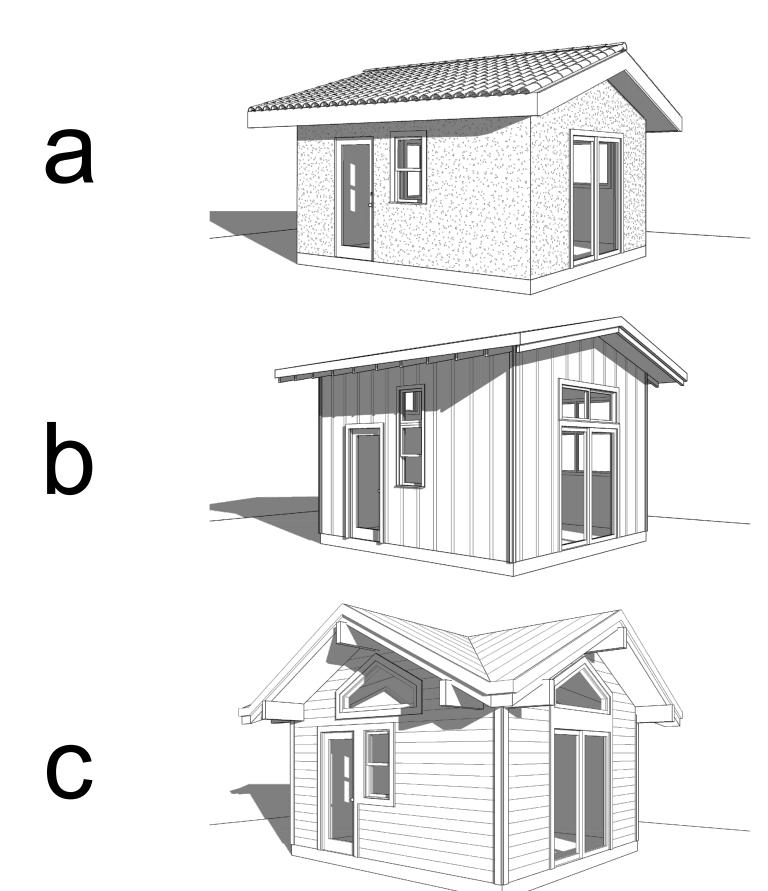
anaheim pradu studio

CONTACT UTILITY COMPANY REGARDING ELECTRIC SERVICE TO THIS DETACHED ADU. ANY EXISTING SERVICE UPGRADE OR NEW SERVICE FOR THE ADU WILL REQUIRE A SEPARATE PERMIT FROM THE CITY OF ANAHEIM.



construction codes:

2022	CALIFORNIA	BUILDING CODE	TITLE 24	PART 2, V. 1&2			
2022	CALIFORNIA	RESIDENTIAL CODE	TITLE 24	PART 2.5			
2022	CALIFORNIA	ELECTRICAL CODE	TITLE 24	PART 3			
2022	CALIFORNIA	MECHANICAL CODE	TITLE 24	PART 4			
2022	CALIFORNIA	PLUMBING CODE	TITLE 24	PART 5			
2022	CALIFORNIA	ENERGY CODE	TITLE 24	PART 6			
2022	CALIFORNIA	FIRE CODE	TITLE 24	PART 9			
2022	CALIFORNIA	GREEN BUILDING CODE	TITLE 24	PART 11			
PROJECT SHALL COMPLY WITH THE 2022 CALIFORNIA BUILDING CODE WHICH ADOPTS							
2021 IR	2021 IRC, 2021 UMC, 2021 UPC & 2020 NEC.						

NOT TO SCALE

vicinity map:

SITE ADDRESS

required for plan check submittal and permits:

	-
ITEM	√ COMPLETED OR ACKNOWLEDGED
SHEET a0.0	PROJECT DATA SHEET INFORMATION FILLED OUT
SHEET a0.1	CHECKLIST SHEET INFORMATION FILLED OUT
SHEET a0.3	CAL GREEN CHECKLIST FILLED OUT
SHEET a0.4	SITE PLAN DRAFTED & NOTED PER SITE PLAN INFORMATION CHECKLIST AND SAMPLE SITE PLAN DIAGRAM
SHEET a0.5	AVERAGE LOT SLOPE DIAGRAM DRAFTED & NOTED WITH TABLE FILLED OUT
SHEET a2.0	ELECTRIC UTILITY TABLE FILLED OUT & ADU ELECTRICAL PANEL LOAD CALCULATION REVISED IF MODIFIED
T24 SHEETS	REPORT & PLAN SHEETS WITH PROJECT LOCATION & OWNER
SEPARATE PERMIT	DISCRETIONARY PERMIT (IF APPLICABLE)
SEPARATE PERMIT	CONTACT UTILITY PROJECT PLANNING FOR WORK ORDER, GET CITY PERMIT FOR ELECTRICAL UPGRADE (IF APPLICABLE)
DEFERRED SUBMITTAL	PHOTOVOLTAIC PERMIT OR EXISTING PV SYSTEM REPORT, SEE DEFERRED SUBMITTAL TABLE ON THIS SHEET
DEFERRED SUBMITTAL	FIRE SPRINKLER PERMIT (IF APPLICABLE), SEE FIRE SPRINKLER CHECKLIST ON SHEET a0.1
BY OWNER	SOIL REPORT FOR ADU OVER 500 SF WITH FOUNDATION DESIGN REVIEW APPROVAL LETTER
BY OWNER	PROPERTY GRANT DEED WITH LEGAL DESCRIPTION
BY OWNER	RESIDENTIAL BUILDING RECORD FROM COUNTY ASSESSOR
BY OWNER	AGENCY LETTER IF OWNER IS USING AGENT FOR PLAN CHECK & PERMIT PROCESSING
CITY FORM	BUILDING PERMIT CALCULATIONS - BUILDING SQUARE FOOTAGE
CITY FORM	CONSTRUCTION & DEMO WASTE MANAGEMENT PLAN
CITY FORM	STORMWATER INTAKE FORM & STANDARD SWQMP
CITY FORM	LOCAL GREEN BUILDING ORDINANCE CHECKLIST
CITY FORM	BUILDING ACKNOWLEDGMENT OWNER-BUILDER
CITY FORM	HOUSING DEVELOPMENT TRACKING FORM
CITY FORM	ADU COVENANT PROVIDED BY PROJECT PLANNER NOTARIZED AND OWNER CHECK PROVIDED FOR COUNTY RECORDER
CITY FORM	WATER DISTRICT SIGN OFF
CITY FORM	SEWER DISTRICT OR COUNTY HEALTH SEPTIC SIGN OFF

CITY FORM SCHOOL DISTRICT(S) SIGN OFF IF ADU IS 500 SF OR GREATER

energy requirement notes:

1. CONNECTION TO A PHOTOVOLTAIC SOLAR SYSTEM IS REQUIRED FOR THIS PROJECT. SOLAR SYSTEM IS A DEFERRED SUBMITTAL 2. REQUIRED SPECIAL FEATURES:

WHOLE HOUSE FAN

EXPOSED SLAB FLOOR IN CONDITIONED ZONE

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION (VERIFICATION DETAILS FROM VCHP STAFF REPORT, APPENDIX B, AND RA3)

NORTHWEST ENERGY EFFICIENCY ALLIANCE (NEEA) RATED HEAT PUMP WATER HEATER; SPECIFIC BRAND/MODEL, OR EQUAL, MUST BE INSTALLED

3. HERS FEATURE SUMMARY

BUILDING LEVEL VERIFICATIONS:

INDOOR AIR QUALITY VENTILATION

KITCHEN RANGE HOOD

WHOLE HOUSE FAN AIRFLOW AND FAN EFFICACY

COOLING SYSTEM VERIFICATIONS:

VERIFIED SEER/SEER2

VERIFIED REFRIGERANT CHARGE

AIRFLOW IN HABITABLE ROOMS(SC3.1.4.1.7)

HEATING SYSTEM VERIFICATIONS: VERIFIED HSPF (C ELEV ONLY)

VERIFIED HEAT PUMP RATED HEATING CAPACITY

WALL MOUNTED THERMOSTAT IN ZONES GREATER THAN 150

DUCTLESS INDOOR UNITS LOCATED ENTIRELY IN CONDITIONED SPACE

HVAC DISTRIBUTION SYSTEM VERIFICATIONS:

NONE

DOMESTIC HOT WATER SYSTEM VERIFICATIONS:

deferred submittals:

1. A PHOTOVOLTAIC SYSTEM MEETING THE MINIMUM QUALIFICATION REQUIREMENTS AS SPECIFIED IN JOINT APPENDIX JA11, WITH ANNUAL ELECTRICAL OUTPUT EQUAL TO OR GREATER THAN THE DWELLING'S ANNUAL ELECTRICAL USAGE AS DETERMINED BY EQUATION 150.1-C IS REQUIRED. ES SECTION 150.1(C)14.

2. SUBMITTED DOCUMENTS FOR DEFERRED SUBMITTAL ITEMS SHALL BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING

solar system notes:

1. A PHOTOVOLTAIC (PV) SOLAR SYSTEM IS REQUIRED AND A SEPARATE PERMIT WILL BE REQUIRED. THE PV SYSTEM MUST BE INSTALLED, OPERATIONAL AND HAVE FINAL APPROVAL PRIOR TO FINAL BUILDING INSPECTION AND APPROVA FOR THE ADU.

ADDITIONAL INFORMATION ABOUT THE PV SOLAR SYSTEM IS PROVIDED AT THE UTILITY PLAN ON SHEET a2.0 AND AT THE T-24 ENERGY REQUIREMENT

parking:

	. •		
	REQUIRED VEHICLE SPACES FOR EXISTING RESIDENCE	=	SPACES
	REQUIRED VEHICLE SPACES FOR ADU	=	SPACES
	REQUIRED SPACES ON SITE	=	TOTAL REQUIRED SPACES
	PROVIDED ENCLOSED SPACES PROVIDED FOR EXISTING RESIDENCE	=	SPACES
)	PROVIDED UNENCLOSED SPACES PROVIDED FOR EXISTING RESIDENCE	=	SPACES
	PROVIDED ENCLOSED SPACES PROVIDED FOR ADU	=	SPACES
	PROVIDED UNENCLOSED SPACES PROVIDED FOR ADU	=	SPACES
	VEHICLE SPACES PROVIDED ON SITE	=	TOTAL PROVIDED SPACES

conditions of use:

THE PERMITTEE AND OWNER OF THE PROPERTY THAT IS THE SUBJECT OF THESE PLANS AGREES TO AND DOES BY UTILIZING THESE PLANS AND BY SUBMITTING THEM TO THE CITY OF ANAHEIM FOR PERMITTING DOES HEREBY RELEASE, HOLD HARMLESS AND AGREE TO INDEMNIFY AND DEFEND THE CITY OF ANAHEIM AND THE ARCHITECT, INCLUDING WITHOUT LIMITATION, ALL EMPLOYEES, OFFICERS, COUNCILMEMBERS, COMMISSIONERS, AND AGENTS AND/OR CONSULTANTS OF THE FOREGOING WHO PREPARED THESE CONSTRUCTION DOCUMENTS, AND EACH OF THEM, FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY DAMAGE OR LOSS, TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS. THE OWNER AND THE PERMITTEE, AND EACH OF THEM ACKNOWLEDGE AGREEING TO THIS COVENANT, IS A CONDITION PRECEDENT TO BEING ABLE TO UTILIZE THESE PLANS, AND, THAT WITHOUT THIS HOLD HARMLESS AND RELEASE, WOULD NOT BE ABLE BE ABLE TO UTILIZE THESE PLANS. FURTHER, OWNER AND PERMITTEE ACKNOWLEDGES THAT THE OWNER/PERMITTEE HAS BEEN ADVISED TO SEEK THE SERVICES O ANY AND ALL CONSULTANTS, THEY CHOOSE, TO REVIEW THESE PLANS PRIOF TO USING THEM, TO SEEK ADVICE ON THE SUITABLY OF THESE PLANS FOR THEIR USE FOR THE INTENDED USE BY THE OWNER/PERMITTEE. THE INDEMNITY DOES NOT INCLUDE ANY LIABILITY ARISING OUT OF THE SOLE NEGLIGENCE OR WILLFUL MISCONDUCT OF THE PARTIES BEING INDEMNIFIED

2. BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS. LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.

scope of work:

PROJECT DESCRIPTION	= ONE STORY DETACHED STUDIO ACCESSORY DWELLING UNIT (ADU)
PLAN CHECK NUMBER	=

area calculations:

LOT AREAS				
GROSS LOT AREA	=			SF
NET LOT AREA	=			SF
(DEDUCTIONS PER CODE)	=	(SF)
BUILDING AREAS				
PROPOSED				
PROPOSED ADU	=	22	24	SF
EXISTING				
EXISTING RESIDENCE BASEMENT	=			SF
EXISTING RESIDENCE FIRST FLOOR	=			SF
EXISTING RESIDENCE SECOND FLOOR	=			SF
TOTAL EXISTING RESIDENCE	=			SF
EXISTING GARAGE ATTACHED	=			SF
EXISTING GARAGE DETACHED	=			SF
EXISTING ACCESSORY STRUCTURE	=			SF
FAR (FLOOR AREA RATIO)				
BULK FLOOR AREA (AS APPLIED TO FAR)				
FIRST FLOOR LIVING AREA	=			SF
SECOND FLOOR LIVING AREA	=			SF
GARAGE AREA EXCEEDING 400 SF	=			SF
ADU LIVING AREA	=			SF
ADU DEDUCTION	=	(SF - NTE 800 SF)
ACCESSORY STRUCTURE TOTAL SF	=			SF
OUTDOOR COVERED AREAS	=			SF - IF QUALIFY AS FAR
TOTAL BULK FLOOR AREA	=			SF
ALLOWED FAR				
FAR ALLOWED	=			
FAR ALLOWED x GROSS LOT AREA	=			SF
PROPOSED FAR (TOTAL BULK FLOOR AREA / GROSS LOT AREA)	=			SF
FAR PROPOSED	=			
LOT COVERAGE (LC)				
ALLOWED LOT COVERAGE (BY ZONE)	=			%
TOTAL STRUCTURE FOOTPRINT AREA	=		SF(EXISTING + PROPOSED
CANTILEVERED FLOOR AREA ABOVE	=		,	SF
ADU DEDUCTION	=	(SF - NTE 800 SF)
LC SF / NET LOT AREA	=		x 100 =	,
PROPOSED LOT COVERAGE	=			%

agencies:

MUNICIPAL JURISDICTION	=	CITY OF ANAHEIM
ELEMENTARY SCHOOL DISTRICT	=	
HIGH SCHOOL DISTRICT	=	
SEWER DISTRICT	=	
WATER DISTRICT	=	
FIRE DEPARTMENT	=	ANAHEIM FIRE DEPARTMENT

sheet index:

SHEET TITLE

STILLT#	OHEET THEE
a0.0	PROJECT DATA
a0.1	CHECKLIST + SCHEDULE
a0.1F	VERY HIGH FIRE HAZARD SEVERITY ZONE
a0.2	GENERAL SPECIFICATIONS
a0.3	CAL GREEN CHECKLIST
a0.4	SITE PLAN + NOTES
a0.5	AVERAGE LOT SLOPE DIAGRAM
a1.0	FLOOR PLANS
a2.0	UTILITY PLAN
a3.0	ROOF PLANS
a4.0	A ELEVATIONS + SECTIONS
a4.1	B ELEVATIONS + SECTIONS
a4.2	C ELEVATIONS + SECTIONS
s0.0	STRUCTURAL NOTES
s1.0	FOUNDATION PLANS
s2.0	ROOF FRAMING PLANS
s2.1	REVERSE ROOF FRAMING PLANS
d0.0	DETAILS
d0.1	DETAILS
d0.2	DETAILS
d0.3	DETAILS
d0.4	DETAILS
T-01 to T-04	STUDIO A ENERGY REQUIREMENTS
T-01 to T-04	STUDIO B ENERGY REQUIREMENTS
T-01 to T-04	STUDIO C ENERGY REQUIREMENTS
T-05	HVAC SYSTEM SUMMARIES

project data:

SITE ADDRESS (EXISTING RESIDENCE) =

SITE ADDRESS (PROPOSED ADU)	=	
PROPERTY OWNER (LEGAL)	=	
PROPERTY OWNER PHONE	=	
PROPERTY OWNER EMAIL	=	
PROPERTY OWNER ADDRESS	=	
APN	=	
LEGAL DESCRIPTION	=	
GENERAL PLAN DESIGNATION	=	RESIDENTIAL
ZONE	=	R
ZONE OVERLAYS	=	
OCCUPANCY	=	R-3
CONSTRUCTION TYPE	=	V-B
ORIGINAL CONSTRUCTION YEAR	=	
EXISTING USE	=	SINGLE ORMULTI FAMILY
PROPOSED USE	=	ACCESSORY DWELLING UNIT (ADU)
FIRE SPRINKLERS	=	SEE SELECTION ON SHEET a0.1
AVERAGE LOT SLOPE	=	% (FROM TABLE ON SHEET a0.5)
SLOPE ANALYSIS	=	SEE NOTE ON THIS SHEET

setback, height & story

SETBACKS				
	FRONT	INTERIOR SIDE	EXTERIOR SIDE REAF	₹
REQUIRED - STANDARD	FT	FT	FT	FT
EXISTING RESIDENCE	FT	FT	FT	FT
EXISTING ACCESSORY STRUCTURE	FT	FT	FT	FT
REQUIRED - ADU	FT	FT	FT	FT
PROPOSED - ADU	FT	FT	FT	FT
HEIGHT				
EXISTING RESIDENCE	=	FT		
EXISTING ACCESSORY STRUCTURE	=	FT		
PROPOSED ADU	=	FT		
STORY				
EXISTING RESIDENCE	=			
EXISTING ACCESSORY STRUCTURE	=			
PROPOSED ADU	=	1		

grading:

CUT	=	YD^3
FILL	=	YD^3
IMPORT	=	YD^3
EXPORT	=	YD^3
OVEREXCAVATION & RECOMPACTION	=	YD^3
MAXIMUM CUT HEIGHT	=	FT
MAXIMUM FILL HEIGHT	=	FT

landscape area:

EXISTING LANDSCAPE SITE AREA	=	SF, %
PROPOSED LANDSCAPE SITE AREA	=	SF, %
NON LANDSCAPE SITE AREA	=	SF, %
TOTAL SITE AREA	=	SF, 100%

impervious surfaces:

EXISTING IMPERVIOUS SITE AREA	=	SF, %
PROPOSED IMPERVIOUS SITE AREA	=	SF, %
NON IMPERVIOUS SITE AREA	=	SF, %
TOTAL SITE AREA	=	SF, 100%
CHANGE (+/-) IMPERVIOUS SITE AREA	=	SF, %

project team:

		FIRM	DZN PARTNERS
F		ADDRESS	682 2ND ST
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Ą	ARCHITECTURE	EMAIL	B.SMITH@DZNPARTNERS.COM
		CONTACT	BART SMITH, AIA LEED AP
Ę		FIRM	BEAR TECHNOLOGYS CONSULTANTING, INC
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œ	PCSD	ADDRESS	3529 COASTVIEW COURT
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ZGIN TO THE TOTAL THE TOTAL TO THE TOTAL TOT	ENGINEERING	PHONE	(760) 207-1885
Ш	CORPORATION	EMAIL	PAUL.PCSD@GMAIL.COM
		CONTACT	PAUL CHRISTENSON

FOR CITY STAMPS

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND AL DEMANDS ON ACCOUNT OF AN' PERSONS OR PROPERTY INCLUDING INJURY OR DEATH, OR

ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS

6 8 2 S E C O N D S T ENCINITAS, CA (760)7532464

STUDIO PRADU CITY: ANAHEIM

PROJECT DATA

202409R

JOB:

a0.0

COMMUNITY

Š.	AND	EP	ELECTRICAL PANEL	PCC	PRECAST CONCRETE
@	AT	EQ	EQUAL	PKT	POCKET
~	DEGREES	EQUIP	EQUIPMENT	PL	PLATE
2 %	DIAMETER PERCENT	EW EXP	EACH WAY EXPANSION	P/L PLS	PROPERTY LINE PLASTER
/o ქ	PENNY (NAIL SIZE)	EXST	EXISTING	PLY	PLYWOOD
#	POUND OR NUMBER	EXT	EXTERIOR	PNL	PANEL
E)	EXISTING	FA	FIRE ALARM	PR	PAIR
N) NR)	NEW REPLACEMENT	FAB	FABRICATE FORCED AIR LINIT	PRE PT	PRESSURE TREATED
(NR) AA	NEW REPLACEMENT ATTIC ACCESS	FAU FD	FORCED AIR UNIT FLOOR DRAIN	PT PTR	PRESSURE TREATED PARTNER
AA AB	ANCHOR BOLT	FDN	FOUNDATION	PV	PRESSURE VALVE
AC	ASPHALT CONCRETE	FE	FIRE EXSTINGUISHER	PVC	POLYVINYL CHLORIDE
A-C	ALTERNATING CURRENT	FF	FINISH FLOOR	R	RISER, RIDGE OR RADIUS
A/C	AIR CONDITIONING	FG	FINISH GRADE	RA	RETURN AIR
ACOUS	ACQUISTICAL	FIN	FINISH	RB	REINFORCING BAR
ACT AD	ACOUSTICAL CEILING TILE AREA DRAIN	FJ FL	FLOOR JOIST FLOURESCENT	RBR RCP	RUBBER REFLECTED CEILING PLAN
ADA	AMERICAN DISABILITY ACT	FLR	FLOOR	RD	ROOF DRAIN
AFO	ARCHED FRAMED OPENING	FLSH	FLASHING	REF	REFRIGERATOR
AGGR	AGGREGATE	FN	FIELD NAILING	REG	REGISTER
AGO	ARCH GYPSUM BOARD OPENING	FO	FRAMED OPENING	REINF	REINFORCE
AHS	ALLIMINUM HORIZONTAL SLIDING	FP	FIREPLACE	REQD	REQUIRED
AL ALM	ALUMINUM ALARM	FR FRMG	FIRE RATED FRAMING	REV RI	REVISION RIGID INSULATION
ALM	ALTERNATE	FT	FOOT/FEET	RM	ROOM
AMP	AMPERE	FTG	FOOTING	RO	ROUGH OPENING
APN	ASSESSORS PARCEL NUMBER	FXD	FIXED	RR	ROOF RAFTER
ARCH	ARCHITECT	FYSB	FRONT YARD SETBACK	R/S	RESAWN
AS AS DU	ALUMINUM SLIDING	GA	GALLON	RYSB	REAR YARD SETBACK
ASPH AVE	ASPHALT AVENUE	GAL GALV	GALLON GALVANIZED	S SA	SOUTH SUPPLY AIR
AVE AVS	AVENUE ALUMINUM VERTICAL SLIDING	GALV	GALVANIZED GYPSUM BOARD	SBO	SUPPLY AIR SELECTION BY OWNER
AWG	AWNING	GFI	GROUND FORCE INTERRUPT		SOLID CORE
3	воттом	GI	GALVANIZED IRON	SDG	SIDING
BBQ	BARBEQUE	GL	GLASS	SEC	SECTION
BD BED	BOARD	GLB	GLU-LAM BEAM	SF	SQUARE FEET
BFD BI	BIFOLDING DOOR BUILT IN	GO GR	GYPSUM BOARD OPENING GRADE	SFD SH	SINGLE FAMILY DWELLING SINGLE HUNG OR SHELF
31 3J	BALCONY JOIST	GWB	GYPSUM WALL BOARD	SHR	SHEAR
BLDG	BUILDING	GYP	GYPSUM	SHT	SHEET
BLK	BLOCK	Н	HIP	SHTG	SHEATHING
BLKG	BLOCKING	НВ	HOSE BIBB	SIM	SIMILAR
BM BN	BEAM BOUNDARY NAII	HC H/C	HOLLOW CORE HANDICAPPED	SP S&P	SHEAR PANEL SHELE AND POLE
BN BOT	BOUNDARY NAIL BOTTOM	H/C HD	HANDICAPPED HEAD	SAP	SHELF AND POLE SPECIFICATIONS
BPD	BYPASS DOOR	HDR	HEADER	SQ	SQUARE
BRG	BEARING	HDWR	HARDWARE	SS	STAINLESS STEEL
BRK	BRICK	HF	HARDY FRAME	SSW	STEEL STRONG WALL
BSMT	BASEMENT	HI	HIGH	SSYSB	STREET SIDEYARD SETBACK
BTU = BW	BRITISH THERMAL UNIT	HM HOR	HOLLOW METAL HORIZONTAL	ST STI	STAIR STEFI
BW CAB	BOTH WAYS CABINET	HOR HP	HORIZONTAL HEAT PUMP	STL STP	STEEL STRAP
CB	CATCH BASIN	HPR	HOPPER	STR	STRUCTURAL
CEM	CEMENT	HR	HOUR	STRG	STORAGE
CER	CERAMIC	HT	HEIGHT	SUSP	SUSPENDED
CI	CAST IRON	HTR	HEATER	SWU	SOFT WATER UNIT
CIP C.I	CAST IN PLACE CEILING JOIST / CONTROL JOINT	HW	HOT WATER	SYSB T	SIDE YARD SETBACK TREAD OR TOP
CJ	CEILING JOIST / CONTROL JOINT CENTERLINE	INSUL IN	INSULATION INCH	T TB	TREAD OR TOP THROUGH BOLT
CLG	CEILING	INT	INTERIOR	T&B	TOP AND BOTTOM
CLKG	CAULKING	JST	JOIST	TC	TRASH COMPACTOR
CLO	CLOSET	JT	JOINT	TELE	TELEPHONE
CLR	CLEAR	KIT	KITCHEN	TEMP	TEMPORARY
CMN	COMMON CONCRETE MASONEY LINET	L	LINEN	TG	TEMPERED GLASS
CMU CO	CONCRETE MASONRY UNIT CLEANOUT	LAM LAT	LAMINATE LATERAL	T & G THK	TONGUE AND GROOVE THICK
COL	COLUMN	LAV	LAVATORY	TME	TO MATCH EXISTING
CONC	CONCRETE	LDG	LANDING	TP	TOP PLATE
CONT	CONTINUOUS	LG	LONG	TV	TELEVISION
CONTR	CONTRACTOR	LR	LARGE	TYP	TYPICAL
CP CPT	CEMENT PLASTER	LS LSW	LAZY SUSAN LAG SCREW	TWH U/	TANKLESS WATER HEATER UNDER
CPT CSMT	CARPET CASEMENT	LSW	LAG SCREW LAUNDRY TUB	U/C	UNDER COUNTER
CTR	CENTER	LGT	LIGHT	UNO	UNLESS NOTED OTHERWISE
CW	COLD WATER VALVE	MAX	MAXIMUM	UON	UNLESS OTHERWISE NOTED
CY	CUBIC YARD	MB	MACHINE BOLT	٧	VALLEY OR VALVE
DBL	DOUBLE	MBPD	MIRROR BYPASS DOOR	VAC	VACUUM
DEMO DF	DEMOLITION DOUGLAS FIR	MC MDL	MEDICINE CABINET MODEL	VER VHS	VERTICAL VINYL HORIZONTAL SLIDER
DG DG	DUAL GLAZED	MECH	MECHANICAL	VIF	VERIFY IN FIELD
DH	DOUBLE HUNG	MEMB	MEMBRANE	VOL	VOLUME
DIA	DIAMETER	MFR	MANUFACTURER	VTR	VENT TO ROOF
DIM	DIMENSION	MIN	MINIMUM	VVS	VINYL VERTICAL SLIDER
DJ	DECK JOIST	MISC	MISCELLANEOUS	W W/	WEST
DN DP	DOWN DEEP	MS MTL	MACHINE SCREW METAL	W/ W/O	WITH WITHOUT
DP DR	DOOR	MW	MICROWAVE OVEN	WC	WATER CLOSET
DS DS	DOWNSPOUT	N	NORTH	WD	WOOD
DTP	DOUBLE TOP PLATE	N/A	NOT APPLICABLE	WDW	WINDOW
DV	DRYER VENT	NAT	NATURAL	WDWR	WARMING DRAWER
DW	DISHWASHER	NAP	NOT A PART	WH	WATER HEATER
DZN -	DESIGN	NIC	NOT IN CONTRACT	WHS	WOOD HORIZONTAL SLIDER
≣	EAST	NO	NUMBER	WIC	WROUGHT IRON
EA EGR	EACH EXISTING GRADE	NOM NTS	NOMINAL NOT TO SCALE	WIC	WALK IN CLOSET WALL MOUNTED HEATER
EGR EJ	EXISTING GRADE EXPANSION JOINT	O/	NOT TO SCALE OVER	WMH WP	WALL MOUNTED HEATER WATERPROOF
ELEC	ELECTRIC	OC OC	ON CENTER	WS	WOOD SCREW
ELEV	ELEVATOR OR ELEVATION	OAE	OR APPROVED EQUAL	wsw	WOOD STRONG WALL
ΞM	ELECTRICAL METER	ОН	OVERHANG	WVS	WOOD VERTICAL SLIDER
EMER	EMERGENCY	OPG	OPENING	WWM	WELDED WIRE MESH
	EDGE NAIL	OZ	OUNCE	YD	YARD
ΞN					

door schedule - elevation a													d
DOOR#	WIDTH	HEIGHT	THICK	TYPE	OPERATION	CORE OR GLAZING	MATERIAL	FRAME	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES
1	3'-0"	6-8"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	0.58	0.65	1	ENTRY
2	6'-0"	6-8"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	0.58	0.65	1	
3	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	PRIVACY
4	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	

wind	vindow schedule - elevation a														
WINDOW #	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES					
1	2'-0"	3-6"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1						
2	2'-0"	4'-0"	VERTICAL SLIDER	VINYL	DG	YES	0.58	0.65	1	OPAQUE					
3	6'-0"	3'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	0.58	0.65	1						

doo	door schedule - elevation b												d
DOOR#	WIDTH	HEIGHT	THICK	TYPE	OPERATION	CORE OR GLAZING	MATERIAL	FRAME	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES
1	3'-0"	6-8"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	0.58	0.65	1	ENTRY
2	6'-0"	6-8"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	0.58	0.65	1	
3	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	PRIVACY
4	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	

wind	window schedule - elevation b											
WINDOW #	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES		
1	2'-0"	3-6"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1			
2	2'-0"	4'-0"	VERTICAL SLIDER	VINYL	DG	YES	0.58	0.65	1	OPAQUE		
3	6'-0"	3'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	0.58	0.65	1			
4	6'-0"	2'-0"	FIXED	VINYL	DG	NO	0.58	0.67	2	TRANSOM OVER DOOR 2 & WINDOW 3		
5	2'-0"	2'-0"	FIXED	VINYL	DG	NO	0.58	0.67	1	TRANSOM OVER WDW 1		
6	2'-0"	2'-0"	AWNING	VINYL	DG	YES	0.58	0.65	1	STORAGE LOFT		

doo	loor schedule - elevation c												$\left(\mathbf{d}\right)$
DOOR#	WIDTH	HEIGHT	THICK	TYPE	OPERATION	CORE OR GLAZING	MATERIAL	FRAME	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES
1	3'-0"	6-8"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	0.58	0.65	1	ENTRY
2	6'-0"	6-8"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	0.58	0.65	1	
3	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	PRIVACY
4	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	

wind	ow s	sche	dule - e	levat	ion d					W
WINDOW#	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES
1	2'-0"	3-6"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1	
2	2'-0"	4'-0"	VERTICAL SLIDER	VINYL	DG	YES	0.58	0.65	1	OPAQUE
3	3'-0"	5'-0"	VERTICAL SLIDER	VINYL	DG	YES	0.58	0.65	1	
4	6'-0"	2'-6"	FIXED	VINYL	DG	NO	0.58	0.67	4	HIGH PENTAGON TRANSOM EACH SIDE

appliance schedule - studio 0											
APPLIANCE	OPERATION	MANUFACTURER	MODEL	QUANTITY	NOTES						
SPLIT SYSTEM HEAT PUMP	ELECTRICITY	PANASONIC	CU-XE, CS-XE -15WKUA	1	OR EQUAL						
HEAT PUMP TANK WATER HEATER	ELECTRICITY	RHEEM	PROPH40 T2 RH375-SO	1	OR EQUAL						
REFRIGERATOR	ELECTRICITY	BY OWNER	BY OWNER	1	30" WIDE, COUNTER DEPTH						
RANGE	ELECTRICITY	BY OWNER	BY OWNER	1	30" WIDE						
MICROWAVE HOOD	ELECTRICITY	BY OWNER	BY OWNER	1	30" WIDE						
GARBAGE DISPOSAL	ELECTRICITY	BY OWNER	BY OWNER	1	AIR SWITCH						

fixture schee	fixture schedule - studio 0											
FIXTURE	LOCATION	MANUFACTURER	MODEL	QUANTITY	NOTES							
SINK	KITCHEN	BY OWNER	BY OWNER	1								
SINK FAUCET	KITCHEN	BY OWNER	BY OWNER	1								
LAVATORY	BATH	BY OWNER	BY OWNER	1								
LAVATORY FAUCET	BATH	BY OWNER	BY OWNER	1								
TOILET	BATH	BY OWNER	BY OWNER	1								
BATHTUB	BATH	BY OWNER	BY OWNER	1	30"x60" CAST IRON, OR EQUAL							
BATH FILLER + SHOWER HEAD	BATH	BY OWNER	BY OWNER	1								

material sc	hedule	- stu	dio 0						
LOCATION	FLOOR	BASE	CASE	COUNTER	CABINET	WALL	CEILING	NOTES	
GREAT ROOM	1	4	4	3	2	1	5	OR EQUAL	
BATH	2	2	4	4	1	2	2	OR EQUAL	
	1-CONCRETE	1-NONE	1-NONE	1-CONCRETE	1-PAINTED	1-FLAT PAINT	1-FLAT PAINT	1	
	2-TILE	2-TILE	2-TILE	2-TILE	WOOD	O/ GB	O/ GB		
	3-VINYL	3-VINYL	3-VINYL	3-STONE	2-STAINED	2-SEMIGLOSS	2-SEMIGLOSS		
	4-CARPET	4-P. WOOD	4-P. WOOD	4-GLASS	WOOD	PAINT O/ GB	PAINT O/ GB		
	5-WOOD	5-S. WOOD	5-S. WOOD	5-WOOD	3-METAL	5-WOOD	5-T&G WOOD		

fire sprinklers:	studio 0 plan selection:	•
√ EXISTING OR PROPOSED RESIDENCE	√ SELECTION	
NO	STANDARD PLAN, ELEVATION A	
YES	STANDARD PLAN, ELEVATION B	
fire sprinklers:	STANDARD PLAN, ELEVATION C	L
√ REQUIRED AT PROPOSED ADU	REVERSE PLAN, ELEVATION A	FOR CITY STAMPS
NO	REVERSE PLAN, ELEVATION B	Г
YES	REVERSE PLAN, ELEVATION C	
ire sprinkler notes:	foundation type:	
IF FIRE SPRINKLERS ARE REQUIRED AT THE ADU THAN THESE NOTES APPLY.	√ SELECTION	
2. AUTOMATIC FIRE SPRINKLER SYSTEM - AN AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE INSTALLED AS PER N.F.P.A. 13D, THE MOST CURRENT	STANDARD SOIL, SLAB ON GRADE	
EDITION SHALL BE USED AND THE ANAHEIM FIRE DEPARTMENT POLICIES/ORDINANCES. DETAILED SPRINKLER PLANS SHALL BE SUBMITTED TO	EXPANSIVE SOIL, SLAB ON GRADE	
THE FIRE PREVENTION BUREAU AND APPROVED PRIOR TO INSTALLATION. PLANS AND INSTALLATION MUST BE BY A C16 LICENSED SPRINKLER CONTRACTOR.	STANDARD SOIL, RAISED FLOOR FOUNDATION (ENERGY CALCS AVAILABLE ON REQUEST)	
3. SECTION 903.2 GROUP R AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3 SHALL BE PROVIDED THROUGHOUT ALL	EXPANSIVE SOIL, RAISED FLOOR FOUNDATION (ENERGY CALCS AVAILABLE ON REQUEST)	
BUILDINGS WITH A GROUP R FIRE AREA. THIS INCLUDES SINGLE FAMILY DWELLINGS, MULTI-FAMILY DWELLINGS AND ALL RESIDENTIAL CARE		
FACILITIES REGARDLESS OF OCCUPANT LOAD. 4. SECTION 903.2.01 ADDITIONS AN AUTOMATIC SPRINKLER SYSTEM	exterior wall material:	
INSTALLED IN ACCORDANCE WITH 903.3 MAY BE REQUIRED TO BE INSTALLED THROUGHOUT STRUCTURES WHEN THE ADDITION IS MORE THAN 50% OF THE EXISTING BUILDING OR WHEN THE ALTERED BUILDING	#1 #2 MATERIAL	
WILL EXCEED A FIRE FLOW OF 1,500 GALLONS PER MINUTE AS CALCULATED PER SECTION 507.3. THE FIRE CODE OFFICIAL MAY REQUIRE AN AUTOMATIC	CEMENT PLASTER SIDING - SAND FINISH OR TME	
SPRINKLER SYSTEM BE INSTALLED IN BUILDINGS WHERE NO WATER MAIN EXISTS TO PROVIDE THE REQUIRED FIRE FLOW OR WHERE A SPECIAL HAZARD EXISTS SUCH AS: POOR ACCESS ROADS, GRADE, BLUFFS AND	STONE SIDING	
CANYON RIMS, HAZARDOUS BRUSH AND RESPONSE TIMES GREATER THAN 5 MINUTES BY A FIRE DEPARTMENT.	FIBER CEMENT - BOARD & BATT SIDING	
5. SECTION 903.2.01 REMODELS OR RECONSTRUCTION AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3 MAY	FIBER CEMENT - LAP SIDING	
BE REQUIRED IF THE SCOPE OF WORK INCLUDES SIGNIFICANT MODIFICATION TO THE INTERIOR AND/OR ROOF OF THE BUILDING, AND THE	FIBER CEMENT - SHINGLE SIDING	L
COST OF THE INSTALLATION DOES NOT EXCEED 15 PERCENT OF THE VALUATION OF THE REMODEL.	window material:	BY USING THESE PERMIT REA
 LOCATION AND SIZE OF WATER SERVICE UNDERGROUND SHALL BE INSTALLED AS SHOWN ON APPROVED FIRE SPRINKLER PLANS. A MINIMUM 1 INCH WATER SHALL BE INSTALLED. 	$\sqrt{\text{MATERIAL}}$	CONSTRUCTION DOCUMENTHE USER AGREES TO RELEA
7. A FIRE UNDERGROUND FLUSH CERTIFICATION SHALL BE REQUIRED AT FINAL INSPECTION.	VINYL	THE CITY OF ANAHEIM AND T ARCHITECT WHO PREPAR THESE CONSTRUCTION
8. A HYDRO INSPECTION OF THE FIRE SPRINKLER SYSTEM IS REQUIRED PRIOR TO FRAME INSPECTION. ONLY THE NEW PIPING SHALL BE TESTED.	FIBERGLASS	DOCUMENTS FROM ANY AND A CLAIMS, LIABILITIES, SUITS A DEMANDS ON ACCOUNT OF A
	WOOD	INJURY, DAMAGE OR LOSS PERSONS OR PROPERT
waste water:	ALUMINUM CLAD WOOD	INCLUDING INJURY OR DEATH, ECONOMIC LOSSES, ARISING O OF THE USE OF THE
√ SELECTION		CONSTRUCTION DOCUMENT
SEWER	eave/rake & parapet:	_
SEPTIC (REQUIRES ORANGE COUNTY HEALTH APPROVAL)	#1 #2 MATERIAL	
STANCE TO CONNECTION =FEET	SINGLE FASCIA - IGNITION RESISTANT	
	EXPOSED RAFTER - IGNITION RESISTANT	PARTNERS
onsite parking:	STEPPED DOUBLE FASCIA - IGNITION RESISTANT	6 8 2 S E C O N D S 1
√ REQUIRED	HEAVY TIMBER RAFTER TAIL - IGNITION RESISTANT	ENCINITAS, CA (760)7532464
NONE	PARAPET WITH WALL MATERIAL CAP - IGNITION RESISTANT	DZNPARTNERS.COM
ONE PARKING SPACE	PARAPET WITH METAL CAP - IGNITION RESISTANT	L
	CORBEL PARAPET WITH METAL CAP - IGNITION RESISTANT	STUDIO PRADI
very high fire severity zone:	roof material:	
	#1 #2 MATERIAL	
√ SELECTION ¬ NO	FIBERGLAS ASPHALT SHINGLES - GAF INC - ICC ESR 1475 OR ICC ESR 3267 - OAE	
NO	CONCRETE ROOF TILES - EAGLE ROOFING PRODUCTS INC - IAPMO-UES ER 1900 - OAE	CITY: ANAHEIM
YES 1. IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE	STANDING SEAM METAL ROOF - AEP SPAN INC - IAPMO-UES ER 0309 - OAE	7.1.7.1.12.11
HAZARD SEVERITY ZONE SEE NOTES BELOW & ON SHEET a0.1F THE ADU SHALL COMPLY WITH CHAPTER 7A OF THE CURRENT CALIFORNIA	TORCH APPLIED MODIFIED BITUMEN ROOFING - GAF INC - UL ER1306-02 - OAE	
BUILDING CODE. 3. STRUCTURES IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL	[USE ONLY FOR ROOF PITCH OF 2/12 OR LESS] CLAY ROOF TILES - REDLAND CLAY TILE INC - IAPMO ER 445 - OAE	
PROVIDE & MAINTAIN A FUEL MODIFICATION ZONE. FUEL MODIFICATION ZONES: THE APPLICANT SHALL PROVIDE & MAINTAIN FIRE/FUEL BREAKS TO THE SATISFACTION OF THE ANALYSIN FIRE DEPARTMENT. FIRE/FUEL	U ULAT NOOF TILES - REDLAND CLAT TILE INC - IAPMO ER 445 - UAE	
THE SATISFACTION OF THE ANAHEIM FIRE DEPARTMENT. FIRE/FUEL BREAKS SIZE (MINIMUM 100 FEET FROM STRUCTURE) & COMPOSITION SHALL BE DETERMINED BY THE FIRE DEPARTMENT & SHOWN ON THE	stormwater bioretention:	
IMPROVEMENT/GRADING PLANS, FINAL MAP & BUILDING PLANS.	SQ. FT. TOTAL NEW &/OR REMOVED & REPLACED IMPERVIOUS SURFACES	JOB : 202409R
	IS NOT GREATER THAN 500 SQ. FT. SIZING CALCULATION NOT REQUIRED	CHECKLIST +
schedule notes:	IS GREATER THAN 500 SQ. FT. SIZING CALCULATION REQUIRED	SCHEDULE
ALL GLAZING IN DOORS SHALL BE TEMPERED.	SIZING CALCULATION:SQ. FT. x 4% =SQ. FT. (MIN BMP AREA REQUIRED)	
2. SEE ELEVATIONS FOR 'TG' AT WINDOWS THAT REQUIRE TEMPERED		
 SEE ELEVATIONS FOR 'TG' AT WINDOWS THAT REQUIRE TEMPERED GLAZING. IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE 	BMP DRAINAGE TYPE	

NOT REQUIRED

4. SEE ELEVATIONS FOR WINDOW OPERATION DIRECTION & LOCATION OF

6. ALL GLAZED OPENINGS SHALL MEET THE REQUIREMENTS OF THE CBC T24 SHEETS PROVIDED IN THE PLANS.

VINYL WINDOWS AND EXTERIOR VINYL DOOR FRAMES & SASH WILL BE COMPRISED OF VINYL MATERIAL WITH WELDED CORNERS & METAL REINFORCEMENT IN THE INTERLOCK AREA.

5. SEE FLOOR PLANS FOR DOOR SWING DIRECTION.

MUNTINS.

A - BIORETENTION BASIN - SURFACE FLOW WITH SPILLWAY B - VEGETATED SWALE C - SITE DESIGN + LID (LOW IMPACT DEVELOPMENT)

a0.1

very high fire hazard severity zone notes:

CBC CHAPTER 7A - MATERIALS & CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPPOSURE IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE THESE NOTES & NOTES ON SHEET a0.1 APPLY. 701A.3 APPLICATION THE JURISDICTION HAS DETERMINED THAT THIS PROJECT IS IN A WILDLAND-URBAN INTERFACE AREA. PLEASE SHOW COMPLIANCE WITH THE FOLLOWING ITEMS FOR NEW BUILDINGS. PER THE 2022 CBC.

- 1. GROUP U OCCUPANCY ACCESSORY BUILDINGS OF ANY SIZE LOCATED AT LEAST 50 FEET (15 240 MM) FROM AN APPLICABLE BUILDING ON THE
- 2. GROUP U OCCUPANCY AGRICULTURAL BUILDINGS. AS DEFINED IN SECTION 202 OF THIS CODE OF ANY SIZE LOCATED AT LEAST 50 FEET (15 240 MM) FROM AN APPLICABLE BUILDING.
- 3 GROUP C OCCUPANCY SPECIAL BUILDINGS CONFORMING TO THE LIMITATIONS SPECIFIED IN SECTION 450.4.1. 4. NEW ACCESSORY BUILDINGS AND MISCELLANEOUS STRUCTURES
- SPECIFIED IN SECTION 710A SHALL COMPLY ONLY WITH THE REQUIREMENTS OF THAT SECTION.
- 5. ADDITIONS TO AND REMODELS OF BUILDINGS ORIGINALLY CONSTRUCTED PRIOR TO JULY 1, 2008

1. **705A.2 ROOF COVERINGS** WHERE THE ROOFING PROFILE HAS AN AIRSPACE LINDER THE ROOF COVERING INSTALLED OVER A COMBUSTIBLE DECK A 72 LB (32 7 KG) CAP SHEET COMPLYING WITH ASTM D3909 STANDARD SPECIFICATION FOR "ASPHALT ROLLED ROOFING (GLASS FELT) SURFACED WITH MINERAL GRANULES," SHALI BE INSTALLED OVER THE ROOF DECK. BIRD STOPS SHALL BE USED AT THE EAVES WHEN THE PROFILE FITS. TO PREVENT DEBRIS AT THE EAVE. HIP & RIDGE CAPS SHALL BE MUDDED IN TO PREVENT INTRUSION OF

EXCEPTION: CAP SHEET IS NOT REQUIRED WHEN NO LESS THAN 1" OF MINERAL WOOL BOARD OR OTHER NONCOMBUSTIBLE MATERIAL IS LOCATED BETWEEN THE ROOFING MATERIAL & WOOD FRAMING OR

ALTERNATELY, A CLASS A FIRE RATED ROOF UNDERLAYMENT, TESTED IN ACCORDANCE WITH ASTM F108 SHALL BE PERMITTED TO BE USED. IF THE SHEATHING CONSISTS OF EXTERIOR FIRE-RETARDANT-TREATED WOOD, THE UNDERLAYMENT SHALL NOT BE REQUIRED TO COMPLY WITH A CLASS A CLASSIFICATION. BIRD STOPS SHALL BE USED AT THE EAVES WHEN THE PROFILE FITS. TO PREVENT DEBRIS AT THE EAVE. HIP AND RIDGE CAPS SHALL BE MUDDED IN TO PREVENT INTRUSION OF FIRE OR EMBERS.

- 2. **705A.3 ROOF VALLEYS** WHERE VALLEY FLASHING IS INSTALLED, THE FLASHING SHALL BE NOT LESS THAN 0.019-INCH (0.48 MM) NO. 26 GAGE GALVANIZED SHEET CORROSION-RESISTANT METAL INSTALLED OVER NOT LESS THAN ONE LAYER OF MINIMUM 72 POUND (32.4 KG) MINERAL-SURFACED NONPERFORATED CAP SHEET COMPLYING WITH ASTM D3909, AT LEAST 36-INCH-WIDE (914 MM) RUNNING THE FULL
- 3. 705A.4 ROOF GUTTERS. ROOF GUTTERS SHALL BE PROVIDED WITH THE PORCH CEILINGS MEANS TO PREVENT THE ACCUMULATION OF LEAVES & DEBRIS IN THE

 12. 707A.7 EXTERIOR PORCH CEILINGS THE EXPOSED UNDERSIDE OF
- 4. **706A.1 GENERAL** WHERE PROVIDED, VENTILATION OPENINGS FOR ENCLOSED ATTICS GABLE ENDS RIDGE ENDS UNDER FAVES AND CORNICES ENCLOSED FAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE LINDERSIDE OF ROOF RAFTERS, LINDER ELOOR VENTILATION FOUNDATIONS AND CRAWL SPACES OR ANY OTHER OPENING INTENDED TO PERMIT VENTILATION, EITHER IN A HORIZONTAL OR VERTICAL PLANE. SHALL BE IN ACCORDANCE WITH SECTION 1202 AND SECTIONS 706A.1 THROUGH 706A.2 TO RESIST BUILDING IGNITION FROM THE INTRUSION OF BURNING EMBERS AND FLAME THROUGH THE VENTILATION OPENINGS
- 5. 706A.2 REQUIREMENTS VENTILATION OPENINGS SHALL BE FULLY COVERED WITH WILDFIRE FLAME AND EMBER RESISTANT VENTS APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL, OR WUI VENTS TESTED TO ASTM E2886 AND LISTED, BY COMPLYING WITH ALL OF THE FOLLOWING REQUIREMENTS: 1. THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER INTRUSION TEST. 2. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST
- 3. THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662°F (350°C). 6. **706A.2.1 OFF RIDGE AND RIDGE VENTS** VENTS THAT ARE INSTALLED ON

A SLOPED ROOF, SUCH AS DORMER VENTS, SHALL COMPLY WITH ALL

1. VENTS SHALL BE COVERED WITH A MESH WHERE THE DIMENSIONS OF THE MESH THEREIN SHALL BE A MINIMUM OF 1/16-INCH (1.6 MM) AND SHALL NOT EXCEED 1/8-INCH (3.2 MM) IN DIAMETER. 2. THE MESH MATERIAL SHALL BE NONCOMBUSTIBLE. 3. THE MESH MATERIAL SHALL BE CORROSION RESISTANT

EXTERIOR COVERINGS

OF THE FOLLOWING

- 707A.3 EXTERIOR WALL COVERINGS THE EXTERIOR WALL COVERING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING REQUIREMENTS, EXCEPT AS PERMITTED FOR EXTERIOR WALL ASSEMBLIES COMPLYING WITH SECTION 707A.4:
- 1. NONCOMBUSTIBLE MATERIAL 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 704A.2.
- 3. FIRE-RETARDANT-TREATED WOOD. THE FIRE-RETARDANT-TREATED WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 2303.2 8. **707A.3.1 EXTENT OF EXTERIOR WALL COVERING** EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO
- THE ROOF, AND TERMINATE AT 2 INCH (50.8 MM) NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR IN THE CASE OF ENCLOSED EAVES. TERMINATE AT THE ENCLOSURE.
- EXTERIOR WALL ASSEMBLIES 707A.4 EXTERIOR WALL ASSEMBLIES EXTERIOR WALL ASSEMBLIES OF BUILDINGS OR STRUCTURES SHALL BE CONSTRUCTED USING ONE OR MORE OF THE FOLLOWING METHODS, UNLESS THEY ARE COVERED BY AN EXTERIOR WALL COVERING COMPLYING WITH SECTION 707A.3: 1. ASSEMBLY OF SAWN LUMBER OR GLUE-LAMINATED WOOD WITH THE SMALLEST MINIMUM NOMINAL DIMENSION OF 4 INCHES (102 MM), SAWN
 - OR GLUE-LAMINATED PLANKS SPLINED, TONGUE-AND-GROOVE, OR SET CLOSE TOGETHER AND WELL SPIKED. 2. LOG WALL CONSTRUCTION ASSEMBLY 3. ASSEMBLY THAT HAS BEEN TESTED IN ACCORDANCE WITH THE TEST PROCEDURES FOR A 10-MINUTE DIRECT FLAME CONTACT EXPOSURE TEST SET FORTH IN ASTM E2707 WITH THE CONDITIONS OF
- ACCEPTANCE SHOWN IN SECTION 707A.4.1 4. ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES FOR A 10-MINUTE DIRECT
- FLAME CONTACT EXPOSURE TEST SET FORTH IN SFM STANDARD 5. ASSEMBLY SUITABLE FOR EXTERIOR FIRE EXPOSURE WITH A 1-HOUR FIRE-RESISTANCE RATING. RATED FROM THE EXTERIOR SIDE. AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263.

6. ASSEMBLY SUITABLE FOR EXTERIOR FIRE EXPOSURE CONTAINING

- ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING APPLIED BEHIND THE EXTERIOR WALL COVERING OR CLADDING ON THE EXTERIOR SIDE OF THE FRAMING. 7. ASSEMBLY SUITABLE FOR EXTERIOR FIRE EXPOSURE CONTAINING ANY OF THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL AS COMPLYING WITH A 1-HOUR FIRE-RESISTANCE RATING, AS TESTED IN
- ACCORDANCE WITH ASTM E119 OR UL 263. **OPEN ROOF EAVES**

- 10. **707A.5 OPEN ROOF EAVES** THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING: 1 NONCOMBUSTIBLE MATERIAL
- 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 704A.2. 3. FIRE-RETARDANT-TREATED WOOD, THE FIRE-RETARDANT-TREATED WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE
- **REQUIREMENTS OF SECTION 2303.2** 4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION ON THE EXTERIOR SIDE, AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263. 5. ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE OF THE
- 6. THE EXTERIOR PORTION OF A 1-HOUR FIRE-RESISTANCE-RATED EXTERIOR ASSEMBLY, AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263, APPLIED TO THE UNDERSIDE OF THE ROOF DECK DESIGNED FOR EXTERIOR FIRE EXPOSURE. INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL EXCEPTION TO SECTION 707A.5: THE FOLLOWING MATERIALS DO NOT REQUIRE PROTECTION: FASCIA & OTHER ARCHITECTURAL TRIM

ENCLOSED ROOF EAVES AND ROOF EAVE SOFFITS

- 707A.6 ENCLOSED ROOF EAVES AND ROOF EAVE SOFFITS THE EXPOSED UNDERSIDE OF ENCLOSED ROOF EAVES HAVING EITHER A BOXED-IN ROOF FAVE SOFFIT WITH A HORIZONTAL LINDERSIDE OR SLOPING RAFTER TAILS WITH AN EXTERIOR COVERING APPLIED TO THE UNDERSIDE OF THE RAFTER TAILS, SHALL BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: 1. NONCOMBUSTIBLE MATERIAL.
- 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 704A 2 3. FIRE-RETARDANT-TREATED WOOD. THE FIRE-RETARDANT-TREATED
- WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 2303.2 4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION ON THE EXTERIOR SIDE, AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263. 5. ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING APPLIED BEHIND THE EXTERIOR COVERING OR CLADDING ON THE
- UNDERSIDE OF THE RAFTER TAILS OR SOFFIT. 6. THE EXTERIOR PORTION OF A 1-HOUR FIRE-RESISTIVE EXTERIOR ASSEMBLY APPLIED TO THE UNDERSIDE OF THE RAFTER TAILS OR SOFFIT, INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE
- 7. BOXED-IN ROOF EAVE SOFFIT ASSEMBLIES WITH A HORIZONTAL UNDERSIDE THAT MEET THE PERFORMANCE CRITERIA IN SECTION 707A.11 WHEN TESTED IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN ASTM F2957 8. BOXED-IN ROOF EAVE SOFFIT ASSEMBLIES WITH A HORIZONTAL UNDERSIDE THAT MEET THE PERFORMANCE CRITERIA IN ACCORDANCE
- WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3. EXCEPTION TO SECTION 707A.6: THE FOLLOWING MATERIALS DO NOT REQUIRE PROTECTION: FASCIA & OTHER ARCHITECTURAL TRIM
- EXTERIOR PORCH CEILINGS SHALL BE PROTECTED BY ONE OR MORE 1. NONCOMBUSTIBLE MATERIAL.
- 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE **REQUIREMENTS OF SECTION 704A.2** 3. FIRE-RETARDANT-TREATED WOOD. THE FIRE-RETARDANT-TREATED WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 2303.2.

