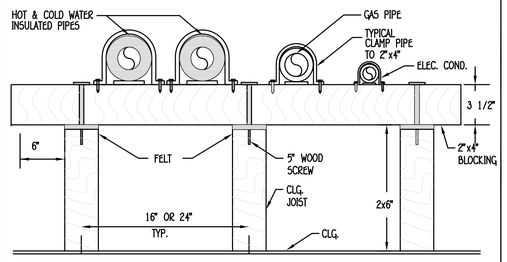
PLUMBING NOTES:

1. ALL WORK SHALL CONFORM TO THE 2022 UNIFORM PLUMBING CODE STANDARDS AND CALIFORNIA PLUMBING CODE.
2. DRAWINGS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY LOCATION OF UTILITIES ND POINTS OF CONNECTION BEFORE START OF WORK. MAKE A SURVEY OF ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK UNDER THIS SECTION.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES ND FLOOR DRAINS.
5. ALL CLEANOUTS SHALL BE OF CAST IRON AND SHALL BE ACCESSIBLE.
6. DO NOT SCALE FLOOR PLAN DRAWING FOR EXACT HORIZONTAL LOCATION OF PIPE RUNS.
7. ALL PLUMBING FIXTURES AND EQUIPMENT SHALL HAVE ISOLATING VALVES ON WATER SUPPLY LINES.
8. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
9. VERIFY JACUZZI/BATH TUB TRIM LOCATIONS IN FIELD. SEE ARCHITECTURAL DRAWINGS.
10. ALL PIPING IN FINISHED AREAS SHALL BE RUN CONCEALED.
11. ALL PIPING PENETRATING WALL, CEILINGS AND FLOORS SHALL BE ISOLATED FROM BUILDING STRUCTURES WITH RESILIENT SEALS. CLEARANCE FOR CAULKING AROUND PIPES ARE TO PREVENT NOISE AND VIBRATIONAL. SEE NOTE NO. 38 BELOW.
12. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
13. NOT USED.
14. CONTRACTOR SHALL FURNISH AND INSTALL, AT NO EXTRA COST TO THE OWNER, TRAP PRIMERS WHERE REQUIRED BY CODE. WHERE A COLD WATER SERVICE LINE TO A FREQUENTLY USED FIXTURE IS AVAILABLE, THE PRIMER SHALL BE "PRECISION PRODUCTS" WITH INTEGRAL VACUUM BREAKER. PROVIDE ADAPTER FITTINGS WITH PRIMER TAPS AS REQUIRED INCLUDING ACCESS PANEL. ALL WATER SUPPLY TRAP SEAL PRIMER VALVES SHALL COMPLY WITH ASSE 1018. DRAINAGE AND ELECTRONIC DESIGN TYPE TRAP SEAL PRIMER DEVICES SHALL COMPLY WITH ASSE 1044.1008.2.
15. REFER TO PIPE MATERIAL SCHEDULE ON THIS SHEET FOR PIPING MATERIALS.
16. IF WATER PRESSURE IN STREET IS 60psi OR MORE, INSTALL PRESSURE REGULATOR.
17. ALL PIPE PENETRATING (1) HOUR WALLS SHALL BE FIRE SAFE BY CAULKING AROUND OPENING WITH "3M" FOLLOWING MANUFACTURER'S INSTRUCTIONS.
18. ALL CLEAN-OUTS SHALL BE INSTALLED PER 2022 CPC.
19. NOT USED.
20. CONTRACTOR IS TO TAKE CARE TO PRESERVE ALL EXISTING UTILITIES IN THE SCOPE OF WORK FOR THIS PROJECT. CONTRACTOR IS TO REPAIR OR REPLACE ALL UTILITIES DAMAGED DURING CONSTRUCTION.
21. NO SANITARY VENT SHALL TERMINATE CLOSER THAN 10'0" FROM ANY FRESH AIR INTAKES OR ANY OPERABLE WINDOW.
22. THE CONTRACTOR IS TO SUBMIT TO THE OWNER FOR APPROVAL, CATALOG CUTS OF ALL FIXTURES.
23. THE CONTRACTOR IS TO VISIT THE JOB SITE PRIOR TO BIDDING TIME AND VERIFY ALL DIMENSIONS, LOCTIONS, AND CONDITIONS.
24. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A LABOR AND MATERIAL WARRANTY FOR A PERIOD OF (1) YEAR OR AS PER SPECIFIC AGREEMENT.
25. CONTRACTOR SHALL BRING TO THE ATTENTION OF THE ARCHITECT OR ENGINEER ANY ADDITIONAL LABOR AND/OR MATERIALS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM BEFORE PROCEEDING WITH THE WORK.
26. CONTRACTOR SHALL PERFORM ALL TESTING AND PAY FOR ALL PERMITS.
27. ALL HOT WATER PIPING SHALL BE INSULATED WITH ½" THERMOCELL PIPE INSULATION.
28. PLANS ARE DIAGRAMATIC ONLY. FIELD CONDITIONS SHALL DETERMINE EXACT LOCATION AND ROUTING OF PIPES.
29. ALL HORIZONTAL DRAIN LINES SHALL RUN WITH 2% SLOPE MIN.
30. PROVIDE PRIMARY AND SECONDARY CONDENSATE DRAIN PIPING FROM ALL AIR CONDITIONING UNITS PER PLANS.
31. PLUMBING FIXTURES AND FITTINGS SHALL MEET THE FOLLOWING STANDARDS:
    - A. WATER CLOSETS - 1.28 GPF
    - B. URINALS - 0.5 GPF
    - C. SINGLE SHOWERHEAD - 2.0 GPM AT 80psi
    - D. MULTI SHOWERHEAD - 2.0 GPM AT 80psi FOR ALL COMBINED SHOWERHEADS.
    - E. LAVATORY FAUCETS - 1.5 GPM AT 60psi
    - F. LAVATORY FAUCETS IN PUBLIC USE AREAS - 0.5GPM AT 60psi.
    - G. METERING FAUCETS - 0.25 GALLONS PER CYCLE
    - H. KITCHEN FAUCETS - 1.8 GPM AT 60psi
32. ALL UNDERGROUND STORM DRAIN PIPING AND FITTINGS SHALL COMPLY WITH DRAIN, WASTE AND VENT PIPING STANDARD. 2022 CPC SEC. 1102.3.
33. ALL CLEANOUTS SHALL BE PROVIDED IN COMPLINCE WITH CPC ART. 707.0.
34. ALL COPPER LINES FOR DOMESTIC WATER USE SHALL BE REAMED TO FULL I.D. AND USE APPROVED FLUX AND SOLDER.
35. PROVIDE 2X6 MIN WALLS WHERE PLUMBING IS INSTALLED.
36. NOTCHING AND DRILLING IS TO COMPLY WITH 2022 CPC.
37. COORDINATE WASTE BELOW SLAB ROUTING W/STRUCTURAL FOUNDATION PLANS.
38. OFFSET WATER HEATER FLUE VENT PER 2022 CPC ART. 516 & 517. USE ACUSTO-PLUMB MANUF. ISOLATIONS METERIALS FOR PIPE STUD PENETRATIONS. ETC. SEE DRAWING THIS SET FOR DETAILS
39. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE FIRE CAULKED WITH CITY APPROVED FIRE CAULKING.
40. ALL REQUIRED CLEANOUTS SHALL BE INSTALLED AS PER CPC SECTION 707.0 & 719.
41. EACH PLUMBING VENT SHALL TERMINATE NOT LESS THAN 10 (10) FEET FROM OR AT LEAST THREE (3) FEET ABOVE ANY WINDOW, DOOR, OPENINGS, AIR INTAKE OR VENT SHAFT.
42. WATER CLOSETS BOWLS FOR PUBLIC USE SHALL BE OF THE ELONGATED TYPE.
43. NEW OR REPAIRED WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN SECTION 609.9 OF THE PLUMBING CODE.
44. ACCESSIBLE WATER HAMMER ARRESTERS SHALL BE INSTALLED FOR QUICK-ACTION VALVES. LOCATION AND METHOD OF INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATION.
45. FIXTURE FLOW RATES SHALL COMPLY WITH CHAPTER 4 OF THE LA PLUMBING CODE. ALL FIXTURES PIPING & DEVICES SHALL BE LISTED.
46. WATER SUPPLY AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE BE CONFIGURED TO PROTECT AGAINST CONTACT. PROTECTORS, INSULATION, OR BOTH SHALL COMPLY WITH ASME A112.18.9

