## LUMBER ALL LUMBER SHALL BE GRADE MARKED DOUGLAS FIR CONFORMING

TO DIVISION 23 (2022 C.B.C.) 2. RAFTER, BEAMS, PURLING SHALL BE DOUGLAS FIR NO. UNLESS

	OTHERWISE NOTED :		GRADE
3.	JOIST, PURLINS	2" TO 4" WIDE, 6" & DEEPER	NO.1
	BEAMS, PURLINS	OVER 4" WIDE	NO.1
	SUBPURLINS	2" TO 4" WIDE, 6" & DEEPER	NO.1
	LEDGERS		NO.2
	STUDS	2" x 4" <i>O</i> R 3" x 4"	STUDS
	STUDS	2" × 6"	NO.1
	POSTS	5" x 5" AND LARGER	NO.1

SILLS, PLATES AND BLOCKING 4. SILLS AND PLATES IS CONTACT WITH CONCRETE OR MASONRY AND WITHIN 48' OF GROUND SHALL BE PRESSURE TRESTED DOUGLAS FIR (PTDF), SILLS SHALL BE BOLTED TO THE FOUNDATION WITH 5/8" DIAMETER X 10' BOLTS AT 48' ON CENTER, 12' MINIMUM FROM ENDS OR 2 BOLTS MINIMUM PER PIECE, UNLESS NOTED OTHERWISE

- 5. STUD WALLS ABUTTING A CONCRETE OR MASONRY WALL SHALL BE BOLTED TO THE WALL WITH 5/8" ANCHOR BOLTS AT 24" ON CENTER.
- 6. ALL NON BEARING STUD WALLS SHALL BE 2 × STUDS AT 16 O.C. WITH 5/8 "GYP. BOARD EACH SIDE, UNLESS OTHERWISE NOTED.
- 7. ALL STUD WALLS SHALL HAVE FULL HEIGHT I X & DIAGONAL LET-IN BRACES AT ENDS AT INTERVALS NOT EXCEEDING 25 FT. O.C. UNLESS OTHERWISE NOTED ON PLANS. BRACES SHALL COVER A MINIMUM OF SIX STUD SPACES.
- 8. COMMON NAILS SHALL BE USED. 9. FIRE BLOCKING 2 × 1 1/2 " THICK, SHALL BE PLACED IN STUD WALLS AT CEILING AND FLOOR LEVELS, AT EACH 10' HEIGHT OF STUDS, AND BETWEEN STAIR STRINGERS AT SUPPORTS.
- 10. JOISTS SHALL BE BLOCKED AT SUPPORTS AND BRIDGED OR BLOCKED AT INTERVALS OF 8' WHERE JOIGTS ARE 2 x 12 OR DEEPER. 11. MAXIMUM UNSUPPORTED HEIGHT FOR NON-BEARING PARTITION SHALL
  - 2 x 4 @ 16" O.C. UP TO 14'-0" 2 x 6 @ 16" O.C. UP TO 20'-0"

2	х	8	ର	16"	0.C.	ЧР	t0	26'-Ø	''(

- 12. PROVIDE DOUBLE JOISTS UNDER PARALLEL BEARING PARTITION WALLS.
- 13. BOLT HOLES IN WOOD MEMBERS SHALL BE A MINIMUM 1/32" AND A MAXIMUM 1/16 " LARGER THAN THE BOLT DIAMETER.

## GENERAL NOTES (CONT.)

BE :

- 1. ALL WORK SHALL BE DONE IN ACCORDANCE W/ THE 2022 CBC, PLUMBING AND MECHANICAL CODES, THE CEC AND LOCAL ORDINANCES.
- 2. VERIFY ALL DIMENSIONS, DO NOT SCALE DRAWINGS. 3. IT SHALL BE THE RESPONSABILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS ON THE SITE PRIOR TO COMMENCING WORK AND IS TO NOTIFY THE OWNER AT ONCE UPON DISCOVERY OF ANY OMISSIONS OR CONFLICTS IN THE DRAWINGS.
- 4. ALL NAILING TO COMPLY W/ TABLE 23-11-B-1. CBC 5. SHOW ON THE PLANS, THAT A SMOOTH, HARD, NONABGORBENT SURFACE IS PROVIDED TO A HEIGHT OF 70' ABOVE THE DRAIN INLET OF THE SHOWER OR TUB/SHOWER COMBINATION (Sec. 807.1.2). MATERIALS SHALL OF A TYPE NOT AFFECTED BY MOISTURE (SEE Sesc. 807.1.3, UBC)
- 6. TWO LAYERS OF 15 16. FELT ARE REQUIRED OVER EXTERIOR PLYWOOD SHEATHING USED UNDER EXTERIOR LATH
- 7. ALL HOSEBIBS SHALL BE ANTIPHON TYPE.
- 8. GLAZED PANELS IN PATIO DOORS, SHOWER DOORS AND
- STORM DOORS SHALL BE TEMPERED SAFETY GLASS (Sec. 2406)
- 9. AT LEAST ONE WALL SWITCH CONTROLLED LIGHTING (FIXTURE) SHALL BE INSTALLED IN EVERY HABITABLE ROOM, BATHROOMS, HALLWAYS, STAIRWAYS, ATTACHED GARAGES AND DETACHED GARAGES WITH ELECTRIC POWER AND OUTDOOR ENTRANCES OR EXISTS, NEC 210-70a
- 10. ALL BRANCH CIRCUITS THAT SUPPLY RECEPTACLES IN DWELLING BEDROOMS SHALL BE PROTECTED BY AN ARC-FAULT CIRCUIT INTERRUPTOR PER NEC 210-8(a)(5)
- 11. RELOCATED 50. GAL WATER HEATER ON 18" PLYWOOD PLATFORM. PROVIDE FUEL GAS, NON- RIGID CONNECTION AND SEISMIC STRAPS. DOOR TO BE 2068 SC W/ 12 SQ. IN. LOUVERED VENTS WITHIN THE TOP & BOTTOM 12 IN. OF THE DOOR

# SHEET INDEX

T-1	SITE PLAN / GEN. NOTES
A-1	EXISTING 1ST & 2ND FLOOR PLAN
A-2	EXISTING & PROPOSED 3RD FLOOR PLAN
A-3	ELEVATIONS
A-4	FOUNDATION/FRAMING PLAN
SD1	CONSTRUCTION DETAILS
T-24-1	ENERGY CALC
T-24-2	ENERGY CALC

BUILDING SECURITY NOTES:

- A. PROVISIONS OF THIS CHAPTER SHALL APPLY TO NEW CONSTRUCTION AND TO BUILDINGS OR STRUCTURES TO WHICH ADDITIONS OR ALTERATIONS ARE MADE EXCEPT AS SPECIFICALLY PROVIDED BY THIS CHAPTER. WHEN ADDITIONS OR ALTERATIONS ARE MADE WITHIN ANY TWELVE-MONTH PERIOD EXCEED FIFTY PERCENT OF THE VALUE OF THE EXISTING BUILDINGS OR STRUCTURE, SUCH BUILDINGS OR STRUCTURES SHALL BE MADE TO CONFORM THE SECURITY REQUIREMENTS FOR NEW BUILDINGS AND STRUCTURES.
- B. ANY BUILDING AS DEFINED IN THE UBC TITLE 19 OF THE CALIFORNIA ADMINISTRATIVE CODE, REQUIRING SPECIAL TYPE RELEASING, LATCHING OR LOCKING DEVICES, OTHER THAN DESCRIBED HEREIN, SHALL BE EXEMPT FROM PROVISIONS HEREOF RELATING TO LOCKING DEVICES OF INTERIOR AND/OR EXTERIOR DOORS

