ORLEANS HOME DEVELOPMEN

FOR

KARUK TRIBE HOUSING AUTHORITY

APN: 529-111-007

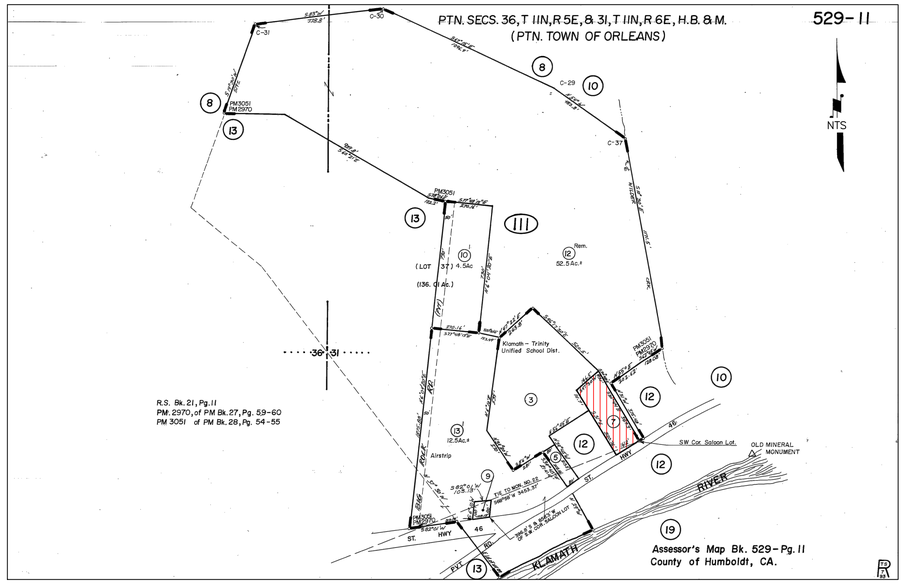
8030 HIGHWAY 96
ORLEANS CA, 95556
HUMBOLDT COUNTY, CALIFORNIA

LEGEND

PROPOSED		EXISTING
—TV—	CABLE TV OVERHEAD	—TV—
—E(OH)—	POWER OVERHEAD	—E(OH)—
—T(OH)—	TELEPHONE OVERHEAD	—T(OH)—
—T(UG)—	TELEPHONE UG	—T(UG)—
—E(UG)—	POWER (UNDERGROUND) UG	—E(UG)—
— G —	GAS LINE	— G —
	ANCHOR/GUY WIRE	
	SEWER MANHOLE	
8"SS	SEWER LINE	8"SS
	FLUSHING BRANCH/CLEANOUT	
	SEWER SERVICE	
	STORM DRAIN MANHOLE	
12"SD	STORM DRAIN PIPE	12"SD
	STORM DRAIN INLET	
	WATER LINE	
	WATER VALVE	
	REDUCER	
	BLOW OFF ASSEMBLY	
	AIR RELIEF VALVE	
	FIRE HYDRANT ASSEMBLY	
	R.P. BACKFLOW PREVENTER	
	DRIVE WAY	
	SIDEWALK RAMP	
	BARRICADE	
	SURVEY MONUMENT	
	CENTERLINE	
	RIGHT OF WAY LINE	
	PROPERTY LINE	
	EASEMENT LINE	
	EDGE OF PAVEMENT	
—R—R—R—	RIDGE LINE	—R—R—R—
—x—x—x—	FENCE LINE	—x—x—x—
40	CONTOUR LINE	40
	SIDEWALK	
	STREET LIGHT	
	STREET NAME SIGN	
	SIGN	

ABREVIATIONS

AC	= ASPHALTIC CONCRETE
AB	= AGGREGATE BASE
A.D.	= ALGEBRAIC DIFFERENCE
BC, PC	= BEGIN CURVE
CO	= CLEAN OUT
CL	= CENTER LINE
CMP	= CORRUGATED METAL PIPE
CPCT.	= COMPACT
D	= DELTA
DET	= DETAIL
DRN	= DRAIN
<E>	= EXISTING
EC	= END CURVE
EG	= EXISTING GROUND
EP	= EDGE OF PAVEMENT
FF	= FINISH FLOOR
FG	= FINISH GRADE
FH	= FIRE HYDRENT
FL	= FLOW LINE
GA	= GUY ANCHOR
GV	= GATE VALVE
HC	= HANDICAPPED
HDPE	= HIGH DENSITY POLYETHYLENE PIPE
INV	= INVERT
(INT-X)	= INTERSECTION
K	= SIGHT DISTANCE
LAT	= LATERAL
LD.	= LOCAL DEPRESSION
LF.	= LINEAR FEET
LF.	= SEWER LEACH FIELD
LT.	= LEFT
MAS.	= MASONRY
MI	= MILES
MSE	= MECHANICALLY STABILIZED EARTH
(N)	= NEW
NTS	= NOT TO SCALE
O.C.	= ON CENTER
PG&E	= PACIFIC GAS & ELECTRIC
(P)	= PROPOSED
PP	= POWER POLE
PRC	= POINT OF REVERSE CURVE
PT	= POINT
PVI	= POINT OF VERTICAL INTERSECTION
PVT	= PRIVATE
RT	= RIGHT
RTN	= RETERN
SB	= SET BACK
SDMH	= STORM DRAIN MAN HOLE
SHT	= SHEET
SD	= STORM DRAIN
STA	= STATION
STD.	= STANDARD
TC	= TOP OF CURB
TBC	= TOP BACK OF CURB
TFC	= TOP FACE OF CURB
TOB	= TOP OF BANK
TEL	= TELEPHONE
TP	= TOP OF PAVEMENT
TVCE	= TRINITY VALLEY CONSULTING ENGINEERS
TW	= TOP OF WALL
(TYP)	= TYPICAL
UG	= UNDERGROUND
W	= WATER
WV	= WATER VALVE



CONTRACTOR ALERT!

CONTRACTOR MUST CONTACT USA DIG AT LEAST 24 HOURS BEFORE ANY EARTHWORK OR ACTIVITIES THAT MAY IMPACT EXISTING UNDERGROUND UTILITIES.

EXISTING UTILITY ALIGNMENTS BOTH HORIZONTALLY AND VERTICALLY MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

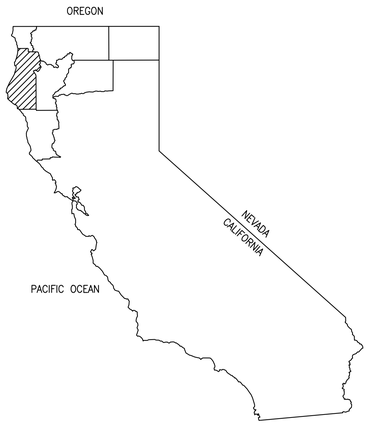
WEBSITE: HTTPS://USANORTH811.ORG/
PHONE: 811

UTILITY REPRESENTATIVES

UTILITY	COMPANY	TELEPHONE	
GAS	CAMPORA	530.629.3388	
ELECTRICITY	PG&E	707.445.5505	
TELEPHONE	--		
WATER	OCSD	530.627.3454	
SEWER	PRIVATE		
FIRE	OVFD	530.627.5344	
USA	--	811	

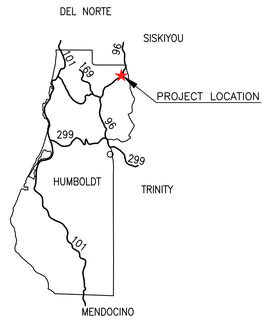
AREA MAP

NTS



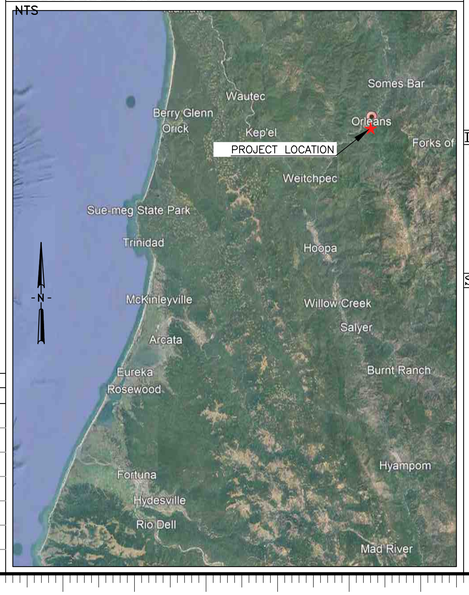
VICINITY MAP

NTS



LOCATION MAP

NTS



SHEET INDEX

DRAWING #	TITLE	REVISION	DATE
T01	TITLE SHEET	0	05/02/2025
C01	PLOT PLAN	0	05/02/2025
G01	GENERAL FOUNDATION NOTES	0	05/02/2025
G02	GENERAL FRAMING NOTES	0	05/02/2025
G03	GENERAL BUILDING NOTES	0	05/02/2025
	PROPOSED ACCESSIBLE RESIDENCE		
A1	ELEVATIONS	0	05/02/2025
A2	FLOOR PLAN	0	05/02/2025
A3	ACCESSIBILITY NOTES & DETAILS	0	05/02/2025
A4	ACCESSIBLE ALARM AND COMMUNICATIONS	0	05/02/2025
A5	FOUNDATION PLAN	0	05/02/2025
A6	SECTION & DETAUKS	0	05/02/2025
A7	ROOF PLAN	0	05/02/2025
A8	ELECTRICAL PLAN	0	05/02/2025
FS-01	FIRE SPRINKLER	0	05/02/2025
	PROPOSED (2)-BDRM. RESIDENCE		
B1	ELEVATIONS	0	05/02/2025
B2	FLOOR PLAN	0	05/02/2025
B3	FOUNDATION PLAN	0	05/02/2025
B4	SECTION & DETAUKS	0	05/02/2025
B5	ROOF PLAN	0	05/02/2025
B6	ELECTRICAL PLAN	0	05/02/2025
FS-01	FIRE SPRINKLER	0	05/02/2025
	TITLE 24 ENERGY COMPLIANCE		
T24.1	TITLE 24 BUILDING ENERGY REPORT	0	05/02/2025
T24.2	TITLE 24 BUILDING ENERGY REPORT	0	05/02/2025

DESIGN LOADS

ROOF LOADS
DEAD 20 PSF
LIVE 20 PSF
WIND 85 MPH

BUILDING DATA

TYPE OF CONSTRUCTION: VB
OCCUPANCY: R-3
STORIES: ONE
SPRINKLED: YES

BUILDING CODE COMPLIANCE

BUILDING SHALL COMPLY WITH 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE, 2022 CALIFORNIA FIRE CODE (CFC), 2022 GREEN BUILDING STANDARDS CODES, AND ALL APPLICABLE CODES.

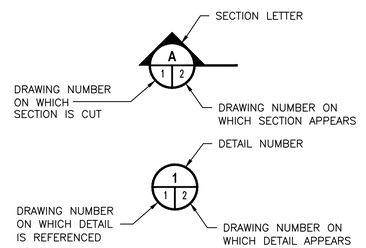
WILD LAND FIRE STANDARDS

1. DEFENSIBLE SPACE MUST BE SIGNED OFF PRIOR TO SHEET ROCK INSPECTION.
2. EXTERIOR SIDING PRODUCTS, INCLUDING SHEATHING, TO BE OF APPROVED PRODUCTS (CAL-FIRE URBAN INTERFACE APPROVED).
3. EXTERIOR WALL VENTS TO BE $\frac{1}{8}$"-1/8" SCREEN.
4. EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-3/8" SOLID CORE WOOD, OR 20-MIN. FIRE RATED.
5. WINDOWS SHALL HAVE A MINIMUM ONE TEMPERED PANE (PER SRA STANDARDS).
6. DECKING SURFACES TO BE APPROVED PRODUCTS. (NON-IGNITIBLE, CAL-FIRE URBAN INTERFACE APPROVED).
7. DEFENSIBLE AREA SHOWN ON SITE PLAN.
8. NO. 72 VALLEY FLASH UNDERLAYMENT CAP SHEET RUNNING FULL LENGTH OF VALLEY UNLESS ROOF COVER IS INTERWOVEN.
9. EAVE AND SOFFIT VENTS TO BE FIRE RATED TO PRECLUDE EMBER AND FLAME ENTRANCE (CAL-FIRE URBAN INTERFACE APPROVED).
10. UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.
11. ALL ACCESSORY BUILDINGS SHALL BE AT LEAST 10' FROM PROPERTY LINE OR MUST COMPLY WITH CBC CHAPTER 7A.
12. ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

DEFERRED SUBMITTAL

SOLAR PV SYSTEM, PER TITLE 24, TO BE A DEFERRED SUBMITTAL UNDER SEPARATE PERMIT.

SYMBOLS



TVCE
67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12-31-2076
CIVIL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	05/02/2022	PRELIMINARY DESIGN	ARD	FAM	JTM	TVCE

KARUK TRIBE HOUSING AUTHORITY

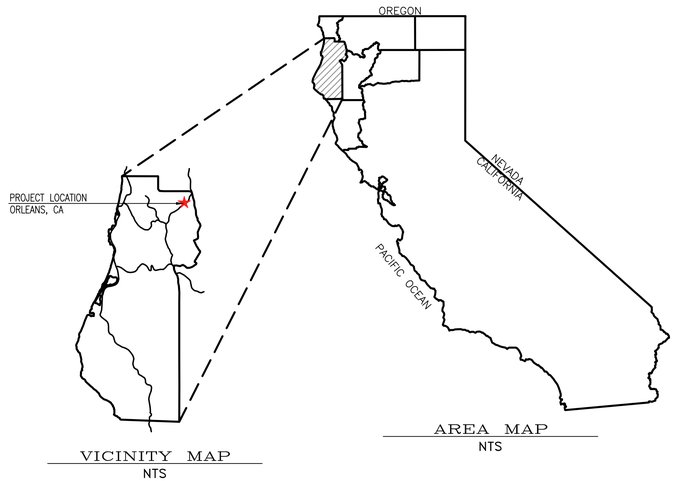
TITLE SHEET

38030 HIGHWAY 96
ORLEANS CA, 95556
HUMBOLDT COUNTY, CALIFORNIA
APN: 529-111-007

DATE OF ISSUE: APRIL 2022
SCALE: AS SHOWN
PROJECT NO: 502.60
DRAWING NO: T01

1/2" 1" 2"

PLOT PLAN
APN: 529-111-007
FOR
KARUK TRIBE HOUSING AUTHORITY
ORLEANS HOUSING DEVELOPMENT
38030 STATE HIGHWAY 96



VICINITY MAP
NTS

AREA MAP
NTS

PROJECT SCOPE:
REMOVE ALL EXISTING STRUCTURES AND CONFLICTING UTILITIES FROM PROPERTY AND PROCEED TO DEVELOP A HOUSING UNIT CONSISTING OF A CUL-DE-SAC AND EIGHT PROPOSED HOUSES. (SEE PLANS)

HOUSING NOTES
1. EA. HOUSE WILL HAVE GARBAGE CANS FOR WEEKLY PICKUP BY KTHA.
2. EA. HOUSE WILL HAVE A WASHER & DRYER.
3. EA. HOUSE WILL HAVE STANDARD ADDRESSING SIGNAGE.

CONTRACTOR ALERT!
CONTRACTOR MUST CONTACT USA DIG AT 800-227-2600 AT LEAST 72 HOURS BEFORE ANY EARTHWORK OR ACTIVITIES THAT MAY IMPACT EXISTING UNDERGROUND UTILITIES.

EXISTING UTILITY ALIGNMENTS BOTH HORIZONTALLY AND VERTICALLY MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

SRA REQUIREMENTS
PROVIDE ADEQUATE WATER STORAGE AND DELIVERY AS OUTLINED BY SRA ORDINANCE AND CALFIRE REQUIREMENTS

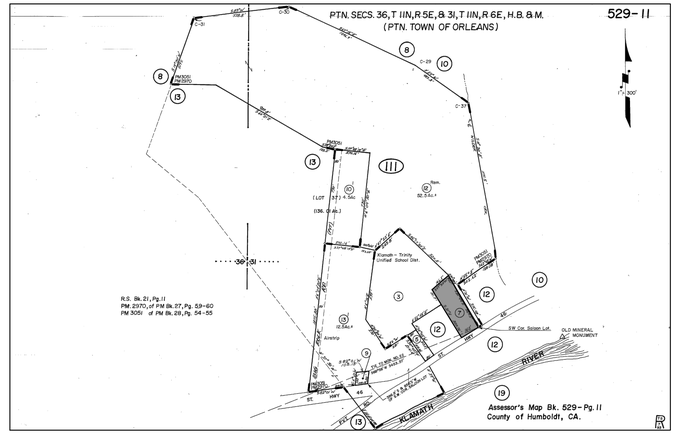
PROVIDE ADEQUATE TURN AROUND AND PULLOUTS AS OUTLINED BY SRA ORDINACE REQUIREMENTS AND CALFIRE REQUIREMENTS

SURVEY NOTES
A FIELD SURVEY FOR TOPOGRAPHIC PURPOSES WAS CONDUCTED BY TRINITY VALLEY CONSULTING ENGINEERS (TVCE) IN FEBRUARY OF 2020. A BOUNDARY SURVEY WAS CONDUCTED BY TVCE IN FEBRUARY OF 2020. THE PROPERTY LINES SHOWN ARE RECORD PER BOOK 75 OF SURVEYS PAGE 26

GENERAL NOTES
WATER/WASTEWATER: OCSD
POWER: PG&E
CREEKS/STREAMS: NONE
TREES TO BE REMOVED: ± 30
GRADING: 1,013 CY
ZONE: U
PHONE: FRONTIER

LEGEND:
- PROPERTY BOUNDARY
- SS(P) (P) SEWER LINE
- W(P) (P) WATER LINE
- E(P) (P) ELECTRIC LINE
- OH (E) OVERHEAD POWER LINES
- (E) VEGETATION TO BE REMOVED

PLAN VIEW
1"=25'
SHEET SIZE:24"X36"
0 25 50
NTS



PARCEL MAP
NTS

TVCE
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REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. MEADOWS
C60687
DEC 12, 2022
CIVIL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

KARUK TRIBE HOUSING AUTHORITY
SITE CIVIL IMPROVEMENT PLANS
APN: 529-111-007

PLOT PLAN

ORLEANS, HUMBOLDT COUNTY, CALIFORNIA

DATE OF ISSUE: MAY 2022
SCALE: AS SHOWN
PROJECT NO: 236.02
DRAWING NO: C01

1/2" 1" 2"

FOUNDATION

THE FOOTINGS SHOWN ON THE PLANS WERE DESIGNED BY TVCE. THE MAXIMUM ALLOWABLE BEARING CAPACITY IS 2000 PSF UNDER DEAD LOAD PLUS LIVE LOAD. THE ALLOWABLE BEARING PRESSURE IS PERMITTED A 1/3 INCREASE FOR LOAD COMBINATIONS THAT INCLUDE WIND AND SEISMIC LOADS. OVER EXCAVATION OF THE BUILDING PAD AREA IS REQUIRED TO REMOVE EXISTING LOOSE FILLS. IF APPLICABLE, SEE GEOTECHNICAL REPORT FOR OVER EXCAVATION AND COMPACTED FILL REQUIREMENTS.

CONCRETE

ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE" EXCEPT AS MODIFIED BY THESE CONSTRUCTION DOCUMENTS. THE CONCRETE FOOTINGS HAVE BEEN DESIGNED FOR A MINIMUM 28–DAY ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI PER CBC TABLE 1808.8.1

CONCRETE INGREDIENTS SHALL CONSIST OF WATER, TYPE II/V PORTLAND CEMENT, FINE AGGREGATE, COARSE AGGREGATE THAT'S INDICATED IN ALL THE TABLE BELOW, AND AIR–ENTRAINING ADMIXTURE WHEN REQUIRED. CLASS F FLY ASH MAY BE SUBSTITUTED FOR UP TO 20 PERCENT OF THE PORTLAND CEMENT, BY WEIGHT, PROVIDED A PROVEN MIX DESIGN IS SUBMITTED FOR THE ENGINEER'S REVIEW.

CONCRETE PROPORTIONS ARE DICTATED BY ITS END USE EXPOSURE. SEVERAL KEY FACTORS DETERMINING THE QUALITY ARE CEMENT CONTENT, WATER–CEMENT RATIO, AGGREGATE GRADING, AIR CONTENT, AND ADMIXTURES. THESE FACTORS ARE PRESENTED IN THE TABLE BELOW. THE TABULAR VALUES ARE BASED ON 1–INCH MAXIMUM COARSE AGGREGATE.

ADDITIONAL CONCRETE NOTES:

1. A SACK OF CEMENT WEIGHS 94 POUNDS. CEMENT CONTENTS MAY BE REDUCED BY 1/4 SACK FOR CONCRETE CONTAINING 1 1/2–INCH COARSE AGGREGATES.
2. THE W/C RATION IS THE WEIGHT OF WATER DIVIDED BY THE WEIGHT OF CEMENT PLUS POZZOLAN. AT THE JOBSITE WHEN THE SLUMP IS LESS THAN REQUIRED FOR PROPER PLACEMENT, WATER MAY BE ADDED TO THE MIX. THE MEASUREMENT OF THE SLUMP AND DETERMINATION FOR THE NEED OF ADDITIONAL WATER SHALL BE MADE AS SOON AS POSSIBLE AFTER THE TRUCK ARRIVAL. WATER CAN BE ADDED AT THE JOB SITE BUT ONLY IF IT CAN BE SHOWN ON A BATCH TICKET THAT THE AMOUNT OF WATER TO BE ADDED IS LESS THAN THAT TRIMMED AT THE PLANT. ADD WATER SHALL NOT EXCEED 2 GALLONS PER CUBIC YARD OF CONCRETE. INSUFFICIENT SLUMP AFTER THE MAXIMUM ADDITION OF ADD WATER SHALL BE CAUSE FOR REJECTION. AT ANY TIME, IF THE SLUMP IS EXCESSIVE THE CONCRETE IS SUBJECT TO REJECTION. IF ADD–WATER INCREASES THE W/C RATIO ABOVE THE TABLE W/C RATIO THE CONCRETE SHALL BE REJECTED.
3. THE TOTAL AIR CONTENT IS MEASURED IN THE CONCRETE AS DEPOSITED IN THE FORMS. THE AIR CONTENT SHALL BE ACHIEVED SOLELY BY THE ADDITION OF AN AIR ENTRAINING ADMIXTURE (AEA).
4. TESTING (A) IS THREE TEST CYLINDERS FOR EACH 150 YARDS OR LESS OF CONCRETE PER DAY; (B) IS THREE CYLINDERS FOR EACH 100 YARDS OR LESS OF CONCRETE PER DAY;(C) IS SLUMP, TEMPERATURE, AND AIR CONTENT OF THE FIRST TRUCK; FROM ALL TRUCKS IN WHICH THE CONCRETE SEEMS TO VARY FROM THE ACCEPTABLE MIX; AND FROM THE TRUCKS FROM WHICH THE TEST CYLINDERS ARE TAKEN.

TABLE OF CONCRETE PROPORTIONS

END USE OF CONCRETE	TESTS (4)	MIN. SACKS OF CEMENT PER C.Y. (1)	MIN. 28–DAY COMPRESSION STRENGTH PSI	MAX. W/C RATION BY WEIGHT (2)	TOTAL AIR CONTENT (3)	SLUMP	WRDA	SUPER PLASTICIZER
SLABS	A, C	6	3000	.45	––	3–5	YES	––
FOOTINGS BELOW GRADE	A, C	5.5	3000	.50	––	3–5	––	––

AGGREGATES FINE AND COARSE AGGREGATES SHALL CONFORM TO ASTM C33. COARSE AGGREGATE SHALL BE TYPICALLY 1 1/2" EXCEPT THAT 1–INCH AGGREGATE MAY BE USED FOR SLABS AND WALLS THINNER THAN 10 INCHES AND FOR ALL PUMPED CONCRETE UNLESS OTHERWISE APPROVED BY THE ENGINEER. 1 1/2–INCH AGGREGATE SHALL NOT BE USED FOR SLABS THINNER THAN 7 INCHES, FOR WALLS THINNER THAN 10 INCHES, NOR COLUMNS LESS THAN16 INCHES IN DIAMETER.

AGGREGATES AND SAND SHALL BE FREE OF MATERIALS THAT ARE SUSCEPTIBLE TO ALKALI–AGGREGATE REACTIVITY (ALKALI–SILICA REACTIVITY AND ALKALI–CARBONATE REACTIVITY).

GRADING OF COMBINED FINE AND COARSE AGGREGATES SHALL FALL WITHIN THE FOLLOWING LIMITS:

PERCENTAGE PASSING BY WEIGHT

SIEVE NUMBER OR SIZE IN INCHES	1 1/2–INCH MAXIMUM	1–INCH MAXIMUM
PASSING A 2–INCH	––	––
PASSING A 1 1/2–INCH	90–100	––
PASSING A 1–INCH	50–86	90–100
PASSING A 3/4–INCH	45–75	55–100
PASSING A 3/8–INCH	38–55	45–75
PASSING A NO. 4	30–45	35–60
PASSING A NO. 8	23–38	27–45
PASSING A NO. 16	17–33	20–35
PASSING A NO. 30	10–22	12–25
PASSING A NO. 50	4–10	5–15
PASSING A NO. 100	1–6	1–8
PASSING A NO. 200	0–3	0–4

PLACEMENT PRACTICES ARE REQUIRED TO BE IN ACCORDANCE WITH ACI 305 FOR HOT WEATHER AND ACI 306 FOR COLD WEATHER. CONCRETE THAT HAS BEEN BATCHED FOR MORE THAN TWO HOURS IN COLD WEATHER AND ONE AND ONE–HALF HOURS IN HOT WEATHER BEFORE BEING PLACED SHALL AUTOMATICALLY BE REJECTED. CONCRETE SHALL NOT FREE FALL MORE THAN (6) FEET. CONCRETE SHALL BE PLACED USING A TREMIE TUBE OR PUMP HOSE IF STANDING WATER IS PRESENT AND PRIOR TO APPROVAL FROM THE ENGINEER IS OBTAINED.

CONSOLIDATION OF FORMED CONCRETE AND CONCRETE CONTAINING ANCHOR BOLTS, REBAR AND OTHER EMBEDMENT'S SHALL BE ACCOMPLISHED WITH A CONCRETE VIBRATOR. THE SIZE OF THE VIBRATOR SHALL BE SUFFICIENT TO ADEQUATELY CONSOLIDATE THE CONCRETE. TREMIE CONCRETE SHALL NOT BE VIBRATED.

FINISH OF AN INTERIOR SLAB SHALL BE SMOOTH TROWELED EXCEPT WHERE A NON–SLIP SURFACE IS REQUIRED A FINE BROOM FINISH SHALL BE PROVIDED. EXTERIOR SLABS SHALL BE GIVEN A MEDIUM BROOM FINISH.

CURING OF ALL CONCRETE SHALL BE CONTINUOUS FOR AT LEAST 7 DAYS BEGINNING IMMEDIATELY AFTER COMPLETION OF FINISHING. WET CURING OF SLABS USING DAMP BURLAP OR BURLEEN IS REQUIRED. CURING TIME AND PROCEDURES SHALL BE ADJUSTED TO SUIT HOT AND COLD WEATHER CONDITIONS. CURING COMPOUNDS SHALL NOT BE USED ON FLOOR SLABS OR ON CONCRETE SURFACES WHICH ARE TO BE PAINTED, SEALED OR WATERPROOFED. OR WHICH WILL RECEIVE ADHESIVE OR MORTAR BONDED FINISHES OR ON CONCRETE SURFACES EXPOSED TO VIEW WHERE THE CURING COMPOUND WOULD BE OBJECTIONABLE. FORMED WALLS SHALL NOT BE STRIP FOR AT LEAST 7 DAYS AS A METHOD OF CURING THE WALL. KEEP TOP EXPOSED PORTION OF WALL COVERED AND DAMP FOR 7 DAYS MINIMUM.

FORMED SURFACES EXPOSED AFTER CONSTRUCTION SHALL BE UNIFORMLY FLAT AND FREE OF SURFACE DEFECTS SUCH AS BUG HOLDS, FORM BOARD JOINTS, ROCK POCKETS, ETC. FLATNESS TOLERANCE SHALL BE 1/8–INCH BETWEEN ANY TWO POINTS IN 10 FEET. LINE SHALL BE WITHIN 1/4–INCH IN 50 FEET. EXPOSED SURFACES THAT ARE NOT ACCEPTABLE SHALL BE CORRECTED OR REPLACED AS DIRECTED BY THE ENGINEER.

BACKFILL AND OTHER STRUCTURAL LOADING SHALL NOT BE PLACED AGAINST ANY CONCRETE UNTIL SUCH TIME AS THE CONCRETE HAS ATTAINED ITS 28–DAY STRENGTH.

