CITY OF LAKEPORT

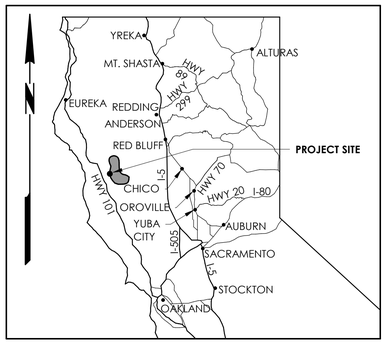
PLANS FOR

COMMUNITY CENTER ELECTRICAL & HVAC PROJECT

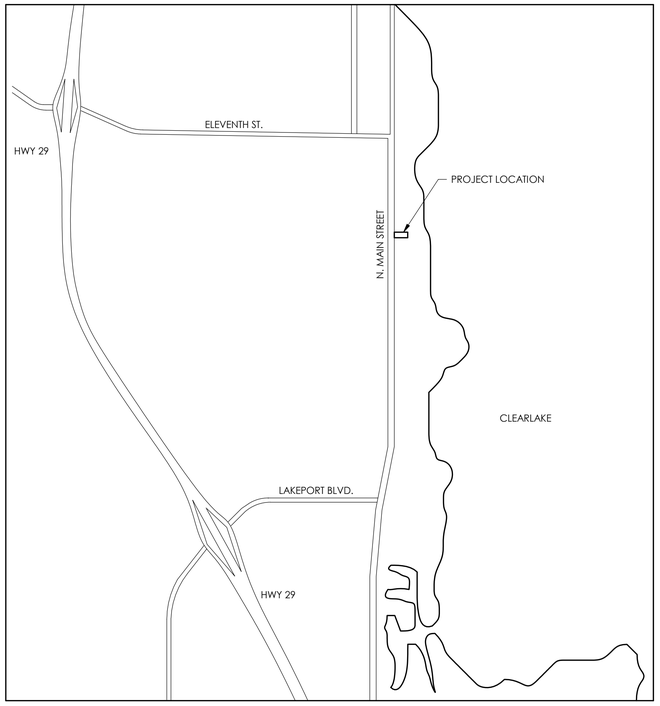
MARGARET SILVERA COMMUNITY CENTER

500 N. MAIN STREET, LAKEPORT, CA.

BID NO. 22-05



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

SHEET INDEX

BUILDING INFORMATION:

BUILDING OCCUPANCY GROUP: A-3
TYPE OF CONSTRUCTION: IIIB
NUMBER OF STORIES: 1
TOTAL BUILDING AREA: 6067
NOT SPRINKLERED

APPLICABLE CODES AND REGULATIONS:

CALIFORNIA ADMINISTRATION CODE, 2019 EDITION (CAC)
CALIFORNIA BUILDING CODE, 2019 EDITION (CBC)
CALIFORNIA PLUMBING CODE, 2019 EDITION (CPC)
CALIFORNIA MECHANICAL CODE, 2019 EDITION (CMC)
CALIFORNIA FIRE CODE, 2019 EDITION (CFC)
CALIFORNIA ELECTRICAL CODE, 2019 EDITION (CEC)

BID WALK NOTES

CONTRACTOR SHALL TAKE NOTE OF UNUSUAL SITUATIONS, INCLUDING BUT NOT LIMITED TO, REPAIR OF EXISTING DUCTWORK, SUPPORTS, AND COLLAPSED FLEXIBLE DUCTWORK. REVIEW ALL PLANS FOR FURTHER DETAIL.

TEST AND INSPECTIONS

CONTRACTOR SHALL DEMONSTRATE FUNCTION OF SMOKE DETECTOR SHUTDOWN IN PRESENCE OF FIRE MARSHALL.

GENERAL NOTES

REFERENCES, DISCREPANCIES AND OMISSIONS: THESE NOTE SHALL APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. FEATURES OF CONSTRUCTION INDICATED ON THESE DRAWING ARE TYPICAL, AND SHALL APPLY GENERALLY THROUGHOUT SIMILAR CONDITIONS. IN THE EVENT OF OMISSIONS, CONSTRUCTION SHALL BE SIMILAR TO CONSTRUCTION INDICATED IN THESE DRAWINGS, BUT MUST FIRSTLY BE APPROVED BY THE ENGINEER IN WRITING. ALL FINISHES SHALL MATCH APPEARANCE OF ADJOINING SURFACES.

4LEAF, INC.
Building
05/31/2022
Reviewed For
Code Compliance

PROJECT APPROVED BY:

6/17/2022
KEVIN INGRAM, CITY MANAGER — DATE

6/17/2022
PAUL HARRIS, UTILITIES SUPERINTENDENT — DATE

CERTIFICATION:

I CERTIFY THAT THIS PROJECT WAS DESIGNED BY ME OR UNDER MY DIRECTION IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES.

05/23/2022

ADAM MILLER, PE - STAFF ENGINEER - ME — DATE
PACE ENGINEERING
5155 VENTURE PARKWAY
REDDING, CA 96002
(530) 244-0202

05/23/2022
TONY BOWSER, PE - SENIOR ENGINEER - EE — DATE
PACE ENGINEERING
5155 VENTURE PARKWAY
REDDING, CA 96002
(530) 244-0202

CONTACT INFORMATION:

CITY OF LAKEPORT - CORPORATE YARD
RON LADD, PUBLIC WORKS SUPERVISOR
591 MARTIN STREET
LAKEPORT, CA 95453
(707) 263-3578 EXT. 501

CITY OF LAKEPORT
PAUL HARRIS, UTILITIES SUPERINTENDENT
225 PARK STREET
LAKEPORT, CA 95453
(707) 263-5615 EXT. 402

CITY OF LAKEPORT
OLIVIA GRUPP, PROJECT MANAGER
591 MARTIN STREET
LAKEPORT, CA 95453
(707) 263-3578 EXT. 406

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
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REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES BW	CKD AM	JOB NO. 0523.36
DRN AM	DATE 02/22/22	

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER — ADAM MILLER — No. M 40501 — MECHANICAL — STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
TITLE SHEET

SHEET
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ELECTRICAL SYMBOLS

LINE TYPES AND SYMBOLS		CONDUIT EXPOSED			
		CONDUIT CONCEALED or BURIED			
		INDICATES FIRE RATED WALL			
		CONDUIT UP			
		CONDUIT DOWN			
	LA-2	HOME RUN-DESTINATION SHOWN			
TICK MARKS		TICK MARKS W/BARS INDICATES NUMBER OF #10 CONDUCTORS WITH #10 GROUND			
		TICK MARKS WITHOUT BARS INDICATES NUMBER OF #12 CONDUCTORS WITH #12 GROUND			
		"L" INDICATES 0-10V DIMMING CABLE, "5E" INDICATES CAT5E CABLE			
DEVICES, BOXES AND TERMINATIONS	J	JUNCTION BOX			
		PORCELAIN LAMP HOLDER WITH PULL CHAIN AND INTEGRAL RECEPTACLE (HVAC LIGHT/PLUG ONLY)			
		CONNECTION POINT (CONTRACTOR SHALL DETERMINE CONNECTION CONFIGURATION)			
		LOW VOLTAGE DEVICE BOX	DEVICE BOXES SHALL BE 18" COD UNLESS OTHERWISE NOTED		
		DUPLEX RECEPTACLE			
		QUADRUPLEX RECEPTACLE			
		EMERGENCY RECEPTACLE			
		CONTROLLED SPLIT DUPLEX RECEPTACLE			
		QUADRUPLEX RECEPTACLE: (1) CONTROLLED SPLIT DUPLEX RECEPTACLE, (1) DUPLEX RECEPTACLE			
		SINGLE OR THREE PHASE RECEPTACLE, SEE PLAN SHEETS TYPE PER LOCATION			
	FB	FLOOR BOX			
		FLOOR BOX			
		PULLBOX			
EQUIPMENT		FUSED DISCONNECT	XXA/XXF XX	60AS/20F WP	60A DISCONNECT / 20A FUSE NEMA 3R
		NON-FUSED DISCONNECT	XX XX	60AS/20F WP	60A DISCONNECT NEMA 3R
		MAJOR ELECTRICAL COMPONENT OR DEVICE NAME OR IDENTIFYING SYMBOL AS SHOWN			
		SURFACE MOUNT PANELBOARD			
		FLUSH MOUNT PANELBOARD			
		EXOTHERMIC WELD, TERMINATION OR SPLICE POINT			
		GROUND ROD			
		GROUNDING ELECTRODE			
		CIRCUIT BREAKER			
		CURRENT TRANSFORMER, NUMBER INDICATED			
ANNOTATION	#	KEYNOTE			
	(A : B)	INDICATES INTERCONNECTION OF PATHWAYS AND/OR CONDUCTORS, E.G., 4"C-4#500,1#3G (MSB : PNL A) INDICATES CONDUIT AND CONDUCTORS ROUTED FROM THE MAIN SWITCHBOARD TO PANELBOARD A.			
	26 00 00	SPECIFICATION NUMBER REFERENCE TAG. CONFORMANCE TO PROJECT SPECIFICATIONS IS REQUIRED. WHERE TAGS ARE SHOWN ON THE DRAWINGS, IT IS THE ENGINEER'S INTENT TO RAISE ADDITIONAL AWARENESS TO PRODUCTS OR EXECUTION METHODS THAT ARE CRITICAL, ATYPICAL OR NOT EXPRESSLY DETAILED ON THE DRAWINGS.			

NOTE: THIS IS A SUPPLEMENTAL STANDARD ELECTRICAL LEGEND. SOME SYMBOLS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS. SEE LIGHTING CONTROL SHEET FOR LIGHTING LEGEND.

ELECTRICAL ABBREVIATIONS

A	- AMMETER, AMPERE
AC	- ALTERNATING CURRENT
ACH	- ABOVE COUNTER HEIGHT
AFCI	- ARC FAULT CIRCUIT INTERRUPT
AFF	- ABOVE FINISHED FLOOR OR GRADE
AIC	- AMPS INTERRUPTING CAPACITY
AL	- ALUMINUM
ATS	- AUTOMATIC TRANSFER SWITCH
BCT	- BONDING CONDUCTOR FOR TELECOMMUNICATIONS.
BGES	- BUILDING GROUND ELECTRODE SYSTEM
BRKR	- BREAKER
BOD	- BOTTOM OF DEVICE
C or COND	- CONDUIT
CAB	- CABINET
CEB	- CRITICAL EMERGENCY BRANCH
CEC	- CALIFORNIA ELECTRIC CODE
CKT	- CIRCUIT
COD	- CENTER OF DEVICE
CR	- CONTROLLED RECEPTACLE
CT	- CURRENT TRANSFORMER
DC	- DIRECT CURRENT
(E) or EXIST	- EXISTING
EEB	- EQUIPMENT EMERGENCY BRANCH
EEOR	- ELECTRICAL ENGINEER OF RECORD
EGC	- EQUIPMENT GROUNDING CONDUCTOR
ENC	- ENCLOSURE
(F)	- FUTURE
FACP	- FIRE ALARM CONTROL PANEL
FACU	- FIRE ALARM CONTROL UNIT
FSD	- FIRE SMOKE DAMPER
G	- EQUIPMENT GROUNDING CONDUCTOR
GEC	- GROUNDING ELECTRODE CONDUCTOR
GFCI	- GROUND FAULT CIRCUIT INTERRUPT
GND	- GROUND
J	- JUNCTION BOX
LAUN	- LAUNDRY
LCP	- LIGHTING CONTROL PANEL
LFEB	- LIFE SAFETY EMERGENCY BRANCH
LTG	- LIGHTING
MBJ	- MAIN BONDING JUMPER
MCB	- MAIN CIRCUIT BREAKER
MFR	- MANUFACTURER
MLO	- MAIN LUG ONLY
MOCP	- MAXIMUM OVERCURRENT PROTECTION
MSB	- MAIN SWITCH BOARD
MTS	- MANUAL TRANSFER SWITCH
NEC	- NATIONAL ELECTRIC CODE
NEMA	- NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
N	- NEUTRAL
(N)	- NEW
NB	- NORMAL BRANCH
NSEB	- NON-SEGREGATED EMERGENCY BRANCH
OFCI	- OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	- OWNER FURNISHED, OWNER INSTALLED
PB	- PULLBOX
PNL	- PANELBOARD
PLR	- PLUG LOAD RELAY
RCPT	- RECEPTACLE
RM	- ROOM
SWBD	- SWITCHBOARD
SBJ	- SYSTEM BONDING JUMPER
SSBJ	- SUPPLY SIDE BONDING JUMPER
T	- THERMOSTAT OR TELE CONDUIT
TBB	- TELECOMMUNICATIONS BONDING
TGB	- TELECOMMUNICATIONS GROUND BUS
TMGB	- TELECOMMUNICATIONS MAIN GROUND BUS
TOD	- TOP OF DEVICE
TR	- TAMPER
TYP	- TYPICAL
V	- VOLTMETER, VOLT
W	- WATT
WW	- WIREWAY
WP	- WEATHERPROOF (NEMA 3R)
XFMR	- TRANSFORMER

NOTE: THIS IS A SUPPLEMENTAL STANDARD LEGEND. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS

4LEAF, INC.
Building
05/31/2022
Reviewed For Code Compliance

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REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING®

DES. FC	CKD. TB	JOB NO. 523.36
DRN. FC	DATE 05/04/22	

SIGNED
REGISTERED PROFESSIONAL ENGINEER ANTHONY A. BOMBACI No. E 017988 ELECTRICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
ELECTRICAL SCHEDULES

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⑦ (N) BRANCH PANEL — AB

LOCATION	SOLAR RM	VOLTS	120/240	AIC RATING	42,000
MOUNTING	SURFACE	WIRES	3	BUS RATING	400 A
ENCLOSURE	NEMA 1	CIRCUITS	72	MAIN BREAKER	MLO

(LABEL PANELBOARDS ACCORDING TO NAMING CONVENTIONS LISTED IN ELECTRICAL SPECIFICATIONS)