INSTALLATION AND CONSTRUCTION OF FRAMES, JAMBS, STRIKES AND HINGES SHALL BE AS FOLLOWS:

- I. DOOR JAMBS SHALL BE INSTALLED WITH SOLID BACKING IN SUCH A MANNER THAT NO VOIDS EXIST BETWEEN THE STRIKE SIDE OF THE JAMB AND THE FRAME OPENING FOR A VERTICAL DISTANCE OF SIX INCHES EACH SIDE OF THE STRIKE.
- 2. IN WOOD FRAMING, HORIZONTAL BLOCKING SHALL BE PLACED BETWEEN STUDS AT DOOR LOCK HEIGHT FOR THREE STUDS SPACES EACH SIDE OF THE DOOR OPENINGS. TRIMMERS SHALL BE FULL LENGTH FROM HEADER TO THE FLOOR WITH SOLID BACKING AGAINST SOLE PLATES.
- 3. DOOR STOPS ON WOODEN JAMBS FOR IN-SWINGING DOORS SHALL BE OF ONE-PIECE CONSTUCTION WITH THE JAMB. JAMBS FOR ALL DOORS SHALL BE CONSTRUCTED OR PROTECTED SO AS TO PREVENT VIOLATION OF STRIKE.
- 4. THE STRIKE PLATE FOR DEADBOLTS ON ALL WOOD-FRAMED DOORS SHALL BE CONSTRUCTED OF MINIMUM SIXTEEN U.S GAUGE STEEL, BRONZE OR BRASS, AND SECURED TO THE JAMB BY A MINIMUM OF TWO SCREWS, WHICH PENETRATE AT LEAST TWO INCHES INTO SOLID BACKING BEYOND THE SURFACE TO WHICH THE STRIKE IS ATTACHED.
- 5. HINGES OR OUT-SWINGING DOORS SHALL BE EQUIPPED WITH NONREMIVEABLE HINGE PING OR A MECHANICAL INTERLOCK TO PRECLUDE REMOVAL OF THE DOOR FROM THE EXTERIOR BY REMOVING THE HIHGE PINS

THE FOLLOWING REQUIREMENTS SHALL BE MET FOR WINDOWS, SLIDING GLASS DOORS, OTHER DOORS AND LOCKING DEVICES:

A. TESTING STANDARDS

- 1. EXCEPT AS OTHERWISE SOECIFIED IN SECTION 15.08.100 (SPECIAL BUILDING PROVISIONS) AND SECTION 15.08.110 (SPECIAL COMECRIAL PROVISIONS), ALL OPERABLE EXTERIOR WINDOWS AND SLIDING GLASS DOORS SHALL COMPLY WITH APPROVED STANDARDS.
- 2. LOUVERED WINDOWS SHALL NOT BE USED WHEN ANY PORTION OF THE WINDOW IS LESS THAN TWELVE FEET VERTICALLY OR SIX FEET HORIZONTALLY FROM AND ACCESSIBLE SURFACE OR ANY ADJOINING ROOF, BALCONY, LANDING, STAIR TREAD, PLATFORM, OR SIIMILAR STRUCTURE.

THE GARAGE-TYPE DOORS, ROLLING OVERHEAD, SOLID OVERHEAD, SWING, SLIDING OR ACCORDION, SHALL CONFORM TO THE FOLLOWING STANGARDS:

- A. WOOD DOORS SHALL HAVE PANELS A MINIMUM OF THREE-EIGHTS INCH IN THICKNESS, WITH THE LOCKING HARDWARE VEING ATTACHED TO THE SUPPORT FRAMING. VERTICAL SUPPPORT FRAMING MEMBERS SHALL BE SPACED AT TWENTY-FOUR INCHES MAX. ON CENTER.
- B. ALUMINUM DOORS SHALL BE A MINIMUM THICKNESS OF .0215 INCHES AND RIVETED TOGETHER A MIN. OF 18" O.C. ALONG THE OUTSIDE SEAM. THERE SHALL BE A FULL WIDTH HORIZONTAL BEAM ATTACHED TO THE MAIN DOOR STRUCTURE, WHICH SHALL MEET THE PILOT OR PEDESTRIAN ACCESS, DOOR FRAMING WITHIN 3" OF THE STRIKE AREA OF THE PILOT OR PEDESTRIAN ACCESS DOOR.
- C. FIBERGLASS DOORS SHALL HAVE PANELS A MIN. DENSITY OF SIX OUNCES PER SQUARE FOOT FROM THE BOTTOM OF THE DOOR TO A HEIGHT OF SEVEN FEET. PANELS ABOVE SEVEN FEET AND PANELS IN RESIDENTIAL STRUCTURES SHALL HAVE A DENSITY OF NOT LEGS THAN FIVE OUNCES PER SQUARE FOOT.
- D. DOORS UTILIZING A CYLINDER LOCK SHALL HAVE A MIN. FIVE-PIN TUMBLER OPERATION WITH THE LOCKING BAR OR BOLT EXTENDING INTO THE RECEIVING GUIDE A MINIMUM OF ONE INCH.
- E. DOORS THAT EXCEED SIXTEEN FEET IN WIDTH SHALL HAVE TWO LOCK RECEIVING POINTS + OR IF THE DOOR DOES NOT EXCEED NINTEEN FEET, A SINGLE BOLT MAY BE USED IF PLACED IN THE CENTER OF THE DOOR WITH THE LOCKING POINT LOCATED EITHER AT THE FLOOR OR
- DOOR FRAME HEADER: OR TORSION SPRING COUNTER BALANCE TYPE HARDWARE MAY BE USED F. DOORS WITH SLIDE BOLT ASSEMBLIES SHALL HAVE FRAMES A MIN. OF .120 INCHES THICKNESS WITH A MIN. BOLT DIAMETER OF ONE-HALF INCH AND PROTRUDE AT LEAST ONE AND ONE-HALF INCHES INTO THE RECIEVING GIUDE. A BOLT DIAMETER OF THREE-EIGHTHS INCH MAY BE USED IN RESIDENTIAL BUILDING, THE SLIDE BOLT SHALL BE ATTACHED TO THE DOOR WITH NONREMOVABLE BOLTS FROM THE OUTSIDE, RIVETS SHALL NOT BE USED TO ATTACH SLIDE BOLT ASSEMBLIES.
- G. EXCEPT IN RESIDENTIAL BUILDING, PADLOCK(G) USED WITH EXTERIOR-MOUNTED SLIDE BOLT(G) SHALL HAVE A HARDENED STEEL SHACKLE LOCKING BOTH AT THE HEEL AND TOE AND MIN, FIVE -PIN TUMBLER OPERATION WITH NONREMOVEABLE KEY WHEN IN AN UNLOCKED POSITION, PADLOCK USED WITH INTERIOR-MONTED SLIDE BOLT(S) SHALL HAVE A HARDENED STEEL SHACKLE WITH A MIN. FOUR-PIN TUMBLER OPERATION

EVERYPERSON WHO OWNS, OPERATES, OR MAINTAINS ANY HOTEL, APARTMENT HOUSE OR DWELLING ON WHICH SECURITY BAR, GRILLS OR SCREENS EXIST, OR ARE HEREINAFTER INSTALLED SHALL INSTALL OR MODIFY THE SECURITY BARS, GRILLS OR SCREENS SO THAT THE SAME ARE REMOVEABLE OR CAN BE OPENED FROM THE INSIDE OF THE BUILDING WITHOUT THE NEED OF A KEY, TOOL OR EXCESSICE FORCE WHEN IN THE REMOVED OR OPEN POSITION, THE NET UNOBSTRUCTED OPEN AREA SHALL NOT BE LESS THAN THAT WHICH WOULD EXIST IF SUCH BARS, GRILLS OR SCREENS WERE NOT IN PLACE. THE PROVISIONS OF THIS SECTION SHALL APPLY TO THE EXTERIOR DOORS AND ONE WINDOW AT LEAST FIVE SQUARE FEET IN SIZE LOCATED IN EACH BEDROOM OR OTHER ROOM UTILIZED FOR SLEEPING PURPOSES.