REINFORCING BARS SHALL MEET ASTM A615 GRADE 60 REQUIREMENTS FOR NO. 4 BARS AND LARGER, AND GRADE 40OR GRADE 60 REQUIREMENTS FOR SMALLER BARS, EXCEPT THAT BARS WHICH REQUIRE WELDING SHALL MEET ASTMA706 REQUIREMENTS. ALL SPLICES SHALL BE LAP SPLICES WITH LAP LENGTHS AND SPACING CONFORMING TO THE STANDARD DETAILS, U.N.O. WELDING OF REINFORCING BARS SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.4AND WILL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED ON THE PLANS AND CONTINUOUSLY INSPECTED BY THE ENGINEER. BEAM, COLUMN, AND VERTICAL WALL REINFORCEMENT SHALL NOT BE SPLICED, EXCEPT AT THE 1/4 SPAN LOCATIONS WHEN NECESSARY OR UNLESS SHOWN OTHERWISE ON THE PLANS.

WATER VAPOR RETARDER SHALL BE PLACED UNDER ALL INTERIOR CONCRETE SLABS UNLESS NOTED OTHERWISE AND SHALL BE A 15–MIL. MINIMUM THICK FILM. THE VAPOR RETARDER SHALL COMPLY WITH ASTM E–1745 CLASS A, WITH A PERMEANCE RATING LESS THAN 0.01 US PERMS. STEGO WRAP BY STEGO INDUSTRIES MOISTOP ULTRA 15 BY FORTIFIBER, VAPOR BLOCK 15 BY RAVEN INDUSTRIES, OR APPROVED EQUAL. LAP THE ENDS AND EDGES OF THE SHEETS 6–INCHES MINIMUM AND TAPE ALL SEAMS PER THE VAPOR RETARDER'S MANUFACTURER'S RECOMMENDATIONS. SEAL ALL PENETRATIONS PER THE VAPOR RETARDER'S MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN NOT TO PUNCTURE THE VAPOR RETARDER DURING AND AFTER INSTALLATION. COMPACTED 3/4–INCH AGGREGATE BASE SHALL BE PLACED UNDER THE VAPOR RETARDER. BASE WITH CRUSHED AGGREGATE SHALL BE COVERED WITH A THIN LAYER (1/2–INCH) SAND TO SEPARATE THE VAPOR BARRIER FROM THE AGGREGATE BASE. THE CONCRETE SLAB SHALL BE PLACED DIRECTLY ON THE VAPOR RETARDER. NO SAND OR OTHER MATERIAL IS ALLOWED BETWEEN THE VAPOR RETARDER AND CONCRETE SLAB.

SLAB FLATNESS TOLERANCE SHALL BE 3/8–INCH IN 5 FEET AND 1/2–INCH IN 10 FEET WHERE THE 3/8– AND 1/2–INCH DIMENSIONS ARE THE MAXIMUM DIFFERENCES OVER THEIR RESPECTIVE LENGTHS. FLATNESS TOLERANCES UNDERWOOD FRAME WALLS SHALL MEET THE REQUIREMENTS FOR MUDSILLS IN WOOD FRAME CONSTRUCTION.

DRY PACK MORTAR – PRE–MIXED PREPARED PORTLAND CEMENT MORTARS, WHICH REQUIRE ONLY THE ADDITION OF WATER AND ARE USED IN THE INSTALLATION OF CERAMIC TILE, SHALL COMPLY WITH ANSI A118.1. THE SHEAR BOND STRENGTH FOR TILE SET IN SUCH MORTAR SHALL BE AS REQUIRED IN ACCORDANCE WITH ANSI A118.1. TILE SET IN DRY–SET PORTLAND CEMENT MORTAR SHALL BE INSTALLED IN ACCORDANCE WITH ANSI A108.5.

NON–SHRINK GROUT IS REQUIRED FOR: BASE PLATES AND SILL PLATES WITH LESS THAN 1/2–INCH HEIGHT BETWEEN THE ITEM TO BE SUPPORTED AND THE SUBSTRATE; ITEMS WHICH ARE NOT ACCESSIBLE FOR DRY PACKING FROM TWO OPPOSING SIDES; ITEMS WITH BASE PLATES WHERE THE SMALLEST DIMENSION IS GREATER THAN 24 INCHES; EQUIPMENT OR OTHER SUPPORTS SUBJECT TO VIBRATORY LOADS; AND WHERE NOTED ON THE PLANS. THE NON–SHRINK GROUT FOR HEAVY VIBRATORY LOADS SHALL BE EMBECO 858 GROUT MANUFACTURED BY BASF; HI–FLOW METALLIC GROUT MANUFACTURED BY EUCLID CHEMICAL CO.; OR EQUAL. NON–SHRINK GROUT FOR OTHER APPLICATIONS SHALL BE MASTERFLOW 928 GROUT, MANUFACTURED BY BASF; HI–FLOW GROUT, MANUFACTURED BY ELUCID CHEMICAL CO., OR EQUAL.

NON–SHRINK GROUT SHALL BE CONTAINED BY SUITABLE RIGID FORMS. THE GROUT SHALL BE FLUID OR FLOWABLE DEPENDING ON WHICH IS THE MORE SUITABLE FOR THE PARTICULAR SITUATION. THE SURFACE PREPARATION, MIXING, APPLICATION, AND CURING OF THE GROUT SHALL CONFORM TO THE MANUFACTURER'S INSTRUCTIONS.

EXPANSION JOINT FILLER FOR EXPANSION JOINTS IN FLOOR SLABS SHALL BE 1/2–INCH THICK ASPHALT IMPREGNATED FIBER BOARD MEETING ASTM D–1751, SUCH AS FIBER EXPANSION JOINT BY WR MEADOWS; OR EQUAL. APPLY REMOVABLE CAP TO EXPOSED EDGE OF JOINT FILLER, WHERE APPLICABLE, PRIOR TO INSTALLATION.

REMOVABLE CAP FOR CREATING A VOID FOR SEALANT SHALL BE SNAP–CAP BY WR MEADOWS; OR EQUAL. THE STRIP SHALL CONSIST OF A PERMANENT CAP WHICH FITS OVER THE JOINT FILLER, AND AN UPPER ATTACHED BUT REMOVABLE CAP PIECE THAT IS LIFTED OFF THE LOWER CAP PIECE AFTER THE CONCRETE IS CURED. THE REMAINING JOINT FILLER CAP SERVES AS A SEALANT BOND BREAKER. THE ENTIRE CAP IS APPLIED TO THE EXPANSION JOINT FILLER PRIOR TO ADHERING IT TO THE CONCRETE SURFACE.

FOUNDATION NOTES:

1. ALL FOOTING EXCAVATION SHALL BE AS NEAT AS PRACTICABLE. OVER EXCAVATION IN DEPTH SHALL BE FILLED WITH CONCRETE, AND IN WIDTH MAY BE FILLED WITH CONCRETE OR COMPACTED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATION PRIOR TO PLACEMENT OF REINFORCEMENT, CONCRETE OR ENGINEERED FILL. FOOTING EXCAVATION TO BE 2" WIDER THAN SHOWN UNLESS FOOTINGS ARE FORMED.
2. ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS.
3. WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE.
4. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/ OR FILL BANKS DURING EXCAVATION, AND FORMING AND PLACEMENT OF CONCRETE.
5. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL CONFORM TO THE 'ACI DETAIL MANUAL' – 1988.
6. CONCRETE PROTECTION FOR REINFORCING SHALL BE AT LEAST EQUAL TO THE DIAMETER OF THE BARS. MINIMUM COVER FOR CAST–IN–PLACE CONCRETE SHALL BE AS FOLLOWS.

A. POURED OVER EARTH	3"
B. POURED AGAINST FORM BELOW GRADE	2"
C. FORMED SLAB (#11 BARS AND SMALLER)	1½"
D. SLABS ON GROUND (FROM TOP OF SLAB)	1"
E. COLUMN AND BEAM MAIN BARS, TIES, STIRRUPS, SPIRALS	1½"
F. WALLS EXPOSED TO WEATHER (#6 THROUGH #18)	2"
(#5 BAR & SMALLER)	1½"
G. WALLS NOT EXPOSED TO WEATHER (#11 AND SMALLER)	¾"

7. REINFORCING BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
8. MINIMUM LAP DISTANCE FOR REINFORCING STEEL SHALL BE 24" OR 32 BAR DIAMETERS WHICHEVER IS GREATER.
9. ALL CONNECTORS, FASTENERS, AND METAL OBJECTS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE EITHER STAINLESS STEEL OR HOT–DIPPED GALVANIZED.

CONCRETE NOTES:

1. THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 3000 PSI AND SHALL BE A MINIMUM OF A FIVE SACK MIX WITH NO MORE THAN SEVEN GALLONS OF WATER PER CUBIC YARD..
2. ALL CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150# /CF). MAXIMUM AGGREGATE SIZE FOR SLABS ON GRADE TO BE ¾" AND 1½" FOR FOUNDATIONS. AGGREGATE SHALL CONFORM TO ASTM C–33. CEMENT SHALL CONFORM TO C–150 (TYPE II), UNLESS ALKALINE SOILS. WATER–REDUCING ADMIXTURES, RETARDING ADMIXTURES, ACCELERATING ADMIXTURES, WATER–REDUCING AND RETARDING ADMIXTURES, AND WATER–REDUCING AND ACCELERATING ADMIXTURES SHALL CONFORM TO 'SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE' (ASTM C 494).
3. SLABS, BEAMS, WALLS AND OTHER CONCRETE SHALL BE KEPT CONTINUOUSLY WET FOR 48 HOURS AFTER PLACEMENT AND SHALL BE KEPT DAMP FOR 7 DAYS AFTER PLACEMENT. SLABS SHALL HAVE CURE /SEALER APPLIED IMMEDIATELY AFTER FINISHING IF OTHER FINISHES ARE NOT AFFECTED SUPERIMPOSED LOADS SHALL NOT BE APPLIED TO ELEVATED STRUCTURAL MEMBERS OR WALLS PRIOR TO 7 DAYS MINIMUM AFTER CONCRETE HAS REACHED DESIGN STRENGTH. RESHORING SHALL REMAIN IN PLACE 28 DAYS MINIMUM, AT NO TIME DURING A RESHORING PROCESS SHALL THE CONCRETE MEMBER BE UNSUPPORTED.
4. CONCRETE SHALL NOT FREE FALL MORE THAN SIX FEET.
5. KEYED CONSTRUCTION JOINTS SHALL BE USED IN ALL CASES. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND ALL LAITENCE SHALL BE REMOVED. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT IMMEDIATELY BEFORE PLACING NEW CONCRETE.
6. PROVIDE CONTROL JOINTS PER PLAN AND /OR EVERY 20 FEET ON CENTER. FILL WITH APPROVED CAULKING.
7. PROVIDE ¾" CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS AND COLUMNS U.N.O.
8. ANCHOR BOLT SIZES SHALL BE PER THE BUILDING PLANS WITH 7" EMBEDMENT AND (1) 3X3 WASHER 3/16" THICK. ANCHOR BOLTS SHALL BE LOCATED 4' O.C. AND 12" MAX. FROM EDGE WITH A MIN. (2) PER SILL PLATE 12" MAX. FROM EDGE.

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EXP. 12-31-2026
CIVIL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
1	05/02/2022	PRELIMINARY DESIGN	ARD	FAM	JTM	TVCE

KARUK TRIBE HOUSING AUTHORITY

GENERAL FOUNDATION NOTES

38030 HIGHWAY 96
ORLEANS CA, 95556
HUMBOLDT COUNTY, CALIFORNIA
APN: 529–111–007

DATE OF ISSUE:
APRIL 2022

SCALE:
AS SHOWN

PROJECT NO:
502.60

DRAWING NO:
G01

1/2" 1" 2"

PROJECT NOTES:

1. ALL DIMENSIONS ARE TO THE FACE OF STUDS UNLESS OTHERWISE NOTED, (U.O.N.).
2. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE DRAWINGS.
3. GLAZING WITHIN 24" ARC OF EITHER VERTICAL EDGE OF A DOOR IN THE CLOSED POSITION SHALL BE TEMPERED. SAFETY GLAZING AT WALL, ENCLOSURE OR DOOR FOR TUB, SHOWER, SAUNA, ETC., INCLUDING WINDOW IF BOTTOM IS LESS THAN 60 ABOVE STANDING SURFACE. CRC R308 (ALL MEASUREMENTS ARE TO NEAREST EXPOSED EDGE OF GLASS)

STRUCTURAL DESIGN CRITERIA

1.2022 CALIFORNIA BUILDING CODE.

2.ASCE 7-22, MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES.

3.AISC MANUAL OF STEEL CONSTRUCTION, 16TH EDITION.

4.ACI 318-19, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.

5.2018 NDS NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION

PLANNING & DESIGN

1. SITE DEVELOPMENT – STORM WATER POLLUTION & PREVENTION PLAN APPLIES TO ALL NEW CONSTRUCTION PROJECTS.

2. LIGHT POLLUTION REDUCTION SHALL BE IMPLEMENTED.

ENERGY EFFICIENCY

3. IN ORDER TO BE CONSIDERED "GREEN BUILDING" A REDUCTION OF AT LEAST 15% BELOW THE MINIMUM LEVEL OF COMPLIANCE SHOULD BE OBTAINED.

INDOOR WATER USE

4. SEPARATE SUB METERS SHALL BE REQUIRED FOR ALL BUILDINGS OVER 5,000 S.F.

5. ACHIEVE 20% REDUCTION IN WATER USE BY USING REDUCED FLOW FIXTURES. SEE CALCULATION FORMS WS-1 & WS-2 OR WS-3 ATTACHED.

OUTDOOR WATER USE

8.A WATER BUDGET SHALL BE DEVELOPED FOR LANDSCAPE IRRIGATION USE. SECTION 5.304.1.

9.FOR NEW WATER SERVICE TO LANDSCAPED AREAS BETWEEN 1,000 S.F. AND 5,000S.F. SEPARATE METERS OR SUBMETERS SHALL BE INSTALLED FOR INDOOR AND OUTDOOR POTABLE WATER USE. SECTION 5.304.2.

10.IN NEW CONSTRUCTION BETWEEN 1,000 S.F. AND 2,500 S.F. OF LANDSCAPED AREA, PROVIDE IRRIGATION CONTROLS CAPABLE OF AUTOMATICALLY ADJUSTING IRRIGATION BASED ON WEATHER OR SOIL CONDITIONS. SECTION 5.304.3. WATER RESISTANCE & MOISTURE MANAGEMENT

11.PROVIDE A WEATHER RESISTANT EXTERIOR WALL AND FOUNDATION ENVELOPE.

12.DESIGN AND MAINTAIN LANDSCAPE SYSTEMS TO PREVENT SPRAY ON STRUCTURES.

13.USE FLASHING AND DRAINAGE PLATES AT EXTERIOR OPENINGS TO PREVENT WATER INTRUSION INTO THE BUILDING.

14. USE NON-ABSORBENT FLOOR AND WALL FINISHES WITHIN 2 FEET OF EXTERIOR OPENINGS.

CONSTRUCTION WASTE REDUCTION, DISPOSAL & RECYCLING

15.PRIOR TO THE ISSUING OF A BUILDING PERMIT, GENERAL CONTRACTOR SHALL DEVELOP A CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP) SHOWING HOW A MINIMUM OF 50% OF ALL CONSTRUCTION DEBRIS WILL BE DIVERTED FROM LANDFILL DISPOSAL. SUBMIT CWMP TO ARCHITECT FOR REVIEW AND APPROVAL. ARCHITECT SHALL FORWARD APPROVED WASTE MANAGEMENT PLAN TO LOCAL BUILDING DEPARTMENT FOR INCORPORATION INTO PERMIT PACKAGE.

16.CONTRACTOR SHALL BE RESPONSIBLE FOR TRACKING ALL CONSTRUCTION WASTE AND SHALL PROVIDE WRITTEN DOCUMENTATION AT THE END OF THE PROJECT FOR BUILDING DEPARTMENT APPROVAL PRIOR TO FINAL SIGNOFF. CONSTRUCTION DEBRIS SHALL BE TRACKED BY WEIGHT OR VOLUME FOR THE ENTIRE PROJECT, BUT NOT IN COMBINATION.

17. DISPOSAL OF HAZARDOUS MATERIALS DO NOT COUNT AS CONSTRUCTION WASTE.

BUILDING MAINTENANCE & OPERATION

18. FOR NEW BUILDINGS 10,000 S.F. OR MORE BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESS FOR THE BUILDING AS REQUIRED IN SECTION 5.410.2.

FIREPLACES

19. ONLY CALIFORNIA APPROVED FIREPLACES MAY BE INSTALLED. POLLUTANT CONTROL

20. ALL HVAC DUCT WORK, EQUIPMENT AND COMPONENTS SHALL BE SEALED THROUGHOUT CONSTRUCTION TO PREVENT CONTAMINATION FROM AIRBORNE POLLUTANTS GENERATED BY CONSTRUCTION ACTIVITIES.

21. ALL FINISH MATERIALS SHALL COMPLY WITH VOC LIMITATIONS SET FORTH IN SECTION 5.504.4.1 THROUGH 5.504.4.4.

INDOOR AIR QUALITY

22. MEET REQUIREMENTS FOR CALIFORNIA TITLE 24.

OUTDOOR AIR QUALITY

23. PROVIDE HVAC, REFRIGERATION, AND FIRE SUPPRESSION SYSTEMS THAT DO NOT CONTAIN CFC'S OR HALONS.

GENERAL REQUIREMENTS

ALL CONSTRUCTION SHALL CONFORM WITH 2022 CALIFORNIA BUILDING CODE AND ALL OTHER APPLICABLE CODES, ORDINANCES, LAWS AND PROVISIONS SET FORTH IN THESE CONSTRUCTION DOCUMENTS. THE CONSTRUCTION DOCUMENTS ARE CONSIDERED TO BE, BUT ARE NOT LIMITED TO, THE PLANS AND SPECIFICATIONS, NOTIFICATIONS, CHANGE ORDERS, ADDENDUMS, CLARIFICATIONS AND INSTRUCTIONS. ANY CONSTRUCTION THAT DOES NOT COMPLY WITH THE CONSTRUCTION DOCUMENTS SHALL BE SUBJECT TO REJECTION BY THE ENGINEER.

CONTRACTOR REQUIREMENTS

DIMENSIONS SHALL BE CHECKED BY THE CONTRACTOR PRIOR TO CONSTRUCTION BETWEEN THE ARCHITECTURAL PLANS AND OTHER PLANS. VERIFY EXISTING DIMENSIONS PRIOR TO CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER FOR RESOLUTION.

TEMPORARY BRACING OF THE BUILDING DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. SUCH BRACING SHALL ACCOUNT FOR MATERIAL STOCKPILE LOADS, REMOVAL OF EXISTING SUPPORT AND LOADS, FROM EQUIPMENT AND METHODS EMPLOYED DURING CONSTRUCTION. THE BUILDING SHALL ALSO BE ADEQUATELY BRACED TO WITHSTAND ANY WIND LOADS, SEISMIC, AND SNOW LOADS WHICH MIGHT OCCUR DURING CONSTRUCTION UNTIL THE PERMANENT STRUCTURAL FRAMING SYSTEM, INCLUDING BUT NOT LIMITED TO ALL DIAPHRAGMS, SHEAR WALLS, BRACINGS, ECT., IS COMPLETED.

WOOD FRAME CONSTRUCTION

U.N.O., FRAMING LUMBER IS TO BE DOUGLAS FIR S4S GRADED AS NOTED BELOW (WWPA GRADING RULES) UNLESS OTHERWISE NOTED OR SHOWN. HIGHER GRADES OF WOOD THAN INDICATED BELOW MAY BE USED AT THE ELECTION OF THE CONTRACTOR TO MINIMIZE TWISTING, WARPING, ETC. BEAMS AND STRINGERS
4X.....NO. 2
6X.....NO. 1

JOISTS, RAFTERS & LEDGERS, 2X AND 4X.....NO. 2

POSTS AND TIMBERS.....NO. 1

STUDS, SILLS & PLATES

STUD 2X4.....NO. 2
2X6.....NO. 2

2X8 AND LARGER.....NO. 1

MISC. FRAMING LUMBER NOT NOTED.....NO. 2

LUMBER MOISTURE CONTENT SHALL BE BELOW 19% PRIOR TO INSTALLATION. REDWOOD LUMBER:4X, 6X, AND 8X REDWOOD STRUCTURAL MEMBERS SHALL BE STRUCTURALLY GRADED NO. 1. OTHER MEMBERS SHALL BE ARCHITECTURAL B GRADE.

MUDSILLS, PLATES, LEDGERS, AND OTHER WOOD MEMBERS IN CONTACT WITH CONCRETE OR MASONRY SURFACES SHALL BE AWPB GRADE STAMPED PRESSURE TREATED WOOD. DOUGLAS FIR IS THE REQUIRED SPECIES FOR PRESSURE TREATING. THE PRESERVATIVE TYPE AND RETENTION SHALL MEET THE AWPA STANDARD C2 FOR ABOVEGROUND USE. THE TREATED WOOD SHALL BEAR THE AWPB QUALITY ASSURANCE MARK. PRESSURE TREATED MUDSILLS, PLATES, LEDGERS, AND OTHER MEMBERS SHALL HAVE ALL DRILLED HOLES AND CUT ENDS IN CONTACT WITH CONCRETE OR MASONRY TREATED WITH CUPRINOL OR OTHER SUITABLE CHEMICAL COMPATIBLE WITH THE PRESERVATIVE.

SET ALL MUDSILLS, PLATES, ETC. TO PROPER GRADE. THE FOUNDATION MAY DEVIATE FROM A STRAIGHT GRADE PLUS OR MINUS 1/8 INCH FOR BEARING WALLS AND PLUS OR MINUS 1/4 INCH FOR ALL OTHER WALLS.

TIMBER CONNECTORS SHALL BE SIMPSON STRONG-TIE UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER. CONNECTORS SHALL BE THE MAXIMUM SIZE AND NUMBER OF FASTENERS AS SHOWN IN THE LATEST CATALOG UNLESS NOTED OTHERWISE ON THE PLANS ("MAX" NAILING U.N.O., INCLUDING TRIANGULAR HOLES). COATING SHALL BE HOT-DIPPED GALVANIZED OR ZMAX WHEN IN CONTACT WITH PRESSURE-TREATED WOOD.

BOLTS IN WOOD SHALL BE A307 MILD STEEL UNFINISHED MACHINE BOLTS IN INTERIOR LOCATIONS AND ZINC PLATED BOLTS SHALL BE USED FOR ALL OTHER CONNECTIONS EXCEPT HOT DIPPED GALVANIZED BOLTS (AND WASHERS) SHALL BE PROVIDED FOR PRESSURE TREATED LUMBER CONNECTIONS. WASHERS SHALL HAVE THE SAME CORROSION RESISTANCE AS THE BOLT. HOLES IN WOOD MEMBERS SHALL BE 1/16" LARGER THAN BOLT DIAMETER.RE-TIGHTEN ALL BOLTED CONNECTIONS PRIOR TO FINAL USE OR COVERING UP. LEDGERS AND MUDSILLS SHALL HAVE AT LEAST ONE BOLT (OR MORE IF REQUIRED ON PLANS) AT EACH END OF EACH MEMBER LOCATED NOT CLOSER THAN 6 INCHES AND NOT FARTHER THAN 9 INCHES FROM THE END. ALL OTHER BOLTS SHALL BE SPACED AS SHOWN ON PLANS.

WASHERS PLATE WASHERS, NOT LESS THAN 0.229 INCH BY 3 INCHES BY 3 INCHES (5.8 MM BY 76 MM BY 76 MM) IN SIZE, SHALL BE PROVIDED BETWEEN THE FOUNDATION SILL PLATE AND THE NUT EXCEPT WHERE APPROVED ANCHOR STRAPS ARE USED. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16 INCH (5 MM) LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 13/4 INCHES (44 MM), PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.

WOOD SCREWS SHALL BE ZINC PLATED STEEL. PROVIDED THE SIZE SHOWN ON THE PLANS. FULL DEPTH LEAD HOLES ARE REQUIRED OF THE SCREWS ROOT DIAMETER. THE SCREW MUST PENETRATE AT LEAST SEVEN SHANK DIAMETERS INTO THE SUPPORTING MEMBER U.N.O.

SELF-DRILLING WOOD SCREWS (SDWS) SHALL CONFORM WITH THE ABOVE PROVISIONS FOR WOOD SCREWS EXCEPT AS FOLLOWS: SCREWS SHALL HAVE A BUGLE HEAD THAT WILL DRIVE FLUSH WITH THE SURFACE; LEAD HOLES MAY BE OMITTED IF SPLITTING OF THE WOOD IS NOT ENCOUNTERED; SCREWS SHALL BE MANUFACTURED BY MCFEELY'S, BUILDEX, OR EQUAL.

SCREWS INSTALLED IN PRESSURE TREATED WOOD OR REDWOOD SUBJECT TO MOISTURE SHALL BE 18-8 STAINLESS-STEEL. NON-MOISTURE EXPOSURE IN THESE SPECIES OF WOOD SHALL UTILIZE MCFEELY'S NO-CO-RODES OR BUILDEX DECK-KING CLIMACOTE SCREWS. ALL OTHER SCREWS SHALL BE ZINC PLATED STEEL.

PLATE CONNECTED WOOD TRUSSES ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER. THE TRUSS DESIGN SHALL BE IN ACCORDANCE WITH THE CURRENT RECOMMENDED DESIGN PRACTICE OF THE TRUSS PLATE INSTITUTE, CBC SECTION 2303.4, AND THE PLANS. THE TRUSS MANUFACTURER WILL SUBMIT A PRELIMINARY TRUSS DESIGN AND LAYOUT PLAN TO THE ENGINEER FOR USE IN THE STRUCTURAL DESIGN OF THE BUILDING. THE CONTRACTOR OR OWNER WILL RETURN TO THE TRUSS MANUFACTURER HIS PRELIMINARY DESIGN INFORMATION PLUS ANY ADDITIONAL INFORMATION NECESSARY FOR USE IN THE PREPARATION OF THE FINAL DESIGN OF THE TRUSSES. THE TRUSS MANUFACTURER SHALL PROVIDE FINAL PLANS, DETAILS AND STRUCTURAL CALCULATIONS FOR THE TRUSSES INCLUDING DESIGN OF ALL NECESSARY WEB AND CHORD BRACING. THE TRUSS MANUFACTURER SHALL SUBMIT THE FINAL DESIGN DOCUMENTS THAT ARE PREPARED AND STAMPED AND SIGNED BY A LICENSED CALIFORNIA CIVIL ENGINEER TO THE ENGINEER FOR HIS REVIEW.

THE ROOF SHEATHING AND CEILING FINISH (IF OCCURRING) ARE INTENDED TO PROVIDE THE PERMANENT LATERAL SUPPORT FOR THE TOP AND BOTTOM CHORDS RESPECTIVELY. THE TRUSS MANUFACTURER SHALL NOTE ON THE SHOP DRAWINGS IF THESE ARE NOT SUFFICIENT. WHERE CEILINGS ARE NOT APPLIED TO BOTTOM CHORD, ADD BRACING PER TRUSS ENGINEERING. ERECTION BRACING IS TO BE FURNISHED AND INSTALLED BY THE ERECTION CONTRACTOR. THE ERECTION CONTRACTOR IS SOLELY RESPONSIBLE FOR THE TEMPORARY LATERAL BRACING OF THE TRUSSES UNTIL THE PERMANENT ROOF AND CEILING MATERIALS ARE COMPLETELY INSTALLED AND IS ALSO RESPONSIBLE TO PLACE COMPRESSION WEB AND CHORD LATERAL BRACING CALLED FOR BY THE TRUSS MANUFACTURER.

ENGINEERING CALCULATIONS FOR VAULTED TRUSSES SHALL DEMONSTRATE THAT EACH TRUSS HAS A COMBINED HORIZONTAL MOVEMENT FOR BOTH ENDS OF LESS THAN 3/4-INCH FOR THE DEAD LOAD PLUS LIVE LOAD.