4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR

- FIRE-RESISTANCE-RATED CONSTRUCTION ON THE EXTERIOR SIDE, AS EXTERIOR GLAZING & OPENINGS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263. 5. ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING APPLIED BEHIND THE EXTERIOR COVERING OR CLADDING ON THE UNDERSIDE OF THE RAFTER TAILS OR SOFFIT. 6. THE EXTERIOR PORTION OF A 1-HOUR FIRE-RESISTANCE-RATED EXTERIOR ASSEMBLY AS TESTED IN ACCORDANCE WITH ASTM F119 APPLIED TO THE LINDERSIDE OF THE CEILING ASSEMBLY INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN
- 7. PORCH CEILING ASSEMBLIES WITH A HORIZONTAL UNDERSIDE THAT MEET THE PERFORMANCE CRITERIA IN SECTION 707A.11 WHEN TESTED IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN ASTM 8. PORCH CEILING ASSEMBLIES WITH A HORIZONTAL UNDERSIDE THAT
- MEET THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3. EXCEPTION TO SECTION 707A.7: ARCHITECTURAL TRIM BOARDS DO NOT REQUIRE PROTECTION.
- FLOOR PROJECTIONS 707A.8 FLOOR PROJECTIONS THE EXPOSED UNDERSIDE OF A CANTILEVERED FLOOR PROJECTION WHERE A FLOOR ASSEMBLY EXTENDS OVER AN EXTERIOR WALL SHALL BE PROTECTED BY ONE OR
 - MORE OF THE FOLLOWING: 1 NONCOMBUSTIBLE MATERIAL 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 704A.2 3. FIRE-RETARDANT-TREATED WOOD. THE FIRE-RETARDANT-TREATED
- WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 2303.2 4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION ON THE EXTERIOR SIDE. AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263. 5. ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING
- APPLIED BEHIND THE EXTERIOR COVERING ON THE UNDERSIDE OF THE 6. THE EXTERIOR PORTION OF A 1-HOUR FIRE-RESISTANCE-RATED EXTERIOR ASSEMBLY, AS TESTED IN ACCORDANCE WITH ASTM E119. APPLIED TO THE UNDERSIDE OF THE CEILING ASSEMBLY, INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN
- 7. THE UNDERSIDE OF A FLOOR PROJECTION ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN SECTION 707A.10 WHEN TESTED IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN ASTM E2957. 8. THE UNDERSIDE OF A FLOOR PROJECTION ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3. EXCEPTION TO SECTION 707A.8: ARCHITECTURAL TRIM BOARDS DO NOT
- REQUIRE PROTECTION. UNDER FLOOR & UNDERSIDE PROTECTION

- 14. **707A.9 UNDERFLOOR PROTECTION** THE UNDERFLOOR AREA OF FLEVATED OR OVERHANGING BUILDINGS SHALL BE ENCLOSED TO GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CHAPTER OR THE UNDERSIDE OF THE EXPOSED UNDERFLOOR SHALL BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: 1. NONCOMBUSTIBLE MATERIAL
- 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 704A.2 3. FIRE-RETARDANT-TREATED WOOD. THE FIRE-RETARDANT-TREATED WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE
- **REQUIREMENTS OF SECTION 2303.2** 4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION ON THE EXTERIOR SIDE. AS TESTED IN ACCORDANCE WITH ASTM F119 OR UL 263 5. ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE OF THE
- 6. THE EXTERIOR PORTION OF A 1-HOUR FIRE-RESISTANCE-RATED EXTERIOR ASSEMBLY, AS TESTED IN ACCORDANCE WITH ASTM E119 OR LIL 263 APPLIED TO THE LINDERSIDE OF THE FLOOR INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN 7. THE UNDERSIDE OF A FLOOR ASSEMBLY THAT MEETS THE
- PERFORMANCE CRITERIA IN SECTION 707A.11 WHEN TESTED IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN ASTM F2957 8. THE UNDERSIDE OF A FLOOR ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3. EXCEPTION TO SECTION 707A.9: STRUCTURAL COLUMNS AND BEAMS DO NOT REQUIRE PROTECTION WHEN CONSTRUCTED WITH SAWN LUMBER

OR GLUE-LAMINATED WOOD WITH THE SMALLEST MINIMUM NOMINAL

DIMENSION OF 4 INCHES (102 MM) SAWN OR GLUE-LAMINATED PLANKS

- SHALL BE SPLINED, TONGUE-AND-GROOVE, OR SET CLOSE TOGETHER 707A.10 UNDERSIDE OF APPENDAGES WHEN REQUIRED BY THE ENFORCING AGENCY. THE UNDERSIDE OF OVERHANGING APPENDAGES SHALL BE ENCLOSED TO GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CHAPTER, OR THE UNDERSIDE OF THE
- EXPOSED UNDER-FLOOR SHALL BE PROTECTED BY ONE OR MORE OF THE FOLLOWING: 1. NONCOMBUSTIBLE MATERIAL. 2. IGNITION-RESISTANT MATERIAL. THE IGNITION-RESISTANT MATERIAL
- SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 704A.2. 3. FIRE-RETARDANT-TREATED WOOD. THE FIRE-RETARDANT-TREATED WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL MEET THE REQUIREMENTS OF SECTION 2303.2
- 4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR FIRE-RESISTANCE-RATED CONSTRUCTION ON THE EXTERIOR SIDE AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263. 5. ONE LAYER OF 5/8-INCH (15.9 MM) TYPE X GYPSUM SHEATHING APPLIED BEHIND THE EXTERIOR COVERING ON THE UNDERSIDE OF THE 6. THE EXTERIOR PORTION OF A 1-HOUR FIRE-RESISTANCE-RATED EXTERIOR ASSEMBLY, AS TESTED IN ACCORDANCE WITH ASTM E119 OR UL 263. APPLIED TO THE UNDERSIDE OF THE APPENDAGE. INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS
- LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN 7. THE UNDERSIDE OF AN APPENDAGE ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN SECTION 707A.11 WHEN TESTED IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN ASTM F2957 8 THF UNDERSIDE OF AN APPENDAGE ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3. EXCEPTION TO SECTION 707A.10: STRUCTURAL COLUMNS AND BEAMS DO NOT REQUIRE PROTECTION WHEN CONSTRUCTED WITH SAWN LUMBER OR GLUE LAMINATED WOOD WITH THE SMALLEST MINIMUM NOMINAL DIMENSION OF 4 INCHES (102 MM), SAWN OR GLUE-LAMINATED. PLANKS SHALL BE SPLINED, TONGUE-AND-GROOVE, OR SET CLOSE
- 16. **708A.2 EXTERIOR GLAZING** THE FOLLOWING EXTERIOR GLAZING MATERIALS AND/OR ASSEMBLIES SHALL COMPLY WITH THIS SECTION: 1 FXTERIOR WINDOWS 2. EXTERIOR GLAZED DOORS 3. GLAZED OPENINGS WITHIN EXTERIOR DOORS.
- 4. GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS. 5. EXTERIOR STRUCTURAL GLASS VENEER. 6. SKYLIGHTS. VENTS. 708A.2.1 EXTERIOR WINDOWS, SKYLIGHTS AND EXTERIOR GLAZED

TOGETHER AND WELL SPIKED.

- DOOR ASSEMBLY REQUIREMENTS EXTERIOR WINDOWS. SKYLIGHTS & EXTERIOR GLAZED DOOR ASSEMBLIES SHALL COMPLY WITH ONE OF THE FOLLOWING REQUIREMENTS: 1. BE CONSTRUCTED OF MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, OR 2. BE CONSTRUCTED OF GLASS BLOCK UNITS, OR
- 3. HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 257, OR 4. BE TESTED TO MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2.
- 708A.2.2 OPERABLE SKYLIGHTS. OPERABLE SKYLIGHTS SHALL BE PROTECTED BY A NON-COMBUSTIBLE MESH SCREEN WHERE THE DIMENSIONS OF THE OPENINGS IN THE SCREEN SHALL NOT EXCEED
- 708A.2.3 STRUCTURAL GLASS VENEER THE WALL ASSEMBLY BEHIND STRUCTURAL GLASS VENEER SHALL COMPLY WITH SECTION 707A.3. 708A.3 EXTERIOR DOORS EXTERIOR DOORS SHALL COMPLY WITH ONE
- OF THE FOLLOWING: 1. THE EXTERIOR SURFACE OR CLADDING SHALL BE OF NONCOMBUSTIBLE MATERIAL 2. THE EXTERIOR SURFACE OR CLADDING SHALL BE OF IGNITION
- 3. THE EXTERIOR DOOR SHALL BE CONSTRUCTED OF SOLID CORE WOOD THAT COMPLIES WITH THE FOLLOWING REQUIREMENTS: 3.1 STILES AND RAILS SHALL NOT BE LESS THAN 13/8 INCHES THICK. 3.2 PANELS SHALL NOT BE LESS THAN 11/4 INCHES THICK EXCEPT FOR THE EXTERIOR PERIMETER OF THE PANEL THAT SHALL BE PERMITTED. TO TAPER TO A TONGUE NOT LESS THAN 3/8 INCH THICK. 4. THE EXTERIOR DOOR ASSEMBLY SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO
- 5. THE EXTERIOR SURFACE OR CLADDING SHALL BE TESTED TO MEET THE PERFORMANCE REQUIREMENTS OF SECTION 707A.3.1 WHEN TESTED IN ACCORDANCE WITH ASTM E2707 6. THE EXTERIOR SURFACE OR CLADDING SHALL BE TESTED TO MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1. 708A.3.1 EXTERIOR DOOR GLAZING. GLAZING IN EXTERIOR DOORS
- SHALL COMPLY WITH SECTION 708A.2.1. 708A.4 GARAGE DOOR PERIMETER GAP EXTERIOR GARAGE DOORS SHALL RESIST THE INTRUSION OF EMBERS FROM ENTERING BY PREVENTING GAPS BETWEEN DOORS AND DOOR OPENINGS. AT THE BOTTOM, SIDES & TOPS OF DOORS, FROM EXCEEDING 1/8 INCH (3.2 MM) GAPS BETWEEN DOORS & DOOR OPENINGS SHALL BE CONTROLLED BY ONE OF THE FOLLOWING METHODS: 1. WEATHER-STRIPPING PRODUCTS MADE OF MATERIALS THAT: (A) HAVE BEEN TESTED FOR TENSILE STRENGTH IN ACCORDANCE WITH
- ASTM D638 (STANDARD TEST METHOD FOR TENSII E PROPERTIES OF PLASTICS) AFTER EXPOSURE TO ASTM G155 (STANDARD PRACTICE FOR OPERATING XENON ARC LIGHT APPARATUS FOR EXPOSURE OF NON-METALLIC MATERIALS) FOR A PERIOD OF 2,000 HOURS, WHERE THE MAXIMUM ALLOWABLE DIFFERENCE IN TENSILE STRENGTH VALUES BETWEEN EXPOSED AND NON-EXPOSED SAMPLES DOES NOT EXCEED 10%: AND (B) EXHIBIT A V-2 OR BETTER FLAMMABILITY RATING WHEN TESTED TO UL 94 STANDARD FOR TESTS FOR FLAMMABILITY OF PLASTIC MATERIALS FOR PARTS IN DEVICES AND APPLIANCES. 2. DOOR OVERLAPS ONTO JAMBS AND HEADERS. 3. GARAGE DOOR JAMBS & HEADERS COVERED WITH METAL FLASHING.
- 23. **709A.1.1 FLASHING.** A MINIMUM OF A 6-INCH (150 MM) METAL FLASHING, APPLIED VERTICALLY ON THE EXTERIOR OF THE WALL, SHALL BE INSTALLED AT ALL DECK-TO-WALL INTERSECTIONS.

24. **709A.3 DECKING SURFACES** THE WALKING SURFACE MATERIAL OF DECKS, PORCHES, BALCONIES & STAIRS SHALL BE CONSTRUCTED WITH ONE OF THE FOLLOWING MATERIALS: 1. MATERIAL THAT COMPLIES WITH THE PERFORMANCE REQUIREMENTS

2. IGNITION-RESISTANT MATERIAL THAT COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF SECTION 704A.3. 3. MATERIAL THAT COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF BOTH SFM STANDARD 12-7A-4 AND SECTION 704A.3. 4. EXTERIOR FIRE-RETARDANT-TREATED WOOD.

REQUIREMENTS OF SFM STANDARD 12-7A-4A WHEN ATTACHED EXTERIOR WALL COVERING IS ALSO COMPOSED OF NONCOMBUSTIBLE OR IGNITION-RESISTANT MATERIAL. EXCEPTION: WALL MATERIAL SHALL BE PERMITTED TO BE OF ANY MATERIAL THAT OTHERWISE COMPLIES WITH THIS CHAPTER WHEN THE DECKING SURFACE MATERIAL COMPLIES WITH THE PERFORMANCE REQUIREMENTS ASTM 684 WITH A CLASS B FLAME SPREAD INDEX 7 ANY MATERIAL THAT COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF SECTION 709A.5 WHEN TESTED IN ACCORDANCE

ALSO COMPOSED OF ONLY NONCOMBUSTIBLE OR IGNITION-RESISTANT EXCEPTION: WALL MATERIAL SHALL BE PERMITTED TO BE OF ANY DECKING SURFACE MATERIAL COMPLIES WITH THE PERFORMANCE REQUIREMENTS ASTM E84 WITH A CLASS B FLAME SPREAD INDEX.

OF SECTION 709A.4 WHEN TESTED IN ACCORDANCE WITH BOTH ASTM

5. NONCOMBUSTIBLE MATERIAL 6. ANY MATERIAL THAT COMPLIES WITH THE PERFORMANCE

WITH ASTM E2632 AND WHEN ATTACHED EXTERIOR WALL COVERING IS MATERIAL THAT OTHERWISE COMPLIES WITH THIS CHAPTER WHEN THE

LE	door schedule - elevation a													d
ΉE	DOOR#	WIDTH	HEIGHT	THICK	TYPE	OPERATION	CORE OR GLAZING	MATERIAL	FRAME	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES
	1	3'-0"	6-8"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	0.58	0.65	1	ENTRY
IS	2	6'-0"	6-8"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	0.58	0.65	1	
NT	3	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	PRIVACY
	l			1	1					1	1	1		

4 | 2'-0" | 6-8" | 1-1/2" | INTERIOR | SWING | SOLID | WOOD | WOOD | NO | N/A | N/A | 1

wind	window schedule - elevation a														
WINDOW #	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES					
1	2'-0"	3-6"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1						
2	2'-0"	4'-0"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1	OPAQUE					
3	6'-0"	3'-0"	HORIZONTAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1						

door schedule - elevation b													
DOOR#	WIDTH	HEIGHT	THICK	TYPE	OPERATION	CORE OR GLAZING	MATERIAL	FRAME	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES
1	3'-0"	6-8"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	0.58	0.65	1	ENTRY
2	6'-0"	6-8"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	0.58	0.65	1	
3	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	PRIVACY
4	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	

wind	window schedule - elevation b														
WINDOW #	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES					
1	2'-0"	3-6"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1						
2	2'-0"	4'-0"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1	OPAQUE					
3	6'-0"	3'-0"	HORIZONTAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1						
4	6'-0"	2'-0"	FIXED	VINYL	DG, TG	NO	0.58	0.67	2	TRANSOM OVER DOOR 2 & WINDOW 3					
5	2'-0"	2'-0"	FIXED	VINYL	DG, TG	NO	0.58	0.67	1	TRANSOM OVER WDW 1					
6	2'-0"	2'-0"	AWNING	VINYL	DG, TG	YES	0.58	0.65	1	STORAGE LOFT					

door schedule - elevation c														
DOOR#	WIDTH	HEIGHT	THICK	TYPE	OPERATION	CORE OR GLAZING	MATERIAL	FRAME	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES	
1	3'-0"	6-8"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	0.58	0.65	1	ENTRY	
2	6'-0"	6-8"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	0.58	0.65	1		
3	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1	PRIVACY	
4	2'-0"	6-8"	1-1/2"	INTERIOR	SWING	SOLID	WOOD	WOOD	NO	N/A	N/A	1		

window schedule - elevation c														
WINDOW #	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES				
1	2'-0"	3-6"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1					
2	2'-0"	4'-0"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1	OPAQUE				
3	3'-0"	5'-0"	VERTICAL SLIDER	VINYL	DG, TG	YES	0.58	0.65	1					
4	6'-0"	2'-6"	FIXED	VINYL	DG, TG	NO	0.58	0.67	4	HIGH PENTAGON TRANSOM EACH SIDE				

schedule notes:

- 1. ALL GLAZING IN EXTERIOR DOORS SHALL BE TEMPERED IN THE VHFSZ.
- 2. ALL GLAZING IN WINDOWS SHALL BE TEMPERED IN THE VHFSZ.
- 3. THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE, SEE NOTES ON SHEET a0.1F CONCERNING DOOR & WINDOW CONSTRUCTION AND TEMPERED GLAZING.
- 4. SEE ELEVATIONS FOR WINDOW OPERATION DIRECTION & LOCATION OF
- SEE FLOOR PLANS FOR DOOR SWING DIRECTION.
- 6. ALL GLAZED OPENINGS SHALL MEET THE REQUIREMENTS OF THE CBC T24 SHEETS PROVIDED IN THE PLANS.
- 7. VINYL WINDOWS AND EXTERIOR VINYL DOOR FRAMES & SASH WILL BE COMPRISED OF VINYL MATERIAL WITH WELDED CORNERS & METAL REINFORCEMENT IN THE INTERLOCK AREA.

very high fire hazard severity zone notes:

- 1. THE ADU SHALL COMPLY WITH CHAPTER 7A OF THE CURRENT CALIFORNIA BUILDING CODE BECAUSE IT IS IN THE VHFHSZ.
- 2. STRUCTURES IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL PROVIDE & MAINTAIN A FUEL MODIFICATION ZONE. FUEL MODIFICATION ZONES: THE APPLICANT SHALL PROVIDE & MAINTAIN FIRE/FUEL BREAKS TO THE SATISFACTION OF THE ANAHEIM FIRE DEPARTMENT. FIRE/FUEL BREAKS SIZE (MINIMUM 100 FEET FROM STRUCTURE) & COMPOSITION SHALL BE DETERMINED BY THE FIRE DEPARTMENT & SHOWN ON THE IMPROVEMENT/GRADING PLANS, FINAL MAP & BUILDING PLANS.

FOR CITY STAMPS

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS THE USER AGREES TO RELEASE

THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.



6 8 2 S E C O N D S T ENCINITAS, CA (760)7532464

STUDIO PRADU CITY: ANAHEIM

202409R

SEVERITY ZONE

VERY HIGH FIRE

HAZARD

general specifications:

1.0 CODES GOVERNING CONSTRUCTION PART 2, VOLUME 1 & 2 2022 CALIFORNIA BUILDING CODE (CBC) TITLE 24 2022 CALIFORNIA RESIDENTIAL CODE (CRC) TITLE 24 PART 2.5 2022 CALIFORNIA ELECTRICAL CODE (CEC) TITLE 24 PART 3 2022 CALIFORNIA (CMC) TITLE 24 PART 4 MECHANICAL CODE 2022 CALIFORNIA PLUMBING CODE (CPC) TITLE 24 PART 5 2022 CALIFORNIA ENERGY CODE (CEC) TITLE 24 PART 6 (CFC) TITLE 24 2022 CALIFORNIA FIRE CODE (CALGREEN) 2022 CALIFORNIA GREEN BUILDING STDS CODE TITLE 24 2022 CALIFORNIA BLDG ENERGY EFFICIENCY STDS (CBEES)

- 1.1 ALL WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE 2022 EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE (TITLE 24), WHICH ADOPTS THE 2021 IBC, 2021 IRC, 2021 UMC, 2021 UPC, 2020 NEC, 2021 CEC AND THE 2021 CGBSC. 1.2 ALL WORK SHALL CONFORM TO THE CODE AMENDMENTS, ORDINANCES AND REQUIREMENTS OF THE LOCAL GOVERNMENTA
- THE APPROVED PLANS, SPECIFICATIONS, CALCULATIONS AND OTHER PROJECT CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED PROJECT. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. 1.4 THE APPROVED CONSTRUCTION DOCUMENTS, INCLUDING ALL APPROVED REVISIONS SHALL BE PRESENT AT THE PROJECT
- 1.5 ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIFLD BY EACH SUBCONTRACTOR BEFORE COMMENCING WORK. ANY ERRORS, OMISSIONS OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE
- ARCHITECT, ENGINEER, GENERAL CONTRACTOR AND/OR PROJECT MANAGER BEFORE CONSTRUCTION BEGINS. 1.6 ALL WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED MEASUREMENTS
- NOTES & DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES & TYPICAL DETAILS IN CASE OF
- 1.8 WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE TH SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS. WHERE SUFFICIENT SIMILAR WORK IS NOT SHOWN THE ARCHITECT, ENGINEER, GENERAL CONTRACTOR AND/OR PROJECT MANAGER SHALL BE CONSULTED FOR CLARIFICATION.
- 1.9 ANY OPTIONS OR SUBSTITUTIONS ARE FOR THE CONTRACTOR'S CONVENIENCE. NO STRUCTURAL CHANGES OR SUBSTITUTIONS SHALL BE MADE IN THE FIELD FROM THE APPROVED CONSTRUCTION DOCUMENTS UNLESS WRITTEN APPROVAL OF SUCH CHANGES OR SUBSTITUTIONS IS OBTAINED FROM THE ARCHITECT AND/OR ENGINEER. IF CHANGES ARE MADE WITHOUT WRITTEN APPROVAL, SUCH CHANGES ALONG WITH ANY ADDITIONAL COSTS, REPAIRS AND COORDINATION WITH OTHER AFFECTED ITEMS SHALL BE THE LEGAL AND FINANCIAL RESPONSIBILITY OF THE CONTRACTOR AND/OR
- 1.10 IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION, SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING & SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, MATERIALS, ETC. THE CONTRACTOR IS RESPONSIBLE FOR ALL METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SUPERVISION & INSTALLATION OF ALL TEMPORARY BRACING & SHORING TO ENSURE THE SAFETY OF THE WORK. BRACING & SHORING IS TO BE INSTALLED PER THE CURRENT OSHA & ANY OTHE APPLICABLE SAFETY STANDARDS. ALL BRACING &/OR SHORING SHALL STAY IN PLACE UNTIL ALL WORK HAS BEEN SUITABLY 1.11 THE STRUCTURE IS DESIGNED AS A STABLE UNIT AFTER ALL COMPONENTS ARE IN PLACE. THE CONTRACTOR SHAL
- RESPONSIBLE FOR TEMPORARY BRACING AND SHORING AS REQUIRED TO INSURE THE VERTICAL AND LATERAL STABILITY OF THE STRUCTURE OR ANY PORTION THEREOF DURING CONSTRUCTION. 1.12 THE CONTRACTOR SHALL DESIGN, CONSTRUCT & MAINTAIN ALL SAFETY DEVICES, INCLUDING BRACING & SHORING, & SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE & FEDERAL HEALTH & SAFETY LAWS, REGULATIONS &
- 1.13 CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS, LOADS SHALL NOT EXCEED THE DESIGNED LOADING FOR THE SUPPORTING MEMBERS.
- CAUSED BY THEIR WORK. 1.15 CONTRACTORS SHALL MAINTAIN, FOR THE ENTIRE DURATION OF THE PROJECT, FULL AND UNLIMITED WORKMEN'S

1.14 EACH CONTRACTOR SHALL AT ALL TIMES KEEP THE PROJECT AREA FREE FROM ACCUMULATION OF WASTE MATERIALS

- COMPENSATION INSURANCE IN ACCORDANCE WITH THE LABOR CODE OF THE STATE OF CALIFORNIA. THEY SHALL ALSO CARRY PUBLIC CONTINGENT LIABILITY INSURANCE IN AMOUNTS SATISFACTORY TO THE OWNER AND WITH COMPANIES SELECTED 2 SITE WORK
- 2.1 REMOVE ALL DEBRIS FROM THE PROJECT AND DISPOSE OF IT LEGALLY IN A TIMELY FASHION.

DEMOLITION AND PREPARATION

- 2.2 DO NOT REMOVE ANY VEGETATION EXCEPT AS NOTED ON THE DRAWINGS OR WITH PRIOR OWNER OR ARCHITECT APPROVA 2.3 CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO LOCATE AND PROTECT ANY UNDERGROUND OR CONCEALED CONDUIT, PLUMBING OR OTHER UTILITIES WHERE NEW WORK IS BEING PERFORMED, PRIOR TO BEGINNING WORK AND
- THROUGHOUT CONSTRUCTION. 2.4 ALL UTILITY LINES SHALL BE BURIED, WRAPPED AND PROTECTED TO MEET APPLICABLE CODE REQUIREMENTS & INDUSTRY
- 2.5 FORM SIDES OF TRENCHES FOR FOOTINGS AS REQUIRED TO PROVIDE FOR FIRM CONTAINMENT OF FOOTINGS AND REMOVE ALL LOOSE MATERIAL AND STANDING WATER FROM THE TRENCHES. 2.6 SHOULD LOOSE FILL, EXPANSIVE SOIL, GROUND WATER OR OTHER HAZARDOUS CONDITIONS BE ENCOUNTERED DURING THE EXCAVATION OF THE FOOTINGS, THE ARCHITECT SHALL BE NOTIFIED AND ALL FOUNDATION WORK SHALL HALT UNTIL A
- SOLUTION TO THE ISSUE IS REACHED. TRENCHES OR EXCAVATIONS MORE THAN 5 FEET IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND SHALL HAVE ALL NECESSARY PERMITS FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO BUILDING/GRADING PERMIT ISSUANCE OR BEFORE ANY WORK COMMENCES WITHIN THE TRENCH.
- 2.8 ALL UTILITY TRENCHES SHALL BE COMPACTED TO A MINIMUM OF 90% RELATIVE DENSITY. 2.9 GRADING PERMIT REQUIRED IF VOLUME OF EARTH MOVED EXCEEDS THE MAXIMUM CUBIC YARDS ALLOWED BY THE MUNICIPAL
- JURISDICTION OR IF ANY CUTS OR FILLS EXCEED 8 FEET IN HEIGHT/DEPTH. (MUNICIPAL GRADING ORDINAN) 2.10 FINISH GRADES SHALL BE SLOPED SO THAT SURFACE WATER DRAINS AWAY FROM THE BUILDING, (CRC R401.3 & CBC 1804.4) 2.11 ALL REQUIRED BACKFILL SHALL BE COMPACTED TO AT LEAST 90% OF THE MAXIMUM DENSITY OBTAINABLE BY ASTM D1557-12E1
- (LATEST ADOPTED STANDARD) METHOD OF COMPACTION. BACKFILL SHALL ALSO CONFORM TO THE SOILS REPORT RECOMMENDATIONS IF A SOILS REPORT IS A PART OF THE CONSTRUCTION DOCUMENTS. (CBC 1804.3) 2.12 BACKFILL FOR ALL RETAINING WALLS SHALL BE PERVIOUS MATERIAL. BACKFILLING SHALL NOT BEGIN UNTIL THE MASONRY OR
- CONCRETE RETAINING STRUCTURES HAVE ATTAINED THE SPECIFIED DESIGN STRENGTH. BACKFILL SHALL CONFORM TO THE SOILS REPORT RECOMMENDATIONS IF A SOILS REPORT IS A PART OF THE CONSTRUCTION DOCUMENTS. (CRC R404.1.7) 2.13 FOR RETAINING WALLS WHICH WILL HAVE PERMANENT STRUCTURAL SUPPORT AT THE TOP PROVIDE SHORING PRIOR TO
- BACKFILLING, UON. SHORING TO REMAIN IN PLACE UNTIL PERMANENT STRUCTURAL SUPPORTING MEMBERS ARE IN PLACE AND HAVE DEVELOPED SPECIFIED STRENGTHS. IN THE CASE OF CONCRETE SUPPORTS, THE SHORING SHALL REMAIN IN PLACE A MINIMUM OF 7 DAYS AFTER CONCRETE PLACEMENT.
- 2.14 ALL RETAINING WALLS MUST BE PROVIDED WITH AN ADEQUATE DRAINAGE SYSTEM (CRC SECTION R405) A GRAVEL & PIPE BACK DRAIN AND OUTLET SYSTEM, WITH A MINIMUM OF 2 OUTLETS PER WALL, TO PREVENT BUILDUP OF HYDROSTATIC PRESSURES. PIPES SHOULD CONSIST OF SCHEDULE 40 PERFORATED PVC PIPE. GRAVEL USED IN THE BACKDRAIN SYSTEMS MUST BE A MINIMUM OF 3 CUBIC FEET PER LINEAL FOOT OF 3/8" TO 1 1/2" CLEAN CRUSHED ROCK
- ENCAPSULATED IN NON-WOVEN FILTER FABRIC(MIRAFI 140N, OAE). PERFORATIONS IN THE PIPE MUST BE FACE DOWN. THE SURFACE OF THE BACKFILL MUST BE SEALED BY PAVEMENT OR THE TOP 18" COMPACTED TO 90% RELATIVE COMPACTION /ITH NATIVE SOIL. PROPER SURFACE DRAINAGE MUST BE MAINTAINED .2 AS AN ALTERNATIVE TO A GRAVEL & PIPE BACK DRAIN SYSTEM, PANEL DRAINS (MIRADRAIN 6000, TENSAR UX1700 MSE, OAE)
- MAY BE USED. PANEL DRAINS MUST BE INSTALLED PER MANUFACTURER'S GUIDELINES. .3 RETAINING & STEM WALLS SHALL BE WATERPROOFED WHERE THEY WOULD IMPACT LIVING AREAS OR WHERE WALL STAINING
- SPACE BELOW GRADE SHALL BE INSTALLED ON THE EXTERIOR SURFACE OF THE WALL, & SHALL EXTEND FROM THE TOP OF THE FOOTING TO FINISHED GRADE. (CRC SECTION R406 & CBC SECTION 1805) GEOTECHNICAL (CRC R401.4 & CBC SECTION 1803 & 1806).
- 2.15 PROJECTS WITH NO SOILS REPORT SHALL USE A SOIL LOAD BEARING VALUE OF 1,500 PSF. (CRC TABLE R401.4.1 & CBC TABLE 2.16 PROJECTS REQUIRING OR PROVIDED WITH SOILS REPORT SHALL:
- CONSIDER THE REPORT AN INTEGRAL PART OF THE CONSTRUCTION DOCUMENTS TO BE COMPLIED WITH BY THE CONTRACTOR.
- .2 HAVE THE FOUNDATION PLAN REVIEWED BY SOILS ENGINEER. .3 HAVE THE FOUNDATION DESIGN BASED ON THE MAXIMUM SOIL BEARING VALUE AND SOIL TYPE PROVIDED IN THE REPORT
- .4 HAVE THE BUILDING PAD PREPARED IN ACCORDANCE WITH THE REPORT .5 REQUIRE ALL SOIL AND GRADING WORK IS DONE UNDER THE DIRECT OBSERVATION OF THE SOILS ENGINEER.
- .6 REQUIRE THE SOILS ENGINEER TO VERIFY IN WRITING TO THE ARCHITECT THAT CONSTRUCTION AT THE SITE COMPLIES WITH ALL OF THE RECOMMENDATIONS AND CONCLUSIONS CONTAINED IN THE REPORT.
- 2.17 A COMPACTION REPORT MUST BE SUBMITTED TO & APPROVED BY THE GOVERNING JURISDICTION PRIOR TO PLACEMENT OF CONCRETE ON FILL MATERIAL 12 INCHES OR MORE IN DEPTH. (CBC 1803.5.8 & 1803.6) 3.1 FOUNDATION DESIGN IS BASED ON A SOILS BEARING VALUE OF 1.500 PSF. UON IN THE SOILS REPORT. WITH THE BASE OF THE
- FOOTING TO BE PLACED AS SHOWN IN THE APPROVED CONSTRUCTION DOCUMENTS, WITH A MINIMUM DEPTH BELOW THE ADJACENT COMPETENT FORMATIONAL GRADE OF 12" IF NOT SPECIFIED, WIDTH OF THE FOOTING SHALL BE NOT LESS THAN 12" IF NOT SPECIFIED, THICKNESS OF THE FOOTING SHALL NOT BE LESS THAT 6" IF NOT SPECIFIED, (CRC TABLE R403.1(1) & CBC 3.2 FORMWORK SHALL RESULT IN A FINAL STRUCTURE THAT CONFORMS TO SHAPES, SIZES & DIMENSIONS OF FOUNDATIONS AS
- SHOWN IN THE APPROVED CONSTRUCTION DOCUMENTS (CRC R404.1.3.3.6, CBC 1808.8.5 & SECTION 26.10 OF ACI 318). 3.3 FORMWORK SUPPORTING VERTICAL SURFACES SHALL REMAIN IN PLACE FOR A MINIMUM OF 2 DAYS. RMWORK SUPPORTING BEAMS AND GIRDERS SHALL REMAIN IN PLACE FOR A MINIMUM OF 15 DAYS PIPES, CONDUITS OR DUCTS SHALL NOT BE PLACED IN CONCRETE SLABS, BEAMS OR WALLS UNLESS SPECIFICALLY SHOWN OF
- NOTED IN THE APPROVED CONSTRUCTION DOCUMENTS (CPC SECTION 312). 3.5 CONCRETE TO BE READY MIX CONCRETE (ACI 318, ASTM C150, C595 & C1157 LATEST ADOPTED STANDARD) OR CONCRETE
- SHALL CONSIST OF 1 PART CEMENT, 3 PARTS SAND, 4 PARTS 1-INCH MAXIMUM SIZE ROCK, AND NOT MORE THAN 7-1/2 GALLONS 5.18 ALL STRUCTURAL FIELD WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN APPROVED REGISTERED SPECIAL INSPECTOR OF WATER PER SACK OF CEMENT. (CRC R402.2 & CBC SECTION 1903) 5.19 WELD LENGTHS CALLED FOR IN THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED
- 3.6 CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS OF 2500 PSI FOR POURED IN PLACE CONTINUOUS AND SPREAD FOOTINGS, UON (CRC TABLE R402.2, CBC TABLE 1808.8.1 & ACI 318). MAXIMUM SLUMP SHALL NOT BE GREATER THAN 4"
- 3.7 MINIMUM ULTIMATE COMPRESSIVE CONCRETE STRENGTHS SHALL BE (CRC TABLE R402.2 & CBC TABLE 1808.8.1): ITEM STRENGTH (PSI) @DAYS SPECIAL INSPECTION SLAB ON GRADE FOOTINGS GRADE BEAMS YES CAISSONS

STRUCTURAL DECK 3000

- COLUMNS 3.8 CONCRETE SLABS ON GRADE SHALL NOT BE LESS THAN 4" THICK & HAVE #3 REINFORCING BARS EACH WAY @ 18" OC MIN, UON. A BASE OF 2" CLEAN GRADED SAND OVER A 15 MIL POLYETHYLENE VAPOR BARRIER OVER A 4" THICK BASE COURSE CONSISTING OF CLEAN GRADED SAND, GRAVEL OR CRUSHED STONE SHALL BE PROVIDED UNDER THE CONCRETE SLAB, UON. (CRC SECTION R506 & CBC SECTION 1907). 3.9 CONCRETE FOUNDATIONS SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS OF CRC SECTION R403 & R404 & CBC 1808.8
- 3.10 CONCRETE FOOTINGS SHALL BE DEEPENED AS REQUIRED TO OBTAIN MINIMUM CONCRETE EMBEDMENT FOR ALL HOLD DOWN BOLTS. ALL HOLD DOWN BOLTS SHALL HAVE A MINIMUM OF 3" OF CONCRETE COVER TO SOIL AT BASE OF FOOTING. 3.11 IN THE EVENT FOUNDATION EXCAVATIONS ARE CARRIED TO A DEPTH GREATER THAN REQUIRED, THE ADDITIONAL DEPTH SHALL BE FILLED WITH THE SAME CONCRETE AS THAT USED FOR THE FOOTING. THE ADDITIONAL CONCRETE SHALL BE PLACED AT THE BOTTOM OF THE FOOTING EXCAVATION WITH THE REINFORCING REMAINING AT THE LOCATION SHOWN FOR
- 3.12 SHEAR WALLS SHALL BE SUPPORTED BY CONTINUOUS FOUNDATIONS. (CRC 403.1.2) 3.13 FOUNDATIONS OR FOUNDATION WALLS SUPPORTING WOOD SHALL EXTEND AT LEAST 6" ABOVE THE ADJACENT FINISH GRADE (CRC R404.1.6 & CBC SECTION 2304.12.1.2).
- 3.14 ALL FOUNDATION PLATES, SILLS AND SLEEPERS ON A CONCRETE SLAB, WHICH IS IN DIRECT CONTACT WITH EARTH, AND SILLS WHICH REST ON CONCRETE OR MASONRY FOUNDATIONS, SHALL BE TREATED WOOD OR FOUNDATION REDWOOD (CRC R317.1 AND CBC SECTION 2304.12.1.4).

THE ORIGINAL FOOTING DEPTH. NO UNCONTROLLED FILL WILL BE PERMITTED. (CRC R403.1.1 & R403.1.4)

- 3.15 ALL HOLD DOWNS, DOWELS AND INSERTS MUST BE ANCHORED IN PLACE PRIOR TO CONCRETE PLACEMENT AND FOUNDATION
- 3.16 CONCRETE SLABS SHALL BE REINFORCED WITH #3 REINFORCING BARS AT 18" OC MIN EACH WAY, UON. REINFORCING SHALL BE PLACED ON CONCRETE CHAIRS TO MAINTAIN STEEL REINFORCEMENT IN THE MIDDLE THIRD OF SLAB THICKNESS (CBC 190 3.17 CONTINUOUS CONCRETE FOOTINGS AND STEM WALLS SHALL BE PROVIDED WITH A MINIMUM TWO LONGITUDINAL NO. 4 BARS
- ONE AT THE TOP AND ONE AT THE BOTTOM OF THE FOOTING. (CRC R403.1.3.3) 3.18 STEEL REINFORCEMENT SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 2.4 OF TMS 602 & ASTM A615 A706 OR A996 ASTM A996 BARS PRODUCED FROM RAIL STEEL SHALL BE TYPE R. THE MINIMUM YIELD STRENGTH OF REINFORCING STEEL
- SHALL BE 60 000 PSI (GRADE 60 KSI) (276 MPa) REINFORCING STEEL LISED IN CONSTRUCTION OF REINFORCED MASONRY OR CONCRETE STRUCTURES SHALL BE DEFORMED & COMPLY WITH ASTM A615. (CBC 2103.4) 3.19 REINFORCING BAR LAPPED SPLICES IN CONCRETE SHALL BE 40 BAR DIAMETERS OR 20" MINIMUM, UON. SPLICES SHALL BE
- POSSIBLE (CRC R403.1.3.5.4) 3.20 ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED WOOD, TIMBERS OR CONCRETE SHALL STEEL, HDG: ASTM A 123/A 123M, ASTM A 153/A 153M & ASTM A 767/A 767M(CBC CHAPTER 19 & ACI 318).

SECURELY TIED TOGETHER WITH 16 GAUGE WIRE. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHERE

- 3.21 REINFORCEMENT SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED, & SECURED AGAINST DISPLACEMENT PRIOR TO CONCRETE PLACEMENT (CBC 1907.1, CRC R403.1.3.5.2 & THE LATEST ADOPTED STANDARDS OF THE WESTERN CONCRETE REINFORCING STEEL INSTITUTE).
- 3.22 CLEAR SPACING BETWEEN REINFORCEMENT SHALL NOT BE LESS THAN 1 BAR DIAMETER, 1", OR 1-1/3 TIMES THE MAXIMUM AGGREGATE SIZE (CRC R403.1.5.2). STEEL REINFORCEMENT IN CONCRETE SHALL HAVE THE FOLLOWING MINIMUM COVERAGE (CRC R403.1.3.5.3): 3.22.1 CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 3 22 2 CONCRETE SURFACES EXPOSED TO FARTH & WEATHER #5 OR LESS : 1-1/2"
- 3.22.3 CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH: 3/4 3.23 PROVIDE #3 REINFORCING BAR STIRRUPS AT 5' OC FROM TOP TO BOTTOM REINFORCEMENT IN ALL CONTINUOUS FOOTINGS. OAE. ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-615, GRADE 40 KSI STEEL

- 3.24 CONTINUOUS FOOTING REINFORCEMENT TO BE CONTINUOUS ACROSS ALL SPREAD OR SPOT FOOTINGS 3.25 REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH INTERSECTIONS
- CONNECTIONS 3.26 ANCHOR BOLTS AT FOUNDATION PLATES OR SILLS SHALL BE BOLTED OR ANCHORED TO THE FOUNDATION OR FOUNDATION WALL PER THE FOLLOWING WITH 'ZMAX', GALVANIZED OR STAINLESS STEEL FINISH (CRC R403.1.6.1 & CRC R602.11.1):
- A. MINIMUM 5/8"Ø 'L' STEEL ANCHOR BOLTS A307 B. BOLTS EMBEDDED AT LEAST 7" INTO CONCRETE OR MASONRY

C. BOLTS SPACED MAXIMUM 4' ON CENTER OR PER SHEAR SCHEDULE

- D. MINIMUM 2 BOLTS PER PLATE/SILL PIECE WITH 1 BOLT LOCATED MAXIMUM 12" & MINIMUM 7 BOLT DIAMETERS FROM EACH END OF EACH SILL PLATE/PIECE. F MINIMUM 3" BY 3" BY 0.299" STEEL PLATE WASHER BETWEEN SILL & NUT ON EACH BOLT 3.27 ALL NON-BEARING INTERIOR SILLS OR PLATES. UNLESS OTHERWISE NOTED. SHALL BE ATTACHED TO THE FOUNDATION WITH
- SIMPSON CO PDPAWL-250 PINS AT 36" O.C. WITH 1" Ø WASHERS. PROVIDE ONE PIN WITHIN 6" OF EACH END OF EACH SILL PLATE, OAE, (ICC-ES ESR-2183) 3.28 DOWEL ANY NEW FOOTINGS TO EXISTING FOOTINGS WITH 2 - #4 x 2' REINFORCING BARS @ TOP & BOTTOM WITH 6" MINIMUM EMBEDMENT IN 5/8"Ø CORED HOLES WITH SIMPSON SET EPOXY GROUT. (ICC-ES, ESR-1772)
- 3.29 ALL HOLD DOWNS INTO EXISTING FOOTINGS SHALL BE INSTALLED WITH SIMPSON SET EPOXY ADHESIVE GROUT. INSTALLATION PER MANUFACTURER'S SPECIFICATIONS AND OBTAIN SPECIAL INSPECTION (ICC-ES, ESR-1772) 3.30 DOWEL NEW CONCRETE SLABS TO EXISTING CONCRETE FOOTINGS OR SLABS WITH 1 - #4 x 2' REINFORCING BARS @ 24" OC
- WITH 6" MINIMUM EMBEDMENT IN 5/8"Ø CORED HOLES WITH SIMPSON SET EPOXY ADHESIVE GROUT. (ICC-ES, ESR-1772) 3.31 DOWEL NEW THREADED ROD ANCHOR BOLTS INTO EXISTING CONCRETE FOOTINGS WITH 6" MINIMUM EMBEDMENT IN 5/8"Ø
- RAISED FLOOR STEM WALL FOUNDATION 3.32 NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS FOR

CORED HOLES WITH SIMPSON SET EPOXY ADHESIVE GROUT. (ICC-ES, ESR-1772

- PROTECTION OF WOOD AGAINST DECAY. (CRC R317.1): A. ALL WOOD IN CONTACT WITH GROUND, EMBEDDED IN CONCRETE IN DIRECT CONTACT WITH GROUND. OR EMBEDDED IN CONCRETE EXPOSED TO WEATHER
 - B. WOOD JOISTS WITHIN 18" INCHES AND WOOD GIRDERS WITHIN 12" OF THE EXPOSED GROUND IN CRAWL SPACES SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD C. WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS
 - ND ARE LESS THAN 8" FROM EXPOSED EARTH SHALL BE OF NATURALLY DURABLE OR PRESERVATIVE TREATED WOOD D. WOOD FRAMING, SHEATHING, & SIDING ON THE EXTERIOR OF THE BUILDING & HAVING CLEARANCE LESS THAN 6" FROM THE EXPOSED GROUND OR LESS THAN 2" VERTICALLY FROM CONCRETE STEPS, PORCH SLABS, PATIO SLABS, AND SIMILAR HORIZONTAL SURFACE EXPOSED TO WEATHER
 - E. SILLS AND SLEEPERS ON CONCRETE OR MASONRY SLAB IN DIRECT CONTACT WITH GROUND UNLESS SEPARATED FROM SUCH SLAB BY IMPERVIOUS MOISTURE BARRIER F. ENDS OF WOOD GIRDERS ENTERING MASONRY OR CONCRETE WALLS WITH CLEARANCES LESS THAN 1/2" ON TOPS, SIDES, AND ENDS
 - G. WOOD STRUCTURAL MEMBERS SUPPORTING MOISTURE-PERMEABLE FLOORS OR ROOFS EXPOSED TO ATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER H. WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO INTERIOR OF
- EXTERIOR CONCRETE OR MASONRY WALLS BELOW GRADE EXCEPT WHERE VAPOR RETARDER APPLIED BETWEEN WALL AND FURRING STRIPS OR FRAMING MEMBERS 3.33 UNDERFLOOR AREAS SHALL HAVE VENTILATION OPENINGS THROUGH FOUNDATION WALLS OR EXTERIOR WALLS, WITH MINIMUM NET AREA OF VENTILATION OPENINGS OF 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDERFLOOR AREA. ONE SUCH VENTILATING OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING. (CRC R408.2)
- 3,34 UNDERFLOOR AREAS SHALL BE PROVIDED WITH A MINIMUM 18-INCH BY 24-INCH ACCESS OPENING. (CRC R408.4)

4.1 CONCRETE MASONRY UNITS SHALL COMPLY WITH ARTICLE 2.3 OF TMS 602 FOR LOAD-BEARING UNITS. (CBC 2103.1) OAE

- 4.2 GROUT SHALL CONFORM ARTICLE 2.2 OF TMS 602 & SHALL CONSIST OF 1 PART PORTLAND CEMENT, 1/10 PART HYDRATED LIME 2-1/4 TO 3 PARTS SAND, & 1 TO 2 PARTS GRAVEL. GROUT SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS. OAE (CBC 2103.3)
- 4.3 MORTAR USED IN CONSTRUCTION OF MASONRY, FOUNDATION & RETAINING WALLS SHALL CONFORM TO ARTICLE 2.1 & 2.6A OF IS 602 & SHALL CONSIST OF 1 PART PORTLAND CEMENT. 2-1/4 TO 3 PARTS SAND. & 1/4 TO 1/2 PART HYDRATED LIME. OAE (CBC 2103.2)
- 4.4 PORTLAND CEMENT SHALL BE TYPE 1. (ASTM 150) AGGREGATES SHALL HAVE A MAXIMUM SIZE OF 1/2" FOR FOOTINGS AND 1" FOR ALL OTHER LOCATIONS, (ASTM C33) 4.5 MORTAR FOR USE WITH ADHERED MASONRY VENEER SHALL CONFORM TO ANSI C270 FOR TYPE N OR S, OR SHALL COMPLY
- WITH ANSI A118.4 FOR LATEX-MODIFIED PORTLAND CEMENT MORTAR. (CBC 2103.2.4, 1404.10) 4.6 MASONRY CEMENT SHALL CONFORM TO ASTM C91-18 4.7 QUICKLIME AND HYDRATED LIME SHALL CONFORM TO ASTM C977-18 4.8 PORTLAND CEMENT MORTARS FOR INSTALLING CERAMIC WALL AND FLOOR TILE SHALL COMPLY WITH ANSI A108.1A AND ANSI
- A108.1B AND BE OF THE COMPOSITIONS INDICATED IN CBC TABLE 2103.2.3. (CBC 2103.2.3) GLASS UNIT MASONRY CONSTRUCTION SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS & COMPLY WITH CHAPTER 13 OF TMS 402 & CBC §2110.(CBC 2110.1) MORTAR FOR USE WITH GLASS UNITS SHALL BE USED. (ASTM C270, TYPE S OR N) 4.10 STEEL REINFORCEMENT SHALL COMPLY WITH THE REQUIREMENTS OF ARTICLE 2.4 OF TMS 602 & ASTM A615, A706 OR A996
- ASTM A996 BARS PRODUCED FROM RAIL STEEL SHALL BE TYPE R. THE MINIMUM YIELD STRENGTH OF REINFORCING STEEL CONCRETE STRUCTURES SHALL BE DEFORMED & COMPLY WITH ASTM A615. (CBC 2103.4) REINFORCING BAR LAPPED SPLICES IN MASONRY SHALL BE 40 BAR DIAMETERS OR 20" MINIMUM, UON. SPLICES SHALL BE
- SECURELY TIED TOGETHER WITH 16 GAUGE WIRE. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHERE POSSIBLE (CBC 2107.2.1) REINFORCEMENT SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED, & SECURED AGAINST DISPLACEMENT PRIOR TO GROUT PLACEMENT (CBC 1907.1, CRC R403.1.3.5.2 & THE LATEST ADOPTED STANDARDS OF THE WESTERN CONCRETE
- REINFORCING STEEL INSTITUTE). 4.13 CLEAR SPACING BETWEEN REINFORCEMENT SHALL NOT BE LESS THAN 1 BAR DIAMETER, 1", OR 1-1/3 TIMES THE MAXIMUM AGGREGATE SIZE (CRC R403.1.5.2)
- 4.14 ALL MASONRY WALLS AND COLUMNS SHALL BE DOWELED TO THEIR SUPPORTS WITH BARS OF THE SAME SIZE AND SPACING. 4.15 PROVIDE CLEANOUTS AT THE BOTTOM OF EVERY CELL CONTAINING VERTICAL REINFORCEMENT IN ALL WALLS OF HEIGHT CONNECTIONS
- 4.16 ALL LEDGER BOLTS SHALL BE BENT BAR ANCHOR BOLTS WITH A 90° BEND WITH AN INSIDE Ø OF 3 BOLT Ø. PLUS AN EXTENSION OF 1- 1/2 BOLT Ø AT THE FREE END. THE EFFECTIVE EMBEDMENT DEPTH FOR LEDGER BOLTS SHALL BE MEASURED PERPENDICULAR FROM THE SURFACE OF THE MASONRY TO THE BEARING SURFACE OF THE BENT END. THE MINIMUM EMBEDMENT SHALL BE NO LESS THAN 5 BOLT Ø BUT NOT LESS THAN 2", UON. ALL BOLTS SHALL BE GROUTED IN PLACE WITH AT LEAST 1" OF GROUT BETWEEN THE BOLT AND MASONRY.

F_v=46 KSI

F_v=35 KSI

STRUCTURAL STEEL SHALL BE DETAILED. FABRICATED & ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION & ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (AISC CURRENT EDITION AND SUPPLEMENTS). 5.2 STRUCTURAL STEEL. STEEL USED AS STRUCTURAL SHAPES SUCH AS WIDE-FLANGE SECTIONS, CHANNELS, PLATES, & ANGLES SHALL COMPLY WITH ASTM A36. PIPE COLUMNS SHALL COMPLY WITH ASTM A53. STRUCTURAL TUBES SHALL COMPLY WITH

ASD (ALLOWABLE STRESS DESIGN) METHOD PROVISIONS IN THE 2022 CBC \$2205.1 & \$2205.2 & AISC 360.

5.10 ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED, UON.

5.13 MACHINE BOLTS, LAG SCREWS & SIMILAR FASTENERS SHALL CONFORM TO ASTM A307 & ASTM A563, UON.

5.12 ALL NAILS SHALL BE COMMON WIRE NAILS, UNLESS OTHERWISE NOTED.

5.20 WELDING ELECTRODES SHALL COMPLY TO AWSA5.1 OR A5.5, E70XX, UON .

5.21 WELDING FILLER METAL (AWS D1.1, TABLE 4.1.1).

INSTALLED PLUMB, LEVEL, STRAIGHT AND TRUE.

PRESSURE TREATED SILL PLATES ON CONCRETE

STRIPPING, MISC. CONCEALED FRAMING, BLOCKING &

STUDS, PLATES, JOISTS, RAFTERS, STRIPPING, MIS

CONCEALED FRAMING, BLOCKING & FIRESTOPPING

BEAMS, HEADERS, STRINGERS & LEDGERS GREATER

SHALL BE CBC/CRC CODE APPROVED (CBC §2304.10.4).

PLATE SIZE

.229" x 3" x 3"

.229" x 3" x 3"

.3125" x 3" x 3"

.375" x 3.5" x 3.5"

6 WOOD, TIMBER AND CARPENTRY

LUMBER OR TIMBER

FIRESTOPPING

LESS THAT 4x10

BOLT Ø

2x4 STUDS LESS THAN 8' TALL

POSTS LARGER THAN 4x4

5.5 ALL STRUCTURAL STEEL SHALL BE FABRICATED IN A STEEL SHOP APPROVED BY THE MUNICIPAL JURISDICTION BUILDING

5.7 STRUCTURAL STEEL SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW

5,8 SHOP PAINT FOR STEEL OTHER THAN GALVANIZED SHALL MEET FEDERAL SPECIFICATION TT-P-645C F84 (ZINC CHROMATE).

5.14 STEEL COLUMNS WITH BASE PLATES SHALL BE BEDDED ON DRY PACK OR NON-SHRINK GROUT OF 1" MINIMUM THICKNESS.

5.16 ALL WELDS SHALL CONFORM TO THE CURRENT EDITION OF THE CODE FOR WELDING IN BUILDING CONSTRUCTION OF THE

5.17 FIELD & SHOP WELDING SHALL BE PERFORMED BY A DULY CERTIFIED WELDER USING LOW HYDROGEN E70-T6 ELECTRODE

6.1 ALL TIMBER DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH CBC CHAPTER 23 & THE NATIONAL DESIGN

6.2 ALL LUMBER AND TIMBERS SHALL BE CLEARLY GRADE MARKED BY WWPA OR WCLIB PER DOC PS 20 (CBC §2303.1.1).

6.4 MOISTURE CONTENT OF SAWN LUMBER AT THE TIME OF INSTALLATION SHALL NOT EXCEED 19%. (CBC §2303.1.9.2).

STANDARD WOOD GRADES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE

2x4 STUDS GREATER THAN 8' TALL. 4x4 STUDS. PLATES, DOUGLAS FIR-LARCH

2x & 3x MEMBERS, LARGER THAN 4" NOMINAL WIDTH DOUGLAS FIR-LARCH

BEAMS, HEADERS, STRINGERS & LEDGERS EQUAL TO OR DOUGLAS FIR-LARCH

LONGER THAN 8' SHALL BE NO. 2 GRADE DOUGLAS FIR-LARCH OR BETTER.

6.3 LUMBER & TIMBER SHALL BE CUT SQUARE AND TO ACCURATE LENGTH AND NEATLY ASSEMBLED. ALL FRAMING SHALL BE

AMERICAN WELDING SOCIETY (AWS D1.1) AND SHALL BE MADE ONLY BY WELDERS AND WELDING OPERATORS QUALIFIED

TESTS AS PRESCRIBED IN THE STRUCTURAL CODE FOR WELDING IN BUILDING CONSTRUCTION OF THE AMERICAN WELDING

SPECIFICATION FOR WOOD CONSTRUCTION (LATEST ADOPTED SPECIFICATION) WITH AMENDMENTS PER CBC SECTION 2306.

DOUGLAS FIR-LARCH

DOUGLAS FIR-LARCH

DOUGLAS FIR-LARCH

DOUGLAS FIR-LARCH

6.6 ALL JOISTS, RAFTERS, BEAMS, AND POSTS 2" TO 4" THICK SHALL BE NO. 2 GRADE DOUGLAS FIR-LARCH OR BETTER, ALL POSTS

6,7 NAILING SHALL MEET JURISDICTIONAL STANDARDS, CBC TABLE 2304.10.2, CRC TABLE R602.3(1), R502.9, R602.3 & R802.2, UON.

