TITLE 24 MECHANICAL & PLUMBING REQUIREMENTS (CODE REFERENCES ARE TO 2019 BUILDING ENERGY EFFICIENCY STANDARDS):

- 1. All air cooled HVAC units shall have minimum efficiencies per Table 110.2-A. 2. All furnaces shall have minimum efficiencies per Table 110.2-I.
- B. All furnaces shall have stand by loss controls per section 110.2 (d).
- 4. All thermostats shall comply with 110 (b) or (c), as applicable. 5. All HVAC systems shall have outside (ventilation) air per 120.1 (b) 2. Also see mechanical plans for
- minimum outside air settings. Refer to table on plan.
- . When CO2 ventilation demand controls are specified, provide in accordance with 120.1 C. 4. Minimum ventilation rates shall be initiated one hour prior to scheduled occupancy per 120.1 (c) 2.
- 8. Each HVAC system shall have shut-off and reset controls complying with 120.2 (e).
- 9. All outside and exhaust dampers shall automatically close per 120.2 (f). 10. All systems greater than a nominal 54 MBH cooling capacity shall have economizers equipped with
- fault detection and diagnostics per 120.2 (i).
- 11. All ductwork insulation shall comply with 120.4.
- 12. Set up all thermostats with a dead band of no less than three degrees to prevent cycling between heating and cooling. 13. Acceptance tests required prior to granting occupancy. NA refers to Non Residential appendices:
- Outdoor air ventilation systems per NA 7.5.1. • Constant volume single zone system controls per NA 7.5.2.
- Air economizers per NA 7.5.4.
- Demand control (CO2) controls, when required, per NA 7.5.5. • Fault Detection & diagnostics (FDD) per NA 7.5.11.

Equipment Anchorage Notes:

All Mechanical, Plumbing, and Electrical components shall be anchored and installed per the details on the DSA approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2019 CBC, Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-16 Chapters 13, 26 and 30.

- 1. All permanent equipment and components.
- 2. Temporary, movable or mobile equipment that is permanently attached (E.G. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical
- connections except plugs for 110/220 volt receptacles having a flexible cable. 3. Temporary, moveable or mobile equipment which is heavier than 400 pounds or has a center mass located 4 feet or more above the adjacent floor or roof level that directly support the component are required to be restrained in a manner approved by DSA.

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

- A. Components weighing less than 400 pounds and have a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.
- B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

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

Piping, Ductwork, and Electrical Distribution System Bracing Note:

Piping, ductwork, and Electrical distribution systems shall be braced to comply with the forces and displacements prescribed in ASCE 7-16 Section 13.3 as defined in ASCE 7-16 Section 13.6.5., 13.6.6, 13.6.7, 13.6.8, and 2019 CBC, Sections 1617A.1.24, 1617A.1.25 and 1617A.1.26.

The method of showing bracing and attachments to the structure for the identified distribution system are as noted below. When bracing and attachments are based on a pre-approved 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 hanging and bracing of the distribution systems. The Structural Engineer of Record shall verify the adequacy of the structure to support the hanger and brace loads.

Mechanical Piping (MP), Mechanical Ducts (MD), Plumbing Piping (PP),

Electrical Distribution Systems (E):

Option 1: Detailed on the approved drawings with project specific notes and details

Option 2: Shall comply with the applicable OSHPD Pre-Approval (OPM#) # OPM 0052-13 B-LINE/TOLCO SYSTEM_____.

Air Conditioning Legend

SYMBOL	ABBR.	ITEM	SYMBOL	ABBR.	ITEM
	A.C.	Air Conditioning		H.W.R.	Heating Water Return
	A.D.	Access Door		H.W.S.	Heating Water Supply
	A.F.F.	Above Finished Floor		INT.	Internal
	A.H.	Air Handler		LOC.	Location
	B.A.S,	Building Automation System		М.О.	Motor Operated
	B.V.	Butterfly Valve		(N)	New
	C.D.	Condensate Drain		N.C.	Normally Closed
	C.E.	Ceiling Exhaust Register		N.I.C.	Not in Contract
	C.W.R.	Condensor Water Return		N.O.	Normally Open
	C.W.S.	Condensor Water Supply		0.S.A.	Outside Air
	C.H.W.R.	Chilled/Hot Water Return		0.B.D.	Opposed Blade Damper
	C.H.W.S.	Chilled/Hot Water Supply	− × −−	P.O.C.	Point of Connection
	сомв.	Combustion	ب	P.P	Petes Plug
	CONN.	Connection		PROV.	Provide
	CONT.	Continuation		P.R.V.	Pressure Reducing Valve
	C.R.	Ceiling Return Register		SIM.	Similar
	CLG.	Ceiling		S.F.D.	Smoke / Fire Damper
	C.S.	Ceiling Supply Register		Э.Г. <i></i> .	w/ access panel
	C.V.	Check Valve		S.M. or S/M	Sheet Metal
	D.C.W.	Domestic Cold Water		5.0.V.	Shut Off Valve
	DIA.	Diameter		S.P.S.T.	Single Pole Single Throw
	D.L.	Door Louver		STAT	Thermostat or Room Sensor
	DN.	Down	-	SURF.	Surface
	D.P.D.T.	Double Pole Double Throw		(TYP)	Typical
	D.T.R.	Duct Thru Roof		U.G.	Underground
	(E)	Existing		U.N. <i>O</i> .	Unless Noted Otherwise
	E.F.	Exhaust Fan		V.D.	Volume Damper
	E.M.S.	Energy Management System	<u> </u>	V.D.	Vol. Damper w/ Remote Operator
	EX.	Exhaust		W/	With
F.D.	F.D.	Fire Damper w/ acc. panel		W.R.	Wall Return Register
	Flex. Conn	Flexible Connection	=====4	W.S.	Wall Supply Register
	FLR.	Floor			Duct w/ Acoustic Lining
	F.T.R.	Flue Thru Roof))))	T.V.	Turning Vanes
	Furn.	Furnace			Extractor
	GA.	Gauge			
	GAL.	Gallon			
	GALV.	Galvanized	0		CO2 SENSOR
	G.P.M.	Gallons per Minute			
	GRD.	Grade			Union
\bowtie	G.V.	Gate Valve			Reducer or Increaser

drive vane-axial fan with electrically commutated motor, 1,200 CFM low speed (staged air volume), 61,300 BTUH total / 46,320 sensible gross cooling / 54,860 heating capacity / 16.2 SEER / 11.7 EER 8.3 HSPF at ARI conditions. Two stage cooling, 5 year compressor warranty, high and low pressure switches, adjustable defrost timer, and anti-short cycle timer. (4) 16" x 16" x 2" MERV 8 return air filters, 10.6 kW electric strip heater factory mounted and wired, single point power connection for heat pump and strip heater. Integrated modulating economizer with dry bulb control, fault diagnostics and detection per T24 regulations, power exhaust fan module, demand control ventilation package with wall mounted CO2 sensor set to 1000 ppm. Adjust outside airflow to modulate between hi-low settings per O.A. schedule on plans. Include information on both settings in air balance report. Provide sperate power feed and disconnect for economizer power exhaust far Sloped roof curb with seismic hold down clips, internal high and low compressor protection. Electrical: 34 MCA / 40 MOCP @ 460v-3ph. (HP Unit) 1.9 MCA / 3.4 MOCP @ 460v-3ph. (Power Exhaust)

HP-2 M1.2 Carrier 50VT-C24 Rooftop Heat Pump, 700 CFM @ 0.40 E.S.P., 0.38 BHP direct drive supply fan motor, 22,620 BTUH total / 16,730 sensible net cooling / 22,380 heating capacity / 14.5 SEER / 8.2 HSPF at ARI conditions. Single stage cooling, 5 year compressor warranty, high and low pressure switches, adjustable defrost timer, and anti-short cycle timer. 2" Deep MERV 13 return air filters in factory filter rack, 5.4 kW electric strip heater, factory mounted and wired, single point power connection for heat pump and strip heater. Motorized two-position outside air damper. Sloped roof curb with seismic hold down clips internal high and low compressor protection.



(A)

HP-1 M1.2

Carrier 50FCQM07 Rooftop Heat Pump, 2,100 CFM @ 0.60 E.S.P., 0.83 direct drive supply fan drive vane-axial fan with electrically commutated motor, 1,400 CFM low speed (staged air volume), , 73,450 BTUH total / 55,300 sensible gross cooling / 63,550 heating capacity / 11.2 EER / 15.0 IEER 3.6 COP at ARI conditions. Two stage cooling, 5 year compressor warranty, high and low pressure switches, adjustable defrost timer, and anti-short cycle timer. (4) 16" x 16" x 2" MERV 8 return air filters, 10.6 kW electric strip heater factory mounted and wired, single point power connection for heat pump and strip heater. Integrated modulating economizer with dry bulb control, fault diagnostics and detection per T24 regulations, power exhaust fan module, demand control ventilation package with wall mounted CO2 sensor set to 1000 ppm. Adjust outside airflow to modulate between hi-low settings per O.A. schedule on plans. Include information on both settings in air balance report. Provide sperate power feed and disconnect for economizer power exhaust fan Sloped roof curb with seismic hold down clips, internal high and low compressor protection. Electrical: 31 MCA / 35 MOCP @ 460v-3ph. (HP Unit) Operating Weight: 809 Lb 3.5 MCA / 6.3 MOCP @ 460v-3ph. (Power Exhaust) Curb: 107 lbs

EF-1

ECM motor, 0.7 sones. Provide with backdraft damper, full size discharge to roof cap, and NEMA-1 toggle switch. Interlock fan operation with light circuit. Dial on fan speed control with time delay set to fifteen minutes. Electrical: 6 Watts @ 115v-1ph.

Codes	•
Californi	a Code of Regulations
Part 1 -	2022 California Stand
Part 2 -	2019 California Build
Part 3 -	2019 California Electr
Part 4 -	2019 California Mech
Part 5 -	2019 California Plum
Part 6 -	2019 California Energ
Part 9 -	2019 California Fire G
Part 11 -	2019 California Gree
Standa	rds and Guides:
ADAAG	- American with Di
Fixtures	- Plumbing fixtures Green Building St

General Project Note:

- unless specifically dimensioned. Some work may be shown offset for clarity. The actual
- done only when so detailed in the drawings or accepted by the Architect and Structural

ĺ	GRILLE SCHE
	<u>CD-1</u>
	Titus Model TDC Louvered Face Diffuser with T-Bar sizing chart for neck sizes.
	<u>CD-2</u>
	Titus Model TDC Louvered Face Diffuser with flat su diffuser sizing chart for neck size.
	<u>CR-1</u>
	Titus Model 50F eggcrate T-Bar mount return grille.
	Note: Paint all visible surfaces behind diffusers and

CFM	TITUS MCD, SQUARE NECK	CFM	TITUS TDC, SQUARE NECK
0 - 200	6" × 6"	0 - 150	6" × 6"
201 - 325	8" × 8"	151 - 275	9" × 9"
326 - 450	10" × 10"	276 - 475	2" x 2"
451 - 600	2" x 2"	476 - 700	15" × 15"
601 - 700	4" × 4"	701 - 950	18" × 18"
701 - 850	16" × 16"	951 - 1250	2 " × 2 "
851 - 950	18" × 18"	1251 - 1700	24" × 24"
951 - 1150	20" × 20"	1701 - 2500	30" x 30"

The California Energy Code Section 10-103 requires Acceptance Testing on all newly installed lighting controls, mechanical systems, envelopes, and process equipment after installation and before project completion. An Acceptance Test is a functional performance test to help ensure that newly installed equipment is operating and in compliance with the Energy Code. ighting controls acceptance tests must be performed by a certified lighting controls Acceptance Test Technician (ATT). Mechanical system acceptance tests must be performed by a certified mechanical ATT for projects submitted on or after October , 2021.

nvelope and process equipment acceptance tests shall be performed by the installing contractor, engineer/architect of record or the owner's agent.

A listing of certified ATT can be found at:

The Acceptance Testing procedures must be repeated, and deficiencies must be corrected by the builder or installing contractor until the construction/installation of the specified systems conform and pass the required acceptance criteria.

EQUIPMENT SCHEDULE

Carrier 50GCQM06 Rooftop Heat Pump, 1,800 CFM @ 0.60 E.S.P., 0.66 BHP direct drive supply fan Operating Weight: 816 Lbs Curb: 107 lb

Electrical: 53.7 MCA / 60 MOCP @ 208v-1ph. (HP Unit) Operating Weight: Unit 326 Lbs Curb 65 Lbs

Greenheck SPA-50-90-VG Ceiling Mounted Exhaust Fan. 90 CFM @ 0.20" E.S.P., 887 RPM, 6 watts

Operating Weight: 12 Lbs.

ns (C.C.R)

dards Administrative Code, Title 24, C.C.R. ding Code (C.B.C.), Title 24, C.C.R. Volumes 1trical Code, Title 24, C.C.R. chanical Code (C.M.C.), Title 24, C.C.R. mbing Code (C.P.C.), Title 24, C.C.R. rgy Code, Title 24, C.C.R. Code, Title 24, C.C.R.

en Code, Title 24, C.C.R.

Disabilities Act, Accessibility Guidelines. s to comply with table 5.303.6 of the California en Building Standards - 2019 Edition.

Coordination of work: Layout of materials, equipment and systems is generally diagrammatic location of all materials, piping, ductwork, fixtures, equipment, supports, etc. shall be carefully planned, prior to installation of any work to avoid all interferences with each other, or with structural, electrical, architectural or other elements. Verify the proper voltage and phase of all equipment with the electrical plans. All conflicts shall be called to the attention of the architect and the engineer prior to the installation of any work or the ordering of any equipment. Cutting, boring, saw cutting or drilling through the new or existing structural elements to be

engineer with the approval of DSA representative.

GRILLE SCHEDULE

ffuser with T-Bar mount frame and O.B.D. See diffuser

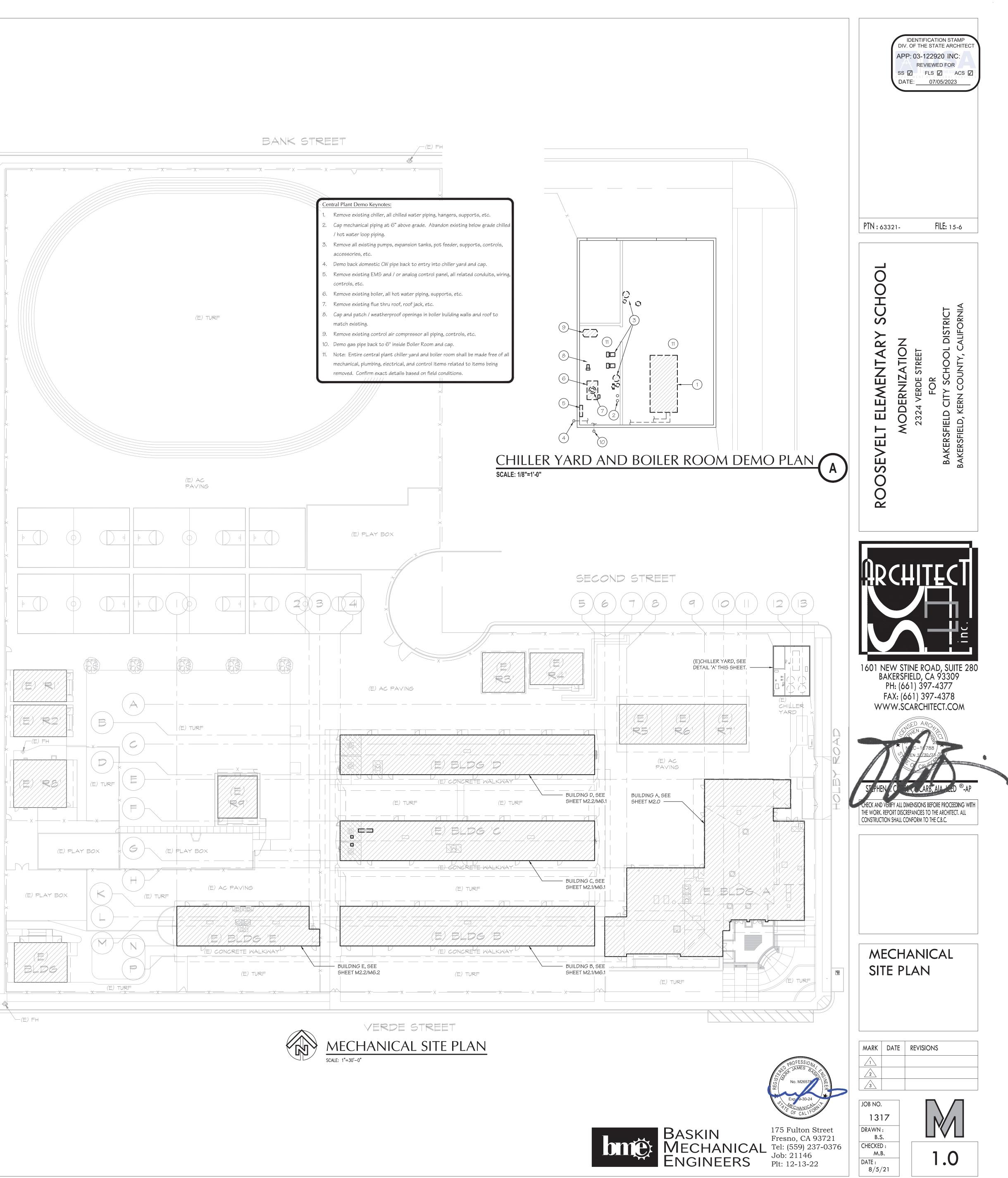
ffuser with flat surface mount frame and O.B.D. See

ind diffusers and grilles flat black.

DIFFUSER SIZING CHART

nttps://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance.

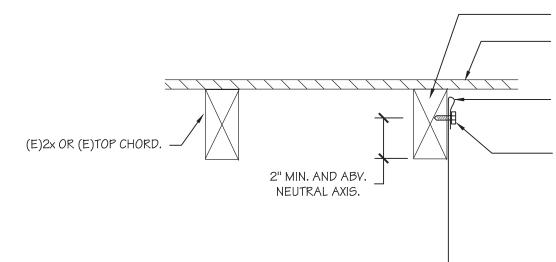
roject inspectors will collect the forms to confirm that the required Acceptance Tests have been completed.











DUCT HANGER UPPER ATTACHMENT

SCALE: N.T.S.

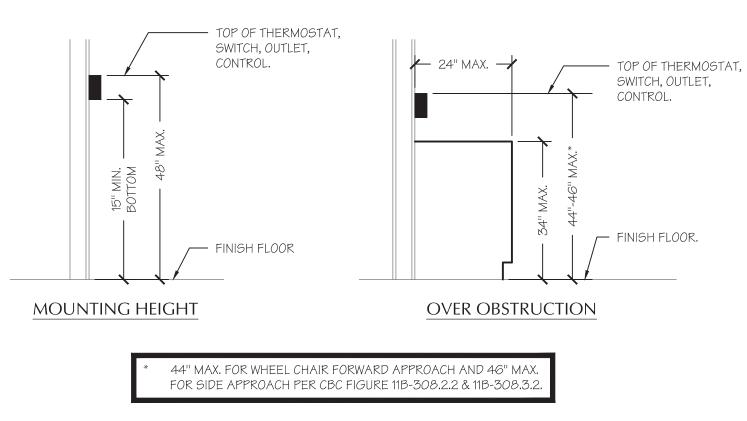
NOTE: RELAY MODULE AT AC UNIT APPLICABLE TO HP-3 ONLY RELAY MODULE PROVIDED UNDER SPEC DIVISION 16. CONTACTS OPEN UPON ALARM AT FIRE ALARM PANEL ------WIRING TO AC UNIT CONTROLS PROVIDED UNDER SPEC DIVISION 15. WIRE TO SHUT OFF AC UNIT WITHOUT DELAY UPON CONTACTS OPENING AC UNIT(S)

HP UNIT INTERLOCKS WITH FIRE ALARM PANEL SCALE: N.T.S.

— (E)2x OR (E) TOP CHORD — (E) DIAPHRAGM

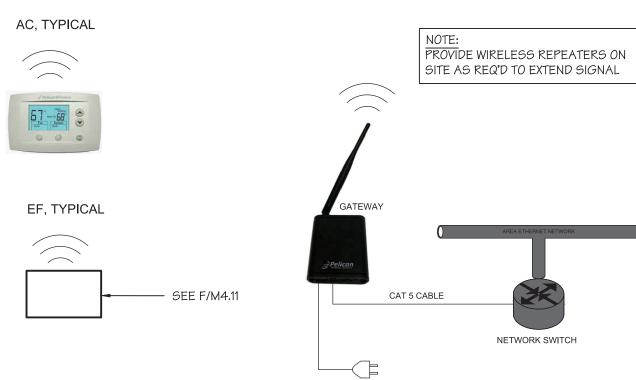
— 20 GA. SHEET METAL STRAP DOUBLED UP AT CONNECTION TO ROOF STRUCTURAL.

- #10 x3/4" S.M.S.



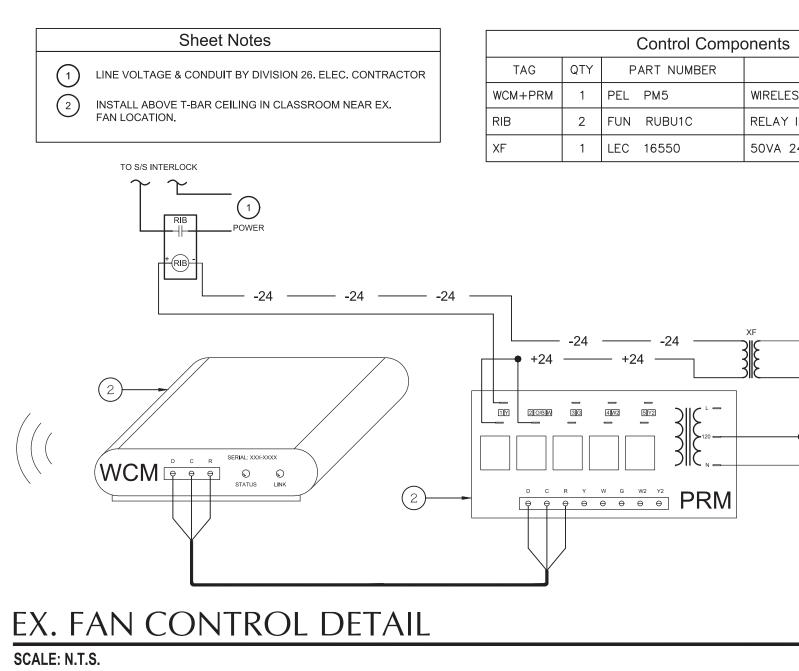


THERMOSTAT MOUNTING LOCATION SCALE: N.T.S.



Н

LAN ARCHITECTURE SCALE: N.T.S.





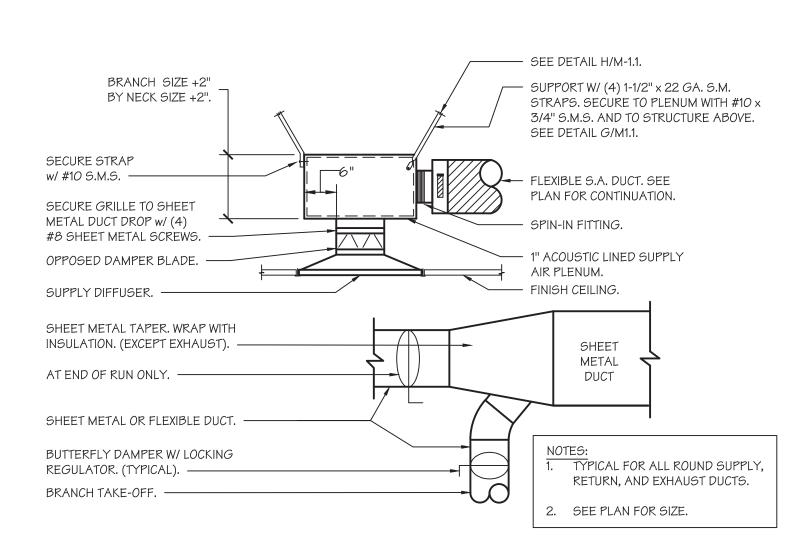
175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22



С

LAST VANE SHALL FIT SNUGLY AT THE HEEL OF ELBOW. DEPRESS ACOUSTIC LINING AS REQUIRED. WHERE LARGE RADIUS TURNING VANES ARE USED, HEEL AND THROAT OF ELBOW MUST HAVE SAME RADIUS AS VANE. TUTTLE & BAILEY "AIRTURN" TO BE USED IN ELBOWS WITH NO RADIUS AT THROAT OR HEEL. -----VANES SHALL BE INSTALLED IN EACH SLOT OF RUNNER. OPTION #2. OPTION #1. NOTE: 1. TYPICAL FOR ALL RECTANGULAR SUPPLY AND RETURN DUCTS. . REFER TO SMACNA FIG. 2-1 & 2-2, TYPICAL. NINETY DEGREE ELBOW

SUPPLY AIR PLENUM & BRANCH TAKE-OFFS (B, SCALE: N.T.S.



CEILING DIFFUSER/REGISTER CONNECTION Scale: N.T.S.

R = 1.5D

(MIN.)

- LOCATE SUPPORT WITHIN TWO FEET OF DIFFUSER.

NOTE: WHERE DUCT TURN RADIUS CAN

- SQUARE TO ROUND FITTING AS REQ'D.

- CEILING DIFFUSER, SEE PLANS.

FINISHED CEILING, HARD OR LAY-IN.

SECURE w/ (2) #8 S.M.S. PER SIDE.

NOT BE MAINTAINED DUE TO CLEARANCES, PROVIDE PLENUM

BOX PER B/M1.1, THIS SHEET.

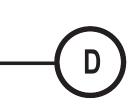
A

SEE DETAIL G/M1.1.

— 5 GORE RADIUSED ELBOW.

- FINISH FLOOR.

CONTROL.



