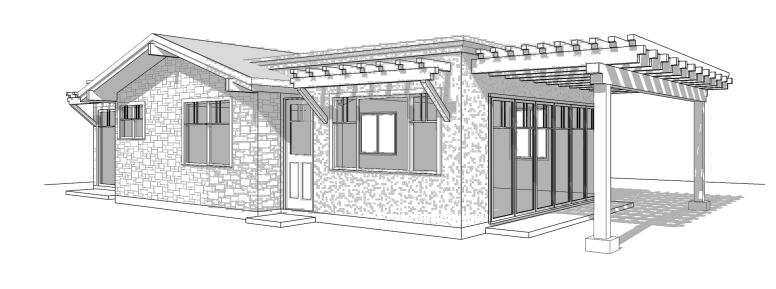
anaheim pradu 3 bedroom

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
PROJE	CT SHALL COMP	PLY WITH THE 2022 CALIFORN	NA BUILDING	CODE WHICH ADOPTS:

2021 IRC, 2021 UMC, 2021 UPC & 2020 NEC.

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 WITH PROJECT OWNER & LOCATION IF NEEDED
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

PV MODULE TYPE: PREMIUM

PV POWER ELECTRONICS: MICROINVERTERS

2. REQUIRED SPECIAL FEATURES:

CEILING HAS HIGH LEVEL OF INSULATION (ELEV A & B ONLY)

EXPOSED SLAB FLOOR IN CONDITIONED ZONE VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION (VERIFICATION

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

DETAILS FROM VCHP STAFF REPORT, APPENDIX B. AND RA3)

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 EER/EER2

VERIFIED SEER/SEER2

VERIFIED REFRIGERANT CHARGE

AIRFLOW IN HABITABLE ROOMS(SC3.1.4.1.7)

HEATING SYSTEM VERIFICATIONS:

VERIFIED HSPF VERIFIED HEAT PUMP RATED HEATING CAPACITY

WALL MOUNTED THERMOSTAT IN ZONES GREATER THAN 150

DUCTLESS INDOOR UNITS LOCATED ENTIRELY IN CONDITIONED SPACE

PIPE INSULATION, ALL LINES

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 SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN REVIEWED AND THAT THEY HAVE BEEN FOUND TO 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 APPROVAL

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 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 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

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:

PLAN CHECK NUMBER

PROJECT DESCRIPTION =	ONE STORY DETACHED 3 BEDROOM ACCESSORY DWELLING UNIT (ADU)

area calculations:

LOT AREAS					
GROSS LOT AREA	=			SF	
NET LOT AREA	=			SF	
(DEDUCTIONS PER CHAP 30.04)	=	(SF)	
BUILDING AREAS					
PROPOSED					
PROPOSED ADU	=	1,19	9	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 QUALI	FY 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)

agencies:

PROPOSED LOT COVERAGE

LC SF / NET LOT AREA

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

= . x 100 = %

sheet index:

SHEET TITLE

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 PLAN + REVERSE FLOOR PLAN
a2.0	UTILITY PLAN
a3.0	ROOF PLAN A + ROOF PLAN B
a3.1	ROOF PLAN C
a4.0	ELEVATION A
a4.1	ELEVATION B
a4.2	ELEVATION C
a5.0	SECTION A
a5.1	SECTION B
a5.2	SECTION C
s0.0	STRUCTURAL NOTES
s1.0	FOUNDATION PLAN + REVERSE FOUNDATION PLAN
s1.1	RAISED FLOOR FOUNDATION PLAN
s2.0	ROOF FRAMING PLAN A + B
s2.1	ROOF FRAMING PLAN C
s2.2	REVERSE ROOF FRAMING PLAN A + B
s2.3	REVERSE ROOF FRAMING PLAN C
d0.0	DETAILS
d0.1	DETAILS
d0.2	DETAILS
d0.3	DETAILS
d0.4	DETAILS
WSW1	WOOD STRONG WALL DETAILS
WSW2	WOOD STRONG WALL DETAILS
T-01 to T-04	ELEV A ENERGY REQUIREMENTS
T-01 to T-04	ELEV B ENERGY REQUIREMENTS
T-01 to T-04	ELEV 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	REAR
REQUIRED - STANDARD	FT	FT	FT	FT
EXISTING RESIDENCE	FT	FT	FT	FT
EXISTING ACCESSORY STRUCTURE	FT	FT	FT	FI
REQUIRED - ADU	FT	FT	FT	F1
PROPOSED - ADU	FT	FT	FT	F
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
ITEC		CITY, STATE, ZIP	ENCINITAS, CA 92024
ARCHITECT		PHONE	(760) 753-2464
Ā	partners ARCHITECTURE	EMAIL	B.SMITH@DZNPARTNERS.COM
		CONTACT	BART SMITH, AIA LEED AP
Ę		FIRM	BEAR TECHNOLOGYS CONSULTANTING, INC
JLTA	A * .	ADDRESS	3431 DON ARTURO DR
CONSULTANT		CITY, STATE, ZIP	CARLSBAD, CA 92010
	_	PHONE	(760) 635-2327
ENERGY	###. beartechnologys. com	EMAIL	WAYNE@BEARTECHCONSUL TING.COM
Δ	WWW- order (PC) - order Con-	CONTACT	WAYNE SEWARD
		FIRM	PCSD ENGINEERING
œ	PCSD	ADDRESS	3529 COASTVIEW COURT
	ENGINEERING	CITY, STATE, ZIP	CARLSBAD, CA 92010
ENGINEER		PHONE	(760) 207-1885
Ш	CORPORATION	EMAIL	PAUL.PCSD@GMAIL.COM
		CONTACT	PAUL CHRISTENSON



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

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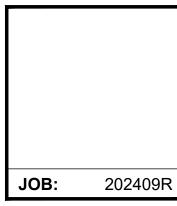
CONSTRUCTION DOCUMENTS

FOR CITY STAMPS

ENCINITAS, CA (760)7532464

3 BEDROOM PRADU

CITY: ANAHEIM



PROJECT DATA

a0.0

	a b b r		viat		
&	AND	EP	ELECTRICAL PANEL	PCC	PRECAST CONCRETE
@	AT	EQ	EQUAL	PKT	POCKET
×	DEGREES	EQUIP	EQUIPMENT EACH WAY	PL D/I	PLATE
ð 6	DIAMETER PERCENT	EW EXP	EXPANSION	P/L PLS	PROPERTY LINE PLASTER
l	PENNY (NAIL SIZE)	EXST	EXISTING	PLY	PLYWOOD
ŧ	POUND OR NUMBER	EXT	EXTERIOR	PNL	PANEL
E)	EXISTING	FA	FIRE ALARM	PR	PAIR
N)	NEW	FAB	FABRICATE	PRE	PREFABRICATED
NR)	NEW REPLACEMENT	FAU	FORCED AIR UNIT	PT	PRESSURE TREATED
λA	ATTIC ACCESS	FD	FLOOR DRAIN	PTR	PARTNER
AΒ	ANCHOR BOLT	FDN	FOUNDATION	PV	PRESSURE VALVE
AC	ASPHALT CONCRETE	FE	FIRE EXSTINGUISHER	PVC	POLYVINYL CHLORIDE
4-C	ALTERNATING CURRENT	FF	FINISH FLOOR	R	RISER, RIDGE OR RADIUS
VC	AIR CONDITIONING	FG	FINISH GRADE	RA	RETURN AIR
ACOUS	ACOUSTICAL	FIN	FINISH	RB	REINFORCING BAR
ACT	ACOUSTICAL CEILING TILE	FJ	FLOOR JOIST	RBR	RUBBER
AD	AREA DRAIN	FL	FLOURESCENT	RCP	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 AHS	ARCH GYPSUM BOARD OPENING ALUMINUM HORIZONTAL SLIDING	FO FP	FRAMED OPENING FIREPLACE	REINF REQD	REINFORCE REQUIRED
AL	ALUMINUM ALUMINUM	FR	FIRE RATED	REV	REVISION
ALM	ALARM	FRMG	FRAMING	RI	RIGID INSULATION
ALT	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	ALUMINUM SLIDING	GA	GAUGE	RYSB	REAR YARD SETBACK
ASPH	ASPHALT	GAL	GALLON	S	SOUTH
AVE	AVENUE	GALV	GALVANIZED	SA	SUPPLY AIR
AVS	ALUMINUM VERTICAL SLIDING	GB	GYPSUM BOARD	SBO	SELECTION BY OWNER
AWG	AWNING	GFI	GROUND FORCE INTERRUPT	sc	SOLID CORE
3	ВОТТОМ	GI	GALVANIZED IRON	SDG	SIDING
3BQ	BARBEQUE	GL	GLASS	SEC	SECTION
BD	BOARD	GLB	GLU-LAM BEAM	SF	SQUARE FEET
BFD	BIFOLDING DOOR	GO	GYPSUM BOARD OPENING	SFD	SINGLE FAMILY DWELLING
31	BUILT IN	GR	GRADE	SH	SINGLE HUNG OR SHELF
3J	BALCONY JOIST	GWB GYP	GYPSUM WALL BOARD	SHR	SHEAR
BLDG BLK	BUILDING BLOCK	Н	GYPSUM HIP	SHT	SHEET SHEATHING
BLKG	BLOCKING	HB	HOSE BIBB	SIM	SIMILAR
BM	BEAM	HC	HOLLOW CORE	SP	SHEAR PANEL
3N	BOUNDARY NAIL	H/C	HANDICAPPED	S&P	SHELF AND POLE
вот	ВОТТОМ	HD	HEAD	SPEC	SPECIFICATIONS
3PD	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	BRITISH THERMAL UNIT	НМ	HOLLOW METAL	ST	STAIR
3W	BOTH WAYS	HOR	HORIZONTAL	STL	STEEL
CAB	CABINET	HP	HEAT PUMP	STP	STRAP
СВ	CATCH BASIN	HPR	HOPPER	STR	STRUCTURAL
CEM	CEMENT	HR	HOUR	STRG	STORAGE
CER	CERAMIC	HT	HEIGHT	SUSP	SUSPENDED
CI	CAST IRON	HTR HW	HEATER HOT WATER	SWU SYSB	SOFT WATER UNIT SIDE YARD SETBACK
CIP CJ	CAST IN PLACE CEILING JOIST / CONTROL JOINT	INSUL	INSULATION	7 Т	TREAD OR TOP
CL	CENTERLINE	IN	INCH	' TB	THROUGH BOLT
CLG	CEILING	INT	INTERIOR	T&B	TOP AND BOTTOM
	02.2		JOIST	TC	TRASH COMPACTOR
	CAULKING	JST			TELEPHONE
CLKG	CAULKING CLOSET	JST JT	JOINT	TELE	
CLKG CLO			JOINT KITCHEN	TELE TEMP	TEMPORARY
CLKG CLO CLR	CLOSET	JT			TEMPORARY TEMPERED GLASS
CLKG CLO CLR CMN	CLOSET	JT KIT	KITCHEN	TEMP	
CLKG CLO CLR CMN	CLOSET CLEAR COMMON	JT KIT L	KITCHEN LINEN	TEMP TG	TEMPERED GLASS
CLKG CLO CLR CMN CMU	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT	JT KIT L LAM	KITCHEN LINEN LAMINATE	TEMP TG T & G	TEMPERED GLASS TONGUE AND GROOVE
CLKG CLO CLR CMN CMU CO COL	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT	JT KIT L LAM LAT	KITCHEN LINEN LAMINATE LATERAL	TEMP TG T & G THK	TEMPERED GLASS TONGUE AND GROOVE THICK
CLKG CLO CLR CMN CMU CO COL CONC	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN	JT KIT L LAM LAT LAV	KITCHEN LINEN LAMINATE LATERAL LAVATORY	TEMP TG T & G THK TME	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING
CLKG CLO CLR CMN CMU CO COL CONC CONT	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE	JT KIT L LAM LAT LAV LDG	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING	TEMP TG T & G THK TME TP	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS	JT KIT L LAM LAT LAV LDG LG	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG	TEMP TG T & G THK TME TP TV	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR	JT KIT L LAM LAT LAV LDG LG LR	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE	TEMP TG T & G THK TME TP TV TYP TWH U/	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER
CLKG CLO CLR CMN CMU CO COOL COONT COONTR CP CPT CSMT	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE	JT KIT L LAM LAT LAV LDG LG LS LSW LT LGT MAX	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED
CLKG CLO CLR CMN CMU CO COOL COONT COONTR CP CPT CSMT CTR CW	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY OBL	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR	JT KIT L LAM LAT LAV LDG LG LS LSW LT LGT MAX MB MBPD MC MDL	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY OBL OBL ODF OG	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG	JT KIT L LAM LAT LAV LDG LG LS LSW LT LGT MAX MB MBPD MC MDL	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP DV	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIN DP DR DS DTP DV DW	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP DV DW DZN	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP DV DW DZN E	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP DV DW DZN EA	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP DV DW DZN EA	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO NOM	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT NUMBER NOMINAL	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI WIC	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER WROUGHT IRON WALK IN CLOSET
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DBL DIA DIM DJ DN DP DR DS DTP DV DW DZN EA EGR EJ	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST EACH EXISTING GRADE	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO NOM NTS	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI WIC WMH	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER WROUGHT IRON WALK IN CLOSET WALL MOUNTED HEATER
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DR DS DTP DV DW DZN E EA EGR EJ ELEC	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST EACH EXISTING GRADE EXPANSION JOINT	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO NOM NTS O/ OC OAE	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE OVER ON CENTER	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI WHS WI WIC WMH WP WS WSW	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER WROUGHT IRON WALK IN CLOSET WALL MOUNTED HEATER WOOD SCREW WOOD STRONG WALL
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DC	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST EACH EXISTING GRADE EXPANSION JOINT ELECTRICA ELECTRICA ELECTRICA COLUMNITY CONTRACTOR SONRY UNIT CLEANOUT COMMON UNIT CLEANOUT CONTRACTOR SONRY UNIT CLEANOUT COMMON UNIT CLEANOUT CONTRACTOR SONRY UNIT CLEANOUT CLEANOUT COMMON UNIT CLE	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO NOM NTS O/ OC OAE OH	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE OVER ON CENTER OR APPROVED EQUAL OVERHANG	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI WHS WI WIC WMH WP WS WSW WVS	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER WROUGHT IRON WALK IN CLOSET WALL MOUNTED HEATER WATERPROOF WOOD SCREW WOOD STRONG WALL WOOD VERTICAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONC CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DIA DIM DJ DN DP DR DS DTP DV DW DZN E EA EGR EJ ELEC EMER	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST EACH EXISTING GRADE EXPANSION JOINT ELECTRIC ELEVATOR OR ELEVATION ELECTRICAL METER	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO NOM NTS O/ OC OAE OH OPG	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE OVER ON CENTER OR APPROVED EQUAL OVERHANG OPENING	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI WHS WI WH WHS WI WH WHS WI WH WS WS WWW WWS WWM	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER WROUGHT IRON WALK IN CLOSET WALL MOUNTED HEATER WATERPROOF WOOD SCREW WOOD STRONG WALL WOOD VERTICAL SLIDER
CLKG CLO CLR CMN CMU CO COL CONT CONTR CP CPT CSMT CTR CW CY DBL DEMO DF DG DH DIA DIM DJ DN DP DCR	CLOSET CLEAR COMMON CONCRETE MASONRY UNIT CLEANOUT COLUMN CONCRETE CONTINUOUS CONTRACTOR CEMENT PLASTER CARPET CASEMENT CENTER COLD WATER VALVE CUBIC YARD DOUBLE DEMOLITION DOUGLAS FIR DUAL GLAZED DOUBLE HUNG DIAMETER DIMENSION DECK JOIST DOWN DEEP DOOR DOWNSPOUT DOUBLE TOP PLATE DRYER VENT DISHWASHER DESIGN EAST EACH EXISTING GRADE EXPANSION JOINT ELECTRICA ELECTRICA ELECTRICA COLUMNITY CONTRACTOR SONRY UNIT CLEANOUT COMMON UNIT CLEANOUT CONTRACTOR SONRY UNIT CLEANOUT COMMON UNIT CLEANOUT CONTRACTOR SONRY UNIT CLEANOUT CLEANOUT COMMON UNIT CLE	JT KIT L LAM LAT LAV LDG LG LR LS LSW LT LGT MAX MB MBPD MC MDL MECH MEMB MFR MIN MISC MS MTL MW N N/A NAT NAP NIC NO NOM NTS O/ OC OAE OH	KITCHEN LINEN LAMINATE LATERAL LAVATORY LANDING LONG LARGE LAZY SUSAN LAG SCREW LAUNDRY TUB LIGHT MAXIMUM MACHINE BOLT MIRROR BYPASS DOOR MEDICINE CABINET MODEL MECHANICAL MEMBRANE MANUFACTURER MINIMUM MISCELLANEOUS MACHINE SCREW METAL MICROWAVE OVEN NORTH NOT APPLICABLE NATURAL NOT A PART NOT IN CONTRACT NUMBER NOMINAL NOT TO SCALE OVER ON CENTER OR APPROVED EQUAL OVERHANG	TEMP TG T & G THK TME TP TV TYP TWH U/ U/C UNO UON V VAC VER VHS VIF VOL VTR VVS W W/ W/O WC WD WDW WDWR WH WHS WI WHS WI WIC WMH WP WS WSW WVS	TEMPERED GLASS TONGUE AND GROOVE THICK TO MATCH EXISTING TOP PLATE TELEVISION TYPICAL TANKLESS WATER HEATER UNDER UNDER COUNTER UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED VALLEY OR VALVE VACUUM VERTICAL VINYL HORIZONTAL SLIDER VERIFY IN FIELD VOLUME VENT TO ROOF VINYL VERTICAL SLIDER WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WARMING DRAWER WATER HEATER WOOD HORIZONTAL SLIDER WROUGHT IRON WALK IN CLOSET WALL MOUNTED HEATER WATERPROOF WOOD SCREW WOOD STRONG WALL WOOD VERTICAL SLIDER

door schedule - elevation a, b & 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"	8'-0"	1-3/4"	FRENCH	SWING	DG, TG	WOOD	WOOD	OPTIONAL	.43	.3	1	ENTRY DOOR
2	18'-0"	8'-0"	1-3/4"	FRENCH	BIFOLDING	DG, TG	VINYL	VINYL	YES	.43	.3	1	
3	8'-0"	8'-0"	1-3/4"	FRENCH	SLIDING	DG, TG	VINYL	VINYL	YES	.43	.3	1	
4	2'-4"	8'-0"	1-1/2"	INTERIOR	SWING	HOLLOW	WOOD	WOOD	NO	N/A	N/A	5	PRIVACY/BTH
5	2'-6"	8'-0"	1-1/2"	INTERIOR	SWING	HOLLOW	WOOD	WOOD	NO	N/A	N/A	3	BED ENTRY
6	6'-0"	8'-0"	1-1/2"	INTERIOR	BYPASS	-	MIRROR	ALUMINUM	NO	N/A	N/A	2	CLOSET
7	5'-0"	8'-0"	1-1/2"	INTERIOR	BIFOLD	HOLLOW	WOOD	WOOD	NO	N/A	N/A	1	LAUNDRY

wind	window schedule - elevation a, b & c											
WINDOW #	WIDTH	HEIGHT	TYPE	MATERIAL	GLAZING	SCREEN	U FACTOR	SHGC	QUANTITY	NOTES		
1	9'-0"	5'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	.4	.3	1			
2	6'-0"	5'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	.4	.3	2			
3	4'-0"	3'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	.4	.3	1	OPAQUE		
4	6'-0"	3'-0"	HORIZONTAL SLDER	VINYL	DG	YES	.4	.3	1			
5	4'-0"	2'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	.4	.3	2	OPAQUE		
6	4'-0"	5'-0"	HORIZONTAL SLIDER	VINYL	DG	YES	.4	.3	1	KITCHEN		

e b	ed	room 3	
		YES	
		NO	
	√	SELECTION	

appliance schedule - three bedroom 3										
APPLIANCE	OPERATION	MANUFACTURER	MODEL	QUANTITY	NOTES					
SPLIT SYSTEM HEAT PUMP	ELECTRICITY	PANASONIC	CU-5E36QBU-5	1	OR EQUAL, INTERIOR UNITS TO BE DETERMINED					
HEATPUMP TANK WATER HEATER	ELECTRICITY	RHEEM	PROPH40 T2 RH375-SO	1	OR EQUAL					
REFRIGERATOR	ELECTRICITY	BY OWNER	BY OWNER	1	36" WIDE, COUNTER DEPTH					
RANGE	ELECTRICITY	BY OWNER	BY OWNER	1	30" WIDE					
MICROWAVE HOOD	ELECTRICITY	BY OWNER	BY OWNER	1	30" WIDE					
DISHWASHER	ELECTRICITY	BY OWNER	BY OWNER	1	24" WIDE					
WASHER	ELECTRICITY	BY OWNER	BY OWNER	1						
DRYER	ELECTRICITY	BY OWNER	BY OWNER	1						
GARBAGE DISPOSAL	ELECTRICITY	BY OWNER	BY OWNER	1						

trellis:

fixture schedule - three bedroom 3									
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	3					
LAVATORY FAUCET	BATH	BY OWNER	BY OWNER	3					
TOILET	BATH	BY OWNER	BY OWNER	3					
BATHTUB	BATH	BY OWNER	BY OWNER	1	30"x60" CAST IRON, OR EQUAL				
BATH FILLER + SHOWERHEAD	BATH	BY OWNER	BY OWNER	1					
SHOWERHEAD	BATH	BY OWNER	BY OWNER	2					

terial sch	edule	- thre	ee be	droom	າ 3			
LOCATION	FLOOR	BASE	CASE	COUNTER	CABINET	WALL	CEILING	NOTES
LIVING ROOM	5	4	4	-	-	1	5	OR EQUAL
NOOK	5	4	4	-	-	2	1	OR EQUAL
KITCHEN	5	4	4	3	2	2	2	OR EQUAL
BATH	2	2	4	3	1	2	2	OR EQUAL
BEDROOM	5	4	4	-	-	1	5	OR EQUAL
WALK IN CLOSET	5	4	4	-	2	1	1	OR EQUAL
HALL	5	4	4	3	2	1	1	OR EQUAL
	1-CONCRETE	1-NONE	1-NONE	1-CONCRETE	1-PAINTED	1-FLAT PAINT	1-FLAT PAINT	
	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:	three bedroom 3 plan selection:	PREPARER SIGNATURE
√ EXISTING OR PROPOSED RESIDENCE	√ SELECTION	
NO NO	STANDARD PLAN, ELEVATION A	
YES	STANDARD PLAN, ELEVATION B	
	STANDARD PLAN, ELEVATION C	
fire sprinklers:	REVERSE PLAN, ELEVATION A	L .
√ REQUIRED AT PROPOSED ADU	REVERSE PLAN, ELEVATION B	FOR CITY STAMPS
NO NO	REVERSE PLAN, ELEVATION C	•
YES		
fire 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 THE FIRE PREVENTION BUREAU AND APPROVED PRIOR TO INSTALLATION.	EXPANSIVE SOIL, SLAB ON GRADE	
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 INSTALLED IN ACCORDANCE WITH 903.3 MAY BE REQUIRED TO BE	exterior wall material:	
INSTALLED IN ACCORDANCE WITH 900.3 MAT 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.		BY USING THESE PERMIT READY
 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. 	window material:	CONSTRUCTION DOCUMENTS THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE
 A FIRE UNDERGROUND FLUSH CERTIFICATION SHALL BE REQUIRED AT FINAL INSPECTION. 	$\sqrt{MATERIAL}$	ARCHITECT WHO PREPARED THESE CONSTRUCTION
8. A HYDRO INSPECTION OF THE FIRE SPRINKLER SYSTEM IS REQUIRED PRIOR TO FRAME INSPECTION. ONLY THE NEW PIPING SHALL BE TESTED.	VINYL	DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY
10 110 time into a content one intent in into an intent in i	FIBERGLASS	INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY INCLUDING INJURY OR DEATH, OF
4	☐ WOOD	ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE
waste water:	ALUMINUM CLAD WOOD	CONSTRUCTION DOCUMENTS
√ SELECTION	-	· ·
SEWER	eave/rake & parapet:	
SEPTIC (REQUIRES SAN DIEGO COUNTY HEALTH APPROVAL)	#1 #2 MATERIAL	
DISTANCE TO CONNECTION =FEET	SINGLE FASCIA - IGNITION RESISTANT	PARTNERS
	EXPOSED RAFTER - IGNITION RESISTANT	6 8 2 S E C O N D S T
onsite parking:	STEPPED DOUBLE FASCIA - IGNITION RESISTANT	ENCINITAS, CA
√ REQUIRED	HEAVY TIMBER RAFTER TAIL - IGNITION RESISTANT	(760)7532464 DZNPARTNERS.COM
NONE	PARAPET WITH WALL MATERIAL CAP - IGNITION RESISTANT	L ,
ONE PARKING SPACE	PARAPET WITH WALL MATERIAL CAP - IGNITION RESISTANT	3 BEDROOM
	CORBEL PARAPET WITH METAL CAP - IGNITION RESISTANT	PRADU
	CORBEL PARAPET WITH WETAL CAP - IGNITION RESISTANT	
very high fire severity zone:	roof material:	
	HA HO MATERIAL	CITV: ANAHEIM

(f)	VE	ery hi
	\checkmark	SELECTION
		NO
		YES
UAL	1.	IF THE PROF
-	2.	THE ADU SH BUILDING CO
	2	STDI ICTI IDE

1.	IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SEE NOTES BELOW & ON SHEET a0.1F
2.	THE ADU SHALL COMPLY WITH CHAPTER 7A OF THE CURRENT CALIFORNIA BUILDING CODE.
3.	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.

sch	edu	le n	otes:

- ALL GLAZING IN DOORS SHALL BE TEMPERED.
- 2. SEE ELEVATIONS FOR 'TG' AT WINDOWS THAT REQUIRE TEMPERED
- 3. IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SEE NOTES AND SCHEDULES ON SHEET a0.1F CONCERNING DOOR & WINDOW CONSTRUCTION AND TEMPERED GLAZING.
- 4. SEE ELEVATIONS FOR WINDOW OPERATION DIRECTION & LOCATION OF
- 5. 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.	

f material:		
2 MATERIAL	CITY:	ANAHEIM
FIBERGLAS ASPHALT SHINGLES - GAF INC - ICC ESR 1475 OR ICC ESR 3267 - OAE		
CONCRETE ROOF TILES - EAGLE ROOFING PRODUCTS INC - IAPMO-UES ER 1900 - OA	AE	
STANDING SEAM METAL ROOF - AEP SPAN INC - IAPMO-UES ER 0309 - OAE		
TORCH APPLIED MODIFIED BITUMEN ROOFING - GAF INC - UL ER1306-02 - OAE [USE ONLY FOR ROOF PITCH OF 2/12 OR LESS]		
CLAY ROOF TILES - REDLAND CLAY TILE INC - IAPMO ER 445 - OAE	JOB:	202409R

stormwater bioretention:	CHECKLIST + SCHEDULE
SQ. FT. TOTAL NEW &/OR REMOVED & REPLACED IMPERVIOUS SURFACES	SCHEDULE
IS NOT GREATER THAN 500 SQ. FT. SIZING CALCULATION NOT REQUIRED	
IS GREATER THAN 500 SQ. FT. SIZING CALCULATION REQUIRED	
SIZING CALCULATION:SQ. FT. x 4% =SQ. FT. (MIN BMP AREA REQUIRED)	
$\sqrt{}$ BMP DRAINAGE TYPE	

√ BMP DRAINAGE TYPE

A - BIORETENTION BASIN - SURFACE FLOW WITH SPILLWAY

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A - BI B - VEGETATED SWALE C - SITE DESIGN + LID (LOW IMPACT DEVELOPMENT)

NOT REQUIRED

very high fire hazard severity zone

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
- 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 REQUIREMENTS

1. **705A.2 ROOF COVERINGS** WHERE THE ROOFING PROFILE HAS AN AIRSPACE UNDER 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," SHALL 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 LENGTH OF THE VALLEY
- 3. **705A.4 ROOF GUTTERS.** ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES & DEBRIS IN THE

- 4. **706A.1 GENERAL** WHERE PROVIDED, VENTILATION OPENINGS FOR ENCLOSED ATTICS, GABLE ENDS, RIDGE ENDS, UNDER EAVES AND CORNICES, ENCLOSED EAVE 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.
- 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 OF THE FOLLOWING: 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.

3. THE MESH MATERIAL SHALL BE CORROSION RESISTANT. EXTERIOR COVERINGS

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:

2. THE MESH MATERIAL SHALL BE NONCOMBUSTIBLE

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 F2707 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.

10. **707A.5 OPEN ROOF EAVES** THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF ONE OR 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

UI 263 APPLIED TO THE UNDERSIDE OF THE ROOF DECK DESIGNED.

EXTERIOR ASSEMBLY. AS TESTED IN ACCORDANCE WITH ASTM E119 OR

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 ROXED-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 F119 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 RESISTANCE DESIGN MANUAL

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 E2957 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

707A.7 EXTERIOR PORCH CEILINGS THE EXPOSED UNDERSIDE OF 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 EQUIREMENTS OF SECTION 2303-2

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-RESISTANCE-RATED EXTERIOR ASSEMBLY, AS TESTED IN ACCORDANCE WITH ASTM E119, 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

4. MATERIALS APPROVED FOR NOT LESS THAN 1-HOUR

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 F119 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 F2957 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

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:

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 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 E2957. 8 THE LINDERSIDE 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 GI UF-I AMINATED 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

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

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 UI 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 THE 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

EXTERIOR GLAZING & OPENINGS 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.

SKYLIGHTS. VENTS. 708A.2.1 EXTERIOR WINDOWS, SKYLIGHTS AND EXTERIOR GLAZED **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

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 1/8-INCH (3 2MM)

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 F2707 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

708A.4 GARAGE DOOR PERIMETER GAP EXTERIOR GARAGE DOORS

SHALL COMPLY WITH SECTION 708A.2.1.

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.

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

OF SECTION 709A.4 WHEN TESTED IN ACCORDANCE WITH BOTH ASTM E2632 AND ASTM E2726. 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.

6. ANY MATERIAL THAT COMPLIES WITH THE PERFORMANCE

5. NONCOMBUSTIBLE MATERIAL

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 E84 WITH A CLASS B FLAME SPREAD INDEX. 7. ANY MATERIAL THAT COMPLIES WITH THE PERFORMANCE REQUIREMENTS OF SECTION 709A.5 WHEN TESTED IN ACCORDANCE WITH ASTM E2632 AND WHEN ATTACHED EXTERIOR WALL COVERING IS WINDOW # WIDTH HEIGHT

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 E84 WITH A CLASS B FLAME SPREAD INDEX.

ALSO COMPOSED OF ONLY NONCOMBUSTIBLE OR IGNITION-RESISTANT

door schedule - elevation a, b & c TYPE OPERATION DOOR # | WIDTH | HEIGHT | THICK | FRAME SCREEN U FACTOR | SHGC | QUANTITY FRENCH SWING DG, TG WOOD WOOD **OPTIONAL** ENTRY DOOR 3'-0" 8'-0" 1-3/4" .43 1-3/4" FRENCH BIFOLDING DG, TG VINYL VINYL YES SLIDING DG, TG YES 1-3/4" FRENCH VINYL VINYL .43 WOOD N/A N/A PRIVACY/BTH 1-1/2" INTERIOR SWING HOLLOW WOOD NO BED ENTRY HOLLOW WOOD WOOD NO N/A 1-1/2" INTERIOR SWING

BYPASS CLOSET 1-1/2" | INTERIOR MIRROR ALUMINUM NO N/A N/A 8'-0" 5'-0" 8'-0" 1-1/2" | INTERIOR BIFOLD HOLLOW WOOD WOOD NO LAUNDRY window schedule - elevation a, b & c GLAZING SCREEN U FACTOR SHGC QUANTITY NOTES HORIZONTAL SLIDER DG, TG 5'-0" VINYL HORIZONTAL SLIDER DG, TG

YES

YES

DG, TG

DG, TG

DG, TG

DG, TG

schedule notes:

1. ALL GLAZING IN EXTERIOR DOORS SHALL BE TEMPERED IN THE VHFSZ.

HORIZONTAL SLIDER

HORIZONTAL SLDER

HORIZONTAL SLIDER

HORIZONTAL SLIDER

2. ALL GLAZING IN WINDOWS SHALL BE TEMPERED IN THE VHFSZ.

2'-0"

5'-0"

- 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
- 5. 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.

OPAQUE

OPAQUE

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.

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

FOR CITY STAMPS

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

3 BEDROOM PRADU

CITY: ANAHEIM

VERY HIGH FIRE HAZARD **SEVERITY ZONE**

202409R

general specifications:

2022 CALIFORNIA ENERGY CODE

2022 CALIFORNIA FIRE CODE

#	NOTE				
1	GENERAL REQUIREME	ENTS			
STANI	DARDS				
1.0	CODES GOVERNING C	ONSTRUCTION:			
•	2022 CALIFORNIA	BUILDING CODE	(CBC)	TITLE 24	PART 2, VOLUME 1 &
•	2022 CALIFORNIA	RESIDENTIAL CODE	(CRC)	TITLE 24	PART 2.5
•	2022 CALIFORNIA	ELECTRICAL CODE	(CEC)	TITLE 24	PART 3
•	2022 CALIFORNIA	MECHANICAL CODE	(CMC)	TITLE 24	PART 4
	2022 CALIFORNIA	PLUMBING CODE	(CPC)	TITLE 24	PART 5

2022 CALIFORNIA GREEN BUILDING STDS CODE (CALGREEN) TITLE 24 PART 11

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 CODI (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 GOVERNMENTAL

(CFC)

TITLE 24 PART 6

TITLE 24 PART 9

- JURISDICTION HAVING AUTHORITY OVER THE PROJECT. 1.3 THE APPROVED PLANS, SPECIFICATIONS, CALCULATIONS AND OTHER PROJECT CONSTRUCTION DOCUMENTS REPRESENT THE INISHED 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 FIELD 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 THE 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 SUBCONTRACTOR INVOLVED WITH THE CHANGI 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 OADS DUE TO CONSTRUCTION EQUIPMENT, MATERIALS, ETC. THE CONTRACTOR IS RESPONSIBLE FOR ALL METH ECHNIQUES, 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 OTHER 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 SHALL BE NSIBLE FOR TEMPORARY BRACING AND SHORING AS REQUIRED TO INSURE THE VERTICAL AND LATERAL STABILITY OF
- 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. 1.14 EACH CONTRACTOR SHALL AT ALL TIMES KEEP THE PROJECT AREA FREE FROM ACCUMULATION OF WASTE MATERIALS
- INSURANCE 1.15 CONTRACTORS SHALL MAINTAIN, FOR THE ENTIRE DURATION OF THE PROJECT, FULL AND UNLIMITED WORKMEN'S COMPENSATION INSURANCE IN ACCORDANCE WITH THE LABOR CODE OF THE STATE OF CALLEORNIA. THEY SHALL ALSO CARRY PUBLIC CONTINGENT LIABILITY INSURANCE IN AMOUNTS SATISFACTORY TO THE OWNER AND WITH COMPANIES SELECTED WITH THE CONSENT OF THE OWNER

DEMOLITION AND PREPARATION

2 SITE WORK

THE STRUCTURE OR ANY PORTION THEREOF DURING CONSTRUCTION.