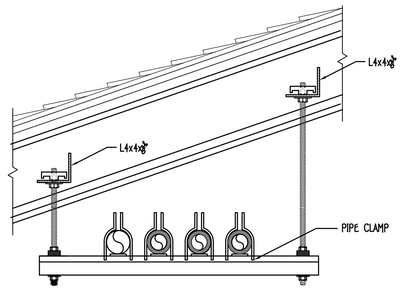
BACKFLOW TESTING PROCESURES

1. TESTING COMPANIES MUST SUBMIT "SIGNED-OFF" TEST NOTICES TO THE CROSS-CONNECTION PROGRAM NO LATER THAN 30 WORKING DAYS AFTER THE DATE OF "INITIAL TEST" IF THE DEVICE PASSED, OR NO LATER THAN 30 WORKING DAYS AFTER THE DATE OF "FINAL TEST" IF THE DEVICE INITIALLY FAILED, WAS REPAIRED AND THEN PASSED. FAILURE TO DO SO WILL RESULT IN THE REMOVAL OF THE TESTER COMPANY AND/OR TESTER FROM THE LOS ANGELES COUNTY-CROSS-CONNECTION EMPLOYER/TESTER DATABASE. SAID COMPANIES/TESTERS MAY APPLY FOR REINSTATEMENT THIRTY DAYS AFTER SAID REMOVAL AFTER WRITTEN EXPLANATIONS ARE RECEIVED WHICH DEPICT PLAUSIBLE AND ACCEPTABLE EXTRAORDINARY REASONS FOR NOT MEETING THIS DEADLINE.
2. TEST NOTICES RECEIVED AFTER THE DEADLINE MENTIONED IN ITEM 1 ABOVE WILL BE SUBJECT TO FIELD AUDIT BY THIS DEPARTMENT.
3. THE CROSS-CONNECTION PROGRAM FROM TIME TO TIME WILL REQUEST COPIES OF TESTING/REPAIR INVOICES FROM COMPANIES PICKED AT RANDOM SO AS TO SUBSTANTIATE ACCURACY OF TESTING "SIGN-OFF" DATES. SIGNIFICANT DISCREPANCIES UNCOVERED BY THIS AUDIT WILL RESULT IN PERMANENT REMOVAL OF THE COMPANY AND TESTER FROM THE DATABASE. SINCE THE DEPARTMENT IS INTERESTED ONLY IN TEST DATE INFORMATION, BILLING AMOUNTS ON THESE INVOICES MAY BE MASKED SO AS TO MAINTAIN PRIVACY OF THIS INFORMATION.
4. TESTS PERFORMED RESULTING IN SOME COMPONENT FAILURE SHOULD BE SUBMITTED TO THE PROGRAM AS SOON AS IT HAS BEEN DETERMINED THE REPAIR WORK AND RETEST IS NOT GOING TO BE PERFORMED BY THE ORIGINAL TESTING COMPANY.
5. ON JULY 1 OF EACH YEAR ALL GENERAL TESTING COMPANIES MUST SUBMIT ON COMPANY LETTERHEAD STATIONARY A CURRENT LIST OF CERTIFIED BACKFLOW PREVENTION DEVICE TESTERS THEY EMPLOY. A REVISED LIST MUST BE FAXED TO THE DEPARTMENT AS NEW TESTERS ARE EMPLOYED AND AS TESTERS LEAVE THEIR EMPLOYMENT.
6. ALL STORM WATER LINES SHALL BE FILLED TO THE TOP FOR TESTING.
7. ALL TESTING SHALL BE DONE BY AN APPROVED VENTURA COUNTY TESTING AGENCY.