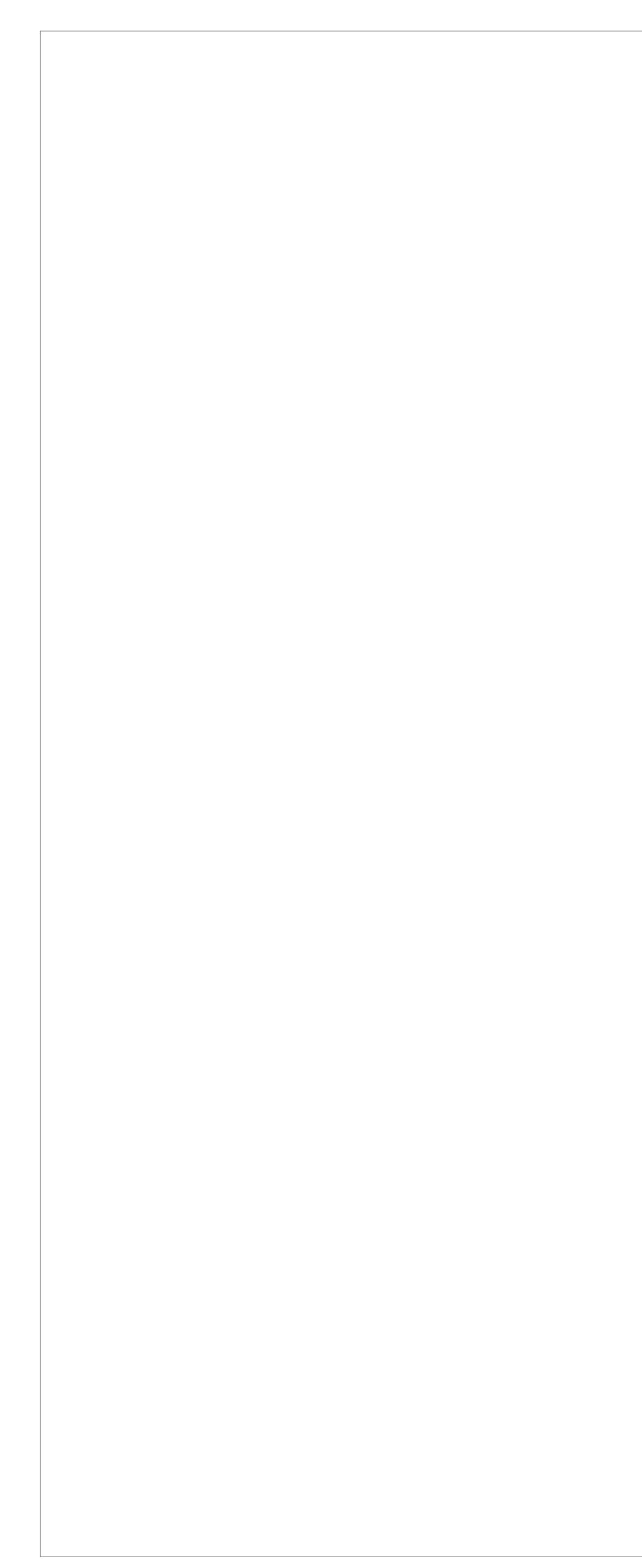
Ε DESCRIPTION

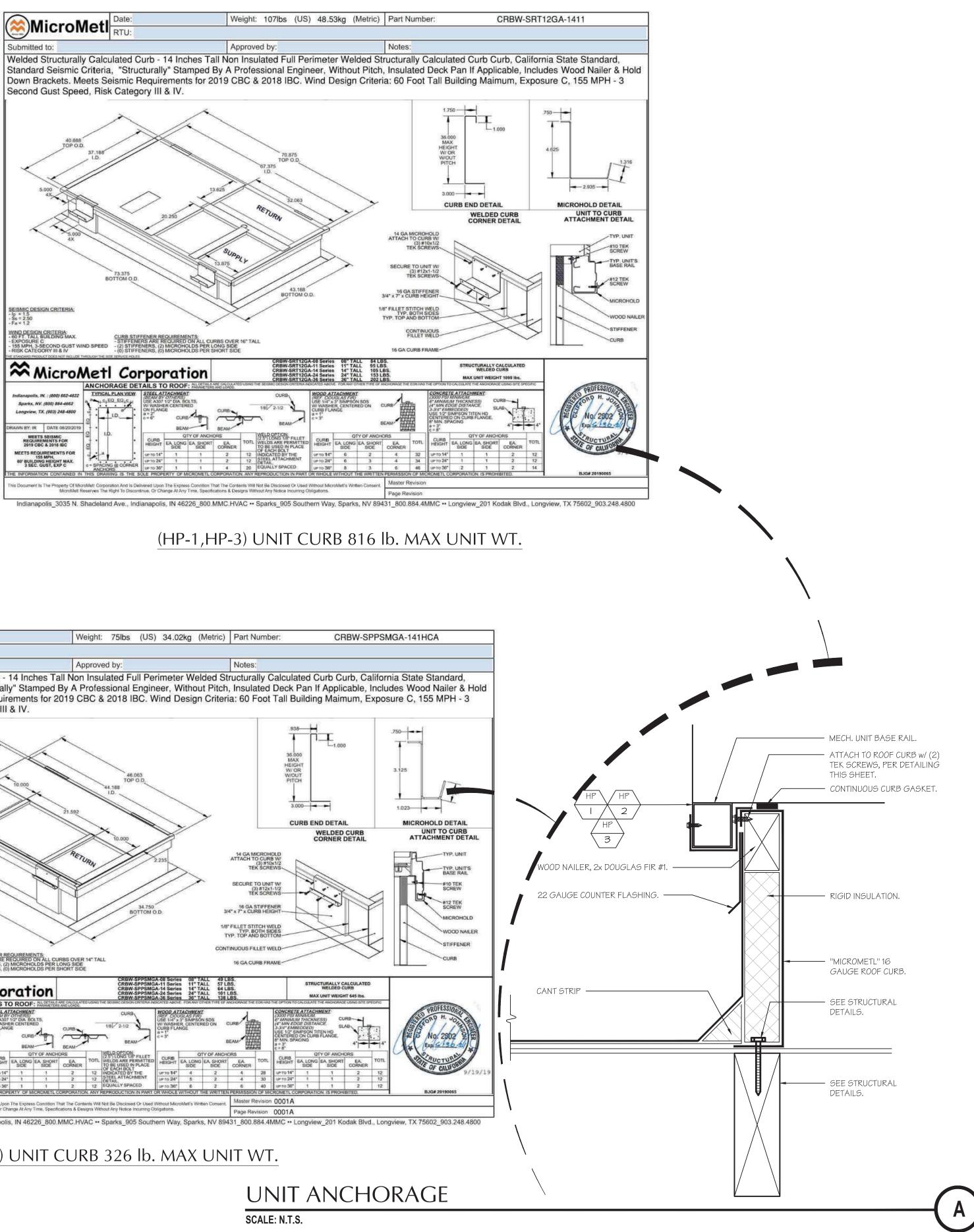
WIRELESS RELAY MODULE KIT RELAY IN A BOX 50VA 24VAC TRANSFORMER

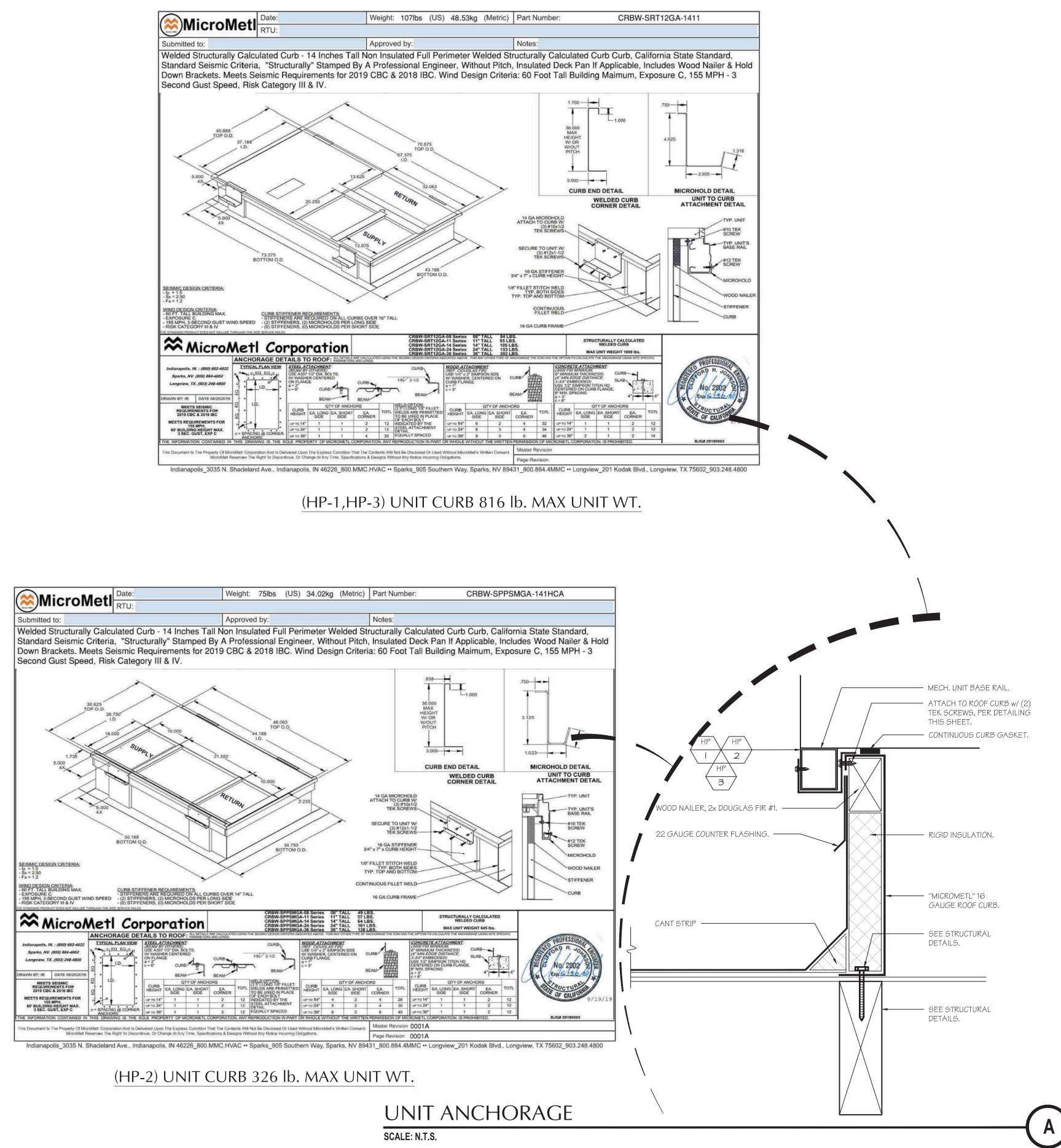
120VAC

SCALE: N.T.S.







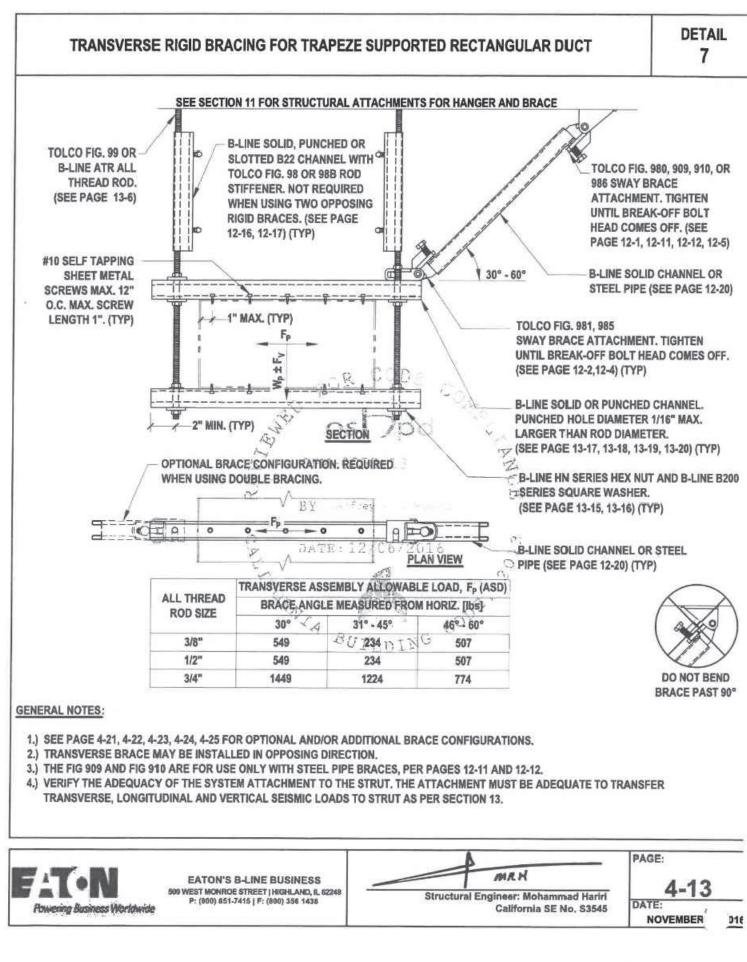


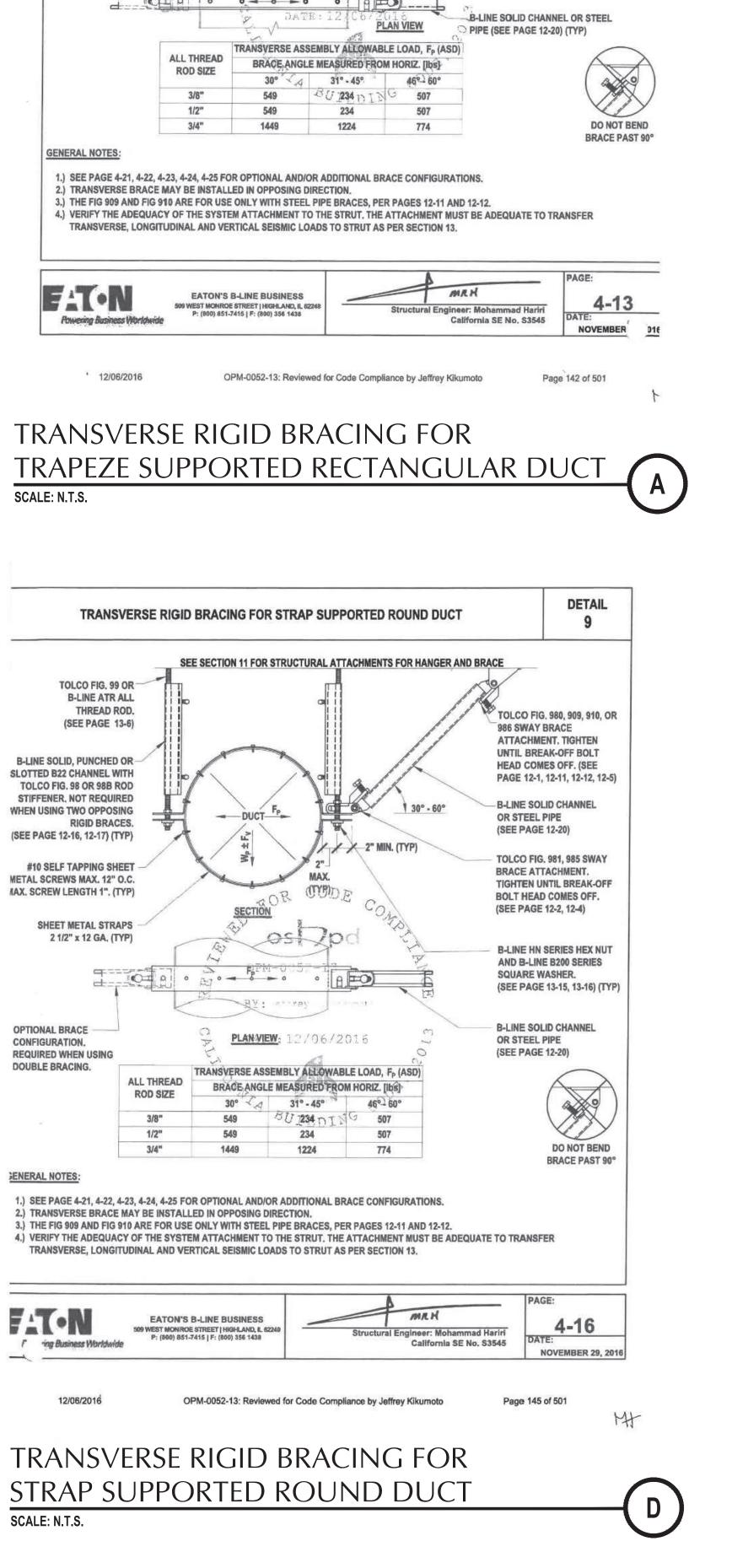


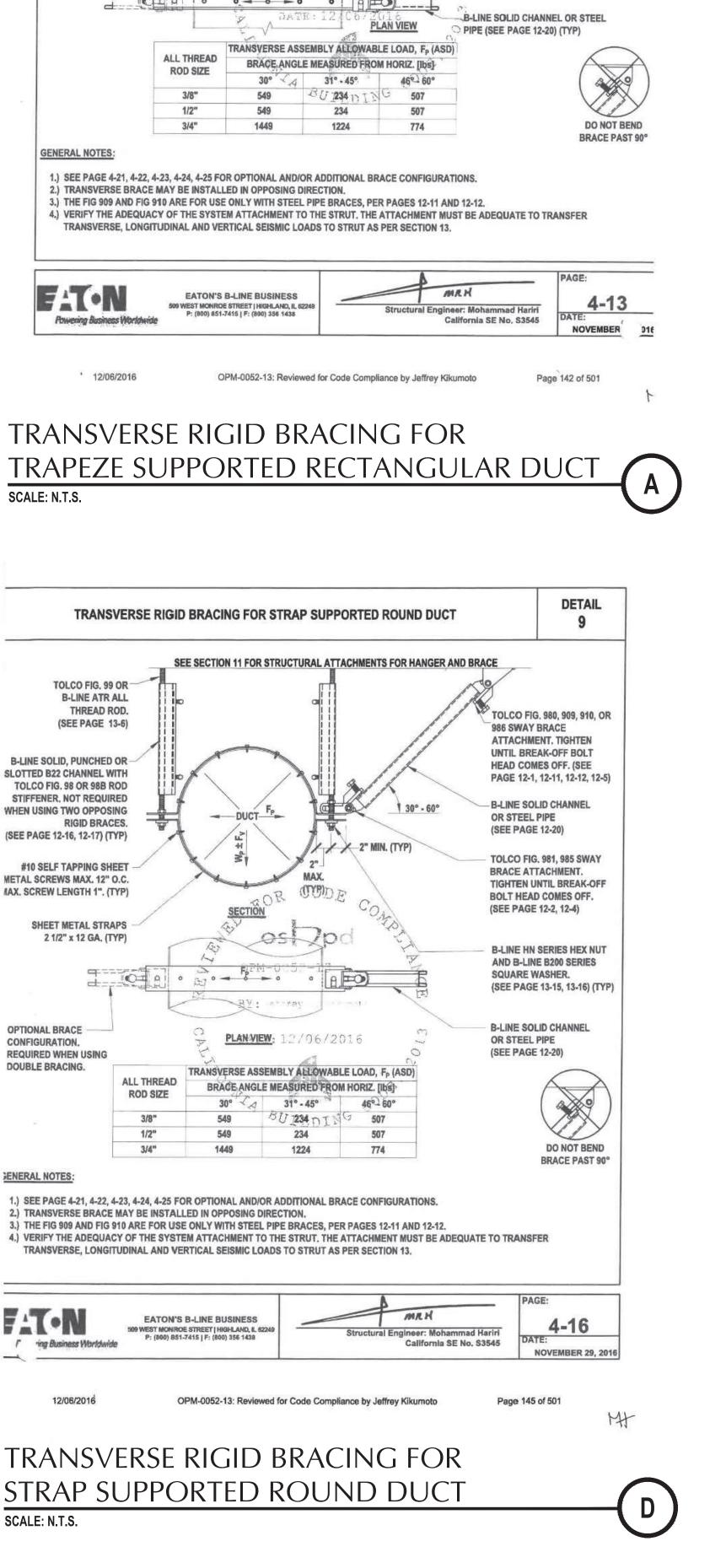


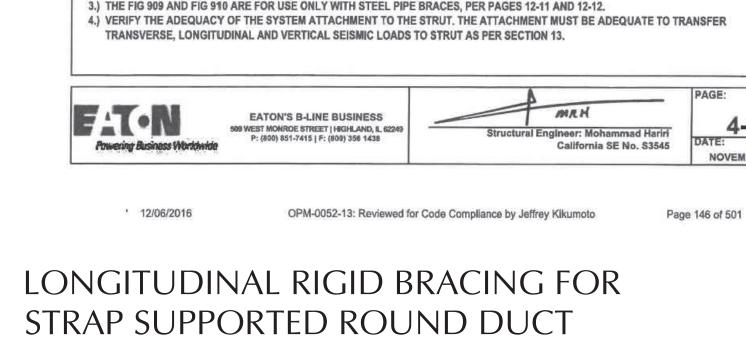
emē:



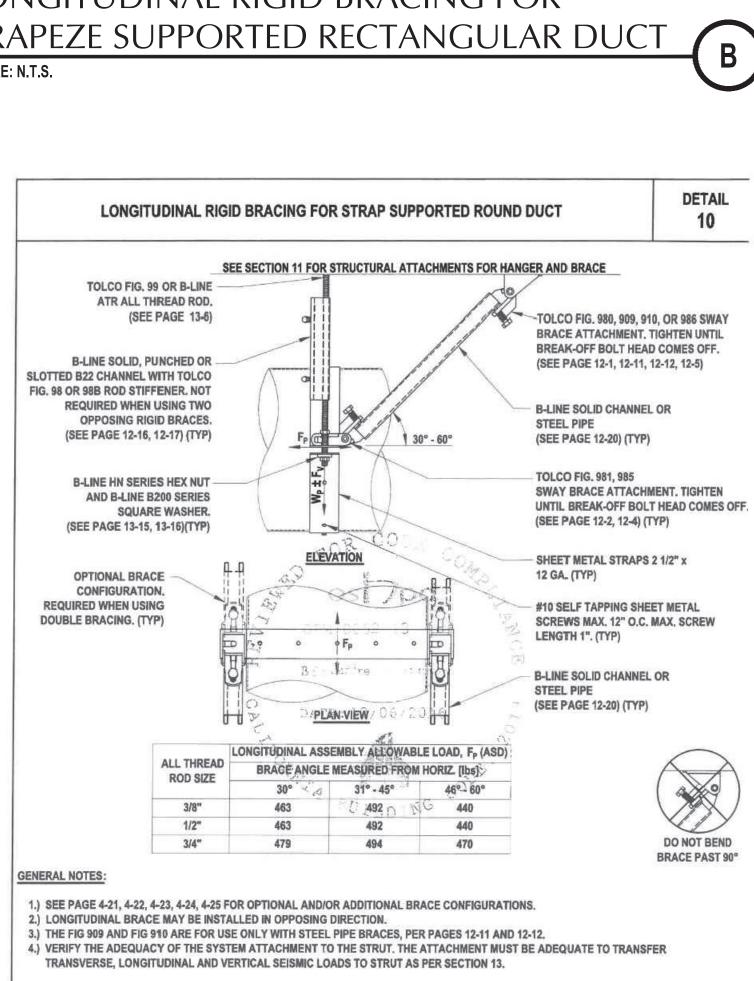




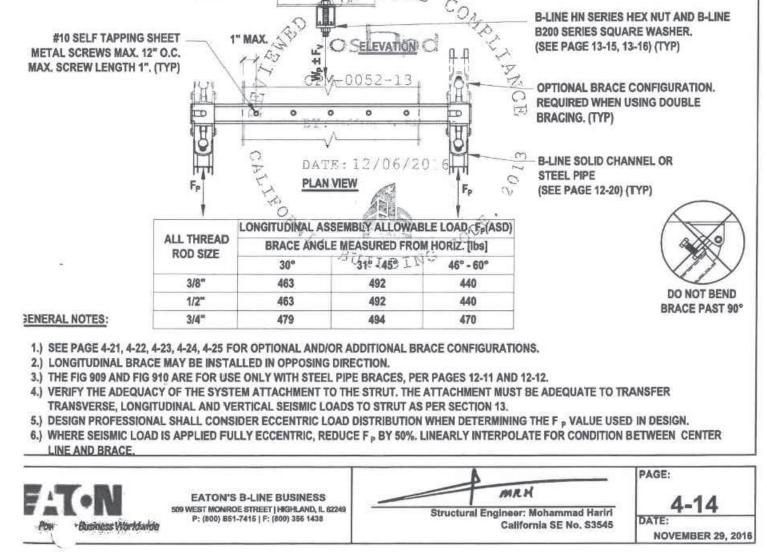




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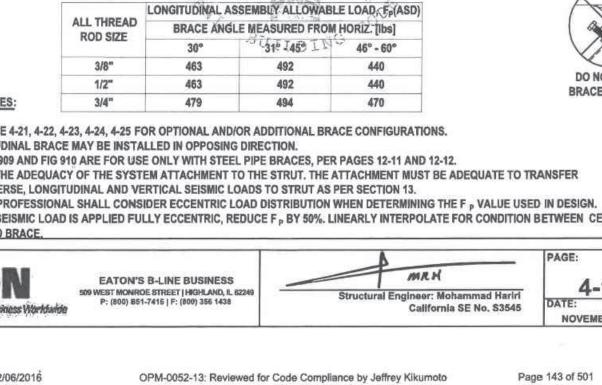


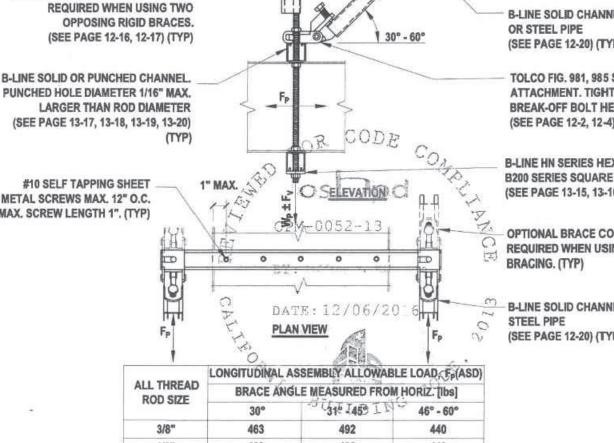


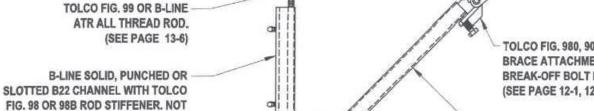






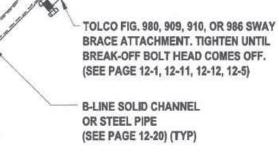






SEE SECTION 11 FOR STRUCTURAL ATTACHMENTS FOR HANGER AND BRACE

LONGITUDINAL RIGID BRACING FOR TRAPEZE SUPPORTED RECTANGULAR DUCT



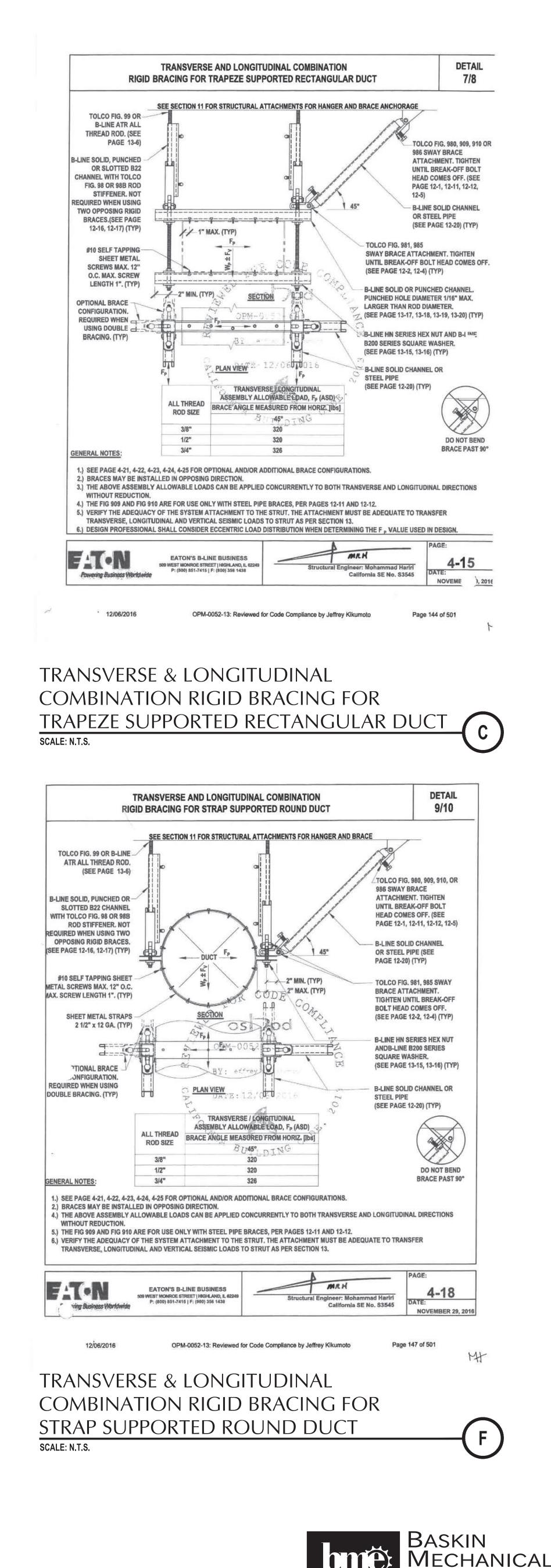
(SEE PAGE 12-1, 12-11, 12-12, 12-5)

