

ADU

A.F.F.

B.O.F.

B.O.W.

DEMO

D.S.

DIA.

DIM.

DN.

DP:

EXC:

EXT.

F.A.U

F.D.

F.F.L

GALV

GYP.

H.W.

INSUL

INT.

LFT.

LTG.

H.V.A.C.

FINISH

LEVEL

FINISHED FLOOR

GALVANIZED

CONTRACTOR

GROUND FAULT

GROUND FAULT

INTERRUPT

GLAZED TILE

HOT WATER

INSULATION

LINEAR FEET

INTERIOR

LIGHTING

GYPSUM

INCH

JOIST

CIRCUIT INTERRUPT

HEATING, VENTING

AND AIR CONDITIONING V.B.

GENERAL

GENERAL NOTES

BATHROOM

ROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR FIXTURES SHALL BE PROVIDED WITH AN EXHAUST FAN WITH A MINIMUM CAPACITY OF 50 CFM. DUCTLESS FANS ARE UNACCEPTABLE. CLEARANCE FOR WATER CLOSET TO BE A MINIMUM OF 24-INCHES IN FRONT, AND 15-INCHES FROM ITS CENTER TO ANY SIDE WALL OR OBSTRUCTION. CPC 402.5

WALL COVERING OF SHOWERS OR TUBS WITH SHOWERS SHALL BE OF SMOOTH, NONABSORBENT SURFACE EXTENDED TO A HEIGHT NOT LESS THAN 6 FEET ABOVE THE FLOOR CRC R307.2, CBC

THE NET AREA OF THE SHOWER ENCLOSURE SHALL BE 1,024 SQ. INCHES (7.1 SQ. FEET) OR MORE IN CLEAR FLOOR AREA, AND SHALL ALSO BE CAPABLE OF ENCOMPASSING A 30-INCH DIAMETER CIRCLE.

CPC 408.6 KITCHEN SHALL HAVE A CLEAR PASSAGEWAY OF NOT LESS THAN 3 FT. CBC 1208.1 PROVIDE LOCAL EXHAUST SYSTEM VENTED TO OUTDOORS WITH RATE = 100 CFM. CEC 150(o),

FAUCETS AT KITCHENS SHALL NOT EXCEED A WATER SUPPLY FLOW RATED OF 1.8 GALLONS PER MINUTE MEASURED AT 60 PSI. CDC 403.6 SAFETY GLAZING SHALL BE PROVIDED AT THE FOLLOWING HAZARDOUS LOCATIONS CRC R308.4 (CBC

. WHEN LOCATED WITHIN 60-INCHES OF THE FLOOR SURFACE IN TUBS, SHOWERS, SAUNAS, OR STEAM ROOMS WHEN LOCATED WITHIN 60-INCHES OF THE FLOOR SURFACE IN TUBS, SHOWERS,

SAUNAS, OR STEAM ROOMS. WHERE GLAZING AREA IS MORE THAN 9 SQ. FT. IN AREA, WITH THE BOTTOM EDGE LESS THAN 18-INCHES ABOVE THE FLOOR AND TOP EDGE MORE THAN 36-INCHES ABOVE FLOOR.

ELECTRICAL ALL RECEPTACLE OUTLETS IN BATHROOMS, ABOVE KITCHEN COUNTERTOP, CRAWL SPACES. GARAGE, ROOFTOPS, OUTDOOR OUTLETS, WITHIN 6-FEET OF WET BAR SINK/LAUNDRY SINK TO BE

PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTER (GFCI). CEC 210.8. ALL RECEPTACLE OUTLETS ARE REQUIRED TO BE LISTED TAMPER RESISTANT. (CEC 406.12 AND

COMBINATION TYPE AFCI CIRCUIT BREAKERS ARE REQUIRED FOR ALL 120 VOLT SINGLE PHASE 15/20 AMP BRANCH CIRCUITS. EXCEPT FOR BATHROOMS, KITCHENS, GARAGES, OUTDOORS, AND LAUNDRY ROOMS. (CEC 210.12(B))

AT A MINIMUM, ONE DEDICATED 20 AMP CIRCUIT IS REQUIRED FOR A BATHROOM. (CEC 210.11(C)(2)) A GFCI PROTECTED RECEPTACLE IS REQUIRED WITHIN 3 FEET OF THE EDGE OF EACH BASIN IN A BATHROOM. (CEC 210.52(D))

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 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 NON-CABLE CIRCUITS IN PANEL (CEC 210.4(D)) THE KITCHEN COUNTER TOP RECEPTACLES MUST HAVE A MIN. OF 2 DEDICATED 20 AMP CIRCUITS.

THE RECEPTACLES IN THE DINING AREA, PANTRY, OR BREAKFAST NOOK MUST BE SUPPLIED BY DEDICATED 20 AMP CIRCUITS. (CEC 210.52(B))

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) KITCHEN COUNTERTOP RECEPTACLES SHALL BE READILY ACCESSIBLE, AND LOCATED NO MORE

THAN 20 INCHES ON OR ABOVE, OR MORE THAN 12 INCHES BELOW THE COUNTERTOP SURFACE. THE SPACING FOR GENERAL RECEPTACLE OUTLETS MUST BE LOCATED SO THAT NO POINT ON ANY

WALL OR FIXED GLASS IS OVER 6 FEET FROM A RECEPTACLE OUTLET. (CEC 210.52(A))

HALLWAY 10 FEET OR MORE MUST HAVE AT LEAST ONE RECEPTACLE OUTLET. (CEC 210.52(H)) LAUNDRY ROOMS MUST HAVE AT LEAST ONE DEDICATED 20 AMP RECEPTACLE CIRCUIT. (CEC 210.11 (C) (2))

CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO STARTING WORK, AND SHALL NOTIFY THE DESIGNER OF DISCREPANCIES OR INCONSISTENCIES. THE STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT REPRESENT THE

AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, CONSTRUCTION LOADS OF MATERIALS. ETC. THE CONTRACTOR, AT NO EXPENSE TO THE OWNER, SHALL RETAIN QUALIFIED PROFESSIONALS TO DETERMINE FIELD LAYOUT OF THE BUILDING ELEMENTS, AND THE ADEQUACY OF ALL PROPOSED BRACING OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE OBSERVATION OF SAFETY

METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT THE

STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT LIMITED TO, BRACING

METHODS, BRACING OR SUPPORT. PLAN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND STANDARD CLARIFICATION SHALL BE REQUESTED FROM THE ENGINEER FOR ALL WORK INDICATED ON THE PLANS THAT IS NOT SPECIFICALLY DETAILED, AND IS NOT SIMILAR TO WORK THAT IS DETAILED.

SEE EXISTING AND / OR OTHER PLANS FOR SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, SIZE AND LOCATION OF ALL NON-BEARING PARTITIONS, SIZE AND LOCATION OF ALL CURBS, DRAINS, DEPRESSED AREAS, SLOPES AND ELEVATION CHANGES, CHAMFERS, GROOVES, INSERTS, ALL FINISHES, AND SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS. SEE OTHER PLANS FOR ALL WATERPROOFING REQUIREMENTS. THE ENGINEER IS NOT RESPONSIBLE FOR

WATERPROOFING DETAILS AND SPECIFICATIONS. MECHANICAL, PLUMBING, AND ELECTRICAL REPAIRS SHALL BE UNDER SEPARATE PERMIT AND SHALL BE PERFORMED BY A LICENSED CONTRACTOR LICENSED IN THE APPROPRIATE FIELD. MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. LOADS SHALL NOT EXCEED

DESIGN LOADING FOR SUPPORTING MEMBERS. UNLESS APPROVED BY THE LOCAL C.B.O. OR BUILDING DEPARTMENT (PER CPC SECTION 301.2.5.) PEX IS NOT AN APPROVED BUILDING MATERIAL.

DIMENSION NOTES

ALL DIMENSIONS ARE TO FACE OF STRUCTURE (F.O.S.) UNLESS NOTED OTHERWISE DO NOT SCALE FROM DRAWINGS

ANY INCONSISTENCIES OR UNFORESEEN CONDITIONS TO BE REVIEWED BY THE ARCHITECT PRIOR TO

PROCEEDING WITH CONSTRUCTION. ALL DOORS AND WINDOWS DIMENSIONED TO CENTERLINE OF CLEAR OPENING UNLESS NOTED OTHERWISE. ALL NON-DIMENSIONED DOORS SHALL BE OFFSET FROM THE HINGE-SIDE WALL TO ALLOW FOR (2) 2X4 STUDS

AT THE JAMB. (U.N.O.) ALL NON-DIMENSIONED WINDOWS TO BE FLUSH TO ADJOINING WALL OR CENTER IN TO ROOM UNLESS NOTED OTHERWISE. ALL CASEWORK DIMENSIONS TO FACE OF FINISH.

CALIFORNIA RESIDENTIAL CODE NOTES

2019 CALIFORNIA ENERGY STANDARDS CODE (CESC)

EXTERIOR DOORS MUST OPEN OVER A LANDING NOT MORE THAN 1/2" BELOW THE THRESHOLD. EXCEPTION: PROVIDING THE DOOR DOES NOT SWING OVER THE LANDING THE LANDING SHALL NOT BE MORE THAN 7-3/4" BELOW THE THRESHOLD.

LANDINGS AT DOORS SHALL HAVE A LENGTH MEASURED IN DIRECTION OF TRAVEL OF NOT LESS THAN 36 . INCHES. TYP. CRC R311.3 STORAGE/CLOSET UNDER STAIR, PROVIDE ONE LAYER OF 5/8 TYPE "X" GYP. BD. AT WALL AND UNDERSIDE OF

STAIR TO ACHIEVE 1HR OF FIRE PROTECTION GARAGE, PROVIDE 1 LAYER OF 5/8 TYPE "X" GYP. BD. AT GARAGE WALLS, CEILINGS, AND SUPPORTING

STRUCTURAL MEMBERS SEPARATING THE GARAGE AND LIVING AREAS TO ACHIEVE 1HR OF FIRE PROTECTION

2019 CALIFORNIA RESIDENTIAL CODE (CRC) 2019 CALIFORNIA PLUMBING CODE (CPC) 2019 CALIFORNIA ELECTRICAL CODE (CEC); 2019 CALIFORNIA MECHANICAL CODE (CMC) 2019 PLUMBING CODE (CPC);

ABBRIVIATIONS

AIR CONDITIONER L.V.L. LAMINATED VENEER ABOVE FINISHED LUMBER **FLOOR** MASONRY ABOVE FINISHED MTL. METAL GRADE MIN. MINIMUM BOTTOM BOTTOM OF FOOTING N.T.S. NOT TO SCALE **BOTTOM OF WALL** O.C. ON CENTER CENTER TO CENTER O.D. OUTSIDE DIAMETER OPNG. OPENING OR ROUGH **CLOSET** CEILING **OPENING** CONCRETE MASONRY PCC PORTLAND CEMENT UNIT CONCRETE **DEMOLISH** PLASTER DOWNSPOUT P.L. PROPERTY LINE DIAMETER PLYWD. PLYWOOD DIMENSION PAINTED DOWN REINFORCED DAMP PROOFING CONCRETE **EXISTING ROOF DRAIN** EXHAUST FAN R.D.L. ROOF DRAIN LEADER **EXCAVATE** R.O. ROUGH OPENING EXTERIOR R.O.W. RIGHT OF WAY FORCED AIR UNIT REINF. REINFORCED FLOOR DRAIN SAN.

S.D.

SECT.

·SHT. -

SHT'G.

SQ.FT

SQ. IN.

STD.

STL.

S.Y.

T&B:

T.O.

UNO

W.C.

WD.

WDW.

W.I.C.

WS:

OR

W/O:

CLOSET)

SANITARY SMOKE DETECTOR SECTION SHEET SHEATHING SQUARE FEET SQUARE INCHES STANDARD STEEL SQUARE YARD TOP AND BOTTOM TOP OF UNLESS NOTED OTHERWISE VAPOR BARRIER **TOILET (WATER**

WOOD WINDOW WALK-IN CLOSET WEATHERPROOF WEATHER-STRIPPING **WATER STOP** WITHOUT

KELLY NELSON

OWNER 9306 Hot Springs Rd Corona, CA 92883, USA

000.000.0000

EVERETT SMITH DESIGNS

(951) 323 2187

J.A. RUSSO ENTERPRISES INC.

CONTRACTOR P.O. Box 77816, Corona, CA 92877

949-735-3016

PROJECT INFO

CLIENT INFO

ADDRESS (HOUSE)

NELSON KELLY/ NELSON GLEN 9306 Hot Springs Rd, Corona, CA 92883-7610

PREPARED BY:

RIVERSIDE COUNTY, CA TEL:951-323-2187

Email: everett@everettsmithdesigns.com

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Tel: (213)-400-8078

MOKSUD.RAHMAN@GMAIL.COM

C69263

Exp. 06/30/24

8

PROJECT:

ENGINEER OF RECORD:

SITE INFO

OCCUPANCY GROUP: R3/ U TYPE OF CONSTRUCTION: V-B NO

TOTAL BUILDINGS ON SITE

SPRINKLERS: PARCEL# (APN) LEGAL DESCRIPTION

> MAIN HOUSE 1,227 SF SITE FEATURES SWIMMING POOL NONE

ADU INFO

TYPE OF CONSTRUCTION SQUARE FOOTAGE GARAGE

SOLAR: DEFERRED SUBMITTAL

SCOPE OF WORK

V-B

1000 SF

511 SF

SCOPE OF WORK IS A PROPOSED ADU ON THE SAME LOT AS AN (E) S.F.R.. THE ADU WILL HAVE A 2-CAR GARAGE.

NOTE: ALL PROJECT INFORMATION IS TAKEN FROM COUNTY RECORDS AND HAS NOT BEEN VERIFIED FOR ACCURACY AND IS AN APPROXIMATE.

PROJECT NOTES:

SHEET

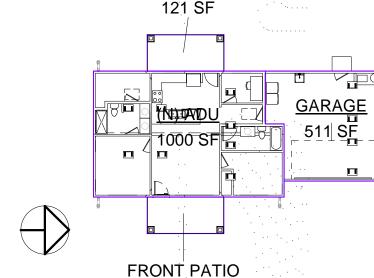
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PROJECT SHALL COMPLY WITH NPDES, SUSMP, AND BMP REQUIREMENTS.

"CONTACT DIG ALERT

SQUARE FOOTAGE BREAKDOWN REAR PATIO



County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502

APPROVED

12/08/2022 4:22:06 PM

Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of all of these plans must be kept on the job until completion.

SQFT BREAKDOWN Area Name REAR PATIO 121 SF GARAGE 511 SF FRONT PATIO 121 SF 1000 SF (N) ADU 1753 SF

VICINITY MAP

121 SF



NICOTU		
<u>NORTH</u>	A1	Site Plan
	A2	ADU Floor Plan
	A3	ADU Roof Plan
Palm Camon Or	A3.1	Roof Info
Palm Canyon Dr Palm	A4	Elevations
Palm Canyon Dr Palm Cany	A5	Sections
ion VI	A6	ADU Electrical
Palm Canyon Dr Palm Canyon	A-D1	Architectural Details
Palin Canyon Dr Palini	A-GRN-1	General Notes
Hot Spring	A-GRN-2	General Notes
n Rd	A-T24-1	Title-24
Ganda Hot Sprins	A-T24-2	Mandatory Measures
Gandon Antigor Hot Springs Rd Hot Springs	GN	General Notes
	S1	Foundation Plan
	S2	Framing Plan
Clay Convention Canyon P. To Canyon P. To Canyon P. To Canyon P. Convention P. Convent	SD1	Sturctural Details
Clar Certification Canadan Anna Anna Anna Anna Anna Anna Ann	SD2	Structural Details
Or Clay Conyon R Stone Canyon R	SD3	Structural Details
Garyon Rd Stone Canyon Rd		

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<u> </u>	SHEET INDEX		3	SHEET INDEX
T R	SHEET NAME		SHEET NUMBER	SHEET NAME
	Cover		HFX-1	HARDY DETAILS
	Site Plan		HFX-2	HARDY DETAILS
	ADU Floor Plan		HFX-3	HARDY DETAILS
	ADU Roof Plan		• .	

SI	HEET INDEX
SHEET NUMBER	SHEET NAME
HFX-1	HARDY DETAILS
HFX-2	HARDY DETAILS
⊔EV 2	HADDY DETAILS

SHEET INDEX		
SHEET		
NUMBER	SHEET NAME	
HFX-1	HARDY DETAILS	
HFX-2	HARDY DETAILS	
HFX-3	HARDY DETAILS	

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ARDY DETAILS	
ARDY DETAILS	CLIENT NAME:
RDY DETAILS	MURPHY& NEL
1	WORTH A INCL

REVISIONS:

PROJECT ADDRESS:

100	

Description

9306 Hot Springs Rd, Corona,

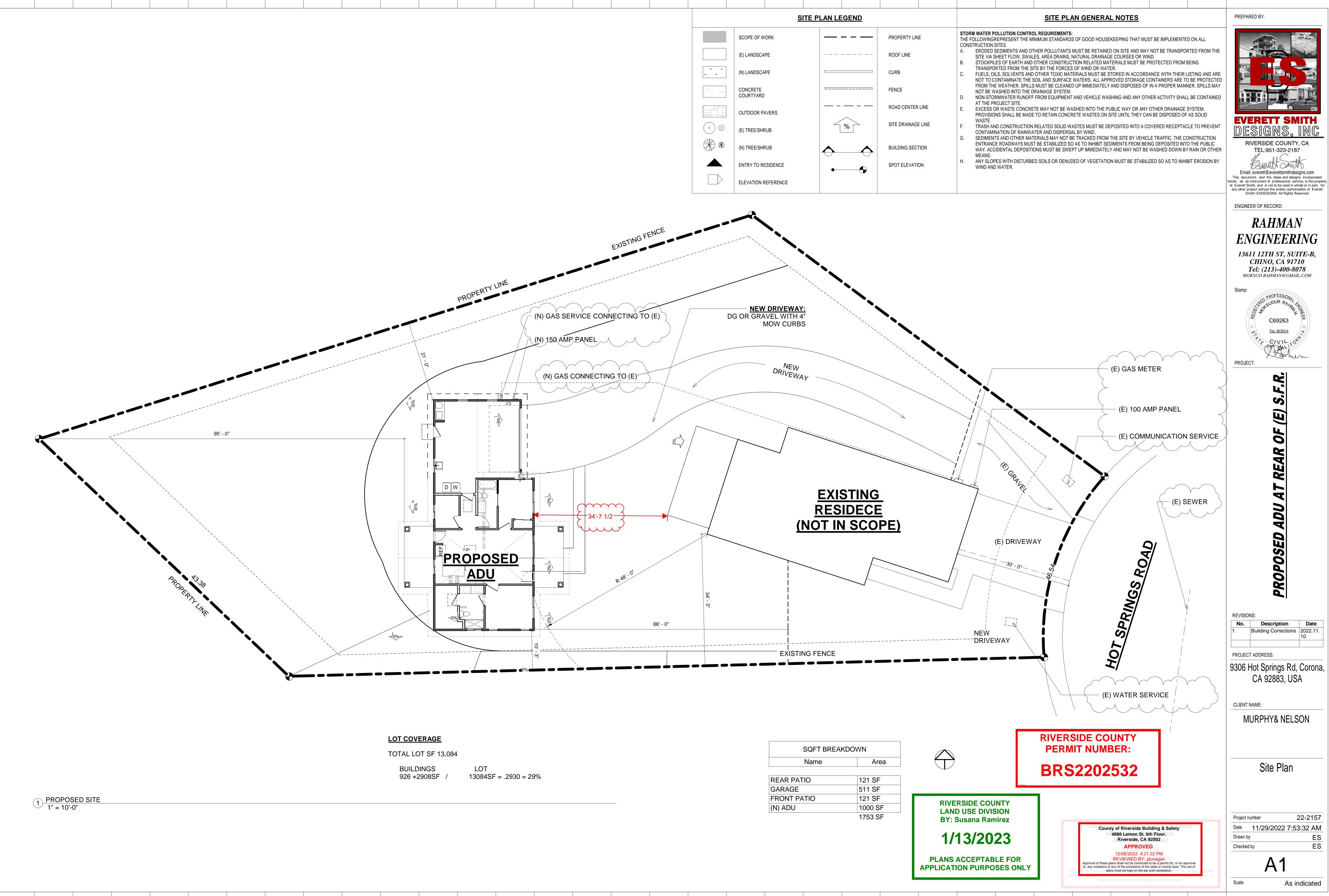
Building Corrections | 2022.11.

Date

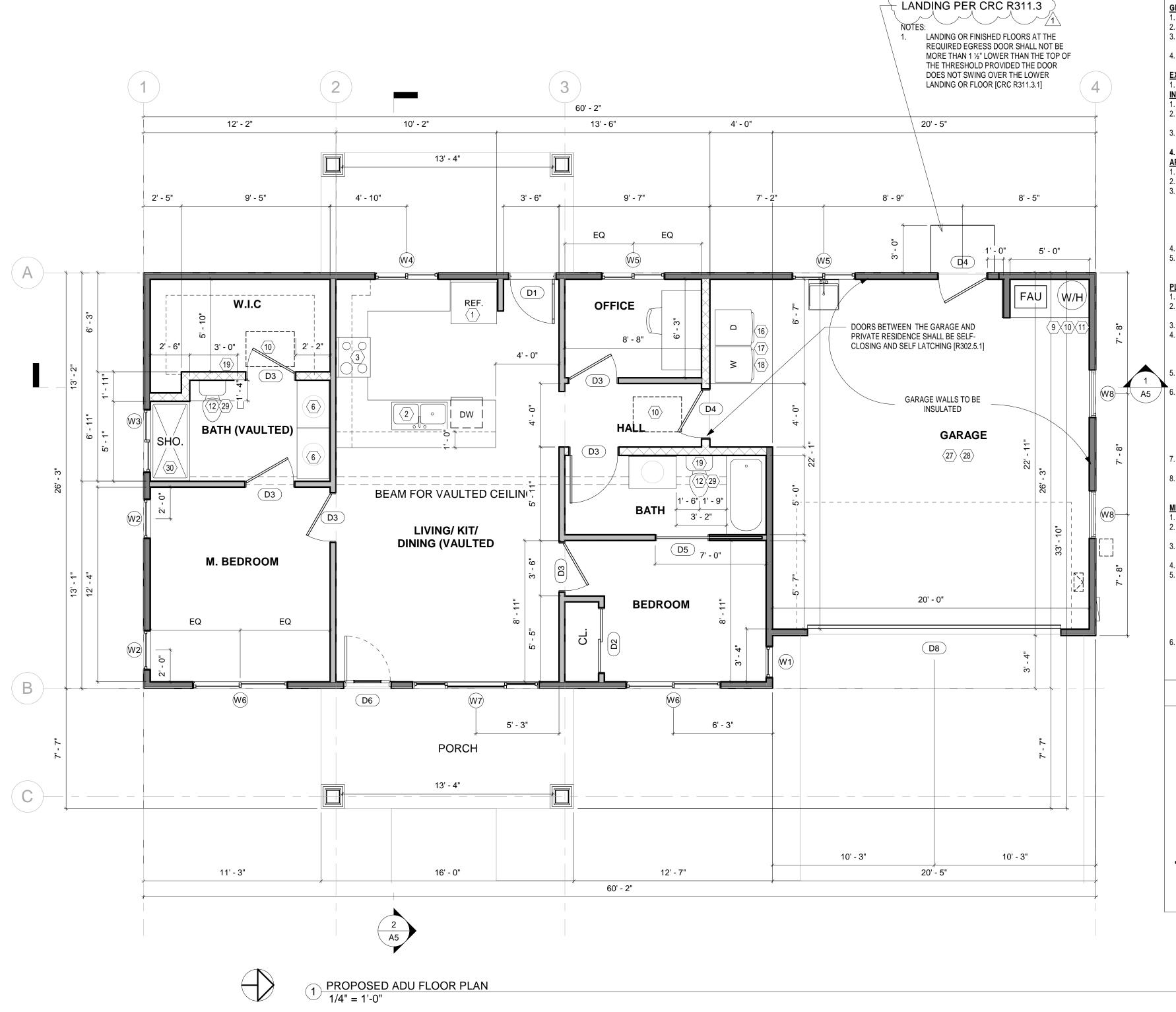
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1" = 20'-0"



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PROPOSED PLAN GENERAL NOTES

ALL INTERIOR AND EXTERIOR DOOR HEIGHT SHALL BE 6' 8" UNLESS NOTED OTHERWISE ON PLANS INSULATION TO BE ENCLOSED ON ALL SIDES.