6.8 DRILLED HOLES FOR NAILS. WHERE NECESSARY TO PREVENT SPLITTING, SHALL BE OF A Ø SMALLER THAN THAT OF THE NAIL.

6.10 ALL BOLTS HEADS & NUTS BEARING ON WOOD SHALL SIT ON .229" x 3" x 3" METAL PLATE WASHERS, MINIMUM

6.12 ANCHOR BOLTS TO SILL PLATES SHALL HAVE NUTS WITH SQ. PLATE WASHERS IN ACCORDANCE WITH THIS SCHEDULE:

6.11 ALL BOLTS HOLES IN WOOD SHALL BE DRILLED 1/16"Ø LARGER THAN THE NOMINAL BOLT Ø.

6.13 BOLTS IN WOOD SHALL NOT BE LESS THAN 7Ø FROM THE END OR 4Ø FROM THE EDGE

PRESERVATIVE-TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT.

METAL FRAMING CONNECTORS SHALL BE PROVIDED BY SIMPSON CO., OAE. ALL CONNECTORS SHALL BE INSTALLED PER

MANUFACTURER'S SPECIFICATIONS & ASTM D7147 WITH THE APPROPRIATE NUMBER OF BOLTS OR NAILS. ALL CONNECTORS

6.12 SCHEDULE ALSO APPLIES TO LAG SCREWS DRIVEN INTO SOLE PLATES FOR RAISED FLOOR & UPPER STORY CONDITION:

EPTION 1: 1/2-INCH DIAMETER OR GREATER STEEL BOLTS EXCEPTION 2: FASTENERS OTHER THAN NAILS AND TIMBEF

RIVETS MAY BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B

6.14 FASTENERS FOR PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED WOOD , INCLUDING NUTS AND WASHERS, SHALL BE

OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER, (CRC R317.3.1)

95, CLASS 55 MINIMUM EXCEPTION 3: PLAIN CARBON STEEL FASTENERS ACCEPTABLE IN SBX/DOT & ZINC BORATE

6.15 FASTENERS FOR FIRE-RETARDANT-TREATED WOOD LISED IN EXTERIOR APPLICATIONS OR WET OR DAMP LOCATIONS SHALL BE OF HOT DIPPED ZINC-COATED GALVANIZED STEEL. STAINLESS STEEL. SILICON BRONZE, OR COPPER. (CRC R317.3.3)

AND BEAMS 5" & THICKER SHALL BE NO. 1 GRADE DOUGLAS FIR-LARCH OR BETTER. STUDS NOT MORE THAN 8' LONG SHALL BE

STUD-GRADE DOUGLAS FIR-LARCH OR BETTER WHEN SUPPORTING NOT MORE THAN 1 FLOOR, ROOF, AND CEILING. STUDS

#2 JOISTS & PLANKS OR BETTER

#1. POSTS & TIMBERS

SIMPSON CO.

BP 5/8-3

BP 3/4-3

BP 7/8-2

5.15 STEEL ERECTOR TO PROVIDE ERECTION BRACING REQUIRED TO MAINTAIN A PLUMB & PROPERLY BRACED STRUCTURE

PRIOR TO STEEL FABRICATION. SHOP DRAWINGS SHALL INCLUDE ALL INFORMATION NECESSARY FOR THE FABRICATION OF

OF SHOP & FIELD CONNECTIONS, TYPE, SIZE & EXTENT OF ALL WELDS, WELDING SEQUENCE & METHOD OF ANCHORAGE TO

PLATES, ANGLES &

CONNECTORS AND CONNECTIONS

HOLLOW TUBE

ASTM A36

ROUND PIPE SHAPES ASTM A53, GRADE B

ASTM A500, GRADE B

- ONE-THIRD THE DEPTH OF THE JOIST. (CBC 2308.4.2.4 & CRC R502.8). 6.40 FLOOR JOISTS EXCEEDING NOMINAL 2"x12" SHALL BE SUPPORTED LATERALLY BY SOLID BLOCKING. DIAGONAL BRIDGING 5.3 STRUCTURAL STEEL SHALL CONFORM TO CHAPTER 22 OF THE 2022 CBC AND AISC 360. OOD OR METAL), OR A CONTINUOUS 1-INCH-BY-3-INCH STRIP NAILED ACROSS THE BOTTOM OF JOISTS PERPENDICULAR TO W-WIDE FLANGE ASTM A992 JOISTS AT MAXIMUM 8-FOOT INTERVALS. (CBC 2308.4.6 & CRC R502.7.1)
 - 6.41 FLOOR JOISTS FRAMING OPPOSITE SIDES OVER A BEARING SUPPORT SHALL LAP MINIMUM 3 INCHES & SHALL BE NAU FO OGETHER WITH MINIMUM 3 -10d FACE NAILS. A WOOD OR METAL SPLICE WITH STRENGTH EQUAL TO OR GREATER THAN THAT PROVIDED BY THE LAP IS PERMITTED. (CBC 2308.4.2.3 & CRC R502.6.1) 6.42 FLOOR JOISTS FRAMING INTO THE SIDE OF A WOOD GIRDER SHALL BE SUPPORTED BY APPROVED FRAMING ANCHORS OR ON LEDGER STRIPS MINIMUM NOMINAL 2"X2". (CBC 2308.4.2.3 & CRC R502.6.2)

6.16 LAG SCREWS SHALL BE INSTALLED IN PREDRILLED HOLES. THE CLEARANCE HOLE FOR THE SHANK PORTION SHALL HAVE THE

6.17 FIREBLOCKING SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS (CRC R302.11 & CRC R1003.19):

C. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP & BOTTOM OF THE RUN

MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION

F.CORNICES OF A TWO-FAMILY DWELLING AT THE LINE OF DWELLING-UNIT SEPARATION

D. ONE THICKNESS OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH PARTICLEBOARD

B. TWO THICKNESSES OF ONE-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS

DRIVING, ÀS WITH A HAMMER, IS NOT PERMITTED.

1. VERTICALLY AT THE CEILING AND FLOOR LEVELS

E. AT CHIMNEYS AND FIREPLACES PER ITEM 6.20

WITH THE INTEGRITY MAINTAINED (CRC R302.11.1):

A. CEILING IS SUSPENDED UNDER THE FLOOR FRAMING

CROWN IS FLUSH WITH THE SHEATHING SURFACE.

BOTTOM(CBC SECTION 2308.9).

2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10'-0"

FIRE BLOCKING AND DRAFT STOPPING

STAGGERED STUDS, AS FOLLOWS:

A. TWO-INCH NOMINAL LUMBER

E. 1/2-INCH GYPSUM BOARD

(CRC R302.12.1)

SHEATHING

F. 1/4-INCH CEMENT-BASED MILLBOARD

SHANK Ø (FOR ALL DOUGLAS FIR-LARCH MEMBERS). LAG SCREWS ARE TO BE INSTALLED WITH THE TURN OF A WRENCH

A. IN CONCEALED SPACES OF STUD WALLS & PARTITIONS, INCLUDING FURRED SPACES, & PARALLEL ROWS OF STUDS OR

B. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL & HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP

C. ONE THICKNESS OF 23/32-INCH WOOD STRUCTURAL PANEL WITH JOINTS BACKED BY 23/32-INCH WOOD STRUCTURAL PANEL

G. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OF OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO

MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH THE 10-FOOT HORIZONTAL FIREBLOCKING IN WALLS CONSTRUCTED

SING PARALLEL ROWS OF STUDS OR STAGGERED STUDS. UNFACED FIBERGLASS BATT INSULATION USED AS FIREBLOCKING

HALL FILL THE ENTIRE CROSS-SECTION OF THE WALL CAVITY TO A MINIMUM HEIGHT OF 16" MEASURED VERTICALLY. WHEN

PIPING, CONDUIT, OR SIMILAR OBSTRUCTIONS ARE ENCOUNTERED, THE INSULATION SHALL BE PACKED TIGHTLY AROUND THE

OBSTRUCTION. LOOSE-FILL INSULATION MATERIAL SHALL NOT BE USED AS A FIREBLOCK UNLESS SPECIFICALLY TESTED IN THI

6.19 FIREBLOCKING AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES, & WIRES AT CEILING AND FLOOR LEVEL. SUCH

LAID ACROSS THE SPACES BETWEEN COMBUSTIBLE MATERIAL AND THE CHIMNEY. (CRC R1003.19)

B. FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS.

6.27 USE 1x8 SPRUCE, CEDAR OR REDWOOD TONGUE AND GROOVE AT ALL EXPOSED EAVE AREAS, UON.

6.32 FLOOR FRAMING SHALL BE IN ACCORDANCE WITH CBC §2304.4 & 2308.4 & CRC §R502

ABLES R502.3.1(1) & (2) AND MUNICIPAL JURISDICTION TABLES.

OF THE SHEAR WALL. (CBC 2308.4.5 & CRC R602.10.8)

6.20 ALL SPACES BETWEEN CHIMNEYS AND FLOORS AND CEILINGS THROUGH WHICH CHIMNEYS PASS SHALL BE FIREBLOCKED

6.21 IN COMBUSTIBLE CONSTRUCTION WHERE THERE IS USABLE SPACE BOTH ABOVE & BELOW THE CONCEALED SPACE OF A

SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES (CRC R302.12):

6.22 DRAFTSTOPPING SHALL NOT BE LESS THAN 1/2-INCH GYPSUM BOARD, 3/8-INCH WOOD STRUCTURAL PANELS OR OTHER

WITH NONCOMBUSTIBLE MATERIAL SECURELY FASTENED IN PLACE. THE FIREBLOCKING OF SPACES BETWEEN CHIMNEYS

FLOOR/CEILING ASSEMBLY, DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT

EXCEED 1000 SQUARE FEET. DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS

APPROVED MATERIALS ADEQUATELY SUPPORTED. DRAFTSTOPPING SHALL BE INSTALLED PARALLEL TO THE FLOOR FRAMIL

6.23 SHEATHING SPECIFICATIONS 6.24, 6.25 & 6.26 MAY BE SUPERCEDED BY ALTERNATE SPECIFICATIONS ON THE FRAMING PLANS.

6.24 FLOOR SHEATHING SHALL BE 23/32" CDX APA RATED STURD-I-FLOOR, T&G UNDERLAYMENT, EXPOSURE 1, MINIMUM SPAN

6.25 WALL SHEATHING AT SHEAR PANELS SHALL BE APA RATED STRUCTURAL 1, EXPOSURE 1, GROUP 1, UON. SHEATHING

THICKNESS & NAILING SHALL BE ACCORDING TO THE SHEAR PANEL SCHEDULE. (CBC 2304.6.1 & CRC R604)

DAE. PLYWOOD TO BE GLUED AS IT IS NAILED BEFORE GLUE HAS DRIED OR HARDENED (CBC 2304.8.1 & CRC R503).

6.26 ROOF SHEATHING SHALL BE 15/32" CDX APA RATED SHEATHING, EXPOSURE 1. MINIMUM SPAN INDEX 24/0. NAII FD WITH 8d

COMMON NAILS AT 6" O.C. AT EDGE & 12" O.C. IN FIELD & AT INTERMEDIATE MEMBERS (CBC 2304.8.2 & CRC R803).

MEMBERS UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL. THE INTEGRITY OF DRAFTSTOPS SHALL BE MAINTAINED

RATING 20", UNBLOCKED, NAIL WITH HOT DIP GALVANIZED 10d COMMON NAILS, HAND NAILED 6" O.C. AT EDGE AND 10" O.C. IN

AFTERS, JOISTS OR TRUSSES, AND THE SHEETS SHALL BE STAGGERED AS SHOWN IN CBC TABLES IN §2306.2 (CASE 1 & 3).

EACH SHEET SHALL CONTAIN A MINIMUM OF 8 SQ FT & EXTEND TO 3 SUPPORTS. PROVIDE 1/8" SPACING BETWEEN PANEL ENDS

THE CONTRACTOR FOR COMPLIANCE WITH NAILING AND PANEL REQUIREMENTS BEFORE THE FINISH MATERIAL IS APPLIED.

NIMUM 3 INCHES OF BEARING ON MASONRY OR CONCRETE EXCEPT WHERE SUPPORTED ON A 1-INCH-BY-4-INCH RIBBON

TO ADEQUATELY SUPPORT THE LOAD, THAT ARE SEPARATED TO PERMIT THE INSTALLATION OF PIPING OR VENTS SHALL BE

PERPENDICULAR TO JOISTS SHALL NOT BE OFFSET FROM SUPPORTING GIRDERS, WALLS, OR PARTITIONS MORE THAN THE

JOIST DEPTH UNLESS SUCH JOISTS ARE OF SUFFICIENT SIZE TO CARRY THE ADDITIONAL LOAD. (CBC 2308.4.5 & CRC R502.4)

WHERE JOISTS ARE PERPENDICULAR TO A SHEAR WALL ABOVE OR BELOW, A 4x RIM JOIST, BAND JOIST, OR BLOCKING SHALL

BE PROVIDED ALONG THE ENTIRE LENGTH OF THE SHEAR WALL WHERE JOISTS ARE PARALLEL TO A SHEAR WALL ABOVE OR

BELOW, A RIM JOIST, END JOIST, OR OTHER PARALLEL FRAMING SHALL BE PROVIDED DIRECTLY ABOVE AND/OR BELOW THE SHEAR WALL. WHERE A PARALLEL FRAMING MEMBER CANNOT BE LOCATED DIRECTLY ABOVE &/OR BELOW THE SHEAR WALL.

FLOOR JOISTS SHALL BE SUPPORTED LATERALLY AT ENDS AND EACH INTERMEDIATE SUPPORT BY MINIMUM 2" FULL-DEPTH

OTHERWISE PROVIDED WITH LATERAL SUPPORT TO PREVENT ROTATION. (CBC SECTION 2308.4.2.3 & CRC R502.7)

6.39 NOTCHES ON THE ENDS OF JOISTS SHALL NOT EXCEED 1/4 THE JOIST DEPTH. NOTCHES IN THE TOP OR BOTTOM OF JOISTS

ULL-DEPTH BLOCKING AT 16" OC SPACING SHALL BE PROVIDED BETWEEN THE PARALLEL FRAMING MEMBERS TO EACH SIDE

SHALL NOT EXCEED 1/6 THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN. HOLES BORED IN JOISTS

SHALL NOT BE WITHIN 2" OF THE TOP OR BOTTOM OF THE JOIST AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED

STRIP AND NAILED TO THE ADJOINING STUD OR BY THE USE OF APPROVED JOIST HANGERS. (CBC 2308.4.2.2 & CRC R502.6)

6.31 ROOF PLYWOOD SHALL BE CONTINUOUS UNDER CALIFORNIA FILL FRAMING SO ROOF DIAPHRAGM EXTENDS TO WALL PLATE.

6.33 FLOOR FRAMING SPAN LIMITATIONS SHALL BE IN ACCORDANCE WITH; CBC TABLES 2308.4.1.1(1) & (2), 2308.4.2.1(1) & (2), CRC

6.35 PROVIDE 2x DOUBLE JOISTS UNDER ALL PARALLEL BEARING & NON-BEARING PARTITIONS. NAIL ALL DOUBLE 2x JOISTS WITH

6.36 JOISTS UNDER PARALLEL BEARING PARTITIONS SHALL BE OF ADEQUATE SIZE TO SUPPORT THE LOAD. DOUBLE JOISTS, SIZED

FULL-DEPTH SOLID-BLOCKED WITH MINIMUM 2" NOMINAL LUMBER SPACED AT MAXIMUM 4' OC. BEARING PARTITIONS

DGES AS REQUIRED FOR EXPANSION. ALL WOOD STRUCTURAL PANEL SHEATHING DIAPHRAGMS SHALL BE REVIEWED BY

FIELD. GLUE ALONG FLOOR JOISTS AND PLYWOOD T&G GROOVES SHALL BE PL 400 AS MANUFACTURED BY B.F. GOODRICH

WHERE THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND A CEILING MEMBRANE BELOW, DRAFTSTOPPING

AND WOOD JOISTS, BEAMS, OR HEADERS SHALL BE SELF-SUPPORTING OR BE PLACED ON STRIPS OF METAL OR METAL LATH

ORM & MANNER INTENDED FOR USE TO DEMONSTRATE ITS ABILITY TO REMAIN IN PLACE & TO RETARD THE SPREAD OF FIRE.

OPENINGS SHALL BE FIREBLOCKED WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS

BE SECURELY RETAINED IN PLACE. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID

D. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED

6.18 EXCEPT AS OTHERWISE SPECIFIED IN ITEMS 6.19 & 6.20, FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS

SAME Ø & DEPTH AS THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A Ø EQUAL TO 40%-70% OF THE

- 6.43 OPENINGS IN FLOOR FRAMING SHALL BE FRAMED WITH A HEADER & TRIMMER JOISTS. WHEN THE HEADER JOIST SPAN DOES NOT EXCEED 4', THE HEADER JOIST MAY BE A SINGLE MEMBER THE SAME SIZE AS THE FLOOR JOIST. SINGLE TRIMMER JOISTS 5.4 ALL STRUCTURAL STEEL SHALL BE IDENTIFIED AS NOTED IN THE 2022 CBC. DESIGN OF STEEL MEMBERS SHALL BE AS NOTED IN MAY BE USED TO CARRY A SINGLE HEADER JOIST LOCATED WITHIN 3' OF THE TRIMMER JOIST BEARING. WHEN THE HEADER DIST SPAN EXCEEDS 4", THE TRIMMER JOISTS & HEADER JOIST SHALL BE DOUBLED AND OF SUFFICIENT CROSS SECTION TO SUPPORT THE FLOOR JOISTS FRAMING INTO THE HEADER. APPROVED HANGERS SHALL BE USED FOR THE HEADER- JOIST R-JOIST CONNECTIONS WHEN THE HEADER JOIST SPAN EXCEEDS 6'. TAIL JOISTS OVER 12' LONG SHALL BE SUPPORTED AT THE HEADER BY FRAMING ANCHORS OR ON LEDGER STRIPS MINIMUM 2"x2". (CBC 2308.4.4.1 & CRC R502.10) 6.44 GIRDERS FOR SINGLE-STORY CONSTRUCTION OR GIRDERS SUPPORTING LOADS FROM A SINGLE FLOOR SHALL NOT BE LESS. THAN 4"X6" FOR SPANS 6' OR LESS, PROVIDED THAT GIRDERS ARE SPACED NOT MORE THAN 8' OC. OTHER GIRDERS SHALL BE THE STRUCTURES COMPONENT PARTS. SHOP DRAWINGS SHALL INCLUDE THE SIZE & WEIGHT OF MEMBERS, TYPE & LOCATION DESIGNED TO SUPPORT THE LOADS SPECIFIED IN THE CBC. GIRDER END JOINTS SHALL OCCUR OVER SUPPORTS. WHEN A
 - SIRDER IS SPLICED OVER A SUPPORT, AN ADEQUATE TIE SHALL BE PROVIDED. THE ENDS OF BEAMS OR GIRDERS SUPPORTED ON MASONRY OR CONCRETE SHALL NOT HAVE LESS THAN 3" OF BEARING. (CBC 2308.7) 6 45 WALL FRAMING SHALL BE IN ACCORDANCE WITH CBC \$2308.5 & \$2308.6 & CRC CHAPTER 6
- 5.9 STRUCTURAL STEEL SHALL HAVE 2 SHOP COATS OF RED OXIDE PRIMER. AFTER ERECTION, ALL FIELD CONNECTIONS, BOLTS, WELDS, & ABRADED PLACES ON THE SHOP PAINT SHALL BE TOUCHED UP WITH THE SAME TYPE OF PAINT AS THE SHOP COAT 6.46 THE SIZE, HEIGHT, AND SPACING OF STUDS SHALL BE IN ACCORDANCE WITH CRC TABLE R602.3(5). (CRC R602.3.1) 6.47 TYPICAL STUD SIZE IS 2x4 WITH A TYPICAL SPACING OF 16" OC. THE MAXIMUM HEIGHT FOR 2x4 & 2x6 STUD BEARING WALLS SHALL BE 10'-0". NON-BEARING STUD WALL MAXIMUM HEIGHT IS 14' FOR 2x4 STUDS & 20' FOR 2x6 STUDS. WALLS WHOSE HT DOES NOT MEET THESE CRITERIA SHALL BE ENGINEERED FOR THEIR SPECIFIC CONDITION. (CBC 2308.5.1 & TABLE 11 BOLTS SHALL BE A307 QUALITY WITH WASHERS, UON; HIGH STRENGTH A325/A490 BOLTS MUST BE SPECIAL INSPECTED, UON.
 - 2308.5.1 AND CRC R602.3 & TABLE R602.3(5) 6.48 WHERE JOISTS, TRUSSES, OR RAFTERS ARE SPACED MORE THAN 16" O. C. & BEARING STUDS BELOW ARE SPACED 24" O. C., SUCH MEMBERS SHALL BEAR WITHIN 5" OF THE STUDS BENEATH. (CBC 2308.5.3.2 & CRC R602.3.3) 6.49 STUDS SHALL BE PLACED WITH THEIR WIDE DIMENSION PERPENDICULAR TO THE WALL. STUDS SHALL HAVE FULL BEARING ON
 - PLATE OR SILL NOT LESS THAN 2" IN THICKNESS HAVING A WIDTH NOT LESS THAN THAT OF THE STUD WALLS (CBC 2308.5.3.1 & CRC R602.3.4) 6.50 WOOD STUD WALLS SHALL BE CAPPED WITH A DOUBLE TOP PLATE INSTALLED TO PROVIDE OVERLAPPING AT CORNERS & AT NTERSECTIONS WITH OTHER PARTITIONS. END JOINTS IN DOUBLE TOP PLATES SHALL BE OFFSET AT LEAST 48". JOINTS IN PLATES NEED NOT OCCUR OVER STUDS. PLATES SHALL BE MINIMUM NOMINAL 2" THICK & HAVE WIDTH AT LEAST EQUAL TO
 - WIDTH OF STUDS. (CBC 2308.5.3.2 & CRC R602.3.2) 6.51 TOP PLATE SPLICES SHALL BE LAPPED A MINIMUM OF 4-0" & FACE NAILED WITH MINIMUM 20-16d AT EACH SIDE OF THE SPLICE WITH NO MORE THAN 12" BETWEEN NAILS (CBC SECTION 2308.9.1 & CRC R602.10.8.1). NEW TO EXISTING DTP USE ST6236 STRA 6.52 PROVIDE 1/2" MINIMUM CLEARANCE BETWEEN TOP PLATE OF INTERIOR NON-BEARING PARTITIONS & THE BASE OF CEILING JOISTS, RAFTERS & TRUSS BOTTOM CHORDS. (CBC 2308.5.4 & CRC 602.5)
 - 6.53 WHEN PIPING OR DUCTWORK IS PLACED IN OR PARTLY IN AN EXTERIOR WALL OR INTERIOR LOAD-BEARING WALL NECESSITATING CUTTING, DRILLING, OR NOTCHING OF THE TOP PLATE BY MORE THAN 50% OF ITS WIDTH, A GALVANIZED METAL TIE NOT LESS THAN 0.054" THICK & 1-1/2" WIDE SHALL BE FASTENED ACROSS AND TO THE PLATE AT EACH SIDE OF THE PENING WITH NOT LESS THAN 8-10d NAILS HAVING A MINIMUM LENGTH OF 1-1/2" AT EACH SIDE OR EQUIVALENT. THE METAL TIE MUST EXTEND MINIMUM 6 INCHES PAST THE OPENING. (CBC 2308.5.3.2 & CRC R602.6.1) ANY STUD IN AN EXTERIOR WALL OR BEARING PARTITION MAY BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25% OF ITS
 - WIDTH. STUDS IN NONBEARING PARTITIONS MAY BE NOTCHED TO A DEPTH NOT TO EXCEED 40% OF A SINGLE STUD WIDTH. NY STUD MAY BE BORED OR DRILLED, PROVIDED THE DIAMETER OF THE RESULTING HOLE IS NO MORE THAN 60% OF TH STUD WIDTH. THE EDGE OF THE HOLE IS NO MORE THAN 5/8 INCH TO THE EDGE OF THE STUD. AND THE HOLE IS NOT LOCATED N THE SAME SECTION AS A CUT OR NOTCH. STUDS LOCATED IN EXTERIOR WALL OR BEARING PARTITIONS DRILLED OVER 40% & UP TO 60% SHALL ALSO BE DOUBLED WITH NO MORE THAN TWO SUCCESSIVE STUDS BORED. (CBC 2308.5.9&10 & CRC R602.6)
 - 6.55 HEADERS, DOUBLE JOISTS, OR TRUSSES OF ADEQUATE SIZE TO TRANSFER LOADS TO VERTICAL MEMBERS SHALL BE OVIDED OVER WINDOW AND DOOR OPENINGS IN LOAD-BEARING WALLS AND PARTITIONS. (CBC 2304.3.2) 6.56 EACH END OF HEADERS SHALL HAVE A BEARING LENGTH OF NOT LESS 1-1/2" FOR THE FULL WIDTH OF THE HEADER
 - 6.57 STANDARD HEADERS SIZES, UON: BEARING WALLS NON-BEARING WALLS
 - OPENING WIDTH OPENING WIDTH **HEADER SIZE** HEADER SIZE 3' OR LESS 4' OR LESS 3' TO 6' 4' TO 7' 7' TO 10' 6' TO 8' 6.58 ALL BEAMS SHALL BE SUPPORTED BY POSTS OR GIRDERS. FOR 4x8 & SMALLER BEAMS A MINIMUM 2-2x4 DF #2 POST SHALL BE SED, UON. FOR 4x10 & LARGER BEAMS A MINIMUM 4x4 DF #1 POST SHALL BE USED, UON. EACH POST SHALL PROVIDE FULL BEARING WIDTH FOR THE BEAM IT SUPPORTS, UON.

6.59 ALL POSTS SHALL BE CONTINUED BETWEEN FLOORS WITH SOLID FULL WIDTH BLOCKING AND A POST OF FOLIAL OR GREATER

IZE BELOW, UNTIL A BEAM OR FOUNDATION IS ENCOUNTERED. ALL POSTS INSIDE WALLS MAY BEAR ON THE SOLE OR SILL

- PLATE, UON. ISOLATED POSTS SHALL BE SEATED IN A POST OR COLUMN BASE, UON. 6.60 ALL STUD WALLS 8' AND OVER IN HEIGHT SHALL HAVE 2x SOLID, STAGGERED BRIDGING AT MID-HEIGHT (CBC 2308.5.7). 6.61 FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDDING ABOVE. CRIPPLE WALLS MORE THAN 4' IN HEIGHT SHALL HAVE STUDS SIZED AS REQUIRED FOR AN ADDITIONAL STORY, CRIPPLE WALLS WITH STUD -IEIGHT LESS THAN 14" SHALL BE SHEATHED ON AT LEAST ONE SIDE WITH A WOOD STRUCTURAL PANEL FASTENED TO BOTH
- THE TOP AND BOTTOM PLATES IN ACCORDANCE WITH TABLE R602.3(1), OR THE CRIPPLE WALLS SHALL BE CONSTRUCTED OF SOLID BLOCKING. CRIPPLE WALLS SHALL BE SUPPORTED ON CONTINUOUS FOUNDATIONS. (CRC R602.9) SHEAR PANELS 6.62 BUILDINGS WALLS SHALL BE BRACED IN ACCORDANCE WITH THE METHODS ALLOWED PER CBC & CRC. (CBC 2308.6 & CRC

6.63 BRACED WALL LINE SPACING. SPACING BETWEEN BRACED WALL LINES SHALL NOT EXCEED 20 FEET OR ALTERNATE

- 6.64 THE CUMULATIVE LENGTH OF SHEAR WALLS WITHIN EACH BRACED WALL LINE SHALL MEET THE PROVISIONS OF CRC TABLE R602.10.1.3(1) FOR WIND LOADS AND CRC TABLE R602.10.1.3(2) FOR SEISMIC LOADS. (CRC R602.10.1.1) 6.65 SHEAR WALLS SHALL BE LOCATED NOT MORE THAN 25 FEET ON CENTER. (CRC R602.10.2.2)
- 6.66 SHEAR WALLS MAY BE OFFSET OUT-OF-PLAN NOT MORE THAN 4' FROM THE DESIGNATED BRACED WALL LINE AND NOT MORE THAN 8' FROM ANY OTHER OFFSET WALL CONSIDERED PART OF THE SAME BRACED WALL LINE. (CRC R602.10.1.2) 6.67 SHEAR WALLS SHALL BE LOCATED AT THE ENDS OF EACH BRACED WALL LINE OR MEET THE ALTERNATE PROVISIONS OF CRC
- 6.68 SHEAR WALLS SHALL MEET MINIMUM LENGTH REQUIREMENTS OF CRC R602.10.6.5.1. 6.69 CRIPPLE WALLS SHALL BE BRACED PER CRC R602.10.11

R602.10, CRC R602.10.2, CRC R602.10.4, AND/OR CRC R602.10.5.

PROVISIONS OF CRC R602.10.1.3.

6.70 ALL SHEAR WALLS, ROOF DIAPHRAGMS, AND FLOOR DIAPHRAGMS SHALL BE NAILED, WITH COMMON OR GALVANIZED NAILS, TO SUPPORTING CONSTRUCTION PER THE SHEAR PANEL SCHEDULE AND CRC TABLE R602.3(1). (CRC R604.3) 6.71 ALL VERTICAL JOINTS IN SHEAR WALL SHEATHING SHALL OCCUR OVER, AND BE FASTENED TO, COMMON STUDS, HORIZONTAL JOINTS IN SHEAR WALLS SHALL OCCUR OVER, AND BE FASTENED TO, MINIMUM 1-1/2-INCH-THICK BLOCKING. (CRC R602.10.10) 6.72 ALL SHEAR WALLS WITH AN ALLOWABLE SHEAR CAPACITY GREATER THAN 350 PLF REQUIRE 3x LUMBER AT THE SILL PLATE AND ADJACENT PANEL EDGES. A MINIMUM OF 1/2" EDGE DISTANCE FROM THE PANEL EDGE TO THE CENTER OF THE NAIL IS REQUIRED AT THE 3x LUMBER, 6.73 4x4 POST MINIMUM AT HOLD DOWNS AT THE ENDS OF SHEAR WALLS AND HOLD DOWN CONNECTORS SHALL BE TIGHTENED

- 6.76 RAFTERS OR ROOF TRUSSES SHALL BE CONNECTED TO DTP OF SHEAR WALLS WITH BLOCKING BETWEEN THE RAFTERS OR TRUSSES & SHEAR PANEL WILL RUN UP TO DTP WITH EDGE NAIL & METAL ANCHOR PER SHEAR WALL SCHEDULE. (CRC R602.10.8)
- CONVENTIONAL ROOF FRAMING
- R802.5.2(1)&(2) AND MUNICIPAL JURISDICTION TABLES.
- 6.79 SPAN LIMITATIONS FOR CEILING JOISTS SHALL BE IN ACCORDANCE WITH CBC TABLE 2308.7.2(1), 2308.7.2(2), 2308.7.2(3),
- 2308.7.2(4), 2308.7.2(5), 2308.7.2(6), CRC TABLES R802.4.1(1)-(8) AND MUNICIPAL JURISDICTION TABLES.
- 6.80 WHEN THE ROOF SLOPE IS LESS THAN 3/12, MEMBERS SUPPORTING RAFTERS & CEILING JOISTS SUCH AS RIDGES, HIPS AND LEYS SHALL BE DESIGNED AS BEAMS (CBC SECTION 2308.7). DRILLING, CUTTING, AND NOTCHING OF ROOF/FLOOR FRAMING. NOTCHES IN SOLID LUMBER JOISTS, RAFTERS, BLOCKING, &
- ALSO NOTCHED, THE HOLE SHALL NOT BE CLOSER THAN 2" TO THE NOTCH. (CBC 2308.7.4 & CRC R502.8.1 6.82 CEILING JOISTS AND RAFTERS SHALL BE NAILED TO EACH OTHER PER CRC TABLE R802.5.1(9), AND THE RAFTER SHALL BE
- NAILED TO THE WALL TOP PLATE PER CRC TABLE R602.3(1). CEILING JOISTS SHALL BE CONTINUOUS OR SECURELY JOINED PER CRC TABLE R802.5.1(9) WHERE THEY MEET OVER INTERIOR PARTITIONS AND ARE NAILED TO ADJACENT RAFTERS TO PROVIDE A CONTINUOUS TIE ACROSS THE BUILDING WHEN SUCH JOISTS ARE PARALLEL TO RAFTERS. WHERE CEILING JOISTS ARE NOT CONNECTED TO THE RAFTERS AT THE WALL TOP PLATE, JOISTS CONNECTED HIGHER IN THE ATTIC SHALL BE INSTALLED AS RAFTER TIES, OR RAFTER TIES SHALL BE INSTALLED TO PROVIDE A CONTINUOUS TIE. WHERE CEILING JOISTS ARE NOT PARALLEL TO RAFTERS, RAFTER TIES SHALL BE INSTALLED. RAFTER TIES SHALL BE MINIMUM 2"x4" NOMINAL, INSTALLED PER CRC TABLE R802.5.1(9), OR CONNECTIONS OF EQUIVALENT CAPACITIES SHALL BE PROVIDED. WHERE CEILINGS JOISTS OR RAFTER TIES ARE NOT PROVIDED, THE RIDGE FORMED BY THESE RAFTERS SHALL BE SUPPORTED BY A WALL OR
- 6.83 ENDS OF CEILING JOISTS SHALL BE LAPPED MINIMUM 3" OR BUTTED OVER BEARING PARTITIONS OR BEAMS AND TOENAILED TO FOGETHER PER CRC TABLE R602.3(1) AND BUTTED JOISTS SHALL BE TIED TOGETHER IN A MANNER TO RESIST SUCH THRUST
- EARING PARTITION OR BE DESIGNED TO CARRY AND DISTRIBUTE THE SPECIFIC LOAD AT THAT POINT. (CRC R802.3) 6.85 COLLAR TIES OR RIDGE STRAPS TO RESIST WIND UPLIFT SHALL BE CONNECTED IN THE UPPER THIRD OF THE ATTIC SPACE.
- 6.86 PURLINS INSTALLED TO REDUCE THE SPAN OF RAFTERS SHALL BE SIZED NOT LESS THAN THE REQUIRED SIZE OF THE TO BEARING WALLS AT A MINIMUM 45° SLOPE FROM HORIZONTAL. THE BRACES SHALL BE SPACED MAXIMUM 4' OC WITH A MAXIMUM 8' LENGTH. (CRC R802.5.1)
- 6.87 THE ENDS OF EACH RAFTER OR CEILING JOIST SHALL HAVE NOT LESS THAN 1-1/2" BEARING ON WOOD OR METAL AND NOT LESS THAN 3" OF BEARING ON MASONRY OR CONCRETE. (CBC 2308.4.2.2 & CRC R802.6) 6.88 ROOF FRAMING MEMBERS AND CEILING JOISTS WITH A NOMINAL DEPTH-TO-THICKNESS RATIO EXCEEDING 5:1 SHALL BE
- 6.89 RAFTERS AND CEILING JOISTS WITH A NOMINAL DEPTH-TO-THICKNESS RATIO EXCEEDING 6:1 SHALL BE SUPPORTED TERALLY BY SOLID BLOCKING, DIAGONAL BRIDGING (WOOD OR METAL), OR A CONTINUOUS 1"X3" WOOD STRIP NAILED ACROSS THE RAFTERS OR CEILING JOISTS AT MAXIMUM 8' INTERVALS. (CRC R802.8.1)

PROVIDED WITH LATERAL SUPPORT AT POINTS OF BEARING TO PREVENT ROTATION. (CRC R802.8)

- SPAN DOES NOT EXCEED 4', THE HEADER JOIST MAY BE A SINGLE MEMBER THE SAME SIZE AS THE CEILING JOIS RAFTER. SINGLE TRIMMER JOISTS MAY BE USED TO CARRY A SINGLE HEADER JOIST LOCATED WITHIN 3' OF THE TRIMMER HANGERS SHALL BE USED FOR THE HEADER-JOIST TO TRIMMER-JOIST CONNECTIONS WHEN THE HEADER JOIST SPAN EXCEEDS 6'. TAIL JOISTS OVER 12' LONG SHALL BE SUPPORTED AT THE HEADER BY FRAMING ANCHORS OR ON LEDGER STRIPS MINIMUM 2"x2". (CRC R502.10) TRUSS FLOOR AND ROOF FRAMING
- 6.91 THE TRUSS SUPPLIER SHALL PROVIDE CALCULATIONS AND SHOP DRAWINGS OF ALL ROOF TRUSSES. ROOF TRUSSES SHALL COMPLY WITH T.P.I. SPECIFICATIONS. PRIOR TO TRUSS FABRICATION THE CALCULATIONS AND SHOP DRA SUBMITTED TO THE ARCHITECT AND MUNICIPAL JURISDICTION FOR APPROVAL (CBC 2303.4.1 & CRC R802.10.1). 6.92 EACH TRUSS SHALL BE LEGIBLY BRANDED. MARKED OR OTHERWISE HAVE PERMANENTLY AFFIXED THERETO THE FOLLOWING
- INFORMATION LOCATED WITHIN 2' OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM CHORD; THE IDENTITY OF THE 6.28 DIAPHRAGM SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN SO THAT THEIR HEAD OR
- 6.29 ALL WOOD STRUCTURAL PANEL SHEATHING SHALL BE GRADE MARKED BY APA, TECO OR PLT & SHALL CONFORM TO PS 1-95, 6.94 MINIMUM 2" NOMINAL BLOCK REQUIRED BETWEEN TRUSSES AT RIDGE LINES & AT POINTS OF BEARING AT EXTERIOR WALLS 6.95 MINIMUM 1/2-INCH CLEARANCE REQUIRED BETWEEN TOP PLATES OF INTERIOR NON-BEARING PARTITIONS AND BOTTOM 6.30 PLYWOOD FLOOR & ROOF SHEATHING SHALL BE LAID WITH THE LONG DIMENSION AND FACE GRAIN PERPENDICULAR TO THE
 - **ENGINEERED JOIST FRAMING** 6.98 PREFABRICATED WOOD I-JOISTS & I-RAFTERS SHALL BE IN ACCORDANCE WITH CBC 2303.1.2, ASTM D5055 & ICC ESR-1153, OAE. 6.99 ALL PSL & LVL ENGINEERED FRAMING LUMBER SHOWN ON THE PLANS TO BE 2.2E PARALLAM (E=2200 KSI) & 1.9E MICROLAM BEAMS (E=1900 KSI), RESPECTIVELY, AS DESCRIBED IN ICC ESR-1153 & ICC ESR-1387.
- 6.100 GLUED-LAMINATED WOOD TIMBERS SHALL BE IN ACCORDANCE WITH CBC 2303.1.3, NSI/AITC A 190.1 AND ASTM D3737. 6.34 THE ENDS OF EACH FLOOR JOIST, BEAM, OR GIRDER SHALL HAVE MINIMUM 1-1/2 INCHES OF BEARING ON WOOD OR METAL AND 6.101 GLUED-LAMINATED TIMBERS SHALL BE INDUSTRIAL APPEARANCE GRADE, USING EXTERIOR GLUE, COMBINATION SYMBOL 24F-V4 FOR SIMPLE SPANS & 24F-V8 FOR CONTINUOUS SPAN OR CANTILEVERED MEMBERS, UON, GLUED-LAMINATED TIMBERS SHALL BE STAMPED WITH A QUALITY MARK INDICATING CONFORMANCE WITH AITC SPECIFICATIONS. MOISTURE CONTENT
 - SE COMPLYING WITH CBC 2303.1.3.1. GLUED-LAMINATED TIMBERS SHALL BE ALASKAN CEDAR ARCHITECTURAL GRADE, COMBINATION SYMBOL 20F-V12, UON. 6.103 ALL GLUED-LAMINATED WOOD TIMBER SPAN DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION.
 - 6.104 GLUED-LAMINATED TIMBERS SHALL BE FABRICATED IN A PLANT WITH AN APPROVED QUALITY CONTROL SYSTEM & AN AITC FABRICATION LICENSE. 6.105 AN AITC CERTIFICATE OF CONFORMANCE FOR GLUED-LAMINATED TIMBERS IS REQUIRED TO BE SUBMITTED TO THE ARCHITECT
 - 6.106 GLUED-LAMINATED TIMBERS SHALL HAVE A STANDARD CAMBER, UON, RESIDENTIAL APPLICATIONS SHALL USE A STANDARD BER BASED ON A RADIUS OF 3,500 FEET. COMMERCIAL & INDUSTRIAL APPLICATIONS SHALL USE A STANDARD CAMBEI BASED ON A RADIUS OF 2,000 FEET. DECK & BALCONY FRAMING
 - 6.107 EXTERIOR LANDINGS, DECKS, BALCONIES, & STAIRS ELEMENTS SHALL BE POSITIVELY ANCHORED TO THE PRIMARY STRUCTURE TO RESIST BOTH VERTICAL AND LATERAL FORCES OR SHALL BE DESIGNED TO BE SELF-SUPPORTING
 - ALL ROOF COVERING SHALL BE INSTALLED PER APPLICABLE REQUIREMENTS OF CBC 1507. ROOF COVERINGS SHALL BE MINIMUM CLASS A RATED IN ACCORDANCE WITH ASTM E 108 OR UL 790, WHICH SHALL INCLUDE COVERINGS OF SLATE, CLAY OR CONCRETE ROOF TILE, EXPOSED CONCRETE ROOF DECK, FERROUS OR COPPER SHINGLES OR SHEETS
 - FLASHING SHALL BE INSTALLED AT WALL & ROOF INTERSECTIONS, AT GUTTERS, WHEREVER THERE IS A CHANGE IN ROOF SLOPE OR DIRECTION, & AROUND ROOF OPENINGS. WHERE FLASHING IS OF METAL, THE METAL SHALL BE CORROSION-
 - SISTANT WITH A THICKNESS OF NOT LESS THAN 0.019" (26 GALVANIZED SHEET). (CRC R903.2.1) A CRICKET OR SADDLE SHALL BE INSTALLED ON THE RIDGE SIDE OF ANY CHIMNEY OR PENETRATION MORE THAN 30 INCHES WIDE AS MEASURED PERPENDICULAR TO THE SLOPE. CRICKET OR SADDLE COVERING SHALL BE SHEET METAL OR THE SAME
 - 7.5 BATT, RIGID & OTHER INSULATION TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS & APPLICABLE CODES (CBC 720 &1508, CRC R906, 2022 CEC & 2022 CAL GREEN)
 - DOORS, WINDOWS AND SKYLIGHTS
 - 8.3 ALL MANUFACTURED DOORS & WINDOWS MUST MEET ANSI AIR INFILTRATION STANDARDS.
 - 8.4 PROVIDE WEATHERSTRIPPING AROUND ALL EXTERIOR DOORS & WINDOWS AS REQUIRED FOR A WEATHER RESISTIVE BARRIER.
 - 8.6 THE DOOR BETWEEN GARAGE & DWELLING SHALL BE A TIGHT FITTING SOLID WOOD DOOR 1- 3/8" IN THICKNESS WITH SELF-CLOSING ABILITY, UON. (CBC 406.3.2.1) PROVIDE SAFETY TEMPERED GLAZING IN ALL DOORS & AS REQUIRED FOR HAZARDOUS LOCATIONS IN CBC §2406.
 - CBC §1404 (CBC 1404.1) AND CRC §R703 (CRC R703.1)
 - WITH A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3-1/2" SHALL BE PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD WALLS IN ACCORDANCE WITH ASTM C 92. THE WEEP SCREED SHALL BE PLACED A MINIMUM 4 INCHES EXTERIOR OF THE BUILDING. (CRC R703.7.2.1) FLASHING SHALL BE INSTALLED IN SUCH A MANNER SO AS TO PREVENT MOISTURE FROM ENTERING THE WALL OR TO
 - MITH ROOFS, CHIMNEYS, PORCHES, DECKS, BALCONIES AND SIMILAR PROJECTIONS AND AT BUILT-IN GUTTERS AND SIMILAR LOCATIONS WHERE MOISTURE COULD ENTER THE WALL, FLASHING WITH PROJECTING FLANGES SHALL BE INSTALLED ON BOTH SIDES AND THE ENDS OF COPINGS, UNDER SILLS AND CONTINUOUSLY ABOVE PROJECTING TRIM. WHERE SELF-ADHERED MEMBRANES ARE USED AS FLASHINGS OF FENESTRATION IN WALL ASSEMBLIES, THOSE SELF-ADHERED FLASHINGS SHALI COMPLY WITH AAMA 711. WHERE FLUID APPLIED MEMBRANES ARE USED AS FLASHING FOR EXTERIOR WALL OPENINGS, THOSE FLUID APPLIED MEMBRANE FLASHINGS SHALL COMPLY WITH AAMA 714. (CBC 1404.4 & CRC R703.4)
 - WALLS. SUCH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, WITH THE UPPER LAYER LAPPED OVER THE LOWER HE TOP OF WALLS AND TERMINATED AT PENETRATIONS AND BUILDING APPENDAGES IN A MANNER TO MAINTAIN A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. (CRC R703.2)
 - CRC §R702 (CRC R702.1) ARE SPACED 24" OC (CRC R702.3.1.1 & CRC TABLE R702.3.5). 9.8 USE 5/8" TYPE X GYPSUM BOARD AT ALL GARAGE SURFACES COMMON TO THE RESIDENCE, FROM FLOOR TO ROOF SHEATHING
 - 9.8 GYPSUM BOARD ATTACHMENT SHALL BE 6d COOLER OR WALLBOARD NAIL; 1-5/8" LONG; 0.086" RING SHANK; 15/64" HEAD @ 7" OC OR #6 TYPE S OR W 1-1/4" LONG GYPSUM BOARD SCREWS @ 7" OC @ ALL STUDS, JOISTS, RAFTERS & PLATES. OF APPROVED EQUAL AS SHOWN IN CRC TABLE R702.3.5 (CBC TABLE 2508.6 & 2508.6.4; CRC TABLE R702.3.5 & CRC TABLE R702.3.6) 9.9 ALL SURFACES SHALL BE PAINTED WITH A CLASS III FLAME SPREAD MATERIAL, WITH 1 PRIMER COAT AND 2 FINISH COATS,
 - FLOORS & UP WALLS TO PROVIDE A WATERPROOF UNDERLAYMENT (CBC SECTION 1209.2). 9.12 PAINTED OR STAINED WOOD BASE BOARD SHALL BE PROVIDED AT THE BASE OF ALL INTERIOR WALLS EXCEPT WHERE MOISTURE RESISTANCE IS REQUIRED. PAINTED OR STAINED WOOD CASING SHOULD BE PROVIDED AT ALL INTERIOR OPENINGS AND AT THE INTERIOR SIDE OF EXTERIOR OPENINGS. THIS MAY BE SUPERCEDED IF SPECIFIC DETAILS ARE PROVIDED ON THE
 - 10.1 CONSTRUCTION OF MASONRY FIREPLACES AND/OR CHIMNEYS, CONSISTING OF CONCRETE OR MASONRY, SHALL BE IN ACCORDANCE WITH CBC §2111 & CBC §2113 (CBC 2111.1 & 2111.1.1) AND CRC §R1001 & CRC §1003 (CRC R1001.1 & CRC R1003.1) 10.2 FACTORY-BUILT ELECTRIC FIREPLACES SHALL BE LISTED & LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE
 - CHIMNEY SHALL EXTEND MINIMUM 3 FEET ABOVE HIGHEST POINT WHERE CHIMNEY PASSES THROUGH ROOF. (CRC R1003.9) 10.4 DECORATIVE SHROUDS SHALL NOT BE INSTALLED AT THE TERMINATION OF CHIMNEYS, WITH CODE APPROVED SPARK SPECIFIC FACTORY-BUILT FIREPLACE SYSTEM AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS
 - 10.7 EACH BATHROOM SHALL HAVE A MINIMUM OF 1 TOWEL BAR, ROBE HOOK AND BATH TISSUE HOLDER.
 - ATTACHED FOR APPROVAL BEFORE INSTALLATION. (CEC 110.1) SEE T24 DOCUMENTATION SHEETS AND CALCULATIONS FOR MORE INFORMATION ON WATER HEATING, SPACE HEATING, AND COOLING EQUIPMENT SPECIFICATIONS AND REQUIREMENTS. FURNISHINGS

ISTALL KITCHEN, BATH & OTHER CABINETS AS SHOWN ON THE DRAWINGS. CABINET TYPE, FINISH & DESIGN TO BE AS SHOWN

- 6.77 ROOF AND CEILING FRAMING SHALL BE IN ACCORDANCE WITH CBC \$2308.7 & CRC CHAPTER 8.
- 6.78 SPAN LIMITATIONS FOR CEILING JOISTS SHALL BE IN ACCORDANCE WITH CBC TABLE 2308.7.1(1), 2308.7.1(2), CRC TABLES
- BEAMS SHALL NOT EXCEED 1/6 THE MEMBER DEPTH, SHALL BE NOT LONGER THAN 1/3 THE MEMBER DEPTH, AND SHALL NOT BE
- ATED IN THE MIDDLE 1/3 THIRD OF THE SPAN. NOTCHES AT MEMBER ENDS SHALL NOT EXCEED 1/4 THE MEMBER DEPTH. THE TENSION SIDE OF MEMBERS 4" OR GREATER IN NOMINAL THICKNESS SHALL NOT BE NOTCHED EXCEPT AT MEMBER ENDS HE Ø OF HOLES BORED OR CUT INTO MEMBERS SHALL NOT EXCEED1/3 THE MEMBER DEPTH. HOLES SHALL NOT BE CLOS THAN 2" TO THE TOP OR BOTTOM OF THE MEMBER OR TO ANY OTHER HOLE LOCATED IN THE MEMBER. WHERE THE MEMBER IS
- ENGINEER-DESIGNED GIRDER. (CBC 2808.7.3 & CRC R802.3.1)
- RIDGES, HIPS, AND VALLEYS. RAFTERS SHALL BE FRAMED TO A RIDGE BOARD OR TO EACH OTHER WITH A GUSSET PLATE AS A TIE. RIDGE BOARDS SHALL BE MINIMUM 1" NOMINAL THICKNESS AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER AT ALL VALLEY AND HIPS, THERE SHALL BE A VALLEY OR HIP RAFTER NOT LESS THAN 2" NOMINAL THICKNESS & NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER. HIP AND VALLEY RAFTERS SHALL BE SUPPORTED AT THE RIDGE BY A BRACE TO A
- OLLAR TIES SHALL BE A MINIMUM 1"x4" NOMINAL AND SPACED AT MAXIMUM 4' OC. (CRC R802.3.1) RAFTERS THEY SUPPORT. PURLINS SHALL BE CONTINUOUS AND SHALL BE SUPPORTED BY 2"x4" NOMINAL BRACES INSTALLED
- 6.90 OPENINGS IN ROOF AND CEILING FRAMING SHALL BE FRAMED WITH A HEADER AND TRIMMER JOISTS. WHEN THE HEADER JOIST JOIST BEARING. WHEN THE HEADER JOIST SPAN EXCEEDS 4' THE TRIMMER JOISTS AND HEADER JOIST SHALL BE DOUBLED AND OF SUFFICIENT CROSS SECTION TO SUPPORT THE CEILING JOISTS OR RAFTERS FRAMING INTO THE HEADER. APPROVED
- COMPANY MANUFACTURING THE TRUSS, THE DESIGN LOAD OF THE TRUSS & THE REQUIRED SPACING OF THE TRUSSES. (CBC 6.93 WHEN LATERAL BRACING OF WEB MEMBERS IN TRUSSES IS REQUIRED THE LATERAL BRACE SHALL END ON AN EXTERIOR BEARING WALL OR IN SOLID ROOF SHEATHING. (CBC 2303.4.1.2 & CRC R802.10.3)
- 6.96 ROOF TRUSSES SHALL BE CONNECTED TO SHEAR WALL TOP PLATES WITH BLOCKING BETWEEN THE TRUSSES. (CRC R602.10.8) 6.97 ALL TRUSS SPAN DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO ORDERING AND PURCHASING OF TRUSSES.
- GLUED-LAMINATED WOOD TIMBERS
- SHALL NOT EXCEED 14%. 16d NAILS AT 12" OC, STAGGERED, TOP & BOTTOM. BOLT ALL TRIPLE 2x JOISTS WITH 1/2"Ø BOLTS AT 18" OC, STAGGERED, TOP & 6.102 WHERE GLUED-LAMINATED TIMBERS ARE EXPOSED TO WEATHER, FABRICATION AND ADHESIVES SHALL BE SUITABLE FOR WET
 - AND/OR STRUCTURAL ENGINEER AND THE MUNICIPAL JURISDICTION PRIOR TO INSTALLATION.
 - ATTACHMENT SHALL NOT BE ACCOMPLISHED BY USE OF TOENAILS OR NAILS SUBJECT TO WITHDRAWAL. (CRC R311.3) ROOFING, THERMAL AND MOISTURE PROTECTION
 - ROOFING MATERIAL & ITS APPLICATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS, MATERIAL ICC ESR REPORT, &

 - MATERIAL AS THE ROOF COVERING. (CRC R903.2.2) INSULATION
 - DOOR & WINDOW SIZES AND OPERATION SHALL BE AS SHOWN IN THE PLANS AND SCHEDULES. 8.2 ALL DOORS & WINDOWS SHALL BE PROVIDED WITH HARDWARE FOR PROPER OPERATION.
 - 8.5 NEW GLAZING SHALL BE INSTALLED WITH A U-VALUE & SHGC CERTIFICATE ATTACHED SHOWING COMPLIANCE WITH ENERGY
 - 8.9 PROVIDE SKYLIGHTS IN THE SIZES INDICATED ON THE PLANS. INSTALL SKYLIGHTS PER MANUFACTURER'S SPECIFICATIONS & APPLICABLE CODES. SKYLIGHTS SHALL HAVE AN APPROVED TESTING AGENCY REPORT. (CBC §2405). EXTERIOR WALL COVERINGS SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF A MINIMUM 0.019" (# 26 GALVANIZED SHEET GAUGE), CORROSION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED
 - BOVE THE EARTH OR 2 INCHES ABOVE PAVED AREAS & SHALL BE OF A TYPE ALLOWING TRAPPED WATER TO DRAIN TO THE REDIRECT THAT MOISTURE TO THE EXTERIOR. FLASHING SHALL BE INSTALLED AT THE PERIMETERS OF EXTERIOR DOOR AND WINDOW ASSEMBLIES, PENETRATIONS AND TERMINATIONS OF EXTERIOR WALL ASSEMBLIES, EXTERIOR WALL INTERSECTIONS
 - A MINIMUM OF ONE LAYER OF NO. 15 ASPHALT FELT SHALL BE ATTACHED TO STUDS OR SHEATHING OF ALL EXTERIOR LAYER MINIMUM 2 INCHES, WHERE JOINTS OCCUR, FELT SHALL BE LAPPED MINIMUM 6". THE FELT SHALL BE CONTINUOUS TO
 - WHEN CEMENT PLASTER IS INSTALLED OVER SOLID WOOD SHEATHING INSTALL 2 LAYERS GRADE D BUILDING PAPER OVER WOOD SHEATHING, OAE (CBC SECTION 2510.6). 9.6 INTERIOR WALL COVERINGS SHALL BE DESIGNED & CONSTRUCTED IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF 9.7 USE 1/2" GYPSUM BOARD AT ALL INTERIOR WALLS & CEILINGS. USE 5/8" GYPSUM BOARD WHERE STUDS, JOISTS OR RAFTERS
 - & AT CEILINGS (CBC SECTION 406.3.2.1; CRC TABLE R302.6).
 - EXCEPT FLAME SPREAD PROVISIONS ARE NOT APPLICABLE IN KITCHEN AND BATHROOMS (CBC 803.1). 9.10 SHOWER & TUB/SHOWER COMBINATIONS WALLS MUST BE FINISHED TO A HEIGHT OF 72" ABOVE THE DRAIN INLET WITH A SMOOTH, HARD, NON- ABSORBENT SURFACE MATERIAL (CBC SECTION 1209.2.3). JSE AN APPROVED BASE MATERIAL AT BATHTUB & SHOWER WALLS AND USE ASPHALTIC MEMBRANE MATERIAL AT SHOWER
 - PLANS FOR BASEBOARD AND CASING DIFFERENT FROM THIS SPECIFICATION.
 - CONDITIONS OF THE LISTING AND APPLICABLE BUILDING CODES. 10.3 CHIMNEY CLEARANCE OF MINIMUM 2-FOOT REQUIRED ABOVE BUILDING WITHIN 10-FOOT HORIZONTAL LY OF CHIMNEY THE
 - INTERIOR ACCESSORIES 10.8 EACH CLOSET SHALL HAVE A SHELF AND POLE AS SHOWN IN THE PLANS. DOUBLE SHELF AND POLE AT WALK IN CLOSETS, TYP.
 - ALL ELECTRIC APPLIANCES SHALL COMPLY WITH THE CURRENT CEC TITLE 20, DIVISION 2, CHAPTER 4, ARTICLE 4, SECTION: 1601-1609, APPLIANCE EFFICIENCY STANDARDS. APPLIANCES MUST HAVE THE CALIFORNIA ENERGY COMMISSION SEAL
- 12.2 INSTALL KITCHEN, BATH & OTHER CABINET COUNTERTOPS & SPLASHES AS SHOWN ON THE DRAWINGS. COUNTERTOP & SPLASH TYPE, FINISH & DESIGN TO BE AS SHOWN ON THE DRAWINGS OR AS SELECTED BY THE PROJECT OWNER. 13 SPECIAL CONSTRUCTION & ENERGY REQUIREMENTS 6.74 PROVIDE SIMPSON CO ST6236 STRAP HORIZONTAL @ ALL SHEAR WALL DRAG LINES BREAKS & DIAPHRAGM EDGE NAILING, OAE. 6.75 AT FLOOR FRAMING SHEAR WALL PANEL WILL RUN UP TO DTP WITH EDGE NAIL & METAL ANCHOR PER SHEAR WALL SCHEDULE

ON THE DRAWINGS OR AS SELECTED BY THE PROJECT OWNER.