- 2.1 REMOVE ALL DEBRIS FROM THE PROJECT AND DISPOSE OF IT LEGALLY IN A TIMELY FASHION. 2.2 DO NOT REMOVE ANY VEGETATION EXCEPT AS NOTED ON THE DRAWINGS OR WITH PRIOR OWNER OR ARCHITECT APPROVAL 2.3 CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO LOCATE AND PROTECT ANY UNDERGROUND OR CONCEALED ONDUIT, 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.
- 2.7 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. GRADING AND DRAINAGE

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 ORDINANCE) 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 I ATEST ADOPTED STANDARD) METHOD OF COMPACTION. BACKFILL SHALL ALSO CONFORM TO THE SOILS REPORT
- ECOMMENDATIONS 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 O 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
- CKFILLING, 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 TH NATIVE SOIL. PROPER SURFACE DRAINAGE MUST BE MAINTAINED 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. RETAINING & STEM WALLS SHALL BE WATERPROOFED WHERE THEY WOULD IMPACT LIVING AREAS OR WHERE WALL STAINING OR EFFLORESCENCE WOULD BE OBJECTIONABLE. DAMPPROOFING MATERIALS FOR FOUNDATION WALLS ENCLOSING USABL 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: .1 CONSIDER THE REPORT AN INTEGRAL PART OF THE CONSTRUCTION DOCUMENTS TO BE COMPLIED WITH BY THE
- .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.
- 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 FOUNDATIONS AND CONCRETE

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 AD JACENT COMPETENT FORMATIONAL GRADE OF 12" JE NOT SPECIFIED, WIDTH OF THE FOOTING SHALL BE NOT LESS THAN 12" NOT SPECIFIED. THICKNESS OF THE FOOTING SHALL NOT BE LESS THAT 6" IF NOT SPECIFIED. (CRC TABLE R403.1(1) & CBC TABLE 1809.7)

- 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. ORMWORK SUPPORTING BEAMS AND GIRDERS SHALL REMAIN IN PLACE FOR A MINIMUM OF 15 DAYS
- 3.4 PIPES, CONDUITS OR DUCTS SHALL NOT BE PLACED IN CONCRETE SLABS, BEAMS OR WALLS UNLESS SPECIFICALLY SHOWN OR
- 3.5 CONCRETE TO BE READY MIX CONCRETE (ACI 318, ASTM C150, C595 & C1157 LATEST ADOPTED STANDARD) OR CONCRETE
- OF WATER PER SACK OF CEMENT. (CRC R402.2 & CBC SECTION 1903)
- 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): STRENGTH (PSI) SPECIAL INSPECTION SLAB ON GRADE 2500 FOOTINGS GRADE BEAMS CAISSONS 3000 YES STRUCTURAL DECK 3000
- 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 COUR: ISISTING 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 HALL 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 THE ORIGINAL FOOTING DEPTH. NO UNCONTROLLED FILL WILL BE PERMITTED. (CRC R403.1.1 & R403.1.4)
- 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
- 3.15 ALL HOLD DOWNS, DOWELS AND INSERTS MUST BE ANCHORED IN PLACE PRIOR TO CONCRETE PLACEMENT AND FOUNDATION REINFORCEMENT
- 3.16 CONCRETE SLABS SHALL BE REINFORCED WITH #3 REINFORCING BARS AT 18" OC MIN EACH WAY, UON. REINFORCING SHA BE PLACED ON CONCRETE CHAIRS TO MAINTAIN STEEL REINFORCEMENT IN THE MIDDLE THIRD OF SLAB THICKNESS (CBC 1907
- 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 USED IN CONSTRUCTION OF REINFORCED MASONRY OF 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, LION, SPI ICES SHALL BE
- ECURELY TIED TOGETHER WITH 16 GAUGE WIRE. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHERE POSSIBLE (CRC R403.1.3.5.4) 3.20 ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED WOOD, TIMBERS OR CONCRETE SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION SUCH AS 'ZMAX', HOT DIPPED GALVANIZED, OR BE STAINLESS
- STEEL. HDG: ASTM A 123/A 123M, ASTM A 153/A 153M & ASTM A 767/A 767M(CBC CHAPTER 19 & ACI 318).
- 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 EARTH & 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, DAE. 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
- 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.
- E. 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 IPSON 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-177) 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-17 3.31 DOWEL NEW THREADED ROD ANCHOR BOLTS INTO EXISTING CONCRETE FOOTINGS WITH 6" MINIMUM EMBEDMENT IN 5/8"Ø CORED HOLES WITH SIMPSON SET EPOXY ADHESIVE GROUT. (ICC-ES, ESR-1772)
- RAISED FLOOR STEM WALL FOUNDATION 3.32 NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS FOR 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 AND 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 WEATHER, SUCH AS CONCRETE OR MASONRY SLABS, UNLESS SEPARATED FROM SUCH FLOORS OR ROOFS BY AN IMPERVIOUS MOISTURE BARRIER
- 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

H. WOOD FURRING STRIPS OR OTHER WOOD FRAMING MEMBERS ATTACHED DIRECTLY TO INTERIOR OF

- MINIMI IM 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 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)
- 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)

MORTAR USED IN CONSTRUCTION OF MASONRY, FOUNDATION & RETAINING WALLS SHALL CONFORM TO ARTICLE 2.1 & 2.6A OF

TMS 602 & SHALL CONSIST OF 1 PART PORTLAND CEMENT, 2-1/4 TO 3 PARTS SAND, & 1/4 TO 1/2 PART HYDRATED LIME. OAE

- 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) REINFORCEMENT 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
- SHALL BE 60,000 PSI (GRADE 60 KSI) (276 MPa) REINFORCING STEEL USED IN CONSTRUCTION OF REINFORCED MASONRY OR 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)
- 4.12 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 GREATER THAN 5 FEET
- 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 MINIMU 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

- STRUCTURAL STEEL SHALL BE DETAILED. FABRICATED & ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATION FOR THE ESIGN, 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
- 5.3 STRUCTURAL STEEL SHALL CONFORM TO CHAPTER 22 OF THE 2022 CBC AND AISC 360.

W-WIDE FLANGE SHAPES	ASTM A992	F _Y =50-65 KS
PLATES, ANGLES & CHANNELS	ASTM A36	F _Y =36 KSI
HOLLOW TUBE SHAPES	ASTM A500, GRADE B	F _Y =46 KSI
ROUND PIPE SHAPES	40TM 450 ODADE D	

- ASTM A53, GRADE B F_{V} =35 KSI 5.4 ALL STRUCTURAL STEEL SHALL BE IDENTIFIED AS NOTED IN THE 2022 CBC. DESIGN OF STEEL MEMBERS SHALL BE AS NOTED IN SD (ALLOWABLE STRESS DESIGN) METHOD PROVISIONS IN THE 2022 CBC §2205.1 & §2205.2 & AISC 360 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 PRIOR TO STEEL FABRICATION. SHOP DRAWINGS SHALL INCLUDE ALL INFORMATION NECESSARY FOR THE FABRICATION OF THE STRUCTURES COMPONENT PARTS. SHOP DRAWINGS SHALL INCLUDE THE SIZE & WEIGHT OF MEMBERS, TYPE & LOCATION OF SHOP & FIELD CONNECTIONS, TYPE, SIZE & EXTENT OF ALL WELDS, WELDING SEQUENCE & METHOD OF ANCHORAGE TO
- 5.8 SHOP PAINT FOR STEEL OTHER THAN GALVANIZED SHALL MEET FEDERAL SPECIFICATION TT-P-645C F84 (ZINC CHROMATE). 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. 5.10 ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED, UON. ONNECTORS AND CONNECTIONS
- 5.11 BOLTS SHALL BE A307 QUALITY WITH WASHERS, UON; HIGH STRENGTH A325/A490 BOLTS MUST BE SPECIAL INSPECTED, UON. 5.12 ALL NAILS SHALL BE COMMON WIRE NAILS, UNLESS OTHERWISE NOTED. 5.13 MACHINE BOLTS, LAG SCREWS & SIMILAR FASTENERS SHALL CONFORM TO ASTM A307 & ASTM A563, UON. 5.14 STEEL COLUMNS WITH BASE PLATES SHALL BE BEDDED ON DRY PACK OR NON-SHRINK GROUT OF 1" MINIMUM THICKNESS.
- 5.15 STEEL ERECTOR TO PROVIDE ERECTION BRACING REQUIRED TO MAINTAIN A PLUMB & PROPERLY BRACED STRUCTURE
- 5.16 ALL WELDS SHALL CONFORM TO THE CURRENT EDITION OF THE CODE FOR WELDING IN BUILDING CONSTRUCTION OF THE AMERICAN WELDING SOCIETY (AWS D1.1) AND SHALL BE MADE ONLY BY WELDERS AND WELDING OPERATORS QUALIFIED BY TESTS AS PRESCRIBED IN THE STRUCTURAL CODE FOR WELDING IN BUILDING CONSTRUCTION OF THE AMERICAN WELDING
- 5.17 FIELD & SHOP WELDING SHALL BE PERFORMED BY A DULY CERTIFIED WELDER USING LOW HYDROGEN E70-T6 ELECTRODE 5.18 ALL STRUCTURAL FIELD WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN APPROVED REGISTERED SPECIAL INSPECTOR.
- 5.19 WELD LENGTHS CALLED FOR IN THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. 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)

6 WOOD, TIMBER AND CARPENTRY

LESS THAT 4x10

- 6.1 ALL TIMBER DESIGN & CONSTRUCTION SHALL BE IN ACCORDANCE WITH CBC CHAPTER 23 & THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION (LATEST ADOPTED SPECIFICATION) WITH AMENDMENTS PER CBC SECTION 2306. 6.2 ALL LUMBER AND TIMBERS SHALL BE CLEARLY GRADE MARKED BY WWPA OR WCLIB PER DOC PS 20 (CBC §2303.1.1). 6.3 LUMBER & TIMBER SHALL BE CUT SQUARE AND TO ACCURATE LENGTH AND NEATLY ASSEMBLED. ALL FRAMING SHALL BE
- INSTALLED PLUMB, LEVEL, STRAIGHT AND TRUE 6.4 MOISTURE CONTENT OF SAWN LUMBER AT THE TIME OF INSTALLATION SHALL NOT EXCEED 19%. (CBC §2303.1.9.2). 6.5 STANDARD WOOD GRADES SHALL BE IN ACCORDANCE WITH THE FOLLOWING SCHEDULE: LUMBER OR TIMBER
- PRESSURE TREATED SILL PLATES ON CONCRETE DOUGLAS FIR-LARCH 2x4 STUDS LESS THAN 8' TALL DOUGLAS FIR-LARCH 2x4 STUDS GREATER THAN 8' TALL, 4x4 STUDS, PLATES, DOUGLAS FIR-LARCH STRIPPING, MISC. CONCEALED FRAMING, BLOCKING & FIRESTOPPING 2x & 3x MEMBERS, LARGER THAN 4" NOMINAL WIDTH DOUGLAS FIR-LARCH #2 JOISTS & PLANKS OR BETTER STUDS, PLATES, JOISTS, RAFTERS, STRIPPING, MISC. CONCEALED FRAMING, BLOCKING & FIRESTOPPING POSTS LARGER THAN 4x4 DOUGLAS FIR-LARCH #1, POSTS & TIMBERS BEAMS, HEADERS, STRINGERS & LEDGERS EQUAL TO OR DOUGLAS FIR-LARCH
- BEAMS, HEADERS, STRINGERS & LEDGERS GREATER 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 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 LONGER THAN 8' SHALL BE NO. 2 GRADE DOUGLAS FIR-LARCH OR BETTER.
- 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. 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 SHALL BE CBC/CRC CODE APPROVED (CBC §2304.10.4).
- 6.10 ALL BOLTS HEADS & NUTS BEARING ON WOOD SHALL SIT ON .229" x 3" x 3" METAL PLATE WASHERS, MINIMUM. 6.11 ALL BOLTS HOLES IN WOOD SHALL BE DRILLED 1/16"Ø LARGER THAN THE NOMINAL BOLT Ø.
- 6.12 ANCHOR BOLTS TO SILL PLATES SHALL HAVE NUTS WITH SQ. PLATE WASHERS IN ACCORDANCE WITH THIS SCHEDULE: BOLT Ø PLATE SIZE SIMPSON CO. .229" x 3" x 3" BP 5/8-3 .229" x 3" x 3" BP 3/4-3 .3125" x 3" x 3" BP 7/8-2

.375" x 3.5" x 3.5"

PRESERVATIVE-TREATED WOOD IN AN INTERIOR, DRY ENVIRONMENT.

- 6.12 SCHEDULE ALSO APPLIES TO LAG SCREWS DRIVEN INTO SOLE PLATES FOR RAISED FLOOR & UPPER STORY CONDITIONS 6.13 BOLTS IN WOOD SHALL NOT BE LESS THAN 7Ø FROM THE END OR 4Ø FROM THE EDGE. 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) XCEPTION 1: 1/2-INCH DIAMETER OR GREATER STEEL BOLTS EXCEPTION 2: FASTENERS OTHER THAN NAILS AND TIMBER RIVETS MAY BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B 695, CLASS 55 MINIMUM EXCEPTION 3: PLAIN CARBON STEEL FASTENERS ACCEPTABLE IN SBX/DOT & ZINC BORATE
- 6.15 FASTENERS FOR FIRE-RETARDANT-TREATED WOOD USED 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)

- 6.16 LAG SCREWS SHALL BE INSTALLED IN PREDRILLED HOLES. THE CLEARANCE HOLE FOR THE SHANK PORTION SHALL HAVE THE SAME Ø & DEPTH AS THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A Ø EQUAL TO 40%-70% OF THE SHANK Ø (FOR ALL DOUGLAS FIR-LARCH MEMBERS). LAG SCREWS ARE TO BE INSTALLED WITH THE TURN OF A WRENCH.
- DRIVING, AS WITH A HAMMER, IS NOT PERMITTED. FIRE BLOCKING AND DRAFT STOPPING 6.17 FIREBLOCKING SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS (CRC R302.11 & CRC R1003.19):
- A. IN CONCEALED SPACES OF STUD WALLS & PARTITIONS, INCLUDING FURRED SPACES, & PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS: 1. VERTICALLY AT THE CEILING AND FLOOR LEVELS
- 2. HORIZONTALLY AT INTERVALS NOT EXCEEDING 10'-0" B. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL & HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP C. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP & BOTTOM OF THE RUN D. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION
- E. AT CHIMNEYS AND FIREPLACES PER ITEM 6.20 F.CORNICES OF A TWO-FAMILY DWELLING AT THE LINE OF DWELLING-UNIT SEPARATION 6.18 EXCEPT AS OTHERWISE SPECIFIED IN ITEMS 6.19 & 6.20, FIREBLOCKING SHALL CONSIST OF THE FOLLOWING MATERIALS WITH THE INTEGRITY MAINTAINED (CRC R302.11.1):
- A. TWO-INCH NOMINAL LUMBER
- B. TWO THICKNESSES OF ONE-INCH NOMINAL LUMBER WITH BROKEN LAP JOINTS C. ONE THICKNESS OF 23/32-INCH WOOD STRUCTURAL PANEL WITH JOINTS BACKED BY 23/32-INCH WOOD STRUCTURAL PANEL D. ONE THICKNESS OF 3/4-INCH PARTICLEBOARD WITH JOINTS BACKED BY 3/4-INCH PARTICLEBOARD E. 1/2-INCH GYPSUM BOARD F. 1/4-INCH CEMENT-BASED MILLBOARD
- G. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OF OTHER APPROVED MATERIALS INSTALLED IN SUCH A MANNER AS TO E SECURELY RETAINED IN PLACE. BATTS OR BLANKETS OF MINERAL OR GLASS FIBER OR OTHER APPROVED NON-RIGID MATERIALS SHALL BE PERMITTED FOR COMPLIANCE WITH THE 10-FOOT HORIZONTAL FIREBLOCKING IN WALLS CONSTRUCTED USING PARALLEL ROWS OF STUDS OR STAGGERED STUDS, UNFACED FIBERGLASS BATT INSULATION USED AS FIREBLOCKING SHALL 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 THE FORM & 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 6.20 ALL SPACES BETWEEN CHIMNEYS AND FLOORS AND CEILINGS THROUGH WHICH CHIMNEYS PASS SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIAL SECURELY FASTENED IN PLACE. THE FIREBLOCKING OF SPACES BETWEEN CHIMNEY LAID ACROSS THE SPACES BETWEEN COMBUSTIBLE MATERIAL AND THE CHIMNEY. (CRC R1003.19)

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

- 6.21 IN COMBUSTIBLE CONSTRUCTION WHERE THERE IS USABLE SPACE BOTH ABOVE & BELOW THE CONCEALED SPACE OF A OOR/CEILING ASSEMBLY, DRAFTSTOPS SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NO EXCEED 1000 SQUARE FEET. DRAFTSTOPPING SHALL DIVIDE THE CONCEALED SPACE INTO APPROXIMATELY EQUAL AREAS RE THE ASSEMBLY IS ENCLOSED BY A FLOOR MEMBRANE ABOVE AND A CEILING MEMBRANE BELOW, DRAFTSTOPPING SHALL BE PROVIDED IN FLOOR/CEILING ASSEMBLIES UNDER THE FOLLOWING CIRCUMSTANCES (CRC R302.12): A. CEILING IS SUSPENDED UNDER THE FLOOR FRAMING.
- B. FLOOR FRAMING IS CONSTRUCTED OF TRUSS-TYPE OPEN-WEB OR PERFORATED MEMBERS 6.22 DRAFTSTOPPING SHALL NOT BE LESS THAN 1/2-INCH GYPSUM BOARD, 3/8-INCH WOOD STRUCTURAL PANELS, OR OTHER APPROVED MATERIALS ADEQUATELY SUPPORTED. DRAFTSTOPPING SHALL BE INSTALLED PARALLEL TO THE FLOOR FRAMING MEMBERS UNLESS OTHERWISE APPROVED BY THE BUILDING OFFICIAL. THE INTEGRITY OF DRAFTSTOPS SHALL BE MAINTAINED (CRC R302.12.1)
- 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 RATING 20", UNBLOCKED. NAIL WITH HOT DIP GALVANIZED 10d COMMON NAILS, HAND NAILED 6" O.C. AT EDGE AND 10" O.C. IN FIELD, GLUE ALONG FLOOR JOISTS AND PLYWOOD T&G GROOVES SHALL BE PL 400 AS MANUFACTURED BY B.F. GOODRICH DAE. PLYWOOD TO BE GLUED AS IT IS NAILED BEFORE GLUE HAS DRIED OR HARDENED (CBC 2304.8.1 & CRC R503)

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)

- 6.26 ROOF SHEATHING SHALL BE 15/32" CDX APA RATED SHEATHING, EXPOSURE 1, MINIMUM SPAN INDEX 24/0, NAILED WITH 8d COMMON NAILS AT 6" O.C. AT EDGE & 12" O.C. IN FIELD & AT INTERMEDIATE MEMBERS (CBC 2304.8.2 & CRC R803). 6.27 USE 1x8 SPRUCE, CEDAR OR REDWOOD TONGUE AND GROOVE AT ALL EXPOSED EAVE AREAS, UON. 6.28 DIAPHRAGM SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN SO THAT THEIR HEAD OR
- CROWN IS FLUSH WITH THE SHEATHING SURFACE. 6.29 ALL WOOD STRUCTURAL PANEL SHEATHING SHALL BE GRADE MARKED BY APA, TECO OR PLT & SHALL CONFORM TO PS 1-95, PS 2-92 OR PRP-108 6.30 PLYWOOD FLOOR & ROOF SHEATHING SHALL BE LAID WITH THE LONG DIMENSION AND FACE GRAIN PERPENDICULAR TO THE RAFTERS, 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 & EDGES AS REQUIRED FOR EXPANSION. ALL WOOD STRUCTURAL PANEL SHEATHING DIAPHRAGMS SHALL BE REVIEWED BY
- 6.31 ROOF PLYWOOD SHALL BE CONTINUOUS UNDER CALIFORNIA FILL FRAMING SO ROOF DIAPHRAGM EXTENDS TO WALL PLATE. FLOOR FRAMING 6,32 FLOOR FRAMING SHALL BE IN ACCORDANCE WITH CBC §2304.4 & 2308.4 & CRC §R502 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

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

- TABLES R502.3.1(1) & (2) AND MUNICIPAL JURISDICTION TABLES. 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 MINIMUM 3 INCHES OF BEARING ON MASONRY OR CONCRETE EXCEPT WHERE SUPPORTED ON A 1-INCH-BY-4-INCH RIBBON STRIP AND NAILED TO THE ADJOINING STUD OR BY THE USE OF APPROVED JOIST HANGERS. (CBC 2308.4.2.2 & CRC R502.6) 6.35 PROVIDE 2x DOUBLE JOISTS UNDER ALL PARALLEL BEARING & NON-BEARING PARTITIONS. NAIL ALL DOUBLE 2x JOISTS WITH
- 16d NAILS AT 12" OC, STAGGERED, TOP & BOTTOM. BOLT ALL TRIPLE 2x JOISTS WITH 1/2"Ø BOLTS AT 18" OC, STAGGERED, TOP & BOTTOM(CBC SECTION 2308.9). 6.36 JOISTS UNDER PARALLEL BEARING PARTITIONS SHALL BE OF ADEQUATE SIZE TO SUPPORT THE LOAD. DOUBLE JOISTS, SIZED TO ADEQUATELY SUPPORT THE LOAD, THAT ARE SEPARATED TO PERMIT THE INSTALLATION OF PIPING OR VENTS SHALL BE FULL-DEPTH SOLID-BLOCKED WITH MINIMUM 2" NOMINAL LUMBER SPACED AT MAXIMUM 4' OC. BEARING PARTITIONS 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 FULL-DEPTH BLOCKING AT 16" OC SPACING SHALL BE PROVIDED BETWEEN THE PARALLEL FRAMING MEMBERS TO EACH SIDE OF THE SHEAR WALL. (CBC 2308.4.5 & CRC R602.10.8) 38 FLOOR JOISTS SHALL BE SUPPORTED LATERALLY AT ENDS AND EACH INTERMEDIATE SUPPORT BY MINIMUM 2" FULL-DEPTH. BLOCKING, BY ATTACHMENT TO FULL-DEPTH HEADER, BAND JOIST, OR RIM JOIST, TO AN ADJOINING STUD, OR SHALL BE 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
- 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 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 (WOOD OR METAL), OR A CONTINUOUS 1-INCH-BY-3-INCH STRIP NAILED ACROSS THE BOTTOM OF JOISTS PERPENDICULAR TO 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 NAILED GETHER 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) 6.43 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 MAY BE USED TO CARRY A SINGLE HEADER JOIST LOCATED WITHIN 3' OF THE TRIMMER JOIST BEARING. WHEN THE HEADER
- JOIST 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 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". (CBC 2308.4.4.1 & CRC R502.10) 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 DESIGNED TO SUPPORT THE LOADS SPECIFIED IN THE CBC. GIRDER END JOINTS SHALL OCCUR OVER SUPPORTS. WHEN A GIRDER 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. 6.46 THE SIZE, HEIGHT, AND SPACING OF STUDS SHALL BE IN ACCORDANCE WITH CRC TABLE R602.3(5). (CRC R602.3.1) 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 HEIGHT DOES NOT MEET THESE CRITERIA SHALL BE ENGINEERED FOR THEIR SPECIFIC CONDITION. (CBC 2308.5.1 & TABLE
- 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
- A 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 VITERSECTIONS 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 STRAP 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 GALVANIZEI 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) 6.54 ANY STUD IN AN EXTERIOR WALL OR BEARING PARTITION MAY BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25% OF ITS MIDTH. STUDS IN NONBEARING PARTITIONS MAY BE NOTCHED TO A DEPTH NOT TO EXCEED 40% OF A SINGLE STUD WIDTH.
- ANY STUD MAY BE BORED OR DRILLED. PROVIDED THE DIAMETER OF THE RESULTING HOLE IS NO MORE THAN 60% OF THE 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 IN 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
- PROVIDED 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. (CBC 2308.5.5 & CRC R602.7). 6.57 STANDARD HEADERS SIZES, UON:
- BEARING WALLS NON-BEARING WALLS OPENING WIDTH HEADER SIZE OPENING WIDTH HEADER SIZE 3' OR LESS 4' OR LESS 3' TO 6' 4' TO 7' 6' TO 8' 4x10 7' TO 10'
- 6.58 ALL BEAMS SHALL BE SUPPORTED BY POSTS OR GIRDERS. FOR 4x8 & SMALLER BEAMS A MINIMUM 2-2x4 DF #2 POST SHALL BE JSED, 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 FOUAL OR GREATER SIZE 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 HEIGHT 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) 6.62 BUILDINGS WALLS SHALL BE BRACED IN ACCORDANCE WITH THE METHODS ALLOWED PER CBC & CRC. (CBC 2308.6 & CRC R602.10, CRC R602.10.2, CRC R602.10.4, AND/OR CRC R602.10.5. 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

PROVISIONS OF CRC R602.10.1.3.

6.69 CRIPPLE WALLS SHALL BE BRACED PER CRC R602.10.11

- 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 EASTENED 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
- JUST PRIOR TO WALL FRAMING COVERING 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.

- 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 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 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
- VALLEYS SHALL BE DESIGNED AS BEAMS (CBC SECTION 2308.7).
 - LOCATED 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. THE Ø OF HOLES BORED OR CUT INTO MEMBERS SHALL NOT EXCEED 1/3 THE MEMBER DEPTH. HOLES SHALL NOT BE CLOSER N 2" TO THE TOP OR BOTTOM OF THE MEMBER OR TO ANY OTHER HOLE LOCATED IN THE MEMBER. WHERE THE MEMBER IS ALSO NOTCHED. THE HOLE SHALL NOT BE CLOSER THAN 2" TO THE NOTCH. (CBC 2308.7.4 & CRC R502.8.1)
- 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 ENGINEER-DESIGNED GIRDER, (CBC 2808,7,3 & CRC R802,3,1)
- 6.83 ENDS OF CEILING JOISTS SHALL BE LAPPED MINIMUM 3" OR BUTTED OVER BEARING PARTITIONS OR BEAMS AND TOENAILED TO THE BEARING ELEMENT. WHERE CEILING JOISTS PROVIDE RESISTANCE TO RAFTER THRUST, LAPPED JOISTS SHALL BE NAILED TOGETHER PER CRC TABLE R602.3(1) AND BUTTED JOISTS SHALL BE TIED TOGETHER IN A MANNER TO RESIST SUCH THRUST.
- 6.84 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 SEARING 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 RAFTERS THEY SUPPORT. PURLINS SHALL BE CONTINUOUS AND SHALL BE SUPPORTED BY 2"x4" NOMINAL BRACES INSTALLED 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)
- 6.88 ROOF FRAMING MEMBERS AND CEILING JOISTS WITH A NOMINAL DEPTH-TO-THICKNESS RATIO EXCEEDING 5:1 SHALL BE PROVIDED WITH LATERAL SUPPORT AT POINTS OF BEARING TO PREVENT ROTATION. (CRC R802.8) 6.89 RAFTERS AND CEILING JOISTS WITH A NOMINAL DEPTH-TO-THICKNESS RATIO EXCEEDING 6:1 SHALL BE SUPPORTED
- SPAN DOES NOT EXCEED 4' THE HEADER JOIST MAY BE A SINGLE MEMBER THE SAME SIZE AS THE CEILING JOIST OR RAFTER. SINGLE TRIMMER JOISTS MAY BE USED TO CARRY A SINGLE HEADER JOIST LOCATED WITHIN 3' OF THE TRIMMEI 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 SHAL COMPLY WITH T.P.I. SPECIFICATIONS. PRIOR TO TRUSS FABRICATION THE CALCULATIONS AND SHOP DRAWINGS SHALL BE 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
- 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) 6.94 MINIMUM 2" NOMINAL BLOCK REQUIRED BETWEEN TRUSSES AT RIDGE LINES & AT POINTS OF BEARING AT EXTERIOR WALLS
- 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 GLUED-LAMINATED WOOD TIMBERS
- 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 6.102 WHERE GLUED-LAMINATED TIMBERS ARE EXPOSED TO WEATHER, FABRICATION AND ADHESIVES SHALL BE SUITABLE FOR WET
- 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.
- 6.106 GLUED-LAMINATED TIMBERS SHALL HAVE A STANDARD CAMBER, UON, RESIDENTIAL APPLICATIONS SHALL USE A STANDARD CAMBER BASED ON A RADIUS OF 3.500 FEET. COMMERCIAL & INDUSTRIAL APPLICATIONS SHALL USE A STANDARD CAMBER BASED ON A RADIUS OF 2,000 FEET.
- 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. ATTACHMENT SHALL NOT BE ACCOMPLISHED BY USE OF TOENAILS OR NAILS SUBJECT TO WITHDRAWAL. (CRC R311.3
- ROOFING, THERMAL AND MOISTURE PROTECTION 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-RESISTANT WITH A THICKNESS OF NOT LESS THAN 0.019" (26 GALVANIZED SHEET). (CRC R903.2.1) 7.4 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 MATERIAL AS THE ROOF COVERING. (CRC R903.2.2)
- DOORS, WINDOWS AND SKYLIGHTS DOOR & WINDOW SIZES AND OPERATION SHALL BE AS SHOWN IN THE PLANS AND SCHEDULES
- 8.5 NEW GLAZING SHALL BE INSTALLED WITH A U-VALUE & SHGC CERTIFICATE ATTACHED SHOWING COMPLIANCE WITH ENERGY REQUIREMENTS. 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)
- 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 CBC §1404 (CBC 1404.1) AND CRC §R703 (CRC R703.1) 9.2 A MINIMUM 0.019" (# 26 GALVANIZED SHEET GAUGE), CORROSION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED
- FLASHING SHALL BE INSTALLED IN SUCH A MANNER SO AS TO PREVENT MOISTURE FROM ENTERING THE WALL OR TO EDIRECT THAT MOISTURE TO THE EXTERIOR. FLASHING SHALL BE INSTALLED AT THE PERIMETERS OF EXTERIOR DOOR AND SIDES AND THE ENDS OF COPINGS, UNDER SILLS AND CONTINUOUSLY ABOVE PROJECTING TRIM, WHERE SELF-ADHERED EMBRANES ARE USED AS FLASHINGS OF FENESTRATION IN WALL ASSEMBLIES, THOSE SELF-ADHERED FL
- WALLS. SUCH FELT OR MATERIAL SHALL BE APPLIED HORIZONTALLY, WITH THE UPPER LAYER LAPPED OVER THE LOWER LAYER MINIMUM 2 INCHES. WHERE JOINTS OCCUR, FELT SHALL BE LAPPED MINIMUM 6". THE FELT SHALL BE CONTINUOUS TO THE TOP OF WALLS AND TERMINATED AT PENETRATIONS AND BUILDING APPENDAGES IN A MANNER TO MAINTAIN A WEATHER-RESISTANT EXTERIOR WALL ENVELOPE. (CRC R703.2)
- 9.7 USE 1/2" GYPSUM BOARD AT ALL INTERIOR WALLS & CEILINGS. USE 5/8" GYPSUM BOARD WHERE STUDS, JOISTS OR RAFTERS ARE SPACED 24" OC (CRC R702.3.1.1 & CRC TABLE R702.3.5). & AT CEILINGS (CBC SECTION 406.3.2.1; CRC TABLE R302.6).

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 PLANS FOR BASEBOARD AND CASING DIFFERENT FROM THIS SPECIFICATION.

ACCORDANCE WITH CBC §2111 & CBC §2113 (CBC 2111.1 & 21113.1) AND CRC §R1001 & CRC §1003 (CRC R1001.1 & CRC R1003.1)

ARRESTORS, FOR FACTORY-BUILT FIREPLACES EXCEPT WHERE THE SHROUDS ARE LISTED AND LABELED FOR USE WITH THE

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. 10.8 EACH CLOSET SHALL HAVE A SHELF AND POLE AS SHOWN IN THE PLANS, DOUBLE SHELF AND POLE AT WALK IN CLOSETS, TYP,
- LL ELECTRIC APPLIANCES SHALL COMPLY WITH THE CURRENT CEC TITLE 20, DIVISION 2, CHAPTER 4, ARTICLE 4, SECTIONS 1601-1609, APPLIANCE EFFICIENCY STANDARDS. APPLIANCES MUST HAVE THE CALIFORNIA ENERGY COMMISSION SEAL ATTACHED FOR APPROVAL BEFORE INSTALLATION. (CEC 110.1) 11.2 SEE T24 DOCUMENTATION SHEETS AND CALCULATIONS FOR MORE INFORMATION ON WATER HEATING, SPACE HEATING, AND
- 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

- 6.80 WHEN THE ROOF SLOPE IS LESS THAN 3/12, MEMBERS SUPPORTING RAFTERS & CEILING JOISTS SUCH AS RIDGES, HIPS AND
- 6.81 DRILLING, CUTTING, AND NOTCHING OF ROOF/FLOOR FRAMING. NOTCHES IN SOLID LUMBER JOISTS, RAFTERS, BLOCKING, & BEAMS SHALL NOT EXCEED 1/6 THE MEMBER DEPTH, SHALL BE NOT LONGER THAN 1/3 THE MEMBER DEPTH, AND SHALL NOT BE
- 6.82 CEILING JOISTS AND RAFTERS SHALL BE NAILED TO EACH OTHER PER CRC TABLE R802.5.1(9), AND THE RAFTER 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 FOLIVALENT CAPACITIES SHALL BE PROVIDED. WHERE CELLINGS JOISTS OR RAFTER TIES ARE NOT PROVIDED, THE RIDGE FORMED BY THESE RAFTERS SHALL BE SUPPORTED BY A WALL OR
- (CBC 2308.7.3.1 & CRC R802.3.2)
- COLLAR TIES SHALL BE A MINIMUM 1"x4" NOMINAL AND SPACED AT MAXIMUM 4' OC. (CRC R802.3.1)
- 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)
- LATERALLY 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) 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 HANGERS SHALL BE USED FOR THE HEADER-JOIST TO TRIMMER-JOIST CONNECTIONS WHEN THE HEADER JOIST SPAN
- INFORMATION LOCATED WITHIN 2' OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM CHORD: THE IDENTITY OF THE COMPANY MANUFACTURING THE TRUSS, THE DESIGN LOAD OF THE TRUSS & THE REQUIRED SPACING OF THE TRUSSES. (CBC
- 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. ENGINEERED JOIST FRAMING

6.95 MINIMUM 1/2-INCH CLEARANCE REQUIRED BETWEEN TOP PLATES OF INTERIOR NON-BEARING PARTITIONS AND BOTTOM

6.100 GLUED-LAMINATED WOOD TIMBERS SHALL BE IN ACCORDANCE WITH CBC 2303.1.3, NSI/AITC A 190.1 AND ASTM D3737.

6.101 GLUED-LAMINATED TIMBERS SHALL BE INDUSTRIAL APPEARANCE GRADE, USING EXTERIOR GLUE, COMBINATION SYMBOL

- USE COMPLYING WITH CBC 2303.1.3.1. GLUED-LAMINATED TIMBERS SHALL BE ALASKAN CEDAR ARCHITECTURAL GRADE, COMBINATION SYMBOL 20F-V12, UON.
- 6.105 AN AITC CERTIFICATE OF CONFORMANCE FOR GLUED-LAMINATED TIMBERS IS REQUIRED TO BE SUBMITTED TO THE ARCHITECT AND/OR STRUCTURAL ENGINEER AND THE MUNICIPAL JURISDICTION PRIOR TO INSTALLATION.
- ROOFING MATERIAL & ITS APPLICATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS, MATERIAL ICC ESR REPORT. &
- 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
- 8.2 ALL DOORS & WINDOWS SHALL BE PROVIDED WITH HARDWARE FOR PROPER OPERATION. 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.
- PROVIDE SAFETY TEMPERED GLAZING IN ALL DOORS & AS REQUIRED FOR HAZARDOUS LOCATIONS IN CBC §2406. 8.8 EXTERIOR OPENINGS EXPOSED TO WEATHER SHALL BE FLASHED IN A MANNER AS TO MAKE THEM WATERPROOF (CBC 1405.3). PROVIDE SKYLIGHTS IN THE SIZES INDICATED ON THE PLANS. INSTALL SKYLIGHTS PER MANUFACTURER'S SPECIFICATIONS &
- 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 ABOVE THE EARTH OR 2 INCHES ABOVE PAVED AREAS & SHALL BE OF A TYPE ALLOWING TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. (CRC R703.7.2.1)
- WINDOW ASSEMBLIES, PENETRATIONS AND TERMINATIONS OF EXTERIOR WALL ASSEMBLIES, EXTERIOR WALL INTERSECTIONS WITH 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 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)

A MINIMUM OF ONE LAYER OF NO. 15 ASPHALT FELT SHALL BE ATTACHED TO STUDS OR SHEATHING OF ALL EXTERIOR

- 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
- 9.8 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, OR

ROVED 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, 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). USE AN APPROVED BASE MATERIAL AT BATHTUB & SHOWER WALLS AND USE ASPHALTIC MEMBRANE MATERIAL AT SHOWER 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

10 SPECIALTIES

CRC §R702 (CRC R702.1)

- 10.1 CONSTRUCTION OF MASONRY FIREPLACES AND/OR CHIMNEYS. CONSISTING OF CONCRETE OR MASONRY, SHALL BE IN
- 10.2 FACTORY-BUILT ELECTRIC FIREPLACES SHALL BE LISTED & LABELED AND SHALL BE INSTALLED IN ACCORDANCE WITH THE CONDITIONS OF THE LISTING AND APPLICABLE BUILDING CODES. 10.3 CHIMNEY CLEARANCE OF MINIMUM 2-FOOT REQUIRED ABOVE BUILDING WITHIN 10-FOOT HORIZONTALLY OF CHIMNEY. 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
- (CRC R1004.3 & R1005.2) INTERIOR ACCESSORIES
- COOLING EQUIPMENT SPECIFICATIONS AND REQUIREMENTS. INSTALL KITCHEN, BATH & OTHER CABINETS AS SHOWN ON THE DRAWINGS. CABINET TYPE, FINISH & DESIGN TO BE AS SHOWN ON THE DRAWINGS OR AS SELECTED BY THE PROJECT OWNER.