CKT	BRANCH CIRCUIT DETAILS	COMMENT	TRIP	A	B	A	B	TRIP	COMMENT	BRANCH CIRCUIT DETAILS	CKT
1	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	2
3	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	4
5	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	6
7	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	8
9	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	10
11	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	12
13	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	14
15	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	16
17	(N) 1/2"C-2#12,1#12G	(E) TELCO ATM	20A	8		8		15A	(E) LOAD	(N) 1/2"C-2#12,1#12G	18
19	(N) 1/2"C-2#12,1#12G	(E) SANYO	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	20
21	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) SOLAR DAS-1	(N) 1/2"C-2#12,1#12G	22
23	--	(N) SPARE	20A		0		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	24
25				0		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	26
27	(N) 1/2"C-2#12,1#12G	(E) KITCHEN LTG	20A		8		8	20A	(E) INTAKE FAN	(N) 1/2"C-2#12,1#12G	28
29	(N) 1 1/2"C-3#3,1#8G	(E) BANK OF AMERICA	100A	70		8		20A	(E) EXHAUST FAN	(N) 1/2"C-2#12,1#12G	30
31					70		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	32
33	(N) 1/2"C-2#12,1#12G	(E) KITCHEN FRIDGE	20A	8		8		20A	(E) KITCHEN RANGE	(N) 1/2"C-2#12,1#12G	34
35	(N) 1/2"C-2#12,1#12G	(E) KITCHEN FREEZER	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	36
37	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) KITCHEN ICE MAKER	(N) 1/2"C-2#12,1#12G	38
39	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	40
41	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	42
43	(N) 1/2"C-2#12,1#12G	(E) FIRE SUPPRESSION KIT.	20A		3		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	44
45	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	3		8		20A	(E) COLD STORAGE FRIDGE	(N) 1/2"C-2#12,1#12G	46
47	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A		8		8				48
49	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	50
51	(N) 1/2"C-2#12,1#12G	(E) KITCHEN OUTLETS #1	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	52
53	(N) 1/2"C-2#12,1#12G	(E) KITCHEN OUTLETS #2	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	54
55	(N) 1/2"C-2#12,1#12G	(E) KITCHEN OUTLETS #3	20A		8		8	20A	(E) EX FAN	(N) 1/2"C-2#12,1#12G	56
57	(N) 1/2"C-2#12,1#12G	(E) LOAD	20A	8		8		20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	58
59	--	(N) SPARE	20A		8		8	20A	(E) LOAD	(N) 1/2"C-2#12,1#12G	60
61	(N) 1/2"C-2#12,1#12G	(E) COMPUTERS	20A	8		15		30A	(E) LOAD	(N) 1/2"C-2#10,1#10G	62
63	(N) 1/2"C-2#12,1#12G	(E) COMPUTERS	20A		8		15				64
65	(N) 1/2"C-2#12,1#12G	(N) EF-1	20A	6		0		-	(N) SPACE	--	66
67	(N) 1/2"C-2#12,1#12G	(N) EF-2	20A		6		0	-	(N) SPACE	--	68
69	(N) 1/2"C-2#12,1#12G	(N) ROOF RCPTS	20A	3				-	(N) SPACE	--	70
71	--	(N) SPACE	-		0		0	-	(N) SPACE	--	72
		TOTAL LOAD (AMPS):		PHASE A: 321		PHASE B: 318					

COMMERCIAL LOAD CALCULATIONS

CONTINUOUS LOADS								
GENERAL LIGHTING - TABLE 220.12, 220.42, 210.20(a)	4,248	SF	*	1.4	VA/SF	=	5,947	VA
SPECIAL LOADS - 220.14(a), 220.56, 422.10(a)						=	3,686	VA
CONTINUOUS LOADS TOTAL - NEC 210.20(A) (125% DEMAND FACTOR)							10,555	VA
NON-CONTINUOUS LOADS								
NON-CONTINUOUS DUTY - 220.14(j), 220.16(k) (50% DEMAND FACTOR OVER 10kVA)	24	QTY	*	180	VA	=	4,320	VA
SPECIAL LOADS - 220.14(a), 220.56, 422.10(a)						=	13,733	VA
MECHANICAL LOADS - 220.50, 220.51, 440.6(a)						=	76,507	VA
NON-CONTINUOUS LOADS TOTAL							94,560	VA
ELECTRICAL SERVICE - 3Ø	105,115	VA	/	240	V	=	**253**	**A**

MECHANICAL & PLUMBING LOADS

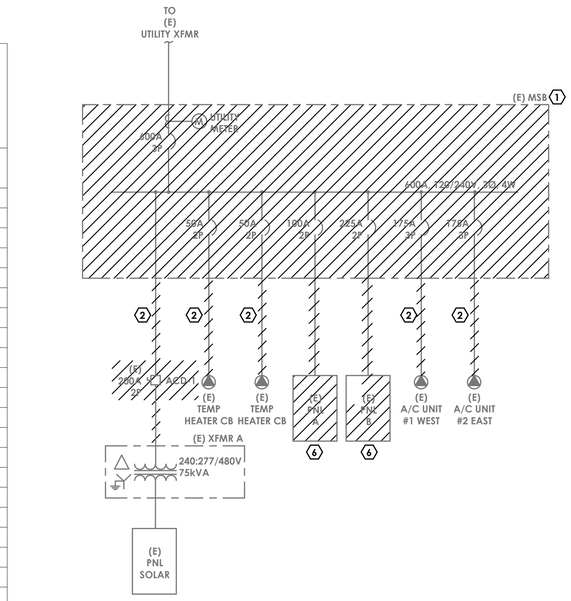
LOAD	VAC	A	Ø	QTY	TOTAL VA
EF-1	120	6	1	1	696
EF-2	120	6	1	1	696
HP-1	240	14	1	1	3283
RTU-1	240	86	3	1	35916
RTU-2	240	86	3	1	35916
				TOTAL LOAD	76507

CONTINUOUS SPECIAL LOADS

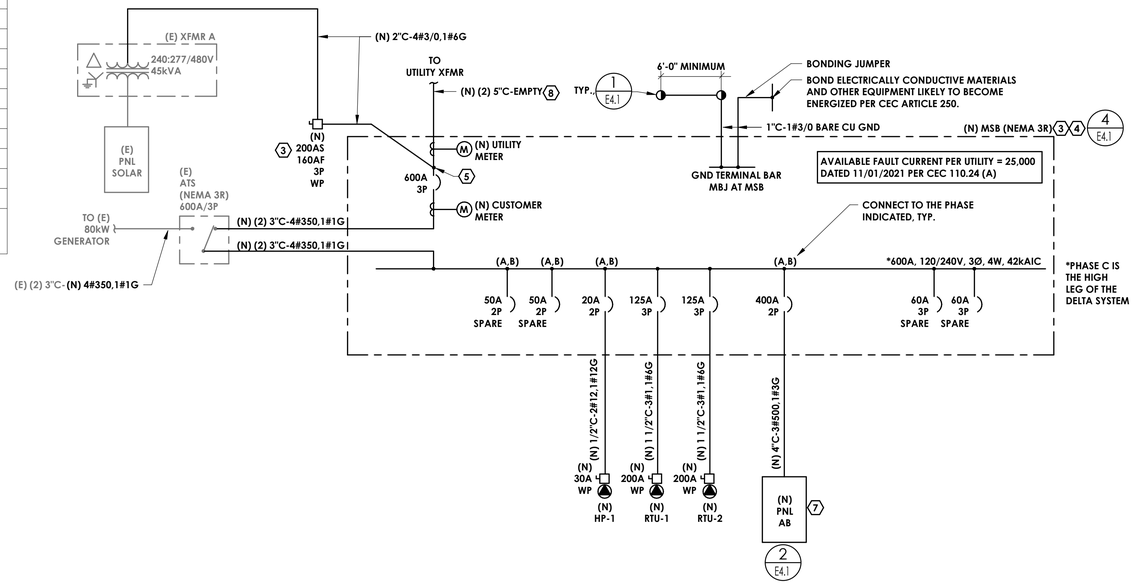
LOAD	VAC	A	Ø	QTY	TOTAL VA
STORAGE FRIDGE	240	8	1	1	1843
FREEZER	120	8	1	1	922
FRIDGE	120	8	1	1	922
				TOTAL LOAD	3686

NON-CONTINUOUS SPECIAL LOADS

LOAD	VAC	A	Ø	QTY	TOTAL VA
RANGE	120	10	1	1	1152
ICE MAKER	120	7	1	1	797
MICROWAVE	120	13	1	1	1579
RANGE HOOD	120	10	1	1	1200
WATER HEATER	240	38	1	1	9005
				TOTAL LOAD	13733



EXISTING ONE-LINE DIAGRAM 1 / 60.1



NEW ONE-LINE DIAGRAM 2 / E0.1

KEYNOTES

#	NOTE
1.	DISCONNECT AND REMOVE EXISTING MAIN SWITCHBOARD. COORDINATE SWITCHBOARD REMOVAL WITH ELECTRIC UTILITY.
2.	DISCONNECT AND REMOVE EXISTING FEEDER CONDUCTORS AND ASSOCIATED EXPOSED CONDUIT.
3.	PROVIDE AND INSTALL WARNING LABELS IN ACCORDANCE WITH CEC ARTICLES 690 AND 705.
4.	PROVIDE AND INSTALL NEW MAIN SWITCHBOARD TO REPLACE EXISTING SWITCHBOARD AT NEW LOCATION.
5.	PERFORM LINE SIDE PV CONNECTION TO MATCH EXISTING CONFIGURATION. COORDINATE INSTALLATION WITH PG&E.
6.	DISCONNECT AND REMOVE EXISTING PANELBOARD AND ASSOCIATED FEEDER CONDUCTORS. EXISTING BRANCH CIRCUIT CONDUCTORS AND BACKBOX SHALL REMAIN IN PLACE. EXISTING PANEL SHALL BE USED AS A J-BOX TO EXTEND EXISTING CIRCUITS TO NEW PANEL AB LOCATION INDICATED. PERFORM SPLICE IN EXISTING PANEL AND MAKE MODIFICATIONS AS REQUIRED TO FACILITATE INSTALLATION OF NEW CONDUIT/CONDUCTORS FROM EXISTING TO NEW PANEL LOCATION.
7.	PROVIDE AND INSTALL NEW PANEL AB TO ACCOMMODATE ALL LOADS FROM EXISTING PANELS A AND B. FIELD VERIFY ALL EXISTING LOADS THAT ARE STILL IN USE. REFER TO ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
8.	PROVIDE AND INSTALL IN ACCORDANCE WITH UTILITY REQUIREMENTS. SEE PG&E DESIGN FOR INFORMATION AND DETAILS REGARDING LOCATIONS, MATERIALS, AND OVERALL SYSTEM INSTALLATION. NOTIFY ENGINEER IF PG&E DESIGN DIFFERS FROM WHAT IS SHOWN.

GENERAL NOTES

#	NOTE
1.	COORDINATE POWER SHUT-OFF TIME WITH OWNER SO THAT POWER INTERRUPTION DOES NOT INTERFERE WITH ATM MACHINES BUSY HOURS.

4LEAF, INC.
Building
05/31/2022
Reviewed For Code Compliance

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0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING
DES. FC CKD. TB
DRN. FC DATE 05/04/22
JOB NO. 523.36

SIGNED
REGISTERED PROFESSIONAL ENGINEER — ANTHONY A. BUSSEY — No. E 017988 — ELECTRICAL — STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
ONE-LINE DIAGRAM

SHEET
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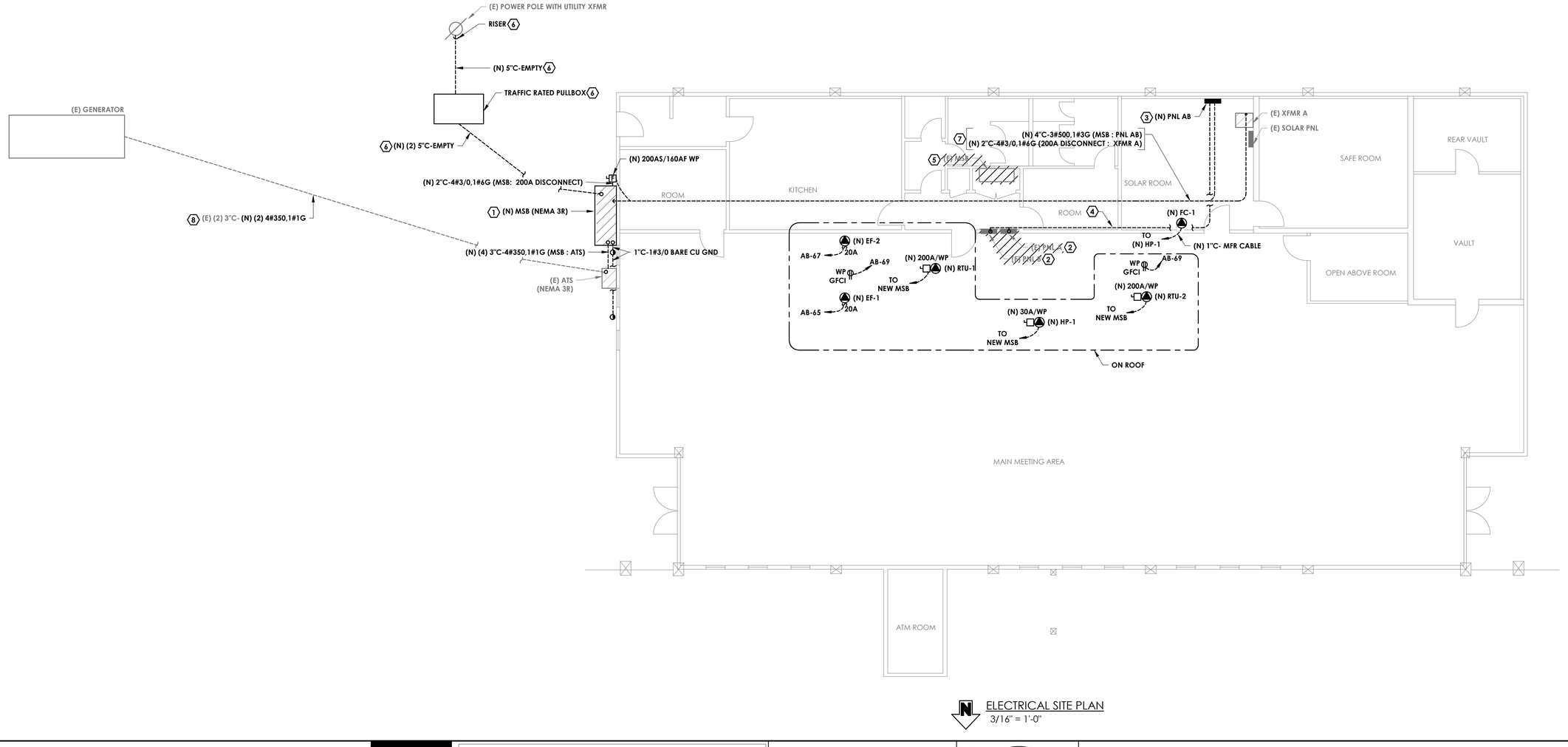
KEYNOTES

#	NOTE
1.	COORDINATE SIDEWALK AND VEGETATION MODIFICATIONS WITH OWNER TO ACCOMMODATE EQUIPMENT LOCATION.
2.	DISCONNECT AND REMOVE EXISTING PANEL. UTILIZE EXISTING PANELBOARD ENCLOSURE BACKBOX TO PERFORM SPLICES FOR ALL BRANCH CIRCUIT CONDUCTORS. PROVIDE AND INSTALL NEW LOCKABLE HASP FOR THE EXISTING ENCLOSURE. REFER TO PANEL SCHEDULE FOR ADDITIONAL INFORMATION.
3.	PROVIDE AND INSTALL NEW PANELBOARD TO REPLACE EXISTING PANELS A AND B AT NEW LOCATION INDICATED. REFER TO PANEL SCHEDULE FOR INFORMATION REGARDING EXISTING PANELBOARD LOADS.
4.	PROVIDE AND INSTALL NEW CONDUIT/CONDUCTORS FOR ALL EXISTING PANELBOARD A AND B LOADS. ROUTE CONDUIT/CONDUCTORS FROM NEW PANELBOARD TO ACCESSIBLE CEILING SPACE ABOVE, AND DOWN TO EACH EXISTING PANEL LOCATION. REFER TO PANEL SCHEDULE FOR INFORMATION REGARDING EXISTING CIRCUITS.
5.	DISCONNECT AND REMOVE EXISTING MAIN SWITCHBOARD. REFER TO ONE-LINE DIAGRAMS FOR ADDITIONAL INFORMATION.
6.	PROVIDE AND INSTALL IN ACCORDANCE WITH UTILITY REQUIREMENTS. REFER TO UTILITY DRAWINGS FOR ADDITIONAL INFORMATION.
7.	ROUTE PANEL AB AND SOLAR DISCONNECT CONDUIT/CONDUCTORS OUT OF THE TOP OF THE NEW SWITCHBOARD AND ALONG EXTERIOR WALL. PENETRATE INTO ACCESSIBLE CEILING SPACE ABOVE AND ROUTE CONDUIT/CONDUCTORS DOWN TO EACH LOAD AS SHOWN. SEAL ALL PENETRATIONS AND SECURE AND SUPPORT CONDUITS IN ACCORDANCE WITH ELECTRICAL SPECIFICATIONS. PAINT EXPOSED CONDUIT TO MATCH BUILDING EXTERIOR.
8.	PROVIDE AND INSTALL NEW CONDUCTORS WITHIN EXISTING CONDUITS.