- AVAILABLE AT NECESSARY INTERVALS FOR BUILDING INSPECTOR REVIEW. FINAL COMPLETED FORMS WILL BE AVAILABLE FOR THE
 - 14.2 PROVIDE A MINIMUM CLEARANCE OF 30" WIDE BY 24" DEEP IN FRONT OF WATER CLOSETS. (CPC 402.5) 14.3 SHOWER COMPARTMENTS SHALL HAVE MINIMUM AREA OF 1024 SQUARE INCHES & BE ABLE TO ENCOMPASS A 30" Ø CIRCLE. SHOWER DOORS SHALL HAVE A MINIMUM 22-INCH UNOBSTRUCTED WIDTH. (CPC 408.5 AND CPC 408.6)

CALIFORNIA BUILDING, RESIDENTIAL & PLUMBING CODE REQUIREMENTS. (CBC, CRC, CPC)

14.4 ALL PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH THE FOLLOWING WATER CONSERVING REQUIREMENTS PER

14.1 THE PLUMBING SYSTEM INSTALLATION & OPERATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS & SHALL MEET

13.1 COMPLIANCE WITH THE DOCUMENTATION REQUIREMENTS OF THE 2022 ENERGY EFFICIENCY STANDARDS IS NECESSARY FOR THIS

PROJECT. REGISTERED, SIGNED, AND DATED COPIES OF THE APPROPRIATE CF1R, CF2R, AND CF3R FORMS SHALL BE MADE

- WATER CLOSETS: MAXIMUM 1.28 GALLONS PER FLUSH URINALS: MAXIMUM 0.5 GALLONS PER FLUSH EXCEPT WALL MOUNTED URINALS AT 0.125 GALLONS PER FLUSH
- SINGLE SHOWERHEADS: MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 80 PSI MULTIPLE SHOWERHEADS SERVING ONE SHOWER: MAXIMUM COMBINED FLOW RATE OF 1.8 GALLONS PER MINUTE AT 80 PSI LAVATORY FAUCETS: MAXIMUM FLOW RATE OF 1.2 GALLONS PER MINUTE AT 60 PSI, MINIMUM FLOW RATE OF 0.8 GALLONS PER
- KITCHEN FAUCETS: MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI EXEMPTION TO F: TEMPORARY INCREASE ALLOWED TO MAXIMUM 2.2 GALLONS PER MINUTE AT 60 PSI IF FAUCET DEFAULTS BACK TO MAXIMUM 1.8 GALLONS PER MINUTE AT 60 PSI 14.5 FOR ADDITIONS OR IMPROVEMENTS TO A RESIDENCE BUILT REFORE 1994 - EXISTING "NONCOMPLIANT" FIXTURES (TOILETS THAT USE MORE THAN 1.6 GALLONS OF WATER PER FLUSH, URINALS THAT USE MORE THAN ONE GALLON OF WATER PER FLUSH, URINALS THAT USE MORE THAN ONE GALLON OF WATER PER FLUSH, SHOWER HEADS THAT HAVE A FLOW CAPACITY OF MORE THAN 2.5 GALLONS OF WATER PER MINUTE, AND INTERIOR FAUCETS THAT EMIT
- MORE THAN 2.2 GALLONS OF WATER PER MINUTE) SHALL BE REPLACED. CERTIFICATION OF COMPLIANCE SHALL BE GIVEN TO THE BUILDING INSPECTOR PRIOR TO FINAL PERMIT APPROVAL. CALIFORNIA SB407. 14.6 ALL HOT WATER PIPING SIZED ¾" OR LARGER IS REQUIRED TO BE INSULATED AS FOLLOWS: 1" PIPE SIZE OR LESS: 1" THICK INSULATION; LARGER PIPE SIZES REQUIRE 11/2" THICK INSULATION. NOTE: IN ADDITION, THE 1/2" SIZE HOT WATER PIPE TO THE KITCHEN SINK IS REQUIRED TO BE INSULATED. (CPC 609.11 & CEC 120.3)
- BATHTUBS AND WHIRLPOOL BATHS SHALL BE PROVIDED WITH A TRAP DOOR OR ACCESS WITHIN 20 FEET OF THE PUMP. (CPC
- 14.8 A MINIMUM OF TWO 3/4" BY 24 GAUGE STRAPS ARE REQUIRED AROUND TANK WATER HEATERS, WITH 1/4" BY 3" LAG BOLTS TACHED DIRECTLY TO FRAMING. STRAPS SHALL BE AT POINTS WITHIN UPPER 1/3 & LOWER 1/3 THIRD OF THE WATER
- HEATER VERTICAL DIMENSION. LOWER CONNECTION SHALL OCCUR A MINIMUM OF 4" ABOVE CONTROLS. (CPC 507.2) 14.9 PROVIDE IMPACT PROTECTION OF APPLIANCES IN GARAGES, WATER HEATERS & HEATING/COOLING EQUIPMENT SUBJECT TO VEHICULAR IMPACT SHALL BE PROTECTED BY BOLLARDS OR AN EQUIVALENT MEASURE. (CPC 507.13.1 & CMC 305.11) 14. 10 PROVIDE RAISED PLATFORM FOR APPLIANCES IN GARAGES. WATER HEATERS AND HEATING/COOLING EQUIPMENT CAPABLE OF
- IGNITING FLAMMABLE VAPORS SHALL BE PLACED ON A MINIMUM 18" HIGH PLATFORM UNLESS LISTING REPORT NUMBER PROVIDED SHOWING IGNITION RESISTANT APPLIANCE. (CBC 406.2.9.1, CPC 507.13 & CMC 305.1) 14. 11 IN SHOWERS, TUB-SHOWER COMBINATIONS, BATHTUBS & WHIRLPOOL BATHTUBS, CONTROL VALVES MUST BE PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES (CPC SECTION 408.3). 14 12 ALL HOSE BIBBS & LANDSCAPE IRRIGATION SYSTEMS SHALL HAVE APPROVED BACKFLOW PREVENTION DEVICES. (CPC 603.3)

EXHAUSTING AIR FROM THE BUILDING ENVELOPE TO THE OUTSIDE SHALL BE PROVIDED WITH BACKDRAFT DAMPERS

- 15.1 ALL BATHROOMS, LAUNDRY ROOMS & SIMILAR ROOMS SHALL BE PROVIDED WITH NATURAL VENTILATION OR A MECHANICA VENTILATION SYSTEM CAPABLE OF PROVIDING 5 AIR CHANGES PER HOUR. ALL SUCH ENERGY STAR COMPLIANT FAN SYSTEMS
- INSTALLED TO PREVENT AIR LEAKAGE (CBC 1202.5.2.1 & CMC 402.5 CALGREEN 4.506). 15.2 CLOTHES DRYER SHALL BE VENTED OUTSIDE THE BUILDING ENVELOPE. USE 4"Ø SHEET METAL PIPE MINIMUM WITH A MAXIMUM PIPE LENGTH OF 14'- 0" WITH TWO 90 DEGREE ELBOWS (CMC SECTION 504.4). THE DISCHARGE POINT FOR EXHAUST AIR WILL BE AT LEAST 3 FEET FROM ANY OPENING WHICH ALLOWS AIR ENTRY INTO OCCUPIED PORTIONS OF THE BUILDING. (CMC 502.2.2)
- 15.4 ATTIC VENTING AREA SHALL BE NOT LESS 1/150 OF THE AREA OF THE SPACE VENTILATED, EXCEPT THAT THE AREA MAY BE 1/300 PROVIDED AT LEAST 50% OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3' ABOVE EAVE & CORNICE VENTS WITH THE BALANCE OF THE REQUIRED VENTING PROVIDED BY EAVE & CORNICE VENTS (CBC SECTION 1202.2.1). 15.5 VENT OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANCE METAL MESH WITH OPENINGS 1/8" IN DIMENSION MAXIMUM. (CBC SECTION 1202.2.2)
- PASSAGEWAY TO THE MECHANICAL EQUIPMENT IN ATTIC OR UNDER FLOOR SHALL BE UNOBSTRUCTED & HAVE CONTINUOUS SOLID FLOORING NOT LESS THAN 24" WIDE, NOT MORE THAN 20' IN LENGTH THROUGH THE SPACE TO A 30" SQUARE WORK PLATFORM WITH A LIGHT FIXTURE AND OUTLET. (CMC 304.4) MECHANICAL VENTUATION AND INDOOR AIR OLIALITY (ASHRAE 62 2-2010) 15.7 VENTILATION AIR SHALL BE PROVIDED DIRECTLY FROM THE OUTDOORS AND NOT AS TRANSFER AIR FROM ADJACENT

DWELLING UNITS OR OTHER SPACES, SUCH AS GARAGES, UNCONDITIONED CRAWLSPACES, OR UNCONDITIONED ATTICS.

AIR HANDLERS OR RETURN DUCTS LOCATED IN GARAGES SHALL HAVE TOTAL AIR LEAKAGE OF NO MORE THAN 6% OF TOTAL

15.8 VENTILATION SYSTEM CONTROLS SHALL BE LABELED AND THE HOME OWNER SHALL BE PROVIDED WITH INSTRUCTIONS ON

HOW TO OPERATE THE SYSTEM. (CBEES 150.0(O)) 15.9 COMBUSTION APPLIANCES SHALL BE PROPERLY VENTED AND AIR SYSTEMS SHALL BE DESIGNED TO PREVENT BACK DRAFTING. (CBEES 150.0(O)) 15. 10 THE WALL AND OPENINGS BETWEEN OCCUPIABLE SPACES & THE GARAGE SHALL BE SEALED. HVAC SYSTEMS THAT INCLUDE

(CBEES 150.0(O))

16 ELECTRICAL

- FAN FLOW WHEN MEASURED AT 0.1 IN. W.C. USING CALIFORNIA TITLE 24 OR EQUIVALENTS. (CBEES 150.0(O)) 15.11 MECHANICAL SYSTEMS SUPPLYING AIR TO OCCUPIABLE SPACE THROUGH DUCTWORK SHALL BE PROVIDED WITH A FILTER HAVING A MINIMUM EFFICIENCY OF MERV 6 OR BETTER. (CBEES 150.0(O)) 15. 12 AIR MOVING EQUIPMENT USED TO MEET EITHER THE WHOLE-BUILDING VENTILATION REQUIREMENT OR THE LOCAL VENTILATION EXHAUST REQUIREMENT SHALL BE RATED IN TERMS OF AIRFLOW AND SOUND. (CBEES 150.0(O))
- B. INTERMITTENTLY OPERATED WHOLE-BUILDING VENTILATION FANS SHALL BE RATED AT A MAXIMUM OF 1.0 SONE C. INTERMITTENTLY OPERATED LOCAL EXHAUST FANS SHALL BE RATED AT MAXIMUM OF 3.0 SONE, UNLESS THEIR MAXIMUM RATED AIRFLOW EXCEEDS 400 CFM. D. REMOTELY LOCATED AIR-MOVING EQUIPMENT (MOUNTED OUTSIDE OF HABITABLE SPACES) NEED NOT MEET SOUND

A. ALL CONTINUOUSLY OPERATING FANS SHALL BE RATED AT A MAXIMUM OF 1.0 SONE.

REQUIREMENTS IF AT LEAST 4' OF DUCTWORK BETWEEN FAN AND INTAKE GRILL

- 16.1 ALL ELECTRICAL INSTALLATION SHALL MEET 2022 CALIFORNIA ELECTRICAL CODE REQUIREMENTS. (CEC) PROVIDE UFER GROUND AT ELECTRIC SERVICE LOCATION IN FOUNDATION. GROUND SHALL BE A 20' LONG #4 REINFORCING BAR, OAE. (CEC 210.50(3) ONE SHOULD BE PROVIDED AT EACH SEPARATE STRUCTURE ON THE PROPERT
- 16.3 RECEPTACLE OUTLET LOCATION PER CEC ARTICLE 210 BRANCH CIRCUITS. SECTION 210.52. (CEC 210.52) 16.4 ELECTRICAL CIRCUITS IN BEDROOMS, LIVING ROOMS, DINING ROOMS, DENS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS MUST BE PROTECTED BY ARC FAULT CIRCUIT INTERRUPTERS (AFCI), (CEC 210.12)
- 16.5 GROUND FAULT CIRCUIT INTERRUPTER (GFCI) OUTLETS ARE REQUIRED IN BATHROOMS, AT KITCHEN COUNTERTOPS, AT LAUNDRY AND WET BAR SINKS, IN GARAGES, IN CRAWLSPACES, IN UNFINISHED BASEMENTS, & OUTDOORS. (CEC 210.8) 16.6 BATH RECEPTACLE OUTLIETS SHALL BE SUPPLIED BY A MINIMUM OF ONE 20 AMP CIRCUIT, SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. THIS CIRCUIT MAY SERVE MULTIPLE BATHS (CEC 210-52(D 16.7X TAMPER RESISTANT RECEPTACLES ARE REQUIRED FOR ALL LOCATIONS DESCRIBED IN 210.52 (I.E. ALL RECEPTACLES IN A
- 16.8 WEATHER RESISTANT TYPE FOR RECEPTACLES INSTALLED IN DAMP, WET OR EXTERIOR LOCATIONS. (CEC 210-52(E)). 16.9 OUTLETS WILL BE WITHIN 6' OF ANY OPENING & NOT TO EXCEED A SPACING OF 12' A PART. ANY ISOLATED WALL 2' OR WIDE TO HAVE AN OUTLET. (CEC 210.52) 16. 10 INSTALLED LUMINAIRES SHALL MEET THE EFFICACY & FIXTURE REQUIREMENTS OF CBEES 150.0(K).
- 16. 11 ALL LUMINAIRES INSTALLED IN LOW-RISE RESIDENTIAL CONSTRUCTION MUST BE HIGH EFFICACY. PERMANENTLY INSTALLED LUMINAIRES INCLUDE CEILING LUMINAIRES. CHANDELIERS, VANITY LAMPS, WALL SCONCES, UNDER CABINET LUMINAIRES, AND OTHER TYPE OF LUMINAIRE THAT IS ATTACHED TO THE HOUSE. PERMANENTLY INSTALLED LUMINAIRES INCLUDE HARD WIRED OR PLUG-IN LUMINAIRES. (CEC 6.2) 16 12 ALL PERMANENTLY INSTALLED LUMINAIRES WITH INTERCHANGEABLE LAMPS MUST CONTAIN LAMPS THAT COMPLY WITH THE
- REQUIREMENTS OF, AND BE MARKED AS, JA8-2019 HIGH EFFICACY LUMINAIRES. (CEC 6.2.1 & 6.2.2) 16. 13 LIGHT SOURCES MUST BE MARKED JA8-2016-E OR JA8-2019-E IF THEY ARE INSTALLED IN ENCLOSED OR RECESSED LUMINAIRES AN ENCLOSED LUMINAIRE IS DEFINED AS HAVING VENTILATION OPENINGS < 3 SQUARE INCHES PER LAMP. (CEC 6.2.3) 16. 14 AT LEAST ONE LUMINAIRE IN EACH BATHROOM, GARAGE, LAUNDRY ROOM, AND UTILITY ROOM MUST BE CONTROLLED BY A VACANCY SENSOR. PRESET SCENE CONTROLLERS AND EMCS CAN TAKE THE PLACE OF SENSORS AND DIMMERS AS LONG AS
- 16. 15 RECESSED LIGHTS SHOWN IN SLOPED CEILINGS SHALL BE A MODEL DESIGNED TO PROVIDE A PERPENDICULAR LIGHT SOURCE 16. 16 ALL EXTERIOR PROJECT LIGHTING SHALL COMPLY WITH THE LIGHTING ORDINANCE OF THE GOVERNING MUNICIPALITY. 16. 17 ALL EXTERIOR LIGHTING SHALL BE HIGH EFFICACY, OAE (CEC 6.5.1) 16. 18 ALL EXTERIOR LIGHTING MUST BE CONTROLLED BY A MANUAL ON AND OFF SWITCH AND ONE OF THE FOLLOWING

THE FUNCTIONALITY MEETS THE ENERGY CODE REQUIREMENTS. (CEC 6.3.1 F)

AUTOMATIC CONTROL TYPES 8,8 EXTERIOR OPENINGS EXPOSED TO WEATHER SHALL BE FLASHED IN A MANNER AS TO MAKE THEM WATERPROOF (CBC 1405.3). A PHOTO CONTROL AND MOTION SENSOR: OR IOTO CONTROL AND AUTOMATIC TIME SWITCH CONTROL; OR C. ASTRONOMICAL TIME CLOCK CONTROL THAT AUTOMATICALLY TURNS THE OUTDOOR LIGHT OFF DURING DAYLIGHT HOURS: D. EMCS THAT PROVIDES THE FUNCTIONALITY OF AN ASTRONOMICAL TIME CLOCK, DOES NOT HAVE AN OVERRIDE OR BYPASS

TCH THAT ALLOWS THE LUMINAIRE TO BE ALWAYS ON, & IS PROGRAMMED TO AUTOMATICALLY TURN THE OUTDOOR LIGH

- OFF DURING DAYLIGHT HOURS. (CEC 6.5.2) 16. 19. A COMPLETE LIST OF INSTALLED LIGHTING SYSTEMS, INCLUDING THE LIGHTING SCHEDULE, ALL INFORMATION NECESSARY TO OPERATE AND MAINTAIN THE LIGHTING SYSTEM, AND REFERENCES TO SUPPORT FUTURE UPGRADES TO THE LIGHTING SYSTEM MUST BE PROVIDED TO THE HOMEOWNER PRIOR TO A FINAL INSPECTION. (CEC. 6.9.1) 16. 20 FORM CF2R-LTG-01-E MUST BE COMPLETED & A COPY BE PROVIDED TO THE INSPECTOR AT THE FINAL INSPECTION. (CEC 6.8.1)
- IN REMOVAL OF INTERIOR WALL OR CEILING FINISHES & WITHOUT ACCESS VIA AN ATTIC, CRAWL SPACE, OR BASEMENT. (CRC 16, 22 SMOKE DETECTORS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BLIII DING WIRING & SHALL BE FOLIPPED WITH A BATTERY BACKUP. SMOKE DETECTORS MAYBE SOLELY BATTERY POWERED WHEN INSTALLED IN EXISTING BUILDINGS. (CRC 16. 23 CARBON MONOXIDE DETECTORS ARE REQUIRED OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF

SLEEPING ROOMS & ON EACH STORY OF A DWELLING INCLUDING BASEMENTS. BATTERY-OPERATED DETECTORS ARE

INTERIOR WALL OR CEILING FINISHES & WITHOUT ACCESS VIA AN ATTIC, CRAWL SPACE, OR BASEMENT. (CRC R315.3)

16. 21 SMOKE DETECTORS ARE REQUIRED IN EACH EXISTING SLEEPING ROOM, OUTSIDE EACH SEPARATE SLEEPING AREA IN THE

IMMEDIATE VICINITY OF SLEEPING ROOMS, & ON EACH STORY OF A DWELLING INCLUDING BASEMENTS. BATTERY-OPERATED

DETECTORS ARE ACCEPTABLE IN EXISTING AREAS WITH NO CONSTRUCTION TAKING PLACE & IN ALTERATIONS NOT RESULTING

ACCEPTABLE IN EXISTING AREAS WITH NO CONSTRUCTION TAKING PLACE & IN ALTERATIONS NOT RESULTING IN REMOVAL OF

THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL THE ALARMS IN

16. 24 CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING IS SERVED FROM A COMMERCIAL SOURCE AND, WHERE PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A BATTERY. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVER-CURRENT 16. 25 WHERE MORE THAN ONE SMOKE, CARBON MONOXIDE OR COMBINATION SMOKE/CARBON MONOXIDE DETECTOR IS REQUIRED,

16. 26 COMBUSTIBLE INSULATION CLEARANCE. COMBUSTIBLE INSULATION SHALL BE SEPARATED MINIMUM 3 INCHES FROM

RECESSED LUMINAIRES, FAN MOTORS, AND OTHER HEAT-PRODUCING DEVICES. (CRC R302.14)

THE RESIDENCE. (CRC R314.4 & R315.5)

FOR CITY STAMPS

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO

PERSONS OR PROPERTY,

INCLUDING INJURY OR DEATH, OR

ECONOMIC LOSSES, ARISING OUT

OF THE USE OF THESE

CONSTRUCTION DOCUMENTS.

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6 8 2 S E C O N D S T

STUDIO PRADU

ANAHEIM

202409R

GENERAL

SPECIFICATIONS

RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER

allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

not exceed 1.2 gallons per minute at 60 psi. T	The maximum flow rate of residential lavatory faucets she minimum flow rate of residential lavatory faucets sha		 5. Educational material on the positive i and what methods an occupant may 6. Information about water-conserving l
not be less than 0.8 gallons per minute at 20 p 4.303.1.4.2 Lavatory Faucets in Common at			water. 7. Instructions for maintaining gutters at feet away from the foundation.
4.303.1.4.3 Metering Faucets NOT USED			Information on required routine maint painting, grading around the building Information about state solar energy
per minute at 60 psi. Kitchen faucets may tem	flow rate of kitchen faucets shall not exceed 1.8 gallons porarily increase the flow above the maximum rate, but I must default to a maximum flow rate of 1.8 gallons per	not	10. A copy of all special inspections veri 11. Information from the Department of I space around residential structures. 12. Information and/or drawings identifyi
Note : Where complying faucets are unavailab reduction.	le, aerators or other means may be used to achieve		4.410.2 RECYCLING BY OCCUPANTS. Whe building site, provide readily accessible area(s)
4.303.1.4.5 Pre-rinse spray valves NOT US			depositing, storage and collection of non-hazar corrugated cardboard, glass, plastics, organic v ordinance, if more restrictive.
303.2 Submeters for multifamily buildings and dwellin uildings NOT USED			Exception: Rural jurisdictions that meet 42649.82 (a)(2)(A) et seq. a
303.3 Standards for plumbing fixtures and fittings. Pleordance with the California Plumbing Code, and shall me 101.1 of the California Plumbing Code. NOTE:			DIVISION 4.5 ENVIRONN SECTION 4.501 GENERAL
THIS TABLE COMPILES THE DATA IN SECTION 4 CONVENIENCE FOR THE USER.	.303.1, AND IS INCLUDED AS A		4.501.1 Scope The provisions of this chapter shall outline mea
TABLE - MAXIMUM FIXTURE WATER FIXTURE TYPE	USE FLOW RATE		irritating and/or harmful to the comfort and well SECTION 4.502 DEFINITIONS
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI		5.102.1 DEFINITIONS The following terms are defined in Chapter 2 (a
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20		AGRIFIBER PRODUCTS. Agrifiber products in cores, not including furniture, fixtures and equip
LAVATORY FAUCETS IN COMMON & PUBLIC	0.5 GPM @ 60 PSI		COMPOSITE WOOD PRODUCTS. Composite medium density fiberboard. "Composite wood p
USE AREAS KITCHEN FAUCETS	1.8 GPM @ 60 PSI		structural panels, structural composite lumber, wood I-joists or finger-jointed lumber, all as spe
METERING FAUCETS	0.2 GAL/CYCLE		93120.1. DIRECT-VENT APPLIANCE. A fuel-burning ap
WATER CLOSET URINALS	1.28 GAL/FLUSH 0.125 GAL/FLUSH		combustion from the outside atmosphere and d MAXIMUM INCREMENTAL REACTIVITY (MIF
304 OUTDOOR WATER USE			compound to the "Base Reactive Organic Gas hundredths of a gram (g O³/g ROC). Note: MIR values for individual compounds and
04.1 OUTDOOR POTABLE WATER USE IN LANDSCA cal water efficient landscape ordinance or the current Ca	alifornia Department of Water Resources' Model Water	vith	and 94701.
cient Landscape Ordinance (MWELO), whichever is mor NOTES:	e stringent.		PRODUCT-WEIGHTED MIR (PWMIR). The su
The Model Water Efficient Landscape Ordinance	(MWELO) is located in the California Code Regulations,		article. The PWMIR is the total product reactivit product (excluding container and packaging). Note: PWMIR is calculated according to equation
available at: https://www.water.ca.gov/	porting documents, including water budget calculator, a	are	REACTIVE ORGANIC COMPOUND (ROC). A
VISION 4.4 MATERIAL CONS	ERVATION AND RESOURCE		ozone formation in the troposphere. VOC. A volatile organic compound (VOC) broa
FFICIENCY			with vapor pressures greater than 0.1 millimete hydrogen and may contain oxygen, nitrogen an
406 ENHANCED DURABILITY AND RED 106.1 RODENT PROOFING. Annular spaces around pipe sole/bottom plates at exterior walls shall be protected openings with cement mortar, concrete masonry or a agency.	es, electric cables, conduits or other openings in against the passage of rodents by closing such		4.503 FIREPLACES 4.503.1 GENERAL. Any installed gas fireplace woodstove or pellet stove shall comply with U.S applicable, and shall have a permanent label in
408 CONSTRUCTION WASTE REDUCTION AND ADMINISTRATION OF THE PROPERTY OF THE PRO			pellet stoves and fireplaces shall also comply w 4.504 POLLUTANT CONTROL
08.1 CONSTRUCTION WASTE MANAGEMENT. Recy percent of the non-hazardous construction and demo 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent management ordinance. Exceptions:	lition waste in accordance with either Section		4.504.1 COVERING OF DUCT OPENINGS & I CONSTRUCTION. At the time of rough installa startup of the heating, cooling and ventilating e openings shall be covered with tape, plastic, sh reduce the amount of water, dust or debris whice
Excavated soil and land-clearing debris.			4.504.2 FINISH MATERIAL POLLUTANT COM
 Alternate waste reduction methods developed by recycle facilities capable of compliance with this is close to the jobsite. The enforcing agency may make exceptions to the inhalter capable of the compliance. 	tem do not exist or are not located reasonably e requirements of this section when isolated		4.504.2.1 Adhesives, Sealants and Carequirements of the following standards management district rules apply:
jobsites are located in areas beyond the haul book 8.2 CONSTRUCTION WASTE MANAGEMENT PLAN	Submit a construction waste management plan		Adhesives, adhesive bonding shall comply with local or region applicable or SCAQMD Rule 1
in conformance with Items 1 through 5. The construction necessary and shall be available during construction	tion waste management plan shall be updated as		Such products also shall comp compounds (chloroform, ethylotricloroethylene), except for ae
Identify the construction and demolition waste ma reuse on the project or salvage for future use or salvage for future use or salvage.	sale.		Aerosol adhesives, and smaller
2. Specify if construction and demolition waste mate bulk mixed (single stream).3. Identify diversion facilities where the construction	, , ,		units of product, less packagin than 16 fluid ounces) shall cor prohibitions on use of certain t
taken. 4. Identify construction methods employed to reduce			commencing with section 9450
generated. 5. Specify that the amount of construction and dome		• 1 I	4.504.2.2 Paints and Coatings. Archite
by weight or volume, but not by both.	olition waste materials diverted shall be calculated		the ARB Architectural Suggested Contro
by weight or volume, but not by both.	iste management company, approved by the nentation that the percentage of construction and		the ARB Architectural Suggested Contro apply. The VOC content limit for coating listed in Table 4.504.3 shall be determine coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply.
by weight or volume, but not by both. 08.3 WASTE MANAGEMENT COMPANY. Utilize a warenforcing agency, which can provide verifiable docum	uste management company, approved by the nentation that the percentage of construction and amplies with Section 4.408.1.		the ARB Architectural Suggested Control apply. The VOC content limit for coating listed in Table 4.504.3 shall be determined coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply. 4.504.2.3 Aerosol Paints and Coatings Limits for ROC in Section 94522(a)(2) ar
by weight or volume, but not by both. 108.3 WASTE MANAGEMENT COMPANY. Utilize a warenforcing agency, which can provide verifiable document demolition waste material diverted from the landfill converted. The owner or contractor may make the determinaterials will be diverted by a waste management converted.	iste management company, approved by the nentation that the percentage of construction and amplies with Section 4.408.1. Inination if the construction and demolition waste mpany. LR]. Projects that generate a total combined of in landfills, which do not exceed 3.4		the ARB Architectural Suggested Control apply. The VOC content limit for coating listed in Table 4.504.3 shall be determined coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply. 4.504.2.3 Aerosol Paints and Coatings Limits for ROC in Section 94522(a)(2) are compounds and ozone depleting substate Regulations, Title 17, commencing with Section 2.504.2.3 Aerosol Paints and Coatings Section 94522(a)(2) are compounds and ozone depleting substate Regulations, Title 17, commencing with Section 2.504.2.3 Aerosol Paints and Coatings Section 94522(a)(2) are compounds and ozone depleting substate Regulations, Title 17, commencing with Section 2.504.2.3 Aerosol Paints and Coatings Section 2.504.2.3 Aerosol Paints Section 2.504.2.3 Aerosol Pa
by weight or volume, but not by both. 08.3 WASTE MANAGEMENT COMPANY. Utilize a way enforcing agency, which can provide verifiable docume demolition waste material diverted from the landfill compared. The owner or contractor may make the determinaterials will be diverted by a waste management compared. 08.4 WASTE STREAM REDUCTION ALTERNATIVE [Insurance of the building area shall meet the minimum section 4.408.1 4.408.4.1 WASTE STREAM REDUCTION ALTERN weight of construction and demolition waste disposed per square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area, shall meet the minimum square foot of the building area.	aste management company, approved by the nentation that the percentage of construction and amplies with Section 4.408.1. Inination if the construction and demolition waste mpany. LR]. Projects that generate a total combined of of in landfills, which do not exceed 3.4 a 65% construction waste reduction requirement in the construction waste reduction waste reduction requirement in the construction waste reduction waste reduction requirement in the construction waste reduction waste reducti		the ARB Architectural Suggested Control apply. The VOC content limit for coating listed in Table 4.504.3 shall be determined coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply. 4.504.2.3 Aerosol Paints and Coatings Limits for ROC in Section 94522(a)(2) are compounds and ozone depleting substate Regulations, Title 17, commencing with Suguality Management District additionally 8, Rule 49. 4.504.2.4 Verification. Verification of conforcing agency. Documentation may in Manufacturer's product specification.
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by weight or volume, but not by both. 8.3 WASTE MANAGEMENT COMPANY. Utilize a warenforcing agency, which can provide verifiable docume demolition waste material diverted from the landfill content of the landfill content o	aste management company, approved by the mentation that the percentage of construction and amplies with Section 4.408.1. Inination if the construction and demolition waste mpany. LR]. Projects that generate a total combined of of in landfills, which do not exceed 3.4 of 65% construction waste reduction requirement in a formal company. ATIVE. Projects that generate a total combined of of in landfills, which do not exceed 2 pounds in inimum 65% construction waste reduction ded to the enforcing agency which demonstrates section 4.408.3 or Section 4.408.4 Ifornia Green Building Standards Code CALGreen.html may be used to assist in C & D) processors can be located at the California		the ARB Architectural Suggested Contro apply. The VOC content limit for coating listed in Table 4.504.3 shall be determine coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply. 4.504.2.3 Aerosol Paints and Coatings Limits for ROC in Section 94522(a)(2) ar compounds and ozone depleting substan Regulations, Title 17, commencing with SQuality Management District additionally 8, Rule 49. 4.504.2.4 Verification. Verification of coenforcing agency. Documentation may in 1. Manufacturer's product specific 2. Field verification of on-site process of the site of the
by weight or volume, but not by both. 18.3 WASTE MANAGEMENT COMPANY. Utilize a way enforcing agency, which can provide verifiable docume demolition waste material diverted from the landfill compared to the compared to the compared to the construction and demolition waste disposed lbs./sq.ft. of the building area shall meet the minimum Section 4.408.1 4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE [Insert the minimum Section 4.408.1] 4.408.4.1 WASTE STREAM REDUCTION ALTERN weight of construction and demolition waste disposed per square foot of the building area, shall meet the minimum requirement in Section 4.408.1 10.8.5 DOCUMENTATION. Documentation shall be proving compliance with Section 4.408.2, items 1 through 5, 5. Notes: 1. Sample forms found in "A Guide to the Calian (Residential)" located at www.hcd.ca.gov/Conduction debris (Insert the construction and demolition debris (Insert the constructio	aste management company, approved by the mentation that the percentage of construction and amplies with Section 4.408.1. Inination if the construction and demolition waste mpany. LR]. Projects that generate a total combined of of in landfills, which do not exceed 3.4 of 65% construction waste reduction requirement in a formal company. ATIVE. Projects that generate a total combined of of in landfills, which do not exceed 2 pounds inimum 65% construction waste reduction ded to the enforcing agency which demonstrates section 4.408.3 or Section 4.408.4 If ornia Green Building Standards Code CALGreen.html may be used to assist in C & D) processors can be located at the California decovery (CalRecycle). ERATION the time of final inspection, a manual, compact		the ARB Architectural Suggested Control apply. The VOC content limit for coating listed in Table 4.504.3 shall be determined coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply. 4.504.2.3 Aerosol Paints and Coatings Limits for ROC in Section 94522(a)(2) ard compounds and ozone depleting substate Regulations, Title 17, commencing with Squality Management District additionally 8, Rule 49. 4.504.2.4 Verification. Verification of conforcing agency. Documentation may in 1. Manufacturer's product specific 2. Field verification of on-site process of the State California Department of Public Health, "Stane Chemical Emissions from Indoor Sources Usitesting method for California Specification 01: See California Department of Public Health's https://www.cdph.ca.gov/Programs/CCDPHP/A.504.3.1 Carpet cushion. All carpet of California Department of Public Health's Chemical Emissions from Indoor 2017 (Emission testing method
by weight or volume, but not by both. 108.3 WASTE MANAGEMENT COMPANY. Utilize a way enforcing agency, which can provide verifiable docume demolition waste material diverted from the landfill complete. The owner or contractor may make the determinaterials will be diverted by a waste management complete. Waste Stream Reduction Alternative [1] weight of construction and demolition waste disposed lbs./sq.ft. of the building area shall meet the minimum Section 4.408.1 4.408.4.1 WASTE STREAM REDUCTION ALTERN weight of construction and demolition waste disposed per square foot of the building area, shall meet the minimum requirement in Section 4.408.1 1.08.5 DOCUMENTATION. Documentation shall be proving compliance with Section 4.408.2, items 1 through 5, 5. Notes: 1. Sample forms found in "A Guide to the Calif (Residential)" located at www.hcd.ca.gov/Condocumenting compliance with this section. 2. Mixed construction and demolition debris (Condocumenting Compliance Recycling and Resources Recycling AND MAINTENANCE MANUAL. At	iste management company, approved by the mentation that the percentage of construction and implies with Section 4.408.1. Inination if the construction and demolition waste mpany. LR]. Projects that generate a total combined of of in landfills, which do not exceed 3.4 of 65% construction waste reduction requirement in the construction waste reduction requirement in the construction waste reduction waste reduction ded to the enforcing agency which demonstrates section 4.408.3 or Section 4.408.4 If ornia Green Building Standards Code CALGreen.html may be used to assist in the covery (CalRecycle). LERATION The time of final inspection, a manual, compact of the enforcing agency which includes all of the construction and demonstrates are to the enforcing agency which includes all of the construction and demonstrates are to the enforcing agency which includes all of the construction and demonstrates are to the enforcing agency which includes all of the construction and demonstrates are to the enforcing agency which includes all of the construction and demonstrates are to the enforcing agency which includes all of the construction and demonstrates are to the enforcing agency which includes all of the construction and demonstrates are to take the		the ARB Architectural Suggested Control apply. The VOC content limit for coating listed in Table 4.504.3 shall be determined coating, based on its gloss, as defined in Board, Suggested Control Measure, and Table 4.504.3 shall apply. 4.504.2.3 Aerosol Paints and Coatings Limits for ROC in Section 94522(a)(2) are compounds and ozone depleting substate Regulations, Title 17, commencing with Quality Management District additionally 8, Rule 49. 4.504.2.4 Verification. Verification of conforcing agency. Documentation may in the Limits of the Property of the Coalifornia Department of Public Health, "Stant Chemical Emissions from Indoor Sources Usitesting method for California Specification 01: See California Department of Public Health's https://www.cdph.ca.gov/Programs/CCDPHP. 4.504.3.1 Carpet cushion. All carpet of California Department of Public Health Chemical Emissions from Indoor

2. Operation and maintenance instructions for the following:

b. Roof and yard drainage, including gutters and downspouts.

resource consumption, including recycle programs and locations.

c. Space conditioning systems, including condensers and air filters.

appliances and equipment

d. Landscape irrigation systems. e. Water reuse systems.

a. Equipment and appliances, including water-saving devices and systems, HVAC systems,

Information from local utility, water and waste recovery providers on methods to further reduce

photovoltaic systems, electric vehicle chargers, water-heating systems and other major

formation on required routine maintenance measures, including, but not limited to, caulking, inting, grading around the building, etc. formation about state solar energy and incentive programs available. copy of all special inspections verifications required by the enforcing agency or this code. formation from the Department of Forestry and Fire Protection on maintenance of defensible pace around residential structures. nformation and/or drawings identifying the location of grab bar reinforcements. CYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a provide readily accessible area(s) that serves all buildings on the site and are identified for the torage and collection of non-hazardous materials for recycling, including (at a minimum) paper, cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling tion: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of ON 4.5 ENVIRONMENTAL QUALITY N 4.501 GENERAL ons of this chapter shall outline means of reducing the quality of air contaminants that are odorous, d/or harmful to the comfort and well being of a building's installers, occupants and neighbors. N 4.502 DEFINITIONS ng terms are defined in Chapter 2 (and are included here for reference) PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cluding furniture, fixtures and equipment (FF&E) not considered base building elements. E WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and sity fiberboard. "Composite wood products" does not include hardboard, structural plywood, nels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section ENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for from the outside atmosphere and discharges all flue gases to the outside atmosphere. NCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to alues for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 **ECONTENT.** The weight of the water in wood expressed in percentage of the weight of the oven-dry wood. **WEIGHTED MIR (PWMIR).** The sum of all weighted-MIR for all ingredients in a product subject to this PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of luding container and packaging) IR is calculated according to equations found in CCR, Title 17, Section 94521 (a). **ORGANIC COMPOUND (ROC).** Any compound that has the potential, once emitted, to contribute to ation in the troposphere. atile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings ressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain nd may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a). IERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, ERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING **TION.** At the time of rough installation, during storage on the construction site and until final e heating, cooling and ventilating equipment, all duct and other related air distribution component hall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to amount of water, dust or debris which may enter the system. IISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section. 4.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the rements of the following standards unless more stringent local or regional air pollution or air quality 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and tricloroethylene), except for aerosol products, as specified in Subsection 2 below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with section 94507. **4.2.2 Paints and Coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of RB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories I in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss ng, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in 4.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic bunds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of lations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air ity Management District additionally comply with the percent VOC by weight of product limits of Regulation **4.2.4 Verification.** Verification of compliance with this section shall be provided at the request of the cing agency. Documentation may include, but is not limited to, the following: Manufacturer's product specification. Field verification of on-site product containers ARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of the Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission thod for California Specification 01350) ornia Department of Public Health's website for certification programs and testing labs. w.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx. 04.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of fornia Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January (Emission testing method for California Specification 01350) e California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx. 4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1. 4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350) See California Department of Public Health's website for certification programs and testing labs.

hhtps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) blic transportation and/or carpool options available in the area. ducational material on the positive impacts of an interior relative humidity between 30-60 percent 4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard and what methods an occupant may use to maintain the relative humidity level in that range. composite wood products used on the interior or exterior of the buildings shall meet the requirements for formation about water-conserving landscape and irrigation design and controllers which conserve formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5 structions for maintaining gutters and downspouts and the importance of diverting water at least 5 eet away from the foundation. **4.504.5.1 Documentation.** Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: Product certifications and specifications. 2. Chain of custody certifications. 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards. Other methods acceptable to the enforcing agency. 4.505 INTERIOR MOISTURE CONTROL **4.505.1 General.** Buildings shall meet or exceed the provisions of the California Building Standards Code. 4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section. **4.505.2.1 Capillary break.** A capillary break shall be installed in compliance with at least one of the 1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, 2. Other equivalent methods approved by the enforcing agency. 3. A slab design specified by a licensed design professional. **4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS.** Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following: 1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code. 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified. 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure. 4.506 INDOOR AIR QUALITY AND EXHAUST **4.506.1 Bathroom exhaust fans.** Each bathroom shall be mechanically ventilated and shall comply with the 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in) 1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or 2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code. 4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods. 2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods. **Exception:** Use of alternate design temperatures necessary to ensure the system functions are **CHAPTER 7 INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS** 702 QUALIFICATIONS 702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following: State certified apprenticeship programs. 2. Public utility training programs. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations. 5. Other programs acceptable to the enforcing agency. **702.2 SPECIAL INSPECTION [HCD].** When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector: Certification by a national or regional green building program or standard publisher. 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors. Successful completion of a third party apprentice training program in the appropriate trade. 4. Other programs acceptable to the enforcing agency. 1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code. 2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS). [BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency. Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code. **703 VERIFICATIONS 703.1 DOCUMENTATION.** Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

FOR CITY STAMPS BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS. 6 8 2 S E C O N D S T ENCINITAS, CA (760)7532464 DZNPARTNERS.COM **STUDIO PRADU CITY**: ANAHEIM 202409R **CAL GREEN**

CHECKLIST

department notes:

B1 SURFACE WATER WILL DRAIN AWAY FROM BUILDING. THE GRADE SHALL

FALL A MINIMUM OF 6" WITHIN THE FIRST 10 FEET. SECTION R401.3

CF2R, AND CF3R FORMS SHALL BE MADE AVAILABLE AT NECESSARY

B3 PROJECTIONS, INCLUDING EAVES, MUST BE AT LEAST 24" FROM A

OWNER TO KNOW THE LOCATION OF THE PROPERTY LINES.

CUBIC YARDS OVER-EXCAVATION AND RE-COMPACTION

TOILETS OVER A PERVIOUS SURFACE).

BMP LANDSCAPE AREAS WITHOUT A CITY PERMIT

E8 TOTAL AREA OF NEW IMPERVIOUS SURFACE:

WILL BE AVAILABLE FOR THE BUILDING OWNER

PROPERTY LINE. TABLE R302.1

INSTALLED UNDERGROUND.

DRAINAGE FACILITY

QUANTITIES:

FIRE DEPARTMENT

AMENDMENT

SECTION R315

INDIVIDUAL UNIT.

THE UPPER LEVEL

REQUIRED 4' SETBACK.

HAVE ATTACHED GARAGES.

ENGINEERING

B2 COMPLIANCE WITH THE DOCUMENTATION REQUIREMENTS OF THE 2022

ENERGY EFFICIENCY STANDARDS IS NECESSARY FOR THIS PROJECT.

REGISTERED. SIGNED. AND DATED COPIES OF THE APPROPRIATE CF1R.

INTERVALS FOR BUILDING INSPECTOR REVIEW. FINAL COMPLETED FORMS

1 OWNER IS TO OBTAIN A CONSTRUCTION PERMIT FROM THE ENGINEERING

NOTICE AND DOUBLE PERMIT FEES. IT IS THE RESPONSIBILITY OF THE

E3 NO CONCENTRATED DRAINAGE FLOWS ARE PERMITTED OVER ADJACENT

PROPERTY LINES. WATER IS TO DRAIN AWAY FROM STRUCTURES FOR A

MINIMUM OF 5 FEET AT 2 PERCENT AND BE CONVEYED TO AN APPROVED

E4 EARTHWORK, CUT OR FILL, WHICH IS OVER 50 CUBIC YARDS, REQUIRES AN

CUBIC YARDS CUT, CUBIC YARDS FILL, CUBIC YARDS IMPORT/EXPORT

ADDITIONAL ENGINEERING GRADING PERMIT. PROVIDE EARTHWORK

E5 EROSION CONTROL MEASURES (E.G. BONDED FIBER MATRIX, VEGETATIVE

COVER, JUTE MATTING) MUST BE IMPLEMENTED WHERE APPLICABLE TO

ERODED SOIL FROM LEAVING SITE. MATERIALS MANAGEMENT BMP MUST

ALSO BE FOLLOWED TO ENSURE NO CONTACT OF RAINWATER WITH

MATERIALS THAT MAY CONTRIBUTE TO WATER QUALITY DEGRADATION

F6 NO DIRECTLY CONNECTED IMPERVIOUS AREAS (DCIA) SHALL BE ALLOWED

AREAS SLICH AS ROOF ROOF DRAIN DRIVEWAY AND STREET BMP

MEASURES SHALL BE IDENTIFIED ON THE SITE PLAN. MOST COMMON

DOWNSTREAM (E.G. CONCRETE OR STUCCO WASHOUT AREAS, COVERED

STORAGE AREAS FOR HAZARDOUS MATERIALS, PLACEMENT OF PORTABLE

DCIA MEANS STORM RUNOFF GENERATED AND CONVEYED VIA IMPERVIOUS

MEASURES ARE DESIGNATED TURE AREAS, WHICH RECEIVE ROOF DRAINS

AND RUNOFF FROM IMPERVIOUS AREAS. TURF AND LANDSCAPED AREAS

RUNOFF FROM ALL ROOF DRAINS SHALL DISCHARGE ONTO GRASS AND

LANDSCAPE AREAS PRIOR TO COLLECTION AND DISCHARGE ONTO THE

STREET AND/OR INTO THE PUBLIC STORM DRAIN SYSTEM, GRASS AND

F1 ADDRESS NUMBERS: STREET NUMBERS: APPROVED NUMBERS AND/OR

THEIR BACKGROUND, AND SHALL MEET THE FOLLOWING MINIMUM

BUILDINGS, 8" HIGH WITH A 1/2" STROKE FOR COMMERCIAL AND

STANDARDS AS TO SIZE: 4" HIGH WITH A 3/8" STROKE FOR RESIDENTIAL

MULTI-FAMILY RESIDENTIAL BUILDINGS, 12" HIGH WITH A 1" STROKE FOR

DEEMED NECESSARY BY THE FIRE MARSHAL SLICH AS REAR ACCESS.

DRIVEWAY SHALL BE EQUIPPED WITH AN APPROVED EMERGENCY KEY-

INDUSTRIAL BUILDINGS ADDITIONAL NUMBERS SHALL BE REQUIRED WHERE

DOORS, BUILDING CORNERS, AND ENTRANCES TO COMMERCIAL CENTERS.

F2 SECURITY GATES. AN AUTOMATIC GATE ACROSS A FIRE ACCESS ROADWAY OR

OPERATED SWITCH OVERRIDING ALL COMMAND FUNCTIONS & OPENING THE

FACILITATE ACCESS BY LAW ENFORCEMENT PERSONNEL. CFC SECTION 503.6

• ALL GATES PROVIDING ACCESS FROM A ROAD TO A DRIVEWAY SHALL BE AT

LEAST TWO FEET WIDER THAN THE WIDTH OF THE TRAFFIC LANE(S) SERVING

• INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH

INSTALLED THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT

F4 CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM

WHERE PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A

BATTERY. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING

SWITCH OTHER THAN THOSE REQUIRED FOR OVER-CURRENT PROTECTION.

THE BUILDING WIRING IS SERVED FROM A COMMERCIAL SOURCE AND

ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL THE ALARMS IN THE

*WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE CARBON

MONOXIDE DETECTORS CAN BE SOLELY BATTERY POWERED

F5 SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL SMOKE ALARMS

IN EACH STORY WITHIN A DWELLING UNIT, INCLUDING BASEMENTS.

IN DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING

DOOR BETWEEN THE ADJACENT LEVELS. A SMOKE ALARM INSTALLED ON

THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW

*WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE SMOKE

F6 VENT OPENINGS SHALL BE COVERED WITH A NONCOMBUSTIBLE AND

DETECTORS CAN BE SOLELY BATTERY POWERED ONLY.

MEETING THE REQUIREMENTS OF CRC SECTION R314.

• IN EACH ROOM USED FOR SLEEPING PURPOSES.

THE IMMEDIATE VICINITY OF BED ROOMS

OF 1/16" AND SHALL NOT EXCEED 1/8"

F3 SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL CARBON MONOXIDE

IT MAY BE DUAL-KEYED OR FOUIPPED WITH DUAL SWITCHES PROVIDED TO

GATE WHERE THIS SECTION REQUIRES AN APPROVED KEY-OPERATED SWITCH

ADDRESSES SHALL BE PLACED ON ALL NEW AND EXISTING BUILDINGS AND

AT APPROPRIATE ADDITIONAL LOCATIONS AS TO BE PLAINLY VISIBLE AND

LEGIBLE FROM THE STREET OR ROADWAY FRONTING THE PROPERTY FROM

EITHER DIRECTION OF APPROACH. SAID NUMBERS SHALL CONTRAST WITH

SHALL NOT BE MODIFIED WITHOUT A PERMIT FROM THE CITY.

TOTAL AREA OF REPLACED IMPERVIOUS SURFACES:

THAT ARE DESIGNED FOR BMP'S SHALL BE DELINEATED ON PLANS AND A

NOTE PLACED ON PLANS PROHIBITING MODIFICATION OR REMOVAL OF THE

LANDSCAPE AREAS DESIGNATED FOR STORM WATER POLITITION CONTROL

PREVENT SOIL EROSION ON SITE, SEDIMENT CONTROL MEASURES (E.G. SIL

FENCING, FIBER ROLLS, DETENTION BASINS) MUST BE IN PLACE TO PREVENT

ALL UTILITIES SERVING THE ADU FROM THE RESIDENCE SHALL BE

DEPARTMENT AT LEAST 48 HOURS PRIOR TO WORKING IN THE PUBLIC RIGHT

OF WAY. FAILURE TO DO SO WILL RESULT IN AN ISSUANCE OF A STOP WORK

BIORETENTION DETAIL

FOR STANDARD PROJECTS ONLY

site plan notes:

THE APPLICANT SHALL PROVIDE A DIMENSIONED SITE PLAN DRAWN TO STORMWATER POLLUTION CONTROL BMP NOTES SCALE SHOWING THE FOLLOWING: NORTH ARROW, PROPERTY LINES, EASEMENTS, STREETS, EXISTING AND PROPOSED BUILDINGS, AND STRUCTURES, LOCATION OF YARDS USED FOR ALLOWABLE INCREASE CONCRETE WASHOUT OF BUILDING AREA, DIMENSIONED SETBACKS, MINIMUM SEPARATION FROM EXISTING STRUCTURES AND FUEL MODIFICATION ZONES. UNIFORM ADMINISTRATIVE CODE SECTION 302. IF A GRADING PLAN IS REQUIRED, INCORPORATE THE ENTIRE APPROVED

GRADING/IMPROVEMENT PLAN (ALL SHEETS) WITH THE BUILDING PLANS. SITE PLAN SHALL PROVIDE DIMENSIONS SHOWING REQUIRED FIRE APPARATUS ACCESS ROADS. FIRE ACCESS ROADWAYS SHALL HAVE AN CONSTRUCTION SITE ACCESS UNOBSTRUCTED IMPROVED WIDTH OF NOT LESS THAN 24 FEET, EXCEPTIONS: 1. RESIDENTIAL DWELLINGS NOT IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL HAVE A MINIMUM OF 20 FEET OF UNOBSTRUCTED IMPROVED WIDTH, 2, SINGLE-FAMILY RESIDENTIAL DRIVEWAYS SERVING NO MORE THAN TWO SINGLE-FAMILY DWELLINGS SHALL HAVE A MINIMUM OF 16 FEET OF UNOBSTRUCTED IMPROVED

FIRE ACCESS ROADWAYS • SURFACE FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS NOT LESS THAN 75,000 LBS. AND SHALL BE PROVIDED WITH AN APPROVED PAVED SURFACE TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES. • GATED ENTRANCES WITH CARD READERS, GUARD STATIONS OR

CENTER MEDIANS. WHICH HAVE SEPARATED LANES OF ONE-WAY TRAFFIC. SHALL BE NOT LESS THAN 14 FEET WIDE PER LANE. EXISTING LEGAL LOTS THAT HAVE EASEMENT ACCESS ROADWAYS LESS THAN 20 FEET WIDE THAT PROVIDE PRIMARY ACCESS TO OTHER LOTS SHALL RECORD A COVENANT GRANTING EASEMENT RIGHTS FOR EMERGENCY VEHICLE INGRESS AND EGRESS PURPOSES AND SHALL RELINQUISH RIGHTS TO BUILD ANY BUILDING WALL FENCE OR OTHER STRUCTURE WITHIN 5 FEET OF THE EXISTING ACCESS EASEMENT • ALL DEAD END FIRE APPARATUS ACCESS ROADWAYS IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED AREA FOR TURNING AROUND FIRE APPARATUS. ACCESS ROADS SERVING MORE THAN FOUR (4) DWELLING UNITS SHALL BE PROVIDED WITH A CUIL-DE-SAC, THE MINIMUM UNORSTRUCTED PAVED RADIUS WIDTH FOR A CUL-DE-SAC SHALL BE 36 FEET CURB LINE TO CURB LINE WITH NO PARKING. ALTERNATE TYPES OF TURN-AROUND (HAMMERHEADS, ETC.) MAY BE CONSIDERED BY THE FIRE MARSHAL AS NEEDED TO

ACCOMPLISH THE INTENT OF THE FIRE CODE. AN ADU PLACED CLOSER THAN 5'-0" TO PROPERTY LINES IS REQUIRED ON-SITE CONSTRUCTION MATERIAL STORAGE TO PROVIDE A BOUNDARY SURVEY REPORT. CONCRETE PLACEMENT WILL NOT BE APPROVED UNTIL A BOUNDARY SURVEY SHOWING COMPLIANCE TO THE APPROVED PLANS IS PROVIDED TO THE BUILDING DIVISION. A CALIFORNIA LICENSED SURVEYOR IS REQUIRED TO COMPLETE ENCINITAS BOUNDARY LAND SURVEY FORM AND PROVIDE IT

TO THE BUILDING INSPECTOR AT THE FOUNDATION INSPECTION.