- 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 AVAILABLE AT NECESSARY INTERVALS FOR BUILDING INSPECTOR REVIEW. FINAL COMPLETED FORMS WILL BE AVAILABLE FOR THE
- 14.1 THE PLUMBING SYSTEM INSTALLATION & OPERATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS & SHALL MEET
- CALIFORNIA BUILDING, RESIDENTIAL & PLUMBING CODE REQUIREMENTS. (CBC, CRC, CPC 14.2 PROVIDE A MINIMUM CLEARANCE OF 30" WIDE BY 24" DEEP IN FRONT OF WATER CLOSETS. (CPC 402.5) 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) ALL PLUMBING FIXTURES AND FITTINGS SHALL COMPLY WITH THE FOLLOWING WATER CONSERVING REQUIREMENTS PER CALGREEN 4.303.1 & CPC 401.3:
- 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

MINUTE AT 20 PSI

- 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 FOR ADDITIONS OR IMPROVEMENTS TO A RESIDENCE BUILT BEFORE 1994 - EXISTING "NONCOMPLIANT" FIXTURES (TOILETS THA
- USE MORE THAN 1.6 GALLONS 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 EM 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.
- 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 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
- FACHED DIRECTLY TO FRAMING. STRAPS SHALL BE AT POINTS WITHIN UPPER 1/3 & LOWER 1/3 THIRD OF THE WATE 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

14. 12 ALL HOSE BIBBS & LANDSCAPE IRRIGATION SYSTEMS SHALL HAVE APPROVED BACKFLOW PREVENTION DEVICES. (CPC 603.3)

- 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).
- 15 MECHANICAL AND VENTILATION 15.1 ALL BATHROOMS, LAUNDRY ROOMS & SIMILAR ROOMS SHALL BE PROVIDED WITH NATURAL VENTILATION OR A MECHANICAL VENTILATION SYSTEM CAPABLE OF PROVIDING 5 AIR CHANGES PER HOUR, ALL SUCH ENERGY STAR COMPLIANT FAN SYSTEMS EXHAUSTING AIR FROM THE BUILDING ENVELOPE TO THE OUTSIDE SHALL BE PROVIDED WITH BACKDRAFT DAMPERS

INSTALLED TO PREVENT AIR LEAKAGE (CBC 1202.5.2.1.& CMC 402.5.CALGREEN 4.506)

MAXIMUM. (CBC SECTION 1202.2.2)

RATED AIRFLOW EXCEEDS 400 CFM.

IN A SLOPED CEILING.

PROTECTION. (CRC R315.6)

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

- 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). 15.3 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) 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) VENT OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANCE METAL MESH WITH OPENINGS 1/8" IN DIMENSION
- PASSAGEWAY TO THE MECHANICAL FOLIPMENT IN ATTIC OR LINDER FLOOR SHALL BE LINDRSTRUCTED & 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 VENTILATION AND INDOOR AIR QUALITY (ASHRAE 62.2-2010)
- 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

FAN FLOW WHEN MEASURED AT 0.1 IN. W.C. USING CALIFORNIA TITLE 24 OR EQUIVALENTS. (CBEES 150.0(O))

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

C. INTERMITTENTLY OPERATED LOCAL EXHAUST FANS SHALL BE RATED AT MAXIMUM OF 3.0 SONE, UNLESS THEIR MAXIMUM

ELECTRICAL CIRCUITS IN BEDROOMS, LIVING ROOMS, DINING ROOMS, DENS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS MUST

- 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 (ENTILATION EXHAUST REQUIREMENT SHALL BE RATED IN TERMS OF AIRFLOW AND SOUND. (CBEES 150.0(O)) A. ALL CONTINUOUSLY OPERATING FANS SHALL BE RATED AT A MAXIMUM OF 1.0 SONE B. INTERMITTENTLY OPERATED WHOLE-BUILDING VENTILATION FANS SHALL BE RATED AT A MAXIMUM OF 1.0 SONE.
- D. REMOTELY LOCATED AIR-MOVING EQUIPMENT (MOUNTED OUTSIDE OF HABITABLE SPACES) NEED NOT MEET SOUND REQUIREMENTS IF AT LEAST 4' OF DUCTWORK BETWEEN FAN AND INTAKE GRILI

16.1 ALL ELECTRICAL INSTALLATION SHALL MEET 2022 CALIFORNIA ELECTRICAL CODE REQUIREMENTS. (CEC)

BE PROTECTED BY ARC FAULT CIRCUIT INTERRUPTERS (AFCI). (CEC 210.12)

B. PHOTO CONTROL AND AUTOMATIC TIME SWITCH CONTROL; OR

- 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 PROPERTY. 16.3 RECEPTACLE OUTLET LOCATION PER CEC ARTICLE 210 BRANCH CIRCUITS, SECTION 210.52. (CEC 210.52)
- 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 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 (CEC 210-52(D)
- 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

16. 10 INSTALLED LUMINAIRES SHALL MEET THE EFFICACY & FIXTURE REQUIREMENTS OF CBEES 150.0(K).

16.7X TAMPER RESISTANT RECEPTACLES ARE REQUIRED FOR ALL LOCATIONS DESCRIBED IN 210.52 (I.E. ALL RECEPTACLES IN A

- 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, ANI ANY 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
- 6.13 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 LITHLITY ROOM MUST BE CONTROLLED BY A VACANCY SENSOR, PRESET SCENE CONTROLLERS AND EMCS CAN TAKE THE PLACE OF SENSORS AND DIMMERS AS LONG AS THE FUNCTIONALITY MEETS THE ENERGY CODE REQUIREMENTS. (CEC 6.3.1 F)

REQUIREMENTS OF, AND BE MARKED AS, JA8-2019 HIGH EFFICACY LUMINAIRES. (CEC 6.2.1 & 6.2.2

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 AUTOMATIC CONTROL TYPES: A. PHOTO CONTROL AND MOTION SENSOR: OR

16. 15 RECESSED LIGHTS SHOWN IN SLOPED CEILINGS SHALL BE A MODEL DESIGNED TO PROVIDE A PERPENDICULAR LIGHT SOURCE

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 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

SYSTEM, MUST BE PROVIDED TO THE HOMEOWNER PRIOR TO A FINAL INSPECTION. (CEC 6.9.1)

TE AND MAINTAIN THE LIGHTING SYSTEM, AND REFERENCES TO SUPPORT FUTURE UPGRADES TO THE LIGHTING

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)

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 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 BUILDING WIRING & SHALL BE EQUIPPED WITH A

16, 23 CARBON MONOXIDE DETECTORS ARE REQUIRED OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF

SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVER-CURREN

16. 25 WHERE MORE THAN ONE SMOKE, CARBON MONOXIDE OR 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

BATTERY BACKUP. SMOKE DETECTORS MAYBE SOLELY BATTERY POWERED WHEN INSTALLED IN EXISTING BUILDINGS. (CRC

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

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)

FOR CITY STAMPS

PREPARER SIGNATURE

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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3 BEDROOM **PRADU**

GENERAL

SPECIFICATIONS

ANAHEIM

202409R

FOR CITY STAMPS

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER

CHAPTER 3 **GREEN BUILDING SECTION 301 GENERAL 301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7. 301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration. The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application. Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section. Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates. 301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] - NOT USED **SECTION 302 MIXED OCCUPANCY BUILDINGS 302.1 MIXED OCCUPANCY BUILDINGS. - NOT USED DIVISION 4.1 PLANNING AND DESIGN ABBREVIATION DEFINITIONS:** Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development High Rise Additions and Alterations **CHAPTER 4 RESIDENTIAL MANDATORY MEASURES SECTION 4.102 DEFINITIONS** 4.102.1 DEFINITIONS The following terms are defined in Chapter 2 (and are included here for reference) FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water. WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls. 4.106 SITE DEVELOPMENT 4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section. 4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site. 1. Retention basins of sufficient size shall be utilized to retain storm water on the site. 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency. 3. Compliance with a lawfully enacted storm water management ordinance. Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html) 4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following: . Water collection and disposal systems 3. French drains Water retention gardens 5. Other water measures which keep surface water away from buildings and aid in groundwater **Exception**: Additions and alterations not altering the drainage path. 4.106.4 Electric vehicle (EV) charging for new construction. - NOT USED 4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. - NOT USED 4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings. - NOT USED DIVISION 4.2 ENERGY EFFICIENCY **4.201.1 SCOPE.** For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION 4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates. 4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets. Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush. 4.303.1.2 Urinals. - NOT USED 4.303.1.3 Showerheads. 4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads. **4.303.1.3.2** Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only

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

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

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi. 4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. - NOT USED 4.303.1.4.3 Metering Faucets. - NOT USED **4.303.1.4.4 Kitchen Faucets.** The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per Note: Where complying faucets are unavailable, aerators or other means may be used to achieve 4.303.1.4.5 Pre-rinse spray valves. - NOT USED 4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings. - NOT USED **4.303.3 Standards for plumbing fixtures and fittings.** Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code. THIS TABLE COMPILES THE DATA IN SECTION 4.303.1. AND IS INCLUDED AS A CONVENIENCE FOR THE USER. TABLE - MAXIMUM FIXTURE WATER USE **FIXTURE TYPE FLOW RATE** 1.8 GMP @ 80 PSI SHOWER HEADS (RESIDENTIAL) MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 LAVATORY FAUCETS (RESIDENTIAL) LAVATORY FAUCETS IN COMMON & PUBLIC 0.5 GPM @ 60 PSI USE AREAS 1.8 GPM @ 60 PSI KITCHEN FAUCETS METERING FAUCETS 0.2 GAL/CYCLE 1.28 GAL/FLUSH WATER CLOSET 0.125 GAL/FLUSH URINALS 4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/ DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE **EFFICIENCY** 4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE 4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing 4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING 4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. **Exceptions:** Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably

3. The enforcing agency may make exceptions to the requirements of this section when isolated

jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.

2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or

3. Identify diversion facilities where the construction and demolition waste material collected will be

4. Identify construction methods employed to reduce the amount of construction and demolition waste

5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1. Note: The owner or contractor may make the determination if the construction and demolition waste

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4..

1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in

documenting compliance with this section. 2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

materials will be diverted by a waste management company.

4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact

disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. 2. Operation and maintenance instructions for the following:

a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major

b. Roof and yard drainage, including gutters and downspouts. c. Space conditioning systems, including condensers and air filters. d. Landscape irrigation systems.

e. Water reuse systems.

requirement in Section 4.408.1

3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.

 Public transportation and/or carpool options available in the area. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range. 6. Information about water-conserving landscape and irrigation design and controllers which conserve 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation. 8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc. 9. Information about state solar energy and incentive programs available. 10. A copy of all special inspections verifications required by the enforcing agency or this code. 11. Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures. 12. Information and/or drawings identifying the location of grab bar reinforcements. 4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive **Exception:** 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

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

SECTION 4.502 DEFINITIONS

The following terms are defined in Chapter 2 (and are included here for reference)

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door

cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements. COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and

medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood. structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere. MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O³/g ROC).

Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood. PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves,

4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING **CONSTRUCTION.** At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements 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.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

Manufacturer's product specification. Field verification of on-site product containers.

4.504.3 CARPET SYSTEMS. All carpet installed in the building interior 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.

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

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior 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 (Emission testing method for California Specification 01350)

See 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) 4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard

composite wood products used on the interior or exterior of the buildings shall meet the requirements for 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

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:

1. 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.

California Residential Code, Chapter 5, shall also comply with this section.

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

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

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.

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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PRADU

3 BEDROOM

CITY: ANAHEIM

202409R

CAL GREEN CHECKLIST

BIORETENTION DETAIL

FOR STANDARD PROJECTS ONLY

A - SURFACE FLOW WITH SPILL WAY department notes:

site plan notes:

FIRE ACCESS ROADWAYS

CAPABILITIES.

SITE PLAN SHALL PROVIDE DIMENSIONS SHOWING REQUIRED FIRE

UNOBSTRUCTED IMPROVED WIDTH OF NOT LESS THAN 24 FEET,

HAZARD SEVERITY ZONE SHALL HAVE A MINIMUM OF 20 FEET OF

UNOBSTRUCTED IMPROVED WIDTH, 2, SINGLE-FAMILY RESIDENTIAL

SHALL HAVE A MINIMUM OF 16 FEET OF UNOBSTRUCTED IMPROVED

EXCEPTIONS: 1. RESIDENTIAL DWELLINGS NOT IN THE VERY HIGH FIRE

DRIVEWAYS SERVING NO MORE THAN TWO SINGLE-FAMILY DWELLINGS

• 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

• GATED ENTRANCES WITH CARD READERS, GUARD STATIONS OR

EXISTING LEGAL LOTS THAT HAVE EASEMENT ACCESS ROADWAYS

EMERGENCY VEHICLE INGRESS AND EGRESS PURPOSES AND SHALL

STRUCTURE WITHIN 5 FEET OF THE EXISTING ACCESS EASEMENT

RELINQUISH RIGHTS TO BUILD ANY BUILDING WALL FENCE OR OTHER

• ALL DEAD END FIRE APPARATUS ACCESS ROADWAYS IN EXCESS OF

CUIL-DE-SAC, THE MINIMUM UNORSTRUCTED PAVED RADIUS WIDTH FOR

PARKING. ALTERNATE TYPES OF TURN-AROUND (HAMMERHEADS, ETC.)

TO PROVIDE A BOUNDARY SURVEY REPORT. CONCRETE PLACEMENT

COMPLIANCE TO THE APPROVED PLANS IS PROVIDED TO THE BUILDING

COMPLETE ENCINITAS BOUNDARY LAND SURVEY FORM AND PROVIDE IT

1803.5.12 WHICH REQUIRES A SOILS REPORT FOR ALL PROJECTS, WITH

A CUL-DE-SAC SHALL BE 36 FEET CURB LINE TO CURB LINE WITH NO

MAY BE CONSIDERED BY THE FIRE MARSHAL AS NEEDED TO

WILL NOT BE APPROVED UNTIL A BOUNDARY SURVEY SHOWING

DIVISION. A CALIFORNIA LICENSED SURVEYOR IS REQUIRED TO

TO THE BUILDING INSPECTOR AT THE FOUNDATION INSPECTION.

REQUIREMENTS FOR ROOM ADDITIONS UNDER 500 SQUARE FEET IN

ACCORDANCE WITH CBC SEC 1803 1 1 1 WHICH STATES THAT IF THE

ALL INDEPENDENT STRUCTURES OUTSIDE OF A CERTIFIED PAD WILL

REPRESENTS THE SUITABILITY OF THE SITE SOILS FOR THE PROPOSED

NEIGHBORING PROPERTIES. IN ADDITION TO THE ABOVE, THE BUILDING

OFFICIAL MAY WAIVE THE SOILS REPORT REQUIREMENT IN CERTAIN

A SOILS REPORT OR SOILS LETTER PREPARED BY A SOIL'S ENGINEER

B. THE CITY HAS A COMPACTION REPORT ON RECORD FOR THE SITE.

D. OTHER CIRCUMSTANCES SUBJECT TO REVIEW AND APPROVAL BY

THAT ADDRESSES THE SUITABILITY OF THE SITE SOIL FOR THE

A. STRUCTURE IS TO BE CONSTRUCTED ON A CERTIFIED PAD.

PROPOSED ADU IS REQUIRED BY THE CITY OF ANAHEIM.

C. THE CITY HAS A SOIL'S REPORT ON FILE FOR THE SITE.

swimming pool notes:

F THE PROPERTY WHERE THE ADU IS TO BE LOCATED

SWIMMING POOL SAFETY SHALL COMPLY WITH SECTION 3109.4 CBC (INCLUDING

• POOL SHALL BE COMPLETELY ENCLOSED BY A BARRIER COMPLYING WITH

• SHALL COMPLY WITH SECTION 3109.4.4.2: POOL SHALL BE EQUIPPED WITH

TWO OF THE FOLLOWING SEVEN DROWNING PREVENTION SAFETY FEATURES:

SP2 THE POOL SHALL INCORPORATE REMOVABLE MESH POOL FENCING

SP3 THE POOL SHALL BE EQUIPPED WITH AN APPROVED SAFETY POOL

SP5 ALL DOORS PROVIDING DIRECT ACCESS FROM THE HOME TO THE

THE WATER THESE POOL ALARMS SHALL MEET AND BE

SWIMMING POOL SHALL BE EQUIPPED WITH A SELF-CLOSING,

SP6 SWIMMING POOL ALARMS THAT, WHEN PLACED IN POOLS, WILL SOUND

SPECIFICATION FOR POOL ALARMS" WHICH INCLUDES SURFACE

INDIVIDUAL USE, SUCH AS AN ALARM ATTACHED TO A CHILD THAT

SOUNDS WHEN THE CHILD EXCEEDS A CERTAIN DISTANCE OR

SP7 OTHER MEANS OF PROTECTION, IF THE DEGREE OF PROTECTION

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

DOORS PROVIDING DIRECT ACCESS TO THE POOL

SELF-LATCHING DEVICE WITH A RELEASE

BECOMES SUBMERGED IN WATER.

THE POOL SHALL BE ISOLATED FROM ACCESS TO A HOME BY AN

ENCLOSURE THAT MEETS THE REQUIREMENTS OF SECTION 3109.4.4.3.

THAT MEETS AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

THAT IS SELF CLOSING AND SELF-LATCHING AND CAN ACCOMMODATE A

COVER THAT MEETS ALL REQUIREMENTS OF THE ASTM SPECIFICATIONS

MECHANISM PLACED NO LOWER THAN 54 INCHES (1372 MM) ABOVE THE

UPON DETECTION OF ACCIDENTAL OR UNAUTHORIZED ENTRANCE INTO

INDEPENDENTLY CERTIFIED TO THE ASTM STANDARD 2208 "STANDARDS

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

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

SPECIFICATIONS F2286 STANDARDS IN CONJUNCTION WITH A GATE

HAS A SWIMMING POOL, THE POOL MUST MEET THE

THE BUILDING OFFICIAL ON A CASE-BY-CASE BASIS.

REQUIRE A LIMITED SOILS REPORT INCLUDING DETACHED ADUS

ALTERNATIVELY, A SOILS LETTER SHALL BE PREPARED THAT

ADU. BASED ON THE SOIL ENGINEER'S KNOWLEDGE OF THE

BUILDING DIVISION HAS KNOWLEDGE OF THE SOIL QUALITIES FOR THAT

THE CITY OF ANAHEIM REQUIRES A SOILS REPORT, PER CBC SE

THE CITY MAY EXEMPT A PROJECT FROM THE SOILS REPORT

ACCOMPLISH THE INTENT OF THE FIRE CODE.

EXCEPTIONS GRANTED ON A CASE-BY-CASE BASIS

APPLIED TO AN ADU UNDER 500 SQUARE FEET.

SCENARIOS ON A CASE-BY-CASE BASIS.

EXCEPTION:

KEY LOCKABLE DEVICE.

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

LESS THAN 20 FEET WIDE THAT PROVIDE PRIMARY ACCESS TO OTHER

LOTS SHALL RECORD A COVENANT GRANTING EASEMENT RIGHTS FOR

CENTER MEDIANS WHICH HAVE SEPARATED LANES OF ONE-WAY

TRAFFIC. SHALL BE NOT LESS THAN 14 FEET WIDE PER LANE.

SCALE SHOWING THE FOLLOWING: NORTH ARROW, PROPERTY LINES, B1 SURFACE WATER WILL DRAIN AWAY FROM BUILDING, THE GRADE SHALL EASEMENTS, STREETS, EXISTING AND PROPOSED BUILDINGS, AND FALL A MINIMUM OF 6" WITHIN THE FIRST 10 FEET. SECTION R401.3 STRUCTURES, LOCATION OF YARDS USED FOR ALLOWABLE INCREASE CONCRETE WASHOUT B2 COMPLIANCE WITH THE DOCUMENTATION REQUIREMENTS OF THE 2022 OF BUILDING AREA, DIMENSIONED SETBACKS, MINIMUM SEPARATION ENERGY EFFICIENCY STANDARDS IS NECESSARY FOR THIS PROJECT. FROM EXISTING STRUCTURES AND FUEL MODIFICATION ZONES. REGISTERED, SIGNED, AND DATED COPIES OF THE APPROPRIATE CF1R, UNIFORM ADMINISTRATIVE CODE SECTION 302. CF2R, AND CF3R FORMS SHALL BE MADE AVAILABLE AT NECESSARY IF A GRADING PLAN IS REQUIRED, INCORPORATE THE ENTIRE APPROVED INTERVALS FOR BUILDING INSPECTOR REVIEW. FINAL COMPLETED FORMS GRADING/IMPROVEMENT PLAN (ALL SHEETS) WITH THE BUILDING PLANS.

WILL BE AVAILABLE FOR THE BUILDING OWNER B3 PROJECTIONS, INCLUDING EAVES, MUST BE AT LEAST 24" FROM A PROPERTY LINE. TABLE R302.1 **ENGINEERING**

1 OWNER IS TO OBTAIN A CONSTRUCTION PERMIT FROM THE ENGINEERING 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 NOTICE AND DOUBLE PERMIT FEES. IT IS THE RESPONSIBILITY OF THE OWNER TO KNOW THE LOCATION OF THE PROPERTY LINES.

ALL UTILITIES SERVING THE ADU FROM THE RESIDENCE SHALL BE INSTALLED UNDERGROUND. 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 DRAINAGE FACILITY E4 EARTHWORK, CUT OR FILL, WHICH IS OVER 50 CUBIC YARDS, REQUIRES AN

ADDITIONAL ENGINEERING GRADING PERMIT. PROVIDE EARTHWORK QUANTITIES: CUBIC YARDS CUT, _ CUBIC YARDS FILL, _ CUBIC YARDS IMPORT/EXPORT

CUBIC YARDS OVER-EXCAVATION AND RE-COMPACTION E5 EROSION CONTROL MEASURES (E.G. BONDED FIBER MATRIX, VEGETATIVE COVER, JUTE MATTING) MUST BE IMPLEMENTED WHERE APPLICABLE TO PREVENT SOIL EROSION ON SITE, SEDIMENT CONTROL MEASURES (E.G. SIL FENCING, FIBER ROLLS, DETENTION BASINS) MUST BE IN PLACE TO PREVENT 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 DOWNSTREAM (E.G. CONCRETE OR STUCCO WASHOUT AREAS, COVERED STORAGE AREAS FOR HAZARDOUS MATERIALS, PLACEMENT OF PORTABLE TOILETS OVER A PERVIOUS SURFACE). F6 NO DIRECTLY CONNECTED IMPERVIOUS AREAS (DCIA) SHALL BE ALLOWED

DCIA MEANS STORM RUNOFF GENERATED AND CONVEYED VIA IMPERVIOUS AREAS, SUCH AS ROOF, ROOF DRAIN, DRIVEWAY, AND STREET, BMP MEASURES SHALL BE IDENTIFIED ON THE SITE PLAN. MOST COMMON MEASURES ARE DESIGNATED TURF AREAS. WHICH RECEIVE ROOF DRAINS AND RUNOFF FROM IMPERVIOUS AREAS. TURF AND LANDSCAPED AREAS THAT ARE DESIGNED FOR BMP'S SHALL BE DELINEATED ON PLANS AND A NOTE PLACED ON PLANS PROHIBITING MODIFICATION OR REMOVAL OF THE

BMP LANDSCAPE AREAS WITHOUT A CITY PERMIT. 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 LANDSCAPE AREAS DESIGNATED FOR STORM WATER POLLUTION CONTROL SHALL NOT BE MODIFIED WITHOUT A PERMIT FROM THE CITY.

E8 TOTAL AREA OF NEW IMPERVIOUS SURFACE: TOTAL AREA OF REPLACED IMPERVIOUS SURFACES:

FIRE DEPARTMENT

F1 ADDRESS NUMBERS: STREET NUMBERS: APPROVED NUMBERS AND/OR 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 THEIR BACKGROUND, AND SHALL MEET THE FOLLOWING MINIMUM STANDARDS AS TO SIZE: 4" HIGH WITH A 3/8" STROKE FOR RESIDENTIAL BUILDINGS, 8" HIGH WITH A 1/2" STROKE FOR COMMERCIAL AND MULTI-FAMILY RESIDENTIAL BUILDINGS, 12" HIGH WITH A 1" STROKE FOR INDUSTRIAL BUILDINGS ADDITIONAL NUMBERS SHALL BE REQUIRED WHERE DEEMED NECESSARY BY THE FIRE MARSHAL SLICH AS REAR ACCESS. DOORS, BUILDING CORNERS, AND ENTRANCES TO COMMERCIAL CENTERS.

F2 SECURITY GATES. AN AUTOMATIC GATE ACROSS A FIRE ACCESS ROADWAY OR DRIVEWAY SHALL BE EQUIPPED WITH AN APPROVED EMERGENCY KEY-OPERATED SWITCH OVERRIDING ALL COMMAND FUNCTIONS & OPENING THE GATE WHERE THIS SECTION REQUIRES AN APPROVED KEY-OPERATED SWITCH IT MAY BE DUAL-KEYED OR FOUIPPED WITH DUAL SWITCHES PROVIDED TO FACILITATE ACCESS BY LAW ENFORCEMENT PERSONNEL. CFC SECTION 503.6 AMENDMENT • 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 F3 SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL CARBON MONOXIDE ALARMS TO MEET THE REQUIREMENTS OF CALIFORNIA RESIDENTIAL CODE RULES BELOW:

SECTION R315 • INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT 3109.4.4) INCLUDING: HAVE ATTACHED GARAGES. • WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE SECTIONS 3109.4.1 THRU 3109.4.3. 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

MONOXIDE DETECTORS CAN BE SOLELY BATTERY POWERED F4 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.

F5 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 SP4 THE RESIDENCE SHALL BE EQUIPPED WITH EXIT ALARMS ON THOSE

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

*WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE SMOKE DETECTORS CAN BE SOLELY BATTERY POWERED ONLY. F6 VENT OPENINGS SHALL BE COVERED WITH A NONCOMBUSTIBLE AND CORROSION RESISTANT WIRE MESH WITH MESH OPENINGS OF A MINIMUM OF 1/16" AND SHALL NOT EXCEED 1/8"

PLANNING DEPARTMENT

THE UPPER LEVEL

P1 THE AVERAGE LOT SLOPE IS ______% WITHIN THE BUILDING ENVELOPE AREA. P2 THE DETACHED ACCESSORY UNIT MUST BE SEPARATED FROM THE MAIN 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 REQUIRED 4' SETBACK.

— 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

VEGETATED SWALE

"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

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

stormwater notes:

RELATIVE TO CONSTRUCTION ACTIVITIES

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

APPARATUS ACCESS ROADS. FIRE ACCESS ROADWAYS SHALL HAVE AN CONSTRUCTION SITE ACCESS 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

SW3 A SPECIFIC AREA AWAY FROM GUTTERS AND STORMDRAIN SHALL BE CUTS DESIGNATED FOR CONSTRUCTION VEHICLES PARKING VEHICLE 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 NO EXCAVATION AND GRADING ACTIVITIES ARE ALLOWED DURING WET

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.

AN ADU PLACED CLOSER THAN 5'-0" TO PROPERTY LINES IS REQUIRED ON-SITE CONSTRUCTION MATERIAL STORAGE 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 ELIMINATE OR REDUCE POLLUTION 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.

PROPERTY, THEN A REPORT IS NOT REQUIRED. THAT POLICY MAY BE TRAINING SW12 CONTRACTORS' EMPLOYEES WHO PERFORM CONSTRUCTION IN THE CITY OF ENCINITAS SHALL BE TRAINED TO BE FAMILIAR WITH THE CITY OF ENCINITAS STORMWATER POLITITION 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

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

CONCRETE, WOOD, AND CLEARED VEGETATION CAN BE RECYCLED

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.

FREQUENTLY FOR LEAKS. CONTRACTOR SHALL PROVIDE SECONDARY

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.

site plan information:

THE APPLICANT SHALL PROVIDE A DIMENSIONED SITE PLAN DRAWN TO STORMWATER POLLUTION CONTROL BMP NOTES CHECKLIST TO BE INCLUDED ON SITE PLAN

→ ALL EXTERIOR SITE BOUNDARIES CORRECTLY SCALED &

SCALE OF PLAN, GRAPHIC & WRITTEN

THE APPLICANT SHALL IMPLEMENT

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.

C - SITE DESIGN

LID CONCEPTS

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

LOCATE & DIMENSION ALL DRIVEWAYS, ACCESS ROADS, & CURB

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.)

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 \mid 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)

99.0' PROPOSED ONE STORY THREE BEDROOM PERIMETER, TYP FF = 100.0' - ROOF OVERHANG NEW ELECTRIC SUB-PANEL -NEW 6'HIGH WOOD FENCE TO DIVIDE REAR YARD, TYP SITE DRAINAGE DIRECTION ARROW, -EXISTING 6' HIGH WOOD FENCE AT SIDES AND REAR SURROUNDING PROPERTY, TYP 10.0 SYSB - BUILDING PERIMETER, TYP - ROOF OVERHANG, TYP - ADU ELECTRIC POC -PROPOSED UPGRADE TO ELECTRIC 225 AMP PANEL & **EXISTING TWO STORY** DUAL METER **SINGLE FAMILY** RESIDENCE FF = 100.0'SYSB SETBACK LINE, TYP - PROPERTY LINE, TYP — ADU WATER POC

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 CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF AN' 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

NEW CONCRETE

-ADU SEWER POC

ENTRY WALK OR

LANDING, TYP

LINE, TYP

----98.0

-EXISTING CONCRETE

- EXISTING TOPOGRAPHY

PROPOSED 50 SF

RETENTION BASIN

SEWER LATERAL

WATER METER

- EXISTING 6"

EXISTING 4'-6" WIDE

CONCRETE SIDEWALK

CONCRETE CURB, TYP

CENTERLINE, TYP

- EXISTING

CONCRETE DRIVEWAY

STORM WATER

LANDING, TYP

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

3 BEDROOM PRADU

CITY: ANAHEIM

202409R

SITE PLAN + **NOTES**

1 sample site plan scale: 1"=10'-0"

98.0'----

97.0'----

STREET NAME





T

_75.0',N <u>0°0'0"E</u> 99.0' PROPOSED 🎾 ONE STORY THREE BEDROOM ADU FF = 100.0' 10.0' SYSB TYP | - BUILDING PERIMETER, EXISTING TWO STORY
SINGLE FAMILY
RESIDENCE 0 10.0' 0 SYSB – SETBACK LINE, TYP – PROPERTY LINE,TYP – EXISTING TOPOGRAPHY LINE, TYP

1 sample average lot slope diagram



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

2. FOR LOTS THAT EXCEED AN AVERAGE LOT SLOPE OF 10% ADDITIONAL HEIGHT RESTRICTIONS WILL APPLY AS PER EMC 30.16

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.

P A R T N E R S

682SECONDST ENCINITAS,CA

(760)7532464 DZNPARTNERS.COM

3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

AVERAGE LOT SLOPE DIAGRAM

a0.5

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

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3 BEDROOM **PRADU** CITY: ANAHEIM

202409R

FLOOR PLAN +

REVERSE FLOOR

PLAN

a1.0

floor plan notes:

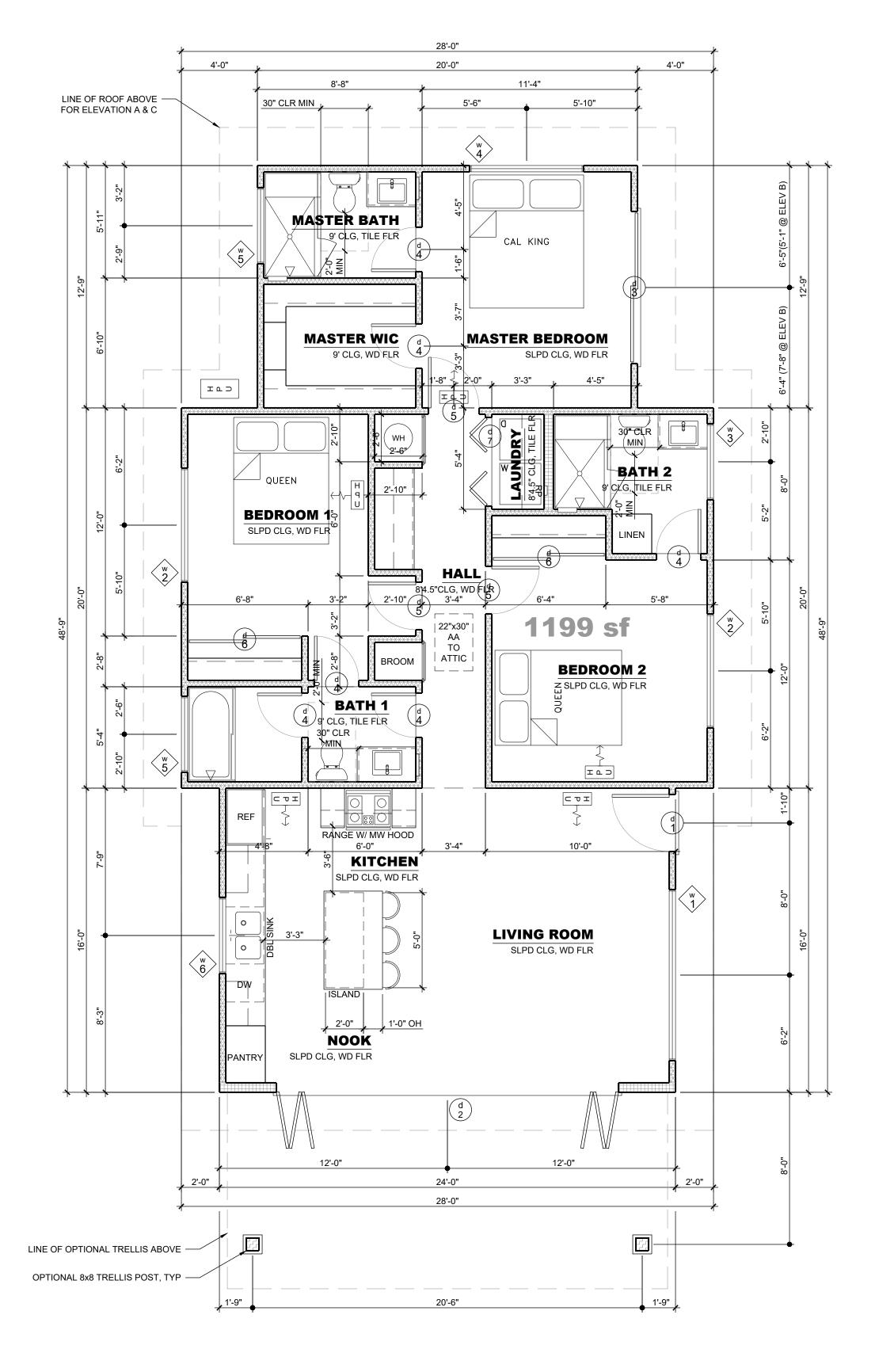
- SEE LEGENDS TO THE LEFT FOR SYMBOLS RELATING TO THE FLOOR PLAN.
- 2. SEE SHEET a0.1 FOR SCHEDULES RELATING TO THE FLOOR PLAN.