GENERAL NOTES

#	NOTE
1.	REFER TO PG&E DESIGN FOR UTILITY INFORMATION. NOTIFY ENGINEER IF THE PG&E PLANS DIFFER FROM WHAT IS SHOWN.

4LEAF, INC.
Building
05/31/2022
Reviewed For
Code Compliance



ELECTRICAL SITE PLAN
3/16" = 1'-0"

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS		
NO	DATE	DESCRIPTION

PACE® ENGINEERING

DES FC	CKD TB	JOB NO. 523.36
DRN FC	DATE 05/04/22	

SIGNED
REGISTERED PROFESSIONAL ENGINEER ANTHONY A BORTZ No. E 017988 ELECTRICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
ELECTRICAL SITE PLAN

SHEET
E1.1

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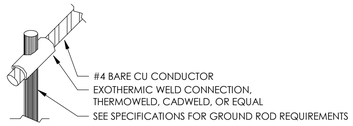
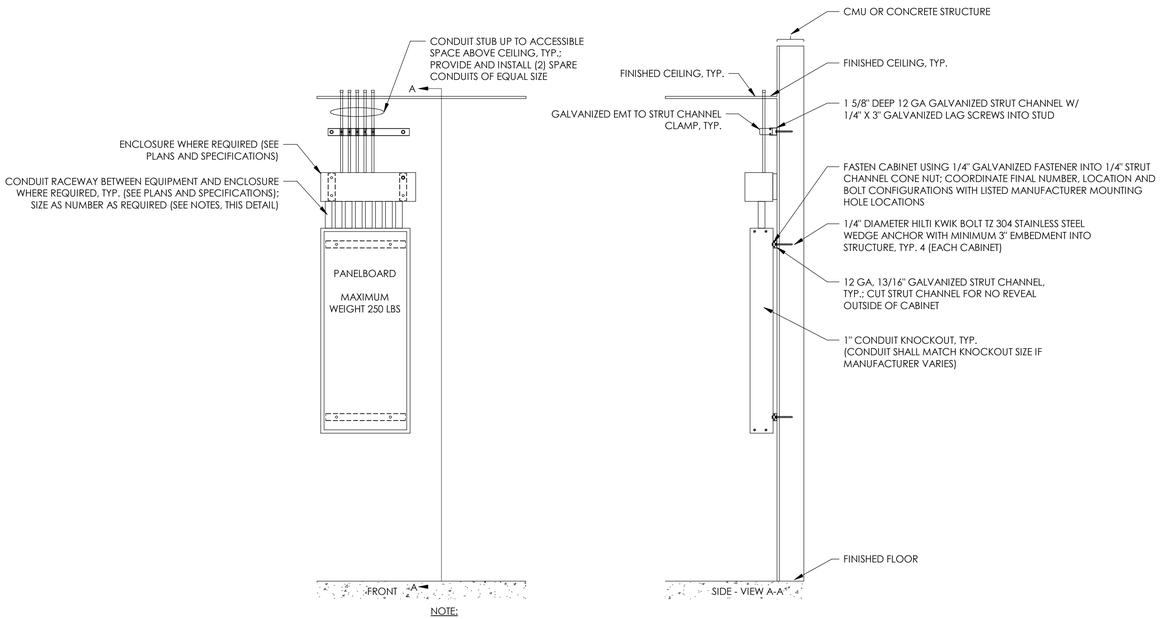


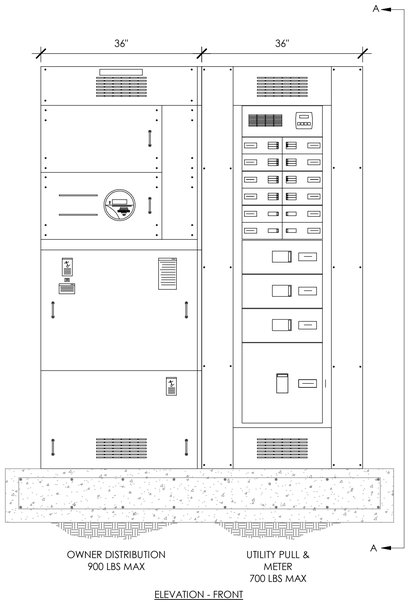
GROUNDING - CABLE TO GROUND ROD (1/E4.1)
NTS



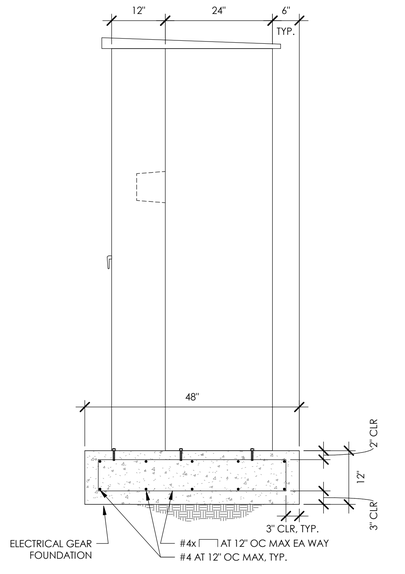
NOTE:

1. TYPICAL PANELBOARD CABINET MAY VARY IN WIDTH AND LENGTH. THIS DETAIL SHALL ACCOUNT FOR LARGEST AND HEAVIEST PANELBOARD AVAILABLE, BUT FASTENING AND ANCHORAGE SHALL BE USED EQUALLY FOR SMALLER CABINET CONFIGURATIONS.
2. WHERE MANUFACTURER REQUIRES A THIRD FASTENING LOCATION, PROVIDE ADDITIONAL STRUT CHANNEL AND FASTENERS. MATCH ADDITIONAL STRUT CHANNEL WITH OTHERS SHOWN (THIS DETAIL).
3. MAXIMUM BREAKER HANDLE HEIGHT SHALL BE 78".

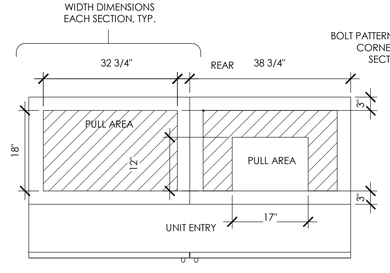
PANELBOARD - SURFACE MOUNT TO CMU/CONCRETE (2/E4.1)
NTS



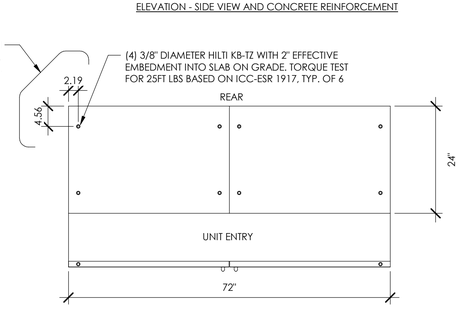
ELEVATION - FRONT



ELEVATION - SIDE VIEW AND CONCRETE REINFORCEMENT



FLOOR PLAN - PULL AREA



FLOOR PLAN - ANCHORAGE

NOTE:

1. TYPICAL MAIN SWITCHBOARD CABINET MAY VARY IN WIDTH AND LENGTH. THIS DETAIL SHALL ACCOUNT FOR LARGEST AND EQUIPMENT AVAILABLE, BUT FASTENING AND ANCHORAGE SHALL BE USED EQUALLY FOR SMALLER CABINET CONFIGURATIONS.
2. WHERE MANUFACTURER REQUIRES ADDITIONAL FASTENING LOCATIONS, PROVIDE ADDITIONAL ANCHORS.

MSB FOUNDATION AND ANCHORAGE (4/E4.1)
NTS

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES FC	CKD TB	JOB NO. 523.36
DRN FC	DATE 05/04/22	

SIGNED
REGISTERED PROFESSIONAL ENGINEER — ANTHONY A. SOFFEN — No. E 017988 — ELECTRICAL — STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
ELECTRICAL DETAILS

SHEET
E4.1

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STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: City of Lakeport Community Center	Report Page: Page 1 of 5
Project Address: 500 N. Main street. Lakeport, CA 95453	Date Prepared: 11/01/21

This document is used to demonstrate compliance with mandatory requirements in §130.5 for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2P for alterations.

A. GENERAL INFORMATION

01 Project Location (city)	Lakeport	02 Occupancy Types Within Project:				
☑ Office	☐ Retail	☐ Warehouse	☐ Hotel/ Motel	☐ School	☐ Support Areas	
☐ Parking Garage	☐ High-Rise Residential	☐ Relocatable	☐ Healthcare Facilities	☐ Other (Write In):		

B. PROJECT SCOPE

Table Instructions: Include any electrical service systems that are within the scope of the permit application.

01 Electrical Service Designation/ Description	02 Scope of Work[1]	03 Rating (kVA)	04 Utility Provided Metering System Exception to §130.5(a)[2]	05 System subject to CA Elec Code Article 517 Exception to §130.5(a)&(b)	06 Demand Response Controls
MSB	Complete replacement service equipment & meter	144	☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.3 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.

[1] *FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c), no other requirements from 130.5 are required.*
[2] *Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.*

C. COMPLIANCE RESULTS

Table Instructions: If this table says "DOES NOT COMPLY" refer to Table D. for guidance and review the Table that indicates "No".

01		02		03		04	05
Service Electrical Metering §130.5(a)	AND	Separation for Monitoring §130.5(b)	AND	Voltage Drop §130.5(c)	AND	Controlled Receptacles §130.5(d)	**Compliance Results**
(See Table F)		(See Table G)		(See Table H)		(See Table I)	
Yes	AND	Yes	AND	Yes	AND	Yes	**COMPLIES**

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: City of Lakeport Community Center	Report Page: Page 2 of 5
Project Address: 500 N. Main street. Lakeport, CA 95453	Date Prepared: 11/01/21

D. EXCEPTIONAL CONDITIONS

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

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

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

F. SERVICE ELECTRICAL METERING

Table Instructions: Complete the table below for new or replacement electrical service systems OR equipment to demonstrate compliance with §130.5(a).

01 Electrical Service Designation/ Description	02 Rating (kVA)	03 Required Metering Capabilities per Table 130.5-A: Instantaneous Demand (kW)	Historical Peak Demand (kW)	Tracking kWh for user-defined period	kWh per rate period	04 Location of Requirements in Construction Documents	05 Field Inspector: Pass	Fail
	144	☑	☐	☑	☐	E0.1	☐	☐

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

Table Instructions: Complete this table for entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(b). Using the dropdown choices in column 01, indicate the load types included for each service. Any load types that are not included in the service do not need to be shown.

Electrical Service Designation/Description:

01 Load Type per Table 130.5-B[1]	02 Minimum Required Separation of Load per Table 130.5-B	03 Compliance Method[2]	04 Location of Requirements in Construction Documents	05 Field Inspector: Pass	Fail
Plug Loads and appliances < 25kVA		Other*	E0.1	☐	☐

** NOTES: If "Other*" is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.*

Plug Loads and appliances < 25kVA	Explain here why item with asterisk complies

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: City of Lakeport Community Center	Report Page: Page 3 of 5
Project Address: 500 N. Main street. Lakeport, CA 95453	Date Prepared: 11/01/21

[1] *FOOTNOTES: For each separate load type, up to 10% of the connected load may be of any type.*
[2] *Method 1: Switchboards/ motor control centers/ panelboard loads disaggregated for each load type*
Method 2: Switchboards/ motor control centers/ panelboard supply other distribution equipment with loads disaggregated for each load type
Method 3: Branch circuits serve load types individually & provisions for adding future branch circuit monitoring
Method 4: Complete metering system measures and reports loads by type
See Chapter 8 of the Nonresidential Compliance Manual for more detail on Compliance Methods.

H. VOLTAGE DROP

Table Instructions: Please complete this table for entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2Pii.

01 Electrical Service Designation/ Description	02 Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method		03 Location of Voltage Drop Calculations[1]	04 Sheet Number for Voltage Drop Calculations in Construction Documents	05 Field Inspector: Pass	Fail
	☑ Voltage drop < 5%	☐ Permitted by CA Elec Code (Exception to §130.5(c))*	In construction documents	E4.2	☐	☐

**NOTES If "Permitted by CA Elec Code*" is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] *FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".*

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

Table Instructions: Please complete this table for entirely new or complete replacement electrical power distribution systems to demonstrate compliance with §130.5(d). Both controlled and uncontrolled receptacles must be provided in office areas, lobbies, conference rooms, kitchen areas in office spaces, copy rooms and hotel/motel guest rooms.

01 Room Name or Description	02 Location/ Type of Controlled Receptacles	03 Shut-Off Controls	04 Permanent Durable Marking Will be Used	05 Location of Requirements in Construction Documents	06 Field Inspector: Pass	Fail
ALL ROOMS	NA: No applicable space types on this service		☐		☐	☐
				Add Row	Remove Last	

** If "Other*" is selected under Compliance Method above, please indicate how compliance has been achieved in the space provided below.*

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: City of Lakeport Community Center	Report Page: Page 4 of 5
Project Address: 500 N. Main street. Lakeport, CA 95453	Date Prepared: 11/01/21

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://ww2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector: Pass	Fail
◉	○	NRCI-ELC-01-E - Must be submitted for all buildings.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to electrical power distribution requirements.