ANY EXISTING FACILITIES NOT IN CONFORMITY WITH THE PROVISIONS HEREOF SHALL BE MODIFIED TO CONFORM TO THE REQUIREMENTS OF THIS SECTION WITHIN ONE YEAR FOLLOWING THE EFFECTIVE DATE THEREOF.

TYPE OF	CONSTRUCTION	:IV	
OCCUPAN	CY: SFR		

APPLICABLE BUILDING CODE: 2022 CAC,CBC,CRC,CEC,CMC,CPC,CEnC, CHBC,CFC,CEBC,CALGreen, CALIFORNIA RÉFERENCE STANDARDS CODE

PROJECT INFORMATION	PROJE
OWNER:	CONVERT EXISTING L ROOM INTO A J.A.D.

ECT DESCRIPTION:

LOWER 3RD FLOOR STORAGE .U. 500 SQFT

PROPERTY DATA TABLE

APN: TR#:

ZONING:

LOT COVERAGE: %

LOT#:

(E) S.F.R. CABIN

(E) GARAGE

(E) STORAGE

(E) S.F.R. CABIN

(E) GARAGE

(N) STORAGE

(N) J.A.D.U.

LOT SQ FT: 9,598

EXISTING TABULATIONS

(E) TOTAL LIVABLE AREA I,708 SQ. FT.

(E) TOTAL COVERAGE AREA 1,231 SQ. FT.

NEW TABULATIONS

(N) TOTAL LIVABLE AREA 2,252 SQ. FT.

(N) TOTAL COVERAGE AREA 1,231 SQ. FT.

SCOPE OF WORK

CONVERT EXISTING LOWER 3RD FLOOR STORAGE

ROOM INTO A J.A.D.U. 500 SQFT

1,708 SQ. FT.

371 SQ. FT.

683 SQ. FT.

1,708 SQ. FT.

371 SQ. FT.

131 SQ. FT.

544 SQ. FT.

J.A.D.U. CONVERSION

TO BE REMOVED

SITE PLAN

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





FIRST/ TOP FLOOR SCALE: 1/4"=1'-0"





IOPER INSTRUCTION SHALL BE ISSUED FRIOR TO FROCEEDING WITH ANY SUCH WORK.	SALABRADA DRAFTING & DESIGN 11355 Atlantic Ave. Lynwood, CA 90262 Daniel Salmeron: (323) 443-5749 Email: SalmeronDrafting@yahoo.com
ANY ERONS. OMISSION OR DISCREPANCIES OCOURAING WITHN THESE DOCUMENTS REQUIRE IMMEDIATE WRITTEN NOTIFICATION TO THE DESIGNER, OWNER OR CONTRACTOR. PROFE	Ponetime       Ammeter Line       Ammeter Line         Ponetime       STORAGE CONV. TO J.A.D.U.       D.A.D.U.         STORAGE CONV. TO J.A.D.U.       D.A.D.U.       D.A.D.U.         B86 SANDALWOOD, DR.       D.M.       D.M.         DAMME BS.       D.M.       D.M.         DAME BS. </td





20 " WIDTH 24" HT.

57 SQFT 44" SILL

PROJECT TILE: STORAGE CONV. TO J.A.D.U. Basic STORAGE CONV. TO J.A.D.U. Basic STORAGE CONV. TO J.A.D.U. Basic STORAGE CONV. TO J.A.D.U. Basic Bit: DAME BI: DAME BI: DAM	C NCGAM IAR	マートシンシンシン	DRAFTING & DESIGN	11365 Atlantic Ave Lynwood CA 00262			Email: SameronUraTTingeyanoo.com
PROJECT TILE: STORAGE CONV. TO J.A.D.U. 886 SANDALWOOD, DR. LAKE ARROWHEAD, CA 92352 PRONO TILE: PROPOSED J.A.D.U. FLOOR PLAN DANY	REVISIONS	△ DATE REMARKS		ΓAMF	2		
	PROJECT TITLE STORAGE CONV. TO J.A.D.U. DANNY			LAKE AKKOWHEAD, CA 92552	DRAWING TITLE:	PROPOSED J.A.D.U. FLOOR PLAN	



I. SEE SHEETS SDI FOR GENERAL NOTES AND TYPICAL DETAILS.

- 2. TYPICAL FLOOR SHEATHING: TYPICAL ROOF SHEATHING:
- 23/32" WOOD STRUCTURAL PANEL lpha| 5/32" WOOD STRUCTURAL PANEL 24" oc SPAN RATING 24/0 SPAN RATING T¢G UNDERLAYMENT, EXPOSURE I
  - EXPOSURE I B.N.: 8d AT 6" oc
  - E.N.: 8d AT 6" oc F.N.: 8d AT 12" oc
- USE RING SHANK NAILS OR SCREW NAILS AND GLUE PLYWOOD TO FRAMING. \* WOOD STRUCTURAL PANELS SHALL CONFORM TO UBC STANDARD 23-2 # 23-3 3. S.P.N. = SOLE PLATE NAILING. USE I Gd BOX NAILS AT I G" oc, UNO
- 4.  $\sqrt{\#}$  INDICATES SHEAR WALL. SEE THIS SHEET FOR SCHEDULE. ALL
- $\checkmark$  NAILING APPLIES FULL HEIGHT AND FULL LENGTH OF WALL, U.N.O.
- 5. SPLICE PLATES OF EXTERIOR WALLS AND SHEAR WALLS PER
- 6. INTERIOR NON-BEARING WALL HEADER SCHEDULE

HEADER SIZE	MAX SPAN < 5'-0" WALL ABOVE	MAX SPAN < 10'-0" WALL ABOVE
2x4 FLAT	3'-0"	N/A
(2) 2x4 ON EDGE	6'-0"	4'-O"
4x4 STD ∉ BTR	6'-6"	4'-6"
4x6 DF #2	0'-0"	9'-6"

7. CEILING JOIST SCHEDULE

B.N.: IOd AT 6" oc

E.N.: IOd AT 6" oc

F.N.: IOd AT IO" oc

JOIST	SIZE I 2" SF	PACING I G" SF	ACING 24" SPACING
2x4	(	D'- 9" 9'-	9" 8'- 6"
2x6	16		- 4"   3'- 5"
2x8	22	2'- 4" 20'-	3"   7'- 8"

$$\langle -- \rangle$$

NEW ROOF RAFTER

#### NEW CEILING JOIST N V

SHEAR WALL SCHEDULE

	SHEAF	R WALL SCHEDULE		
SYM.	MATERIAL	PANEL NAILING	S.P.N.O	PLF
	5/32" STRUCT.   O.S.B 5/8 ANCHORD BOLTS OR ALL THREAD @32"O.C	8d @  6" oc E.N. 8d @  12" oc F.N.	6d @ 6" oc	210
2	5/32" STRUCT.   W.S.P P.I.I.=32/16 🛛 🖉	. 8d @ 4" oc E.N. 8d @ 12" oc F.N.	6d @ 4" oc	320
3	5/32" STRUCT.   W.S.P P.I.I.=32/16 ØØ	. 8d @ 3" oc E.N. 8d @ 12" oc F.N.	6d @ 3" ос	410
4	5/32" STRUCT.   W.S.P P.I.I.=32/16 ØØ	. 8d @ 2" oc E.N. 8d @ 12" oc F.N.	6d @ 2" oc	550
5	5/32" STRUCT.   W.S.P P.I.I.=32/16 ØØ	.  Od @ 2" oc E.N.  Od @  2" oc F.N.	SEE PLANS	650

 $(\bigcirc$  S.P.N. = SOLE PLATE NAILING; USE BOX NAILS or BETTER AT SPACING SHOWN UNLESS SPECIFIED OTHERWISE ON PLAN.