TOLCO FIG. 981, 985 SWAY BRACE ATTACHMENT. TIGHTEN UNTIL

DETAIL

BREAK-OFF BOLT HEAD COMES OFF. (SEE PAGE 12-2, 12-4) (TYP)

Mt



175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 21146 Plt: 12-13-22

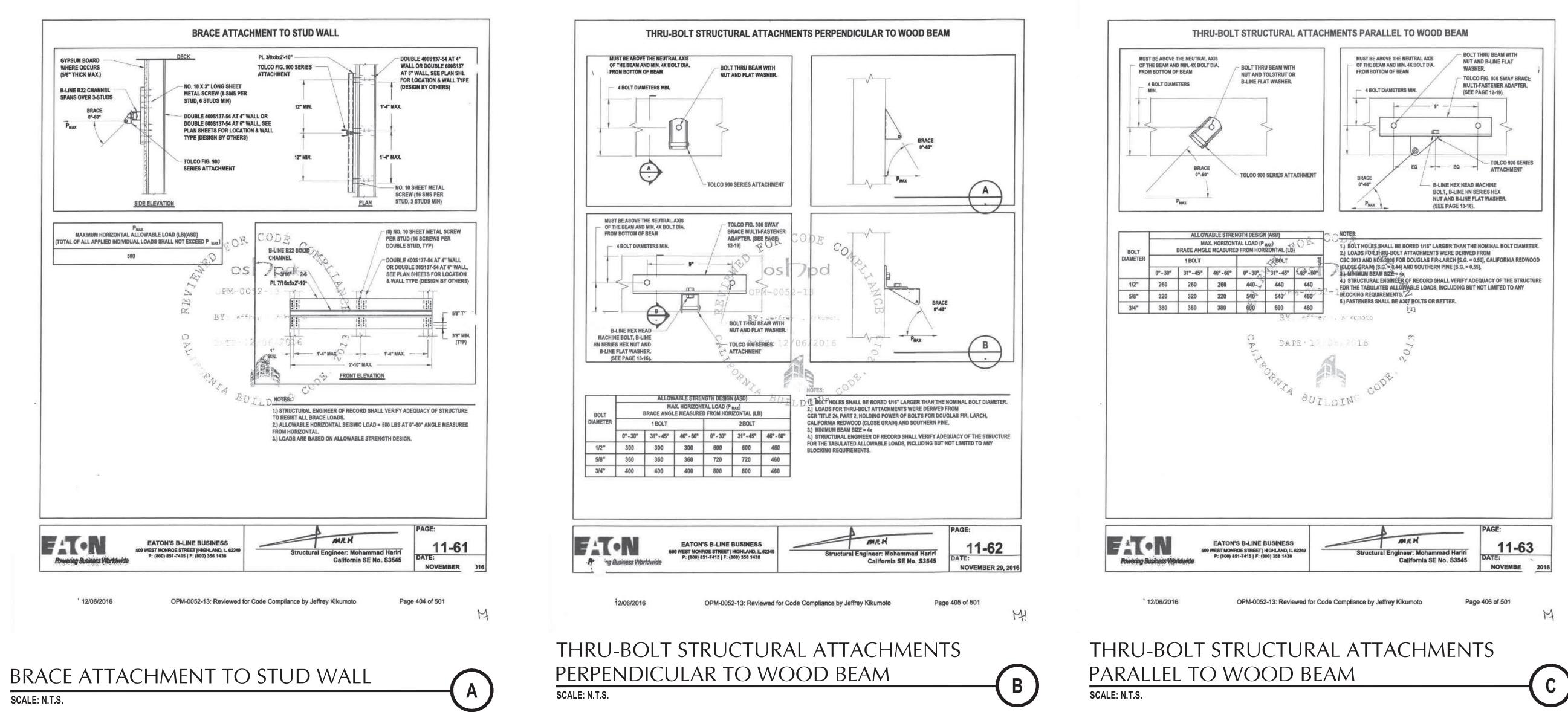
ENGINEERS

4-17

Ε

NOVEMBER





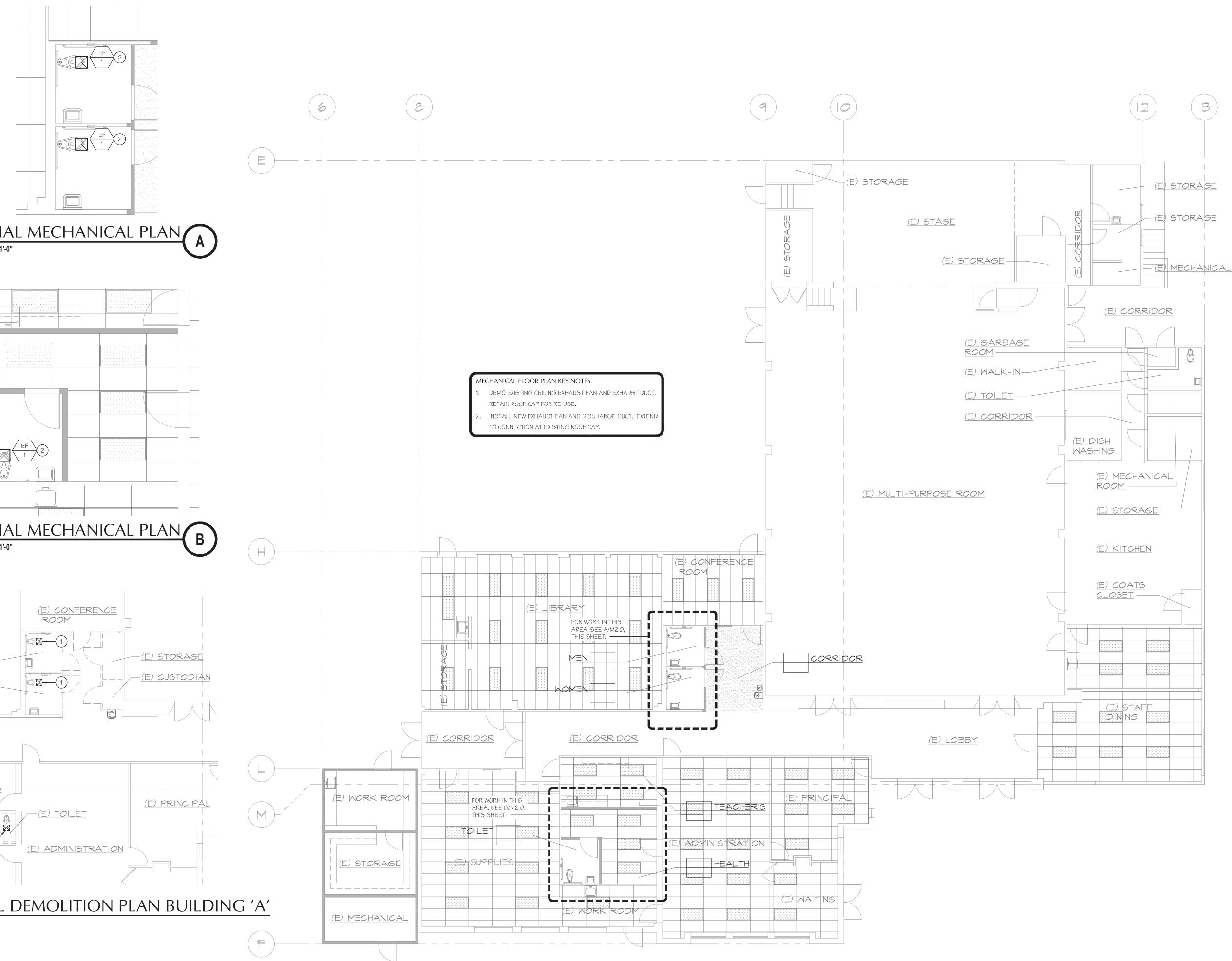
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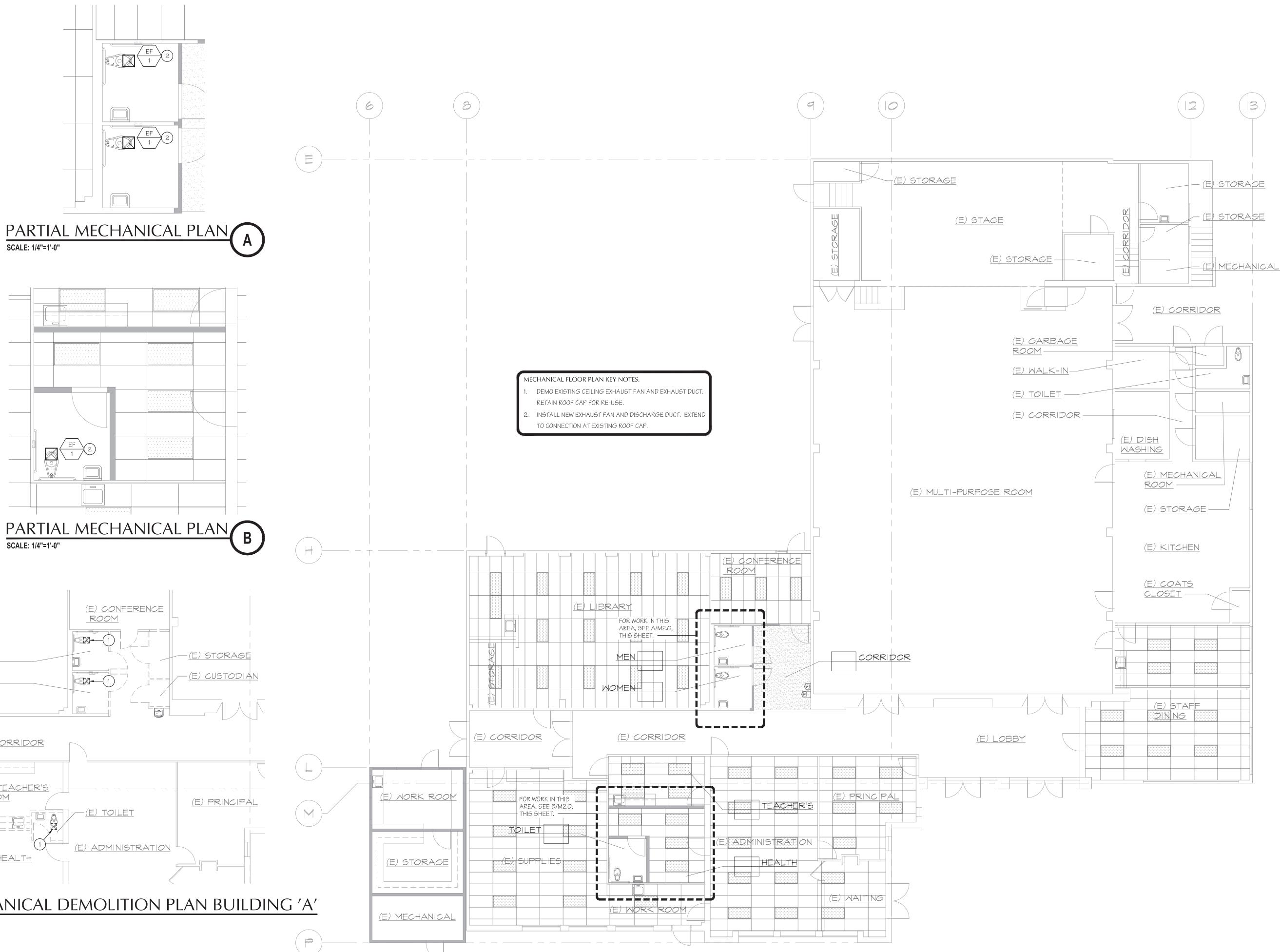


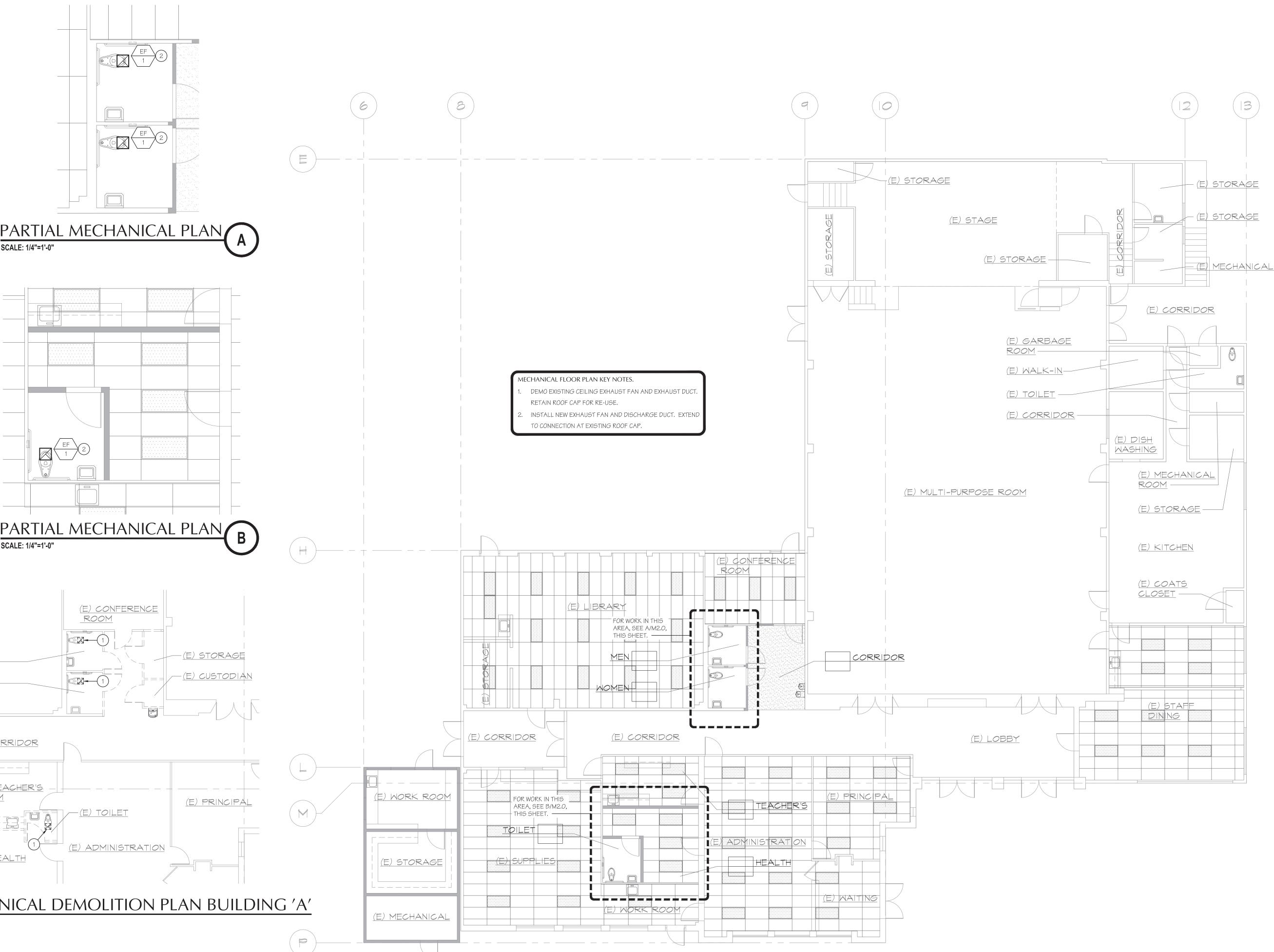


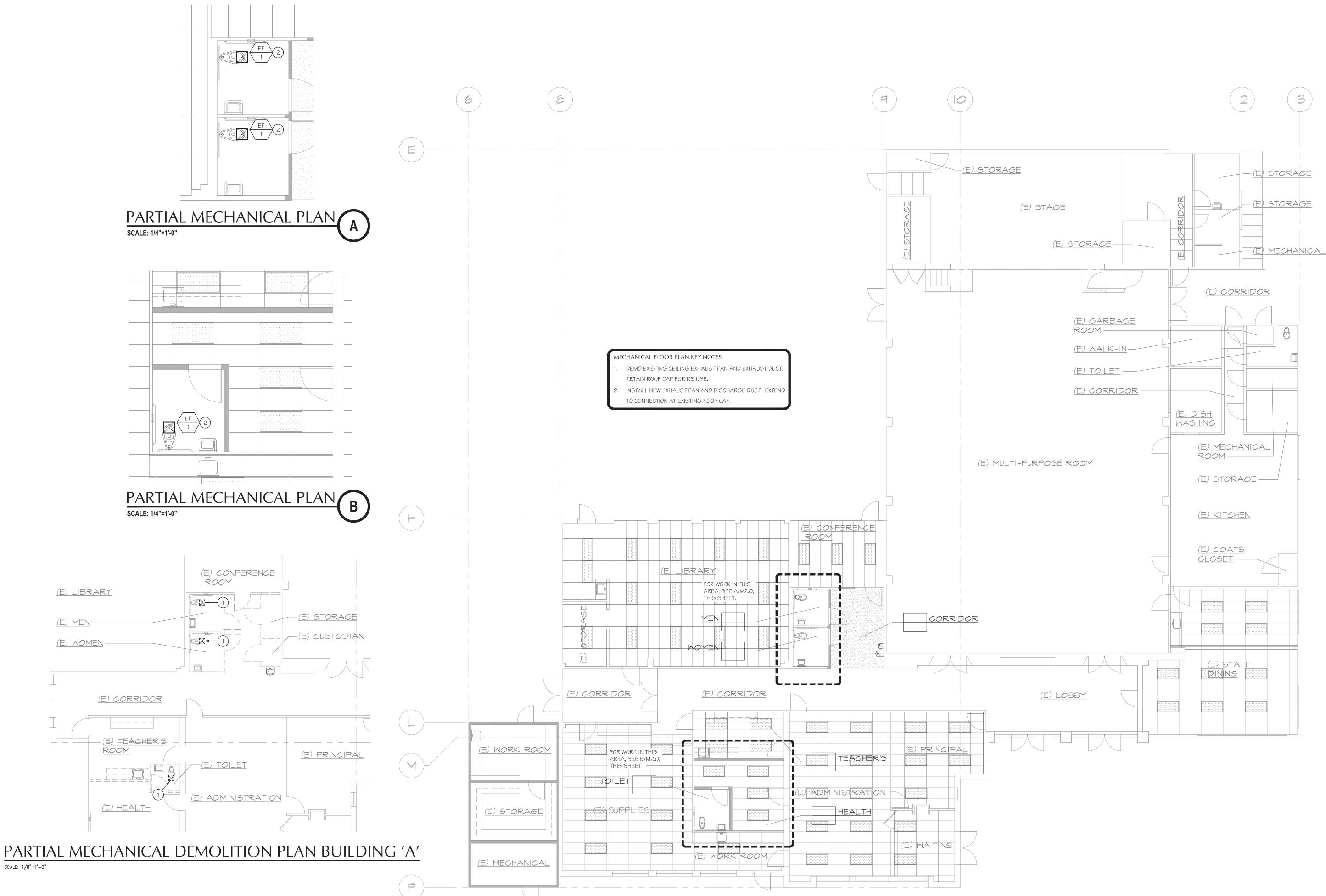






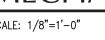








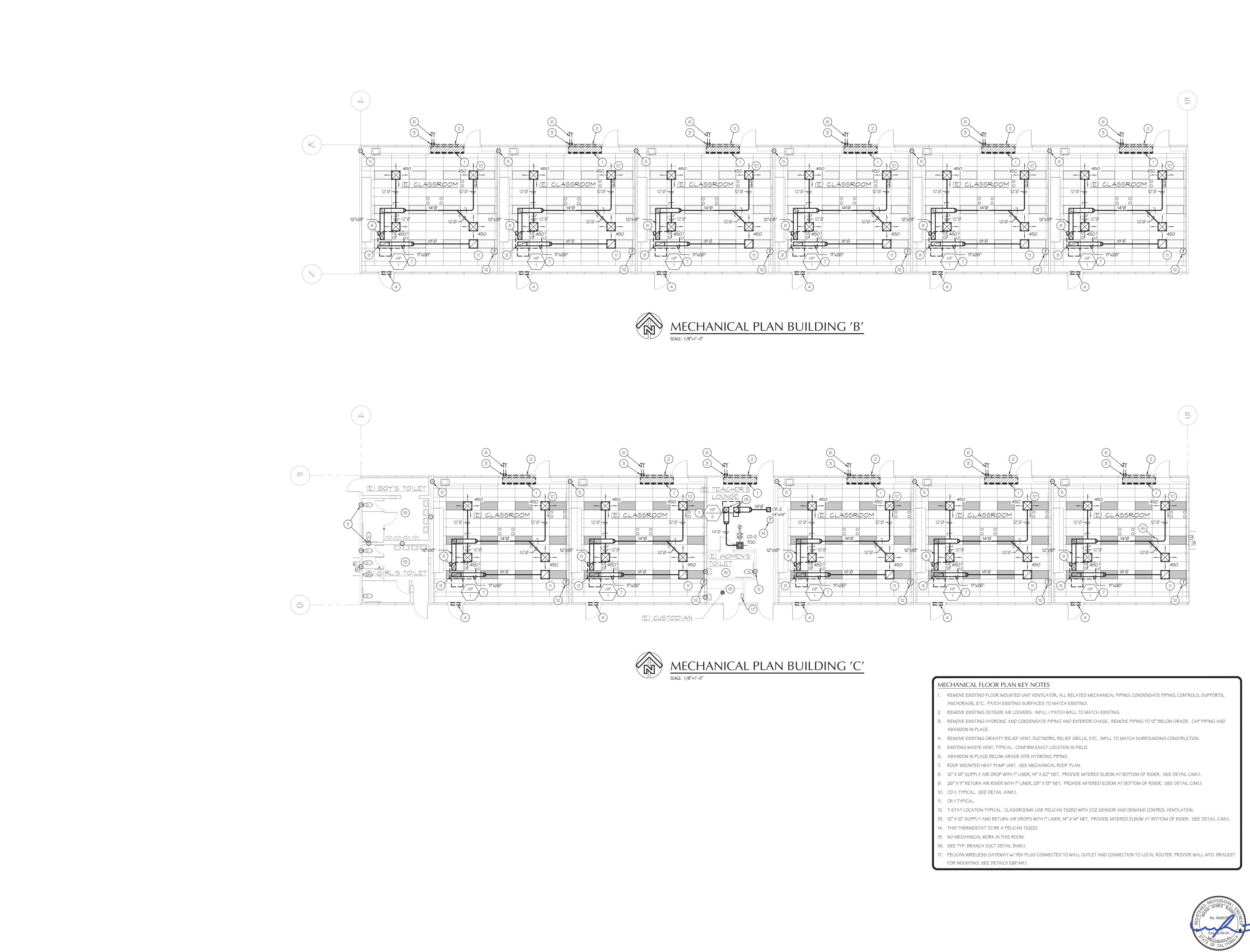
SCALE: 1/8"=1'-0"





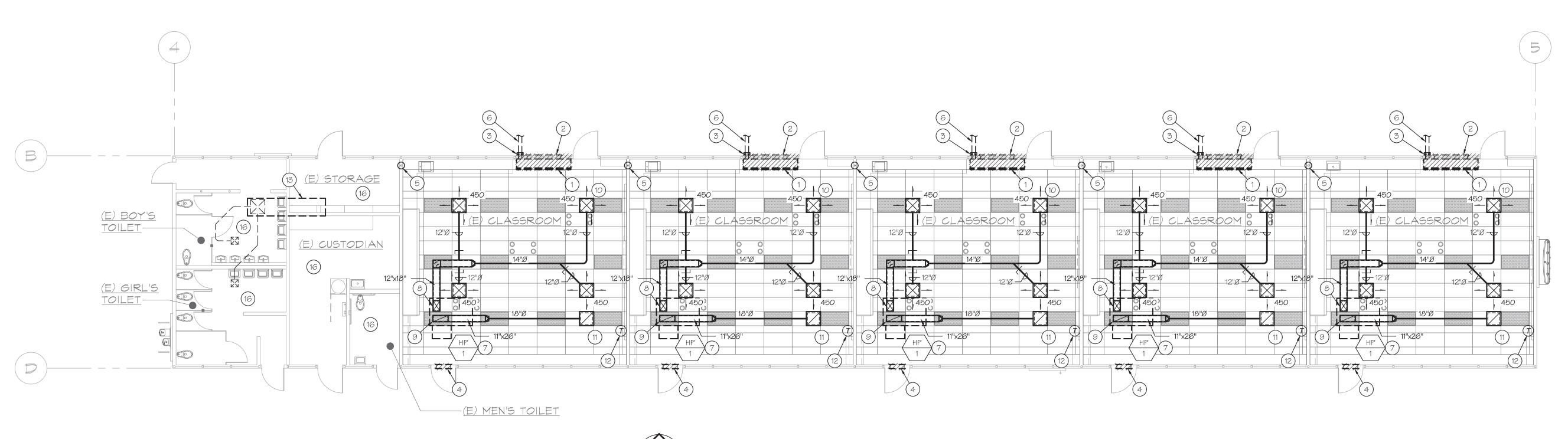


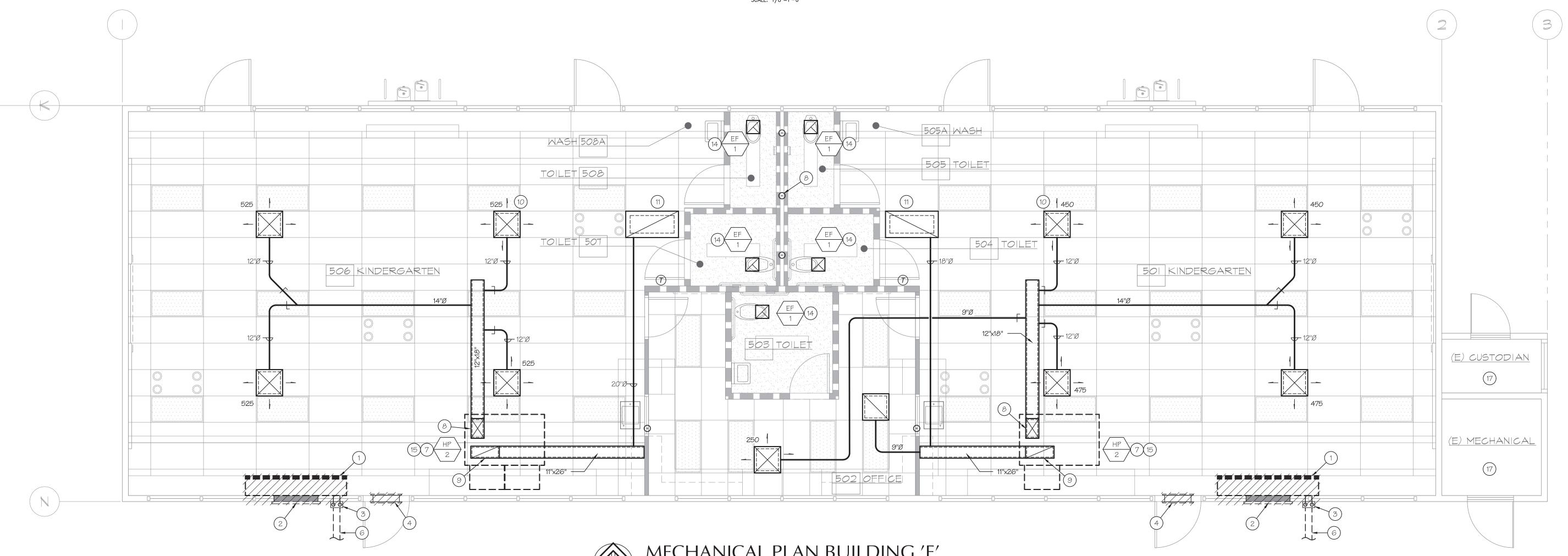














MECHANICAL PLAN BUILDING 'D' SCALE: 1/8"=1'-0"



MECHANICAL FLOOR PLAN KEY NOTES.