THE CITY OF ANAHEIM MAY REQUIRE A SOILS REPORT. PER CBC SEC

1803.5.12 WHICH REQUIRES A SOILS REPORT FOR ALL PROJECTS, WITH **EXCEPTIONS GRANTED ON A CASE-BY-CASE BASIS** THE CITY MAY EXEMPT A PROJECT FROM THE SOILS REPORT REQUIREMENTS FOR ROOM ADDITIONS UNDER 500 SQUARE FEET IN ACCORDANCE WITH CBC, SEC. 1803.1.1.1, WHICH STATES THAT IF THE BUILDING DIVISION HAS KNOWLEDGE OF THE SOIL QUALITIES FOR THAT PROPERTY, THEN A REPORT IS NOT REQUIRED. THAT POLICY MAY BE TRAINING APPLIED TO AN ADU UNDER 500 SQUARE FEET. ALL INDEPENDENT STRUCTURES OUTSIDE OF A CERTIFIED PAD WILL REQUIRE A LIMITED SOILS REPORT INCLUDING DETACHED ADUS ALTERNATIVELY, A SOILS LETTER SHALL BE PREPARED THAT REPRESENTS THE SUITABILITY OF THE SITE SOILS FOR THE PROPOSED ADU. BASED ON THE SOIL ENGINEER'S KNOWLEDGE OF THE

NEIGHBORING PROPERTIES. IN ADDITION TO THE ABOVE, THE BUILDING OFFICIAL MAY WAIVE THE SOILS REPORT REQUIREMENT IN CERTAIN SCENARIOS ON A CASE-BY-CASE BASIS. A SOILS REPORT OR SOILS LETTER PREPARED BY A SOIL'S ENGINEER THAT ADDRESSES THE SUITABILITY OF THE SITE SOIL FOR THE PROPOSED ADU MAY BE REQUIRED BY THE CITY OF ANAHEIM. EXCEPTION:

A. STRUCTURE IS TO BE CONSTRUCTED ON A CERTIFIED PAD. B. THE CITY HAS A COMPACTION REPORT ON RECORD FOR THE SITE. C. THE CITY HAS A SOIL'S REPORT ON FILE FOR THE SITE. D. OTHER CIRCUMSTANCES SUBJECT TO REVIEW AND APPROVAL BY THE BUILDING OFFICIAL ON A CASE-BY-CASE BASIS.

swimming pool notes:

F THE PROPERTY WHERE THE ADU IS TO BE LOCATED HAS A SWIMMING POOL, THE POOL MUST MEET THE ALARMS TO MEET THE REQUIREMENTS OF CALIFORNIA RESIDENTIAL CODE RULES BELOW: SWIMMING POOL SAFETY SHALL COMPLY WITH SECTION 3109.4 CBC (INCLUDING

FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT

3109.4.4) INCLUDING: • POOL SHALL BE COMPLETELY ENCLOSED BY A BARRIER COMPLYING WITH • WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE SECTIONS 3109.4.1 THRU 3109.4.3. • SHALL COMPLY WITH SECTION 3109.4.4.2: POOL SHALL BE EQUIPPED WITH

> **TWO** OF THE FOLLOWING SEVEN DROWNING PREVENTION SAFETY FEATURES: THE POOL SHALL BE ISOLATED FROM ACCESS TO A HOME BY AN ENCLOSURE THAT MEETS THE REQUIREMENTS OF SECTION 3109.4.4.3. SP2 THE POOL SHALL INCORPORATE REMOVABLE MESH POOL FENCING THAT MEETS AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) SPECIFICATIONS F2286 STANDARDS IN CONJUNCTION WITH A GATE THAT IS SELF CLOSING AND SELF-LATCHING AND CAN ACCOMMODATE A KEY LOCKABLE DEVICE.

SP3 THE POOL SHALL BE EQUIPPED WITH AN APPROVED SAFETY POOL COVER THAT MEETS ALL REQUIREMENTS OF THE ASTM SPECIFICATIONS • ON THE CEILING OR WALL OUTSIDE OF EACH SEPARATE SLEEPING AREA IN SP4 THE RESIDENCE SHALL BE EQUIPPED WITH EXIT ALARMS ON THOSE

> DOORS PROVIDING DIRECT ACCESS TO THE POOL SP5 ALL DOORS PROVIDING DIRECT ACCESS FROM THE HOME TO THE SWIMMING POOL SHALL BE EQUIPPED WITH A SELF-CLOSING, SELF-LATCHING DEVICE WITH A RELEASE MECHANISM PLACED NO LOWER THAN 54 INCHES (1372 MM) ABOVE THE

> SP6 SWIMMING POOL ALARMS THAT, WHEN PLACED IN POOLS, WILL SOUND UPON DETECTION OF ACCIDENTAL OR UNAUTHORIZED ENTRANCE INTO THE WATER THESE POOL ALARMS SHALL MEET AND BE INDEPENDENTLY CERTIFIED TO THE ASTM STANDARD 2208 "STANDARDS SPECIFICATION FOR POOL ALARMS" WHICH INCLUDES SURFACE MOTION, PRESSURE, SONAR, LASER AND INFRARED TYPE ALARMS. FOR PURPOSES OF THIS ARTICLE, "SWIMMING POOL ALARMS" SHALL NOT INCLUDE SWIMMING PROTECTION ALARM DEVICES DESIGNED FOR INDIVIDUAL USE, SUCH AS AN ALARM ATTACHED TO A CHILD THAT

SOUNDS WHEN THE CHILD EXCEEDS A CERTAIN DISTANCE OR

AFFORDED IS EQUAL TO OR GREATER THAN THAT AFFORDED BY ANY

INDEPENDENTLY VERIFIED BY AN APPROVED TESTING I ABORATORY AS

MEETING STANDARDS FOR THOSE DEVICES ESTABLISHED BY THE ASTM

OR THE AMERICAN SOCIETY OF TESTING MECHANICAL ENGINEERS

SP7 OTHER MEANS OF PROTECTION, IF THE DEGREE OF PROTECTION

OF THE DEVICES SET FORTH IN ITEMS 1-4 & HAVE BEEN

BECOMES SUBMERGED IN WATER.

PLANNING DEPARTMENT P1 THE AVERAGE LOT SLOPE IS ______% WITHIN THE BUILDING ENVELOPE AREA. P2 THE DETACHED ACCESSORY UNIT MUST BE SEPARATED FROM THE MAIN

CORROSION RESISTANT WIRE MESH WITH MESH OPENINGS OF A MINIMUM

RESIDENCE BY A DISTANCE OF SIX FEET [6'] OR GREATER P3 THE DETACHED ACCESSORY UNIT ROOF EAVES MUST BE SEPARATED FROM THE MAIN RESIDENCE ROOF EAVES BY A DISTANCE OF FOUR FEET [4'] OR GREATER

P4 A DETACHED ACCESSORY UNIT CAN BE PLACED A MINIMUM OF FOUR FEET

[4'-0"] FROM THE SIDE & REAR PROPERTY LINES. P5 THE MAXIMUM HEIGHT FOR A DETACHED ADU IS SIXTEEN FEET [16'-0"] UNLESS IT IS WITHIN A 1/2 MILE OF A MAJOR TRANSIT STATION WHICH

ALLOWS A HEIGHT OF EIGHTEEN FEET [18'-0"]. P6 ALLOWABLE HEIGHT IS MEASURED FROM THE LOWER OF EXISTING OR FINISH GRADE

P7 PROJECTIONS, INCLUDING EAVES, MUST BE NO GREATER THAN 12" INTO A

VEGETATED SWALE

— PER PLAN — SWALE SHALL BE PLANTED WITH DEQUATE GROUNDCOVER OR TURF. PER PLAN PLANTS THAT ARE NOT PRONE TO BLOCKING THE DRAINAGE FLOW MAY TURF REINFORCEMENT MAT ALSO BE PLANTED ON SIDE SLOPES. IF APPLICABLE 6" MIN. ENGINEERED SOIL SEE NOTE BELOW

> "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 6" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL

NOTE: VEGETATED SWALES ON GRADES OF MORE THAN 2.5% MUST INSTALL CHECK DAMS TO LIMIT THE SLOPE OF THE SWALE TO 2.5% UNLESS OTHERWISE APPROVED BY THE DIRECTOR

stormwater notes:

NOTE: NO FILTER FABRIC IS TO BE USED IN THIS SECTION. B - VEGETATED SWALE

SITE DESIGN STORMWATER BEST MANAGEMENT PRACTICES (BMP) AND LOW IMPACT DEVELOPMENT (LID) CONCEPTS SUCH AS IMPERVIOUS AREA DISPERSION, DRAINAGE TO NATURAL VEGETATION, REDUCTION IN IMPERVIOUS SURFACES, BREAKING UP HARDSCAPE AREA, ETC. APPLICANT IS REQUIRED TO INCORPORATE THESE CONCEPTS WITH NEW CONSTRUCTION IN LIEU OF SELECTIONS A OR B.

THE APPLICANT SHALL IMPLEMENT

LID CONCEPTS

C - SITE DESIGN

site plan information:

CHECKLIST TO BE INCLUDED ON SITE PLAN **RELATIVE TO CONSTRUCTION ACTIVITIES** → ALL EXTERIOR SITE BOUNDARIES CORRECTLY SCALED &

SW1 CONTRACTOR SHALL ESTABLISH AND USE AN ADEQUATELY SIZED CONCRETE WASHOUT AREA TO CONTAIN WASHOUT WASTES ON SITE. IT IS ILLEGAL TO WASH CONCRETE, SLURRY, MORTAR, STUCCO, PLASTER NORTH ARROW AND THE LIKE INTO THE STORMWATER CONVEYANCE SYSTEM OR ANY RECEIVING WATER. CONTRACTOR SHALL POST A SIGN DESIGNATING THE WASHOUT LOCATION

SW2 A STABILIZED CONSTRUCTION SITE ACCESS SHALL BE PROVIDED FOR PLAN VEHICLES EGRESS AND INGRESS TO PREVENT TRACKING DIRT OF SITE. THIS SHALL INCLUDE USING MATERIAL SUCH AS GRAVEL AND/OR CORRUGATED STEEL PANELS/PLATES.

SITE CONTOURS, GRADE ELEVATIONS & OTHER TOPOGRAPHIC FEATURES CONSTRUCTION VEHICLES

REFUELING, AND ROUTINE EQUIPMENT MAINTENANCE. ALL MAJOR REPAIRS SHALL BE MADE OFF-SITE. EROSION CONTROL

SW4 EROSION CONTROL MUST BE PROVIDED FOR ALL EROSIVE SURFACES. UPULL LENGTH OF 150 FT SLOPED SURFACES ESPECIALLY SHALL BE PROTECTED AGAINST FROSION BY INSTALLING FROSION RESISTANT SURFACES SUCH AS EROSION CONTROL MATS, ADEQUATE GROUND COVER VEGETATION, AND BONDED FIBER MATRIX.

DIVERSION DIKES SHALL BE CONSTRUCTED TO CHANNEL RUNOFF AROUND THE CONSTRUCTION SITE. CONTRACTOR SHALL PROTECT CHANNELS AGAINST EROSION USING PERMANENT AND TEMPORARY EROSION CONTROL MEASURES. REMOVE EXISTING VEGETATION ONLY WHEN ABSOLUTELY NECESSARY. U DECKS, BAY WINDOWS, ETC) LARGE PROJECTS SHALL BE CONDUCTED IN PHASES TO AVOID

REMOVE TREES OR SHRUBS UNNECESSARILY; THEY HELP DECREASE SW8 PLANT PERMANENT VEGETATION AS SOON AS POSSIBLE, ONCE

EXCAVATION AND GRADING ACTIVITIES ARE COMPLETE. SW9 WATER USAGE FOR DUST CONTROL SHALL BE MINIMIZED.

SW10 STORED MATERIALS SHALL BE CONTAINED IN A SECURE PLACE TO PREVENT SEEPAGE AND SPILLAGE. CONTRACTOR SHALL STORE THESE PRODUCTS WHERE THEY WILL STAY DRY OUT OF THE RAIN CONTRACTOR SHALL PROVIDE SECONDARY CONTAINMENT FOR ALL

SW11 FLIMINATE OR REDUCE POLITION OF STORMWATER FROM STOCKPILES KEPT ON-SITE. STOCKPILES MAY INCLUDE SOIL, PARING MATERIALS, ASPHALT CONCRETE, AGGREGATE BASE, ETC. STOCKPILES SHALL BE LOCATED AWAY FROM CONCENTRATED STORMWATER FLOWS AND STORMDRAIN INLETS. STOCKPILES SHALL BE COVERED OR PROTECTED WITH SOIL STABILIZATION MEASURES AND PROVIDED WITH U ADU. REFER TO CPC 311.1 A TEMPORARY SEDIMENT BARRIER AROUND THE PERIMETER AT ALL TIMES.

SW12 CONTRACTORS' EMPLOYEES WHO PERFORM CONSTRUCTION IN THE CITY OF ENCINITAS SHALL BE TRAINED TO BE FAMILIAR WITH THE CITY OF ENCINITAS STORMWATER POLLUTION CONTROL REQUIREMENTS. THESE BMP NOTES SHALL BE AVAILABLE TO EVERYONE WORKING ON INFORM SUBCONTRACTORS ABOUT STORMWATER REQUIREMENTS AND

SITE PLAN SIGNED BY PREPARER. THEIR OWN RESPONSIBILITIES. WASTE MANAGEMENT

SW13 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DISPOSING OF

ALL WASTE AND UNUSED CONSTRUCTION MATERIALS. DUMPING OF UNUSED OR WASTE PRODUCTS ON THE GROUND, WHERE WATER CAN CARRY THEM INTO THE CONVEYANCE SYSTEM IS STRICTLY PROHIBITED. SW14 NO SEEPAGE FROM DUMPSTERS SHALL BE DISCHARGED INTO STORMWATER. BERMS/DIKES SHALL BE PLACED AROUND DUMPSTERS TO DIVERT THE NATURAL STORM RUNOFF, DUMPSTERS SHALL BE CHECKED FREQUENTLY FOR LEAKS. DUMPSTER LIDS SHALL REMAIN CLOSED AT ALL TIMES. DUMPSTERS WITHOUT LIDS SHALL BE PLACED

WITHIN STRUCTURES WITH IMPERVIOUS ROOFING OR COVERED WITH TARPS IN ORDER TO AVOID RAIN CONTACT WITH ANY TRASH MATERIAL. MANY CONSTRUCTION MATERIALS, INCLUDING SOLVENTS. WATER-BASED PAINTS, VEHICLE FLUIDS, BROKEN ASPHALT AND CONCRETE, WOOD, AND CLEARED VEGETATION CAN BE RECYCLED NON-RECYCLABLE MATERIALS MUST BE TAKEN TO AN APPROPRIATE LANDFILL OR DISPOSED OF AS HAZARDOUS WASTE, FOR INFORMATION ON DISPOSAL OF HAZARDOUS MATERIAL. CALL THE HAZARDOUS WASTE HOTLINE TOLL FREE AT (800) 714-1195. FOR INFORMATION ON LANDFILLS AND TO ORDER DUMPSTERS CALL EDCO AT (760) 436-4151.

SW16 POLLUTANTS SHALL BE KEPT OFF EXPOSED SURFACES. PLACE TRASH CANS AND RECYCLING RECEPTACLES AROUND THE SITE. SW17 PORTABLE TOILETS MUST BE IN GOOD WORKING ORDER AND CHECKED FREQUENTLY FOR LEAKS. CONTRACTOR SHALL PROVIDE SECONDARY CONTAINMENT AND LOCATE PORTABLE TOILETS AWAY FROM STORMDRAIN INLETS ON PERVIOUS SURFACES.

SW18 ALL CONSTRUCTION DEBRIS SHALL BE KEPT AWAY FROM THE STREET, GUTTER, AND STORMDRAIN, CONTRACTOR MUST ROUTINELY CHECK AND CLEAN UP MATERIAL THAT MAY HAVE TRAVELED AWAY FROM CONSTRUCTION SITE.

site plan note:

THE APPLICANT SHALL PROVIDE A DIMENSIONED SITE PLAN DRAWN TO SCALE SHOWING THE FOLLOWING: NORTH ARROW, PROPERTY LINES, EASEMENTS, STREETS. EXISTING AND PROPOSED BUILDINGS, AND STRUCTURES, LOCATION OF YARDS USED FOR ALLOWABLE INCREASE OF BUILDING AREA. DIMENSIONED SETBACKS, MINIMUM SEPARATION FROM EXISTING STRUCTURES AND FUEL MODIFICATION ZONES. UNIFORM ADMINISTRATIVE CODE SECTION 302.

SCALE OF PLAN, GRAPHIC & WRITTEN

☐ LEGEND OF SYMBOLS, LINES, ABBREVIATIONS, ETC. USED ON

SW3 A SPECIFIC AREA AWAY FROM GUTTERS AND STORMDRAIN SHALL BE DESIGNATED FOR CONSTRUCTION VEHICLES PARKING VEHICLE

ULTIMATE RIGHT OF WAY DIMENSION TO CENTERLINE OF ROAD SHOW FIRE ACCESS ROADS / DRIVEWAY & MAXIMUM FIRE HOSE

LOCATION & DIMENSIONS OF ALL EASEMENTS (ROAD, ELECTRIC. WATER, SEWER, GAS & OPEN SPACE ETC.)

NO EXCAVATION AND GRADING ACTIVITIES ARE ALLOWED DURING WET SHOW & DIMENSION REQUIRED & PROPOSED BUILDING SETBACKS LOCATION OF EXISTING & PROPOSED BUILDINGS AND STRUCTURES WITH NUMBER OF STORIES

SHOW & DIMENSION HORIZONTAL PROJECTIONS (EAVES, UNNECESSARY REMOVAL OF THE NATURAL GROUND COVER. DO NOT DISTANCE OF ALL EXISTING & PROPOSED STRUCTURES FROM

☐ EACH OTHER & FROM PROPERTY LINES LOCATION & HEIGHT OF ALL FENCES & RETAINING WALLS

LOCATION & SIZE OF OFF-STREET PARKING

LOCATION OF EXISTING & PROPOSED VEGETATION

LOCATION OF EXISTING & PROPOSED UTILITIES TO NEW ADU LOCATION OF EXISTING & NEW UTILITIES (SEWER LATERAL WITH CLEANOUTS, WATER LINES WITH SHUT OFF, GAS LINES ELECTRICAL OVERHEAD OR UNDERGROUND CONDUITS)

LOCATE & NOTE NEW SEWER LATERAL SERVING THE PROPOSED

ADU SEWER LINE CANNOT BE CONNECTED DIRECTLY TO THE EXISTING MAIN DWELLING UNIT EXCEPT AS SPECIFIED IN **GOVERNMENT CODE SECTION 65852.2**

LOCATION OF EXISTING AND NEW METER LOCATIONS (ELECTRICAL, GAS & WATER.)

☐ IF REQUIRED, INCORPORATE THE APPROVED GRADING

lacksquare PLAN/IMPROVEMENT PLAN WITH THE BUILDING PLANS. IF REQUIRED, PROVIDE A FUEL MODIFICATION ZONE PER UNIFORM ADMINISTRATION CODE SECTION 302, SEE SHEET a0.1F FOR MORE

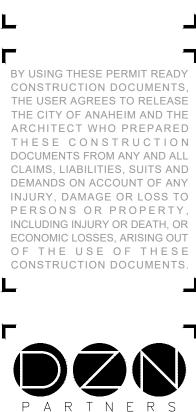
LOCATION OF APPLICABLE PERMANENT SOURCE CONTROL & SITE DESIGN BMPs PER STORM WATER INTAKE FORM & STANDARD PROJECT SWQMP (CITY FORM)

BUILDING PERIMETER, TYP -ROOF OVERHANG, TYP **PROPOSED** $^{\prime}$ ONE STORY $^{\prime}$ STUDIO ADU 99.0'-FF = 100.0' NEW ELECTRIC SUB—PANEL 6' HIGH WOOD FENCE AT SIDES AND REAR SURROUNDING PROPERTY, TYP **EXISTING ONE STORY** - BUILDING PERIMETER, TYP **SINGLE FAMILY** RESIDENCE – ROOF OVERHANG, TYP FF = 100.0' - ADU ELECTRIC POC EXISTING ELECTRIC 200 AMP PANEL & METER - SETBACK LINE, TYP - PROPERTY LINE, TYP ADU WATER POC ADU SEWER POC EXISTING CONCRETE ENTRY WALK OR LANDING, TYP EXISTING TOPOGRAPHY LINE, TYP SITE DRAINAGE DIRECTION ARROW, TYP -EXISTING CONCRETE DRIVEWAY EXISTING SEWER LATERAL - EXISTING WATER METER

STREET NAME

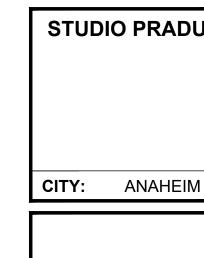
NEW CONCRETE LANDING, TYP

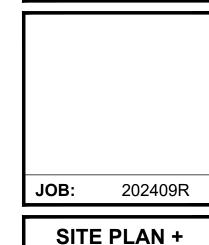
FOR CITY STAMPS



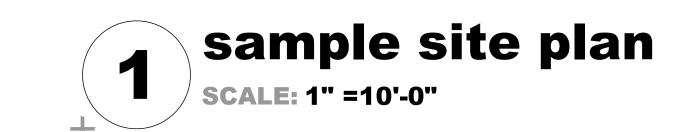


ENCINITAS, CA (760)7532464





NOTES





EXISTING 4'-6" WIDE CONCRETE SIDEWALK

-EXISTING 6" CONCRETE CURB, TYP

– STREET CENTERLINE, TYP

sample average lot slope diagram SCALE: 1"=10'-0"



PREPARER SIGNATURE average lot slope calcs: A. LENGTH LOT SLOPE RUN LINE A = LOT SLOPE RUN LINE A ELEVATION AT POINT 1 = LOT SLOPE RUN LINE A ELEVATION AT POINT 2 = POINT 1 (FT) - POINT 2 (FT) / LENGTH (FT) = % SLOPE AT RUN LINE A B. LENGTH LOT SLOPE RUN LINE B = LOT SLOPE RUN LINE B ELEVATION AT POINT 1 = LOT SLOPE RUN LINE B ELEVATION AT POINT 2 = FOR CITY STAMPS POINT 1 (FT) - POINT 2 (FT) / LENGTH (FT) = % SLOPE AT RUN LINE B C. LENGTH LOT SLOPE RUN LINE C = LOT SLOPE RUN LINE A ELEVATION AT POINT 1 = LOT SLOPE RUN LINE A ELEVATION AT POINT 2 = POINT 1 (FT) - POINT 2 (FT) / LENGTH (FT) = % SLOPE AT RUN LINE C RUN LINE A % + RUN LINE B % + RUN LINE C % / 3 = % TOTAL AVERAGE LOT SLOPE IS SEE SAMPLE AVERAGE LOT SLOPE EXHIBIT ON SHEET a0.5 FOR LOTS THAT EXCEED AN AVERAGE LOT SLOPE OF 10% ADDITIONAL HEIGHT RESTRICTIONS WILL APPLY

> BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.

6 8 2 S E C O N D S T ENCINITAS, CA

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STUDIO PRADU CITY: ANAHEIM

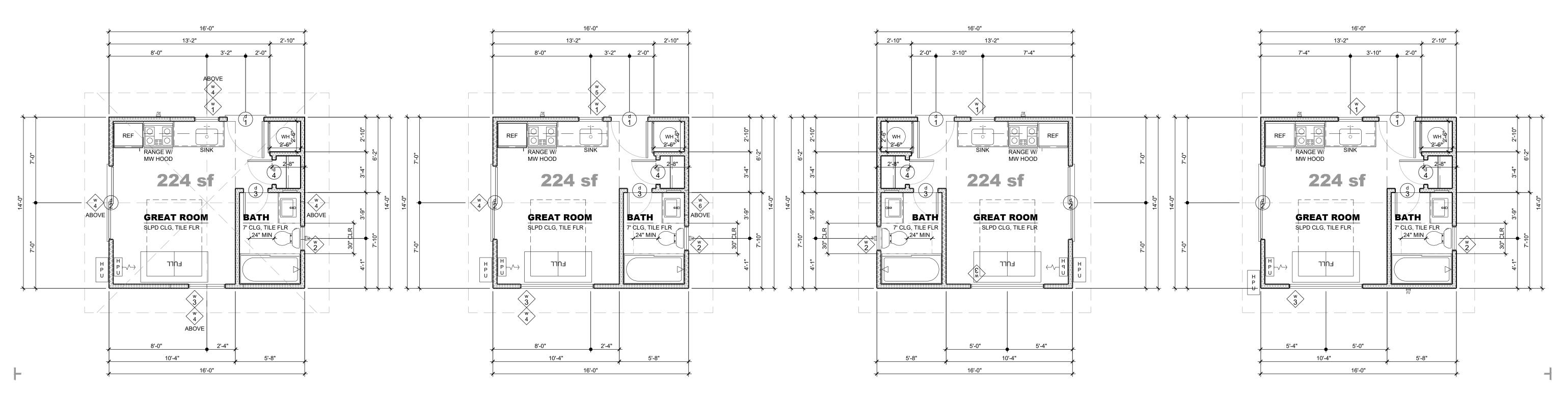
202409R

AVERAGE LOT SLOPE DIAGRAM

a0.5

FOR CITY STAMPS

PREPARER SIGNATURE



1 floor plan c scale: 1/4" = 1'-0"

2 floor plan b
SCALE: 1/4" = 1'-0"

draw	/in	ıg:	draw	ıg:	draw	/ir	ng:	drawing:				
SYMBOL	=	DESCRIPTION	SYMBOL	=	DESCRIPTION	SYMBOL	=	DESCRIPTION	SYMBOL	=	DESCRIPTION	
(N)	=	NEW		=	EXISTING FOOTING		=	BUILDING SECTION LETTER SHEET NUMBER	A SP 0'	=	SHEAR PANEL LETTER SHEAR PANEL LENGTH	
(E)	=	EXISTING	<u>wagama seri</u>	=	NEW FOOTING	A A-1	=	WALL SECTION LETTER SHEET NUMBER	(T 1)	=	TRUSS NUMBER	
	=	EXISTING WALL REMOVED		=	NORTH ARROW	1 D-1	=	DETAIL NUMBER SHEET NUMBER	1	=	STRUCTURAL GRID LINE	
	=	EXISTING WALL TO REMAIN	+ [100.0]	=	NEW POINT ELEVATION	1 A-1	-		DL	=	SHEAR DRAG LINE	
	=	NEW 4" WALL	+ 100.0	=	EXISTING POINT ELEVATION	7/,	11	LEVEL CHANGE	P-1	=	PAD FOOTING	
	=	NEW 6" WALL	100.0	=	NEW CONTOUR	101	11	ROOM OR SPACE NUMBER		=	POST	
	=	NEW 8" WALL	100.0	=	EXISTING CONTOUR	ROOM 0' CLG, FLOORING	11	ROOM NAME CEILING HEIGHT, FLOORING	•	=	HOLD DOWN	
7/////	=	NEW 8" CMU WALL		=	PROPERTY LINE	W1	=	WINDOW NUMBER	•	=	FACTORY BUILT SHEAR PANEL	
	=	NEW DWELLING UNIT SEPARATION WALL		=	CENTER LINE	D1	=	DOOR NUMBER	\longrightarrow	=	FLOOR JOISTS	
	=	BEARING WALL		=	SET BACK LINE	#	=	REVISION NUMBER		=	CEILING JOISTS	
	=	NON-BEARING WALL AT FRAMING PLANS	+	=	FLOOR MATERIAL CHANGE	1	=	KEYNOTE NUMBER	_	=	RAFTER OR TRUSS	

reverse floor plan a scale: 1/4" = 1'-0"

4 floor plan a scale: 1/4" = 1'-0"

floor plan notes: SEE LEGENDS TO THE LEFT FOR SYMBOLS RELATING TO THE FLOOR PLAN. SEE SHEET a0.1 FOR SCHEDULES RELATING TO THE FLOOR PLAN. THE KITCHEN SHALL HAVE UPPER CABINETS, BASE CABINETS, AND COUNTERTOPS AS DEPICTED ON THIS FLOOR PLAN AND IN THE INTERIOR ELEVATIONS. • SHALL BE PLACED IN A VANITY BASE CABINET WITH A COUNTERTOP. • SHALL HAVE A MIRROR AT THE WALL BEHIND THE LAVATORY. • SHALL HAVE A MIRRORED MEDICINE CABINET AT THE SIDE WHEN DEPICTED WITH A RECTANGLE IN THE TOILETS: • SHALL BE FLUSH TANK. • SHALL BE PLACED IN A SPACE WITH 30" CLEAR WIDTH. • SHALL HAVE 24" CLEAR IN FRONT OF THE FIXTURE. BATHTUB/SHOWER COMBINATIONS • BATHTUB SHALL BE PORCELAIN OVER CAST IRON. • PROVIDE FULL HEIGHT TILE WAINSCOT ON WALLS WITHIN TUB AREA. • PROVIDE SLIDING CLEAR TEMPERED GLASS TUB/SHOWER ENCLOSURE OR EQUAL. • FLOOR TO BE TILE OVER ASPHALTIC WATERPROOF MEMBRANE LINER, TYPICAL. • DRAIN TO BE LINEAR OR ROUND AS DEPICTED ON THE FLOOR PLAN. • ENTRY CURB SHALL BE 4" WIDE AND TALL WITH TILE FINISH, TYP. • SHALL HAVE A CLEAR TEMPERED GLASS SHOWER ENCLOSURE WITH OPENING AS SHOWN ON THE FLOOR PLAN OR EQUAL. • WALLS IN SHOWER AREA WILL HAVE A FULL HEIGHT TILE WAINSCOT. • SEATS SHOWN IN SHOWERS SHALL BE 16" HIGH AND WILL BE TILED TO MATCH THE WALLS. • EACH SHOWER SHALL HAVE A 12" WIDE X 16" HIGH NICHE FOR SOAP AND SHAMPOO BOTTLES IN A 5. CLOSETS SHALL HAVE A SHELF AND POLE AS SHOWN ON THE FLOOR PLAN.

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.



682SECONDST ENCINITAS, CA

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STUDIO PRADU

CITY: ANAHEIM

JOB: 202409R

FLOOR PLANS

a1.0

2022 CALIFORNIA ENERGY CODE SECTION	, ,
ALL LOW-RISE RESIDENTIAL BUILDINGS SI MEETING THE MINIMUM QUALIFICATION RI APPENDIX JA11, WITH ANNUAL ELECTRICA THE DWELLING'S ANNUAL ELECTRICAL US	EQUIREMENTS AS SPECIFIED IN JOINT AL OUTPUT EQUAL TO OR GREATER TH
	ON 150.1-C
ANNUAL PHOTOVOLT	AIC ELECTRICAL OUTPUT
$kW_{PV} = (CFA \times A)$	/1000 + (NDwell x B)
WHERE:	
kW _{PV} =	kWDC SIZE OF THE PV SYSTEM
CFA =	CONDITIONED FLOOR AREA
	NUMBER OF DWELLING UNITS
A = B =	ADJUSTMENT FACTOR FROM TABLE 1 DWELLING ADJUSTMENT FACTOR FRO TABLE 150.1-C
EXCEPTION 1 TO SECTION 150.1(C)14:	NO PV SYSTEM IS REQUIRED IF THE EFFECTIVE ANNUAL SOLAR ACCESS IS RESTRICTED TO LESS THAN 80 CONTIGUOUS SQUARE FEET BY SHAD FROM EXISTING PERMANENT NATURAL MANMADE BARRIERS EXTERNAL TO TOWELLING, INCLUDING BUT NOT LIMIT TREES, HILLS, AND ADJACENT STRUCTURES. THE EFFECTIVE ANNUAL SOLAR ACCESS SHALL BE 70 PERCENT GREATER OF THE OUTPUT OF AN UNSHADED PV ARRAY ON AN ANNUAL BASIS.
EXCEPTION 2 TO SECTION 150.1(C)14:	IN CLIMATE ZONE 15, THE PV SYSTEM SHALL BE THE SMALLER OF A SIZE TH CAN BE ACCOMMODATED BY THE EFFECTIVE ANNUAL SOLAR ACCESS OF SYSTEM SIZE REQUIRED BY THE EQUATION 150.1-C, BUT NO LESS THAT WATT DC PER SQUARE FOOT OF CONDITIONED FLOOR AREA.
EXCEPTION 3 TO SECTION 150.1(C)14:	IN ALL CLIMATE ZONES, FOR DWELLIN UNITS WITH TWO HABITABLE STORIES PV SYSTEM SIZE SHALL BE THE SMALL OF A SIZE THAT CAN BE ACCOMMODA BY THE EFFECTIVE ANNUAL SOLAR ACOR A PV SYSTEM SIZE REQUIRED BY EQUATION 150.1-C, BUT NO LESS THAI WATT DC PER SQUARE FOOT OF CONDITIONED FLOOR AREA
EXCEPTION 4 TO SECTION 150.1(C)14:	IN ALL CLIMATE ZONES, FOR LOW-RIS RESIDENTIAL DWELLINGS WITH THRE HABITABLE STORIES AND SINGLE-FAM DWELLINGS WITH THREE OR MORE HABITABLE STORIES, THE PV SYSTEM SHALL BE THE SMALLER OF A SIZE TH CAN BE ACCOMMODATED BY THE EFFECTIVE ANNUAL SOLAR ACCESS OF PV SYSTEM SIZE REQUIRED BY THE EQUATION 150.1-C, BUT NO LESS THAT WATT DC PER SQUARE FOOT OF CONDITIONED FLOOR AREA.
EXCEPTION 5 TO SECTION 150.1(C)14:	FOR A DWELLING UNIT PLAN THAT IS APPROVED BY THE PLANNING DEPAR PRIOR TO JANUARY 1, 2020 WITH AVAISOLAR READY ZONE BETWEEN 80 ANI SQUARE FEET, THE PV SYSTEM SIZE I LIMITED TO THE LESSER OF THE SIZE CAN BE ACCOMMODATED BY THE EFFECTIVE ANNUAL SOLAR ACCESS OF SIZE THAT IS REQUIRED BY THE EQUAL 150.1-C.
EXCEPTION 6 TO SECTION 150.1(C)14:	PV SYSTEM SIZES FROM EQUATION 15 MAY BE REDUCED BY 25 PERCENT IF INSTALLED IN CONJUNCTION WITH A BATTERY STORAGE SYSTEM. THE BATSTORAGE SYSTEM SHALL MEET THE QUALIFICATION REQUIREMENTS SPECIN JOINT APPENDIX JA12 AND HAVE A MINIMUM CAPACITY OF 7.5 KWH.
ctrical:	electrical:

DEDICATED GROUND OUTLET

220V OUTLET

WATERPROOF 220V OUTLET

1 WAY SWITCH

3 WAY SWITCH

 (M)

LIGHT

MOTION DETECTOR

PHOTOELECTRIC SENSOR

HEAT LAMP/FAN COMBO

LED LIGHT/FAN COMBO

residential ventilation requirements: utility plan notes: KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 100 CFM DUCTED TO

- THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST FAN OR A DUCTED RANGE HOOD TO THE EXTERIOR. 3 SONES MAXIMUM. EACH BATHROOM CONTAINING A BATHTUB, SHOWER OR TUB/SHOWER COMBINATION SHALL BE MECHANICALLY VENTILATED FOR PURPOSES OF HUMIDITY CONTROL IN ACCORDANCE WITH THE CALIFORNIA MECHANICAL CODE, CHAPTER 4; AND THE CALIFORNIA GREEN BUILDING STANDARDS
- BATHROOMS REQUIRE EXHAUST FANS (MINIMUM 50 CFM SWITCHED OR 20 CM CONTINUOUS) TO BE DUCTED TO THE EXTERIOR. A BATHROOM IS DEFINED "AS A ROOM WITH A BATHTUB, SHOWER, OR SPA OR SOME SIMILAR SOURCE
- RESIDENTIAL BATHROOM EXHAUST FANS SHALL BE ENERGY STAR RATED AND SHALL BE CONTROL BY A HUMIDISTAT CAPABLE OF AN ADJUSTMENT BETWEEN 50 AND 80% HUMIDITY. CALGREEN 4.506.1. EXCEPTION: CONTROL BY A HUMIDISTAT *IS NOT* REQUIRED IF THE BATHROOM EXHAUST FAN IS ALSO THE DWELLING WHOLE HOUSE VENTILATION. A) ALL FANS INSTALLED TO MEET ALL OF THE PRECEDING VENTILATION REQUIREMENTS MUST BE SPECIFIED AT A NOISE RATING OF A MAXIMUM 1 "SONE" (CONTINUOUS USE) OR 3 "SONE" (INTERMITTENT).
- EXHAUST DUCT SIZE, LENGTH AND OUTLET LOCATION FOR FANS AND HOODS TO BE NOTED ON THE PLANS.

CODE, CHAPTER 4, DIVISION 4.5.

	el	ectric:			
)		SELECTION			
		NEW METER WITH	AMP	PANEL	
		SUBPANEL	AMP TO EX	ISTING	AMP MAIN PANEL
	DISTA	NCE TO CONNECTION =	<u> </u>	_FEET	
	EXIST	ACT SDG&E REGARDING ING SERVICE UPGRADE RATE PERMIT FROM THI	OR NEW SEF	RVICE FOR THE ADI	
		袋			
		SIN	GLE FAMII	LY DWELLING	5 ⁰

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18280VA

SHOWERHEAD

OVERHEAD SHOWERHEAD

ADJUSTABLE SHOWERHEAD

7. HEATING OR AC LOAD - TABLE 220-30

Larger of the Heating or AC Load =

8. OPTIONAL LOADS TOTAL (Add totals from lines 6 and 7) =

(Please put total on front of card under Computed Load)

FLOURESCENT TUBE FIXTURE

LED UNDERCABINET FIXTURE

CEILING FAN WITH LIGHT

STEP LIGHT

GRID CEILING LIGHT

 \bigcirc

 \sim

9. MINIMUM SERVICE SIZE = Optional Loads Total =

SEE LEGENDS BELOW FOR SYMBOLS RELATING TO THE UTILITY PLAN.

SEE SHEET a0.1 FOR SCHEDULES RELATING TO THE UTILITY PLAN.

RECEPTACLE OUTLET LOCATION PER NEC ARTICLE 210.52.

- GFCI PROTECTED OUTLETS FOR LOCATIONS DESCRIBED IN NEC 210.8(A): LAUNDRY AREAS, KITCHEN DISHWASHERS, KITCHENS, GARAGES, BATH ROOMS, OUTDOORS, WITHIN 6' OF A SINK, ETC. RECEPTACLE OUTLET LOCATION PER NEC ARTICLE 210.52.
- BATH RECEPTACLE OUTLETS SHALL BE SUPPLIED BY A MINIMUM OF ONE 20 AMP CIRCUIT. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. THIS CIRCUIT MAY SERVE MULTIPLE BATHS (NEC ART. 210-52(D)).
- TAMPER RESISTANT RECEPTACLES ARE REQUIRED FOR ALL LOCATIONS DESCRIBED IN 210.52 (IE ALL RECEPTACLES IN A DWELLING).
- WEATHER RESISTANT TYPE FOR RECEPTACLES INSTALLED IN DAMP OR WET LOCATIONS.

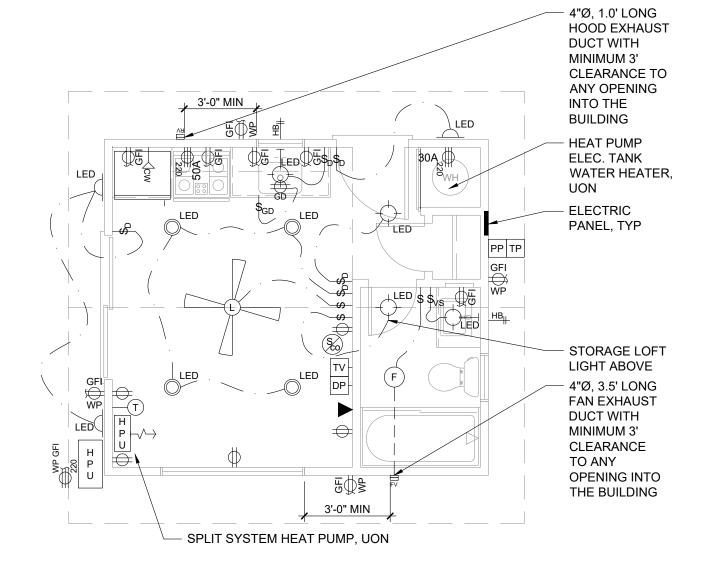
AREAS, FAMILY, LIVING BEDROOMS, DINING, HALLS, ETC.

- ARC-FAULT PROTECTION FOR ALL OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A): KITCHENS, LAUNDRY
- OUTLETS MUST BE WITHIN 6FT OF ANY OPENING AND NOT TO EXCEED 12FT APART. ANY ISOLATED WALL 2FT OR WIDER TO HAVE OUTLET(S).
- 10. ALL EXTERIOR LIGHTING SHALL BE HIGH EFFICACY, OAE
- RECESSED LIGHTS SHOWN IN SLOPED CEILINGS SHALL BE A MODEL DESIGNED TO PROVIDE A PERPENDICULAR LIGHT SOURCE IN A SLOPED
- PROVIDE UFER GROUND AT ELECTRIC SERVICE LOCATION IN FOUNDATION. GROUND SHALL BE A 20' LONG #4 REINFORCING BAR, OAE.
- PROVIDE SMOKE DETECTORS IN EACH SLEEPING ROOM AND AT A POINT CENTRALLY LOCATED IN AN AREA GIVING ACCESS TO EACH SEPARATE SLEEPING AREA. SMOKE DETECTORS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE DETECTORS MAYBE SOLELY BATTERY POWERED WHEN INSTALLED IN EXISTING BUILDINGS. (CRC §R314.6)
- WHERE MORE THAN ONE COMBINATION SMOKE/CARBON MONOXIDE DETECTOR IS REQUIRED, THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL THE ALARMS IN THE RESIDENCE.
- 15. CONTROL VALVES IN BATHTUBS, WHIRLPOOL BATHTUBS, SHOWERS AND TUB-SHOWER COMBINATIONS MUST BE PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES. CPC SECTION 414.5 AND 418.0.
- 16. ALL HOT WATER PIPING SIZED 3/4" OR LARGER IS REQUIRED TO BE INSULATED AS FOLLOWS: 1" PIPE SIZE OR LESS: 1" THICK INSULATION; LARGER PIPE SIZES REQUIRE 11/2" THICK INSULATION. NOTE: IN ADDITION, THE ½" SIZE HOT WATER PIPE TO THE KITCHEN SINK IS REQUIRED TO BE INSULATED. ES 150.0(J)2
- SEE T24 DOCUMENTATION SHEET FOR MORE INFORMATION ON WATER HEATING, SPACE HEATING, AND COOLING EQUIPMENT SPECIFICATIONS.
- 18. SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL CARBON MONOXIDE ALARMS TO MEET THE REQUIREMENTS OF CALIFORNIA RESIDENTIAL CODE SECTION R315.
- INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL THE ALARMS IN THE INDIVIDUAL UNIT. *WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE CARBON
- CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING IS SERVED FROM A COMMERCIAL SOURCE AND, WHERE PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A BATTERY. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVER-CURRENT PROTECTION.

MONOXIDE DETECTORS CAN BE SOLELY BATTERY POWERED

- 20. SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL SMOKE ALARMS MEETING THE REQUIREMENTS OF CRC SECTION R314. • ON THE CEILING OR WALL OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BED ROOMS. • IN EACH ROOM USED FOR SLEEPING PURPOSES.
 - IN EACH STORY WITHIN A DWELLING UNIT, INCLUDING BASEMENTS. • IN DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL.

*WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE SMOKE DETECTORS CAN BE SOLELY BATTERY POWERED ONLY.



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electr	ical:	elec	trical:	electi	rical:	plumb	ing:	plumb	ing:	plumbi	ng:	mec	hanical:	mecha	nical:	media	+safety:	media+	safety:	
SYMBOL =	DESCRIPTION	SYMBOL	= DESCRIPTION	SYMBOL =	DESCRIPTION	SYMBOL =	DESCRIPTION	SYMBOL =	DESCRIPTION	SYMBOL =	DESCRIPTION	SYMBOL	= DESCRIPTION	SYMBOL =	DESCRIPTION	SYMBOL =	DESCRIPTION	SYMBOL =	DESCRIPTION	
LED =	LIGHT EMITTING DIODE	\$ _D	= DIMMER SWITCH	LHF =	LED LIGHT/HEAT LAMP/FAN COMBO) W M =	WATER METER	=	FIRE SPRINKLER	=	TOILET - WALL MOUNT	HPU	= SPLIT SYSTEM HEAT PUMP EXTERIOR UNIT	=	RIGID SUPPLY AIR DUCT	ALARM =	ALARM SOURCE	• • •	DOORBELL CHIMES	CITY: ANAHEIN
E =	ELECTRICAL METER	\$ _K	= KEY OPERATED SWITCH		CEILING SURFACE MOUNT FIXTURE	F W =	FIRE WATER METER	=	ROUND SHOWER DRAIN	=	FAUCET	H P -	= SPLIT SYSTEM HEAT PUMP INTERIOR UNIT	=	RIGID RETURN AIR DUCT	AUDIO =	AUDIO SOURCE	DB =	DOORBELL TRANSFORMER	
=	ELECTRICAL PANEL	\$ _{WP}	= WEATHERPROOF SWITCH	=	WALL MOUNTED FIXTURE		TANK WATER HEATER	[11111111111111111111111111111111111111	LINEAR SHOWER DRAIN	• =	PEDESTAL SINK		= THERMOSTAT	=	FLEXIBLE SUPPLY AIR DUCT	DATA =	DATA SOURCE	(A) =	ALARM SYSTEM PAD	
=	DUPLEX OUTLET	\$ _{VS}	= VACANCY SENSOR SWITCH	=	HANGING FIXTURE	HP WH =	ELECTRIC HEAT PUMP WATER HEATER	CO =	CLEAN OUT	• =	BATH SINK	⊢√ <u>SA</u>	= SUPPLY AIR WALL REGISTER	FE =	FIRE EXTINGUISHER	PP =	PHONE PANEL	(CO) =	CARBON MONOXIDE DETECTOR	
=	HALF HOT DUPLEX OUTLET	D	= DOOR OPERATED SWITCH	=	WALL SCONCE	WH =	TANKLESS WATER HEATER	FD =	FLOOR DRAIN	. =	BATHTUB		= SUPPLY AIR CEILING REGISTER	VM) =	VACUUM MOTOR	TP =	TELEVISION PANEL	S =	SMOKE DETECTOR	
=	QUADRAPLEX OUTLET	(F)	= VENT FAN	=	RECESSED CEILING FIXTURE	(WC) =	WATER CONDITIONER	FS =	FLOOR SINK	=	FREESTANDING BATHTUB		= SUPPLY AIR FLOOR REGISTER	(V) =	VACUUM OUTLET	VP =	VIDEO PANEL	S _{CO} =	SMOKE & CARBON MONOXIDE DETECTOR	JOB : 202409F
GFI =	GROUND FORCE OUTLET	F	= INDOOR AIR QUALITY FAN	=	RECESSED CEILING WALL WASH FIXTURE	<u>SO</u> =	WATER SERVICE SHUTOFF	⊗ =	DECK OR ROOF DRAIN	<u> </u>	BAR OR HAND SINK	<u></u> ⟨RA	= RETURN AIR WALL REGISTER	DV =	DRYER VENT	TV =	CABLE TELEVISION JACK	=	EMERGENCY LIGHT FIXTURE	UTILITY PLAN
WP =	WATERPROOF GFI OUTLET	FWH	= WHOLE HOUSE FAN	(M) =	RECESSED MOISTURE RESISTANT CEILING FIXTURE	<u>HB</u> =	HOSE BIB	OS =	OVERFLOW SCUPPER	· =	SINGLE SINK		= RETURN AIR CEILING REGISTER	FV =	FAN VENT	DP =	DATAPORT NETWORK JACK	EXIT =	ILLUMINATED EXIT SIGN	
=	IN-FLOOR OUTLET	H	= HEAT LAMP	=	FLOOD FIXTURE	—⟨cw =	COLD WATER VALVE	O =	DECK OR ROOF DRAIN + OVERFLOW SCUPPER	=	DOUBLE SINK		= RETURN AIR FLOOR REGISTER	RV =	RANGE / OVEN VENT	=	TELEPHONE JACK	SP =	SPEAKER	
GD =	GARBAGE DISPOSAL OUTLET	J	= JUNCTION BOX		TRACK LIGHT FIXTURE	RP =	RECESSED PLUMBING	DS =	DOWNSPOUT		TRIPLE SINK				1	=	DOORBELL OR GARAGE DOOR	=	VIDEO CAMERA	
		_																		J ■

APRON SINK

BIDET

TOILET - FLOOR MOUNT

a2.0

roof plan notes:

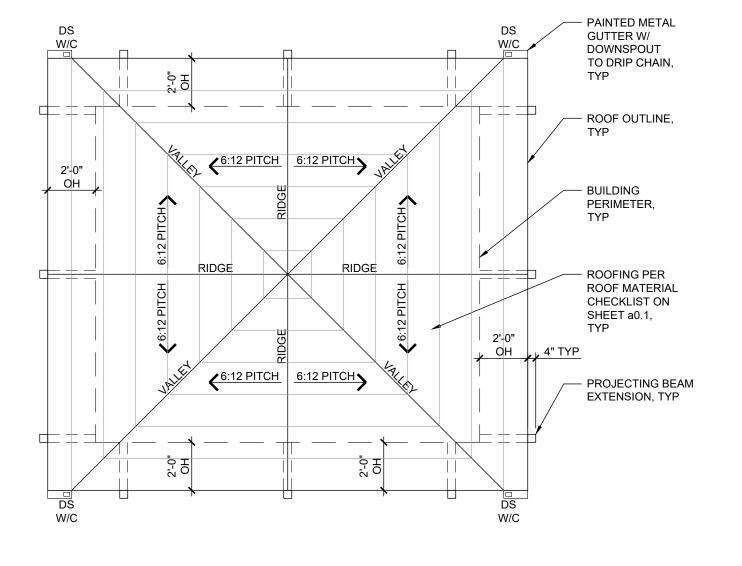
1. ALL ROOFING SHALL BE CLASS A RATED.

2. ROOFING SELECTION PER ROOF MATERIAL CHECKLIST ON SHEET a0.1.

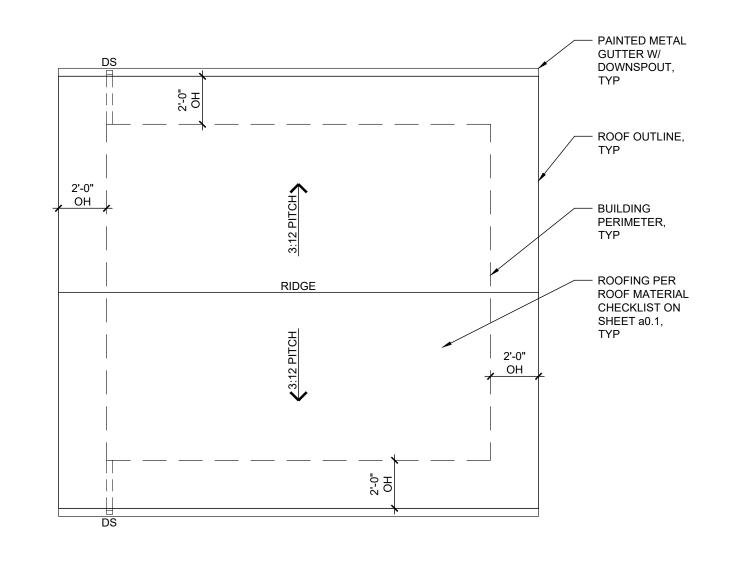
NO ATTICS PROPOSED, ATTIC VENTING NOT REQUIRED. 3. DETAILS 86, 87 & 88/d0.4 PROVIDE INSULATION ALTERNATIVES.

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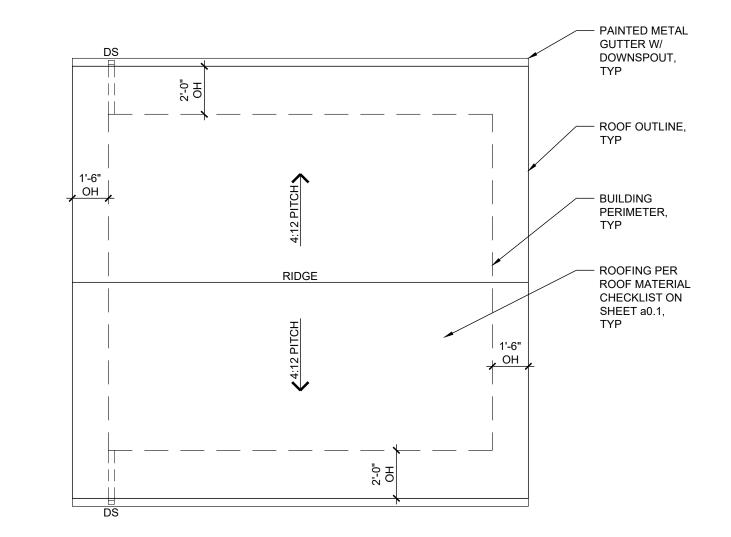
PREPARER SIGNATURE



roof plan c SCALE: 1/4" = 1'-0"



roof plan b SCALE: 1/4" = 1'-0"



roof plan a SCALE: 1/4" = 1'-0"

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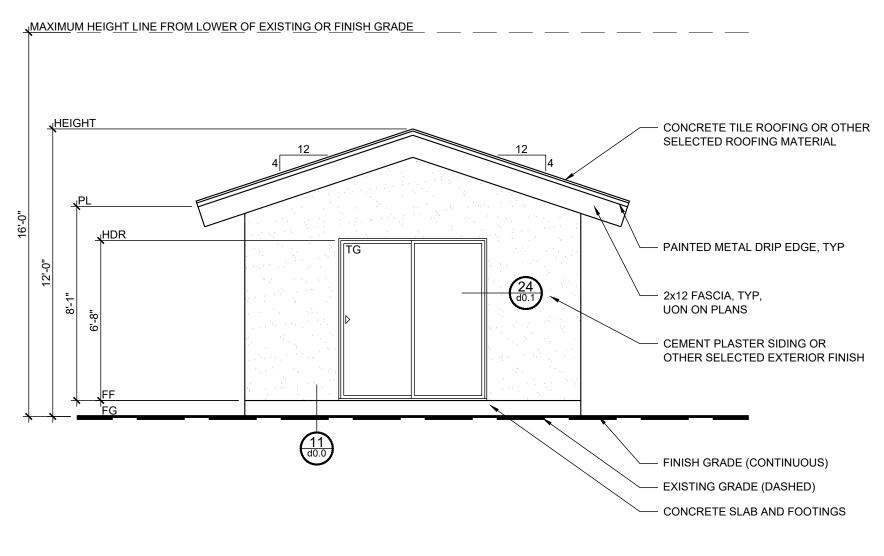
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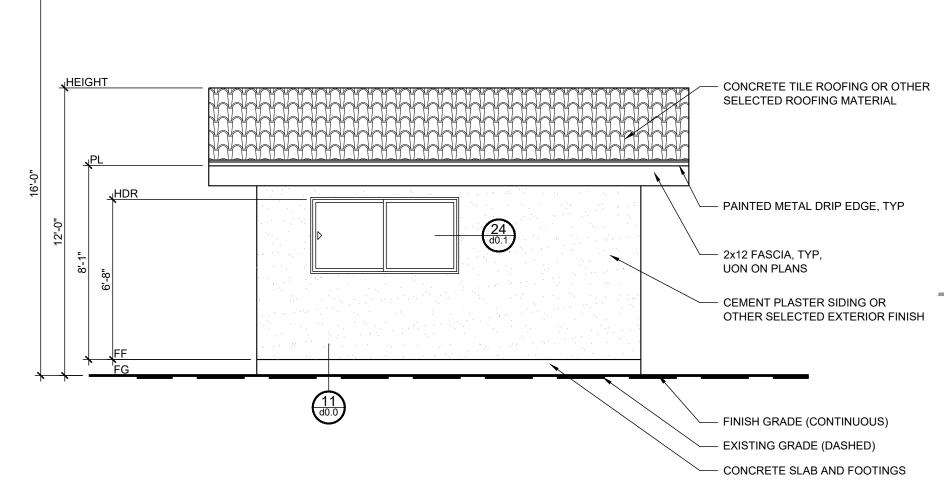
JOB: 202409R **ROOF PLANS**

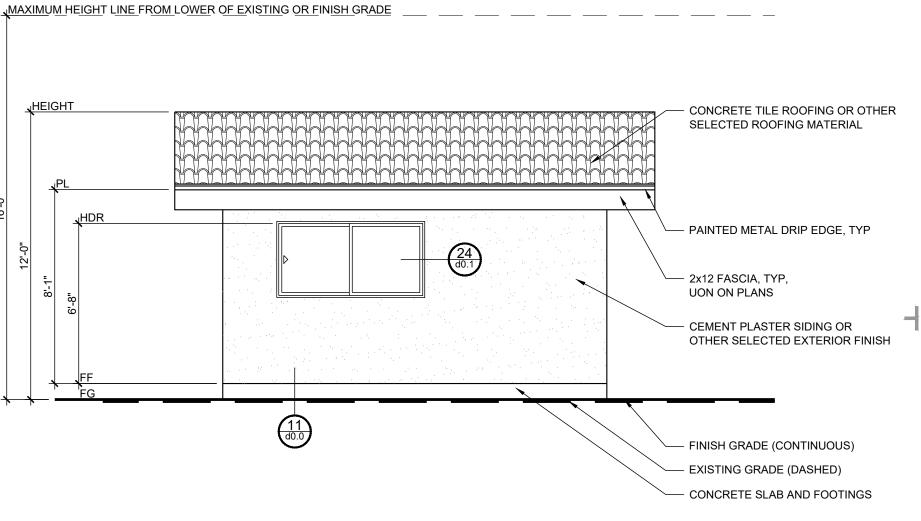
a3.0



right elevation a SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"





elevation + section notes:

REQUIREMENTS.