LAMINATED VENEER LUMBER (LVL) BEAMS ARE TO BE DOUGLAS FIR VERTICALLY LAMINATED AND SHALL BE REDLAM LVL AS MANUFACTURED BY REDBUILT, VERSA-LAM LVL AS MANUFACTURED BY BOISE CASCADE, OR APPROVED EQUAL. THE BEAMS SHALL CONFORM TO ICC ESR 2993, OR ICC ESR 1040 AND SHALL HAVE A MINIMUM MODULUS OF ELASTICITY (E) OF 2.0X10^6 PSI, AND A MINIMUM FLEXURAL STRESS (FB) OF 2900 PSI. U.N.O., MEMBERS SHALL BE A SINGLE PIECE, WHERE MULTIPLE PILES ARE SPECIFIED, THEY SHALL BE NAILED TOGETHER WITH 3 ROWS OF 16DSINKER NAILS @ 12-INCHES ON CENTER, STAGGERED 6-INCHES UNLESS OTHERWISE NOTED. DOUBLE MEMBERS REQUIRE NAILING ON ONE FACE, TRIPLE MEMBERS REQUIRE NAILING ON TWO FACES. FOUR AND MORE LAYER MEMBER REQUIRE NAILING ON EACH LAYER PLUS 2-5/8" BOLT @ 24-INCH O/C.

GLULAM BEAMS ARE TO BE DOUGLAS FIR COMBINATION 24F-V4 FOR SIMPLE SPANS, 24F-V8 FOR CONTINUOUS MULTI-SPANS. GLULAMS ARE TO BE MANUFACTURED IN ACCORDANCE WITH AITC 117, ANSI/AITC A190.1, AND ASTM D3737 FOR DRY CONDITIONS OF USE. NO CAMBER IS NECESSARY UNLESS OTHERWISE SHOWN. BEAMS SHALL BE ARCHITECTURAL-APPEARANCE GRADE. THE FABRICATOR SHALL APPLY END AND SURFACE SEALER. ARCHITECTURAL-APPEARANCE GRADE BEAMS ARE TO BE INDIVIDUALLY WRAPPED. THE ERECTOR IS TO SLIT THE WRAPPING WHEN THE BEAMS ARE DELIVERED TO THE JOB SITE TO ALLOW ENTRAPPED MOISTURE TO ESCAPE. THE FABRICATOR SHALL PROVIDE THE CERTIFICATE OF PERFORMANCE.

PREFABRICATED WOOD I JOISTS SHALL BE RED-I AS MANUFACTURED BY REDBUILT LLC, OR APPROVED EQUAL. I-JOISTS SHALL CONFORM TO ICC ESR 2994. NOTCHING OR DRILLING OF FLANGES IS NOT PERMITTED UNLESS SPECIFICALLY DETAILED ON THE PLANS. WEBS MAY HAVE HOLES CUT PROVIDED THE SIZE, NUMBER AND LOCATION ARE WITHIN THE ALLOWABLE LIMITS AS DEFINED BY THE MANUFACTURER.

IDENTIFICATION

EACH OF THE I-JOISTS SHALL BE IDENTIFIED BY A STAMP INDICATING THE TRUSS SERIES, ICC-ES REPORT NUMBER, MANUFACTURER'S NAME, PLANT NUMBER, DATE OF FABRICATION AND THE INDEPENDENT INSPECTION AGENCY'S LOGO.

ROOF, FLOORS AND WALL SHEATHING SHALL BE PLYWOOD (NO OSB) AND SHALL COMPLY WITH PS-1, PS-2, OR APAPRP-108. EXPOSURE DURABILITY SHALL BE EITHER EXTERIOR OR EXPOSURE 1 UNLESS OTHERWISE SPECIFIED OR SHOWN. MOISTURE CONTENT SHALL BE LESS THAN 19% AT TIME OF FABRICATION. SPAN RATING, THICKNESS, AND NUMBER OF PILES SHALL BE SHOWN ON THE PLANS. ROOF SHEATHING AT OVERHANGS SHALL HAVE VENEER GRADES OF (OR FOR?) C-C PLUGGED OR BETTER.

ROOF AND FLOOR SHEATHING SHALL BE INSTALLED WITH THE FACE GRAIN ACROSS THE SUPPORTS AND THE END JOINTS STAGGERED 4 FEET UNLESS OTHERWISE SHOWN ON THE PLANS. EDGE JOINTS AND END JOINTS OF ALL PANELS SHALL BE SPACED 1/8 INCH APART BETWEEN ADJACENT PANELS UNLESS OTHERWISE INDICATED BY THE PANEL MANUFACTURER.

WALL SHEATHING MAY BE INSTALLED VERTICALLY OR HORIZONTALLY. PANEL EDGES AND ENDS SHALL OCCUR OVER FRAMING OR FULL DEPTH BLOCKING. EDGE NAILING SHALL BE APPLIED FULL HEIGHT TO ALL HOLD DOWN STUDS AND POSTS, AND ALL COLUMNS. WALL SHEATHING PANELS SHALL BE NOT LESS THAN ONE NOMINAL STUD SPACING IN WIDTH NOR 16 INCHES WHICHEVER IS SMALLER.

PLYWOOD NAILS SHALL BE COMMONS OR HOT DIP GALVANIZED BOX NAILS, U.N.O. EDGE NAILING SHALL BE LOCATED AT LEAST 3/8-INCH FROM PANEL EDGES. NAILS SHALL NOT BE OVER DRIVEN SUCH THAT THE NAIL HEAD PENETRATES THE FACE PLY. NAILS IN PRESSURE TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED.

WOOD FRAMING MEMBERS SUCH AS STRUCTURAL SAWN LUMBER; END-JOINTED LUMBER; PREFABRICATED WOOD I-JOISTS; STRUCTURAL GLUED-LAMINATED TIMBER; WOOD STRUCTURAL PANELS; FIBERBOARD SHEATHING (WHEN USED STRUCTURALLY); HARDBOARD SIDING (WHEN USED STRUCTURALLY); PARTICLEBOARD; PRESERVATIVE-TREATED WOOD; STRUCTURAL LOG MEMBERS; STRUCTURAL COMPOSITE LUMBER; ROUND TIMBER POLES AND PILES; FIRE-RETARDANT-TREATED WOOD; HARDWOOD PLYWOOD; WOOD TRUSSES; JOIST HANGERS; NAILS; AND STAPLES SHALL CONFORM TO THE APPLICABLE PROVISIONS OF CBC SECTION 23.

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1/2" 1" 2"

MEANS OF EGRESS, STAIRS, AND LANDINGS

1. PROVIDE AT LEAST ONE SIDE–HINGED EGRESS DOOR FROM EACH DWELLING UNIT NOT LESS THAN 3' WIDE AND 6'–8" HIGH WITH MINIMUM 32 INCHES WIDTH CLEAR. EGRESS DOOR SHALL BE READILY OPENABLE FROM INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT CRC311.2.

2. FOR HABITABLE LEVELS OR BASEMENTS LOCATED MORE THAN ONE STORY ABOVE OR MORE THAN ONE STORY BELOW AN EGRESS DOOR, THE MAXIMUM TRAVEL DISTANCE FROM ANY OCCUPIED POINT TO A STAIRWAY OR RAMP THAT PROVIDES EGRESS FROM SUCH HABITABLE LEVEL OR BASEMENT, SHALL NOT EXCEED 50 FEET. CRC311.4.

3. THE MEANS OF EGRESS SHALL PROVIDE A CONTINUOUS AND UNOBSTRUCTED PATH OF VERTICAL AND HORIZONTAL EGRESS TRAVEL FROM ALL PORTIONS OF THE DWELLING TO THE REQUIRED EGRESS DOOR WITHOUT REQUIRING TRAVEL THROUGH A GARAGE. CRC311.1.

4. LANDINGS OR FINISHED FLOORS AT THE REQUIRED EGRESS DOOR SHALL BE NOT MORE THAN 1–1/2 INCHES LOWER THAN THE TOP OF THE THRESHOLD. CRC311.3.1.

5. LANDINGS SHALL BE AT LEAST AS WIDE AS THE DOOR OR STAIRWAY SERVED AND SHALL BE 36" MINIMUM IN THE DIRECTION OF TRAVEL. CRC311.3.

6. A CONTINUOUS HANDRAIL SHALL BE PROVIDED ON AT LEAST ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS. CRC311.7.8

7. HANDRAIL HEIGHT, MEASURED VERTICALLY FROM THE SLOPED PLANE ADJOINING THE TREAD NOSING OR FINISH SURFACE OF RAMP SLOPE, SHALL BE NOT LESS THAN 34" AND NOT MORE THAN 38". HANDRAILS ADJACENT TO A WALL SHALL HAVE A SPACE OF AT LEAST 1–½" BETWEEN THE WALL AND THE HANDRAIL. CRC311.7.8.1, CRC311.7.8.3.

8. WINDER TREADS SHALL COMPLY WITH CRC311.7.5.2.1.

9. SPIRAL STAIRS SHALL COMPLY WITH CRC311.7.10.1.

10. RAMPS WITH A SLOPE MORE THAN 1 UNIT VERTICAL IN 12 UNITS HORIZONTAL SHALL BE PROVIDED WITH HANDRAILS ON AT LEAST ONE SIDE. CRC311.8.1.3.

11. DOORS OTHER THAN THE REQUIRED EGRESS DOOR SHALL BE PROVIDED WITH LANDINGS OR FLOORS NOT MORE THAN 7–3/4 INCHES BELOW THE TOP OF THE THRESHOLD. EXCEPTION: A TOP LANDING IS NOT REQUIRED WHERE A STAIRWAY OF NOT MORE THAN TWO RISERS IS LOCATED ON THE EXTERIOR SIDE OF THE DOOR, PROVIDED THAT THE DOOR DOES NOT SWING OVER THE STAIRWAY. CRC311.3.2.

STAIRS & DECKS

1. DECK FRAMING AND SUPPORT POSTS TO BE OF PRESERVATIVE TREATED OR NATURALLY DURABLE LUMBER. HARDWARE AND FASTENERS SHALL BE HOT–DIPPED GALVANIZED, STAINLESS STEEL, SILICON BRONZE, OR COPPER. CRC R317 PROTECTION OF WOOD AND WOOD–BASED PRODUCTS AGAINST DECAY, CRC R507.2.3 FASTENERS AND CONNECTORS. CBC 2304.10.5 FASTENERS AND CONNECTORS IN CONTACT WITH PRESERVATIVE–TREATED AND FIRE–RETARDANT–TREATED WOOD. CBC 2304.12 PROTECTION AGAINST DECAY AND TERMITES. WOOD SHALL BE PROTECTED FROM DECAY 2304.12.7.

2. ALL WOOD EXPOSED TO WEATHER TO BE PRESSURE TREATED, REDWOOD OR A TYPE OF WOOD THAT WILL RESIST DECAY. CBC 2304.12, CRC R317

3. WOOD/PLASTIC COMPOSITE DECK BOARDS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE INSTALLATION INSTRUCTIONS. CRC R507.2.2, CRC R507.2.2.5

4. THE DECK ATTACHMENT FOR LATERAL LOADS SHOWS DTT1Z THIS DEVICE NEEDS TO BE MINIMUM 750 LB CAPACITY AT MINIMUM 4 LOCATIONS, EVENLY DISTRIBUTED ALONG DECK AND ONE WITHIN 24" OF EACH END OF THE LEDGER. CRC R507.9.2 LATERAL CONNECTION. FIGURE R507.9.2(1)

5. EXTERIOR DECKS AND STAIRWAYS ARE REQUIRED TO MEET FIRE SAFE REGULATIONS.

6. DECKS SHALL BE EITHER SELF–SUPPORTING OR POSITIVELY ANCHORED TO THE PRIMARY STRUCTURE. TOENAILS OR NAILS SUBJECT TO WITHDRAWAL SHALL NOT BE USED FOR SUCH ATTACHMENT. CRC R311.5

7. DECK GUARD RAIL MINIMUM 42" FROM FINISHED DECKING TO TOP OF GUARDRAIL. R312 CRC R312.1.2 HEIGHT.

8. HANDRAIL GRIP–SIZE PER CRC R311.7.8.3, CBC 1012.3.

9. STAIRWAY RISE 4" MIN, 7–¾" MAX AND RUN 10" MIN, HANDRAIL TO BE 34" TO 38" ABOVE NOSE OF TREAD. MAXIMUM OPENING AT BALUSTERS OF STAIRWAY IS LESS THAN 4–3/8" AND THE TRIANGULAR OPENINGS FORMED BY THE RISE, TREAD AND BOTTOM ELEMENT OF RAIL LESS THAN 6" OPENING. GUARDRAILS MINIMUM 42" FROM FINISHED FLOOR TO TOP OF GUARDRAIL. MAXIMUM OPENING AT BALUSTERS AT GUARDRAILS IS LESS THAN 4". CRC R311.7.1. R311.7.5, R311.7.5.1, R311.7.5.2, R311.7.8, R311.7.8.3

10. THE RADIUS OF CURVATURE AT THE TREAD NOSING SHALL BE NOT GREATER THAN 9/16 INCH. A PROJECTION NOT LESS THAN ¾ INCH AND NOT MORE THAN 1–1/4 INCHES MAX. EXCEPTION: A NOSING PROJECTION IS NOT REQUIRED WHERE THE TREAD DEPTH IS NOT LESS THAN 11 INCHES. CRC R311.7.5.3 CBC 1011.5.5.1, CBC 11B–504.5.

11. GUARDS SHALL BE LOCATED ALONG OPEN SIDED WALKING SURFACES, INCLUDING STAIRS, RAMPS, LANDINGS, AND DECKS, THAT ARE MORE THAN 30" ABOVE THE FLOOR OR GRADE, MEASURED AT ANY POINT WITHIN 36" HORIZONTALLY. REQUIRED GUARDS SHALL BE NOT LESS THAN 42" ABOVE THE ADJACENT WALKING SURFACE. EXCEPT THAT HANDRAIL MAY BE CONSIDERED AS GUARDS AT STAIRWAYS. OPENINGS IN GUARDS SHALL NOT EXCEED 4". CRC R312

12. THE MINIMUM HEADROOM IN ALL PARTS OF THE STAIRWAY SHALL NOT BE LESS THAN 6'–8" MEASURED VERTICALLY FROM THE SLOPED LINE ADJOINING THE TREAD NOSING OR FROM THE FLOOR SURFACE OF THE LANDING OR PLATFORM ON THAT PORTION OF THE STAIRWAY. R311.7.2.

13. OPEN RISERS ARE PERMITTED PROVIDED THAT THE OPENINGS LOCATED MORE THAN 30 INCHES, AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4–INCH DIAMETER SPHERE. CRC 311.7.5.1. OPEN RISERS NOT PERMITTED CBC 11B–504.3.

14. HANDRAILS REQUIRED ON NOT LESS THAN ONE SIDE OF EACH CONTINUOUS RUN OF TREADS OR FLIGHT WITH FOUR OR MORE RISERS. CRC 311.7.8.

WALL FRAMING

1. BEARING STUDS. WHERE JOISTS, TRUSSES OR RAFTERS ARE SPACED MORE THAN 16 INCHES ON CENTER AND THE BEARING STUDS BELOW ARE SPACED 24 INCHES ON CENTER, SUCH MEMBERS SHALL BEAR WITHIN 5 INCHES OF THE STUDS BENEATH. CRC R602.3.3.

2. THE MINIMUM NUMBER OF FULL HEIGHT STUDS (KING STUDS) AT EACH END OF A HEADER SHALL BE IN ACCORDANCE WITH CRC R602.7.5, TABLE R602.7(1) OR R602.7(2).

3. HEADER SUPPORT JACK (TRIMMER) STUDS NEED TO BE IN ACCORDANCE WITH (HEADER AND GIRDER SPANS FOR EXTERIOR BEARING WALLS. CRC R602.7.5, PER TABLE R602.7(1) OR R602.7(2) CBC 2308.4.1.1(1).

4. HEADER SUPPORT JACK (TRIMMER) STUDS NEED TO BE IN ACCORDANCE WITH (HEADER AND GIRDER SPANS FOR INTERIOR BEARING WALLS. CRC R602.7.5, PER TABLE R602.7(1) OR R602.7(2).

5. DOUBLE TOP PLATES SHALL HAVE A MINIMUM LAP OF 48". NAIL WITH EIGHT 16D NAILS ON EACH SIDE OF THE JOINT UNLESS ADDITIONAL NAILING IS SPECIFIED. PLATES AT INTERSECTIONS WITH BEARING WALLS AND CORNERS SHALL ALSO BE OVERLAPPED. CRC R602.3.2, CBC 2308.5.3.2.

6. TABLE 602.3. SOLE PLATE TO JOIST OR BLOCKING SHALL BE 16D AT 16" O.C. AND 3–16D AT 16" AT BRACED WALL PANELS. CRC TABLE R602.7(3).

7. FIRE BLOCKING IS REQUIRED IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. CBC 718.2, CRC R302.11, NO.3.

8. FOUNDATION CRIPPLE WALLS SHALL BE FRAMED OF STUDS NOT LESS IN SIZE THAN THE STUDS OF THE WALL ABOVE. CRIPPLE WALLS EXCEEDING 4' IN HEIGHT SHALL BE FRAMED OF STUDS AS REQUIRED FOR AN ADDITIONAL STORY. CRIPPLE WALLS SHALL BE SHEATHED. CRIPPLE WALLS LESS THAN 14" IN HEIGHT SHALL BE CONTINUOUSLY SHEATHED ON ONE SIDE WITH WOOD STRUCTURAL PANELS FASTENED TO BOTH THE TOP AND BOTTOM PLATES IN ACCORDANCE WITH TABLE R602.3(1) OR CONSTRUCTED OF SOLID BLOCKING. CRC R602.9 CRIPPLE WALL FRAMING, TABLE R602.3(1), R602.10.10 AND TABLES. CRIPPLE WALL BRACING, (6 TABLE REFERENCES IN THIS SECTION).

9. DRILLING AND NOTCHING OF STUDS AND TOP PLATES SHALL BE IN ACCORDANCE WITH SECTION CRC R602.6.

10. LOAD–BEARING DIMENSION LUMBER FOR STUDS, PLATES AND HEADERS SHALL BE IDENTIFIED BY A GRADE MARK OF A LUMBER GRADING OR INSPECTION AGENCY THAT HAS BEEN APPROVED BY AN ACCREDITATION BODY THAT COMPLIES WITH CRC R602.1.1, R301.1.1.1.

11. BUILDINGS SHALL BE PROVIDED WITH EXTERIOR AND INTERIOR BRACED WALL LINES PER CBC 2308.6 SPACING SHALL NOT EXCEED 25 FEET ON CENTER FOR SEISMIC CATEGORY D AND E IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS IN EACH STORY. EACH BRACED PANEL SHALL START WITHIN 8' OF EACH CORNER AND INTERIOR INTERSECTING BRACED WALL LINE. CRC R602.10

12. MINIMUM WOOD STRUCTURAL PANEL SHEATHING NAILING: 8D AT 6" O.C. AT EDGES AND 12" O.C. IN FIELD. NAILING SHALL BE INSPECTED PRIOR TO COVERING. CRC R602.3.

13. PROVIDE ONE LAYER NO. 15 ASPHALT FELT OR OTHER APPROVED MATERIAL UNDER EXTERIOR SIDING. MATERIAL SHALL HAVE UPPER LAYER LAPPED 2" MIN OVER LOWER LAYER WITH 6" MIN LAPS AT CRC R703.2 AND CRC R703.2.

14. FIRE BLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, VERTICALLY AT FLOOR AND CEILING LEVELS, SOFFIT LEVELS AND HORIZONTALLY AT INTERVALS NOT TO EXCEED 10' CRC R302.11. CBC 718.2 FIRE BLOCKING.

15. ALTERNATE BRACED WALL PANELS SHALL COMPLY AS FOLLOWS.

STRUCTURAL SHEATHING CBC 2308.9.8.1.

ANCHORS AT OUTSIDE QUARTER POINTS 1 STORY 2308.9.3.1 #1.

CONTINUOUS FOOTING AND REBAR TOP AND BOTTOM CBC 2308.9.3.1 #2.

3 ANCHORS ON 1ST STORY OF 2 STORY CBC 2308.9.3.1 #2.

PORTAL FRAME BRACED PANEL 16" 1 STORY AND 24" TWO STORY: 10' MAX TO TOP OF HEADER AND WOOD STRUCTURAL SHEATH 1 SIDE ONLY TO TOP OF HEADER, STRAPS BETWEEN HEADER AND STUDS OR POSTS WITH TIE DOWNS BETWEEN STUDS / POSTS AND FOUNDATION ALL REQUIRED CBC 2308.9.3.2.

WALL COVERINGS

1. ENCLOSED USABLE SPACE UNDER STAIRS REQUIRES ½" GYPSUM BOARD PROTECTION CRC R302.7.

2. ALL AREAS BETWEEN RESIDENCE AND GARAGE REQUIRE TO HAVE ½" GYPSUM BOARD ON WALLS AND 5/8" TYPE X GYPSUM BOARD ON LID IF LIVING SPACE ABOVE. CRC R302.6, TABLE R302.6.

3. R–3 AND U OCCUPANCY EXTERIOR WALL REQUIREMENTS: (TBL–602 FT.NT.F/TBL–704.8)

ONE HOUR LESS THAN 5' TO PROPERTY LINE.

OPENINGS MORE THAN 3' AND LESS THAN 5' SHALL BE PROTECTED AND ARE LIMITED TO 15% OF THE WALL AREA. UNPROTECTED OPENINGS NOT ALLOWED.

WALL LESS THAN 5' FROM PROPERTY LINE MUST BE ONE HOUR RATED FROM BOTH SIDES OF THE WALL. CBC 601.

4. WHEN A STRUCTURE IS IN A STATE RESPONSIBILITY AREA (SRA) ALL NEW CONSTRUCTION SHALL COMPLY WITH CRC R337

5. ALL FASTENERS USED FOR ATTACHMENT OF SIDING SHALL BE CORROSION RESISTANT. CRC R703.3.3.

ROOF & CEILING FRAMING

1. RAFTERS SHALL BE FRAMED DIRECTLY OPPOSITE EACH OTHER AT THE RIDGE. CBC 2308.7.3 CEILING JOIST AND RAFTER FRAMING. RAFTERS SHALL BE FRAMED DIRECTLY OPPOSITE EACH OTHER AT THE RIDGE. CRC R802.4.2 RAFTERS SHALL BE FRAMED NOT MORE THAN 1 1/2 INCHES (38 MM) OFFSET FROM EACH OTHER TO A RIDGE BOARD OR DIRECTLY OPPOSITE FROM EACH OTHER WITH A COLLAR TIE, GUSSET PLATE OR RIDGE STRAP IN ACCORDANCE WITH CRC TABLE R602.3(1). RAFTERS SHALL BE NAILED TO THE TOP WALL PLATES IN ACCORDANCE WITH CRC TABLE R602.3(1) UNLESS THE ROOF ASSEMBLY IS REQUIRED TO COMPLY WITH THE UPLIFT REQUIREMENTS OF SECTION CRC R802.11.

1. PURLINS TO SUPPORT ROOF LOADS MAY BE INSTALLED TO REDUCE THE SPAN OF RAFTERS WITHIN ALLOWABLE LIMITS AND SHALL BE SUPPORTED BY STRUTS TO BEARING WALLS. CRC R802.4.5, FIGURE R802.4.5.

2. SPANS FOR CEILING JOIST AND RAFTERS SHALL BE IN ACCORDANCE WITH CRC SPAN TABLES R802.1(1) THROUGH (8) FOR RAFTER SPANS AND TABLES R802.5.1(1) AND (2). FOR CEILING JOIST SPANS.

3. RAFTER TIE AND CROSS TIE CONNECTIONS TO RAFTER SHALL COMPLY WITH: CBC 2308.7.3.1, TABLES 2308.7.3.1 AND 2304.10.1, CBC 2308.8. TABLE 2308.7.3.1.

4. CEILING JOIST AND RAFTER CONNECTIONS SHALL COMPLY WITH CRC R802.5.2, TABLE R802.5.2, FIGURE R802.4.5 AND TABLE R802.5.2, TABLE R602.3(1), TABLE R802.5.2.

5. NAIL RAFTERS ADJACENT PARALLEL CEILING JOISTS. WHERE NOT PARALLEL, USE RAFTER TIES AT 4' O.C. MAX. RAFTER TIES SHALL USE ADJUSTMENT FACTOR IN FOOTNOTE H. FOR THE HEIGHT ABOVE SUPPORTING WALL AND THE LOCATION OF THE CONNECTION MUST BE IN LOWER THIRD OF ATTIC SPACE. CRC R802.5.2.2 RAFTER TIES. WOOD RAFTER TIES SHALL BE NOT LESS THAN 2 INCHES BY 4 INCHES INSTALLED IN ACCORDANCE WITH TABLE R802.5.2 AT EACH RAFTER. OTHER APPROVED RAFTER TIE METHODS SHALL BE PERMITTED.

6. PROVIDE COLLAR TIES OR RIDGE STRAP IN COMPLIANCE WITH CBC 2308.7.3.1, CRC R802.4.6, TABLE R602.3(1). TABLE R602.3(1) CRC R802.4.2. TABLE R602.3(1). TABLE R602.3(1) CRC R802.11.

7. RAFTER OR CEILING JOISTS SHALL HAVE AT LEAST 1–½" BEARING ON WOOD OR METAL OR 3" ON MASONRY OR CONCRETE. CRC R802.6 BEARING.

8. ENDS OF CEILING JOISTS SHALL BE LAPPED A MINIMUM OF 3" OR BUTTED OVER BEARING PARTITIONS OR BEAMS AND TOE NAILED TO THE BEARING MEMBER. CRC R802.3.2. TABLE R802.5.2. CRC R802.5.2.1, TABLE R802.5.2, TABLE R602.3(1). TABLE R503.2.1.1(1).

9. STRUCTURAL MEMBERS THAT SUPPORT RAFTERS AND CEILING JOISTS WITH A ROOF SLOPE OF LESS THAN THREE UNITS VERTICAL IN 12 UNITS HORIZONTAL (25% SLOPE) SHALL BE DESIGNED AS BEAMS. STRUCTURAL MEMBERS INCLUDE RIDGE BEAMS, HIPS, AND VALLEYS. CRC R802.4.4, CRC R802.6.

10. HIP AND VALLEY RAFTERS SHALL BE SUPPORTED AT THE RIDGE BY A BRACE TO A BEARING PARTITION WHERE NOT DESIGNED TO CARRY AND DISTRIBUTE THE SPECIFIC LOAD AT THAT POINT. CRC R802.4.3.

11. WOOD STRUCTURAL PANEL SHEATHING WHEN DESIGNED TO BE PERMANENTLY EXPOSED IN OUTDOOR APPLICATIONS, SHALL BE OF AN EXTERIOR EXPOSURE DURABILITY IDENTIFIED AS EXPOSURE 1. WOOD STRUCTURAL PANEL ROOF SHEATHING EXPOSED TO THE UNDERSIDE MAY BE IDENTIFIED AS EXPOSURE 1. MINIMUM NAILING IS 6" AT EDGES AND 12" IN THE FIELD, 8D COMMON OR BOX NAILS. NAIL PANELS TO BLOCKING BETWEEN RAFTERS. CRC R803.2.1.1, TABLE R503.2.1.1(1), CRC R603.9.3, FIGURE R603.9 AND TABLE CRC R603.3.2(1).

12. SOLID BLOCK ALL RAFTER AND TRUSSES AT EXTERIOR WALLS. NAIL BLOCKING TO TOP PLATE WITH 3 – 8D TOENAILS PER BLOCK OR PROVIDE CLIPS. CBC 2308.6.7.2 TOP PLATE CONNECTION. CRC R602.10.8.2 CONNECTIONS TO ROOF FRAMING.

13. CUTTING, BORING, AND NOTCHING OF STRUCTURAL ROOF MEMBERS SHALL COMPLY WITH CRC R802.7.

14. FRAMING FOR ROOF AND CEILING OPENINGS SHALL COMPLY WITH CRC R802.9.

15. ATTIC VENTILATION: 1/150 OF ATTIC AREA. CRC R806.2 MINIMUM VENT AREA. THE MINIMUM NET FREE VENTILATING AREA SHALL BE 1/150 OF THE AREA OF THE VENTED SPACE. CBC 1202.2.2 OPENINGS INTO ATTIC.

16. WOOD STRUCTURAL ROOF PANEL SHEATHING SHALL COMPLY WITH CRC R803.2.

<u>WINDOW GLAZING, ESCAPE AND RESCUE OPENINGS</u>

1. ALL EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM CLEAR OPENING OF 5.7 SQUARE FEET WITH A MINIMUM NET CLEAR OPENING WIDTH OF 20 INCHES AND HEIGHT OF 24 INCHES AND A MAXIMUM SILL HEIGHT OF 44" FROM FINISHED FLOOR TO NET CLEAR OPENING OF WINDOW. GRADE FLOOR WINDOW MAY BE TOTAL CLEAR OPENING OF 5.0 SQUARE FEET, AND A MAXIMUM SILL HEIGHT OF 44" FROM FINISHED GRADE / FLOOR TO NET CLEAR OPENING OF WINDOW. CRC 310.2.1, CRC 310.2.2, AND CBC 1029.

2. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL BE CLEAR OF ANY OBSTRUCTION AND OPERATIONAL FROM THE INSIDE OF THE ROOM WITHOUT THE USE OF KEYS, TOOLS, OR SPECIAL KNOWLEDGE. CRC310.1.1, CRC310.4.

3. WINDOWSILLS –– IN DWELLING UNITS, WHERE OPENING OF AN OPERABLE WINDOW IS LOCATED MORE THAN 72 INCHES ABOVE THE FINISHED GRADE OR SURFACE BELOW ON THE EXTERIOR OF THE BUILDING SHALL HAVE THE LOWEST PART OF THE CLEAR OPENING OF THE WINDOW A MINIMUM OF 24 INCHES ABOVE THE FINISHED FLOOR OF THE ROOM IN WHICH THE WINDOW IS LOCATED. CRC312.1, CRC312.2.

4. IDENTIFICATION OF SAFETY GLAZING SHALL BE IN ACCORDANCE WITH CRC308.1.

5. GLAZING IN THE FOLLOWING LOCATIONS SHALL BE SAFETY GLAZING CONFORMING TO THE HUMAN IMPACT LOADS OF CRC308.3 AND CRC308.4.

FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BI–FOLD DOOR ASSEMBLIES.

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24" ARC OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60" ABOVE THE FLOOR OR WALKING SURFACE.

GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL THE FOLLOWING CONDITIONS: 1–– EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SQUARE FEET. 2–– BOTTOM EDGE LESS THAN 18 INCHES ABOVE THE FLOOR. 3–– TOP EDGE GREATER THAN 36 INCHES ABOVE THE FLOOR. 4–– ONE OR MORE WALKING SURFACES WITHIN 36" HORIZONTALLY OF THE GLAZING.

GLAZING IN RAILINGS.

GLAZING IN ENCLOSURES FOR OR WALL FACING HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS, AND SHOWERS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.

GLAZING IN WALLS AND FENCES ADJACENT TO INDOOR AND OUTDOOR SWIMMING POOLS, HOT TUBS, AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60" ABOVE A WALKING SURFACE AND WITHIN 60 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE WATER'S EDGE.

GLAZING ADJACENT TO STAIRWAYS, LANDINGS, AND RAMPS WITHIN 36" HORIZONTALLY OF A WALKING SURFACE WHEN THE SURFACE OF THE GLAZING IS LESS THAN 60" ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE.

6. SKYLIGHTS AND SLOPED GLAZING SHALL COMPLY WITH CRC308.6. FULL TEMPERED SAFETY GLASS, APPROVED RIGID PLASTICS, AND TESTED AND LABELED TO INDICATE COMPLIANCE WITH THE REQUIREMENTS OF AAMA/WDMA/CSA 101/I.S.2/A440, AND WDMA I.S.11. CRC308.6, CRC308.6.2, CRC308.6.5, CRC308.6.9, CRC308.6.9.1

<u>LIGHT, VENTILATION, AND ROOM AREAS</u>

1. ALL HABITABLE ROOMS SHALL HAVE AGGREGATE GLAZING OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA TO PROVIDE NATURAL LIGHT, OR THEY SHALL BE PROVIDED WITH ARTIFICIAL LIGHT PER CRC303.1.

2. ALL HABITABLE ROOMS SHALL BE PROVIDED WITH NATURAL VENTILATION THROUGH OPENINGS TO THE OUTDOOR AIR, OR THEY SHALL BE PROVIDED WITH MECHANICAL VENTILATION IN ACCORDANCE WITH CRC303.1.

3. PROVIDE BATHROOM EXHAUST FAN FOR EACH BATHROOM CONTAINING A BATHTUB, SHOWER, OR COMBINATION FOR PURPOSE OF HUMIDITY CONTROL. CRC303.3.1.

4. ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE ILLUMINATED. EXTERIOR STAIRWAY ILLUMINATION SHALL BE CONTROLLED FROM INSIDE OF THE DWELLING. CRC303.7, CRC303.8.

5. EACH BATHROOM CONTAINING A BATHING FACILITY SHALL BE MECHANICALLY VENTILATED FOR THE PURPOSES OF HUMIDITY CONTROL. CRC303.3.1.

6. BATHROOMS, WATER CLOSET COMPARTMENTS AND SIMILAR ROOMS SHALL HAVE WINDOW AT LEAST 3 SQUARE FEET IN AREA, HALF OF WHICH MUST BE OPENABLE, OR MECHANICAL VENTILATION MUST BE PROVIDED. CRC303.3.

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REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12-31-2026
CIVIL
STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DWN BY	CHK BY	APP BY
1	05/02/2022	PRELIMINARY DESIGN	ARD	FAM	JTM	TVCE

KARUK TRIBE HOUSING AUTHORITY

GENERAL BUILDING NOTES

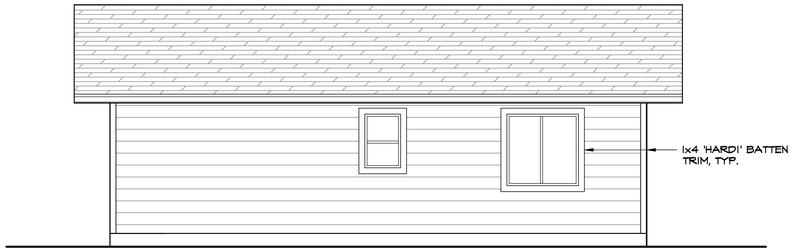
38030 HIGHWAY 96
ORLEANS, CA, 95556
HUMBOLDT COUNTY, CALIFORNIA
APN: 529–111–007

DATE OF ISSUE: APRIL 2022
SCALE: AS SHOWN
PROJECT NO: 502.60
DRAWING NO: G03

1/2" 1" 2"

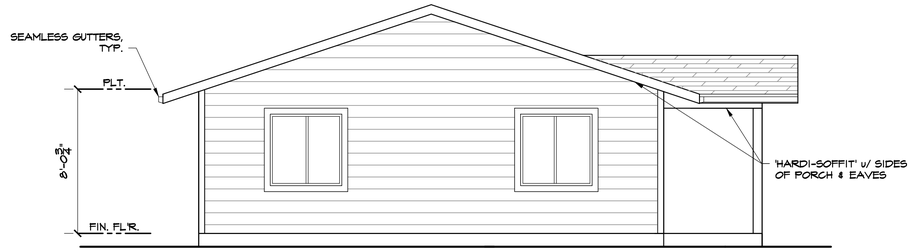
BUILDING CODE COMPLIANCE

BUILDING SHALL COMPLY WITH 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA RESIDENTIAL CODE (CRC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE, 2022 CALIFORNIA FIRE CODE (CFC), 2022 GREEN BUILDING STANDARDS CODES, AND ALL APPLICABLE CODES.



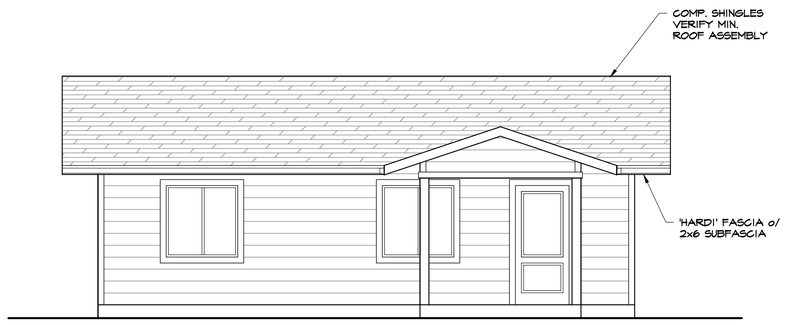
NORTH ELEVATION

1/4"=1'-0"



EAST ELEVATION

1/4"=1'-0"



SOUTH ELEVATION

1/4"=1'-0"

WEST ELEVATION

1/4"=1'-0"

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/15/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED ACCESSIBLE RESIDENCE

ELEVATIONS

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

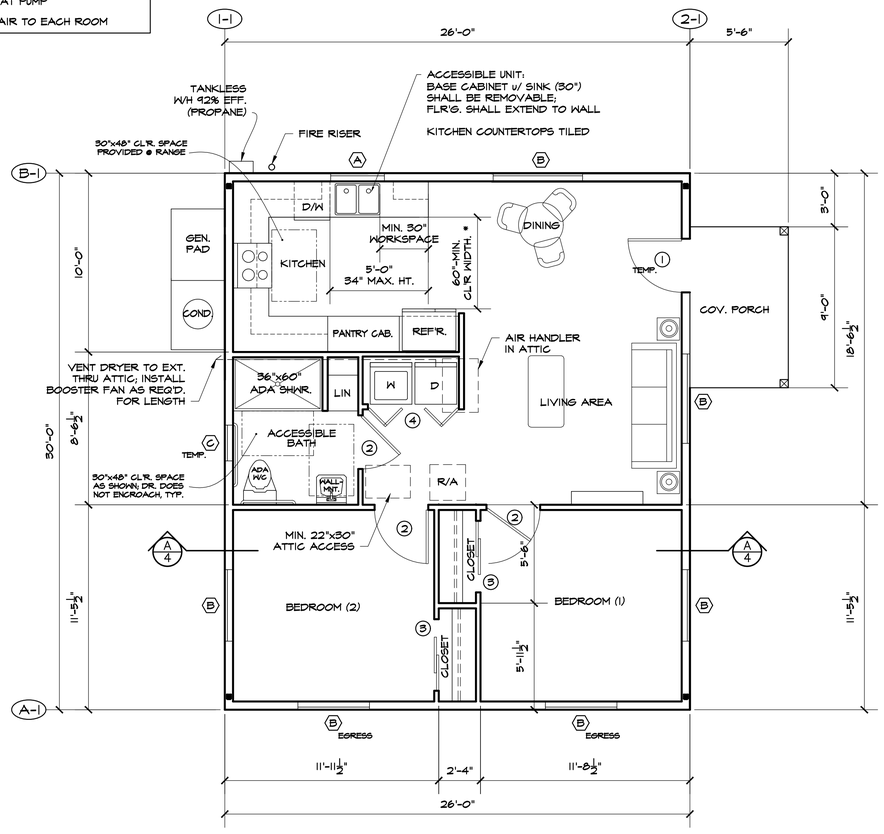
PROJECT NO:

DRAWING NO: A1

1" 1/2" 0" 1"

8.20 HSPF 14.0 SEER
SPLIT HEAT PUMP

SUPPLY AIR TO EACH ROOM



FLOOR PLAN

1/4"=1'-0"

North

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12-31-2076
CIVIL
STATE OF CALIFORNIA

SHEARWALL SCHEDULE						
WALL LINE	STORY	SHEATHING	FRAMING	8d NAILING	ANCHOR BOLTS	CONNECTIONS
1-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	HDU2 HOLDOWN
2-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	HDU2 HOLDOWN
A-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	
B-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	

DOOR SCHEDULE		
1	3'-0"x6'-8"	SOLID CORE WD. w/ 1/2-GLZ'G.
2	3'-0"x6'-8"	INTERIOR RAISED PANEL
3	2'-0"x6'-8" pair	INTERIOR BYPASS RAISED PANEL
4	2'-6"x6'-8" pair	INTERIOR BIFOLD FULLY LOUVERED (COMBUSTION AIR)

SEE FLOOR PLAN FOR SWING DIRECTION & NECC. HARDWARE

SEE SRA NOTE [D] FOR EXTERIOR DOORS

WINDOW SCHEDULE		
A	3'-0"x3'-0"	HORIZONTAL SLIDER
B	5'-0"x4'-0"	HORIZONTAL SLIDER EGRESS WHERE NOTED
C	2'-0"x3'-0"	SINGLE HUNG OBSCURED TEMP. GLZ'G.

ALL WINDOWS SHALL BE DUAL GLAZED AND VINYL FRAMED

FULLY TEMPERED GLAZING, WHERE NOTED ON FLOOR PLAN

SEE ENERGY COMPLIANCE DOCS FOR MIN. U-FACTOR, SHGC

SEE SRA NOTE [E] FOR WINDOWS WITHIN AN SRA AREA

SHEAR NOTES

1. INSTALL 1/2" CDX w/ 8d @ 6" O/C B.N., 12" O/C IN FIELD, ON ALL SHEETABLE EXTERIOR WALL SURFACES, UNLESS NOTED OTHERWISE ON SHEAR PLAN.

2. DBL. 2x STUDS ATTACHED TO HOLDOWNS SHALL BE SISTERED TOGETHER w/ (2)-16d @ 12" O/C.

STATE REGULATED WILD LAND FIRE STANDARDS

DEFENSIBLE SPACE MUST BE SIGNED OFF PRIOR TO SHEET ROCK INSPECTION.

EXTERIOR SIDING PRODUCTS, INCLUDING SHEATHING, TO BE OF APPROVED PRODUCTS (CAL-FIRE URBAN INTERFACE APPROVED).

EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-⅜" SOLID CORE WOOD, OR 20-MIN. FIRE RATED.

WINDOWS SHALL HAVE MINIMUM ONE TEMPERED PANE (PER SRA STNDRDS.)

DECKING SURFACES TO BE APPROVED PRODUCT. [NON-IGNITIBLE, CAL-FIRE URBAN INTERFACE APPROVED]

NO. 72 VALLEY FLASH UNDERLAYMENT CAP SHEET RUNNING FULL LENGTH OF VALLEY UNLESS ROOF COVER IS INTERWOVEN.

EAVE AND SOFFIT VENTS MUST BE FIRE RATED TO PRECLUDE EMBER AND FLAME ENTRANCE (CAL-FIRE URBAN INTERFACE APPROVED).

UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.

ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

* 1133A.2.1 Clear Width

Kitchens shall have a minimum clear width measured between any cabinet, countertop or the face of any appliance (excluding handles and controls) that projects into the kitchen and the opposing cabinet, countertop, appliance or wall as follows:

U-shaped kitchens, designed with parallel approach at a range or cooktop located at the base of the U, shall have a minimum clear width of at least 60 inches.

1133A.4 Countertops

Kitchen countertops shall comply with this section and shall be provided with the following:
A minimum linear length of 30 inches of countertop shall be provided for the kitchen sink installation.
A minimum linear length of 30 inches of countertop shall be provided for a work surface.
Sinks and work surfaces may be a single integral unit a minimum of 60 inches in length, or be separate components.

Exception: Two 15-inch (381 mm) wide minimum breadboards may be provided in lieu of the required 30 inches of countertop work surface.

1133A.4.1 Repositionable Countertops

Repositionable countertops shall be provided in a minimum of 5 percent of the covered multifamily dwelling units. Repositionable countertops shall comply with the following:
Sinks and work surfaces required by Section 1133A.4 shall be designed to enable repositioning to a minimum height of 28 inches.

Base cabinets directly under sinks and work surfaces shall be removable as required in Section 1133A.3.
The sides of adjacent cabinets and the back wall, which may become exposed to moisture or food handling when a countertop is lowered, shall be constructed of durable, nonabsorbent materials appropriate for such uses.

Finished flooring shall be extended to the wall beneath the sink and work surface.

Exceptions:
Stone, cultured stone and tiled countertops may be used without meeting the repositioning requirements.

1133A.5 Lower Shelving

Lower shelving and/or drawer space shall be provided in the kitchen at a height of no more than 48 inches above the floor.

1133A.6 Kitchen Sink Faucet Controls

Faucet controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.

The force required to activate controls shall be no greater than 5 pounds. Lever-operated, push-type and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10 seconds.

1133A.7 Knee and Toe Space

Knee and toe space, when required by Section 1133A, shall comply with Section 1133A.2 and the following:
The knee and toe space shall be clear and unobstructed, or removable base cabinets in compliance with Section 1133A.3 shall be provided.
The knee and toe space shall be 30 inches wide minimum, centered on the sink, countertop or appliance.
A clear floor space shall not extend into the knee and toe space more than 19 inches.

1133A.7.1 Plumbing Protection

Water supply and drain pipes under kitchen sinks shall be insulated or otherwise covered to protect against contact. There shall be no sharp or abrasive surfaces under kitchen sinks.

Section 1135A Laundry Rooms

1135A.1 General

If clothes washing machines and clothes dryers are provided in covered multifamily dwelling units, one of each type of appliance shall be provided. Where front-loading clothes washers are not provided, management shall provide assistive devices, on request of the occupant, to permit the use of top-loading clothes washers.

Section 1136A Electrical Receptacle, Switch and Control Heights

-- WATER HEATER --
PROVIDE WATER HEATER TEMPERATURE /PRESSURE RELIEF VALVE WITH DRAIN TO EXTERIOR OF BUILDING WITH 90-ELBOW MIN. 6" AND MAX. 24" FROM FINISHED GRADE

TANKLESS WATER HEATER SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF IT'S LISTING AND IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS.

-- SHOWERS /TUB-SHOWERS --
SHOWERS AND TUB-SHOWER COMBINATIONS WITH CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE BALANCE/THERMOSTATIC MIXING VALVE TYPE; INSTALLER SHALL ADJUST PER MANUFACTURER INSTRUCTIONS TO DELIVER A MAX. MIXED WATER SETTING OF 120-DEGRESS FAHRENHEIT.

-- HOSE BIBS --
PROVIDE NON-REMOVABLE BACKFLOW PREVENTION DEVICES ON ALL HOSE BIBS.

-- CLOTHES DRYER --
CLOTHES DRYER(S) SHALL VENT TO EXTERIOR OF BUILDING. VENT LENGTH SHALL BE A MAXIMUM OF 14', OR HAVE AN APPROVED BOOSTER FAN.

MAKE UP AIR SHALL BE PROVIDED FOR TYPE 1 CLOTHES DRYERS IN ACCORDANCE WITH MANUF. SPECS.

504.4.2 Domestic Clothes Dryers

Where a compartment or space for a Type 1 clothes dryer is provided, not less than a 4 inch diameter (102 mm) exhaust duct of approved material shall be installed in accordance with Section 504.0.

Type 1 clothes dryer exhaust ducts shall be of rigid metal and shall have smooth interior surfaces. The diameter shall be not less than 4 inches nominal (100 mm) and the thickness shall be not less than 0.016 of an inch (0.406 mm).

504.4.2.1 Length Limitation

Unless otherwise permitted or required by the dryer manufacturer's instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 feet (4267 mm), including two 90 degree (1.57 rad) elbows. A length of 2 feet (610 mm) shall be deducted for each 90 degree (1.57 rad) elbow in excess of two.

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/15/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED ACCESSIBLE RESIDENCE

38030 HIGHWAY 96 ORLEANS, CA APN 529-111-007

FOR: KARUK TRIBE HOUSING AUTHORITY PH. (530) 493-1414

FLOOR PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

PROJECT NO: JN# 236.02

DRAWING NO: A2

1" 1½" 0" 1"

DIMENSIONS ARE DISTANCES TO FINISHED SURFACES.

30"x60" MINIMUM COMPARTMENT SIZE

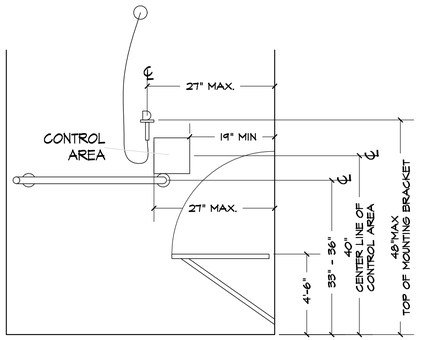
SHOWER SEAT AND GRAB BARS SHALL SUPPORT 250 LB. LOAD APPLIED AT ANY POINT.

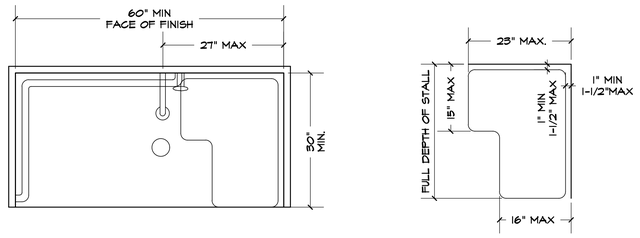
WHEN FOLDED, THE SHOWER SEAT SHALL NOT EXTEND MORE THAN 6" FROM MOUNTING WALL.

SHOWER HEAD SHALL BE MOUNTED ON A 60 INCH MIN. LENGTH FLEXIBLE HOSE

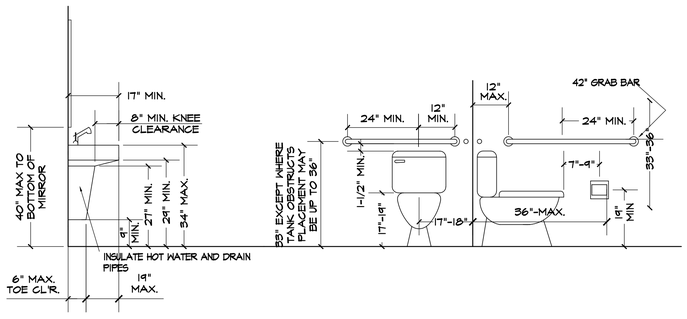
A BRACKET SHALL BE PROVIDED SUCH THAT SHOWER MAY BE USED AS EITHER A HANDHELD OR A FIXED HEAD

IF A SOAP DISH IS PROVIDED IT SHALL BE MOUNTED ON THE CONTROL WALL, A MAX. OF 40" ABOVE THE FLOOR, AND WITHIN REACH LIMITS FROM THE SEAT.





ROLL-IN SHOWER



LAVATORY DETAIL

TOILET DETAIL

RESIDENTIAL ACCESSIBLE RESTROOM FIXTURE DETAILS

1134A.6 Showers

The shower stall shall measure at least 30 inches deep by 60 inches wide with an entrance opening of at least 60 inches.

The maximum slope of the shower floor shall be 1/2 inch per foot in any direction and shall slope to a drain. The floor surfaces shall be of Carborundum or grit-faced tile or of material providing equivalent slip resistance.

A clear maneuvering space at least 30 inches in width by 48 inches in length shall be located outside the shower, flush and parallel to the control wall.

Grab bar reinforcement shall be installed continuous in the walls of showers 32 inches to 38 inches above the floor. The grab bar reinforcement shall be a minimum of 6 inches nominal in height.

When a threshold is used, it shall be a maximum of 2 inches in height and have a beveled or sloped angle not exceeding 1 unit vertical in 2 units horizontal (26.6 degrees from the horizontal). Thresholds 1/2 inch or less in height may have a beveled or sloped angle not exceeding 1 unit vertical in 1 unit horizontal (45 degrees from the horizontal).

Faucet controls and operation mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 pounds. Lever operated, push-type and electronically controlled mechanisms are examples of acceptable designs.

Shower enclosures, substantially constructed from approved, shatter-resistant materials. Hinged shower doors shall open outward. Glazing used in doors and panels of shower enclosures shall be fully tempered, laminated safety glass or approved plastic. When glass is used, it shall have minimum thickness of not less than 1/8 inch when fully tempered, or 1/4 inch when laminated, and shall pass the test requirements of this part, Chapter 24, Glass and Glazing. Plastics used in doors and panels of shower enclosures shall be of a shatter-resistant type.

1134A.7 Water Closets

The minimum floor space provided at a water closet shall be 48 inches in clear width. The clear floor space shall extend past the front edge of the water closet at least 36 inches.

Exception: The 48-inch minimum clear width may be reduced to 36 inches for lavatories, cabinets, wing walls or privacy walls located immediately adjacent to a water closet which extend no more than 24 inches in depth.

Water closets shall be located within bathrooms in a manner that permits a grab bar to be installed on at least one side of the fixture. The centerline of the water closet shall be 17 inches minimum to 18 inches maximum from a grab bar wall or partition. In locations where water closets are adjacent to non-grab bar walls, vanities, lavatories or bathtubs, the centerline of the fixture shall be a minimum of 18 inches from the obstacle.

Where the water closet is placed adjacent to a side wall, reinforcement shall be installed on both sides or one side and the back. If reinforcement is installed at the back, it shall be installed between 32 inches and 38 inches above the floor. The grab bar reinforcement shall be a minimum of 6 inches nominal in height. The backing shall be a minimum of 40 inches in length.

Reinforcement installed at the side of the water closet shall be installed 32 inches to 38 inches above the floor. The reinforcement shall be installed a maximum of 12 inches from the rear wall and shall extend a minimum of 26 inches in front of the water closet. The grab bar reinforcement shall be a minimum of 6 inches nominal in height.

The minimum height of water closet seats shall be 15 inches above the floor.

Water closet controls shall be mounted no more than 44 inches above the floor. The force required to activate controls shall be no greater than 5 pounds.

1134A.8 Lavatories, Vanities, Mirrors and Towel Fixtures

Bathrooms or powder rooms required to be accessible shall have at least one accessible lavatory. Where mirrors and towel fixtures are provided, at least one of each shall be accessible.

Vanities and lavatories shall be installed with the centerline of the fixture a minimum of 18 inches horizontally from an adjoining wall or fixture to allow for forward approach. When parallel approach is provided, lavatories shall be installed with the centerline of the fixture a minimum of 24 inches horizontally from an adjoining wall or fixture. The top of the fixture rim shall be a maximum of 34 inches above the finished floor.

A clear maneuvering space at least 30 inches by 48 inches shall be provided at lavatories and shall be centered on the lavatory.

Cabinets under lavatories are acceptable provided the bathroom has space to allow a parallel approach by a person in a wheelchair and the lavatory cabinets are designed with adaptable knee and toe space.

Knee and toe space shall be provided by one of the following:
The space beneath the lavatory shall be left clear and unobstructed;
Any cabinet beneath the lavatory shall be removable without the use of specialized knowledge or specialized tools; or
Doors to the cabinet beneath the lavatory shall be removable or openable to provide the required unobstructed knee and toe space.

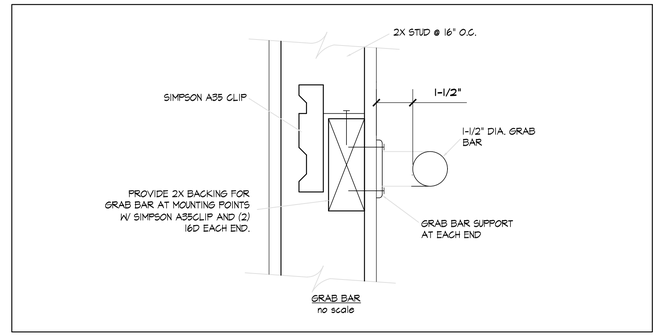
The knee and toe space shall be centered on the fixture, and shall comply with Section 1138A.2. The clear floor space required by Item 2 shall not extend into the knee and toe space more than 19 inches.

The finished floor beneath the lavatory shall be extended to the wall.

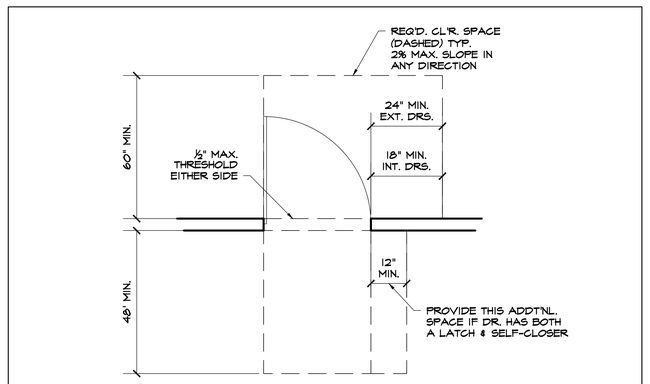
Water supply and drain pipes under lavatories shall be insulated or otherwise covered to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.

Faucet controls and operation mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist.

The force required to activate controls shall be no greater than 5 pounds. Lever operated, push-type and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10 seconds.
Mirrors and towel fixtures. Where mirrors or towel fixtures are provided they shall be mounted with the bottom edge no higher than 40 inches from the floor.



GRAB BAR
no scale



TYP. LANDING DETAIL

NTS

ACCESSIBLE DOOR NOTES

- PROVIDE LEVEL LANDINGS (2% MAX. SLOPE) EACH SIDE OF ALL DOORS AS DIMENSIONED ON FLOOR PLAN, WITH 1/2" MAX. FROM TOP OF THRESHOLD TO LANDING ON EACH SIDE OF DOOR.

- HARDWARE AT ALL DOORS, EXCEPT STOREFRONT, SHALL BE LEVER TYPE, CENTERED BETWEEN 34" AND 44". MAXIMUM CLOSURE FORCE OF 5 POUNDS FOR INTERIOR DOORS.