- REMOVE EXISTING FLOOR MOUNTED UNIT VENTILATOR, ALL RELATED MECHANICAL PIPING, CONDENSATE PIPING, CONTROLS, SUPPORTS, ANCHORAGE, ETC. PATCH EXISTING SURFACES TO MATCH EXISTING.
- REMOVE EXISTING OUTSIDE AIR LOUVERS. INFILL / PATCH WALL TO MATCH EXISTING.
- REMOVE EXISTING HYDRONIC AND CONDENSATE PIPING AND EXTERIOR CHASE. REMOVE PIPING TO 12" BELOW GRADE. CAP PIPING AND ABANDON IN PLACE.
- REMOVE EXISTING GRAVITY RELIEF VENT, DUCTWORK, RELIEF GRILLE, ETC. INFILL TO MATCH SURROUNDING CONSTRUCTION. . EXISTING WASTE VENT, TYPICAL. CONFIRM EXACT LOCATION IN FIELD.
- . ABANDON IN PLACE BELOW GRADE SITE HYDRONIC PIPING.
- ROOF MOUNTED HEAT PUMP UNIT. SEE MECHANICAL ROOF PLAN.
- B. 12" X 18" SUPPLY AIR DROP WITH 1" LINER, 14" X 20" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1.
- . 26" X 11" RETURN AIR RISER WITH 1" LINER, 28" X 13" NET. PROVIDE MITERED ELBOW AT BOTTOM OF RISER. SEE DETAIL C/M1.1 10. CD-1, TYPICAL. SEE DETAIL A/M1.1.
- 11. CR-1 TYPICAL.
- 12. T-STAT LOCATION TYPICAL. CLASSROOMS USE PELICAN TS250 WITH CO2 SENSOR AND DEMAND CONTROL VENTILATION. SEE TYP. DETAIL D/M1.1.
- 13. EXISTING MAKE-UP-AIR UNIT SERVING TOILET ROOMS TO REMAIN. NO WORK.
- 14. DEMO EXISTING EXHAUST FAN AND INSTALL NEW EXHAUST FAN AND DISCHARGE DUCT. EXTEND TO CONNECTION AT EXISTING ROOF CAP.
- 15. THIS HP UNIT TO HAVE INTERLOCK WITH FIRE ALARM PANEL FOR AUTOMATIC SHUT-DOWN. SEE DETAIL H/M1.1.
- 16. NO MECHANICAL WORK IN THIS ROOM.





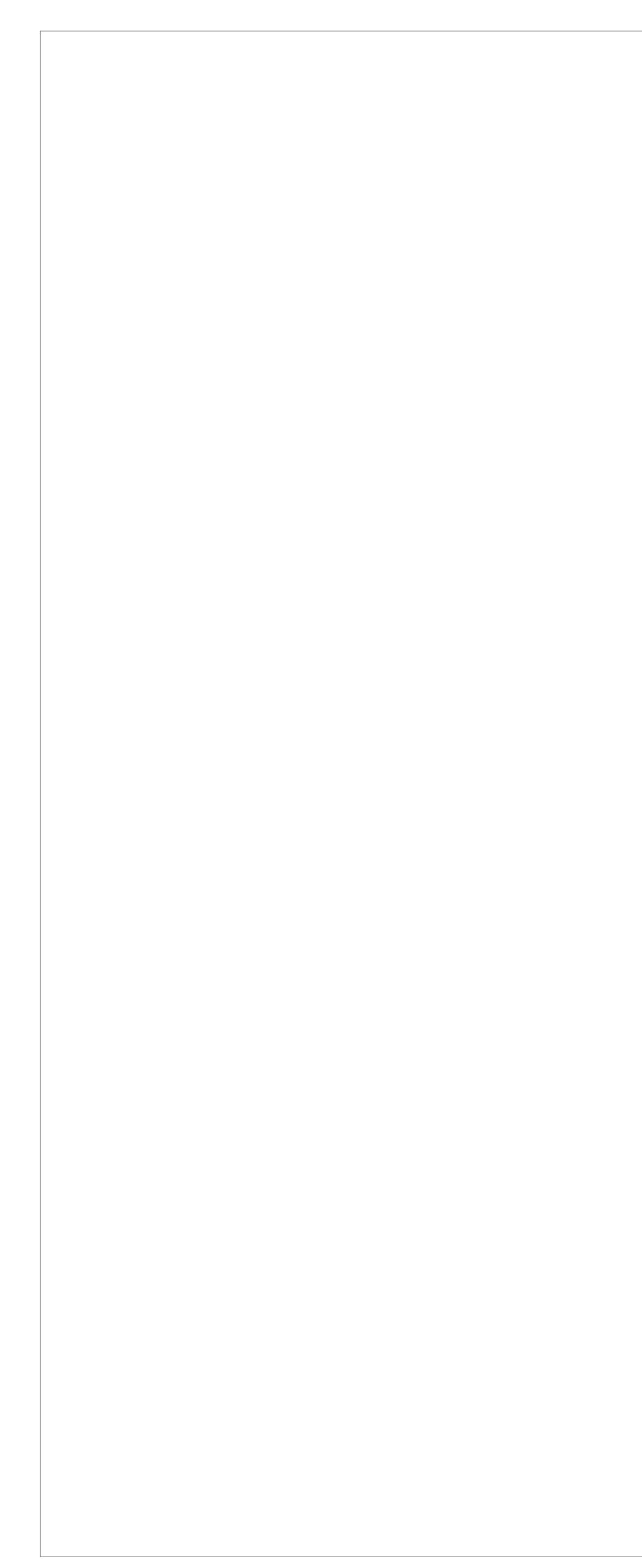


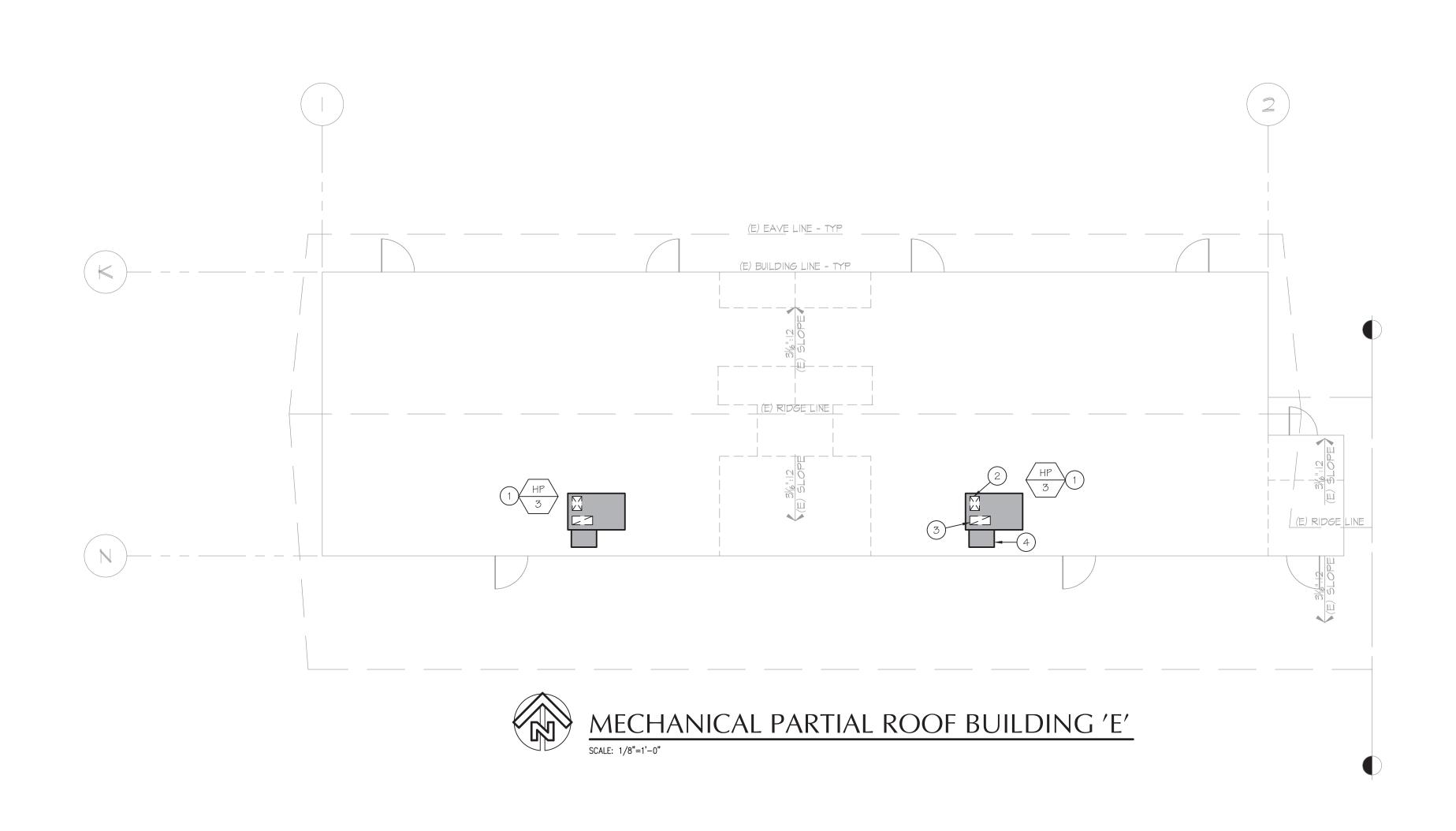










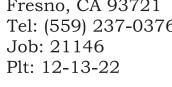


MECHANICAL ROOF PLAN KEY NOTES:

- 1. NEW HP UNIT ON SLOPED ROOF CURB. SEE DETAIL A/M1.2. TYPICAL. 2. 14" X 19" SUPPLY DUCT DROP THRU ROOF WITH 1" LINER, 16" X 21" NET. TYPICAL.
- 3. 26" X 11" RETURN DUCT RISER THRU ROOF WITH 1" LINER, 28" X 13" NET. TYPICAL.
- 4. ECONOMIZER WITH POWER EXHAUST MODULE. SET MINIMUM OUTSIDE EQUAL TO 200 CFM WITH DEMAND CONTROL VENTILATION OVERRIDE TO 500 CFM. TYPICAL.



BASKIN MECHANICAL BNGINEERS 175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Job: 21146 Plt: 12-13-22





STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICA	TE OF COMPLIANCE						
	iment is used to demonstrate complianc lined in <u>§140.4</u> , or <u>§141.0(b)2</u> for altera		cal system	ms that are within th	ne scop		
Project Na	ame:	Roosevelt E	Elementary HVAC Upgrades Bld B				
Project Ad	ddress:			2324 Verde Street	Date		
A. GENE	RAL INFORMATION						
01 Proje	ect Location (city)		Bake	rsfield	04		
02 Clim	ate Zone			13	05		
03 Occi	pancy Types Within Project:			06			
□ Offic	e (B)	🛛 Retail (M					
Hote	I/ Motel Guest Rooms (R-1)	School (E	:)				
□ High	-Rise Residential (R-2/R-3)	Relocata	ble Class	Bldg (E)			
This table	ECT SCOPE Procludes mechanical systems or compo pr <u>§141.0(b)2</u> for alterations.	nents that are	within t	he scope of the pern	nit app		
	01			(02		
	Air System(s)			Wet System	Comp		
\boxtimes	Heating Air System			Water Economize	r		
\boxtimes	Cooling Air System			Pumps			
	Mechanical Controls		System Piping				
	Mechanical Controls (existing to rem or new)	ain, altered		Cooling Towers			
				Chillers			

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

STATE OF CALIFORNIA

Mechanical Syste	ems						CALIFORNIA ENE	RGY COMMISSION
CERTIFICATE OF COMPLIA	NCE							NRCC-MCH-E
Project Name:	Ro	osevelt Elementary HV	AC Upgrades Bld B	Report Page:				(Page 4 of 16)
Project Address:			2324 Verde Street	Date Prepared:				12/9/2022
	IMARY (DRY & WET SYSTEM Efficiency (other than Package		ioners (PTAC) and	Package Terminal	Heat Pumps (PTHP	·))	-	
01	02	03	04	05	06	07	08	09
			Heat	ing Mode	3		Cooling Mode	2
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
HP-1/B-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/B-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/B-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / B4	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1/04								

Mechanical Syste	ems						CALIFORNIA ENE	RGY COMMISSION
CERTIFICATE OF COMPLIA	NCE							NRCC-MCH-E
Project Name:	Ro	osevelt Elementary HV	AC Upgrades Bld B	Report Page:				(Page 4 of 16)
Project Address:			2324 Verde Street	Date Prepared:				12/9/2022
	IMARY (DRY & WET SYSTEM Efficiency (other than Package		ioners (PTAC) and	Package Terminal	Heat Pumps (PTHP	·))	-	
01	02	03	04	05	06	07	08	09
			Heat	ing Mode	3		Cooling Mode	2
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
HP-1/B-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/B-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/B-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / B4	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1/04								

This section does not apply to this project.

G. PUMPS

H. FAN SYSTEM	VIS & AIR ECONO	OMIZERS							
				escriptive requirements fou be included in Table H.	nd in <u>§140.</u>	<u>4(c), §140.4</u>	(<u>e)</u> and <u>§140.4(m)</u> for fo	n systems. Fan systems servin	g only process loads are
System Name:	HP-1/B-1	Econom	izer:1	Fixed Temperature	Econom			System Fan Type:	Variable Air Volume
01	02		03	04		05	06	07	08
Fee Nemerou	Mariana Baria Gu		Mauinum Danim Sumul	aply Airflow			Fan Power Pressure Drop	Adjustment - Table 140.4-B	
Fan Name or Item Tag	Fan Functio	on	Qty	Maximum Design Supply (CFM)	AITIOW	HP Unit	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply		1	1800		BHP	0.66	NA	NA
Total System Design Supply Airflow (CFM):		1800	1	/stem Desig (B)HP:	n 0.66	Maximum System Fan Power (B)HP:			

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA Mechanical Systems NIDCC MCH E

NRCC-MCH-E	System	15							CALIFORNIA ENERGY COMMISSION			
CERTIFICATE OF C	OMPLIANC	E							NRCC-MCH-E			
Project Name:			Roosevelt Eleme	entary HVAC Up	grades Bld	B Report Pa	Report Page: (Page 7					
Project Address:				2324	Verde Stre	et Date Prep	ared:		12/9/2022			
I. SYSTEM CON	TROLS											
have setback the	rmostats. with a * r	1.05 1.05	Bang De lanz D	1	10		2.5		t because zones compliant with <u>§140.4(d)</u> ;			
J. VENTILATION	AND IN	DOOR AIR QUALITY										
occupancies. For outdoor ventilat	alteration ion rates a	ns, only ventialtion sys and airflows may be sh	tems being altered lown on the plans o	l within the sco or the calculat	ope of the tions can l	e permit app be presenter	lication nee d in a sprea	ed to be documented in t dsheet.	high-rise residential and hotel/motel this table. In lieu of this table, the required			
01			N					ching the calculations ins	stead of completing this table.			
02	\boxtimes	Check this box if th										
0.55	1.	Check this box if th	e project included	new or altered	d high-rise	e residentia	dwelling u	nits.				
03		Check the box if the	e project is using n	atural ventilat	ion in any	nonresider	ntial or hote	el/motel spaces to meet	required ventilation rates per §120.1(c)2.			
Nonresidential a	and Hotel/	Motel Ventilation Sy	stems	0								
	04	4		05				06	07			
			Custom David	- OA CENA		é	5.1		Air Filtration per §120.1(c) and §141.0(b)2 ²			
System Name		HP-1/B-1	System Desi Airfl	and the second state of th	365	5702 - 506 M	Design Air CFM	0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))			
08		09	10	11	12	13	14	15	16			
		Mechanical Ve	ntilation Required	per §120.1(c)	<u>3</u> ³		Exh.	Vent per <u>§120.1(c)4</u>				
Space Name			Conditioned	# of Shower	# of	Required	Required	Provided per Design	DCV or Sensor Controls per §120.1(d)3,			

NRCC-MCH-E									CALIFORNI	A ENERGY COMMISSIO				
CERTIFICATE OF	COMPLIANCE									NRCC-MCH-				
Project Name:		1	Roosevelt Eleme	entary HVAC U	ogrades Bld B	Report Pa	ge:			(Page 7 of 1				
Project Address				2324	Verde Stree	Date Prep	ared:			12/9/202				
. SYSTEM CO	ONTROLS													
FOOTNOTES: (ave setback ti		vall heaters, gravity floor l	neaters, gravit	y room heate	rs, non-cen	tral electric	c heaters, fi	ireplaces or decorative go	as appliances, wood sto	ves are not required to				
Notes: Contro XCEPTION 1 to		quire a note in the space	below explain	ing how com	pliance is a	chieved. EX	(: system 1:	SA Temp Reset: Exempt	because zones complia	nt with <u>§140.4(d)</u> ;				
. VENTILATIO	ON AND INC	DOOR AIR QUALITY												
occupancies. F	or alteration.	strate compliance with me s, only ventialtion systems nd airflows may be shown	being altered	within the so	ope of the p	permit app	lication nee	ed to be documented in th						
01		Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.												
02		Check this box if the pro	Check this box if the project included Nonresidential or Hotel/Motel spaces											
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	ject is using na	atural ventila	tion in any r	nonresiden	tial or hote	l/motel spaces to meet r	equired ventilation rate	es per §120.1(c)2.				
Ionresidentia	and Hotel/	Motel Ventilation System	IS				11							
	04	L.		05		1		06	07					
			Curta Davi			ê	A		Air Filtration per §120.1(c) and §141.0(b					
System Name		HP-1/B-1	System Desi Airfle	The second second second second	365		Design Air CFM	0		120.1(c) (NR and (Motel))				
08		09	10	11	12	13	14	15		16				
		Mechanical Ventila	tion Required	per <u>§120.1(c</u>)	3 3		Exh.	Vent per <u>§120.1(c)4</u>						
Space Name ot item Tag	0	ccupancy Type ⁴	Conditioned Floor Area (ft ²)		# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		trols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> ⁶				
Classroom B1	Locture / n	ostsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4				
LIASSI UUIII B1	Lecture/ p	usisecondary classioom	900			504.6	0	U	Occ Sensor	NA: Not required space type				
	<u>.</u>			2		· · · · · · · · · · · · · · · · · · ·				space type				

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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

			NRCC-MCH-I					
of the permit applic	ation and are:	demonstratin	g compliance using the prescriptive					
Page:			(Page 1 of 16					
repared:			12/9/2023					
Total Conditioned Fl	ioor Area		4800					
Total Unconditioned	l Floor Area		0					
# of Stories (Habitat	ole Above Gra	de)	1					
Non-refrigerated Wa	arehouse (S)							
Healthcare Facility (1)							
Other (write in)			See Table J					
cation and are demo	onstrating con	npliance using	the prescriptive path outlined in					
			03					
nents		Drv S						
nents		Dry S Air Econom	ystem Components					
nents		Air Econom	ystem Components					
nents	RULE:	Air Econom	ystem Components lizer listance Heat					
nents		Air Econom Electric Res Fan System	ystem Components lizer listance Heat					
nents		Air Econom Electric Res Fan System	ystem Components lizer listance Heat s					

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

CERTIFICATE OF COMPLIANCE

Project Name:				Ro	osevelt	Elementary HV#	C Upgr	ades Bld B Repo	ort Page	:				
Project Addres	55:					1	2324 Ve	rde Street Date	Prepar	red:				
								77						
C. COMPLIA	NCE R	ESULTS												
				out into the co ional Conditio								table is not edi nce.	itable b	y the
01		02		03		04		05		06		07	-	
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	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> §140.4(I)	AND	Coo §1
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(Se
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND	
				Mandatory	Measu	ires Complian	ce (See	Table Q for D	etails)				COMP	LIES
											<u>i</u> - i			
D. EXCEPTIC	DNAL (CONDITIONS												
This table is a	uto-fill	led with unedit	able co	omments beca	use of .	selections mad	le or de	ata entered in	tables	throughout th	e form.			