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-ELC-E
Project Name: City of Lakeport Community Center	Report Page: Page 5 of 5
Project Address: 500 N. Main street. Lakeport, CA 95453	Date Prepared: 11/01/21

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Felipe Carvalho	Documentation Author Signature:	Felipe Carvalho
Company:	PACE Engineering	Signature Date:	11/01/21
Address:	1730 South St	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Redding, CA 96001	Phone:	(530) 244-0202

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Tony Bowser	Responsible Designer Signature:	
Company :	PACE Engineering	Date Signed:	11/01/21
Address:	1730 South St	License:	E017988
City/State/Zip:	Redding, CA 96001	Phone:	(530) 244-0202

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards January 2020

4LEAF, INC.
Building
05/31/2022
Reviewed For
Code Compliance

VOLTAGE DROP CALCULATIONS

DISTRIBUTION	LOAD TYPE	CONDUIT MATERIAL	CONDUCTOR MATERIAL	QUANTITY OF RUNS	CONDUCTOR SIZE (AWG)	CURRENT (A)	DISTANCE (FT)	VOLTAGE (V)	IMPEDANCE (Z)	VOLTAGE DROP (Vd)	**VOLTAGE DROP (%)**
MSB : PANEL AB	LINE-LINE (1Ø)	RMC	CU	1	500	320	70	240	0.05	2.24	**0.93%**
PANEL AB : FURTHEST LOAD	LINE-NEUTRAL	EMT	CU	1	12	3	100	120	1.70	0.51	**0.43%**
										TOTAL VD:	**1.36%**

LINE-NEUTRAL Vd = (L * R * I)/1000 — LINE-LINE (3Ø) Vd = (SQRT(3) * L * R * I)/1000 — L = DISTANCE — R = IMPEDANCE
LINE-LINE (1Ø) Vd = (2 * L * R * I)/1000 — I = CURRENT — Vd = VOLTAGE DROP

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO	DATE	DESCRIPTION

PACE® ENGINEERING
DES FC | CKD TB | JOB NO. 523.36
DRN FC | DATE 05/04/22

SIGNED
REGISTERED PROFESSIONAL ENGINEER — ANTHONY A. BOWSER — No. E 017988 — ELECTRICAL — STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
ELECTRICAL TITLE 24 COMPLIANCE DOCUMENTS

SHEET
E4.2

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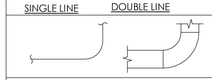
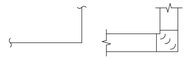
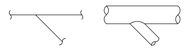
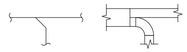
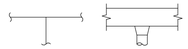
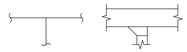
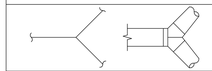
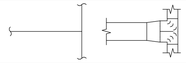
MECHANICAL SYMBOLS

	SINGLE LINE	DOUBLE LINE	FITTING DESCRIPTION
DUCTING			RADIUS ELBOW, ROUND OR RECTANGULAR
			SQUARE ELBOW WITH TURNING VANES, RECTANGULAR
			45° LATERAL, ROUND
			DIVIDED FLOW BRANCH, RECTANGULAR
			CONICAL COLLAR, RECTANGULAR TO ROUND
			45° ENTRY COLLAR, RECTANGULAR
			WYE FITTING, ROUND
			DIVIDED FLOW BRANCH, RECTANGULAR
EQUIPMENT			VAV BOX (COOLING ONLY)
			VAV BOX W/REHEAT COIL
			THERMOSTAT/SENSOR
			CO2 SENSOR
SYMBOLS	12X12 SD-1 200f, 10" Ø	NECK, TAG # CFM, RUNOUT	DIFFUSER, REGISTER, & GRILLE CALL OUT
	WC-1		FIXTURE TAG
			KEY NOTE
			EQUIPMENT TAG
			DETAIL NUMBER SHEET NUMBER
			SECTION NUMBER SHEET NUMBER

NOTE: THIS IS A SUPPLEMENTAL STANDARD DUCTING LEGEND, SOME SYMBOLS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS.

HVAC ABBREVIATIONS

Ø	- DIAMETER/ROUND
(ABC)	- ABOVE CEILING
(ABV)	- ABOVE
AC	- AIR CONDITIONER, AIR CONDITIONING
ACCU	- AIR COOLED CONDENSING UNIT
AD	- ACCESS DOOR, AIR DOOR
AE	- AIR EXTRACTOR
(AFF)	- ABOVE FINISHED FLOOR
APPRX	- APPROXIMATE
BDD	- BACKDRAFT DAMPER
(BF)	- BELOW FLOOR
BHP	- BRAKE HORSEPOWER
BTU	- BRITISH THERMAL UNIT
BTUH	- BRITISH THERMAL UNIT PER HOUR
BTWN	- BETWEEN
C	- CHILLER
CD	- CEILING DIFFUSER, COLD DUCT
CEC	- CALIFORNIA ENERGY CODE
CFH	- CUBIC FEET PER HOUR
CFM	- CUBIC FEET PER MINUTE
CONT	- CONTINUES, CONTINUED
COP	- COEFFICIENT OF PERFORMANCE
(D)	- DROP
DA	- DIRECT ACTING
DB	- DRY BULB
DEMO	- DEMOLISH
DIO	- DIGITAL INPUT OUTPUT
DM	- BACKDRAFT DAMPER
(E)	- EXISTING
EA	- EXHAUST AIR
EBD	- ENTERING DRY BULB TEMPERATURE
EER	- ENERGY EFFICIENCY RATIO
EF	- EXHAUST FAN
EG	- EXHAUST GRILLE, EXISTING GRADE
ER	- EXHAUST REGISTER, ECCENTRIC REDUCER
ESP	- EXTERNAL STATIC PRESSURE
EWB	- ENTERING WET BULB TEMPERATURE
f	- CUBIC FEET PER MINUTE
FA	- FACE AREA
FB	- FILTER BOX
FC	- FLEXIBLE CONNECTION, FAN COIL
FG	- FLOOR GRILLE, FINISH GRADE
FLA	- FULL LOAD AMPERAGE
GV	- GATE VALVE, GRAVITY VENTILATOR
GH	- GRAVITY VENTILATOR HOOD
HP	- HEAT PUMP, HORSEPOWER
HZ	- HERTZ
IAW	- IN ACCORDANCE WITH
INCL	- INCLUDES, INCLUDING
KEF	- KITCHEN EXHAUST FAN
KH	- KITCHEN HOOD
KHC	- KITCHEN HOOD CONTROLLER
KW	- KILOWATT
LA	- LEAVING AIR
LAT	- LEAVING AIR TEMPERATURE
LBS	- POUNDS
LDB	- LEAVING DRY BULB TEMPERATURE
LWB	- LEAVING WET BULB TEMPERATURE
MA	- MIXED AIR
MAD	- MIXED AIR DAMPER
MAT	- MIXED AIR TEMPERATURE
MAU	- MAKEUP AIR UNIT
MBH	- THOUSAND BRITISH THERMAL UNITS PER HOUR
MCA	- MINIMUM CIRCUIT AMPACITY
MD	- MOTORIZED DAMPER
MFR	- MANUFACTURER
MOCP	- MAXIMUM OVER CURRENT PROTECTION
MVD	- MANUAL VOLUME DAMPER
(N)	- NEW
NC	- NORMALLY CLOSED
NO	- NORMALLY OPEN
OA	- OUTSIDE AIR
OAT	- OUTSIDE AIR TEMPERATURE
OBD	- OPPOSED BLADE DAMPER
(OH)	- OVERHEAD
PH	- PHASE
QTY	- QUANTITY
(R)	- RISE
RA	- RETURN AIR, REVERSE ACTING
REF	- ROOF MOUNTED EXHAUST FAN
RF	- RETURN FAN
RG	- RETURN GRILLE
RL	- REFRIGERANT LIQUID
RR	- RETURN REGISTER
RS	- REFRIGERANT SUCTION
RSR	- RISER
RTU	- ROOF TOP UNIT
SA	- SUPPLY AIR
SD	- SMOKE DETECTOR/SMOKE DAMPER
SEER	- SEASONAL ENERGY EFFICIENCY RATIO
SF	- SUPPLY FAN
SP	- STATIC PRESSURE
SQFT	- SQUARE FEET
SR	- SUPPLY REGISTER
SWR	- SIDE WALL REGISTER
TEMP	- TEMPERATURE
TG	- TRANSFER GRILLE
TSTAT	- THERMOSTAT
TYP	- TYPICAL
V	- VOLTS, VENT
W	- WATTS
WB	- WET BULB
WC	- WATER COLUMN
WP	- WORKING PRESSURE

NOTE: THIS IS A SUPPLEMENTAL STANDARD HVAC LEGEND. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS.

GENERAL NOTES

#	NOTE
1.	CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, AND INSPECTIONS.
2.	INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO 2019 CALIFORNIA BUILDING, FIRE, ENERGY, MECHANICAL, AND PLUMBING CODES.

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FAN COIL SCHEDULE

- -	MANUFACTURER & MODEL (OR EQUAL)	INDOOR AIR HANDLER / FAN COIL								
		SUPPLY FAN		CAPACITY			ELECTRICAL SERVICE	WEIGHT	OUTSIDE AIR (CFM)	REMARKS
		CFM	MIN ESP (IN WC)	COOLING (BTU/H)	COOLING SENS	HEATING (BTU/H @ 17°F)				
FC- 1	MITSUBISHI NTXWST24A112A	738	---	22400	16800	16000	REFER TO HP-1	37	---	PROVIDE WALL MOUNT KIT, AND CONDENSATE PUMP.

NOTES:
1. FOLLOW MANUFACTURERS INSTALLATION REQUIREMENTS
2. PROVIDE AND INSTALL MITSUBISHI PAC-US444CN-1 FAN COIL TO UNIVERSAL THERMOSTAT ADAPTER.
3. PROVIDE AND INSTALL HONEYWELL TH832OR1003 TO MATCH EXISTING, COMPLYING WITH 2019 CALIFORNIA ENERGY COMMISION DEMAND RESPONSE AND 7 DAY PROGRAMABLE THERMOSTAT.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL CONTROL AND POWER WIRING BETWEEEN HEAT PUMP AND FAN COIL IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS AND 2019 CALIFORNIA CODES.

EXHAUST FAN SCHEDULE

- -	MANUFACTURER & MODEL (OR EQUAL)	FAN				MOTOR		WEIGHT	REMARKS
		BHP	RPM	CFM	EXTERNAL STATIC PRESSURE (IN WC)	HP	ELECTRICAL SERVICE (V-PH-HZ)		
EF-1	GREENHECK AE-12-433-A4	0.09	1475	500	0.4	1/4	115-1-60	46	ROOF MOUNTED EXHAUST FAN, DIRECT DRIVE ECM MOTOR, ALUMINUM HOUSING, ALUMINUM BLADE, ALUMINUM CURB CAP WITH PREPUNCHED MOUNTING HOLES AND ADAPTER TO MATCH EXISTING CURB DIMENSIONS, BIRDSCREEN, CORROSION RESISTANT FASTENERS, SPEED CONTROL MOUNTED IN ATTIC BELOW FAN, UL 705 LISTED, JUNCTION BOX, NEMA-1 TOGGLE DISCONNECT SWITCH, INCLUDE AND INSTALL BD-100-PB-12X12 GRAVITY OPERATED DAMPER.
EF-2	GREENHECK AE-12-433-A4	0.09	1475	500	0.4	1/4	115-1-60	46	ROOF MOUNTED EXHAUST FAN, DIRECT DRIVE ECM MOTOR, ALUMINUM HOUSING, ALUMINUM BLADE, ALUMINUM CURB CAP WITH PREPUNCHED MOUNTING HOLES, BIRDSCREEN, CORROSION RESISTANT FASTENERS, SPEED CONTROL MOUNTED IN ATTIC BELOW FAN, UL 705 LISTED, JUNCTION BOX, NEMA-1 TOGGLE DISCONNECT SWITCH, BD-100-PB-12X12 GRAVITY OPERATED DAMPER, GPI 22-12-G12 12" TALL CURB DESIGNED FOR FAN.

HEAT PUMP SCHEDULE

- -	MANUFACTURER & MODEL (OR EQUAL)	FANS		FAN MOTOR		COMPRESSOR		ELECTRICAL SERVICE			EFFICIENCY		WEIGHT	COMMENTS
		COUNT	TOT CFM	HP	FLA	HP	RLA	V-PH-HZ	MCA	MOCP	EER	SEER		
HP-1	MITSUBISHI NTXSST24A112A	1	1769	.1	.93	NA	12.9	230-1-60	17.1	20	12.5	20.5	119	HP AND FC SHALL BE PAIRED AND HAVE LISTED AHRI NUMBER.

NOTES:
1. CAPACITIES BASED ON OUTDOOR AIR TEMP SUMMER 105 °F DB/67.7 °F WB, WINTER 28.4 °F.

ROOF TOP HEAT PUMP SCHEDULE

- -	MANUFACTURER & MODEL (OR EQUAL)	NET COOLING CAPACITY		NET HEATING CAPACITY		SUPPLY FAN					COMPRESSOR		ELECTRICAL SERVICE			EFFICIENCY		OUTSIDE AIR		WEIGHT WITHOUT CURB	COMMENTS
		TOTAL (MBH)	SENSIBLE (MBH)	PRIMARY (MBH)	DEFROST ELECTRIC (MBH)	BHP	CFM	EXTERNAL STATIC PRESSURE (IN WC)	HP	FLA	HP	RLA	V-PH-HZ	MCA	MOCP	EER	IEER	DCV MIN (CFM)	DESIGN (CFM)		
RTU-1	TRANE WSC120H3RGA	104.45	104.45	76.95	61.47	1.76	4000	1.0	2.75	7.3	13.14	34	230-3-60	108	125	11	12.20	NOT REQD	1110	988	ROOFTOP UNIT: 2 STAGE SCROLL COMPRESSOR, NON FUSED DISCONNECT, CONVENIENCE OUTLET, HINGED ACCESS DOORS, MICROMETL ECD DRY BULB ECONOMIZER OR EQUAL. SEE NOTE BELOW FOR ADDITIONAL ECOMOMIZER REQUIREMENTS. PROVIDE AND INSTALL 18KW SECONDARY HEATER IN EQUIPMENT AND CONFIGURE FOR OPERATION DURING HEATNG DEFROST MODE. UNIT SHALL BE CONFIGURED AS DOWNFLOW.
RTU-2	TRANE WSC120H3RGA	105.87	105.33	76.97	61.47	1.76	4000	1.0	2.75	7.3	13.14	34	230-3-60	108	125	11.5	15.5	500	1255	988	ROOFTOP UNIT: 2 STAGE SCROLL COMPRESSOR, NON FUSED DISCONNECT, CONVENIENCE OUTLET, HINGED ACCESS DOORS, MICROMETL ECD DRY BULB ECONOMIZER OR EQUA. SEE NOTE BELOW FOR ADDITIONAL ECOMOMIZER REQUIREMENTS. PROVIDE AND INSTALL CO2 SENSOR, WIRING AND CONTROLS TO INTERFACE TO HVAC UNIT AND ECONOMIZER. INTERFACE AND SENSOR SHALL BE COMPATIBLE WITH HVAC UNIT. OSA DAMPER MINIMUM POSITION SHALL OPERATE BETWEEN 400 TO 1255 CFM BASED UPON C02 SENSOR OUTPUT IN ACCORDANCE WITH 2019 CALIFORNIA ENERGY CODE SECTION 120.1(d)4, C7232 OR EQUAL. PROVIDE AND INSTALL 18KW SECONDARY HEATER IN EQUIPMENT AND CONFIGURE FOR OPERATION DURING HEATNG DEFROST MODE. UNIT SHALL BE CONFIGURED AS DOWNFLOW.