2 ALL EDGES SHALL BE BLOCKED.

3 "NOMINAL FRAMING SHALL BE USED AT FOUNDATION SILL PLATES AND ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING SHEAR PANELS. PLYWOOD JOINT AND SILL PLATE NAILING SHALL BE STAGGERED ON 3x MEMBERS

#### NOTES:

- a) W.S.P. INDICATES WOOD STRUCTURAL PANEL. WOOD STRUCTURAL PANELS SHALL CONFORM TO UBC STANDARD 23-2 or 23-3.
- b) NAILS FOR WOOD STRUCTURAL PANELS TO BE COMMON WITH FULL HEADS.
- c) NAILING APPLIES AT ALL STUDS, PLATES AND BLOCKING.
- d) ALL EDGE NAILING AT TOP PLATE SHALL BE TO UPPER TOP PLATE. STAGGERING OF NAILS TO FRAMER'S PLATE IS NOT ACCEPTABLE.
- e) PROVIDE EDGE NAILING TO POSTS AT HOLDDOWN LOCATIONS.
- f) USE 2x STUDS @ 16" oc AT ALL SHEAR WALLS, U.N.O.
- g) SEE FOUNDATION PLANS FOR ANCHOR BOLT SIZE AND SPACING.

#### EXTERIOR LATH NOTES

EXTERIOR LATH SHALL BE INSTALLED AS REQUIRED SECTION 1402.1 OF L.A Co. BUILDING CODE WHEN APPLIED OVER WOOD BASE SHEATHING SHALL INCLUDE TWO LAYERS OF GRADE "D" PAPER.

## ROOFING NOTES

ROOFING MATERIAL WILL HAVE A MINIMUM CLASS "A: FIRE RATING ROOF VALLEY, PROVIDE 28 GAGE GALVANIZED SHEET METAL FLASHING ( L.A Co. BC. Section 1508.2)



## FOUNDATIONS NOTES

I. SEE SHEET SD I FOR GENERAL NOTES AND TYPICAL DETAILS.

2. □ · INDICATES SIMPSON HTT22 or PHD HOLDOWN

3. FOUNDATION SILL PLATES SHALL BE BOLTED TO THE FOUNDATION WITH 5/8" DIAMETER STEEL ANCHOR BOLTS WITH A MINIMUM EMBEDMENT OF 7" INTO THE CONCRETE. ANCHOR BOLT SPACING SHALL NOT EXCEED 4'-O". THERE SHALL BE A MINIMUM OF TWO BOLTS PER PIECE WITH ONE BOLT LOCATED NOT MORE THAN 12" THICK PLATE WASHERS FOR EACH ANCHOR BOLT. 3x SILL PLATES MAY OCCUR. ADJUST BOLT LENGTH AS REQUIRED.

4. HOLDDOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.

5. HOLDDOWN CONNECTOR BOLT BOLTS INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS.

G. HOLDDOWNS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.

7. 4500 PSI CONCRETE

## FOOTING LEGEND:



- INDICATES EXISTING FOOTING.



- INDICATES NEW SLAB ON GRADE PER PLANS

4" THICK MIN. WITH #4 BARS @ 16"0.C, EACH WAY PLACED MID-HEIGHT IN SLAB OVER 15 mil. VAPOR BARRIER OVER 4" GRAVEL 90% COMPACTED SUBGRADE.

	マーフシン	N. N				syanoo.com
SALAF	しいこの	DRAFTING & DESIG	11265 Atlantic Ave Iv		Daniel Salmeron: (323) 44	Email: SaimeronUrattinge
REVISIONS	DATE REMARKS	Y S				
SIGN BY: ANNY		AWN BY:		ECKED BY:	ANNY	
			LAKE AKROWHEAD, CA 92352 🛛 🗇	DRAWING TITLE:	FOUNDATION /FRAMING PLAN	
AGENCY ARCH. P DATE: SHEET N		CT NO	NO. D.	4		



#### CERTIFICATE OF COMPLIANCE

Project Name: 886 Sandalwood Dr Jr ADU Calculation Description: Title 24 Analysis

Calculation Date/Time: 2024-06-06T21:12:10-07:00 Input File Name: 24-537.ribd19x

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(Page 1 of 7)

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03			Pro	ject Location	1 886 Si	andalwood Dr	~ (			~	( )		J. J.					
04				City	Lake A	Arrowhead				05	1	1	St	andards	Version	2019		
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10			E	Building Type	e Single	family		<u>VU</u>		11			Number o	f Dwellin	g Units	1		
12			F	Project Scope	e Additi	ionAlteration	11	$\mathcal{A}$	and the second	13	n -		Numb	er of Beo	drooms	1		
14		Additio	on Cond. Flo	oor Area (ft <sup>2</sup>	) 0					15			N	mber of	Stories	1		
16		Evicti	ng Cond El	Area (ft2	544					17			Fenestration A	verage L	J-factor	0.3		
		EXISTI	ng Cond. Fid	Dor Area (It	<u></u>					1/	<b>_</b>			incluge e		0.0		
18		Tot	tal Cond. Flo	oor Area (ft <sup>2</sup>	) 544					19			Glazing	Percent	age (%)	23.53%		
20			ADU Bee	droom Coun	<b>t</b> 1					21			ADU Conditi	oned Flo	or Area	544		
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COMP	LIANCE RES	ULTS							T.									
	01	Building	Complies w	ith Compute	r Perfor	mance												
	02	This build	ling incorne	vrates featur	os that	require field t	osting a	and/or v	erification	n hy a c	ortifio	d HERS	rater under the	supervis	ion of a	CEC-approved	HERS pro	wider
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		Space	e Heating				291.71	1				209.52			82.	19		28.2
		Space	e Cooling				26.63	5				18.71			7.9	92		29.7
		IAQ V	entilation				4.92					4.92			C	)		0
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CA Building Energy Efficiency Standards - 2019 Residential Compliance

Registration Number: 424-P010101585A-000-000-0000000-0000 Registration Date/Time: 06/06/2024 21:16 HERS Provider: CHEERS NOTICE: This document has been generated by California Home Energy Efficiency Rating Services (CHEERS) using information uploaded by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document. Report Version: 2019.2.000 Report Generated: 2024-06-06 21:12:27 Schema Version: rev 20200901

#### CERTIFICATE OF COMPLIANCE

Zone 1

Conditioned

Project Name: 886 Sandalwood Dr Jr ADU Calculation Description: Title 24 Analysis

Calculation Date/Time: 2024-06-06T21:12:10-07:00 Input File Name: 24-537.ribd19x

DHW Sys 1

N/A

Report Generated: 2024-06-06 21:12:27

CF1R-PRF-01E (Page 2 of 7)