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

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

Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

Registration Date/Time: Report Version: 2019.1.003

Schema Version: rev 20200601

Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

Registration Provider: Energysoft

Report Generated: 2022-12-09 14:58:26

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**

	CALIFO							NRCC-MCH-E	RNIA ENERGY COMMISSION	Cricii O							NRCC-MCH-E
NRCC-MCH							NCE	CERTIFICATE OF COM	NRCC-MCH-E							COMPLIANCE	CERTIFICATE OF
(Page 6 of 1			Page:	les Bld B Report	evelt Elementary HVAC Upgra	Roos		Project Name:	(Page 5 of 16)			d B Report Page:	IVAC Upgrades Bld	Roosevelt Elementary HVAC	R		Project Name:
12/9/20			repared:	e Street Date Pr	2324 Ver			Project Address:	12/9/2022			eet Date Prepare	2324 Verde Stre	232			Project Address:
in .					<u> </u>	5	R ECONOMIZER	H. FAN SYSTEMS	1		-				ERS	VIS & AIR ECONOM	H. FAN SYSTE
Variable Air Volume	System Fan Type:	<u>§140.4(e)</u> and Sy	Designed per § (m	conomizer Controls:	Eivod Tomporaturo	omizer:1	/ B-5 Econ	System Name:	Variable Air Volume	System Fan Type:	ed per <u>§140.4(e)</u> and (m)		ure Econor Contr	Fixed Temperature	onomizer:1	HP-1 / B-2	System Name:
08	07	06)5	0	04	03	02	01	08	07	06	05		04	03	02	01
Adjustment - Table 140.4	Power Pressure Drop	Fan Po				-		- N	Adjustment - Table 140.4-B	Fan Power Pressure Drop			C	Mariana Davias Care			Care Name and
Design Airflow through Device (CFM)	Device	Design HP	Unit ² (HP U	Aximum Design Supply Air (CFM)	Qty N	an Function	Fan Name or Item Tag	Design Airflow through Device (CFM)	Device	Design HP	HP Unit ²	Conservation and the second	Maximum Design Supp (CFM)	Qty	Fan Function	Fan Name or Item Tag
NA	NA	0.72	НР	BH	1800	1	Supply	SF	NA	NA	0.66	BHP	C	1800	1	Supply	SF
	ximum System Fan Power (B)HP:		esign	Fotal System De (B)HP:	1800	CFM):	n Supply Airflow ((Total System		Maximum System Fan Power (B)HP:	0.66	System Design (B)HP:	Total S	1800	v (CFM):	em Design Supply Airfl	Total Syste
	t.	NRCC-PRC-E document.	mented on the l	nd will be docu	equirements of <u>§140.9(a)</u> a				Variable Air Volume	System Fan Type:	ed per <u>§140.4(e)</u> and (m)		ure Econor	Fixed Temperature	onomizer:1	HP-1 / B-3	System Name:
					in a system	or all fans with	ust he consistent f	² The unit used for				The Allen	2				
					in a system.	or all fans with	ust be consistent f	² The unit used for	08	07	06	05	and the second second	04	03	02	01
					in a system.	or all fans with		² The unit used for	08 Adjustment - Table 140.4-B		06	and the second			03	02	
n <u>§141.0(b)2E</u> for altered	(n) or requirements in	trols in <u>§140.4(f)</u> and (r	prescriptive cont	1 <u>§120.2</u> and p	in a system. atory controls in <u>§110.2</u> an		nonstrate complia	I. SYSTEM CONT			06 Design HP	and the second	Supply Airflow	04 Maximum Design Supp (CFM)	03 Qty	02 Fan Function	
n <u>§141.0(b)2E</u> for altered 09	(n) or requirements in	ntrols in <u>§140.4(f)</u> and (r	orescriptive cont	§ <u>120.2</u> and p			nonstrate complia	I. SYSTEM CONT This table is used t	Adjustment - Table 140.4-B Design Airflow through	Fan Power Pressure Drop		05	Supply Airflow 1)	Maximum Design Supp			an Name or
09 Window Interlocks per	08 e Supply Air	07 Demand Response	06 Isolation Zone	05 Shut-Off	atory controls in <u>§110.2</u> an 04 Thermostats	03 Conditioned Floor Area	nonstrate complian ems. 02 System	I. SYSTEM CONT This table is used t space conditioning 01	Adjustment - Table 140.4-B Design Airflow through	Fan Power Pressure Drop	Design HP	05 HP Unit ²	Supply Airflow 1) D Total S	Maximum Design Supp (CFM)	Qty 1	Fan Function	Fan Name or Item Tag SF
09	08 e Supply Air	07	06 Isolation	05 Shut-Off Controls §120.2(e)	atory controls in <u>§110.2</u> an 04	nce with mand 03 Conditioned	nonstrate complian ems. 02	I. SYSTEM CONT This table is used t space conditioning	Adjustment - Table 140.4-B Design Airflow through	Fan Power Pressure Drop Device Maximum System Fan	Design HP 0.72	05 HP Unit ² BHP System Design (B)HP: mizer Desig	Supply Airflow 1) D Total S	Maximum Design Supp (CFM) 1800	Qty 1	Fan Function Supply em Design Supply Airfl	Fan Name or Item Tag SF
09 Window Interlocks per	e Supply Air Temp. Reset	07 Demand Response	06 Isolation Zone Controls	05 Shut-Off Controls §120.2(e) Auto Timer	atory controls in <u>§110.2</u> an 04 Thermostats <u>§110.2(b)</u> & (c) ¹ ,	03 Conditioned Floor Area Being Served	nonstrate complian ems. 02 System Zoning	I. SYSTEM CONT This table is used t space conditioning 01	Adjustment - Table 140.4-B Design Airflow through Device (CFM)	Fan Power Pressure Drop Device Maximum System Fan Power (B)HP:	Design HP 0.72 0.72 0.72 eed per <u>§140.4(e)</u> and	05 HP Unit ² BHP System Design (B)HP: mizer Desig	Supply Airflow 1) D Total S ure Econor Contr	Maximum Design Supp (CFM) 1800 1800	Qty 1 v (CFM):	Fan Function Supply Im Design Supply Airfl	Fan Name or Item Tag SF Total Syste System
09 Window Interlocks per <u>§140.4(n)</u>	e Supply Air Temp. Reset <u>§140.4(f)</u>	07 Demand Response <u>§110.12</u> and <u>§120.2(</u> EMCS	06 Isolation Zone Controls §120.2(g) 4 Hour Timer	05 Shut-Off Controls §120.2(e) Auto Timer Switch	atory controls in <u>§110.2</u> an 04 Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or §141.0(b)2E</u>	03 Conditioned Floor Area Being Served (ft ²)	nonstrate complian ems. 02 System Zoning	I. SYSTEM CONT This table is used t space conditioning 01 System Nan	Adjustment - Table 140.4-B Design Airflow through Device (CFM)	Fan Power Pressure Drop Device Maximum System Fan Power (B)HP: System Fan Type: 07	Design HP 0.72 0.72 0.72 eed per <u>§140.4(e)</u> and (m)	05 HP Unit ² BHP System Design (B)HP: mizer rols: 05	Supply Airflow 1) D Total S ure Econor Contr	Maximum Design Supp (CFM) 1800 1800 Fixed Temperature 04	Qty 1 v (CFM): onomizer: ¹	Fan Function Supply Im Design Supply Airfl HP-1 / B4	an Name or Item Tag SF Total System Name: 01
09 Window Interlocks per <u>§140.4(n)</u>	e Supply Air Temp. Reset <u>§140.4(f)</u>	07 Demand Response §110.12 and §120.2(06 Isolation Zone Controls §120.2(g)	05 Shut-Off Controls §120.2(e) Auto Timer Switch Auto Timer Switch	atory controls in <u>§110.2</u> an 04 Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or §141.0(b)2E</u>	03 Conditioned Floor Area Being Served (ft ²)	nonstrate complian ems. 02 System Zoning Single zone	I. SYSTEM CONT This table is used t space conditioning 01 System Nan	Adjustment - Table 140.4-B Design Airflow through Device (CFM) NA Variable Air Volume 08	Fan Power Pressure Drop Device Maximum System Fan Power (B)HP: System Fan Type: 07	Design HP 0.72 0.72 0.72 eed per <u>§140.4(e)</u> and (m)	05 HP Unit ² BHP System Design (B)HP: mizer rols: Desig	Supply Airflow 1) D Total S ure Econor Contr Supply Airflow	Maximum Design Supp (CFM) 1800 1800 Fixed Temperature	Qty 1 v (CFM): onomizer: ¹	Fan Function Supply Im Design Supply Airfl HP-1 / B4	Fan Name or Item Tag SF Total System Name: 01
09 Window Interlocks per §140.4(n) Provided	e Supply Air Temp. Reset <u>§140.4(f)</u> Included	07 Demand Response <u>§110.12</u> and <u>§120.2(</u> EMCS	06 Isolation Zone Controls §120.2(g) 4 Hour Timer	05 Shut-Off Controls §120.2(e) Auto Timer Switch Auto Timer	atory controls in <u>§110.2</u> an 04 Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or §141.0(b)2E</u> Setback	03 Conditioned Floor Area Being Served (ft ²) <= 25,000 ft ²	nonstrate complianers. 02 System Zoning Single zone Single zone	I. SYSTEM CONT This table is used t space conditioning 01 System Nan HP-1 / B-1	Adjustment - Table 140.4-B Design Airflow through Device (CFM) Variable Air Volume 08 Adjustment - Table 140.4-B Design Airflow through	Fan Power Pressure Drop Device Maximum System Fan Power (B)HP: System Fan Type: 07 Fan Power Pressure Drop	Design HP 0.72 0.72 0.72 eed per <u>§140.4(e)</u> and (m) 06	05 HP Unit ² BHP System Design (B)HP: mizer rols: 05	Supply Airflow 1) D Total S Ure Supply Airflow 1)	Maximum Design Supp (CFM) 1800 1800 Fixed Temperature 04 Maximum Design Supp	Qty 1 v (CFM): onomizer: ¹ 03	Fan Function Supply em Design Supply Airfl HP-1 / B4 02	an Name or Item Tag SF Total System Name: 01 Gan Name or
09 Window Interlocks per <u>§140.4(n)</u> Provided Provided	e 2(b) Supply Air Temp. Reset <u>\$140.4(f)</u> Included Included	07 Demand Response §110.12 and §120.2(EMCS EMCS	06 Isolation Zone Controls §120.2(g) 4 Hour Timer 4 Hour Timer	05 Shut-Off Controls §120.2(e) Auto Timer Switch Auto Timer Switch Auto Timer	atory controls in <u>§110.2</u> an 04 Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or §141.0(b)2E</u> Setback Setback	03 Conditioned Floor Area Being Served (ft ²) <= 25,000 ft ²	nonstrate complian ems. 02 System Zoning Single zone Single zone Single zone	I. SYSTEM CONT This table is used t space conditioning 01 System Nan HP-1 / B-1 HP-1 / B-2	Adjustment - Table 140.4-B Design Airflow through Device (CFM) Variable Air Volume 08 Adjustment - Table 140.4-B Design Airflow through	Fan Power Pressure Drop Device Maximum System Fan Power (B)HP: System Fan Type: 07 Fan Power Pressure Drop	Design HP 0.72 0.72 0.72 0.72 0.72 0.72 Design HP Design HP Design HP	05 HP Unit ² BHP System Design (B)HP: mizer rols: 05 HP Unit ²	Supply Airflow 1) Total S Ure Econor Contr Supply Airflow 1) D Total S	Maximum Design Supp (CFM) 1800 1800 Fixed Temperature 04 Maximum Design Supp (CFM)	Qty 1 v (CFM): onomizer:1 03 Qty 1	Fan Function Supply em Design Supply Airfl HP-1 / B4 02 Fan Function	Fan Name or Item Tag SF Total System Name: 01 Fan Name or Item Tag SF

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 Roosevelt Elementary HVAC Upgrades Bld B Report Page: 2324 Verde Street Date Prepared: Project Name: Project Address:

J. VENTILATIO	ON AND INDOOR AIR QUALITY	r						
	04		05				06	
	10177755148 #80127.1544	System Des	ign OA CEM	Set 2, March 11	System	Design	and a	Air Filtration
System Name	HP-1 / B-2	Airflow ¹		365	200 CO 200 CO	Air CFM	0	Provid
08	09	10	11	12	13	14	15	
	Mechanical Ventila	tion Required	per §120.1(c)	<u>3</u> ³		Exh.	Vent per <u>§120.1(c)4</u>	
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Se §120
Classroom B2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV
								Occ Ser
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Compl
	04		05				06	
		System Des	ien OA CEM		System	Design		Air Filtration
System Name	HP-1/B-3	Airfl		365	and the second sec	Air CFM	0	Provid
08	09	10	11	12	13	14	15	
	Mechanical Ventila	tion Required	per §120.1(c)	3 ³		Exh.	Vent per <u>§120.1(c)4</u>	1
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Se §120
Classroom B3	Lecture/ postsecondary classroom	960			364.8	0	0	DCV
clussiooni b5	cecure/ possecondary classicolin	500			504.0	×	U.	Occ Ser
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Compl

Registration Number:

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

Registration Date/Time:

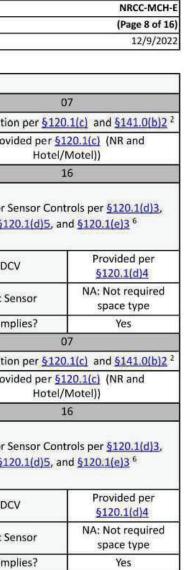
Report Generated: 2022-12-09 14:58:26

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 2 of 16 _____ 12/9/2022 the user. If this table says "DOES 08 09 Cooling Towers §110.2(e)2 **Compliance Results** (See Table M) COMPLIES _____

Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

CALIFORNIA ENERGY COMMISSION



STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name:

Project Address:

Roosevelt Elementary HVAC Upgrades Bld B Report Page: 2324 Verde Street Date Prepared CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

(Page 3 of 16)

12/9/20

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS) his table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(k) or §141.0(b)2 for alterations. Dry System Equipment Sizing (includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters) 05 06 07 08 09 10 11 01 03 04 Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b) Heating Output^{2,3} Cooling Output^{2,3} Load Calculations^{3,} Smallest Size quipment Category per Equipment Type per Tables 110.2 / Title Name or Item Tota Available¹ Per Design Rated Heating (kBtu/h) Tables 110.2 Tag
 Total
 Sensible

 Rated
 Heating
 Cooling

 (kBtu/h)
 Load
 Load

 (kBtu/h)
 (kBtu/h)
 (kBtu/h)
 20 §140.4(a) NA: Load 54.86 36.18 55.65 46.32 59.29 62.08 HP-1/B-1 Unitary Heat Pumps 70.44 Air-cooled, pkg (3 phase) Controls _____ NA: Load HP-1/B-2 54.86 36.18 53.92 46.32 56.45 59.57 70.44 Unitary Heat Pumps Air-cooled, pkg (3 phase) Controls NA: Load HP-1 / B-3 52.26 44.73 56.19 59.79 Unitary AC/ Condensers AC, air-cooled pkg (3 phase) 49 49 Controls NA: Load 52.26 44.73 HP-1 / B4 **Jnitary AC/ Condensers** AC, air-cooled pkg (3 phase) 56.19 59.79 49 49 Controls NA: Load HP-1/B-5 AC, air-cooled pkg (3 phase) 52.29 44.73 59.04 61.39 Unitary AC/ Condensers 49 49 Controls ¹FOOTNOTES: Equipment shall be the smallest size, within the available options of the desired equipment line, necessary to meet the design heating and cooling loads of the building per §140.4(a). Healthcare facilities are excepted.

²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables. ³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank. ⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per <u>§140.4(b)</u>.

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA **Mechanical Systems**

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

CALIFORNIA ENERGY COMMISSION

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

Registration Number:

Registration Number:

CERTIFICATE OF									NRCC-MCH
Project Name:		Roosevelt Eleme		R.A. Constant Const	2 CANTAL CARLACTER	99712D			(Page 9 of 1
Project Address:			2324	Verde Stree	Date Prep	ared:			12/9/202
J. VENTILATIC	ON AND INDOOR AIR QUALITY		10.00						
	04		05	i i			06)7
System Name	HP-1/84	System Desi Airfle	23	365	System Transfer	Design Air CFM	0		<u>1.1(c)</u> and <u>§141.0(b)2</u> 20.1(c) (NR and Motel))
08	09	10	11	12	13	14	15		.6
	Mechanical Ventila	tion Required	per <u>§120.1(c)</u>	<u>3</u> ³		Exh. V	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		rols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> ⁶
Classroom B4	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
Classroom b4	Lecture/ postsecondary classroom	960			304.0	.0	U	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes
	04		05				06	(17
		System Desi	an OA CEM		System	Decign		Air Filtration per §120	1.1(c) and §141.0(b)2
System Name	HP-1 / B-5	Airfl	Research - 10440.55-255.54	365	Transfer	CARGO CONTRACTOR	0		<u>20.1(c)</u> (NR and Motel))
08	09	10	11	12	13	14	15		.6
_	Mechanical Ventila	tion Required	3 ³		Exh. \	Vent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.</u> §120.1(d)5, and §120.1(e)3	
Classroom B5	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
	cecture/ possecondary classroom	500			304.0	0	U	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes

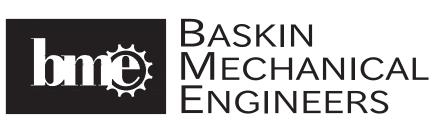
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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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175 Fulton Street
Fresno, CA 93721
Tel: (559) 237-0376
Job: 21146
Plt: 12-13-22



Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:



STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld B Report Pa Project Name: Project Address: 2324 Verde Street Date Prep J. VENTILATION AND INDOOR AIR QUALITY ² Air filtration requirements apply to the following three system types per §120.1(c)1A : space condition ventilation systems providing outside air to occupiable space; supply side of balanced ventilation system outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code in ⁴ See Standards Tables 120.1-A and 120.1-B. ⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in a ⁶ §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipur and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and load K. TERMINAL BOX CONTROLS This section does not apply to this project. L. DISTRIBUTION (DUCTWORK and PIPING) This table is used to show compliance with mandatory pipe insulation requirements found in §120,3 and Duct Leakage Sealing The answers to the questions below apply to the following duct systems: HP-1 / B-1 11 No The scope of the project includes only duct systems serving health Yes Duct system provides conditioned air to an occupiable space for a 12 Yes The space conditioning system serves less than 5,000 ft² of condition 13 The combined surface area of the ducts in the following locations No 14 Outdoors In a space directly under a roof that has a U-factor equirements of §140.3(a)1B or if the roof has fix In an unconditioned crawl space

	2			Registration Date/Time:
CA Building Energy Ef	fficiency Stand	lards - 2019 Nonres	idential Compliance	Report Version: 2019.1.003 Schema Version: rev 202006
STATE OF CALIFORNIA				
Mechanical Sy	stems			
NRCC-MCH-E				
CERTIFICATE OF COMI	PLIANCE			
Project Name:			Roosevelt Elementary HV	AC Upgrades Bld B Report Page:
Project Address:				2324 Verde Street Date Prepared:
L. DISTRIBUTION ((DUCTWOR	K and PIPING)	In other unconditione	d spaces
L. DISTRIBUTION ((DUCTWOR		In other unconditione	d spaces
L. DISTRIBUTION ((DUCTWOR	The scope of t	the project includes exten	ding an existing duct system, whic
15 16		The scope of t The scope of t and diagnosti	the project includes exten- the project includes an exi c testing in accordance wi	ding an existing duct system, whic sting duct system that is documer th procedures in the Reference No
15	(DUCTWOR	The scope of t The scope of t and diagnosti	the project includes exten- the project includes an exi c testing in accordance wi	ding an existing duct system, whic sting duct system that is documer th procedures in the Reference No
15 16	Yes	The scope of t The scope of t and diagnosti	the project includes exten- the project includes an exi c testing in accordance wi	ding an existing duct system, whic sting duct system that is documer th procedures in the Reference No
15 16 17 M. COOLING TOW	Yes /ERS	The scope of f The scope of f and diagnosti Duct system s	the project includes exten- the project includes an exi c testing in accordance wi	ding an existing duct system, whic sting duct system that is documer th procedures in the Reference No
15 16 17	Yes /ERS	The scope of f The scope of f and diagnosti Duct system s	the project includes exten- the project includes an exi c testing in accordance wi	ding an existing duct system, whic sting duct system that is documer th procedures in the Reference No
15 16 17 M. COOLING TOW This section does no	Yes /ERS ht apply to th	The scope of t The scope of t and diagnosti Duct system s	the project includes exten- the project includes an exi c testing in accordance wi	d spaces ding an existing duct system, whic sting duct system that is documer th procedures in the Reference No e with the California Mechanical C

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

Form/Title

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e:	(Page 10 of 1
red:	12/9/20
ing systems utilizing ducts to supply air to occupiable space; s	
ns including heat recovery and energy recovery ventilation sys	tems providing
requirement takes precedence.	
requirement takes precedence.	
accordance with the California Building Code.	
sensing controls to also have occupancy sensing zone control	
	is for ventilation
· · · · · · · · · · · · · · · · · · ·	
pose rooms less than 1,000 ft^2 , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> .	
pose rooms less than 1,000 ft ² , classrooms, conference rooms	
pose rooms less than 1,000 ft ² , classrooms, conference rooms	
pose rooms less than 1,000 ft ² , classrooms, conference rooms	
pose rooms less than 1,000 ft ² , classrooms, conference rooms	
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> .	, restrooms, aisles
pose rooms less than 1,000 ft ² , classrooms, conference rooms	, restrooms, aisles
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . and prescriptive requirements found in <u>§140.4(l)</u> for duct leaka	, restrooms, aisles ge testing.
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . ad prescriptive requirements found in <u>§140.4(l)</u> for duct leaka Duct leakage testing triggered for these systems?	, restrooms, aisles
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . and prescriptive requirements found in <u>§140.4(l)</u> for duct leaka Duct leakage testing triggered for these systems? care facilities	, restrooms, aisles ge testing.
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . and prescriptive requirements found in <u>§140.4(l)</u> for duct leaka Duct leakage testing triggered for these systems? care facilities constant volume, single zone, space-conditioning system.	, restrooms, aisles ge testing.
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . ad prescriptive requirements found in <u>§140.4(l)</u> for duct leaka Duct leakage testing triggered for these systems? care facilities constant volume, single zone, space-conditioning system. oned floor area.	, restrooms, aisles ge testing. No
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . and prescriptive requirements found in <u>§140.4(l)</u> for duct leaka Duct leakage testing triggered for these systems? care facilities constant volume, single zone, space-conditioning system.	, restrooms, aisles ge testing. No
pose rooms less than 1,000 ft ² , classrooms, conference rooms ding and unloading zones, unless excepted by <u>§130.1(c)</u> . ad prescriptive requirements found in <u>§140.4(l)</u> for duct leaka Duct leakage testing triggered for these systems? care facilities constant volume, single zone, space-conditioning system. oned floor area.	, restrooms, aisles ge testing. No ystem:

NRCC-MCH-E							CALIF
CERTIFICATE OF COMP	PLIANCE		0 h El		2		
Project Name:			Roosevelt Elementary H			~	
Project Address:				2324 Verde Street	Date Prepared	:	
L. DISTRIBUTION (DUCTWOR	K and PIPING)					
			In other uncondition	ed spaces			
15		The scope of t	he project includes exter	nding an existing d	luct system, w	hich is constructed, insulated or sea	led with asbe
16			and the second			nented to have been previously seal Nonresidential Appendix NA2.	ed as confirm
17	Yes	Duct system s	hall be sealed in acordan	ce with the Califor	rnia Mechanio	cal Code	
The answers to the o	questions be	low apply to the f	ollowing duct systems:	HP-1/6	3-2	Duct leakage testing triggered for	these system
11	No	The scope of t	he project includes only	duct systems serv	ing healthcare	e facilities	
12	Yes	Duct system p	rovides conditioned air t	o an occupiable sp	pace for a con	stant volume, single zone, space-con	iditioning sys
13	Yes	The space con	ditioning system serves l	ess than 5,000 ft ²	of conditione	ed floor area.	
14	No	The combined	surface area of the duct	s in the following	locations is m	ore than 25% of the total surface are	ea of the enti
			Outdoors				
			In a space directly un	der a roof that ha	s a U-factor g	reater than the u-factor of the ceiling	g, or if the roo
		1957	CONTRACTOR AND A SUBJECT OF A VIEW	and the second second second second	roof has fixed	vents or openings to the outside/ ur	nconditioned
			In an unconditioned	Contraction and the second			
			In other uncondition				
15						which is constructed, insulated or sea	
16						mented to have been previously seal Nonresidential Appendix NA2.	ed as confirm
17	Yes	Duct system si	hall be sealed in acordan	ce with the Califor	rnia Mechanio	cal Code	
The answers to the o	questions be	low apply to the f	ollowing duct systems:	HP-1/E	3-3	Duct leakage testing triggered for	these system
11	No	The scope of t	he project includes only	duct systems serv	ing healthcare	e facilities	
12	Yes	Duct system p	rovides conditioned air t	o an occupiable sp	pace for a con	stant volume, single zone, space-con	iditioning sys
13	Yes	The space con	ditioning system serves l	ess than 5,000 ft ²	of conditione	ed floor area.	
14	No	The combined	surface area of the duct	s in the following	locations is m	ore than 25% of the total surface are	ea of the enti
			Outdoors				
						reater than the u-factor of the ceiling vents or openings to the outside/ ur	
			In an unconditioned	crawl space			
Registration Number:				Registrat	ion Date/Time:		R

Roosevelt Elementary HVAC Upgrades Bld B Report Page: 2324 Verde Street Date Prepared:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA Mechanical Systems

STATE OF CALIFORNIA

Mechanical Systems

	CALIFORNIA ENER	GY COMMISSION	NRCC-MCH-E
		NRCC-MCH-E	CERTIFICATE OF COMPLIANCE
ort Page:		(Page 13 of 16)	Project Name:
e Prepared:		12/9/2022	Project Address:
			O. DECLARATION OF REQ
			Selections have been made
system, which is constructed, insulated or	sealed with asbestos.		These documents must be p
It is documented to have been previously Reference Nonresidential Appendix NA2.	sealed as confirmed through	field verification	https://www.energy.ca.gov/
Mechanical Code			NRCA-MCH-02-A - Outdoor
		1	conjunction with MCH-07-A
	15- 		NRCA-MCH-05-A - Air Econo
any selection needs to be changed, please ad online at Documents/NRCI/	e explain why in Table E Addit	ional Remarks.	
Instrument in a second at free days in days in a second structure in a second struc	Field Ins	pector	
	Pass	Fail	NRCA-MCH-06-A Demand C
			controlled ventilation (refer

Registration Provider: Energysoft

Registration Provider: Energysoft

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D. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE elections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/ Systems/Spaces To Be Field Form/Title IRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in Carrier 50GCQM06; Carrier conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap. 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; NRCA-MCH-05-A - Air Economizer Controls Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; IRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand Carrier 50GCQM06; Carrier controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon 50GCQM06; Carrier dioxide (CO2) concentration setpoints. 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; NRCA-MCH-11-A Automatic Demand Shed Controls Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier

NRCA-MCH-12-A FDD for Packaged Direct Expansion Units

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

	Schema	Version: rev 20200601	
STATE OF CALIFORNIA			
Mechanical Systems			
NRCC-MCH-E			CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE			NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades Bld B	Report Page:	(Page 16 of 16)
Project Address:	2324 Verde Street	Date Prepared:	12/9/2022
DOCUMENTATION AUTHOR'S DE	CLARATION STATEMENT		
I certify that this Certificate of Co	ompliance documentation is accurate and comple	te.	
Documentation Author Name: Mark Baskin		Documentation Author Signature:	Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 14:59:17-08'00'
^{Company:} Baskin Mechanical Engineers		Signature Date: 2022-12-09	
Address: 175 Fulton St.		CEA/ HERS Certification Identificat M26578	ion (if applicable):
City/State/Zip: Fresno CA 93721		Phone: 5592370376	
RESPONSIBLE PERSON'S DECLAR			
 The information provided on this I am eligible under Division 3 of th The energy features and performation of Title 24, Part 1 and Part 6 of the The building design features or sy plans and specifications submittee I will ensure that a completed sign 	Certificate of Compliance is true and correct. The Business and Professions Code to accept responsibility for the build ance specifications, materials, components, and manufactured device the California Code of Regulations. Stem design features identified on this Certificate of Compliance are of to the enforcement agency for approval with this building permit approval with the permit approval	s for the building design or system i consistent with the information pro- oplication. h the building permit(s) issued for t	design identified on this Certificate of Compliance conform to the requirements vided on other applicable compliance documents, worksheets, calculations, he building, and made available to the enforcement agency for all applicable
Responsible Designer Name: Mark Baskin, P.E.		Responsible Designer Signature:	Mark Baskin, P.E. Mark Baskin, P.E.
Company: Baskin Mechanical Engineers		Date Signed: 2022-12-09	
Address: 175 Fulton		License: M26578	
City/State/7in-		Phone	

Responsibl Mark Bas Company: Baskin Me Address: 175 Fulton City/State/Zip (559) 237-0376 Fresno CA 93721

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

Registration Date/Time: Report Version: 2019.1.003

Schema Version: rev 20200601

	NRCC-MCH-
	(Page 11 of 16
	12/9/202
<u>1</u> 1	
ith asbestos.	
confirmed through	h field verification
e systems?	No
e systems:	No
ning system.	
the entire duct sys	tem:
f the roof does not	meet the
litioned spaces	
Ka	
vith asbestos.	
confirmed through	h field verification
5	
e systems?	No
ning system.	
	a Constantin (
the entire duct sys	tem:
f the roof does not	meet the
litioned spaces	meet me

Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

		NRCC-MCH-
		(Page 14 of 16
		12/9/202
changed, please explain w	hy in Table E Add	litional Remarks.
Systems/Spaces To Be F	ield Fiel	d Inspector
Verified	Pass	Fail
Carrier 50GCQM06; Carri 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;	er	
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Registration Provider: Energysoft Report Generated: 2022-12-09 14:58:26

ERTIFICATE OF CON	1PLIANCE					NRCC-MCH-			
roject Name:	and a sense of the		Roosevelt Elementary HVAC U	pgrades Bld B Report Pag	e:	(Page 12 of 1			
roject Address:			2324	Verde Street Date Prepa	red:	12/9/202			
. DISTRIBUTION	(DUCTWOR	K and PIPING)							
			In other unconditioned sp	aces					
15		The scope of the	he project includes extending	an existing duct syster	n, which is constructed, insulated or sealed with asbestos.				
16	Þ				cumented to have been previously sealed as confirmed thr nce Nonresidential Appendix NA2.	ough field verification			
17	Yes	Duct system sh	nall be sealed in acordance wi	th the California Mech	anical Code				
he answers to the	questions be	low apply to the fo	ollowing duct systems:	HP-1 / B4	Duct leakage testing triggered for these systems?	No			
11	No	The scope of the	he project includes only duct	systems serving health	care facilities				
12	Yes	Duct system pr	rovides conditioned air to an	occupiable space for a	constant volume, single zone, space-conditioning system.				
13	Yes	The space cond	ditioning system serves less tl	han 5,000 ft ² of conditi	oned 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:							
	• At								
					r greater than the u-factor of the ceiling, or if the roof does and vents or openings to the outside/ unconditioned spaces				
			In an unconditioned crawl	space					
			In other unconditioned sp	aces					
15		The scope of the	he project includes extending	an existing duct syster	n, which is constructed, insulated or sealed with asbestos.				
16					cumented to have been previously sealed as confirmed thr nce Nonresidential Appendix NA2.	ough field verification			
17	Yes	Duct system sh	nall be sealed in acordance wi	th the California Mech	anical Code				
he answers to the	questions be	low apply to the fo	ollowing duct systems:	HP-1/B-5	Duct leakage testing triggered for these systems?	No			
11	No	The scope of the	he project includes only duct	systems serving health	care facilities				
12	Yes	Duct system pr	rovides conditioned air to an	occupiable space for a	constant volume, single zone, space-conditioning system.				
13	Yes	The space cond	ditioning system serves less t	han 5,000 ft ² of conditi	oned floor area.				
14	No	The combined	surface area of the ducts in t	he following locations	s more than 25% of the total surface area of the entire duct	: system:			
			Outdoors						
					r greater than the u-factor of the ceiling, or if the roof does and vents or openings to the outside/ unconditioned spaces				
			In an unconditioned crawl	space	34				

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Mechanical Systems

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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Report Generated: 2022-12-09 14:58:26

Project Address:	2324	Verde Street Date Prepared:			12/9/20
O. DECLARATION OF REQUIRED CERTIFICATES	OF ACCEPTANCE				
Selections have been made based on information p These documents must be provided to the building https://www.energy.ca.gov/title24/2019standards	inspector during construction	and can be found online at		able E Additio	nal Remarks.
	Systems/Spaces To Be Field	Field In	spector		
	Form/Title		Verified	Pass	Fail
NRCA-MCH-16-A Supply Air Temperature Reset Co	ntrols		Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;		
NRCA-MCH-18-A Energy Management Control Syst	iems		Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06;		
P. DECLARATION OF REQUIRED CERTIFICATES	OF VERIFICATION				
There are no NRCV forms required for this project.					
Q. MANDATORY MEASURES DOCUMENTATIO	N LOCATION				
This table is used to indicate where mandatory me	asures are documented in the	plan set or construction documenta	ition.		
	01		02	2	
Compliance with Mandatory Measures documente Mandatory Measures Note Block	ed through MCH	Yes	M-Sh	eets	

Report Version: 2019.1.003

Roosevelt Elementary HVAC Upgrades Bld B Report Page:

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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 Report Generated: 2022-12-09 14:58:26





Fresno, CA 93721 Tel: (559) 237-0376 Job: 21146 Plt: 12-13-22



STATE OF CALIFORNIA **Mechanical Systems**

NRCC-MCH-E CERTIFICATE OF COMPLIANCE This document is used to demonstrate compliance for mechanical systems that are within the scope of t path outlined in <u>§140.4</u>, or <u>§141.0(b)2</u> for alterations. Project Name: Roosevelt Elementary HVAC Upgrades Bld C Report Pa 2324 Verde Street Date Prep Project Address: A. GENERAL INFORMATION 01 Project Location (city) Bakersfield 02 Climate Zone 3 Occupancy Types Within Project: Office (B) Retail (M) No Hotel/ Motel Guest Rooms (R-1) School (E) Oth Oth High-Rise Residential (R-2/R-3) Relocatable Class Bldg (E) B. PROJECT SCOPE This table Includes mechanical systems or components that are within the scope of the permit application <u>§140.4</u>, or <u>§141.0(b)2</u> for alterations. 01 02 Air System(s) Wet System Compone Heating Air System Water Economizer Cooling Air System Pumps Mechanical Controls System Piping Mechanical Controls (existing to remain, altered Cooling Towers or new) Chillers Boilers

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA

CERTIFICATE OF COMPLIA	NCE							NRCC-MCH-
Project Name:	Ro	osevelt Elementary HV	AC Upgrades Bld C	eport Page:				(Page 4 of 18
Project Address:			2324 Verde Street D	ate Prepared:				12/9/202
F. HVAC SYSTEM SUM	IMARY (DRY & WET SYSTEM	S)						
Dry System Equipment	Efficiency (other than Package	Terminal Air Conditi	oners (PTAC) and I	Package Terminal	Heat Pumps (PTHP))		
01	02	03	04	05	06	07	08	09
			Heati	ng Mode	1 [.]		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 Efficienc
HP-1/C-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/C-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/C-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / C4	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1/C-5	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-2 / Work room	<65,000		HSPF	7.7	8.2	SEER	13.0	14.5

This section does not apply to this project.