NOTES:
1. DESIGN CAPACITIES BASED ON OUTDOOR AIR TEMP SUMMER 105 °F DB/67.7 °F WB, WINTER 28.4 °F WITH THE FULL RATE OF OUTSIDE AIR MIXING BEFORE ENTERING THE COIL. FOR OUTDOOR AIR TEMP SUMMER 95 °F DB/67°F WB UNIT SHALL HAVE MINIMUM TOTAL CAPACITY OF 113 MBH AND SENSIBLE 93 MBH.
2. PROVIDE AND INSTALL UNIT TO ROOF CURB ADAPTER MICROMETL OR EQUAL. ROOF CURB ADAPTER SHALL HAVE A MAXIMUM STATIC PRESSURE LOSS OF 0.4 IN WC TOTAL ACROSS SUPPLY AND RETURN, AT DESIGN AIR FLOW RATE, AND GASKET KITS. CONSTRUCTION SHALL BE WELDED, HEAVY DUTY GAUGE CONSTRUCITON (MIN 14GUAGE), WITH MINIMUM R8 INSULATION ON ALL AREAS OF CURB TRANSFERING DUCTWORK. CURB DESIGN SHALL BE STAMPED BY AN STRUCTURAL OR CIVIL ENGINEER LICENCED IN THE STATE OF CALIFORNIA. UNIT SHALL BE CONNECTED TO CURB ADAPTER AND CURB ADAPTER SHALL BE CONNECTED TO EXISTING CURB PER ADAPTER INSTALLATION INSTRUCTIONS.
3. PROVIDE AND INSTALL 2019 CALIFORNIA ENERGY CODE SECTION 110.12 DEMAND RESPONSE CAPABLE THERMOSTATS COMPATIBLE WITH HVAC AND ECONOMIZER. PROVIDE AND INSTALL ALL REQUIRED THERMOSTAT CONTROL WIRING AND INTERFACES TO HVAC UNIT. WIRING SHALL BE CONCEALED WITHIN WALLS.
4. PROVIDE, INSTALL AND WIRE SMOKE DETECTORS ON BOTH RTU SUPPLY AIR DUCTS. CONTRACTOR SHALL REVIEW EXISTING EQUIPMENT DURING BID WALK TO DETERMINE FULL SCOPE OF REQUIREMENTS. IF DETERMINED THAT EXISTING SMOKE DETECTORS ARE FUNCTIONAL AND UL 268A LISTED, EXISTING SMOKE DETECTOR MAY BE REUSED. DUCT DETECTORS SHALL BE IN A READILY ACCESSILE LOCATION AND ACCESS DOOR SHALL BE INCLUDED ON DUCT.
5. ECOMONIZER SHALL BE DESIGNED FOR OPERATION WITH THE UNIT ON WHICH IT IS BEING INSTALLED. ECONOMIZERS SHALL BE PROVIDED WITH BELIMO ZIP DRY BULB ECONOMIZER SYSTEM WITH ECON ZIP BASE, LCD SCREEN, AND KEYPAD, ULTRA LOW LEAKAGE ECONOMIZER, VERTICAL ORIENTATION, PAINTED RAIN HOOD WITH ALUMINIMUM FILTER, BAROMETRIC RELIEF, ALL NECESSARY PANELS AND HARDWARE, AND ALL SENSORS AND WIRING REQUIRED FOR FULL OPERATION. ECOMIZER SHALL BE CAPABLE OF 100% OUTSIDE AIR OPERATION DURING ECONOMIZER MODE. ECONOMIZER SHALL INCLUDE FAULT DETECTION PER 2019 CALIFRONIA ENERGY CODE. RTU-2 SERVING THE WEST ROOM WILL REQUIRE DEMAND CONTROL VENTILATION WITH CO2 SENSOR.
6. PROVIDE AND INSTALL HONEYWELL VISIONPRO 8000 THERMOSTATS OR EQUAL. THERMOSTATS SHALL BE COMPATIBLE WITH THE HVAC UNIT AND ECONOMIZER TO WHICH IT IS CONNECTED. THERMOSTATS SHALL BE LISTED WITH THE CALIFORNIA ENERGY COMMISSION, AND CAPABLE OF MEETING REQUIREMENTS OF THE 2019 CALIFORNIA ENERGY CODE. THIS INCLUDES BUT IS NOT LIMITED TO, DEMAND RESPONSE PER SECTION 110.12(a), AND ECONOMIZER FAULT DISPLAYED ON THERMOST. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THERMOSTATS AND WIRING ARE OPERATIONAL AND COMMUNICATING WITH NEW UNITS. ALL SIGNAL WIRING BETWEEN THERMOSTATS AND ROOFTOP EQUIPMENT SHALL BE THE RESPONSIBLITY OF THE CONTRACTOR.
7. PROVIDE AND INSTALL UNITS WITH 2" THICK MERV 13 FILTERS. PROVIDE 1 SET OF SPARE FILTERS FOR EACH UNIT.

AIR TERMINALS SCHEDULE

TAG	MANUFACTURER & MODEL (OR EQUAL)	TYPE	MOUNT	NECK	REMARKS
CD-1	TITUS TMS	CEILING DIFFUSER	SURFACE	ROUND	STEEL. #26 WHITE, SQUARE CEILING DIFFUSER.
CD-2	TITUS 271FL	CEILING GRILLE	SURFACE	RECTANGULAR	3/4" BLADE SPACING, HORIZONTAL, 22.5° AERO , #26 WHITE.
RG-1	TITUS 350FL	RETURN GRILL	SURFACE	RECTANGULAR	3/4" BLADE SPACING, 35° FIXED, ALUMINUM, #26 WHITE.
TG-1	TITUS 350FL	EXHAUST GRILL	SURFACE	RECTANGULAR	3/4" BLADE SPACING, 35° FIXED, ALUMINUM, #26 WHITE.
TG-2	TITUS 271FL	CEILING GRILLE	SURFACE	RECTANGULAR	3/4" BLADE SPACING, HORIZONTAL, 22.5° AERO , #26 WHITE.
EG-1	TITUS 350FL	EXHAUST GRILL	SURFACE	RECTANGULAR	3/4" BLADE SPACING, 35° FIXED, ALUMINUM, #26 WHITE.

NOTES:
1. INCLUDE OPPOSED BLADE DAMPERS WHERE INDICATED ON FLOOR PLANS.

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
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REVISIONS		
NO	DATE	DESCRIPTION

PACE® ENGINEERING
DES AM | CKD AM | JOB NO. 0523.36
DRN BW | DATE 02/22/22

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER — ADAM WILLIAM — No. M 40501 — MECHANICAL — STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
MECHANICAL SCHEDULES & LEGENDS

SHEET
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GENERAL NOTES

#	NOTE
1.	MAJORITY OF EXISTING RECTANGULAR DUCTWORK IS RIGID FIBER BOARD. DIMENSION ON DRAWINGS INDICATE MEASUREMENT FROM INTERIOR OF FIBER BOARD TO INTERIOR OF FIBER BOARD.
2.	NO CHANGES TO EXISTING KITCHEN MAKEUP AIR UNIT OR HOOD EXHAUST FAN SHALL OCCUR.

KEYNOTES

(#)	NOTE
1.	PURGE AND REMOVE GAS PIPING SERVING ROOF TOP UNITS. PLUG AT TEE NEAR GAS PIPE RISE. GAS PIPING TO (E) GREASE HOOD FIRE PROTECTION SYSTEM SHALL REMAIN.
2.	REMOVE EXISTING EXHAUST DUCTWORK AND DIFFUSERS. REPAIR CEILING TO MATCH EXISTING FINISH PATTERN AND COLOR. REPAIR, PATCHWORK, AND COLOR SHALL NOT BE DISTINGUISHABLE AFTER COMPLETION OF FINISH WORK.
3.	DISCONNECT EXISTING CONDENSATE, CAP AND PREPARE FOR FUTURE INSTALLATION ON NEW UNIT.

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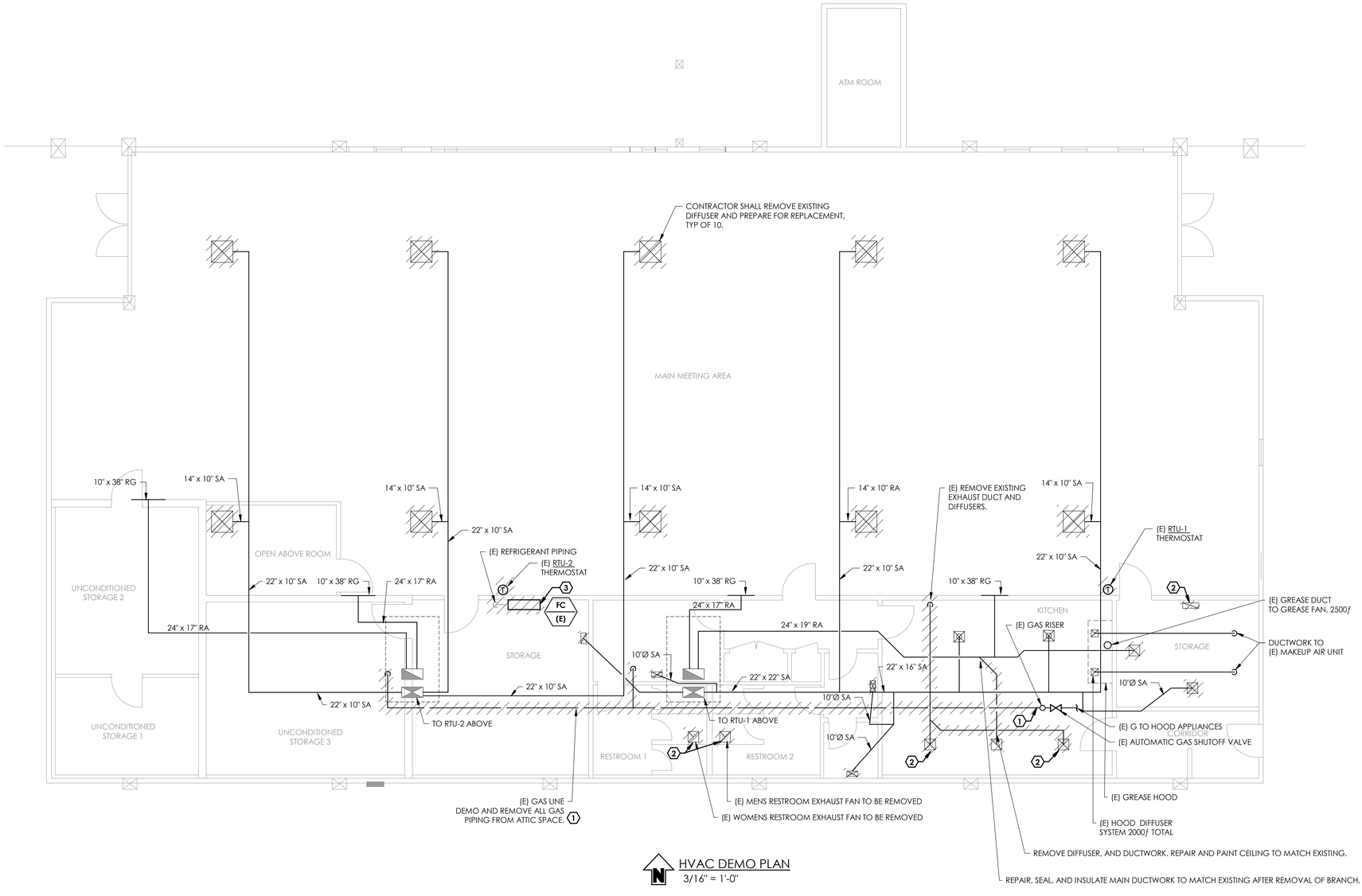

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HVAC DEMO PLAN
3/16" = 1'-0"

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REVISIONS		
NO	DATE	DESCRIPTION

PACE® ENGINEERING

DES. AM	CKD. AM	JOB NO.
DRN. BW	DATE 02/22/22	0523.36

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER ADAM WILLIAM MILLER No. M 40501 MECHANICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
MECHANICAL DEMO FLOOR PLAN

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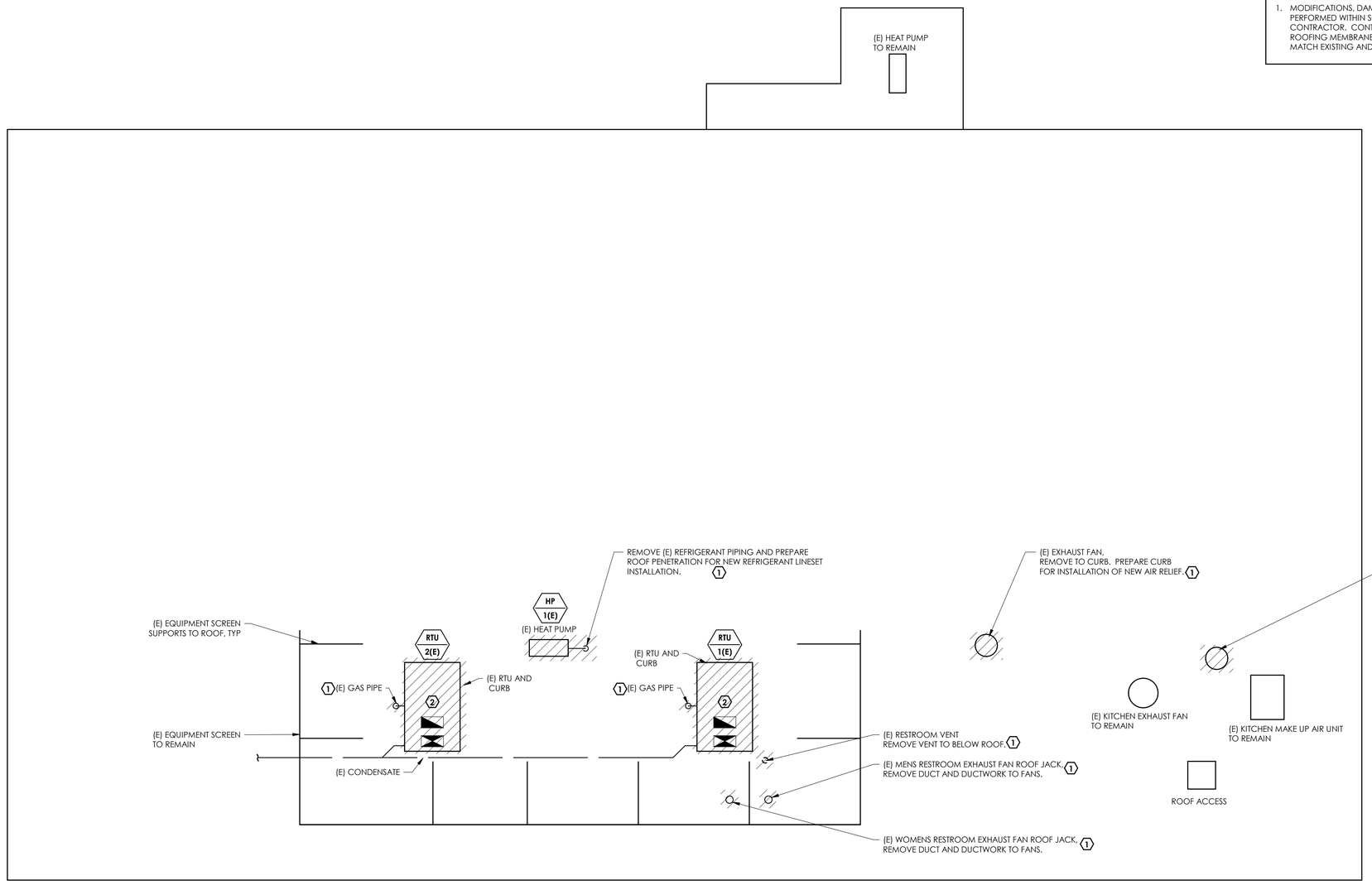
KEYNOTES

#	NOTE
1.	REPAIR ROOF TO MATCH EXISTING STRUCTURE AND FINISH. CONTRACTOR SHALL REPAIR LOCATIONS SUCH THAT FINISH IS FLUSH AND OF STRUCTURAL INTEGRITY, MATCHING SURROUNDING AREA. REFER TO GENERAL NOTE 1.
2.	CONTRACTOR SHALL REVIEW AND REPAIR ANY DAMAGE, IF IT EXISTS, TO EXISTING ROOFTOP UNIT CURBS BEFORE SETTING NEW EQUIPMENT.