THE LANDING AT IN-SWING DOORS OTHER THAN THE REQUIRED EGRESS SHALL NOT BE MORE THAN 7 3/4" BELOW THE TOP OF THE THRESHOLD. (R311.3 CRC)

APPROVED WEATHER STRIPPED SHALL BE PROVIDED AROUND THE PERIMETER OF THE ATTIC ACCESS OPENING. (CEC

1. PORCH AND PATIO CEILINGS TO BE STUCCO OVER HIGH RIBBED METAL LATH

GARAGE WALLS AND VERTICAL SURFACES: PROVIDE MINIMUM (1) 1/2" GYPSUM BOARD GARAGE CEILING: PROVIDE MINIMUM (1) LAYER 1/2" GYPSUM BOARD WITH ATTIC SPACE ABOVE - PROVIDE MINIMUM (1) LAYER 5/8" TYPE "X" GYPSUM BOARD WITH LIVABLE SPACE ABOVE

UNDER STAIR SPACES: PROVIDE MINIMUM 1/2" GYPSUM BOARD AT ALL WALL AND CEILING SURFACES OF ENCLOSED ADD 2X12 BACKING AT SMURF TUB LOCATIONS DETERMINED BY BUILDER

VERIFY ALL CLEAR OPENING REQUIREMENTS REFRIGERATOR: PROVIDE RECESSED COLD WATER BIBB FOR ICE MAKER

CLOTHES WASHER AND CLOTHES DRYER CLOTHES WASHER SHALL BE ON THE LEFT SIDE-PROVIDE HOT AND COLD WATER SUPPLY (RECESSED) AND WASTE CONNECTIONS - PROVIDE AN APPROVED "SMITTY" PAN WHEN WASHER IS LOCATED ON SECOND FLOOR MAXIMUM 14' LONG W/ (@) 90 DEG. ELBOWS UNLESS APPROVED OTHERWISE. DRYER EXHAUST VENTS TO BE MIN.

5' FROM A/C CONDENSER. 2' SHALL BE DEDUCTED FOR EACH 90 DEG. ELBOW IN EXCESS OF 2 (504.3.2.2. AND RANGE/ COOKTOP:- PROVIDE HOOD, LIGHT AND EXHAUST FAN ABOVE (OPT. MICROWAVE OVEN)- VENT TO OUTSIDE AIR. FIREPLACE: "HEAT N GLO" DIRECT VENT GAS APPLIANCE - ANSI Z21.88B-2008 -UL 307B OR APPROVED EQUAL - INSTALL PER MANUFACTURER'S INSTRUCTION AND IN ACCORDANCE WITH IT'S LISTING. PROVIDE - 3.5" RECESS ABOVE FIREPLACE FOR MEDIA NICHE

PLUMBING FIXTURES AND FITTINGS SHALL MEET THE REQUIREMENTS IN SECTION 4.303 FAUCETS IN KITCHENS, WET BARS, LAVATORIES, LAUNDRY SINKS, ETC. SHALL HAVE A WATER FLOW NOT TO EXCEED 1.5 GALLONS PER MINUTE. (C.G.B.C. 4.303)

WATER HEATER: EXISTING TUB/SHOWER: PRE-FORMED FIBERGLASS MIN. 72" HIGH - PROVIDE CURTAIN ROD OR TEMPERED GLASS ENCLOSURE -POSITION SHOWER HEAD AT +76" A.F.F. TUB & SHOWER FLOORS & WALLS ABOVE TUB WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACE SHALL EXTEND TO 60" HEIGHT ABOVE DRAIN

ALL PLUMBING FIXTURES SHALL BE CONNECTED TO AND APPROVED WATER SUPPLY. LAVATORIES, BATHTUBS, SHOWERS, AND OTHERS SHALL BE PROVIDED WITH HOT AND COLD WATER. (R306.4.) MAXIMUM FLOW RATES STANDARDS:

WATER CLOSETS: SHOWERHEADS: MULTIPLE SHOWER HEADS

2.5 GPM AT 80 PSI 2.5 GPM AT 80 PSI FOR ALL COMBINED

LAVATORY FAUCETS: KITCHEN FAUCETS: 1.8 GPM AT 60 PSI PROVIDE 2X6 STUD WALL FRAMING AT PLUMBING WALLS

(N) PEX PIPE (MUST FOLLOW INDIVIDUAL MANUFACTURES' INSTALLATION PROCEDURES AND THE PROCEDURES SET FORTH IN 2019 CPC SECTIONS 605.9.1 THRU 605.9.3

VERIFY LOCATIONS AND SIZES WITH MECHANICAL PLANS

A MINIMUM OPENING OF 100 SQ.IN. FOR MAKE-UP AIR SHALL BE PROVIDED IN THE LAUNDRY ROOM DOOR OR BY OTHER APPROVED MEANS PER C.M.C SECTION 504.3.1

FORCED AIR UNIT(S) IN ATTIC - MAINTAIN 30" VERTICAL CLEAR HEADROOM ALONG MIN. 24" WIDE PLYWOOD CATWALK TO ATTIC ACCESS - MAXIMUM LENGTH 20' - 0" AIR CONDITIONING CONDENSER UNIT SECURELY FASTENED TO CONCRETE OR FIBERGLASS PAD ALL NEW LOW-RISE RESIDENTIAL BUILDINGS MUST HAVE A WHOLE HOUSE VENTILATION SYSTEM THAT PROVIDES A

CALCULATED MINIMUM AMOUNT OF OUTDOOR AIR BY USING EITHER A CONTINUOUSLY RUNNING BATHROOM FAN OR A SUPPLY RETURN AIR VENTILATION THRU A CENTRAL HVAC SYSTEM. THE MINIMUM VENTILATION VOLUME MUST BE A MINIMUM OF 1 C.F.M. FOR EACH 100 SQ.FT. OF RUNNING BATHROOM FAN OR A SUPPLY RETURN AIR VENTILATION THRU A CENTRAL HVAC SYSTEM. THE MINIMUM VENTILATION VOLUME MUST BE A MINIMUM OF 1 C.F.M. FOR EACH 100 SQ.FT. OF FLOOR AREA PLUS 7.5 C.F.M. FOR EACH OCCUPANT. THE NUMBER OF OCCUPANTS IS DETERMINED BY MULTIPLYING THE NUMBER OF BEDROOMS AND THEN ADDING ONE. (ASHRAE 62.2) TOTAL CFM RATING = 78.38 NEED THE MERV13 FILTER AND R VALUE FOR DUCTING

DEMO/EXISTING PLAN LEGEND

(E)	EXISTING CONSTRUCTION		
(N)	NEW CONSTRUCTION		EXISTING WALL
		7/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2/2	DEMO. WALL
(DXX)	DOOR TAG		NEW INTERIOR WALL
WXX	WINDOW TAG		NEW EXTERIOR
×	WALL TAG		WALL
••	SPOT ELEVATION		WALL SECTION
			DI III DINO SECTION

Egress Code: Minimum Size Requirements

ELEVATION REFERENCE

20 in.

5.7 sq. ft.

clear

BUILDING SECTION

5.7 sq. ft.

clear opening

REVISIONS: Description Building Corrections | 2022.11.

PROJECT ADDRESS:

PREPARED BY:

RIVERSIDE COUNTY, CA

TEL:951-323-2187

Email: everett@everettsmithdesigns.com his document, and the ideas and designs incorporated

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any other project without the written authorization of Everett Smith/ ESDESIGNS. All Rights Reserved

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CHINO, CA 91710

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MOKSUD.RAHMAN@GMAIL.COM

C69263

Exp. 06/30/24

ENGINEER OF RECORD:

9306 Hot Springs Rd, Corona, CA 92883, USA

CLIENT NAME:

MURPHY& NELSON

ADU Floor Plan

Project	number	22-2157
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HVAC - DISTRIBUTION SYSTEMS Window Schedule (LI-FACTOR 0.3 & SHGC 0.23)

(.	Window Schedule (U-FACTO) ALL EXTERIOR GLAZING SHALL BE MULTI-PANE		,	EMPERED GL	ASS)
Mark	Family and Type	Width	Height	Glass Area	Count
W1	DOUBLE HUNG: 24" x 48"	2' - 0"	4' - 0"	8 SF	1
W2	DOUBLE HUNG: 2640	2' - 6"	4' - 0"	9 SF	2
W3	SLIDING 2 PANELS: 4020	4' - 0"	2' - 0"	8 SF	1
W4	SLIDING 2 PANELS: 4036	4' - 0"	3' - 6"	14 SF	1
W5	SLIDING 2 PANELS: 4040	4' - 0"	4' - 0"	16 SF	2
W6	SLIDING 2 PANELS: 6040	6' - 0"	4' - 0"	24 SF	2
W7	SLIDING 3 PANELS: 8040	8' - 0"	4' - 0"	32 SF	1
W8	Window-Fixed-Milgard-Tuscany_Series-Picture_	3' - 0"	2' - 0"	6 SF	2

Door-Garage-CHD-301-A-Steel-Double: 16'-0" x 8'-0"

01	02	03	04	05
			Duct Ins	. R-value
Name	Туре	Design Type	Supply	Return
Distributi on System 1	Unconditioned attic	Non- Verified	R-8	R-8

NOTE: MECHANICAL UNIT FILTERS MUST BE

	Door Schedule			
Mark	Family and Type	Width	Height	Comments
D1	Door-In_Swing-Milgard-Tuscany_Series-French_Style-1_Panel: 3068	3' - 0"	6' - 8"	
D2	Door-Interior-Double-Sliding-2_Panel-Wood: 4068	4' - 0"	6' - 8"	
D3	Door-Interior-Single-1_Panel-Wood: 3068	3' - 0"	6' - 8"	
D4	Door-Interior-Single-1_Panel-Wood: 3068 GR	3' - 0"	6' - 8"	
D5	Door-Interior-Single-Pocket-2_Panel-Wood: 40"	3' - 4"	6' - 8"	
D6	Door_EBE_Porte_QN1_with_glass_top_panel_13581:	3' - 0"	7' - 0"	

LANDING OR FINISHED FLOORS AT THE REQUIRED EGRESS DOOR SHALL NOT BE MORE THAN 1 ½" LOWER THAN THE TOP OF THE THRESHOLD PROVIDED THE DOOR DOES NOT SWING OVER THE LOWER LANDING OR FLOOR [CRC R311.3.1]

SHALL BE SLOPED TO A DRAIN OR TOWARD THE MAIN VEHICLE ENTRY

Window: 3020

Door Schedule Door_EBE_Porte_QN1_with_glass_top_panel_13581

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Sill height

INSULATED DOOR

Sill height

As indicated

Checked by

of, any violations of any of the provisions of the state or county laws. This set of all of these plaplans must be kept on the job until completion. This set of an # FLOOR PLAN NOTES

1. 39" CLEAR REFRIGERATOR SPACE. PLUMB FOR WATER SUPPLY. VERIFY WIDTH AND DEPTH IF BUILT-IN REFRIGERATOR.

2 . KITCHEN SINK & D/W. 3 . 30" SLIDE-IN RANGE-OVEN COMBINATION W/ BUILT-IN HOOD, LIGHT & FAN (VENT TO OUTSIDE AIR). 4 . 5'-0" TUB/SHOWER W/ WATER RESISTANT WAINSCOT TO 72"

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approval of these plans shall not be construed to be a permit for, or an approva

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ABOVE DRAIN U.N.O. PROVIDE SHOWER CURTAIN ROD U.N.O. 5 . SHATTERPROOF GLASS SHOWER ENCLOSURE. 6 . VANITY SINK

7 . WASHER AND DRYER 8 . (5) EQUALLY SPACED SHELVES. 9 . WATER HEATER. 10. W/H 'B' VENT TO OUTSIDE AIR. 11 . PROVIDE WATER HEATER IN GARAGE

DUCT AS SHOWN ON HEATING PLAN AS REQ'D FOR F.A.U. ONLY.

IF F.A.U. AND W/H ARE SIDE BY SIDE PROVIDE A "T" PLUMBING

FITTING AT F.G. AND A COMBO. 'B' VENT CONNECTION FOR DBL. USE OF EQUIPMENT. (VERIFY) 1 2 . WATER CLOSET AT FLOOR ABOVE.

1 3 . 3" DIA. BUMPER PIPE 36" HIGH W/ MIN. 12" EMBEDMENT. 1 4 . TEMPERATURE & PRESSURE RELIEF VALVE.

1 5 . 14" x 6" GARAGE EXHAUST VENT, SCREENED AND LOUVERED. 1 6 . DRYER VENT (MAX. 14 ft. LENGTH INCLUDING (2) 90 DEGREE ELBOWS. PER C.M.C. 504.3.

C.B.C. 1505.1.

17. PROVIDE WATER & WASTE FOR WASHER. 1 8 . GAS DRYERS INSTALLED IN A GARAGE MUST BE ELEVATED SO THAT PILOTS, SWITCHES, BURNERS AND HEATING ELEMENTS ARE

A MINIMUM OF 18" ABOVE THE FLOOR LEVEL. 19 . 2X6 STUD PLUMBING WALL 20 . 22" X 30" ATTIC ACCESS PANEL PER

(OR PER C.M.C. 908)PROVIDE FUEL GAS, LIGHT AND SWITCH.

22 . ELECTRICAL SERVICE PANEL. (SEE UTILITY PLAN).

24 . PROVIDE 1 LAYER OF 5/8 TYPE "X" GYP. BD. ON THE GARAGE SIDE WALLS AND CEILING TO ACHIEVE 1HR OF FIRE PROTECTION SELF-CLOSING & SELF-LATCHING 1-3/8" THICK SOLID WOOD OR

SOLID OR HONEYCOMB CORE STEEL DOOR OR 20-MIN. FIRE RATED 27 . GARAGE FLOOR SURFACES SHALL BE OF AN APPROVED NONCOMBUSTIBLE MATERIAL, AND THE AREA USED TO PARK VEHICLES

28 . AUTOMATIC GARAGE DOOR OPENERS, IF PROVIDED, SHALL BE LISTED IN ACCORDANCE WITH UL 325

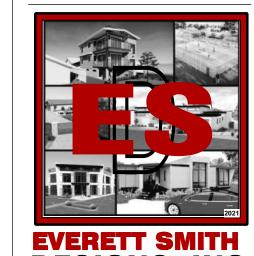
29 . TOILET TO HAVE A 24" MIN. CLEARANCE AT FRONT & 18" MIN. CLEARANCE FROM CENTER OF TOILET TO SIDE WALL

30 SHOWER DOORS SHALL SWING OUT. NET AREA OF SHOWER, RECEPTOR SHALL BE MIN. 1024 SQ. IN. OF FLOOR AREA, AND ENCOMPASS 30 IN. Ø CIRCLE

MERV-13 OR BETTER. (150.0(M)4)

ROOF PLAN GENERAL NOTES ROOF MATERIAL- CLASS "A" GAF ASPHALT SHINGLES ESR-1475 SEE A3.1 FOR "- I.C.C. REPORT NO. OR APPROVED EQUAL OVER ONE LAYER 30# ROOFING FELT (PROVIDE TWO LAYERS OF 30# ROOFING FELT ON LOWER ROOFS), INSTALL PER MANUFACTURER'S INSTRUCTION - ROOF TILE NOT TO EXCEED 1- BLS. PER SQUARE FOOT ROOF TILE NAILING SHALL BE PER THE MANUFACTURER'S SPECIFICATION WITH THE FOLLOWING MINIMUM REQUIREMENTS: 11 GA. CORROSION RESISTANT NAILS WITH MINIMUM 3/4" PENETRATION INTO SHEATHING PER C.R.C. SECTION 905.3.6 AND IN ACCORDANCE WITH C.R.C. TABLE 905.3.7 HEADS OF ALL TILE SHALL BE NAILED. THE NOSES OF ALL EAVE COURSE TILE SHALL BE FASTENED WITH APPROVED CLIPS. 63' - 2" ALL TILES SHALL BE NAILED AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS. THE NOSES OF ALL RIDGE, HIP AND RAKE TILES SHALL BE SET IN A BEAD OF APPROVED ROOFER'S MASTIC. 26' - 7" 33' - 7" PROVIDE MINIMUM 26 GA. CORROSION RESISTANT METAL FLASHING AT ALL VALLEYS AND ROOF TO WALL CONDITIONS. HEAD CLEARANCE - PROVIDE A 12"X12" OPENING IN ROOF SHEATHING TO OVER FRAMED ATTIC AREAS WITH LESS THAN 30" HEAD CLEARANCE FOR VENTILATION. ROOF GUTTERS SHALL BE WITH 1/4" MAXIMUM MESH OPENINGS. SCREENED TO PREVENT THE INC. " AT WWW.CJMETALS.COM & BY "O'HAGIN'S INC" AT WWW.OHAGINVENT.COM THESE VALUES ARE SUBJECTED TO ACCUMULATION OF LEAVES CHANGE WITHOUT NOTIFICATION AND MUST BE VERIFIED BY INSTALLER AT TIME OF INSTALLATION - APPROVED EQUAL AND DEBRIS. CRC R337.5.4 RADIANT BARRIER WITH AN EMITTANCE OF 0.05 OR LESS REQUIRED AT UNDERSIDE OF ROOF SHEATHING & ATTIC SIDE OF GABLE END WALLS - REFER TO T-24 AND ENERGY CALCULATIONS. PROVIDE KICK OUT FLASHING AT ALL FASCIA TO WALL TERMINATIONS **ROOF PLAN NOTES** PROVIDE ATTIC & SOFFIT VENTILATION PER CRC SECTION R806. TOTAL NET FREE VENTILATING AREA SHALL NOT BE LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED EXCEPT THAT REDUCTION OF THE TOTAL AREA TO 1/300 IS PERMITTED PROVIDED THAT AT LEAST 50 PERCENT AND NO MORE THAN 80 PERCENT OF THE REQUIRED VENTILATING INSTALLATION OF ROOFING SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. EAGLE ROOFING PRODUCTS' TO REVIEW THE INSTALLATION FOR COMPLIANCE WITH ICC ESR-1900 & 2015 FOR CLOSE MANUFACTURER TOLERANCES OF THE FIELD TILE INSTALLATION. ALL GAPS/SPACES BETWEEN ROOFING TILES SHALL BE CONSTRUCTED TO PREVENT THE INTRUSION OF FLAMES AND SURFACED NONPERFORATED CAP SHEET COMPLYING WITH ASTM D 3909 INSTALLED OVER THE COMBUSTIBLE DECKING ALL VALLEYS MUST BE PROVIDED FLASHING NOT LESS THAN 0.019-INCH NO. 26 GAGE GALVANIZED SHEET CORROSION-RESISTANT METAL INSTALLED OVER NOT LESS THAN ONE LAYER OF MINIMUM 72-POUND MINERAL-SURFACED BEAM FOR VAULTED CEILING NONPERFORATED CAP SHEET COMPLYING WITH ASTM D 3909, AT LEAST 36-INCH WIDE RUNNING THE FULL LENGTH OF COMPLYING WITH ASTM D 3909, AT LEAST 36-INCH WIDE RUNNING THE FULL LENGTH OF THE VALLEY. NONPERFORATED CAP SHEET COMPLYING WITH ASTM D 3909, AT LEAST 36-INCH WIDE RUNNING THE FULL LENGTH OF THE RIDGE OR HIP APPLIED OVER THE COMBUSTIBLE ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER. REQUIRED GUTTER SIZE, DOWNSPOUT SIZE, AND DOWNSPOUT SPACING/LOCATIONS TO BE CALCULATED AND VERIFIED BY INSTALLING SUBCONTRACTOR. **ROOF PLAN LEGEND** STANDING METAL SEAM **ASPALT SHINGLES** SPANISH TILE ROOF ---- BUILDING OUTLINE **ROOF MATERIAL** STANDARD ROOF FACIA U.N.O. BARGE U.N.O. OVER HANG DIM. DETAIL U.N.O. GAF ESR-1475 2X6 1' 6" **ATTIC VENTILATION ROOF AREA HOUSE** |(B)|1<u>417</u> SF / 150 = <u>9.44</u>SF X 144 =<u>1,360.32</u>SQ INCHES OF FREE TOTAL 60' - 2" VENTILATION AREA REQUIRED. O'HAGIN'S CONCEALED ROOF DORMER VENT VENT 1360 / 98 = 13.8 = 14 VENTS (A / OHAGINS) 24"w=120 S.I. NOTE: GENERAL CONTRACTOR SHALL VERIFY THE NET FREE ROOF PLAN ADU MAIN DETACHED ADU VENTILATION OF THE VENT PRODUCTS SELECTED AGAINST THOSE NOTED ABOVE. THE REQUIRE VENTILATION SHALL BE MAINTAINED. PROVIDE INSULATION STOP SUCH THAT INSULATION DOES NOT OBSTRUCT FREE AIR MOVEMENT AS REQUIRED BY THE BUILDING ATTIC, OVERHANGS AND OTHER CONCEALED SPACES FORMED OF COMBUSTIBLE MATERIALS SHALL BE PROVIDED WITH DRAFT STOPS GABLE VENT **GABLE VENT** OF APPROVED MATERIALS AND SHALL COMPLY WITH SECTION C.B.C 14X24=168 S.I. 14X18=126 S.I. **WILDLIFE-URBAN INTERFACE ZONE NOTES:** ROOF MATERIAL TO BE CLASS-A, CRC R337.5.1 THE SCREENS COVERING THE VENTS SHALL HAVE A MAXIMUM MESH OF 1/8" AND SHALL BE OF CORROSION RESISTANT METAL. CRC R337.6.2 VENTS SHALL NOT BE INSTALLED ON THE UNDERSIDE OF THE EAVES. CRC R337.6.3 PROVIDE ONE LAYER OF ROOF UNDERLAYMENT OF MINIMUM 72-POUND MINERAL-SURFACED NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909. CRC 337.5.2 WHERE VALLEY FLASHING IS INSTALLED, THE FLASHING SHALL NOT BE LESS THAN 0.019" NO 26-GAGE GALVANIZED SHEET CORROSION-RESISTANT METAL INSTALLED OVER NOT LESS THAN ONE LAYER OF MINIMUM 72-POUND MINERAL-SURFACED NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909. CRC 337.5.3 NOTE ON PLANS: ROOF GUTTERS SHALL BE SCREENED TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS. CRC FASTENERS FOR PRESERVATIVE TREATED AND FIRE TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER EXCEPT ½" Ø OR GREATER STEEL BOLT AND FASTENERS OTHER THAN NAILS AND TIMBER RIVETS SHALL BE PERMITTED TO BE MECHANICALLY DEPOSITED ZINC COATED STEEL ASTM B695 CLASS 55 MINIMUM. [CRC R317.3.1]

PREPARED BY:



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RIVERSIDE COUNTY, CA

ENGINEER OF RECORD:

ESR-2778 BORAL TILE

PROVIDE ONE LAYER OF ROOF

UNDERLAYMENT OF MINIMUM 72-

POUND MINERAL-SURFACED NON-

WITH ASTM D 3909. CRC 337.5.2.

FASTENERS FOR PRESERVATIVE

SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL

OR COPPER EXCEPT ½" Ø OR

GREATER STEEL BOLT AND

PERFORATED CAP SHEET COMPLYING

TREATED AND FIRE TREATED WOOD

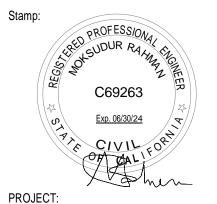
STAINLESS STEEL, SILICON BRONZE

FASTENERS OTHER THAN NAILS AND

TIMBER RIVETS SHALL BE PERMITTED TO BE MECHANICALLY DEPOSITED ZINC COATED STEEL ASTM B695 CLASS 55 MINIMUM. [CRC R317.3.1]

RAHMAN ENGINEERING

13611 12TH ST, SUITE-B, CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



REVISIONS:

PROJECT ADDRESS:

Date Description

9306 Hot Springs Rd, Corona, CA 92883, USA

CLIENT NAME:

MURPHY& NELSON

ADU Roof Plan

Project number 22-2157 Date 11/29/2022 7:53:33 AM Drawn by Checked by

Checker A3

Author

Scale As indicated

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County of Riverside Building & Safety 4080 Lemon St. 9th Floor.

Riverside, CA 92502

12/08/2022 4:22:07 PM REVIEWED BY: idunagan

APPROVED

Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

REPORT HOLDER:

PROTECTION

BARTILE ROOFS, INC.

EVALUATION SUBJECT:

1.0 EVALUATION SCOPE

BARTILE EXTRUDED CONCRETE ROOF TILES

- 1.1 Compliance with the following codes:
- 2015, 2012, 2009 and 2006 International Building Code® (IBC)
- Code® (IRC) ■ 2013 Abu Dhabi International Building Code (ADIBC)[†]

■ 2015, 2012, 2009 and 2006 International Residential

The ADIBC is based on the 2009 IBC. 2009 IBC code sections referenced in this report are the same sections in the ADIBC.