GENERAL NOTES | SCALE NTS



ATTIC PIPE SUPPORT | SCALE NTS



TRAPEZE HANGER | SCALE NTS

WATER PRESSURE INFORMATION: WATER PRESSURE IS 99 PSI
WATER PRESSURE MAX: 158 PSI MIN: 99 PSI ELEV: FT. METER SIZE: 1 ½"
DEVELOPED LENGTH: 150' + 75' (JOINTS) = 225'

PRV SET AT 60 PSI	8.0 PSI LOSS ACROSS PRV.
PRESSURE (AFTER PRV):	60.0 PSI
RESIDUAL PRESSURE	20.0 PSI
LOSS FROM ELEV: 10' X 0.435	4.4 PSI
METER LOSS	1.2 PSI
	25.6 PSI

PRESSURE AVAILABLE FOR FRICTION LOSS: 60 - 25.6 = 34.4 PSI
FRICTION LOSS PER 100 FT = (34.4 PSI/225FT) * 100 = 15.8 PER 100 FT.

SIZE	CW WC	HW	GPM
½"	4	3	4
¾"	16	8	11
1"	30	16	20
1 ½"	56	28	31
1 ½"	103	46	44
2"	254	119	76
2 ½"	455	245	115
3"	719	406	165
3 ½"	1091	505	220
4"	1660	840	290

FIXTURE COUNT

NUMBER OF FIXTURE	ITEM # & FIXTURE PS		UNITS PER FIXTURE CW	W	TOTAL CW	F/S	W
3	3/4"	WC	2.5	3	7.5	1.82	9
3	1/2"	LV	1	1	3	1.63	3
1	3/4"	UR	4	2	4	2.90	2
1	3/4"	MS	3	3	3	2.18	3
2	1/2"	SK	2	2	4	3.27	4
2	1/2"	DF	0.5	1	1	0.82	2
1	1"	WH	10	0	10	4.09	0
Total					32.5		23
G.P.M.					21		

WATER CALCULATIONS | SCALE NTS

PIPE MATERIAL SCHEDULE

SERVICE		COPPER TYPE "M"	COPPER TYPE "L" COPPER TYPE "K"	ABS	BLACK STEEL GALVANIZED STEEL	CAST IRON	PVC SCH 40	REMARKS
WATER	INSIDE		*					
	OUTSIDE		*				*	WRAP COPPER PIPES BELOW GRADE
SANITARY DRAINAGE	INSIDE			*#		*		SEE NOTE BELOW WHERE APPLICABLE
	OUTSIDE			*				
SANITARY VENT	INSIDE			*				
	OUTSIDE							
CONDENSATE AND INDIRECT DRAINAGE	INSIDE						*	
	OUTSIDE						*	
GAS	INSIDE				*			
	OUTSIDE				*			

NOTE:

1. ALL HOT AND COLD WATER LINES SHALL BE INSULATED W/ ¾" THERMOCELL OR EQUAL INSULATION WITH A MINIMUM R=4 VALUE PER CBC-1115B.4.3 ITEM 4.
2. SHOWER, BATHTUBS AND WHIRLPOOL TUBS SHALL BE PROVIDED WITH SHOWER CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVE 120° MAX.
3. ALL NON-METALLIC YARD PIPING IS TO BE PROVIDED WITH #14 AWG TRACER WIRE.

SCHEDULES | SCALE NTS

SYMBOLS	ABBR.	DESCRIPTION
	S OR W	SEWER OR WASTE ABOVE FLOOR OR GRADE
	S OR W	SEWER OR WASTE BELOW FLOOR OR GRADE
	V	VENT
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
CD	CD	CONDENSATE DRAIN
D	D	DRAIN
G	G	GAS (LOW PRESSURE)
MPG	MPG	GAS (MEDIUM PRESSURE)
SD	SD	STORM DRAIN
OD	OD	OVERFLOW DRAIN
PCW	PCW	PURIFIED COLD WATER
SOV	SOV	SHUT-OFF VALVE
GC	GC	GAS COCK
BV	BV	BALANCING VALVE
CV	CV	CHECK VALVE
U	U	UNION
FCO	FCO	FLOOR CLEANOUT
WCO	WCO	WALL CLEANOUT
CO	CO	CLEANOUT
YCO	YCO	YARD CLEANOUT
POC	POC	POINT OF CONNECTION
	VTR	VENT THRU ROOF

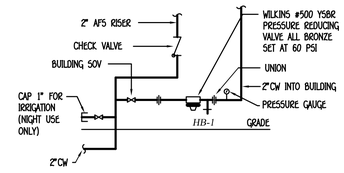
LEGEND | SCALE NTS

SYM.	DESCRIPTION	MFR	MODEL	W	TRAP	V	CW	HW	REMARKS/SPECIFICATIONS
WC	WATER CLOSET ACCESSIBLE	AMERICAN STANDARD	MADERA 3043.102	3"	INT	2"	3/4"	-	FLOOR MOUNTED TANK TYPE ADA ACCESSIBLE ELONGATED BOWL WITH OPEN FRONT SEAT.
LV	LAVATORY	AMERICAN STANDARD		2"	INT	1 1/2"	1/2"	1/2"	WALL MOUNTED ADA ACCESSIBLE LAVATORY LEVER HANDLE FAUCET INSULATE TRAP AND HOT WATER SUPPLY.
	LAV VALVE	AMERICAN STANDARD	R12055 OR R12555	2"	INT	2"	3/4"	3/4"	CAST IRON BODY, WASHERLESS CERAMIC OISC VALVE WITH VOLUME AND TEMPERATURE CONTROL, AND HOT LIMIT SAFETY STOP. 110° CUTOFF.
UR	URINAL	MAYBROOK	6581.001 -8.020	2"	INT	2"	3/4"	-	ULTRA HIGH EFFICIENCY UNIVERSAL WASHOUT URINAL W/ 0.125 GPF TOP SPUD.
MS	MOP SINK	AMERICAN STANDARD	M58DTG 2424100	2"	INT	2"	3/4"	3/4"	FIAT 24" FLOOR MOUNT MOLDED STONE MOP BASIN W/ FAUCET, HOSE, & MOP HOLDER.
DF	DRINKING FOUNTAIN	ELKAY		2"	INT	2"	1/2"	-	EZ 8 GPH WALL MOUNTED BI-LEVEL DRINKING FOUNTAIN W/ WATER COOLER AND CANE APRON OR EQUAL.
WH	WATER HEATER	RHEEM	XE20S06-ST38U0	-	-	-	1/2"	1/2"	ELECTRIC 20 GAL. HOT WATER HEATER DUAL 3800W ELEMENTS.