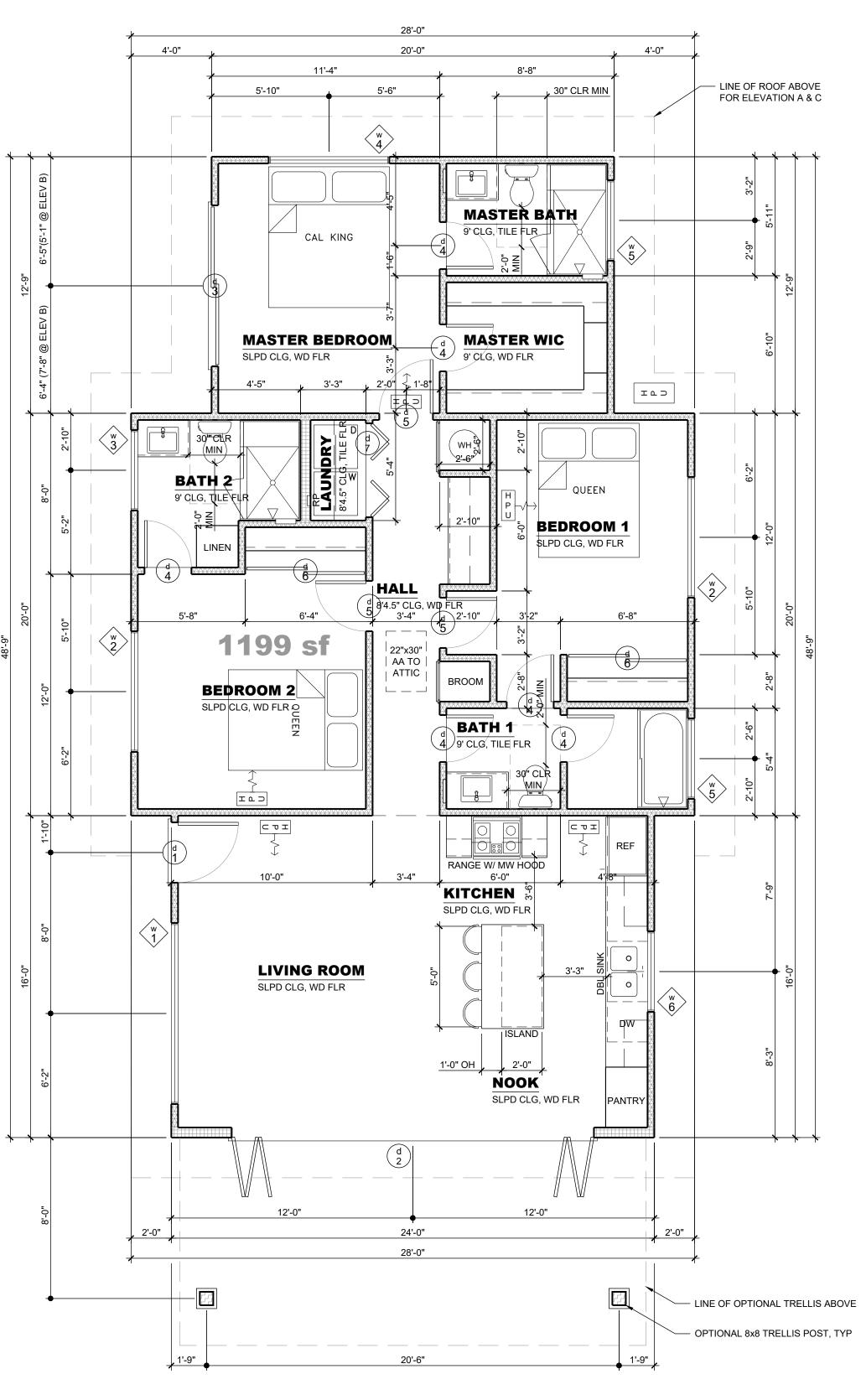
SET BACK LINE

FLOOR MATERIAL CHANGE

BUILDING SECTION LETTER SHEET NUMBER

- 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 WALL.
 - 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
- BOTTLES IN A WAINSCOT WALL. CLOSETS SHALL HAVE A SHELF AND POLE AS SHOWN ON THE FLOOR PLAN.

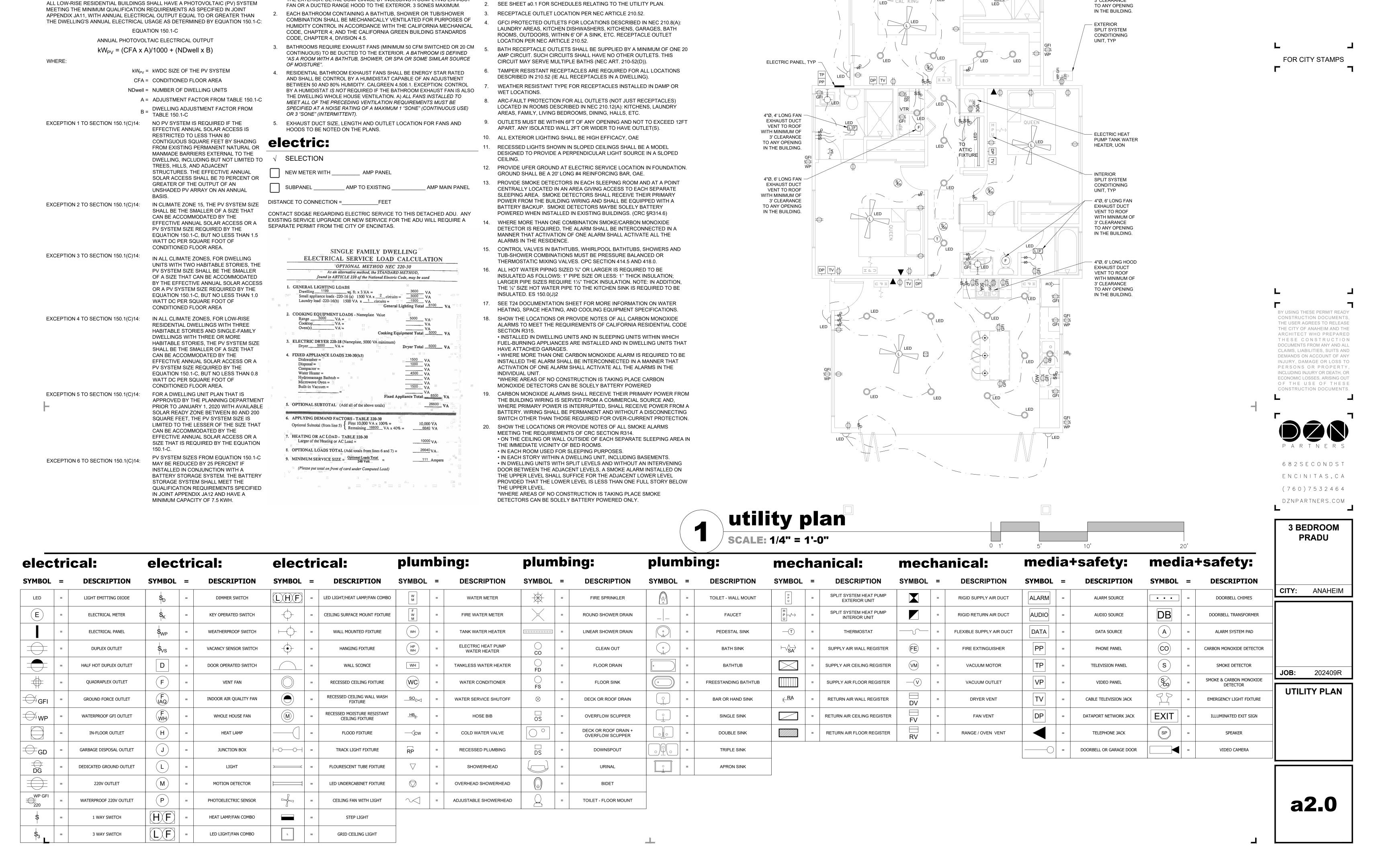




reverse floor plan SCALE: 1/4" = 1'-0"

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

• EACH SHOWER SHALL HAVE A 12" WIDE X 16" HIGH NICHE FOR SOAP AND SHAMPOO



'photovoltaic requirements:

2022 CALIFORNIA ENERGY CODE SECTION 150.1(c)14:

residential ventilation requirements: utility plan notes:

SEE LEGENDS BELOW FOR SYMBOLS RELATING TO THE UTILITY PLAN.

KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 100 CFM DUCTED TO

THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST

PREPARER SIGNATURE

- 4"Ø, 4' LONG FAN EXHAUST DUCT VENT TO ROOF

WITH MINIMUM OF

3' CLEARANCE

CAL KING

_ RIDGE_

2'-10", TYP

— OVER OPENING TRELLIS, TYP

- CORBEL PARAPET WALL,

— PAINTED METAL GUTTER W/ DOWNSPOUT, TYP

O'HAGIN FIRE & ICE

- HATCH INDICATES ATTIC AREA,

- ROOFING #1 PER ROOF MATERIAL CHECKLIST ON SHEET a0.1, TYP

- BEAM PROJECTION,

- ROOF PITCH TRANSITION LINE, TYP

— BUILDING PERIMETER, TYP

ROOFING #2 PER ROOF MATERIAL CHECKLIST

ON SHEET a0.1, TYP

ROOF DRAINAGE CRICKET, TYP

ROOF DRAIN WITH OVERFLOW, TYP

- TRELLIS, TYP

ROOF VENT, TYP

ROOF OUTLINE,

- ROOF OUTLINE, - PAINTED METAL **GUTTER W/** DOWNSPOUT, — O'HAGIN FIRE & ICE ROOF VENT, TYP - HATCH INDICATES ATTIC AREA, **₹**3:12 PITCH **₹**3:12 PITCH 3:12 PITCH — BUILDING PERIMETER, TYP ROOFING PER ROOF
 MATERIAL CHECKLIST ON SHEET a0.1, TYP

roof plan notes:

1. ALL ROOFING SHALL BE CLASS A RATED.

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

ATTIC VENTING PROVIDED: 3 sf [6 O'HAGIN VENTS @ 1/2 sf EACH]

3. ATTIC PROPOSED OF 373 sf

ATTIC VENTING REQUIRED: 373 sf / 150 = 2.49 sf VENT AREA

4. IF THE ADU IS IN THE VHFHSZ THE O'HAGIN ROOF VENTS SHALL BE O'HAGIN FIRE & ICE® LINE – FLAME AND EMBER RESISTANT ROOF VENTS

WHERE NO ATTIC IS PROPOSED DETAILS 86, 87 & 88/d0.4 PROVIDE INSULATION ALTERNATIVES.

FOR CITY STAMPS

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3 BEDROOM PRADU

CITY: ANAHEIM

202409R JOB:

ROOF PLAN A + **ROOF PLAN B**

a3.0

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

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

— PAINTED METAL GUTTER W/ DOWNSPOUT, 2'-0" OH — O'HAGIN FIRE & ICE ROOF VENT, TYP - HATCH INDICATES ATTIC AREA, **₹**3:12 PITCH 3:12 PITCH **₹**3:12 PITCH 3:12 PITCH > **₹**3:12 PITCH 3:12 PITCH BUILDING
PERIMETER,
TYP - ROOFING PER ROOF MATERIAL CHECKLIST ON SHEET a0.1, TYP

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

roof plan notes:

1. ALL ROOFING SHALL BE CLASS A RATED.

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

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- ROOF OUTLINE,

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3 BEDROOM PRADU

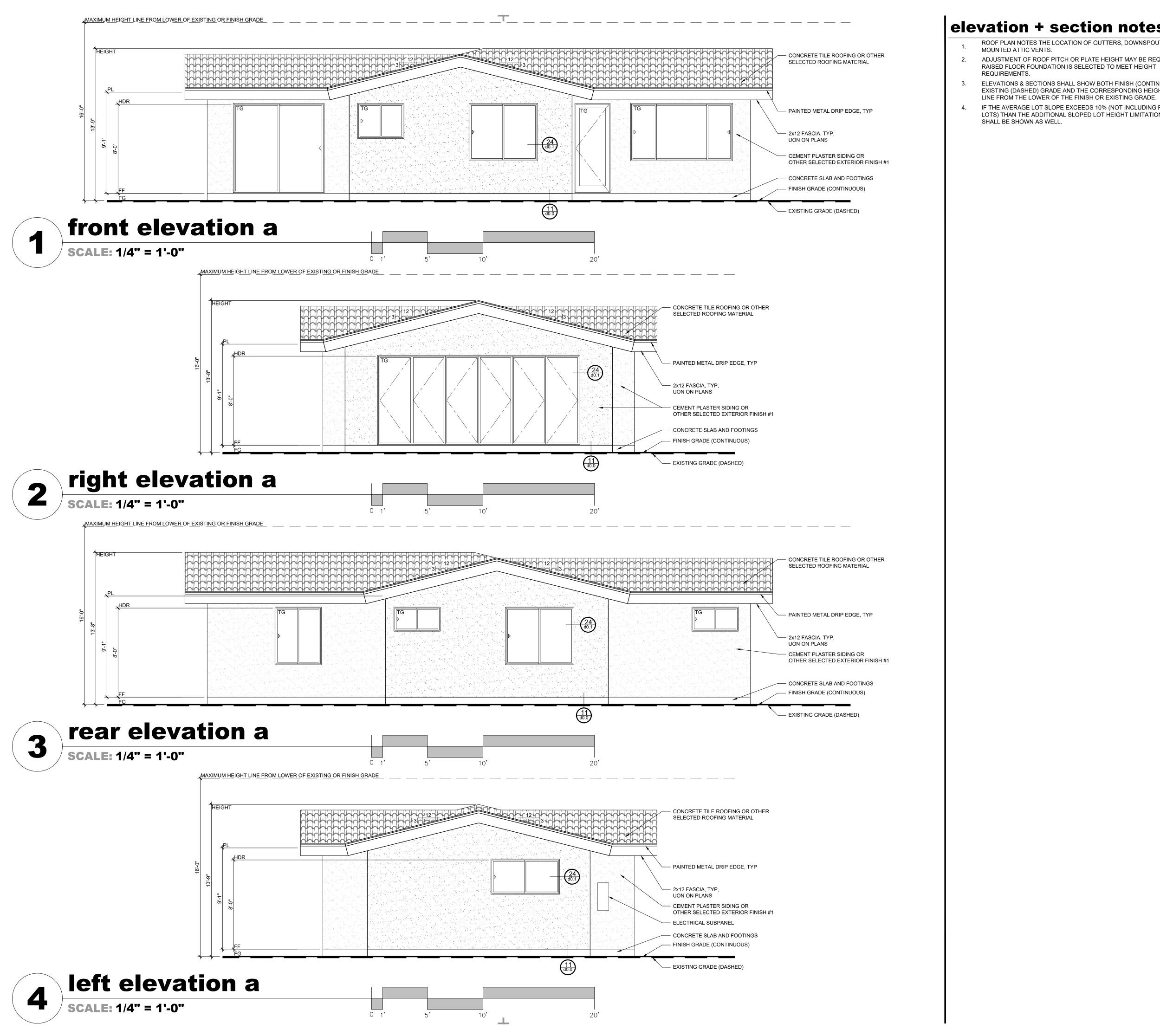
CITY: ANAHEIM

ROOF PLAN C

202409R

JOB:

a3.1



PREPARER SIGNATURE

elevation + section notes:

ROOF PLAN NOTES THE LOCATION OF GUTTERS, DOWNSPOUTS & ROOF

ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT

ELEVATIONS & SECTIONS SHALL SHOW BOTH FINISH (CONTINUOUS) & EXISTING (DASHED) GRADE AND THE CORRESPONDING HEIGHT LIMITATION

IF THE AVERAGE LOT SLOPE EXCEEDS 10% (NOT INCLUDING RR ZONED LOTS) THAN THE ADDITIONAL SLOPED LOT HEIGHT LIMITATION LINES

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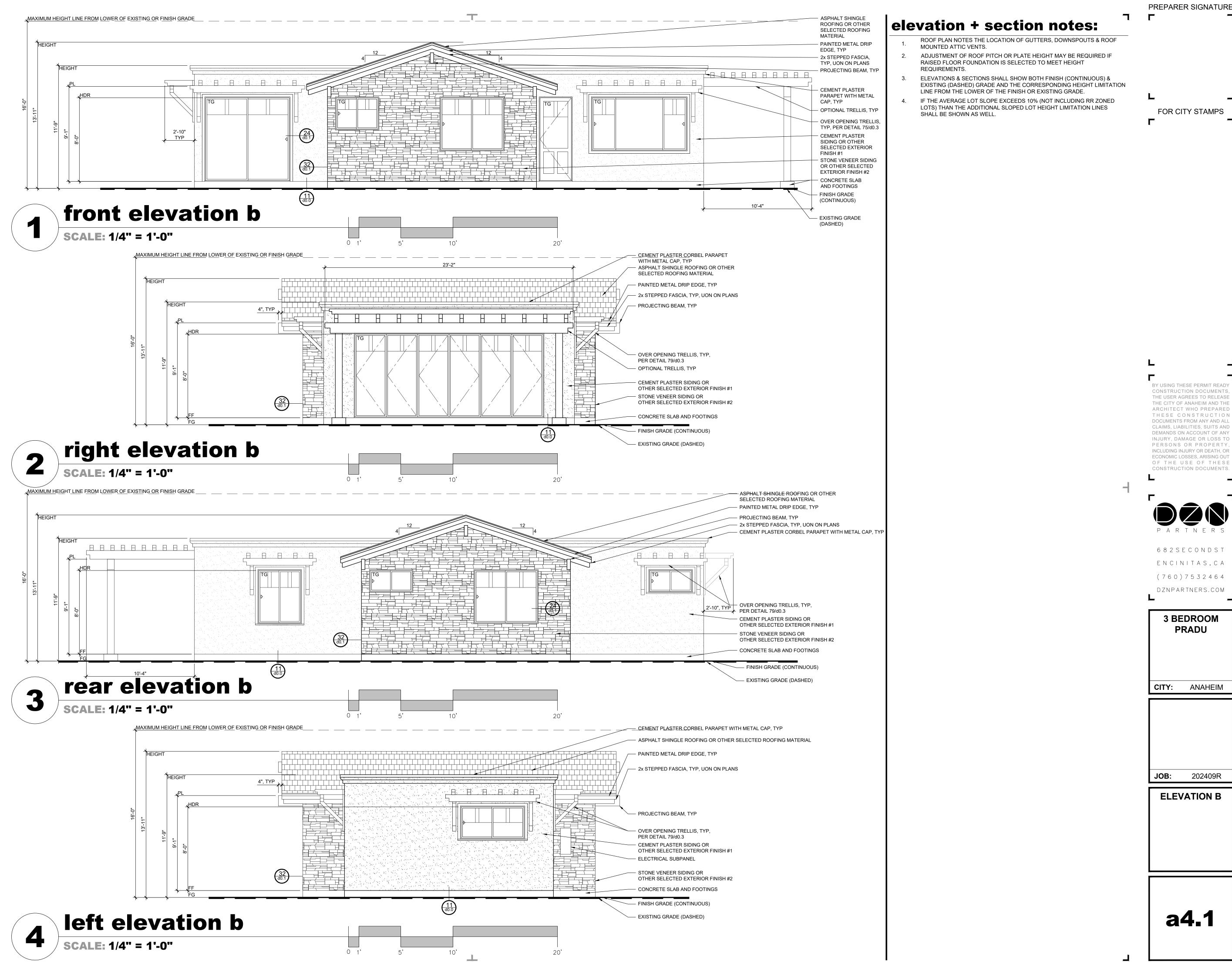
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ELEVATION A

a4.0



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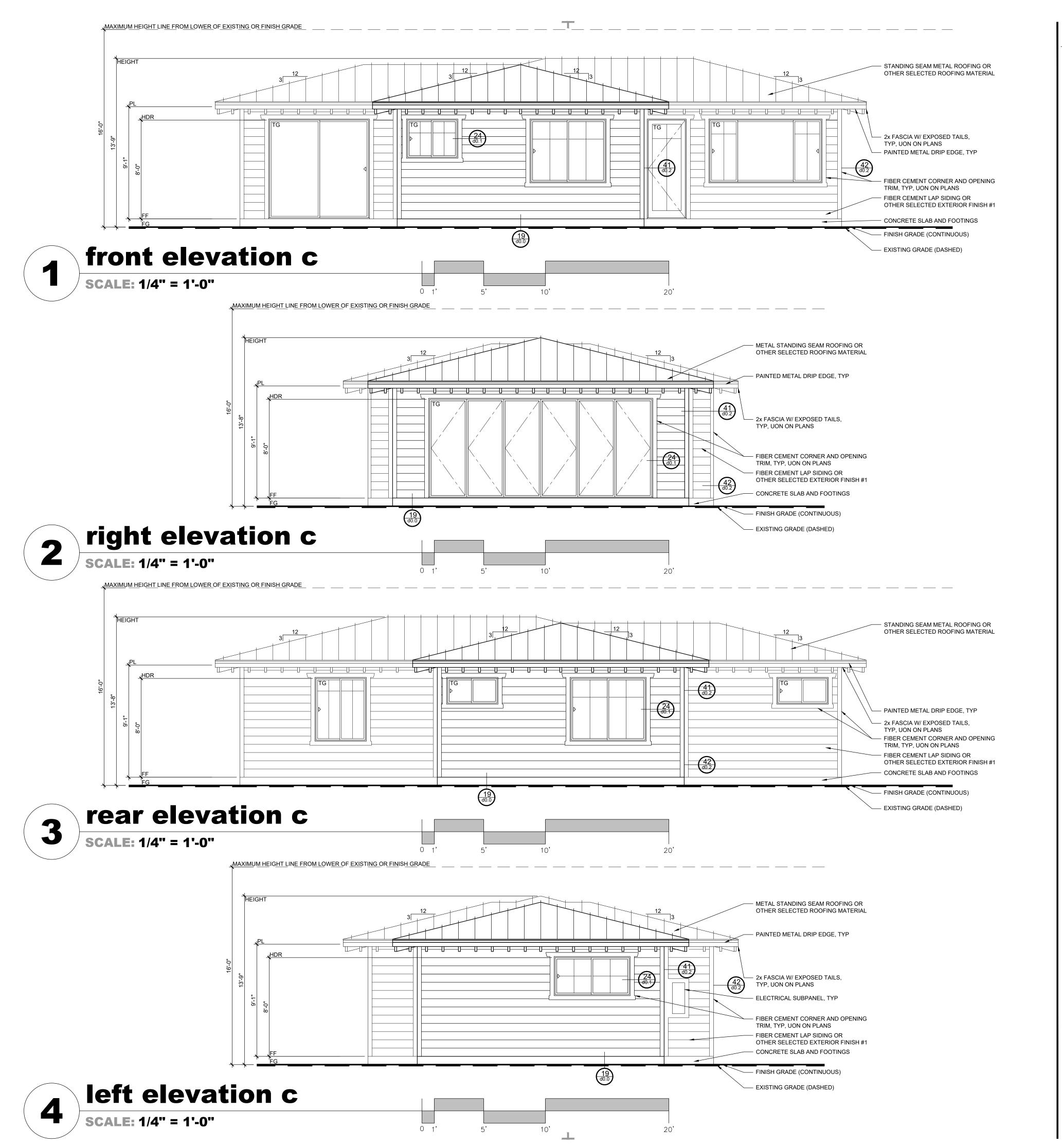
3 BEDROOM **PRADU**

CITY: ANAHEIM

202409R

ELEVATION B

a4.1



elevation + section notes:

1. ROOF PLAN NOTES THE LOCATION OF GUTTERS, DOWNSPOUTS & ROOF MOUNTED ATTIC VENTS.

2. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT REQUIREMENTS.

3. 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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> 3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

ELEVATION C

a4.2

ROOF PLAN NOTES THE LOCATION OF GUTTERS, DOWNSPOUTS & ROOF REQUIREMENTS.

MOUNTED ATTIC VENTS. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT ELEVATIONS & SECTIONS SHALL SHOW BOTH FINISH (CONTINUOUS) &

elevation + section notes:

0. SECTIONS A & B FOR ELEVATION A

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3 BEDROOM PRADU

EXISTING (DASHED) GRADE AND THE CORRESPONDING HEIGHT LIMITATION LINE FROM THE LOWER OF THE FINISH OR EXISTING GRADE. FOR CITY STAMPS 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.

MAXIMUM HEIGHT LINE FROM LOWER OF EXISTING OR FINISH GRADE ROOFING PER ROOF MATERIAL CHECKLIST 1/2" PLYWOOD ROOF SHEATHING, TYP THE THE RESERVE OF THE PROPERTY OF THE PROPERT 2x6 CEILING JOISTS @ 16" OC -— EXTERIOR WALL FINISH — 2x10 ROOF RAFTERS @ 16" OC - R-15 BATT INSULATION, TYP - 2x4 STUDS @ 16" OC — R-30 BATT INSULATION, TYP — INTERIOR CEILING FINISH INTERIOR WALL FINISH **LIVING ROOM** HALL **MASTER BEDROOM** FINISH GRADE (CONTINUOUS) — EXISTING GRADE (DASHED) — CONCRETE SLAB AND FOOTINGS — VAPOR BARRIER

section a **SCALE: 1/4" = 1'-0"**

— INTERIOR WALL FINISH

BEDROOM 2

BATH 1

BEDROOM 1

INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE MAXIMUM HEIGHT LINE FROM LOWER OF EXISTING OR FINISH GRADE CITY: ANAHEIM ROOFING PER ROOF MATERIAL CHECKLIST — 1/2" PLYWOOD ROOF SHEATHING, TYP 2x6 CEILING JOISTS @ 16" OC — EXTERIOR WALL FINISH - 2x10 ROOF RAFTERS @ 24" OC — R-15 BATT INSULATION, TYP - R-30 BATT INSULATION, TYP — 2x4 STUDS @ 16" OC - INTERIOR CEILING FINISH

1 d0.0 — FINISH GRADE (CONTINUOUS)

- EXISTING GRADE (DASHED)

- VAPOR BARRIER

CONCRETE SLAB AND FOOTINGS

202409R JOB: **SECTION A**

a5.0

section b

elevation + section notes:

0. SECTIONS C & D FOR ELEVATION B

1. ROOF PLAN NOTES THE LOCATION OF GUTTERS, DOWNSPOUTS & ROOF MOUNTED ATTIC VENTS.

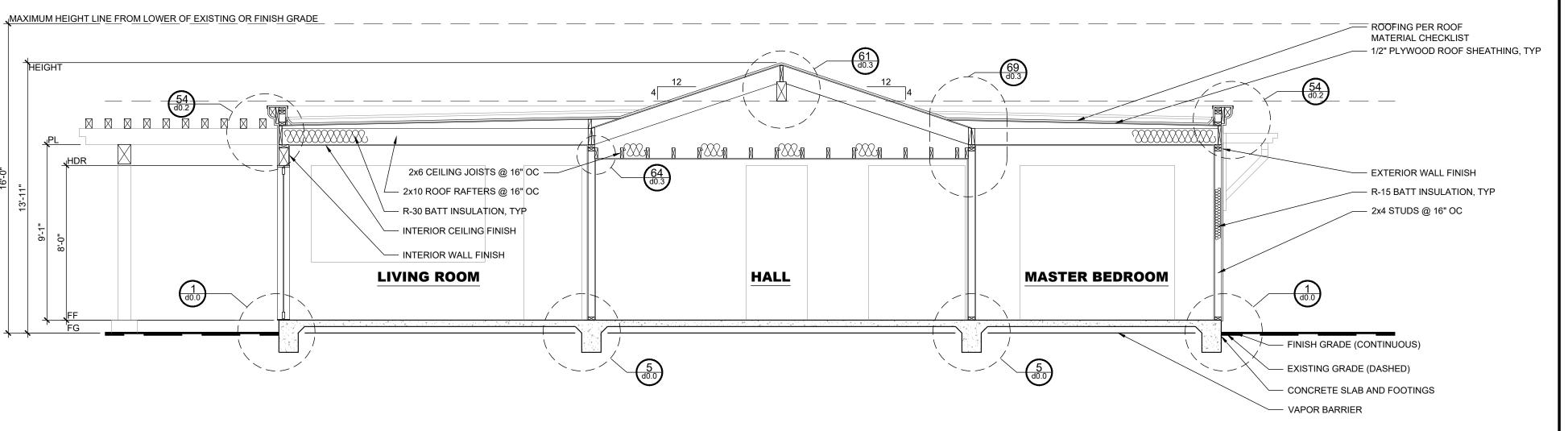
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FOR CITY STAMPS

PREPARER SIGNATURE



1 section c scale: 1/4" = 1'-0" THESE CONSTRUCTION
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3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

SECTION B

a5.1

MAXIMUM HEIGHT LINE FROM LOWER OF EXISTING OR FINISH GRADE ROOFING PER ROOF MATERIAL CHECKLIST — 1/2" PLYWOOD ROOF SHEATHING, TYP 2x6 CEILING JOISTS @ 16" OC — EXTERIOR WALL FINISH - 2x10 ROOF RAFTERS @ 24" OC — R-15 BATT INSULATION, TYP - R-30 BATT INSULATION, TYP — 2x4 STUDS @ 16" OC - INTERIOR CEILING FINISH — INTERIOR WALL FINISH BATH 1 BEDROOM 2 BEDROOM 1 — FINISH GRADE (CONTINUOUS) — EXISTING GRADE (DASHED) — CONCRETE SLAB AND FOOTINGS - VAPOR BARRIER

2 section d scale: 1/4" = 1'-0"

elevation + section notes:

0. SECTIONS E & F FOR ELEVATION C

1. ROOF PLAN NOTES THE LOCATION OF GUTTERS, DOWNSPOUTS & ROOF MOUNTED ATTIC VENTS.

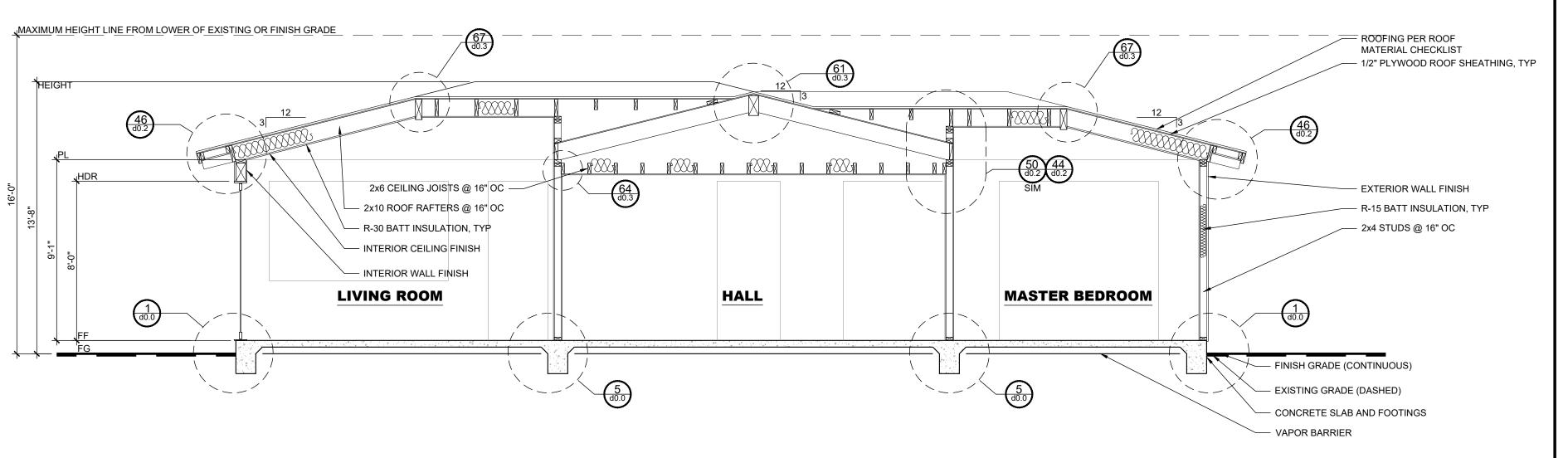
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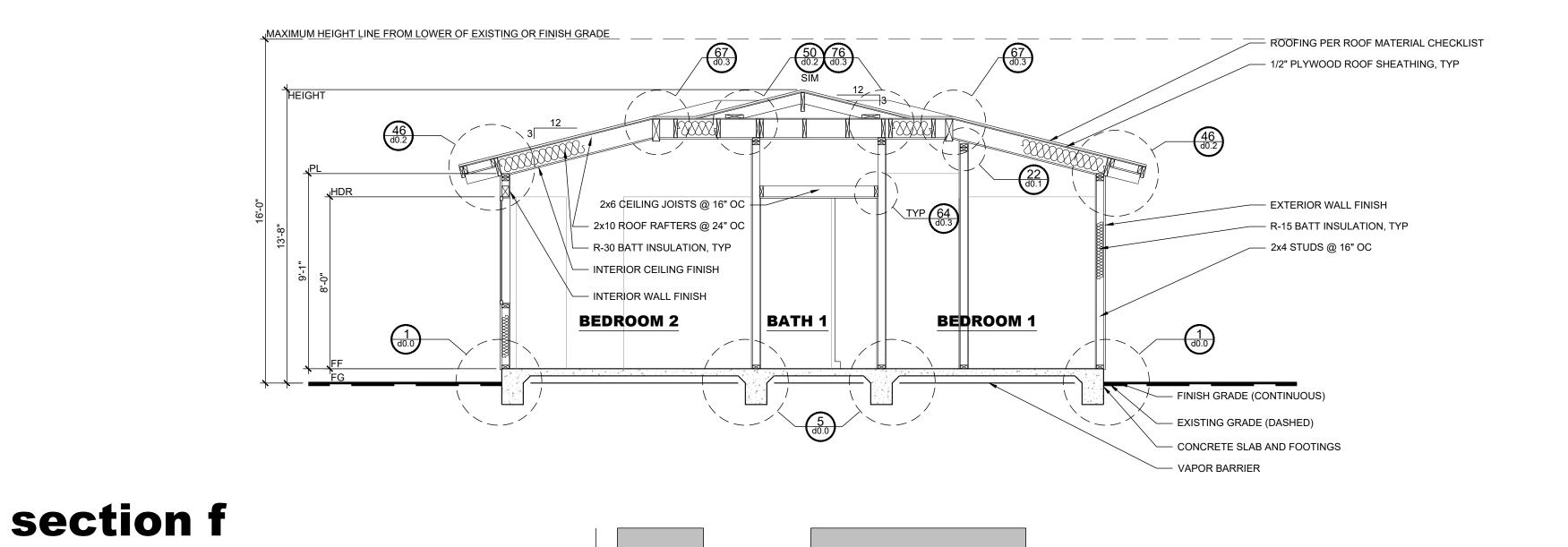
3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

SECTION C

a5.2



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.

