CALIFORNIA		

<b>Mechanical Systems</b>	j	
NRCC-MCH-E		C
CERTIFICATE OF COMPLIANCE		
Project Name:	DAVIDSON MIDDLE SCHOOL: M	lusic Classroom Report Page:
Project Address:	280 W	OODLAND AVE Date Prepared:
DOCUMENTATION AUTH	DR'S DECLARATION STATEMENT	
I certify that this Certifica	te of Compliance documentation is accurate	and complete.
Documentation Author Name: Matt Hargadon		Documentation Author Signature: Matt Hargadon
Company: Guttmann & Blaevoet Consu	Iting Engineers	Signature Date: 12/21/2021
Address: 2351 Powell St		CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133		Phone: 4156554000
RESPONSIBLE PERSON'S I         I certify the following under penalt         1.       The information provid         2.       I am eligible under Divi         3.       The energy features an of Title 24, Part 1 and P         4.       The building design fea plans and specification         5.       I will ensure that a com inspections. I understand	<b>DECLARATION STATEMENT</b> <i>i</i> of perjury, under the laws of the State of California: ed on this Certificate of Compliance is true and correct. sion 3 of the Business and Professions Code to accept responsible d performance specifications, materials, components, and man art 6 of the California Code of Regulations. tures or system design features identified on this Certificate of a submitted to the enforcement agency for approval with this b pleted signed copy of this Certificate of Compliance shall be main and that a completed signed copy of this Certificate of Compliance and that a completed signed copy of this Certificate of Compliance and that a completed signed copy of this Certificate of Compliance	bility for the building design or system design identified on this Certificate of Compliance ( hufactured devices for the building design or system design identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance building permit application. ade available with the building permit(s) issued for the building, and made available to the ce is required to be included with the documentation the builder provides to the building
Responsible Designer Name: Chris Del Core		Responsible Designer Signature:

Responsible Designer Name: Chris Del Core	Responsible Designer Signature:
Company:	Date Signed:
Costa Engineers Inc.	2021-12-21
Address:	License:
3274 Villa Lane	M31600
City/State/Zip:	Phone:
Napa CA 94558	(707) 252-9177

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

## CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 4 of 10) 12/21/2021 ems serving only process loads are Type: Constant Volume 08 sure Drop Adjustment - Table 140.4-B Design Airflow through Device (CFM) tem Far 1.13

ments i	n <u>§141.0(b)2E</u> for altered
8	09
ly Air Reset ).4(f)	Window Interlocks per <u>§140.4(n)</u>
uded	Provided
s, wood	d stoves are not required to

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		NRCC-MCH-E
		(Page 7 of 10)
		12/21/2021
tems?		No
	<u>I</u>	-
system.		
entire du	ct system:	
roof doe	es not meet	the
ned space	es	
sbestos.		
asbestos. firmed th	rough field	verification
isbestos. firmed th	rough field	verification
isbestos. firmed th	rough field	verification
firmed th	nrough field	verification
isbestos. firmed th	rough field	verification
firmed th	nrough field	verification
firmed th	rough field	verification
in Tabla	rough field	verification
in Table	F Additiona	verification
in Table	E Additiona	verification
in Table	Field In	verification
in Table	Field In Pass	verification

STATE OF CALIFORNIA Mechanical Systems

wechanical systems			
NRCC-MCH-E			CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	DAVIDSON MIDDLE SCHOOL: Music Classroom	Report Page:	(Page 5 of 10)
Project Address:	280 WOODLAND AVE	Date Prepared:	12/21/2021

I. SYSTEM CONTROLS \*Notes: Controls with a \* require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d);

EXCEPTION 1 to <u>§140.4(f)</u> J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in <u>§120.1</u> and <u>§120.2(e)3B</u> for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventialtion 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. Check this box if the project included Nonresidential or Hotel/Motel spaces 02 Check this box if the project included new or altered high-rise residential dwelling units.

03		Check the box if the pro	ject is using na	atural ventilat	tion in any r	nonresiden	tial or hote	el/motel spaces to meet re	equired ventilation rate	s per <u>§120.1(c)2</u> .
Nonresidential	and Hotel/ N	Notel Ventilation System	IS							
	04			05				06	C	)7
			System Desi	gn OA CEM		Systom	Docign		Air Filtration per §120	0.1(c) and <u>§141.0(b)2</u> <sup>2</sup>
System Name	FC 60-	1&2 / HP 60-1&2	Airflo	ow <sup>1</sup>	977	Transfer	Air CFM	0	Provided per <u>§1</u> Hotel/	. <u>20.1(c)</u> (NR and Motel))
08		09	10	11	12	13	14	15	1	16
		Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	3 <sup>3</sup>		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Oce	cupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> <sup>6</sup>
Office >250		Office space	355 558201			52.2	0	0	DCV	NA: Not required per §120.1(d)3
sqft		Since space	555.556201			55.5	0	0	Occ Sensor	NA: Not required space type
Office <250		Office space	155 386524			72.2	0	0	DCV	NA: Not required per §120.1(d)3
sqft		Since space	155.580524			23.5	0	0	Occ Sensor	NA: Not required space type

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601 Registration Provider: Energysoft

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STATE OF CALIFORNIA	
Mechanical Systems	

Wieenanieur Systems			
NRCC-MCH-E			CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	DAVIDSON MIDDLE SCHOOL: Music Classroom	Report Page:	(Page 8 of 10)
Project Address:	280 WOODLAND AVE	Date Prepared:	12/21/2021

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selection: These doo https://w	s have be cuments /ww.ener	en made based on information provided in previous tables of this document. If any selection needs must be provided to the building inspector during construction and can be found online at gy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA,	to be changed, please explain why in Table E Ada /	litional Re	marks.
Yes	No	Form/Title	Systems To Be Field Verified	Field In Pass	spector Fail
٠	•	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.			
۲	0	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".			
$\bigcirc$		NRCA-MCH-04-A - Air Distribution Duct Leakage			
$\bigcirc$		NRCA-MCH-05-A - Air Economizer Controls			
$\bigcirc$	•	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to $\frac{120.1(c)3}{c}$ ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO <sub>2</sub> ) concentration setpoints.			
$\bigcirc$		NRCA-MCH-07-A Supply Fan Variable Flow Controls			
$\bigcirc$		NRCA-MCH-08-A Valve Leakage Test			
$\bigcirc$		NRCA-MCH-09-A Supply Water Temperature Reset Controls			
$\bigcirc$		NRCA-MCH-10-A Hydronic System Variable Flow Controls			
۲	$\bigcirc$	NRCA-MCH-11-A Automatic Demand Shed Controls			
$\bigcirc$		NRCA-MCH-12-A FDD for Packaged Direct Expansion Units			
$\bigcirc$		NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance			
$\bigcirc$	•	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in teh scope permit applicant should move this form to 'Yes".			

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003

Schema Version: rev 20200601

Report Generated: 2021-12-21 15:42:38

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 10 of 10) 12/21/2021 (responsible designer) of Compliance conform to the requirements e documents, worksheets, calculations, ne enforcement agency for all applicable owner at occupancy. 