Properties evaluated:

- Roof covering
- Fire classification Wind resistance
- 1.2 Evaluation to the following green code:
- 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11

Attributes verified: ■ See Section 3.0

2.0 USES

The Bartile extruded concrete roof tiles comply with ASTM C1492, and when installed in accordance with this report, may be used as a Class A roof covering.

3.0 DESCRIPTION

Bartile extruded concrete roof tiles are available in European, Mission "S", Flat and Legendary styles. Flat tiles are available in shake and slate designs. The European, Mission "S" and Flat tiles are 151/4 inches long by 101/2 inches wide (387 mm by 267 mm) and have 11/8-inch to 11/4-inch (28 mm to 32 mm) interlocking double tongue-and-groove side laps. The tiles also have anchor lugs at the bottom intended for installation over wood furring strips. The lugs are typically 1/2 inch (13 mm) deep,

11/2 inches (38 mm) wide and 5/a inch (16 mm) thick. The tile thickness varies from 1/2 inch (13 mm) to 1 inch

interlocking side lap. The tiles have an overall height of 13/8 inches (44.4 mm). The tiles have anchor lugs and midpoint knubs to provide additional support for installation directly to deck.

Accessory tiles in each style are available for rakes, ridges and hips.

The Legendary tiles are 16 inches long by 16 inches

wide (406 mm by 406 mm) and have a 1-inch (25.4 mm)

The tiles are available in both standard-weight and lightweight varieties for each style. They vary only in weight due to the lightweight tiles being produced using crushed lightweight shale in place of sand.

When installed with a standard 3-inch (76 mm) head lap, the following are the approximate installed weights:

DESCRIPTION	(pounds per	
DESCRIPTION	Standard-weight Tiles	Lightweight Tiles
European	9.5	7.5
Mission "S"	9.5	7.5
Flat (Shake and Slate)	10.25	8.0
Legendary	10.4	8.9

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The attributes of the roof tiles have been verified as conforming to the provisions of CALGreen Section A5.406.1.2 for reduced maintenance. Note that decisions on compliance for those areas rest with the user of this report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

4.0 INSTALLATION

Except as otherwise noted in this report, installation of the Bartile roof tiles must be in accordance with the Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions, dated March 2010, published by the Tile Roofing Institute and Western States Roofing Contractors Association. In the case of a conflict between the installation manual and this report, this report governs.

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ICC-ES Evaluation Report

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ESR-2778 CBC and CRC Supplement

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION

Section: 07 32 16-Concrete Roof Tiles REPORT HOLDER:

BARTILE ROOFS, INC.

EVALUATION SUBJECT:

BARTILE EXTRUDED CONCRETE ROOF TILES

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2010 California Building Code (CBC) ■ 2010 California Residential Code (CRC)
- Properties evaluated:
- Fire classification
- Weather resistance Wind-uplift resistance
- 2.0 California Building Code The Bartile concrete roof tiles described in the master report ESR-2778 may be used where a Class A roof covering complying with CBC Section 1505.1.1, a Class B roof covering complying with CBC Section 1505.1.2, or a Class C roof covering complying with CBC Section 1505.1.3 is required, provided installation is in accordance with the master report and

the additional requirements of Sections 1507.3.10 and 1511 of the CBC. The roof tiles may be used in the construction of new buildings located in a Fire Hazard Severity Zone within State Responsibility Areas or any Wildland-Urban Interface Fire Area, provided installation is also in accordance with the master report and the additional requirements of Sections 701A.3 and 705A of the CBC.

3.0 California Residential Code

The Bartile concrete roof tiles described in the master report ESR-2778 may be used where a Class A roof covering complying with CRC Section R902.1.1, a Class B roof covering complying with CRC Section R902.1.2, or a Class C roof covering complying with CRC Section R902.1.3 is required, provided installation is in accordance with the master report and the additional requirements of Section R905.3 of the CRC.

The roof tiles may be used in the construction of new buildings located in any Wildland-Urban Interface Fire Area, provided installation is also in accordance with the master report and the additional requirements of Sections R327.1.3.1 and

The products recognized in this supplement have not been evaluated for compliance with the International Wildland-Urban Interface Code®

This supplement expires concurrently with the evaluation report, reissued July 2020.

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This report and the TRI/WSRCA installation manual must be available at the jobsite at all times during installation. The roof tiles must be installed on a minimum roof slope of 21/2:12 (20.8% slope). Care must be taken during field installation to ensure that horizontal joints are kept parallel to the eave, and vertical joints are at right angles to the eave, in order to ensure uniform contact between the tiles and proper fit and appearance. All cracked and broken tiles must be replaced. Plastic battens recognized in a current ICC-ES evaluation report may be used in lieu of wood battens, provided the battens are installed in accordance with their evaluation report, the tile installation is subject to the limitations in the evaluation report on the battens, and

nails attaching the roof tiles are of sufficient length to

penetrate through the sheathing. 4.2 Lightweight Tiles:

Lightweight tiles are installed in the same manner as standard-weight tiles, except that each tile is attached with No. 11 gage, corrosion-resistant roofing nails.

4.3 Wind Resistance:

4.3.1 2015 IBC, 2015 IRC and 2012 IBC: For ultimate design wind speeds of 130 mph (209 km/h) or less and mean roof heights of 60 feet (18.3 m) for the IBC) and mean roof heights of 40 feet (12.2 m) for the IRC, tiles must be installed in accordance with the prescriptive parameters of IBC Table 1507.3.7 or IRC Section

4.3.2 2012 IRC: For basic wind speeds of 100 mph (161 km/h)] or less and mean roof heights of 40 feet (12.2 m) or less, tiles must be installed in accordance with the prescriptive parameters of Section R905.3.7 of the IRC, as applicable.

4.3.3 2009 IBC, 2006 IBC, 2009 IRC and 2006 IBC: For basic wind speeds [3-second gust of 100 mph (161 km/h)] or less and mean roof heights of 60 feet (18288 mm) or less for the IBC and 40 feet (12192 mm) or less for the IRC, tiles must be installed in accordance with the prescriptive parameters of Table 1507.3.7 of the IBC or Section R905.3.7 of the IRC, as applicable. For application beyond these prescriptive parameters, the tiles and the fastening systems must be designed to withstand the aerodynamic wind uplift moment in accordance with the section on Design Considerations for High Wind Applications in Appendix B of the TRI/WRSCA installation manual. The generic required aerodynamic uplift moment, determined in accordance with Tables 5A through 6D of the TRI/WRSCA installation manual, must be multiplied by the tile factor ratio in Table 2 to obtain the required aerodynamic uplift moment for the specific Bartile roof tile being installed. The allowable aerodynamic uplift moment for the roof tile fastening system selected from Table 7 of

4.4 Fire Classification:

4.4.1 New Construction: When installed in accordance with this report, the tiles are Class A roof coverings in accordance with the exception to Section 1505.2 of the IBC and with Section R902.1 of the IRC.

the specific Bartile roof tile being installed.

the TRI/WRSCA installation manual, must be equal to or

greater than the required aerodynamic uplift moment for

4.4.2 Reroofing Applications: The existing roof coverings must be removed and the new roof installed in accordance with the requirements of 2015 IBC Section 1511, 2012, 2009 or 2006 IBC Section 1510 or 2015 IRC Page 2 of 6

Section R908, 2012, 2009 and 2006 IRC Section R907 as applicable. The roof classification is as noted in Section

4.5 Roof Slope Limitation:

Tile must be installed on roof slopes of between 21/2:12 (21% slope) and 24:12 (200% slope). Tile may be installed at a roof slope greater than 21:12 when the bottom edge of each tile is secured with a roof tile clip or nail in accordance with the TRI/WRSCA installation manual. On roof slopes of less than 3:12 (25% slope), the tiles are only considered as decorative and must be applied over a roof covering approved by the building official.

4.6 Tile Replacement:

Damaged tile must be completely removed. Existing fasteners must be removed and the resulting hole must be cleaned and patched with a sealant specified by the manufacturer. The replacement tile must be set into place while maintaining the required head and side lap. The new tile must be secured using a roof tile adhesive recognized in a current ICC-ES evaluation report, applied to the

bottom half of the replacement tile. 5.0 CONDITIONS OF USE

The Bartile extruded concrete roof tiles described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- The tiles are manufactured, identified, and installed in accordance with this report, the manufacturer's instructions, and the applicable code. In the event of a conflict between the manufacturer's instructions and this report, this report governs.
- 5.2 The roof sheathing and roof framing system must be designed for the appropriate loads determined in accordance with the applicable code, subject to the approval of the code official.
- 5.3 The tiles are manufactured in Centerville, Utah, under a quality-control program with inspections by ICC-ES.

Data in accordance with the ICC-ES Acceptance Criteria

for Clay and Concrete Roof Tiles (AC180), dated February 2012 (editorially revised April 2015).

- 7.1 The shipping pallets have labels bearing the name "Bartile," the style and color of the tile, the production date, the installed weight, and the evaluation report number (ESR-2778). The lightweight tile labels also bear the words "LT. WT. Bartile."
- 7.2 The report holder's contact information is the

BARTILE ROOFS, INC. 725 NORTH 1000 WEST CENTERVILLE, UTAH 84014 (801) 295-3443 www.bartile.com ew@bartile.com

ICC-ES Evaluation Report

ESR-2778 FBC Supplement Reissued July 2020

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DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION Section: 07 32 16—Concrete Roof Tiles

REPORT HOLDER:

BARTILE ROOFS, INC.

EVALUATION SUBJECT:

BARTILE EXTRUDED CONCRETE ROOF TILES

1.0 REPORT PURPOSE AND SCOPE

The purpose of this evaluation report supplement is to indicate that the Bartile concrete roof tiles, recognized in ICC-ES master report ESR-2778, have also been evaluated for compliance with the codes noted below: Applicable code editions:

- 2010 Florida Building Code—Building
- 2010 Florida Building Code—Residential
- 2.0 CONCLUSIONS

The concrete roof tiles described in Sections 2.0 through 7.0 of the master evaluation report, ESR-2778, comply with the 2010 Florida Building Code—Building and the 2010 Florida Building Code—Residential, provided the design and installation are in accordance with the International Building Code provisions noted in the master report, and with these additional

The roof tiles must be installed in accordance with Section 1609 of the 2010 Florida Building Code-Building or with FRSA/TRI 07320, where the nominal design wind speed, V_{dsd}, is determined in accordance with Section 1609.3 of the 2010. Florida Building Code—Building.

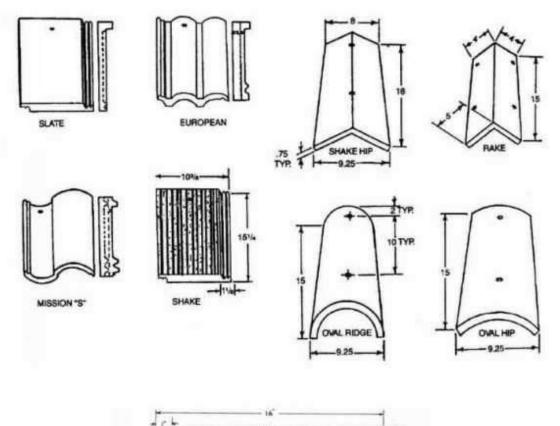
Use of the concrete roof tiles described in the master evaluation report for compliance with the High-Velocity Hurricane Zone provisions of the 2010 Florida Building Code—Building, and the 2010 Florida Building Code—Residential has not been evaluated, and is outside the scope of this supplement.

For products falling under Florida Rule 9N-3, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued July 2020.

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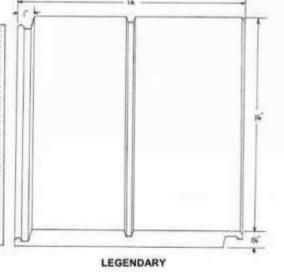
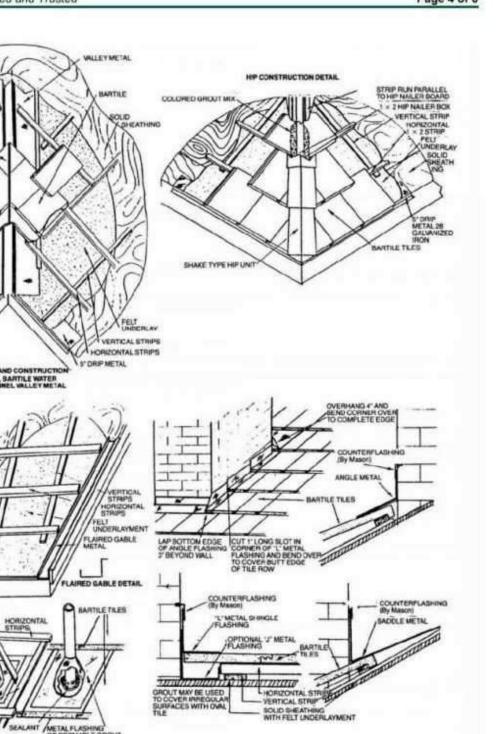


FIGURE 1—LEGENDARY PROFILE

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Page 4 of 6



PREPARED BY:

EVERETT S

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RIVERSIDE COUNTY, CA

ENGINEER OF RECORD:

RAHMAN ENGINEERING

13611 12TH ST, SUITE-B, CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



(E) 0

REVISIONS: No. Description Date

9306 Hot Springs Rd, Corona, CA 92883. USA

CLIENT NAME:

PROJECT ADDRESS:

MURPHY& NELSON

Roof Info

22-2157

Author

Checker

Project number Date 11/29/2022 7:53:33 AM Drawn by Checked by

County of Riverside Building & Safety

4080 Lemon St. 9th Floor.

Riverside, CA 92502

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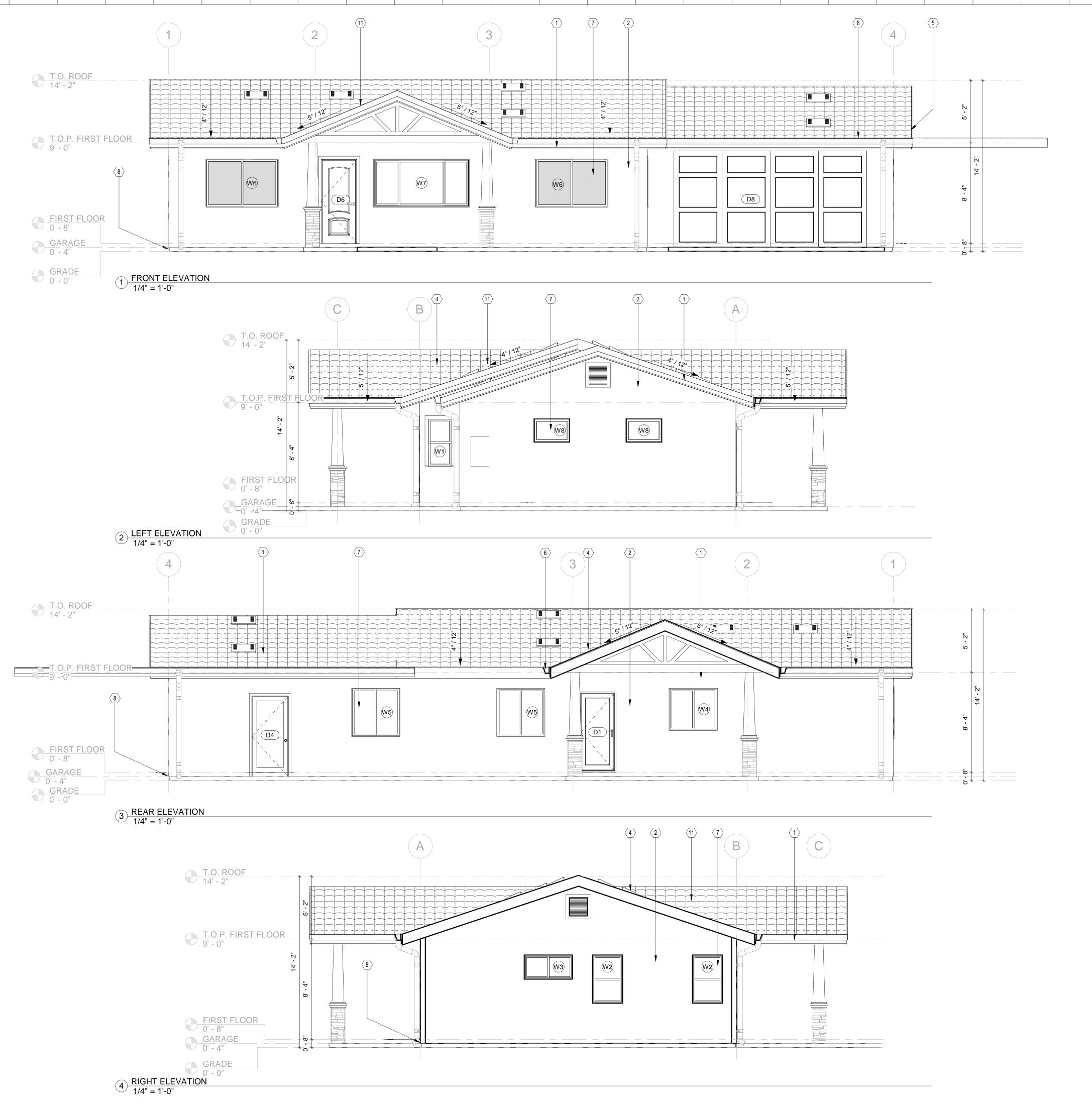
12/08/2022 4:22:07 PM REVIEWED BY: jdunagan Approval of these plans shall not be construed to be a permit for, or an approv of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

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Scale

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Page 6 of 6



ELEVATION GENERAL NOTES

ALL KEYNOTES, DETAILS AND DIMENSIONS ARE TYPICAL TO THEIR CONDITION U.N.O. ON

ELEVATION. UNDER FLOOR ACCESS (R408.4). ACCESS SHALL BE PROVIDED TO ALL UNDER FLOOR SPACES. ACCESS OPENINGS THROUGH THE FLOOR SHALL BE A MINIMUM OF 18"X24". OPENINGS THROUGH PERIMETER WALL SHALL BE NOT LESS THAN 16"X24". WHEN ANY PORTION OF THE TROUGH WALL ACCESS BELOW GRADE. AN AREAWAY NOT LESS THAN 16"X24" SHALL BE PROVIDED. THE BOTTOM OF THE AREAWAY SHALL BE BELOW THE THRESHOLD OF THE ACCESS OPENING. THROUGH THE

WALL ACCESS OPENING SHALL NOT BE LOCATED UNDER A DOOR TO THE RESIDENCE. UNDER FLOOR VENTILATION: THE UNDER FLOOR SPACE BETWEEN THE BOTTOM OF THE FLOOR JOIST AND THE EARTH SHALL BE PROVIDED WITH VENTILATION OPENING THROUGH FOUNDATION OR EXTERIOR WALLS. ONE SUCH OPENING SHALL BE WITHIN 3' OF EACH CORNER OF THE BUILDING. MINIMUM NET AREA OF VENTILATION OPENING SHALL NOT BE LESS THAN 1/150 OF THE UNDER FLOOR SPACE AREA. OPENINGS SHALL ALSO NOT BE LESS THAN 1 S.F. FOR EACH 150 SQFT OF EXTERIOR WALL. OPENINGS SHALL BE COVERED WITH OPENINGS NOT EXCEEDING 1/4"

- (R408.1 CRC) WALL AND CEILING FINISHES SHALL HAVE A FLAME SPREAD INDEX OF NOT GREATER THAN 200. (R302.9.1)
- INSULATION FLAME SPREAD INDEX SHALL NOT EXCEED 25 WITH AND SMOKE-DEVELOPED INDEX NOT TO EXCEED 450. (R302.10.1
- MULTI PANE ASSEMBLIES HAVING INDIVIDUAL PANES NOT EXCEEDING 1 SQFT IN EXPOSED AREA SHALL HAVE AT LEAST ONE PANE IN THE ASSEMBLY IDENTIFIED IN ACCORDANCE WITH SECTION (R308.1) ALL OTHER PANES IN THE ASSEMBLY SHALL BE LABELLED "CPSC 16 CFR" OR "ANSI Z97.1" ÀS APPROPRIATE.

SIDING- 8" LAP SIDING OVER 2 LAYERS OF APPROVED BUILDING PAPER UNDER WHEN OVER WOO SHEATING (C.R.C 703.4)

STUCCO- PLASTER (3-COAT STUCCO) - 2 LAYERS OF GRADE "D" APPROVED BUILDING PAPER UNDER STUCCO WHEN OVER WOOD SHEATING (C.R.C. 703.6.3) - PROVIDE HIGH RIB METAL LATH AT SOFFIT AND CEILINGS U.N.O.

ELEVATION LEGEND

	STUCCO FINISH		STONE VENEER
	SIDING FINISH		BRICKS
\(\frac{\psi}{\psi}\) \(\psi\)	CONCRETE FINISH		EXISTING FINISH
	SPANISH ROOF TILE		ASPALT SHINGLES ROOF
DXX	DOOR TAG		STANDING METAL SEAM
WXX	WINDOW TAG		BUILDING SECTION
⟨ x ⟩	WALL TAG	•	SPOT ELEVATION
			ELEVATION REFERENCE

KEYNOTES

- PAINTED ROOF FASCIA PAINTED PT-01
- STUCCO FINISH ON 2x4 STUDS SPACED @ 16" O.C
- EXTERIOR LIGHTING FIXTURE
- RADIANT ROOF BARRIER PER T24
- PROVIDE A MINIMUM ONE-HOUR FIRE-RESISTANCE RATING ON THE UNDERSIDE OF THE ROOF PROJECTION
- DRIP EDGE FLASHING USED AT THE FREE EDGES OF ROOFING MATERIALS SHALL BE NON-COMBUSTIBLE.
- STANDARD LOW-E WINDOWS GALANIZED METAL WEEP SCREED
- GABLE TREATMENT, SHAKE / SHINGLE

TILE ROOF TO MATCH EXISTING HOME.