REQUIRED SPECIAL FEATURES						
The following are features that must	t be installed as condition fo	r meeting the modeled e	nergy performance for thi	s computer analysis.		
Variable capacity heat pump c	compliance option (verificat	ion details from VCHP Sta	aff report, Appendix B, and	RA3)		
				ALL .		
HERS FEATURE SUMMARY		$\left( A \right) \left( 1 \right)$				
The following is a summary of the feat detail is provided in the building tabl	eatures that must be field-ve les below. Registered CF2Rs	rified by a certified HERS and CF3Rs are required t	Rater as a condition for m to be completed in the HEF	eeting the modeled ener RS Registry	gy performance for this comput	er analysis. Additional
Building-level Verifications: Indoor air quality ventilation Kitchen range hood Cooling System Verifications: Verified EER Verified Refrigerant Charge Airflow in habitable rooms (SC Heating System Verifications: Verified HSPF Verified heat pump rated heat Wall-mounted thermostat in z Ductless indoor units located of HVAC Distribution System Verification None Domestic Hot Water System Verificat	C3.1.4.1.7) ting capacity zones greater than 150 ft2 ( entirely in conditioned spac ons: tions:	SC3.4.5) Sc (SC3.1.4.1.8)				
<b>BUILDING - FEATURES INFORMATIO</b>	N (					
01	02	03	04	05	06	07
Project Name Co	onditioned Floor Area (ft <sup>2</sup> )	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems

rojectitanie	Conditioned Floor An	Units	Units		Cooling Systems	Heating Systems
886 Sandalwood Dr Jr AD	U 544	1	1	1	0	1
ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft <sup>2</sup> )	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2

HVAC System1

Registration Number: 424-	P010101585A-000-000-000	0000-0000	Registration Date/Time	e: 06/06/2024 21:16	HERS Provider: CH	EERS
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CA Building Energy Efficient	y Standards - 2019 Residen	tial Compliance	Report Version: 2019.2	.000	Report Generated: 2	2024-06-06 21:12:27

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Schema Version: rev 20200901

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CERTIFICATE	E OF COMPL	IANCE														CF1R-PRF-01E	CERTIFICATE (
Project Nam	<b>1e:</b> 886 Sand	alwood Dr	Jr ADU						Calculatio	on Date	<b>/Time:</b> 20	024-06-06T2	1:12:10-0	07:00		(Page 5 of 7)	Project Name
Calculation	Description	: Title 24 A	nalysis						Input File	e Name:	24-537.r	ibd19x					Calculation De
WATER HEAT	ING SYSTEMS	5															01
01		02		03		(	)4		05	0	6	07		08	09	10	HVAC - HEAT PU
Name	Syst	em Type	Distribu	ution	Туре	Water Hea	ter Name (#)	ame (#) Solar Heating Co System Dis 1 (1) n/a		g Compact Distribution None		HERS Verificati		Status	Verified Existing Condition	Existing Water Heating System	Name
DHW Sys	1 Dom Wat	nestic Hot er (DHW)	Sta Distr Sy	ndaro ributio stem	d on	DHW He	eater 1 (1)					n/a		Existing	No		Heat Pump Sy
							$\sim$			1	Ϋ́́,				· ·		HVAC HEAT PU
WATER HEAT	ERS	<u> </u>						~									01
01	02	03		04	05	06	07	08	0	9	10	11		12	13	14	Name
Name	Heating Element Type	Tank Ty	ype U	# of Jnits	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Insulati R-valu (Int/Ex	on e t)	ndby s or ery Eff	1st Hr. Rating or Flow Rate	NEEA Hea Brand or	t Pump Model	Tank Locatio or Ambient Condition	n Status	Verified Existing Condition	Heat Pump Sys 1-hers-htpur
DHW Heater 1	Gas	Small Sto	orage	1	50	0.63-EF	<= 75 kBtu/hr	0	8	0	n/a	n/a	9	n/a	Existing	No	VARIABLE CAPA
		FRIEICATION	4					4/		· · · · · · · · · · · · · · · · · · ·	{						
01		02	•	Т	-	03	04			05		06		07		08	
Nam	e	Pipe Insu	lation	╞	Parall	el Piping	Compact Dis	stribution	Compact	Distribut Type	tion Rec	circulation Cor	ntrol	Central DHV Distribution	V Showe Hea	r Drain Water t Recovery	Heat Pur
DHW Sys	1 - 1/1	Not Req	uired		Not R	equired	Not Req	uired		None		Not Required		Not Require	d Not	Required	
				•	4		•	and the second sec									01
SPACE COND	ITIONING SYS					-1											
	01		02	2		03	04		05	0	6	07	08	09	10	11	Dwelling
, N	lame		System	1 Туре	9	Heating Nam	Unit Cooling e Nan	g Unit ne	Fan Name	Distrik Na	bution me	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count	SFam ADU IA
HVAC	System1	Heat	pump he	ating	cooling	g Heat Pu Systen	Imp Heat P n 1 Syste	ump m 1	n/a	n,	/a	Setback	New	No	1	1	

Registration Number: 424-P010101585A-000-000-000000-0000 Registration Date/Time: 06/06/2024 21:16 HERS Provider: CHEERS NOTICE: This document has been generated by California Home Energy Efficiency Rating Services (CHEERS) using information uploaded by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document. CA Building Energy Efficiency Standards - 2019 Residential Compliance

Report Version: 2019.2.000

Schema Version: rev 20200901

### CERTIFICATE OF COMPLIANCE

Project Name: 886 Sandalwood Dr Jr ADU

## Calculation Description: Title 24 Analysis

#### Calculation Date/Time: 2024-06-06T21:12:10-07:00 Input File Name: 24-537.ribd19x

CF1R-PRF-01E (Page 3 of 7)

01 1	02	02	I	04	05	06			07			00	10		11
Name	Zone	Construct	ion A	zimuth (	)rientation	Gross Are	ea (ft <sup>2</sup> )	-Win Door	dow and Area (ft2)	Tilt	(deg)	Wall Exception	ns Stat	us V	/erified Existing Condition
Front Wall	Zone 1	Default V Prior-19	/all 78	90 Front		240	~		37		90	none	Exist	ing	No
Left Wall	Zone 1	Default V Prior-19	/all 78	180 Left		176	5		16		90	none	Exist	ing	No
Rear Wall	Zone 1	Default V Prior-19	/all 78	270	Back	240		1	80		90	none	Exist	ing	No
Right Wall	Zone 1	Default V Prior-19	/all 78	0	Right	176	;		16		90	none	Exist	ing	No
terior Surface	Zone 1	R-0 Floor Crawlspa	No ce	n/a	n/a	544	Ļ		n/a	r	n/a		Exist	ing	No
NESTRATION / G	IAZING								16		_				
01	02	03	04	-05	06	07	08	09	10	11	12	13	14	15	16
Name	Туре	Surface	Orientatio	n Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft <sup>2</sup> )	U-factor	U-facto Source	shec	SHGC Source	Exterior Shading	Status	Verified Existing Condition
Windows	Window	Front Wall	Front	90	n D		1	16	-0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a
Window	Window	Left Wall	Left	180			1	16	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a
Glass Doors	Window	Rear Wall	Back	270			1	80	1.04	Table 110.6-	A 0.76	Table 110.6-B	Bug Screen	Existing	No
Window 2	Window	Right Wall	Right	0		have been a second and a second and a second a s	1	16	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a
PAQUE DOORS															
01		02			03				04			05		0	6
Name		Side of Bu	uilding		Area (ft <sup>2</sup> )			U	-factor			Status	Ver	ified Exist	ing Condition
Door		Front V	Vall		21				0.5			Existing		N	0
egistration Numl 'ICE: This documen ' cannot guarantee, A Building Energ	ber: 424-P01010 t has been generate the accuracy or con y Efficiency Stan	01585A-000-000 d by California Hon ppleteness of the ir dards - 2019 Re	-000000-00 ne Energy Effic formation cont sidential Cor	000 ciency Rating S rained in this d npliance	ervices (CHEE) ocument.	Registra RS) using info Report \ Schema	tion Da ormation Version Version	nte/Time uploaded : 2019.2 n: rev 20	e: 06/06/20; I by third part 2.000 0200901	24 21:16 ties not aff	iliated with or	HERS Pro <i>related to CHEER</i> Report G	ovider: CHE ? <i>S. Therefore, C</i> Generated: 20	ERS HEERS is no	t responsible for, 21:12:27
	COMPLIANCE	Dr Jr ADU					Calcu	lation	Date/Time	e: 2024-	06-06T21:	12:10-07:00			CF1R-PRF-01E (Page 6 of 7)
RTIFICATE OF ( oject Name: 88 Iculation Desc	36 Sandalwood ription: Title 24	4 Analysis					Input	File Na	ame: 24-5	37.ribd1	.9x				
RTIFICATE OF ( oject Name: 88 Iculation Desc 01	36 Sandalwood ription: Title 24 02	4 Analysis	03	04	05	;	Input 06	File Na	ame: 24-53	37.ribd1 08	.9x	09	10		11