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:

VERTICAL DESIGN		LATERAL DESIGN						FOUNDATION DESIGN			
			SEI	SMIC	C	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	= 1	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		, ,						

2022 cbc/crc shear panel schedule:

EXCEPTION:

		IOR SYSTEM ⁴	SLIDING ANCH		ALLOWABLE	COMMON NAIL	STRUCTURAL 1	SHEAR PANEL
31. 19/32" - 3/4"	1/2"Ø	16d	FRAMING CLIP	5/8" Ø	SHEAR/FT W/	SPACING @	APA-RATED	DESIGNATION
	LAG SCREW	COMMON NAIL	SPACING	ANCHOR BOLT	WOOD STUDS @	BOUNDARIES &	WOOD STRUCTURAL	
32. 7/8" - 1-1/4"	SPACING ⁵	SPACING 3 2x	V=450# -	SPACING ²	16" OC	EDGES (BN &EN)	PANEL	
02. 770 - 1-17 4	2x SOLE PLATE ONLY V=880#	V=121#	SIMPSON CO A35, OAF	2x SILL - V=1184# 3x SILL - V=1520#		FIELD NAILING (FN) @ 12" OC		X SP LENGTH (FT)
33. 1/2" FIBERBOARD S	ONL1 V-000#	V = 121#	OAE	3x 31LL - V-1320#		(FIN) @ 12 OC		LENGIII(I I)
34. 5/8" FIBERBOARD S	OC (INCH)	OC (INCH)	OC (INCH)	OC (INCH)	#/FT	OC (INCH)	THICKNESS	
V	23	5	18	48	280	8d@6	3/8"	Α
35. 3/4" AND LESS	15	3	12	42	430	8d@4	15/32"	B ¹
36. 7/8" - 1"	12	2	9	32	550	8d@3	15/32"	C 1
30. 7/0 - 1	9	\rightarrow	7	24	730	8d@2	15/32"	D ¹
37. 1- 1/8" - 1- 1/4"	6	\rightarrow	6	20	870	8d@2	15/32"	E 1
			PROJECT)	S IF SPECIFIED FOR	HED DETAIL SHEETS	GWALL (SEE ATTAC	SIMPSON CO. STRONG	SW
38. 1/2" OR LESS			D FOR PROJECT)	SHEETS IF SPECIFIE	ATTACHED DETAIL :	STRONGWALL (SEE	SIMPSON CO. WOOD S	WSW
			D FOR PROJECT)	SHEETS IF SPECIFIE	ATTACHED DETAIL S	STRONGWALL (SEE	SIMPSON CO. STEEL S	SSW
39. 5/8"				FOR PROJECT)	HEETS IF SPECIFIED	TTACHED DETAIL S	HARDY FRAME (SEE A	HF
								FOOTNOTES:
40. 1/4"		•					. FRAMING AT FOUNDA	1
							SHALL BE STAGGEREI . SIMPSON CO BP 5/8 BI	2
41. 3/8"							WEDGE ANCHORS (IC	2
FOR SI: 1 INCH = 25.4 MM a. NAILS SPACED @ 6" A	//OIIIO I EIX	THEO WITH ON WILL OF	THE EXICTING TOO	NO DINION BOLIN	L GOLD IIV LILO OF C	DO EIR GOOT) WINTED	TABLE ABOVE.	
PARTICLE BOARD DIAPH				PICAL.	A 1/2" MINIMUM, TYF	LL BE STAGGERED	. ALL SILL NAILING SHA	3
BOX OR CASING. b. SPACING SHALL BE @	HED WITH	RS SHALL BE ATTACH	ICHOR CONNECTOR	ALL, ALL SLIDING AN	BOTH SIDES OF A W	L IS SPECIFIED ON	. WHEN A SHEAR PANE	4
SUPPORTS @ 16" OC (20				.F.	E REDUCED BY HAL	TABLE ABOVE TO E	SPACINGS FROM THE	
c. WHERE A RAFTER IS F FASTENED TO THE TOP I					RIAL.	TION INTO 4x MATE	. MINIMUM 4" PENETRA	5

2022 CBC TABLE 2304.10.2 FASTENING SCHEDULE

RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	3-8d COMMON (2-1/2"x0.131"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x4 CAGE STAPLES 7/16" CROWN	EACH END, TOENAIL
BLOCKING BETWEEN RAFTERS OR TRUSS NOT	3-3"14 GAGE STAPLES,7/16" CROWN 2-8d COMMON (2-1/2"x0.131"); OR 2-3"x0.131" NAILS; OR 2-3" 14 GAGE STAPLES	EACH END, TOENAIL
AT THE WALL TOP PLATE, TO RAFTER OR TRUSS	2-3" 14 GAGE STAPLES 2-16d COMMON (3-172"x0.162"); OR 3-3"x0.131" NAILS; OR 3-3"14 GAGE STAPLES	END NAIL
FLAT BLOCKING TO TRUSS AND WEB FILLER	3-3"14 GAGE STAPLES 16d COMMON (3-1/2"x0.162") @ 6"OC; OR 3"x0.131" NAILS @ 6" OC; OR 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"); OR 3-3"x0.131" NAILS: OR	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	FACE NAIL
(SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1) 4. CEILING JOIST ATTACHED TO PARALLEL	4-3"x0.131" NAILS; OR 4-3" 14 GAGE STAPLES,7/16" CROWN	TAGE NAIL
RAFTER (HEEL JOINT) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1)	PER 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	4-3"x14 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 TOENAIL ON OPPOSITE SI
SECTION 2308.7.5, TABLE 2308.7.5)	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
7. ROOF RAFTERS TO RIDGE, VALLEY OR HIP		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
8. 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) 9. STUD TO STUD AND ABUTTING STUDS AT	3"x0.131" NAILS; OR 3-3" 14 GAGE STAPLES,7/16" CROWN 16d COMMON (3-1/2"x0.162") 16d BOX (3-1/2"x0.135"); OR	16" OC, FACE NAIL 16" OC, FACE NAIL
INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d BOX (3-1/2"x0.135"); OR 3"x0.131" NAILS; OR 3-3" 14 GAGE STAPLES,7/16" CROWN 16d COMMON (3-1/2"x0.162"); OR	12" OC, FACE NAIL
10. BUILT-UP HEADER (2" TO 2" HEADER)	16d BOX (3-1/2"x0.135") 4-8d COMMON (2-1/2"X.131"): OR	16" OC, EA EDGE, FACE NA 12" OC, EA EDGE, FACE NA
11. 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
12. TOP PLATE TO TOP PLATE	10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN	12" OC, FACE NAIL
13. TOP PLATE TO TOP PLATE, AT END JOINTS	B-16d COMMON (3-1/2"x0.162"); OR 12-16d BOX (3-1/2"x0.135"); OR 12-10d BOX (3"x0.128"); OR 12-3"x0.131" NAILS; OR	EA SIDE OF END JOINT, FA NAIL (MINIMUM 24" LAP SP LENGTH EACH SIDE OF EN
14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND	116d COMMON (3-1/2"x0.162")	JOINT) 16" OC, FACE NAIL
JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d BOX (3"x0.135"); OR 3"x0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN 2-16d COMMON (3-1/2"x0.162"); OR	12" OC, FACE NAIL
15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS	3-16d BOX (3"x0.135"); OR 4-3"x0.131" NAILS; OR	16" OC, FACE NAIL
	4-3" 14 GAGE \$ APLE\$, 7/16" CROWN 3-16d BOX (3-1/2"x0.135"); OR 4-8d COMMON (2-1/2"x0.131"); OR	
40 OT ID TO TOD OD DOTTOM DI ATT	4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-8d BOX (2-1/2"x0.113"); OR	TOENAIL
16. STUD TO TOP OR BOTTOM PLATE	4-3" 14 GAGE STAPLES,7/16" CROWN; OR 2-16d COMMON (3-1/2"x0.162"); OR 3- 16d BOX (3"x0.135"); OR	END MAIL
	3- 10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3" 14 GAGE STAPLES,7/16" CROWN	END NAIL
17. TOP PLATES, LAP AT CORNERS AND INTERSECTIONS	2-16d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR	END NAIL
40. 4" DDACE TO FACILISTID AND DI ATE	3-3" 14 GAGE STAPLES,7/16" CROWN 3-8d BOX (2-1/2"x0.131"); OR 2-8d COMMON (2-1/2"x0.113"); OR	FACE NAIL
18. 1" BRACE TO EACH STUD AND PLATE	2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3" 14 GAGE STAPLES, 7/16" CROWN 3-8d BOX (2-1/2"x0.113"); OR	FACE NAIL
		FACE NAIL
	2-10d BOX (3"x0.128") 2-1.3/4" 16 GAGE STAPLES,1" CROWN 3-8d COMMON (2-1/2"x0.131"); OR 3-8d BOX (2-1/2"x0.113"); OR 3-10d BOX (3"x0.128"); OR	
20. 1"x8" AND WIDER SHEATHING TO BEARING	3-104 BOX (3 x0.128); OR 3-1-3/4" 16 GAGE STAPLES,1" CROWN WIDER THAN 1" x 8" 3-8d COMMON (2-1/2"x0.131"); OR 4-8d BOX (2-1/2"x0.113"); OR 3-10d BOX (3"x0.128"); OR 4-1-3/4" 16 GAGE STAPLES,1" CROWN	FACE NAIL
	4-86 BOX (2-1/2 X0.113); OR 3-10d BOX (3"x0.128"); OR 4-1-3/4" 16 GAGE STAPLES,1" CROWN	
21. JOIST TO SILL, TOP PLATE OR GIRDER	FLOOR 4-8d BOX (2-1/2"x0.113"); OR 3-8d COMMON (2-1/2"x0.131"); OR FLOOR 3-10d BOX (3"x0.128"); OR	TOFNAU
21. JOIST TO SILL, TOP FLATE ON GINDLIN	3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES.7/16" CROWN	TOENAIL 4" OC, TOENAIL
		4 OC, TOLINAIL
	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" NAU S. OR	6" OC, TOENAIL
TOP PLATE, SILL OR OTHER FRAMING BELOW	10d BOX (3"x0.128"); OR 3"x0.131" NAILS: OR	,
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST	110d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR 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 3-10d BOX (3"x0 128"): OR	FACE NAIL
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST	110d BOX (3"X0.128"); OR 3"X0.131" NAILS: OR 3"X14 GAGE STAPLES,7/16" CROWN 3-8d BOX (2-172"X0.113"); OR 2-8d COMMON (2-1/2"X0.131"); OR 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 2-16d COMMON (3-1/2"X0.162")	FACE NAIL BLIND & FACE NAIL
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER	10d BOX (3"X0.128"); OR 3"X0.131" NAILS: OR 3"X0.141" NAILS: OR 3"X14 GAGE STAPLES,7/16" CROWN 3-8d BOX (2-172"X0.113"); OR 2-8d COMMON (2-1/2"X0.131"); OR 3-10d BOX (3"X0.128"); OR 2-1-3/4" 16 GAGE STAPLES,1" CROWN 3-16d BOX (3-7/2"X0.135"); OR	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAII 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER	10d BOX (3"x0.128"); OR 3"x0.131" NAILS: OR 3"x0.131" NAILS: OR 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 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 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") 20d COMMON (4"x0.192") 10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAIL 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES 24" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER 25. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	10d BOX (3"x0.128"); OR 3"x0.131" NAILS: OR 3"x0.131" NAILS: OR 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 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 2- 16d COMMON (3-1/2"x0.162") 3- 16d BOX (3-1/2"x0.135"); OR 2- 16d COMMON (4"x0.192") 20d COMMON (4"x0.192") 10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN AND: 2- 20d COMMON (4"x0.192")	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAIL 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES 24" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER 25. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF) 26. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3"X0.14" NAILS; OR 3-8d BOX (2-172"X0.113"); OR 2-8d COMMON (2-112"X0.131"); OR 3-10d BOX (3"X0.128"); OR 2-1-3/4" 16 GAGE STAPLES,1" CROWN 3-16d BOX (3-172"X0.135"); OR 2-16d COMMON (3-1/2"X0.162") 3- 16d BOX (3-172"X0.135"); OR 2-16d COMMON (3-1/2"X0.162") 2-16d COMMON (4"X0.192") 10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN AND: 2-20d COMMON (4"X0.192") 3-10d BOX (3"X0.128"); OR 3-3"X0.131" NAILS; OR	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAIL 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES 24" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER 25. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF) 26. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS 27. LEDGER STRIP SUPPORTING JOISTS OR	10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3"X0.131" NAILS; OR 3-8d BOX (2-172"X0.113"); OR 2-8d COMMON (2-172"X0.131"); OR 3-10d BOX (3"X0.128"); OR 2-1-3/4" 16 GAGE STAPLES,1" CROWN 3-16d BOX (3-172"X0.135"); OR 2-16d COMMON (3-172"X0.135"); OR 2-16d COMMON (3-172"X0.162") 3-16d BOX (3-772"X0.135"); OR 2-16d COMMON (4"X0.192") 20d COMMON (4"X0.192") 10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN AND: 2-20d COMMON (4"X0.192") 3-10d BOX (3"X0.128"); OR 3-3"X0.131" NAILS; OR 3-3"X0.131" NAILS; OR 3-3" 14 GAGE STAPLES,7/16" CROWN 3-3" 14 GAGE STAPLES,7/16" CROWN 3-16d COMMON (3-1/2"X0.162"); OR 4-16d BOX (3-1/2"X0.135"); OR 4-16d BOX (3-1/2"X0.135"); OR	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAIL 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES 24" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES ENDS AND AT EACH SPLIC FACE NAIL EACH JOIST OR RAFTER, F
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER 25. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF) 26. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3"X0.143" NAILS; OR 3-8d BOX (2-172"X0.113"); OR 2-8d COMMON (2-1/2"X0.131"); OR 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 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") 20d COMMON (4"X0.192") 10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN AND: 2-20d COMMON (4"X0.192") 3-10d BOX (3"X0.128"); OR 3-3"X0.131" NAILS; OR 3-3" 14 GAGE STAPLES,7/16" CROWN 3-3" 14 GAGE STAPLES,7/16" CROWN 3-16d COMMON (3-1/2"X0.162"); OR 4-16d BOX (3-1/2"X0.135"); OR 4-16d BOX (3-1/2"X0.135"); OR 4-172 X0.131" NAILS; OR 4-173 X0.131" NAILS; OR 4-3" 14 GAGE STAPLES,7/16" CROWN 3-16d COMMON (3-1/2"X0.162"); OR	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAIL 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES 24" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES ENDS AND AT EACH SPLIC FACE NAIL
TOP PLATE, SILL OR OTHER FRAMING BELOW 23. 1"x6" SUBFLOOR OR LESS TO EACH JOIST 24. 2" SUBFLOOR TO JOIST OR GIRDER 25. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF) 26. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS 27. LEDGER STRIP SUPPORTING JOISTS OR	10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3"X0.143" NAILS; OR 3-8d BOX (2-172"X0.113"); OR 2-8d COMMON (2-112"X0.131"); OR 3-10d BOX (3"X0.128"); OR 2-1-3/4" 16 GAGE STAPLES,1" CROWN 3-16d BOX (3-172"X0.135"); OR 2-16d COMMON (3-1/2"X0.162") 3- 16d BOX (3-172"X0.135"); OR 2-16d COMMON (4"X0.192") 10d BOX (3"X0.128"); OR 3"X0.131" NAILS; OR 3" 14 GAGE STAPLES,7/16" CROWN AND: 2-20d COMMON (4"X0.192") 3-10d BOX (3"X0.128"); OR 3-3"X0.131" NAILS; OR 3-16d COMMON (3-1/2"X0.162"); OR 4-10d BOX (3"X0.128"); OR 4-3"X0.131" NAILS; OR 4-3"X0.131" NAILS; OR 4-3"X0.131" NAILS; OR 4-3"X0.131" NAILS; OR	FACE NAIL BLIND & FACE NAIL EACH BEARING, FACE NAIL 32" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES 24" OC, FACE NAIL AT TOP BOTTOM STAGGERED ON OPPOSITE SIDES ENDS AND AT EACH SPLIC FACE NAIL EACH JOIST OR RAFTER, F
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NOTES

JOB:

b. SPACING SHALL BE @ 6" OC ON THE EDGES & @ 12" OC @ INTERMEDIATE SUPPORTS (FIELD) FOR NON-STRUCTURAL APPLICATIONS. PANEL SUPPORTS @ 16" OC (20" OC IF STRENGTH AXIS IS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED) 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

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

PERMITTED WHERE THE FASTENING IS DESIGNED PER THE AWC NDS. f. FASTENING IS ONLY PERMITTED WHERE THE ULTIMATE DESIGN WIND SPEED IS LESS THAN OR EQUAL TO 110 MPH. 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 MECHANICALLY DEPOSITED ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM.

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

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3 BEDROOM PRADU

CITY: ANAHEIM

202409R

STRUCTURAL

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.
 ROOF FRAMING PLAN FOR OTHER ELEVATIONS [B] MAY HAVE DIFFERENT SHEAR PANEL LENGTHS. VERIFY SHEAR PANEL LENGTHS WITH ROOF

FRAMING PLAN PRIOR TO PLACING HOLD DOWN AND/OR ANCHOR BOLTS.

FOR CITY STAMPS

PREPARER SIGNATURE

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

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3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

FOUNDATION
PLAN + REVERSE
FOUNDATION
PLAN

s1.0

INDICATES (N) -CONCRETE PAD AT EXTERIOR DOOR, TYP (A) + + + 4" RECESS FLR AT HATCHED -AREA IF ∤NSTALLING A ZERO CURB SHOWER, TYP — 24" WIDE x 18" DEEP UNDERFLOOR ACCESS, TYP 4" RECESS FLR AT HATCHED -AREA IF INSTALLING A 24" WIDE | x 18" DEEP UNDERFLOOR ZERO CURB SHOWER, TYP ACCESS, TYP | 2x6 FLOOR JOISTS @|/ε" φC INDICATES -NEW
CONCRETE
FOOTINGS,
TIYP 17 HDU2 CROSS HATCH INDICATES —
PLUMBING FIXTURE REQUIRING
SUPPLY AND/OR WASTE LINE, TYP 2x8 FLOOR JOISTS @ 16" OC E FOOTING AT ELEVATION B raised floor foundation SCALE: 1/4" = 1'-0"

raised floor foundation notes:

 EXPANSIVE SOIL LOCATIONS SHALL PROVIDE FOOTING DIMENSIONS SPECIFIED IN DETAILS 3, 4, 7, 8 & 12/d0.0 FOR EXPANSIVE SOILS.

 ROOF FRAMING PLAN FOR OTHER ELEVATIONS [B] 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. 1,199/150 = 8 SQ. FT. TWENTY TWO [22] 4"X14" FOUNDATION VENTS ARE REQUIRED AND SHALL BE EVENLY DISTRIBUTED AT THE FOUNDATION PERIMETER. CRC §408.1

 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.

 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 (EN) FOR CITY STAMPS

PREPARER SIGNATURE

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ANAHEIM AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION

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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RAISED FLOOR FOUNDATION PLAN

s1.1

roof framing plan notes:

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.

2. 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).

. 4X6 IS THE MINIMUM MEMBER ALLOWED AT A TRELLIS.

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

FOR CITY STAMPS

PREPARER SIGNATURE

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3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

ROOF FRAMING PLAN A + B

s2.0

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

SHEAR ENTIRE WALL ----

ROOF -MATERIAL TRANSITION

2x10 RIDGE BD

BALLOON —

FRAME

WALL TO

BASE OF

RAFTERS, TYP

A

C

D

E

WITH 'A' SHEAR PANEL. TYP

2x10 RAFTERS @ 24" OC

2x10 RAFTERS @ 24" OC

2x6 CEILING JOISTS @ 16" OC

> 2x6 CEILING JOISTS @ 16" OC

4x10 TRELLIS RAFTERS @ 24" OC

2x10 RAFTERS @ 24" OC AT RESIDENCE

WITH 'A' SHEAR PANEL, TYP
- 8x8 POSTS REQUIRED IF OPTIONAL TRELLIS IS SELECTED

2x6 CEILING

JOISTS @ 24" OC

2x10 RIDGE BD

- CORBEL PARAPET WALL

2x STEPPED FASCIA,

— 4x12 BEAM EXTENSION, TYP

TYP, UON

— 1/2" PLYWOOD d0.1 ROOF TYP SHEATHING, TYP, UON

2x SOLID BLOCKING @ MID SPAN, TYP

- CORBEL PARAPET WALL @ ROOF EDGE, TYP

SOLID HATCH INDICATES

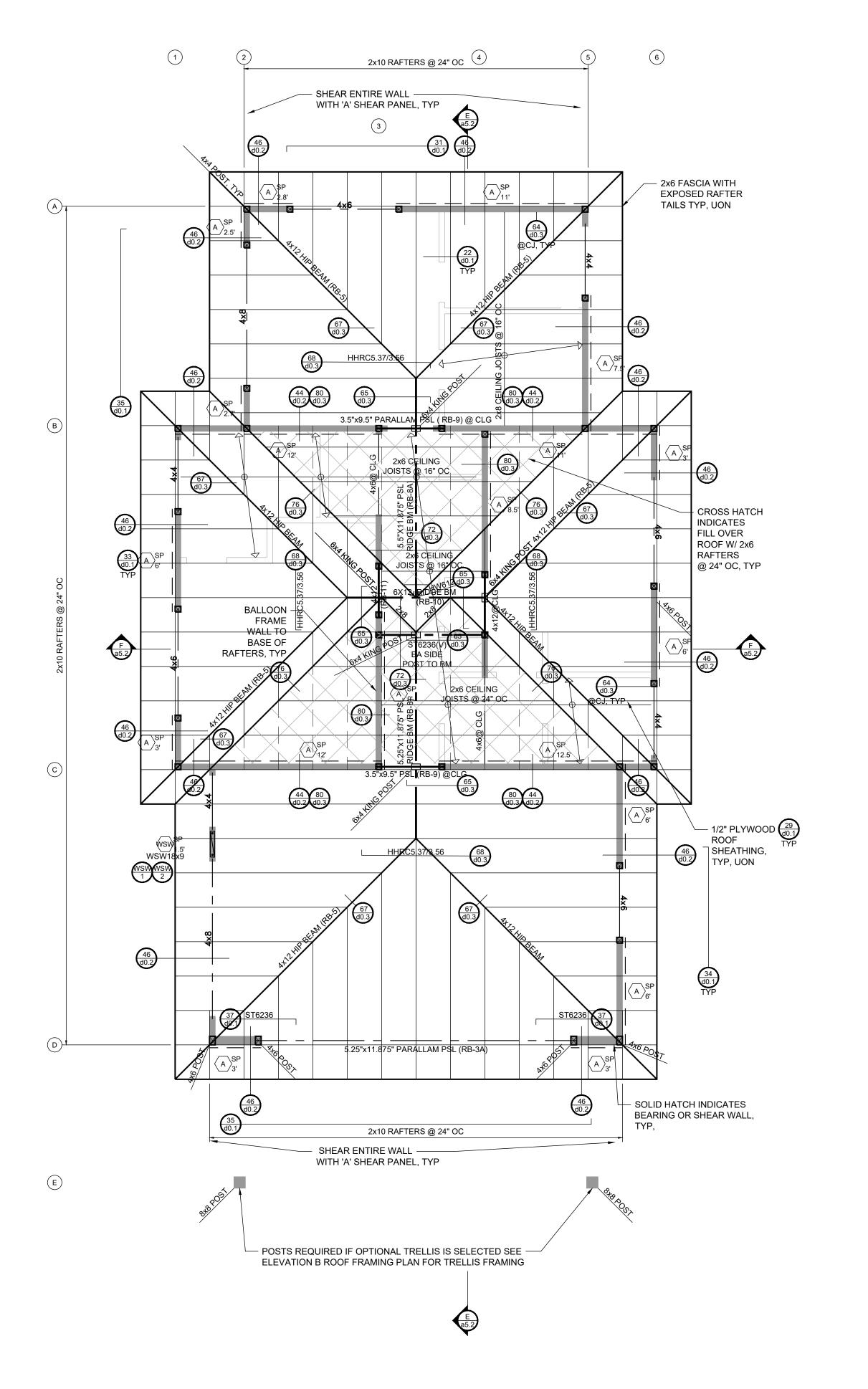
BEARING OR SHEAR WALL,

@ ROOF EDGE, TYP

2 roof framing plan a

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

_



roof framing plan notes:

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.

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).

4X6 IS THE MINIMUM MEMBER ALLOWED AT A TRELLIS.

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

FOR CITY STAMPS

PREPARER SIGNATURE

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.COI

3 BEDROOM PRADU

CITY: ANAHEIM

JOB: 202409R

ROOF FRAMING PLAN C

s2.1

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

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.

2. 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).

. 4X6 IS THE MINIMUM MEMBER ALLOWED AT A TRELLIS.

FRELLIS 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

FOR CITY STAMPS

PREPARER SIGNATURE

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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.

PARINERS

6 8 2 S E C O N D S T F N C I N I T A S . C A

ENCINITAS, CA (760)7532464

DZNPARTNERS.COM

3 BEDROOM PRADU

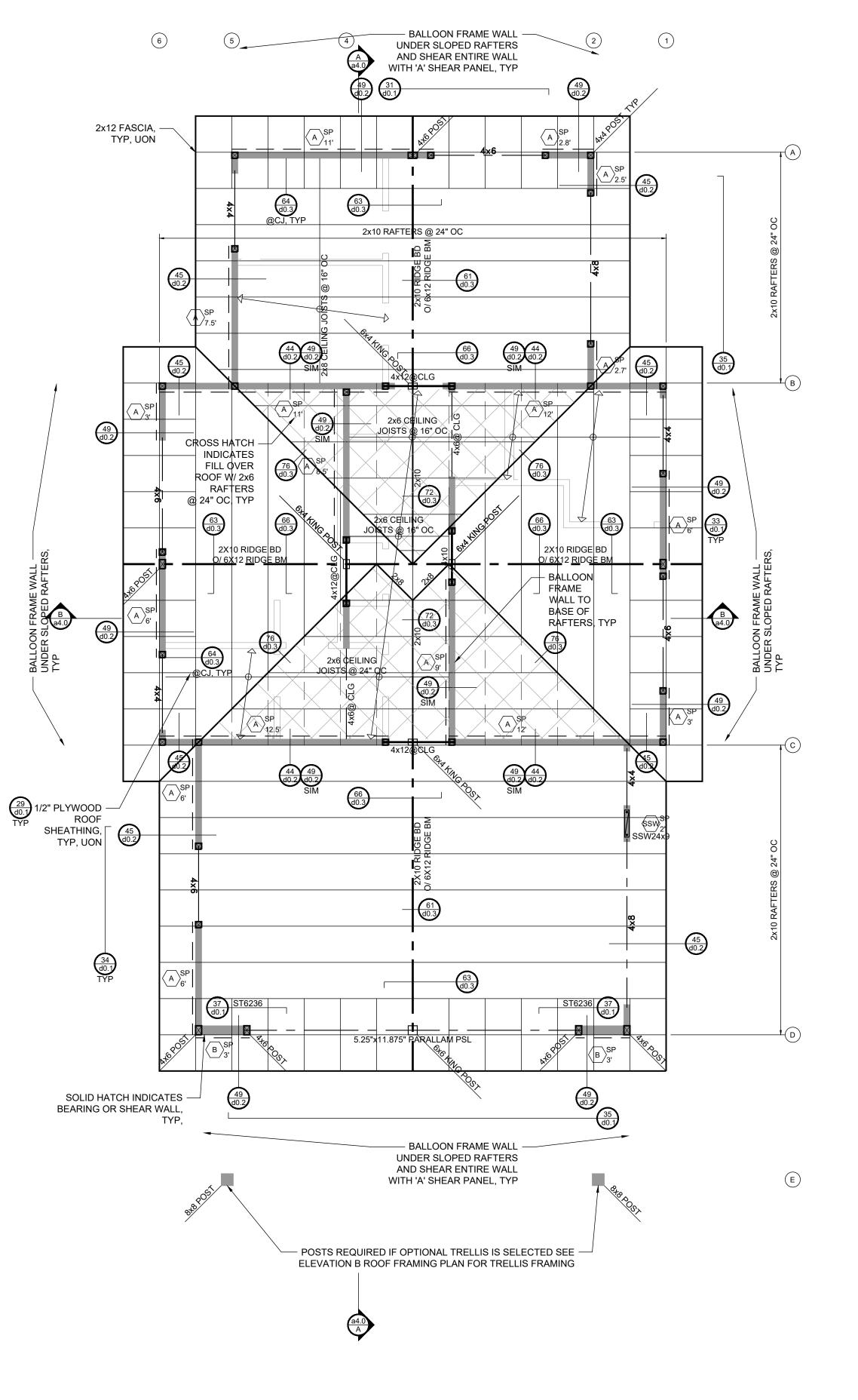
CITY: ANAHEIM

REVERSE ROOF

202409R

FRAMING PLAN A + B

s2.2



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

— SHEAR ENTIRE WALL -

MATERIAL TRANSITION

2x10 RIDGE BD

- BALLOON

FRAME

WALL TO

BASE OF

RAFTERS, TYP

E

WITH 'A' SHEAR PANEL, TYP

2x10 RAFTERS @ 24" OC

2x10 RAFTERS @ 24" OC

2x6 CFILING
JOISTS @ 16" OC

2x6 CEILING JOISTS @ 16" OC

4x10 TRELLIS RAFTERS @ 24" OC

2x10 RAFTERS @ 24" OC AT RESIDENCE

WITH 'A' SHEAR PANEL, TYP
- 8x8 POSTS REQUIRED IF OPTIONAL TRELLIS IS SELECTED -

2x6 CEILING JOISTS @ 24" QC

2x10 RIDGE BD

CORBEL PARAPET WALL

2x STEPPED FASCIA,

29 d0.1) 1/2" PLYWOOD — ROOF SHEATHING, TYP, UON

2x SOLID BLOCKING @ MID SPAN, -

CORBEL PARAPET WALL —

@ ROOF EDGE, TYP

SOLID HATCH INDICATES – BEARING OR SHEAR WALL,

4x12 BEAM EXTENSION, TYP

@ ROOF EDGE, TYP

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

6 1 4 2x10 RAFTERS @ 24" OC - SHEAR ENTIRE WALL -WITH 'A' SHEAR PANEL, TYP 2x6 FASCIA WITH EXPOSED RAFTER TAILS TYP, UON (RB-9) @ CLG CROSS HATCH -INDICATES FILL OVER ROOF W/ 2x6 RAFTERS @ 24" OC, TYP - BALLOON FRAME WALL TO BASE OF RAFTERS, TYP 2x6 CEILING JOISTS @ 24" QC 1/2" PLYWOOD — ROOF SHEATHING, TYP, UON 46 5.25"x11.875" PARALLAM P\$L (RB-3A) SOLID HATCH INDICATES — BEARING OR SHEAR WALL, 2x10 RAFTERS @ 24" OC SHEAR ENTIRE WALL - WITH 'A' SHEAR PANEL, TYP E POSTS REQUIRED IF OPTIONAL TRELLIS IS SELECTED SEE
 ELEVATION B ROOF FRAMING PLAN FOR TRELLIS FRAMING

roof framing plan notes:

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.

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).

. 4X6 IS THE MINIMUM MEMBER ALLOWED AT A TRELLIS.

4. 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

L FOR CITY STAMPS

PREPARER SIGNATURE

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.