- THE BOTTOM 10" OF ALL DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE

- THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 POUNDS, WITH SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGES DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. WHEN FIRE DOORS ARE UTILIZED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO NOT EXCEED 15 POUNDS

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
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PROPOSED ACCESSIBLE RESIDENCE
38030 HIGHWAY 96 ORLEANS, CA APN 529-111-007

ACCESSIBILITY NOTES & DETAILS
FOR: KARUK TRIBE HOUSING AUTHORITY PH. (530) 493-1414

DRAWN BY: SJA
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PROJECT NO: JN# 236.02

DRAWING NO: A3

1" 1/2" 0" 1"

215 Fire Alarm Systems

215.1 General. Where fire alarm systems provide audible alarm coverage, alarms shall comply with 215.

Advisory 215.1 General. Unlike audible alarms, visible alarms must be located within the space they serve so that the signal is visible. Facility alarm systems (other than fire alarm systems) such as those used for tornado warnings and other emergencies are not required to comply with the technical criteria for alarms in Section 702. Every effort should be made to ensure that such alarms can be differentiated in their signal from fire alarms systems and that people who need to be notified of emergencies are adequately safeguarded. Consult local fire departments and prepare evacuation plans taking into consideration the needs of every building occupant, including people with disabilities.

215.2 Public and Common Use Areas. Alarms in public use areas and common use areas shall comply with 702.

215.3 Residential Facilities. Where provided in residential dwelling units required to comply with 809.5, alarms shall comply with 702.

702 Fire Alarm Systems

702.1 General. Fire alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1), except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).

703 Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

706 Assistive Listening Systems

706.1 General. Assistive listening systems required in assembly areas shall comply with 706.

Advisory 706.1 General. Assistive listening systems are generally categorized by their mode of transmission. There are hard-wired systems and three types of wireless systems: induction loop, infrared, and FM radio transmission. Each has different advantages and disadvantages that can help determine which system is best for a given application. For example, an FM system may be better than an infrared system in some open-air assemblies since infrared signals are less effective in sunlight. On the other hand, an infrared system is typically a better choice than an FM system where confidential transmission is important because it will be contained within a given space.

The technical standards for assistive listening systems describe minimum performance levels for volume, interference, and distortion. Sound pressure levels (SPL), expressed in decibels, measure output sound volume. Signal-to-noise ratio (SNR or S/N), also expressed in decibels, represents the relationship between the loudness of a desired sound (the signal) and the background noise in a space or piece of equipment. The higher the SNR, the more intelligible the signal. The peak clipping level limits the distortion in signal output produced when high-volume sound waves are manipulated to serve assistive listening devices.

Selecting or specifying an effective assistive listening system for a large or complex venue requires assistance from a professional sound engineer. The Access Board has published technical assistance on assistive listening devices and systems.

706.2 Receiver Jacks. Receivers required for use with an assistive listening system shall include a 1/8 inch (3.2 mm) standard mono jack.

706.3 Receiver Hearing-Aid Compatibility. Receivers required to be hearing-aid compatible shall interface with telecoils in hearing aids through the provision of neckloops.

Advisory 706.3 Receiver Hearing-Aid Compatibility. Neckloops and headsets that can be worn as neckloops are compatible with hearing aids. Receivers that are not compatible include earbuds, which may require removal of hearing aids, earphones, and headsets that must be worn over the ear, which can create disruptive interference in the transmission and can be uncomfortable for people wearing hearing aids.

706.4 Sound Pressure Level. Assistive listening systems shall be capable of providing a sound pressure level of 110 dB minimum and 118 dB maximum with a dynamic range on the volume control of 50 dB.

706.5 Signal-to-Noise Ratio. The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

706.6 Peak Clipping Level. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

708 Two-Way Communication Systems

708.1 General. Two-way communication systems shall comply with 708.

Advisory 708.1 General. Devices that do not require handsets are easier to use by people who have a limited reach.

708.2 Audible and Visual Indicators. The system shall provide both audible and visual signals.

Advisory 708.2 Audible and Visual Indicators. A light can be used to indicate visually that assistance is on the way. Signs indicating the meaning of visual signals should be provided.

708.3 Handsets. Handset cords, if provided, shall be 29 inches (735 mm) long minimum.

708.4 Residential Dwelling Unit Communication Systems. Communications systems between a residential dwelling unit and a site, building, or floor entrance shall comply with 708.4.

708.4.1 Common Use or Public Use System Interface. The common use or public use system interface shall include the capability of supporting voice and TTY communication with the residential dwelling unit interface.

708.4.2 Residential Dwelling Unit Interface. The residential dwelling unit system interface shall include a telephone jack capable of supporting voice and TTY communication with the common use or public use system interface.

809 Residential Dwelling Units

809.1 General. Residential dwelling units shall comply with 809. Residential dwelling units required to provide mobility features shall comply with 809.2 through 809.4. Residential dwelling units required to provide communication features shall comply with 809.5.

809.2 Accessible Routes. Accessible routes complying with Chapter 4 shall be provided within residential dwelling units in accordance with 809.2.

EXCEPTION: Accessible routes shall not be required to or within unfinished attics or unfinished basements.

809.2.1 Location. At least one accessible route shall connect all spaces and elements which are a part of the residential dwelling unit. Where only one accessible route is provided, it shall not pass through bathrooms, closets, or similar spaces.

809.2.2 Turning Space. All rooms served by an accessible route shall provide a turning space complying with 304.

EXCEPTION: Turning space shall not be required in exterior spaces 30 inches (760 mm) maximum in depth or width.

Advisory 809.2.2 Turning Space. It is generally acceptable to use required clearances to provide wheelchair turning space. For example, in kitchens, 804.3.1 requires at least one work surface with clear floor space complying with 306 to be centered beneath. If designers elect to provide clear floor space that is at least 36 inches (915 mm) wide, as opposed to the required 30 inches (760 mm) wide, that clearance can be part of a T-turn, thereby maximizing efficient use of the kitchen area. However, the overlap of turning space must be limited to one segment of the T-turn so that back-up maneuvering is not restricted. It would, therefore, be unacceptable to use both the clearances under the work surface and the sink as part of a T-turn. See Section 304.3.2 regarding T-turns.

809.3 Kitchen. Where a kitchen is provided, it shall comply with 804.

809.4 Toilet Facilities and Bathing Facilities. At least one bathroom shall comply with 603. No fewer than one of each type of fixture provided shall comply with applicable requirements of 603 through 610. Toilet and bathing fixtures required to comply with 603 through 610 shall be located in the same toilet and bathing area, such that travel between fixtures does not require travel between other parts of the residential dwelling unit.

Advisory 809.4 Toilet Facilities and Bathing Facilities. In an effort to promote space efficiency, vanity counter top space in accessible residential dwelling units is often omitted. This omission does not promote equal access or equal enjoyment of the unit. Where comparable units have vanity counter tops, accessible units should also have vanity counter tops located as close as possible to the lavatory for convenient access to toiletries.

809.5 Residential Dwelling Units with Communication Features. Residential dwelling units required to provide communication features shall comply with 809.5.

809.5.1 Building Fire Alarm System. Where a building fire alarm system is provided, the system wiring shall be extended to a point within the residential dwelling unit in the vicinity of the residential dwelling unit smoke detection system.

809.5.1.1 Alarm Appliances. Where alarm appliances are provided within a residential dwelling unit as part of the building fire alarm system, they shall comply with 702.

809.5.1.2 Activation. All visible alarm appliances provided within the residential dwelling unit for building fire alarm notification shall be activated upon activation of the building fire alarm in the portion of the building containing the residential dwelling unit.

809.5.2 Residential Dwelling Unit Smoke Detection System. Residential dwelling unit smoke detection systems shall comply with NFPA 72 (1999 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

809.5.2.1 Activation. All visible alarm appliances provided within the residential dwelling unit for smoke detection notification shall be activated upon smoke detection.

809.5.3 Interconnection. The same visible alarm appliances shall be permitted to provide notification of residential dwelling unit smoke detection and building fire alarm activation.

809.5.4 Prohibited Use. Visible alarm appliances used to indicate residential dwelling unit smoke detection or building fire alarm activation shall not be used for any other purpose within the residential dwelling unit.

809.5.5 Residential Dwelling Unit Primary Entrance. Communication features shall be provided at the residential dwelling unit primary entrance complying with 809.5.5.

809.5.5.1 Notification. A hard-wired electric doorbell shall be provided. A button or switch shall be provided outside the residential dwelling unit primary entrance. Activation of the button or switch shall initiate an audible tone and visible signal within the residential dwelling unit. Where visible doorbell signals are located in sleeping areas, they shall have controls to deactivate the signal.

809.5.5.2 Identification. A means for visually identifying a visitor without opening the residential dwelling unit entry door shall be provided and shall allow for a minimum 180 degree range of view.

Advisory 809.5.5.2 Identification. In doors, peepholes that include prisms clarify the image and should offer a wide-angle view of the hallway or exterior for both standing persons and wheelchair users. Such peepholes can be placed at a standard height and permit a view from several feet from the door.

809.5.6 Site, Building, or Floor Entrance. Where a system, including a closed-circuit system, permitting voice communication between a visitor and the occupant of the residential dwelling unit is provided, the system shall comply with 708.4.

TVCE
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PHONE (530) 629-3000
FAX (530) 629-3011

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2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED ACCESSIBLE RESIDENCE
38030 HIGHWAY 96 ORLEANS, CA APN 529-111-007
FOR: KARUK TRIBE HOUSING AUTHORITY

ACCESSIBLE ALARM AND COMMUNICATION
PH. (530) 493-1414

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

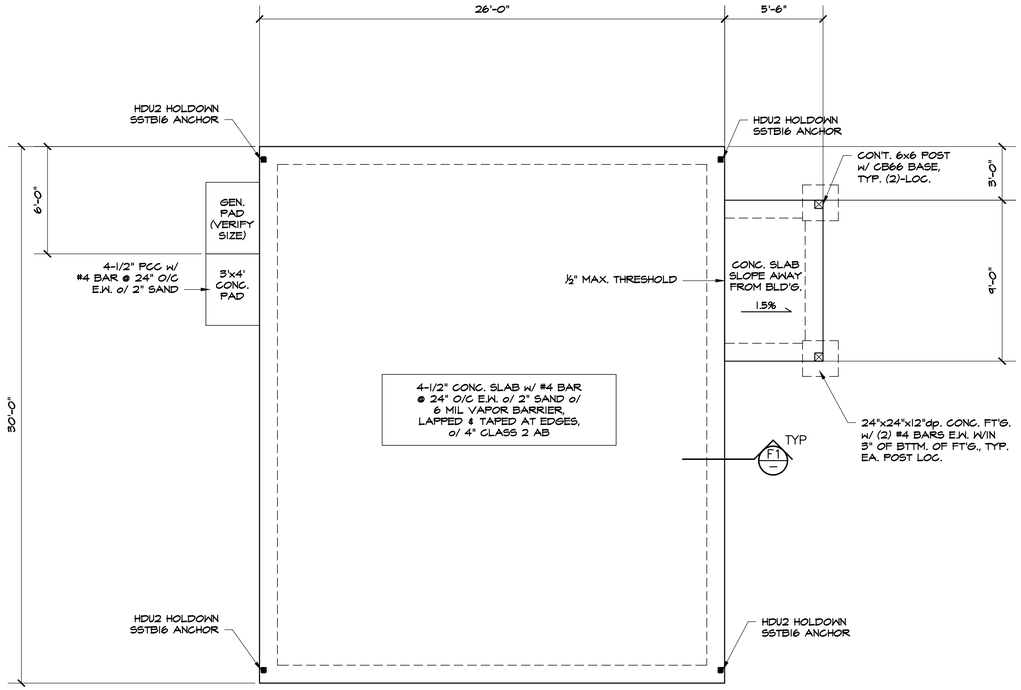
DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

PROJECT NO: JN# 236.02

DRAWING NO: A4

1" 1/2" 0" 1"



FOUNDATION PLAN

1/4"=1'-0"

North

GENERAL HOLDOWN NOTES

1) INSTALL HD A.B.s PER MANUFACTURERS REQUIREMENTS.

2) HD A.B.s SHALL BE 5" MIN. FROM CORNER OF CONC. FT'G.

3) MINIMUM CONCRETE COMPRESSIVE STRENGTH TO BE 2.5 KSI

FOUNDATION NOTES

- CONCRETE TO HAVE MIN. 2,500 PSI

- ALL WD., INCLUDING POSTS, WITHIN 6" OF GROUND TO BE P.T. OR FNDTN. GRADE REDWOOD

- HOLDOWNS SHALL BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.

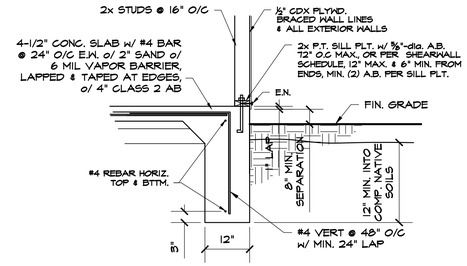
- ALL POINT LOAD FOOTINGS TO HAVE #4 REBAR @ 12" O/C EA. WAY AT 3" OFF BTTM. OF FT'G.

- REFER TO FLOOR PLAN FOR ANCHOR BOLT SPACING REQUIREMENTS AT SHEARWALLS AND HOLD-DOWN BOLT REQUIREMENTS.

- MIN. OF (2) 5/8"-dia. ANCHOR BOLTS w/ 7"-MIN. EMBEDMENT SHALL BE INSTALLED PER PLT. AND /OR BETWEEN SSTB BOLTS OF EACH SEGMENT OF SHEARWALL, MIN. 6" & MAX. 12" FROM ENDS, SPACED PER SHEARWALL SCHEDULE.

- ANCHOR BOLTS SHALL INCLUDE STEEL PLATE WASHERS, A MINIMUM OF 0.229"x3"x3" IN SIZE, BETWEEN SILL PLATE AND NUT.

- FASTENERS AND CONNECTORS (NAILS, ANCHOR BOLTS, ETC.) IN CONTACT WITH P.T. WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER.



SLAB FOUNDATION FOOTING DETAIL

F1 NTS

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12-31-2026
CIVIL
STATE OF CALIFORNIA

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2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED ACCESSIBLE RESIDENCE

FOUNDATION PLAN

DRAWN BY:	SJA
DESIGNED BY:	SJA
CHECKED BY:	JTM
APPROVED BY:	JTM
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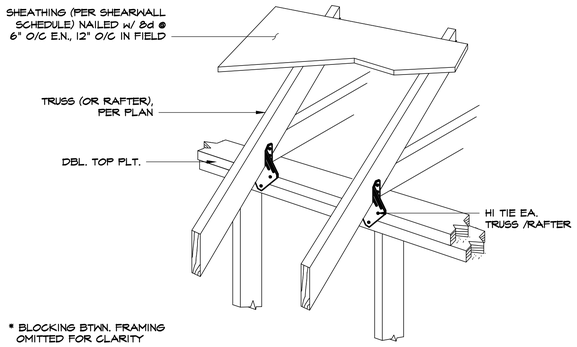
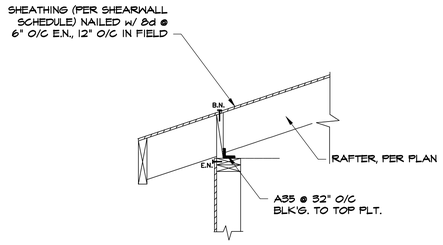
DRAWING NO:	A5



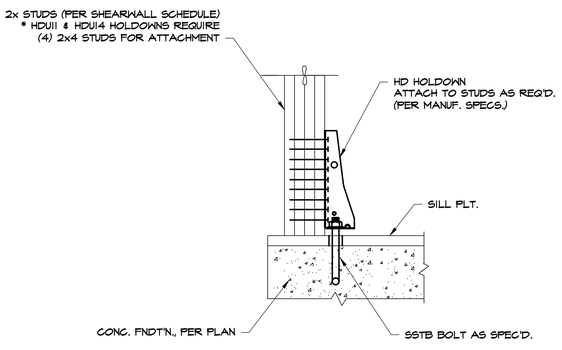
ROOF CONNECTION TO WOOD TOP PLATE

DO NOT SCALE



A35 BLK'G. TO TOP PLT. @ ROOF

DO NOT SCALE

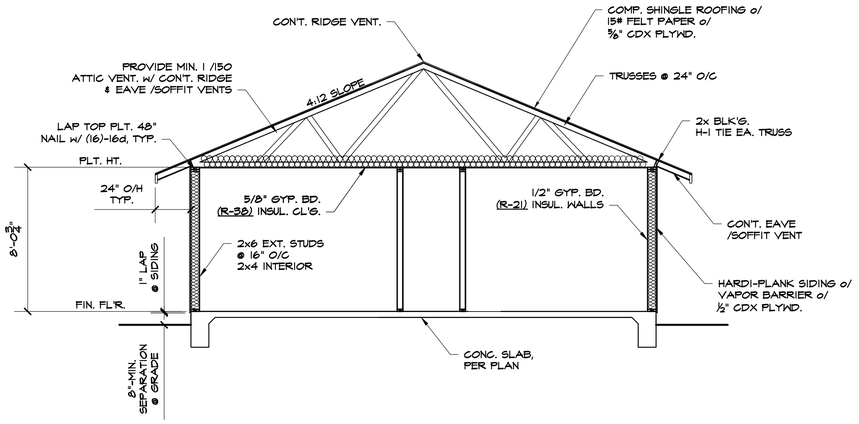


HOLDOWN CONNECTION TO FOUNDATION

DO NOT SCALE

* NOTE *

INSULATION FLAME SPREAD INDEX AND SMOKE DEVELOPED INDEX SHALL COMPLY WITH CRC R302.10.1 THRU R302.10.5.



A SECTION

1/4"=1'-0"

STATE REGULATED WILD LAND FIRE STANDARDS

DEFENSIBLE SPACE MUST BE SIGNED OFF PRIOR TO SHEET ROCK INSPECTION.

EXTERIOR SIDING PRODUCTS, INCLUDING SHEATHING, TO BE OF APPROVED PRODUCTS (CAL-FIRE URBAN INTERFACE APPROVED).

EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-3/8" SOLID CORE WOOD, OR 20-MIN. FIRE RATED.

WINDOWS SHALL HAVE MINIMUM ONE TEMPERED PANE (PER SRA STNDRDS.)

DECKING SURFACES TO BE APPROVED PRODUCT. [NON-IGNITIBLE, CAL-FIRE URBAN INTERFACE APPROVED]

NO. 72 VALLEY FLASH UNDERLAYMENT CAP SHEET RUNNING FULL LENGTH OF VALLEY UNLESS ROOF COVER IS INTERWOVEN.

EAVE AND SOFFIT VENTS MUST BE FIRE RATED TO PRECLUDE EMBER AND FLAME ENTRANCE (CAL-FIRE URBAN INTERFACE APPROVED).

UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.

ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

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2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/15/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED ACCESSIBLE RESIDENCE

SECTIONS & DETAILS

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12-31-2026
CIVIL
STATE OF CALIFORNIA

DRAWN BY:	SJA
DESIGNED BY:	SJA
CHECKED BY:	JTM
APPROVED BY:	JTM
DATE OF ISSUE:	JAN. 23, '17
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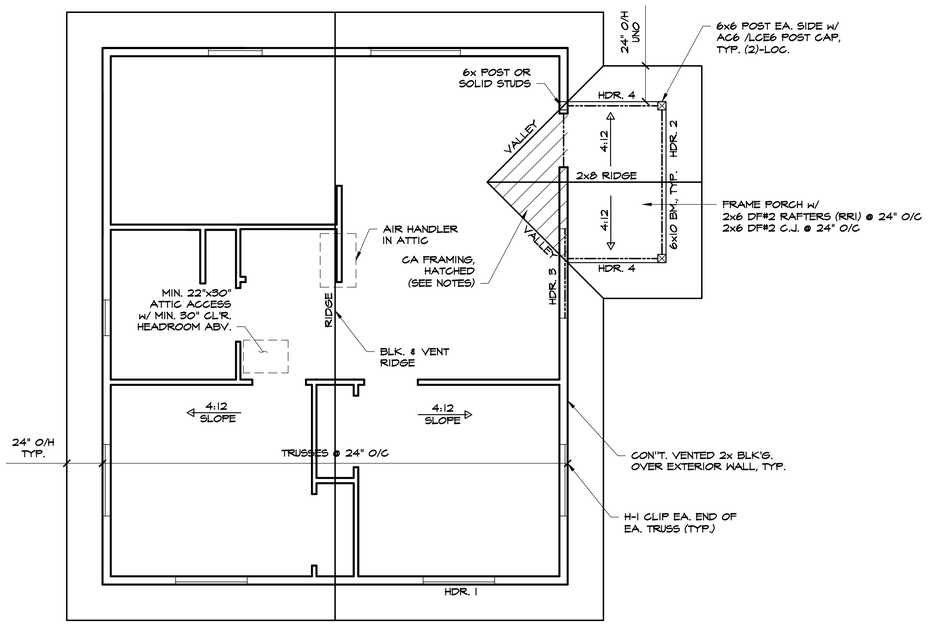
PROJECT NO:	
DRAWING NO:	A6

1" 1/2" 0" 1"



ROOF FRAMING

1/4"=1'-0"

North

* SOLAR TO BE DESIGNED BY OTHERS; ROOF FRAMING TO ACCOUNT FOR ADDED DEADLOAD

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
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EXP. 12-31-2026
CIVIL
STATE OF CALIFORNIA

FLOOR AND FRAMING NOTES

- 4x12 /6x10 DF#2 HDRS. @ ALL EXTERIOR OPENINGS, U.N.O.
- ALL EXPOSED FRAMING MEMBERS MUST BE P.T. OR REDWOOD.
- SUBFLOOR SHALL BE 3/4" T&G GLUED & NAILED TO JOISTS W/ 10d @ 6" B.N., 12" O/C F.N.
- ALL EXTERIOR HARDWARE AND FASTENERS SHALL BE HOT-DIPPED GA.
- SOLID BLOCK OVER ALL BEARING WALLS, BEAMS AND GIRDERS.
- -FIRE BLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, VERTICALLY AT FLOOR AND CEILING LEVELS, SOFFIT LEVELS AND HORIZONTALLY AT INTERVALS NOT TO EXCEED 10-FEET.

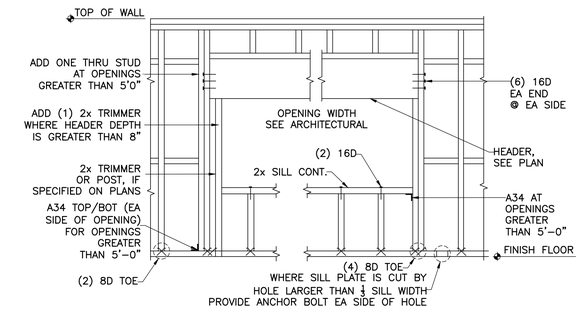
ROOF FRAMING NOTES

- PROVIDE H-1 CLIP (OR EQUAL) @ EA. TRUSS OR RAFTER TO PLATE CONNECTION, UNO.
- ROOF SHEATHING SHALL BE 5/8" CDX NAILED W/ 8d COMMONS @ 6" O/C AT PANEL EDGES OVER FRAMING, AND 12" O/C IN THE FIELD (PANEL EDGES UNBLOCKED).
- TOP PLATE SPLICE SHALL BE 48" MIN. OVERLAP AND SHALL BE NAILED W/ NO LESS THAN (8) 16d FACE NAILS ON EACH SIDE OF THE SPLICE.
- PROVIDE MIN. 1/150 ATTIC VENT. W/ CON'T. RIDGE & EAVE/ SOFFIT VENTS.
- CA FRAMING; PROVIDE 2x W/ FULL BEARING @ VALLEYS. FRAME W/ MIN. 2x6 @ 24" O/C UP TO 10' SPAN W/ 2x8 RIDGE. USE 2x8 JST. @ 24" O/C o/ 10' SPAN W/ 2x10 RIDGE. ROOF PLY MUST BE INSTALLED TO ROOF FRAMING BELOW PRIOR TO CA FRAMING.

* PROVIDE MIN. 22"x30" ACCESS TO ALL ENCLOSED ATTIC AREAS W/ MIN. 30"-CLR. HEAD HT.

* PORCH POSTS TO BE P.T. OR NATURALLY DURABLE LUMBER, OR DF, PRIMED AND PAINTED.

** ALL POSTS TO BE AT A MINIMUM THE SAME WIDTH AS THE BEAM(S) BEING SUPPORTED, AND PROVIDE AT LEAST A 3-1/2" LONG "SEAT" FOR BM. BEING SUPPORTED



TYPICAL HEADER CONNECTION DETAIL

DO NOT SCALE

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67 WALNUT WAY
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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
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PROPOSED ACCESSIBLE RESIDENCE

ROOF PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

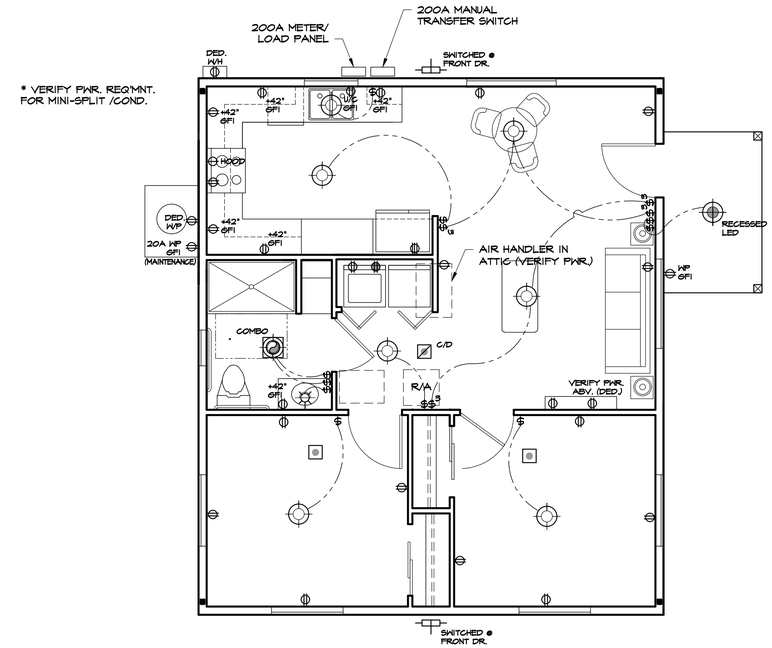
DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

PROJECT NO:

DRAWING NO: A7

1" 1/2" 0" 1"



ELECTRICAL PLAN

1/4"=1'-0"

North

1136A.1 Receptacle Heights

Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall be located no more than 48 inches measured from the top of the receptacle outlet box nor less than 15 inches measured from the bottom of the receptacle outlet box to the level of the finished floor or working platform. If the reach is over a physical barrier or an obstruction (for example, a kitchen base cabinet), receptacles shall be located within the reach ranges specified in Section 1138A.3. Physical barriers and obstructions shall not extend more than 25 inches from the wall beneath the receptacle. Countertops shall be allowed to extend 251/2 inches from the wall beneath the receptacle.

Receptacle outlets that do not satisfy these specifications are acceptable provided that comparable receptacle outlets, that perform the same functions, are provided within the same area and are accessible.

1136A.2 Switch and Control Heights

Controls or switches intended to be used by the occupant of the room or area to control lighting and receptacle outlets, appliances, alarms or cooling, heating and ventilating equipment shall be located no more than 48 inches measured from the top of the outlet box nor less than 15 inches measured from the bottom of the outlet box to the level of the finished floor or working platform. If the reach is over a physical barrier or an obstruction (for example, a kitchen base cabinet) switches and controls shall be located within the reach ranges specified in Section 1138A.3. Physical barriers or obstructions shall not extend more than 25 inches from the wall beneath a control or switch. Countertops shall be allowed to extend 25-1/2 inches from the wall beneath a control or switch.

Switches and controls that do not satisfy these specifications are acceptable provided that comparable controls or outlets, that perform the same functions, are provided within the same area and are accessible.

Exception: Appliances (e.g., kitchen stoves, dishwashers, range hoods, microwave ovens and similar appliances) which have controls located on the appliance.

* GENERAL NOTES *
All services supplying dwelling units shall be provided with a surge-protective device (SPD). The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto. The SPD shall be a Type 1 or Type 2 SPD. CEC 230.67.

Barriers shall be placed in service equipment such that no uninsulated, ungrounded service busbar or service terminal is exposed to inadvertent contact by persons or maintenance equipment while servicing load terminations. CEC 230.62(C).

Doorbell buttons or controls, when installed, shall not exceed 48 inches above exterior floor or landing, measured from the top of the doorbell button assembly. Where doorbell buttons integrated with other features are required to be installed above 48 inches measured from the exterior floor or landing, a standard doorbell button or control shall also be provided at a height not exceeding 48 inches above exterior floor or landing, measured from the top of the doorbell button or control. R327.1.4.