Registration Provider: Energysoft

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Proiect Nan	ne:		LDA		SCHOOL: Music	Classroom	Report Pag	ze:				(P	age 6
Project Add	ress:				280 WOOI	DLAND AVE <b>E</b>	Date Prepa	ared:					12/21
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Music		Lecture/	oostsecondary classroom	2312.656262			878.8	0	0	DCV	NA	: Not ree <u>§120.1</u>	quireo 1 <u>(d)3</u>
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Storage	2	Occupiał	le storage rooms for dry materials	144.658299			21.7	0	0	DCV		: Not rec <u>§120.1</u>	quire <u>1(d)3</u>
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Registratio CA Building STATE OF CAL Mechar NRCC-MCH-E CERTIFICATI Project Nan Project Add O. DECLAI	is used age Sea age Sea n Numl g Energ iFORNIA Dical E OF CC ne: ress: RATIO	ber: y Efficience Systen DMPLIANC DMPLIANC NRCA- autom Extern Cryoge move t NRCA-	y Standards - 2019 Nonreside y Standards - 2019 Nonreside DS E DA QUIRED CERTIFICATES C MCH-15-A Thermal Energy atically move to "Yes". If Cl al melt, Ice Harvester, Brin- nic or Encapsulated (Ice Ba his form to 'Yes". MCH-16-A Supply Air Temp MCH-17-A Condenser Watt MCH-18-A Energy Manage MCH-19-A Occupancy Sens MCH-20 Multi-Family Vent MCH-21 Multi-Family Vent VCH-21 Multi-Family Vent MCH-21 Multi-Family Enve <b>2UIRED CERTIFICATES O</b> <i>e based on information proc</i> <i>completed by a HERS Rate</i> <i>at https://www.energy.ca</i> NRCV-MCH-04-H Duct Lea	ntial Compliance NIDSON MIDDLE DF ACCEPTAN Storage (TES) S nilled water Store e, Ice-Slurry, Eu all) Systems are perature Reset for er Temperature ment Control S ior Controls ilation Iope Leakage F VERIFICATIO wided in previous r and provided .gov/title24/20 kaage Test NOT	SCHOOL: Music 280 WOOL CE System Accepta 280 WOOL CE System Accepta 280 WOOL CE System Accepta 280 WOOL CONTROLS 280 WOOL 290 WOOL 200 WOO	ts found in § Registration Report Ve Schema Ve Schema Ve Classroom F DLAND AVE C ance NOTE: foil Internal I hrate Hydra te scope, pe ls	on Date/Ti ersion: 201 /ersion: rev Report Pag Date Prepa This form Melt, Ice- ate Slurry ermit appl	ime: 9.1.003 / 20200601 ge: ared: n does not on-Coil (CHS), icant shou con-Coil (CHS), icant shou election nu nstruction acuments/	eeds to be changed, plea	d in §140.4(I) for duct Regis Report Gene CALIFORI	Ieakage	Provider: 021-12-2 ERGY CO N (P ) (P ) (P ) (P ) (P) (P) (P) (P) (P)	Ene 1115 RCC age 12/2
Registratio CA Building STATE OF CAL Mechar NRCC-MCH-E CERTIFICATI Project Nan Project Add O. DECLAR O. DECLAR Selections These docu drafts can Yes	is used age Sea age Sea n Numl g Energ iFORNIA nical E OF CC ne: iress: RATIO	ber: y Efficience Systen DMPLIANC DMPLIANC DMPLIANC NRCA-	y Standards - 2019 Nonreside y Standards - 2019 Nonreside S E DA QUIRED CERTIFICATES C MCH-15-A Thermal Energy atically move to "Yes". If Cl al melt, Ice Harvester, Brinch nic or Encapsulated (Ice Ba chis form to 'Yes". MCH-16-A Supply Air Tempt MCH-17-A Condenser Wate MCH-17-A Condenser Wate MCH-18-A Energy Manage MCH-19-A Occupancy Sense MCH-20 Multi-Family Vent MCH-21 Multi-Family Vent MCH-21 Multi-Family Enve QUIRED CERTIFICATES O e based on information proc completed by a HERS Rate at https://www.energy.ca NRCV-MCH-04-H Duct Lea NRCV-MCH-24 Enclosure A	ntial Compliance NIDSON MIDDLE <b>DF ACCEPTAN</b> Storage (TES) ! nilled water Store, Ice-Slurry, Eu all) Systems are perature Reset ( er Temperature ment Control S ilation lope Leakage <b>F VERIFICATIO</b> vided in previour r and provided .gov/title24/20 kaage Test NOT Air Leakaage W	SCHOOL: Music 280 WOOL 280 WOOL CE System Accepta orage, Ice-on-Co atecti Salt, Clath e included in the orage, Ice-on-Co atecti Salt, Clath e included in the orage, Ice-on-Co atecti Salt, Clath e accepta orage, Ice-on-Co atecti Salt, Ice-on-Co atecti S	ts found in § Registration Report Ve Schema Ve Collassroom F DLAND AVE C ance NOTE: coil Internal I hrate Hydra te scope, pei lis lis lis lis lis lis lis lis lis li	§120.3       al         on Date/Til       ersion: 201         ersion: 201       //ersion: rev         Report Pag       Date Prepare         Date Slurry       ermit apple         ermit apple	ime: 9.1.003 20200601 ge: ared: ared: con-Coil (CHS), icant shou con-Coil (CHS), icant shou election nu nstruction necuments/ ater	eeds to be changed, plea The final documents m Nonresidential_Docume	d in <u>§140.4(I)</u> for duct Regis Report Gene CALIFORI	Ieakage	e testing Provider: 021-12-2 ERGY CO N (P	Ene 1115 MIN RCC age 12/2 12/2
Registratio CA Building TATE OF CAL Vechar RCC-MCH-E CERTIFICATI Project Nan Project Add O. DECLAI	is used age Sea age Sea n Numl g Energ iFORNIA nical e OF CC ne: ress: RATIO	ber: y Efficience Systen DMPLIANC DMPLIANC NRCA- NRC	y Standards - 2019 Nonreside y Standards - 2019 Nonreside DS E QUIRED CERTIFICATES C MCH-15-A Thermal Energy atically move to "Yes". If Cl al melt, Ice Harvester, Brin- nic or Encapsulated (Ice Ba chis form to 'Yes". MCH-16-A Supply Air Temp MCH-16-A Supply Air Temp MCH-17-A Condenser Watu MCH-18-A Energy Manage MCH-19-A Occupancy Sens MCH-20 Multi-Family Vent MCH-21 Multi-Family Vent MCH-21 Multi-Family Enve QUIRED CERTIFICATES O e based on information proc completed by a HERS Rate at https://www.energy.ca NRCV-MCH-04-H Duct Lea NRCV-MCH-27 High-rise Ro	ntial Compliance MIDSON MIDDLE <b>DF ACCEPTAN</b> Storage (TES) ! nilled water Store e, Ice-Slurry, EL all) Systems are perature Reset er Temperatures ment Control S iation lope Leakage <b>F VERIFICATIO</b> <i>vided in previce</i> <i>r and provided</i> <i>.gov/title24/20</i> kaage Test <i>NOT</i> sidential <i>NOTF</i>	SCHOOL: Music 280 WOOD CE System Accepta 280 WOOD CE System Accepta 280 WOOD CE System Accepta 280 WOOD CE System Accepta 280 WOOD CON CONTOIS 280 WOOD CON CONTOIS 280 WOOD CON CONTOIS 280 WOOD CON CONTOIS 280 WOOD CON CONTOIS 280 WOOD CON CONTOIS 280 WOOD CONTOIS 280 WOOD 290 WOOD 290 WOOD 290 WOOD 290 WOOD 200 WOO	ts found in § Registration Report Ve Schema Ve Schema Ve Cance NOTE: Coil Internal I hrate Hydra he scope, pe lis	on Date/Ti ersion: 201 /ersion: rev Report Pag Date Prepa This form Melt, Ice- ate Slurry ermit appl ermit appl during co liance_do /Title a HERS Rate	ime: 9.1.003 20200601 ge: ge: ared: n does not on-Coil (CHS), icant shou con-Coil (CHS), icant shou election no nstruction couments/a ater l by a HER.	eeds to be changed, plea 	d in §140.4(I) for duct Regis Report Gene CALIFORI CALIFORI CALIFORI	Ieakage	Provider: 021-12-2 ERGY CO N (P ) (P ) (P ) (P ) (P) (P) (P) (P) (P)	Ene Ene Ene Ene Ene Ene Ene Ene Ene Ene

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 Plan sheet or construction document location Yes Mandatory Measures Note Block M-Sheets

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**Registration Number:** 

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Registration Provider: Energysoft Report Generated: 2021-12-21 15:42:38

![](_page_40_Picture_56.jpeg)

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

								C/ (EII
CERTIFICATE OF COMPLIANCE								
This document is used to demonstrate compl	iance for mechai	nical syster	ms that are within the	scop	e of the permit application	on and are	demonstra	ting compl
path outlined in $\underline{\$140.4}$ , or $\underline{\$141.0(b)2}$ for all	terations.							
Project Name:	D	AVIDSON N	1IDDLE SCHOOL: Annex	Repor	t Page:			
Project Address:			280 WOODLAND AVE	Date P	repared:			
A. GENERAL INFORMATION								
01 Project Location (city)		SAN F	RAFAEL	04	Total Conditioned Floor	Area		
02 Climate Zone			2	05	Total Unconditioned Flo	oor Area		
03 Occupancy Types Within Project:	<b>I</b>			06	# of Stories (Habitable	Above Grad	de)	
Office (B)	🗌 🗌 Retail (	M)			Non-refrigerated Wareł	nouse (S)		
Hotel/ Motel Guest Rooms (R-1)	School	(E) Healthcare Facility (I)						
☐ High-Rise Residential (R-2/R-3)	Relocat	able Class Bldg (E)			Other (write in)			
	<b>.</b>							
B. PROJECT SCOPE								
This table Includes mechanical systems or con	mponents that a	re within t	he scope of the permi	t appl	lication and are demonst	rating com	pliance usi	ng the pres
<u>9140.4</u> , or <u>9141.0(b)2</u> for alterations.						r		
01			02	2				03
Air System(s)		Wet System Components			Dry System C			
Heating Air System		Water Economizer				Air Econ	omizer	
Cooling Air System			Pumps				Electric I	Resistance
Mechanical Controls			System Piping			$\boxtimes$	Fan Syste	ems
Mechanical Controls (existing to or new)	remain, altered		Cooling Towers				Ductwor	k (existing
			Chillers				Ventilati	on
			Boilers				Zonal Sy	stems/ Terr

<b>Registration Number:</b>	

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STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE Project Name:

Project Address:

F. HVAC SYSTEN	F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)								
Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)									
01	02	03	04	05	06	07	08		
CU/CC 70-9	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.08	1	
CU/CC 70-10	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.08		
<sup>1</sup> FOOTNOTES: Equ	uipment shall be the smallest	size, within the available options of the	desired equipmen	t line, neces	sary to mee	t the design	n heating an	d c	

DAVIDSON MIDDLE SCHOOL: Annex Report Page:

280 WOODLAND AVE Date Prepared:

<u>§140.4(a)</u>. Healthcare facilities are excepted. <sup>2</sup>It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables. <sup>3</sup> If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