IVAC - HEAT PUMPS																			
Name	System	Туре	Number o	f Units	HSPF/ /C	/HSPF2 COP	Heatir Cap 4	ng 7	Cap 17	SEE	Cooling SEER/SEER2 EER/EER EER		/EER2 EER	/c	Zonally Controlled	Compresso Type		r HI	ERS Verification
Heat Pump System 1	VCHP-du	ıctless	1		9	9.5	18000 16000			17	1	12.5 Not Zoi		Not Zonal		Single Speed	He 1	at Pump System L-hers-htpump	
										4	$\overline{\langle \cdot \rangle}$	J							
IVAC HEAT PUMPS - H	IERS VERIFIC	ATION					VA.	hard				$\langle \rangle$							
01	02		03		04 05			06			07		08		09				
Name	Verified Ai	rflow	Airflow <sup>-</sup>	Target		Verified EER Verified SEE		rified SEER	Ve	Verified Refrigerant Charge Verif		Verifi	ed HSPF	Verif	ied Heati Cap 47	ng	Verified Heating Cap 17		
Heat Pump System 1-hers-htpump	Not Requ	ired	0			Required Required			Yes	'es Yes		Yes Yes		Yes		Yes			
					Ļ	>	$\lambda$				ų Ľ								
ARIABLE CAPACITY H	EAT PUMP C	OMPLIA	NCE OPTION	N - HERS	VERIFI	CATION		1		No. States									
01		0	)2	03			04		05		06		0	7	08		0	9	10
Name		Cert Low- VCHP	tified Static System	Airflov Habita Roor	v to ible ns	Duction in Con Si	ess Units Iditioned pace	W	all Mount nermostat	Air I &am Dr	Filter Sizing p; Pressur op Rating	e C	ow Le Duc Condit Spa	eakage ts in tioned ace	Minim Airflow RA3.3 SC3.3.3	um v per and 3.4.1	Cert non-con Fa	ified tinuous n	Indoor Fan not Running Continuously
Heat Pump Syst	em 1	Not re	equired	Requi	red	Rec	quired		Required	⊡ No	t required	N	lot re	quired	Not req	uired	Not re	quired	Not required
				- <u>\</u>	~~~														
AQ (INDOOR AIR QUA	ALITY) FANS							and have been				_	· ····	]					
01		02			03	3			04			05				06			07
Dwelling Unit		IAQ CF	M	IA	Q Wat	ts/CFM		IAC	Q Fan Type		IAQ Effecti	Reco venes	overy ss - SF	RE	IAQ Recovery Effectiveness - ASRE		y ASRE	HERS Verification	
SFam ADU IAQVentR	pt	31			0.3	35			Exhaust			n/a				n/a			Yes

Registration Number: 424-P010101585A-000-000-0000000-0000 Registration Date/Time: 06/06/2024 21:16 HERS Provider: CHEERS NOTICE: This document has been generated by California Home Energy Efficiency Rating Services (CHEERS) using information uploaded by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document. CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2024-06-06 21:12:27 Schema Version: rev 20200901

> 886 Sandalwood Dr Jr ADU Lake Arrowhead, Ca 92352

![](_page_6_Figure_30.jpeg)

![](_page_7_Picture_0.jpeg)

## 2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. (04/2022)

Building Enve	lope:
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped. *
§ 110.7:	Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. *
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102 Masonry walls must meet Tables 150 1-A or B *
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. *
ireplaces, De	corative Gas Appliances, and Gas Log:
§ 110.5(e)	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device. *
§ 150.0(e)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *
Space Conditi	oning, Water Heating, and Plumbing System:
§ 110.0-§ 110	Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other <sup>3</sup> regulated appliances must be certified by the manufacturer to the California Energy Commission. *
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. *
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

### 5/6/22

DESIDENT										DMC 1
RESIDENT		30KE3 31			El Sin	la Fami		Addition Along		RIVI3-1
Jr ADU			Build	ang iype	⊡ Mul	ti Family		Existing+ Addition	on/Alteration	6/6/2024
Project Address			Calif	fornia Ene	ergy Clima	e Zone	Total	Cond. Floor Area	Addition	# of Units
886 Sandalwo	od Dr Lake	Arrowhead	C	A Clima	ate Zon	e 16		544	n/a	1
INSULATION	۱ _		_		Area	_	_			
Construction	n Type		Cav	vity	(ft <sup>2</sup> )	S	pecia	al Features		Status
Wall Wood F	ramed		- no ins	sulation	203					Existing
Door Opaque	e Door		- no ins	sulation	21					Existing
Wall Wood F	Framed		- no ins	sulation	160					Existing
Wall Wood F	Framed		- no ins	sulation	160					Existing
Wall Wood F	Framed		- no ins	sulation	160					Existing
Slab Unheate	ed Slab-on-Grade	9	- no ins	sulation	544	Perim :	= 104'			Existing
Demising Wood F	ramed w/o Craw	l Space	- no ins	sulation	544					Existing
				[						
FENESIRAI	ION	Total Area:	128	Glazing	Percenta	ge: 2	.3.5%	New/Altered Ave	rage U-Factor:	0.30
Orientation	Area(π <sup>−</sup> )	U-Fac St	IGC	Over	nang	Sidef	ins	Exterior Si	nades	Status
Front (E)	16.0	0.300	0.23	none		none		N/A		New
Left (S)	16.0	0.300	0.23	none		none		N/A		New
Rear (W)	80.0	1.040	0.76	none		none		N/A		Existing
Right (N)	16.0	0.300	0.23	none		none		N/A		New
									·	
									1	
				,					,	
	EME			i						
Oty Heatin		Min Eff	Co	oling		Min	Eff	The	rmostat	Statue
	loat Pump		Soli			17.0		Sothac	k stat	Now
	eatrump	9.50 8577	Spil	i neal Pu	тр	17.0	SEER	Seibad	<i>к</i>	New
									Duct	
Location		ating	Co	olina	Duc	t Loca	otion		Duci R-Value	Statue
	Ductic		Duct	Uning Hoose	Duc				n/o	Now
HVAC System	Ducue	ass / with Fan	Duci	1888	n/a				n/a	New
									<u> </u>	
	ATING .	Gall	ne	Min	Fff	Dietri	butic	n		Status
Guy. Type		Gail	5115	141111.		Distri	build	лі —		Status
									1	
EnergyPro 9.2 by F	neravSoft Us	er Number: 20180		:				ID: 24-567		Page 2 of 3

![](_page_7_Picture_6.jpeg)