* MECHANICAL EXHAUST *
MECHANICAL EXHAUST FOR BATHROOMS SHALL EXIT A MIN. OF 3' FROM ANY OPENING WHICH ALLOWS AIR ENTRY INTO OCCUPIED PORTIONS OF THE BUILDING PER CBC SEC. 1203.5

* GROUNDING *

PROVIDE CONCRETE-ENCASED GROUNDING ELECTRODE (UFER) PER CEC 250.50, 250.52 (a)

ELECTRICAL NOTES

- Service equipment and subpanels to have a min 30" wide by 36" deep clear work space.(CEC 110.26)

- All lighting is required to be high efficacy. (California energy code section 150.(k) and Table 150.0-A.)

- Provide a listed 1 inch raceway to accommodate a dedicated 208/240-volt circuit for future electrical vehicle (EV) charger. (Cal Green 4.106.4)

- All receptacle outlets are required to be listed tamper resistant (CEC 406.12 and 250.52)

- Combination type AFCI circuit breakers are required for all 120 volt single phase 15&20 amp branch circuits. Except for bathrooms, garages, and outdoors. (CEC 210.12)

- All outlets, lights and switches in sleeping rooms shall be protected by arc-fault circuit interrupters.

- At a minimum, one dedicated 20 amp circuit is required for a bathroom. (CEC 210.11(C)(3))

- GFCI protection is required for all receptacle outlets located outdoors, garages, accessory buildings, bathrooms, crawl spaces, kitchens, laundry areas, kitchen dishwasher branch circuit, garbage disposal, all areas within 6 feet of a sink, and all receptacles within 6 feet of a bathtub or shower stall. (CEC 210.8)

- Receptacle outlets are not allowed within or over a bathtub or shower stall. (CEC 406.9 (C))

- Subpanels are not allowed to be located in bathrooms or clothes closets. (CEC 240.24 (D) and (E).

- Circuits sharing a grounded conductor (neutral) with two ungrounded (hot) conductors must use a two pole circuit breaker or an identified handle tie. (CEC 210.4(B)) Group noncable circuits in panel (CEC 210.4(D))

- The receptacle outlets that serve kitchen counter tops, dining room, breakfast area, and pantry, must have a min of 2 dedicated 20 amp circuits. (CEC 210.52 (B)(1)

- Kitchen counter tops 12 inches or wider must have a receptacle outlet. (CEC 210.52(C))

- Kitchen counter tops must have receptacle outlets so no point along the counter walls is more than 24 inches from a receptacle. (CEC 210.52 (C))

- Island and peninsular counter tops must have at least one receptacle. (CEC 210.52(C)(1),(2),and (3))

- Appliances fastened in place, i.e., dishwasher, microwave, etc. shall be supplied by a separate branch circuit rated for the appliance or load served. they shall not be on the two small-appliance circuits already required.

- The spacing for general receptacle outlets must be located so that no point on any wall, fixed glass, or cabinets is over 6 feet from a receptacle outlet. (CEC 210.52(A))

- Hallways 10 feet or more must have at least one receptacle outlet. (CEC 210.52(H))

- Garages shall have at least one receptacle for each car space on the interior. The branch circuit supplying the receptacles shall not serve outlets outside of the garage. (CEC 210.52 (G) (1).

- Laundry rooms must have at least one dedicated 20 amp receptacle circuit. (CEC 210.11(C) (2)).

- All 15A and 20A, 125V receptacles installed in laundry areas of a dwelling unit must be GFCI protected.

- Provide 120V receptacle within 3 feet of water heater. (Cal Energy Code 150.0 (n) 1 A.)

- Smoke alarms shall be installed in the following locations (CRC R314.3, CBC 907.2.11.2, 907.2.11.3 & 907.2.11.4):
  a. In each sleeping room.
  b. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
  c. On each additional story, including basements and habitable attics.
  d. Not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower.
  e. A minimum of 20 feet horizontally from any permanently installed cooking appliance.
  f. Smoke alarms shall be hardwired with battery back-up and interconnected unless exempted in accordance with CRC R314.4 & R314.5 or CBC 907.2.11.5 & 907.2.11.6.
- Carbon monoxide alarms shall be installed in the following locations (CRC R315.3):
  a. Outside of each sleeping area in the immediate vicinity of the bedroom(s).
  b. On every level of the dwelling unit including basements.
  c. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

Carbon monoxide alarms shall be hardwired with battery back-up and interconnected unless exempted in accordance with CRC R315.

ELECTRICAL KEY

- 1200 LUMEN LED 400K WALL MNT. LIGHT MOTION /PHOTO CELL TIMER
- OUTDOOR WALL-MNT. FIXTURE LED /HIGH EFFICACY
- CEILING-MNT. LIGHT FIXTURE (MAY BE SUSPENDED)
- WALL-MNT. FIXTURE / WALL SCONCE
- MIN. 50 CFM ENERGY STAR RATED EXHAUST FAN, DUCTED TO EXTERIOR; BATH FANS MUST BE CONTROLLED BY A HUMIDISTAT
- dimmer, SWITCH, occupant sensor
- 120V DUPLEX CONVENIENCE RECEPTACLE
- 240V RANGE /DRYER RECEPTACLE
- DEDICATED HOOD RECEPTACLE
- DEDICATED REF'R. /DW RECEPTACLE
- HARD-WIRED 110V SMOKE DETECTOR W/ BATTERY BACK-UP INTERCONNECTED
- C/D — HARD-WIRED 110V SMOKE DETECTOR / CARBON MONOXIDE COMBO W/ BATTERY BACK-UP MUST BE INTERCONNECTED

2022 Residential Lighting Summary

Luminaire requirements

- All installed luminaires shall meet the requirements of Table 150.0-A. To be classed as high efficacy, a lamp must be one of the technologies listed below. Please refer to Section 150.0(k) for further information and explanation.

Table 6-6-1 (Table 150.0-A) Summary of Compliant Luminaire Types

Automatically High Luminous Efficacy Luminaires	Lamps and Light Sources That Must be JA8-certified	Lamps and Light Sources That Must be JA8-Certified for Elevated Temperatures
• LED light sources installed outdoors • Inseparable solid-state lighting (SSL) luminaires containing colored light sources for decorative lighting purpose • Pin-based linear fluorescent or compact fluorescent light sources using electronic ballasts • High intensity discharge (HID) light sources including pulse-start metal halide and high-pressure sodium light sources • Luminaires with induction lamp and hardwired high frequency generator • Ceiling fan light kits subject to federal appliance regulations	• Light sources installed in ceiling recessed downlight luminaires. (Screw bases are not allowed in ceiling recessed downlight luminaires.) • LED luminaires with integral sources • Screw-based LED lamps (A-lamps, PAR lamps, etc.) • Pin-based LED lamps (MR-16, AR-111, etc.) • Any light source or luminaire not listed elsewhere in this table	• Lamps and separable light sources in ceiling recessed downlight luminaires. • Lamps and separable light sources in enclosed luminaires.

(2022 Residential Compliance Manual)

EXCEPTIONS to Section 150.0(k)1A (Meeting Table 150.0-A)

1. Integrated device lighting: Lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors and garage door openers
2. Navigation lighting such as night lights, step lights, and path lights less than 5 watts
3. Lighting internal to drawers, cabinetry and linen closets with an efficacy of 45 lumens per watt or greater

Recessed Downlights Luminaires in Ceilings

- Shall not contain screw base lamp sockets; and
- Have a label that certifies the luminaire is airtight with leakage less than 2 cfm at 75 Pascals. An exhaust fan housing with integral light shall not be required to be certified airtight; and
- Be sealed with a gasket or caulk between the luminaire housing and ceiling; and
- Meet the clearance and installation requirements of Cal Electrical Code Section 410.116 for recessed luminaires

Light sources in enclosed or recessed luminaires

- Lamps and other separable light sources that are not compliant with JA8 elevated temp. requirements, shall not be installed in enclosed or recessed luminaires

Indoor Lighting Control Requirements

- Readily accessible wall-mounted controls for manual ON and OFF
- No controls shall bypass a dimmer, occupant sensor or vacancy sensor function
- An Energy Management Control System (EMCS) or multiscene programmable control may be used to comply with dimming, occupancy, and lighting control requirements
- Automatic-off controls: in bathrooms, garages, laundry rooms, utility rooms, and walk in closets, at least one installed luminaire shall be controlled by an occupancy/vacancy sensor for automatic shut-off
- Dimming controls: Lighting in habitable spaces, including living rooms, dining rooms, kitchens, and bedrooms, shall have dimming controls

  EXCEPTIONS to Dimming Controls:

1. Ceiling fans
2. Controlled lighting power less than 20 watts or controlled by an occupancy/vacancy sensor
3. Navigation lighting such as night lights, step lights, path lights less than 5 watts, and lighting internal to drawers and cabinetry

Outdoor Lighting

- Permanently installed luminaires providing residential outdoor lighting shall be high efficacy and meet the following requirements, as applicable:
  Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of Items below;
  and
  Controlled by photocell and motion sensor. Controls that override to ON shall not be allowed unless the override automatically reactivates the motion sensor within 6 hours;
  or
  Controlled by an astronomical time clock.
  or
  Controlled by an Energy management control system.

COURTESY OF ABBAY TECHNICAL SERVICES – BUILDING ENERGY CONSULTANTS

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2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
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PROPOSED ACCESSIBLE RESIDENCE

ELECTRICAL PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

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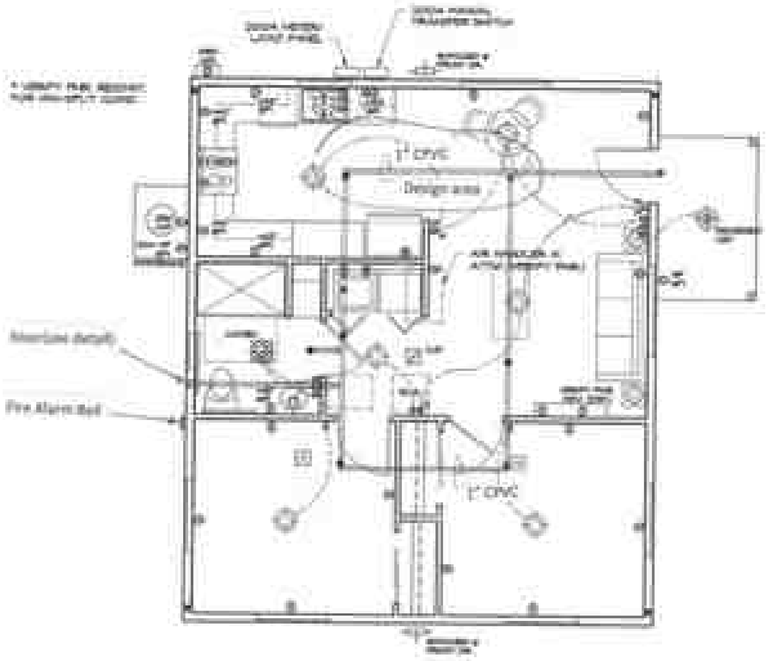
1" 1/2" 0" 1"



FIRE SPRINKLER PLAN

North

1/4"=1'-0"

TVCE

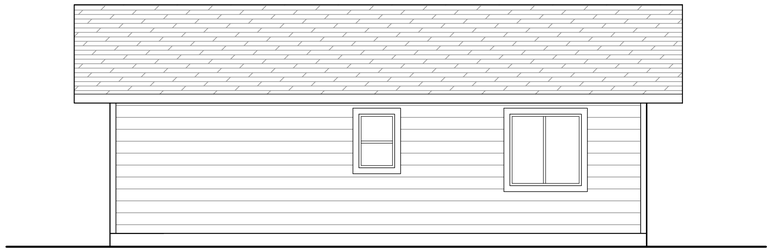
PROPOSED (2)-BDRM. RESIDANCE

FIRE SPRINKLER PLAN

FS-01

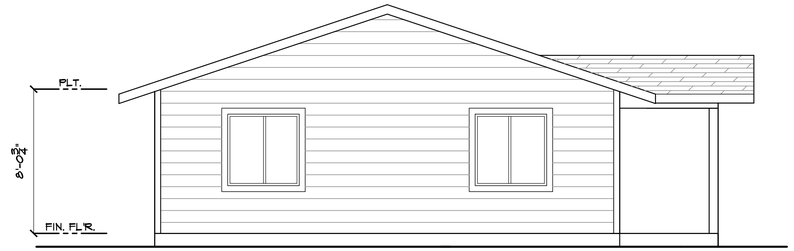
BUILDING CODE COMPLIANCE

BUILDING SHALL COMPLY WITH 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA RESIDENTIAL CODE (CRC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE, 2022 CALIFORNIA FIRE CODE (CFC), 2022 GREEN BUILDING STANDARDS CODES, AND ALL APPLICABLE CODES.



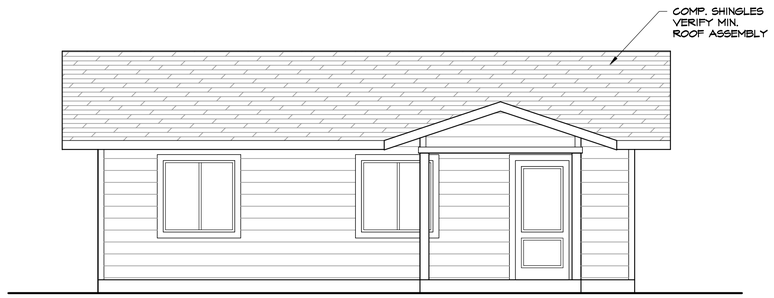
WEST ELEVATION

1/4"=1'-0"



SOUTH ELEVATION

1/4"=1'-0"



EAST ELEVATION

1/4"=1'-0"

NORTH ELEVATION

1/4"=1'-0"

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1" 1/2" 0" 1"

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED (2)-BDRM. RESIDENCE

ELEVATIONS

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

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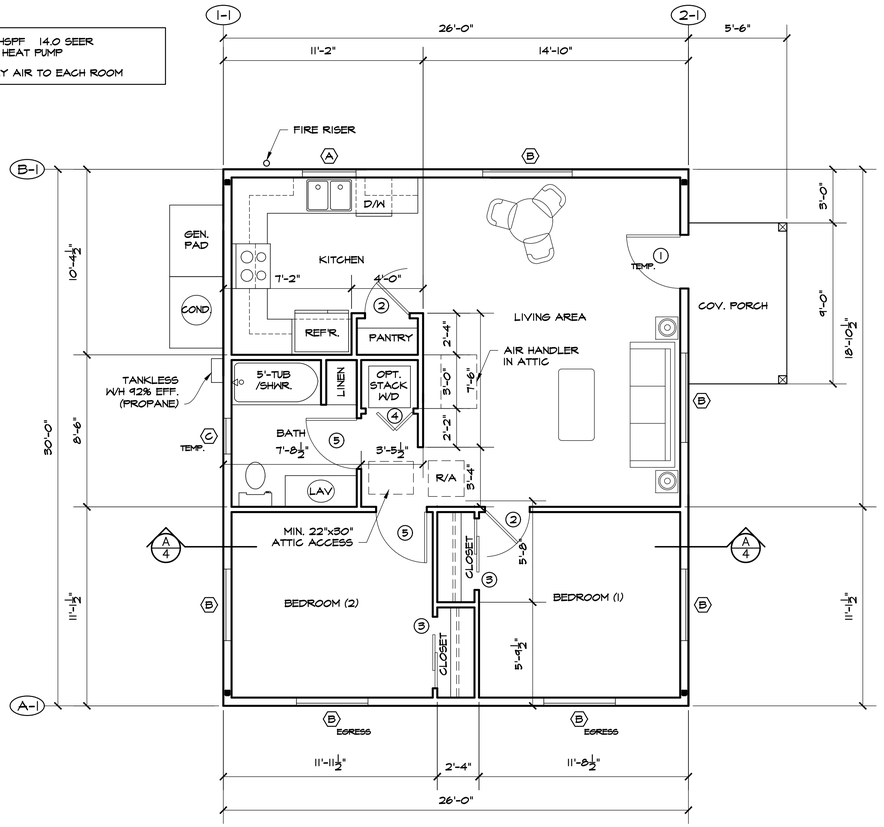
DRAWING NO: B1

8.20 HSPF 14.0 SEER
SPLIT HEAT PUMP

SUPPLY AIR TO EACH ROOM



FLOOR PLAN

1/4"=1'-0"

Ref. North

DOOR SCHEDULE		
1	3'-0"x6'-8"	SOLID CORE WD. W/ 1/2-GL'G.
2	2'-6"x6'-8"	INTERIOR RAISED PANEL
3	2'-0"x6'-8" pair	INTERIOR BYPASS RAISED PANEL
4	2'-8"x6'-8"	INTERIOR BIFOLD FULLY LOUVERED (COMBUSTION AIR)
5	2'-10"x6'-8"	INTERIOR (32"-MIN. CL'R.) RAISED PANEL

SEE FLOOR PLAN FOR SWING DIRECTION & NECC. HARDWARE

EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-3/8" SOLID CORE WOOD, OR 20-MIN. FIRE RATED.

WINDOW SCHEDULE		
A	3'-0"x3'-0"	HORIZONTAL SLIDER
B	5'-0"x4'-0"	HORIZONTAL SLIDER EGRESS WHERE NOTED
C	2'-0"x3'-0"	SINGLE HUNG OBSCURED TEMP. GLZ'G.

ALL WINDOWS SHALL BE DUAL GLAZED AND VINYL FRAMED

FULLY TEMPERED GLAZING, WHERE NOTED ON FLOOR PLAN

SEE ENERGY COMPLIANCE DOCS FOR MIN. U-FACTOR, SHGC

WINDOWS SHALL HAVE MINIMUM ONE TEMPERED PANE (PER SRA STNDRDS.)

-- WATER HEATER --
PROVIDE WATER HEATER TEMPERATURE /PRESSURE RELIEF VALVE WITH DRAIN TO EXTERIOR OF BUILDING WITH 90-ELBOW MIN. 6" AND MAX. 24" FROM FINISHED GRADE

TANKLESS WATER HEATER SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF IT'S LISTING AND IN ACCORDANCE WITH THE MANUFACTURER SPECIFICATIONS.

-- SHOWERS /TUB-SHOWERS --
SHOWERS AND TUB-SHOWER COMBINATIONS WITH CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE BALANCE/THERMOSTATIC MIXING VALVE TYPE. INSTALLER SHALL ADJUST PER MANUFACTURER INSTRUCTIONS TO DELIVER A MAX. MIXED WATER SETTING OF 120-DEGRESS FAHRENHEIT.

-- HOSE BIBS --
PROVIDE NON-REMOVABLE BACKFLOW PREVENTION DEVICES ON ALL HOSE BIBS.

-- CLOTHES DRYER --
CLOTHES DRYER(S) SHALL VENT TO EXTERIOR OF BUILDING. VENT LENGTH SHALL BE A MAXIMUM OF 14', OR HAVE AN APPROVED BOOSTER FAN.

MAKE UP AIR SHALL BE PROVIDED FOR TYPE 1 CLOTHES DRYERS IN ACCORDANCE WITH MANUF. SPECS.

504.4.2 Domestic Clothes Dryers

Where a compartment or space for a Type 1 clothes dryer is provided, not less than a 4 inch diameter (102 mm) exhaust duct of approved material shall be installed in accordance with Section 504.0.

Type 1 clothes dryer exhaust ducts shall be of rigid metal and shall have smooth interior surfaces. The diameter shall be not less than 4 inches nominal (100 mm) and the thickness shall be not less than 0.016 of an inch (0.406 mm).

504.4.2.1 Length Limitation

Unless otherwise permitted or required by the dryer manufacturer's instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 feet (4267 mm), including two 90 degree (1.57 rad) elbows. A length of 2 feet (610 mm) shall be deducted for each 90 degree (1.57 rad) elbow in excess of two.

SHEARWALL SCHEDULE						
WALL LINE	STORY	SHEATHING	FRAMING	8d NAILING	ANCHOR BOLTS	CONNECTIONS
1-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	HDU2 HOLDOWN
2-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	HDU2 HOLDOWN
A-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	
B-1	1	7/16" CD PLY.	2x6 @ 16" O/C	6" EDGE /12" FIELD	5/8"x10" @ 48" O/C	

SHEAR NOTES

1. INSTALL 1/2" CDX w/ 8d @ 6" O/C B.N., 12" O/C IN FIELD, ON ALL SHEETABLE EXTERIOR WALL SURFACES, UNLESS NOTED OTHERWISE ON SHEAR PLAN.

2. DBL. 2x STUDS ATTACHED TO HOLDOWNS SHALL BE SISTERED TOGETHER w/ (2)-16d @ 12" O/C.

STATE REGULATED WILD LAND FIRE STANDARDS

DEFENSIBLE SPACE MUST BE SIGNED OFF PRIOR TO SHEET ROCK INSPECTION.

EXTERIOR SIDING PRODUCTS, INCLUDING SHEATHING, TO BE OF APPROVED PRODUCTS (CAL-FIRE URBAN INTERFACE APPROVED).

EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-⅜" SOLID CORE WOOD, OR 20-MIN. FIRE RATED.

WINDOWS SHALL HAVE MINIMUM ONE TEMPERED PANE (PER SRA STNDRDS.)

DECKING SURFACES TO BE APPROVED PRODUCT. [NON-IGNITIBLE, CAL-FIRE URBAN INTERFACE APPROVED]

NO. 72 VALLEY FLASH UNDERLAYMENT CAP SHEET RUNNING FULL LENGTH OF VALLEY UNLESS ROOF COVER IS INTERWOVEN.

EAVE AND SOFFIT VENTS MUST BE FIRE RATED TO PRECLUDE EMBER AND FLAME ENTRANCE (CAL-FIRE URBAN INTERFACE APPROVED).

UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.

ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

AGING IN PLACE REQUIREMENTS

1. At least one bathroom on the entry level shall be provided with reinforcement for a future grab bar. Where there is no bathroom on the entry level, at least one bathroom on the second or third floor of the dwelling shall provide reinforcement. Please indicate location of grab bar reinforcement on plans. R327.1.1.

2. Reinforcement shall not be less than 2 by 8 inch (51 mm by 203 mm) nominal lumber [1 1/2 inch by 7 1/4 inch (38 mm by 184 mm) actual dimension] or other construction material providing equal height and load capacity. Reinforcement shall be located between 32 inches (812.8 mm) and 34 1/4 inches (997 mm) above the finished floor flush with the wall framing. R327.1.1(2).

3. Water closet reinforcement shall be installed on both side walls of the fixture, or one side wall and the back wall. Please show on plans. R327.1.1(3).

4. Shower reinforcement shall be continuous where wall framing is provided. R327.1.1(4).

5. Bathtub and combination bathtub/shower reinforcement shall be continuous on each end of the bathtub and the back wall. Additionally, back wall reinforcement for a lower grab bar shall be provided with the bottom edge located no more than 6 inches (152.4 mm) above the bathtub rim. R327.1.1(5).

6. Electrical receptacle outlets, switches, and controls (including controls for heating, ventilation, and air conditioning) intended to be used by occupants shall be located no more than 48 inches (1219.2 mm) measured from the top of the outlet box and not less than 15 inches (381 mm) measured from the bottom of the outlet box above the finish floor. R327.1.2.

7. At least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches (812.8 mm), measured with the door positioned at an angle of 90 degrees from the closed position; or, in the case of a two- or three-story single family dwelling, on the second or third floor of the dwelling if a bathroom or bedroom is not located on the entry level. R327.1.3.

8. Doorbell buttons or controls, when installed, shall not exceed 48 inches (1219.2 mm) above exterior floor or landing, measured from the top of the doorbell button assembly. Where doorbell buttons integrated with other features are required to be installed above 48 inches (1219.2 mm) measured from the exterior floor or landing, a standard doorbell button or control shall also be provided at a height not exceeding 48 inches (1219.2 mm) above exterior floor or landing.

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED (2)-BDRM. RESIDENCE
APN 529-111-007
38030 HIGHWAY 96 ORLEANS, CA
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FOR: KARUK TRIBE HOUSING AUTHORITY

FLOOR PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

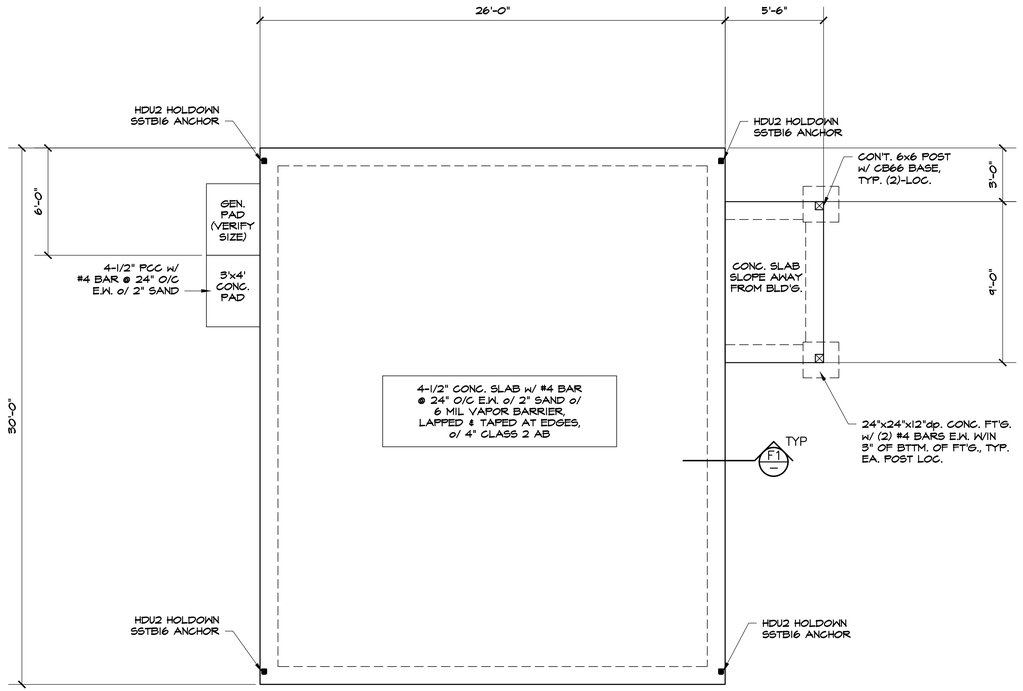
DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

PROJECT NO: JN# 236.02

DRAWING NO: B2

1" 1" 1" 1/2" 0"



FOUNDATION PLAN

1/4"=1'-0"

Ref. North

GENERAL HOLDOWN NOTES

1) INSTALL HD A.B.s PER MANUFACTURERS REQUIREMENTS.

2) HD A.B.s SHALL BE 5" MIN. FROM CORNER OF CONC. FT'G.

3) MINIMUM CONCRETE COMPRESSIVE STRENGTH TO BE 2.5 KSI

FOUNDATION NOTES

- CONCRETE TO HAVE MIN. 2,500 PSI

- ALL WD., INCLUDING POSTS, WITHIN 6" OF GROUND TO BE P.T. OR FNDTN. GRADE REDWOOD

- HOLDOWNS SHALL BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.

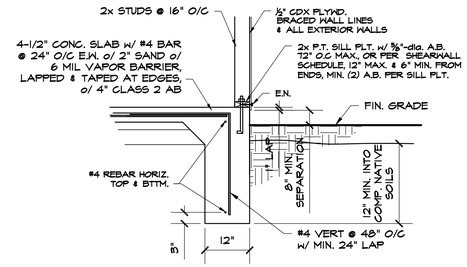
- ALL POINT LOAD FOOTINGS TO HAVE #4 REBAR @ 12" O/C EA. WAY AT 3" OFF BTTM. OF FT'G.

- REFER TO FLOOR PLAN FOR ANCHOR BOLT SPACING REQUIREMENTS AT SHEARWALLS AND HOLD-DOWN BOLT REQUIREMENTS.

- MIN. OF (2) 5/8"-dia. ANCHOR BOLTS W/ 7"-MIN. EMBEDMENT SHALL BE INSTALLED PER PLT. AND /OR BETWEEN SSTB BOLTS OF EACH SEGMENT OF SHEARWALL, MIN. 6" & MAX. 12" FROM ENDS, SPACED PER SHEARWALL SCHEDULE.

- ANCHOR BOLTS SHALL INCLUDE STEEL PLATE WASHERS, A MINIMUM OF 0.229"x3"x3" IN SIZE, BETWEEN SILL PLATE AND NUT.

- FASTENERS AND CONNECTORS (NAILS, ANCHOR BOLTS, ETC.) IN CONTACT WITH P.T. WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE, OR COPPER.