<sup>4</sup> Authority Having Ju	urisdiction may ask for load calculations	used for compli	ance per <u>§140.4(b</u>	<u>)</u> .					
Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))									
01	02	03	04	05	06	07			
			Heati	ng Mode					
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit			
FC 70-1 / HP 70-1	<65,000		HSPF	8.2	9	SEER			
FC 70-2 / HP 70-2	<65,000		HSPF	8.2	12.5	SEER			
CU/CC 70-1	<65,000					SEER			
CU/CC 70-2	<65,000					SEER			
CU/CC 70-3	<65,000					SEER			
CU/CC 70-4	<65,000					SEER			
CU/CC 70-5	<65,000					SEER			
CU/CC 70-6	<65,000					SEER			

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STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF	COMPLIANCE																					
Project Name:				DAVIDSON MIDDLE SCI	HOOL: Anne	ex <b>Repo</b>	rt Page:															
Project Address	:	280 WOODLAND AVE Date Prepared:																				
H. FAN SYSTE	MS & AIR ECONO	MIZERS																				
System Name:	CU/CC 70-3	Econor	nizer:1	NA: <=54 kBtu/h cooling Contro			Designe	ed per <u>§140.4(e)</u> and (m)	System Fan Type:	ſ												
01	02		03	04			05	06	07	ſ												
Fan Name or				Maximum Design Supply	Airflow				Fan Power Pressure Drop A	40												
Item Tag	Fan Functio	'n	Qty	(CFM)	Airnow	HP Unit <sup>2</sup> Design HP			Device													
SF	Supply		1	1010			внр	0.75	NA	ſ												
Total Syst	em Design Supply A	esign Supply Airflow (CF		1010	Total S	System Design (B)HP: 0.75			Maximum System Fan Power (B)HP:	ſ												
System Name:	CU/CC 70-4	Econor	nizer:1	NA: <=54 kBtu/h cooling	Economizer Designer Controls:			ed per <u>§140.4(e)</u> and (m)	System Fan Type:													
01	02		03	04	05		06	07	ſ													
Fan Name or				Maximum Design Supply	Airflow				Fan Power Pressure Drop A	4												
Item Tag	Fan Functio	n	Qty	(CFM)	Airnow	HP	<sup>9</sup> Unit <sup>2</sup>	Design HP	Device													
SF	Supply		1	1010			внр	0.75	NA	ſ												
Total Syst	em Design Supply Airflow (CF		M):	1010	1010 Total S		Design	0.75	Maximum System Fan Power (B)HP:													
System Name:	CU/CC 70-5	Econor	nizer:1	NA: <=54 kBtu/h cooling	Economizer Designe Controls:		Economizer Designed Controls:		System Fan Type:													
01	02		03	04			05	06	07													
Fan Name or				Maximum Design Supply Airflow				Fan Power Pressure Drop A	4													
Item Tag	Fan Functio	'n	Qty	(CFM)		HP Unit <sup>2</sup>		HP Unit <sup>2</sup>		HP Unit <sup>2</sup>		HP Unit <sup>2</sup>		HP Unit <sup>2</sup>		HP Unit <sup>2</sup>		HP Unit <sup>2</sup>		Design HP	Device	
SF	Supply		1	1010			ВНР	0.75	NA	ĺ												
Total Syst	em Design Supply A	virflow (CF	M):	1010	Total S	System (B)HP:	Design	0.75	Maximum System Fan Power (B)HP:	ſ												

**Registration Number:** 

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#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CALIFORNIA ENERGY COMMISSION
NRCC-MCH-F
a compliance using the prescriptive
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12/21/2021
12416.476791
0
1
See Table J
the prescriptive path outlined in
03
system Components
nizer
sistance Heat
IS
existing to remain, altered or new)
ems/ Terminal Boxes

CERTIFICATE O	F COMP	PLIANCE													NRCC-MCH-E
Project Name:					DA	AVIDSON MIDDL	E SCHO	OL: Annex Repo	ort Page	:					(Page 2 of 28)
Project Addres	s:					280	WOOD	LAND AVE Date	e Prepar	ed:					12/21/2021
C. COMPLIA	NCE R	ESULTS													
Table C will in NOT COMPLY	dicate " or "C(	if the project o OMPLIES with	data inj Except	put into the co ional Conditior	mplian ns" refe	ice document i er to Table D.,	is comp or the t	liant with mea able indicated	chanica I as not	l requirements compliant for	s. This t guidar	table is not ed nce.	itable b	y the user. If this t	able says "DOES
01		02		03		04		05		06		07		08	09
System Summary <u>§110.1</u> , <u>§110.2</u> , <u>§140.4</u>	AND	Pumps <u>§140.4(k)</u>	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls <u>§110.2</u> , <u>§120.2</u> , <u>§140.4(f)</u>	AND	Ventilation §120.1	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3</u> , <u>§140.4(I)</u>	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	Measu	ures Complian	ce (See	Table Q for D	etails)				COMP	LIES	
		UNDITIONS													
This table is a	uto-fill	ed with unedit	table co	omments beca	use of s	selections mai	de or de	ata entered in	tables	throughout the	e form.				
E. ADDITION	IAL RE	MARKS													
This table inc	ludes re	emarks made	hy the	nermit annlica	nt to th	he Authority H	avina I	urisdiction							
	uues re		by the			ic Authority II	uving J								

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ALIFORNIA ENERGY COMMISSION
NRCC-MCH-E
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12/21/2021

09	10	11					
30	31.56	38.71					
30 32.63 39.16							
cooling loads of the building per							

08	09
Cooling Mode	
Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
14.0	18
14.0	15.3
14.0	17.5
14.0	17.5
14.0	17.5
14.0	17.5
14.0	17.5
14.0	17.5

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ALIFOR	NIA ENERGY COMMISSION							
	NRCC-MCH-E							
(Page 7 of 28)								
	12/21/2021							
e:	Constant Volume							
	08							
Drop A	Adjustment - Table 140.4-B							
	Design Airflow through							
	Device (CFM)							
	NA							
Fan	0.95							
e:	Constant Volume							
	08							
Drop A	Adjustment - Table 140.4-B							
	Design Airflow through							
	Device (CFM)							
	NA							
Fan	0.95							
e:								
08								
	Constant Volume							
Drop A	Constant Volume 08 Adjustment - Table 140.4-B							
Drop /	Constant Volume 08 Adjustment - Table 140.4-B Design Airflow through							
Drop /	Constant Volume 08 Adjustment - Table 140.4-B Design Airflow through Device (CFM)							
Drop A	Constant Volume 08 Adjustment - Table 140.4-B Design Airflow through Device (CFM) NA							

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0.95

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Registration Provider: Energysoft

CALIFORNIA ENERGY COMMISSION

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Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E			CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	DAVIDSON MIDDLE SCHOOL: Annex	Report Page:	(Page 5 of 28)
Project Address:	280 WOODLAND AVE	Date Prepared:	12/21/2021
F. HVAC SYSTEM SUMMARY (DRY 8	& WET SYSTEMS)		

Ory System Equipme	nt Efficiency (other than Package Termi	inal Air Conditi	oners (PTAC) and	Package Terminal	Heat Pumps (PTHP	?))		
01	02	03	04	05	06	07	08	09
			Heati	ng Mode	Cooling Mode			
Name or Item Tag	Size Category (Btu/h)	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 Eff
CU/CC 70-7	<65,000					SEER	14.0	17.
CU/CC 70-8	<65,000					SEER	14.0	17.
CU/CC 70-9	<65,000					SEER	14.0	17.5
CU/CC 70-10	<65,000					SEER	14.0	17.!

G. PUMPS This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is us exempt from t	his table is used to demonstrate compliance with prescriptive requirements found in <u>\$140.4(c)</u> , <u>\$140.4(e)</u> and <u>\$140.4(m)</u> for fan systems. Fan systems serving only process loads are xempt from these requirements and do not need to be included in Table H.											
System Name:	FC 70-1 / HP 70-1	Econor	nizer:1	NA: <=54 kBtu/h cooling Controls: De		nizer Desig ols:	ned per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume			
01	02		03	04		05	06	07	08			
Fon Name or			Maximum Dosign Supply	Airflow			Fan Power Pressure Drop A	djustment - Table 140.				
Item Tag	Fan Functio	n	Qty	(CFM)	Maximum Design Supply Airflow (CFM)		Design HP	Device	Design Airflow throu Device (CFM)			
SF	Supply		1	1350		BHP	0.59	NA	NA			
Total System Design Supply Airflow (CFM):				1350 Total Sys		ystem Design (B)HP:	0.59	Maximum System Fan Power (B)HP:	1.27			