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		
Project Name:	Roosevelt Elementary HVAC Upgrades Bld C	Report Pag
Project Address:	2324 Verde Street	Date Prepa

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft ²)	Thermostats §110.2(b) & (c) ¹ , §120.2(a)or §141.0(b)2E	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response <u>§110.12</u> and <u>§120.2(b)</u>	Supply Air Temp. Reset §140.4(f)	Window Interlocks pe <u>§140.4(n)</u>
HP-1 / C-1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C-2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C-3	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C4	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / C-5	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-2 / Work room	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

EXCEPTION 1 to §140.4(f)

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

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CALIFORNIA ENERG www.montescontresc NRCC-MCH-E

ige:			(Page 1 of 18)
ared:			12/9/2022
Jareu.			12/3/2022
tol Conditioned Flo		1	6310
otal Conditioned Flo			6210
tal Unconditioned	Floor Area		0
of Stories (Habitabl	e Above Gra	de)	1
on-refrigerated Wa	rehouse (S)		
ealthcare Facility (I)			
ther (write in)			See Table J
tion and are demor	nstrating con	npliance using	the prescriptive path outlined in
	Ĩ		03
ents		Dry	System Components
		Air Econor	nizer
		Electric Re	sistance Heat
		Fan Systen	ns
		Ductwork	(existing to remain, altered or new)

Zonal Systems/ Terminal Boxes

	Mechanical Systems
RGY COMMISSION	NRCC-MCH-E

STATE OF CALIFORNIA

CERTIFICATE O	F COMP	PLIANCE												
Project Name:				Ro	osevelt	Elementary HV4	C Upgr	ades Bld C Repo	ort Page					
Project Addres	5:						2324 Ve	rde Street Date	Prepar	ed:				
C. COMPLIA	NCE R	ESULTS										1) 		
				out into the co ional Conditioi									itable b	y the us
01	n 2.	02		03		04	Ĩ	05		06		07		
System Summary §110.1,	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 §140.4(d)	AND	Distribution <u>§120.3,</u> §140.4(I)	AND	Coolir <u>§11</u>
<u>§110.2,</u> <u>§140.4</u>								COMPANY AND		A CONTRACTOR OF A CONTRACTOR O		10		10.25
<u>§140.4</u>	(a	(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See
	AND	(See Table G)	AND	(See Table H) Yes	AND	(See Table I) Yes	AND	(See Table J) Yes	AND	(See Table K)	AND	(See Table L) Yes	AND	(See

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

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

Registration Date/Time:

Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10

Registration Provider: Energysoft

Report Generated: 2022-12-09 15:18:10

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E. ADDITIONAL REMARKS

CERTIFICATE OF COMPLIANCE Project Name: Roosevelt Elementary HVAC Upgrades Bld C Report Page: 2324 Verde Street Date Prepared: Project Address:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

			rescriptive requirements fou be included in Table H.	und in <u>§140.</u>	4(c), §	<u>140.4(e)</u> a	nd <u>§140.4(m)</u> for fan	systems. Fan systems servin	g only process loads are
System Name:	HP-1/C-1	Economizer:1	Fixed Temperature	Econom		Designe	d per <u>§140.4(e)</u> and (m)	System Fan Type:	Variable Air Volume
01	02	03	04	1		05	06	07	08
Fan Name or	1.000 (M11)		Maximum Design Suppl	v Airflow				Fan Power Pressure Drop /	Adjustment - Table 140.4-B
Item Tag	Fan Functio	on Qty	(CFM)	y Airnow	HP	Unit ²	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1800		1	знр	0.66	NA	NA
Total Syste	m Design Supply	Airflow (CFM):	1800	Total S	ystem (B)HP:		0.66	Maximum System Fan Power (B)HP:	
System Name:	HP-1 / C-2	Economizer:1	Fixed Temperature	Econom Contro		Designe	d per <u>§140.4(e)</u> and (m)	Systern Fan Type:	Variable Air Volume
01	02	03	04			05	06	07	08
Fan Name or			Maximum Decige Suppl	u Airflouu	2			Fan Power Pressure Drop /	Adjustment - Table 140.4-B
Item Tag	Fan Functio	on Qty	Maximum Design Suppl (CFM)	y Airnow	HP	Unit ²	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	11	1	ЗНР	0.66	NA.	NA
Total Syste	m Design Supply	Airflow (CFM):	1800	Total S	ystem (B)HP:	122	0.66	Maximum System Fan Power (B)HP:	
System Name:	HP-1/C-3	Economizer:1	Fixed Temperature	Econom Contro		Designe	d per <u>§140.4(e)</u> and (m)	Systern Fan Type:	Variable Air Volume
01	02	03	04			05	06	07	08
Fan Name or			Maximum Design Suppl	v Airflow				Fan Power Pressure Drop A	Adjustment - Table 140.4-B
Item Tag	Fan Functio	on Qty	(CFM)	y Allilow	HP	Unit ²	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1800	31	1	3HP	0.72	NA:	NA,
Total Syste	m Design Supply /	Airflow (CFM):	1800	Total S	ystem (B)HP:	(CAV)	0.72	Maximum System Fan Power (B)HP:	

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

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: Roosevelt Elementary HVAC Upgrades Bld C Report Page: 2324 Verde Street Date Prepared: Project Address:

J. VENTILATIO	ON AND IND	OOR AIR QUALITY								
occupancies. F	or alterations,	trate compliance with m only ventialtion systems d airflows may be shown	being altered	within the sc	ope of the	permit app	lication nee	d to be documented in t		
01		Check the box if the pro	ject is showin	g ventilation of	calculations	s on the pla	ns, or attac	hing the calculations ins	tead of completing this	table.
02		Check this box if the pro	ject included	Nonresidenti	al or Hotel/	Motel space	es			
02		Check this box if the pro	ject included	new or altere	d high-rise	residential	dwelling ur	nits.		
03		Check the box if the pro	ject is using n	atural ventila	tion in any	nonresiden	tial or hote	l/motel spaces to meet	required ventilation rat	es per <u>§120.1(c)2</u> .
Nonresidentia	l and Hotel/ N	Notel Ventilation System	ıs			1011				
	04			05				06		07
			System Desi	ign ΩΔ CEM		Suctor	Design		Air Filtration per §12	0.1(c) and §141.0(b)2 ²
System Name		HP-1 / C-1	Airfl	south beaution and the	365	and been a more dependent	Air CFM	0		<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 ³		Exh. \	/ent per §120.1(c)4		
Space Name ot item Tag	Occ	cupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		ntrols per <u>§120.1(d)3,</u> nd <u>§120.1(e)3</u> ⁶
Classroom C1	Lastura / pa	stsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
Classicolli CI	Lecture/ po:	sisecondary classroom	900			504.0	U	0	Occ Sensor	NA: Not required space type
17	Total System	Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes
	04			05				06	1	07
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			System Desi	ign OA CEM		System	Design		Air Filtration per §12	0.1(c) and §141.0(b)2 ²
System Name		HP-1 / C-2	Airfl	(R. 1)	365	10 C C C C C C C C C C C C C C C C C C C	Air CFM	0	Sector Se	<u>120.1(c)</u> (NR and /Motel))
08	-	09	10	11	12	13	14	15	-	16

*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);

Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10

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

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 2 of 18) 12/9/2022 user. If this table says "DOES 08 09 oling Towers 110.2(e)2 ompliance Result ee Table M) COMPLIES _____

Registration Provider: Energysoft

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CALIFORNIA ENERGY COMMISSION

Registration Provider: Energysoft

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CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

12/9/2022

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NRCC-MCH-E

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12/9/2022

Project Address:		2324 Verde	Street Date Prepa	red:						12/9/20
HVAC SYSTEM	A SUMMARY (DRY & WET	r systems)								
This table is used		for mechanical equipment with mandato	ry requirements	found in <mark>§11</mark>	0.1 and <u>§1</u>	<u>10.2(a)</u> and	l prescriptive	requireme	nts found ir	n <u>§140.4</u>
	A	onditioners, condensers, heat pumps, VR	-	-		(1540)		12121		Î a
01	02	03	04	05	06	07	08	09	10	11
2					Equipme		er Mechanica §140.4 (a&b		(kBtu/h)	
		200	Smallest Size	He	ating Outpu	t ^{2,3}	Cooling C	Output ^{2,3}	Load Calc	ulations ³
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Available ¹ §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 Sensib Coolin Load (kBtu/
HP-1 / C-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	55.65	46.32	59.29	62.08
HP-1 / C-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	53.92	46.32	56.45	59.57
HP-1 / C-3	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / C4	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / C-5	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.29	44.73	59.04	61.39
HP-2 / Work room	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	32.41	22.38	18.43	22.31	17.63	48.54	55.29

²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank. ⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per <u>§140.4(b)</u>.

Registration Number:

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Registration Date/Time:

Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10

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CALIFORNIA ENERGY COMMISSION

NRCC-MCH-E

STATE OF CALIFORNIA **Mechanical Systems**

NRCC-MCH-E

Project Name:

CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld C Report Page: 2324 Verde Street Date Prepared: Project Address:

H. FAN SYSTEMS & AIR ECONOMIZERS System Economizer Designed per §140.4(e) and System Fan Type: HP-1 / C4 **Fixed Temperature** Variable Air Volume Economizer: Name: Controls: (m) 01 08 07 Fan Power Pressure Drop Adjustment - Table 140.4-B Maximum Design Supply Airflow Fan Name or Fan Function HP Unit² Design HP Design Airflow through Item Tag (CFM) Device Device (CFM) BHP SF 1800 0.72 Supply Total System Design Maximum System Fan Total System Design Supply Airflow (CFM): 1800 0.72 (B)HP; Power (B)HP: System Economizer Designed per §140.4(e) and HP-1 / C-5 System Fan Type: Variable Air Volume **Fixed Temperature** Economizer:1 Name: Controls: (m) 03 07 01 08 02 04 05 06 n Power Pressure Drop Adjustment - Table 140.4-B Maximum Design Supply Airflow Fan Name or Fan Function HP Unit² Design HP Design Airflow through Item Tag (CFM) Device Device (CFM) SF Supply 1800 BHP 0.72 1 Maximum System Fan Total System Design Total System Design Supply Airflow (CFM): 1800 0.72 (B)HP; Power (B)HP: Designed per §140.4(e) and System Economizer Constant Volume HP-2 / Work room Economizer:1 NA: <=54 kBtu/h cooling System Fan Type: Controls: Name: (m) 01 02 03 04 05 06 07 08 in Power Pressure Drop Adjustment - Table 140.4-E Maximum Design Supply Airflow Fan Name or Fan Function HP Unit² Design HP Design Airflow through Item Tag (CFM) Device Device (CFM) BHP 0.38 SF Supply 700 1 Maximum System Fan Total System Design Total System Design Supply Airflow (CFM): 0.38 700 Power (B)HP: (B)HP: ¹ FOOTNOTES: Computer room economizers must meet requirements of <u>§140.9(a)</u> and will be documented on the NRCC-PRC-E document.

Registration Date/Time:

² The unit used for HP must be consistent for all fans within a system.

Registration Number:

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

Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10

STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-F

Registration Number:

CERTIFICATE OF	COMPLIANCE								NRCC-MC	
Project Name:		Roosevelt Eleme	entary HVAC Up	ogrades Bld (C Report Pa	ge:			(Page 9 of	
Project Address:			2324	Verde Stree	t Date Prep	ared:			12/9/2	
J. VENTILATIC	ON AND INDOOR AIR QUALITY			4						
	Mechanical Ventila	tion Required	per §120.1(c)	<u>3</u> ³		Exh. \	/ent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		nsor Controls per <u>§120.1(d)3</u> ,).1(d)5, and <u>§120.1(e)3</u> ⁶	
Classroom C2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4	
Classi Oolii Cz	Lecture/ postsecondary classroom	900		4	504.0	U	U	Occ Sensor	NA: Not require space type	
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes	
	04		05				06	1	07	
	1.	System Desi	ign OA CEM	7	Sustan	Design		Air Filtration per §120.1(c) and §141		
System Name	HP-1 / C-3	Airfl		365		Air CFM	0	Provided per <u>§120.1(c)</u> (NR and Hotel/Motel))		
08	09	10	11	12	13	14	15		16	
	Mechanical Ventila	tion Required	per <u>§120.1(c</u>)	3 ³		Exh. \	/ent per <u>§120.1(c)4</u>			
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	ACM LICE AND AN ADDRESS AND ADDRESS AND ADDRESS AND	trols per <u>§120.1(d)3</u> nd <u>§120.1(e)3</u> ⁶	
Classroom C3	Lecture/ postsecondary classroom	960	1		364.8	0	0	DCV	Provided per §120.1(d)4	
Classicom C5	Lecture/ postsecondary classioon	900			504.0	U	Ų	Occ Sensor	NA: Not require space type	
17	Total System Required Min OA CFM	4.			365	18	Ventilation for this	System Complies?	Yes	
	04		05				06		07	
		System Desi	m OA CEM		Sustam	Design		Air Filtration per §12	0.1(c) and §141.0(b)	
System Name	HP-1 / C4	Airfl	We have a second s	365		Air CFM	0		<u>120.1(c)</u> (NR and /Motel))	
	09	10	11	12	13	14	15	1	16	

Registration Provider: Energysoft

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STATE OF CALIFORNIA

NRCC-MCH-E								CALIFORNI	A ENERGY COMMISSION
CERTIFICATE OF	SHETD-COL PACE LOCKS								NRCC-MCH-
Project Name:		Roosevelt Eleme		A CARLES CONTRACTOR	A. 250/10.50 (1998)	84549			(Page 10 of 18
Project Address			2324	Verde Stree	t Date Prep	ared:			12/9/202
J. VENTILATIO	ON AND INDOOR AIR QUALITY							47	
	Mechanical Ventila	tion Required	per <u>§120.1(c)</u>	<u>3</u> ³		Exh. \	/ent per §120.1(c)4		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		ntrols per <u>§120.1(d)3</u> , and <u>§120.1(e)3</u> ⁶
Classroom C4	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
Classiooni C4	Lecture/ postsecondary classioon	500		-	504.0	U	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes
	04		05		1		06		07
System Name	HP-1 / C-5	System Desi Airfl	- 112 G ()	365	System Transfer	-	0	Provided per §	0.1(c) and §141.0(b)2 ² 120.1(c) (NR and
00	09	10	11	10	12	1.11	15	00101503	/Motel))
08		10	11	12	13	14	1.77.994		16
Space Name ot item Tag	Mechanical Ventila Occupancy Type ⁴	tion Required Conditioned Floor Area (ft ²)		3 ³ # of people ⁵	Required Min OA CFM	Exh. V Required Min CFM	/ent per <u>§120.1(c)4</u> Provided per Design CFM		ntrols per <u>§120.1(d)3,</u> and <u>§120.1(e)3</u> ⁶
Classroom C5	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
Classroom C5	Lecture/ postsecondary classicom	500			504.8	U	0	Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM	·			365	18	Ventilation for this	System Complies?	Yes
	04		05				06		07
		System Desi	m OA CEM		Constants	Dealar		Air Filtration per §12	0.1(c) and §141.0(b)2 2
System Name	HP-2 / Work room	Airfl	CARDING STATES AND STATES	432	Transfer	Design Air CFM	0		<u>120.1(c)</u> (NR and /Motel))
08	09	10	11	12	13	14	15	T	16

Registration Date/Time:

Report Version: 2019.1.003

Schema Version: rev 20200601

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E		
CERTIFICATE OF COMPLIANCE		
Project Name:	Roosevelt Elementary HVAC Upgrades Bld C	Report Page:
Project Address:	2324 Verde Street	Date Prepared:

The answers to the	e questions be	low apply to the	following duct systems:	HP-1 / C-3	[
11	No	The scope of	The scope of the project includes only duct systems serving healthcare f				
12	Yes	Duct system p	provides conditioned air to an	n occupiable space for a	a constar		
13	Yes	The space cor	nditioning system serves less	than 5,000 ft ² of condi	tioned fl		
14	No	The combined	d surface area of the ducts in	the following locations	s is more		
			Outdoors				
			In a space directly under requirements of §140.3(1.1.1.1		
			In an unconditioned crav	vl space			
			In other unconditioned s	paces			
15		The scope of the project includes extending an existing duct system,					
16		The scope of the project includes an existing duct system that is documer and diagnostic testing in accordance with procedures in the Reference No					
17	Yes	Duct system shall be sealed in acordance with the California Mechanical					
The answers to the	e questions be	low apply to the	following duct systems:	HP-1 / C4	(
11	No	The scope of	the project includes only duc	t systems serving healt	hcare fa		
12	Yes	Duct system p	provides conditioned air to an	n occupiable space for a	a consta		
13	Yes	The space cor	nditioning system serves less	than 5,000 ft ² of condi	tioned fl		
14	No	The combined	d surface area of the ducts in	the following locations	s is more		
			Outdoors				
			In a space directly under requirements of §140.3(
			In an unconditioned crav	vl space			
			In other unconditioned s	paces			
15		The scope of	the project includes extendin	ig an existing duct syste	em, whic		
16			the project includes an existi c testing in accordance with				
17	Yes	Duct system shall be sealed in acordance with the California Mechanical					

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

CERTIFICATE OF COMPLIANCE	
Project Name:	Roosevelt Elementary HVAC Upgrades Bld C Report Page:
Project Address:	2324 Verde Street Date Prepared:
O. DECLARATION OF REQUIRED C	ERTIFICATES OF ACCEPTANCE
These documents must be provided to	information provided in previous tables of this document. If any selection needs to the building inspector during construction and can be found online at 019standards/2019_compliance_documents/Norresidential_Documents/NRCA/
	Form/Title
	be submitted for all newly installed HVAC units. Note: MCH-02-A can be perform an VFD Acceptance (if applicable) since testing activities overlap.
	ingle Zone HVAC NOTE: This form does not automatically move to "Yes'. If Const e included in the scope, permit applicant should move this form to "Yes".
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ntrols

NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon 50GCQM06; Carrier dioxide (CO2) concentration setpoints.

NRCA-MCH-11-A Automatic Demand Shed Controls

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 13 of 18) 12/9/20 Duct leakage testing triggered for these systems? No facilities tant volume, single zone, space-conditioning system. floor area. re than 25% of the total surface area of the entire duct system: ater than the u-factor of the ceiling, or if the roof does not meet the ents or openings to the outside/ unconditioned spaces ich is constructed, insulated or sealed with asbestos. ented to have been previously sealed as confirmed through field verification Ionresidential Appendix NA2. Duct leakage testing triggered for these systems? No ant volume, single zone, space-conditioning system. floor area. re than 25% of the total surface area of the entire duct system: ater than the u-factor of the ceiling, or if the roof does not meet the ents or openings to the outside/ unconditioned spaces ich is constructed, insulated or sealed with asbestos. ented to have been previously sealed as confirmed through field verification Nonresidential Appendix NA2.

> Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 16 of 18) 12/9/2022 s to be changed, please explain why in Table E Additional Remarks. Systems/Spaces To Be Field Field Inspector Verified Pass Fail med in Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24; stant Carrier 50VT-C24; Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06: Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24; Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24;

> Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10

STATE OF CALIFORNIA **Mechanical Systems**

NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld C Report Page: Project Name: 2324 Verde Street Date Prepared: Project Address: J. VENTILATION AND INDOOR AIR QUALITY Mechanical Ventilation Required per §120.1(c)3 3 Exh. Vent per §120.1(c)4 DCV or Sensor Controls per §120.1(d)3, Space Name
 Conditioned
 # of Shower
 # of
 Required
 Required
 Provided per Design

 Floor Area
 heads/
 people5
 Min OA
 Min CFM
 CFM
 ot item Tag §120.1(d)5, and §120.1(e)3 6 Occupancy Type⁴

	(ft ²)	toilets	people	CFM	WIN CFW	CFIVI		
Lacture (portroggindary classroom	960	Ĩ		264.9	0	0	DCV	
assroom C1 Lecture/ postsecondary classroom				504.0	U		Occ Sensor	
0//	450			67 F		0	DCV	N
Office space				67.5	U		Occ Sensor	
Total System Required Min OA CFM					18	Ventilation for thi	is System Complies?	
	Office space	Lecture/ postsecondary classroom 960 Office space 450	Lecture/ postsecondary classroom 960 Office space 450	Lecture/ postsecondary classroom 960 Office space 450	Lecture/ postsecondary classroom 960 CFM Office space 450 67.5	Lecture/ postsecondary classroom 960 Image: CPM Office space 450 67.5 0	Lecture/ postsecondary classroom960Image: Context of the conte	$\frac{1}{10000000000000000000000000000000000$

² 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. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

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

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code. ⁶ §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², 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 §120.3 and prescriptive requirements found in §140.4(1) for duct leakag Duct Leakage Sealing **Registration Number: Registration Date/Time:** Registration P

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA Mechanical Systems

CERTIFICATE OF COMPLIANCE		
Project Name:	Roosevelt Elementary HVAC Upgrades Bld C	Report Page:
Project Address:	2324 Verde Street	Date Prepared:

DISTRIBUTIO	N (DUCTWOR	K and PIPING)							
he answers to th	e questions be	low apply to the	following duct systems:	HP-1/C-5	Duct leakage testing triggered for these systems?	No			
11	No	The scope of	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system	provides conditioned air to	o an occupiable space for a co	nstant volume, single zone, space-conditioning system.				
13	Yes	The space co	nditioning system serves l	ess than 5,000 ft ² of conditior	ned floor area.				
14	No	The combine	d surface area of the duct	s in the following locations is	more than 25% of the total surface area of the entire duct s	ystem:			
			Outdoors						
					greater than the u-factor of the ceiling, or if the roof does n d vents or openings to the outside/ unconditioned spaces	ot meet the			
		In an unconditioned crawl space							
			In other unconditione	ed spaces					
15		The scope of	the project includes exter	iding an existing duct system,	which is constructed, insulated or sealed with asbestos.				
16					umented to have been previously sealed as confirmed throu ce Nonresidential Appendix NA2.	ugh field verification			
17	Yes	Duct system :	shall be sealed in acordan	ce with the California Mechan	ical Code				
ne answers to th	e questions be	low apply to the	following duct systems:	HP-2 / Work room	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 provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.							
13	Yes	The space co	nditioning system serves l	ess than 5,000 ft ² of conditior	ned floor area.				
14	No	The combine	d surface area of the duct	s in the following locations is i	more than 25% of the total surface area of the entire duct s	ystem:			
			Outdoors						
					greater than the u-factor of the ceiling, or if the roof does n d vents or openings to the outside/ unconditioned spaces	ot meet the			
			In an unconditioned of	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					umented to have been previously sealed as confirmed throu ce Nonresidential Appendix NA2.	ugh field verification			
17	Yes	Duct system	aball he sector to secure	ce with the California Mechan	Anna L'Astantion				

Schema Version: rev 20200601

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

STATE OF CALIFORNIA Mechanical Systems

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld C Report Page: Project Name 2324 Verde Street Date Prepared roject Address DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE tions 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 provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/ Systems/Spaces To Be Field Field Inspector Form/Title Verified Pass NRCA-MCH-12-A FDD for Packaged Direct Expansion Units arrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; NRCA-MCH-16-A Supply Air Temperature Reset Controls Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24; NRCA-MCH-18-A Energy Management Control Systems Carrier 50GCQM06; Carrier 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 50VT-C24; P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION There are no NRCV forms required for this project. Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented ir	the plan set or construction documentation.	
01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	M-Sheets
Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2022-12-09 15:18:10

Registration Provider: Energysoft

Report Generated: 2022-12-09 15:18:10

STATE OF CALIFORNIA Mechanical Systems

CERTIFICATE OF COMPLIANCE

L. DISTRIBUTION (DUCTWORK and PIPING)

NRCC-MCH-E

Project Name:

Project Address:

11

12

13

14

	NRCC-MCH-E
	(Page 11 of 18)
	12/9/2022
_	

CALIFORNIA ENERGY COMMISSION

Provided per §120.1(d)4 NA: Not required space type NA: Not required per §120.1(d)3 NA: Not required space type Yes

e testing.	
Provider: Energ	ysoft

Report Generate	d: 2022-12-09 15:18:10
CALIFORNIA	ENERGY COMMISSION
	NRCC-MCH-E
	(Page 14 of 18)
	12/9/2022
se systems?	No
oning system.	
the entire duct	system:
if the roof does	not meet the

					1 3				
			In an unconditioned cra	wl space					
			In other unconditioned	spaces					
15		The scope of t	he project includes extendi	ng an existing duct syste	m, which is constructed, insulated or sealed with asbestos.				
16			- 15 - 15 - 15 - 15 - 15 - 15 - 15 - 15		ocumented to have been previously sealed as confirmed throug ence Nonresidential Appendix NA2.	gh field verificati			
17	Yes	Duct system s	Duct system shall be sealed in acordance with the California Mechanical Code						
The answers to the	questions be	low apply to the I	ollowing duct systems:	HP-1 / C-2	Duct leakage testing triggered for these systems?	No			
11	No	The scope of t	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system p	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 ² 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						
					or greater than the u-factor of the ceiling, or if the roof does no ixed vents or openings to the outside/ unconditioned spaces	t meet the			
			In an unconditioned cra	wl 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 and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.						
17	Yes	Duct system s	hall be sealed in acordance	with the California Mech	Duct system shall be sealed in acordance with the California Mechanical Code				

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

NRCI-MCH-01-E - Must be submitted for all buildings

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Registration Provider: Energysoft

Registration Provider: Energysoft

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CALIFORNIA ENERGY COMMISSION

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No

Mechanical Systems				
NRCC-MCH-E	CALIFORNIA ENE	RGY COMMISSION		
CERTIFICATE OF COMPLIANCE				NRCC-MCH-
Project Name:	Roosevelt Elementary HVAC Upgrades Bld C	Report Page:		(Page 15 of 18
Project Address:	2324 Verde Street	Date Prepared:		12/9/202
M. COOLING TOWERS				
This section does not apply to thi	is project.			
N. DECLARATION OF REQUIR	ED CERTIFICATES OF INSTALLATION		N	
These documents must be provid	d on information provided in previous tables of this docume led to the building inspector during construction and can be 24/2019standards/2019_compliance_documents/Nonreside	found online at	d, please explain why in Table E Addi	itional Remarks.
	Form/Title		Field In	spector
	Form/Title		Date	Eail

Roosevelt Elementary HVAC Upgrades Bld C Report Page: 2324 Verde Street Date Prepared:

The answers to the questions below apply to the following duct systems: HP-1 / C-1 Duct leakage testing triggered for these systems?