PARTNERS

682SECONDST ENCINITAS,CA

(760)7532464

DZNPARTNERS.COM

3 BEDROOM PRADU

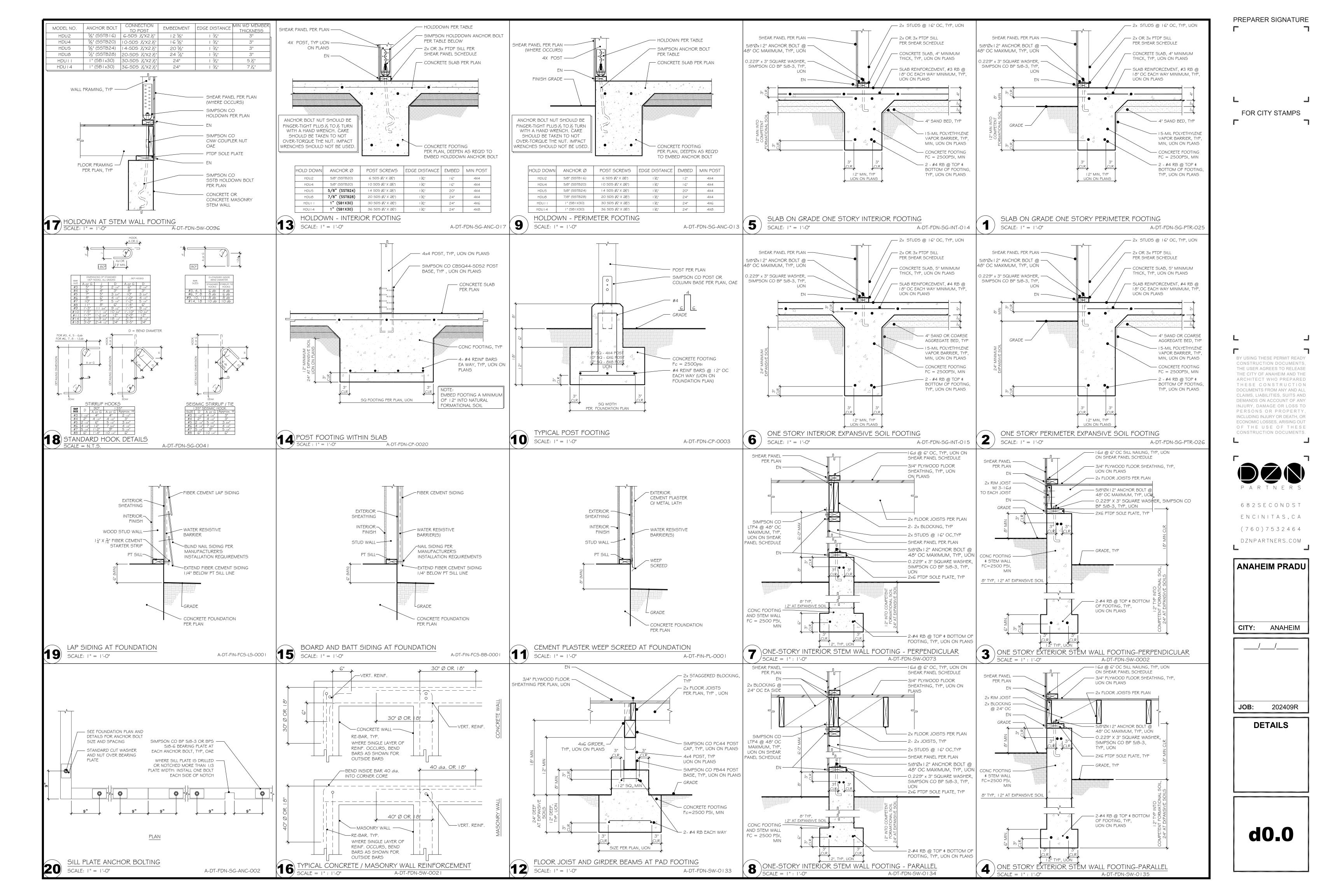
CITY: ANAHEIM

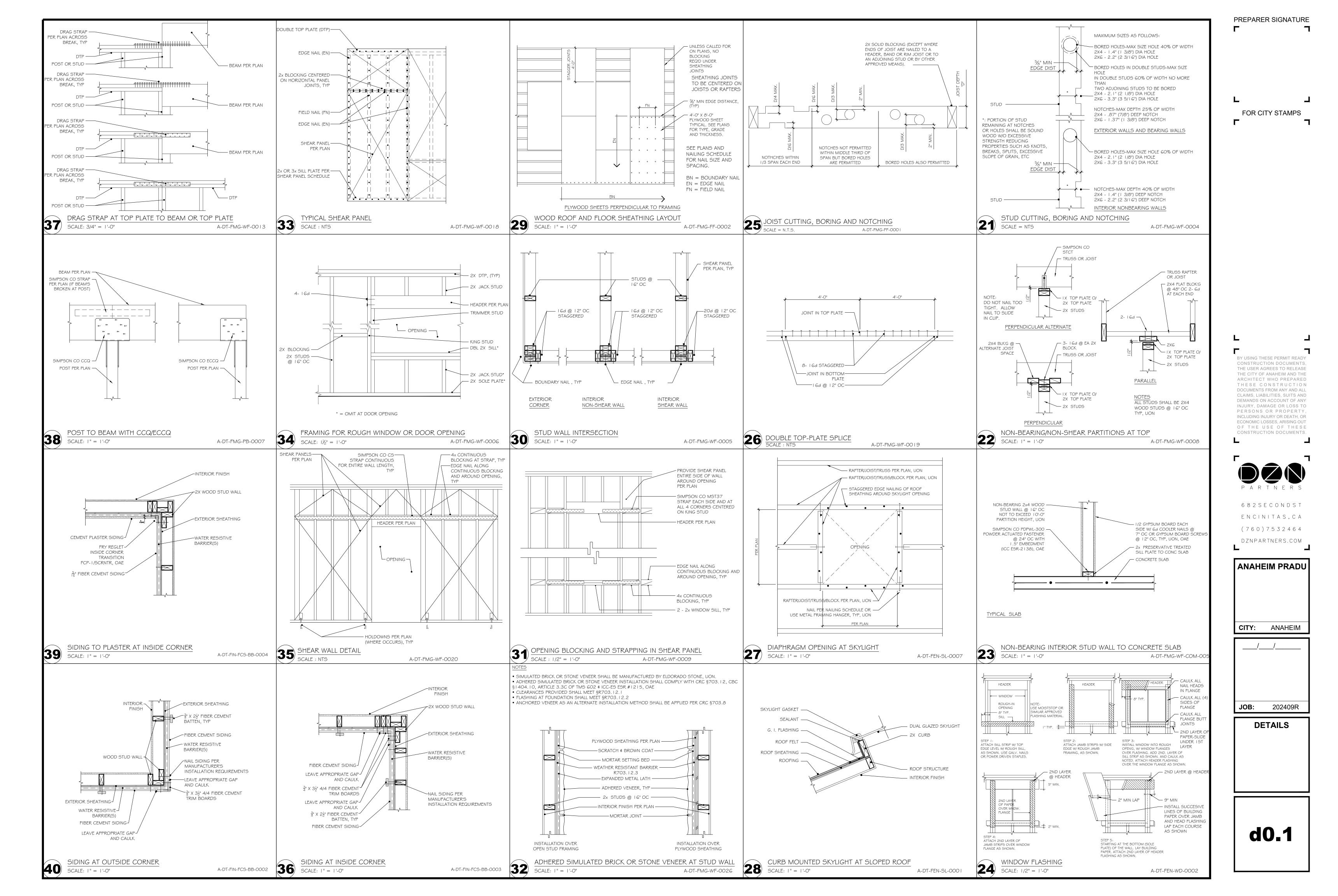
JOB: 202409R

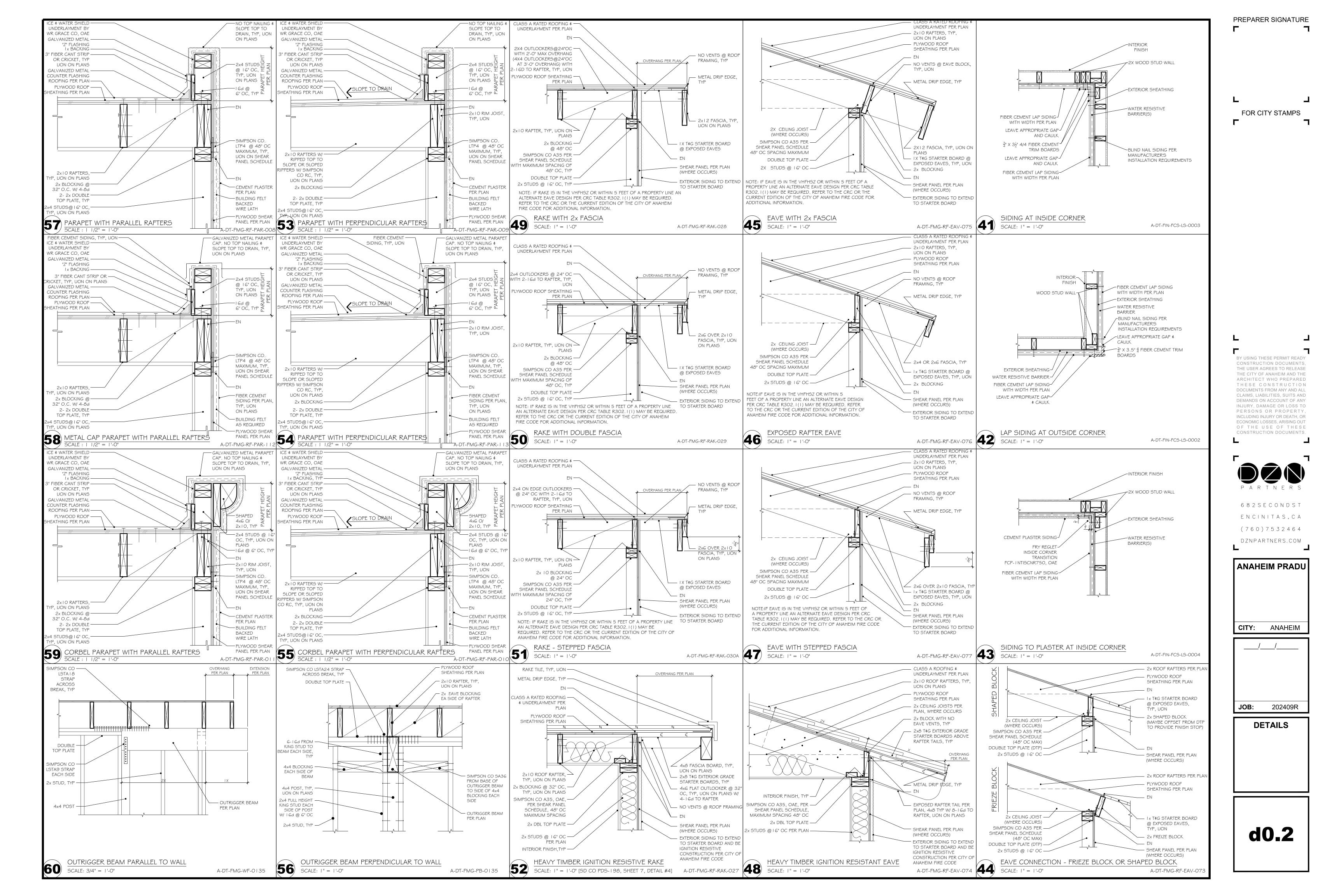
REVERSE ROOF FRAMING PLAN C

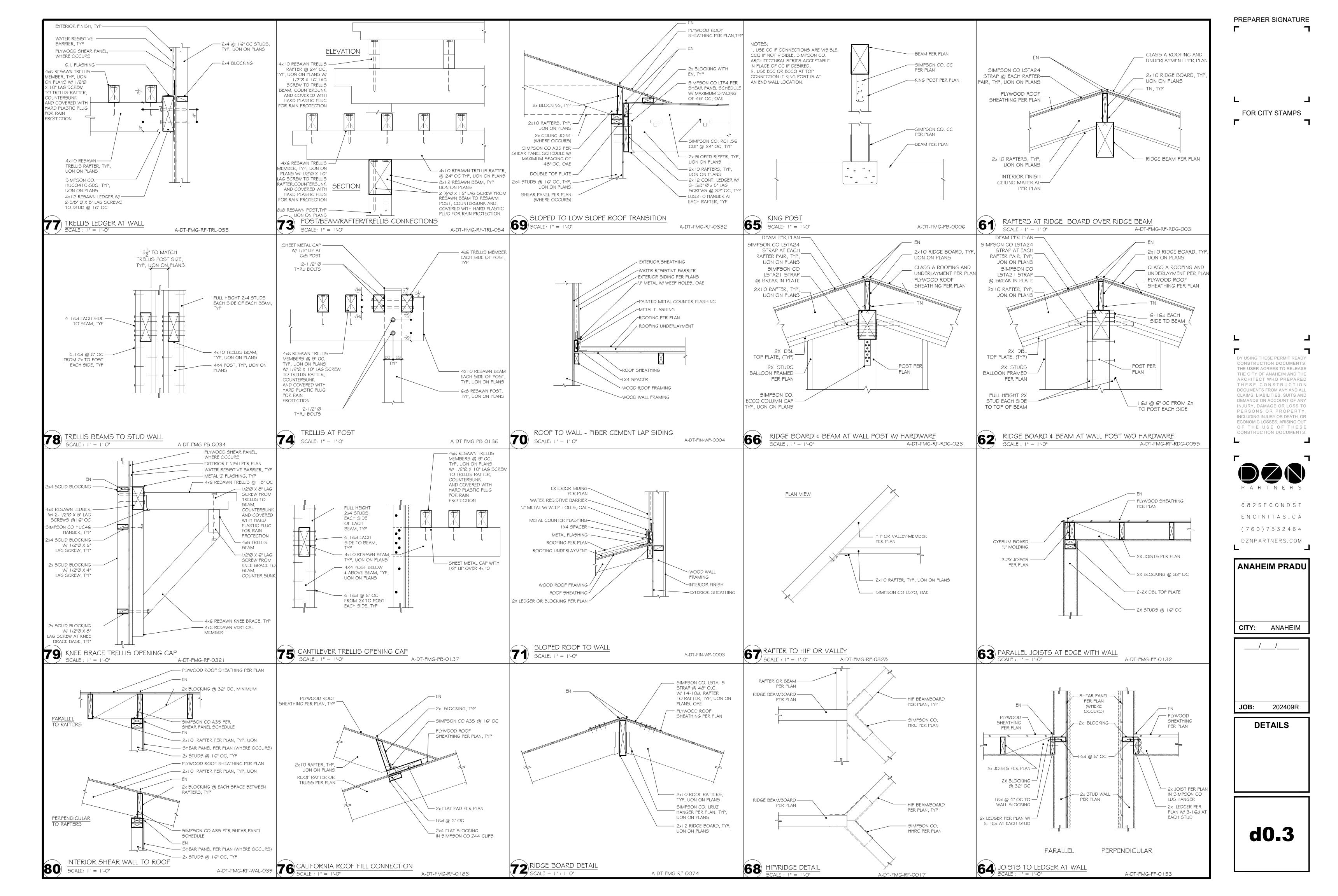
s2.3

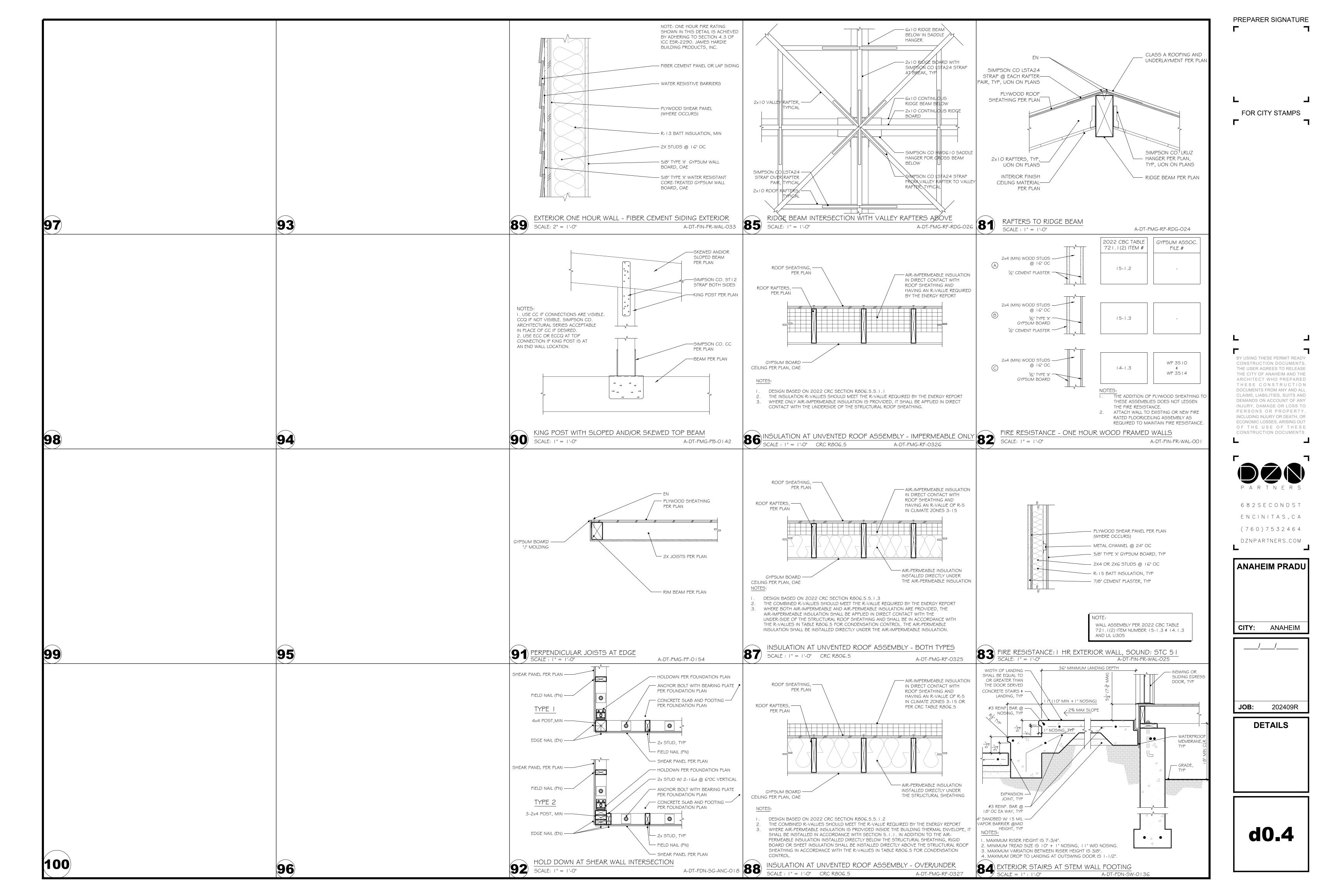
reverse roof framing plan c
SCALE: 1/4" = 1'-0"

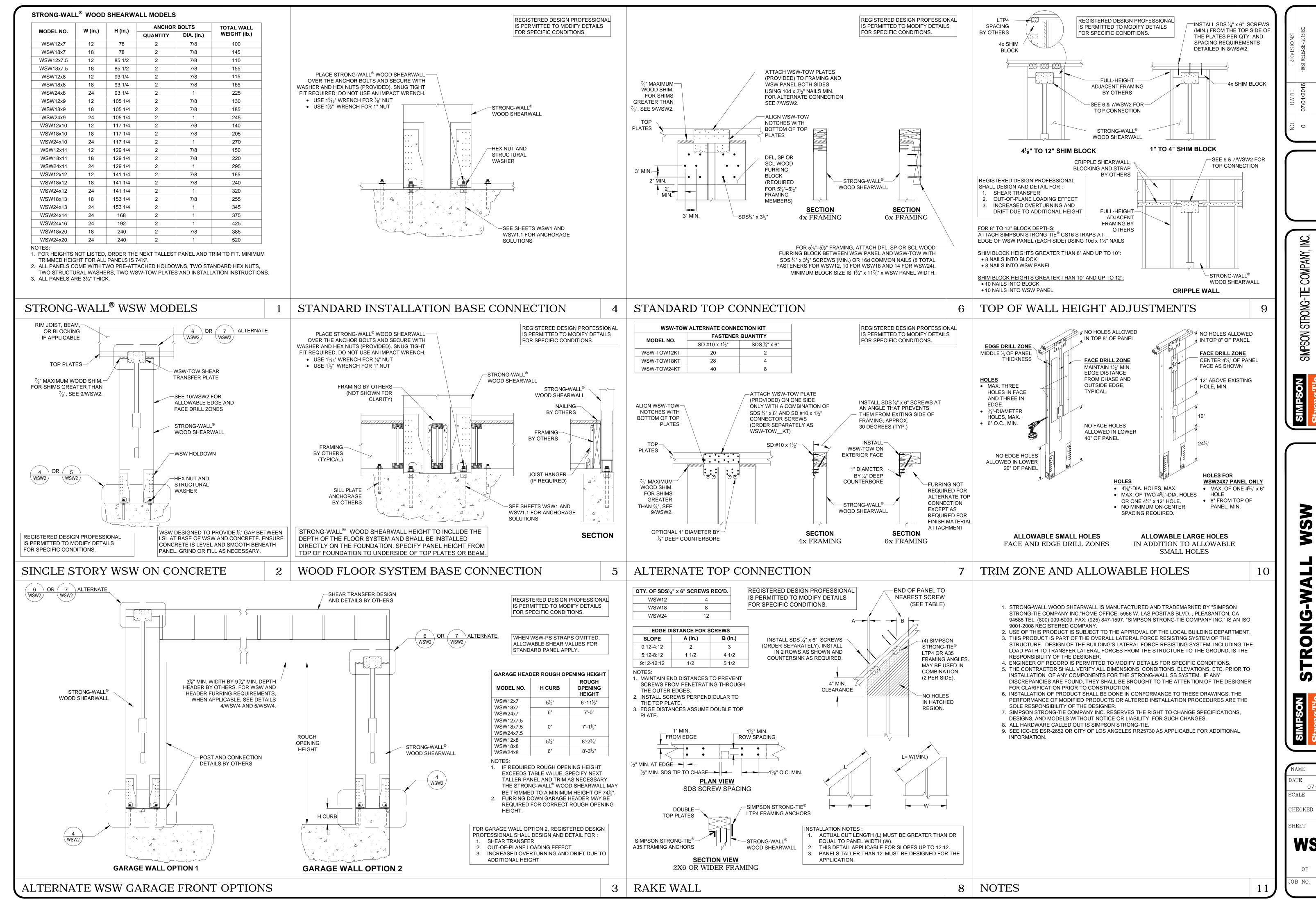


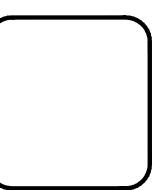










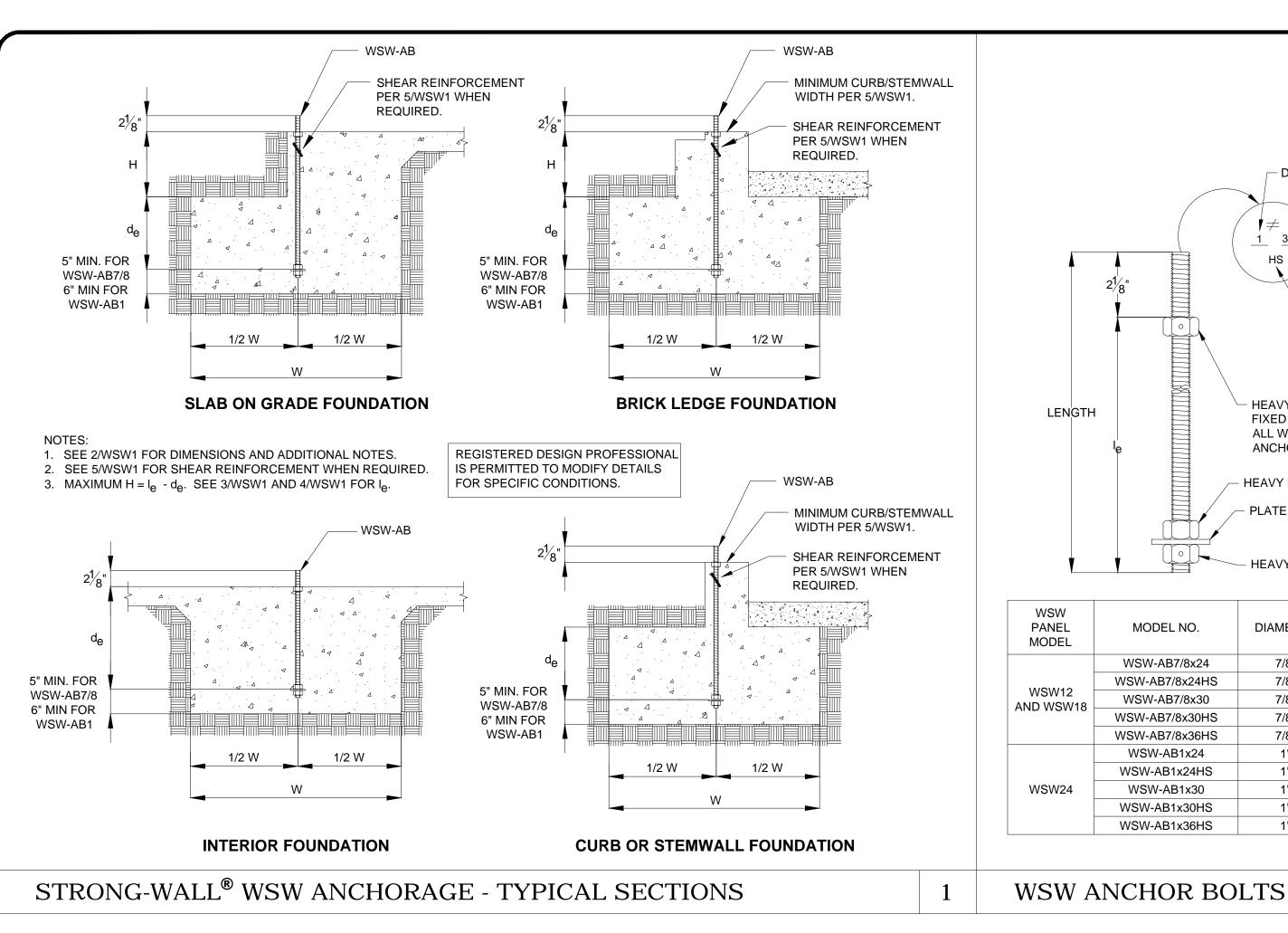


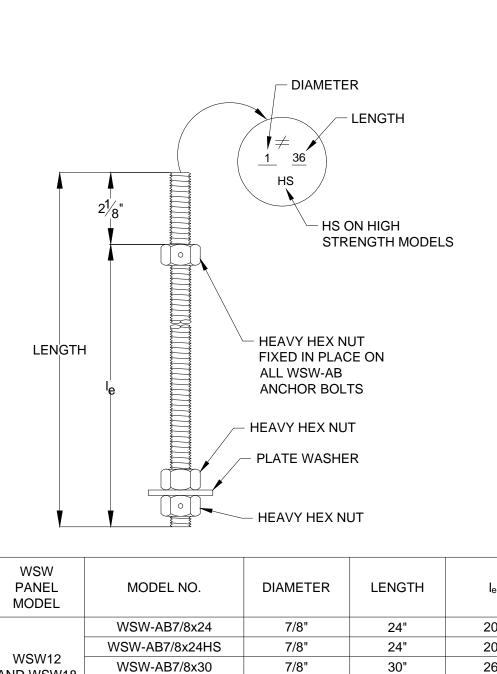
COMPANY,

07-01-2016

N.T.S. CHECKED

WSW2 SHEETS





7/8"

7/8"

WSW-AB7/8x30HS

WSW-AB7/8x36HS

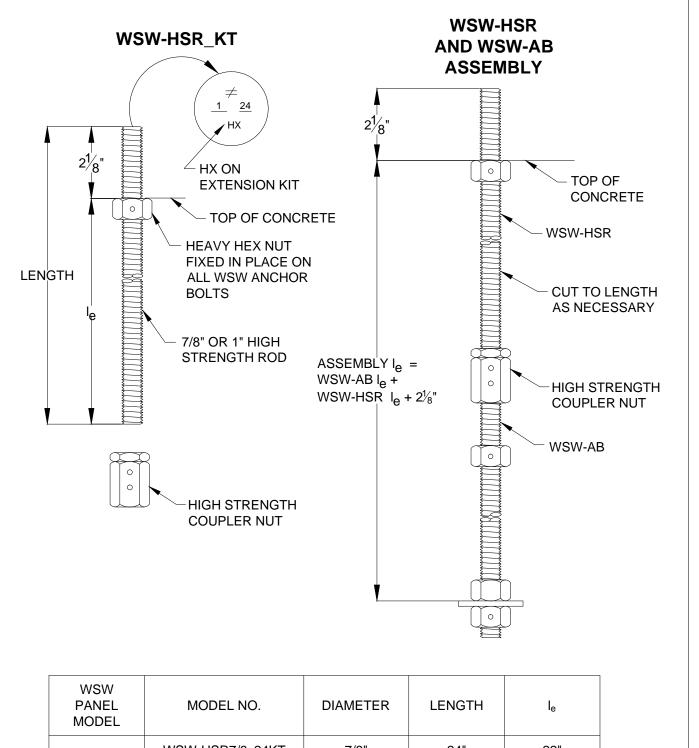
WSW-AB1x24

WSW-AB1x24HS

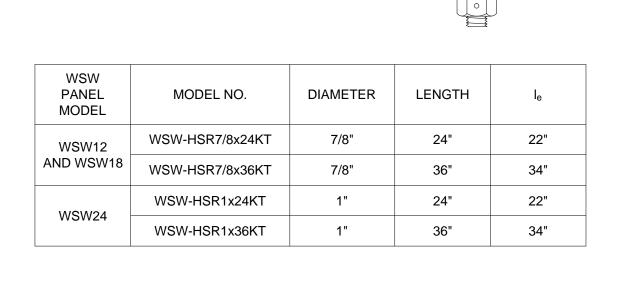
WSW-AB1x30

WSW-AB1x30HS

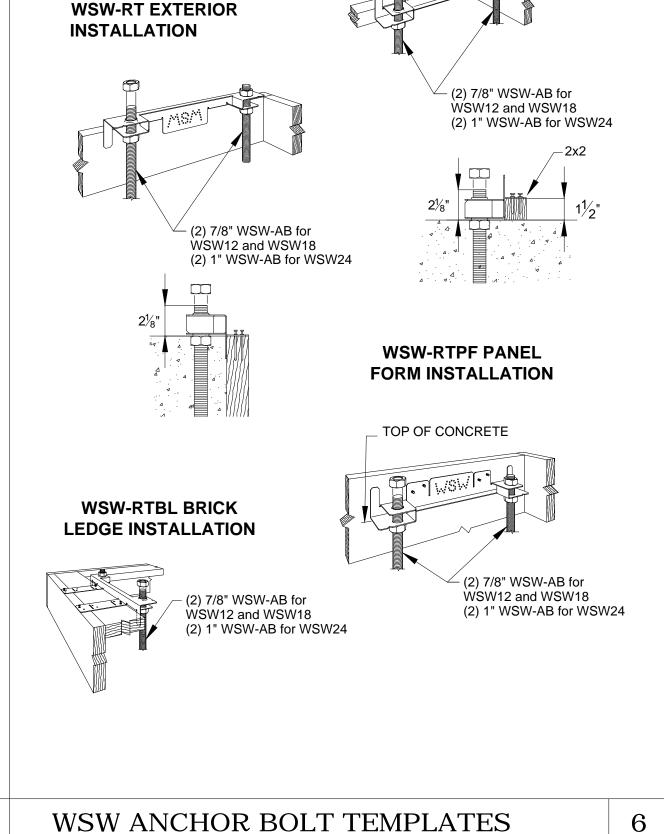
WSW-AB1x36HS



20" 20" 30" 26" 30" 26" 36" 32" 20" 24" 24" 20" 30" 26" 30" 26" 36" 32"

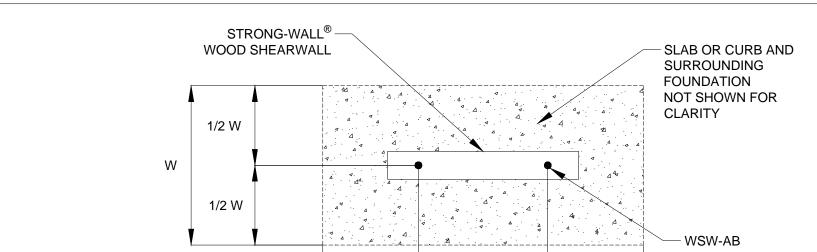


WSW ANCHOR BOLT EXTENSION



WSW-RT INTERIOR

INSTALLATION



1/2 W

FOUNDATION PLAN VIEW

1/2 W

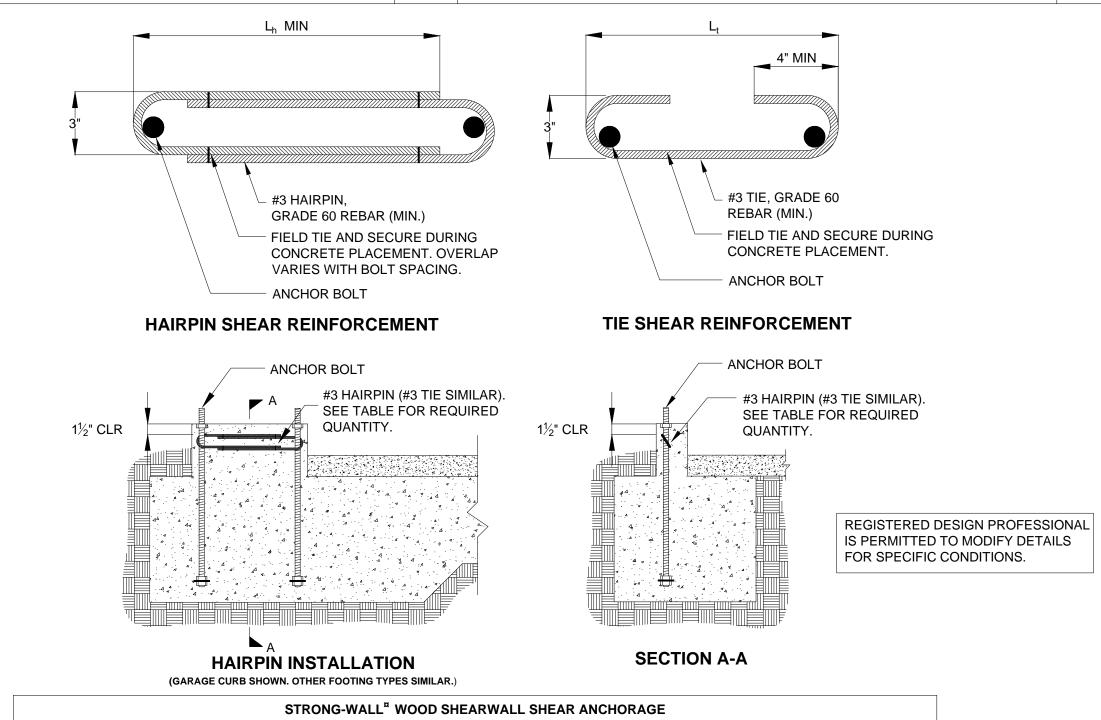
			WSW-AE	37/8 ANCHOR	BOLT	WSW-AB1 ANCHOR BOLT				
DESIGN CRITERIA	CONCRETE CONDITION			ANCHOR STRENGTH	ASD ALLOWABLE TENSION (lb.)	W (in.)	d _e (in.)	ASD ALLOWABLE TENSION (lb.)	W (in.)	d _e (in.)
		CTANDADD	11,900	27	9	16,100	33	11		
	CDACKED	STANDARD	13,100	29	10	17,100	35	12		
	CRACKED	HIGH	24,900	43	15	33,000	51	17		
CEICMIC		STRENGTH	27,100	46	16	35,300	54	18		
SEISMIC	UNCRACKED	CTANDADD	12,500	24	8	15,700	28	10		
		STANDARD	13,100	25	9	17,100	30	10		
		HIGH STRENGTH	25,300	38	13	32,300	44	15		
			27,100	40	14	35,300	47	16		
			5,100	14	6	6,200	16	6		
		STANDARD ACKED HIGH STRENGTH	8,700	20	7	11,400	24	8		
			13,100	27	9	17,100	32	11		
	CRACKED		15,900	30	10	21,100	36	12		
			18,400	33	11	27,300	42	14		
			23,100	38	13	31,800	46	16		
WIND			27,100	42	14	35,300	50	17		
VVIIVD			5,000	12	6	6,400	14	6		
		STANDARD	9,300	18	6	12,500	22	8		
			13,100	23	8	17,100	28	10		
	UNCRACKED		15,200	25	9	21,900	32	11		
		HIGH	19,900	30	10	26,400	36	12		
		STRENGTH	24,000	34	12	31,500	40	14		
			27,100	37	13	35,300	43	15		

NO	NES:
1.	ANCHORAGE DESIGNS CONFORM TO ACI 318-11 APPENDIX D AND ACI 318-14 WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED
	OR UNCRACKED CONCRETE AS NOTED.

- 2. ANCHOR STRENGTH INDICATES REQUIRED GRADE OF WSW-AB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A449).
- 3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-11 SECTION D.3.3.4.3 AND ACI 318-14 SECTION 17.2.3.4.3.
- 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C. 5. FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS. THE
- REGISTERED DESIGN PROFESSIONAL MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.
- 6. REFER TO 1/WSW1 FOR de.

			WSW-AE	37/8 ANCHOR	BOLT	WSW-AB1 ANCHOR BOLT				
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	ASD ALLOWABLE TENSION (lb.)	W (in.)	d _e (in.)	ASD ALLOWABLE TENSION (lb.)	W (in.)	d _e (in.)		
		CTANDADD	12,300	26	9	16,000	31	11		
	0040450	STANDARD	13,100	28	10	17,100	33	11		
	CRACKED	HIGH	25,200	41	14	32,700	48	16		
CEICMIC		STRENGTH	27,100	43	15	35,300	51	17		
SEISMIC		CTANDADD	12,000	22	8	16,300	27	9		
	UNCRACKED	STANDARD	13,100	24	8	17,100	28	10		
		UNCRACKED	UNCRACKED	HIGH	25,300	36	12	32,700	42	14
		STRENGTH	27,100	38	13	35,300	44	15		
	CRACKED		5,000	13	6	5,600	14	6		
		STANDARD	8,800	19	7	10,200	21	7		
			13,100	25	9	17,100	30	10		
			15,700	28	10	20,100	33	11		
		HIGH STRENGTH	19,200	32	11	25,300	38	13		
			23,200	36	12	32,300	44	15		
MINID			27,100	40	14	35,300	47	16		
WIND			5,500	12	6	6,200	13	6		
		STANDARD	8,500	16	6	12,800	21	7		
			13,100	22	8	17,100	26	9		
	UNCRACKED		16,600	25	9	21,800	30	10		
		HIGH	19,700	28	10	25,200	33	11		
		STRENGTH	24,000	32	11	31,700	38	13		
			27,100	35	12	35,300	41	14		

		wsw	ANCHORAGE SO	LUTIONS FOR	4500 PSI CON	CRETE				
			WSW-AB7/8 ANCHOR BOLT			WSW-A	WSW-AB1 ANCHOR BOLT			
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH	ASD ALLOWABLE TENSION (lb.)	W (in.)	d _e (in.)	ASD ALLOWABLE TENSION (lb.)	W (in.)	d _e (in.)		
		CTANDADD	12,600	23	8	16,000	27	9		
	CDACKED	STANDARD	13,100	24	8	17,100	29	10		
	CRACKED	HIGH	24,800	36	12	32,100	42	14		
SEISMIC		STRENGTH	27,100	38	13	35,300	45	15		
SEISIVIIC		STANDARD	12,700	20	7	15,700	23	8		
	UNCRACKED	STANDARD	13,100	21	7	17,100	25	9		
		UNCRACKED	HIGH	24,600	31	11	32,500	37	13	
		STRENGTH	27,100	34	12	35,300	39	13		
	CRACKED	STANDARD	5,400	12	6	6,800	14	6		
			8,300	16	6	11,600	20	7		
			13,100	22	8	17,100	26	9		
			15,300	24	8	21,400	30	10		
		HIGH	19,300	28	10	25,800	34	12		
		STRENGTH	23,600	32	11	31,000	38	13		
WIND			27,100	36	12	35,300	42	14		
WIND			6,800	12	6	6,800	12	6		
		STANDARD	9,400	15	6	12,400	18	6		
			13,100	19	7	17,100	23	8		
	UNCRACKED		16,800	22	8	21,600	26	9		
		HIGH	20,300	25	9	26,700	30	10		
		STRENGTH	24,100	28	10	32,200	34	12		
			27,100	31	11	35,300	36	12		

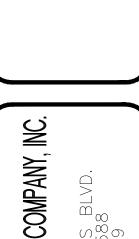


		STR	ONG-WALL [®] WO	OOD SHEARWALL SHE	EAR ANCHORA	GE			
		SEISMIC	3	WIND ⁴					
MODEL OF	$egin{array}{c} L_{t} \ OR \ L_{h} \ (in.) \end{array}$	SHEAR REINFORCEMENT	MINIMUM CURB/ STEMWALL	SHEAR REINFORCEMENT	MINIMUM CURB/ STEMWALL	ASD ALLOWABLE SHEAR LOAD,			
	()		WIDTH (in.)		WIDTH (in.)	UNCRACKED	CRACKED		
WSW12	101/4	(1) #3 HAIRPIN	8 ⁵	SEE NOTE 6	6	1,035	740		
WSW18	15	(1) #3 HAIRPIN	8 ⁵	(1) #3 HAIRPIN	6	HAIRPIN REINFORCEMENT ACHIEVI			
WSW24	19	(2) #3 HAIRPINS	8 ⁵	(1) #3 HAIRPIN	6	MAXIMUM ALLOWAB THE			

- 1. SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-11 AND ACI 318-14 AND ASSUME MINIMUM 2,500 PSI CONCRETE 2. SHEAR REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR BRACED WALL PANEL APPLICATIONS.
- 3. SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.
- 4. WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C. 5. WHERE NOTED, MINIMUM CURB/STEMWALL WIDTH IS 6 INCHES WHEN STANDARD STRENGTH ANCHOR BOLT IS USED.
- 6. USE (1) #3 TIE FOR WSW12 WHEN PANEL DESIGN SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.

7. #4 GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSW SHEAR ANCHORAGE SOLUTIONS.