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF	COMPLIANCE									NRCC-MCH-
Project Name:				DAVIDSON MIDDLE SCH	HOOL: Anne	ex <b>Repo</b>	rt Page:			(Page 8 of 28
Project Address	:			280 WO	ODLAND AV	/E Date	Prepared:			12/21/202
H. FAN SYSTE	MS & AIR ECONO	MIZERS								
System Name:	CU/CC 70-6	Econor	mizer:1	NA: <=54 kBtu/h cooling	Econon Contro	nizer ols:	Designe	ed per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume
01	02		03	04 05 06		07	08			
Fan Name or	ian Nama ar			Maximum Design Supply	num Design Supply Airflow		Fan Power Pressure Drop	Adjustment - Table 140.4-		
Item Tag	Fan Functio	n	Qty	(CFM)	(CFM) HP Unit <sup>2</sup> Design HP		Device	Design Airflow through Device (CFM)		
SF	Supply		1	1010 BHP 0.7		0.75	NA	NA		
Total Syst	em Design Supply A	Airflow (CF	M):	1010	Total S	Total System Design (B)HP:		0.75	Maximum System Fan Power (B)HP:	0.95
System Name:	CU/CC 70-7	Econor	mizer:1	NA: <=54 kBtu/h cooling Contro		nizer ols:	Designe	ed per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume
01	02		03	04			05	06	07	08
Fan Name or				Maximum Design Supply	avinum Docign Supply Airflow			Fan Power Pressure Drop	Adjustment - Table 140.4-E	
Item Tag	Fan Functio	n	Qty	(CFM)	Annow	HP Unit <sup>2</sup>		Design HP	Device	Design Airflow through Device (CFM)
SF	Supply		1	1010		6	внр	0.75	NA	NA
Total Syst	em Design Supply A	Airflow (CF	M):	1010	Total S	System (B)HP:	Design	0.75	Maximum System Fan Power (B)HP:	0.95
System Name:	CU/CC 70-8	Econor	mizer:1	NA: <=54 kBtu/h cooling	Econon Contro	nizer ols:	Designe	ed per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume
01	02		03	04	•		05	06	07	08
Ean Name or				Maximum Docign Supply	Airflow				Fan Power Pressure Drop	Adjustment - Table 140.4-E
Item Tag	Fan Functio	n	Qty	(CFM)		HP Unit <sup>2</sup>		Design HP	Device	Design Airflow through Device (CFM)
SF	Supply		1	1010		6	ВНР	0.75	NA	NA
Total Syst	em Design Supply A	Airflow (CF	M):	1010	Total S	System (B)HP:	Design	0.75	Maximum System Fan Power (B)HP:	0.95

**Registration Number:** 

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#### STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-E

CERTIFICATE OF COMPLIANCE

Project Name:

Project Address:

### CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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## DAVIDSON MIDDLE SCHOOL: Annex Report Page: 280 WOODLAND AVE Date Prepared:

## F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Dry System Equi	pment Sizing (includes air co	onditioners, condensers, heat pumps, VR	F, furnaces and u	init heaters)						
01	02	03	04	05	06	07	08	09	10	11
					Equipme	ent Sizing pe	er Mechanic <u> §140.4</u> (a&b	al Schedule )	(kBtu/h)	
			Smallest Size	Hea	ating Outpu	t <sup>2,3</sup>	Cooling (	Dutput <sup>2,3</sup>	Load Calc	ulations <sup>3,4</sup>
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Available <sup>1</sup> <u>§140.4(a)</u>	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)
FC 70-1 / HP 70-1	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	45.8	66	0	44.46	41.3	19.61	24.8
FC 70-2 / HP 70-2	Unitary Heat Pumps	Air-cooled, split (1phase)	Yes	5.34	7.7	0	8.38	8.1	5.42	8.15
CU/CC 70-1	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.29	30	37.52	45.16
CU/CC 70-2	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	32.78	30	32.71	41.09
CU/CC 70-3	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.37	30	45.08	49.52
CU/CC 70-4	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	33.22	30	38.15	43.72
CU/CC 70-5	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	Yes	0	0	0	32.41	30	22.09	25.34
CU/CC 70-6	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	32.76	30	30.11	38.34
CU/CC 70-7	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	NA: Load Controls	0	0	0	32.76	30	30.11	38.34
CU/CC 70-8	Unitary AC/ Condensers	AC, air cooled, split (1 phase)	Yes	0	0	0	32.64	30	22.26	27.35

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

System

Name:

01

Fan Name or

Item Tag

SF

System

Name:

01

Fan Name or

Item Tag

SF

System Name:

01

Fan Name or

Item Tag

SF

Mechanical Systems

CERTIFICATE OF COMPLIANCE

H. FAN SYSTEMS & AIR ECONOMIZERS

02

Fan Function

Supply

02

Fan Function

Supply

02

Fan Function

Supply

Total System Design Supply Airflow (CFM):

Total System Design Supply Airflow (CFM):

CU/CC 70-2

Total System Design Supply Airflow (CFM):

CU/CC 70-1

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

FC 70-2 / HP 70-2 Economizer:<sup>1</sup> NA: <=54 kBtu/h cooling

03

Qty

1

03

Qty

1

03

Qty

1

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DAVIDSON MIDDLE SCHOOL: Annex Report Page:

04

Maximum Design Supply Airflow

(CFM)

381

04

Maximum Design Supply Airflow

(CFM)

1010

04

Maximum Design Supply Airflow

(CFM)

1010

1010

1010

381

Economizer:<sup>1</sup> NA: <=54 kBtu/h cooling

Economizer:<sup>1</sup> NA: <=54 kBtu/h cooling

280 WOODLAND AVE Date Prepared:

Controls:

Registration Provider: Energysoft

CALIFORNIA ENERGY COMMISSION

Constant Volume

08

Design Airflow through

Device (CFM)

0.36

Constant Volume

08

Design Airflow through

Device (CFM)

0.95

Constant Volume

08

Design Airflow through

Device (CFM)

0.95

Fan Power Pressure Drop Adjustment - Table 140.4-B

Fan Power Pressure Drop Adjustment - Table 140.4-B

Fan Power Pressure Drop Adjustment - Table 140.4-B

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**Economizer** Designed per <u>§140.4(e)</u> and

**Economizer** Designed per <u>§140.4(e)</u> and

**Economizer** Designed per <u>§140.4(e)</u> and

05

HP Unit<sup>2</sup>

BHP

05

HP Unit<sup>2</sup>

BHP

05

HP Unit<sup>2</sup>

BHP

Total System Design

(B)HP:

Total System Design

(B)HP:

Controls:

Total System Design

(B)HP:

Controls:

(m)

06

Design HP

0.03

0.03

06

Design HP

0.75

0.75

06

Design HP

0.75

0.75

0.75

(m)

(m)

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OMMISSION NRCC-MCH-E

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ugh	

**Registration Number:** 

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STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

**Mechanical Systems** 

CERTIFICATE OF COMPLIANCE

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![](_page_41_Picture_80.jpeg)

DAVIDSON MIDDLE	SCHOOL: Annex	Report Page:
280 1	WOODLAND AVE	Date Prepared

1010

Project Address	t Address:     280 WOODLAND AVE     Date Prepared:     12/21/2										
H. FAN SYSTE	MS & AIR ECONO	MIZERS									
System Name:	CU/CC 70-9	Econor	nizer:1	NA: <=54 kBtu/h cooling	Econon Contro	Economizer Controls:		ed per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume	
01	02		03	04			05	06	07	08	
Fan Namo or				Maximum Design Supply Airflow (CFM)					Fan Power Pressure Drop A	djustment - Table 140.4-B	
Item Tag	Fan Functio	'n	Qty			HP		Design HP	Device	Design Airflow through Device (CFM)	
SF	Supply		1	1010		E	ЗНР	0.75	NA	NA	
Total Syst	em Design Supply A	virflow (CF	M):	1010	Total S	Total System Design (B)HP:		0.75	Maximum System Fan Power (B)HP:	0.95	
System Name:	CU/CC 70-10	Econor	nizer:1	NA: <=54 kBtu/h cooling	Econon Contre	nizer ols:	Designe	ed per <u>§140.4(e)</u> and (m)	System Fan Type:	Constant Volume	
01	02		03	04			05	06	07	08	
Ean Name or				Maximum Dosign Supply	Airflow				Fan Power Pressure Drop A	djustment - Table 140.4-B	
Item Tag	Fan Functio	'n	Qty	(CFM)		HP Unit <sup>2</sup> Design HP		HP Unit <sup>2</sup> Design HP		Device	Design Airflow through Device (CFM)
SF	Supply		1	1010		ВНР		0.75	NA	NA	

Total System Design

(B)HP:

<sup>1</sup> FOOTNOTES: Computer room economizers must meet requirements of  $\frac{§140.9(a)}{a}$  and will be documented on the NRCC-PRC-E document.

Total System Design Supply Airflow (CFM):

<sup>2</sup> The unit used for HP must be consistent for all fans within a system.