SHALL BE SHOWN AS WELL.

ROOF PLAN NOTES THE LOCATION OF GUTTERS AND DOWNSPOUTS. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF

ELEVATIONS & SECTIONS SHALL SHOW BOTH FINISH (CONTINUOUS) &

EXISTING (DASHED) GRADE AND THE CORRESPONDING HEIGHT LIMITATION

RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT

LINE FROM THE LOWER OF THE FINISH OR EXISTING GRADE. 4. IF THE AVERAGE LOT SLOPE EXCEEDS 10% (NOT INCLUDING RR ZONED LOTS) THAN THE ADDITIONAL SLOPED LOT HEIGHT LIMITATION LINES

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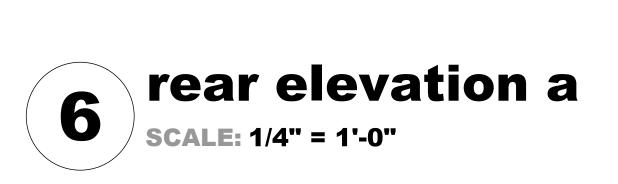
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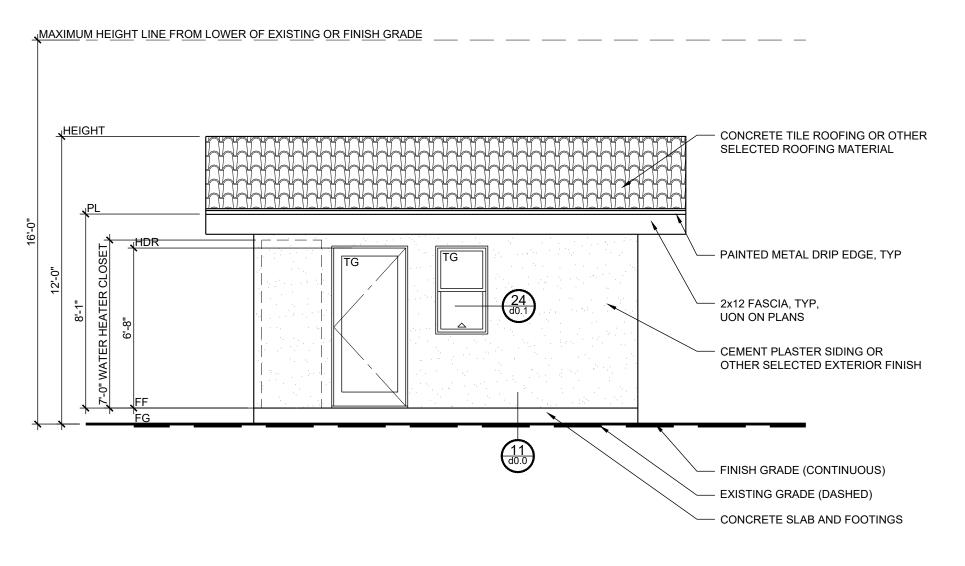
A ELEVATIONS +

SECTIONS

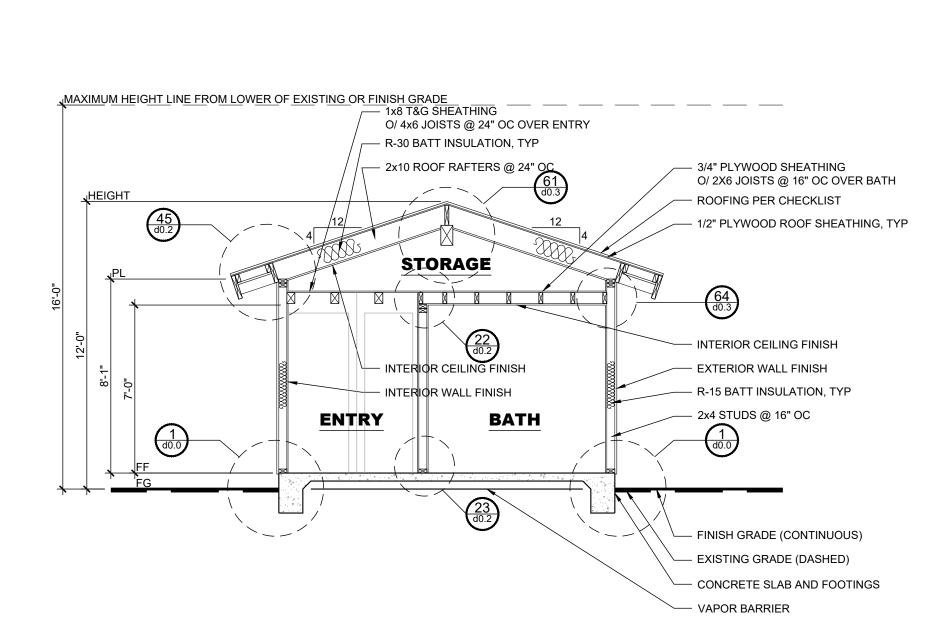
a4.0

JOB:





front elevation a SCALE: 1/4" = 1'-0"



- 2x10 ROOF RAFTERS

- R-30 BATT INSULATION, T∦f

− INTERIOR CEILING FINISH

INTERIOR WALL FINISH

BATH

GREAT ROOM

section b

SCALE: 1/4" = 1'-0"

section g

- 3/4" PLYWOOD SHEATHING

2x6 JOISTS @ 16" OC

— EXTERIOR WALL FINISH

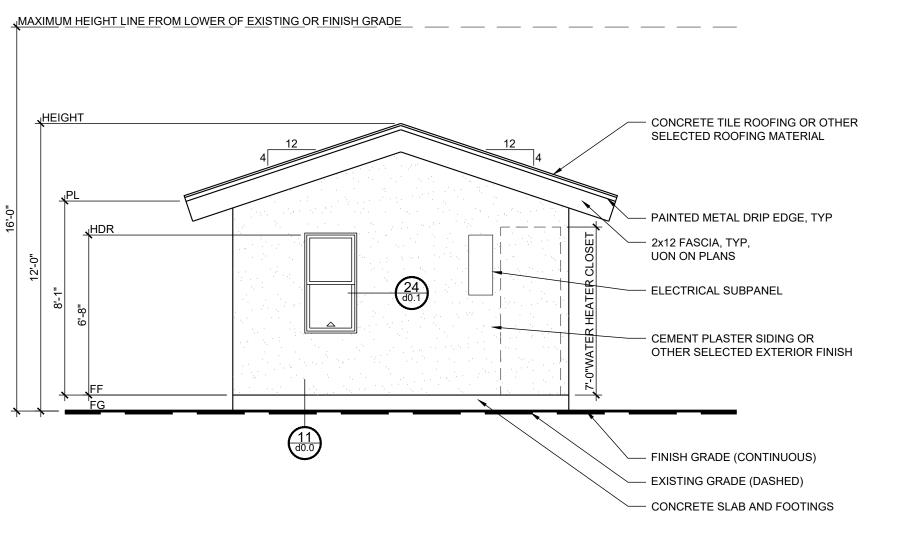
FINISH GRADE (CONTINUOUS)

CONCRETE SLAB AND FOOTINGS

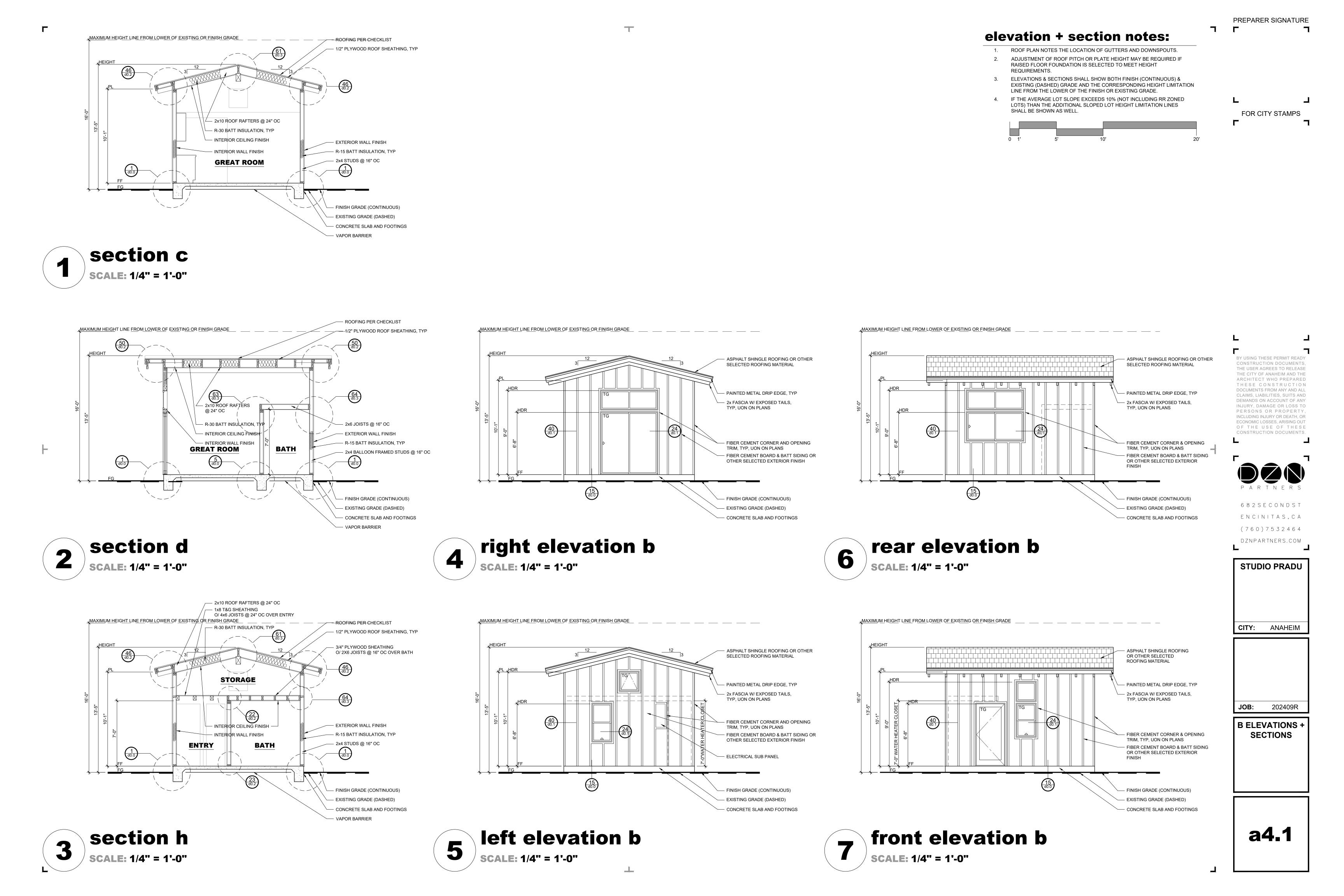
- EXISTING GRADE (DASHED)

- VAPOR BARRIER

- 2x4 BALLOON FRAMED STUDS @ 16" OC



left elevation a

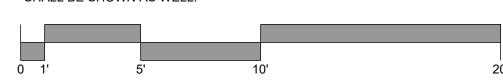


elevation + section notes:

- ROOF PLAN NOTES THE LOCATION OF GUTTERS AND DOWNSPOUTS. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT
- REQUIREMENTS. ELEVATIONS & SECTIONS SHALL SHOW BOTH FINISH (CONTINUOUS) & EXISTING (DASHED) GRADE AND THE CORRESPONDING HEIGHT LIMITATION

LINE FROM THE LOWER OF THE FINISH OR EXISTING GRADE.

4. IF THE AVERAGE LOT SLOPE EXCEEDS 10% (NOT INCLUDING RR ZONED LOTS) THAN THE ADDITIONAL SLOPED LOT HEIGHT LIMITATION LINES SHALL BE SHOWN AS WELL.



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MAXIMUM HEIGHT LINE FROM LOWER OF EXISTING OR FINISH GRADE ROOFING PER CHECKLIST - 1/2" PLYWOOD ROOF SHEATHING, TYP 2x10 ROOF RAFTERS – R-30 BATT INSULATION, T∤ 2x6 JOISTS @ 16" OC − INTERIOR CEILING FINISH — EXTERIOR WALL FINISH INTERIOR WALL FINISH **GREAT ROOM** BATH - 2x4 BALLOON FRAMED STUDS @ 16" OC FINISH GRADE (CONTINUOUS) - EXISTING GRADE (DASHED) CONCRETE SLAB AND FOOTINGS - VAPOR BARRIER

- STANDING SEAM METAL ROOFING OR OTHER SELECTED ROOFING MATERIAL - PROJECTING BEAM, TYP — PAINTED METAL DRIP EDGE, TYP — 2x STEPPED FASCIA, TYP, UON ON PLANS - FIBER CEMENT CORNER AND OPENING TRIM, TYP, UON ON PLANS - FIBER CEMENT LAP SIDING OR OTHER SELECTED EXTERIOR FINISH - FINISH GRADE (CONTINUOUS) — EXISTING GRADE (DASHED) - CONCRETE SLAB AND FOOTINGS

right elevation c SCALE: 1/4" = 1'-0"

STANDING SEAM METAL ROOFING OR OTHER SELECTED ROOFING MATERIAL - PROJECTING BEAM, TYP - PAINTED METAL DRIP EDGE, TYP - 2x STEPPED FASCIA, TYP, **UON ON PLANS** - FIBER CEMENT CORNER AND OPENING TRIM, TYP, UON ON PLANS FIBER CEMENT LAP SIDING OR OTHER SELECTED EXTERIOR FINISH - FINISH GRADE (CONTINUOUS) - EXISTING GRADE (DASHED) - CONCRETE SLAB AND FOOTINGS

rear elevation c

SCALE: 1/4" = 1'-0"

SCALE: 1/4" = 1'-0"

MAXIMUM HEIGHT LINE FROM LOWER OF EXISTING OR FINISH GRADE

6

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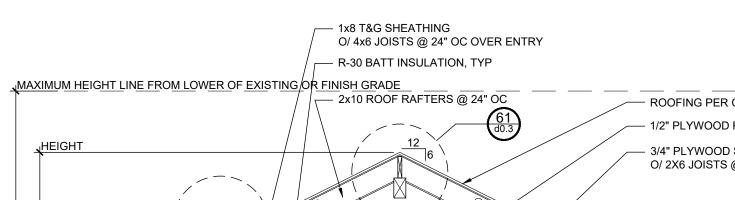
CITY: ANAHEIM

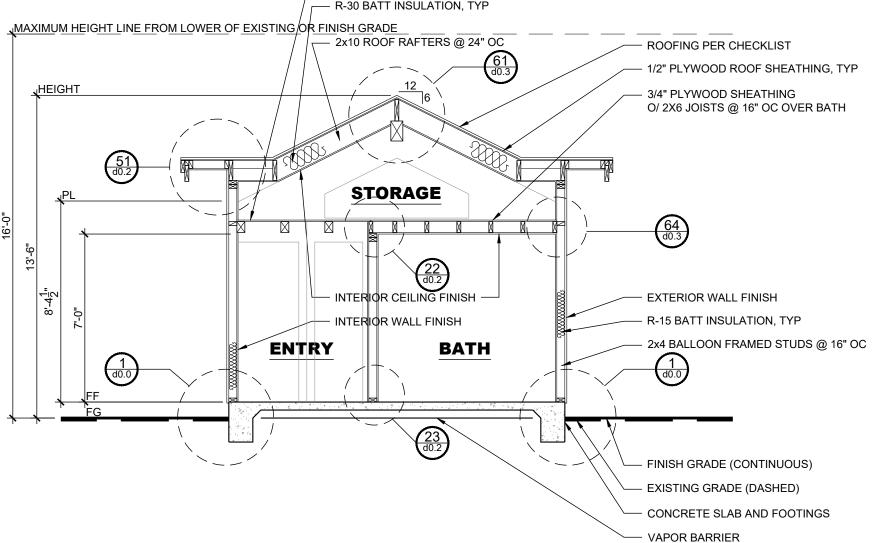
JOB: 202409R C ELEVATIONS +

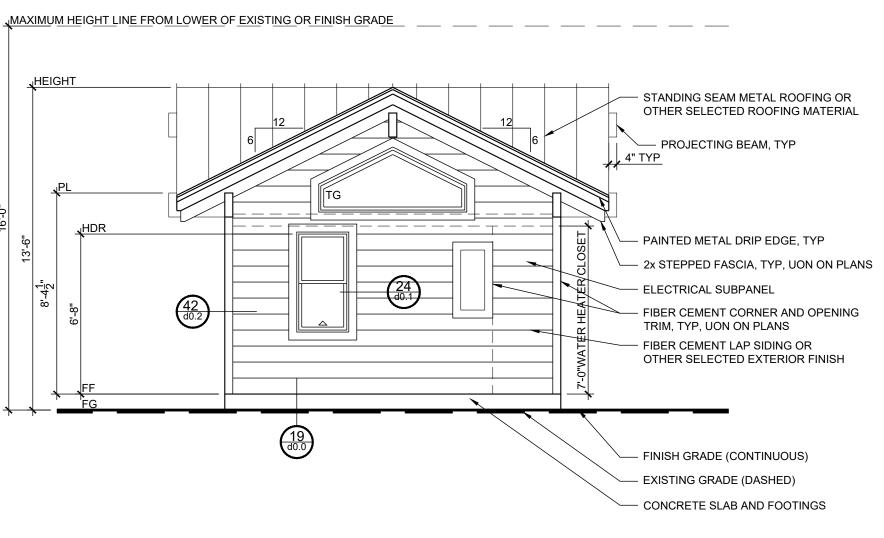
SECTIONS

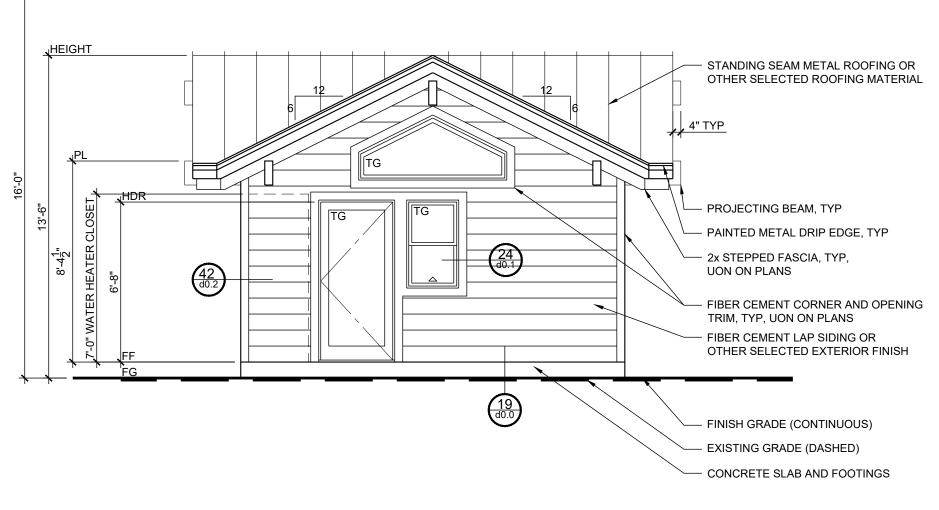
a4.2

section f SCALE: 1/4" = 1'-0"









front elevation c left elevation c **SCALE: 1/4" = 1'-0"**

section i

safety glazing notes:

2406.4 HAZARDOUS LOCATIONS.

THE LOCATIONS SPECIFIED IN SECTIONS 2406.4.1 THROUGH 2406.4.7 SHALL BE CONSIDERED SPECIFIC HAZARDOUS LOCATIONS REQUIRING SAFETY GLAZING MATERIALS.

2406.4.1 GLAZING IN DOORS.

GLAZING IN ALL FIXED & OPERABLE PANELS OF SWINGING, SLIDING, & BIFOLD DOORS SHALL BE CONSIDERED A HAZARDOUS LOCATION. **EXCEPTIONS:**

GLAZED OPENINGS OF A SIZE THROUGH WHICH A 3" Ø SPHERE IS UNABLE TO PASS.

DECORATIVE GLAZING.

GLAZING MATERIALS USED AS CURVED GLAZED PANELS IN REVOLVING DOORS.

COMMERCIAL REFRIGERATED CABINET GLAZED DOORS.

2406.4.2 GLAZING ADJACENT TO DOORS.

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION & WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE SHALL BE CONSIDERED A HAZARDOUS LOCATION.

EXCEPTIONS:

DECORATIVE GLAZING.

WHERE THERE IS AN INTERVENING WALL OR OTHER PERMANENT BARRIER BETWEEN THE DOOR & GLAZING.

WHERE ACCESS THROUGH THE DOOR IS TO A CLOSET OR STORAGE AREA 3 FEET (914 MM) OR LESS IN DEPTH. GLAZING IN THIS APPLICATION SHALL COMPLY WITH SECTION 2406.4.3.

GLAZING IN WALLS ON THE LATCH SIDE OF & PERPENDICULAR TO THE PLANE OF THE DOOR IN A CLOSED POSITION IN ONE- & TWO-FAMILY DWELLINGS OR WITHIN DWELLING UNITS IN GROUP R-2.

2406.4.3 GLAZING IN WINDOWS.

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION:

THE EXPOSED AREA OF AN INDIVIDUAL PANE IS GREATER THAN 9 SQUARE FEET.

THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 18" ABOVE THE FLOOR.

THE TOP EDGE OF THE GLAZING IS GREATER THAN 36" ABOVE THE FLOOR.

ONE OR MORE WALKING SURFACE(S) ARE WITHIN 36", MEASURED HORIZONTALLY & IN A STRAIGHT LINE, OF THE

PLANE OF THE GLAZING.

EXCEPTIONS:

DECORATIVE GLAZING.

WHERE A HORIZONTAL RAIL IS INSTALLED ON THE ACCESSIBLE SIDE(S) OF THE GLAZING 34" TO 38" ABOVE THE WALKING SURFACE. THE RAIL SHALL BE CAPABLE OF WITHSTANDING A HORIZONTAL LOAD OF 50 POUNDS PER LINEAR FOOT WITHOUT CONTACTING THE GLASS & BE NOT LESS THAN 11/2" IN CROSS-SECTIONAL HEIGHT.

OUTBOARD PANES IN INSULATING GLASS UNITS OR MULTIPLE GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLASS IS 25'-0" OR MORE ABOVE ANY GRADE, ROOF, WALKING SURFACE OR OTHER HORIZONTAL OR SLOPED (WITHIN 45° OF HORIZONTAL) SURFACE ADJACENT TO THE GLASS EXTERIOR.

2406.4.4 GLAZING IN GUARDS AND RAILINGS.

GLAZING IN GUARDS & RAILINGS, INCLUDING STRUCTURAL BALUSTER PANELS & NONSTRUCTURAL IN-FILL PANELS, REGARDLESS OF AREA OR HEIGHT ABOVE A WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION.

2406.4.5 GLAZING AND WET SURFACES

GLAZING IN WALLS, ENCLOSURES OR FENCES CONTAINING OR FACING HOT TUBS, SPAS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS, SHOWERS & INDOOR OR OUTDOOR SWIMMING POOLS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING.

GLAZING THAT IS MORE THAN 60", MEASURED HORIZONTALLY & IN A STRAIGHT LINE, FROM THE WATER'S EDGE OF A BATHTUB, HOT TUB, SPA, WHIRLPOOL OR SWIMMING POOL.

2406.4.6 GLAZING ADJACENT TO STAIRWAYS AND RAMPS

GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS & RAMPS SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION. **EXCEPTIONS:**

THE SIDE OF A STAIRWAY, LANDING OR RAMP THAT HAS A GUARD COMPLYING WITH THE PROVISIONS OF SECTIONS 1015 AND 1607.9, AND THE PLANE OF THE GLASS IS GREATER THAN 18" FROM THE RAILING.

GLAZING 36" OR MORE MEASURED HORIZONTALLY FROM THE WALKING SURFACE.

2406.4.7 GLAZING ADJACENT TO THE BOTTOM STAIRWAY LANDING

GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 60" ABOVE THE LANDING & WITHIN A 60" HORIZONTAL ARC THAT IS LESS THAN 180° FROM THE BOTTOM TREAD NOSING SHALL BE CONSIDERED TO BE A HAZARDOUS LOCATION. EXCEPTION:

GLAZING THAT IS PROTECTED BY A GUARD COMPLYING WITH CBC SECTIONS 1015 AND 1607.9 WHERE THE PLANE OF THE GLASS IS GREATER THAN 18" FROM THE GUARD.

structural design basis: 2022 cbc/crc shear panel schedule:

VERTICA	L DE	ESIGN			LATERAL	DESIGN			FOUNDAT	10	DESIGN
			SEI	SMI		w	/IND				
LOAD		#/SF	ITEM		VALUE	ITEM		VALUE	ITEM		VALUE
ROOF DEAD	=	18	SITE CLASS	=	D	BASIC WIND SPEED	=	110 MPH	SOIL	=	TYPE 5
ROOF LIVE	=	20	IMPORTANCE FACTOR, I	=	1.0	IMPORTANCE FACTOR	=	1.0	SITE CLASS	=	D, LATERAL DESIGN
ROOF SNOW	=	N/A	OCCUPANCY CATEGORY	=	II	OCCUPANCY CATEGORY	=	II	SOIL BEARING PRESSURE	=	1,000 #/SF
FLOOR DEAD	=	15	SEISMIC DESIGN CATEGORY	=	D	WIND EXPOSURE CATEGORY	=	В	RETAINII	NG '	WALLS
FLOOR LIVE	=	40	Ss	=	1.104	HEIGHT & EXPOSURE ADJ. COEFF.	=	1.0	RESTRAINED LOAD (EFP)	=	N/A
			SI	=	0.425	TOPO ADJ. FACTOR	=	1.0	CANTILEVER LOAD (EFP)	=	N/A
			Sds	=	0.779	SIMPLIFIED DESIGN WIND PRESSURE	=	26.6 #/SF (Ps30)	PASSIVE SOIL PRESSURE	=	N/A
			Sdl	=	0.446	DESIGN WIND PRESSURE	=	16.0 #/SF	COEFFICIENT OF FRICTION	=	N/A
			LATITUDE	=	33.191				SOILS	REF	PORT
			LONGITUDE	=	-117.423				BY	=	N/A
			PLYWOOD SHEAR, R SEISMI RESISTING								
			Cs = Sds/(R/I) : V = Cs • W (A		, ,						

SHEAR PANEL	STRUCTURAL 1	COMMON NAIL	ALLOWABLE		SLIDING ANC	HOR SYSTEM ⁴	
DESIGNATION	APA-RATED	SPACING @	SHEAR/FT W/	5/8" Ø	FRAMING CLIP	16d	1/2"Ø
	WOOD STRUCTURAL	BOUNDARIES &	WOOD STUDS @	ANCHOR BOLT	SPACING	COMMON NAIL	LAG SCREW
	PANEL	EDGES (BN &EN)	16" OC	SPACING ²	V=450# -	SPACING ³ 2x	SPACING ⁵
X SP		FIELD NAILING		2x SILL - V=1184#	,	SOLE PLATE ONLY	2x SOLE PLATE
LENGTH (FT)		(FN) @ 12" OC		3x SILL - V=1520#	OAE	V=121#	ONLY V=880#
	THICKNESS	OC (INCH)	#/FT	OC (INCH)	OC (INCH)	OC (INCH)	OC (INCH)
Α	3/8"	8d@6	280	48	18	5	23
B ¹	15/32"	8d@4	430	42	12	3	15
C ¹	15/32"	8d@3	550	32	9	2	12
D 1	15/32"	8d@2	730	24	7	\rightarrow	9
E 1	15/32"	8d@2	870	20	6	\rightarrow	6
SW	SIMPSON CO. STRON	GWALL (SEE ATTAC	HED DETAIL SHEETS	S IF SPECIFIED FOR	PROJECT)		
WSW	SIMPSON CO. WOOD	STRONGWALL (SEE	ATTACHED DETAIL :	SHEETS IF SPECIFIE	D FOR PROJECT)		
SSW	SIMPSON CO. STEEL S	STRONGWALL (SEE	ATTACHED DETAIL :	SHEETS IF SPECIFIE	D FOR PROJECT)		
HF	HARDY FRAME (SEE A	ATTACHED DETAIL S	HEETS IF SPECIFIED	O FOR PROJECT)			
FOOTNOTES:							
1.	FRAMING AT FOUNDA	TION SILL PLATES A	ND ADJOINING PAN	EL EDGE STUDS SH	ALL BE A SINGLE 3x	NOMINAL MEMBER,	AND ALL NAILS
_	SHALL BE STAGGERE						: : :
2.	SIMPSON CO BP 5/8 B						
	WEDGE ANCHORS (IC TABLE ABOVE.	BO ER-3631) MAY B	E USED IN LIEU OF 5	6/8"Ø ANCHOR BOLT	S AT EXISTING FOO	TINGS WITH SAME SI	PACING PER
		DE OTA OOEDED	A 4/00 A 415 US 41 US 4 TV/	21041			
	ALL SILL NAILING SHA		•				
4.	WHEN A SHEAR PANE SPACINGS FROM THE				NCHOR CONNECTO	RS SHALL BE ATTAC	HED WITH
5.	MINIMUM 4" PENETRA	TION INTO 4x MATE	RIAL.				

2022 CBC TABLE 2304.10.2 FASTENING SCHEDULE

EACH END, TOENAIL

1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR

OTHER FRAMING BELOW

TRUSS	2-8d COMMON (2-1/2"x0.131"); OR	
TRUSS	2-3"x0.131" NAILS; OR 2-3" 14 GAGE STAPLES 2-16d COMMON (3-1/2"x0.162"); OR	EACH END, TOENAIL
	2-100 COMMON (3-1/2 X0.102), OR 3-3"x0.131" NAILS; OR 3-3"14 GAGE STAPLES 16d COMMON (3-1/2"x0.162") @ 6"OC; OR	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	3"x0.131" NAILS @ 6" OC; 3"x14 GAGE STAPLES @ 6" OC 3=8d COMMON (2-1/2"x0 131"): OR	FACE NAIL
2. CEILING JOISTS TO TOP PLATE	3-10d BOX (3"x0.128");	EACH JOIST, TOENAIL
3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST)	3-3"14 GAGE STAPLES,7/16" CROWN 3-16d COMMON (3-1/2"x0.162"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR	FACE NAIL
(SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1) 4. CEILING JOIST ATTACHED TO PARALLEL	4-3" 14 GAGE STAPLES,7/16" CROWN	
RAFTER (HEEL JOINT) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	3-10d COMMON (3"x0.148"): OR	FACE NAIL
5. COLLAR TIE TO RAFTER	4-10d BOX (3"x0.128"); OR (4-3"x0.131" NAILS: OR	FACE NAIL
6. RAFTER OR TRUSS TO TOP PLATE (SEE SECTION 2308.7.5, TABLE 2308.7.5)	4-3"x"14 GAGE STAPLES,7/16" CROWN 3-10d COMMON (3"x0.148"); OR 3-16d BOX (3-1/2"x0.135"); OR 4-10d BOX (3"x0.128"); OR	2 TOENAILS ON ONE SIDE AN TOENAIL ON OPPOSITE SIDE
	4-3"x0.131" NAILS; OR 4-3" 14 GAGE STAPLES,7/16" CROWN 2-16d COMMON (3-1/2"x0.162"); OR 3-16d BOX (3-1/2"x0.135"); OR 3-10d BOX (3"x0.128"); OR	RAFTER OR TRUSS ^C
		END NAIL
RAFTERS; OR ROOF RAFTER TO 2-INCH RIDGE BEAM	3-3" 14 GAGE STAPLES,7/16" CROWN; OR 3-10d COMMON (3-1/2"x0.148"); OR 3-16d BOX (3-1/2"x0.135"); OR 4-10d BOX (3"x0.128"); OR	
	4-10d BOX (3"x0.128");	TOENAIL
3. STUD TO STUD (NOT AT BRACED WALL	WALL 16d COMMON (3-1/2"x0.162"); 10d BOX (3"x0.128"); OR	24" OC, FACE NAIL
PANELS)	3"x0, 131" NAILS; OŔ 3-3" 14 GAGE STAPLES,7/16" CROWN 16d COMON (3-1/2"x0.162") 16d BOX (3-1/2"x0.135"); OR	16" OC, FACE NAIL 16" OC, FACE NAIL
THE TOP OF THE OUT THE OUT BIT TOP	13"y∩ 131" NAILS: OR	12" OC, FACE NAIL
	3-3" 14 GAGE STAPLES,7/16" CROWN 16d COMMON (3-1/2"x0.162"); OR 16d BOX (3-1/2"x0.135") 4-8d COMMON (2-1/2"X.131"); OR	16" OC, EA EDGE, FACE NAIL 12" OC, EA EDGE, FACE NAIL
1. CONTINUOUS HEADER TO STUD	4-10d BOX (3"x0.128"); OR 5-8d BOX (2-1/2"x0.113") 16d COMMON (3-1/2"x0.162")	TOENAIL 16" OC, FACE NAIL
2. TOP PLATE TO TOP PLATE	10d BOX (3"x0.128");	12" OC, FACE NAIL
2 TOD DI ATE TO TOD DI ATE AT END JOINTS	3" 14 GAGE STÁPLES,7/16" CROWN 8-16d COMMON (3-1/2"x0.162"); OR 12-16d BOX (3-1/2"x0.135"); OR 12-10d BOX (3-1/2"x0.135"); OR	EA SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP SPLIC
	12-16d BOX (3-1/2"x0.135"); OR 12-10d BOX (3"x0.128"); OR 12-3"x0.131" NAILS; OR 12-3" 14 GAGE STAPLES,7/16" CROWN	LENGTH EACH SIDE OF END JOINT)
COLOT OR DI COLUMN ALOT AT REACER MAN	16d COMMON (3-1/2"x0.162") 16d BOX (3"x0.135"); OR 3"x0.131" NAILS; OR	16" OC, FACE NAIL 12" OC, FACE NAIL
5. BOTTOM PLATE TO JOIST, RIM JOIST, BAND	3" 14 GAGE STAPLES,7/16" CROWN 2- 16d COMMON (3-1/2"x0.162"); OR 3-16d BOX (3"x0.135"); OR 4.2"x0.131" NAIL S. OR	16" OC, FACE NAIL
	4-3"x0.131" NAILS; OR 4-3" 14 GAGE STAPLES,7/16" CROWN 3-16d BOX (3-1/2"x0.135"); OR	
	4-8d COMMON (2-1/2"x0.131"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR	TOENAIL
6. STUD TO TOP OR BOTTOM PLATE	4-8d BOX (2-1/2"x0.113"); OR 4-3" 14 GAGE STAPLES,7/16" CROWN; OR 2-16d COMMON (3-1/2"x0.162"); OR	
	3- 16d BOX (3"x0.135");	END NAIL
17. TOP PLATES, LAP AT CORNERS AND	3-3" 14 GAGE STAPLES,7/16" CROWN 2-16d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR	END NAII
NTERSECTIONS	3-3"x0.131" NAILS; OR 3-3" 14 GAGE STAPLES,7/16" CROWN 3-8d BOX (2-1/2"x0.131"); OR	END NAIL
	2-8d COMMON (2-1/2"x0.113"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR	FACE NAIL
	2-3" 14 GAGE STAPLES, 7/16" CROWN 3-8d BOX (2-1/2"x0.113"); OR 2-8d COMMON (2-1/2"x0.131"); OR	
9. 1"X0" SHEATHING TO EACH BEARING	2-10d BOX (3"x0.128") 2-1-3/4" 16 GAGE STAPLES,1" CROWN 3-8d COMMON (2-1/2"x0.131"); OR	FACE NAIL
	3-8d BOX (2-1/2"x0.113");	
	WIDER THAN 1" x 8" 3-8d COMMON (2-1/2"x0.131"); OR 4-8d BOX (2-1/2"x0.113"); OR	FACE NAIL
	3-10d BOX (3"x0.128"); ÓR 4-1-3/4" 16 GAGE STAPLES,1" CROWN FLOOR	
21. JOIST TO SILL, TOP PLATE OR GIRDER	4-8d BOX (2-1/2"x0.113");	TOENAIL
	3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES.7/16" CROWN	4" OC, TOENAIL
FOR DUATE CILL OR OTHER ERAMING RELOW	8d BOX (2-1/2"x0.113"); ÓR 8d COMMON (2-1/2"x0.131"); OR 10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR	6" OC, TOENAIL
	3"x14 GAGE STAPLES,7/16" CROWN 3-8d BOX (2-1/2"x0.113"); OR 2-8d COMMON (2-1/2"x0.131"); OR	
23. 1"X6" SUBFLOOR OR LESS TO EACH JOIST	3-10d BOX (3"x0.128"); OR 2-1-3/4" 16 GAGE STAPLES,1" CROWN 3- 16d BOX (3-1/2"x0.135"); OR	FACE NAIL
DE 2" DI ANKS (DI ANK & REAM ELOOP & POOE)	2- 16d COMMON (3-1/2"x0.162") 3- 16d BOX (3-1/2"x0.135"); OR 2- 16d COMMON (3-1/2"x0.162")	BLIND & FACE NAIL EACH BEARING, FACE NAIL
	20d COMMON (4"x0.192")	32" OC, FACE NAIL AT TOP & BOTTOM STAGGERED ON
	10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR	OPPOSITE SIDES 24" OC, FACE NAIL AT TOP & BOTTOM STAGGERED ON
AYERS	3" 14 GAGE STAPLES,7/16" CROWN AND: 2- 20d COMMON (4"x0.192")	OPPOSITE SIDES
	3- 10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3" 14 GAGE STAPI ES 7/16" CROWN	ENDS AND AT EACH SPLICE, FACE NAIL
27. LEDGER STRIP SUPPORTING JOISTS OR	3-3 14 GAGE STAFLES,//16 CROWN 3-16d COMMON (3-1/2"x0.162"); OR 4-16d BOX (3-1/2"x0.135"); OR 4-10d BOX (3"x0.128"); OR	EACH JOIST OR RAFTER, FAC
RAFTERS	4-100 BOX (3 X0.128); OR 4-3"X0.131" NAILS; OR 4-3" 14 GAGE STAPLES,7/16" CROWN 3-16d COMMON (3-1/2"X0.162"); OR	NAIL
28. JOIST TO BAND JOIST OR RIM JOIST	4-10d BOX (3"X0.128"); OR 4-3"y0 131" NAILS: OR	END NAIL
29. BRIDGING OR BLOCKING TO JOIST, RAFTER	4-3"x14 GAGE STAPLES,7/16" CROWN 2-8d COMMON (2-1/2"x0.131"); OR 2-10d BOX (3"x0.128"); OR	EACH END, TOE NAIL
OR TRUSS	•	, -
WOOD STRUCTURAL PANELS (WSP), SUBFLOOI	WALL SHEATHING TO FRAMING ^a	
WOOD STRUCTURAL PANELS (WSP), SUBFLOOI	FIELD = INTERMEDIATE SUPPORTS	,
WOOD STRUCTURAL PANELS (WSP), SUBFLOOI	FIELD = INTERMEDIATE SUPPORTS 6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1)2"x0.131"x	6 - 12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOI	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d	
WOOD STRUCTURAL PANELS (WSP), SUBFLOOI	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL)	6 - 12 6° - 6° 4 - 8 3'- 3'
WOOD STRUCTURAL PANELS (WSP), SUBFLOOI	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED	6 - 12 6 ^e - 6 ^e 4 - 8
WOOD STRUCTURAL PANELS (WSP), SUBFLOON 30. 3/8" - 1/2" 31. 19/32" - 3/4"	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113") (SUBFLOOR &WALL) 8d COMMON OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8" x	6 - 12 6° - 6° 4 - 8 3 ^f - 3 ^f 3 ^f - 3 ^f
WOOD STRUCTURAL PANELS (WSP), SUBFLOON 30. 3/8" - 1/2" 31. 19/32" - 3/4"	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113") (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2" x 0.113" x 0.261" HEAD) (ROOF) OR RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, 7/16" CROWN	6 - 12 6° - 6° 4 - 8 3'- 3' 3' - 3' 6 - 12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD N 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4"	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) 0 R SRS-01 (2-3/8" x 0.113") NAIL (ROOF) ^d 2-3/8" x 0.131", NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR	6 - 12 6° - 6° 4 - 8 3'- 3' 3' - 3' 6 - 12 6° - 6°
WOOD STRUCTURAL PANELS (WSP), SUBFLOON 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 08 WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 08 COMMON (2-1/2"x 0.131"; OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 0.281" HEAD) (ROOF) 0 R RSRS-01 (2-3/8" x 0.281" HEAD) (ROOF) 0 R RSRS-01 (2-3/8" x 0.131") NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, //16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR	6 - 12 6° - 6° 4 - 8 3'- 3' 3' - 3' 6 - 12 6° - 6° 4 - 8
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b 34. 5/8" FIBERBOARD SHEATHING b	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, //16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR &WALL) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113") (SUBFLOOR &WALL) 8d COMMON (3-1/2"x0.131" x 0.266" HEAD NAIL NAIL; OR 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, //16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR	6 - 12 6° - 6° 4 - 8 3'- 3' 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 63/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 63 COMMON (2-1/2"x 0.113"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON (2-1/2"x 0.113") X 0.281" HEAD) (ROOF) 0R RSRS-01 (2-3/8" x 0.13") NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, //16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281" HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" x 0.131" x 0.251" CROWN 1-1/2" x 0.131" x 0.331"); OR	6 - 12 6° - 6° 4 - 8 3' - 3' 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 TO FRAMING
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL 35. 3/4" AND LESS	6d COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 63/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 63 COMMON (2-1/2"x 0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON (2-1/2"x 0.131"); OR DEFORMED (2-1/2"x 0.113" x 0.281" HEAD) (ROOF) 0R RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, //16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" x 0.131"); OR DEFORMED (2" x 0.113"); OR	6 - 12 6° - 6° 4 - 8 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 3 - 6 TO FRAMING 6 - 12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL 35. 3/4" AND LESS 36. 7/8" - 1"	6G COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8G COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ⁶ 1-3/4" 16 GAGE STAPLE, //16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 8G COMMON (2-1/2"x 0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR &WALL) 8G COMMON (2-1/2"x 0.131" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 8G COMMON OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ⁶ 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, //16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 CAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" CALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 10 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" (2" x 0.13"); OR DEFORMED (2" x 0.113"); OR DEFORMED (2-1/2" x 0.113"); OR	6 - 12 6° - 6° 4 - 8 3' - 3' 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 TO FRAMING
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL 35. 3/4" AND LESS 36. 7/8" - 1" 37. 1- 1/8" - 1- 1/4"	6G COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON (0-1/2"x0.131"); OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) 9R RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ^d 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, 7/16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" CANDERLAYMENT 3d COMMON (2-1/2" x 0.131"); OR DEFORMED (2" x 0.113"); OR DEFORMED (2-1/2" x 0.131"); OR DEFORMED (2-1/2" x 0.131")	6 - 12 6° - 6° 4 - 8 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 3 - 6 TO FRAMING 6 - 12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL 35. 3/4" AND LESS 36. 7/8" - 1" 37. 1- 1/8" - 1- 1/4"	6G COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) 9d RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) 2" 16 GAGE STAPLE, 7/16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" CALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" x 0.131"); OR DEFORMED (2" x 0.113"); OR DEFORMED (2" x 0.113"); OR DEFORMED (2-1/2" x 0.131"); OR DEFORMED (2-1/2" x 0.131")	6 - 12 6° - 6° 4 - 8 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 3 - 6 TO FRAMING 6 - 12 6 - 12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL 35. 3/4" AND LESS 36. 7/8" - 1" 37. 1- 1/8" - 1- 1/4" 38. 1/2" OR LESS	6G COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ^d 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 1-3/4" 16 GAGE STAPLE, 7/16" CROWN (ROOF) 8d COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8d COMMON OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ^d 2" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, 7/16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (7/16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN S, COMBINATION SUBFLOOR UNDERLAYMENT 8d COMMON (2-1/2" x 0.131"); OR DEFORMED (2-1/2" x 0.131"); OR	6 - 12 6° - 6° 4 - 8 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 TO FRAMING 6 - 12 6 - 12 6 - 12
WOOD STRUCTURAL PANELS (WSP), SUBFLOOD 30. 3/8" - 1/2" 31. 19/32" - 3/4" 32. 7/8" - 1-1/4" OT 33. 1/2" FIBERBOARD SHEATHING b WOOD STRUCTURAL PANEL 35. 3/4" AND LESS 36. 7/8" - 1" 37. 1- 1/8" - 1- 1/4" 38. 1/2" OR LESS	6G COMMON OR DEFORMED (2" x 0.113"); OR 2-3/8" x 0.113" NAIL (SUBFLOOR & WALL) 8G COMMON OR DEFORMED (2-1/2"x0.131"x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8"x0.113") NAIL (ROOF) ⁶ 1-3/4" 16 GAGE STAPLE, //16" CROWN (SUBFLOOR & WALL) 2-3/8" x 0.113" x 0.266" HEAD NAIL (ROOF) 3/4" 16 GAGE STAPLE, //16" CROWN (ROOF) 8G COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8G COMMON (2-1/2"x0.131"); OR DEFORMED (2" x 0.113")(SUBFLOOR & WALL) 8G COMMON OR DEFORMED (2-1/2" x 0.113" x 0.281" HEAD) (ROOF) OR RSRS-01 (2-3/8" x 0.113") NAIL (ROOF) ⁶ 2-3/8" x 0.131" x 0.266" HEAD NAIL NAIL; OR 2" 16 GAGE STAPLE, //16" CROWN 10d COMMON (3" x 0.148"); OR DEFORMED (2-1/2" x 0.131" x 0.281' HEAD) HER EXTERIOR WALL SHEATHING 1-1/2" x 0.120" GALVANIZED ROOFING NAIL (//16" HEAD Ø); OR 1-1/4" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (//16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (//16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" GALVANIZED ROOFING NAIL (//16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" CALVANIZED ROOFING NAIL (//16" HEAD Ø); OR 1-1/2" 16 GAGE STAPLE W/ 7/16" OR 1" CROWN 1-3/4" x 0.120" CALVANIZED ROOFING NAIL (//16" HEAD Ø); OR 1-1/2" x 0.120" X 0.131"); OR DEFORMED (2" x 0.113"); OR DEFORMED (2-1/2" x 0.131"); OR DEFORMED (2-1/2" x 0.131") OR DEFORMED (2-1/2" x 0.131")	6 - 12 6° - 6° 4 - 8 3' - 3' 6 - 12 6° - 6° 4 - 8 6-12 3 - 6 TO FRAMING 6 - 12 6 - 12 6 - 12
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c. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE & THE CEILING JOIST IS FASTENED TO THE TOP PLATE ACCORDING TO THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE RAFTER SHALL BE PERMITTED TO BE

e. TABULATED FASTENER REQUIREMENTS APPLY WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN 140 MPH. FOR WOOD STRUCTURAL PANEL ROOF SHEATHING ATTACHED TO GABLE-END ROOF FRAMING & TO INTERMEDIATE SUPPORTS (FIELD) WITHIN 48" OF ROOF EDGES & RIDGES, NAILS SHALL BE SPACED @ 4" OC WHERE THE ULTIMATE DESIGN WIND SPEED IS GREATER THAN 130 MPH IN EXPOSURE B OR GREATER THAN 110 MPH IN EXPOSURE C. SPACING EXCEEDING 6" OC @ INTERMEDIATE SUPPORTS (FIELD) SHALL BE

g. NAILS & STAPLES ARE CARBON STEEL MEETING THE SPECIFICATIONS OF ASTM F1667. CONNECTIONS USING NAILS & STAPLES OF OTHER MATERIALS, SUCH AS STAINLESS STEEL, SHALL BE DESIGNED BY ACCEPTABLE ENGINEERING PRACTICE OR APPROVED PER SECTION104.11. 2304.10.2.1 ADDITIONAL REQUIREMENTS. FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE HOT-DIPPED ZINC-COATED GALVANIZED STEEL, MECHANICALLY DEPOSITED ZINC-COATED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATINGS WEIGHTS FOR HOT-DIPPED ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A153. THE COATING WEIGHTS FOR

f. FASTENING IS ONLY PERMITTED WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN OR EQUAL TO 110 MPH.

MECHANICALLY DEPOSITED ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM.

d. RSRS-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING SPECIFICATIONS IN ASTM F1667.

PERMITTED WHERE THE FASTENING IS DESIGNED PER THE AWC NDS.

REDUCED BY 1 NAIL.

STRUCTURAL NOTES

202409R

PREPARER SIGNATURE

FOR CITY STAMPS

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS.

THE USER AGREES TO RELEASE

THE CITY OF ANAHEIM AND THE

ARCHITECT WHO PREPARED THESE CONSTRUCTION

DOCUMENTS FROM ANY AND ALL

CLAIMS, LIABILITIES, SUITS AND

DEMANDS ON ACCOUNT OF ANY

INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY.

INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE

CONSTRUCTION DOCUMENTS.

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ENCINITAS, CA

(760)7532464

STUDIO PRADU

CITY: ANAHEIM

INDICATES NEW

FOOTING, TYP

D a4.1 F a4.2 - INDICATES NEW

SP CONCRETE PAD

^{/4.0'} AT EXTERIOR

DOOR, TYP

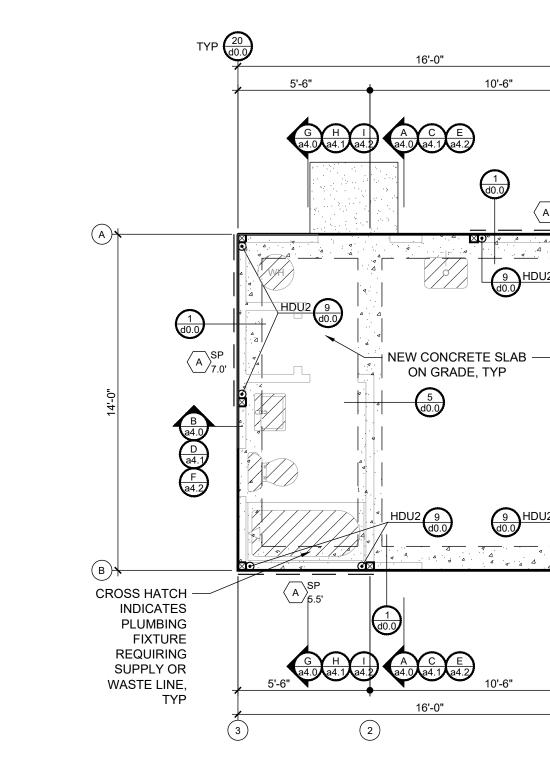
CONCRETE

foundation plan notes:

- EXPANSIVE SOIL LOCATIONS SHALL SUBSTITUTE DETAIL 2/d0.0 FOR DETAIL 1/d0.0 AT PERIMETER FOOTINGS.
- EXPANSIVE SOIL LOCATIONS SHALL SUBSTITUTE DETAIL 6/d0.0 FOR DETAIL 5/d0.0 AT INTERIOR FOOTINGS.
- 3. ROOF FRAMING PLAN FOR OTHER ELEVATIONS MAY HAVE DIFFERENT SHEAR PANEL LENGTHS. VERIFY SHEAR PANEL LENGTHS WITH ROOF FRAMING PLAN PRIOR TO PLACING HOLD DOWN AND/OR ANCHOR BOLTS.

raised floor plan notes:

- EXPANSIVE SOIL LOCATIONS SHALL PROVIDE FOOTING DIMENSIONS SPECIFIED IN DETAILS 3, 4, 7, 8 & 12/d0.0 FOR EXPANSIVE SOILS. 2. ROOF FRAMING PLAN FOR OTHER ELEVATIONS MAY HAVE DIFFERENT SHEAR PANEL LENGTHS. VERIFY SHEAR PANEL LENGTHS WITH ROOF FRAMING PLAN
- PRIOR TO PLACING HOLD DOWN AND/OR ANCHOR BOLTS. 3. PROVIDE FOUNDATION VENTS FOR RAISED FLOOR AREA AT 1 SQ. FT. OF VENT AREA FOR EVERY 150 SQ. FT. OF RAISED FLOOR AREA. 224/150 = 1.5 SQ. FT. SIX[6] 3"X14" FOUNDATION VENTS ARE REQUIRED AND SHALL BE EVENLY DISTRIBUTED AT THE FOUNDATION PERIMETER. CRC §408.1
- 4. PROVIDE A 18"X24" FOUNDATION ACCESS TO RAISED FLOOR FOUNDATION AREAS. CRC §408.4
- 5. PROVIDE R-19 BATT INSULATION AT UNDER-FLOOR JOISTS, TYP.
- 6. FLOOR DIAPHRAGM SHALL BE 23/32" APA STURD-I-FLOOR, EXPOSURE 1, 40/20, TONGUE & GROOVE WITH 10d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS



- CROSS HATCH

INDICATES

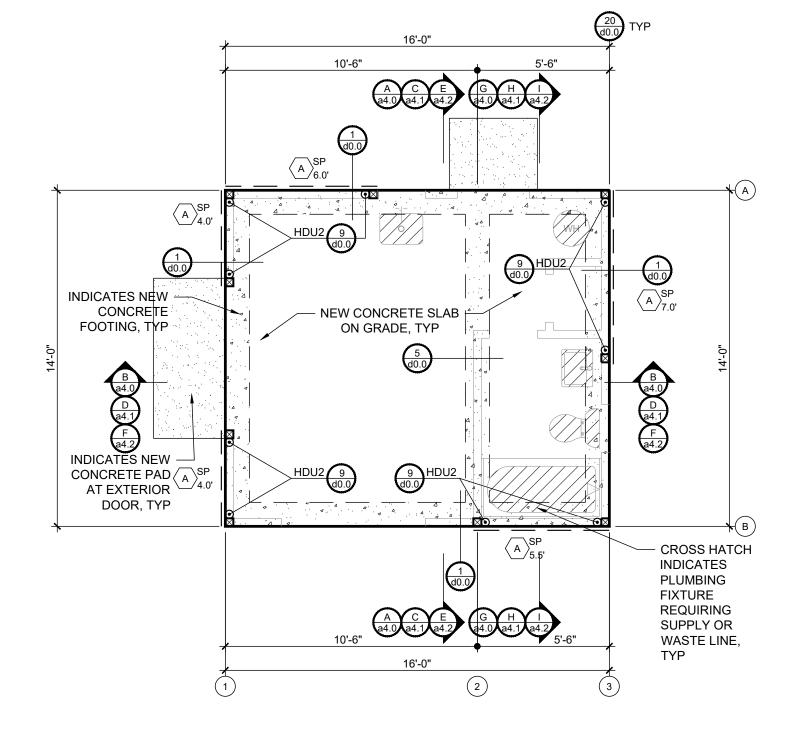
PLUMBING

REQUIRING

SUPPLY OR

WASTE LINE,

FIXTURE



BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.