STRONG-WALL® WSW SHEAR ANCHORAGE SCHEDULE AND DETAILS



COMPANY,



07-01-2016 N.T.S. CHECKED WSW1

SHEETS

Project Name: Anaheim PRADU - 3-Bedroom Plan A Calculation Date/Time: 2023-01-16T18:37:25-08:00 (Page 1 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BA.1-03.ribd22x

GENER.	AL INFORMATION								
01	Project Name	Anaheim PRADU - 3-Bedroom Plan A							
02	Run Title	Title 24 Analysis							
03	Project Location	Anaheim PRADU Street	heim PRADU 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	3				
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	0.54				
18	Total Cond. Floor Area (ft²)	1199	19	Glazing Percentage (%)	33.60%				
20	ADU Bedroom Count	n/a		TC I					

COMPLIANCE	RESULTS
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-P010009260A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-23 10:20:19 Report Version: 2022.0.000 Schema Version: rev 20220901

HERS Provider: CalCERTS inc. Report Generated: 2023-01-16 18:38:07

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan A Calculation Date/Time: 2023-01-16T18:37:25-08:00 (Page 3 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BA.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	0.51	3.48	0.94	6.55	-0.43	-3.07
Space Cooling	0.31	7.91	0.31	7.34	0	0.57
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.29	15.25	0.5	4.8
Self Utilization/Flexibility Credit	Λ			0		0
North Facing Efficiency Compliance Total	3.03	35.95	ED-2.96	33.65	0.07	2.3
Space Heating	0.51	3.48	0.97	6.74	-0.46	-3.26
Space Cooling	0.31	H 7.91 R S	P R 0.31	D E F _{8.43}	0	-0.52
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.3	15.17	0.49	4.88
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	3.03	35.95	3	34.85	0.03	1.1

Registration Number: 223-P010009260A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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Registration Number: 223-P010009260A-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 - 3-Bedroom Plan A Calculation Date/Time: 2023-01-16T18:37:25-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BA.1-03.ribd22x

GY 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	36	30.5	30.7			
		Propose	d Design			
North Facing	35.6	28.5	28.9	0.4	2	1.8
East Facing	35.7	29.5	29.2	0.3	1	1.5
South Facing	33.7	26.1	27.7	2.3	4.4	3
West Facing	34.9	30.2	29.6	1.1	0.3	1.1

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

Standard Design PV Capacity: 2.30 kWdc

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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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	0.51	3.48	0.38	2.61	0.13	0.87
Space Cooling	0.31	7.91	0.26	8.7	0.05	-0.79
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.27	15	0.52	5.05
Self Utilization/Flexibility Credit	A			0		0
South Facing Efficiency Compliance Total	3.03	35.95	2.33	30.82	0.7	5.13
Space Heating	0.51	3.48	0.5	3.43	0.01	0.05
Space Cooling	0.31	H 7.91 R S	P R 0.53 V I I	D E B12.72	-0.22	-4.81
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.27	15	0.52	5.05
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	3.03	35.95	2.72	35.66	0.31	0.29

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General Notes

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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- 3 BEDROOM PLAN A 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BA.1-03 T - 0101/24/2023

Calculation Date/Time: 2023-01-16T18:37:25-08:00 Project Name: Anaheim PRADU - 3-Bedroom Plan A (Page 5 of 13) Input File Name: 23Q1019-3BA.1-03.ribd22x Calculation Description: Title 24 Analysis

	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	16.92	16.67	0.25	1.48
Net EUI ²	6.58	5.87	0.71	10.79
East Facing				
Gross EUI ¹	16.92	16.92	0	0
Net EUI ²	6.58	6.11	0.47	7.14
South Facing				
Gross EUI ¹	16.92	16.54	0.38	2.25
Net EUI ²	6.58	5.73	0.85	12.92
West Facing	HE	RS PROV	TDER	
Gross EUI ¹	16.92	17.01	-0.09	-0.53
Net EUI ²	6.58	6.2	0.38	5.78

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BUILDING - FEATURES INFORMA	ATION						
01 02 03 04 05 06							
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 - 3-Bedroom Plan A	1199	1	3	1	1	1	

ZONE INFORMATION						
01	01 02		04	05	06	07
Zone Name	Zone Name Zone Type		Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Status
ADU 3-Bedroom A	Conditioned	Ductless Mini-Split1	1199	9	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 3-Bedroom A	_WALL: 2x4 Exterior	RSO P	Front	438.8	175	90	
Left Wall	ADU 3-Bedroom A	_WALL: 2x4 Exterior	90	Left	252	18	90	
Rear Wall	ADU 3-Bedroom A	_WALL: 2x4 Exterior	180	Back	438.8	66	90	
Right Wall	ADU 3-Bedroom A	_WALL: 2x4 Exterior	270	Right	252	144	90	
Roof 2	ADU 3-Bedroom A	ROOF: CLG.	n/a	n/a	372	n/a	n/a	

PAQUE SURFAC	CES - CATHEDRAL C	EILINGS								
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 3-Bedroom A	_ROOF: SLPD. CLG.	0	Front	827	0	3	0.1	0.85	No

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan A

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REQUIRED PV SYSTEMS

REQUIRED PV 515	I EIVIS										
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 (%)
2.3	NA	Premium (~18-20%)	Fixed	Microinverters	false	180	Degre es	22	4.85	96	100

REQUIRED SPECIAL FEATURES

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

- PV module type: Premium PV power electronics: Microinverters
- Whole house fan
- Ceiling has high level of insulation
- 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 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 Kitchen range hood
- Whole house fan airflow and fan efficacy
- Verified EER/EER2
- 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)
- Pipe Insulation, All Lines

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03 04 05 06 07 80 01 02 Roof Rise (x in 12) Roof Reflectance **Roof Emittance** Cool Roof Construction Type Radiant Barrier Name Attic RoofADU Attic ADU 3-Bedroom A Ventilated 0.1 0.85 No 3-Bedroom A

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	45	0.58	NFRC	0.65	NFRC	Bug Screen
d1	Window	Front Wall	Front	0			1	24	0.53	NFRC	0.65	NFRC	Bug Screen
w2	Window	Front Wall	Front	0	1		1	30	0.58	NFRC	0.65	NFRC	Bug Screen
w3	Window	Front Wall	Front	0			1	12	0.58	NFRC	0.65	NFRC	Bug Screen
d3	Window	Front Wall	Front	HoE	RS	P	R (64	0.53	NFRC	0.5	NFRC	Bug Screen
w4	Window	Left Wall	Left	90			1	18	0.58	NFRC	0.65	NFRC	Bug Screen
w5	Window	Rear Wall	Back	180			1	8	0.58	NFRC	0.65	NFRC	Bug Screen
w2 2	Window	Rear Wall	Back	180			1	30	0.58	NFRC	0.65	NFRC	Bug Screen
w5 2	Window	Rear Wall	Back	180			1	8	0.58	NFRC	0.65	NFRC	Bug Screen
w6	Window	Rear Wall	Back	180			1	20	0.58	NFRC	0.65	NFRC	Bug Screen
d2	Window	Right Wall	Right	270			1	144	0.5	NFRC	0.5	NFRC	Bug Screen

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General Notes

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Project Name and Address

ANAHEIM PRADU- 3 BEDROOM PLAN A 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BA.1-03 01/24/2023

HERS Provider: CalCERTS inc.

Project Name: Anaheim PRADU - 3-Bedroom Plan A Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-16T18:37:25-08:00 Input File Name: 23Q1019-3BA.1-03.ribd22x

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SLAB FLOORS				2			
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 3-Bedroom A	1199	153	none	0	0%	No

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
_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
_ROOF: SLPD. CLG.	Cathedral C <mark>eilin</mark> gs	Wood Framed Ceiling	2x10 @ 16 in. O. C.	R-30	None / None	0.037	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board
Attic RoofADU 3-Bedroom A	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-O	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
_ROOF: CLG.	Ceilings (below attic)	Wood Framed Ceiling	2x6 @ 16 in. O. C.	R-38	None / None	0.026	Over Ceiling Joists: R-23.7 insul. Cavity / Frame: R-14.3 / 2x6 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

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HVAC - HEAT PUMP	s											
01	02	03	04	05	06	07	08	09	10	11	12	13
			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	2	HSPF2	12.2	26000	15600	EER2SEER2	21.5	11.9	Zonally Controlled	Multi- speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS -	HERS VERIFICATION	A						
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	Not Required	Yes	No	Yes	Yes

VA	RIABLE CAPACITY HEAT PUMP C	OMPLIANCE OPTI	ON - HERS VERIFI	CATION			11100			
	01	02	03	04	05	06	D E ₀₇ K	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	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	65	0.35	Exhaust	No	n/a	No	Yes	

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WATER HEATING SYSTEMS Distribution Type | Water Heater Name | Distribution Domestic Hot HERS Verified Pipe DHW Sys 1 DHW Heater 1 DHW Heater 1 (1) Water (DHW) Insulation credit 1-hers-dhw

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 3-Bedroom A	ADU 3-Bedroom A	ADU 3-Bedroom A			

ATER HEATING - HERS VE	RIFICATION	1 3 1		Inc			
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	Required	Not Required	Not Required	None	Not Required	Not Required	

CE CONDITIONII	NG 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	2	Heat Pump System 1	2	n/a	n/a	Setback

Registration Number: 223-P010009260A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-23 10:20:19 Report Version: 2022.0.000

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COOLING VENTILATION 02 03 04 05 06 07 09 Airflow Rate Cooling Vent CFM **Total Watts** Number of Fans CFVCS Type Exhausts to **HERS Verification** (CFM/ft2) Watts/CFM WH Fan 1 0.04 42 0.0238 Not a CFVCS Outside Required

PROJECT NOTES

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

SCOPE OF WORK: Construct a ADU - 3-Bedroom (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 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 HERS PROVIDER

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Date

Revision/Issue

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ANAHEIM PRADU- 3 BEDROOM PLAN A 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

http://www.beartechconsulting.com

23Q1019-3BA.1-03 T - 0301/24/2023



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) Building Envelope	9'
With the access to the	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or
§ 110.6(a)1:	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 Consume 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 0.10
	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 alon 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 hat a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45.
ireplaces, Decor	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. *
Space Conditioni	ng, Water Heating, and Plumbing System:
	Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other
§ 110.0-§ 110.3:	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.
	Isolation Valves, Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with



2022 Single-Family Residential Mandatory Requirements Summary

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.

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.*

Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole-

prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per §150.0(o)1Biii&iv. CFI

§ 150.0(o)1B: dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that

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.*

	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
Pool 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, 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.
§ 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

§ 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 at
	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:	
§ 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 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 of 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.
§ 150.0(m)12:	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 filter.

2022 Single-Family Residential Mandatory Requirements Summary

NO.	
§ 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 o 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 ceilling-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.
Solar Readiness:	Single-family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the
§ 110.10(a)1:	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. 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 policircuit 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

(Page 13 of 13) Project Name: Anaheim PRADU - 3-Bedroom Plan A Calculation Date/Time: 2023-01-16T18:37:25-08:00 Input File Name: 23Q1019-3BA.1-03.ribd22x Calculation Description: Title 24 Analysis

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Wayne Seward	Documentation Author Signature: Wayne Seward
Company: Bear Technologies Consulting Inc.	Signature Date: 2023-01-23 09:55:05
Address: 3431 Don Arturo Drive	CEA/ HERS Certification Identification (If applicable): R19-04-30011 California Association of Building Energy Consultants CERTIFIED ENERGY ANALYST
City/State/Zip: Carlsbad, CA 92010	Phone: 760-635-2327
 I certify that the energy features and performance specifications identified on this Certificate of C 	ompliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. are consistent with the information provided on other applicable compliance documents, worksheets,
3. The building design features or system design features identified on this Certificate of Compliance	ompliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. are consistent with the information provided on other applicable compliance documents, worksheets,
Responsible Designer Name: Bart M Smith	Responsible Designer Signature: Bart MSmith
DZN Partners	Date Signed: 2023-01-23 10:20:19
Address: 682 2nd Street	License: C-22557
City/State/Zip: Encinitas, CA 92024	Phone: 760-753-2464

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Registration Date/Time: Registration Number: 223-P010009260A-000-000-0000000-0000 2023-01-23 10:20:19 Report Version: 2022.0.000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Schema Version: rev 20220901

HERS Provider: CalCERTS inc. Report Generated: 2023-01-16 18:38:07

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, 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 lightness circuit are 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

Firm Name and Address



Date

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

Revision/Issue

Project Name and Address

ANAHEIM PRADU- 3 BEDROOM PLAN A 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BA.1-03 T - 0401/24/2023

5/6/22

Project Name: Anaheim PRADU - 3-Bedroom Plan B

Calculation Date/Time: 2023-01-19T14:20:20-08:00 Input File Name: 23Q1019-3BB.1-03.ribd22x

CF1R-PRF-01-E (Page 1 of 14)

Calculation Description: Title 24 Analysis GENERAL INFORMATION Project Name | Anaheim PRADU - 3-Bedroom Plan B Run Title Title 24 Analysis Project Location | Anaheim PRADU Street City Anaheim Standards Version 2022 Zip code 92805 07 Software Version EnergyPro 9.0 Climate Zone 7 Front Orientation (deg/ Cardinal) All orientations Number of Dwelling Units 1 Building Type Single family 11 Project Scope Newly Constructed 13 Number of Bedrooms 3 Number of Stories 1 Addition Cond. Floor Area (ft²) Fenestration Average U-factor 0.54 Existing Cond. Floor Area (ft²) n/a Glazing Percentage (%) 33.60% Total Cond. Floor Area (ft²) 1199

COMPLIANCE RE	Sotis			
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			

ADU Bedroom Count n/a

Registration Number: 223-P010009264A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance Registration Date/Time: 2023-01-23 10:20:19 Report Version: 2022.0.000 Schema Version: rev 20220901

HERS Provider: CalCERTS inc. Report Generated: 2023-01-19 14:21:10

CF1R-PRF-01-E

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BB.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	0.51	3.49	0.9	6.31	-0.39	-2.82
Space Cooling	0.3	7.62	0.31	7.41	-0.01	0.21
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.29	15.22	0.5	4.83
Self Utilization/Flexibility Credit	A			0		0
North Facing Efficiency Compliance Total	3.02	35.67	ED 2.92	33.45	0.1	2.22
Space Heating	0.51	3,49	0.99	6.88	-0.48	-3.39
Space Cooling	0.3	H 7.62 R S	P K 0.32	D E R _{8.36}	-0.02	-0.74
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.3	15.19	0.49	4.86
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	3.02	35.67	3.03	34.94	-0.01	0.73

223-P010009264A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-01-23 10:20:19 Report Version: 2022.0.000 Schema Version: rev 20220901

CalCERTS inc. Report Generated: 2023-01-19 14:21:10

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00 Calculation Description: Title 24 Analysis

Input File Name: 23Q1019-3BB.1-03.ribd22x

		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	30.3	30.3	30.3				
		Propose	d Design		·		
North Facing	29.8	28.4	28.5	0.5	1.9	1.8	
East Facing	30.1	29.7	29	0.2	0.6	1.3	
South Facing	28	26	27.4	2.3	4.3	2.9	
West Facing	29.1	30	29.2	1.2	0.3	1.1	

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

Standard Design PV Capacity: 2.30 kWdc

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00 Calculation Description: Title 24 Analysis Input File Name: 2301019-388 1-03 ribd22v

Calculation Description: Title 24 Analysis		Input File Name: 23Q1019-3BB.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	0.51	3.49	0.41	2.82	0.1	0.67
Space Cooling	0.3	7.62	0.25	8.29	0.05	-0.67
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.27	14.99	0.52	5.06
Self Utilization/Flexibility Credit	A			0		0
South Facing Efficiency Compliance Total	3.02	35.67	2.35	30.61	0.67	5.06
Space Heating	0.51	3.49	0.5	3.47	0.01	0.02
Space Cooling	0.3	H 7.62 R S	P R 0.51 V I I	D E R ^{12.4}	-0.21	-4.78
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.05	1.27	15	0.52	5.05
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	3.02	35.67	2.7	35.38	0.32	0.29

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General Notes



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Firm Name and Address



Revision/Issue

Date

Project Name and Address

ANAHEIM PRADU- 3 BEDROOM PLAN B 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

http://www.beartechconsulting.com

23Q1019-3BB.1-03 T - 0101/24/2023

Project Name: Anaheim PRADU - 3-Bedroom Plan B

Calculation Description: Title 24 Analysis

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Calculation Date/Time: 2023-01-19T14:20:20-08:00 Input File Name: 23Q1019-3BB.1-03.ribd22x

	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	16.31	16.07	0.24	1.47
Net EUI ²	5.98	5.27	0.71	11.87
East Facing				
Gross EUI ¹	16.31	16.33	-0.02	-0.12
Net EUI ²	5.98	5.52	0.46	7.69
South Facing		_		
Gross EUI ¹	16.31	15.93	0.38	2.33
Net EUI ²	5.98	5.12	0.86	14.38
West Facing	HE	RS PROV	TDER	
Gross EUI ¹	16.31	16.41	-0.1	-0.61
Net EUI ²	5.98	5.61	0.37	6.19

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BB.1-03.ribd22x

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 - 3-Bedroom Plan B	1199	1	3	1	1	1

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 3-Bedroom B	Conditioned	Ductless Mini-Split1	1199	9	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 3-Bedroom B	_WALL: 2x4 Exterior	8 S O P	Front	258.8	133	90	
Front Wall 2	ADU 3-Bedroom B	_WALL: 2x4 Exterior Stone	0	Front	180	42	90	
Left Wall	ADU 3-Bedroom B	_WALL: 2x4 Exterior	90	Left	72	0	90	
Left Wall 2	ADU 3-Bedroom B	_WALL: 2x4 Exterior Stone	90	Left	180	18	90	
Rear Wall	ADU 3-Bedroom B	_WALL: 2x4 Exterior	180	Back	258.8	28	90	
Rear Wall 2	ADU 3-Bedroom B	_WALL: 2x4 Exterior Stone	180	Back	180	38	90	
Right Wall	ADU 3-Bedroom B	_WALL: 2x4 Exterior	270	Right	216	144	90	
Right Wall 2	ADU 3-Bedroom B	_WALL: 2x4 Exterior Stone	270	Right	36	0	90	
Roof 2	ADU 3-Bedroom B	_ROOF: CLG.	n/a	n/a	260	n/a	n/a	

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00

Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BB.1-03.ribd22x

REQUIRED PV SYSTEMS Inverter Eff. | Solar Access Tilt DC System Size Azimuth Array Angle | Tilt: (x in Module Type Array Type **Power Electronics** (kWdc) (deg) 12) (%) (%) 2.3 Premium (~18-20%) 180 4.85

Microinverters

REQUIRED SPECIAL FEATURES

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

- PV module type: Premium
- PV power electronics: Microinverters Whole house fan
- Ceiling has high level of insulation
- 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 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
- Kitchen range hood
- Whole house fan airflow and fan efficacy
- Verified EER/EER2 Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)
- Verified HSPF2 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)
- Pipe Insulation, All Lines

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

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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 3-Bedroom B	_ROOF: SLPD. CLG.	0	Front	939	0	0.3	0.1	0.85	No

ATTIC										
01	02	03	04	05	06	07	08			
Name	Construction	Туре	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof			
Attic ADU 3-Bedroom B	Attic RoofADU 3-Bedroom B	Ventilated	4	0.1	0.85	Yes	No			

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	45	0.58	NFRC	0.65	NFRC	Bug Screen
d1	Window	Front Wall	Front	0			1	24	0.53	NFRC	0.65	NFRC	Bug Screen
d3	Window	Front Wall	Front	0			1	64	0.53	NFRC	0.5	NFRC	Bug Screen
w2	Window	Front Wall 2	Front	0			1	30	0.58	NFRC	0.65	NFRC	Bug Screen
w3	Window	Front Wall 2	Front	0			1	12	0.58	NFRC	0.65	NFRC	Bug Screen
w4	Window	Left Wall 2	Left	90			1	18	0.58	NFRC	0.65	NFRC	Bug Screen
w5	Window	Rear Wall	Back	180			1	8	0.58	NFRC	0.65	NFRC	Bug Screen
w6	Window	Rear Wall	Back	180			1	20	0.58	NFRC	0.65	NFRC	Bug Screen
w2 2	Window	Rear Wall 2	Back	180			1	30	0.58	NFRC	0.65	NFRC	Bug Screen

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General Notes



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Firm Name and Address

BEAR TECHNOLOGIES CONSULTING, INC. 3431 DON ARTURO DRI∨E, CARLSBAD, CALIFORNIA 92010

Date

(760) 635-2327 wayne@beartechconsulting.com http://www.beartechconsulting.com

Revision/Issue

Project Name and Address

ANAHEIM PRADU- 3 BEDROOM PLAN B 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BB.1-03 T-0201/24/2023

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Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-19T14:20:20-08:00 Input File Name: 23Q1019-3BB.1-03.ribd22x

			1,00									9	501
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 2	Window	Rear Wall 2	Back	180			1	8	0.58	NFRC	0.65	NFRC	Bug Screen
d2	Window	Right Wall	Right	270			1	144	0.5	NFRC	0.5	NFRC	Bug Screen

LAB 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 3-Bedroom B	1199	153	none	0	0%	No

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	E R S P R	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
_WALL: 2x4 Exterior Stone	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
_ROOF: SLPD. CLG.	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 16 in. O. C.	R-30	None / None	0.037	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board

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Project Name: | Anaheim PRADU - 3-Bedroom Plan B

Calculation Description: Title 24 Analysis

Registration Date/Time: 2023-01-23 10:20:19 Report Version: 2022.0.000 Schema Version: rev 20220901

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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	Required	Not Required	Not Required	None	Not Required	Not Required

COLCE CONDITIONIE	IC CUCTERAC							
SPACE CONDITIONIN	NG 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	2	Heat Pump System 1	2	n/a	n/a	Setback

HVAC - HEAT PUMPS	5				0	-0		- 1					
01	02	03	04	05	06	07	08	09	10	11	12	13	
	1			Heati	ng		-	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 Compressor Controlled Type	Compressor Type	HERS Verification	
Heat Pump System 1	VCHP-ductless	2	HSPF2	12.2	25000	15000	EER2SEER2	21.5	11.9	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	Not Required	Yes	No	Yes	Yes

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Registration Date/Time: 2023-01-23 10:20:19 Report Version: 2022.0.000 Schema Version: rev 20220901

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B

Calculation Date/Time: 2023-01-19T14:20:20-08:00

Input File Name: 23Q1019-3BB.1-03.ribd22x

Calculation Description: Title 24 Analysis OPAQUE SURFACE CONSTRUCTIONS 03 06 nterior / Exterior **Total Cavity** Construction Type Construction Name Surface Type Framing Assembly Layers Continuous R-value R-value Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Attic RoofADU Wood Framed Attic Roofs 2x4 @ 24 in. O. C. R-0 0.644 None / 0 3-Bedroom B Siding/sheathing/decking Cavity / Frame: no insul. / 2x4 Over Ceiling Joists: R-23.7 insul. Ceilings (below Wood Framed _ROOF: CLG. 2x6 @ 16 in. O. C. R-38 None / None 0.026 Cavity / Frame: R-14.3 / 2x6 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 SYS	TEMS		HEKS	PAC	VIDI			_
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)	HERS Verified Pipe Insulation credit	DHW Heater 1	1	n/a	None	DHW Sys 1-hers-dhw	DHW Heater 1 (1)

ATER 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 3-Bedroom B	ADU 3-Bedroom B	ADU 3-Bedroom B

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Description: Title 24 Analysis

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VARIABLE CAPACITY HEAT PUMP O	RIABLE 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

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	65	0.35	Exhaust	No	n/a	No	Yes	

OOLING VENTILATI	ON			FKI				
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	0.04	42	0.0238	1	1	Not a CFVCS	Outside	Required

PROJECT NOTES

Registration Number: 223-P010009264A-000-000-0000000-0000

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General Notes



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Date

BEAR TECHNOLOGIES CONSULTING, INC. 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- 3 BEDROOM PLAN B 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BB.1-03 T - 0301/24/2023

CERTIFICATE	OF COMPLIANCE -	 RESIDENTIAL 	PERFORMANCE	COMPLIANCE 1	METHOD

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Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BB.1-03.ribd22x

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

SCOPE OF WORK: Construct a ADU - 3-Bedroom (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



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Project Name: Anaheim PRADU - 3-Bedroom Plan B Calculation Date/Time: 2023-01-19T14:20:20-08:00 Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BB.1-03.ribd22x

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT 1. I certify that this Certificate of Compliance documentation is accurate and complete. Documentation Author Signature: Documentation Author Name: Wayne Seward Wayne Seward Signature Date: Bear Technologies Consulting Inc. 2023-01-23 09:57:09 CEA/ HERS Certification Identification (If applicable): 3431 Don Arturo Drive R19-04-30011 City/State/Zip: 760-635-2327 Carlsbad, CA 92010 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 responsibility for the building design identified on this Certificate of Compliance.
- 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets,

calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. Responsible Designer Name:

Bart M Smith Bart M Smith 2023-01-23 10:20:19 DZN Partners License: C-22557 682 2nd Street City/State/Zip: Encinitas, CA 92024 Phone: 760-753-2464

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223-P010009264A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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General Notes



Firm Name and Address

BEAR TECHNOLOGIES CONSULTING, INC.

Date

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

Revision/Issue

Project Name and Address

ANAHEIM PRADU- 3 BEDROOM PLAN B 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BB.1-03 T - 0401/24/2023



2022 Single-Family Residential Mandatory Requirements Summary

<u>NOTE:</u> 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)

§ 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
§ 110.6(a)5:	less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. * 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
§ 110.8(a):	caulked, gasketed, or weather stripped. 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 0.10
V20	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). 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
§ 150.0(g)1:	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, Decor	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.*
space Conditioning	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(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

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§ 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 a
§ 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 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 (n 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 an 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 n 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). I 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 72. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼1, 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 of 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 taper 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 a 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, Share conditioning systems with durts exceeding 10 feet and the supply side of vertilation systems must have MERV 1



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

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§ 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 clinen 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 meet 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 tapplicable 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 froof 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 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
§ 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. Main Electrical Service Panel. The main electrical service panel must have a reserved space to ellew for the isotalistics of a double service panel.
§ 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 pocification breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

5/6/22



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 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. *

§ 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. CI 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 unit 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 deman 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 n be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Referer Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than 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

§ 150.0(o)2:	Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G
Pool and Spa Sy	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, 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.
§ 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

§ 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
§ 150.0(t)	panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source. 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 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 wit 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



 \Box 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- 3 BEDROOM PLAN B 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BB.1-03 01/24/2023

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan C

Calculation Description: Title 24 Analysis

Input File Name: 23Q1019-3BC.1-03.ribd22x

(Page 1 of 13)

GENER	AL INFORMATION								
01	Project Name	Anaheim PRADU - 3-Bedroom Plan C	aheim PRADU - 3-Bedroom Plan C						
02	Run Title	Title 24 Analysis							
03	Project Location	Anaheim PRADU 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	3				
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	0.53				
18	Total Cond. Floor Area (ft²)	1199	19	Glazing Percentage (%)	33.60%				
20	ADU Bed <mark>room</mark> Count	n/a	7	TC I					

COMPLIANCE RESULTS

COMPLIANCE RE	Solis
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

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan C

Calculation Date/Time: 2023-01-17T12:39:07-08:00 (Page 3 of 13)

Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BC.1-03.ribd22x

Energy Use Standard Design Source Energy (EDR1) (kBtu/ft² -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	0.46	3.18	1.12	7.86	-0.66	-4.68
Space Cooling	0.3	7.63	0.25	6.02	0.05	1.61
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.04	1.3	15.31	0.49	4.73
Self Utilization/Flexibility Credit	Λ			0		0
North Facing Efficiency Compliance Total	2.97	35.36	ED-3.09	33.7	-0.12	1.66
Space Heating	0.46	3.18	1.14	7.9	-0.68	-4.72
Space Cooling	0.3	H 7.63 R S	P R 0.23 V III	D E R _{6.23}	0.07	1.4
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.04	1.3	15.28	0.49	4.76
Self Utilization/Flexibility Credit				0		0
ast Facing Efficiency Compliance Total	2.97	35.36	3.09	33.92	-0.12	1.44

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan C
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-01-17T12:39:07-08:00 Input File Name: 23Q1019-3BC.1-03.ribd22x (Page 2 of 13)

ENERGY DESIGN RATINGS **Energy Design Ratings Compliance Margins** Total² EDR Efficiency¹ EDR Source Energy Efficiency¹ EDR Source Energy Total² EDR (EDR2efficiency) (EDR2total) (EDR2efficiency) (EDR2total) 30.2 30.6 Standard Design Proposed Design 28.7 North Facing 1.5 1.6 28.9 East Facing 1.3 1.6 25.5 South Facing 33.9 27.5 2.1 4.7 3.1 34.9 28.8 1.1 1.4 1.6 West Facing

RESULT³: PASS

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: 2.30 kWdc

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy Proposed Design Source (EDR2) (kTDV/ft ² -yr) Energy (EDR1) (kBtu/ft ² -yr)		Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.46	3.18	0.49	3.38	-0.03	-0.2
Space Cooling	0.3	7.63	0.21	6.99	0.09	0.64
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.04	1.28	15.06	0.51	4.98
Self Utilization/Flexibility Credit	A			0		0
South Facing Efficiency Compliance Total	2.97	35.36	2.4	29.94	0.57	5.42
Space Heating	0.46	3.18	0.59	4.1	-0.13	-0.92
Space Cooling	0.3	H 7.63 R S	P R 0.41 V I I	D E E ^{10.07}	-0.11	-2.44
IAQ Ventilation	0.42	4.51	0.42	4.51	0	0
Water Heating	1.79	20.04	1.28	15.07	0.51	4.97
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	2.97	35.36	2.7	33.75	0.27	1.61

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General Notes

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TITLE 24, PART 6 ENERGY COMPLIANCE DOCUMENTAT

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- 3 BEDROOM PLAN C 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan C Calculation Date/Time: 2023-01-17T12:39:07-08:00 (Page 5 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BC.1-03.ribd22x

	Standard Design (kBtu/ft ² - yr)	Proposed Design (kBtu/ft ² - yr)	Compliance Margin (kBtu/ft ² - yr)	Margin Percentage
lorth Facing	•			
Gross EUI ¹	16.86	16.67	0.19	1.13
Net EUI ²	6.53	5.86	0.67	10.26
East Facing				
Gross EUI ¹	16.86	16.77	0.09	0.53
Net EUI ²	6.53	5.97	0.56	8.58
South Facing				
Gross EUI ¹	16.86	16.39	0.47	2.79
Net EUI ²	6.53	5.59	0.94	14.4
West Facing	HE	RS PROV	TDER	
Gross EUI ¹	16.86	16.74	0.12	0.71
Net EUI ²	6.53	5.94	0.59	9.04

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					e	_
BUILDING - FEATURES INFORMA	TION					
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 - 3-Bedroom	1199	1	3	1	1	1

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 3-Bedroom C	Conditioned	Ductless Mini-Split1	1199	9	DHW Sys 1	New

DPAQUE 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 3-Bedroom C	_WALL: 2x4 Exterior	3 5 ° P	Front	438.8	175	90			
Left Wall	ADU 3-Bedroom C	_WALL: 2x4 Exterior	90	Left	252	18	90			
Rear Wall	ADU 3-Bedroom C	_WALL: 2x4 Exterior	180	Back	438.8	66	90			
Right Wall	ADU 3-Bedroom C	_WALL: 2x4 Exterior	270	Right	252	144	90			

AQUE SURFA	CES - CATHEDRAL C	EILINGS								
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 3-Bedroom C	_ROOF: SLPD. CLG.	0	Front	358	0	3	0.1	0.85	No
Roof 2	ADU 3-Bedroom C	_ROOF: SLPD. CLG.	0	Front	841	0	3	0.1	0.85	No

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REQUIRED PV SYS	TEMS				EQUIRED PV SYSTEMS											
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 (%)					
2.3	NA	Premium (~18-20%)	Fixed	Microinverters	false	180	Degre es	22	4.85	96	100					

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

- PV module type: Premium
- PV power electronics: Microinverters
- 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

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
- Kitchen range hood Whole house fan airflow and fan efficacy
- Verified EER/EER2
- Verified SEER/SEER2
- Verified Refrigerant Charge Airflow in habitable rooms (SC3.1.4.1.7)
- Verified HSPF2
- 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)
- Pipe Insulation, All Lines

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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
w1	Window	Front Wall	Front	0			1	45	0.58	NFRC	0.5	NFRC	Bug Screen
d1	Window	Front Wall	Front	0			1	24	0.5	NFRC	0.5	NFRC	Bug Screen
w2	Window	Front Wall	Front	0			1	30	0.58	NFRC	0.5	NFRC	Bug Screen
w3	Window	Front Wall	Front	0			1	12	0.58	NFRC	0.5	NFRC	Bug Screen
d3	Window	Front Wall	Front	0			1	64	0.5	NFRC	0.5	NFRC	Bug Screen
w4	Window	Left Wall	Left	90			1	18	0.58	NFRC	0.5	NFRC	Bug Screen
w5	Window	Rear Wall	Back	180			1	8	0.58	NFRC	0.5	NFRC	Bug Screen
w2 2	Window	Rear Wall	Back	180			1	30	0.58	NFRC	0.5	NFRC	Bug Screen
w5 2	Window	Rear Wall	Back	180	RS	P	R	V8C	0.58	NFRC	0.5	NFRC	Bug Screen
w6	Window	Rear Wall	Back	180			1	20	0.58	NFRC	0.5	NFRC	Bug Screen
d2	Window	Right Wall	Right	270			1	144	0.5	NFRC	0.5	NFRC	Bug Screen

SLAB FLOORS		LAB 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 3-Bedroom C	1199	153	none	0	0%	No						

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General Notes

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Revision/Issue

Date

Project Name and Address

ANAHEIM PRADU- 3 BEDROOM PLAN C 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

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

23Q1019-3BC.1-03 T-0201/24/2023

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Anaheim PRADU - 3-Bedroom Plan C Calculation Description: Title 24 Analysis

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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
_ROOF: SLPD. CLG.	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 16 in. O. C.	R-30	None / None	0.037	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x10 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICA	TION	BUILDING ENVELOPE - HERS VERIFIC <mark>ATION</mark>											
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	RS PNAROV	IDE n/a	n/a									

WATER HEATING SYS	STEMS							
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)	HERS Verified Pipe Insulation credit	DHW Heater 1	1	n/a	None	DHW Sys 1-hers-dhw	DHW Heater 1 (1)

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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	Not Required	Yes	No	Yes	Yes

VARIABLE CAPACITY HEAT PUMP	COMPLIANCE OPTI	ON - HERS VERIFI	CATION									
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 QUALIT	Y (IAQ) FANS			EDT	C			
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	65	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	0.04	42	0.0238	1	1	Not a CFVCS	Outside	Required

PROJECT NOTES

Registration Number: 223-P010009267A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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WATER HEATERS - NEEA HEAT PUMP **NEEA Heat Pump** NEEA Heat Pump # of Units Tank Location Duct Inlet Air Source Duct Outlet Air Source Tank Vol. (gal) DHW Heater 1 AOSmith AOSmithFPTU50 ADU 3-Bedroom C ADU 3-Bedroom C ADU 3-Bedroom C

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 Hea Recovery
DHW Sys 1 - 1/1	Required	Not Required	Not Required	None	Not Required	Not Required

SPACE CONDITIONIN	PACE CONDITIONING 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	H E K S	Heat Pump System	2	n/a	n/a	Setback				

HVAC - HEAT PUMPS	5	·					·	500 a				
01	02	03	04	05	06	07	08	09	10	11	12	13
			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	2	HSPF2	12.2	26000	15600	EER2SEER2	21.5	11.9	Zonally Controlled	Multi- speed	Heat Pump System 1-hers-htpump

Registration Number: 223-P010009267A-000-000-0000000-0000 CA Building Energy Efficiency Standards - 2022 Residential Compliance

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

SCOPE OF WORK: Construct a ADU - 3-Bedroom (C 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



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General Notes



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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- 3 BEDROOM PLAN C 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BC.1-03 T - 0301/24/2023



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.

Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or

3 110.0(a)1:	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.
2 (50.0/)	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

§ 150.0(c): 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. * Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone § 150.0(f): 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).

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 § 150.0(g)1: vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to

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 § 150.0(g)2: all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.

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, Decorative Gas Appliances, and Gas Log: § 110.5(e) Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces. Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox. Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in 150.0(e)2: 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 Conditioning, Water Heating, and Plumbing System: 110.0-§ 110.3: regulated appliances must be certified by the manufacturer to the California Energy Commission. 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 proposed supplementary leaders and the 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(b): Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a § 110.2(c):

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.



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:

§ 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; nonenciosed 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

Pool and Spa S	ystems 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.
8 110 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. Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.

Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump § 150.0(p): 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 line 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).

2022 Single-Family Residential Mandatory Requirements Summary

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§ 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:	
§ 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 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.
§ 150.0(m)12:	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.