GENERAL NOTES

#	NOTE
1.	MODIFICATIONS, DAMAGE, NEW OPENINGS, OR CURB CHANGES CAUSED BY WORK BEING PERFORMED WITHIN SCOPE OF PROJECT SHALL BE REPAIR BY A LICENSED ROOFING CONTRACTOR. CONTRACTOR SHALL PROVIDE 10 YEAR WARRANTY ON ALL REPAIRS. ROOFING MEMBRANE, INSULATION, SEALING, AND STRUCTURE SHALL BE REPAIRED TO MATCH EXISTING AND SURROUNDING MATERIALS. ROOF SHALL BE MADE WATER TIGHT.



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HVAC DEMO ROOF PLAN
3/16" = 1'-0"

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PACE® ENGINEERING

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SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER
ADAM WILLIAM
No. M 40501
MECHANICAL
STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
MECHANICAL DEMO ROOF PLAN

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SEQUENCE OF OPERATIONS

1. THE WALL MOUNTED THERMOSTATS SHALL CONTROL ROOFTOP UNITS AND ASSOCIATED ECONOMIZERS TO MAINTAIN ROOM TEMPERATURE SETPOINT PER INDIVIDUAL THERMOSTAT CONFIGURATIONS.
2. WHEN COOLING OR HEATING IS REQUESTED BY ANY THERMOSTAT, THE EXTERIOR HEAT PUMPS FOR THAT THERMOSTAT WILL OPERATE.
3. WHEN THE RTU HEAT PUMPS GO INTO DEFROST MODE, THE SECONDARY ELECTRICAL HEAT COIL SHALL BE ENGAGED.
4. EF-1 SHALL OPERATE WHENEVER RTU-1 SUPPLY FAN IS IN OPERATION.
5. EF-2 SHALL OPERATE WHENEVER RTU-1 OR RTU-2 SUPPLY FAN IS IN OPERATION, OR WHEN LIGHTS ARE ON IN EITHER RESTROOM
6. RTU-1 & 2 ECONOMIZERS SHALL OPERATE BASED ON DRY BULB TEMPERATURE SETPOINT CONFIGURED ON THEIR RESPECTIVE THERMOSTAT.
7. RTU-1 ECONOMIZER MINIMUM OUTSIDE AIR SHALL BE PER ROOFTOP UNIT SCHEDULE FOR ALL TIMES WHEN 100% OUTSIDE AIR ECONOMIZER IS NOT BEING REQUESTED.
8. RTU-2 ECONOMIZER SHALL OPERATE BETWEEN THE MINIMUM DCV AND OUTSIDE AIR SETPOINT FROM ROOFTOP UNIT SCHEDULES, BASED UPON CO2 SENSOR, WHENEVER 100% OUTSIDE AIR ECONOMIZER IS NOT BEING REQUESTED.

KEYNOTES

#	NOTE
1.	CONNECT NEW CONDENSATE TO EXISTING CONDENSATE PIPING.
2.	INSTALL DUCTING HIGH AND TIGHT TO THE ROOF IN LOCATION THAT ALLOWS ACCESS TO ATTIC BEYOND DUCTWORK.
3.	REMAKE CONNECTION FROM THERMOSTAT TO NEW ECONOMIZER/HVAC UNITS.
4.	PROVIDE AND INSTALL ACCESS DOOR ON EXISTING DUCTWORK IN LOCATION THAT ALLOWS SERVICE OF SMOKE DETECTOR SENSOR WITHIN DUCT. ACCESS DOOR SHALL BE MINIMUM 18" SQUARE, FACTORY MANUFACTURERED WITH SEALS, HINGE, AND CAM LOCK. DUCTMATE OR EQUAL.

GENERAL NOTES

#	NOTE
1.	UPON COMPLETION/INSTALLATION OF THE NEW ROOFTOP AIR CONITIONING UNITS, THE DUCTWORK CONNECTED TO EACH UNIT SHALL BE SEALED AND PRESSURE TESTED. IN ACCORDANCE WITH 2019 CALIFORNIA ENERGY SECTIONS 141.0(B)2EII AND 141.0(B)2DII, DUCTWORK LEAKAGE SHALL BE LESS THAN 15% OF THE SYSTEM AIR CONDITIONING AIR FLOW. WHERE NOT POSSIBLE TO MEET LEAKAGE LIMITS, PROVIDE SMOKE TEST AND VISUAL INSPECTION BY CERTIFIED HERS RATER IN MANNER REQUIRED BY CODE SECTION ABOVE, REPAIR ALL LEAK LOCATIONS.
2.	ALL SUPPLY AND RETURN AIR DUCTWORK THAT HAS BEEN REPLACED SHALL BE MINIMUM R8 INSULATION. INSULATED FIBER BOARD DUCTWORK SHALL BE PROVIDED WITH INSULATION WRAP SUCH THAT THE SUM OF R VALUES OF THE INSULATED DUCTBOARD AND THE WRAP ARE MINIMUM R8.
3.	WHERE FLEXIBLE DUCT IS TO BE REPLACED, CONTRACTOR SHALL PROVIDE RIGID SHEET METAL DUCTWORK WITH MINIMUM R8 INSULATION. CONTRACTOR MAY USE FLEXIBLE MINIMUM R8 DUCTWORK TO MAKE FINAL CONNECTIONS TO AIR TERMINALS WITH A MAXIMUM LENGTH OF 5'.
4.	CONTRACTOR SHALL ADJUST AND SUPPORT EXISTING FLEXIBLE DUCTWORK TO REMOVE KINKS AND SAGS.
5.	CONTRACTOR SHALL ENSURE ALL NEW DIFFUSERS AND RETURN GRILLES HAVE VOLUME DAMPERS INSTALLED ON DUCTWORK IN ACCESSIBLE LOCATION. WHERE NOT POSSIBLE OR NOT ACCESSIBLE, CONTRACTOR SHALL PROVIDE OPPOSED BLADE DAMPERS INSTALLED WITH NEW DIFFUSERS OR GRILLES. ADDITIONAL VOLUME DAMPERS ARE NOT REQUIRED ON DIFFUSERS SERVING MAIN ROOM AS EXISTING DUCTWORK HAS EXISTING DAMPER IN ATTIC SPACE.
6.	DIFFUSERS AND GRILLES SHALL BE REPLACED THROUGHOUT BUILDING. REFER TO PLANS AND SCHEDULES FOR LOCATIONS. RETURN GRILLES HIGH ON WALLS OF MAIN ROOM AND KITCHEN DIFFUSERS AND GRILLES TO REMAIN UNMODIFIED, UNLESS NOTED OTHERWISE.
7.	DO NOT INSTALL INSULATION ON DUCTWORK CONNECTED TO EF-1.
8.	INSTALLATION OF ALL EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS AND RECOMMENDED PROCEDURES.
9.	CONTRACTOR SHALL EVALUATE AND REPAIR ALL DAMAGED DUCTWORK. NOTES ON DAMAGE AREAS IN DRAWINGS ARE NOT INTENDED AS A COMPLETE RECORD OF DAMAGE, AND ARE PROVIDED TO INDICATE MAJOR DAMAGE FOR THE CONTRACTOR TO EVALUATE.
10.	C02 SENSOR SHALL BE INSTALLED AT 5'-0" AFF.
11.	THERMOSTAT SHALL BE INSTALLED WITH TOP 42" AFF.

FUTURE DESIGN CONSIDERATION AND LIMITATIONS

#	NOTE
1.	HVAC LOAD DESIGNS ARE BASED UPON ASSUMPTION THAT EXTERIOR WALLS WILL BE REMODELED IN FUTURE WITH WOOD FURRING AND BATT INSULATION OF R11 OR BETTER, AND WINDOWS SHALL BE REPLACED IN FUTURE WITH MINIMUM 2019 CALIFORNIA ENERGY CODE PRESCRIPTIVE ALTERATION REQUIREMENTS. SHOULD THE SPACE BE UTILIZED BEFORE THIS OCCURS, IT SHALL BE UNDERSTOOD THAT THE BUILDING SYSTEMS SHOULD NOT BE EXPECTED TO MAINTAIN COMFORTABLE TEMPERATURES AND/OR HUMIDITIES WITH LARGE CROWDS DURING OUTDOOR EXTREME SUMMER AND WINTER TEMPERATURES.
2.	PER CONVERSATIONS OWNER AND REVIEW OF CONCEPTUAL DRAWINGS FOR FUTURE REMODEL, IT IS UNDERSTOOD THE NEW CONCEPTUAL MEETING AREA WILL BE DESIGNED FOR 220 PEOPLE WITH A MAX EXTERIOR DESIGN TEMPERATURE OF 105ºF. DUE TO BUDGETARY RESTRAINTS AND IN AN EFFORT TO AVOID COST OF INSTALLING LARGER EQUIPMENT, SUPPORT STRUCTURES, AND POSSIBLE REPLACEMENT OF THE EXISTING DUCTWORK SYSTEMS, THE OWNER UNDERSTANDS THE DESIGN FOR THE BUILDING MAY EXPERIENCE HUMID CONDITIONS WHEN USED BY LARGE AMOUNTS OF PEOPLE ON HOT DAYS. THE TWO REPLACEMENT ROOF TOP UNITS WILL HAVE CAPACITY TO REMOVE THE SENSIBLE HEAT REQUIRED IN THE SPACE AFTER THE FUTURE REMODEL, BUT IF HUMIDITY ISSUES ARISE ON A CONTINUAL BASIS, IT SHALL BE UP TO THE OWNER TO PROVIDE ADDITIONAL DEHUMIDIFICATION EQUIPMENT.
3.	IT IS OUR UNDERSTANDING THAT THE RESTROOM AND ANCILLARY AREAS MAY BE REMODELED IN THE FUTURE. AS SUCH, THE DESIGN CONTINUES TO MEETS THE CURRENT EXHAUST CODE REQUIREMENTS. NEW RESTROOM EXHAUST FANS ARE DESIGNED TO PROVIDE THE REQUIRED AMOUNT OF EXHAUST AIR FOR UP TO FIVE FUTURE STALLS/URINALS IN EACH RESTROOM, SHOULD IT BE REQUIRED DURING RENOVATION.
4.	EXISTING RESTROOM DIFFUSERS WILL BE UPDATED IN THE SAME LOCATION.
5.	COOLING AND HEATING AIRFLOW IS DESIGNED TO ACCOMMODATE CONDITIONING FOR THE LARGER FUTURE RESTROOMS.
6.	NEW TRANSFER DUCTWORK FROM MEETING AREA, INTO EACH RESTROOM, ACCOMMODATES THE NEW INCREASED EXHAUST FANS AIRFLOW. DURING REMODEL IT SHOULD BE EXPECTED THE WALLS SEPARATING THE EXISTING RESTROOMS FROM ANCILLARY SPACES CAN BE REMOVED WITHOUT ADDITIONAL CHANGES TO THE HVAC SYSTEM.
7.	CONTRACTOR SHALL COORDINATE WITH OWNER TO ENSURE FINAL LOCATIONS OF EXHAUST AND TRANSFER GRILLES IN RESTROOMS ARE POSITIONED TO AVOID REWORK DURING FUTURE REMODEL. OWNER SHALL PROVIDE CONTRACTOR WITH EXPECTED FUTURE FLOOR PLAN AND RESTROOM LAYOUT. CONTRACTOR SHALL NOT BE RESPONSIBLE FOR CHANGES TO FUTURE FLOOR PLAN REMODEL THAT OCCUR AFTER OWNER HAS PROVIDED CONTRACTOR WITH THE EXPECTED FLOOR PLAN.

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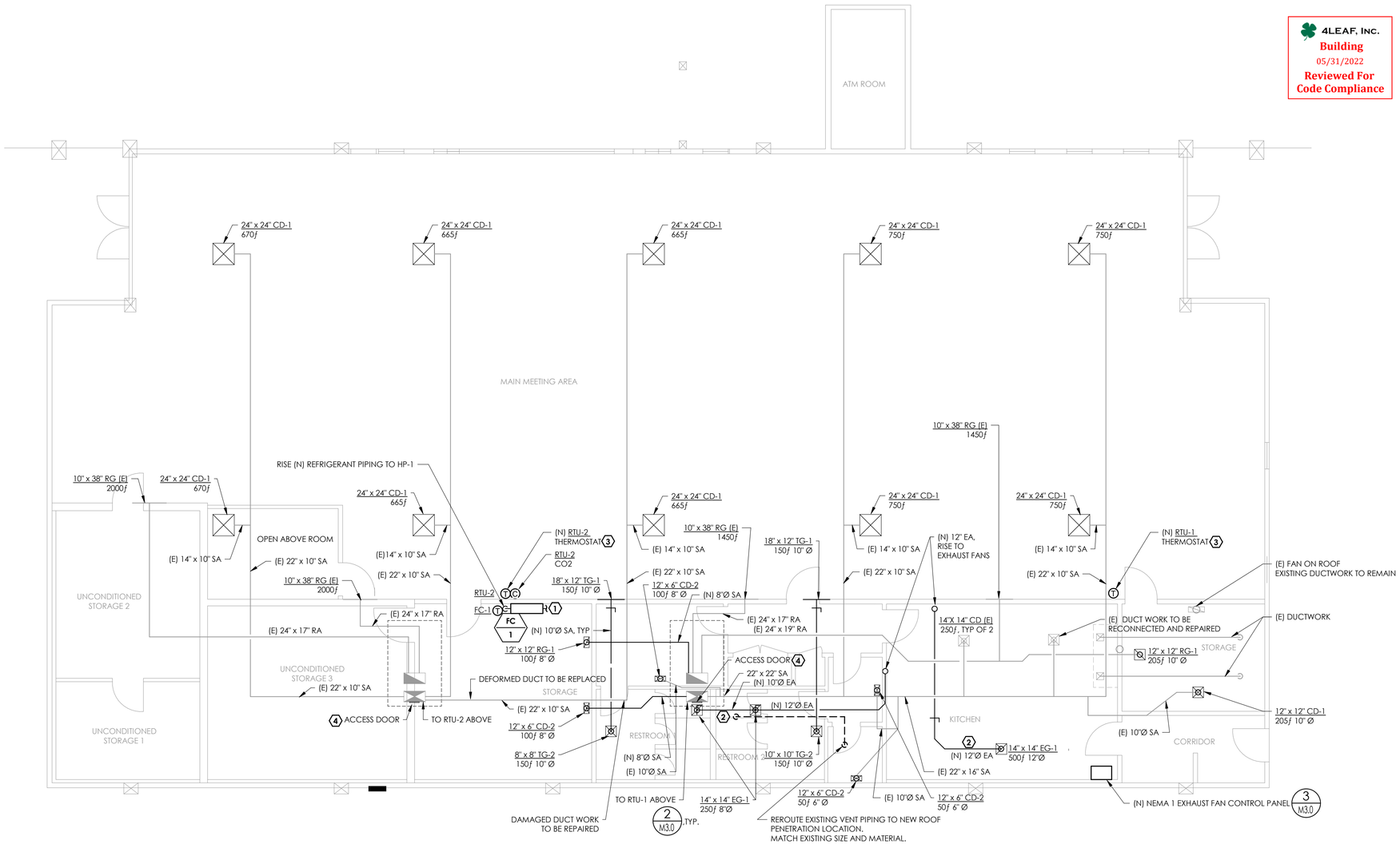