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0.95

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Maximum System Fan

Power (B)HP:

System Fan Type:

07

Device

Maximum System Fan

Power (B)HP:

System Fan Type:

07

Device

Maximum System Fan

Power (B)HP:

System Fan Type:

07

Device

Maximum System Fan

Power (B)HP:

CALIFORNIA ENERGY COMMISSION

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17.5 t7.5 7.5 7.5

![](_page_41_Figure_109.jpeg)

#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Project Name:

Project Address:

#### DAVIDSON MIDDLE SCHOOL: Annex Report Page: 280 WOODLAND AVE Date Prepared:

I. SYSTEM CONTROLS

This table is used to demon space conditioning systems	strate compliai 5.	nce with mand	atory controls in <u>§110.2</u> and	<u>§120.2</u> and p	rescriptive con	trols in <u>§140.4(f)</u> and (n) or	requireme
01	02	03	04	05	06	07	08
System Name	System Zoning	Conditioned Floor Area Being Served (ft <sup>2</sup> )	Thermostats <u>§110.2(b)</u> & (c) <sup>1</sup> , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls <u>§120.2(e)</u>	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply A Temp. Re <u>§140.4(</u>
FC 70-1 / HP 70-1	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
FC 70-2 / HP 70-2	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-1	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-2	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-3	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-4	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-5	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-6	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-7	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-8	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-9	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include
CU/CC 70-10	Single zone	<= 25,000 ft <sup>2</sup>	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Include

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DAVIDSON MIDDLE SCHOOL: Annex Report Page:

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STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

**Registration Number:** 

Project Name:

Project Address:

J. VENTILATION AND INDOOR AIR QUALITY

Pastroom	estroom Toilet, public 481.002907 0		0	0	0	DCV	NA: Not required per §120.1(d)3		
Restroom							0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				353	18	Ventilation for this S	System Complies?	Yes
	04		05				06	0	7
		System Desi			System	Docign		Air Filtration per §120	<u>.1(c)</u> and <u>§141.0(b)2</u> <sup>2</sup>
System Name	CU/CC 70-2	Airfle	ow <sup>1</sup>	347	Transfer	Air CFM	0	Provided per <u>§1</u> Hotel/I	<u>20.1(c)</u> (NR and Motel))
08	09	10	11	12	13	14	15	1	6
	Mechanical Ventilat	ion Required	per <u>§120.1(c</u> )	<mark>3</mark> 3		Exh. '	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people <sup>5</sup>	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1(d)3</u> , <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> <sup>6</sup>	
Classroom	Lecture / nostsecondary classroom	013 /0/830			3/17 1	0	0	DCV	NA: Not required per §120.1(d)3
Classicoli		515.454055			347.1			Occ Sensor	NA: Not required space type
Eloc Moch	All others	117 759562			0	0	0	DCV	NA: Not required per §120.1(d)3
Liet. Meth.	All others	117.758502			0	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				347	18	Ventilation for this S	System Complies?	Yes
	04		05				06	0	7
		System Desi	gn OA CFM		System	Design		Air Filtration per §120	<u>.1(c)</u> and <u>§141.0(b)2</u> <sup>2</sup>
System Name	CU/CC 70-3	Airfle	ow <sup>1</sup>	483	Transfer	Air CFM	0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
08	09	10	11	12	13	14	15	1	6

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Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE DAVIDSON MIDDLE SCHOOL: Annex Report Page: Project Name: 280 WOODLAND AVE Date Prepared: Project Address: J. VENTILATION AND INDOOR AIR QUALITY Mechanical Ventilation Required per <u>§120.1(c)3</u><sup>3</sup> Exh. Vent per <u>§120.1(c)4</u> Space Name nditioned # of Shower Required # of Provided per Design Min OA CFM ot item Tag Floor Area heads/ Occupancy Type<sup>4</sup> people<sup>5</sup> CFM (ft<sup>2</sup>) toilets DCV Classroom | Lecture/ postsecondary classroom | 913.495772 | 347.1 Occ Sensor 17 Total System Required Min OA CFM 347 18 Ventilation for this System Complies? 04 05 System Design OA CFM System Design CU/CC 70-7 347 Svstem Nam Transfer Air CFM Airflow<sup>1</sup> 08 09 10 11 12 13 14 15 Mechanical Ventilation Required per §120.1(c)3 Exh. Vent per <u>§120.1(c)4</u> conditioned # of Shower # of # of<br/>people5Required<br/>Min OA<br/>CFMRequired<br/>Min CFMProvided per Design<br/>CFM Space Name ot item Tag Floor Area heads/ Occupancy Type<sup>4</sup> (ft<sup>2</sup>) toilets DCV ecture/ postsecondary classr Occ Sensor 17 Total System Required Min OA CFM 347 18 Ventilation for this System Complies? 04 05 System Design OA CFM System Design CU/CC 70-8 231 ystem Name Transfer Air CFM Airflow<sup>1</sup> 08 09 10 11 12 13 14 15

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## CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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ents i	ents in <u>§141.0(b)2E</u> for altered								
	09								
Air eset <mark>(f)</mark>	Window Interlocks per <u>§140.4(n)</u>								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								
ed	Provided								

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![](_page_42_Figure_36.jpeg)

![](_page_42_Figure_37.jpeg)

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### STATE OF CALIFORNIA Mechanical Systems CERTIFICATE OF COMPLIANCE Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: Project Address: 280 WOODLAND AVE **Date Prepared**:

12/21/202 I. SYSTEM CONTROLS <sup>1</sup>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. \*Notes: Controls with a \* require a note in the space below explaining how compliance is achieved. EX: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d); EXCEPTION 1 to <u>§140.4(f)</u>

J. VENTILATION AND INDOOR AIR QUALITY

This table is us occupancies. F	ed to demonst or alterations.	trate compliance with mo only ventialtion systems	andatory venti beina altered	lation require within the sc	ements in <u>§1</u> ope of the p	1 <u>20.1</u> and permit app	<u>§120.2(e)3</u> lication nee	<u>B</u> for all nonresidential, h	igh-rise residential and is table. In lieu of this to	hotel/motel			
outdoor ventild	ation rates and	d airflows may be shown	on the plans of	or the calcula	tions can be	presented	l in a sprea	dsheet.					
01		Check the box if the pro	ject is showing	g ventilation of	calculations	on the pla	ns, or attac	ching the calculations inst	ead of completing this	able.			
02	$\boxtimes$	Check this box if the pro	ject included I	Nonresidentia	al or Hotel/I	Motel spac	es						
02		Check this box if the pro	check this box if the project included new or altered high-rise residential dwelling units.										
03		Check the box if the pro	neck the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per <u>§120.1(c)2</u> .										
Nonresidentia	l and Hotel/ N	Notel Ventilation System	IS										
	04			05				06	0	7			
	stem Name FC 70-1 / HP 70-1		System Design OA CFM Airflow <sup>1</sup> 178		System Design			Air Filtration per §120.1(c) and §141.0(b)2 $^2$					
System Name					178	Transfer Air CFM		0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))				
08		09	10	11	12	13	14	15	1	6			
		Mechanical Ventilat	tion Required	on Required per <u>§120.1(c)3</u> <sup>3</sup>			Exh. Y	Vent per <u>§120.1(c)4</u>					
Space Name ot item Tag	Occ	cupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	rols per <u>§120.1(d)3,</u> Id <u>§120.1(e)3</u> <sup>6</sup>			
Office > 250	(	Office space	1187 158005			178 1	0	0	DCV	NA: Not required per §120.1(d)3			
sqft	Onice space		1187.158095			170.1	0	0	Occ Sensor	NA: Not required space type			
17	Total System	Required Min OA CFM				178	18	Ventilation for this S	Yes				

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**Registration Number:** 

STATE OF CALIFORNIA

NRCC-MCH-E

Mechanical Systems

Registration Date/Time:

Registration Provider: Energysoft

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CERTIFICATE OF COMPLIANCE NRCC-MCH-E DAVIDSON MIDDLE SCHOOL: Annex Report Page: Project Name: (Page 14 of 28) 280 WOODLAND AVE **Date Prepared:** 12/21/202 Project Address:

J. VENTILATIC	ON AND INDOOR AIR QUALITY								
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	<mark>3</mark> <sup>3</sup>		Exh. '	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Con <u>§120.1(d)5</u> , ai	trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> <sup>6</sup>
Classroom	Lecture / postsecondary classroom	012 /0/820			2/7 1	0	0	DCV	NA: Not required per §120.1(d)3
Classicolli		913.494639			547.1	0	0	Occ Sensor	NA: Not required space type
Corridor	Corridor	005 280007			125.9	0	0	DCV	NA: Not required per <u>§120.1(d)3</u>
Cornadi	Comadi	903.280997			155.0	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				483	18	Ventilation for this	System Complies? Yes	
	04		05				06	(	)7
		System Desi			System	Docign		Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b)</u> Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
System Name	CU/CC 70-4	Airfle	ow <sup>1</sup>	413	Transfer	Air CFM	0		
08	09	10	11	12	13	14	15	16	
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	<mark>3</mark> <sup>3</sup>		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Con <u>§120.1(d)5</u> , ar	trols per <u>§120.1(d)3,</u> nd <u>§120.1(e)3</u> <sup>6</sup>
Classroom	Locture / portsocondary classroom	012 501220			247 1	0	0	DCV	NA: Not required per <u>§120.1(d)3</u>
Classicolli		913.301229			547.1	0	0	Occ Sensor	NA: Not required space type
Corridor	Corridor	440.012502			66	0	0	DCV	NA: Not required per <u>§120.1(d)3</u>
Cornuor	Corridor	440.012593			00	0	U	Occ Sensor	NA: Not required space type
Registration Nu	mber:			Registra	ation Date/T	ïme:		Registra	tion Provider: Energysoft

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

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STATE OF CALIFORNIA	4
Mechanical	Systems