PREPARER SIGNATURE

FOR CITY STAMPS



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(760)7532464

STUDIO PRADU

CITY: ANAHEIM

202409R

FOUNDATION PLANS

s1.0



INDICATES NEW -

INDICATES NEW -

AT EXTERIOR

UNDER FLOOR

DOOR, TYP

24" WIDE x

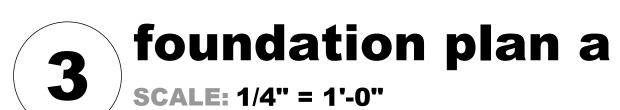
18" DEEP

ACCESS

CONCRETE PAD

CONCRETE FOOTING, TYP





— 1" T&G O/ 4x6,

- 2x6 LEDGER,

- 3/4" PLYWOOD

2x6 JOISTS,

TYP, UON

SHEATHING O/

1/2" PLYWOOD

SHEATHING,

TYP, UON

TYP, UON

JOISTS TYP, UON

a. IF THE INSULATION IS AIR-PERMEABLE AND IT IS INSTALLED DIRECTLY BELOW THE ROOF SHEATHING WITH RIGID BOARD OR SHEET INSULATION WITH A MINIMUM R-5 VALUE INSTALLED ABOVE THE ROOF SHEATHING. (OR)

b. IF THE INSULATION IS AIR-IMPERMEABLE AND IT IS IN DIRECT CONTACT WITH THE UNDERSIDE OF THE ROOF SHEATHING. (OR)

c. IF **TWO LAYERS** OF INSULATION ARE INSTALLED BELOW THE ROOF SHEATHING: AN AIR-IMPERMEABLE LAYER IN DIRECT CONTACT WITH THE UNDERSIDE OF THE ROOF SHEATHING AND AN ADDITIONAL LAYER **OF AIR PERMEABLE** INSULATION INSTALLED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION.

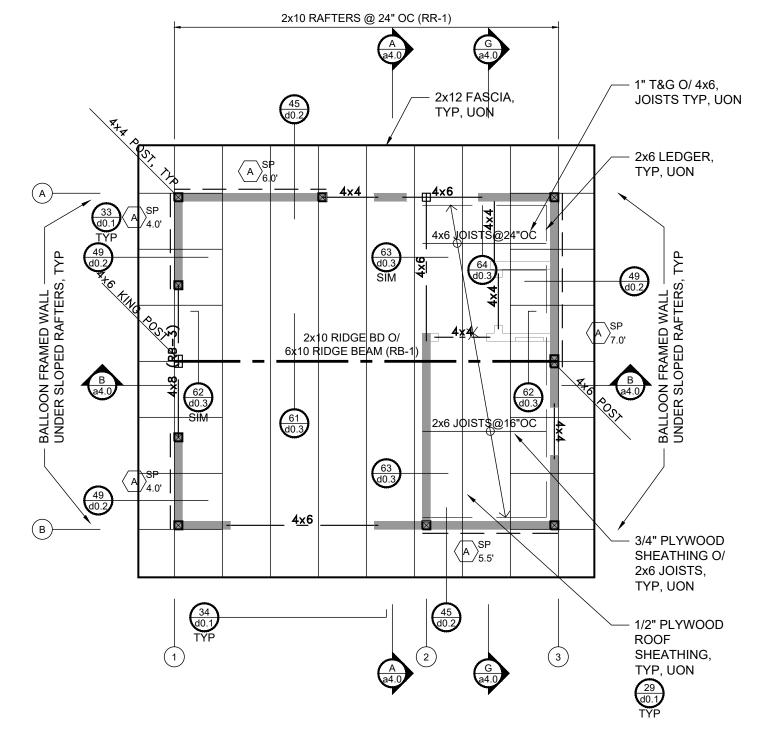
DETAILS 86, 87 & 88/d0.4 PROVIDE MORE INFORMATION ABOUT THESE ROOF INSULATION ALTERNATIVES. FLOOR DIAPHRAGM SHALL BE 23/32" APA STURD-I-FLOOR, EXPOSURE 1, 40/20,

TONGUE & GROOVE WITH 10d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS

3. ROOF DIAPHRAGM SHALL BE 15/32" APA RATED SHEATHING (MIN), EXPOSURE 1, 24/0 MAXIMUM SPAN RATING WITH 8d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS (FN).

TRELLIS MEMBERS AND OTHER WEATHER EXPOSED MEMBERS SHALL BE PRESSURE TREATED DOUGLAS FIR (PTDF) OR NATURALLY PEST AND ROT RESISTANT WOOD SPECIES SUCH AS REDWOOD OR CEDAR, TYP, OAE

2x10 RAFTERS @ 24" OC (RR-1) - 2x6 FASC|A AT EAVE W/ EXPO\$ED TAILS BELOW, TYP, UON 2x10 RIDGE BD OVER 6x10 RIDGE BEAM (RB-1)



BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS. THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY. INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.

PREPARER SIGNATURE

FOR CITY STAMPS



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STUDIO PRADU

CITY: ANAHEIM

202409R

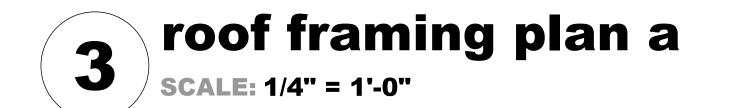
JOB:

ROOF FRAMING PLANS

s2.0







2x10 RIDGE BD 0/ CONTINUOUS 3/4" PLYWOOD SHEATHING O/ 2x6 JOISTS, TYP, UON - 1/2" PLYWOOD ROOF SHEATHING, TYP, UON BALLOON FRAMED WALL -UNDER SLOPED RAFTERS WITH 4x12 OUTRIGGER, 'A' SHEAR PANEL WHOLE WALL, TYP

2x10 RAFTERS @ 24" OC, TYP ALL SLOPES (RR-1)

BALLOON FRAMED WALL -

FASCIA, (a4.

UNDER SLOPED RAFTERS WITH

'A' SHEAR PANEL WHOLE WALL, TYP

- 4x12 OUTRIGGER,

JOISTS TYP, UON

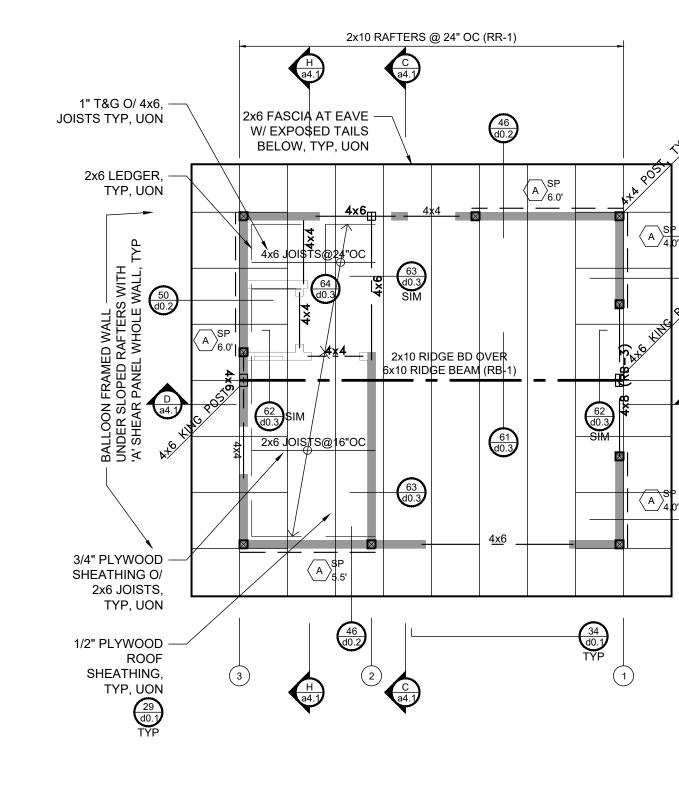
— 1" T&G O/ 4x6,

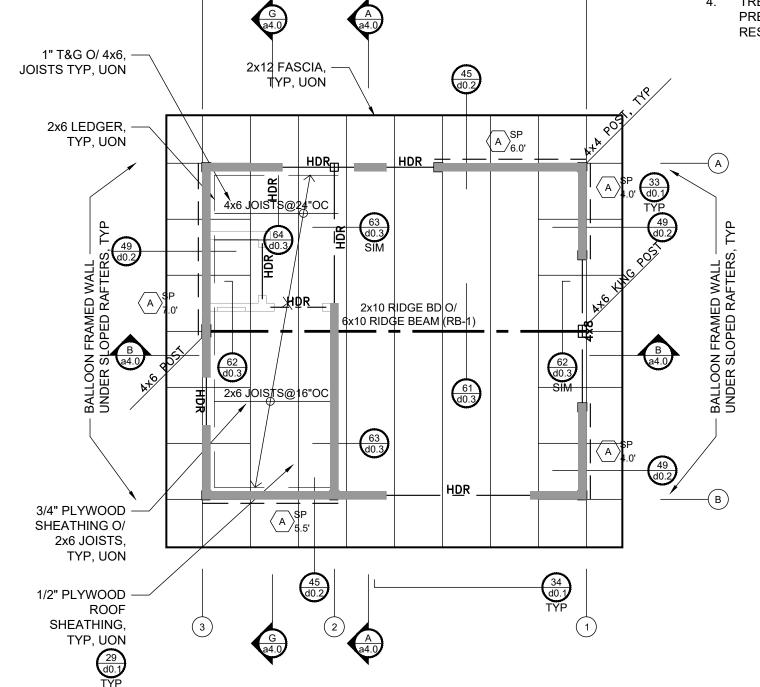
- 2x6 LEDGER,

TYP, UON

roof framing plan notes:

- 1. ENCLOSED RAFTER SPACES DO NOT REQUIRE VENTING IF THE FOLLOWING SPECIFIC INSULATION DESIGN IS USED, PER SECTIONS R806.5/EM3.9.6:
- a. IF THE INSULATION IS AIR-PERMEABLE AND IT IS INSTALLED DIRECTLY BELOW THE ROOF SHEATHING WITH RIGID BOARD OR SHEET INSULATION WITH A MINIMUM R-5 VALUE INSTALLED ABOVE THE ROOF SHEATHING. (OR)
- b. IF THE INSULATION IS AIR-IMPERMEABLE AND IT IS IN DIRECT CONTACT WITH THE UNDERSIDE OF THE ROOF SHEATHING. (OR)
- c. IF **TWO LAYERS** OF INSULATION ARE INSTALLED BELOW THE ROOF SHEATHING: AN AIR-IMPERMEABLE LAYER IN DIRECT CONTACT WITH THE UNDERSIDE OF THE ROOF SHEATHING AND AN ADDITIONAL LAYER **OF AIR PERMEABLE** INSULATION INSTALLED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION.
- DETAILS 86, 87 & 88/d0.4 PROVIDE MORE INFORMATION ABOUT THESE ROOF INSULATION ALTERNATIVES.
- FLOOR DIAPHRAGM SHALL BE 23/32" APA STURD-I-FLOOR, EXPOSURE 1, 40/20, TONGUE & GROOVE WITH 10d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS
- 3. ROOF DIAPHRAGM SHALL BE 15/32" APA RATED SHEATHING (MIN), EXPOSURE 1, 24/0 MAXIMUM SPAN RATING WITH 8d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS (FN).
- TRELLIS MEMBERS AND OTHER WEATHER EXPOSED MEMBERS SHALL BE PRESSURE TREATED DOUGLAS FIR (PTDF) OR NATURALLY PEST AND ROT RESISTANT WOOD SPECIES SUCH AS REDWOOD OR CEDAR, TYP,OAE





2x10 RAFTERS @ 24" OC (RR-1)

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PREPARER SIGNATURE

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STUDIO PRADU

CITY: ANAHEIM

JOB: 202409R

REVERSE ROOF FRAMING PLANS

s2.1



BALLOON FRAMED WALL —

FASCIA,

2x10 RIDGE BD OVER CONTINUOUS 6x10 RIDGE BEAM (RB-1)

BALLOON FRAMED WALL -

UNDER SLOPED RAFTERS WITH

'A' SHEAR PANEL WHOLE WALL, TYP

UNDER SLOPED RAFTERS WITH

'A' SHEAR PANEL WHOLE WALL, TYP

4x12 OUTRIGGER,

1" T&G O/ 4x6,

2x6 LEDGER,

3/4" PLYWOOD

1/2" PLYWOOD -

SHEATHING,

4x12 OUTRIGGER,

TYP, UON

SHEATHING OF 60

2x6 JOISTS, 00.2

TYP, UON

ROOF

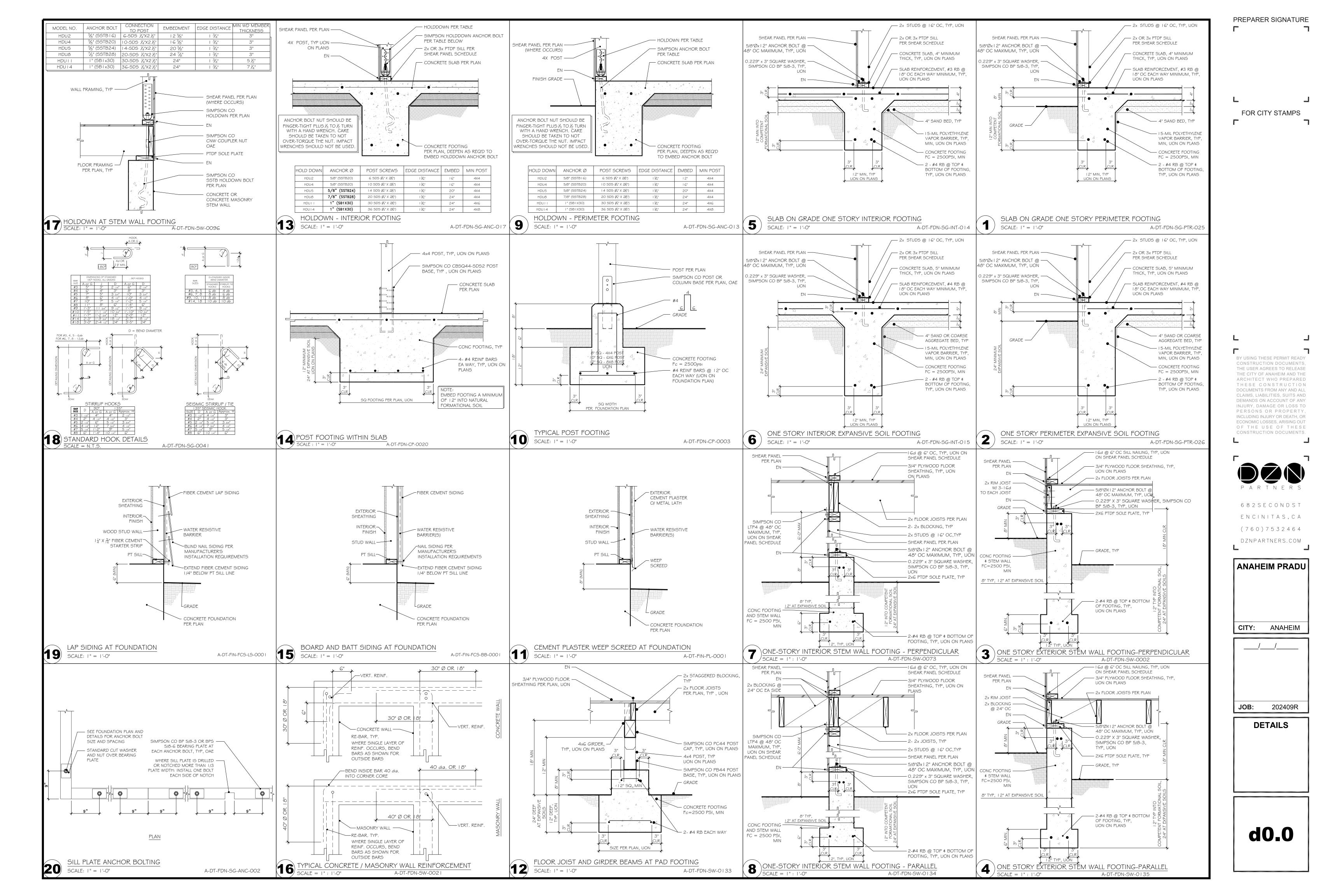
TYP, UON

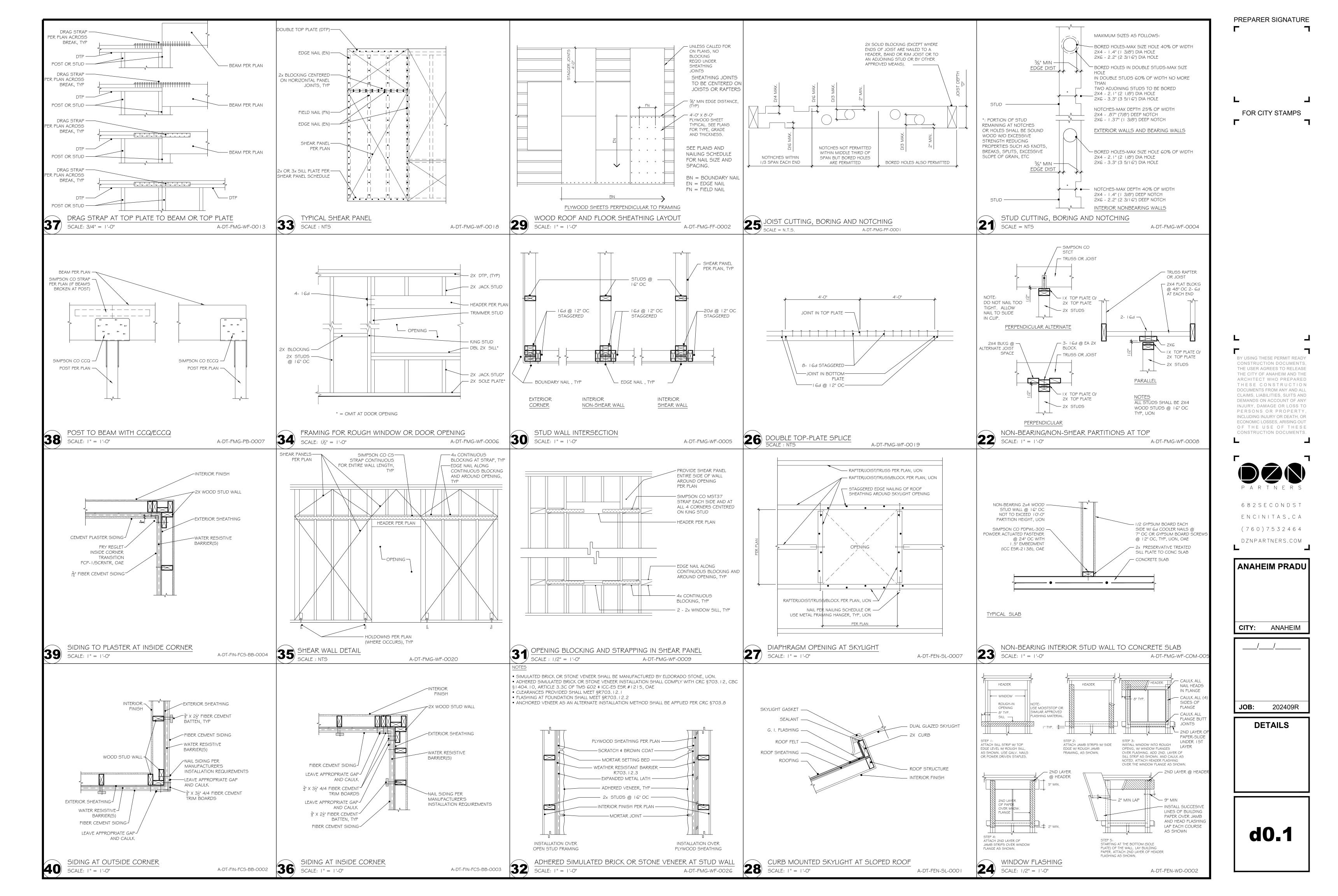
JOISTS TYP, UON

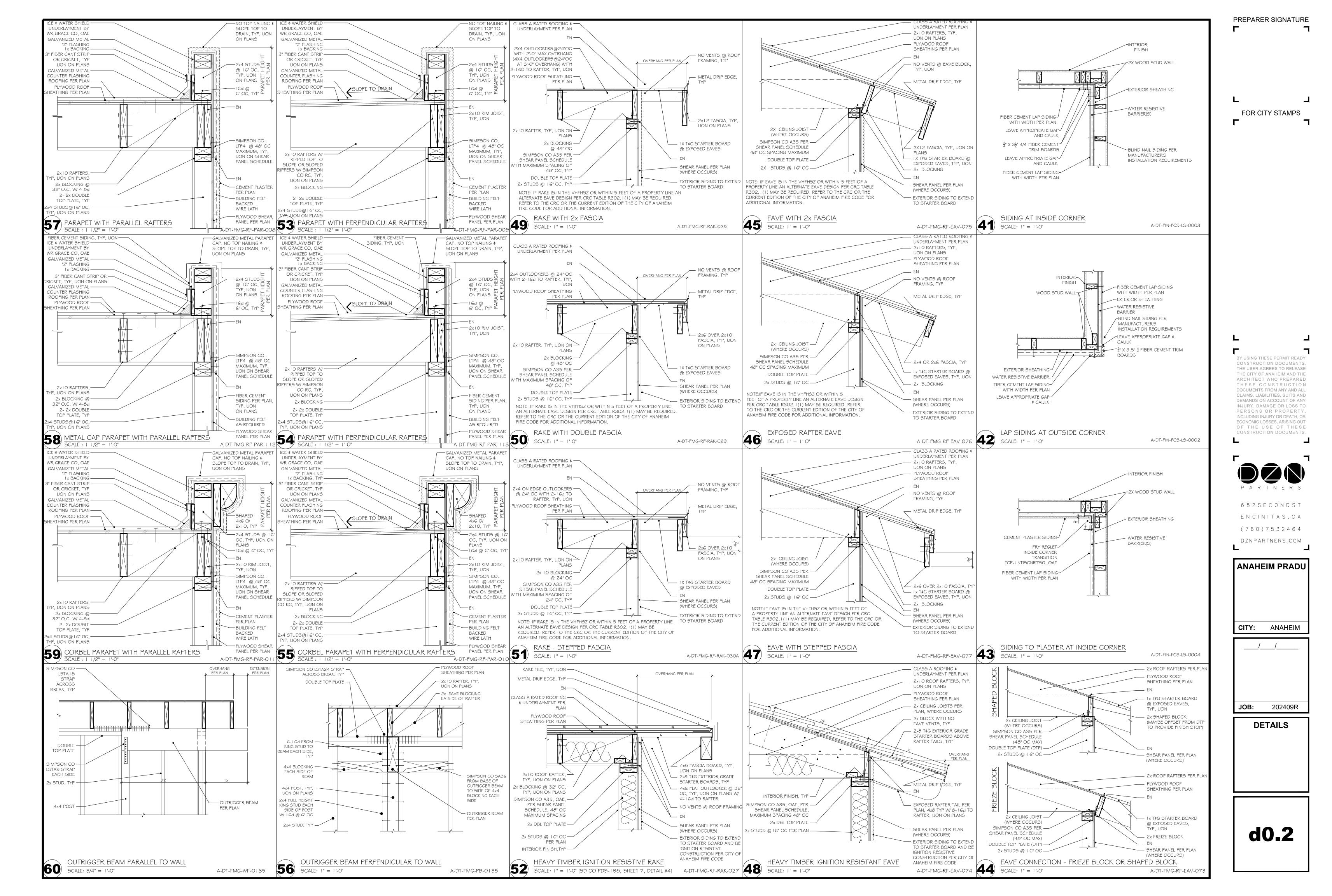
reverse roof framing plan b 6

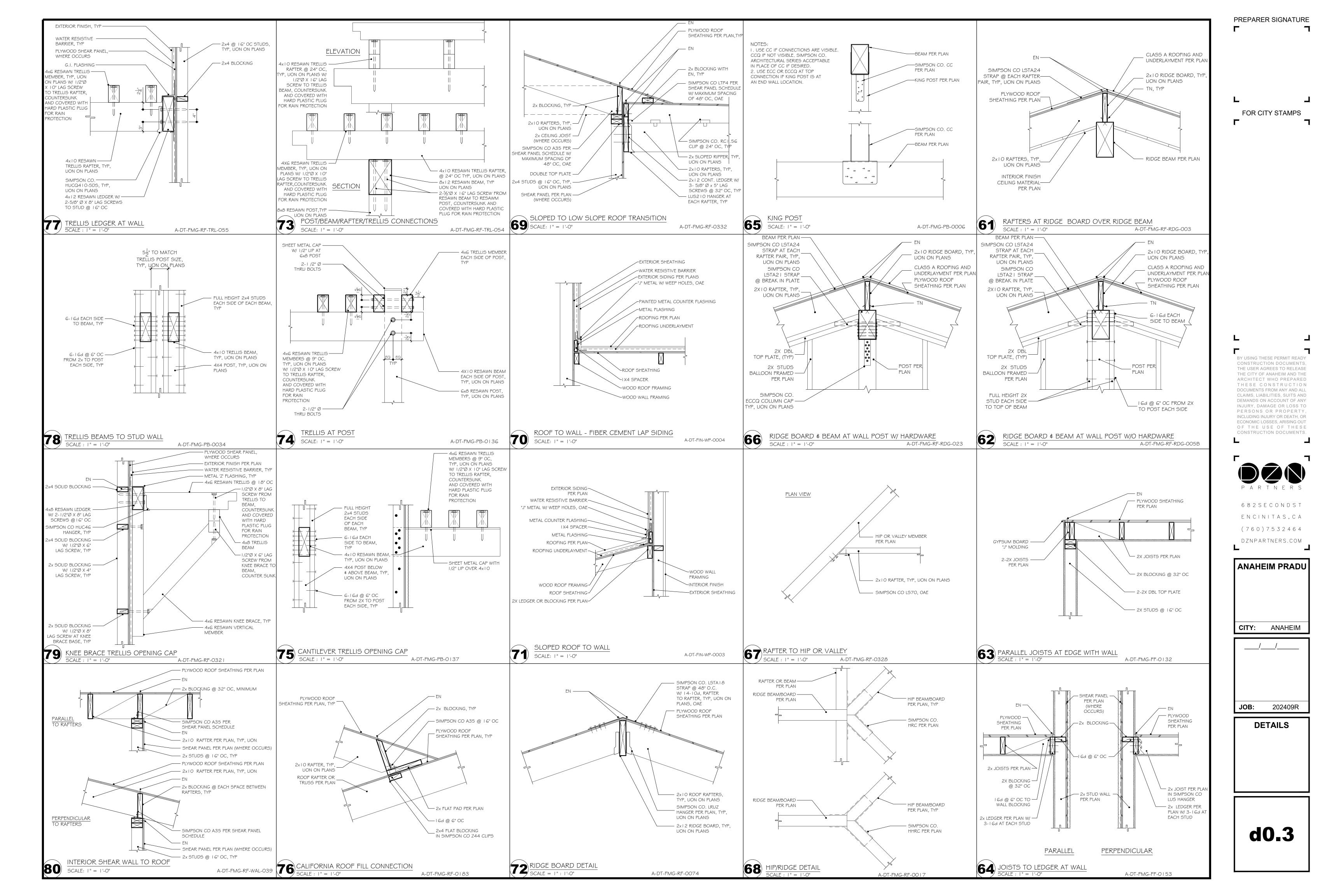
reverse roof framing plan a SCALE: 1/4" = 1'-0"

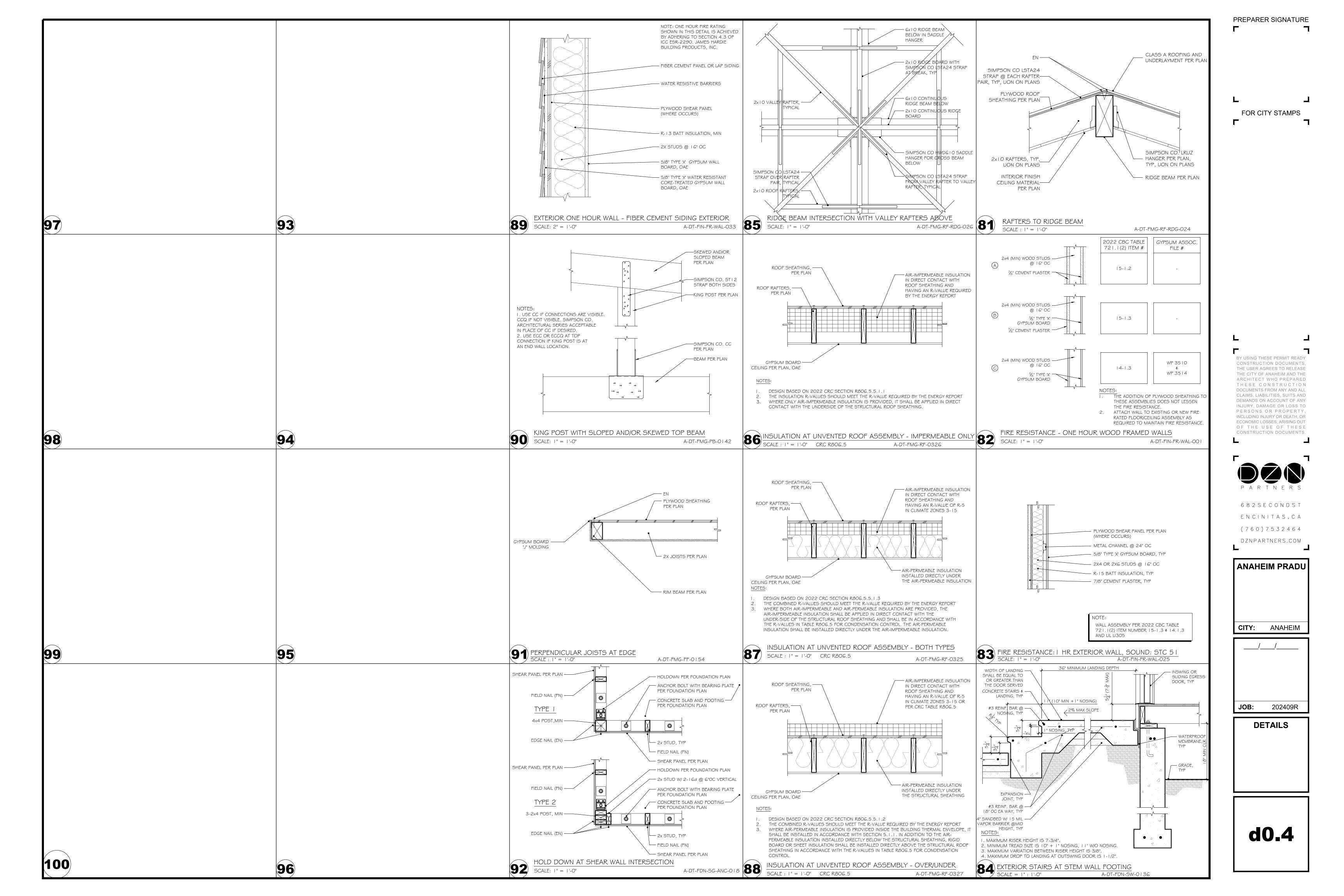
SCALE: 1/4" = 1'-0"











Project Name: Anaheim PRADU - Studio A

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-11T08:41:58-08:00 Input File Name: 23Q1019-SA.1-03.ribd22x (Page 1 of 12)

	1				Vi-
GENER	AL INFORMATION				
01	Project Name	Anaheim PRADU - Studio A			
02	Run Title	Title 24 Analysis			
03	Project Location	Studio A Street			
04	City	Anaheim	05	Standards Version	2022
06	Zip code	92805	07	Software Version	EnergyPro 9.0
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	1
14	Addition Cond. Floor Area (ft ²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area <mark>(ft²)</mark>	n/a	17	Fenestration Average U-factor	0.58
18	Total Cond. Floor Area (ft²)	224	19	Glazing Percentage (%)	41.50%
20	ADU Bed <mark>room</mark> Count	n/a	7	TC I	
			00		

COMPLIANCE RE	SULTS
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

223-P010003960A-000-000-0000-0000

CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901 HERS Provider:

CalCERTS inc.
Report Generated: 2023-01-11 08:42:28

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio A

Calculation Date/Time: 2023-01-11T08:41:58-08:00

(Page 3 of 12)

Input File Name: 23Q1019-SA.1-03.ribd22x

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	0	0.81	5.88	-0.81	-5.88
Space Cooling	3.55	57.55	1.26	27.99	2.29	29.56
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.59	77.44	4.71	58.22	1.88	19.22
Self Utilization/Flexibility Credit	A			0		0
North Facing Efficiency Compliance Total	10.89	143.01	ED-7.53	100.11	3.36	42.9
Space Heating	0	0	0.94	6.78	-0.94	-6.78
Space Cooling	3.55	F 57.55 R S	P R _{0.99} V I I	D E F _{23.45}	2.56	34.1
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.59	77.44	4.77	58.59	1.82	18.85
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	10.89	143.01	7.45	96.84	3.44	46.17

Registration Number: 223-P010003960A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901 HERS Provider:

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Registration Number: 223-P010003960A-000-000-0000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio A

Calculation Description: Title 24 Analysis

Input File

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ERGY DESIGN RATINGS											
		Energy Design Ratings			Compliance Margins						
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)					
Standard Design	34.6	49.9	35.2		•						
Proposed Design											
North Facing	30.6	34.9	28.3	4	15	6.9					
East Facing	30.5	33.8	27.7	4.1	16.1	7.5					
South Facing	30.1	33.7	27.7	4.5	16.2	7.5					
West Facing	30.4	35.2	28.4	4.2	14.7	6.8					

¹Efficiency EDR includes improvements li<mark>ke a better building envelope and more efficient equipment

²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries</mark>

³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 1.60 kWdc
- Proposed PV Capacity Scaling: North (1.60 kWdc) East (1.60 kWdc) South (1.60 kWdc) West (1.60 kWdc)

Registration Number: 223-P010003960A-000-000-0000000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901 HERS Provider:

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NERGY USE SUMMARY	8 8	221 50				
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	0	0.56	3.93	-0.56	-3.93
Space Cooling	3.55	57.55	1.05	27.16	2.5	30.39
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.59	77.44	4.65	57.56	1.94	19.88
Self Utilization/Flexibility Credit	A			0		0
South Facing Efficiency Compliance Total	10.89	143.01	7.01	96.67	3.88	46.34
Space Heating	0	0	0.5	3.55	-0.5	-3.55
Space Cooling	3.55	H 57:55 R S	P R 1/36 V I I	D E B ^{31.95}	2.19	25.6
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.59	77.44	4.61	57.34	1.98	20.1
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	10.89	143.01	7.22	100.86	3.67	42.15

General Notes

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TITLE 24, PART 6 ENERGY COMPLIANCE DOCUMENTATION

No. Revision/Issue Date

Firm Name and Address



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Project Name and Address

ANAHEIM PRADU - STUDIO A ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

Project Name: Anaheim PRADU - Studio A Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-11T08:41:58-08:00 Input File Name: 23Q1019-SA.1-03.ribd22x

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	Standard Design (kBtu/ft ² - yr)	Proposed Design (kBtu/ft ² - yr)	Compliance Margin (kBtu/ft ² - yr)	Margin Percentage
North Facing				
Gross EUI ¹	53.48	48.73	4.75	8.88
Net EUI ²	15.16	10.41	4.75	31.33
East Facing				
Gross EUI ¹	53.48	48.3	5.18	9.69
Net EUI ²	15.16	9.98	5.18	34.17
South Facing				
Gross EUI ¹	53.48	48.58	4.9	9.16
Net EUI ²	15.16	10.25	4.91	32.39
West Facing	HE	KS PROV	IDER	
Gross EUI ¹	53.48	49.07	4.41	8.25
Net EUI ²	15.16	10.74	4.42	29.16

Registration Number:

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 Gross EUI is Energy Use Total (not including PV) / Total Building Area. 2. Net EUI is Energy Use Total (including PV) / Total Building Area.

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ZONE INFORMATION 03 05 07 Zone Name Zone Type **HVAC System Name** Zone Floor Area (ft²) Avg. Ceiling Height Water Heating System 1 Status 224 ADU Studio A Conditioned Ductless Mini-Split1 DHW Sys 1 New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	ADU Studio A	_WALL: 2x4 Exterior	0	Front	128	27	90
Left Wall	ADU Studio A	_WALL: 2x4 Exterior	90	Left	112	8	90
Rear Wall	ADU Studio A	_WALL: 2x4 Exterior	180	Back	128	18	90
Right Wall	ADU Studio A	_WALL: 2x4 Exterior	270	Right	112	40	90

DPAQUE SURFACES - CATHEDRAL CEILINGS											
01	02	03	04	05	06	07	08	09	10	11	
Name	Zone	Construction	Azimuth	Orientation	Area (ft²)	Skylight Area (ft ²)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof	
Roof	ADU Studio A	_ROOF: SLPD. CLG.	0	Front	224	0	4	0.1	0.85	No	

FENESTRATION /	GLAZING												
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
w1	Window	Front Wall	Front	0			1	7	0.58	NFRC	0.65	NFRC	Bug Screen
d1	Window	Front Wall	Front	0			1	20	0.58	NFRC	0.65	NFRC	Bug Screen
w2	Window	Left Wall	Left	90			1	8	0.58	NFRC	0.65	NFRC	Bug Screen

Registration Number: 223-P010003960A-000-000-0000000-0000

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REQUIRED PV SYS	TEMS									8	
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.6	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Whole house fan
- Exposed slab floor in conditioned zone
- Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

HERS FEATURE SUMMARY

CICEDTCI The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional

detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry HERS PROVIDER

- Indoor air quality ventilation
- Kitchen range hood
- Whole house fan airflow and fan efficacy
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7) Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

BUILDING - FEATURES INFORMATION

BOILDING - I EXTORES INTO MINI	111011					
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft ²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Anaheim PRADU - Studio A	224	1	1	1	1	1

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FENESTRATION / GLAZING 01 Width Height U-factor **U-factor** Name Type Surface Orientation Azimuth SHGC Source **Exterior Shading** (ft) Source 180 18 0.58 NFRC 0.65 w3 Window Rear Wall Back NFRC **Bug Screen** 270 0.58 NFRC Right Wall Right 0.65 d2 Window Bug Screen

SLAB FLOORS							
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab On Grade	ADU Studio A	224	60	none	0	0%	No

OPAQUE SURFACE CONSTI	RUCTIONS		al (FR		nc		
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	ERS PR	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
_WALL: 2x4 Exterior	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
_ROOF: SLPD. CLG.	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 24 in. O. C.	R-30	None / None	0.035	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board

Registration Number: 223-P010003960A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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General Notes

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Date

3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010 (760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Revision/Issue

Project Name and Address

Firm Name and Address

ANAHEIM PRADU - STUDIO A ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SA.1-03 T-0201/11/2023

Project Name: Anaheim PRADU - Studio A Calculation Description: Title 24 Analysis

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BUILDING ENVELOPE - HERS VERIFICA	BUILDING ENVELOPE - HERS VERIFICATION										
01	01 02 03 04 05										
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50							
Not Required	Not Required	N/A	n/a	n/a							

WATER HEATING SYS	TEMS							
01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEEA	HEAT PUMP				_		-
01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	50	AOSmith	AOSmithFPTU50	ADU Studio A	ADU Studio A	ADU Studio A

WATER HEATING - HERS VE	RIFICATION					
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

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INDOOR AIR QUALIT	Y (IAQ) FANS					-		
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	22	0.35	Exhaust	No	n/a	No	Yes	

COOLING VENTILATION	ON							
01	02	03	04	05	06	07	08	09
Name	Airflow Rate (CFM/ft2)	Cooling Vent CFM	Cooling Vent Watts/CFM	Total Watts	Number of Fans	CFVCS Type	Exhausts to	HERS Verification
WH Fan 1	0.08	17	0.0588	1	1	Not a CFVCS	Outside	Required

PROJECT NOTES

This report is based on the drawings received on 01/03/2023.

HERS PROVIDER

SCOPE OF WORK: Construct a ADU - Studio (A Elevation).

1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN. 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechnical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of the structure.

Registration Number: 223-P010003960A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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SPACE CONDITIONIN	IG SYSTEMS							
01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Ductless Mini-Split1	Heat pump heating cooling	Heat Pump System	1	Heat Pump System 1	1	n/a	n/a	Setback

01	02	03	04	05	06	07	08	09	10	11	12	13
	1	A		Heating				Cooling				
Name	System Type	Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / EER / CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	VCHP-ductless	1	HSPF	8.5	11800	7080	EERSEER	16.8	11.5	Zonally Controlled	Multi- speed	Heat Pump System

HVAC HEAT PUMPS - HERS VERIFICATION HERS SPROVIDER								
01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Required	Yes	No	Yes	Yes

01	02	03	04	05	06	07	08	09	10
Name	Certified Low-Static VCHP System	Airflow to Habitable Rooms	Ductless Units in Conditioned Space	Wall Mount Thermostat	Air Filter Sizing & Drop Rating	Low Leakage Ducts in Conditioned Space	Minimum Airflow per RA3.3 and SC3.3.3.4.1	Certified non-continuous Fan	Indoor Fan no Running Continuously
Heat Pump System 1	Not required	Required	Required	Required	Not required	Not required	Not required	Not required	Not required

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Project Name: Anaheim PRADU - Studio A Calculation Date/Time: 2023-01-11T08:41:58-08:00 (Page 12 of 12) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SA.1-03.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT				
I certify that this Certificate of Compliance documentation is accurate and complete.				
Documentation Author Name:	Documentation Author Signature:			
Wayne Seward	Wayne Seward			
Company:	Signature Date:			
Bear Technologies Consulting Inc.	2023-01-11 09:10:06			
Address:	CEA/ HERS Certification Identification (If applicable):			
3431 Don Arturo Drive	R19-04-30011 CERTIFIED ENERGY ANALYST			
City/State/Zip:	Phone:			
Carlsbad, CA 92010	760-635-2327			
RESPONSIBLE PERSON'S DECLARATION STATEMENT				
 I am eligible under Division 3 of the Business and Professions Code to accept responsibility 				
 I certify that the energy features and performance specifications identified on this Certifica The building design features or system design features identified on this Certificate of Com 	ate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. appliance are consistent with the information provided on other applicable compliance documents, worksheets,			
2. I certify that the energy features and performance specifications identified on this Certifica	ate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. appliance are consistent with the information provided on other applicable compliance documents, worksheets,			
 I certify that the energy features and performance specifications identified on this Certifica The building design features or system design features identified on this Certificate of Comcalculations, plans and specifications submitted to the enforcement agency for approval wire Responsible Designer Name:	ate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. appliance are consistent with the information provided on other applicable compliance documents, worksheets, with this building permit application. Responsible Designer Signature:			
I certify that the energy features and performance specifications identified on this Certifica The building design features or system design features identified on this Certificate of Comcalculations, plans and specifications submitted to the enforcement agency for approval wire Responsible Designer Name: Bart M Smith Company:	ate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. Appliance are consistent with the information provided on other applicable compliance documents, worksheets, with this building permit application. Responsible Designer Signature: **BartMSmith** Date Signed:			

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

Registration Number: 223-P010003960A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000

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Project Name and Address

ANAHEIM PRADU - STUDIO A ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SA.1-03 T - 0301/11/2023



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)				
uilding Envelope				
§ 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 specifie 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.			
0.480.040	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, Decora	ative 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. *			
pace Conditionin	g, Water Heating, and Plumbing System:			
§ 110.0-§ 110.3:	Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other 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.			



2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliance (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and per hour is a supply appliance.
	spa heaters. *
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of a dryer.
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by manufacturer's instructions.
§ 150.0(j)1:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot vipiping must be insulated as specified in § 609.11 of the California Plumbing Code.*
3	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment
§ 150.0(j)2:	maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV liquid adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterprocess.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drawn of the distance between this designated space and the water heater location; and a condensate drawn of the distance between this designated space and the water heater location; and a condensate drawn of the distance between this designated space and the water heater location; and a condensate drawn of the distance between the designated space and the water heater location; and a condensate drawn of the distance between this designated space and the water heater location; and a condensate drawn of the distance between the d
	more than 2" higher than the base of the water heater
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating a Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPN R&T), or by a listing agency that is approved by the executive director.
	rate j, or by a noting agency that is approved by the encountry and encountry
ucts and Fans:	Dust leaded in the last of the control of the contr
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CM contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
9 110.0(0)3.	CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 H
§ 150.0(m)1:	Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insular R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3 do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UI The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct be flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in
	these spaces must not be compressed. *
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct constructions, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adheduct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive t mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily access manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents
§ 150.0(m)9:	Protection of Insulation. Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or p cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core outer vapor barrier.
§ 150.0(m)11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MEF or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150 Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypass filter. *



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)11:	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
§ 150.0(k)4:	applicable requirements may be used to meet these requirements. 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 Readiness:	
§ 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.
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 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 the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the 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.
0.440.40745	Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(d):	
§ 110.10(a):	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.

Electric and Energy Storage Ready:



2022 Single-Family Residential Mandatory Requirements Summary

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

Ventilation and	Indoor Air Quality
	Paguiromente

§ 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 and controlled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for 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 commercial 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 demand-controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *
§ 150.0(o)1H&I:	Airflow 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 Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the 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
ool and Spa Sys	tems and Equipment:
	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance

§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not 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 heater, of 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:	

	orang nor roto, piping more, and rattor
Lighting:	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable 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, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen 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 airtight, 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 sensor 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



2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(s)	Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, <u>or</u> a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

General Notes

Revision/Issue Date

 \bigcap

Firm Name and Address



BEAR TECHNOLOGIES CONSULTING, INC. 3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010 (760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Project Name and Address

ANAHEIM PRADU - STUDIO A ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SA.1-03 T - 0401/11/2023

5/6/22 5/6/22

Project Name: Anaheim PRADU - Studio B Calculation Date/Time: 2023-01-09T11:17:14-08:00 (Page 1 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SB.1-03.ribd22x

GENER	SENERAL INFORMATION							
01	Project Name	Anaheim PRADU - Studio B						
02	Run Title	Title 24 Analysis						
03	Project Location	Studio A Street						
04	City	Anaheim	05	Standards Version	2022			
06	Zip code	92805		Software Version	EnergyPro 9.0			
80	Climate Zone	7	09	Front Orientation (deg/ Cardinal)	All orientations			
10	Building Type	Single family	11	Number of Dwelling Units	1			
12	Project Scope	Newly Constructed	13	Number of Bedrooms	1			
14	Addition Cond. Floor Area (ft ²)	0	15	Number of Stories	1			
16	Existing Cond. Floor Area (ft ²)	n/a	17	Fenestration Average U-factor	0.58			
18	Total Cond. Floor Area (ft²)	224	19	Glazing Percentage (%)	55.80%			
20	ADU Bed <mark>room</mark> Count	n/a		TC I				

COMPLIANCE RE	SULTS
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

223-P010003962A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

HERS Provider:

Report Generated: 2023-01-09 11:17:51

CalCERTS inc.

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio B Calculation Date/Time: 2023-01-09T11:17:14-08:00 (Page 3 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SB.1-03.ribd22x

NERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	0	0.77	5.42	-0.77	-5.42
Space Cooling	3.56	57.68	1.41	33.35	2.15	24.33
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.59	77.45	4.68	57.94	1.91	19.51
Self Utilization/Flexibility Credit	A			0		0
North Facing Efficiency Compliance Total	10.9	143.15	ED 7.61	104.73	3.29	38.42
Space Heating	0		1.04	7.39	-1.04	-7.39
Space Cooling	3.56	H 57.68 R S	P R 1.08 V III	26.8	2.48	30.88
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.59	77.45	4.77	58.55	1.82	18.9
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	10.9	143.15	7.64	100.76	3.26	42.39

Registration Number: 223-P010003962A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

HERS Provider: CalCERTS inc. Report Generated: 2023-01-09 11:17:51

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio B Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-09T11:17:14-08:00 (Page 2 of 13) Input File Name: 23Q1019-SB.1-03.ribd22x

ERGY DESIGN RATINGS										
		Energy Design Ratings			Compliance Margins					
Source Energy Efficiency ¹ EDR Total ² EDR Source Energy Efficiency ¹ (EDR2efficiency) (EDR2total) (EDR1) (EDR2efficiency)										
Standard Design	34.6	49.9	35.2							
		Propose	d Design							
North Facing	30.7	36.5	28.9	3.9	13.4	6.3				
East Facing	30.7	35.1	28.2	3.9	14.8	7				
South Facing	30.2	34.8	28.1	4.4	15.1	7.1				
West Facing	30.5	36.9	29	4.1	13	6.2				

¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment ²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries ³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

Standard Design PV Capacity: 1.60 kWdc

Proposed PV Capacity Scaling: North (1.60 kWdc) East (1.60 kWdc) South (1.60 kWdc) West (1.60 kWdc)

223-P010003962A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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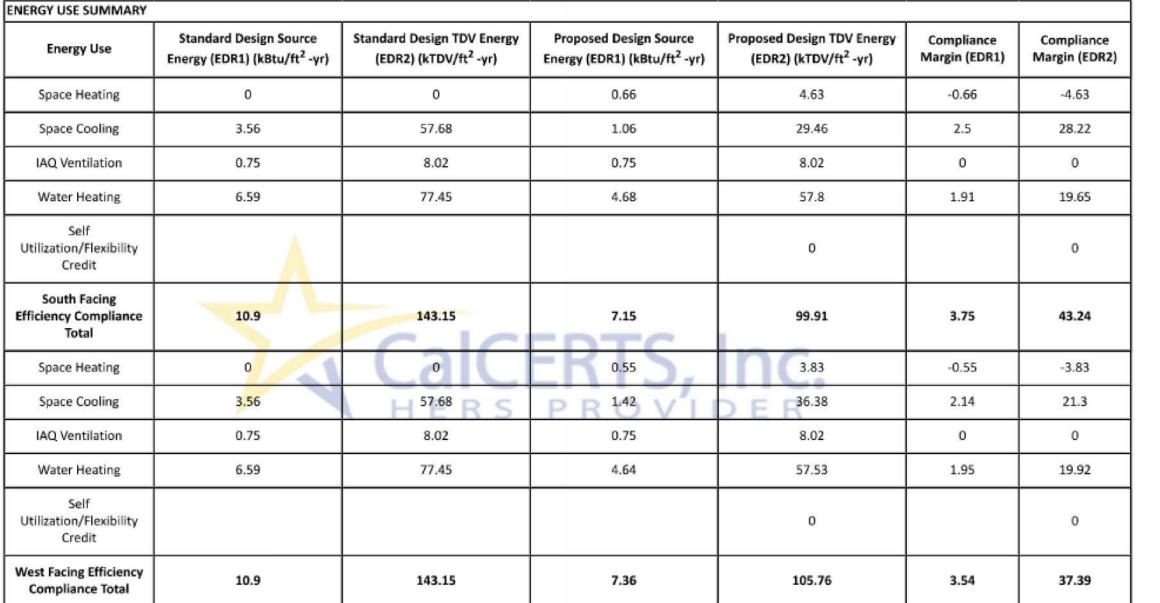
CalCERTS inc.

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio B Calculation Description: Title 24 Analysis

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wayne@beartechconsulting.com http://www.beartechconsulting.com

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3431 DON ARTURO DRI∨E,

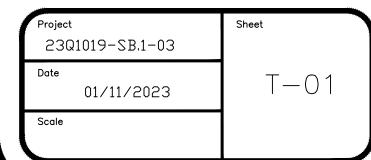
CARLSBAD, CALIFORNIA 92010

Project Name and Address

Firm Name and Address

(760) 635-2327

ANAHEIM PRADU - STUDIO B ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805



Project Name: Anaheim PRADU - Studio B Calculation Description: Title 24 Analysis

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	Standard Design (kBtu/ft ² - yr)	Proposed Design (kBtu/ft ² - yr)	Compliance Margin (kBtu/ft ² - yr)	Margin Percentage
North Facing				
Gross EUI ¹	53.5	49.66	3.84	7.18
Net EUI ²	15.17	11.34	3.83	25.25
East Facing	,			
Gross EUI ¹	53.5	49	4.5	8.41
Net EUI ²	15.17	10.68	4.49	29.6
South Facing				
Gross EUI ¹	53.5	49.23	4.27	7.98
Net EUI ²	15.17	10.91	4.26	28.08
West Facing	H	RSPROV	IDER	
Gross EUI ¹	53.5	50.06	3.44	6.43
Net EUI ²	15.17	11.73	3.44	22.68

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Net EUI is Energy Use Total (including PV) / Total Building Area.

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ZONE INFORMATION												
01	02	03	04	05	06	07						
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Status						
ADU Studio B	Conditioned	Ductless Mini-Split1	224	8	DHW Sys 1	New						

PAQUE SURFACES	世						
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	ADU Studio B	_WALL: 2x4 Exterior	0	Front	128	31	90
Left Wall	ADU Studio B	_WALL: 2x4 Exterior	90	Left	112	12	90
Rear Wall	ADU Studio B	_WALL: 2x4 Exterior	180	Back	128	30	90
Right Wall	ADU Studio B	WALL: 2x4 Exterior	270	Right	112	52	90

				0			100					
OPAQUE SURFACES - CATHEDRAL CEILINGS												
01	02	03	04	05	06	07	08	09	10	11		
Name	Zone	Construction	Azimuth	Orientation	Area (ft²)	Skylight Area (ft ²)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof		
Roof	ADU Studio B	_ROOF: SLPD. CLG.	0	Front	224	0	3	0.1	0.85	No		

ENESTRATION /	IESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14	
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	
w5	Window	Front Wall	Front	0			1	4	0.58	NFRC	0.65	NFRC	Bug Screen	
w1	Window	Front Wall	Front	0			1	7	0.58	NFRC	0.65	NFRC	Bug Screen	
d1	Window	Front Wall	Front	0			1	20	0.58	NFRC	0.65	NFRC	Bug Screen	

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REQUIRED PV SYS	TEMS										
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.6	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- Whole house fan Exposed slab floor in conditioned zone
- Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional

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detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Indoor air quality ventilation HERS PROVIDER
- Kitchen range hood
- Whole house fan airflow and fan efficacy
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7) Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

CA Building Energy Efficiency Standards - 2022 Residential Compliance

BUILDING - FEATURES INFORMATION

BUILDING - FEATURES INFORMA	ATION					
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft ²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Anaheim PRADU - Studio B	224	1	1	1	1	1

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ENESTRATION /	GLAZING												
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shadin
w6	Window	Left Wall	Left	90			1	4	0.58	NFRC	0.65	NFRC	Bug Screen
w2	Window	Left Wall	Left	90			1	8	0.58	NFRC	0.65	NFRC	Bug Screen
w3	Window	Rear Wall	Back	180			1	18	0.58	NFRC	0.65	NFRC	Bug Screen
w4	Window	Rear Wall	Back	180			1	12	0.58	NFRC	0.65	NFRC	Bug Screen
d2	Window	Right Wall	Right	270			1	40	0.58	NFRC	0.65	NFRC	Bug Screen
w4 2	Window	Right Wall	Right	270			1	12	0.58	NFRC	0.65	NFRC	Bug Screen

SLAB FLOORS				DTC	Loo		
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab On Grade	ADU Studio B	224	60	none	0	0%	No

AQUE SURFACE CONST	RUCTIONS						
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
_WALL: 2x4 Exterior	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: All Other Siding

Registration Number: 223-P010003962A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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General Notes



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Revision/Issue Date

Firm Name and Address



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Project Name and Address

ANAHEIM PRADU - STUDIO B ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SB.1-03 T-0201/11/2023

Project Name: Anaheim PRADU - Studio B Calculation Description: Title 24 Analysis

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OPAQUE SURFACE CONSTR	RUCTIONS						
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
_ROOF: SLPD. CLG.	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 24 in. O. C.	R-30	None / None	0.035	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Not Required	Not Required	N/A	n/a	n/a

WATER HEATING SYSTEMS

WATER HEATING 313	LEIVIS							
01	02	03	H P R	05 R	V 06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEE	A HEAT PUMP						
01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	50	AOSmith	AOSmithFPTU50	ADU Studio B	ADU Studio B	ADU Studio B

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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VARIABLE CAPACITY HEAT PUMP	CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION										
01	02	03	04	05	06	07	08	09	10		
Name	Certified Low-Static VCHP System	Airflow to Habitable Rooms	Ductless Units in Conditioned Space	Wall Mount Thermostat	Air Filter Sizing & Drop Rating	Low Leakage Ducts in Conditioned Space	Minimum Airflow per RA3.3 and SC3.3.3.4.1	Certified non-continuous Fan	Indoor Fan not Running Continuously		
Heat Pump System 1	Not required	Required	Required	Required	Not required	Not required	Not required	Not required	Not required		

INDOOR AIR QUALITY (IAQ) FANS

mission domain	. ()							
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	22	0.35	Exhaust	No	n/a	No	Yes	

COOLING VENTILATION	ON							
01	02	03	04	05	06	07	08	09
Name	Airflow Rate (CFM/ft2)	Cooling Vent CFM	Cooling Vent Watts/CFM	Total Watts	Number of Fans	CFVCS Type	Exhausts to	HERS Verification
WH Fan 1	0.08	17	0.0588	1	1	Not a CFVCS	Outside	Required

PROJECT NOTES

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WATER HEATING - HERS VI	ERIFICATION					
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

SPACE CONDITIONIN	IG SYSTEMS							
01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Ductless Mini-Split1	Heat pump heating cooling	Heat Pump System	1	Heat Pump System 1	1	n/a	n/a	Setback

HVAC - HEAT DUMPS

HVAC - HEAT PUMPS	•			7		-						
01	02	03	04	05	06	07	08	09	10	11	12	13
He					ng		Cooling			. 0		
Name	System Type	Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / EER / CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	VCHP-ductless	1	HSPF	8.5	12000	7200	EERSEER	16.8	9.4	Zonally Controlled	Multi- speed	Heat Pump System 1-hers-htpump

HVAC HEAT DUMPS - HERS VERICICATION

HVAC HEAT PUMPS	AC HEAT PUMPS - HERS VERIFICATION										
01	02	03	04	05	06	07	08	09			
Name	Name Verified Airflow Air		Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17			
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Required	Yes	No	Yes	Yes			

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This report is based on the drawings received on 01/03/2023.