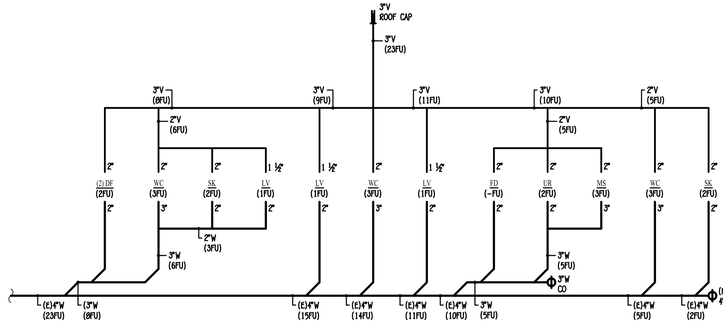
NOTE:
- ALL FAUCETS IN PUBLIC RESTROOMS SHALL BE SELF-CLOSING OR SELF-CLOSING METERING FAUCETS.
- PUBLIC LABATORIES SHALL HAVE CONTROLS TO LIMIT THE WATER PRESSURE TO 110°F, TITLE 24, PART 6 110.3(c)3.

1

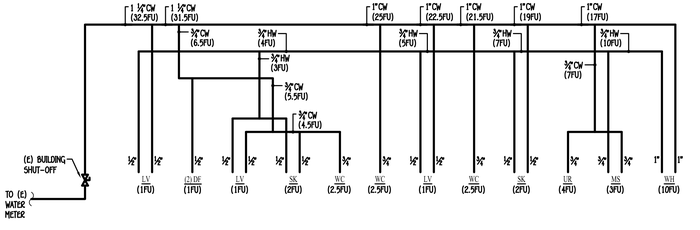
PLUMBING FIXTURE SCHEDULE | SCALE NTS



PRESSURE REDUCER VAVLE | SCALE NTS



WASTE & VENT RISER DIAGRAM | SCALE NTS



HOT & COLD WATER RISER DIAGRAM | SCALE NTS

DARRYL MURRAY INC.
MURRAY ENGINEERING & DESIGN
MECHANICAL ❀ ELECTRICAL ❀ PLUMBING
1355 N. 3775 W., Cedar City, UT 84721
Tel: 818.355.0225 Fax: -
darryl@murrayengineer.com

REGISTERED PROFESSIONAL ENGINEER
RAY GHATTAS
No. M 21305
EXP. 06-30-23
MECHANICAL
STATE OF CALIFORNIA

Options For Youth

- Address: 131 N. AZUSA AVE. WEST COVINA, CA 91791

ISSUE:

DATE	DESCRIPTION
04/03/23	1ST PLAN CHECK CORR.

Drawn / Reviewed:
DM/RG/AC

Issue Date
01/24/23

Sheet Name
PLUMBING GENERAL NOTES, SYMBOLS & DETAILS

Sheet Number
P1.0

NOTE:

1. EXISTING BUILDING SEWERS AND BUILDING DRAINS MAY BE USED IS SUCH SEWERS HAVE BEEN PROPERLY MAINTAINED AND FOUND UPON EXAMINATION AND TEST PERFORMED BY THE OWNER OR OWNER'S AGENT THAT THEY ARE IN WORKING CONDITION AND FREE FROM ANY DEFECT.
2. CLEANOUTS SHALL BE INSTALLED AS PER SECTION 707.0 & 719.0 OF THE COUNTY OF LOS ANGELES PLUMBING CODE.
3. EACH PLUMBING VENT SHALL TERMINATE NOT LESS THAN TEN (10) FEET FROM OR AT LEAST THREE (3) FEET ABOVE ANY OPENABLE WINDOW, DOOR, OPENING, OR AIR INTAKE.
4. EACH HORIZONTAL VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX INCHES IN HEIGHT ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE BEFORE BEING CONNECTED TO ANY OTHER VENTS. CPC 905.3.

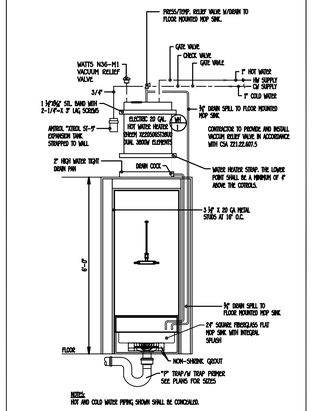
1

OCCUPANCY LOAD FOR PLUMBING: 53

TYP OF OCCUPANCY: E

WATER CLOSETS (FIXTURES PER PERSON)[2]		URINALS (FIXTURES PER PERSON)[2]	LAVATORIES (FIXTURES PER PERSON)[2]		DRINKING FOUNTAINS/FACILITIES (FIXTURES PER PERSON)	SERVICE SINK OR LAUNDRY TRY
MALE 1/50	FEMALE 1/30	MALE 1/100	MALE 1/40	FEMALE 1/40	1/150	1

1



WATER HEATER DETAIL | SCALE NTS

NOTE:

a. ALL WORK TO COMPLY WITH 2019 CALIFORNIA PLUMBING CODE, 2019 CALIFORNIA BUILDING CODE, 2019 CALIFORNIA GREEN CODE (CALGREEN), 2019 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS, AND TITLE 18 OF LONG BEACH MUNICIPAL CODE.

b. WATER PIPE AND FITTINGS WITH A LEAD CONTENT WHICH EXCEED 0.25% SHALL BE PROHIBITED IN SYSTEMS CONVEYING POTABLE WATER. (CPC 604.2 & CALIFORNIA HEALTH & SAFETY CODE 116875).

c. ALL PLUMBING FIXTURES SHALL MEET THE FLOW RATE REQUIREMENTS OF CGBC TABLE 5.303.2.3

d. ALL FIXTURES IN HANDICAP RESTROOMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF CALIFORNIA HANDICAP CODE AND LOCAL HANDICAP CODES HAVING JURISDICTION.

e. ALL FIXTURES, EQUIPMENT, PIPING, AND MATERIALS SHALL BE LISTED. (CPC 301.2)

f. PLUMBING PIPING SYSTEMS IN RESIDENTIAL ACCOMMODATIONS SHALL BE DESIGNED AND INSTALLED IN CONFORMANCE WITH SOUND LIMITATIONS AS REQUIRED IN THE CALIFORNIA BUILDING CODE. (CPC 309.5)

g. ALL PIPING SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED THOSE SHOWN IN CPC TABLE 313.1.