SLAB FOUNDATION FOOTING DETAIL

F1

NTS

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2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED (2)-BDRM. RESIDENCE

FOUNDATION PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

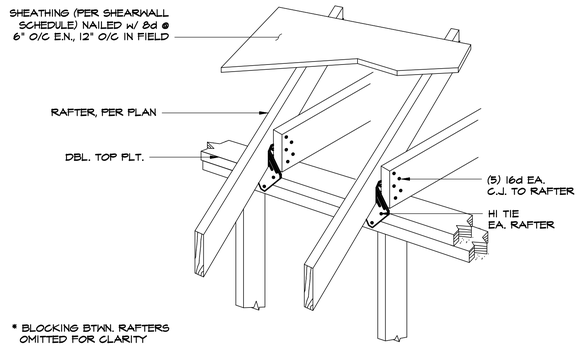
DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

PROJECT NO:

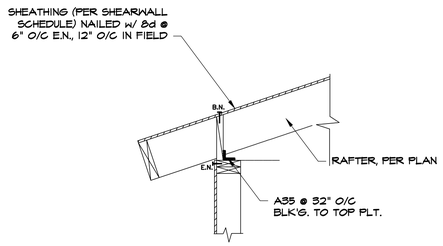
DRAWING NO: B3

1" 1/2" 0" 1"



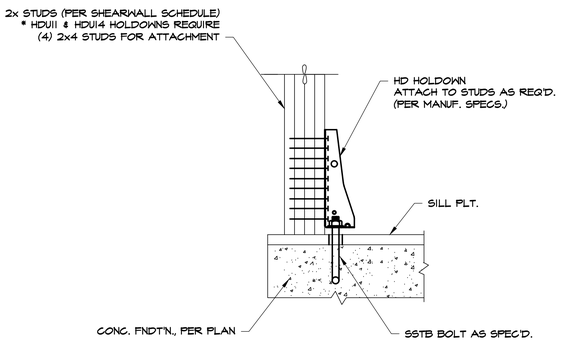
RAFTER CONNECTION TO WOOD TOP PLATE

DO NOT SCALE



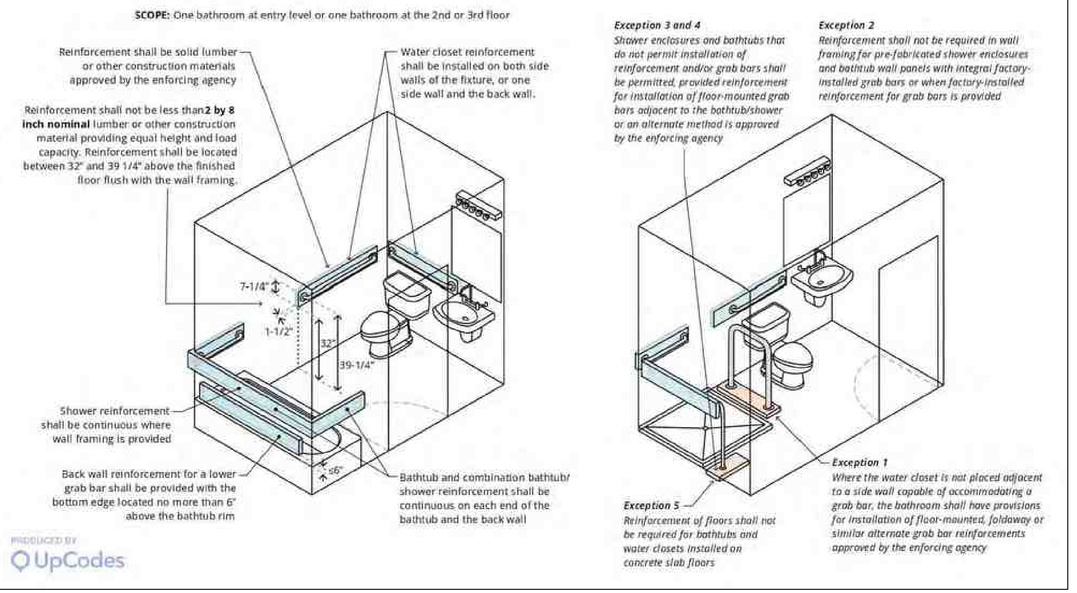
A35 BLK'G. TO TOP PLT. @ ROOF

DO NOT SCALE



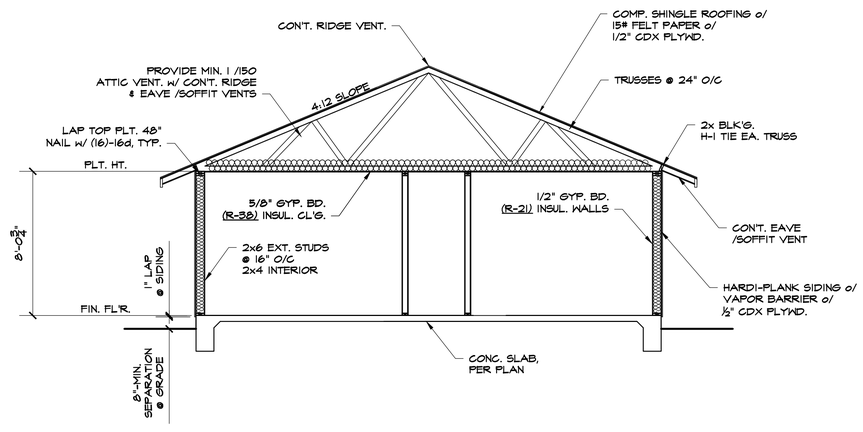
HOLDOWN CONNECTION TO FOUNDATION

DO NOT SCALE



* NOTE *

INSULATION FLAME SPREAD INDEX AND SMOKE DEVELOPED INDEX SHALL COMPLY WITH CRC R302.10.1 THRU R302.10.5.



A SECTION

1/4"=1'-0"

R327.1.1 Reinforcement for Grab Bars

At least one bathroom on the entry level shall be provided with reinforcement installed in accordance with this section. Where there is no bathroom on the entry level, at least one bathroom on the second or third floor of the dwelling shall comply with this section.
Reinforcement shall be solid lumber or other construction materials approved by the enforcing agency.
Reinforcement shall not be less than 2 by 8 inch nominal lumber. [1-1/2 inch by 7-1/4 inch actual dimension] or other construction material providing equal height and load capacity. Reinforcement shall be located between 32 inches and 39-1/4 inches above the finished floor flush with the wall framing.
Water closet reinforcement shall be installed on both side walls of the fixture, or one side wall and the back wall.
Shower reinforcement shall be continuous where wall framing is provided.
Bathtub and combination bathtub/shower reinforcement shall be continuous on each end of the bathtub and the back wall. Additionally, back wall reinforcement for a lower grab bar shall be provided with the bottom edge located no more than 6 inches above the bathtub rim.
Exceptions:
Where the water closet is not placed adjacent to a side wall capable of accommodating a grab bar, the bathroom shall have provisions for installation of floor-mounted, foldaway or similar alternate grab bar reinforcements approved by the enforcing agency.
Reinforcement shall not be required in wall framing for pre-fabricated shower enclosures and bathtub wall panels with integral factory-installed grab bars or when factory-installed reinforcement for grab bars is provided.
Shower enclosures that do not permit installation of reinforcement and/or grab bars shall be permitted, provided reinforcement for installation of floor-mounted grab bars or an alternate method is approved by the enforcing agency.
Bathtubs with no surrounding walls, or where wall panels do not permit the installation of reinforcement shall be permitted, provided reinforcement for installation of floor-mounted grab bars adjacent to the bathtub or an alternate method is approved by the enforcing agency.
Reinforcement of floors shall not be required for bathtubs and water closets installed on concrete slab floors.

STATE REGULATED WILD LAND FIRE STANDARDS

DEFENSIBLE SPACE MUST BE SIGNED OFF PRIOR TO SHEET ROCK INSPECTION.

EXTERIOR SIDING PRODUCTS, INCLUDING SHEATHING, TO BE OF APPROVED PRODUCTS (CAL-FIRE URBAN INTERFACE APPROVED).

EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-⅜" SOLID CORE WOOD, OR 20-MIN. FIRE RATED.

WINDOWS SHALL HAVE MINIMUM ONE TEMPERED PANE (PER SRA STNDRDS.)

DECKING SURFACES TO BE APPROVED PRODUCT. [NON-IGNITIBLE, CAL-FIRE URBAN INTERFACE APPROVED]

NO. 72 VALLEY FLASH UNDERLAYMENT CAP SHEET RUNNING FULL LENGTH OF VALLEY UNLESS ROOF COVER IS INTERWOVEN.

EAVE AND SOFFIT VENTS MUST BE FIRE RATED TO PRECLUDE EMBER AND FLAME ENTRANCE (CAL-FIRE URBAN INTERFACE APPROVED).

UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.

ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

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2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED (2)-BDRM. RESIDENCE

SECTIONS & DETAILS

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DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

DATE OF ISSUE: JAN. 23, '17

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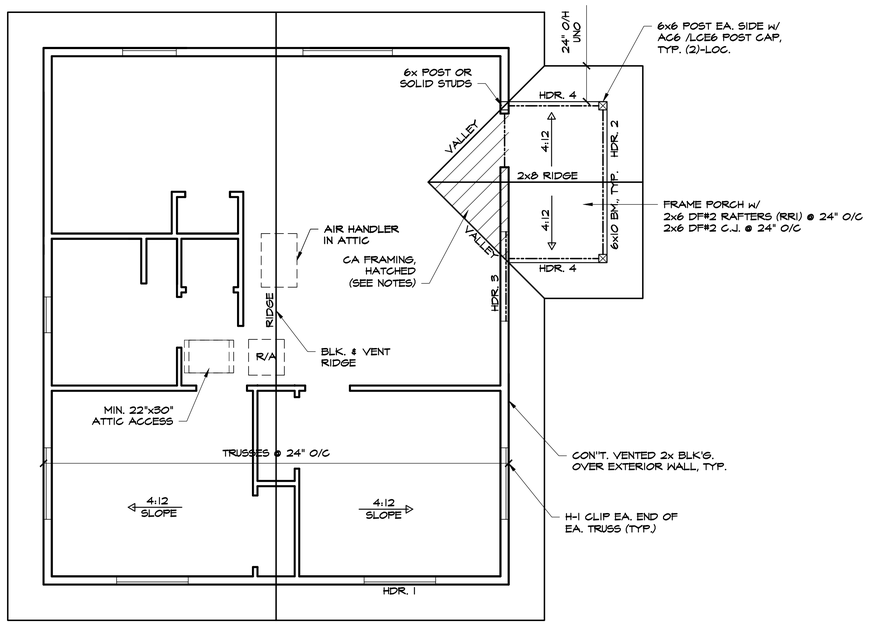
PROJECT NO:

DRAWING NO: B4

1" 1/2" 0" 1"



ROOF FRAMING

1/4"=1'-0"

Ref. North

* SOLAR TO BE DESIGNED BY OTHERS; ROOF FRAMING TO ACCOUNT FOR ADDED DEADLOAD

FLOOR AND FRAMING NOTES

- 4x12 /6x10 DF#2 HDRS. @ ALL EXTERIOR OPENINGS, U.N.O.
- ALL EXPOSED FRAMING MEMBERS MUST BE P.T. OR REDWOOD.
- SUBFLOOR SHALL BE 3/4" T&G GLUED & NAILED TO JOISTS W/ 10d @ 6" B.N., 12" O/C F.N.
- ALL EXTERIOR HARDWARE AND FASTENERS SHALL BE HOT-DIPPED GA.
- SOLID BLOCK OVER ALL BEARING WALLS, BEAMS AND GIRDERS.
- -FIRE BLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, VERTICALLY AT FLOOR AND CEILING LEVELS, SOFFIT LEVELS AND HORIZONTALLY AT INTERVALS NOT TO EXCEED 10-FEET.

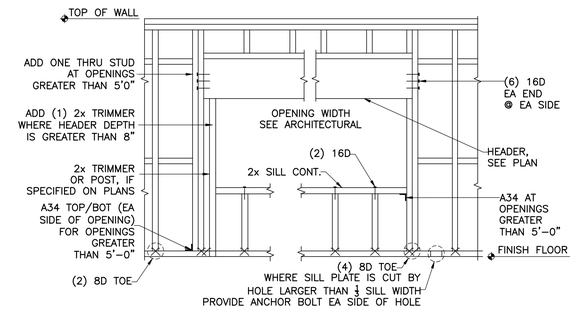
ROOF FRAMING NOTES

- PROVIDE H-1 CLIP (OR EQUAL) @ EA. TRUSS TO PLATE CONNECTION, UNO.
- ROOF SHEATHING SHALL BE 1/2" CDX NAILED W/ 8d COMMONS @ 6" O/C AT PANEL EDGES OVER FRAMING, AND 12" O/C IN THE FIELD (PANEL EDGES UNBLOCKED).
- TOP PLATE SPLICE SHALL BE 48" MIN. OVERLAP AND SHALL BE NAILED W/ NO LESS THAN (8) 16d FACE NAILS ON EACH SIDE OF THE SPLICE.
- PROVIDE MIN. 1/150 ATTIC VENT. W/ CON'T. RIDGE & EAVE/ SOFFIT VENTS.
- CA FRAMING; PROVIDE 2x W/ FULL BEARING @ VALLEYS. FRAME W/ MIN. 2x6 @ 24" O/C UP TO 10' SPAN W/ 2x8 RIDGE. USE 2x8 JST. @ 24" O/C o/ 10' SPAN W/ 2x10 RIDGE. ROOF PLY MUST BE INSTALLED TO ROOF FRAMING BELOW PRIOR TO CA FRAMING.

* PROVIDE MIN. 22"x30" ACCESS TO ALL ENCLOSED ATTIC AREAS W/ MIN. 30"-CL'R. HEAD HT.

* PORCH POSTS TO BE P.T. OR NATURALLY DURABLE LUMBER, OR DF, PRIMED AND PAINTED.

** ALL POSTS TO BE AT A MINIMUM THE SAME WIDTH AS THE BEAM(S) BEING SUPPORTED, AND PROVIDE AT LEAST A 3-1/2" LONG "SEAT" FOR BM. BEING SUPPORTED



TYPICAL HEADER CONNECTION DETAIL

DO NOT SCALE

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
2	01/22/20	UPDATE	SJA	SJA	JTM	JTM
1	06/13/19	UPDATE	SJA	SJA	JTM	JTM

PROPOSED (2)-BDRM. RESIDENCE

ROOF PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

DATE OF ISSUE: JAN. 23, '17

SCALE: AS NOTED

PROJECT NO:

DRAWING NO: B5

1" 1/2" 0" 1"

* GENERAL NOTES *
All services supplying dwelling units shall be provided with a surge-protective device (SPD). The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto. The SPD shall be a Type 1 or Type 2 SPD. CEC 230.67.

Barriers shall be placed in service equipment such that no uninsulated, ungrounded service busbar or service terminal is exposed to inadvertent contact by persons or maintenance equipment while servicing load terminations. CEC 230.62(C).

Electrical receptacle outlets, switches, and controls (including controls for heating, ventilation, and air conditioning) intended to be used by occupants shall be located no more than 48 inches measured from the top of the outlet box and not less than 15 inches measured from the bottom of the outlet box above the finish floor. R327.1.2.

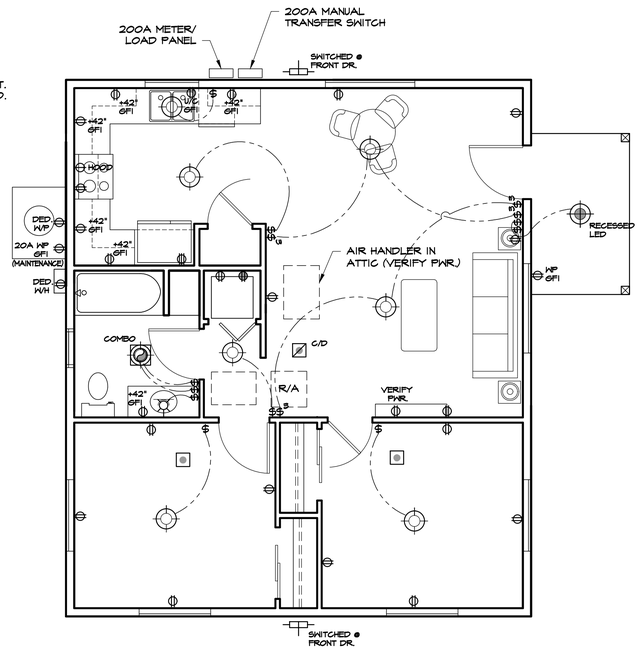
Doorbell buttons or controls, when installed, shall not exceed 48 inches above exterior floor or landing, measured from the top of the doorbell button assembly. Where doorbell buttons integrated with other features are required to be installed above 48 inches measured from the exterior floor or landing, a standard doorbell button or control shall also be provided at a height not exceeding 48 inches above exterior floor or landing, measured from the top of the doorbell button or control. R327.1.4.

* MECHANICAL EXHAUST *
MECHANICAL EXHAUST FOR BATHROOMS SHALL EXIT A MIN. OF 3' FROM ANY OPENING WHICH ALLOWS AIR ENTRY INTO OCCUPIED PORTIONS OF THE BUILDING PER CBC SEC. 1203.3

* GROUNDING *

PROVIDE CONCRETE-ENCASED GROUNDING ELECTRODE (UFER) PER CEC 250.50, 250.52 (a)

* VERIFY PWR. REQ'MNT. FOR MINI-SPLIT /COND.



ELECTRICAL PLAN
1/4"=1'-0"

Ref. North

ELECTRICAL NOTES

- Service equipment and subpanels to have a min 30" wide by 36" deep clear work space.(CEC 110.26)

- All lighting is required to be high efficacy. (California energy code section 150.(k) and Table 150.0-A.)

- Provide a listed 1 inch raceway to accommodate a dedicated 208/240-volt circuit for future electrical vehicle (EV) charger. (Cal Green 4.106.4)

- All receptacle outlets are required to be listed tamper resistant (CEC 406.12 and 250.52)

- Combination type AFCI circuit breakers are required for all 120 volt single phase 15&20 amp branch circuits. Except for bathrooms, garages, and outdoors. (CEC 210.12)

- All outlets, lights and switches in sleeping rooms shall be protected by arc-fault circuit interrupters.

- At a minimum, one dedicated 20 amp circuit is required for a bathroom. (CEC 210.11(C)(3))

- GFCI protection is required for all receptacle outlets located outdoors, garages, accessory buildings, bathrooms, crawl spaces, kitchens, laundry areas, kitchen dishwasher branch circuit, garbage disposal, all areas within 6 feet of a sink, and all receptacles within 6 feet of a bathtub or shower stall. (CEC 210.8)

- Receptacle outlets are not allowed within or over a bathtub or shower stall. (CEC 406.9 (C))

- Subpanels are not allowed to be located in bathrooms or clothes closets. (CEC 240.24 (D) and (E).

- Circuits sharing a grounded conductor (neutral) with two ungrounded (hot) conductors must use a two pole circuit breaker or an identified handle tie. (CEC 210.4(B)) Group noncable circuits in panel (CEC 210.4(D))

- The receptacle outlets that serve kitchen counter tops, dining room, breakfast area, and pantry, must have a min of 2 dedicated 20 amp circuits. (CEC 210.52 (B)(1)

- Kitchen counter tops 12 inches or wider must have a receptacle outlet. (CEC 210.52(C))

- Kitchen counter tops must have receptacle outlets so no point along the counter walls is more than 24 inches from a receptacle. (CEC 210.52 (C))

- Island and peninsular counter tops must have at least one receptacle. (CEC 210.52(C)(1),(2),and (3))

- Appliances fastened in place, i.e.. dishwasher, microwave, etc. shall be supplied by a separate branch circuit rated for the appliance or load served. they shall not be on the two small-appliance circuits already required.

- The spacing for general receptacle outlets must be located so that no point on any wall, fixed glass, or cabinets is over 6 feet from a receptacle outlet. (CEC 210.52(A))

- Hallways 10 feet or more must have at least one receptacle outlet. (CEC 210.52(H))

- Garages shall have at least one receptacle for each car space on the interior. The branch circuit supplying the receptacles shall not serve outlets outside of the garage. (CEC 210.52 (G) (1).

- Laundry rooms must have at least one dedicated 20 amp receptacle circuit. (CEC 210.11(C) (2)).

- All 15A and 20A, 125V receptacles installed in laundry areas of a dwelling unit must be GFCI protected.

- Provide 120V receptacle within 3 feet of water heater. (Cal Energy Code 150.0 (n) 1 A.)

- Smoke alarms shall be installed in the following locations (CRC R314.3, CBC 907.2.11.2, 907.2.11.3 & 907.2.11.4):
  a. In each sleeping room.
  b. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
  c. On each additional story, including basements and habitable attics.
  d. Not less than 3 feet horizontally from the door or opening of a bathroom that contains a bathtub or shower.
  e. A minimum of 20 feet horizontally from any permanently installed cooking appliance.
  f. Smoke alarms shall be hardwired with battery back-up and interconnected unless exempted in accordance with CRC R314.4 & R314.5 or CBC 907.2.11.5 & 907.2.11.6.
- Carbon monoxide alarms shall be installed in the following locations (CRC R315.3):
  a. Outside of each sleeping area in the immediate vicinity of the bedroom(s).
  b. On every level of the dwelling unit including basements.
  c. Where a fuel-burning appliance is located within a bedroom or its attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.

Carbon monoxide alarms shall be hardwired with battery back-up and interconnected unless exempted in accordance with CRC R315.

ELECTRICAL KEY

- 1200 LUMEN LED 400K WALL MNT. LIGHT MOTION /PHOTO CELL TIMER
- OUTDOOR WALL-MNT. FIXTURE LED /HIGH EFFICACY
- CEILING-MNT. LIGHT FIXTURE (MAY BE SUSPENDED)
- WALL-MNT. FIXTURE / WALL SCONCE
- MIN. 50 CFM ENERGY STAR RATED EXHAUST FAN, DUCTED TO EXTERIOR; BATH FANS MUST BE CONTROLLED BY A HUMIDISTAT
- $ SWITCH; d dimmer; @ occupant sensor
- 120V DUPLEX CONVENIENCE RECEPTACLE
- 240V RANGE /DRYER RECEPTACLE
- DEDICATED HOOD RECEPTACLE
- DEDICATED REF'R. /DW RECEPTACLE
- HARD-WIRED 110V SMOKE DETECTOR w/ BATTERY BACK-UP INTERCONNECTED
- C/D HARD-WIRED 110V SMOKE DETECTOR / CARBON MONOXIDE COMBO w/ BATTERY BACK-UP MUST BE INTERCONNECTED

2022 Residential Lighting Summary

Luminaire requirements

- All installed luminaires shall meet the requirements of Table 150.0-A. To be classed as high efficacy, a lamp must be one of the technologies listed below. Please refer to Section 150.0(k) for further information and explanation.

Table 6-6-1 (Table 150.0-A) Summary of Compliant Luminaire Types

Automatically High Luminous Efficacy Luminaires	Lamps and Light Sources That Must be JA8-certified	Lamps and Light Sources That Must be JA8-Certified for Elevated Temperatures
• LED light sources installed outdoors • Inseparable solid-state lighting (SSL) luminaires containing colored light sources for decorative lighting purpose • Pin-based linear fluorescent or compact fluorescent light sources using electronic ballasts • High intensity discharge (HID) light sources including pulse-start metal halide and high-pressure sodium light sources • Luminaires with induction lamp and hardwired high frequency generator • Ceiling fan light kits subject to federal appliance regulations	• Light sources installed in ceiling recessed downlight luminaires. (Screw bases are not allowed in ceiling recessed downlight luminaires.) • LED luminaires with integral sources • Screw-based LED lamps (A-lamps, PAR lamps, etc.) • Pin-based LED lamps (MR-16, AR-111, etc.) • Any light source or luminaire not listed elsewhere in this table	• Lamps and separable light sources in ceiling recessed downlight luminaires. • Lamps and separable light sources in enclosed luminaires.

(2022 Residential Compliance Manual)

EXCEPTIONS to Section 150.0(k)1A (Meeting Table 150.0-A)

1. Integrated device lighting: Lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors and garage door openers
2. Navigation lighting such as night lights, step lights, and path lights less than 5 watts
3. Lighting internal to drawers, cabinetry and linen closets with an efficacy of 45 lumens per watt or greater

Recessed Downlights Luminaires in Ceilings

- Shall not contain screw base lamp sockets; and
- Have a label that certifies the luminaire is airtight with leakage less than 2 cfm at 75 Pascals. An exhaust fan housing with integral light shall not be required to be certified airtight; and
- Be sealed with a gasket or caulk between the luminaire housing and ceiling; and
- Meet the clearance and installation requirements of Cal Electrical Code Section 410.116 for recessed luminaires

Light sources in enclosed or recessed luminaires

- Lamps and other separable light sources that are not compliant with JA8 elevated temp. requirements, shall not be installed in enclosed or recessed luminaires

Indoor Lighting Control Requirements

- Readily accessible wall-mounted controls for manual ON and OFF
- No controls shall bypass a dimmer, occupant sensor or vacancy sensor function
- An Energy Management Control System (EMCS) or multiscene programmable control may be used to comply with dimming, occupancy, and lighting control requirements
- Automatic-off controls: in bathrooms, garages, laundry rooms, utility rooms, and walk in closets, at least one installed luminaire shall be controlled by an occupancy/vacancy sensor for automatic shut-off
- Dimming controls: Lighting in habitable spaces, including living rooms, dining rooms, kitchens, and bedrooms, shall have dimming controls

EXCEPTIONS to Dimming Controls:

1. Ceiling fans
2. Controlled lighting power less than 20 watts or controlled by an occupancy/vacancy sensor
3. Navigation lighting such as night lights, step lights, path lights less than 5 watts, and lighting internal to drawers and cabinetry

Outdoor Lighting

- Permanently installed luminaires providing residential outdoor lighting shall be high efficacy and meet the following requirements, as applicable:
  Controlled by a manual ON and OFF switch that does not override to ON the automatic actions of items below;
  and
  Controlled by photocell and motion sensor. Controls that override to ON shall not be allowed unless the override automatically reactivates the motion sensor within 6 hours;
  or
  Controlled by an astronomical time clock.
  or
  Controlled by an Energy management control system.

COURTESY OF ABBAY TECHNICAL SERVICES – BUILDING ENERGY CONSULTANTS

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12-31-2026
CIVIL
STATE OF CALIFORNIA

TVCE
67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
PHONE (530) 629-3000
FAX (530) 629-3011

DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
UPDATE	SJA	SJA	JTM	JTM
UPDATE	SJA	SJA	JTM	JTM

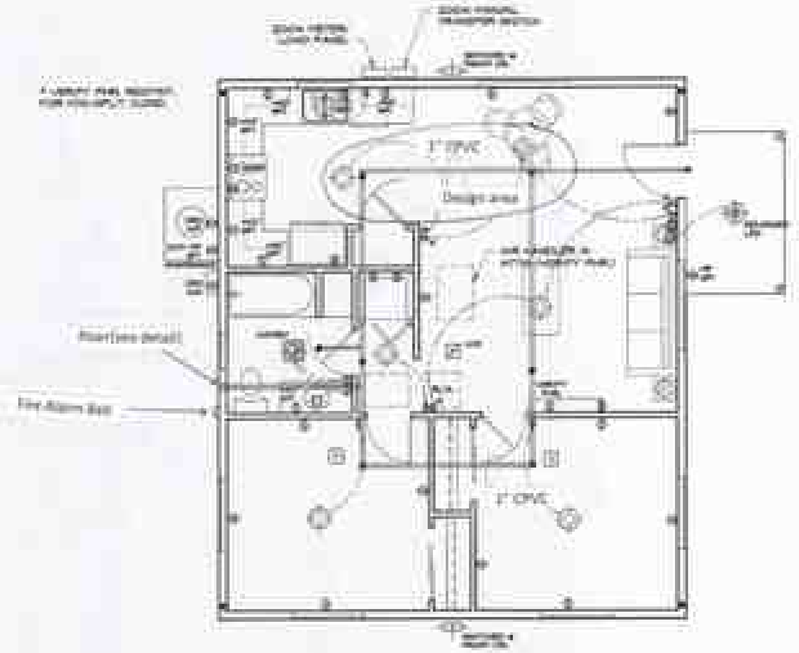
REV	DATE
1	05/15/19
2	07/22/20

PROPOSED (2)-BDRM. RESIDENCE
ELECTRICAL PLAN

DRAWN BY: SJA
DESIGNED BY: SJA
CHECKED BY: JTM
APPROVED BY: JTM

DATE OF ISSUE: JAN. 23, '17
SCALE: AS NOTED
PROJECT NO:
DRAWING NO: B6

1" 1/2" 0" 1"



FIRE SPRINKLER PLAN

Roll North

TVCE

PROPOSED (2)-BDRM. RESIDENCE

FIRE SPRINKLER PLAN

FS-01

BUILDING ENERGY ANALYSIS REPORT

PROJECT:

Proposed 2 Bedroom
Climate Zone 2
Humboldt County,

Project Designer:

Trinity Valley Consulting Engineers
P.O. Box 1567
Willow Creek, CA 95573
530.629.3000

Report Prepared by:

Anne M. McQueeney, CEA
ABBAY TECHNICAL SERVICES
1125 16th St., Ste. 216
Arcata, CA 95521
707.826.1433

Job Number:

20378 -2 BRM

Date:

12/8/2020

The EnergyPro computer program has been used to perform the calculations summarized in this compliance report. This program has approval and is authorized by the California Energy Commission for use with both the Residential and Nonresidential 2019 Building Energy Efficiency Standards.