## 2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	Pilot Lights. Continuously b (except appliances without
5	spa heaters. *
	Building Cooling and Heatir
§ 150.0(h)1:	Equipment Volume, Applica
	Standards Manual; or the A
§ 150.0(h)3A:	Clearances. Air conditioner
	Liquid Line Drier. Air condit
§ 150.0(h)3B:	manufacturer's instructions
<b>.</b>	Water Piping, Solar Water-
§ 150.0(j)1:	piping must be insulated as
	Insulation Protection. Piping
§ 150.0(j)2:	maintenance, and wind as
	include or be protected by
	non-crushable casing or sle
	Gas or Propane Water Hea
0.450.0(-)4	designate a space at least
§ 150.0(n)1:	plumbing requirements, bas
	more than 2" higher than th
8 150 0(n)3·	Certification Corporation (S
3 100.0(1)0.	R&T), or by a listing agency
Jucte and Eans	
	Ducts Insulation installed o
§ 110.8(d)3:	contractor installs the insula
	CMC Compliance. All air-di
	Duct Construction Standard
	R-6.0 or higher; ducts locat
	do not require insulation. C
§ 150.0(m)1:	The combination of mastic
	cavities, air handler suppor
	flexible duct must not be us
	these spaces must not be o
0.450.04 \0	Factory-Fabricated Duct Sy
§ 150.0(m)2:	connections, and closures;
	Field-Fabricated Duct Syste
§ 150.0(m)3:	mastics, sealants, and othe
8 150 0(m)7 <sup>.</sup>	Backdraft Damper. Fan sys
3 100.0(11)/1.	dampers.
§ 150 0(m)8 <sup>.</sup>	Gravity Ventilation Damper
3	Protection of Insulation Ins
§ 150 0(m)9 <sup>.</sup>	Insulation exposed to weat
3	cover). Cellular foam insula
§ 150.0(m)10:	Porous Inner Core Flex Du
	outer vapor barrier.
81500(m)11	Duct System Sealing and L
8 100.0(m)11:	accordance with Reference
	Air Filtration Space conditi
§ 150.0(m)12:	or equivalent filters. Filters
J	Clean-filter pressure drop a
	racks or grilles must use ga
	filter. *

5/6/22

HVAC SYSTEM HE	ATING	AND COOLING LOAD	S SUM	MARY			
Project Name						Date	6/2024
System Name						Floor	Area
IVAC System							544
ENGINEERING CHECKS		SYSTEM LOAD					
Number of Systems	1		COIL	COOLING F	PEAK	COIL H	G. PEAK
Heating System	_		CFM	Sensible	Latent	CFM	Sensible
Output per System	18,000	Total Room Loads	769	12,530	101	1,025	35,40
Total Output (Btuh)	18,000	Return Vented Lighting		0			
Output (Btuh/sqft)	33.1	Return Air Ducts		0			
Cooling System		Return Fan		0			I
Output per System	18,000	Ventilation	0	0	0	0	
Total Output (Btuh)	18,000	Supply Fan		921			-92
Total Output (Tons)	1.5	Supply Air Ducts		0			
Total Output (Btuh/sqft)	33.1						
Total Output (sqft/Ton)	362.7	TOTAL SYSTEM LOAD		13,451	101		34,48
Air System					, e		
CFM per System	600	HVAC EQUIPMENT SELECTION					
Airflow (cfm)	600	1.5 Mini Split Unit		16,129	0		7,51
Airflow (cfm/saft)	1.10						
Airflow (cfm/Ton)	400.0						
Outside Air (%)	0.0%	Total Adjusted System Output		16,129	0		7,51
Outside Air (cfm/saft)	0.00	(Adjusted for Peak Design conditions)					
Note: values above given at AR	conditions	TIME OF SYSTEM PEAK			Aug 3 PM		Jan 1 Al
HEATING SYSTEM PSYCHR	OMETRICS	(Airstream Temperatures at Time of	of Heating	Peak)	u .		
40.05	00.05	105.05	407.05				
13 °F	08 °F		107 °F		_		
→-	>≦	<mark>(◎</mark> ,²	→				1
Outside Air	2	Supply Fan			818		¥
0 cfm	Heating	Coil Supply Fail				1	07 °F
<b>†</b>							
					R		1
68 °F					340	(	58 °F
COOLING SYSTEM PSYCHR	OMETRICS	(Airstream Temperatures at Time	of Cooling	Peak)			
36 / 61 °F	75	5 / 57 °F 55 / 50 °F 57 / 5	51 °F				
Outside Air		+	→님				]
0 cfm		Cooling Coil Supply Fan				57	▼ / 51 ºF
<b>↑</b>		600 cfm					
				35.89	% <b>R</b> (		1
75 / 57 °F					2 blo	75	/ 57 °F
<b>← ▲</b>							
	-						