1

h. PUBLIC LAVATORIES SHALL HAVE CONTROLS TO LIMIT TO THE WATER TEMPERATURE TO 110°F.

ALL SERVICE WATER HEATING EQUIPMENT TO BE IN COMPLIANCE WITH THE MODEL ENERGY CODE REQUIREMENTS AND LABELED.

j. EACH PLUMBING FIXTURE SHALL BE INDEPENDENTLY VALVE PER CODE.

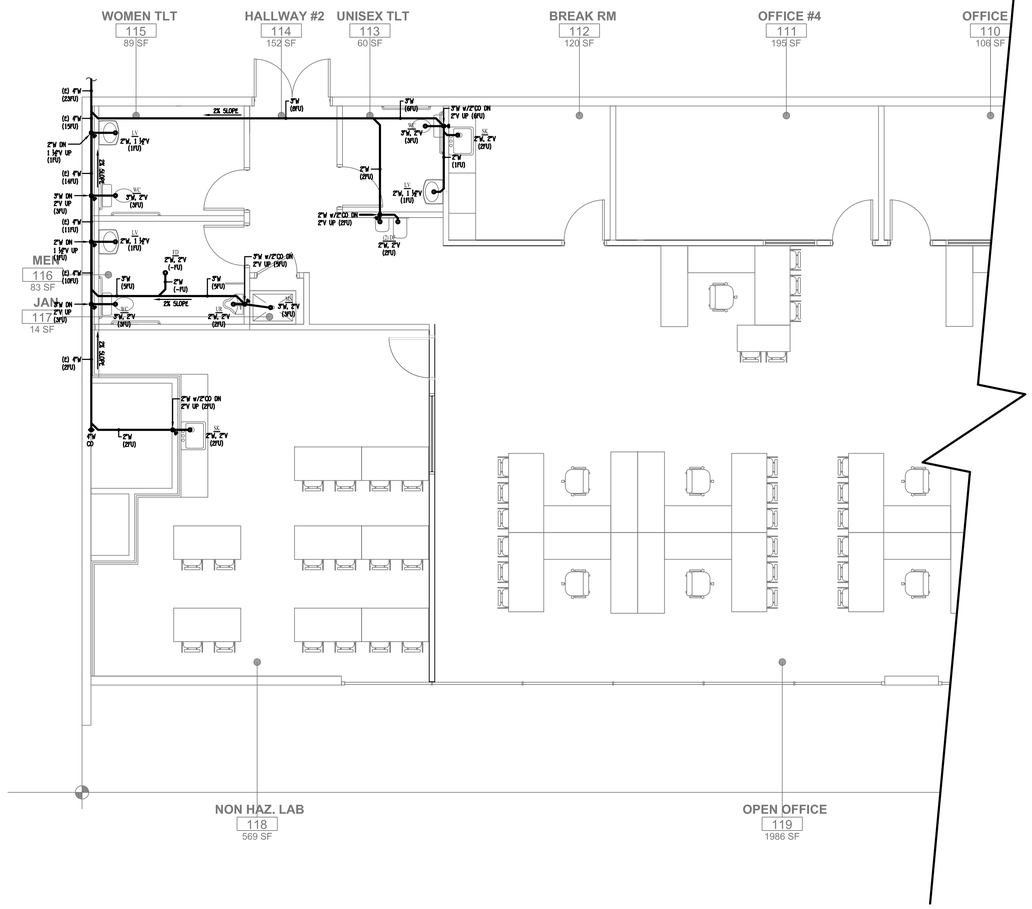
k. ALL POTABLE WATER OUTLETS WITH HOSE ATTACHMENTS, SUCH AS HOSE BIBBS, AND MOP SINKS ARE TO BE PROVIDED WITH A BACKFLOW / ANTI-SIPHON VALVE.

l. NEW OR REPAIRED POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE ACCORDING TO THE METHOD SET IN CPC SEC. 609.9.

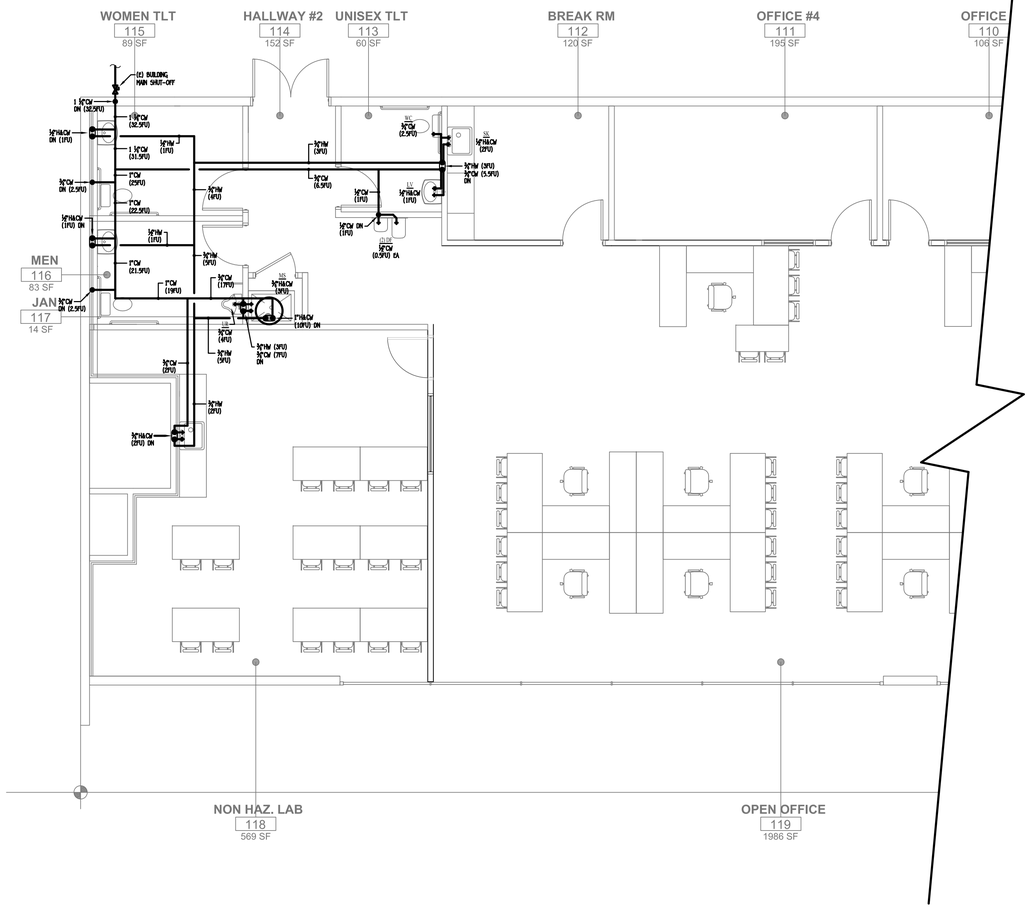
m. INSULATION SHALL BE PROVIDED ON ALL HOT WATER AND CIRCULATING PIPING AND THE FIRST 5' ON THE COLD WATER FROM THE WATER HEATER.