This program developed by EnergySoft Software – www.energysoft.com.

PROJECT STATUS REPORT — CalCERTS, Inc
Effective 12/08/2020 13:58 — (Page 1 of 2)

GENERAL INFORMATION

Energy Standards Code Year:	2019
Project Name:	20378 Generic Two Bedroom
Project Type:	New Construction SFR
Address:	Climate Zone 2
City/State/Zip:	Orleans / CA / 95556
Enforcement Agency:	County of Humboldt
Permit Number:	TBD
OVERALL STATUS:	NOT COMPLETE
HERS VERIFIABLE MEASURES:	NOT COMPLETE

Easy to Verify @ calcerts.com

CF1R INFORMATION - Certificate of Compliance (Documents User Required Energy Features) ✓

Certificate Type	Compliance
Registered Form	CF1R-PRF-01
Registered Date	2020-12-08 13:57:28
Registration Number	220-P010226800B-000-000-0000000-0000

CF2R INFORMATION - Certificate of Installation (Documents the proper installation of required energy features)

System	Form	Registered Date	Registration Number
	CF2R-ENV-01-E Fenestration Installation		220-P010226800B-000-001-E01001A-0000
	CF2R-ENV-03-E Insulation Installation		220-P010226800B-000-001-E03001A-0000
	CF2R-LTG-01-E Lighting		220-P010226800B-000-001-L01001A-0000
	CF2R-MCH-01-E Space Conditioning Systems, Ducts and Fans		220-P010226800B-000-001-M01001A-0000
	CF2R-MCH-27-H IAQ and MV		220-P010226800B-000-001-M27001A-0000
	CF2R-PLB-02-E SD HWS Distribution		220-P010226800B-000-001-W02001A-0000
	CF2R-PVB-01-E Photovoltaic Systems		220-P010226800B-000-001-V01001A-0000

CF3R INFORMATION - Certificate of Verification (Documents the verification of HERS Measures) ✓

PROJECT STATUS REPORT — CalCERTS, Inc
Effective 12/08/2020 13:58 — (Page 2 of 2)

System	Form	Registered Date	Registration Number

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 1 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

GENERAL INFORMATION

01	Project Name	20378 Generic Two Bedroom			
02	Run Title	Title 24 Analysis			
03	Project Location	Climate Zone 2			
04	City	Humboldt County	05	Standards Version	2019
06	Zip code		07	Software Version	EnergyPro 8.2
08	Climate Zone	2	09	Front Orientation (deg/ Cardinal)	allOrientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	NewConstruction	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft²)	780	19	Glazing Percentage (%)	20.00%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Is Natural Gas Available?	No			

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

Registration Number: 205-P010226800B-000-300-0000000-0000
CA Building Energy Efficiency Standards - 2319 Residential Compliance

Registration Date/Time: 2020-12-08 13:57:28
Report Version: 2019.1.300
Schema Version: rev 20200901

HERS Provider: CalCERTS Inc.
Report Generated: 2020-12-08 13:30:26

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 2 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

ENERGY DESIGN RATING

	Energy Design Ratings			
	Efficiency[1] (EDR)	Total[2] (EDR)	Efficiency[1] (EDR)	Total[2] (EDR)
Standard Designs	51.5	32.4		
Proposed Designs				
North Facing	50.3	31.2	1.2	1.2
East Facing	50.5	31.4	1	1
South Facing	50.4	31.3	1.1	1.1
West Facing	50.3	31.3	1.2	1.1

RESULT: [3] COMPLIES

[1] Efficiency EDR includes improvements to the building envelope and more efficient equipment
[2] Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries
[3] Building complies when efficiency and total compliance margins are greater than or equal to zero

- Standard Design PV Capacity: 1.93 kWdc
- Proposed PV Capacity Scaling: North (1.93 kWdc) East (1.93 kWdc) South (1.93 kWdc) West (1.93 kWdc)

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 3 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

ENERGY USE SUMMARY

Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	28.6	27.27	1.33	4.7
Space Cooling	10.75	11.85	-1.1	-10.2
IAQ Ventilation	3.53	3.53	0	0
Water Heating	60.06	54.29	5.77	9.6
Self Utilization Credit	n/a	0	0	n/a
North Facing Compliance Total	**102.94**	**96.94**	**6**	**5.8**
Space Heating	28.6	27.73	0.87	3
Space Cooling	10.75	12.37	-1.62	-15.1
IAQ Ventilation	3.53	3.53	0	0
Water Heating	60.06	54.29	5.77	9.6
Self Utilization Credit	n/a	0	0	n/a
East Facing Compliance Total	**102.94**	**97.92**	**5.02**	**4.9**
Space Heating	28.6	28.29	0.31	1.1
Space Cooling	10.75	11.37	-0.62	-5.8
IAQ Ventilation	3.53	3.53	0	0
Water Heating	60.06	54.29	5.77	9.6
Self Utilization Credit	n/a	0	0	n/a
South Facing Compliance Total	**102.94**	**97.48**	**5.46**	**5.3**
Space Heating	28.6	27.85	0.75	2.6
Space Cooling	10.75	11.81	-1.06	-9.9
IAQ Ventilation	3.53	3.53	0	0
Water Heating	60.06	54.29	5.77	9.6
Self Utilization Credit	n/a	0	0	n/a
West Facing Compliance Total	**102.94**	**97.48**	**5.46**	**5.3**

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 4 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

REQUIRED PV SYSTEMS - SIMPLIFIED

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

- Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)

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.

Building-level Verifications:
- Indoor air quality ventilation

Cooling System Verifications:
- Verified EER
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)

Heating System Verifications:
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones g water than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

HVAC Distribution System Verifications:
- -- None --

Domestic Hot Water System Verifications:
- -- None --

BUILDING - FEATURES INFORMATION

01 Project Name	02 Conditioned Floor Area (ft²)	03 Number of Dwelling Units	04 Number of Bedrooms	05 Number of Zones	06 Number of Ventilation Cooling Systems	07 Number of Water Heating Systems
20378 Generic Two Bedroom	780	1	2	1	0	1

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 5 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

ZONE INFORMATION

01 Zone Name	02 Zone Type	03 HVAC System Name	04 Zone Floor Area (ft²)	05 Avg. Ceiling Height	06 Water Heating System 1	07 Water Heating System 2
2 Bdrm Residence	Conditioned	Heat Pump1	780	8	DHW Sys 1	N/A

OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft²)	07 Window and Door Area (ft2)	08 Tilt (deg)
Front	2 Bdrm Residence	R-21 Wall	0	Front	208	40	90
Left	2 Bdrm Residence	R-21 Wall	90	Left	168	66	90
Back	2 Bdrm Residence	R-21 Wall	180	Back	208	49	90
Right	2 Bdrm Residence	R-21 Wall	270	Right	240	41	90
Interior Left	2 Bdrm Residence	Interior R-21 Wall	n/a	n/a	72	0	n/a
Roof w/Attic	2 Bdrm Residence	R-33 Roof Attic	n/a	n/a	780	n/a	n/a
Roof	__Garage__	R-0 Utility Roof Attic	n/a	n/a	32	n/a	n/a
Front 2	__Garage__	R-0 Utility Wall	0	Front	28	0	90
Left 2	__Garage__	R-0 Utility Wall	90	Left	72	0	90
Back 2	__Garage__	R-0 Utility Wall	180	Back	28	0	90

ATTIC

01 Name	02 Construction	03 Type	04 Roof Rise (x in 12)	05 Roof Reflectance	06 Roof Emittance	07 Radiant Barrier	08 Cool Roof
Attic __Garage__	Attic Garage Roof Cons	Ventilated	0	0.1	0.85	No	No
Attic 2 Bdrm Residence	Attic RoofZ Bdrm Residence	Ventilated	4	0.1	0.85	No	No

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CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 6 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

FENESTRATION / GLAZING

01 Name	02 Type	03 Surface	04 Orientation	05 Azimuth	06 Width (ft)	07 Height (ft)	08 Mult.	09 Area (ft²)	10 U-factor	11 U-factor Source	12 SHGC	13 SHGC Source	14 Exterior Shading
5040	Window	Front	Front	0			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
5040 2	Window	Front	Front	0			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
5040 3	Window	Left	Left	90			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
2030	Window	Left	Left	90			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
3030	Window	Back	Back	180			1	9	0.3	NFRC	0.23	NFRC	Bug Screen
5060 4	Window	Back	Back	180			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
3068 Glass Door	Window	Back	Back	180			1	20	0.3	NFRC	0.35	NFRC	Bug Screen
5040 5	Window	Right	Right	270			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
3120	Window	Right	Right	270			1	7	0.3	NFRC	0.23	NFRC	Bug Screen
3620 2	Window	Right	Right	270			1	7	0.3	NFRC	0.23	NFRC	Bug Screen
3620 3	Window	Right	Right	270			1	7	0.3	NFRC	0.23	NFRC	Bug Screen

OPAQUE DOORS

01 Name	02 Side of Building	03 Area (ft²)	04 U-factor
Door	Left	40	0.5

SLAB FLOORS

01 Name	02 Zone	03 Area (ft²)	04 Perimeter (ft)	05 Edge Insul. R-value and Depth	06 Edge Insul. R-value and Depth	07 Carpeted Fraction	08 Heated
Slab-on-Grade	2 Bdrm Residence	811	112	none	0	80%	No
Slab-on-Grade 2	__Garage__	32	16	none	0	0%	No

CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 7 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Interior / Exterior Continuous R-value	07 U-factor	08 Assembly Layers
R-0 Utility Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.361	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Exterior Finish: 3 Coat Stucco
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: 3 Coat Stucco
Interior R-21 Wall	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.064	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Other Side Finish: Gypsum Board
Attic Garage Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
Attic RoofZ Bdrm Residence	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-0 Utility Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.481	Cavity / Frame: no insul. / 2x4 Inside Finish: Gypsum Board
R-38 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

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CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 8 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

01 Name	02 System Type	03 Distribution Type	01 Water Heater Name (#)	05 Solar Heating System	06 Compact Distribution	07 HERS Verification
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a

WATER HEATERS

01 Name	02 Heating Element Type	03 Tank Type	04 # of Units	05 Tank Vol. (gal)	06 Energy Factor or Efficiency	07 Input Rating or Fllot	08 Tank Insulation R-value (incl/Ext)	09 Standby Loss or Recovery Eff	10 1st Hr Rating or Flow Rate	11 NEEA Heat Pump Brand or Model	12 Tank Location or Ambient Condition
DHW Heater 1	Propane	Consumer Instantaneous	1	0	0.92-UEF	200,000-Btu/Hr	0	n/a	n/a	n/a	n/a

WATER HEATING - HERS VERIFICATION

01 Name	02 Pipe Insulation	03 Parallel Piping	04 Compact Distribution	05 Compact Distribution Type	06 Recirculation Control	07 Central DHW Distribution	08 Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

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CERTIFICATE OF COMPLIANCE — CF1R-PRF-01E
Project Name: 20378 Generic Two Bedroom — **Calculation Date/Time:** 2020-12-08T13:27:26-08:00 — (Page 9 of 11)
Calculation Description: Title 24 Analysis — **Input File Name:** 20378 Generic 2 Bedroom.ribd19x

SPACE CONDITIONING SYSTEMS

01 Name	02 System Type	03 Heating Unit Name	04 Cooling Unit Name	05 Fan Name	06 Distribution Name	07 Required Thermostat Type	08 Status	09 Verified Existing Condition	10 Heating Equipment Count	11 Cooling Equipment Count
Heat Pump1	Heat pump heating cooling	Heat Pump System 1	Heat Pump System 1	n/a	n/a	Setback	New	NA	1	1

01	02	03	04	05	06	07	08	09	10	11

HVAC - HEAT PUMPS

Name	System Type	Number of Units	Heating HSPF/COP	Heating Cap 47	Heating Cap 17	Cooling SEER	Cooling EER/CEER	Zonally Controllec	Compressor Type	HERS Verification
Heat Pump System 1	VCHP-ductless	1	9.2	24000	n/a	14	12.2	Not Zonal	Single Speed	Heat Pump System 1-hers-hpump

HVAC HEAT PUMPS - HERS VERIFICATION

01 Name	02 Verified Airflow	03 Airflow Target	04 Verified EER	05 Verified SEER	06 Verified Refrigerant Charge	07 Verified HSPF	08 Verified Heating Cap 47	09 Verified Heating Cap 17
Heat Pump System 1-hers-hpump	Not Required	0	Required	Not Required	Yes	No	Yes	Yes

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION

01 Name	02 Certified Low-Static VCHP System	03 Airflow to Habitable Rooms	04 Ductless Units in Conditioned Space	05 Wall Mount Thermostat	06 Air Filter Sizing ∓ Pressure Drop Rating	07 Low Leakage Ducts in Conditioned Space	08 Minimum Airflow per RA3.2 and SC3.3.3.4.1	09 Certified non-continuous Fan	10 Indoor Fan not Running Continuously
Heat Pump System 1	Not required	Required	Required	Required	Not required	Not required	Not required	Not required	Not required

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PROPOSED TWO BEDROOM
TITLE 24 BUILDING ENERGY REPORT
ADDRESS
OWNER
APN
PH.

T24.1

CERTIFICATE OF COMPLIANCE

Project Name: 20378 Generic Two Bedroom

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2020-12-08T13:27:26-08:00

Input File Name: 20378 Generic 2 Bedroom.ribd19x

CF1R-PRF-01E (Page 10 of 11)

IAQ (INDOOR AIR QUALITY) FANS					
01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness (%)	IAQ Recovery Effectiveness - SREIAQ Recovery Effectiveness - SRE
SFam IAQVentRpt	45	0.25	Default	0	n/a

CERTIFICATE OF COMPLIANCE

Project Name: 20378 Generic Two Bedroom

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2020-12-08T13:27:26-08:00

Input File Name: 20378 Generic 2 Bedroom.ribd19x

CF1R-PRF-01E (Page 11 of 11)

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Anne McQueeney	Documentation Author Signature: Anne McQueeney
Company: ABBAY TECHNICAL SERVICES	Signature Date: 2020-12-08 13:57:28
Address: 1125 16th Street, Ste 216	CEA/ HERS Certification Identification (If applicable): R16-01-20010
City/State/Zip: Arcata, CA 95521	Phone: 707-826-1433

CABEC CERTIFIED ENERGY ANALYST

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: Anne McQueeney	Responsible Designer Signature: Anne McQueeney
Company: ABBAY TECHNICAL SERVICES	Date Signed: 2020-12-08 13:57:28
Address: 1125 16th Street, Ste 216	License: R16-01-20010
City/State/Zip: Arcata, CA 95521	Phone: 707-826-1433

CABEC CERTIFIED ENERGY ANALYST

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

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RESIDENTIAL MEASURES SUMMARY — RMS-1

Project Name: Proposed 2 Bedroom | Building Type: ☑ Single Family ☐ Addition Alone ☐ Multi Family ☐ Existing+ Addition/Alteration | Date: 12/8/2020

Project Address: Climate Zone 2 Humboldt County | California Energy Climate Zone: CA Climate Zone 02 | Total Cond. Floor Area: 780 | Addition: n/a | # of Units: 1

INSULATION Construction	Type	Cavity	Area (ft²)	Special Features	Status
Roof	Wood Framed Attic	R 38	780		New
Wall	Wood Framed	R 21	628		New
Door	Opaque Door	- no insulation	40		New
Slab	Unheated Slab-on-Grade	- no insulation	811	Perim = 112'	New
Demising	Wood Framed	R 21	72		New

FENESTRATION — Total Area: 156 Glazing Percentage: 20.0% New/Altered Average U-Factor: 0.30

Orientation	Area(ft²)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades	Status
Front (S)	40.0	0.300	0.23	none	none	N/A	New
Left (W)	26.0	0.300	0.23	none	none	N/A	New
Rear (N)	29.0	0.300	0.23	none	none	N/A	New
Rear (N)	20.0	0.300	0.35	none	none	N/A	New
Right (E)	41.0	0.300	0.23	none	none	N/A	New

HVAC SYSTEMS Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status
1	Split Heat Pump	8.20 HSPF	Split Heat Pump	14.0 SEER	Setback	New

HVAC DISTRIBUTION Location	Heating	Cooling	Duct Location	Duct R-Value	Status
Heat Pump	Ductless / No Fan	Ductless	n/a	n/a	New

WATER HEATING Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Small Instantaneous Gas	0	0.92	Standard	New

2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. *Exceptions may apply. (01/2020)

Building Envelope Measures:	
§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.*
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Ceiling and Rafter Roof Insulation.** Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. 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 continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 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, Water Heating, and Plumbing System Measures:	
§ 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-K.*
§ 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)4:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 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.
§ 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.

2019 Low-Rise Residential Mandatory Measures Summary

§ 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:	**Storage Tank Insulation.** Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.*
§ 150.0(j)3:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 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 include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(n)2:	**Recirculating Loops.** Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 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.
Ducts and Fans Measures:	
§ 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 the requirements of the CMC §§ 601.0, 602.0, 603.0, 604.0, 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 a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. 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 requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, 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 cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.*
§ 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, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner core flex ducts must have a non-porous layer 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 § 150.0(m)11 and Reference Residential Appendix RA3.
§ 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. Pressure drops and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service.*
§ 150.0(m)13	**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.*

2019 Low-Rise Residential Mandatory Measures Summary

Requirements for 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)1C:	**Single Family Detached Dwelling Units.** 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 provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
§ 150.0(o)1E:	**Multifamily Attached Dwelling Units.** Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(o)1F:	**Multifamily Building Central Ventilation Systems.** Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(o)1G:	**Kitchen Range Hoods.** Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; 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 Measures:	
§ 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.
§ 150.0(k)1B:	**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 must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	**Electronic Ballasts for Fluorescent Lamps.** Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	**Night Lights, Step Lights, and Path Lights.** Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 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).*
§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)2C:	**Interior Switches and Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)2D:	**Interior Switches and Controls.** Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	**Interior Switches and Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	**Interior Switches and Controls.** Lighting controls must comply with the applicable requirements of § 110.9.

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)2G:	**Interior Switches and Controls.** An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	**Interior Switches and Controls.** A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	**Interior Switches and Controls.** In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	**Interior Switches and Controls.** Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(k)2K:	**Interior Switches and Controls.** Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either § 150.0(k)3Aii (photocell and either a motion sensor or automatic time switch control) or § 150.0(k)3Aiii (astronomical time clock), or an EMCS.
§ 150.0(k)3B:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	**Residential Outdoor Lighting.** For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 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 Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	**Interior Common Areas of Low-rise Multifamily Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	**Interior Common Areas of Low-rise Multifamily Residential Buildings.** In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§ 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) through § 110.10(e).
§ 110.10(a)2:	**Low-rise Multifamily Buildings.** Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	**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. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.*
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees 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 distance, measured in the horizontal plane, 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.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

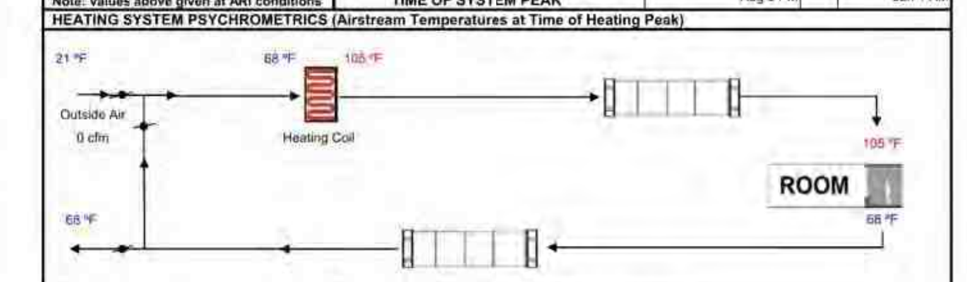
HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: Proposed 2 Bedroom — Date: 12/8/2020

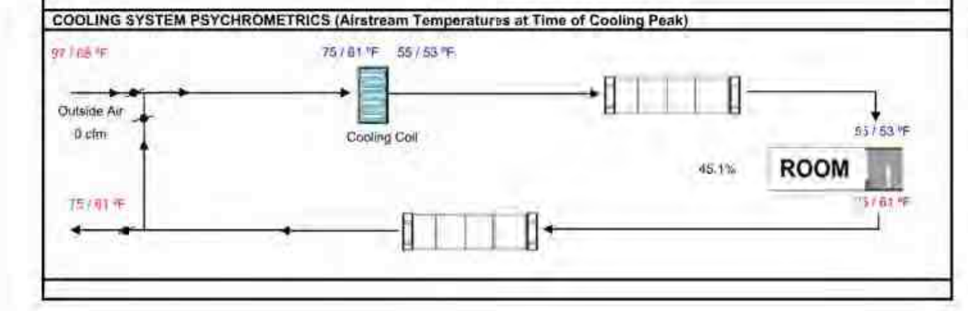
System Name: Heat Pump — Floor Area: 780

ENGINEERING CHECKS		SYSTEM LOAD	COIL COOLING PEAK CFM	Sensible	Latent	COIL HTG. PEAK CFM	Sensible
Number of Systems	1						
Heating System							
Output per System	24,000	Total Room Loads	366	7,794	245	295	11,624
Total Output (Btuh)	24,000	Return Vented Lighting		0			
Output (Btuh/sqft)	30.8	Return Air Ducts		0			0
Cooling System		Return Fan		0			0
Output per System	24,000	Ventilation	0	0	0	0	0
Total Output (Btuh)	24,000	Supply Fan		0			0
Total Output (Tons)	2.0	Supply Air Ducts		0			0
Total Output (Btuh/sqft)	30.8						
Total Output (sqft/Ton)	390.0	TOTAL SYSTEM LOAD		7,794	245		11,624
Air System							
CFM per System	0	HVAC EQUIPMENT SELECTION					
Airflow (cfm)	0	Minisplit or Eq		21,279	368		12,986
Airflow (cfm/sqft)	0.00						
Airflow (cfm/Ton)	0.0						
Outside Air (%)	0.0%	Total Adjusted System Output (Adjusted for Peak Design conditions)		21,279	368		12,986
Outside Air (cfm/sqft)	0.00						
Note: values above given at ARI conditions		TIME OF SYSTEM PEAK			Aug 3 PM		Jan 1 AM

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



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



2019 *CAL*Green

RESIDENTIAL MANDATORY MEASURES CHECKLIST (Effective Jan 1, 2020)

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet[1]:
ADMINISTRATION			
101.3.1	Application	Applies to all newly constructed residential buildings: low rise, high rise, and hotels/motels.	
GREEN BUILDING (Scope)			
301.1.1	Additions and Alterations	• Applies to additions or alterations of residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. • Requirements only apply within the specific area of the addition or alteration.	
PLANNING AND DESIGN (Site Development)			
4.106.2	Storm Water Drainage and Retention During Construction	A plan is developed and implemented to manage storm water drainage during construction.	
4.106.3	Grading and Paving	Construction plans shall indicate how site grading or drainage system will manage all surface water flows to keep water from entering buildings.	
4.106.4	Electric Vehicle (EV) Charging for New Construction	Provide capability for electric vehicle charging in one- and two-family dwellings; townhouses with attached private garages; multifamily dwellings; and hotels/motels in accordance with Sections 4.106.4.1, 4.106.4.2, and 4.106.4.3, as applicable.	
ENERGY EFFICIENCY			
4.201.1	General	Building meets or exceeds the requirements of the 2019 California Building Energy Efficiency Standards.	
WATER EFFICIENCY AND CONSERVATION (Indoor Water Use)			
4.303.1	Water Conserving Plumbing Fixtures and Fittings	Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed in residential buildings shall comply with requirements of Sections 4.303.1.1 through 4.303.1.4.4: (see table below)	
4.303.2	Standards for Plumbing Fixtures and Fittings	Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the 2019 California Plumbing Code, and shall meet the applicable referenced standards.	
WATER EFFICIENCY AND CONSERVATION (Outdoor Water Use)			
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 more stringent.	
MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Enhanced Durability & Reduced Maintenance)			
4.406.1	Rodent proofing	Annular spaces around pipes, electric cables, conduits, or other openings in 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 agency.	
MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Construction Waste Reduction, Disposal & Recycling)			
4.408.1	Construction Waste Management	Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with one of the following: 1. Comply with a more stringent local construction and demolition waste management ordinance; or 2. A construction waste management plan, per Section 4.408.2; or 3. A waste management company, per Section 4.408.3; or 4. The waste stream reduction alternative, per Section 4.408.4.	
MATERIAL CONSERVATION & RESOURCE EFFICIENCY (Building Maintenance & Operation)			
4.410.1	Operation and Maintenance Manual	An operation and maintenance manual shall be provided to the building occupant or owner.	

Plumbing fixtures & fittings	Maximum flow rate
Water closets	1.28 gallons/flush
Showerheads	1.8 gpm @ 80 psi
Kitchen faucets	1.8 gpm @ 60 psi
Residential lavatory faucets	1.2 gpm @ 60 psi max. and 0.8 gpm @ 20 psi min.
Lavatory faucets in common & public use areas	0.5 gpm @ 60 psi
Metering faucets	0.20 gallons/cycle
Urinals	0.125 gallons/flush for wall-mounted type and 0.5 gallons/flush for floor-mounted type or other type

RESIDENTIAL MANDATORY MEASURES, effective Jan 1, 2020 *(continued)*

SECTION	MEASURES	REQUIREMENTS	Measures provided on plan sheet[1]:
4.410.2	Recycling by Occupants	Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve all buildings on the site and is identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. See exception for rural jurisdictions.	
ENVIRONMENTAL QUALITY (Fireplaces)			
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, pellet stoves and fireplaces shall also comply with all applicable local ordinances.	
ENVIRONMENTAL QUALITY (Pollutant Control)			
4.504.1	Covering of Duct Openings & Protection of Mech Equipment During Construction	Duct openings and other related air distribution component openings shall be covered during construction.	
4.504.2.1	Adhesives, Sealants and Caulks	Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	
4.504.2.2	Paints and Coatings	Paints, stains and other coatings shall be compliant with VOC limits.	
4.504.2.3	Aerosol Paints and Coatings	Aerosol paints and coatings shall be compliant with product weighted MIR limits for ROC and other toxic compounds.	
4.504.2.4	Verification	Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	
4.504.3	Carpet Systems	Carpet and carpet systems shall be compliant with VOC limits.	
4.504.4	Resilient Flooring Systems	80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.	
4.504.5	Composite Wood Products	Particleboard, medium density fiberboard (MDF) and hardwood plywood used in the interior finish systems shall comply with low formaldehyde emission standards.	
ENVIRONMENTAL QUALITY (Interior Moisture Control)			
4.505.2	Concrete Slab Foundations	Vapor retarder and capillary break is installed at slab-on-grade foundations.	
4.505.3	Moisture Content of Building Materials	Moisture content of building materials used in wall and floor framing is checked before enclosure.	
ENVIRONMENTAL QUALITY (Indoor Air Quality & Exhaust)			
4.506.1	Bathroom Exhaust Fans	Each bathroom shall be provided with the following: 1. ENERGY STAR fans ducted to terminate outside the building. 2. Fans must be controlled by a humidity control (separate or built-in); OR functioning as a component of a whole-house ventilation system. 3. Humidity controls shall with manual or automatic means of adjustment, capable of adjustment between a relative humidity range of less than 50% to a maximum of 80%. Note: For the purposes of this section a bathroom is a room which contains a bathtub, shower, or tub/shower combination. Fans are required in each bathroom.	
ENVIRONMENTAL QUALITY (Environmental Comfort)			
4.507.2	Heating and Air Conditioning System Design	Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2016 (Residential Load Calculation), or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D- 2016 (Residential Duct Systems), or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014 (Residential Equipment Selection) or equivalent.	
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS (Qualifications, Verifications)			
702.1	Installer Training	HVAC system installers are trained and certified in the proper installation of HVAC systems.	
702.2	Special Inspection	Special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are inspecting.	
703.1	Documentation	Verification of compliance with this code may include construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.	

Footnotes:
[1] Indicate N/A if not applicable.

Note: This check list is intended only as an aid to the user and may not contain complete code language. Refer to 2019 CALGreen Chapter 4 for complete code language.

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PROPOSED TWO BEDROOM

ADDRESS

APN

TITLE 24 BUILDING ENERGY REPORT

OWNER

PH.

T24.2