		AND GOOLING LOAD					
						Date 6/	6/2024
System Name						Floor	Area
HVAC System							544
ENGINEERING CHECKS		SYSTEM LOAD					
Number of Systems	1		COIL	COOLING F	PEAK	COIL H	G. PEAK
Heating System			CFM	Sensible	Latent	CFM	Sensible
Output per System	18,000	Total Room Loads	769	12,530	101	1,025	35,40
Total Output (Btuh)	18,000	Return Vented Lighting		0		_	
Output (Btuh/sqft)	33.1	Return Air Ducts		0		-	
Cooling System		Return Fan		0	r		
Output per System	18,000	Ventilation	0	0	0	0	
Total Output (Btuh)	18,000	Supply Fan		921			-92
Total Output (Tons)	1.5	Supply Air Ducts		0			
Total Output (Btuh/sqft)	33.1				,		
Total Output (sqft/Ton)	362.7	TOTAL SYSTEM LOAD		13,451	101		34,48
Air System							
CFM per System	600	HVAC EQUIPMENT SELECTION					
Airflow (cfm)	600	1.5 Mini Split Unit		16,129	0		7,51
Airflow (cfm/sqft)	1.10						
Airflow (cfm/Ton)	400.0						
Outside Air (%)	0.0%	Total Adjusted System Output		16,129	0		7,51
Outside Air (cfm/sqft)	0.00	(Adjusted for Peak Design conditions)					
Note: values above given at AR	l conditions	TIME OF SYSTEM PEAK			Aug 3 PM		Jan 1 Al
LEATING OVOTEM DOVOLO	OMETRICS	Ainstroom Temperatures at Times					
HEATING STSTEM PSTCHR	UNETRICS	Airstream Temperatures at Time of	of Heating	Peak)			
13 °F	68 °F	105 °F	of Heating	Peak)		;	
13 °F	68 °F	105 °F	of Heating 107 ⁰F	Peak)	80		
		105 °F	of Heating 107 ºF →	Peak)			1
13 °F		105 °F	of Heating 107 ºF →	Peak)			ļ
13 °F Outside Air 0 cfm	68 °F	105 °F	107 °F	Peak)		1	↓ 07 ºF
13 °F Outside Air 0 cfm	68 °F	105 °F	of Heating 107 ºF →	Peak)		1	↓ 07 °F
13 °F Outside Air 0 cfm	68 °F	105 °F	of Heating 107 ⁰F →	Peak)	R	1 DOM	↓ 07 °F
13 °F Outside Air 0 cfm 68 °F	68 °F	105 °F Coil Supply Fan 600 cfm	of Heating 107 ℉ →	Peak)	R	1 DOM	↓ 07 °F 38 °F
13 °F Outside Air 0 cfm	68 °F	105 °F	of Heating 107 ℉ →	Peak)	R	1 DOM	↓ 07 °F 58 °F
13 °F Outside Air 0 cfm 68 °F	68 °F	105 °F	of Heating 107 ºF →	Peak)	R	1 DOM	↓ 07 °F 38 °F
13 °F Outside Air 0 cfm 68 °F		105 °F         Coil         Supply Fan         600 cfm	of Cooling	Peak)	R	1 DOM	↓ 07 °F 38 °F
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE		105 °F         Image: Coll         Coll         Supply Far         600 cfm    (Airstream Temperatures at Time)	of Cooling	Peak)	R	1 DOM	↓ 07 °F 38 °F
13 °F Outside Air O cfm 68 °F COOLING SYSTEM PSYCHE	68 °F 68 °F Heating Heating	105 °F       Image: Color of the second	of Heating	Peak)	R	1 DOM	↓ 07 °F 38 °F ↓
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE	68 °F Heating 1 Heating 1 ROMETRICS	Airstream Temperatures at Time of the following of the foll	of Heating	Peak) Peak)	R	DOM e	07 °F 38 °F 
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE 36 / 61 °F	68 °F 68 °F Heating 0 ROMETRICS	Airstream Temperatures at Time of 105 °F Coil Supply Fan 600 cfm (Airstream Temperatures at Time 5/57 °F 55/50 °F 57/5 • 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	of Cooling 51 °F 51 °F	Peak) Peak)	RC	DOM	↓ 07 °F 38 °F ↓
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE 36 / 61 °F Outside Air 0 cfm	68 °F 68 °F Heating 0 Heating 0 75	Airstream Temperatures at Time of 105 °F Coil Supply Fan 600 cfm (Airstream Temperatures at Time 5/ 57 °F 55 / 50 °F 57 / 57 / 57 / 57 / 57 / 57 / 57 / 57	of Cooling 51 °F	Peak) Peak		1 DOM 6	07 °F 38 °F ↓ / 51 °F
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE 36 / 61 °F Outside Air 0 cfm	68 °F 68 °F Heating 0 ROMETRICS 75	Airstream Temperatures at Time of 105 °F Coil Supply Fan 600 cfm (Airstream Temperatures at Time 5/57 °F 55/50 °F 57/5 Cooling Coil Supply Fan 600 cfm	of Cooling 51 °F 51 °F	Peak) Peak) State	RC		07 °F 38 °F  / 51 °F
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE 36 / 61 °F Outside Air 0 cfm	68 °F 68 °F Heating 1 Heating 1 ROMETRICS	Airstream Temperatures at Time of 105 °F Coil Supply Fan 600 cfm (Airstream Temperatures at Time 5/ 57 °F 55 / 50 °F 57 / 57 / 57 / 57 / 57 / 57 / 57 / 57	of Heating 107 °F 	Peak) Peak) 35.89	RC %	DOM 57 DOM	07 °F 38 °F ↓ / 51 °F
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHF 36 / 61 °F Outside Air 0 cfm 75 / 57 °F	68 °F 68 °F Heating 0 ROMETRICS 75	Airstream Temperatures at Time of 105 °F Coil Supply Fan 600 cfm (Airstream Temperatures at Time 5/57 °F 55/50 °F 57/5 Cooling Coil Supply Fan 600 cfm	of Heating 107 °F 	Peak) Peak) 35.85	RC %	11 DOM 57 DOM 75	↓ 07 °F 38 °F ↓ / 51 °F / 57 °F
13 °F Outside Air 0 cfm 68 °F COOLING SYSTEM PSYCHE 36 / 61 °F Outside Air 0 cfm 75 / 57 °F	68 °F 68 °F Heating 1 ROMETRICS 75	Airstream Temperatures at Time of 105 °F Coil Supply Fan 600 cfm (Airstream Temperatures at Time 5/ 57 °F 55 / 50 °F 57 / 57 / 57 / 57 / 57 / 57 / 57 / 57	of Heating 107 °F of Cooling 51 °F	Peak) Peak) 35.89	RC	57 DOM 75	↓ 07 °F 38 °F ↓ / 51 °F ↓ / 57 °F

burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances It an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour ); and pool an
ting Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, cations Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation ACCA Manual J using design conditions specified in § 150.0(h)2.
er and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any
ditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the ns.
er-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water as specified in § 609.11 of the California Plumbing Code. *
ing insulation must be protected from damage, including that due to sunlight, moisture, equipment' s required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no on covering chilled water piping and refrigerant suction piping located outside the conditioned space must by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and sleeve.
eating Systems. Systems using gas or propane water heaters to serve individual dwelling units must st 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and based on the distance between this designated space and the water heater location; and a condensate drain no

the base of the water heater ems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO cy that is approved by the executive director.

I on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a ulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement. distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC ards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to ated entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. c and either mesh or tape must be used to seal openings greater than 1/4", If mastic or tape is used. Building ort platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in e compressed. \*

Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, s; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive ape is used in combination with mastic and draw bands. stems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes,

er requirements specified for duct construction. ystems that exchange air between the conditioned space and outdoors must have backdraft or automatic ers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible,

ers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents. sulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. ather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic lation must be protected as above or painted with a water retardant and solar radiation-resistant coating. ouct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and

Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an cts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in e Residential Appendix RA3.1.

itioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 s for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the

![](_page_7_Picture_21.jpeg)

## 2022 Single-Family Residential Mandatory Requirements Summary

Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply of a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply § 150.0(m)13: be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in Reference Residential Appendix RA3.3. \*

Ventilation and Indo	por Air Quality:
§ 150.0(o)1:	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *
§ 150.0(o)1B:	Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole- dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed andcontrolled per §150.0(o)1Biii&iv ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper( compliance with §150.0(o)1C.
§ 150.0(o)1C:	Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses . Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commer spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.
§ 150.0(o)1G:	Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have dema controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound p §150.0(o)1Gvi. *
§ 150.0(o)1H&I: A	irflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Refe Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less minimum airflow rate required by §150.0(o)1C.
§ 150.0(o)2:	Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G
Pool and Spa Syste	ems and Equipment:
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compli- with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shut the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must use electric resistance heating. *
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the h dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. *
Lighting:	
	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable
§ 110.9:	requirements of § 110.9. *
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw based sockets, must be ai and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy se control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k). *

5/6/22

#### CERTIFICATE OF COMPLIANCE

Project Name: 886 Sandalwood Dr Jr ADU		Calculation Date/Ti
Calculation Description: Title 24 Analysis		Input File Name: 24
DOCUMENTATION AUTHOR'S DECLARATION STATI	EMENT	
1. I certify that this Certificate of Compliance docur	mentation is accurate and complete.	
Documentation Author Name:		Documentation Author S
Robert Gonzales		Robert Go
Company:		Signature Date:
Design 4 Building		06/06/2024
Address:		CEA/ HERS Certification I

City/State/Zip: Huntington Beach , CA 92648

7755 Center Ave. Suite 1100

RESPONSIBLE PERSON'S DECLARATION STATEMENT

certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identities 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to t 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the

calculations, plans and specifications submitted to the en	forcement agency for approval with this l	ouilding permit application.
esponsible Designer Name: obert Gonzales		Responsible Designer Signa Robert Got
ompany: esign 4 Building		Date <u>Signe</u> d: 06/06/2024
ddress: 755 Center Ave. Suite 1100	<b>SUE</b>	License:
ity/State/Zip: untington Beach , CA 92648	CIL	Phone: 562-981-4890

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content o this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Report Version: 2019.2.000 Schema Version: rev 20200901

562-981-4890

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Gv, and rated for sound per		§ 150.0(k)2F: mc so	ר עונ
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## 2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1G:	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	Accessible Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	Multiple Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	Energy Management Control Systems. An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	Automatic Shutoff Controls. In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	Dimmers. Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall- mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	Internally illuminated address signs. Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
Solar Readines	S:
§ 110.10(a)1:	Single-family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
8 110 10/b)2:	Azimuth All sections of the solar zone located on steen-sloped roofs must have an azimuth between 90-300° of true north
§ 110.10(b)2. § 110.10(b)3A	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof
§ 110.10(b)3B	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of solar zone, measured in the vertical plane. *
§ 110.10(b)4:	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	provided to the occupant.
§ 110.10(e)1:	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."
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