n. THE PREMISE OWNER OR RESPONSIBLE PERSON SHALL HAVE THE BACKFLOW PREVENTION ASSEMBLY TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AT THE TIME OF INSTALLATION.

o. WATER PRESSURE SHOCK ARRESTORS (WATER HAMMERS) SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK-ACTING VALVES AT THE END OF LONG PIPE OR NEAR BATTERIES OF FIXTURES OR BOTH.



WASTE & VENT PLAN | SCALE 1/4" = 1'-0"



HOT & COLD WATER PLAN | SCALE 1/4" = 1'-0"

DARRYL MURRAY INC.
MURRAY ENGINEERING & DESIGN
MECHANICAL ❀ ELECTRICAL ❀ PLUMBING
1355 N. 3775 W., Cedar City, UT 84721
Tel: 818.355.0225 Fax: -
darryl@murrayengineer.com

REGISTERED PROFESSIONAL ENGINEER
RAY GHATTAS
No. M 21305
EXP. 06-30-23
MECHANICAL
STATE OF CALIFORNIA

Options For Youth

-

Address: 131 N. AZUSA AVE.
WEST COVINA, CA 91791

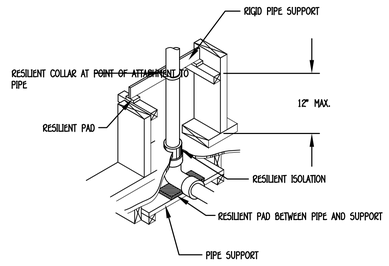
ISSUE:	
DATE	DESCRIPTION
04/03/23	1ST PLAN CHECK CORR.

Drawn / Reviewed:
DM/RG/AC

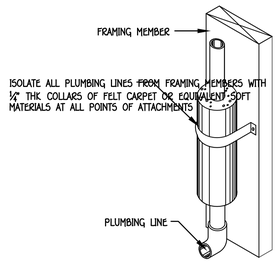
Issue Date
01/24/23

Sheet Name
PLUMBING WASTE/VENT & HOT/COLD WATER PLAN

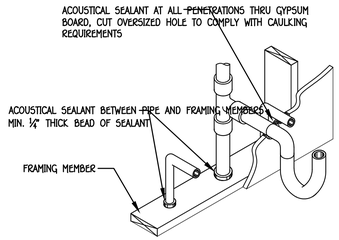
Sheet Number
P2.0



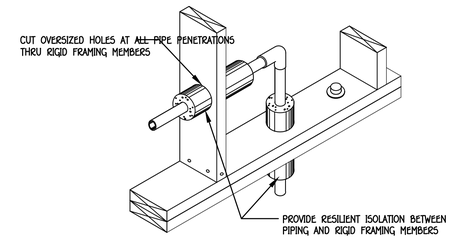
RIGID PIPE SUPPORT AND RESILIENT PAD FOR WASTE LINES | SCALE NTS



PLUMBING ISOLATION AT ATTACHMENT POINTS | SCALE NTS



ACOUSTICAL SEALANT AT FRAMING PENETRATIONS | SCALE NTS



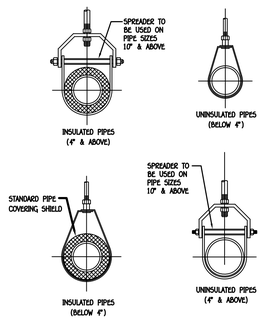
RESILENT ISOLATION AT PENETRATIONS | SCALE NTS

SCHEDULE FOR SINGLE PIPE HANGERS ¾" THRU 6"			
TYPE NO.	PIPE SIZE	ROD SIZE	*MAXIMUM LOAD
1	¾" THRU 2"	⅜"	500#
2	2 ½" THRU 3 ½"	½"	1000#
3	4" & 5"	⅝"	1500#
4	6"	¾"	2000#

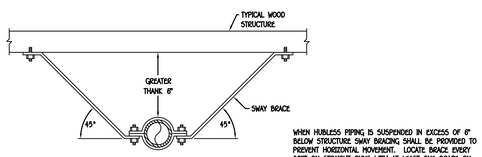
PIPE SUPPORT SPACING SCHEDULE		
TYPE OF PIPE	SIZE	MAX. SPACING
STEEL	1 ½" & SMALLER	7'-0" FT
	2" & LARGER	10'-0" FT
BRASS OR COPPER	¾" & SMALLER	5 FT
	1" TO 1 ½"	6 FT
	1 ½" TO 3"	7 FT
	4" & LARGER	10 FT

NOTES:
1. SUPPORT PIPE HANGERS FROM STRUCTURAL BEAMS ONLY.
2. STRUCTURAL STEEL PENETRATIONS SHALL BE FIRST REVIEWED AND APPROVED BY THE STRUCTURAL ENGINEER. (IF APPLICABLE).
3. HANGERS AND ROD SHALL BE DIPPED IN ZINC CHROMATE PRIMER PRIOR TO INSTALLATION.
4. SCHEDULED DATA MAY ALSO BE USED FOR TRAPEZE HANGER SELECTION WITH EACH ROD NOT TO EXCEED THE LOADS SHOWN IN THE MAXIMUM LOAD COLUMN.