ESR-2778

STONE TREATMENT @ 30" ABOVE GRADE

PREPARED BY:



RIVERSIDE COUNTY, CA

TEL:951-323-2187 Email: everett@everettsmithdesigns.com

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RAHMAN **ENGINEERING**

13611 12TH ST, SUITE-B, CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



R PROPOSED

REVISIONS: No. Description

PROJECT ADDRESS:

9306 Hot Springs Rd, Corona, CA 92883, USA

CLIENT NAME:

MURPHY& NELSON

Elevations

22-2157 Project number Date 11/29/2022 7:53:37 AM Checked by

Checker A4

Scale As indicated

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County of Riverside Building & Safety

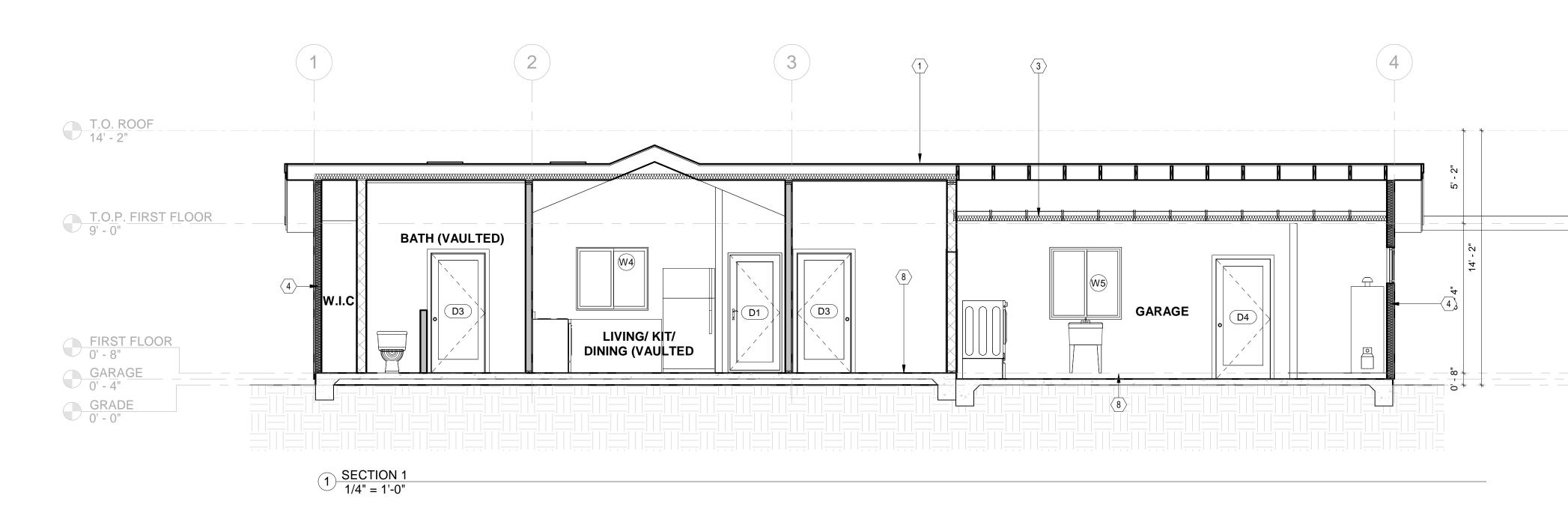
4080 Lemon St. 9th Floor. Riverside, CA 92502

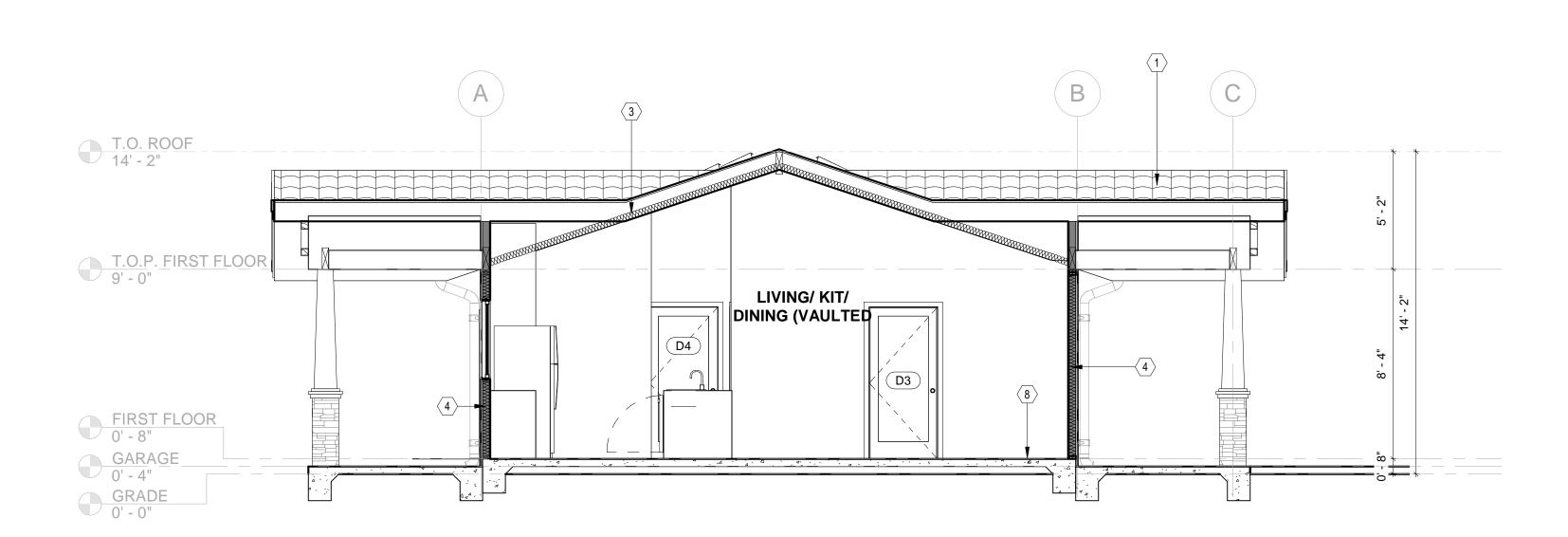
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Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of the provisions of the state or county laws. This set of the provisions of the state or county laws. This set of the provisions of the state or county laws. This set of the provisions of the provisions of the state or county laws. This set of the provisions of the provis





2 SECTION 2 1/4" = 1'-0"

BUILDING SECTION GENERAL NOTES

ALL KEYNOTES, DETAILS AND DIMENSIONS ARE TYPICAL TO THEIR CONDITION U.N.O RADIANT BARIER WITH AN EMITTANCE OF 0.05 OR LESS REQUIRED AT UNDERSIDE OF ROOF REFER TO ROOF PLAN FOR ROOF PITCH AND ROOFING MATERIAL

4. INSULATION TO BE CLOSED ON ALL SIDES.

BUILDING SECTION LEGEND

	GROUND SECTION	DIMENSION LUMBER
4 4 4	CONCRETE SECTION	CONCRETE MASONRY UNIT
	GRAVEL BASE	RIGID INSULATION
	SAND BASE	FIBER BATT INSULATION

SECTION KEYNOTES

1	CLASS "A" ROOF TILE	7	PRE-ENGINEERED TRUSSES @ 24" (
2	2X4 STUD WALL	8	SLAB ON GRADE PER STRUCTURAL
3	INSULATION AT CEILING	9	RAISED FOUNDATION WITH CRAWL SPACE
4	INSULATION AT WALLS (SEE T24)		
6	ASPHALT SHINGLE		

County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502 APPROVED

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INSULATION FOR ADU

01	02	03	04	05	06	07	08	09	10	11
			5	-	-	10	Proposed	TC	1.	Required
Tag/ID	Assembly Type	Frame Type	Frame Depth (inches)	Frame Spacing (inches)	Cavity	Continuous		Appendix JA	4 Reference	U-Factor
		/			R-value	Insulation R-value	U-Factor	Table	Cell	from Table 150.1-A or B
A5-Section	Wall	Wood	2x4	@ 16 in. O.	13	14	0.031	4.2.1	1A	0.048

eiling/Roof Ins	sulation (Section 150.1(c):	1A)				
01	02	3	4	5	6	7
16.7		Prop	osed	Requi	red	
Option	Air Space Required?	Proposed Below Roof Deck R-value	Proposed Ceiling Insul. R-value	Required Below Roof Deck R-value	Required Ceiling Insul. R-value	Radiant Barrier Required?
Option C	No	0	30	n/a	R-30	Required

J. Fenestration Proposed Areas and Efficiencies

Note: If meeting Exception 1 to 150.1(c)3A, Installing <= 3 ft² glass in door, it is assumed to meet the minimum required U-factor (0.30) and SHGC (0.23). If meeting Exception 1 to 150.1(c)3A, Installing <= 3 ft² tubular skylight, it is assumed to meet the minimum required U-factor (0.55) & amp; SHGC (0.30). Doors with greater

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Tag/ID	Fenestration Type	Frame Type	Dynamic Glazing	Orientation N, S, W, E	# of Panes	Proposed Fenestration Area (ft ²)	Proposed West Facing Fenestration Area (ft ²)	Proposed U-factor	Proposed U-factor Source	Proposed SHGC	Proposed SHGC Source	Exterior Shading Device	Combined SHGC from CF1R-ENV- 03
NORTH- (2)W8, W1	Operable window	Non-metal	None	North	Double pane	24	n/a	0.3	NFRC	0.23	NFRC	None	n/a
EAST -(2)W6, W7	Operable window	Non-metal	None	East	Double pane	80	n/a	0,3	NFRC	0.23	NFRC	None	n/a
SOUTH- (2)W2, w3	Operable window	Non-metal	None	South	Double pane	26	n/a	0.3	NFRC	0.23	NFRC	None	n/a
WEST- (2)W4, W5	Operable window	Non-metal	None	North	Double pane	69	n/a	0.3	NFRC	0.23	NFRC	None	n/a

PREPARED BY:

RIVERSIDE COUNTY, CA TEL:951-323-2187 Email: everett@everettsmithdesigns.com This document, and the ideas and designs incorporated herein, as an instrument of professional service, is the property of Everett Smith, and is not to be used in whole or in part, for any other project without the written authorization of Everett Smith/ESDESIGNS. All Rights Reserved

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(E) PROPOSED

Description Building Corrections 2022.11.

PROJECT ADDRESS:

9306 Hot Springs Rd, Corona, CA 92883, USA

¢LIENT NAME:

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MURPHY& NELSON

Sections

22-2157 Project number Date 11/29/2022 7:53:37 AM Author Checked by Checker

A5

1/4" = 1'-0"

CONSTRUCTION REQUIREMENTS

1. BATHROOM

- A. ROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR FIXTURES SHALL BE PROVIDED WITH AN EXHAUST FAN WITH A MINIMUM CAPACITY OF 50 CFM. DUCTLESS FANS ARE UNACCEPTABLE. CRC R303.3, CBC 1203.4.2.1, CMC T-4-4
- B. CLEARANCE FOR WATER CLOSET TO BE A MINIMUM OF 24-INCHES IN FRONT, AND 15-INCHES FROM ITS CENTER TO ANY SIDE WALL OR OBSTRUCTION. CPC 402.5
- C. WATER CLOSET SHALL HAVE AN AVERAGE CONSUMPTION OF A MAXIMUM OF 1.28 GALLONS OF WATER PER FLUSH. CPC 403.2.1
- D. RESIDENTIAL FAUCETS SHALL NOT EXCEED A WATER SUPPLY FLOW RATE OF 1.5 GALLONS PER MINUTE MEASURED AT 60 PSI. AND 0.8 GALLONS PER MINUTES AT 20 PSI.
- E. SHOWER HEADS SHALL NOT EXCEED A WATER SUPPLY FLOW RATE CPC 403.7 OF 1.8 GALLONS OF WATER PER MINUTE AT 80 PSI. CPC 408.2
- F. WALL COVERING OF SHOWERS OR TUBS WITH SHOWERS SHALL BE OF SMOOTH, NONABSORBENT SURFACE EXTENDED TO A HEIGHT NOT LESS THAN 6 FEET ABOVE THE FLOOR CRC R307.2, CBC 1210.2.3
- G. THE NET AREA OF THE SHOWER ENCLOSURE SHALL BE 1,024 SQ. INCHES (7.1 SQ. FEET) OR MORE IN CLEAR FLOOR AREA, AND SHALL ALSO BE CAPABLE OF ENCOMPASSING A 30-INCH DIAMETER CIRCLE. CPC 408.6

- A. KITCHEN SHALL HAVE A CLEAR PASSAGEWAY OF NOT LESS THAN 3 FT. CBC 1208.1
- B. PROVIDE LOCAL EXHAUST SYSTEM VENTED TO OUTDOORS WITH RATE = 100 CFM. CEC 150(o), ASHRAE STD. 62.2.
- C. FAUCETS AT KITCHENS SHALL NOT EXCEED A WATER SUPPLY FLOW RATED OF 1.8 GALLONS PER MINUTE MEASURED AT 60 PSI. CDC 403.6
- 3. SAFETY GLAZING SHALL BE PROVIDED AT THE FOLLOWING HAZARDOUS LOCATIONS CRC R308.4 (CBC 2406.4): A. WHEN LOCATED WITHIN 60-INCHES OF THE FLOOR SURFACE IN TUBS, SHOWERS, SAUNAS, OR STEAM ROOMS WHEN LOCATED WITHIN 60-INCHES OF THE FLOOR SURFACE IN TUBS, SHOWERS, SAUNAS,
- B. WHERE GLAZING AREA IS MORE THAN 9 SQ. FT. IN AREA, WITH THE BOTTOM EDGE LESS THAN
- 18-INCHES ABOVE THE FLOOR AND TOP EDGE MORE THAN 36-INCHES ABOVE FLOOR. 4. ELECTRICAL:
- A. ALL RECEPTACLE OUTLETS IN BATHROOMS, ABOVE KITCHEN COUNTERTOP, CRAWL SPACES. GARAGE, ROOFTOPS, OUTDOOR OUTLETS, WITHIN 6-FEET OF WET BAR SINK/LAUNDRY SINK TO BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTER (GFCI). CEC 210.8.
- B. ALL RECEPTACLE OUTLETS ARE REQUIRED TO BE LISTED TAMPER RESISTANT. (CEC 406.12 AND 210.52) C. DELETED

OR STEAM ROOMS

- D. AT A MINIMUM, ONE DEDICATED 20 AMP CIRCUIT IS REQUIRED FOR A BATHROOM. (CEC 210.11(C)(2))
- E. A GFCI PROTECTED RECEPTACLE IS REQUIRED WITHIN 3 FEET OF THE EDGE OF EACH BASIN IN A BATHROOM. (CEC 210.52(D))
- F. RECEPTACLE OUTLETS ARE NOT ALLOWED WITHIN OR OVER A BATHTUB OR SHOWER STALL. (CEC 406.9 (C))
- G. SUBPANELS ARE NOT ALLOWED TO BE LOCATED IN BATHROOMS OR CLOTHES CLOSETS
- (CEC 240.24(D) AND 240.25(E)) H. 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 NON-CABLE CIRCUITS IN PANEL (CEC 210.4(D))
- I. THE KITCHEN COUNTER TOP RECEPTACLES MUST HAVE A MIN. OF 2 DEDICATED 20 AMP CIRCUITS. (CEC 210.52(B))
- J. THE RECEPTACLES IN THE DINING AREA, PANTRY, OR BREAKFAST NOOK MUST BE SUPPLIED BY DEDICATED 20 AMP CIRCUITS. (CEC 210.52(B))
- K. KITCHEN COUNTER TOPS 12 INCHES OR WIDER MUST HAVE A RECEPTACLE OUTLET. (CEC 210.52(C))
- L. 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))
- M. ISLAND AND PENINSULAR COUNTER TOPS MUST HAVE AT LEAST ONE RECEPTACLE (CEC 210.52(C)(1) AND (2))
- N. KITCHEN COUNTERTOP RECEPTACLES SHALL BE READILLY ACCESSIBLE, AND LOCATED NO MORE THAN

20 INCHES ON OR ABOVE, OR MORE THAN 12 INCHES BELOW THE COUNTERTOP SURFACE. (CEC 210.52(C)(5))

11' - 4"

1/4" = 1'-0"

County of Riverside Building & Safety

4080 Lemon St. 9th Floor.

Riverside, CA 92502

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REVIEWED BY: idunage

- O. THE SPACING FOR GENERAL RECEPTACLE OUTLETS MUST BE LOCATED SO THAT NO POINT ON ANY WALL OR FIXED GLASS IS OVER 6 FEET FROM A RECEPTACLE OUTLET. (CEC 210.52(A))
- P. HALLWAY 10 FEET OR MORE MUST HAVE AT LEAST ONE RECEPTACLE OUTLET. (CEC 210.52(H))
- Q. LAUNDRY ROOMS MUST HAVE AT LEAST ONE DEDICATED 20 AMP RECEPTACLE CIRCUIT. (CEC 210.11 (C) (2))
- 5. SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS (R314.3):

604.1.1(D) OF THE CPC PRIOR TO PERMIT ISSUANCE. NOTE PIPE MATERIAL ON PLANS.

- 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. SMOKE ALARMS SHALL BE HARDWIRED WITH BATTERY BACK-UP AND INTERCONNECTED UNLESS EXEMPTED IN
- ACCORDANCE WITH SECTIONS R314.4 & R314.5.
- 6. CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS (R315.1.4): A. OUTSIDE OF EACH SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM(S).
- B. ON EVERY LEVEL OF THE DWELLING UNIT INCLUDING BASEMENTS.
- 7. EMERGENCY EGRESS WINDOWS SHALL BE MIN. 5.7 SQ. FT, MIN. NET WIDTH 20" AND MIN. NET HEIGHT 24", BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44" ABOVE FINISHED FLOOR. (R310) WINDOWS ABOVE FIRST LEVEL AND HAVING SILL HEIGHT < 24" SHALL BE PROTECTED BY GUARDS (R312.2.1)

PLUMBING NOTES:

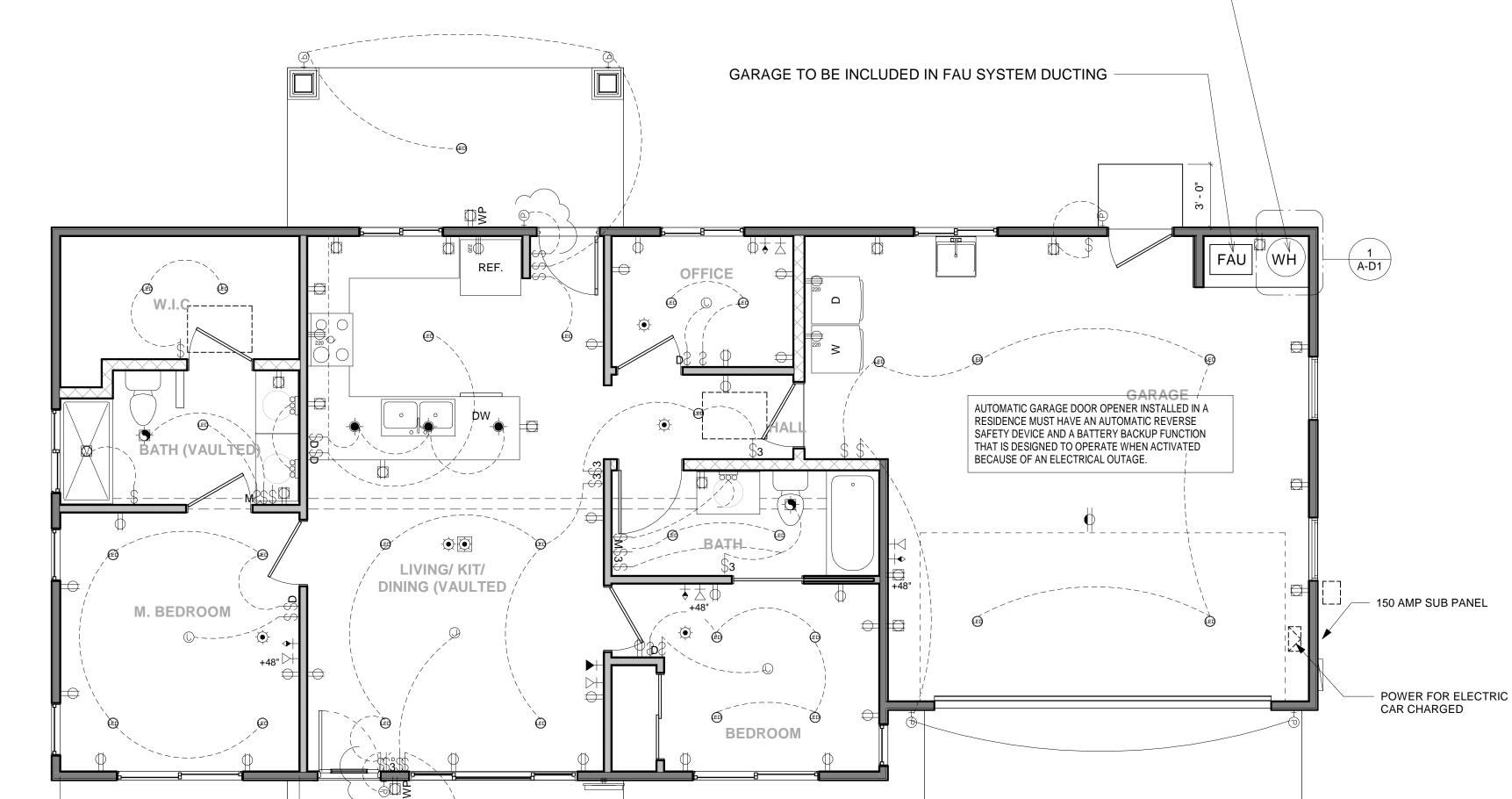
WATER PIPING MATERIALS WITHIN A BUILDING SHALL BE IN ACCORDANCE WITH SEC. 604.1 OF THE CALIFORNIA PLUMBING CODE. PEX, CPVC AND OTHER PLASTIC WATER PIPING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SEC. 604 OF THE CPC, INSTALLATION STANDARDS OF APPENDIX I OF THE CPC AND MANUFACTURERS RECOMMENDED INSTALLATION STANDARDS. CPVC WATER PIPING REQUIRES A CERTIFICATION OF COMPLIANCE AS SPECIFIED IN SEC

- WATER CLOSETS SHALL HAVE AN AVERAGE WATER CONSUMPTION OF NOT MORE THAN 1.28 GALLONS PER FLUSH. (411.2 CPC) NOTE ON PLANS.
- SHOWER HEADS SHALL HAVE A WATER FLOW NOT TO EXCEED 2.5 GALLONS PER MINUTE AT 80 PSI. (408.2 CPC) NOTE ON PLANS. THE MAXIMUM FLOW RATE OF LAVATORY FAUCETS SHALL NOT EXCEED 1.5 GALLONS PER MINUTE AT 60 PSI. (403.7 CPC) NOTE ON PLANS.

ELECTRICAL NOTES:

- BATHROOM RECEPTACLES ARE TO BE SUPPLIED BY AT LEAST ONE 20-AMP BRANCH CIRCUIT. THIS CIRCUIT SHALL HAVE NO OTHER OUTLETS. CEC 210.11 (C)(3) & 210.52 (B & D)
- AT LEAST ONE RECEPTACLE OUTLET READILY ACCESSIBLE FROM GRADE AND NOT MORE THAN 6'-6" ABOVE GRADE LEVEL FRONT AND BACK OF THE DWELLING. CEC 210.52 (E)(1 & 2)
- E3. ALL JA8 COMPLAINT LIGHT SOURCES, EXCEPT THOSE IN CLOSETS LESS THAN 70 SQUARE FEET AND THOSE IN HALLWAYS, SHALL BE CONTROLLED BY DIMMERS OR VACANCY SENSORS. (150(K)2K & TABLE 150.0-A CEC) JA8 COMPLIANT LIGHT SOURCES INCLUDE LIGHT SOURCES IN CEILING RECESSED DOWNLIGHT LUMINAIRES AND GU-24 SOCKETS CONTAINING LED LIGHT SOURCES.
- E4 ALL RESIDENTIAL OUTDOOR LIGHTING PERMANENTLY MOUNTED TO THE RESIDENCE OR OTHER BUILDINGS ON THE SAME LOT BE HIGH-EFFICACY AND MEET THE FOLLOWING REQUIREMENTS (SHOW ON THE SHEET A-2.1): (150(K)3A CEC) LIGHTS SHALL COMPLY WITH ONE OF THE TWO OPTIONS BELOW:
 - CONTROLLED BY A PHOTOCELL AND MOTION SENSOR. CONTROLS THAT OVERRIDE TO ON SHALL NOT BE ALLOWED UNLESS THE OVERRIDE AUTOMATICALLY REACTIVATES THE MOTION SENSOR WITHIN 6 HOURS.
 - CONTROLLED BY (1) PHOTOCONTROL AND AUTOMATIC TIME SWITCH CONTROL OR (2) ASTRONOMICAL TIME CLOCK OR (3) ENERGY MANAGEMENT CONTROL SYSTEM MEETING THE REQUIREMENTS OF 150(K)3A.
 - LIGHTS SHALL BE CONTROLLED BY A MANUAL ON AND OFF SWITCH THAT DOES NOT OVERRIDE TO ON THE AUTOMATIC ACTIONS OF ITEM I OR ITEM II CHOSEN ABOVE.

WATER HEATER INSTALLED IN RESIDENTIAL GARAGES, SHALL BE INSTALLED SO THAT ALL THE BURNERS AND BURNER. IGNITION DEVICES ARE LOCATED NOT LESS THAN 18" ABOVE THE FLOOR UNLESS LISTED AS FLAMMABLE VAPOR IGNITION RESISTANT [CPC 507.13].



1. DUCTS IN THE GARAGE AND DUCTS PENETRATING THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE CONSTRUCTED OF MINIMUM NO. 26 GAGE SHEET STEEL OR OTHER APPROVED MATERIAL AND SHALL NOT HAVE OPENINGS INTO THE GARAGE. "FLEX DUCT IS NOT ALLOWED" 2. FIRE-BLOCKING IS REQUIRED AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES, AND WIRES AT CEILING AND FLOOR PRPOSED ELECTRICAL PLAN

ELECTRICAL NOTES:

R302.11(4)].

A. FOR ALL 125-VOLT, SINGLE PHASE, 15- AND 20-AMP RECEPTACLES, GFCI OUTLETS ARE REQUIRED FOR ALL KITCHEN RECEPTACLES THAT ARE DESIGNED TO SERVE COUNTERTOP SURFACES, BATHROOMS, UNDERFLOOR SPACES OR BELOW GRADE LEVEL, IN EXTERIOR OUTLETS, LAUNDRY AREAS, WITHIN 6' OF UTILITY/WET BAR SINKS, DISHWASHERS AND IN ALL GARAGE. INCLUDING OUTLETS DEDICATED TO A SINGLE DEVICE OR GARAGE DOOR OPENER [CEC 210.8 (A)].

LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE

PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION [CRC

- FOR ALL 120-VOLT, SINGLE PHASE, 15- AND 20-AMP RECEPTACLES, AFCI OUTLETS ARE REQUIRED FOR KITCHEN, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS. OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN [CEC 210.12 (A)]
- ALL 125-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE RECEPTACLES INSTALLED OUTDOORS, GARAGES, ETC. SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION FOR PERSONNEL [CEC 210.8(A)(1)-(10)]. RECEPTACLES LOCATED OUTDOORS SHALL BE WEATHER RESISTANT, TAMPER RESISTANT, ENCLOSED IN AN

APPROVED BUBBLE COVER [CEC 406.9, 406.12, 210.52(E)].

AT INSTALL VERIFY RECEPTACLES ARE IN ACCORDANCE WITH [CEC 210.52]:

A. (A)(1) SPACING: RECEPTACLE OUTLETS TO BE INSTALLED, SO THAT NO POINT ALONG THE WALL IS FURTHER THAN 6' FROM AN OUTLET. B. (C)(2)&(3) KITCHEN: PROVIDE RECEPTACLES WITHIN

COUNTERS AND ISLANDS (12" OR MORE IN WIDTH) (C)(2)&(3) PROVIDE AT LEAST ONE OUTLET FOR ISLANDS

2FT OF KITCHEN SINK AND AT 4FT ON CENTER AT

OR PENINSULAR COUNTER SPACES

PREPARED BY: WALL MOUNTED INCANDESCENT MULTI-LIGHT FIXTURE WALL MOUNTED FLUORESCENT LIGHT FIXTURE WALL MOUNTED INCANDESCENT LIGHT FIXTURE WALL MOUNTED FLUORESCENT LIGHT WALL MOUNTED UP LIGHT @ 16" A.F.F. U.N.O SURFACE MOUNTED FLUORESCENT CEILING LIGHT FIXTURE SURFACE MOUNTED INCANDESCENT CEILING LIGHT FIXTURE PENDANT LIGHT FIXTURE 4" RECESSED FLUORESCENT LIGHT FIXTURE 6" RECESSED LED LIGHT FIXTURE 4" RECESSED INCANDESCENT LIGHT FIXTURE 6" RECESSED INCANDESCENT LIGHT FIXTURE 1' X 4" SURFACE MOUNTED FLUORESCENT CEILING LIGHT FIXTURE 2' X 4' SURFACE MOUNTED FLUORESCENT CEILING LIGHT FIXTURE SURFACE MOUNTED FLUORESCENT UNDER CABINET LIGHT FIXTURE This document, and the ideas and designs incorporated herein, as an instrument of professional service, is the property SURFACE MOUNTED FLUORESCENT SOFFIT LIGHT FIXTURE RECESSED LIGHT FIXTURE ON PHOTOCELL SURFACE MOUNTED LIGHT FIXTURE ON PHOTOCELL VAPOR PROOF RECESSED LIGHT FIXTURE, UL LISTED RECESSED WALL WASH INCANDESCENT MULTI-LIGHT FIXTURE RECESSED WALL WASH INCANDESCENT LIGHT FIXTURE RECESSED LIGHT-EMITTING DIODE FIXTURE _Switche SINGLE SWITCH $\overline{\Theta}$ 3-WAY SWITCH 4-WAY SWITCH SWITCH W/ MANUAL-ON/ AUTOMATIC-OFF OCCUPANT MOTION SENSOR 30"MIN. NO MANUAL OVERRIDE DIMMER SWITCH 3-WAY DIMMER SWITCH 4-WAY DIMMER SWITCH DOOR JAMB SWITCH _Outlets_ 110V CONV ARC FAULT CIRCUIT INTERRUPTED DUPLEX **OUTLET - UNDER CABINET** 110V CONV ARC FAULT CIRCUIT INTERRUPTED DUPLEX OUTLET 110V CONV ARC FAULT CIRCUIT INTERRUPTED DUPLEX **OUTLET - HALF HOT** 110V CONV ARC FAULT CIRCUIT INTERRUPTED DUPLEX CEILING OUTLET - HALF HOT 220V OUTLET GROUND FAULT INTERRUPTED DUPLEX OUTLET WEATHERPROOF GROUND FAULT INTERRUPTED DUPLEX OUTLE

FLOOR OUTLET, ROUND W/ LOW VOLTAGE OUTLET JUNCTION BOX

Genera DOOR CHIMES

PUSH-BUTTON SMOKE DETECTOR/ ALARM HARD WIRED IN A SERIES (ALARMS SHALL BE INTERCONNECTED SEC 907.2.10) & W/ BATTERY BACK-UP WALL MOUNTED SMOKE DETECTOR/ ALARM HARD WIRED IN A SERIES (ALARMS SHALL BE INTERCONNECTED SEC 907.2.10) & W/ BATTERY BACK-UP

SMOKE DETECTOR AND CARBON MONOXIDE ALARM COMBO HARD WIRED IN A SERIES (ALARMS SHALL BE INTERCONNECTED SEC 907.2.10) & W/BATTERY BACK-UP TELEPHONE JACK

CABLE TELEVISION JACK COMPUTER DATA JACK

CENTRAL VACUUM SYSTEM SECURITY SYSTEM PANEL

CABLE PANEL ELECTRICAL PANEL (200AMP) **TELEPHONE PANEL**

13" X 4" ADDRESS SIGN ON PHOTO CELL _Wate_

HOSE BIB W/ NON-REMOVABLE BACK FLOW PREVENTER DEVICE HOSE BIB W/ SHUT-OFF/ NON-REMOVABLE BACK FLOW PREVENTER DEVICE

COLD WATER STUB FOR ICE MAKER TANKLESS WATER HEATER MOUNTED @ 18" MIN. A.F.F., PROVIDE GAS, WATER, AND POWER HOOK -UP

——— **FUEL GAS** FIREPLACE KEY/SWITCH GAS COMPANY RISER- 250 STANDARD SFD METER PER S.D.G.& E

FRONT, 15" CLR. E.A. SIDE

SPLIT AIR CONDITIONING UNIT

_Climate THERMOSTAT 220V CIRCUIT BREAKER FOR A.C. COMPRESSOR-30" CLR IN

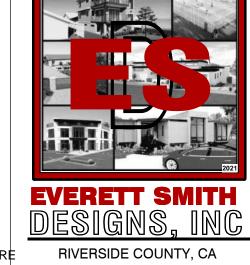
_Exhaust

ENERGY STAR EXHAUST FAN 50 CFM. MIN. CONTROL BY A HUMIDSTAT CAPABLE OF BEING ADJUSTED BETWEEN RELATIVE HUMIDITY RANGE OF 50%-80%, VENTED TO OUTSIDE AIR ENERGY STAR EXHAUST FAN AND FLUORESCENT LIGHT FIXTURE COMBO 50 CFM. MIN. CONTROL BY A HUMIDSTAT

CAPABLE OF BEING ADJUSTED BETWEEN RELATIVE HUMIDITY RANGE OF 50%-80%, VENTED TO OUTSIDE AIR

TO 14' WITH 2 ELBOWS MAX.

OVER HEAD EXHAUST HOOD ABOVE COOK TOP VENTED DIRECTLY TO OUTSIDE AIR. PROVIDE 100 CFM. MIN. DRYER EXHAUST DUCT 4" DIA. MIN. VENTED TO OUTSIDE W/



TEL:951-323-2187 Email: everett@everettsmithdesigns.com

any other project without the written authorization of Everett Smith/ ESDESIGNS. All Rights Reserved

ENGINEER OF RECORD:

RAHMAN ENGINEERING

13611 12TH ST, SUITE-B CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



Description Building Corrections | 2022.11.

9306 Hot Springs Rd, Corona, CA 92883, USA

CLIENT NAME: MURPHY& NELSON

ADU Electrical

22-2157 Project number Date 11/29/2022 7:53:38 AM Author

Checker

BACKDRAFT DAMPER. EXHAUST DUCT LENGTH IS LIMITED 1/4" = 1'-0"

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CHAPTER 3 **GREEN BUILDING SECTION 301 GENERAL** 301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

application checklists and may be included in the design and construction of structures covered by this code,

but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

ABBREVIATION DEFINITIONS: Department of Housing and Community Development California Building Standards Commission Division of the State Architect, Structural Safety

OSHPD Office of Statewide Health Planning and Development High Rise Additions and Alterations

RESIDENTIAL MANDATORY MEASURES

DIVISION 4.1 PLANNING AND DESIGN SECTION 4.102 DEFINITIONS

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

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar

pervious material used to collect or channel drainage or runoff water. WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also

used for perimeter and inlet controls.

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTIONProjects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

- 1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
- 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved
- 3. Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

- 2. Water collection and disposal systems 3. French drains
- Water retention gardens
- 5. Other water measures which keep surface water away from buildings and aid in groundwater

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the alifornia Electrical Code, Article 625.

1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:

1.1 Where there is no commercial power supply. 1.2 Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than \$400.00 per

2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings. If residential parking is available, ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed

4.106.4.2.1 Electric vehicle charging space (EV space) locations. Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.

4.106.4.2.1.1 Electric Vehicle Charging Stations (EVCS) When EV chargers are installed, EV spaces required by Section 4.106.2.2. Item 3. shall comply with at least one of the following options:

1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger

from the accessible parking space. 2. The EV space shall be located on an accessible route, as defined in thealifornia Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.1.1 and

Note: Electric Vehicle charging stations serving public housing are required to comply with thealifornia

Building Code, Chapter 11B.

4.106.4.2.2 Electric vehicle charging space (EV space) dimensions. The EV space shall be designed to comply with the following:

- 1. The minimum length of each EV space shall be 18 feet (5486 mm). The minimum width of each EV space shall be 9 feet (2743 mm).
- 3. One in every 25 EV spaces, but not less than one EV space, shall have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
 - a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.3 Single EV space required. Install a listed raceway capable of accommodating a 208/240volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

4.106.4.2.4 Multiple EV spaces required. Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

4.106.4.2.5 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

4.106.4.3 New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location

nearest whole number.

1. Construction documents are intended to demonstrate the project's capability and capacity or facilitating future EV charging.

- 2. There is no requirement for EV spaces to be constructed or available until EV chargers
- 4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.Calculations for the required number of EV spaces shall be rounded up to the

TOTAL NUMBER OF PARKING SPACES	NUMBER OF REQUIRED EV SPACES
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total

4.106.4.3.2 Electric vehicle charging space (EV space) dimensions. The EV spaces shall be designed to comply with the following:

1. The minimum length of each EV space shall be 18 feet (5486mm). 2. The minimum width of each EV space shall be 9 feet (2743mm)

4.106.4.3.3 Single EV space required. When a single EV space is required, the EV space shall be designed in accordance with Section 4.106.4.2.3.

4.106.4.3.4 Multiple EV spaces required. When multiple EV spaces are required, the EV spaces shall be designed in accordance with Section 4.106.4.2.4.

4.106.4.3.5 Identification. The service panels or sub-panels shall be identified in accordance with Section 4.106.4.2.5.

4.106.4.3.6 Accessible EV spaces. In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for the EV charging stations in the California Building Code Chapter 11B.

DIVISION 4.2 ENERGY EFFICIENCY

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION 4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and

urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving

plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower . When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

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

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

more than 0.2 gallons per cycle. 4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver

to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve

4.303.2 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code

available at: https://www.water.ca.gov/

4.304 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 is more stringent.

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in thealifornia Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are

> County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502 12/08/2022 4:22:07 PM REVIEWED BY: jdunagan proval of these plans shall not be construed to be a permit for, or an approva plans must be kept on the job until completion

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE **EFFICIENCY**

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING 4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

1. Excavated soil and land-clearing debris.

2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably

3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility. 4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as

necessary and shall be available during construction for examination by the enforcing agency. 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling,

reuse on the project or salvage for future use or sale. 2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or

bulk mixed (single stream). 3. Identify diversion facilities where the construction and demolition waste material collected will be

4. Identify construction methods employed to reduce the amount of construction and demolition waste 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated

by weight or volume, but not by both. 4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and

demolition waste material diverted from the landfill complies with Section 4.408.1. Note: The owner or contractor may make the determination if the construction and demolition waste

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

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

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

1. Sample forms found in "A Guide to the California Green Building Standards Code

(Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section. 2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the

following shall be placed in the building: 1. Directions to the owner or occupant that the manual shall remain with the building throughout the

life cycle of the structure. 2. Operation and maintenance instructions for the following:

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

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

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

c. Space conditioning systems, including condensers and air filters. d. Landscape irrigation systems.

e. Water reuse systems. 3. Information from local utility, water and waste recovery providers on methods to further reduce

resource consumption, including recycle programs and locations. 4. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent

and what methods an occupant may use to maintain the relative humidity level in that range. 6. Information about water-conserving landscape and irrigation design and controllers which conserve

7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5

feet away from the foundation.

8. Information on required routine maintenance measures, including, but not limited to, caulking,

painting, grading around the building, etc. 9. Information about state solar energy and incentive programs available

10. A copy of all special inspections verifications required by the enforcing agency or this code.

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, and metals, or meet a lawfully enacted local recycling

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are note required to comply with the organic waste portion of

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

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

SECTION 4.502 DEFINITIONS

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

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

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

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for

RIVERSIDE COUNTY, CA

PREPARED BY:

Email: everett@everettsmithdesigns.com This document, and the ideas and designs incorporate erein, as an instrument of professional service, is the property

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13611 12TH ST, SUITE-B,

CHINO, CA 91710

ENGINEER OF RECORD:



PROJECT:

PROJECT ADDRESS:

No. Description

9306 Hot Springs Rd, Corona,

CLIENT NAME:

MURPHY& NELSON

General Notes

22-2157 Project number Date 11/29/2022 7:53:39 AM

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Author

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2020, Includes August 2019 Supplement)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O³/g ROC). Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR)The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging). Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

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

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

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

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

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

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

- 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and tricloroethylene), except for aerosol products, as specified in Subsection 2 below.
- 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations Title 17, commencing with section 94507.

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

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

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

1. Manufacturer's product specification. 2. Field verification of on-site product containers.

Less Water and Less Exempt Compounds in Gra	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR

QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LI	MIT
(Less Water and Less Exempt Compounds in G	rams per Liter)
SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

EXEMPT COMPOUNDS	
COATING CATEGORY	VOC LIMIT
LAT COATINGS	50
ION-FLAT COATINGS	100
IONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
SOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
LOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
NDUSTRIAL MAINTENANCE COATINGS	250
OW SOLIDS COATINGS1	120
MAGNESITE CEMENT COATINGS	450
ASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
EACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
OOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
HELLACS	
LEAR	730
PAQUE	550
SPECIALTY PRIMERS, SEALERS	100
INDERCOATERS	
STAINS	250
STONE CONSOLIDANTS	450
WIMMING POOL COATINGS	340
RAFFIC MARKING COATINGS	100
UB & TILE REFINISH COATINGS	420
VATERPROOFING MEMBRANES	250
VOOD COATINGS	275
VOOD PRESERVATIVES	350
INC-RICH PRIMERS . GRAMS OF VOC PER LITER OF COATING, II SEMPT COMPOUNDS . THE SPECIFIED LIMITS REMAIN IN EFFECT	
MITS REMAIN IN EFFECT IMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE VALUES IN THIS TABLE ARE DERIVED FRO BY	

PRODUCT
HARDWOOD PLYWOOD VENEER CORE
HARDWOOD PLYWOOD COMPOSITE CORE
PARTICLE BOARD
MEDIUM DENSITY FIBERBOARD
THIN MEDIUM DENSITY FIBERBOARD 2 1. VALUES IN THIS TABLE ARE DERIVED FROM SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR MEASURE FOR COMPOSITE WOOD AS TEST ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFOR CODE OF REGULATIONS, TITLE 17, SECTION 231291122MEDIUM DENSITY FIBERBOARD HAS MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the testing and product requirements of at least one of the following:

- 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" Version 1.1, February 2010 (also known as Specification 01350).
- 3. NSF/ANSI 140 at the Gold level. 4. Scientific Certifications Systems Indoor Advantage Gold.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall comply with one or more of the following:

- 1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material
- in the Collaborative for High Performance Schools (CHPS) High Performance Products Database. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program).
- . Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program. 4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of
- Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers", Version 1.1, February 2010 (also known as Specification 01350).

4.504.5 COMPOSITE WOOD PRODUCTS.Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.

- Product labeled and invoiced as meeting the Composite Wood Products regulation (see
- CCR, Title 17, Section 93120, et seq.). 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered
- Wood Association, the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
- 5. Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL 4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code

4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see Āmerican Concrete Institute, ACI 302.2R-06.

Other equivalent methods approved by the enforcing agency. 3. A slab design specified by a licensed design professional.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

- 1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements
- 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end
- 3. At least three random moisture readings shall be performed on wall and floor framing with documentation
- acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying

4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the

recommendations prior to enclosure.

- 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a
- a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of
- b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in)

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be

2. Lighting integral to bathroom exhaust fans shall comply with the alifornia Energy Code. 4.507 ENVIRONMENTAL COMFORT

sized, designed and have their equipment selected using the following methods:

- 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
- 2. Duct systems are sized according to ANSI/ACCA 1 Manual D 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
- 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable

INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or

Examples of acceptable HVAC training and certification programs include but are not limited to the following:

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the

considered by the enforcing agency when evaluating the qualifications of a special inspector.

project they are inspecting for compliance with this code.

shall be closely related to the primary job function, as determined by the local agency.

1. Certification by a national or regional green building program or standard publisher.

3. Successful completion of a third party apprentice training program in the appropriate trade.

homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall

this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the

employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with

particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification

Note: Special inspectors shall be independent entities with no financial interest in the materials or the

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not

limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other

documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in

County of Riverside Building & Safety

4080 Lemon St. 9th Floor.

Riverside, CA 92502

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pproval of these plans shall not be construed to be a permit for, or an approval

plans must be kept on the job until completic

methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific

responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or

other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to

other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be

2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building

. Special inspectors shall be independent entities with no financial interest in the materials or the

2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate

certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems.

3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.

CHAPTER 7

702 QUALIFICATIONS

1. State certified apprenticeship programs.

4. Programs sponsored by manufacturing organizations.

performance contractors, and home energy auditors.

4. Other programs acceptable to the enforcing agency.

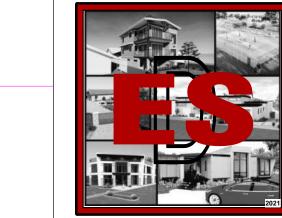
project they are inspecting for compliance with this code.

the appropriate section or identified applicable checklist.

703 VERIFICATIONS

5. Other programs acceptable to the enforcing agency.

Public utility training programs.



PREPARED BY:

TEL:951-323-2187 Email: everett@everettsmithdesigns.com This document, and the ideas and designs incorporate

RIVERSIDE COUNTY, CA

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ENGINEER OF RECORD:

RAHMAN

13611 12TH ST, SUITE-B, CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



Description

9306 Hot Springs Rd, Corona,

MURPHY& NELSON

General Notes

22-2157 Project number Date 11/29/2022 7:53:40 AM

Checker

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CERTIFICATE OF COMPLIANCE

Registration Number: 222-N010186350A-000-000-0000000-0000

CA Building Energy Efficiency Standards - 2019 Residential Compliance

resc	riptive Newly Cons	structed Build	ings								(Page 1 of 8		
Proje	ct Name:						Hot Spring	s ADU -	Date Prepa	red:	2022-09-19		
A. Ger	neral Information	-				<u></u>							
01	Project Name Hot Springs ADU					02	Date Prepared			2022-09-19T00:00:00			
03	Project Location 9306 Hot Springs Road			i		04	Building Front Orientation (deg or cardinal)			90			
05	CA City Corona					06	Number of Dwelli	ing Units		1			
07	Zip Code	9288	3			08	Fuel Type	40		Natural gas			
09	Climate Zone	10				10	Total Conditioned	Floor Area	(ft ²):	1000			
11	Building Type	Singl	e family			12	Slab Area (ft ²):	er van een een een een van die 1900 van die 1900 van een een een een een een een een een e	TE 100 100 100 100 100 100 100 100 100 10	1000			
13	Project Scope	New	ly Constructed			14	Fenestration Exce	ptions		NA (do not allow ot	her entries)		
0:	. 02	03	04	05	06	07	08	09	10	11	12		
0:	L 02	03	04	05	06	07	08 Proposed	09	10	11 Required	12		
O:	Assambly	03 Frame Type	04 Frame Depth (inches)	Frame Spacing (inches)	Cavity	Continuous	Proposed	T	10 dix JA4 Reference	Required U-Factor	12 Comments		
	Assembly		Frame Depth	Frame Spacing	a	C		T	dix JA4 Reference	Required			
Tag,	/ID Assembly Type		Frame Depth	Frame Spacing	Cavity	Continuous Insulation	Proposed	Appen	dix JA4 Reference	Required U-Factor from Table			
Tag,	/ID Assembly Type	Frame Type Wood	Frame Depth (inches)	Frame Spacing (inches) @ 16 in. O. C.	Cavity R-value	Continuous Insulation R-value	Proposed U-Factor	Appen Table	dix JA4 Reference	U-Factor from Table 150.1-A or B			
Tag,	Assembly Type	Frame Type Wood	Frame Depth (inches)	Frame Spacing (inches) @ 16 in. O. C.	Cavity R-value	Continuous Insulation R-value	Proposed U-Factor	Appen Table 4.2.1	dix JA4 Reference	U-Factor from Table 150.1-A or B			
Tag, A5-Se C. Opa	Assembly Type	Frame Type Wood Non-framed (Frame Depth (inches) 2x4 Section 150.1(c	Frame Spacing (inches) @ 16 in. O. C.	Cavity R-value	Continuous Insulation R-value	U-Factor 0.031	Appen Table 4.2.1	dix JA4 Reference	U-Factor from Table 150.1-A or B			

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CA Building Energy Efficiency Standards - 2019 Residential Compliance

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CA Building Energy Efficiency Standards - 2019 Residential Compliance

Registration Number: 222-N010186350A-000-000-0000000-0000

CA Building Energy Efficiency Standards - 2019 Residential Compliance

CERTI	FICATE OF COMPLIANCE	CF1R-NCB-01-E
Prescr	iptive Newly Constructed Buildings	(Page 4 of 8)
15	Total Proposed Fenestration Area	199
16	Maximum Allowed Fenestration Area	200
17	Compliance Statement	Design complies with the total allowed fenestration area
18	Total Proposed West-Facing Fenestration Area	0
19	Maximum Allowed West Facing Fenestration Area	50
20	Compliance Statement	Design complies with the total allowed west-facing fenestration area
21	Proposed Fenestration U-factor (Windows)	0.3
22	Required Fenestration U-factor (Windows)	0.30
23	Compliance Statement	Design complies with the maximum allowed fenestration U-value
24	Proposed Fenestration SHGC (Windows)	0.23
25	Required Fenestration SHGC (Windows)	0.23
26	Compliance Statement	Design complies with the maximum allowed fenestration SHGC
27	Proposed Fenestration U-factor (Skylights)	n/a ROVIDER
28	Required Fenestration U-factor (Skylights)	0.30
29	Compliance Statement	n/a
30	Proposed Fenestration SHGC (Skylights)	n/a
31	Required Fenestration SHGC (Skylights)	0.23
32	Compliance Statement	n/a

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CA Building Energy Efficiency Standards - 2019 Residential Compliance

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Registration Number: 222-N010186350A-000-000-0000000-0000