NRCC-MCH-E								CALIFORNIA	ENERGY COMMISSION
CERTIFICATE OF	COMPLIANCE								NRCC-MCH-E
Project Name:		DAVIDSC	ON MIDDLE SC	HOOL: Anne>	Report Pa	ge:			(Page 17 of 28)
Project Address	:		280 WO	ODLAND AVE	Date Prepa	ared:			12/21/2021
J. VENTILATIO	ON AND INDOOR AIR QUALITY								
	Mechanical Ventila	tion Required	per <u>§120.1(c</u>	3 <sup>3</sup>		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	rols per <u>§120.1(d)3</u> , Id <u>§120.1(e)3</u> <sup>6</sup>
Classroom	Lecture / postsecondary classroom	608 990073			231 4	0	0	DCV	NA: Not required per §120.1(d)3
Classicolli		000.330073			231.4	Ű	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				231	18	Ventilation for this S	System Complies?	Yes
	04		05				06	0	7
		System Desig	ማካ OA CFM		System	Design		Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b</u> Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	
System Name	CU/CC 70-9	Airflo	ow <sup>1</sup>	359	Transfer	Air CFM	0		
08	09	10	11	12	13	14	15	1	6
	Mechanical Ventila	ion Required per <u>§120.1(c)3</u> 3				Exh. ۱	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people <sup>5</sup>	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	rols per <u>§120.1(d)3</u> , Id <u>§120.1(e)3</u> <sup>6</sup>
Classroom	Lecture / postsecondary classroom	944 995171			359 1	0	Ο	DCV	NA: Not required per <u>§120.1(d)3</u>
		544.555171			555.1	Ű	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				359	18	Ventilation for this S	System Complies?	Yes
	04		05				06	0	7
		System Desi	gn OA CFM		System	Design		Air Filtration per §120	<u>.1(c)</u> and <u>§141.0(b)2</u> <sup>2</sup>
System Name	CU/CC 70-10	Airflo	ow <sup>1</sup>	359	System Design 0 Transfer Air CFM		0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))	

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#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE

Project Name:

Project Address:

### CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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12/21/2021

## DAVIDSON MIDDLE SCHOOL: Annex Report Page: 280 WOODLAND AVE Date Prepared:

## J. VENTILATION AND INDOOR AIR OUALITY

	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~						26		-
	04		05				06	0	17
System Name	FC 70-2 / HP 70-2	System Desi Airfl	gn OA CFM ow <sup>1</sup>	29	System Transfer	Design Air CFM	0	Air Filtration per <u>§120</u> Provided per <u>§1</u> Hotel/	<u>1.1(c)</u> and <u>§141.0(b)2</u> <sup>2</sup> <u>20.1(c)</u> (NR and Motel))
08	09	10	11	12	13	14	15	1	.6
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	3 <sup>3</sup>		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1(d</u> <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> <sup>6</sup>	
Office <250	Office space	105 717685			20.4	0	0	DCV	NA: Not required per §120.1(d)3
sqft	Office space	193.717085			23.4	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				29	18	Ventilation for this S	System Complies? Yes	
	04		05				06	07	
		System Desi			Suctor	Docign		Air Filtration per §120	.1(c) and <u>§141.0(b)2</u> <sup>2</sup>
System Name	CU/CC 70-1	Airfl	ow <sup>1</sup>	353	Transfer	Air CFM	0	Provided per <u>§1</u> Hotel/	20.1(c) (NR and Motel))
08	09	10	11	12	13	14	15	1	.6
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	3 <sup>3</sup>	•	Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Cont <u>§120.1(d)5</u> , ar	rols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> <sup>6</sup>
Classroom	Lecture / postsecondary classroom	020 2/0220			252.1	0	0	DCV	NA: Not required per §120.1(d)3
Classicolli		929.240230			555.1	0	U	Occ Sensor	NA: Not required space type

**Registration Number:** Registration Date/Time: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601

DAVIDSON MIDDLE SCHOOL: Annex Report Page:

280 WOODLAND AVE Date Prepared:

Registration Provider: Energysoft

CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E (Page 15 of 28)

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STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Project Name: Project Address:

47					442	10		Custom Com II D	
17	Iotal System Required Min OA CFM				413	18	Ventilation for this	System Complies?	Yes
	04		05	<b></b>		T	06	(	)7
System Name	CU/CC 70-5	System Desi Airflo	gn OA CFM ow <sup>1</sup>	218	System Transfer	Design Air CFM	0	Air Filtration per <u>§12(</u> Provided per <u>§1</u> Hotel/	<u>0.1(c)</u> and <u>§141.0(b)2</u> <u>120.1(c)</u> (NR and Motel))
08	09	10	11	12	13	14	15	-	16
	Mechanical Ventila	tion Required	per <u>§120.1(c</u> )	3 <sup>3</sup>		Exh. ۱	/ent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned Floor Area (ft <sup>2</sup> )	# of Shower heads/ toilets	# of people⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Con <u>§120.1(d)5</u> , ai	trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> <sup>6</sup>
Library	Library - reading room/stacks	421 542065			63.2	0	0	DCV	NA: Not required per §120.1(d)3
Library		421.342003			03.2	0	0	Occ Sensor	NA: Not required space type
Conf Poom	Conference / mosting	152 747694			76 /	0	0	DCV	NA: Not required per §120.1(d)3
	comercite, meeting	132.747004			70.4	0	0	Occ Sensor	NA: Not required space type
Storage	Occupiable storage rooms for dry	E10 E612E9			77.0	0	0	DCV	NA: Not required per §120.1(d)3
Storage	materials	519.501556			77.9	0	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				218	18	Ventilation for this	System Complies?	Yes
	04		05				06	07	
		System Desi	σn OA CEM		System	Design		Air Filtration per <u>§120.1(c)</u> and <u>§141.0(b)</u>	
System Name	CU/CC 70-6	Airflo	ow <sup>1</sup>	347	Transfer	Air CFM	0	Provided per <u>§1</u> Hotel/	L <u>20.1(c)</u> (NR and Motel))
08	09	10	11	12	13	14	15	-	16

**Registration Number:** 

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#### STATE OF CALIFORNIA **Mechanical Systems**

NRCC-MCH-E								CALIFORNIA ENERGY COMMISSIO	
CERTIFICATE OF	COMPLIANCE							NRCC-MCH	
Project Name: DAVIDSON MIDDLE SCHOOL: Annex Rep					Report Pa	Report Page: (Page 18 of 7			
Project Address: 280 WOODLAND AVE Date Pre						te Prepared: 12/21/20			
J. VENTILATIO	ON AND INDOOR AIR QUALITY								
	Mechanical Venti	lation Required p	er <u>§120.1(c</u> )	<mark>3</mark> 3		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type <sup>4</sup>	Conditioned # Floor Area	# of Shower heads/ toilets	# of people⁵	Required Min OA	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1(d)3</u> , <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> <sup>6</sup>	

NA: Not required per DCV <u>§120.1(d)3</u> 359.1 Classroom Lecture/ postsecondary classroom 944.995171 NA: Not required Occ Sensor space type 17 Total System Required Min OA CFM 359 18 Ventilation for this System Complies? Yes <sup>1</sup> FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system

<sup>2</sup> Air filtration requirements apply to the following three system types per <u>§120.1(c)1A</u> : 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.

<sup>3</sup> Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

<sup>4</sup> See Standards Tables 120.1-A and 120.1-B.

<sup>5</sup> For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code. <sup>6</sup> <u>§120.2(e)3</u> requires systems serving rooms that are required by <u>§130.1(c)</u> 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<sup>2</sup> or smaller, multipurpose rooms less than 1,000 ft<sup>2</sup>, 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).

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 <u>\$120.3</u> and prescriptive requirements found in <u>\$140.4(1)</u> for duct leakage testing. Duct Leakage Sealing

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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#### STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE Project Name: DAVIDSON MIDDLE SCHOOL: Annex Report Page: 280 WOODLAND AVE **Date Prepared**: Project Address: L. DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: FC 70-1 / HP 70-1 Duct leakage testing triggered for these systemeters and the second statemeters are statemeters. No The scope of the project includes only duct systems serving healthcare facilities 11 12 Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning 13 Yes The space conditioning system serves less than 5,000 ft<sup>2</sup> of conditioned floor area. 14 No The <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the er Outdoors In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the re requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ uncondition In an unconditioned crawl space In other unconditioned spaces The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with a 15 The scope of the project includes an existing duct system that is documented to have been previously sealed as confi 16 and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2. Yes Duct system shall be sealed in acordance with the California Mechanical Code 17 The answers to the questions below apply to the following duct systems: FC 70-2 / HP 70-2 Duct leakage testing triggered for these systemed for the sys No The scope of the project includes only duct systems serving healthcare facilities 11 12 Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning s

Outdoors In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the u requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned In an unconditioned crawl space In other unconditioned spaces 15 The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with a The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification 16 and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2. 17 Yes Duct system shall be sealed in acordance with the California Mechanical Code **Registration Number:** Registration Date/Time:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601

## STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE DAVIDSON MIDDLE SCHOOL: Annex Report Page: Project Name: 280 WOODLAND AVE **Date Prepared**: Project Address: L. DISTRIBUTION (DUCTWORK and PIPING) The answers to the questions below apply to the following duct systems: CU/CC 70-5 Duct leakage testing triggered for these systemed for the systemed f