* FOR THE MAXIMUM HANGING ALLOWED ON THE STRUCTURE REFER TO STRUCTURAL DETAILS (IF APPLICABLE)

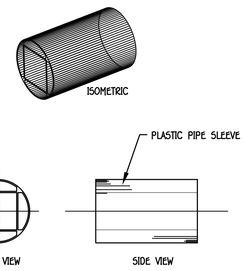


1 TYPICAL PIPE HANGER DETAIL | SCALE NTS

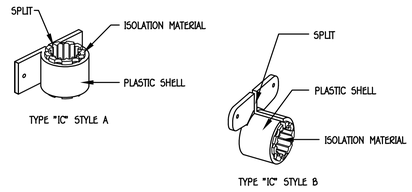


WHEN HUBLESS PIPING IS SUSPENDED IN EXCESS OF 6" BELOW STRUCTURE SWAY BRACING SHALL BE PROVIDED TO PREVENT HORIZONTAL MOVEMENT. LOCATE BRACE EVERY 30FT ON STRAIGHT RUNS WITH AT LEAST ONE BRACE ON OFFSETS IN EXCESS OF 10FT. SUBMIT DETAILS IF VARIATION IS REQUIRED.

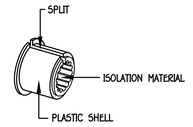
1 NO-HUB PIPE SWAY BRACING FOR HORIZONTAL PIPING | SCALE NTS



TYPE "ISL" ISOLATION PIPE SLEEVE | SCALE NTS



TYPE "IC" ISOLATION PIPE CLAMP | SCALE NTS



TYPE "IS" ISOLATION PIPE SLEEVE | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

NOT USED | SCALE NTS

DARRYL MURRAY INC.
MURRAY ENGINEERING & DESIGN
MECHANICAL ❀ ELECTRICAL ❀ PLUMBING
1355 N. 3775 W., Cedar City, UT 84721
Tel: 818.355.0225 Fax: -
darryl@murrayengineer.com

REGISTERED PROFESSIONAL ENGINEER
RAY GHATTAS
No. M 21305
EXP. 06-30-23
MECHANICAL
STATE OF CALIFORNIA

Options For Youth
-
Address: 131 N. AZUSA AVE.
WEST COVINA, CA 91791

ISSUE:

DATE	DESCRIPTION
04/03/23	1ST PLAN CHECK CORR.

Drawn / Reviewed:
DM/RG/AC

Issue Date
01/24/23

Sheet Name
PLUMBING ISOLATION DETAILS

Sheet Number
P3.0

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
This document is used to demonstrate compliance for nonresidential occupancies with requirements in 110.1, 110.3, 120.3, and 140.5, and with requirements in 141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in 110.1, 110.3, 160.4 and 170.2(d), and with requirements 180.1 for additions and 180.2 for alterations.		
Project Name:	Opportunities For Learning	**Report Page:** (Page 1 of 6)
Project Address:	131 N. Azusa Ave.	**Date Prepared:** 4/3/2023

A. GENERAL INFORMATION

01	Project Location (city)	West Covina	02	Climate Zone	9
03	Occupancy Types Within Project (select all that apply):			

● Classrocm ● Office ● Support Areas ● All Other Occupancies

B. PROJECT SCOPE

This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140./ 170.2(d) and 141.0(a)/ 180.1, or 141.0(b)2N / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01	02	03	
My project consists of (check all that apply):	System Type[1,2]	System Components	
☒ New system (DHW system being installed for the first time in newly constructed building)	Individual System (serving nonresidential spaces)	☒ Equipment	☒ Distribution	☒ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1] *FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.*
[2] *Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy.*
[3] *DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies*

C. COMPLIANCE RESULTS

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

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
Table F	Table G	Table H	
Yes	Yes	Yes	COMPLIES

D. EXCEPTIONAL CONDITIONS

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

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Opportunities For Learning	**Report Page:** (Page 2 of 6)
Project Address:	131 N. Azusa Ave.	**Date Prepared:** 4/3/2023

E. ADDITIONAL REMARKS

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

F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demcnstrate compliance with mandatory equipment requirements in 110.1 and 110.3. Compliance with prescriptive requirements in 140.5(c) / 170.2(d) must also be demonstrated and with 141.0./ 180.1/ 180.2 for addition and alteration scopes.

Equipment Schedule: Water Heating Efficiency and Standby Loss

03	04			05	06			
System Name	20 Gallon Electric	Exception to 140.5(c)/ 170.2(d)3		☐	Gas Service Water Heating System >= 1MMBtu/h[1]	Capacity-weighted Average Efficiency %		
07	08	09	10		11	12	13	14	15
Name or Item Tag	Equipment Type	Volume (gal)	Rated Input Capacity (Btu/h)	Max GPM/ First Hour Rating (FHR)	Rated Efficiency	Minimum Efficiency Required	Efficiency Unit	Designed Standby Loss	Maximum Standby Loss
20 Gallon Electric	Consumer Rated Electric Storage	20	26,000	FHR >=75	0.93	0.93	UEF		

[1] *FOOTNOTE: In systems >= 1MMBtu/h with multiple units, gas water heaters with input capacity > 100,000 Btu/h may meet 90% Et requirements via an input capacity-weighted average.*

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	☐	☐	☒	Unfired storage tank Insulation shall have Internal + External >=R-16 OR External >=R-3.5. Label required per 110.3(c)3
19	☐	☐	☒	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per 110.3(c)5
20	☐	☐	☒	Isolation valves for instantaneous water heater with input rating >6.8 kBTUH or 2 kW has been specified per 110.3(c)6
21	☐	☐	☒	School buildings < 25,000 ft^2 and < 4 stories must install a heat pump water heating system per 140.5(a)1. Water heating systems serving an individual bathroom space may be an instantaneous electric water heater.