CA Building Energy Efficiency Standards - 2019 Residential Compliance

CERTIFICATE OF COMPLIANCE CF1R-						
Prescriptive Newly Constructed Buildings		(Page 7 of 8				
P. IAQ Fan Information						
01	02	03				
Fan Name	IAQ Type	Comments				
Fan 1	Balanced					
Quality Insulation Installation - Section 150.1(c)1E						
EXCEPTION: Multifamily dwelling units in Climate Zone 7.	lity Insulation Installation (QII) as specified in Reference Append	lix RA3.5 and be verified by a HERS rater.				
.EXCEPTION: Multifamily dwelling units in Climate Zone 7. Duct Leakage Verification- Section 150.0(m)11 Duct leakage testing is required (Residential Appendix RA3.	1) in all climate zones for ducted heating and cooling systems.	lix RA3.5 and be verified by a HERS rater.				
.EXCEPTION: Multifamily dwelling units in Climate Zone 7. Duct Leakage Verification- Section 150.0(m)11 Duct leakage testing is required (Residential Appendix RA3. Zonally Controlled Systems - Bypass Dampers - Section 150.1(c)13	1) in all climate zones for ducted heating and cooling systems.					
.EXCEPTION: Multifamily dwelling units in Climate Zone 7. Duct Leakage Verification- Section 150.0(m)11 Duct leakage testing is required (Residential Appendix RA3. Zonally Controlled Systems - Bypass Dampers - Section 150.1(c)13 If system is zonally controlled, no bypass ducts are allowed Refrigerant Charge Verification Section 150.1(c)7a	1) in all climate zones for ducted heating and cooling systems. 2, as confirmed by HERS verification (Residential Appendix RA 3.4 x RA3.2) in climate zones 2 and 8-15 for all air-cooled air condition, and mini-split systems.	.1.6)				
.EXCEPTION: Multifamily dwelling units in Climate Zone 7. Duct Leakage Verification- Section 150.0(m)11 Duct leakage testing is required (Residential Appendix RA3. Zonally Controlled Systems - Bypass Dampers - Section 150.1(c)13 If system is zonally controlled, no bypass ducts are allowed. Refrigerant Charge Verification Section 150.1(c)7a Refrigerant Charge Testing is required (Residential Appendiducted packaged systems, small duct high velocity systems, Some exceptions apply to factory charged package systems. Central System Air Handlers - Air Flow and Fan Efficacy Verificatio Airflow (minimum 350 cfm/ton) and Fan Efficacy (max 0.45 conditioning as field verified by a HERS rater or Return Duce Heat-only systems with Central Fan Integrated (CFI) ventilated.	1) in all climate zones for ducted heating and cooling systems. 2, as confirmed by HERS verification (Residential Appendix RA 3.4 x RA3.2) in climate zones 2 and 8-15 for all air-cooled air conditions, and mini-split systems.	.1.6) oners and air source heat pumps, including ducted split system handlers that are not gas furnace) on systems with ducted air HERS verified. y a HERS rater				

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Prescriptiv	e Newly Cons	tructed Buildir	ngs									(Page 2 of 8
E. Slab Insul	ation (Table 15	0.1-A)										
				5	This section d	oes not apply t	to this projec	t.				
F. Ceiling/Ro	of Insulation (Section 150.1(c):	1A)	15	-							
01		02	3	1	4	5	12	6	7		8	
116.000			77,7	Proposed			Required			Comn	nent	
Option	Air Sp	pace Required?			osed Ceiling ul. R-value	Required Below Deck R-valu		iired Ceiling ul. R-value	Radiant Barri Required?	Comme		t
Option	С	No	0		30	n/a		R-30	Required			
G. Roofing P	roducts (Cool F	Roof) (Section 15	0.1(c).11)		conditioned spa	CE		FC	lo			
				oted inside the	conditioned spa		08	09	10	11	12	13
G. Roofing P	roducts (Cool F	toof) (Section 15	0.1(c).11) 04 Method of	05	06 CRRC Product	oce.	08	09	10	-	12 Ainimum Requir	27
G. Roofing P	roducts (Cool F	Roof) (Section 15	0.1(c).11) 04		06	oce.	08	9	SRI (optional)	-		1 875GC
G. Roofing P	roducts (Cool F	toof) (Section 15	0.1(c).11) 04 Method of	05	06 CRRC Product ID Number	07	08 Pro	posed Thermal	DE	Aged Solar	/linimum Requir	ed

CERTIFICAT	E OF COMPL	IANCE												CF1	R-NCB-01
Prescriptive	Newly Cons	structed Bui	ldings											(F	Page 5 of
K. Space Cor	ditioning (SC)	Systems - He	ating/Cooling,	/Ducts (Section	on 150.1(c)7)				-						
01	02	03	04	05	C	6	07	08	3	09	10		11	12	
SC System Identification or Name	Heating Systen Type	n Heating Efficiency Ty	Propose Heating Efficienc	Cooling S	\$50,000 PM	oling cv Type	roposed Cooling fficiency	Distrib System		Duct Location	Duct R-va	lue	Thermostat Type	Comm	ents
System 1	Central gas furnace	AFUE	96	Cent	SE.	ER	80	Ducted :	System	Conditioned space-entirely	R-6		Setback		
01		02	T.	03 Proposed		04		05		00	Req	uired	07		08
	Cooling in Cli		3-14 (Section 1	03		04		05		06	200	I	07		08
Air Flow Rate (i		Number of Fa	ns	Total CFM		ly Vented to	Attic	Free Vent a	was tin2)	Required Ai		50,454,045,9	num Attic Vent F	(17.77)	n/Comment
Fan	ile Flouse	Number of ra	113	TOTAL CENT	1	Outside	Attic	rree vent a	area (in:)	Conditioned			Rate x 0.192)	JW LOCAGO!	y comment.
1500		1	B OF	1500	1	Yes		1500)	150	00	W I	288		
	ating Systems eaters and bo		.1(c)8) th domestic h	not water (D	HW) heaters	and hydro	nic space	heating	RC	OVI	D	E	R		
01	02	03	04	05	06	07		08	09	10		11	12	13	14
Water Heating System ID or Name	Water Heating System Type	System Option (from	# of Dwelling Units in System	# of Recirc. Loops	Water Heater Type	Volume	Fue	I Туре	# of Wa Heater Compres in Syste	rs/ sors Rated In	put Solar	imum Savings ction	Additional PV Capacity	Tank Location	Distributi Type
WHS 1	Domestic Hot Water (DHW)	1	1	n/a	Consumer Instantaneous	n/a	Natu	ral Gas	1	n/a	,	n/a	0	n/a	Standar Distributi System

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Schema Version: rev 20200901

CERTIFICATE OF COMPLIANCE	CF1R-NCB-01				
Prescriptive Newly Constructed Buildings	(Page 8 of				
Documentation Author's Declaration Statement					
1. I certify that this Certificate of Compliance documentation is accura	te and complete.				
Documentation Author Name: Everett Smith	Documentation Author Signature: Everett Smith				
Company: Everett Smith	Signature Date: 2022-09-19 13:23:22				
Address: 3437 Potomac Ct	CEA/ HERS Certification Identification (if applicable): NA				
City/State/Zip: Perris CA 92570	Phone: 951-323-2187				
Responsible Person's Declaration stateme <mark>nt</mark>					
 That the energy features and performance specifications, materials, components, and requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certificate of calculations, plans and specifications submitted to the enforcement agency for approv. I will ensure that a registered copy of this Certificate of Compliance shall be made avail 	lable with the building permit(s) issued for the building, and made available to the enforcement agency for all applicat uired to be included with the documentation the builder provides to the building owner at occupancy.				
Responsible Designer Name: Everett Smith	Responsible Designer Signature: Everett Smith				
Company:	Date Signed: 2022-09-19 13:23:22				
	License: NA				
Everett Smith Address:	\$ 2005 moon.				
Everett Smith Address: 3437 Potomac Ct City/State/Zip: Perris CA 92570	\$ 2005 moon.				

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Report Version: 2019.1.006

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Report Version: 2019.1.006 Schema Version: rev 20200901

H. Opaque S	Swinging Doors	to Exterior (Se	ection 150.1	(c).5)									
					This sec	tion does not	apply to this p	oroject.					
I. Fenestrati	on/Glazing Allo	owed Areas an	d Efficiencie	s (Section 150.	1(c)3)	*:						1	
0	01	02	!)3	04	1	05	T	06		C)7
Fenestration	ximum Allowed rration Area For All rientation (ft²) Ximum Allowed West-Facing Fenestration Area Only (ft²)		Maximum Allowed U-factor (Windows)		E04504000000000000000000000000000000000	Maximum Allowed U-factor (Skylight)		Maximum Allowed SHGC (Windows)		Maximum Allowed SHGC (Skylight)		ments	
2	00	50)	0.	30	0.3	10	0.2	3	0.2	3		
Note: If me	ng Exception 1	on 1 t <mark>o 150.1</mark> 1 to 150.1(c)3	(c)3A, Insta 3A, Installing	g <= 3 ft ² tub	ular skylight,	it is assumed it is assumed	to meet the n	ninimum req					vith greate
Note: If me	eting Exception 1	on 1 t <mark>o 150.1</mark> 1 to 150.1(c)3	(c)3A, Insta 3A, Installing	g <= 3 ft ² tub	ular skylight,		to meet the n	ninimum req					vith greate
Note: If me If meetii than or equ	eting Exception 1 ng Exception 1 ual to 25 perce	on 1 to 150.1 1 to 150.1(c)3 ent glazing ar	(c)3A, Insta 8A, Installing e considere	g <= 3 ft ² tub ed glazed doo	ular skylight, rs and are tr	it is assumed eated as a fen	to meet the n	ninimum req luct.	uired U-fact	or (0.55) &an	np; SHGC (0.	30). Doors w	14 Combine SHGC fro
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Report Version: 2019.1.006

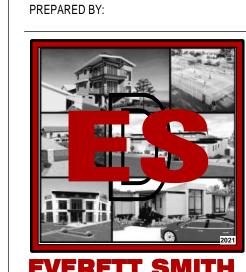
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	e Newly Con	structed Buil	dings									(P	age 6 of 8
		s (Section 150. oilers for bot	W. 85 3 8 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ot water (Di	HW) heaters a	nd hydronic :	space heatii	ng.					
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Water Heating System ID or Name	Water Heating System Type	System Option (from	# of Dwelling Units in System	# of Recirc. Loops	Water Heater Type	Volume	Fuel Type	# of Water Heaters/ Compressors in System	Rated Input	Minimum Solar Savings Fraction	Additional PV Capacity	Tank Location	Distributio Type
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A. Gas of 16, B. Gas of and of C. 150.1 1, 2.	Compact ho th Central Wate r propane wate r propane wate r propane wate (c)8C prescripti A minimum 0.1kWdc per	t water distributer Fr Heating In heating system In heating system In recovery system In the compliance Of Solar savings frag	, a recirculation , a recirculation , . potion - Heat pur ction of 0.20 in 0 excess of the pr	system, and a i system, a minii mp water heate Climate Zones 1 rescriptive requ	minimum solar saving: mum solar saving: er (For climate zor through 9 or a m irement of 150.1(vings fraction of s fraction of 0.1 ne 16, at least 2 ninimum solar sa	f 0.20 in climat 5 in climate zoi inches of pipe	e zones 1 throug nes 1 through 9, Insulation is requ	h 9, or a minimu or a minimum so uired for recircul	m solar savings olar savings frac ation loop)			W WASTE
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RIVERSIDE COUNTY, CA

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ENGINEER OF RECORD:

RAHMAN ENGINEERING

13611 12TH ST, SUITE-B, CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



PROPOSED

REVISIONS: No. Description Date Building Corrections 2022.11. PROJECT ADDRESS:

9306 Hot Springs Rd, Corona, CA 92883, USA

CLIENT NAME:

MURPHY& NELSON

Title-24

County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502 **APPROVED** 12/08/2022 4:22:07 PM Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of all of these plans must be kept on the job until completion. mit for, or an

Z:\Shared\everett smith designs___es design jobs\22-2157 9306 Hot Springs ADU\22-2157 9306 Hot Springs ADU 2022.11.10.rte

22-2157 Project number Date 11/29/2022 7:53:41 AM Drawn by Checked by

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Scale

§ 150.0(h)1:

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 Envelop	
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or 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 o 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. Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a
§ 150.0(q):	maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.
Fireplaces, Deco	rative 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 Condition	ing, 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.

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(j́)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 have

§ 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.*

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.*

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.



2019 Low-Rise Residential Mandatory Measures Summary

	or 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 S	ystems 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 Measu	res:
§ 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)1l:	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)2D: § 150.0(k)2E:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions. 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.

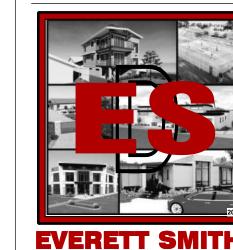


2019 Low-Rise Residential Mandatory Measures Summary

1001	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
§ 150.0(k)2l:	provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2. 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)3Aii (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:	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 Bui	ldings:
§ 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.
3 110.10(0)15	the state of the s

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".

PREPARED BY:



RIVERSIDE COUNTY, CA

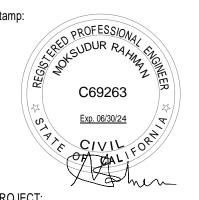
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ENGINEER OF RECORD:

RAHMAN

13611 12TH ST, SUITE-B, CHINO, CA 91710 Tel: (213)-400-8078 MOKSUD.RAHMAN@GMAIL.COM



PROJECT:

R

No.	Description

9306 Hot Springs Rd, Corona, CA 92883, USA

CLIENT NAME:

MURPHY& NELSON

Mandatory Measures

County of Riverside Building & Safety Riverside, CA 92502 12/08/2022 4:22:07 PM Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of all of these plans must be kept on the job until completion.

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Project number

- ALL ASTM STANDARDS LISTED HEREIN, SHALL BE CURRENT AND 2. COMPLIANT TO 2016 CBC, CHAPTER 35.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND 3. SITE CONDITIONS BEFORE STARTING WORK. THE DESIGNER AND STRUCTURAL ENGINEER SHALL IMMEDIATELY BE NOTIFIED, IN WRITING, OF ANY DISCREPANCIES.
- ALL OMISSIONS AND/OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE FIELD INSPECTOR, AND A SOLUTION GIVEN BY, THE DESIGNER AND STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH ANY WORK AFFECTED BY THE CONFLICT OR OMISSION.
- IN CASE OF CONFLICT, NOTES AND DETAILS OF THESE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE "GENERAL NOTES" AND/OR "STANDARD DETAILS". TYPICAL DETAILS SHALL BE USED WHENEVER APPLICABLE.
- IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION SHALL BE THE SAME AS FOR SIMILAR WORK.
- WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS. , SECTIONS OR DETAILS ON THESE STRUCTURAL DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE ERECTION SHORING AND BRACING AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION.
- PIPES, DUCTS, SLEEVES, OPENINGS, POCKETS, CHASES, BLOCK-OUTS, ETC., SHALL NOT BE PLACED IN SLABS, BEAMS, GIRDERS, COLUMNS, WALLS, FOUNDATIONS, ETC., NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR SUCH ITEMS, UNLESS SPECIFICALLY DETAILED ON THESE STRUCTURAL DRAWINGS. (IF ANY PIPES, DUCTS, ETC., DO OCCUR, THAT ARE NOT SHOWN ON THESE STRUCTURAL DRAWINGS, THE DESIGNER AND STRUCTURAL ENGINEER SHALL BE NOTIFIED.) SEE PARAGRAPH 4. ABOVE
- ANCHOR BOLTS OR INSERTS FOR EQUIPMENT ANCHORAGE OR 10 INSTALLATION SHALL BE DESIGNED FOR SEISMIC CATEGORY D BY A CIVIL ENGINEER OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA AND SHALL BE SHOWN ON THE MECHANICAL OR ELECTRICAL SHOP DRAWINGS.
- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE 1 RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE STRUCTURAL ENGINEER FREE AND HARMLESS FROM ALL CLAIMS DEMANDS AND ALL LIABIBLITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE STRUCTURAL
- IF ANY SUBSTITUTION IS PROPOSED BY THE CONTRACTOR, NEW 12 CALCULATIONS MAY HAVE TO BE PREPARED, THE DETAILS MAY HAVE O BE ALTERED, AND NEW DRAWINGS MAY HAVE TO BE SUBMITSED TO THE BUILDING DEPARTMENT. THE CONTRACTOR SHALL PAY THE STRUCTURAL ENGINEER'S FEES TO ALTER THE APPROVED PLANS. THE CONTRACTOR SHALL ALSO PROCESS THE REVISED PLANS REFLECTING ALL SUBSTITUTIONS THROUGH THE APPROPRIATE OFFICE OF ALL GOVERNING AGENCIES.

WOOD NOTES

1. SAWN WOOD MEMBERS SHALL BE DOUGLAS FIR-LARCH (U.N.O.), CONFORM TO THE "CALIFORNIA BUILDING CODE" (CBC) SEC. 2303, and NDS 2018 AND SHALL BE GRADE MARKED BY AN ACCREDITATION BODY THAT COMPLIES WITH DOC PS 20 OR EQUIVALENT.

CONSTRUCTION

- 2. WOOD GRADES, U.N.O., SHALL BE AS FOLLOWS: MEMBERS WALLS 2 X 4 (8'-0") WALLS 2 X 4 (8'-1" TO 12'-0")
- WALLS 2 X 6 (12'-0" to 16'-0") STRUCTURAL JOISTS AND PLANKS (2x) BEAMS AND STRINGERS (4x8 & WIDER) POSTS AND TIMBERS
- MATCH WALL MEMBERS 3. ALL WOOD THAT REST ON EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8" FROM EXPOSED EARTH. ALL WOOD ATTACHED DIRECTLY TO INTERIOR OR EXTERIOR MASONRY OR CONCRETE WALLS BELOW GRADE. AND ALL WOOD SLEEPERS AND SILLS ON CONCRETE THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE PRESERVATIVE-TREATED DOUGLAS FIR.
- 4. ALL SILLS OR PLATES BEARING ON CONCRETE OR MASONRY SHALL HAVE ANCHOR BOLTS:
- A. NOT LESS THAN %" DIA B. EMBEDDED AT LEAST 7" INTO CONCRETE OR MASONRY.
- SPACED NOT MORE THAN 6' APART. PLACED A MIN. OF 4" AND A MAX. OF 12" FROM EACH END. A MINIMUM OF TWO BOLTS PER PIECE. SIZE AND SPACED AS SHOWN ON THE DRAWINGS.
- ^{).} WOOD STRUCTURAL PANELS SHALL CONFORM TO THE "CALIFORNIA BUILDING CODE" (CBC) SEC. 2303, AND SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN DOC PS 1 OR PS2. EACH PANEL SHALL BE IDENTIFIED FOR GRADE AND GLUE TYPE BY THE TRADEMARKS OF AN APPROVED TESTING AND GRADING AGENCY. WOOD STRUCTURAL PANELS THAT ARE PERMANENTLY EXPOSED IN OUTDOOR APPLICATIONS SAHLL BE OF EXTERIOR TYPE (U.N.O.). ALL WOOD STRUCTURAL PANELS SHALL BE OF THE FOLLOWING GRADES AND PANEL INDENTIFICATION INDEXES (U.N.O. ON DRAWINGS):
- GRADE INDENTIFICATION INDEX ROOF SHEATING FLOOR SHEATHING 48/24 SHEAR PANEL CDX (U.N.O.)
- GLUED-LAMINATED TIMBERS SHALL BE MANUFACTURED AND DENTIFIED AS REQUIRED IN AITC A190.1 AND ASTM D 3737, USING DOUGLAS FIR INDUSTRIAL APPEARANCE GRADE WOOD AND EXTERIOR GLUE WITH INTENDED DRY USE CONDITION AND USE SHALL BE AS FOLLOWS:
 - COMBINATION NO. USE 24F-V4 SIMPLE SPANS 24F-V8
- 7 FRAMING ANCHORS, POST CAPS, COLUMN BASES, AND OTHER CONNECTORS SPECIFIED ON DRAWINGS SHALL BE AS MANUFACTURED BY "SIMPSON COMPANY" OR AN ENGINEER- APPROVED EQUAL.
- 8. BARS, PLATES, UNHEADED BOLTS, WASHERS AND DRIFT BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36.
- 9. BOLTS SHALL CONFORM TO ASTM A307. BOLTS IN PRESSURE TREATED WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL PER ASTM A 153 OR MECHANICALLY DEPOSITED ZINC COATING WITH WEIGHTS PER ASTM B 695, CLASS 55.
- NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A563, 10. GRADE A.
- ALL BOLT HEADS, NUTS, AND LAG SCREWS BEARING ON WOOD SHALL 11. HAVE CUT WASHERS UNLESS NOTED.
- BOLT HOLES SHALL BE DRILLED A MAXIMUM OF 1/16" LARGER THAN 12. THE NOMINAL BOLT DIAMETER. BOLT HOLES SHALL BE ACCURATELY ALIGNED AND NOT FORCIBLY DRIVEN.
- SPECIAL CONNECTORS FOR CONNECTING WOOD OR GLUED LAMINATED 13. TIMBER SHALL BE FABRICATED FROM STEEL CONFORMING TO ASTM A36 WELDS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 - 15.

WOOD NOTES (cont.)

- 14. DIAPHRAGM NAILING SHALL CONFORM TO CBC TABLE 2306.4.1 (1) AND 2306.3.1 (2) WITH NOMENCLATURE DEFINED AS FOLLOWS: BN = NAILING AT DIAPHRAGM BOUNDARIES, CONTINUOUS PANEL EDGES, AND AT EDGES OF OPENING. EN = EDGE NAILING
- 15. WHERE DIAPHRAGM BLOCKING IS SPECIFIED, USE 2 X 4 FLAT BLOCKING (WITH "Z" CLIPS). (U.N.O.)
- 16. SIMPLE SPAN WOOD MEMBERS, NOT SHOP CAMBERED, SHALL BE ERECTED WITH THE NATURAL CAMBER UP. FOR CANTILEVERED WOOD MEMBERS, CONSULT WITH ENGINEER.
- ^{17.} LEAD HOLES FOR LAG SCREWS IN WOOD SHALL BE BORED AS
- SAME DIAMETER AND LENGTH AS FOR SHANK: UNTHREADED SHANK. FOR THREADED 60% TO 75% OF SHANK DIAMETER & LENGTH EQUAL TO THE THREADED PORTION.
- 18. SPECIAL PROVISIONS FOR SHEAR WALLS WITH PLYWOOD ON BOTH
- SIDES: WHERE SPECIFICALLY INDICATED ON PLANS SILL PLATE SHALL BE 3x6 P.T. D.F.
- B. ALL STUDS AND BLOCKING AT PANEL EDGES SHALL BE 4x6. ALL OTHER INTERMEDIATE STUDS SHALL BE 3x6 @ 16"o.c. END POSTS SHALL BE AS SPECIFIED ON THE DRAWINGS. BOTH VERTICAL AND HORIZONTAL INTERIOR PANEL JOINTS
- ON OPPOSITE SIDES OF THE WALL SHALL BE STAGGERED. THE PLYWOOD ON ONE SIDE MUST BE NAILED BEFORE THE FRAME INSPECTION. THE PLYWOOD ON THE OTHER SIDE MUST BE INSTALLED AND INSPECTED PRIOR TO INSTALLATION OF WALL SURFACE COVERING.
- G. NO PENETRATIONS OR NOTCHES ARE PERMITSED OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS.
- 19. PROVIDE DOUBLE STUD TO SUPPORT ALL BEAMS UNLESS POSTS ARE
- ^{20.} DOUBLE BLOCK UNDER ALL POSTS.
- 21. DOUBLE JOIST UNDER ALL PARALLEL PARTITIONS U.N.O.
- 22. TOP PLATES OF ALL WOOD STUD WALLS SHALL BE 2-2 X (SAME WIDTH AS STUDS), LAP 48" (MIN.), WITH AT LEAST 36-16d NAILS AT EACH SIDE OF LAP AND NOT MORE THAN 12" BETWEEN.
- 23. CUTTING, NOTCHING, OR DRILLING OF BEAMS OR JOISTS SHALL BE PERMITSED ONLY AS DETAILED OR APPROVED BY THE ENGINEER. 24. MOISTURE CONTENT OF WOOD AT TIME OF PLACEMENT SHALL NOT
- 25. PROVIDE 'MSTC28' STRAPS ACROSS ALL DISCONTINUOUS TOP
- 26. THE NUMBER AND SIZE OF FASTENERS CONNECTING WOOD MEMBERS SHALL NOT BE LESS THAN THE FOLLOWING TABLE.