SCOPE OF WORK: Construct a ADU - Studio (B Elevation).

1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN. 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechanical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of



Registration Number: 223-P010003962A-000-000-0000000-0000

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General Notes

Date

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Revision/Issue

Project Name and Address

Firm Name and Address

ANAHEIM PRADU - STUDIO B ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SB.1-03 T - 0301/11/2023

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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 Envelop	
§ 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 AAMAWDMA/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-19 or area-weighted 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.
Fireplaces, Deco	rative 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 Condition	ing, Water Heating, and Plumbing System:
§ 110.0-§ 110.3:	Certification, Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other
§ 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

2022 Single-Family Residential Mandatory Requirements Summary

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

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.

Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a

setback thermostat.*

Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank

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.

§ 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 and controlled per §150.0(o)1Biii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for 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 commercial 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 demand- controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi, *
8 150 0(a)1H8F	Airflow Massurement and Sound Patings of Whole-Dwelling Unit Ventilation Systems. The girflow required per \$ 150 0/o/1C mur

	§150.0(o)1Gvi. *
150.0(o)1H&I:	Airflow 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 Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the 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
ol and Spa Sys	tems 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: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not

	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 heater, or 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:	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable 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, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen 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 airtight, 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 sensor

control, low voltage wiring, or fan speed control.

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).

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: tan-type central turnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool an
6 150 0/h)1.	spa heaters. * Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume, the SMACNA Provided in Ashrae Installation.
§ 150.0(h)1:	Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code, *
§ 150.0(j)2:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment' maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2' higher than the base of the water heater
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.
ucts and Fans:	
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of fiexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", if mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in
	these spaces must not be compressed.*
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible,
§ 150.0(m)8:	manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)8: § 150.0(m)9:	manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents. Protection of Insulation. Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.

§ 150.0(k)1G: Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(k)1H: elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

§ 150.0(m)10: Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and

outer vapor barrier.

Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.

Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13

or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A.

Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter

racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the

§ 150.0(k)11:	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
§ 150.0(k)3A:	shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting. 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 a 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.
olar Readiness	
§ 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.
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.*
§ 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 the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the 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 systems. Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be
§ 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."

5/6/22

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio B Calculation Date/Time: 2023-01-09T11:17:14-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SB.1-03.ribd22x

A Langelf other this Cartificate of Consultance decommentation is a second and a second			
I certify that this Certificate of Compliance documentation is accurate and complete.			
Documentation Author Name:	Documentation Author Signature:		
Wayne Seward	Wayne Seward		
Company:	Signature Date:		
Bear Technologies Consulting Inc.	2023-01-11 09:13:09		
Address:	CEA/ HERS Certification Identification (If applicable):		
3431 Don Arturo Drive	R19-04-30011 CERTIFIED ENERGY ANALYST		
City/State/Zip:	Phone:		
Carlsbad, CA 92010	760-635-2327		
RESPONSIBLE PERSON'S DECLARATION STATEMENT			
I 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 responsible.			
 I certify that the energy features and performance specifications identified on this Certificate of C The building design features or system design features identified on this Certificate of C 	bility for the building design identified on this Certificate of Compliance. tificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations Compliance are consistent with the information provided on other applicable compliance documents, worksheets, ral with this building permit application.		
 I certify that the energy features and performance specifications identified on this Certification. The building design features or system design features identified on this Certificate of Calculations, plans and specifications submitted to the enforcement agency for approva 	tificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations Compliance are consistent with the information provided on other applicable compliance documents, worksheets,		
I certify that the energy features and performance specifications identified on this Certificate of Common Co	tificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations Compliance are consistent with the information provided on other applicable compliance documents, worksheets, ral with this building permit application. Responsible Designer Signature:		
I certify that the energy features and performance specifications identified on this Certificate of Control of Contr	tificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations Compliance are consistent with the information provided on other applicable compliance documents, worksheets, ral with this building permit application. Responsible Designer Signature: Bart M Smith Date Signed:		

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.



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223-P010003962A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000

Schema Version: rev 20220901

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2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(s)	Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, <u>or</u> a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; many panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the mai panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cove identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructe 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

General Notes

Date Revision/Issue

Firm Name and Address



BEAR TECHNOLOGIES CONSULTING, INC. 3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010 (760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Project Name and Address

ANAHEIM PRADU - STUDIO B ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

Project 23Q1019-SB.1-03	Sheet
Date 01/11/2023	T-04
Scale	

Project Name: Anaheim PRADU - Studio C Calculation Date/Time: 2023-01-09T09:50:18-08:00 (Page 1 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

(2					
GENERAL INFORMATION					
01	Project Name	Anaheim PRADU - Studio C			
02	Run Title	Title 24 Analysis			
03	Project Location	Studio A Street			
04	City	Anaheim	05	Standards Version	2022
06	Zip code	92805	07	Software Version	EnergyPro 9.0
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	1
14	Addition Cond. Floor Area (ft ²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft ²)	n/a	17	Fenestration Average U-factor	0.58
18	Total Cond. Floor Area (ft²)	224	19	Glazing Percentage (%)	67.00%
20	ADU Bedroom Count	n/a		TC	

MPLIANCE RE	SULTS	_0	

01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

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CalCERTS inc. Report Generated: 2023-01-09 09:50:58

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio C Calculation Date/Time: 2023-01-09T09:50:18-08:00 (Page 3 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	0	1.15	8.12	-1.15	-8.12
Space Cooling	3.36	55.93	1.43	35.29	1.93	20.64
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.61	77.65	4.75	58.41	1.86	19.24
Self Utilization/Flexibility Credit	٨			0		o
North Facing Efficiency Compliance Total	10.72	141.6	ED-8.08	109.84	2.64	31.76
Space Heating	0	Calc	1.2	8.48	-1.2	-8.48
Space Cooling	3.36	H 55.93 R S	PR f.i3 VIII	D E P _{30.44}	2.23	25.49
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.61	77.65	4.77	58.51	1.84	19.14
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	10.72	141.6	7.85	105.45	2.87	36.15

Registration Number: 223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio C Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-09T09:50:18-08:00 Input File Name: 23Q1019-SC.1-03.ribd22x

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IERGY DESIGN RATINGS												
		Energy Design Ratings			Compliance Margins							
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)						
Standard Design 34.3 49.2 35.1												
Proposed Design												
North Facing	31.2	38.2	29.7	3.1	11	5.4						
East Facing	30.9	36.7	29	3.4	12.5	6.1						
South Facing 30.7 37.5 29.4 3.6 11.7 5.7												
West Facing	30.9	38.9	30	3.4	10.3	5.1						

¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment ²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries

³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

Proposed PV Capacity Scaling: North (1.59 kWdc) East (1.59 kWdc) South (1.59 kWdc) West (1.59 kWdc)

223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

HERS Provider: CalCERTS inc. Report Generated: 2023-01-09 09:50:58

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Calculation Date/Time: 2023-01-09T09:50:18-08:00 (Page 4 of 13) Project Name: Anaheim PRADU - Studio C Input File Name: 23Q1019-SC.1-03.ribd22x Calculation Description: Title 24 Analysis

Calculation Description NERGY USE SUMMARY	i. Hue 24 Allalysis		Input File Name: 23Q1	013-30.1-03.HBUZZX		
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	0	0.86	5.99	-0.86	-5.99
Space Cooling	3.36	55.93	1.29	36.02	2.07	19.91
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.61	77.65	4.71	57.91	1.9	19.74
Self Utilization/Flexibility Credit	A			0		0
South Facing Efficiency Compliance Total	10.72	141.6	7.61	107.94	3.11	33.66
Space Heating	0	0	0.83	5.82	-0.83	-5.82
Space Cooling	3.36	H 55.93 R S	P R 1/56 V I I	D E B ^{40.19}	1.8	15.74
IAQ Ventilation	0.75	8.02	0.75	8.02	0	0
Water Heating	6.61	77.65	4.69	57.84	1.92	19.81
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	10.72	141.6	7.83	111.87	2.89	29.73

Registration Number: Registration Date/Time: 223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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General Notes

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Date Revision/Issue

Firm Name and Address



3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010 (760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Project Name and Address

ANAHEIM PRADU - STUDIO C ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SC.1-03 T - 0101/11/2023

Project Name: Anaheim PRADU - Studio C Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-09T09:50:18-08:00 Input File Name: 23Q1019-SC.1-03.ribd22x

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	Standard Design (kBtu/ft ² - yr)	Proposed Design (kBtu/ft ² - yr)	Compliance Margin (kBtu/ft ² - yr)	Margin Percentage
orth Facing			'	
Gross EUI ¹	53.24	50.31	2.93	5.5
Net EUI ²	15.16	12.23	2.93	19.33
ast Facing				
Gross EUI ¹	53.24	49.78	3.46	6.5
Net EUI ²	15.16	11.7	3.46	22.82
outh Facing				
Gross EUI ¹	53.24	50.41	2.83	5.32
Net EUI ²	15.16	12.33	2.83	18.67
West Facing	HE	RS PROV	TDER	
Gross EUI ¹	53.24	50.83	2.41	4.53
Net EUI ²	15.16	12.75	2.41	15.9

Registration Number: 223-P010003966A-000-000-0000000-0000

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio C Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-09T09:50:18-08:00 Input File Name: 23Q1019-SC.1-03.ribd22x

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ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Status
ADU Studio C	Conditioned	Ductless Mini-Split1	224	8	DHW Sys 1	New

PAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	ADU Studio C	_WALL: 2x4 Exterior	0	Front	158	42	90
Left Wall	ADU Studio C	_WALL: 2x4 Exterior	90	Left	141	23	90
Rear Wall	ADU Studio C	_WALL: 2x4 Exterior	180	Back	158	30	90
Right Wall	ADU Studio C	_WALL: 2x4 Exterior	270	Right	141	55	90

PAQUE SURFA	CES - CATHEDRAL C	CEILINGS		dit	FR		III C			
01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft ²)	Skylight Area (ft ²)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
Roof	ADU Studio C	_ROOF: SLPD. CLG.	0	Front	224	0	6	0.1	0.85	No

FENESTRATION /	GLAZING												
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
w4	Window	Front Wall	Front	0			1	15	0.58	NFRC	0.65	NFRC	Bug Screen
w1	Window	Front Wall	Front	0			1	7	0.58	NFRC	0.65	NFRC	Bug Screen
d1	Window	Front Wall	Front	0			1	20	0.58	NFRC	0.65	NFRC	Bug Screen

Registration Number: 223-P010003966A-000-000-0000000-0000

CA Building Energy Efficiency Standards - 2022 Residential Compliance

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio C Calculation Date/Time: 2023-01-09T09:50:18-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

REQUIRED PV SYS	TEMS										
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.59	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

Exposed slab floor in conditioned zone

Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3) Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed

CICEDTCI

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Indoor air quality ventilation HERS PROVIDER

Kitchen range hood

Whole house fan airflow and fan efficacy

Verified SEER/SEER2 Verified Refrigerant Charge

Airflow in habitable rooms (SC3.1.4.1.7)

Verified HSPF

Verified heat pump rated heating capacity Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)

Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

BUILDING - FEATURES INFORMA	ATION					
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft ²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Anaheim PRADU - Studio C	224	1	1	1	1	1

Registration Number:

223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-11 10:42:50 HERS Provider:

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Calculation Date/Time: 2023-01-09T09:50:18-08:00 (Page 8 of 13) Project Name: Anaheim PRADU - Studio C Input File Name: 23Q1019-SC.1-03.ribd22x Calculation Description: Title 24 Analysis

NESTRATION /	GLAZING												
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
w4 2	Window	Left Wall	Left	90			1	15	0.58	NFRC	0.65	NFRC	Bug Screen
w2	Window	Left Wall	Left	90			1	8	0.58	NFRC	0.65	NFRC	Bug Screen
w3	Window	Rear Wall	Back	180			1	15	0.58	NFRC	0.65	NFRC	Bug Screen
w4 3	Window	Rear Wall	Back	180			1	15	0.58	NFRC	0.65	NFRC	Bug Screen
d2	Window	Right Wall	Right	270			1	40	0.58	NFRC	0.65	NFRC	Bug Screen
w4 4	Window	Right Wall	Right	270			1	15	0.58	NFRC	0.65	NFRC	Bug Screen

SLAB FLOORS												
01	02	03	04	05	06	07	08					
Name	Zone	Area (ft ²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul, R-value and Depth	Carpeted Fraction	Heated					
Slab On Grade	ADU Studio C	224	60	none	0	0%	No					

PAQUE SURFACE CONST	RUCTIONS						
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
_WALL: 2x4 Exterior	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: All Other Siding

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Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

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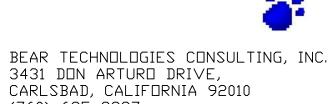
General Notes



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Revision/Issue Date

Firm Name and Address



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Project Name and Address

ANAHEIM PRADU - STUDIO C ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SC.1-03 T-0201/11/2023

Calculation Date/Time: 2023-01-09T09:50:18-08:00 Project Name: Anaheim PRADU - Studio C (Page 9 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

01	02	03	04	05	06	07	08	
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers	
_ROOF: SLPD. CLG.	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 24 in. O. C.	R-30	None / None	0.035	Roofing: Light Roof (Asphalt Shingl Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board	

BUILDING ENVELOPE - HERS VERIFICA	TION			
01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Not Required	Not Required	N/A	n/a	n/a

WATER HEATING SYS	TEMS		Lalt	FKI	. J. II	1(
01	02	03	H 104 R 9	05 R	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEEA	HEAT PUMP						
01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	50	AOSmith	AOSmithFPTU50	ADU Studio C	ADU Studio C	ADU Studio C

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio C Calculation Date/Time: 2023-01-09T09:50:18-08:00 (Page 11 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

ARIABLE CAPACITY HEAT PUMI	COMPLIANCE OPTION	ON - HERS VERIF	ICATION				Y		
01	02	03	04	05	06	07	08	09	10
Name	Certified Low-Static VCHP System	Airflow to Habitable Rooms	Ductless Units in Conditioned Space	Wall Mount Thermostat	Air Filter Sizing & Drop Rating	Low Leakage Ducts in Conditioned Space	Minimum Airflow per RA3.3 and SC3.3.3.4.1	Certified non-continuous Fan	Indoor Fan no Running Continuously
Heat Pump System 1	Not required	Required	Required	Required	Not required	Not required	Not required	Not required	Not required

INDOOR AIR QUALITY	Y (IAQ) FANS							
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	22	0.35	Exhaust	No	n/a	No	Yes	
	No.				144		<u> </u>	**

COOLING VENTILATION	ON		alt	FKI	5. IT	1C		
01	02	03	04	05	06	07	08	09
Name	Airflow Rate (CFM/ft2)	Cooling Vent CFM	Cooling Vent Watts/CFM	Total Watts	Number of Fans	CFVCS Type	Exhausts to	HERS Verification
WH Fan 1	0.08	17	0.0588	1	1	Not a CFVCS	Outside	Required

PROJECT NOTES

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - Studio C Calculation Date/Time: 2023-01-09T09:50:18-08:00 (Page 10 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

WATER HEATING - HERS VE	RIFICATION					
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

ACE CONDITIONIN	IG SYSTEMS				79,			
01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Typ
Ductless Mini-Split1	Heat pump heating cooling	Heat Pump System	1	Heat Pump System	1	n/a	n/a	Setback

01	02	03	04	05	06	07	08	09	10	11	12	13
	11/		1	Heatir	ng		0 1	Cooling	- 0			
Name System Type	System Type Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / EER / CEER	Zonally Controlled	Compressor Type	HERS Verification	
Heat Pump System 1	VCHP-ductless	1	HSPF	9.9	14500	8700	EERSEER	16.8	9.4	Zonally Controlled	Multi- speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS -	HERS VERIFICATION							
01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Required	Yes	Yes	Yes	Yes

Registration Date/Time: 223-P010003966A-000-000-0000000-0000 Report Version: 2022.0.000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Calculation Date/Time: 2023-01-09T09:50:18-08:00 Project Name: | Anaheim PRADU - Studio C (Page 12 of 13)

*********** This report is based on the drawings received on 01/03/2023.

SCOPE OF WORK: Construct a ADU - Studio (C Elevation).

Calculation Description: Title 24 Analysis

1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN. 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechanical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of the structure.



Registration Date/Time: HERS Provider: 2023-01-11 10:42:50 CalCERTS inc.

Registration Date/Time: Report Version: 2022.0.000

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General Notes

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Firm Name and Address

BEAR TECHNOLOGIES CONSULTING, INC. 3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010 (760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Revision/Issue

Date

Project Name and Address

ANAHEIM PRADU - STUDIO C ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-SC.1-03 T - 0301/11/2023

223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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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

	sify residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach respective section for more information.
Building Envelop	e:
§ 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.
Fireplaces, Decor	rative 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 Conditioni	ng, Water Heating, and Plumbing System:
§ 110.0-§ 110.3:	Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other 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(c):

2022 Single-Family Residential Mandatory Requirements Summary

HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N.

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.

Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a

setback thermostat. *
Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.

hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with

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

Ventilation and Indoor Air Quality: 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 and controlled per §150.0(o)1Biiii&iv. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for		
§ 150.0(o)1C:	compliance with §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 commercial 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 demand controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi. *		
§ 150.0(o)1H&I:	Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)1C mus be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the 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		
ool and Spa Sys	stems 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: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not 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 heater, 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. *		
ighting:			
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable 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, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and lind 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 JAB. *		
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw based sockets, must be airtight 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 sensor 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).		

2022 Single-Family Residential Mandatory Requirements Summary

Annual Comments	
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and
	spa heaters.
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code.*
§ 150.0(j)2:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment' maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.
ucts and Fans:	
ucts and rans.	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a
§ 110.8(d)3:	contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼, If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in
	these spaces must not be compressed.*
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	Protection of Insulation. Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13

§ 150.0(m)12: or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A.

Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the

N. Call	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 of 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 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 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.
olar Readiness:	
§ 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). Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with
§110.10(b)1A:	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.
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 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 the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the 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. Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be a constructed and the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be a constructed and the construction of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be a constructed and the construction of the construct
§ 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 po circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Calculation Date/Time: 2023-01-09T09:50:18-08:00 Project Name: Anaheim PRADU - Studio C (Page 13 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-SC.1-03.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT		
 I certify that this Certificate of Compliance documentation is accurate and complete. 		
Documentation Author Name:	Documentation Author Signature:	
Wayne Seward	WayneSeward	
Company:	Signature Date:	
Bear Technologies Consulting Inc.	2023-01-11 09:15:23	
Address:	CEA/ HERS Certification Identification (If applicable):	
3431 Don Arturo Drive	R19-04-30011 CERTIFIED ENERGY ANALYST	
City/State/Zip:	Phone:	
Carlsbad, CA 92010	760-635-2327	
RESPONSIBLE PERSON'S DECLARATION STATEME <mark>NT</mark>	<u>'</u>	
	icate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. Impliance are consistent with the information provided on other applicable compliance documents, worksheets,	
Responsible Designer Name: Bart M Smith	Responsible Designer Signature: Bart M Smith	
DZN Partners	Date Signed: 2023-01-11 10:42:50	

License: C-22557

760-753-2464

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.



223-P010003966A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-11 10:42:50 Report Version: 2022.0.000 Schema Version: rev 20220901

HERS Provider: CalCERTS inc. Report Generated: 2023-01-09 09:50:58



2022 Single-Family Residential Mandatory Requirements Summary

100	
§ 150.0(s)	Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

682 2nd Street

City/State/Zip: Encinitas, CA 92024

General Notes

Revision/Issue Date

Firm Name and Address



BEAR TECHNOLOGIES CONSULTING, INC. 3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010 (760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Project Name and Address

ANAHEIM PRADU - STUDIO C ADU STUDIO A STREET ANAHEIM, CALIFORNIA 92805

Project 23Q1019-SC.1-03	Sheet
Date 01/11/2023	T-04
Scale	

5/6/22

PREPARER SIGNATURE 7

1/11/2023

224

Jan 1 AM

83 °F

51 / 49 °F

Floor Area

PRADU - Studio B ADU **Ductless Mini-Split** ENGINEERING CHECKS SYSTEM LOAD Number of Systems COIL COOLING PEAK COIL HTG. PEAK CFM Sensible Latent CFM Sensible Heating System 303 7,613 784 406 Total Room Loads Output per System Return Vented Lighting Total Output (Btuh) Return Air Ducts Output (Btuh/sqft) Return Fan Cooling System 1,570 Ventilation 112 1,087 Output per System Total Output (Btuh) Supply Fan Supply Air Ducts Total Output (Tons) Total Output (Btuh/sqft) 9,296 2,354 TOTAL SYSTEM LOAD Total Output (sqft/Ton) Air System 400 HVAC EQUIPMENT SELECTION CFM per System 400 _Ductless Mini-Split 11,730 Airflow (cfm) Airflow (cfm/sqft) Airflow (cfm/Ton) 28.0% Total Adjusted System Output

0.50 (Adjusted for Peak Design conditions) 11,730 Outside Air (%) Aug 3 PM Note: values above given at ARI conditions TIME OF SYSTEM PEAK

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak) Outside Air 112 cfm Supply Fan Heating Coil 400 cfm ROOM 70 °F COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak) 77 / 61 °F 78 / 62 °F 51 / 49 °F Outside Air Supply Fan Cooling Coil 112 cfm 400 cfm 41.7% **ROOM** 74 / 59 °F

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

1/11/2023

224

Jan 1 AM

Floor Area

COIL COOLING PEAK COIL HTG. PEAK

357 8,967 784 348 6,71

1,087 1,570 112

10,649 2,354

Aug 3 PM

ROOM

41.7% ROOM

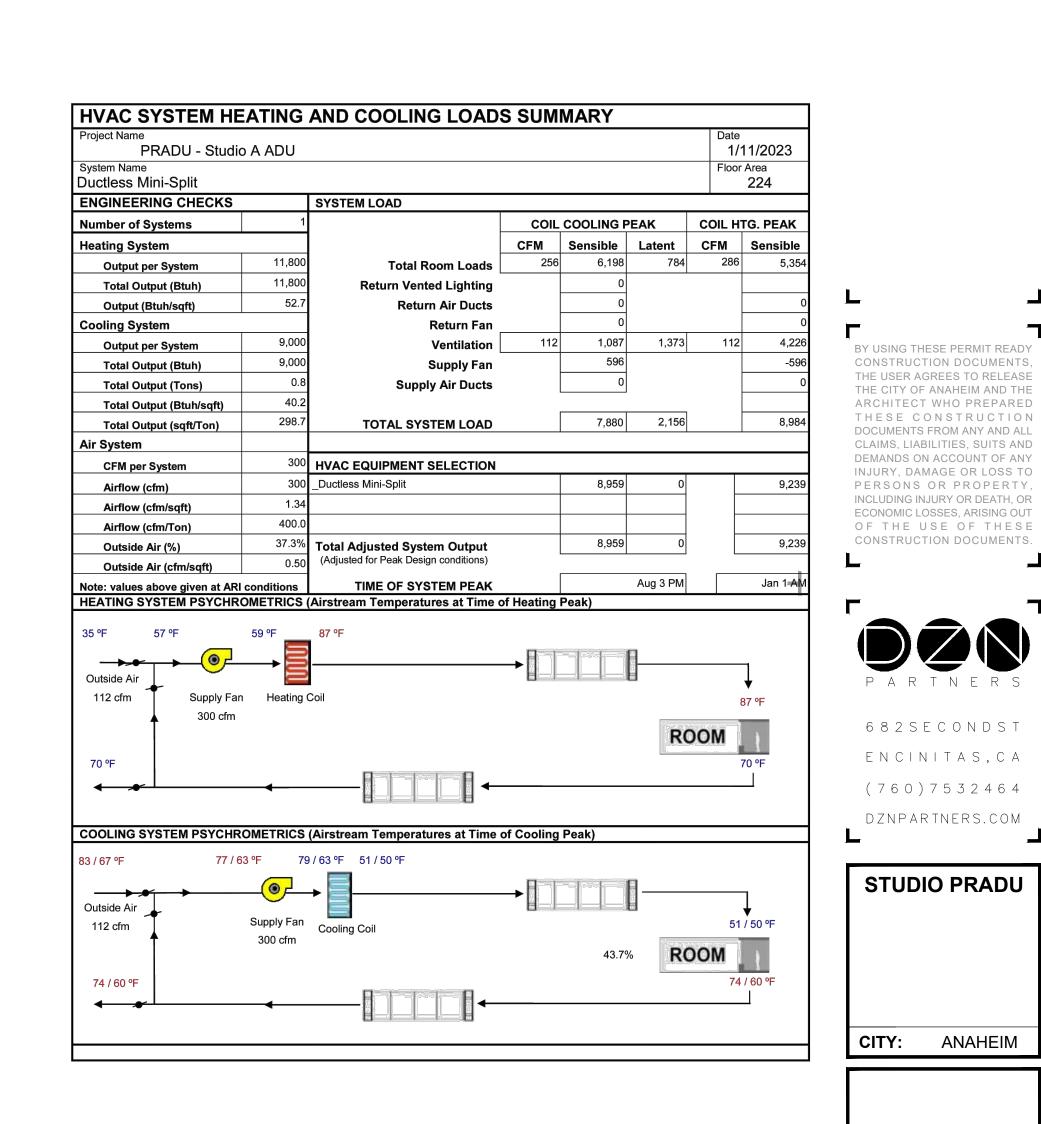
51 / 49 °F

74 / 59 °F

11,730

11,730

CFM Sensible Latent CFM Sensible



Supply Fan

400 cfm

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

SYSTEM LOAD

Total Room Loads

Return Air Ducts

Supply Air Ducts

TOTAL SYSTEM LOAD

400 HVAC EQUIPMENT SELECTION

28.0% Total Adjusted System Output

Note: values above given at ARI conditions TIME OF SYSTEM PEAK

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)

COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)

Cooling Coil

77 / 61 °F 78 / 62 °F 51 / 49 °F

Supply Fan Heating Coil

400 cfm

(Adjusted for Peak Design conditions)

Return Fan

Supply Fan

Ventilation

112

Return Vented Lighting

PRADU - Studio C ADU

Ductless Mini-Split

Number of Systems

Heating System

Cooling System

ENGINEERING CHECKS

Output per System

Total Output (Btuh)

Output (Btuh/sqft)

Output per System

Total Output (Btuh)

Total Output (Tons)

CFM per System

Airflow (cfm/sqft)

Airflow (cfm/Ton)

Outside Air

112 cfm

70 °F

Outside Air

112 cfm

74 / 59 °F

Total Output (Btuh/sqft)

Total Output (sqft/Ton)

HVAC SYSTEM SUMMARIES

JOB:

202409R

FOR CITY STAMPS

T-05

PCSD Engineering Corp

3529 Coastview Court Carlsbad, CA 92010 Ph: 760-207-1885



Structural Design Calculations

Accessory Dwelling Unit - Studio

Client

DZN Partners

682 Second Street Encinitas, CA 92024

Project

PRADU-Studio

Anaheim , CA

PROFESSIONAL CHARLES OF CALIFORNIA AT OF CALIFORNIA

Paul S. Christenson RCE C57182, exp. 12/31/23

February 3, 2023

PCSD File #: 19-018-S

3529 Coastview Ct - Carlsbad, CA 92010

Telephone (760) 207-1885 - Email: paul.pcsd@gmail.com

1.0 **Design Criteria:**

PRADU-Studio

22-404-S

Code:

2022 California Building Code - ASCE 7-16

Timber:

Douglas Fir-Larch (DF-L), WWPA or WCLIB

2x Wall Framing:

DF-L #2 (unless noted otherwise)

2x Rafters & Joists:

DF-L #2 "

Posts & Beams:

DF-L #1 "

Glue-Lam Beams: Simple Span:

Grade 24F-V4 (DF/DF)

Cantilevers:

Grade 24F-V8 (DF/DF)

Sheathing:

Min. APA-Rated Sheathing, Exposure 1, Plywood or OSB (U.N.O.)

Engineered Framing Wood I-Joists:

TJI 110,210,230,360,560

ICC ESR-1153

LVL, PSL

1.9E Microllam, 2.0E Parallam ICBO ER-4979

Concrete:

Compressive Strength @ 28 days per ASTM C39-96:

Footings:

f'c = 2500 psi

Grade Beams:

f'c = 3000 psi

Concrete Block:

Grade N-I per ASTM C90-95, f'm = 1500 psi per ASTM E447-92

Mortar:

Type S Mortar Cement per ASTM C270-95, Min. f'm = 1800 psi @ 28 days.

Grout:

Coarse Grout w/ 3/8" Max. Aggregate per ASTM C476-91,

Min. f'm = 2000 psi @ 28 days.

Reinforcing Steel:

#4 & Larger:

ASTM A615-60 (Fy = 60 ksi)

#3 & Smaller:

ASTM A615-40 (Fy = 40 ksi)

Structural Steel:

'W' Shapes:

ASTM A992, Fy= 50-65 ksi

Plates, Angles, Channels ASTM A36, Fy = 36 ksi

Tube Shapes:

ASTM A500, Grade B, Fy= 46 ksi

Pipe Shapes:

ASTM A53, Grade B, Fy=35 ksi

Welding Electrodes: Structural Steel:

E70-T6

A615-60 Rebar:

E90 Series

Bolts:

Sill Plate Anchor Botls & Threaded Rods:

A307 Quality Minimum

Steel Moment & Braced Frames:

A325 (Bearing, U.N.O.)

Soils:

1500 psf Bearing Pressure

References:



3529 Coastview Ct - Carlsbad, CA 92010 Telephone (760) 207-1885 - Email: paul.pcsd@gmail.com

JOB	22-404-S		
SHEET NO	2	OF	
CALCULATED BY	PSC	DATE	8/8/22
CHECK BY		DATE	
SCALE			

2.0 LOAD LIST

2.1 Roof (Vaulted)

Roofing	9.0 psf
15/32" Sheathing	1.5 psf
Roof Framing	2.8 psf
5/8" Gyp. Bd.	2.8 psf
Insulation and PV Sys	4.9 psf
$\Sigma_{ m DL} = 0$	21.0 psf
$\Sigma_{\rm LL} =$	20.0 psf
Total Load =	41.0 psf

2.2 Roof (w/ ceiling)

Roofing	9.0 psf
15/32" Sheathing	1.5 psf
Roof Framing	2.8 psf
Insulation and Misc.	1.7 psf
$\Sigma_{ m DL} = 0$	15.0 psf
$\Sigma_{ m LL} =$	20.0 psf
Total Load =	35.0 psf

2.3 Ceiling

Ceiling Joists	1.3 psf
5/8" Gyp. Bd.	2.8 psf
Insulation and Misc.	1.9 psf
$\Sigma_{ m DL} = 1$	6.0 psf
$\Sigma_{LL} =$	10.0 psf
Total Load =	16.0 psf

2.4 Walls

Exterior Wall

7/8" Stucco		9.0 psf
15/32" Sheathing		1.5 psf
2x4 Studs @ 16" o.c.		1.1 psf
5/8" Gypsum Bd.		2.8 psf
Misc.		0.6 psf
	$\Sigma_{\rm DL} =$	15.0 psf
		_

Interior Wall

1/2" Gyp. Bd. (2 Sides)		4.6 psf
2x4 Studs @ 16" o.c.		1.1 psf
Misc.		2.3 psf
	$\Sigma_{\mathrm{DL}} = 1$	8.0 psf



3529 Coastview Ct - Carlsbad, CA 92010 Telephone (760) 207-1885 - Email: paul.pcsd@gmail.com

JOB	22 -4 04-S		
SHEET NO	3	OF	
CALCULATED BY	PSC	DATE	8/8/22
CHECK BY		DATE	
SCALE			

2.0 LOAD LIST (CONTIN)

2.5 Floor

Floor Cover	5.5 psf
Sheathing	2.3 psf
2x F.J.	3.1 psf
5/8" Gyp. Bd.	2.8 psf
Insulation and Misc.	1.3 psf
$\Sigma_{ m DL} =$	15.0 psf
$\Sigma_{ m LL} = 0$	40.0 psf
Total Load =	55.0 psf

2.6 Wind

$P_S = \lambda Kzt*I*P$30$	(ASCE 7 - Equation 6-1)
P = 26.6 psf	
P = 16.0 psf	(*0.6 ASD)

2.7 Seismic

$$S_{MS} = F_a S_s$$

$$S_{MS} = 1.79$$

$$S_{DS} = (2/3) S_{MS}$$
 (11.4-3)

$$S_{DS} = 1.194$$

$$Cs = \frac{S_{DS}}{(R/I)}$$

$$C_S = 0.184$$

USE:

$$V = C_s W_{DL}$$

 $V = 0.184 \text{ W}_{DL}$

ASD BASE SHEAR

$$V_{ASD} = \frac{C_s W_{DL}}{1.4}$$

$$V_{ASD}$$
= 0.131 W_{DL}

WIND PARAMETERS

Exposure Cat =

В

•	•		•	
$\lambda = 1.00$	(fig. 6-3)	Ps30 =	26.6 psf	(fig. 6-3)
$K_{zt} = 1.00$	(fig. 6-4)	I =	1.0	(table 11.5-1)

Basic Wind Speed = 110 mph

USGS APPLICATION

COGOTATI	1101111	711
$S_s = 1.492$	$S_1 =$	0.503
$F_a = 1.20$	$F_v =$	0.00
R = 6.5	I =	1.00
$h_n = 15.00$		
Occupancy Category	:	2
Site Class:		D

SEISMIC DESIGN CATEGORY

$$S_{1 < 0.75}$$
 (11.6 ASCE 7-05)
 $S_{1 > 0.04}$ (11.4.1 ASCE 7-05)

$$T_a = C_t * (h_n)^{0.75} = 0.152$$

 $T_S = S_{Dl}/S_{DS} = 0$
 $k = 1.0$ Eqn. 12.8-1 Not Ol

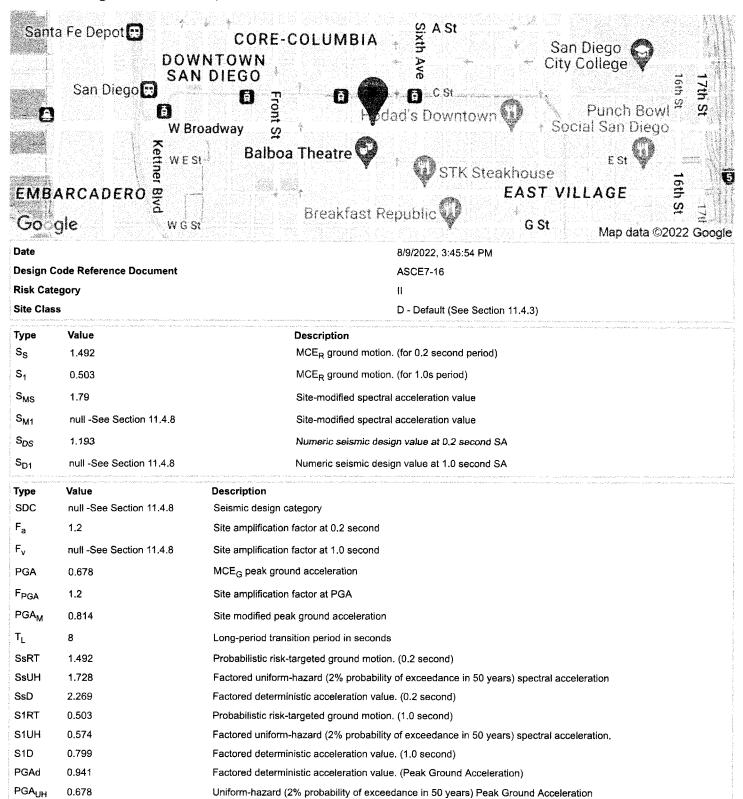




Berwin

San Diego, CA, USA

Latitude, Longitude: 32.715738, -117.1610838

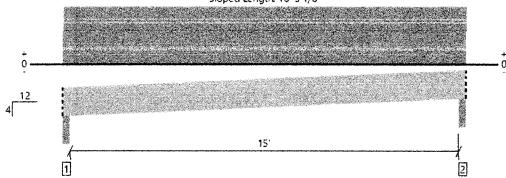




Roof Framing, (RR-1) Rafters 1 piece(s) 2 x 10 DF No.2 @ 24" OC



Sloped Length: 16' 5 1/8"



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LOF	Load: Combination (Pattern)
Member Reaction (lbs)	607 @ 2 1/2"	3281 (3.50")	Passed (19%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	528 @ 1' 1/4"	2081	Passed (25%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	2241 @ 7" 9 1/2"	2537	Passed (88%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.334 @ 7' 9 1/2"	0.799	Passed (L/574)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.651 @ 7' 9 1/2"	1.066	Passed (L/295)		1.0 D + 1.0 Lr (All Spans)

Member Length: 16' 8 3/16"

System: Roof Member Type: Joist Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 4/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- · Applicable calculations are based on NDS.

	В	earing Lengi	th	Loads	to Supports	(lbs)	
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Beveled Plate - DF	3.50"	3.50"	1.50"	296	312	607	Blocking
2 - Beveled Plate - DF	3.50"	3.50"	1.50"	296	312	607	Blocking

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 11" o/c	
Bottom Edge (Lu)	16' 5" o/c	

[•]Maximum allowable bracing intervals based on applied load.

Vertical Load	Location (Side)	Spacing	Desd (0.90)	Roof Live (non-snow: 1.25)	Comments
1 - Uniform (PSF)	0 to 15' 7"	24"	18.0	20.0	Default Load

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Roof Framing, (RB-1) Ridge Bm 1 piece(s) 6 x 10 DF No.1 PASSED इ

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2588 @ 2"	12031 (3.50")	Passed (22%)	T	1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	2300 @ 1' 1"	7402	Passed (31%)	1.25	1.0 D + 1.0 Lr (Ali Spans)
Moment (Ft-lbs)	11730 @ 7' 11 1/2"	11634	Passed (101%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.419 @ 7' 11 1/2"	0.779	Passed (L/447)	T	1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.765 @ 7' 11 1/2"	1.039	Passed (L/244)		1.0 D + 1.0 Lr (All Spans)

System: Roof
Member Type: Drop Beam
Building Use: Residential
Building Code: IBC 2018
Design Methodology: ASD
Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- · Applicable calculations are based on NDS.

	B	earing Lengt	th	Loads	to Supports	(lbs)	
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Column - DF	3.50"	3.50"	1.50"	1211	1378	2588	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	1211	1378	2588	Blocking

Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6" o/c	
Bottom Edge (Lu)	15' 11" o/c	

[•]Maximum allowable bracing intervals based on applied load.

1 - Uniform (PSF) 2 - Point (lb)	0 to 15' 11" (Front) 7' 11 1/2" (Front)	6' 8" N/A	18.0 301	20.0 633	Default Load Default Load
0 - Self Weight (PLF)	0 to 15' 11"	N/A	13.2		
Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Comments

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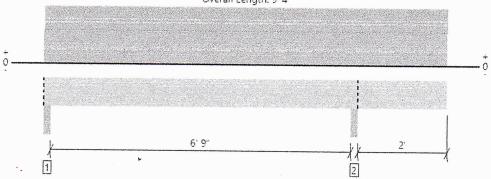




Roof Framing, (RB-2) Ridge Bm 1 piece(s) 6 x 10 DF No.2

PASSED

Overall Length: 9' 4"



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1981 @ 7' 2 1/4"	12031 (3.50")	Passed (16%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	9 60 @ 6' 3"	7402	Passed (13%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-Ibs)	1758 @ 3' 5 1/8"	7540	Passed (23%)	1.25	1.0 D + 1.0 Lr (Alt Spans)
Live Load Defl. (in)	0.015 @ 3' 7 1/2"	0.351	Passed (L/999+)		1.0 D + 1.0 Lr (Alt Spans)
Total Load Defl. (in)	0.029 @ 3' 7 1/16"	0.468	Passed (L/999+)		1.0 D + 1.0 Lr (Alt Spans)

System: Roof
Member Type: Drop Beam
Building Use: Residential
Building Code: IBC 2018
Design Methodology: ASD
Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- \bullet Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- · Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- · Applicable calculations are based on NDS.

	Bearing Length			Load	s to Supports		
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Column - DF	3.50"	3.50"	1.50"	589	545	1134	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	1053	928	1981	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	9' 4" o/c	
Bottom Edge (Lu)	9' 4" o/c	

[•]Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Comments
0 - Self Weight (PLF)	0 to 9' 4"	N/A	13.2		
1 - Uniform (PSF)	0 to 9' 4" (Front)	7' 9"	21.0	20.0	Default Load

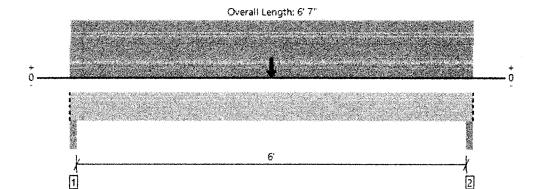
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Roof Framing, (RB-3) Hdr Bm 1 piece(s) 4 x 8 DF No.1



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1422 @ 2"	7656 (3.50")	Passed (19%)		1.0 D + 1.0 Lr (Ali Spans)
Shear (lbs)	1348 @ 10 3/4"	3806	Passed (35%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	3999 @ 3' 3 1/2"	4152	Passed (96%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.060 @ 3' 3 1/2"	0.313	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.122 @ 3' 3 1/2"	0.417	Passed (L/614)		1.0 D + 1.0 Lr (All Spans)

System: Roof
Member Type: Drop Beam
Building Use: Residential
Building Code: IBC 2018
Design Methodology: ASD
Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- · Applicable calculations are based on NDS.

2 - Column - DF	3.50"	3.50"	1.50"	719	703	1422	Blocking
1 - Column - DF	3.50"	3.50"	1.50"	719	703	1422	Blocking
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
	8	earing Leng	th	Loads	to Supports	(ibs)	

[·] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6' 7" o/c	
Bottom Edge (Lu)	6' 7" o/c	

[•]Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Comments
0 - Self Weight (PLF)	0 to 6' 7"	N/A	6.4		
1 - Uniform (PSF)	0 to 6' 7" (Front)	2'	18.0	20.0	Default Load
2 - Point (lb)	3' 3 1/2" (Front)	N/A	1159	1143	Default Load

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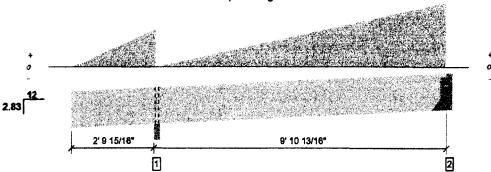
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Job Notes	1
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	Job Notes



1 piece(s) 2 x 10 Douglas Fir-Larch No. 2

Overall Sloped Length: 13' 6 11/16"



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Desire Results	Acces (a technology	Allered	Result	LOW	Lord: Complication (France)
Member Reaction (lbs)	564 @ 12' 8 3/4"	1406 (1.50")	Passed (40%)		1.0 D + 1.0 Lr (Alt Spans)
Shear (lbs)	438 @ 11' 11 3/4"	2081	Passed (21%)	1.25	1.0 D + 1.0 Lr (Alt Spans)
Moment (Ft-lbs)	1045 @ 8' 8 1/4"	2206	Passed (47%)	1,25	1.0 D + 1.0 Lr (Alt Spans)
Live Load Defl. (in)	0.065 @ 8' 13/16"	0.334	Passed (L/999+)		1.0 D + 1.0 Lr (Alt Spans)
Total Load Defl. (in)	0.114 @ 8' 1"	0.501	Passed (L/999+)		1.0 D + 1.0 Lr (Alt Spans)

System: Roof

Member Type: Flush Beam Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 2.83/12

- Deflection criteria: LL (L/360) and TL (L/240).
- Overhang deflection criteria: LL (2L/360) and TL (2L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 13' 1" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 13' 1" o/c unless detailed otherwise.
- · Applicable calculations are based on NDS.

Supports	Trans.	Beschij Le Ayallaha	epith Recipiesed	Land Deed	to Suppo toof	te (ine) Total	Acceptant 1
1 - Beveled Plate - SPF	3.50"	3.50"	1.50"	221	255	476	Blocking
2 - Hanger on 9 1/4" SPF beam	3.50"	Hanger¹	1.50"	244	320	564	See note 1

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- 1 See Connector grid below for additional information and/or requirements.

Control Burgare	ra la Conflètion					
Security .	Back of	Ent Legis	Top Halls	Peco Pollo	Hember Hills	Appendie
2 - Face Mount Hanger	Connector not found	N/A	N/A	N/A	N/A	

Liveria	Learning (Bark)	Tributer Willia	Deted (0,00)	and the logical test	Continuents
0 - Self Weight (PLF)	0 to 12' 8 3/4"	N/A	3.5		
1 - Tapered (PLF)	0 to 2' 9 15/16"	N/A	0.0 to 43.5	0.0 to 56.6	Generated from Roof Geometry
2 - Tapered (PLF)	2' 9 15/16" to 12' 8 3/4"	N/A	0.0 to 70.0	0.0 to 99.0	Generated from Roof Geometry

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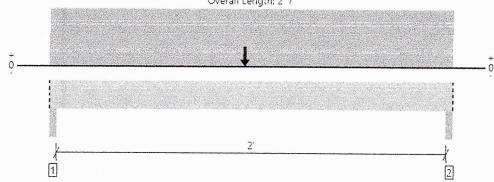
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Roof Framing, (RB-5) Hdr Bm

1 piece(s) 4 x 6 DF No.2

Overall Length: 2' 7'



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1132 @ 2"	7656 (3.50")	Passed (15%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1071 @ 9"	2888	Passed (37%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	1164 @ 1' 3"	2151	Passed (54%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.005 @ 1' 3 7/16"	0.112	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.011 @ 1' 3 7/16"	0.150	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)

System: Roof Member Type : Drop Beam Building Use: Residential Building Code: IBC 2018

Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- · Allowed moment does not reflect the adjustment for the beam stability factor.
- · Applicable calculations are based on NDS.

	Bearing Length			Loads to Supports (lbs)			
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Column - DF	3.50"	3.50"	1.50"	599	533	1132	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	560	498	1058	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	2' 7" o/c	
Bottom Edge (Lu)	2' 7" o/c	

[•]Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1.25)	Comments
0 - Self Weight (PLF)	0 to 2' 7"	N/A	4.9		
1 - Uniform (PSF)	0 to 2' 7" (Front)	2'	18.0	20.0	Default Load
2 - Point (lb)	1' 3" (Front)	N/A	1053	928	Default Load

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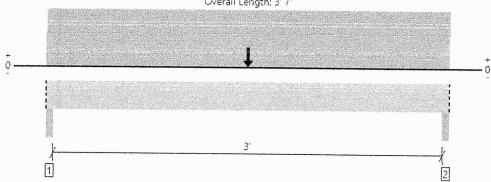
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Roof Framing, (RB-6) Hdr Bm 1 piece(s) 4 x 6 DF No.2

Overall Length: 3' 7"



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1199 @ 2"	7656 (3.50")	Passed (16%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1139 @ 9"	2888	Passed (39%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	1820 @ 1' 9 1/2"	2151	Passed (85%)		1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.019 @ 1' 9 1/2"	0.162	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.036 @ 1' 9 1/2"	0.217	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)

System: Roof Member Type : Drop Beam

Building Use: Residential Building Code: IBC 2018 Design Methodology: ASD Member Pitch: 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- · Allowed moment does not reflect the adjustment for the beam stability factor.
- · Applicable calculations are based on NDS.

	Bearing Length			Loads to Supports (lbs)			
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Column - DF	3.50"	3.50"	1.50"	556	643	1199	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	556	643	1199	Blocking

[•] Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 7" o/c	
Bottom Edge (Lu)	3' 7" o/c	

[•]Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Roof Live (non-snow: 1,25)	Comments
0 - Self Weight (PLF)	0 to 3' 7"	N/A	4.9		
1 - Uniform (PSF)	0 to 3' 7" (Front)	2'	18.0	20.0	Default Load
2 - Point (lb)	1' 9 1/2" (Front)	N/A	966	1143	Default Load

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ForteWEB Software Operator	Job Notes	
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5.0 Lateral Design & Analysis - Studio

Wind: $P = \lambda Kzt I ps_{30}$

(ASCE 7 - Equation 6-1)

Seismic: $V = C_s W_{DL}$

(IBC Equation 12.8-1)

λ = 1.00

(fig. 6-3)

 $S_s = 1.492$

 $S_1 = 0.503$

Kzt =1.0 (fig 6-4)

 $F_a = 1.2$

 $F_{v} =$ 0.0 I = 1.00

PS30 =26.6 psf 1.0 **I** =

(fig. 6-3) (table 11.5-1) R = 6.50V = 0.131 * Wt * p

(ρ - Redundancy)

P = 16.0 psf

Criteria

1st Story 2nd Story satisfied

Wind Loads

P = 16.0 psf x Trib Area

Each Story Resists > 35% Base Shear: not satisfied satisfied Any Shear Wall w/ (h/l)>1.0 is < 33% Story Force:

not satisfied 1.3

Roof Level

Direction:

N/S = 16.0 psf x = 144 sq. ft. = 2298 lbs.

Direction:

E/W = 16.0 psf x = 131 sq. ft. = 2091 lbs.

Roof Weight

7560 lbs. Roof Wt. 21.0 psf x 360 sq. ft. =

Exterior Wall Wt = 15.0 psf x 214 sq. ft. = 3210 lbs.

Interior Wall Wt = 8.0 psf x 83 sq. ft. = 664 lbs.

672 lbs. Ceiling Wt 3.0 psf x = 224 sq. ft. =

Total Trib. W_R = 12106 lbs.

Total Seismic Dead Load:

 $W_t = 12106 \text{ lbs.}$

ASD Base Shear:

 $V = 0.131 *1.3 W_t = 2064 lbs.$

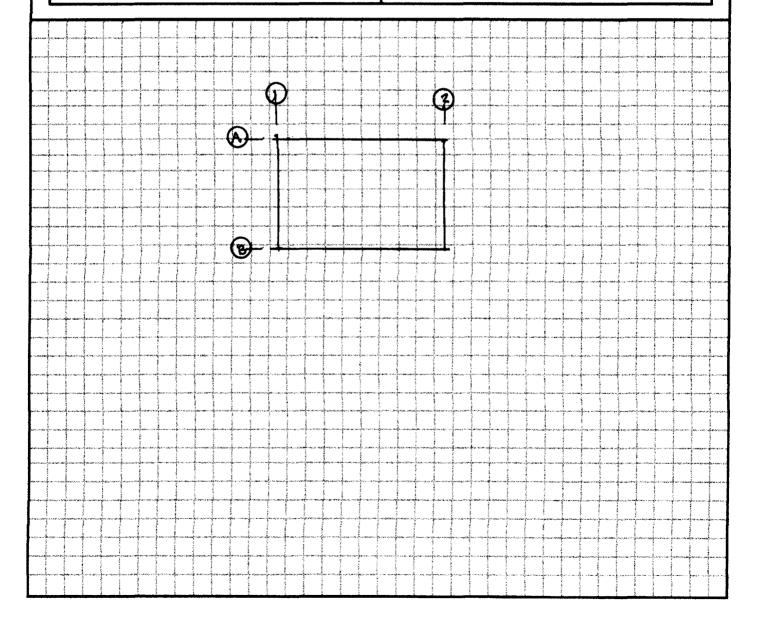


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5.1 Lateral Design & Analysis - 2nd Story Shear Walls

N/S					E/W						
Gridline	Length of S	hearwalls	Total	Wall Ht.	Type	Gridline	Length o	f Shearwalls	Total	Wall Ht.	Туре
1	4 4		8.0	8.4	A	Α	6		6	8.4	A
2	6		6.0	8.4	A	В	6		5.5	8.4	Α
			0.0		9				0	·	ア
			0.0		6 49	l			0		4
			0.0		/ 6	ŀ			0		9
			0.0		FAISE	l			0		#DJ7/0!
			0.0		FAT-SE				0		#DIV/0!
			0.0		FACSE				0		#DI) /0!
			0.0		FA Z SE	Í			0		#DI\\$\0!
			0.0		FARSE				0		#DI/V/0!





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5.1	Lateral	Design	&	<u>Analysis</u>	(cont.)
			==		(

Gridline 15 % $(2298 \times 0.15 = 345 \#)$

lbs. ft. 43 plf

OTF = 362 lbs.

OTF = 804.4 lbs.

HDU2

Gridline $(2298 \times 0.25 = 575 \#)$ 25 %

plf

HDU2



OTF

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878.1 lbs.

Gridline (A) , 50 % $(2091 \times 0.50 = 1045 \#)$

 $v = \frac{1045 \text{ lbs.}}{7 \text{ ft.}} = 149 \text{ plf}$

OTF = 1254 lbs.

/ HDU2

Gridline (B) 50 % (2091 x 0.50 = 1045 #)

 $v = \frac{1045 \text{ lbs.}}{10 \text{ ft.}} = 105 \text{ plf}$

HDU2



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6.0 FOUNDATION DESIGN

6.1 CONTINUOUS FOOTING

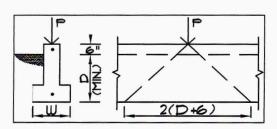
$$w = 1125 plf$$

ASBP = 1500 psf

width =
$$\frac{1125}{1500}$$
 plf = 0.75 ft (MIN.) => 9 INCHES (MIN.)

USE 12 " WIDE CONTIN. FTG W/ 2 - # 4 TOP AND BOTTOM & EMBED. 12 " INTO UNDISTURBED SOIL (MIN.)

6.2 MAX POINT LOAD ON FOOTING



$$P_{all} = 1500 * 12 * 36$$

$$P_{all} = 4500 lbs$$