Registration Number: | Generated Date/Time: | Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Report Version: 2022.0.000 Schema Version: rev 20220101 | Compliance ID: EnergyPro-7303-0423-0253 Report Generated: 2023-04-03 00:06:01

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Opportunities For Learning	**Report Page:** (Page 3 of 6)
Project Address:	131 N. Azusa Ave.	**Date Prepared:** 4/3/2023

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in 120.3 and 140.5. For multifamily and hotel/motel occupancies, compliance is demonstrated with requirements 110.3(c), 160.4, 170.2(d).

Mandatory Pipe Insulation All Occupancies

13	☐	For systems serving dwelling units, pipe insulation must meet the minimum insulation requirements in Table 160.4-A (see blow) except: • Piping that penetrates framing members shall not be required to have pipe insulation for the distance of the framing penetration. Piping that penetrates metal framing shall use grommets, plugs, wrapping or other insulating material to assure that no contact is made with the metal framing. Insulation shall abut securely against all framing members • Piping installed in interior or exterior walls shall not be required to have pipe insulation if all of the requirements are met for compliance with Quality Insulation Installation (QII) as specified in the Reference Residential Appendix RA3.5. • Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation, shall not be required to have pipe insulation.
14	☒	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per 120.3: • Recirculating system piping, including supply and return piping of the water heater • The first 8 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system • Pipes that are externally heated
15	☐	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per 120.3(b) / 160.4(f). Pipe insulation buried below grade must be installed in a water proof and non-crushable casing or sleeve.

TABLE 120.3-A / 160.4-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft^2 per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)			
			< 1	1 to < 1.5	1.5 to < 4	1.5 to < 4 Multifamily & Hotel/Motel
			Minimum Insulation Required			
105-140	0.22 - 0.28	100	1.0 in or R-7.7	1.5 in or R-12.5	1.5 in or R-11	2.0 in or R-16

Registration Number: | Generated Date/Time: | Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Report Version: 2022.0.000 Schema Version: rev 20220101 | Compliance ID: EnergyPro-7303-0423-0253 Report Generated: 2023-04-03 00:06:01

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Opportunities For Learning	**Report Page:** (Page 4 of 6)
Project Address:	131 N. Azusa Ave.	**Date Prepared:** 4/3/2023

H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in 110.3 for all occupancies. For multifamily residential and hotel/motel occupancies, compliance is also demonstrated with requirements in 160.4(e) / 170.2(d).

	Yes	No	Not Applicable	Requirement
01	☒	☐	☐	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per 110.3(a).
02	☐	☐	☒	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per 110.3(c)1 unless covered by California Plumbing Code 613.0.
03	☐	☐	☒	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless systems serves healthcare facility.
04	☐	☐	☒	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per 170.2(d) or 180.1(b)3 for additions.
05	☐	☐	☒	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per 170.2(d).
06	☐	☐	☒	Combustion air positive shut-off shall be provided per 160.4(3).on all newly installed commercial boilers as follows: • Boilers with input capacity >= 2.5 MMBtu/h, in which the boiler is designed to operate with a nonpositive vent static pressure • Boilers where one stack serves two or more boilers with a total combined input capacity per stack of 2.5 MMBtu/h.
07	☐	☐	☒	Boiler combustion air fans with motor >= 10 hp shall meet one of the following • The fan motor shall be driven by a variable speed drive OR • The fan motor shall include controls that limit the fan motor demand to <=30% of the total design wattage at 50% of the design air volume.
08	☐	☐	☒	Newly installed boilers with an input capacity (d:gte/] 5MMBtu/h and a steady state full-load combustion efficiency < 90% shall maintain excess (stack-gas) oxygen concentrations <= 5% by volume on a dry basis over firing rates of 20-100%. Combustion air volume shall be controlled with respect to firing rate or flue gas oxygen concentration. Use of a common gas and combustion air control linkage or jack shaft is prohibited.

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

Registration Number: | Generated Date/Time: | Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Report Version: 2022.0.000 Schema Version: rev 20220101 | Compliance ID: EnergyPro-7303-0423-0253 Report Generated: 2023-04-03 00:06:01

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Opportunities For Learning	**Report Page:** (Page 5 of 6)
Project Address:	131 N. Azusa Ave.	**Date Prepared:** 4/3/2023

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no forms required for this project.

Registration Number: | Generated Date/Time: | Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Report Version: 2022.0.000 Schema Version: rev 20220101 | Compliance ID: EnergyPro-7303-0423-0253 Report Generated: 2023-04-03 00:06:01

STATE OF CALIFORNIA
Domestic Water Heating System
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-PLB-E
Project Name:	Opportunities For Learning	**Report Page:** (Page 6 of 6)
Project Address:	131 N. Azusa Ave.	**Date Prepared:** 4/3/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Daryl Murray	Documentation Author Signature:
Company: Daryl Murray Inc.	Signature Date: 2023-04-03
Address: 1355 N. 3775 W	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Cedar City UT 4721	Phone: 818-355-0225

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: Ray Ghattas	Responsible Designer Signature:
Company: Daryl Murray Inc	Date Signed: 2023-04-03
Address: 1355 N. 3775 W.	License: M21305
City/State/Zip: Cedar City UT 84721	Phone: 818.355.0225

Registration Number: | Generated Date/Time: | Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Report Version: 2022.0.000 Schema Version: rev 20220101 | Compliance ID: EnergyPro-7303-0423-0253 Report: Generated: 2023-04-03 00:06:01

DARRYL MURRAY INC.
MURRAY ENGINEERING & DESIGN
MECHANICAL ❀ ELECTRICAL ❀ PLUMBING
1355 N. 3775 W., Cedar City, UT 84721
Tel: 818.355.0225 Fax: -
darryl@murrayengineer.com

REGISTERED PROFESSIONAL ENGINEER
RAY GHATTAS
No. M 21305
EXP. 06-30-23
MECHANICAL
STATE OF CALIFORNIA

Options For Youth
-
Address: 131 N. AZUSA AVE.
WEST COVINA, CA 91791

ISSUE:

DATE	DESCRIPTION
04/03/23	1ST PLAN CHECK CORR.

Drawn / Reviewed: DM/RG/AC

Issue Date 01/24/23

Sheet Name: PLUMBING TITLE 24 COMPLIANCE FORMS

Sheet Number: P4.0

TITLE 24 COMPLIANCE FORMS | SCALE NTS