HVAC PLAN
3/16" = 1'-0"

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
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REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES AM	CKD AM	JOB NO.
DRN KS	DATE 02/22/22	0523.36

SIGNED 5/23/22
ADAM WILLIS No. M 40601 REGISTERED PROFESSIONAL ENGINEER MECHANICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
HVAC FLOOR PLAN

SHEET
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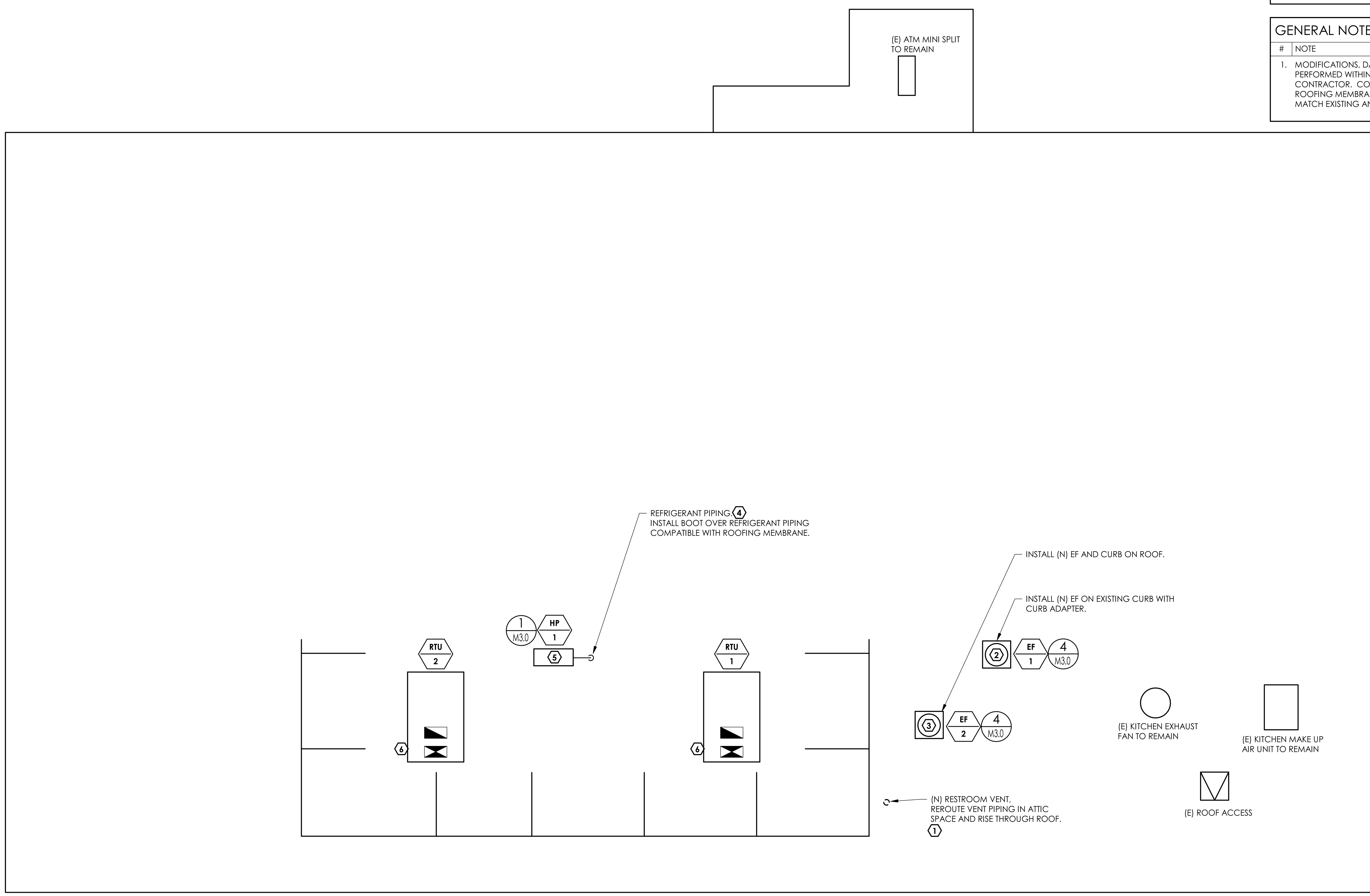
KEYNOTES

#	NOTE
1.	FINAL LOCATION SHALL BE MINIMUM 10' FROM FORCED AIR INTAKES AND 3' FROM OTHER OPENINGS INTO THE BUILDING. VENT PIPE MATERIAL SHALL MATCH EXISTING MATERIAL. PIPING EXTENSION, FITTINGS, SUPPORT AND INSTALLATION SHALL BE IN COMPLIANCE WITH 2019 CALIFORNIA PLUMBING CODE.
2.	PROVIDE WIRING AND RELAY CONTROLS SUCH THAT EF-1 TO OPERATES WHENEVER RTU-1 SUPPLY FAN IS IN OPERATION.
3.	PROVIDE WIRING AND RELAY CONTROLS SUCH THAT EF-2 OPERATES WHENEVER RTU-1 OR RTU-2 SUPPLY FAN IS IN OPERATION.
4.	CONTRACTOR SHALL SIZE REFRIGERANT PIPING IN ACCORDANCE WITH MANUFACTURER INSTALLATION REQUIREMENTS. REFRIGERANT PIPING LENGTH SHALL BE WITHIN MINIMUM AND MAXIMUM RANGE ALLOWED BY MANUFACTURER. INSULATE REFRIGERANT PIPING PER SPECIFICATIONS AND THE 2019 CALIFORNIA ENERGY CODE SECTION 120.3.
5.	MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING OF POWER AND SIGNAL WIRING BETWEEN HEAT PUMP AND FAN COIL. COORDINATE WITH THE ELECTRICAL INSTALLER FOR THE ROUGH IN.
6.	REMAKE CONNECTION TO CONDENSATE PIPING WITH TRAP, CLEANOUT AND VENT IN ACCORDANCE WITH 2019 CALIFORNIA PLUMBING CODE. ALL CONDENSATE PIPING SHALL MAINTAIN MIN 1/8"/FT DROP. PIPING MATERIAL SHALL MATCH EXISTING.

GENERAL NOTES

#	NOTE
1.	MODIFICATIONS, DAMAGE, NEW OPENINGS, OR CURB CHANGES CAUSED BY WORK BEING PERFORMED WITHIN SCOPE OF PROJECT SHALL BE REPAIR BY A LICENSED ROOFING CONTRACTOR. CONTRACTOR SHALL PROVIDE 10 YEAR WARRANTY ON ALL REPAIRS. ROOFING MEMBRANE, INSULATION, SEALING, AND STRUCTURE SHALL BE REPAIRED TO MATCH EXISTING AND SURROUNDING MATERIALS. ROOF SHALL BE MADE WATER TIGHT.



HVAC ROOF PLAN
3/16" = 1'-0"

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REVISIONS

NO	DATE	DESCRIPTION

PACE ENGINEERING

DES AM | CKD AM | JOB NO. 0523.36
DRN BW | DATE 02/22/22

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER ADAM MILLER No. M 40501 MECHANICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
HVAC ROOF PLAN

SHEET
M2.1

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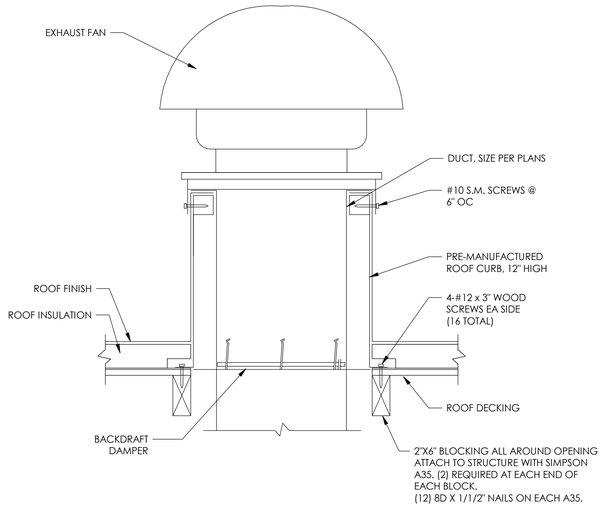
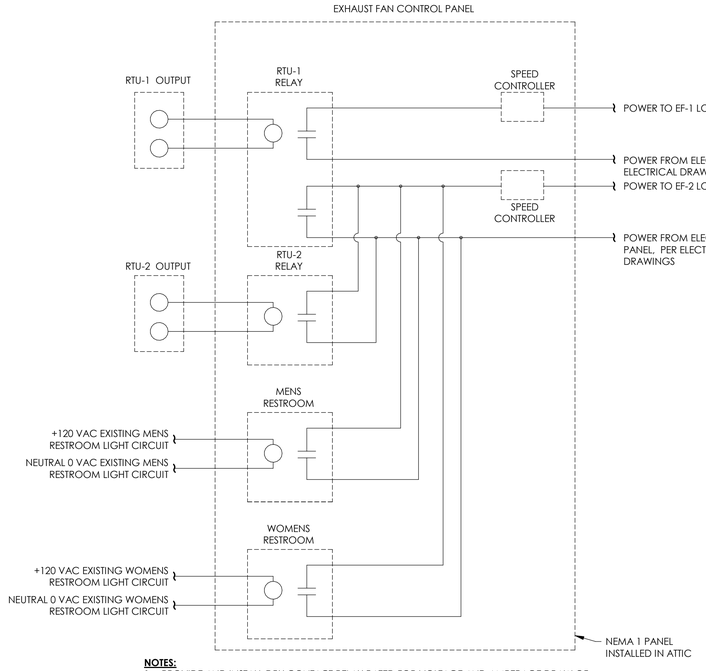
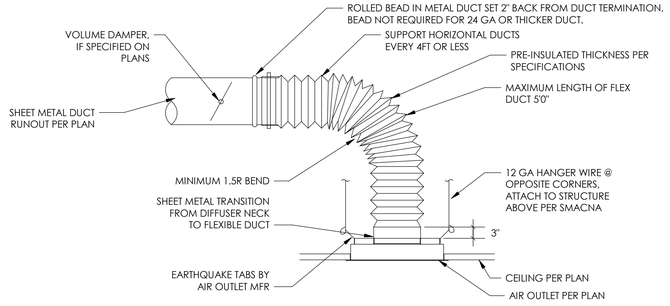


EXHAUST FAN 4 M3.0
NTS



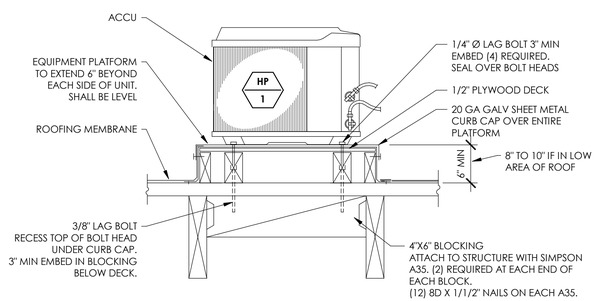
NOTES:
1. PROVIDE AND INSTALL DRY CONTACT RELAY RATED FOR VOLTAGE AND AMPERAGE DRAW OF ASSOCIATED EF. WAGO OR EQUAL.
2. INSTALL RELAYS IN ATTIC SPACE IN NEMA 1 PANEL. PROVIDE LABEL ON DOOR OF PANEL INDICATING ALL CIRCUITS PROVIDING POWER TO PANEL. THIS INCLUDES POWER FROM EXHAUST FAN CIRCUITS AND CIRCUITS SERVING RESTROOMS LABEL SHALL BE MINIMUM 1/2" TEXT WITH ADHESIVE BACK.
3. RELAY INPUTS SHALL BE OF COMPATIBLE VOLTAGE WITH HVAC CONTROL SYSTEM OUTPUT CARD OR THE VOLTAGE FROM THE LIGHTING CIRCUIT TO WHICH IT IS ATTACHED. MAKE CONNECTION IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
4. PROVIDE AND INSTALL POWER AND SIGNAL WIRE IN CONDUIT IN COMPLIANCE WITH SPECIFICATION SECTIONS 260519 "LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES" AND 260533 "RACEWAYS AND BOXES FOR ELECTRICAL SYSTEM".

EXHAUST FAN CONTROL 3 M3.0
NTS

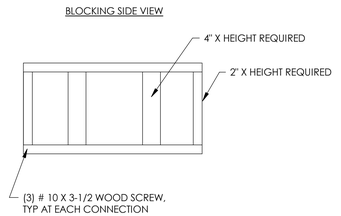


NOTES:
1. FLEXIBLE DUCT SHALL ONLY BE USED FOR FINAL CONNECTIONS TO AIR TERMINALS, IN THE SHORTEST PATH POSSIBLE.
2. SUPPORTS SHALL BE RIGID AND SHALL NOT BE LESS THAN 1 1/2" WIDE AT POINT OF CONTACT WITH DUCT.
3. DUCT SAG BETWEEN SUPPORTS SHALL NOT EXCEED 1/2".
4. MAXIMUM WEIGHT OF AIR TERMINAL SHALL BE EQUAL TO OR LESS THAN 56 LBS.

FLEX DUCT CEILING OUTLET DETAIL 2 M3.0
NTS



CONDENSING UNIT ON CURB 1 M3.0
NTS



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REVISIONS		
NO	DATE	DESCRIPTION

PACE ENGINEERING®

DES AM	CKD AM	JOB NO.
DRN BW	DATE 02/22/22	0523.36

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER ADAM MILLER No. M 40601 MECHANICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
MECHANICAL DETAILS

SHEET
M3.0

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4LEAF, INC.
Building
05/31/2022
Reviewed For
Code Compliance

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E (Created 09/2020) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-MCH-E
Project Name: Lakeport Community Center	Report Page: Page 1 of 11
Project Address: 500 N Main St	Date Prepared: 2022-04-11

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

A. GENERAL INFORMATION

01	Project Location (city)	Lakeport	04	Total Conditioned Floor Area	5,720
02	Climate Zone	2	05	Total Unconditioned Floor Area	670
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

☐ Office (B) ☐ Retail (M) ☐ Non-refrigerated Warehouse (S)
☐ Hotel/ Motel Guest Rooms (R-1) ☐ School (E) ☐ Healthcare Facility (I)
☐ High-Rise Residential (R-2/R-3) ☐ Relocatable Class Bldg (E) ☑ Other (Write In): Multi-purpose

[1] *FOOTNOTES: Climate zone can be determined on the California Energy Commission's website at http://www.energy.ca.gov/maps/renewable/building_climate_zones.html*

B. PROJECT SCOPE

Table Instructions: Include any mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.4, and §141.0(b)2 for alterations.