2022 Single-Family Residential Mandatory Requirements Summary

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)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 require 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 clinen 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 installe 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 tapplicable 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 system. 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 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: 2023-01-17T12:39:07-08:00 Project Name: Anaheim PRADU - 3-Bedroom Plan C (Page 13 of 13) Calculation Description: Title 24 Analysis Input File Name: 23Q1019-3BC.1-03.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT I certify that this Certificate of Compliance documentation is accurate and complete. Documentation Author Signature: Documentation Author Name: Wayne Seward Wayne Seward 2023-01-23 09:58:49 Bear Technologies Consulting Inc. CEA/ HERS Certification Identification (If applicable): 3431 Don Arturo Drive R19-04-30011 City/State/Zip: 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 responsibility for the building design identified on this Certificate of Compliance.

e building design identified on this Certificate of Compliance.					
I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.					
e are consistent with the information provided on other applicable compliance documents, worksheets, building permit application.					
Responsible Designer Signature:					
Bart M Smith					
Date Signed: 2023-01-23 10:20:19					
License: C-22557					
Phone: 760-753-2464					

Schema Version: rev 20220901

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 Date/Time: Registration Number: 223-P010009267A-000-000-0000000-0000 2023-01-23 10:20:19 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000

HERS Provider:

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Report Generated: 2023-01-17 12:39:48

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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; 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 mair 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

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- 3 BEDROOM PLAN C 3 BEDROOM A STREET ANAHEIM, CALIFORNIA 92805

23Q1019-3BC.1-03 T - 0401/24/2023

1/23/2023

1,199

Jan 1 AM

110 °F

63 / 60 °F

74 / 65 °F

61.2% **ROOM**

ROOM

Floor Area

COIL COOLING PEAK COIL HTG. PEAK

1,869 21,632 4,220 420 18,098

5,816 -1,848 600

28,640 2,372

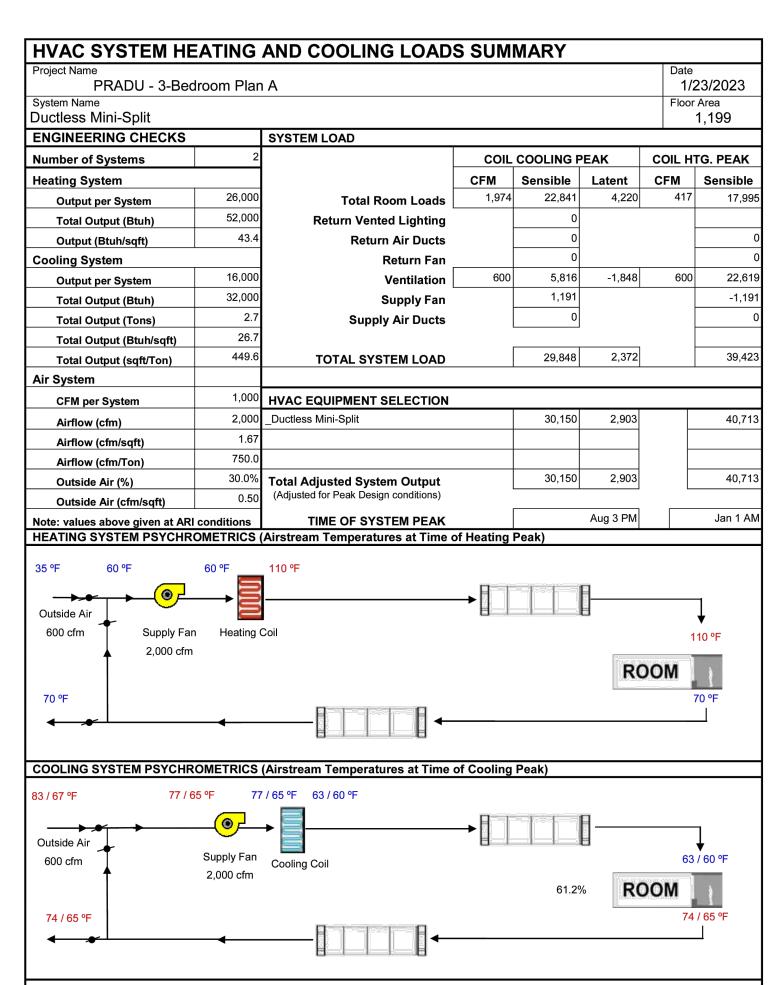
30,150 2,903

Aug 3 PM

CFM Sensible Latent CFM Sensible

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY PRADU - 3-Bedroom Plan B 1/23/2023 PRADU - 3-Bedroom Plan A Floor Area 1,199 Ductless Mini-Split Ductless Mini-Split ENGINEERING CHECKS **ENGINEERING CHECKS** SYSTEM LOAD Number of Systems COIL COOLING PEAK COIL HTG. PEAK Number of Systems CFM Sensible Latent CFM Sensible Heating System Heating System 1,978 22,884 4,220 420 18,118 Total Room Loads Output per System Output per System Return Vented Lighting Total Output (Btuh) Total Output (Btuh) Return Air Ducts Output (Btuh/sqft) Output (Btuh/sqft) Cooling System Cooling System 5,816 -1,848 Ventilation 600 600 Output per System Output per System Total Output (Btuh) Total Output (Btuh) Supply Air Ducts Total Output (Tons) Total Output (Tons) Total Output (Btuh/sqft) Total Output (Btuh/sqft) 29,892 2,372 TOTAL SYSTEM LOAD Total Output (sqft/Ton) Total Output (sqft/Ton) ir System 1,000 HVAC EQUIPMENT SELECTION CFM per System CFM per System 2,000 _Ductless Mini-Split 30,150 2,903 Airflow (cfm) Airflow (cfm) Airflow (cfm/sqft) Airflow (cfm/sqft) Airflow (cfm/Ton) Airflow (cfm/Ton) 30.0% Total Adjusted System Output
0.50 (Adjusted for Peak Design conditions) 30,150 2,903 Aug 3 PM Jan 1 AM Note: values above given at ARI conditions TIME OF SYSTEM PEAK

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak) **→** Outside Air Outside Air 600 cfm 600 cfm Supply Fan Heating Coil Supply Fan Heating Coil 110 °F 2,000 cfm 2,000 cfm ROOM 70 °F COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak) 77 / 65 °F 77 / 65 °F 63 / 60 °F →* Outside Air Outside Air Supply Fan Cooling Coil Supply Fan 600 cfm 63 / 60 °F 600 cfm 2,000 cfm 2,000 cfm 61.2% **ROOM** 74 / 65 °F 74 / 65 °F



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ENCINITAS, CA (760)7532464 DZNPARTNERS.COM 3 BEDROOM PRADU CITY: ANAHEIM

PREPARER SIGNATURE

FOR CITY STAMPS

7

202409R JOB:

HVAC SYSTEM SUMMARIES

T-05

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

SYSTEM LOAD

Total Room Loads

Return Air Ducts

Supply Air Ducts

TOTAL SYSTEM LOAD

1,000 HVAC EQUIPMENT SELECTION

30.0% Total Adjusted System Output
0.50 (Adjusted for Peak Design conditions)

2,000 _Ductless Mini-Split

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)

77 / 65 °F 77 / 65 °F 63 / 60 °F

Supply Fan Cooling Coil

2,000 cfm

Supply Fan Heating Coil

2,000 cfm

Return Fan

Ventilation

Supply Fan

600

Return Vented Lighting

PRADU - 3-Bedroom Plan C

Ductless Mini-Split

Number of Systems

Output per System

Total Output (Btuh)

Output (Btuh/sqft)

Output per System

Total Output (Btuh)

Total Output (Tons)

Total Output (Btuh/sqft)

Total Output (sqft/Ton)

CFM per System

Airflow (cfm/sqft)

Airflow (cfm)

Heating System

Cooling System

Air System

Outside Air

600 cfm

70 °F

Outside Air

600 cfm

74 / 65 °F

ENGINEERING CHECKS

PCSD Engineering Corp

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



Structural Design Calculations

Accessory Dwelling Unit - 3 Bedroom

Client

DZN Partners

682 Second Street Encinitas, CA 92024

Project

PRADU-3 Bedroom Anaheim, CA

PROFESSIONAL CHEST OF CALIFORNIA AT FOR CALIFORNIA

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

February 3, 2023

PCSD File #: 19-018-3

Paul Christenson San Diego Engineering

3529 Coastview Ct - Carlsbad, CA 92010

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

1.0 Design Criteria: PRADU-3 Bedrm

22-404-3

Code: 2019 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:



Paul Christenson San Diego Engineering

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

JOB		22-40		
SHEET NO	2		OF	
CALCULATED BY		PSC	DATE	8/19/22
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 Misc.	4.9 psf
$\Sigma_{ m DL} = 1$	21.0 psf
$\Sigma_{ m LL} =$	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
$\Sigma_{ m DL} =$	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
$\Sigma_{ m DL}$ =	6.0 psf
$\Sigma_{LL} =$	10.0 psf
Total Load =	16.0 nsf

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
	$\Sigma_{\mathrm{DL}} = \overline{}$	8.0 psf



Paul Christenson San Diego Engineering

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

JOB	22-40		
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
$\Sigma_{ m DL} = 0$	15.0 psf
$\Sigma_{ m LL} =$	40.0 psf
Total Load =	55.0 nsf

2.6 Wind

(ASCE 7 - Equation 6-1)
(*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)

$$S_{DS} = 1.194$$

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

$$C_{S} = 0.184$$

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)	$P_{830} =$	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

Seismic Design Category: D

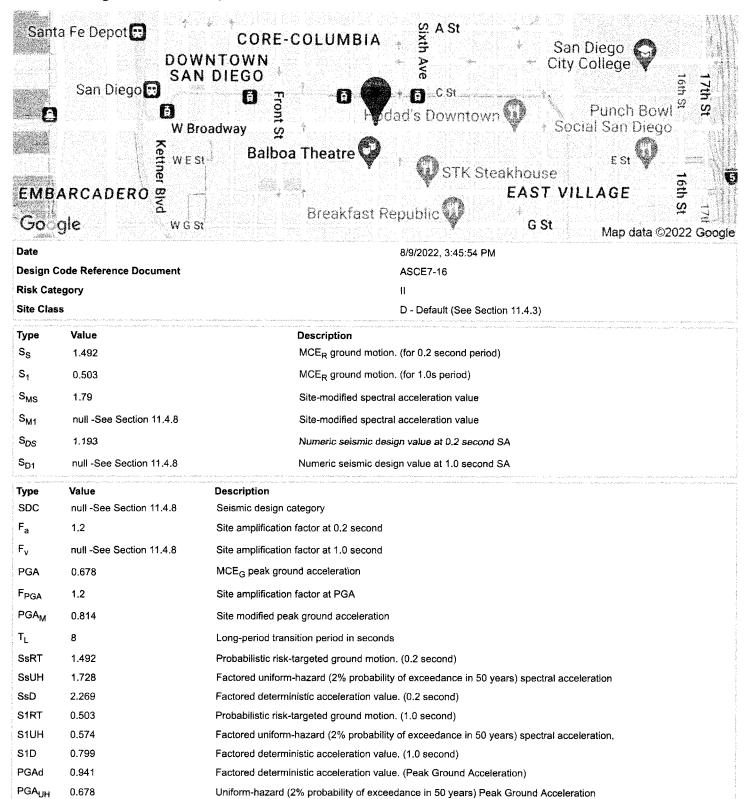




Berwin

San Diego, CA, USA

Latitude, Longitude: 32.715738, -117.1610838



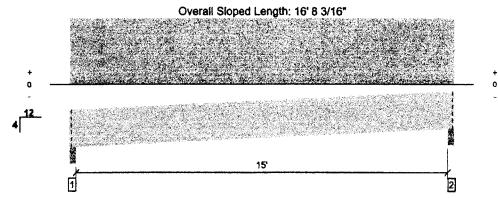
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MEMBER REPORT

Roof Framing, (RR-1) Rafters

1 piece(s) 2 x 10 Douglas Fir-Larch No. 2 @ 24" OC

PASSED



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	Londs Combination (Patters)
Member Reaction (lbs)	607 @ 2 1/2"	2231 (3.50")	Passed (27%)		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 (Ali Spans)
Live Load Defl. (in)	0.334 @ 7' 9 1/2"	0.533	Passed (L/574)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.651 @ 7' 9 1/2"	0.799	Passed (L/295)		1.0 D + 1.0 Lr (All Spans)

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

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 4' 4" o/c unless detailed otherwise.
- · Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 16' 5" o/c unless detailed otherwise.
- · A 15% increase in the moment capacity has been added to account for repetitive member usage.
- · Applicable calculations are based on NDS.

Supports	Total .	taaring La Assilatia	igth Required		to Suppo Suppo Use	tx (ibs) Total	Accordication
1 - Beveled Plate - SPF	3.50"	3.50"	1.50"	296	312	608	Blocking
2 - Beveled Plate - SPF	3.50"	3.50"	1.50"	296	312	608	Blocking

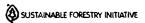
· Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Loads	Legation (SMs)	Specing	Paud (0.90)	Roy(Live (non-users L25)	Commission	
1 - Uniform (PSF)	0 to 15' 7"	24"	18.0	20.0	Roof	

Weysritueinser Notas

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The product application, input design loads, dimensions and support information have been provided by Forte Software Operator



Forte Software Operator	Job Notes
Paul Christenson PCSD Engineering (760) 207-1885 paul pcsd@gmail.com	

MEMBER REPORT

Roof Framing, (RB-1) Ridge Bm

PASSED

1 piece(s) 4 x 12 DF No.2

Overall Length: 13' 11" 11' 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)	3048 @ 2' 1 3/4"	7656 (3.50")	Passed (40%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1840 @ 3' 2 3/4"	5906	Passed (31%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-Ibs)	5981 @ 8' 1 1/8"	7614	Passed (79%)	1.25	1.0 D + 1.0 Lr (Ait Spans)
Live Load Defl. (in)	0.113 @ 7' 11 3/4"	0.580	Passed (L/999+)		1.0 D + 1.0 Lr (Alt Spans)
Total Load Defl. (in)	0.216 @ 7' 11 15/16"	0.774	Passed (L/646)		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).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- · Allowed moment does not reflect the adjustment for the beam stability factor.
- 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"	1486	1561	3048	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	1053	1125	2178	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)	13' 11" o/c	
Bottom Edge (Lu)	13' 11" 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 13' 11"	N/A	10.0		
1 - Uniform (PSF)	0 to 13' 11" (Front)	9' 7"	18.0	20.0	Default Load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

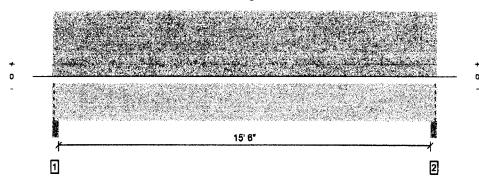
ForteWEB Software Operator	Job Notes	
Paul Christenson PCSD Engineering (760) 207-1885 paul.pcsd@gmail.com		



Page 1 / 1

4

Overall Length: 16' 1"



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

Design Regults	Accual & Location	Allowed	Assult LDF Load Combination (Patient)
Member Reaction (lbs)	3719 @ 2"	12031 (3.50")	Passed (31%) - 1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	3141 @ 1' 3"	8960	Passed (35%) 1.25 1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	14342 @ 8' 1/2"	17048	Passed (84%) 1.25 1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.324 @ 8' 1/2"	0.525	Passed (L/583) 1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.638 @ 8' 1/2"	0.788	Passed (L/296) 1.0 D + 1.0 Lr (All Spans)

System : Roof

Member Type : Drop Beam

Building Use : Residential

Building Code : IBC 2018

Design Methodology : ASD

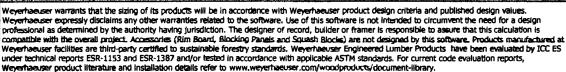
Member Pitch: 0/12

- Deflection criteria: LL (IJ/360) and TL (IJ/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 16' 1" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 16' 1" o/c unless detailed otherwise.
- Applicable calculations are based on NDS.

Supports	Tuest	Lating La	epiti Reguland	Line Dread	to Paper Road	to (top)	
1 - Column - DF	3.50"	3.50"	1.50"	1830	1890	3720	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	1830	1890	3720	Blocking

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

Wayerhouser Notes



The product application, input design loads, dimensions and support information have been provided by Forte Software Operator

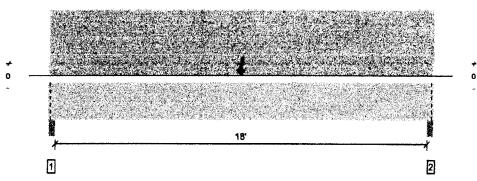


orte Software Operator	Job Notes
Paul Christenson CSD Engineering 760) 207-1885 Jaul pcsd@gmail.com	

PASSED

1 piece(s) 5 1/4" x 11 7/8" 2.0E Parallam® PSL

Overall Length: 18' 7"



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

Jeangr Regulta	Court O Lacotor	Alloyed	Result	107	Line (s Complete Strategy)
Member Reaction (lbs)	3165 @ 18' 5"	11484 (3.50")	Passed (28%)		1.0 D + 1.0 Lr (All Spans)
Shear (ibs)	2985 @ 1' 3 3/8"	15066	Passed (20%)	1.25	1.0 D + 1.0 tr (All Spans)
Moment (Ft-lbs)	22822 @ 9' 3 1/2"	37317	Passed (61%)	1.25	1.0 D + 1.0 tr (All Spans)
Live Load Defl. (in)	0.369 @ 9' 3 1/2"	0.608	Passed (L/593)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.837 @ 9' 3 1/2"	0.913	Passed (L/262)		1.0 D + 1.0 tr (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/360) and TL (L/240).
- \bullet Top Edge Bracing (Lu): Top compression edge must be braced at 18' 7" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 18' 7" o/c unless detailed otherwise.

Stoppers	T-MI	Parados (ar Acedistra	epiis Required		e to S'appoi Rola Lina	to (fba) Refer	Leninger
1 - Column - DF	3.50"	3.50"	1.50"	1849	1317	3166	Biocking
2 - Column - DF	3.50"	3.50"	1.50"	1849	1317	3166	Blocking

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

latels	Licenter (State)	Tributors West	Deed (0.90)	Roof Live (not made : 20)	Consumer .
0 - Self Weight (PLF)	0 to 18' 7"	N/A	19.5		
1 - Uniform (PSF)	0 to 18' 7" (Front)	2'	18.0	20.0	Roof
2 - Uniform (PLF)	0 to 18' 7" (Front)	N/A	45.0	-	
3 - Point (lb)	9' 3 1/2" (Front)	N/A	1830	1890	

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(2)	SUSTAINABLE	FORESTRY	MTAITIM

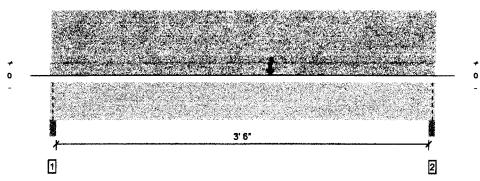
Forte Software Operator	Jobb Notes
Paul Christenson PCSD Engineering (760) 207-1885 paul pcst@gmail com	
	I I

1 piece(s) 4 x 12 Douglas Fir-Larch No. 2

9

Overall Length: 4' 1"

Roof Framing, (RB-4) Hdr Bm



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

Design Results	(asia) (locate	Alle-48	Result	US.	(call continues (fales)
Member Reaction (lbs)	2694 @ 3' 11"	7656 (3.50")	Passed (35%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	2394 @ 2' 10 1/4"	5906	Passed (41%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	3895 @ 2' 4"	7614	Passed (51%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.006 @ 2' 13/16"	0.125	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)
Total Load Defi. (in)	0.012 @ 2' 13/16"	0.188	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

SUSTAINABLE FORESTRY INITIATIVE

- Deflection criteria: LL (L/360) and TL (L/240).
- Top Edge Bracing (Lu): Top compression edge must be braced at 4' 1" o/c unless detailed otherwise.
- Bottom Edge Bracing (Lu): Bottom compression edge must be braced at 4'1" o/c unless detailed otherwise.
- · Applicable calculations are based on NDS.

Supports	Tetal	Parting La Available	erit Baquinal	Lead David		er (that) Tedal	li constante
1 - Column - DF	3.50"	3.50"	1.50"	1034	1069	2103	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	1314	1380	2694	Blocking

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

Londs	Lacquitina (Male)	Tripetory Map	(G.90)	- Real Line (serverse LAR)	Comments
0 - Self Weight (PLF)	0 to 4' 1"	N/A	10.0		
1 - Uniform (PSF)	0 to 4' 1" (Front)	5' 6"	18.0	20.0	Roof
2 - Uniform (PLF)	0 to 4' 1" (Front)	N/A	25.0	-	Roof
3 - Point (lb)	2' 4" (Front)	N/A	1800	2000	

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by ICC ES

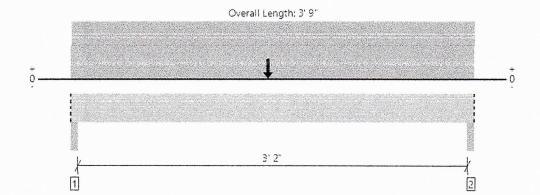
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The product application, input design loads, dimensions and support information have been provided by Forte Software Operator

Forte Software Operator	Job Notes
Paul Christenson PCSD Engineering (760) 207-1885 paul.pcsd@gmail.com	

1/27/2019 10:16:25 AM Forte v5.4, Design Engine: V7.1.1.3 ADU-3.4te

Roof Framing, (RB-5) Hdr Bm 1 piece(s) 4 x 10 DF No.2



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)	1795 @ 2"	7656 (3.50")	Passed (23%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1706 @ 1' 3/4"	4856	Passed (35%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	2852 @ 1' 10"	5615	Passed (51%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.007 @ 1' 10 7/16"	0.171	Passed (L/999+)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.013 @ 1' 10 7/16"	0.228	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			s to Support		
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Column - DF	3.50"	3.50"	1.50"	858	937	1795	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	821	896	1717	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' 9" o/c	
Bottom Edge (Lu)	3' 9" 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' 9"	N/A	8.2		
1 - Uniform (PSF)	0 to 3' 9" (Front)	2'	18.0	20.0	Default Load
2 - Point (lb)	1' 10" (Front)	N/A	1514	1683	Default Load

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ForteWEB Software Operator	Job Notes	
Paul Christenson PCSD Engineering (760) 207-1885 paul.pcsd@qmail.com		



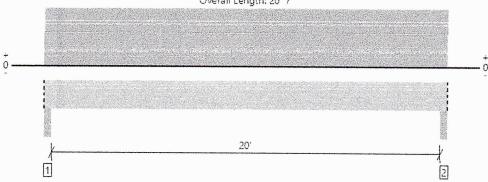


MEMBER REPORT

Roof Framing, (RB-6) Hdr Bm 1 piece(s) 8 x 12 DF No.1



Overall Length: 20' 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)	2077 @ 2"	16406 (3.50")	Passed (13%)		1.0 D + 1.0 Lr (All Spans)
Shear (lbs)	1825 @ 1' 3"	12219	Passed (15%)	1.25	1.0 D + 1.0 Lr (All Spans)
Moment (Ft-lbs)	10346 @ 10' 3 1/2"	23247	Passed (45%)	1.25	1.0 D + 1.0 Lr (All Spans)
Live Load Defl. (in)	0.299 @ 10' 3 1/2"	1.013	Passed (L/814)		1.0 D + 1.0 Lr (All Spans)
Total Load Defl. (in)	0.502 @ 10' 3 1/2"	1.350	Passed (L/484)		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).
- $\bullet\,$ 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.

	В	earing Leng	th	Loads	to Supports	(lbs)	
Supports	Total	Available	Required	Dead	Roof Live	Factored	Accessories
1 - Column - DF	3.50"	3.50"	1.50"	842	1235	2077	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	842	1235	2077	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)	20' 7" o/c	
Bottom Edge (Lu)	20' 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 20' 7"	N/A	21.9		
1 - Uniform (PSF)	0 to 20' 7" (Front)	6'	10.0	20.0	Default Load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes	
Paul Christenson PCSD Engineering (760) 207-1885 paul.pcsd@gmail.com		





Paul Christenson San Diego Engineering

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

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 $S_1 = 0.503$

 $F_{v} = 0.0$

I = 1.00

Seismic: $V = C_s W_{DL}$ (IBC Equation 12.8-1)

 $V = 0.131 * Wt * \rho$ (ρ - Redundancy)

5.0 Lateral Design & Analysis - 3 Bedroom

Wind: $P = \lambda Kzt I ps30$ (ASCE 7 - Equation 6-1)

 $\lambda = 1.00$ (fig. 6-3) Kzt = 1.0 (fig. 6-4) PS30 = 26.6 psf (fig. 6-3) I = 1.0 (table 11.5-1)

(fig. 6-3) (fig. 6-3) (table 11.5-1)

P = 16.0 psf

Criteria	1st Story	2nd Story
Each Story Resists > 35% Base Shear:	not satisfied	satisfied
Any Shear Wall w/ (h/l)>1.0 is < 33% Story Force:	satisfied	satisfied
ρ=	1	1

 $S_s = 1.492$

 $F_a = 1.2$

R = 6.50

Wind Loads

P = 16.0 psf x Trib Area

Roof Level

Direction: $N/S = 16.0 \text{ psf} \times 259 \text{ sq. ft.} = 4134 \text{ lbs.}$ Direction: $E/W = 16.0 \text{ psf} \times 445 \text{ sq. ft.} = 7102 \text{ lbs.}$

Roof Weight

 Roof Wt.
 =
 15.0 psf x 1440 sq. ft. =
 21600 lbs.

 Exterior Wall Wt
 =
 15.0 psf x 555 sq. ft. =
 8325 lbs.

 Interior Wall Wt
 =
 8.0 psf x 499 sq. ft. =
 3992 lbs.

 Ceiling Wt
 =
 4.0 psf x 1199 sq. ft. =
 4796 lbs.

 Total Trib. W_R
 =
 38713 lbs.

Total Seismic Dead Load: Wt = 38713 lbs.

ASD Base Shear: $V = 0.131 * W_t = 5078$ lbs.



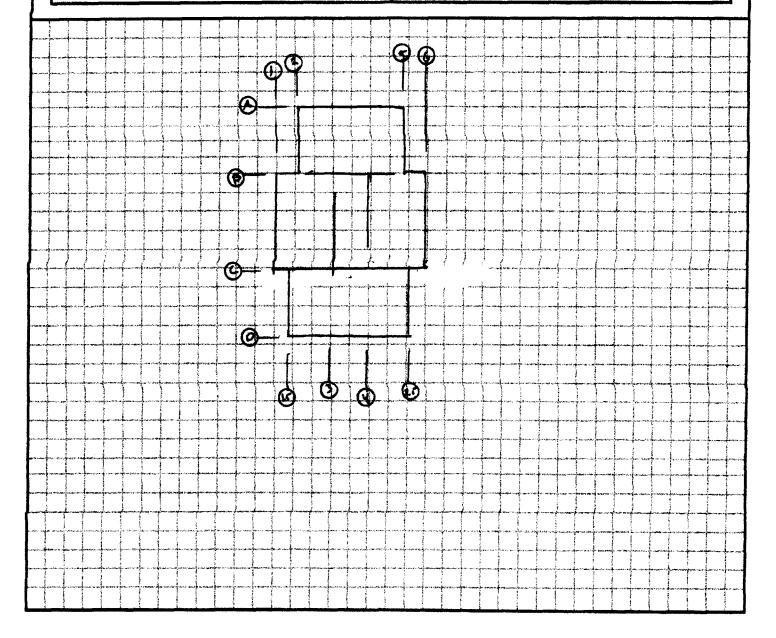
Paul Thristonson San Diogo Engineering

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

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5.1 Lateral Design & Analysis - 2nd Story Shear Walls

N/S						E / W											
Gridline	Len	gth o	f Sh	earv	valls	Total	Wall Ht.	Type	Gridline	Ler	igth	of Sh	earw	alls	Total	Wall Ht.	Type
1	6	3	\neg		Т	9.0	9	A	Α	11				\top	11	9	1
1.5	2					2.0	9	WSWHIS	В	12	11			\top	23	9	Δ
2	3	3				5.2	9	Λ	С	12	13			\Box	24.5	9	A
3	9				\Box	9.0	9	Ā	D	3	3			T	6	9	Ą
4	9					8.5	9	A]					T	0		1 6
5,5.5	8	6	6			19.5	9	A	1					\Box	0		#D#V/0!
6	6	3		\neg		9.0	9	A							0		#DIV/0!
						0.0		9	Ì						0		#DXV/0!
						0.0]	9							0]	#DYY/0!
						0.0]								0		#Df y /0!





Paul Christenson San Diego Engineering

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

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5.1 L	ateral	Design	& A	Analy	sis (cont.)
			-	AAACCA /	~~~	

Gridline 1 , 9 % (5078 x 0.09 = 457 #)

 $v = \frac{457 \quad lbs.}{9 \quad ft.} = 5$

51 plf x (1/23)- 77 RF

OTF = 432 lbs.

A

HDU2

Gridline (1.5) 7 % $(5078 \times 0.07 = 355 \#)$

 $\frac{355 \text{ lbs}}{1.5 \text{ ft.}} = 237 \text{ plf}$

WSWH18*9 (PGS 21-23)

Gridline (2) 6 % $(5078 \times 0.06 = 305 \#)$

 $v = \frac{305 \text{ lbs}}{5.2 \text{ ft.}} = 59 \text{ plf} < (\frac{1}{22}) 106 \text{ Re}$

A

OTF = 527 lbs.

HDU2

Gridline (3) 31 % $(5078 \times 0.31 = 1574 \#)$

 $v = \frac{1574 \text{ lbs.}}{9 \text{ ft.}} = 175 \text{ plf}$

A

OTF = 1574 lbs.

HDU2

Gridline $\binom{4}{2}$ 29 % $\binom{5078 \times 0.29}{2} = 1473 \#$

 $v = \frac{1473 \text{ lbs.}}{8.5 \text{ ft.}} = 173 \text{ plf}$

A

OTF = 1559 lbs.

HDU2

SIMPSON STRONG-TIE COMPANY INC.

(800) 999-5099

5956 W. Las Positas Blvd., Pleasanton, CA 94588.

www.strongtie.com



Job Name: PrADU3
Wall Name: Wall Line 1.5

Application: Standard Wall on Concrete

Design Criteria:

- * 2021 International Bldg Code
- * Seismic R=6.5
- * 2500 psi concrete
- * ASD Design Shear = 355 lbs
- * Nominal wall height = 9 ft

Selected Strong-Wall® Panel Solution:

Model	Type	W (in)	H (in)	T (in)	Sill Anchor	End Anchor Bolts	Total Axial Load (lbs)	Actual Uplift (lbs)
WSWH18x9	Wood	18	105.25	3.5	N/A	2 - 1"	1500	2239 lb

Actual Shear & Drift Distribution:

Model	Actual Shear (lbs)		Allowable Shear (lbs)	Actual / Allow Shear	Actual Drift (in)	Drift Limit (in)
WSWH18x9	355	≤	2575 OK	0.14	0.06	0.47

Notes:

- 1. Strong-Wall High-Strength Wood Shearwalls have been evaluated to the 2021 IBC/IRC. See www.strongtie.com for additional design and installation information.
- 2. Anchor templates are recommended for proper anchor bolt placement, and are required in some jurisdictions.
- 3. The applied vertical load shall be a concentric point load or a uniformly distributed load not exceeding the allowable vertical load. Alternatively, the load may be applied anywhere along the width of the panel if imposed by a continuous bearing vertical load transfer element such as a rimboard or beam. For eccentric axial loads applied directly to the panel, the allowable vertical load shall be divided by two.
- 4. Panels may be trimmed to a minimum height of 741/2".

Disclaimer:

It is the Designer's responsibility to verify product suitability under applicable building codes. In order to verify code listed applications please refer to the appropriate product code reports at www.strongtie.com or contact Simpson Strong-Tie Company Inc. at 1-800-999-5099.

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SIMPSON
Strong-Tie

Job Name: PrADU3
Wall Name: Wall Line 1.5

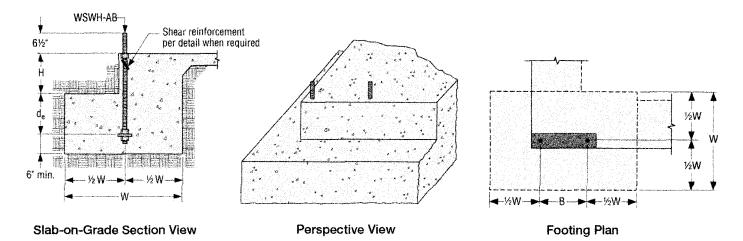
Application: Standard Wall on Concrete

Design Criteria:

- * Slab on grade Slab edge
- * 2021 International Bldg Code
- * Seismic R=6.5
- * 2500 psi concrete

Anchor Solution Details:

Slab-on-Grade Installation



Anchor Solution Assuming Cracked Concrete Design:

Anchor Solution Assuming Uncracked Concrete Design:

Model	W	de	В	Anchor Bolt	Strength	Model (W	de	В	Anchor Bolt	Strength
WSWH18x9	33	11	14	WSWH-AB	Standard	WSWH18x9	28	10	14	WSWH-AB	Standard

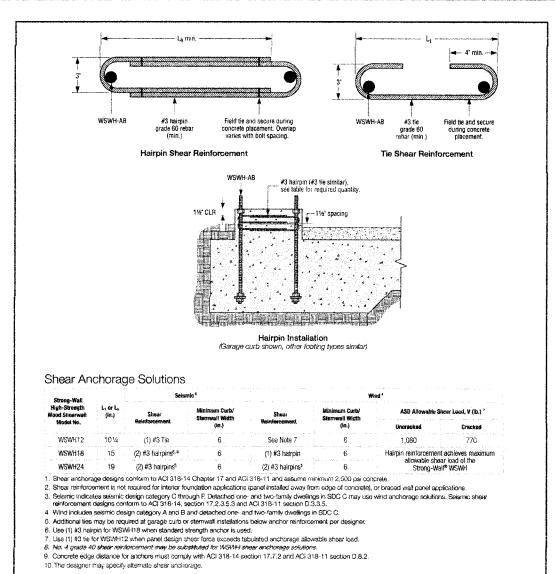
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STRONG-WALL® WSWH SHEAR ANCHORAGE SCHEDULE AND DETAILS



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plf

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5.1 Lateral Design & Analysis (cont.)

Gridline (5,5.3) , 11 % (5078 x 0.11 = 559 #)

OTF = 258 lbs.

A

HDU2

Gridline $\binom{6}{1}$ 7 % $\binom{5078}{1}$ x $\binom{5078}{1}$ x $\binom{5078}{1}$ x $\binom{7}{1}$ %

 $v = \frac{355 \text{ lbs.}}{9 \text{ ft.}} = 39 \text{ plf} = (\frac{3}{23}) + 59 \text{ FF}$

A

OTF = 355 lbs.

HDU2

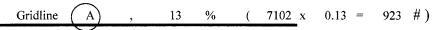


Paul Thristenson San Diego Engineering

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

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5.1	Lateral	Design	& Analysis	(cont.)



$$v = \frac{923 \text{ lbs.}}{13.8 \text{ ft.}} = 67 \text{ plf} \times (\frac{9}{200})$$
: 108 RF

OTF = 602.1 lbs.



Gridline (B) 33 % $(7102 \times 0.33 = 2344 \#)$

$$v = \frac{2344 \text{ lbs.}}{22.5 \text{ ft.}} = 104 \text{ plf}$$

OTF = 937.5 lbs.



' HDU2

Gridline (C) 36 % $(7102 \times 0.36 = 2557 \#)$

$$v = \frac{2557 \text{ lbs.}}{24.5 \text{ ft.}} = 104 \text{ plf}$$

OTF = 939 lbs.



HDU2

Gridline (D) 18 % $(7102 \times 0.18 = 1278 \#)$

$$v = \frac{1278 \text{ lbs.}}{6 \text{ ft.}} = \frac{213}{11} \text{ plf}_{x}(\frac{q}{2r})^{-266PF}$$

OTF = 1918 lbs.



HDU2



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6.0 FOUNDATION DESIGN

6.1 CONTINUOUS FOOTING

w = 1125 plf

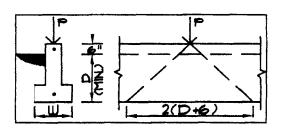
ASBP = 1500 psf

width =
$$\frac{1125}{1500}$$
 psf

width = $\frac{1125}{}$ 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



$$P_{all} = 1500 * 12 * 36 \over 12$$

$$P_{all} = 4500 lbs$$

6.3 PAD DESIGN

PAD

SIZE

LOAD

P1

24 " SQUARE x 12 " THK W/ 3 -# 4 EACH WAY

 $P_{max} = 1500 * 2^2$

 $P_{\text{max}} = 6000 \text{ lbs}$