11	No	The scope of the	project includes only	duct systems serving healthcar	e facilities			
12	Yes	Juct system provides conditioned air to an occupiable space for a constant volume, single zone, space-condition						
13	Yes	The space condit	ace conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.					
14	No	The <u>combined</u> su	urface area of the duct	s in the following locations is m	nore than 25% of the total surface area of th			
	•		Outdoors					
			In a space directly un requirements of §140	der a roof that has a U-factor g ). <u>3(a)1B</u> or if the roof has fixed	reater than the u-factor of the ceiling, or if t vents or openings to the outside/ uncondit			
			In an unconditioned o	crawl space				
			In other unconditione	ed spaces				
15		The scope of the	project includes exter	nding an existing duct system, v	which is constructed, insulated or sealed wit			
16		The scope of the and diagnostic te	project includes an ex esting in accordance w	isting duct system that is docu ith procedures in the Reference	mented to have been previously sealed as c e Nonresidential Appendix NA2.			
17	Yes	Duct system shal	l be sealed in acordan	ce with the California Mechani	cal Code			
The answers to the	questions below	v apply to the foll	owing duct systems:	CU/CC 70-6	Duct leakage testing triggered for these			
11	No	The scope of the	project includes only	duct systems serving healthcar	e facilities			
12	Yes	Duct system prov	vides conditioned air to	o an occupiable space for a cor	stant volume, single zone, space-conditioni			
13	Yes	The space condit	ioning system serves l	ess than 5,000 ft <sup>2</sup> of conditione	ed floor area.			
14	No	The <u>combined</u> su	urface area of the duct	s in the following locations is m	nore than 25% of the total surface area of th			
			Outdoors					
			In a space directly un requirements of <u>§140</u>	der a roof that has a U-factor g ). <u>3(a)1B</u> or if the roof has fixed	reater than the u-factor of the ceiling, or if t vents or openings to the outside/ uncondit			
			In an unconditioned o	crawl space				
			In other unconditione	ed spaces				
15		The scope of the	project includes exter	nding an existing duct system, v	which is constructed, insulated or sealed wit			
16		The scope of the and diagnostic te	project includes an ex esting in accordance w	isting duct system that is docu ith procedures in the Reference	mented to have been previously sealed as c e Nonresidential Appendix NA2.			
17	Yes	Duct system shal	I be sealed in acordan	ce with the California Mechani	cal Code			

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

#### STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E	-	
CERTIFICATE C	OF COMPLIANC	E
Project Name	:	DAVIDSON MIDDLE SCHOOL: Annex Report Page:
Project Addre	ss:	280 WOODLAND AVE Date Prepared:
M. COOLIN	G TOWERS	
This section	does not app	y to this project.
N. DECLARA	ATION OF RE	QUIRED CERTIFICATES OF INSTALLATION
Selections ha	ive been maa	e based on information provided in previous tables of this document. If any selection needs to be changed, please explain wh
These docum	nents must be	provided to the building inspector during construction and can be found online at
https://www	.energy.ca.go	v/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/
Yes	No	Form/Title
۲	$\bigcirc$	NRCI-MCH-01-E - Must be submitted for all buildings

**Registration Number:** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: Report Version: 2019.1.003 Schema Version: rev 20200601

OF CALIFORNIA		
chanical S <sup>v</sup>	ystems	
ИСН-Е		CALIFORNIA ENERGY COMMISSIO
FICATE OF CON	IPLIANCE	NRCC-MCH
t Name:		DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 19 of 2
t Address:		280 WOODLAND AVE Date Prepared: 12/21/20
STRIBUTION	(DUCTWORK	and PIPING)
nswers to the	questions below	w apply to the following duct systems: FC 70-1 / HP 70-1 Duct leakage testing triggered for these systems? No
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.
14	No	The <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
		Outdoors
		In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the
		requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces
		In an unconditioned crawl space
		In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verificatio
10		and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code
nswers to the	questions below	w apply to the following duct systems: FC 70-2 / HP 70-2 Duct leakage testing triggered for these systems? No
11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:
		Outdoors
		In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the
		requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces
		In an unconditioned crawl space
		In other unconditioned spaces
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.

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NRCC-MCH-E
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STATE OF CALIFORNIA	N						
<b>Mechanical</b>	Systems						
NRCC-MCH-E	-			CALIFORNIA E	NERGY COMMISSIO		
CERTIFICATE OF CO	OMPLIANCE				NRCC-MCH		
Project Name:		DAVIDSON MIDD	LE SCHOOL: Annex Report Page:		(Page 20 of 2		
Project Address:		28	0 WOODLAND AVE Date Prepared	d:	12/21/202		
The answers to the	he questions belo	by apply to the following duct systems:	CU/CC 70-1	Duct leakage testing triggered for these systems?	No		
11	No	The scope of the project includes only o	duct systems serving healthcar	re facilities			
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.					
12	Vac	The survey of the state of the	ass than 5 000 ft <sup>2</sup> of condition				
15	res	The space conditioning system serves in		ed noor area.			

			Outdoors					
			In a space directly un requirements of <u>§140</u>	der a roof that has a U-factor g ). <u>3(a)1B</u> or if the roof has fixed	reater than the u-factor of the ceiling, or if the roof does vents or openings to the outside/ unconditioned spaces	s not meet the		
			In an unconditioned o	crawl space				
			In other unconditione	ed spaces				
15		The scope of the	project includes exter	nding an existing duct system, v	which is constructed, insulated or sealed with asbestos.			
16		The scope of the and diagnostic te	project includes an ex esting in accordance w	isting duct system that is docu ith procedures in the Reference	mented to have been previously sealed as confirmed three Nonresidential Appendix NA2.	ough field verification		
17	Yes	Duct system shal	l be sealed in acordan	ce with the California Mechani	cal Code			
e answers to the	questions below	apply to the foll	owing duct systems:	CU/CC 70-2	Duct leakage testing triggered for these systems?	No		
11	No	The scope of the	he scope of the project includes only duct systems serving healthcare facilities					
12	Yes	Duct system prov	vides conditioned air to	o an occupiable space for a con	stant volume, single zone, space-conditioning system.			
13	Yes	The space condit	ioning system serves l	ess than 5,000 ft <sup>2</sup> of conditione	ed floor area.			
14	No	The <u>combined</u> su	irface area of the duct	s in the following locations is m	nore than 25% of the total surface area of the entire duct	t system:		
			Outdoors					
			In a space directly un requirements of <u>§140</u>	der a roof that has a U-factor g ). <u>3(a)1B</u> or if the roof has fixed	reater than the u-factor of the ceiling, or if the roof does vents or openings to the outside/ unconditioned spaces	s not meet the		
			In an unconditioned o	crawl space				
			In other unconditione	ed spaces				
15		The scope of the	project includes exter	nding an existing duct system, v	which is constructed, insulated or sealed with asbestos.			
16		The scope of the	project includes an ex	isting duct system that is docu	mented to have been previously sealed as confirmed three Nonrosidential Annondix NA2	ough field verification		

and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2. Yes Duct system shall be sealed in acordance with the California Mechanical Code

Registration Date/Time:

Registration Provider: Energysoft

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CERTIFICATE OF CON	1PLIANCE				,		NRCC-MCH-		
Project Name:			DAVIDSON MIDD	LE SCHOOL: Annex	Report Page:		(Page 23 of 23		
Project Address:		280 WOODLAND AVE Date Prepared:				12/21/202			
L. DISTRIBUTION	(DUCTWOR	K and PIPING)							
The answers to the	questions be	low apply to the fo	ollowing duct systems:	CU/CC 7	70-7	Duct leakage testing triggered for these systems?	No		
11	No	The scope of t	ne project includes only o	duct systems serv	ving healthca	re facilities			
12	Yes	Duct system p	ovides conditioned air to	o an occupiable s	pace for a co	nstant volume, single zone, space-conditioning system.			
13	Yes	The space con	ditioning system serves lo	ess than 5,000 ft <sup>2</sup>	<sup>2</sup> of condition	ed floor area.			
14	No	The <u>combined</u>	surface area of the ducts	s in the following	locations is r	nore than 25% of the total surface area of the entire duc	t system:		
			Outdoors				-		
			In a space directly une	der a roof that ha	s a U-factor g	greater than the u-factor of the ceiling, or if the roof does	not meet the		
			requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces						
			In an unconditioned crawl space						
			In other unconditione	ed spaces					
15		The scope of t	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.						
16		The scope of the	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 wi	ith procedures in	the Reference	e Nonresidential Appendix NA2.			
17	Yes	Duct system sh	hall be sealed in acordance	ce with the Califo	rnia Mechan	ical Code			
The answers to the	questions be	low apply to the fo	ollowing duct systems:	CU/CC 7	70-8	Duct leakage testing triggered for these systems?	No		
11	No	The scope of the	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system pi	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.						
13	Yes	The space con	The space conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.						
14	No	The <u>combined</u>	surface area of the duct	s in the following	locations is r	nore than 25% of the total surface area of the entire duc	t system:		
			Outdoors						
			In a space directly und requirements of <u>§140</u>	der a roof that ha <u>.3(a)1B</u> or if the	is a U-factor န roof has fixed	greater than the u-factor of the ceiling, or if the roof does d vents or openings to the outside/ unconditioned spaces	s not meet the		
			In an unconditioned o	rawl space					
			In other unconditione	ed spaces					
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.							
16		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	Yes	Duct system shall be sealed in acordance with the California Mechanical Code							

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#### STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-E