My project consists of (check all that apply)

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

C. COMPLIANCE RESULTS

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

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

D. EXCEPTIONAL CONDITIONS

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

Table H indicates a Fan Power System Index that exceeds the maximum allowed per §140.4(c). Please revise to demonstrate compliance.
Selections made in Table O have been changed by the permit applicant. See Table E. Additional Remarks for permit applicant's explanation.

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Table Instructions: Complete the following equipment schedules to show compliance 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)

01	02	03	04	05	06	07	08	09	10	11
				Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (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	Smallest Size 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)
RTU-1	Unitary heat pumps	Air cooled, package (3 phase)	Yes	77	106	61.47	104.45	118	28.2	83.4
RTU-2	Unitary heat pumps	Air cooled, package (3 phase)	Yes	77	106	61.47	104.45	118	24.1	86.2
HP-1	Unitary heat pumps	Air cooled, package (1 phase)	Yes	24.6	16	0	23.6	22.4	24.6	23.6

Table Continued

Table Continued

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

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHP))

01	02	03	04	05	06	07	08	09
		Heating Mode				Cooling Mode		
Name or Item Tag	Size Category (Btu/h)	Rating Condition (°F)	Efficiency Unit	Min Efficiency Required per Tables 110.2f Title 20	Design Efficiency	Efficiency Unit	Min Efficiency Required per Tables 110.2f Title 20	Design Efficiency
RTU-1	≥65,000 and <135,000	47°Fdb/43°Fwb OSA	COP	3.3	3.3	EER	11	11.5
						IEER	12.2	15.5
RTU-2	≥65,000 and <135,000	47°Fdb/43°Fwb OSA	COP	3.3	3.3	EER	11	11.5
						IEER	12.2	15.5
HP-1	<65,000		HSPF	8	10	SEER	14	20.5

G. PUMPS

This Section Does Not Apply

H. FAN SYSTEMS & AIR ECONOMIZERS

Table Instructions: Complete the following Table for fan systems to demonstrate compliance with prescriptive requirements found in §140.4(c), §140.4(e) and §140.4(m). First document the system details, then add fans within that system to document compliance with fan power requirements. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name:	RTU-1	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume

Table Continued

01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SUPPLY	Supply	1	4,000	Nameplate HP	2.75	None used	
						Calculated Adjustment (in H_2O)	

Total System Design Supply Airflow (CFM):	4,000	Total System Design (B)HP:	2.75	Maximum System Fan Power (B)HP:	

System Name:	RTU-2	Economizer:[1]	Fixed Temperature	Economizer Controls:	Designed per §140.4(e) and (m)	System Fan Type:	Constant Volume

01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit[2]	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4-B	
						Device	Design Airflow through Device (CFM)
SUPPLY	Supply	1	4,000	Nameplate HP	2.75	None used	
						Calculated Adjustment (in H_2O)	

Total System Design Supply Airflow (CFM):	4,000	Total System Design (B)HP:	2.75	Maximum System Fan Power (B)HP:	

[1] *FOOTNOTE: Computer room economizers must meet requirements of §140.9(a) 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.*

I. SYSTEM CONTROLS

Table Instructions: Complete the following Table to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)2E for altered space conditioning systems.

Table Continued

01 System Name	02 System Zoning	03 Conditioned Floor Area Being Served (ft²)	04 Thermostats §110.2(b) & (c)[1] §120.2(a) or §141.0(b)2E	05 Shut-Off Controls §120.2(e)	06 Isolation Zone Controls §120.2(g)	07 Demand Response §110.12 and §120.2(b)	08 Supply Air Temp. Reset §140.4(f)	09 Window Interlocks per §140.4(n)
RTU-1	multi-zone	≤ 25,000 ft²	Setback Thermostat	Auto Timeswitch	NA: Single Zone	DR Tstat per §110.12	NA: Single Zone	NA: No operable windows
RTU-2	multi-zone	≤ 25,000 ft²	Setback Thermostat	Auto Timeswitch	NA: Single Zone	DR Tstat per §110.12	NA: Single Zone	NA: No operable windows
FC-1	single zone	≤ 25,000 ft²	Setback Thermostat	Auto Timeswitch	NA: Single Zone	DR Tstat per §110.12	NA: Single Zone	NA: No operable windows

[1] *FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.*
[2] *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

Table Instructions: Complete the following Table to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(e)3B for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and airflows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	☑	Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.
02	☐	Check this box if the project includes Nonresidential or Hotel/Motel spaces
	☐	Check this box if the project includes new or altered high-rise residential dwelling units
03	☐	Check the box if the project is using natural ventilation in any spaces to meet required ventilation rates per §120.1(c)2.

[1] *FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system.*
[2] *Air filtration requirements apply to the following three system types per §120.1(c)1&: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.*
[3] *Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.*
[4] *See Standards Tables 120.1-A and 120.1-B*
[5] *For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.*
[6] *§120.2(e)3 requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250ft^2 or smaller, multipurpose rooms less than 1,000ft^2, classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stack aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).*

K. TERMINAL BOX CONTROLS

This Section Does Not Apply

L. DISTRIBUTION (DUCTWORK AND PIPING)

This Section Does Not Apply

M. COOLING TOWERS

This Section Does Not Apply

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be 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/

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector Pass	Field Inspector Fail
◉		NRCI-MCH-01-E - Must be submitted for all buildings.		☐	☐

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be 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/

YES	NO	Form/Title	Systems To Be Field Verified	Field Inspector Pass	Field Inspector Fail
◉	○	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. *Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.*		☐	☐
○	◉	NRCA-MCH-03-A Constant Volume Single Zone HVAC *NOTE: This form does not automatically move to "Yes". If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".*		☐	☐
○	◉	NRCA-MCH-04-A Air Distribution Duct Leakage		☐	☐
◉	○	NRCA-MCH-05-A Air Economizer Controls		☐	☐
○	◉	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance 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 dioxide (CO2) concentration setpoints.		☐	☐
○	◉	NRCA-MCH-07-A Supply Fan Variable Flow Controls		☐	☐
○	◉	NRCA-MCH-08-A Valve Leakage Test		☐	☐
○	◉	NRCA-MCH-09-A Supply Water Temperature Reset Controls		☐	☐
○	◉	NRCA-MCH-10-A Hydronic System Variable Flow Controls		☐	☐
○	◉	NRCA-MCH-11-A Automatic Demand Shed Controls		☐	☐

○	◉	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units		☐	☐
◉	○	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance		☐	☐
○	◉	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance *NOTE: This form does not automatically move to "Yes". If Distributed Energy Storage DX AC Systems are included in the scope, permit applicant should move this form to "Yes".*		☐	☐
○	◉	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance *NOTE: This form does not automatically move to "Yes". If Chilled Water Storage, Ice-on-Coil Internal Melt, Ice-on-Cail External Melt, Ice Harvester, Brine, Ice-Slurry, Eutectic Salt, Clathrate Hydrate Slurry (CHS), Cryogenic or Encapulated (Ice Ball) Systems are included in the scope, permit applicant should move this form to "Yes".*		☐	☐
○	◉	NRCA-MCH-16-A Supply Air Temperature Reset Controls		☐	☐
○	◉	NRCA-MCH-17-A Condenser Water Temperature Reset Controls		☐	☐
○	◉	NRCA-MCH-18 Energy Management Control Systems		☐	☐
○	◉	NRCA-MCH-19 Occupancy Sensor Controls		☐	☐
○	◉	NRCA-MCH-20 Multi-Family Ventilation		☐	☐
○	◉	NRCA-MCH-21 Multi-Family Envelope Leakage		☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction. The final documents must be created by a HERS Providers registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
○	◉	NRCV-MCH-04-H Duct Leakage Test *NOTE: Must be completed by a HERS Rater*	☐	☐
○	◉	NRCV-MCH-24 Enclosure Air Leakage Worksheet *NOTE: Must be completed by a HERS Rater*	☐	☐
○	◉	NRCV-MCH-27 High-rise Residential *NOTE: Must be completed by a HERS Rater*	☐	☐
○	◉	NRCV-MCH-32 Local Mechanical Exhaust *NOTE: Must be completed by a HERS Rater*	☐	☐

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REVISIONS

NO	DATE	DESCRIPTION

PACE® ENGINEERING
DES AM CKD AM JOB NO. 0523.36
DRN BW DATE 02/22/22

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER ADAM MILLER No. M 40501 MECHANICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
TITLE 24 COMPLIANCE DOCUMENTS

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4LEAF, INC.
Building
05/31/2022
Reviewed For
Code Compliance

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Lakeport Community Center	Report Page:	Page 10 of 11
Project Address: 500 N Main St	Date Prepared:	2022-04-11

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

Table Instructions: Indicate where mandatory measures are documented in the plan set or construction documentation. For any mandatory measures that do not apply, mark the plan sheet or construction document location as "N/A", any active cells that are left blank will result in non-compliance in Table C.

01		02
		Plan sheet or construction document location
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block:	No	
03		04
Mandatory Measure		Plan sheet or construction document location
Heating Equipment Efficiency per §110.1		M0.1
Cooling Equipment Efficiency per §110.1		M0.1
Furnace Standby Loss Control per §110.2(d)		NA
Duct Insulation per §120.4		Specification 230713
Heating Hot Water Equipment Efficiency per §110.1		NA
Cooling Chilled and Condenser Water Equipment Efficiency per §110.1		NA
Open and Closed Circuit Cooling Towers conductivity of flow-based controls per §110.2(e)1		NA
Open and Closed Circuit Cooling Towers Flow Meter with analog output per §110.2(e)3		NA
Open and Closed Circuit Cooling Towers Overflow Alarm per §110.2(e)4		NA
Open and Closed Circuit Cooling Towers Efficient Drift Eliminators per §110.2(e)5		NA
Pipe Insulation per §120.3(b)		NA
Combustion air shutoff, combustion air fan controls and stack design and controls for boilers per §120.9		NA
Heat Pump with Supplementary Electric Resistance Heater Controls per §110.2(b)		M0.1
The air duct and plenum system is designed per §120.4(a)-(f)		NA
Kitchen range hoods shall be rated for sound in accordance with Section 7.2 of ASHRAE 62.2		NA

STATE OF CALIFORNIA
Mechanical Systems
NRCC-MCH-E (Created 09/2020)
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-MCH-E
Project Name: Lakeport Community Center	Report Page:	Page 11 of 11
Project Address: 500 N Main St	Date Prepared:	2022-04-11

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Kellyn Smith	Documentation Author Signature:	
Company:	PACE Engineering	Signature Date:	04/11/2022
Address:	5155 Venture Parkway	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Redding/CA/96002	Phone:	530-244-0202

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	Adam Miller	Responsible Designer Signature:	
Company :	PACE Engineering	Date Signed:	04/11/2022
Address:	5155 Venture Parkway	License:	M40501
City/State/Zip:	Redding/CA/96002	Phone:	530-244-0202

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance: http://www.energy.ca.gov/title24/2019standards September 2020

2019 CA ENERGY CODE VENTILATION CALCULATIONS

ITEM TAG	OCCUPANCY TYPE	USABLE CONDITIONED FLOOR AREA (SQFT)	REQUIRED MIN OA (CFM)	PROVIDED PER DESIGN (CFM)	DCV	OCC SENSOR	NOTES
RTU-1	HALL WAY	85	13	13	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
RTU-1	ELECTRICAL STORAGE	276	41	41	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
RTU-1	KITCHEN	357	54	55	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
RTU-1	EAST MEETING ROOM	1827	914	914	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
RTU-1	FUTURE RESTROOM 1	187	28	30	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
RTU-1	FUTURE RESTROOM 2	246	37	37	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
RTU-1	KITCHEN STORAGE	130	20	20	NOT REQUIRED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
TOTAL SYSTEM REQUIRED MIN OA CFM BASED ON CFM/SQFT			1106				

SYSTEM NAME	RTU-1	NOTES:
SYSTEM DESIGN OA CFM AIRFLOW	1110	FUTURE RESTROOMS SHARE THE SAME TOTAL FLOOR AREA AS EXISTING RESTROOMS, HALLWAYS, AND STORAGE AREAS. ADDITIONALLY ALL SPACES BOTH EXISTING AND FUTURE HAVE THE SAME OUTSIDE AIR REQUIREMENT OF 0.15CFM/SQFT. THEREFORE ONLY FUTURE RESTROOMS WERE LISTED. OCCUPANCY SENSORS NOT REQUIRED AS EQUIPMENT SERVES KITCHEN WILL IS NOT ALLOWED TO BE REDUCED PER TABLE 120.1-A. DEMAND CONTROL VENTILATION NOT REQUIRED PER §120.1(d)3 EXCEPTION 2, KITCHEN GENERATES FUMES.
SYSTEM DESIGN TRANSFER AIR CFM	0	
AIR FILTRATION	PER §120.1(C)	
VENTILATION FOR THE SYSTEM COMPLIES?	COMPLIES	

ITEM TAG	OCCUPANCY TYPE	USABLE CONDITIONED FLOOR AREA (SQFT)	REQUIRED MIN OA (CFM)	PROVIDED PER DESIGN (CFM)	DCV	OCC SENSOR	NOTES
RTU-2	WEST MEETING HALL	2507	1254	1255	PROVIDED PER §120.1(d)3	NOT REQUIRED PER §120.2(e)3	
TOTAL SYSTEM REQUIRED MIN OA CFM BASED ON CFM/SQFT			1254				

SYSTEM NAME	RTU-2	NOTES:
SYSTEM DESIGN OA CFM AIRFLOW	1255	OCCUPANCY SENSORS NOT REQUIRED FOR ALTERATION §141.0(b)2F, LIGHTING IS NOT BEING INSTALLED FOR THE FIRST TIME, SO LIGHTING IS NOT REQUIRED TO MEET §130.1, THEREFORE, PER §120.2(e)3 LIGHTING SENSORS ARE NOT REQUIRED AND OCCUPANCY SENSORS ARE NOT REQUIRED.
SYSTEM DESIGN TRANSFER AIR CFM	0	
AIR FILTRATION	PER §120.1(C)	
VENTILATION FOR THE SYSTEM COMPLIES?	COMPLIES	

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS

NO	DATE	DESCRIPTION

PACE® ENGINEERING

DES AM | CKD AM | JOB NO. 0523.36
DRN BW | DATE 02/22/22

SIGNED 5/23/22
REGISTERED PROFESSIONAL ENGINEER ADAM WILLIAM MILLER No. M 40501 MECHANICAL STATE OF CALIFORNIA

CITY OF LAKEPORT
COMMUNITY CENTER ELECTRICAL & HVAC PROJECT
500 N. MAIN ST. LAKEPORT, CA 95453
TITLE 24 COMPLIANCE DOCUMENTS

SHEET
M4.1

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