Yes Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.

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:

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

equirements of <u>§140.3(a)1B</u> or if the roof has fixed vents or openings to the outside/ unconditioned spaces

No The scope of the project includes only duct systems serving healthcare facilities

Yes The space conditioning system serves less than 5,000 ft² of conditioned floor area.

Outdoors

Registration Provider: Energysoft	Registration Number:
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STATE OF CALIFORNIA		
Mechanical Systems		
NRCC-MCH-E		CALIFORNIA ENERGY COMMISS
CERTIFICATE OF COMPLIANCE		NRCC-MC
Project Name:	Roosevelt Elementary HVAC Upgrades Bld C	Report Page: (Page 18 of
Project Address:	2324 Verde Street	t Date Prepared: 12/9/2
DOCUMENTATION AUTHOR'S DEC	CLARATION STATEMENT	
I certify that this Certificate of Co	ompliance documentation is accurate and comple	ete.
Documentation Author Name: Mark Baskin		Documentation Author Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 15:19:19-08'0
Company: Baskin Mechanical Engineers		Signature Date: 2022-12-09
Address: 175 Fulton St.		CEA/ HERS Certification Identification (if applicable): M26578
City/State/Zip: Fresno CA 93721		Phone: 5592370376
 I am eligible under Division 3 of the The energy features and performa of Title 24, Part 1 and Part 6 of the The building design features or sys plans and specifications submitted Li will ensure that a completed sign 	y, under the laws of the State of California: Certificate of Compliance is true and correct. The Business and Professions Code to accept responsibility for the buil Ince specifications, materials, components, and manufactured device e California Code of Regulations. Stem design features identified on this Certificate of Compliance are d to the enforcement agency for approval with this building permit an the copy of this Certificate of Compliance shall be made available with the copy of this Certificate of Compliance shall be made available	lding 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 requireme 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.
Responsible Designer Name: Mark Baskin, P.E.		Responsible Designer Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 15:19:33-08'0
Company: Baskin Mechanical Engineers		Date Signed: 2022-12-09
Address: 175 Fulton		License: M26578
City/State/Zip: Fresno CA 93721		Phone: (559) 237-0376

Registration Date/Time:

Report Version: 2019.1.003

n Provider: Energysoft

NRCC-MCH-E

12/9/202

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Fail

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Registration Provider: Energysoft Report Generated: 2022-12-09 15:18:10











STATE OF CALIFORNIA **Mechanical Systems** NRCC-MCH-F

roject Name	12	Roosevelt Elementary HVAC Upgrades	Bld D Report F	2
Project Addre	255:	2324 Verde	Street Date Pre	2
A. GENERA	L INFORMATION			
01 Project	Location (city)	Bakersfield	04 1	Fc
02 Climate	Zone	13	05 1	F
03 Occupa	ncy Types Within Project:		06 #	ŧ
Office (I	3)	🔲 Retail (M)		V
Hotel/ N	Aotel Guest Rooms (R-1)	School (E)	L F	+
🗆 High-Ris	e Residential (R-2/R-3)	Relocatable Class Bldg (E)	Ø	2
3. PROJECT				-

Wet System Componen Air System(s) Heating Air System Water Economizer Pumps Cooling Air System Mechanical Controls System Piping Mechanical Controls (existing to remain, altered \boxtimes Cooling Towers or new) Chillers Boilers

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STATE OF CALIFORNIA

NRCC-MCH-E							CALIFORNIA ENE	RGY COMMISSIO
CERTIFICATE OF COMPLIA	NCE							NRCC-MCH-
Project Name:	Ro	osevelt Elementary HV	AC Upgrades Bld D	eport Page:				(Page 4 of 16
Project Address:			2324 Verde Street D	ate Prepared:				12/9/202
F. HVAC SYSTEM SUN	IMARY (DRY & WET SYSTEM	IS)						
Dry System Equipment	Efficiency (other than Package	Terminal Air Conditi	oners (PTAC) and I	Package Terminal	Heat Pumps (PTHP	·))		
01	02	03	04	05	06	07	08	09
d			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 Efficienc
HP-1/D-1	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1 / D-2	<65,000		HSPF	7.7	8.3	SEER	13.0	16.2
HP-1/D-3	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HVAC SYSTEM SUMMARY ry System Equipment Efficien 01 Name or Item Tag HP-1 / D-1 HP-1 / D-2	<65,000		AFUE	0.80	0.81	SEER	13.0	16.1
HP-1 / D-4	105,000							

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

			prescriptive requirements fo to be included in Table H.	und in <u>§140.</u>	<u>4(c), §140.4(e)</u>	and <u>§140.4(m)</u> for fan	systems. Fan systems servin	g only process loads are
System Name:	HP-1 / D-1 Economize		Economizer:1 Fixed Temperature		izer Design ls:	ed per <u>§140.4(e)</u> and (m)	System Fan Type:	Variable Air Volume
01			04		05	06	07	08
Fee Newsers			Maulaura Davias Come	A Sufferen			Fan Power Pressure Drop	Adjustment - Table 140.4-I
Fan Name or Item Tag	Fan Functio	on Qt	Maximum Design Supp (CFM)	y Airnow	HP Unit ²	Design HP	Device	Design Airflow through Device (CFM)
SF	Supply	1	1800		BHP	0.66	NA	NA
Total Syste	Total System Design Supply Airflow (CFM):		1800		/stem Design (B)HP:	0.66	Maximum System Fan Power (B)HP:	

Registration Number:

Registration Date/Time: **Registration Provider: Energysoft** CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Report Generated: 2022-12-09 15:22:09 Schema Version: rev 20200601

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bid D Report F Project Name: 2324 Verde Street Date P Project Address:

I. SYSTEM CONTROLS ¹FOOTNOTES: 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 §140.4(f)

J. VENTILATION AND INDOOR AIR QUALITY

er berekserendetation	22/01/2014/2012 - 21/01/202	BOOK AIR QUALITY										
occupancies. F	or alteration	strate compliance with m s, only ventialtion systems nd airflows may be shown	being altered	within the sc	ope of the	permit app	lication nee	d to be documented in t		20 Miles 20 Miles		
01		Check the box if the pro	ject is showing	yventilation of	alculations	on the pla	ns, or attac	hing the calculations ins	tead of completing this	table.		
	×	Check this box if the pro	ject included I	Nonresidentia	al or Hotel/	Motel space	es	0.3				
02		Check this box if the pro	ject included i	new or altere	d high-rise	residential	dwelling u	nits.				
03		Check the box if the pro	ject is using na	tural ventilat	ion in any	nonresiden	tial or hote	l/motel spaces to meet r	equired ventilation rat	es per §120.1(c)2.		
Nonresidentia	and Hotel/	Motel Ventilation System	15		1		11		-			
	04	1		05			_	06		07		
			Custom Deal		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	HP-1 / D-1		System Desi Airflo	365	1990 BACKSON 1991	Air CFM	0					
08		09	10	11	12	13	14	15	16			
		Mechanical Ventila	tion Required	per <u>§120.1(c)</u>	<u>3</u> ³		Exh. \	/ent per §120.1(c)4				
Space Name ot item Tag	o	ccupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	1200	ntrols per <u>§120.1(d)3</u> , and <u>§120.1(e)3</u> ⁶		
Classroom D1	locture / a	ostsecondary classroom	960			364.8	0	0	DCV	Provided per <u>§120.1(d)4</u>		
Classi COIII D1	Lecture/ p	USISECONULITY CLASSFOOL	500			504.0	U	0	Occ Sensor	NA: Not required space type		
17	Total System	n Required Min OA CFM		**		365	18	Ventilation for this	System Complies?	Yes		

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003 Schema Version: rev 20200601

Registration Date/Time:

			NRCC-MCH-E
the permit appli	cation and are	e demonstrat	ing compliance using the prescriptive
ge:			(Page 1 of 16)
ared:			12/9/2022
tal Conditioned F	loor Area		4800
tal Unconditione	d Floor Area		0
of Stories (Habita	ble Above Gra	de)	1
n-refrigerated W	/arehouse (S)		
althcare Facility	(I)		
her (write in)			See Table J
ion and are dem	onstrating con	npliance usir	ng the prescriptive path outlined in
ion and are dem	onstrating con	npliance usir	ng the prescriptive path outlined in 03
19 - 20 10 au 20 20 20 20 20 20 20 20 20 20 20 20 20	onstrating con		
ion and are dem nts	onstrating con		03 System Components
19 - 20 10 au 20 20 20 20 20 20 20 20 20 20 20 20 20		Dry Air Econo	03 System Components
19 - 20 10 au 20 20 20 20 20 20 20 20 20 20 20 20 20		Dry Air Econo	03 System Components mizer esistance Heat
19 - 20 10 au 20 20 20 20 20 20 20 20 20 20 20 20 20		Dry Air Econo Electric R Fan Syste	03 System Components mizer esistance Heat
19 - 20 10 au 20 20 20 20 20 20 20 20 20 20 20 20 20		Dry Air Econo Electric R Fan Syste	03 System Components mizer esistance Heat ms c (existing to remain, altered or new)

STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Project Name: Roosevelt Elementary HVAC Upgrades Bld D Report Page: 2324 Verde Street Date Prepared: Project Address: C. COMPLIANCE RESULTS

01	it. 2	02		03		04		05		06		07		
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers <u>§140.4(c)</u> , <u>§140.4(e)</u>	AND	System Controls §110.2, §120.2, §140.4(f)	AND	Ventilation <u>§120.1</u>	AND	Terminal Box Controls <u>§140.4(d)</u>	AND	Distribution <u>§120.3,</u> §140.4()	AND	Coolin §11
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND	
				Mandatory	Measu	res Complian	ce (See	Table Q for D	etails)	1			COMP	LIES

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

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

Registration Date/Time:

Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09

	CALIFORNIA ENERGY COMMISSION
	NRCC-MCH-E
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epared:	12/9/2022

Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09 **Registration Number:**

STATE OF CALIFORNIA

Registration Date/Time: Report Version: 2019.1.003

Schema Version: rev 20200601

Mechani	cal S	ystem
NRCC-MCH-E		

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Project Name:	Roosevelt Elementary HVAC Upgrades Bld D	Report Page:
Project Address:	2324 Verde Street	Date Prenared

System Name:	HP-1 / D-2	Econor	nizer:1	Fixed Temperature	Economize Controls		Designed	d per <u>§140.4(e)</u> and (m)	System Fan Type:
01	02	Ĵ.	03	04		0	5	06	07
Fan Name or				Maximum Design Suppl	Airflow				Fan Power Pressure Dr
Item Tag	Fan Functi	ion	Qty	(CFM)	y Airnow	ΗPι	Jnit ²	Design HP	Device
SF	Supply	-	1	1800		Bł	ΗP	0.66	NA
Total Syste	m Design Supply	Airflow (CF	M):	1800	Total Syst (B	tem D)HP:	esign	0.66	Maximum System Fa Power (B)HP:
System Name:	HP-1 / D-3	Econor	nizer:1	Fixed Temperature	Economiz Controls		Designed	d per <u>§140.4(e)</u> and (m)	System Fan Type:
01	02		03	04		0	5	06	07
Fan Name or		-		Maximum Design Suppl	Airflow				Fan Power Pressure Dr
Item Tag	Fan Functi	ion	Qty	(CFM)	y Annow	HP L	Jnit ²	Design HP	Device
SF	Supply		1	1800		Bł	ЧP	0.72	NA
Total Syste	em Design Supply	Airflow (CF	M):	1800	Total Syst (B	tem D)HP:	esign	0.72	Maximum System Fa Power (B)HP:
System Name:	HP-1 / D-4	Econor	nizer:1	Fixed Temperature	Economiz Controls	100	Designed	d per <u>§140.4(e)</u> and (m)	System Fan Type:
01	02		03	04		0	5	06	07
Fan Name or				Maximum Design Suppl	Airflow				Fan Power Pressure Dr
Item Tag	Fan Functi	ion	Qty	(CFM)	y AllIOW	HP L	Jnit ²	Design HP	Device
SF	Supply	-	1	1800		BH	ΗP	0.72	NA
Total Syste	m Design Supply	Airflow (CF	M):	1800	Total Syst (B	tem D)HP:	esign	0.72	Maximum System Fa 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

Roosevelt Elementary HVAC Upgrades Bid D Report Page: 2324 Verde Street Date Prepare/ Project Name: Project Address

Project Address:		nooseven Liem		Contraction of the second	eet Date Pre	STATIST CON			12/9/2022	Project Address			2324	Verde Stree	1	2 C.L.A.Z.			12/9/2
											8		10101		1				
. VENTILATIO	ON AND INDOOR AIR QUALITY									J. VENTILATIO	ON AND INDOOR AIR QUALITY								
	04	1	05		1		06		07		04		05				06		07
System Name	HP-1 / D-2		ign OA CFM low ¹	365		n Design er Air CFM	0	Provided per	0.1(c) and §141.0(b)2 ² 120.1(c) (NR and /Motel))	System Name	HP-1 / D-4	System Des Airfl	33.1	365		n Design r Air CFM	0		<u>0.1(c)</u> and <u>§141.0(b</u> <u>120.1(c)</u> (NR and /Motel))
08	09	10	11	12	13	14	15		16	08	09	10	11	12	13	14	15	-	16
	Mechanical Ventila	tion Required	per §120.1(c)3 ³		Exh.	Vent per <u>§120.1(c)4</u>				Mechanical Ventila	ical Ventilation Required per §120.1(c)3		3 ³			Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Showe heads/ toilets	r # of people ⁵	Required Min OA CFM	Required Min 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> ⁶		Occupancy Type ⁴			Required Min OA CFM		Provided per Design CFM		ntrols per <u>§120.1(d)3</u> , nd <u>§120.1(e)3</u> ⁶	
Classroom D2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4	Classroom D4	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
Jassroom D2	Lecture/ postsecondary classroom	960			504.6	0	0	Occ Sensor	NA: Not required space type	Classicom D4	Lecture/ possecondary classicom	900			504.6		0	Occ Sensor	NA: Not require space type
17	Total System Required Min OA CFM			14	365	18	Ventilation for this	System Complies?	Yes	17	Total System Required Min OA CFM			9	365	18	Ventilation for this	System Complies?	Yes
	04		05				06		07		04		05	-			06		07
ystem Name	HP-1 / D-3		ign OA CFM Iow ¹	365		n Design r Air CFM	0	Provided per	0.1(c) and §141.0(b)2 ² 120.1(c) (NR and /Motel))	System Name	HP-1 / D-5	System Des Airfl		365		n Design r Air CFM	0		<u>0.1(c)</u> and <u>§141.0(b</u> <u>120.1(c)</u> (NR and /Motel))
08	09	10	11	12	13	14	15		16	08	09	10	11	12	13	14	15		16
	Mechanical Ventila	ation Required	per §120.1(c)3 ³		Exh.	Vent per <u>§120.1(c)4</u>				Mechanical Ventila	tion Required	per §120.1(c	<u>)3</u> ³		Exh.	Vent per <u>§120.1(c)4</u>		
Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Showe heads/ toilets	r # of people ⁵	Required Min OA CFM	d Required Min CFM			ntrols per <u>§120.1(d)3</u> , and <u>§120.1(e)3</u> ⁶	Space Name ot item Tag	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM		nd <u>\$120.1(d)3</u> , nd <u>\$120.1(e)3</u> ⁶
lassroom D2	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4	Classroom D5	Lecture/ postsecondary classroom	960			364.8	0	0	DCV	Provided per §120.1(d)4
203510011105	Lecture/ possecondary classicom	500			504.0	U U	0	Occ Sensor	NA: Not required space type		Lecture/ possecondary classicom	500			504.8	U	0	Occ Sensor	NA: Not require space type
17	Total System Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes	17	Total System Required Min OA CFM				365	18	Ventilation for this	System Complies?	Yes

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA Mechanical Systems

CERTIFICATE OF COMPLIANCE

NRCC-MCH-E

Project Name:

Project Address:

(Page 2 of 1 12/9/20
the user. If this table says "DOES
08 09
Cooling Towers
§110.2(e)2 Compliance Resul
(See Table M)
COMPLIES
IES

Roosevelt Elementary HVAC Upgrades Bld D Report Page: 2324 Verde Street Date Prepared:

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 3 of 16)

Registration Provider: Energysoft

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CALIFORNIA ENERGY COMMISSION

System Fan Type:

Device

Maximum System Fan

Power (B)HP:

06

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Variable Air Volume

08

Design Airflow through

Device (CFM)

Fan Power Pressure Drop Adjustment - Table 140.4-B

12/9/2023

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F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)	
This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1 and §110.2	(a) and prescriptive requirements found in §140.4(a),
§140.4(b) and §140.4(k) or §141.0(b)2 for alterations.	

01	02	03	04	05	06	07	08	09	10	11
	9. 17		Smallest Size	Equipment Sizing per Mechanical Schedule (kBtu/h) <u>§140.4</u> (a&b)						
				Heating Output ^{2,3}			Cooling Output ^{2,3}		Load Calculations ^{3,4}	
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Available ¹ §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)
HP-1 / D-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	55.65	46.32	59.29	62.08
HP-1 / D-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	70.44	54.86	36.18	53.92	46.32	56.45	59.57
HP-1/D-3	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1 / D-4	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.26	44.73	56.19	59.79
HP-1/D-5	Unitary AC/ Condensers	AC, air-cooled pkg (3 phase)	NA: Load Controls	49	49	0	52.29	44.73	59.04	61.39

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§140.4(a). Healthcare facilities are excepted.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Number:

NRCC-MCH-E

Project Name:

Project Address:

System

Name:

01

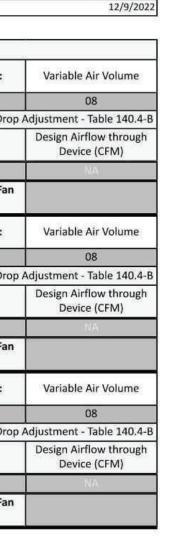
²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables. ³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

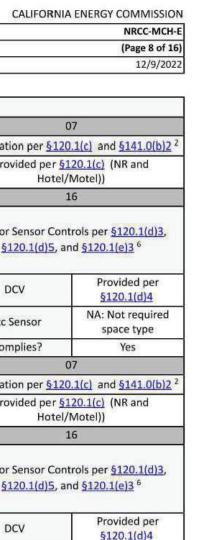
Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E

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Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09



Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09 STATE OF CALIFORNIA Mechanical Systems CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld D Report Page: 2324 Verde Street Date Prepared H. FAN SYSTEMS & AIR ECONOMIZERS Economizer Designed per §140.4(e) and HP-1/D-5 **Fixed Temperature** Economizer: Controls: 02 05 04

Fan Function coldu anhhi HP Unit² Design HP Item Tag (CFM) SF Supply 1800 BHP 0.72 Total System Design Total System Design Supply Airflow (CFM): 1800 0.72 (B)HP: ¹ FOOTNOTES: Computer room economizers must meet requirements of <u>§140.9(a)</u> and will be documented on the NRCC-PRC-E document. ² The unit used for HP must be consistent for all fans within a system.

nly Airflo

I. SYSTEM CONTROLS

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft ²)	Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls §120.2(e)	Isolation Zone Controls <u>§120.2(g)</u>	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset §140.4(f)	Window Interlocks pe <u>§140.4(n)</u>
HP-1 / D-1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-3	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-4	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided
HP-1 / D-5	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

STATE OF CALIFORNIA

CERTIFICATE OF COMPLIANCE

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Project Name:

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Mechanical Systems

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Roosevelt Elementary HVAC Upgrades Bld D	Report Page:

CALIFORNIA ENERGY COMMISSION

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STATE OF CALIFORNIA Mechanical Systems NRCC-MCH-E

CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld D Repor Project Name: 2324 Verde Street Date P Project Address:

J. VENTILATION AND INDOOR AIR QUALITY

outside air to occupiable space. ³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.

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

⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code. ⁶ §120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft² or smaller, multipurpose rooms less than 1,000 ft², 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 BO	OX CONTROLS	5					
This section does i	not apply to th	is project.					
L. DISTRIBUTION		K and DIDING)	11 H		그 것 못 못		
		And a second		and the second			
This table is used t	to show compl	iance with mando	atory pipe insulation requirem	nents found in <u>§120.3</u> a	nd prescriptive requirements found in <u>§140.4(I)</u> for duct leaka	ge testing.	
Duct Leakage Sea	ling						
The answers to th	e questions be	low apply to the	following duct systems:	HP-1 / D-1	Duct leakage testing triggered for these systems?	No	
11	No	The scope of	he project includes only duct systems serving healthcare facilities				
12	Yes	Duct system p	provides conditioned air to an	occupiable space for a	constant volume, single zone, space-conditioning system.		
13	Yes	The space cor	nditioning system serves less	than 5,000 ft ² of condi	ioned floor area.		
14	No	The combined	d surface area of the ducts in	the following locations	is more than 25% of the total surface area of the entire duct s	ystem:	
			Outdoors				
					or greater than the u-factor of the ceiling, or if the roof does n ixed vents or openings to the outside/ unconditioned spaces	ot meet the	
			In an unconditioned craw	/l space			

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Registration Date/Time:

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

CERTIFICATE OF COMPLIANCE Project Name: Project Address:

			In other unconditioned spaces
15		The scope of	the project includes extending an existing duct s
16			the project includes an existing duct system that c testing in accordance with procedures in the R
17	Yes	Duct system s	hall be sealed in acordance with the California N
I. COOLING TO	WERS		
his section does i	not apply to th	is project.	