17

**Registration Number:** 

STATE OF CALIFORNIA

Mechanical Systems

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

CERTIFICA	TE OF CO	MPLIANCE		NR	CC-MC		
Project Na	ame:	DAVIDSON MIDDLE SCHOOL: Annex Report Page:		(Pag	e 26 of		
Project A	ddress:	280 WOODLAND AVE Date Prepared:	12				
O. DECL	ARATIO	N OF REQUIRED CERTIFICATES OF ACCEPTANCE					
Selection These do https://w	is have be cuments vww.ener	een made based on information provided in previous tables of this document. If any selection nee must be provided to the building inspector during construction and can be found online at gy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC	ds to be changed, please explain why in Table E A CA/	dditional Re	marks		
Yes	Yes No Form/Title		Systems To Be Field Verified	Field In Pass	Field Inspecto		
•	•	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.					
•	0	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".					
$\bigcirc$		NRCA-MCH-04-A - Air Distribution Duct Leakage					
$\bigcirc$		NRCA-MCH-05-A - Air Economizer Controls					
•	•	NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to <u>§120.1(c)3</u> ) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO <sub>2</sub> ) concentration setpoints.					
$\bigcirc$		NRCA-MCH-07-A Supply Fan Variable Flow Controls					
$\bigcirc$		NRCA-MCH-08-A Valve Leakage Test					
$\bigcirc$		NRCA-MCH-09-A Supply Water Temperature Reset Controls					
$\bigcirc$		NRCA-MCH-10-A Hydronic System Variable Flow Controls					
	$\bigcirc$	NRCA-MCH-11-A Automatic Demand Shed Controls					
$\bigcirc$		NRCA-MCH-12-A FDD for Packaged Direct Expansion Units					
$\bigcirc$		NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance					
$\bigcirc$	٠	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance NOTE: This form does not automatically move to "Yes". If Distributed Energy System DX AC Systems are included in te scope permit applicant should move this form to 'Yes".	h				

**Registration Number:** 

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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#### STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-E

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Project Name:

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# U DISTRIBUTION (DUCTWORK and PIPING)

	UDUCI WUKI							
he answers to th	ne questions bel	ow apply to the following duct systems	: CU/CC 70-3	Duct leakage testing triggered for these systems?	No			
11	No	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system provides conditioned a	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.					
13	Yes	The space conditioning system serve	es less than 5,000 ft <sup>2</sup> of conditior	ned floor area.				
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:						
		Outdoors						
		In a space directly requirements of §	In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces					
		In an unconditione	In an unconditioned crawl space					
		In other unconditioned spaces						
15		The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.						
16		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	Yes	Duct system shall be sealed in acordance with the California Mechanical Code						
e answers to th	ne questions bel	ow apply to the following duct systems	: CU/CC 70-4	Duct leakage testing triggered for these systems?	No			
11	No	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.						
13	Yes	The space conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.						
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:						
		Outdoors						
		In a space directly requirements of §	under a roof that has a U-factor ( 140.3(a)1B or if the roof has fixe	greater than the u-factor of the ceiling, or if the roof does d vents or openings to the outside/ unconditioned spaces	not meet the			
		In an unconditione	d crawl space					
		In other uncondition	oned spaces					
15		The scope of the project includes ex	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.					
16		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	Yes	Duct system shall be sealed in acordance with the California Mechanical Code						

DAVIDSON MIDDLE SCHOOL: Annex Report Page:

280 WOODLAND AVE Date Prepared:

## CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

**Registration Number:** 

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE Project Name:

Registration Date/Time:

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CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

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Field Inspector

Pass Fail

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Project Name:		DAVIDSON MIDDLE SCHOOL: Annex Report Page: (Page 24 of						
Project Address:		280 WOODLAND AVE Date Prepared: 12/				12/21/2		
L. DISTRIBUTION	I (DUCTWORI	(and PIPING)						
The answers to th	e questions bel	ow apply to the fo	ollowing duct systems:	CU/CC 7	70-9	Duct leakage testing triggered for these systems?	No	
11	No	The scope of th	ne project includes only	duct systems serv	ving healthcar	e facilities		
12	Yes	Duct system pr	ovides conditioned air t	o an occupiable s	pace for a con	stant volume, single zone, space-conditioning system.		
13	Yes	The space cond	ditioning system serves l	ess than 5,000 ft <sup>2</sup>	<sup>2</sup> of conditione	ed floor area.		
14	No	The <u>combined</u>	The <u>combined</u> surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:					
			Outdoors					
			In a space directly un requirements of §140	der a roof that ha 0.3(a)1B or if the	s a U-factor g roof has fixed	reater than the u-factor of the ceiling, or if the roof doe vents or openings to the outside/ unconditioned space	s not meet the s	
			In an unconditioned crawl space					
			In other unconditioned spaces					
15		The scope of th	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.					
16		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	Yes	Duct system shall be sealed in acordance with the California Mechanical Code						
The answers to th	e questions bel	ow apply to the fo	ollowing duct systems:	CU/CC 7	0-10	Duct leakage testing triggered for these systems?	No	
11	No	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.						
13	Yes	The space conditioning system serves less than 5,000 ft <sup>2</sup> of conditioned floor area.						
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system:						
			Outdoors					
		In a space directly under a roof that has a U-factor greater than the u-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)1B or if the roof has fixed vents or openings to the outside/ unconditioned spaces						
		In an unconditioned crawl space						
			In other unconditione	ed spaces				
15		The scope of th	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.					
16		The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verificat and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.						

Registration Date/Time:

DAVIDSON MIDDLE SCHOOL: Annex Report Page:

280 WOODLAND AVE Date Prepared:

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Provider's registry, but

Form/Title

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Yes Duct system shall be sealed in acordance with the California Mechanical Code

NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance NOTE: This form does not automatically move to "Yes". If Chilled water Storage, Ice-on-Coil Internal Melt, Ice-on-Coil

Cryogenic or Encapsulated (Ice Ball) Systems are included in the scope, permit applicant should

drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019\_compliance\_documents/Nonresidential\_Documents/NRCV/

• NRCV-MCH-04-H Duct Leakaage Test *NOTE: Must be completed by a HERS Rater* 

 NRCV-MCH-27 High-rise Resdential *NOTE: Must be completed by a HERS Rater* NRCV-MCH-32 Local Mechanical Exhaust *NOTE: Must be completed by a HERS Rater*

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation. 01

NRCV-MCH-24 Enclosure Air Leakaage Worksheet NOTE: Must be completed by a HERS Rater

External melt, Ice Harvester, Brine, Ice-Slurry, Eutecti Salt, Clathrate Hydrate Slurry (CHS),

**Registration Number:** 

17

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Yes

 $\bigcirc$ 

 $\bigcirc$ 

No

Mandatory Measures Note Block

Project Address:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

NRCA-MCH-16-A Supply Air Temperature Reset Controls

NRCA-MCH-18-A Energy Management Control Systems

NRCA-MCH-19-A Occupancy Sensor Controls

NRCA-MCH-20 Multi-Family Ventilation NRCA-MCH-21 Multi-Family Envelope Leakage

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

NRCA-MCH-17-A Condenser Water Temperature Reset Controls

move this form to 'Yes".

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CALIFORNIA ENERGY COMMISSION

![](_page_43_Picture_47.jpeg)

spector	
Fail	

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Q. MANDATORY MEASURES DOCUMENTATION LOCATION

Compliance with Mandatory Measures documented through MCH

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Yes

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02

Plan sheet or construction document location

M-Sheets

![](_page_43_Picture_55.jpeg)

STATE OF CALIFORNIA	
Mechanical Systems	
NRCC-MCH-E	CALIFORNIA ENERGY COMMISSIO
CERTIFICATE OF COMPLIANCE	NRCC-MCH-
Project Name: DAVIDSON MIDDLE SCHOOL: Anne>	Report Page: (Page 28 of 28
Project Address: 280 WOODLAND AVE	Date Prepared:12/21/202
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and comple	ete.
Documentation Author Name: Matt Hargadon	Documentation Author Signature: Math Hargadon
Company: Guttmann & Blaevoet Consulting Engineers	Signature Date: 12/21/2021
Address: 2351 Powell St	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: San Francisco CA 94133	Phone: 4156554000
<ul> <li>RESPONSIBLE PERSON'S DECLARATION STATEMENT</li> <li>I certify the following under penalty of perjury, under the laws of the State of California: <ol> <li>The information provided on this Certificate of Compliance is true and correct.</li> <li>I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the buil</li> <li>The energy features and performance specifications, materials, components, and manufactured device of Title 24, Part 1 and Part 6 of the California Code of Regulations.</li> <li>The building design features or system design features identified on this Certificate of Compliance are plans and specifications submitted to the enforcement agency for approval with this building permit approximation.</li> <li>I will ensure that a completed signed copy of this Certificate of Compliance is required to Responsible Designer Name:</li> </ol> </li> </ul>	ding design or system design identified on this Certificate of Compliance (responsible designer) es for the building design or system design identified on this Certificate of Compliance conform to the requirements consistent with the information provided on other applicable compliance documents, worksheets, calculations, pplication. In the building permit(s) issued for the building, and made available to the enforcement agency for all applicable be included with the documentation the builder provides to the building owner at occupancy.
Chris Del Core	Responsible Designer Signature:
Company: Costa Engineers Inc.	Date Signed: 2021-12-21
Address: 3274 Villa Lane	License: M31600
City/State/Zip: Napa CA 94558	Phone: (707) 252-9177

Registration Number:

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![](_page_44_Picture_8.jpeg)