These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/ Form/Title

NRCI-MCH-01-E - Must be submitted for all buildings

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Number:

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

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

CERTIFICATE OF COMPLIANCE

Project Name:			Roosevelt Elementary H	VAC Upgrades Bld D	Report Page:		
Project Address:				2324 Verde Street	Date Prepare	d:	
L. DISTRIBUTION	(DUCTWOR	K and PIPING)					
			In other uncondition	ed spaces			
15	l.	The scope of t	he project includes exte	nding an existing d	uct system,	which is constructed, insulated or sealed with	
16	÷					mented to have been previously sealed as co e Nonresidential Appendix NA2.	
17	Yes	Duct system sl	Duct system shall be sealed in acordance with the California Mechanical Code				
The answers to the	questions be	low apply to the f	ollowing duct systems:	HP-1/C	-2	Duct leakage testing triggered for these s	
11	No	The scope of t	The scope of the project includes only duct systems serving healthcare facilities				
12	Yes	Duct system p	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-condition				
13	Yes	The space conditioning system serves less than 5,000 ft ² of conditioned floor area.					
14	No	The combined	ed surface area of the ducts in the following locations is more than 25% of the total surface area of the				
			Outdoors				
						reater than the u-factor of the ceiling, or if the vents or openings to the outside/ uncondition	
			In an unconditioned	crawl space			
		In other unconditioned spaces					
15		The scope of t	he project includes exte	nding an existing d	uct system,	which is constructed, insulated or sealed with	
16	14. 					mented to have been previously sealed as co e Nonresidential Appendix NA2.	
17	Yes	Duct system sl	nall be sealed in acordan	ice with the Califor	nia Mechani	ical Code	
The answers to the	questions be	low apply to the f	ollowing duct systems:	HP-1/C	-3	Duct leakage testing triggered for these s	
11	No	The scope of t	he project includes only	duct systems servi	ng healthcar	re facilities	
12	Yes	Duct system p	rovides conditioned air t	to an occupiable sp	ace for a con	nstant volume, single zone, space-conditionin	
13	Yes	The space con	ditioning system serves	less than 5,000 ft ²	of condition	ed floor area.	
14	No	The combined	surface area of the duct	ts in the following I	ocations is n	nore than 25% of the total surface area of the	
	, it is a second se		Outdoors				
						greater than the u-factor of the ceiling, or if the vents or openings to the outside/ unconditi	
			In an unconditioned	crawl space			

AND A REPORT OF A DESCRIPTION OF A DESCR

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

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STATE OF CALIFORNIA Mechanical Systems

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E Roosevelt Elementary HVAC Upgrades Bld D Report Page: (Page 13 of 16) 2324 Verde Street Date Prepared: 12/9/202 system, which is constructed, insulated or sealed with asbestos. at is documented to have been previously sealed as confirmed through field verification e Reference Nonresidential Appendix NA2. Mechanical Code 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. Field Inspector Pass Fail

Registration Provider: Energysoft

Registration Provider: Energysoft

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NRCC-MCH-E CERTIFICATE OF COMPLIANCE Project Name:

rioject nume.	houseven elementary none opgrades bla b	neport rage.	
Project Address:	2324 Verde Street	Date Prepared:	
O. DECLARATION OF REQUIRED CERTIF	FICATES OF ACCEPTANCE		
These documents must be provided to the l	mation provided in previous tables of this docume building inspector during construction and can be andards/2019_compliance_documents/Nonreside	found online at	changed, please explain w
	Form/Title		Systems/Spaces To Be F Verified
	omitted for all newly installed HVAC units. Note: N D Acceptance (if applicable) since testing activitie		Carrier 50GCQM06; Carri 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier
NRCA-MCH-05-A - Air Economizer Controls			Carrier 50GCQM06; Carri 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier
	on Systems must be submitted for all systems rec can vary outside ventilation flow rates based on		Carrier 50GCQM06; Carri 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier
NRCA-MCH-11-A Automatic Demand Shed	Controls		Carrier 50GCQM06; Carri 50GCQM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier 48GCGM06; Carrier
NRCA-MCH-12-A FDD for Packaged Direct E	Expansion Units		Carrier 50GCQM06; Carri 50GCQM06; Carrier 48GCGM06; Carrier

Roosevelt Elementary HVAC Upgrades Bld D Report Page:

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: Roosevelt Elementary HVAC Upgrades Bld D Report Page: 2324 Verde Street Date Prepared: Project Address:

l certif	fy that this Certificate of Compliance documentation is acc	urate and complete.			
Documer Mark B	ntation Author Name: Baskin	Documentation Author Signature: Mark Baskin, P	.E.		
Company Baskin	y: Mechanical Engineers	Signature Date: 2022-12-09			
Address: 175 Ful		CEA/ HERS Certification Identification (if applicable): M26578			
City/State Fresno	e/Zip: CA 93721	Phone: 5592370376			
	The energy features and performance specifications, materials, components, a of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certif plans and specifications submitted to the enforcement agency for approval wi I will ensure that a completed signed copy of this Certificate of Compliance sha	esponsibility for the building design or system design identified on this Certificate of Complianc nd manufactured devices for the building design or system design identified on this Certificate cate of Compliance are consistent with the information provided on other applicable complian h this building permit application. Il be made available with the building permit(s) issued for the building, and made available to i mpliance is required to be included with the documentation the builder provides to the building	of Co ice do the er		
	ible Designer Name: Jaskin, P.E.	Responsible Designer Signature: Mark Baskin, P.I	E. 2		
Company	y: Mechanical Engineers	Date Signed: 2022-12-09			

City/State/Zip: Fresno CA 93721

Address: 175 Fulton

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

Schema Version: rev 20200601

M26578

Phone: (559) 237-0376

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 11 of 16 12/9/202 ith asbestos. s confirmed through field verification e systems? No oning system. the entire duct system: if the roof does not meet the ditioned spaces ith asbestos. s confirmed through field verification e systems? No ning system. the entire duct system: if the roof does not meet the ditioned spaces

Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09

LIFORNIA ENERG	
	NRCC-MCH-E
	(Page 14 of 16)
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Field Inspector						
Pass	Fail					
0						
	<u> </u>					
	and the second s					

ERTIFICATE OF COM	PLIANCE						NRCC-MCH-		
roject Name:			Roosevelt Elementary HVA	C Upgrades Bld D	Report Page:		(Page 12 of 16		
roject Address:			2	2324 Verde Street	Date Prepared		12/9/202		
				19					
DISTRIBUTION	DUCTWOR	K and PIPING)							
			In other unconditioned	d spaces					
15		The scope of			uct system, w	hich is constructed, insulated or sealed with asbestos.			
16	1	The scope of	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.						
17	Yes	Duct system shall be sealed in acordance with the California Mechanical Code							
ne answers to the	questions be	low apply to the	following duct systems:	HP-1 / D)-4	Duct leakage testing triggered for these systems?	No		
11	No	The scope of	The scope of the project includes only duct systems serving healthcare facilities						
12	Yes	Duct system p	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.						
13	Yes	The space cor	The space conditioning system serves less than 5,000 ft ² of conditioned floor area.						
14	No	The combined	d surface area of the ducts	in the following I	ocations is m	ore than 25% of the total surface area of the entire duct s	system:		
			Outdoors						
						eater than the u-factor of the ceiling, or if the roof does r vents or openings to the outside/ unconditioned spaces	not meet the		
			In an unconditioned cr	awl space					
			In other unconditioned	d spaces					
15		The scope of	the project includes extend	ding an existing du	uct system, w	hich is constructed, insulated or sealed with asbestos.			
16		1 m m				nented to have been previously sealed as confirmed thron Nonresidential Appendix NA2.	ugh field verificatior		
17	Yes	Duct system s	hall be sealed in acordance	e with the Califor	nia Mechanic	al Code			
ne answers to the	questions be	low apply to the	following duct systems:	HP-1 / D)-5	Duct leakage testing triggered for these systems?	No		
11	No	The scope of	the project includes only d	uct systems servi	ng healthcare	facilities			
12	Yes	Duct system p	provides conditioned air to	an occupiable sp	ace for a con	stant volume, single zone, space-conditioning system.			
13	Yes	The space cor	nditioning system serves le	ss than 5,000 ft ²	of conditione	d floor area.			
14	No	The combined	d surface area of the ducts	in the following l	ocations is m	ore than 25% of the total surface area of the entire duct s	system:		
			Outdoors						
					(mark) 517 (1976)	eater than the u-factor of the ceiling, or if the roof does r vents or openings to the outside/ unconditioned spaces	not meet the		
			In an unconditioned cr	awl space		37			

STATE OF CALIFORNIA						
Mechanical Systems				CALLE		
				CAUL	UNINA ENERG	NRCC-MCH-I
Project Name:	Roosevelt Elementary HVAC Up	ogrades Bld D Report Page				(Page 15 of 16
Project Address:		Verde Street Date Prepared:				12/9/2022
O. DECLARATION OF REQUIRED CERTIFICATION	TES OF ACCEPTANCE					
Selections have been made based on information These documents must be provided to the build https://www.energy.ca.gov/title24/2019standa	ling inspector during construction	and can be found online at		ged, please explain why in 1	Table E Additio	nal Remarks.
	Form/Title		Sy	Systems/Spaces To Be Field		spector
	10.1.19 11.00			Verified	Pass	Fail
NRCA-MCH-16-A Supply Air Temperature Reset	Controls		50G 48G 48G	rier 50GCQM06; Carrier GCQM06; Carrier GGM06; Carrier GGM06; Carrier GGM06;		
NRCA-MCH-18-A Energy Management Control S	50G 48G 48G	rier 50GCQM06; Carrier GCQM06; Carrier GGM06; Carrier GGM06; Carrier GGM06; Carrier				
P. DECLARATION OF REQUIRED CERTIFICAT						
	and the second s					
There are no NRCV forms required for this proje	ict.					
Q. MANDATORY MEASURES DOCUMENTAT	TION LOCATION					
This table is used to indicate where mandatory i	measures are documented in the	plan set or construction docu	mentation.			
	01			0)2	
Compliance with Mandatory Measures docume Mandatory Measures Note Block	anted through MCH	Yes		M-Sł	heets	

Registration Date/Time:

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48GCGM06; Carrier 48GCGM06;

	NRCC-MCH-E
	(Page 16 of 16)
	12/9/2022
Mad David	- 05
Mark Bask	n, P.E. 15:22:58-08'00'
2022.12.03	13.22.30-00.00
esponsible desig	ner)
ompliance confe	orm to the requirements
ocuments, work	sheets, calculations,
	ency for all applicable
wner at occupar	1978194
Mark Baskin	
2022.12.09	15:23:12-08'00'

Registration Provider: Energysoft Report Generated: 2022-12-09 15:22:09 Registration Date/Time: Report Version: 2019.1.003 Registration Provider: Energysoft

Registration Provider: Energysoft

Report Generated: 2022-12-09 15:22:09





Fresno, CA 93721 Tel: (559) 237-0376 Job: 21146 Plt: 12-13-22

175 Fulton Street

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STATE OF CALIFORNIA

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Number:

STATE OF CALIFORNIA



STATE OF CALIFORNIA

Mecha NRCC-MCH	anical Systems								CALIFORNIA ENERGY COMMISSI
CERTIFICA	ATE OF COMPLIANCE								NRCC-MC
	ument is used to demonstrate compliance lined in <u>§140.4</u> , or <u>§141.0(b)2</u> for alterati	and the second sec	cal systems that are within	n the sco	ope	of the permit applicati	on and are	demonstrating	g compliance using the prescriptive
Project Na	ame:	lementary HVAC Upgrades B	BId E Rep	ort	Page:			(Page 1 of	
Project Address: 2324 Verde Stre					e Pr	repared:			12/9/20
A. GENE	RAL INFORMATION								
01 Proje	ect Location (city)	Bakersfield	(04	Total Conditioned Floo	r Area		2696	
02 Clim	ate Zone	13	C	05	Total Unconditioned Fl	oor Area		0	
03 Occu	upancy Types Within Project:		0	06 # of Stories (Habitable Above Grade)			de)	1	
Offic	e (B)	🗌 Retail (M)	I	□ Non-refrigerated Warehouse (S)				
Hote	el/ Motel Guest Rooms (R-1)	School (E	:)	1		Healthcare Facility (I)			
□ High-Rise Residential (R-2/R-3) □ Relocation			ble Class Bldg (E)	1	Other (write in)				See Table J
This table	ECT SCOPE e Includes mechanical systems or compon or §141.0(b)2 for alterations.	ents that are	within the scope of the p	ermit ap	ppli	cation and are demons	trating con	npliance using	the prescriptive path outlined in
	01	1	02				03		
	Air System(s)		Wet Syst	em Com	npo	nents	Dry System Components		
	Heating Air System		Water Econom	nizer	Addiso:	1793 B 6 8 99		Air Econom	izer
\boxtimes	Cooling Air System		Pumps					Electric Res	istance Heat
Mechanical Controls			System Piping				Fan System:	5	
Mechanical Controls (existing to remain, altered or new)		in, altered	Cooling Towers					Ductwork (existing to remain, altered o	
			Chillers					Ventilation	
			Boilers					Zonal Custon	ms/ Terminal Boxes

Registration Number:

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2324 Verde Street Date Prepare

STATE OF CALIFORNIA **Mechanical Systems**

NRCC-MCH-E CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bid E Report Pag Project Name: Project Address:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Termin							
01	02	03	04	05			
8			Heati	ng Mode			
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Minimum Efficiency Required pe Tables 110.2 Title 20			
HP-1 / E-1	>=65,000 and <135,000		COP	3.3			
HP-2 / E-2	>=65,000 and <135,000	F T	СОР	3.3			

Name or Item Tag	3	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Efficiency Required per Tables 110.2 / Title 20	Design Efficiency	Efficiency Unit	Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
HP-1/E-1	>=65,	000 and <135,00	0	СОР	3.3	3.6	EER IEER	11 12.2	11.2 15
HP-2 / E-2	>=65,	000 and <135,00	0	СОР	3.3	3.6	EER IEER	11 12.2	11.2 15
G. PUMPS									-
This section doe	es not apply to this	s project.							
H. FAN SYSTEM	VIS & AIR ECONO	OMIZERS		6 3				11	
		7.20.00	prescriptive requirements to be included in Table H.		<u>(c), 5140.4(e)</u> and	<u>§140.4(m)</u> for fan s	systems. Fan syster	ms serving only p	rocess loads are
System Name:	HP-1/E-1	Economizer:1	Fixed Temperature	Economi Control	Construction of the second sec	er <u>§140.4(e)</u> and (m)	System Fan Tr	ype: Vari	able Air Volume
01	02	03	04		05	06	07		08
Fan Name or			Maximum Design Su	Inply Airflow	1910-1910 - 1914	Internet de construction	Fan Power Pressu	re Drop Adjustm	ent - Table 140.4-B
Item Tag	Fan Function	on Qty	(CFM)	Period and a second sec	HP Unit ²	Design HP	Device	1.000 000 0000	n Airflow through Device (CFM)
SF	Supply	1	2100		BHP	0.83	N.A.	1	NA.
Total Syste	m Design Supply	Airflow (CFM):	2100	OC MURANCE CONTRACTOR	tem Design 3)HP:	0.83	Maximum Syste Power (B)H	Contraction of the second	

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

STATE OF CALIFORNIA Mechanical Systems

NRCC-MCH-E CERTIFICATE OF COMPLIANCE

Project Name: Roosevelt Elementary HVAC Upgrades Bld E Report Page: Project Address: 2324 Verde Street Date Preparec

Space Name ot item Tag	Mechanical Ventilation Required per §120.1(c)3 3						/ent per §120.1(c)4			
	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1(d)3</u> , <u>§120.1(d)5</u> , and <u>§120.1(e)3</u> ⁶		
Classroom E2	Lecture/postsecondary classroom	1230			467.4	0	0	DCV	Provided per §120.1(d)4	
Classroom E2	Lecture/ possecondary classroom	1250			407.4		0	Occ Sensor	NA: Not required space type	
Mort Doom	Office crosse	pace 236 35.4 0	0	0	DCV	NA: Not required per §120.1(d)3				
Work Room	Office space 236			55.4	U	U	Occ Sensor	NA: Not required space type		
17	Total System Required Min OA CFM	•			503	18	Ventilation for this S	ystem Complies?	Yes	

¹ FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system ² Air filtration requirements apply to the following three system types per <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.

³ Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence. ⁴ See Standards Tables 120.1-A and 120.1-B. ⁵ For lecture halls with fixed seating, the expected number of occupants shall be shall be determined in accordance with the California Building Code. ⁶ <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 250ft² or smaller, multipurpose rooms less than 1,000 ft², 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 6130.1(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 §120.3 and pres Duct Leakage Sealing **Registration Number:** Registration Date/Time:

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STATE OF CALIFORNIA **Mechanical Systems**

NRCC-MCH-E CERTIFICATE OF COMPLIANCE Roosevelt Elementary HVAC Upgrades Bld E Report Page: Project Name: 2324 Verde Street Date Prepared: Project Address: C. COMPLIANCE RESULTS

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Economizer:1

01		02		03		04		05		06		07	-	08	09
System Summary §110.1, §110.2, §140.4	AND	Pumps §140.4(k)	AND	Fans/ Economizers §140.4(c), §140.4(e)	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)	1
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
				Mandatory	Measu	res Complian	ce (See	Table Q for D	etails)				COMP	LIES	
This table is a	uto-fill	CONDITIONS ed with unedit	table co	omments beca	use of s	selections mad	de or da	ata entered in	tables	throughout the	e form.				

Registration Provider: Energysoft **Registration Number:**

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Project Address:

System Name:

01

Fan Name or

Item Tag

SF

I. SYSTEM CONTROLS

space conditioning systems.

Mechanical Systems

H. FAN SYSTEMS & AIR ECONOMIZERS

HP-2 / E-2

02

Fan Function

Supply

² The unit used for HP must be consistent for all fans within a system.

Total System Design Supply Airflow (CFM):

CERTIFICATE OF COMPLIANC

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			CALIFORNIA ENER	GY COMMISSION
				NRCC-MCH-I
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inal He	eat Pumps (PTH	P))		
	06	07	08	09
_			Cooling Mode	2.7
1			Minimum	

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Registration Provider: Energysoft

		CALIFORNIA	ENERGY COMMISSION		
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			12/9/2022		
n. Vent per <u>§120.1(c)4</u>			trals nos 6120 1/d/2		
d VI	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> ⁶			
	0	DCV	Provided per §120.1(d)4		
	0		NA: Not required		

- B	
escriptive requirement	ts found in <u>§140.4(I)</u> for duct leakage testing.
	Registration Provider: Energysoft
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CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §14.4 (f) 01 02 03 04 05 06 07 08

Designed per §140.4(e) and

06

Design HP

0.83

0.83

(m)

System Fan Type:

07

Device

Maximum System Fan

Power (B)HP:

Registration Date/Time:

Economizer

Controls:

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05

HP Unit²

BHP

Total System Design

(B)HP:

01	02	05	04	US	00	07	08	
System Name	System Zoning	Conditioned Floor Area Being Served (ft ²)	Thermostats <u>§110.2(b)</u> & (c) ¹ , <u>§120.2(a)or</u> <u>§141.0(b)2E</u>	Shut-Off Controls §120.2(e)	Isolation Zone Controls §120.2(g)	Demand Response §110.12 and §120.2(b)	Supply Air Temp. Reset	W
HP-1/E-1	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	
HP-2 / E-2	Single zone	<= 25,000 ft ²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	
have setback thermostats	1		ers, gravity room heaters, n					l stov

Roosevelt Elementary HVAC Upgrades Bld E Report Page: 2324 Verde Street Date Prepared:

Fixed Temperature

2100

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

04

Maximum Design Supply Airflow

(CFM)

2100

*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 §140.4(f)

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

Mechanical Systems NRCC-MCH-E

NRCC-MCH-E						CALIFORNI		
CERTIFICATE OF COM	PLIANCE							
Project Name:		Roosevelt I	lementary HVAC Upgrades Bld	E Report Page:				
Project Address:			2324 Verde Stree	t Date Prepare	d:			
L. DISTRIBUTION (DUCTWOR	K and PIPING)						
The answers to the	questions be	low apply to the following due	t systems: HP-1 /	′ E-1	Duct leakage testing triggered for the	hese systems?		
11	No	The scope of the project in	cludes only duct systems ser	ving healthca	re facilities			
12	Yes	Duct system provides cond	itioned air to an occupiable	space for a co	nstant volume, single zone, space-cond	litioning system.		
13	Yes	The space conditioning sys	space conditioning system serves less than 5,000 ft ² of conditioned floor area.					
14	No	The combined surface area	of the ducts in the following	g locations is r	more than 25% of the total surface area	of the entire du		
		Outdoors	10					
					greater than the u-factor of the ceiling, d vents or openings to the outside/ unc			
		In an unc	onditioned crawl space					
		In other u	inconditioned spaces					
15		The scope of the project in	cludes extending an existing	duct system,	which is constructed, insulated or seale	ed with asbestos.		
16					umented to have been previously sealed ce Nonresidential Appendix NA2.	d as confirmed th		
17	Yes	Duct system shall be sealed	d in acordance with the Calif	ornia Mechan	ical Code			
he answers to the	questions be	low apply to the following due	t systems: HP-2 /	′ E-2	Duct leakage testing triggered for the	hese systems?		
11	No	The scope of the project in	cludes only duct systems ser	ving healthca	re facilities			
12	Yes	Duct system provides cond	itioned air to an occupiable	space for a co	nstant volume, single zone, space-cond	litioning system.		
13	Yes	The space conditioning sys	tem serves less than 5,000 fi	t ² of condition	ied floor area.			
14	No	The combined surface area	of the ducts in the following	g locations is r	more than 25% of the total surface area	of the entire du		
		Outdoors						
					greater than the u-factor of the ceiling, d vents or openings to the outside/ unc			
		In an unc	onditioned crawl space					
		In other u	inconditioned spaces					
15		The scope of the project in	cludes extending an existing	duct system,	which is constructed, insulated or seale	ed with asbestos.		
16					umented to have been previously sealed ce Nonresidential Appendix NA2.	d as confirmed th		
17	Yes	Duct system shall be sealed	d in acordance with the Calif	ornia Mechan	ical Code			
			2 PS7					
Registration Number			Registra	ation Date/Time	219	Registr		
CA Building Energy Ff	ficiency Stand	lards - 2019 Nonresidential Comp	iance Report	Version: 2019.1	1.003	Report Genera		

Report Version: 2019.1.003 Schema Version: rev 20200601

STATE OF CALIFORNIA **Mechanical Systems**

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name:	Roosevelt Elementary HVAC Upgrades BId E Report Page:	(Page 3 of 11)
Project Address:	2324 Verde Street Date Prepared:	12/9/2022

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS) This table is used to demonstrate compliance for moderning equipment with mondate

bry System Equip	oment Sizing (includes air co	onditioners, condensers, heat pumps, VRI	, furnaces and u	init heaters)		z	a			
01	02	03	04	05	06	07	08	09	10	11
					Equipme	2022APPOLICE STRUCT	er Mechanic <u>§140.4</u> (a&b		(kBtu/h)	
			Smallest Size	Heating Output ^{2,3} Cooling Out		Dutput ^{2,3}	Load Calculations ^{3,4}			
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Available ¹ §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 Sensibl Cooling Load (kBtu/h
HP-1 / E-1	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	75.87	63.55	36.18	66.92	55.3	76.17	80.52
HP-2 / E-2	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Load Controls	75.87	63.55	36.18	67.31	55.3	86.81	89.88

§140.4(a). Healthcare facilities are excepted. ²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank. ⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per <u>§140.4(b)</u>.

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Variable Air Volume 08 Fan Power Pressure Drop Adjustment - Table 140.4-B Design Airflow through Device (CFM)

1.0(b)2E for altered	
09	-
indow Interlocks per §140.4(n)	
Provided	
Provided	
Provided es are not required to	100

istration Provider: Energysoft nerated: 2022-12-09 16:07:50

CALIFORNIA ENERGY COMMISSION NRCC-MCH-E (Page 8 of 11) 12/9/2023 No duct system: loes not meet the through field verification No duct system: does not meet the through field verification

stration Provider: Energysoft Report Generated: 2022-12-09 16:07:50 CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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

CALIFORNIA ENERGY COMMISSION CERTIFICATE OF COMPLIANCE NRCC-MCH-I Roosevelt Elementary HVAC Upgrades Bld E Report Page: 2324 Verde Street Date Prepared: (Page 6 of 11 Project Address: 12/9/202 I. VENTILATION AND INDOOR AIR QUALITY

This table is use	ed to demoi	nstrate compliance with m	andatory venti	lation require	ements in §	120.1 and	§120.2(e)3	B for all nonresidential,	high-rise residential an	d hotel/motel
316 - 20 Sector Coll 20 Sector 2015 (2017		ns, only ventialtion systems and airflows may be shown	Second and the second		C SAMPLE PROPERTY CONTRACT	Contract Contract and an and			his table. In lieu of this	table, the required
01						32.0	• • • • • • • • • • • • • • • • • • •		tead of completing this	table.
02			-				0.000	nits.		
03		— — — — — — — — — — — — — — — — — — —						required ventilation rat	es per §120.1(c)2.	
	and Hotel	/ Motel Ventilation System								- P - ARRENTATION
		94		05		ľ		06		07
			Sustam Dasi			Contract	Desien		Air Filtration per §120.1(c) and §141.	
System Name		HP-1/E-1	System Desi Airflo	A REAL PROPERTY OF A REAL PROPERTY OF	468	Transfer	Design Air CFM	0		120.1(c) (NR and /Motel))
08		09	10	11	12	13	14	15	16	
		Mechanical Ventila	tion Required	per <u>§120.1(c)</u>	<u>3</u> ³	•	Exh. \	/ent per §120.1(c)4		
Space Name ot item Tag	c	Occupancy Type ⁴	Conditioned Floor Area (ft ²)	# of Shower heads/ toilets	# of people ⁵	Required Min OA CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per <u>§120.1</u> §120.1(d)5, and <u>§120.1(e)3</u> ⁶	
Classroom E1	Locture/	postsecondary classroom	1230			467.4	0	0	DCV	Provided per §120.1(d)4
Classicolin ET	Lecture/ ;	ostsecondary classicom	1250		3	407.4	U	U	Occ Sensor	NA: Not required space type
17	17 Total System Required Min OA CFM		467		467	18 Ventilation for this		System Complies?	Yes	
ĺ	04 05			3	06	07				
			System Desi	TO OA CENA		Suctor			Air Filtration per §120.1(c) and §141.0(b)2	
System Name		HP-2 / E-2	Airflo		503	50	Design Air CFM	0		<u>120.1(c)</u> (NR and /Motel))
08		09	10	11	12	13	14	15	16	

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

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Registration Provider: Energysoft Report Generated: 2022-12-09 16:07:50

CALIEODNIA ENERGY COMMISSION

Registration Provider: Energysoft

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Mechanical Systems	CA	LIFORNIA ENERG	
CERTIFICATE OF COMPLIANCE			NRCC-MCH-
Project Name: Roosevelt Elementary HVAC Upgrades Bld E Report Page:			(Page 9 of 11
Project Address: 2324 Verde Street Date Prepared:			12/9/202
M. COOLING TOWERS			
This section does not apply to this project.			
N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION			
Selections have been made based on information provided in previous tables of this document. If any selection needs to These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/	be changed, please explain why i	n Table E Additic	onal Remarks.
Form/Title		Field Insp	
		Pass	Fail
NRCI-MCH-01-E - Must be submitted for all buildings			
O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE	L L J I		
Selections have been made based on information provided in previous tables of this document. If any selection needs to These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/	be changea, please explain why i	n Table E Additio	onal Remarks.
Form/Title	Systems/Spaces To Be Field	Field Ir	nspector
Tony me	Verified	Pass	Fail
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	in Carrier 50GCQM07; Carrier 50GCQM07;		
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQM07; Carrier 50GCQM07;		
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 ₂) concentration setpoints.	Carrier 50GCQM07; Carrier 50GCQM07;		
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQM07; Carrier 50GCQM07;		
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQM07; Carrier 50GCQM07;		
NRCA-MCH-16-A Supply Air Temperature Reset Controls	Carrier 50GCQM07; Carrier 50GCQM07;		
NRCA-MCH-18-A Energy Management Control Systems	Carrier 50GCQM07; Carrier 50GCQM07;		
Registration Number: Registration Date/Time:		Registration Prov	vider: Energysoft

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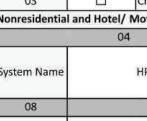


175 Fulton Street Fresno, CA 93721 Tel: (559) 237-0376 Baskin Mechanical Engineers Job: 21146 Plt: 12-13-22



Report Version: 2019.1.003

Schema Version: rev 20200601



STATE OF CALIFORNIA

Registration Number:

STATE OF CALIFORNIA

NRCC-MCH-E

Project Name:

Mechanical Systems





		CALIFORNIA ENERGY COMMISSION
		NRCC-MCH-E
ementary HVAC Upgrades Bld E	Report Page:	(Page 10 of 11)
2324 Verde Street	Date Prepared:	12/9/2022
cumented in the plan set or c	onstruction documentation.	
-		02
СН	Yes	M-Sheets
	2324 Verde Street	N cumented in the plan set or construction documentation.

Mechanical Systems		
IRCC-MCH-E		CALIFORNIA ENERGY COMMISSIO
CERTIFICATE OF COMPLIANCE		NRCC-MCH-
Project Name:	Roosevelt Elementary HVAC Upgrades Bld	Report Page: (Page 11 of 11
Project Address:	2324 Verde Stree	t Date Prepared: 12/9/202
DOCUMENTATION AUTHOR'S DEC	CLARATION STATEMENT	
I certify that this Certificate of Co	ompliance documentation is accurate and compl	ete.
Documentation Author Name: Mark Baskin		Documentation Author Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022.12.09 16:08:52-08'00'
Company: Baskin Mechanical Engineers		Signature Date: 2022-12-09
Address: 175 Fulton St.		CEA/ HERS Certification Identification (if applicable): M26578
City/State/Zip: Fresno CA 93721		Phone: 5592370376
 I am eligible under Division 3 of the The energy features and performa of Title 24, Part 1 and Part 6 of the The building design features or sys plans and specifications submitted I will ensure that a completed sign 	, under the laws of the State of California: Certificate of Compliance is true and correct. e Business and Professions Code to accept responsibility for the bui ince specifications, materials, components, and manufactured devic e California Code of Regulations. stem design features identified on this Certificate of Compliance are d to the enforcement agency for approval with this building permit a red copy of this Certificate of Compliance shall be made available wi	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.
Responsible Designer Name: Mark Baskin, P.E.		Responsible Designer Signature: Mark Baskin, P.E. Mark Baskin, P.E. 2022,12.09 16:17:55-08'00'
^{Company:} Baskin Mechanical Engineers		Date Signed: 2022-12-09
Address: 175 Fulton		License: M26578
City/State/Zip: Fresno CA 93721		Phone: (559) 237-0376

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Registration Provider: Energysoft Report Generated: 2022-12-09 16:07:50