FASTENING SCHEDULE (TABLE 2304.10.1)

- COMMON OR BOX NAILS MAY BE USED EXCEPT WHERE OTHERWISE STATED 1. JOIST TO SILL OR GIRDER ---- 3- 8d COMMON TOE NAIL 2. BRIDGING TO JOIST ----- 2- 8d TOE NAIL EA. END 3. SUBFLOOR 1x6 OR LESS TO EA. JOIST - 2- 8d FACE NAIL 4. SOLE PLATE TO JOIST OR BLKG.-- 16d @ 16" O.C. TYP. FACE NAIL 5. SOLE PLATE TO JOIST OR BLKG. AT BRACED WALL PANEL ----- 3- 16d PER 16" BRACED WALL PANEL 6. TOP PLATE TO STUD ----- 2- 16d COMMON END NAIL 7. STUD TO SOLE PLATE ----- 4- 8d COMMON OR 2- 16d COMMON E.N.
- 8. DOUBLE STUDS ----- 16d @ 24" O.C. F.N. 9. DOUBLE TOP PLATES ----- 16d @ 16" O.C. TYP. FACE NAIL 10. DOUBLE TOP PLATES LAP SPLICE-- 8- 16d 11. BLKG. BETWEEN JOISTS OR RAFTERS) TOP PLATE --------3- 8d COMMON TOE NAIL
- 12. RIM JOIST TO TOP PLATE ---- 8d @ 6" O.C. TOE NAIL 13. TOP PLATES, LAPS AND INTERSECTIONS ----- 2- 16d COMMON F.N. 14. CONT. OR 2-PIECE HEADER ---- 16d @ 16" O.C. ALONG EA. EDGE 15. CEILING JOISTS TO PLATE ---- 3- 8d COMMON TOE NAIL
- 16. CONT. HEADER TO STUD ----- 4- 8d TOF NAIL 17. CEILING JOISTS LAP OVER PARTITIONS ---- 3- 16d FACE NAIL 18. CEILING JOISTS TO PARALLEL RAFTERS - 3- 16d FACE NAIL
- 19. RAFTER TO PLATE ----- 3- 8d TOE NAIL 20. 1" BRACE TO EA. STUD & PLATE-- 2- 8d FACE NAIL 21. 1"x8" SHT'G OR LESS TO EA. BEARING- 2- 8d FACE NAIL 22. WIDER 1"x8" SHT'G TO EA. BEARING-- 3- 8d FACE NAIL
- 23. BUILT-UP CORNER STUDS ----- 16d @ 24" O.C. 24. BUILT-UP GIRDER & BEAMS ----- 20d @ 32" TOP & BOTT. & STAGG. 2- 20d @ ENDS & @ EA. SPLINE 25. COLLAR TIE TO RAFTER ---- 3- 10d FACE NAIL
- 27. ROOF RAFTER TO 2x RIDGE BM.-- 2- 16d TOE NAIL 28. WOOD STRUCTURAL PANELS & PARTICLEBOARD SUBFLOOR. ROOF AND WALL SHEATHING (TO FRAMING) 1/2" AND LESS ---- 6d COMMON OR DEFORMED SHANK 19/32"-3/4" ---- 8d COMMON OR 6d DEFORMED SHANK 7/8"-1" ----- 8d COMMON OR DEFORMED SHANK 1/8"-1 1/4" --- 10d COMMON OR 8d DEFORMED SHANK

26. 2" PLANKS ----- 2- 16d @ EA. BEARING

- COMBINATION SUBFLOOR-UNDERLAYMENT (TO FRAMING) 3/4" AND LESS ---- 6d DEFORMED SHANK 7/8"-1" ----- 8d DEFORMED SHANK 1/8"-1 1/4" --- 10d COMMON OR 8d DEFORMED SHANK 29. PANEL SIDING TO FRAMING
- 1/2" OR LESS ---- 6d CORROSION RESISTANT SIDING OR CASING NAIL 5/8" ----- 8d CORROSION RESISTANT SIDING OR CASING NAIL NAILS SPACED @ 6" O.C. @ EDGES. 12" O.C. @ INTERMEDIATE SUPPORTS. FXCEPT 6" O.C. @ ALL SUPPORTS WHERE SPANS ARE 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLE BOARD DIAPHRAGMS AND SHEARWALLS, REFER TO SECT. 2305 (2007 CBC) AND/OR DETAILS AND SCHEDULES HEREIN SHOWN. NAILS FOR WALL SHT'G MAY BE COMMON, BOX. OR CASING.
- 30. FIBERBOARD SHEATHING 1/2" AND 25/32"-- No. 11 ga. CORROSION-RESISTANT ROOFING NAILS w/ 7/16"ø HEAD & 1 1/2" LENGTH FOR 1/2" SHT'G AND 1 3/4" LENGTH FOR 25/32" SHT'G. — OR 6d COMMON NAILS.

NOMINAL 7/16" CROWN & 1 1/2" LENGTH FOR 1/2" SHT'G AND 1 1/2" LENGTH FOR 25/32" SHT'G. 31. INTERIOR PANELING 1/4" ----- 4d -PANEL SUPPORTS @ 16" (20" IF STRONG AXIS IN THE LONG DIRECTION OF THE PANEL UNLESS OTHERWISE CASING OR FINISH NAILS SPACED 6" ON PANEL EDGES,

-- OR No. 16 ga. CORROSION-RESISTANT STAPLES w/

12" @ INTERMEDIATE SUPPORTS 3/8" ----- 6d -PANEL SUPPORTS @ 24"

CASING OR FINISH NAILS SPACED 6" ON PANEL EDGES

	CASING OR FINISH 12" @ INTERMEDI <i>A</i>		CED 6" ON PANEL EDGES, S
	ABBRE'	VIAT	IONS
BN BRG CANT'L CLG CJ CLR CVR DF CO EA EMB EN EW (E) FTG GLD HDR HGR	ANCHOR BOLT BOUNDARY NAILING BEARING CANTILEVER CEILING CEILING JOIST CLEAR COVER PENNY (NAILS) DOUGLAS FIR DIAMETER EACH EMBED(MENT) EDGE NAILING EACH WAY EXISTING FIELD NAILING FOOTING GLUE—LAM. BEAM HOLD DOWN HEADER HANGER HORIZONTAL	(N) NTS OC PERP PL (>) P-LAM PSL PT RJ R/R SCH SW T & B THR'D TN	KING POST NEW NOT TO SCALE ON CENTER PERPENDICULAR PLATE PARALLAM PARALLEL STRANDED LUMBER PRESSURE TREATED ROOF JOIST ROOF RAFTER SCHEDULE

STRUCTURAL STEEL NOTES

- 1. THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH AISC 360 (14TH EDITION).
- 2. ALL STRUCTURAL STEEL TO BE THE FOLLOWING: ASTM A992. Fv= 50ksi
- W SHAPES: ASTM A500 GRADE B, Fy= 46ksi HSS SHAPES (RECTANGULAR) ASTM A500, GRADE B, Fy= 42ksi HSS SHAPES (ROUND): ASTM A53, GRADE B, Fy= 35ksi PIPE SHAPES: ASTM A36, Fy = 36 ksi
- ALL OTHER STEEL: 3. ALL STRUCTURAL WELDS TO BE THE FOLLOWING: E70 SERIES-TYP.

E90 SERIES FOR A615 GRADE 60 REINFORCING BARS

- 4. SHOP WELDING TO BE DONE IN AN APPROVED FABRICATOR'S SHOP.
- FIELD WELDING TO HAVE CONTINUOUS SPECIAL INSPECTION.

REINFORCING STEEL NOTES

- 1. BAR REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615. THE FOLLOWING GRADES SHALL BE USED:
- GRADE 40 # 4 AND SMALLER GRADE 60 - \$ 5 AND LARGER
- 2. DETAILS OF REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-14 CH. 7 AND OTHER SECTIONS ACCORDING TO APPLIC. LAPS AT BAR SPLICES IN CONC. CONSTRUCTION SHALL BE AS

3. FOLLOWS:

BAR SIZE	TOP (CLAS	BARS SS B)	OTHER THAN TOP BARS (CLASS B)		
	f'c = 2500	f'c = 3000	f'c = 2500	f'c = 3000	
# 5	30	27	24	21	
# 6	35	33	28	25	
# 7	40	38	32	29	
# 8	45	43	36	33	

- LAPS AT BAR SPLICES IN MASONRY CONSTRUCTION SHALL BE 48 4. BAR DIAMETERS BUT NOT LESS THAN 2'-0".
- VERTICAL REINFORCEMENT SHALL BE TIED OR OTHERWISE FIXED IN 5. POSITION AT THE TOP AND BOTTOM AND AT INTERMEDIATE LOCATIONS, SPACED NOT GREATER THAN 192 BAR DIAMETERS.
- WELDED STEEL WIRE FABRIC REINFORCEMENT SHALL CONFORM TO 6. ASTM A185. 12" LAPS OF WELDED STEEL WIRE FABRIC AT SPLICES ARE REQ'D.
- WALLS, PILASTERS, AND COLUMNS SHALL BE DOWELED TO THE 7. SUPPORTING FOOTINGS WITH REINFORCEMENT OF THE SAME SIZE, GRADE AND AT THE SAME SPACING AS THE VERTICAL REINFORCEMENT IN THE WALLS, PILASTERS, OR COLUMNS (U.N.O).
- BAR SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF "BAR SUPPORT SPECIFICATIONS" AS CONTAINED IN THE LATEST EDITION OF THE "MANUAL OF STANDARD PRACTICE" BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI).
- REINFORCING STEEL DETAILING, BENDING AND PLACING SHALL BE IN 9 ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE", LATEST EDITION.
- ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE BEFORE 10. PLACING CONCRETE OR GROUT.
- WELDING OF REINFORCING BARS SHALL CONFORM TO "STRUCTURAL 11. WELDING CODE-REINFORCING STEEL," ANSI/AWS D1.4 OF THE A.W.S.
- WELDING OF ALL REINFORCING STEEL TO STRUCTURAL STEEL SHALL BE LIMITED TO THOSE AREAS SPECIFICALLY SHOWN ON THE PLANS. 12. ANY OTHER WELDING SHALL REQUIRE THE APPROVAL OF THE GOVERNING AGENCY, FIELD INSPECTOR, AND STRUCTURAL ENGINEER. WELDING OF CROSSING BARS AND TACK WELDING OF REINFORCEMENT
- 13. ALL WELDS SHALL, IN ADDITION, TO ALL THE SPECIFICATIONS LISTED ABOVE, COMPLY WITH THE REQUIREMENTS OF THE 14th EDITION OF THE "STEEL CONSTRUCTION MANUAL" AS PUBLISHED BY THE 14. AMERICAN INSTITUTE OF STEEL CONSTRUCTION.

20 PSF

20 PSF

BEARING WALL

DESIGN CRITERIA

EXT. WALL DL = 14 PSF

INT. WALL DL = 10 PSF

SITE CLASSIFICATION = "D"

IMPORTANCE FACTOR = 1.00

OMEGA = 2.50

S(ds) = 1.92

S(d1) = 0.96

IMPORTANCE FACTOR = 1.00

INT. PRESSURE COEFF. = 0.18

 $K_d = 0.85$ DIRECTIONALITY FACTOR

(EQV. LATERAL FORCE PROCEDURE)

RISK CATEGORY: II

(ASCE 7-16, SECTION 28; ENVELOPE PROCEDURE)

RISK CATEGORY: II

PASSIVE PRESSURE = N/A

COEFF. OF FRICTION = N/A

SOIL BEARING PRESSURE = 1,500 psf

0.211

F(a) = 1.20

F(v) = 1.50

FLOOR DL =

FLOOR LL =

(CBC 2019)

15 psf

40 psf

SHALL NOT BE PERMITSED.

VERTICAL

ROOF DL =

ROOF LL =

SEISMIC

LFRS TYPE =

S(s) = 2.40

S(1) = 0.96

WIND

SOIL

SEISMIC DESIGN CAT. = "D"

ULT. WIND SPEED = 96 MPH

WIND EXPOSURE = C

C&C PRESSURE = XX

NOMINAL WIND VELOCITY = 85 MPH

 $K_{zt} = 1.0$ TOPOGRAPHIC FACTOR

ACTIVE PRESSURE (LEVEL) = N/A

ACTIVE PRESSURE (SLOPE) = N/A

ACTIVE PRESSURE (REST.) = N/A

 $R = 6.5 \text{ (WOOD SHEAR WALL)} \mid C(s) =$

MASONRY NOTES

- 1. MASONRY UNITS SHALL CONFORM TO ASTM C90 HOLLOW CORE, NORMAL WEIGHT, f'm= 1500 psi (U.N.O.). ALL UNITS SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH ASTM C140.
 - 2. MORTAR SHALL BE TYPE 'S' AND CONFORM TO ASTM C270 AND TABLE SC-1 AND SC-2 OF TMS 402-16 / ACI 530-15 / ASCE 5-15. THE MINIMUM STRENGTH SHALL BE 1,800
 - psi AT 28 DAYS. THE BED JOINTS SHALL NOT EXCEED }" THICK.
- GROUT SHALL CONFORM WITH ARTICLE 2.2 OF TMS 402-16 / ACI 530-13 / ASCE 5-13. THE COMPRESSIVE STRENGTH OF GROUT SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C1019. WHEN THE GROUT CONFORMS TO ASTM C476, THE GROUT SHALL BE SPECIFIED BY PROPORTION REQUIRMENTS OR PROPERTY REQUIREMENTS. THE MINUMUM STRENGTH SHALL BE 2,000 psi AT 28 DAYS.
- PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C150. BLENDED CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C595. MASONRY CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C91. MORTAR CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1329.
- COARSE AGGREGATE SHALL CONFORM TO ASTM C404. COARSE AGGREGATE SHALL BE PEA GRAVEL.
- FINE AGGREGATE SHALL CONFORM TO ASTM C144.
- LIME SHALL BE HYDRATED LIME AND CONFORM TO ASTM C207, TYPE S.
- ADMIXTURES SHALL BE USED IN ACCORDANCES WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE ENGINEER OF RECORD.

CONCRETE NOTES

1. CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-14 CHAPTER 5. HE MINIMUM 28-DAY CYLINDER STRENGTH SHALL BE AS FOLLOWS: CONVENTIONAL FOUNDATIONS: SLAB ON GRADE SLAB ON GRADE-GARAGE 2500 PSI 2500 PSI **FOOTINGS**

GRADE BEAM / CAISSON

- 2. WHERE CONCRETE STRENGTH IS GREATER THAN 3000 PSI, CYLINDER TESTS ARE REQUIRED PER ACI 318-14 5.6.3.3.
- 3. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C150, TYPE

2500 PSI

- 4. AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C33 FOR NORMAL WEIGHT CONCRETE AND ASTM C330 FOR LIGHTWEIGHT CONCRETE.
- ADMIXTURES SHALL BE USED IN ACCORDANCES WITH THE MANUFACTURER'S 5. RECOMMENDATIONS AND APPROVED BY THE ENGINEER OF RECORD.
- READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH THE 6. REQUIREMENTS OF "STANDARD SPECIFICATION FOR READY-MIXED CONCRETE" ASTM
- MINIMUM CONCRETE COVER (IN INCHES) FOR REINFORCING STEEL IN NON-PRESTRESSED CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS, U.N.O:
- (INCHES) A. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH B. FORMED SURFACES EXPOSED TO EARTH OR WEATHER: # 6 AND LARGER BAR # 5 BARS, 5/8 INCH WIRE, AND SMALLER ALL SLEEVES THROUGH BEAMS, GIRDERS AND FOUNDATION WALLS
- 8. SHALL BE INSTALLED AND SECURED IN POSITION PRIOR TO PLACING CONCRETE. EXCEPT AS SHOWN ON STRUCTURAL DRAWINGS. SLEEVING SHALL NOT BE PERMITSED UNLESS APPROVED BY THE DESIGNER AND STRUCTURAL ENGINEER SLEEVES, PIPES, OR CONDUITS SHALL NOT BE PLACED THROUGH CONTINUOUS OR
- 9. TIE BEAMS, UNLESS SPECIFICALLY DETAILED BY THE ENGINEER CONDUIT SHALL NOT BE PLACED IN ANY CONCRETE SLAB LESS THAN $_{10}$ 3–1/2 INCHES THICK. IF CONDUIT IS PLACED IN CONCRETE SLAB, ITS OUTSIDE DIAMETER SHALL NOT BE GREATER THAN 1/3 OF THE SLAB THICKNESS. THE
- ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCH, U.N.O.

SPREAD FOOTINGS, GRADE BEAMS, PILE CAPS, OR

MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL

- REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, 12 ORNAMENTS, CLIPS, OR GROUNDS REQUIRED TO BE CAST IN THE CONCRETE AND FOR EXTENT OF DEPRESSIONS, CURBS, AND RAMPS.
- ALL VERTICAL SURFACES OF CONCRETE ABOVE FINISHED GRADE 13 SHALL BE FORMED.
- REFERENCE ARCH. DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS 14 DUE TO ARCHITECTURAL C.I.P. CONCRETE.

SPECIAL INSPECTION LIST IN ADDITION TO THE REGULAR INSPECTIONS, THE FOLLOWING CHECKED ITEMS WILL ALSO REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH 2019 CBC SEC. 1704 ____ YES <u>χ</u> ΝΟ CERTIFICATION FROM SOILS ENGINEER CONCRETE BEAMS, GRADE BEAMS TIE BEAMS STEEL ____ YES _<u>x</u> NO

YES X NO

REINFORCEMENT

CASSION STEEL REINFORCEMENT

YES X NO REINFORCING STEEL AND PLACEMENT IN FOOTINGS ____ YES <u>χ</u> ΝΟ REINFORCING STEEL AND PLACEMENT IN WALLS AND RETAINING WALLS MASONRY: RETAINING WALLS YES X NO
YES X NO PILASTER REINFORCEMENT STEEL AND PLACEMENT ____ YES <u>χ</u> ΝΟ WOOD: ____ YES <u>χ</u> ΝΟ CONNECTIONS INCLUDING NAILING, BOLTING, TIE DOWNS, BEAMS HANGERS, FRAMING HANGERS LOAD PATH CONNECTIONS, DRAG STRUTS, ____ YES <u>X</u> NO COLLECTORS, A34/A35, BLOCKING, ETC. _X__YES _____NO THICKNESS AND NAIL SPACING OF DIAPHRAGMS SHEAR WALL TYPE, LENGTH, NAILING, 3X MEMBERS AND HOWLDOWNS

____ YES ____ NO ____ YES <u>X</u> NO GUARDRAIL/HANDRAIL SUPPORT POST ATTACHMENT DETAILS STRUCTURAL STEEL: HARDY FRAMES X YES HIGH STRENGTH BOLTS ____ YES <u>X</u> NO _X YES ____ NO FPOXY *NOTE: WHERE CONCRETE IS SPECIFIED AS 4500 PSI TYPE V FOR HIGH SULFATE SOILS CONDITION

IN STANDARD FOOTINGS, SPECIAL INSPECTION SHALL NOT BE REQUIRED. CONTRACTOR TO PROMDE

BATCH TICKET FROM CONCRETE MANUFACTURE FOR VERIFICATION.

SHEET INDEX:					
GN	GENERAL STRUCTURAL NOTES				
S1	FOUNDATION PLAN (ADU)				
S2	ROOF FRAMING PLAN (ADU)				
SD1	CONSTRUCTION DETAILS				
SD2	CONSTRUCTION DETAILS				
SD3	CONSTRUCTION DETAILS				
	GN S1 S2 SD1 SD2				

County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502 APPROVED 12/08/2022 4:22:08 PM REVIEWED BY: idunagan oproval of these plans shall not be construed to be a permit for, or an approva of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion

		SHEARWALL SCHEDULE — C	(1, 2, 3, 4, 5, 6, 7, 8,	, 9, 10, 11, & 12)	
SYMBOL	MAX DESIGN SHEAR LOAD CAP. (PLF)	MATERIAL AND NAILING DESCRIPTION	ANCHOR BOLT SCHED. & SILL PLATE SIZE (SEE NOTE 9, 10, 11)	BOTTOM PLATE SIZE & NAILING	SHEAR TRANSFER RIM JOIST/BLOCKING (SEE NOTE 15)
\triangle	260	1/2" OSB W/ 8d @ 6"o.c. E.N. / 12"o.c. F.N.	2x SILL PLATE W/ ½" DIA A.B. @ 36"o.c.	2x PLATE W/ 16d @ 6"o.c. (SEE NOTE 16)	A35 OR LTP4 @ 24"o.c.
2	380	1/2" OSB W/ 8d @ 4"o.c. E.N. / 12"o.c. F.N. ON 3x FRAMING (SEE NOTE 13)	3x SILL PLATE W/ \{ \} " DIA A.B. \(\Phi \) 24"o.c.	2x PLATE W/ 16d @ 4"o.c. (SEE NOTE 16)	A35 OR LTP4 @ 16"o.c.
<u>/3</u>	490	1/2" OSB W/ 8d @ 3"o.c. E.N. / 12"o.c. F.N. ON 3x FRAMING (SEE NOTE 13)	3x SILL PLATE W/ §" DIA A.B. @ 24"o.c.	2x PLATE W/ 16d @ 3"o.c. (SEE NOTE 16)	A35 OR LTP4 @ 12"o.c.
4	640	1/2" OSB W/ 8d @ 2"o.c. E.N. / 12"o.c. F.N. ON 3x FRAMING (SEE NOTE 13)	3x SILL PLATE W/ \(\frac{5}{8} \) DIA A.B. \(\Q \) 20"o.c.	2x PLATE W/ ½" x 8" LONG LAG SCREWS @ 8"o.c. INTO 4x RIM JOIST/BLOCK'G.	A35 OR LTP4 @ 10"o.c.
5	870	1/2" STRUCTURAL 1 PLYWOODW w/ 10d @ 2"o.c. E.N. / 12"o.c. F.N. ON 3x FRAMING (SEE NOTES 13)	3x SILL PLATE W/ 8" DIA A.B. @ 18"o.c.	3x PLATE W/ ½" x 8" LONG LAG SCREWS @ 6"o.c. INTO 4x RIM JOIST/BLOCK'G.	A35 OR LTP4 @ 8"o.c.
6	1100	1/2" STRUCTURAL I PLYWOOD BOTH SIDES W/ 10d @ 3"o.c. E.N. / 12"o.c. F.N. ON 3x FRAMING (SEE NOTES 14)	3x SILL PLATE W/ §" DIA A.B. @ 16"o.c.	3x PLATE W/ ½" x 8" LONG LAG SCREWS @ 5"o.c. INTO 4x RIM JOIST/BLOCK'G.	A35 OR LTP4 @ 6"o.c.
<u>/</u> 7	1460	1/2" STRUCTURAL I PLYWOOD BOTH SIDES W/ 10d @ 2"o.c. E.N. / 12"o.c. F.N. ON 3x FRAMING (SEE NOTES 14)	3x SILL PLATE W/ §" DIA A.B. @ 12"o.c.	3x PLATE W/ ½" x 8" LONG LAG SCREWS @ 4"o.c. INTO 4x RIM JOIST/BLOCK'G.	A35 OR LTP4 @ 5"o.c.

SHEAR WALL SCHEDULE NOTES

- 1. SHEAR PANELS SHALL BE APPLIED DIRECTLY TO STUD FRAMING.
- 2. PLYWOOD MAY BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY.
- 3. ALL PLYWOOD PANEL EDGES SHALL BE BLOCKED W/ 2x BLOCKING MIN. 4. SHEAR WALLS MORE THAN ONE VERTICAL PANEL IN HEIGHT SHALL HAVE EITHER VERTICAL OR HORIZONTAL STAGGERED SPLICED JOINTS.
- 5. PROVIDE 11/2" MIN. EDGE DISTANCE FOR ALL PLYWOOD EDGE NAILING.
- 6. ONLY COMMON NAILS ARE TO BE USED FOR ALL PLYWOOD SHEATHING ATTACHMENT.
- 7. NAIL GUNS USING "CLIPPED HEAD" OR "SINKER" NAILS ARE NOT ACCEPTABLE.
- 8. ALL BOLT HOLES TO BE DRILLED 1/32" MIN. TO 1/16" MAX. OVERSIZED. 9. USE DOUGLAS FIR # 2 PRESSURE TREATED SILL PLATES. ALL NAILS & ANCHOR BOLTS IN PRESSURE TREATED SILL PLATES SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL PER ASTM A 153. ANCHOR BOLTS MAY HAVE A MECHANICALLY DEPOSITED ZINC COATING WITH WEIGHTS PER ASTM B
- 10. ANCHOR BOLTS MUST BE EMBEDDED 7" MIN. INTO NEW CONCRETE. WHERE SHEAR WALLS ARE TO BE ATTACHED TO EXISTING FOOTINGS, EPOXY 5/8"DIA THREADED ROD ANCHORS WITH 5" MIN. EMBEDMENT USING SIMPSON 'SET-XP' HIGH STRENGTH ADHESIVE (ESR-2508) WITH SPECIAL INSPECTION (OR) %" DIA x 6" LONG SIMPSON 'TITEN HD' ANCHORS (ESR-2713) INSTALLED AT THE SPACING INDICATED IN THE SHEAR WALL SCHEDULE
- 11. FOUNDATION ANCHOR BOLTS IN ALL SHEAR WALLS SHALL HAVE A MINIMUM 3" x 3" x 4" THICK PLATE WASHERS BETWEEN THE SILL PLATE AND NUT. THE NUTS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING. 12. STUCCO AND/OR EXTERIOR VENEER OVER A PLYWOOD SHEARWALL SHALL BE WATERPROOFED W/ A MIN. OF (2) LAYERS OF # 15LB. FELT PAPER.

13. ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL BE 3-INCH NOMINAL OR THICKER. ALL EDGE NAILING SHALL BE

- ^{14.} Where plywood panels are applied on both faces of a wall, use a 3x6 bot./Sill plate, 3x6 studs @ 16"o.c., and 3x6 df. # 2 double tof PLATES. ALL FRAMING MEMBERS RECEIVING EDGE NAILING FROM ABUTTING PANELS SHALL BE 4-INCH NOMINAL OR THICKER. ALL EDGE NAILING SHALL BE STAGGERED AND BOTH VERTICAL AND HORIZONTAL INTERIOR PANEL JOINTS ON OPPOSITE SIDES OF THE WALL SHALL BE STAGGERED. SEE WOOD
- NOTES # 18 FOR ADDITIONAL REQUIREMENTS. ^{15.} WHEN 'LTP4' IS INSTALLED OVER PLYWOOD, USE USE 8d COMMON NAILS.
- 16 WHERE BOTTOM PLATE NAILING GOES THROUGH FLOOR SHEATHING THICKER THAN¾", USE 20d NAILS AT SAME SPACING AS INDICATED OR SIMPSON SDS25412 SCREWS AT TWICE THE SPACING AS INDICATED.
- 17 HOLDOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION
- 18. IN SEISMIC CATEGORY "D", ALL EXTERIOR WALLS TO BE CONTINUOUSLY SHEATHED WITH A MIN. 3" THICK PLY/WOOD STRUCTURAL PANEL.

RESIDENCE prings Rd, A 92883, US/ SON Ä ∞ర

9306 Coror Stamp: C69263

REVISIONS: MARK:|DATE:|DES./B`

DRAWN BY: MR

DS. BY: MR CHK BY: m.r. DATE: 10/06/22

GENERAL NOTES

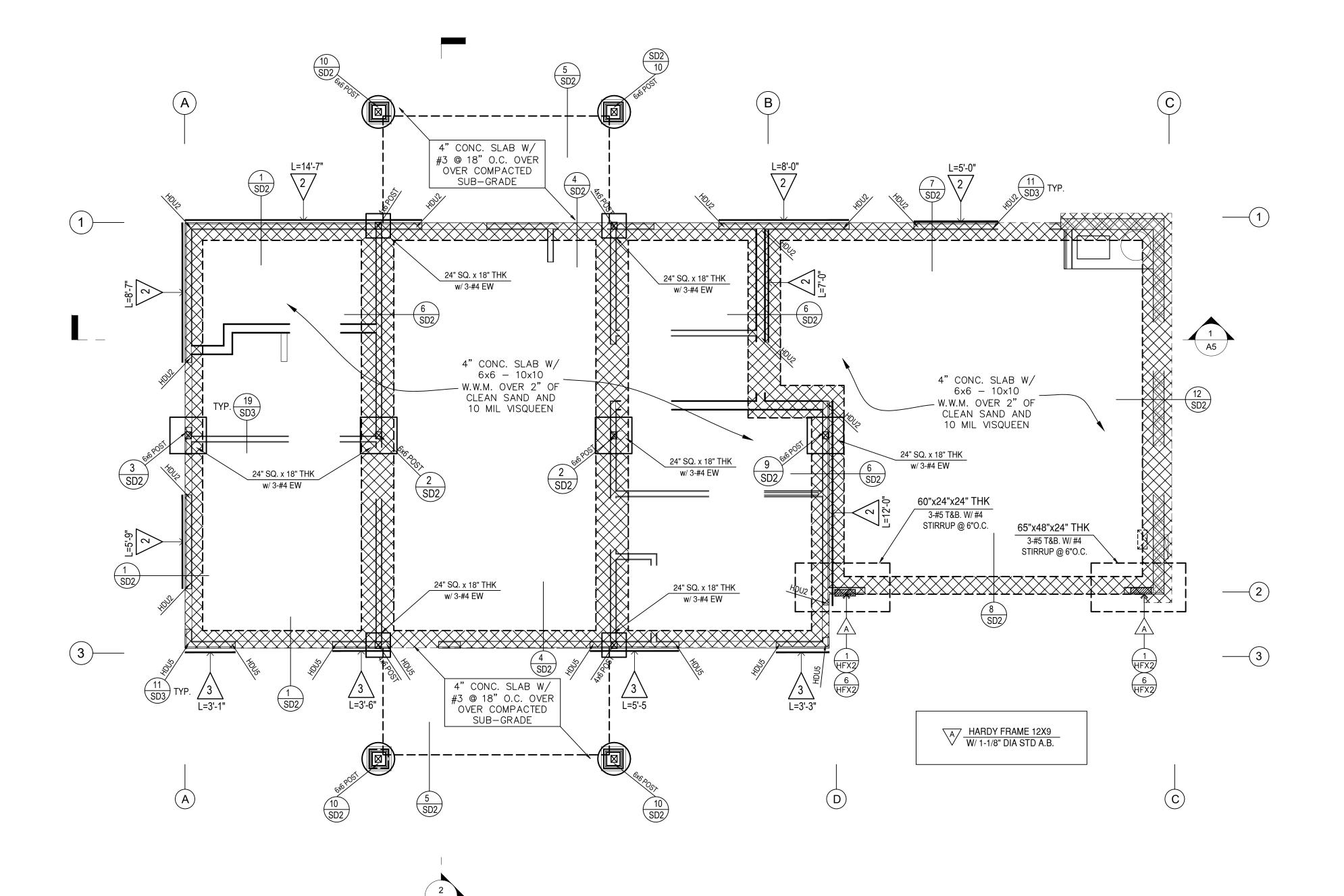
PAGE NO:

- WERIFY LOCATIONS OF ALL HOLDDOWNS WITH FRAMING PLANS & FRAMING CONTRACTOR PRIOR TO INSTALLATION. 4 MATERIAL SUBSTITUTION NOTE
 NO MATERIALS SHALL BE SUBSTITUTED
 WITHOUT THE ARCHITECTS WRITTEN APPROVAL
- CONTRACTOR TO HAVE A COPY OF THE APPROVED SOILS REPORT AT JOB SITE AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR THE CONTENTS OF THE REPORT AND IS TO REVIEW THE RECOMENDATIONS AND IS TO INCORPORATE THOSE RECOMENDATIONS INTO THE PROJECT. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO START OF CONSTRUCTION. VERIFY BUT NOT LIMITED TO, TYPE OF CONCRETE, FOOTING DEPTH AND PENETRATION, STEEL RECOMENDATIONS AND PRESATURIZATION REQUIREMENTS.
- ELECTRICAL GROUND NOTE:
 NOTE: PROVIDE UFER OR OTHER APPROVED ELECTRICAL
 GROUND SYSTEM PER NEC, ARTICLE 250–81
- A CONCRETE ENCASED GROUND ELECTRODE (UFER) IS REQUIRED. THE ELECTRODE SHALL BE EITHER 20' MAXIMUM OF NO. 4 REBAR, NO. 4 BARE SOLID COPPER WRE, OR 3/4" RIGID GALVANIZED CONDUIT INSTALLED THREE (3") INCHES OFF THE BOTTOM OF THE FOOTING AND ENCASED IN THREE INCHES (3") MINIMUM OF CONCRETE. ALTERNATE METHODS MUST BE APPROVED BY THE LOCAL BUILDING DEPARTMENT.
- 8 IT IS RECOMMENDED BY THE ARCHITECT TO RUN ALL WATER LINES ABOVE SLAB (BOTH HOT AND COLD LINES). SEE DETAIL.
- 9 PLUMBING AND ELECTRICAL TRENCHES UNDER THE SLAB SHALL BE BACKFILLED WITH SAND AND COMPACTED BY MECHANINICAL TAMPING.

11 N/A

13 IT IS ARCHITECT RECOMMENDATION FOR THE ENTIRE SOIL AREA TO BE COVERED BY FOOTINGS AND SLABS, INCLUDING ALL LANDSCAPE PESTICIDE FOR TERMITE AND INSECT CONTROL.

- SOIL PRESATURATION NOTE:
 PRIOR TO PLACING CONCRETE, SUBGRADE SOILS BELOW
 ALL CONCRETE FLOOR SLABS SHALL BE PRESOAKED TO
 ACHIEVE A MOISTURE CONTENT THAT IS 110% TO 120%
 OF OPTIMUM MOISTURE CONTENT CONDITION TO A DEPTH
 OF 18" IMMEDIATELY PRIOR TO PLACEMENT OF THE
 MOISTURE BARRIER OR POURING OF CONCRETE.
- SOIL BEARING VALUE AT 1500 PSF CODE MIN.
- FOUNDATION CONSTRUCTION NOTE
 FOUNDATION CONSTRUCTION MAY BE OF TWO—POUR
 CONFIGURATION, HOWEVER, IF CONTRACTOR OPTS TO
 UTILIZE A TWO—POUR FIGURATION THE FOUNDATION
 SHALL BE FORMED SO AS TO CREATE A 'CURB'
 CONDITION @ ALL PERIMETER AND STEP BREAK LO—
 CATIONS THEREBY ASSURING A MONOLITHIC CONDITION
 FOR HOLDOWNS, STRAPS AND ANCHOR BOLTS.
- ALL BAR REINFORCEMENT SHALL CONFORM TO ASTM A615, GRADE 60 (fy=60ksi) U.O.N. BENDING AND PLACING SHALL BE IN ACCORDANCE WITH CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE" LATEST EDITION.
- ALL HARDWARE (ANCHOR BOLTS, HOLDOWNS, STRAPS, ETC.)
 SHALL BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.
 ARCHITECT SHALL BE NOTIFIED AND MUST INSPECT PLACEMENT PRIOR TO POURING FOUNDATION OR SLAB.
- 17 FOUNDATION PLATE BOLTING: PROVIDE 5/8" x 14" A307 ANCHOR BOLTS, EMBEDDED 9" MINIMUM INTO CONCRETE. THERE SHALL BE A MINIMUM OF TWO (2) BOLTS PER PLATE, WITH ONE (1) BOLT LOCATED WITHIN 12" OF END, AND SPACED 6'-0" O.C. UNLESS OTHERWISE NOTED.
- ANCHOR BOLT NOTE:
 PROVIDE 3"x3"x1/4" THICK WASHER PLATES
- 19 VAPOR BARRIER MATERIAL SHALL BE POLYETHYLENE FILM (VISQUEEN OR EQUIVALENT) AND SHALL BE PLACED UNDER ALL HOUSE SLABS AND UNDER GARAGE SLABS WHERE NOTED ON PLANS WITH SIX INCH (6") MINIMUM SEALED LAP SPLICES.
- ALL SLABS, STEPS, ETC. SHALL BE STEEL TROWELED AND PROTECTED FROM HARM DURRING CONSTRUCTION. SLAB FINISH SHALL HAVE A MAXIMUM FINISHED TOLERANCE OF ONE-EIGHT INCH IN TEN FEET (1/8" IN 10'-0").
- POSTS ON CONCRETE FLOORS EXPOSED TO WEATHER OR IN BASEMENTS SHALL BE SUPPORTED BY CON—CRETE PIERS OR METAL PEDESTALS AT LEAST 6" ABOVE GROUND OR 1" ABOVE FLOOR
- WHERE FRAMING LUMBER IS IN CONTACT WITH, OR LESS THAN
 1 1/2" FROM CONCRETE, USE FOUNDATION GRADE REDWOOD OR
 PRESSURE TREADED DOUGLAS FIR.
- PROVIDE 1/16" THICK (MINIMUM) METAL CORROSIVE—RESISTANT BASE PLATE FOR UNTREATED WOOD POSTS IN CONTACT WITH ALL CONCRETE.
- 24 ALL ANCHOR BOLTS & NAILS INN PRESSURE TREATED SILL PLATES SHALL BE HOT DIPPED ZINC—COATED GALVANIZED STEEL OR STAINLESS STEEL PER ASTAM A 153. ANCHOR BOLTS MAY HAVE A MECHANICALLY DEPOSITED ZINC COATING WITH WEIGHTS PER ASTM B 695, CLASS 55.
- 25 PROVIDE STUCCO BASE SCREED (SEC. 4706E.)



FOUNDATION PLAN

SCALE: 1/4" = 1'

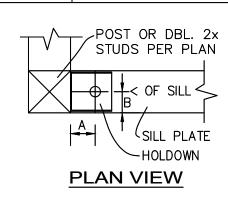


SW	SCH - CBC 19
	ER TO SHEET GN FOR COMPLETE EARWALL SCHEDULE & NOTES)
SYMBOL	ANCHOR BOLT SCHED. & SILL PLATE SIZE
1	2x SILL PLATE W/ ½" A.B. @ 36"o.c.
2	3x SILL PLATE W/ §" A.B. @ 24"o.c.
<u></u>	3x SILL PLATE W/ § A.B. @ 24"o.c.
4	3x SILL PLATE W/ §" A.B. @ 20"o.c.
<u> </u>	3x SILL PLATE W/ 5" A.B. @ 18"o.c.
6	3x SILL PLATE W∕ 5/8" A.B. @ 16"o.c.
<u></u>	3x SILL PLATE W∕ 5" A.B. @ 12"o.c.

2x SILL PLATE W/ $\frac{1}{2}$ " ANCHOR BOLTS @ 36"o.c. (NOT USED AS SHEARWALL)

HOLDOWN SCHEDULE

	HOLDOWN CONEDULE						
	HOLDOWN	ASTM F 1554 G36	(U.N.	0.)			
	HOLDOWN	ANCHOR	EDGE (MIN.)	LOADS			
1	DBL. 2x STUDS W/ HDU2	SSTB16 (125 EMB.)	2 3 "	3075#			
2	DBL. 2x STUDS W/ HDU4	SSTB20 (16 ⁵ ″ EMB.)	2 <mark>3</mark> "	4565#			
3	4x6 POST W/ HDU5	SSTB24 (20 ⁵ ⁄ ₈ " EMB.)	2 <mark>3</mark> "	5645#			
4	4x6 POST W/ HDU8	SSTB28 (24 ⁷ , EMB.)	2 <mark>3</mark> "	7870#			
5	6x6 POST W/ HDQ8	SSTB28 (24 ⁷ , EMB.)	2 <mark>3</mark> "	9230#			
6	6x6 POST W/ HDU14	SB1x30 (24 ⁷ , EMB.)	2 <mark>3</mark> "	17080#			
7	PREFAB. SHEARWALL	PER PLAN					



ENGINEERING RAHMAN

Project:

MURPHY & NELSON RESIDENCE Rd, 3, US/ ot Springs Ro CA 92883, 1 9306 Coror



REVISIONS: MARK:DATE:DES./BY

DRAWN BY: MR

DS. BY: MR CHK BY: M.R. DATE: 10/06/22

ADDITION FOUNDATION

PAGE NO:

PLAN

FRAMING NOTES

ROOF SHEATHING SHALL BE: §" APA PLYWOOD OR ORIENTED STRAND BOARDS WITH 24"/16" SPAN RATING. UNBLOCKED = 8d COMMON NAILS @ 6" o.c. AT ALL EDGES,/12" OC FIELD MINIMUM PENETRATION IS 18" INTO FRAMING B.N. APPLIES TO ALL SUPPORTED PLYWOOD EDGES AT: PLYWOOD EDGES, PERIMETER WALLS, & SHEARWALLS

FLOOR SHEATHING SHALL BE:

 $\frac{3}{4}$ " APA RATED STURDI-I-FLOOR, T&G, 24" o.c. SPAN RATING,

3 10d COMMON NAILS @ 6" o.c. B.N., 10d COMMON NAILS @ 12" o.c. F.N. B.N. APPLIES TO ALL SUPPORTED PLYWOOD EDGES AT: PLYWOOD EDGES, PERIMETER WALLS, & SHEARWALLS

DECK SHEATHING SHALL BE:

3/4" APA RATED STURDI-I-FLOOR, T&G, 24" o.c. SPAN RATING, 10d COMMON NAILS @ 6" o.c. B.N., 10d COMMON NAILS @ 12" o.c. F.N. B.N. APPLIES TO ALL SUPPORTED PLYWOOD EDGES AT: PLYWOOD EDGES, PERIMETER WALLS, & SHEARWALLS

5 TJI JOISTS (ESR-1153), TIMBERSTRANDS, AND PARALLAMS (ESR-1387) MANUFACTURER SHALL BE 'TRUSS JOIST MACMILLAN' OR EQUIVALENT.

A CERTIFICATE OF CONFORMANCE IS REQUIRED PRIOR TO FRAMING INSPECTION FOR ALL PARALLEL STRANDED LUMBER.

DO NOT CUT, NOTCH, DRILL, BORE, SHAVE, TAPER OR FOR ANY REASONS MODIFY PRE-ENGINEERED / MANUFACTURED STRUCTURAL ELEMENTS SUCH AS GLUED-LAMINATED MEMBERS, PARALLAMS, MICROLLAMS, I-JOISTS, LIGHT GAUGE META MEMBERS AND OTHER SIMILAR TIMBER OR STEEL PRODUCTS UNLESS SUCH MODIFICATIONS ARE WITHIN THE WRITTEN PARAMETERS SET FORTH BY THE MANU-FACTURER OF THAT PRODUCT OR A LETTER OF CERTIFICATION FROM THE MANUFACTURER'S ENGINEER WITH DETAIL SIGNED AND STAMPED IS ISSUED AND AUTHORIZED BY THE PROJECT ENGINEER OF RECORD AND APPROVED BY THE CITY OF GOVERNING BUILDING OFFICIAL.

B USE SIMPSON "LU" HANGERS TYPICALLY FOR ALL DECK JOIST & OTHER DIMENSIONAL

9 USE SIMPSON 'IUS' HANGERS WHERE TJI FLOOR JOIST ARE UTILZED, U.N.O.

10 BEAMS BEARING ON TOP PLATES SHALL HAVE A SIMPSON 'A34' EACH SIDE (U.N.O.). ALIGN DBL 2x STUDS (U.N.O.) BELOW. NAIL TOGETHER WITH 16d @ 16"o.c.

[11] ALL POSTS TO TOP PLATE AND SILL PLATE CONNECTIONS SHALL BE SIMPSON 'A34'

12 PROVIDE 'MSTC28' STRAP ACROSS ALL DISCONTINUOUS DBL. TOP PLATES.

13 PROVIDE DOUBLE JOISTS @ SIDES & ENDS OF ALL OPENINGS. (U.N.O.) NAIL TOGETHER WITH 16d @ 12"o.c. (TYP.)

PROVIDE DBL. JOISTS BELOW ALL INTERIOR WALLS 8'-0" OR GREATER IN LENGTH. PROVIDE BLOCKING @ 1/3 SPANS.

15 ALL SHEAR PANEL SHALL BE APPLIED DIRECTLY TO STUDS PRIOR TO INSTALLATION OF DECORATIVE POP-OUTS AND TRIM.

16 FRAMING MEMBERS OR BLOCKING SHALL BE PROVIDED AT THE EDGES OF ALL

SHEETS IN PLYWOOD SHEARWALLS. ALL PLYWOOD EDGES OF FLOOR/DECK DIAPHRAGMS SHALL BE SUPPORTED BY 2x OR

^{''} WIDER FRAMING ELEMENTS. 17 PROVIDE MULTIPLE STUDS UNDER BEAMS OR TRUSSES TO MATCH

WIDTH OF SUPPORTED MEMBER, TYP. STUDS SHALL BE CONTINUED IN

LOWER FLOORS AND/OR CRAWL SPACE TO FOOTING, TYP. PROVIDE SOLID BLOCKING UNDER POSTS AND MULTIPLE STUDS TO TRANSFER LOADS TO POSTS/STUDS BELOW.

20 SHADED AREA INDICATES OVER FRAMING, PER 15/SD.
a) CONTRACTOR PROVIDED STICK FRAMING AS FOLLOWS: 2x6 RAFTERS SUPPORTED BY 2X6 @ 24" O.C. CRIPPLE

WALL WITH DOUBLE BOTTM PLATES. THE RAFTER AND THE CRIPPLE WALL SHALL BE REPEATED @ 24" O.C. b) ROOF STRUCTURAL SHEATHING SHALL BE CONTINUOUS OVER THE MAIN FRAMING MEMBERS. A SECOND LAYER OF STRUCTURAL SHEATHING SHALL BE APPLIED OVER THE ROOF OVERBUILD AREAS UNLESS DETAILED OTHERWISE ON

> County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502 APPROVED 12/08/2022 4:22:08 PM REVIEWED BY: jdunagan
>
> Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

ANY PLUMBING DRAINPIPE OR VENT PIPE CUT THROUGH A STUD WALL SHALL BE 2x6 STUD WALL OR TWO 2x4 WALLS WITH PLYWOOD SHEAR

PANEL ON NON-PLUMBING WALL.

ENGINEERIN

RAHMAN

Project:

34931 DATE AVE. YUCAIPA, CA 92399

KNIGHT RESIDENCE

Stamp:



REVISIONS:

MARK:DATE:DES./BY

DRAWN BY: MR

DS. BY: MR

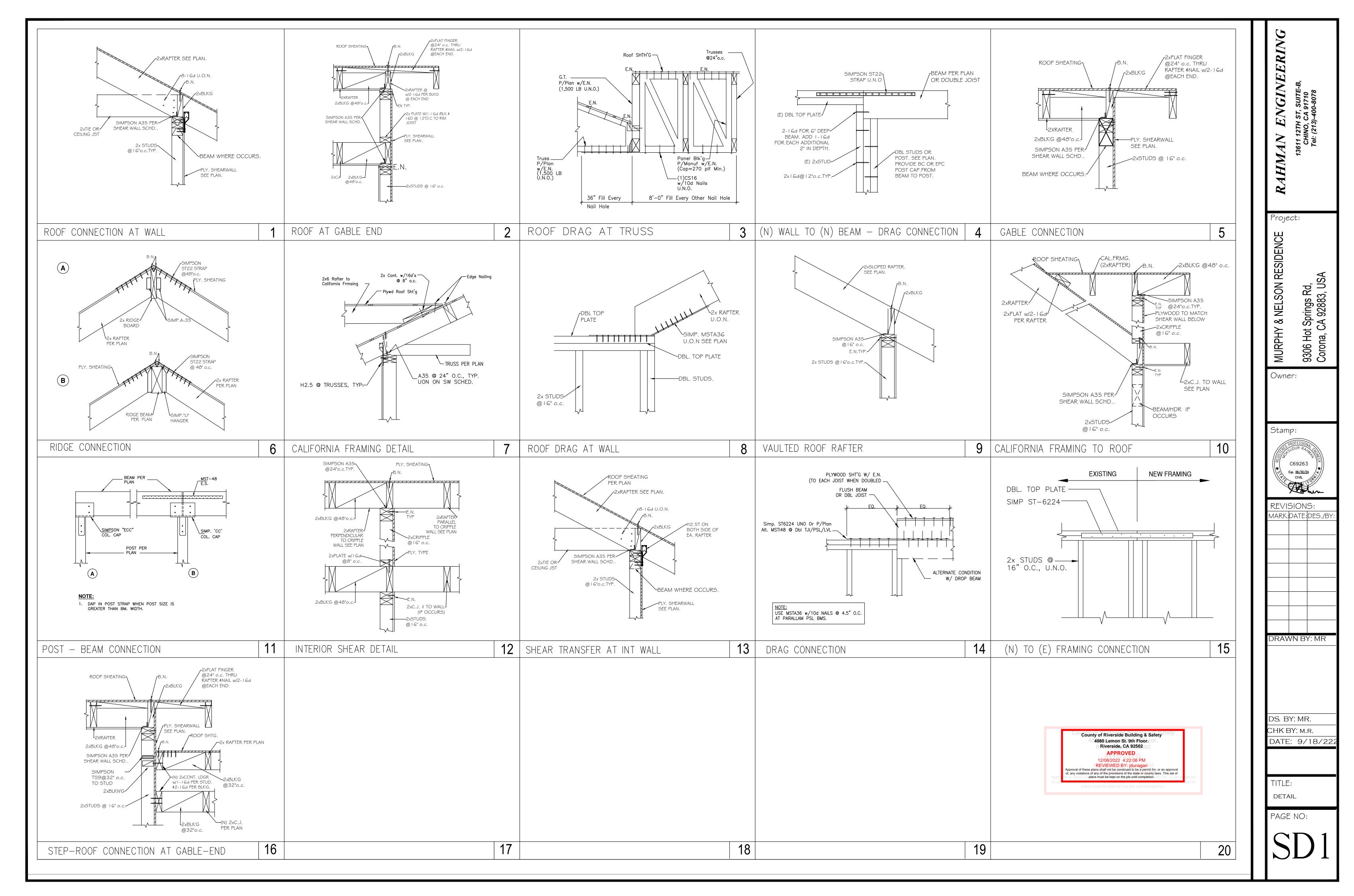
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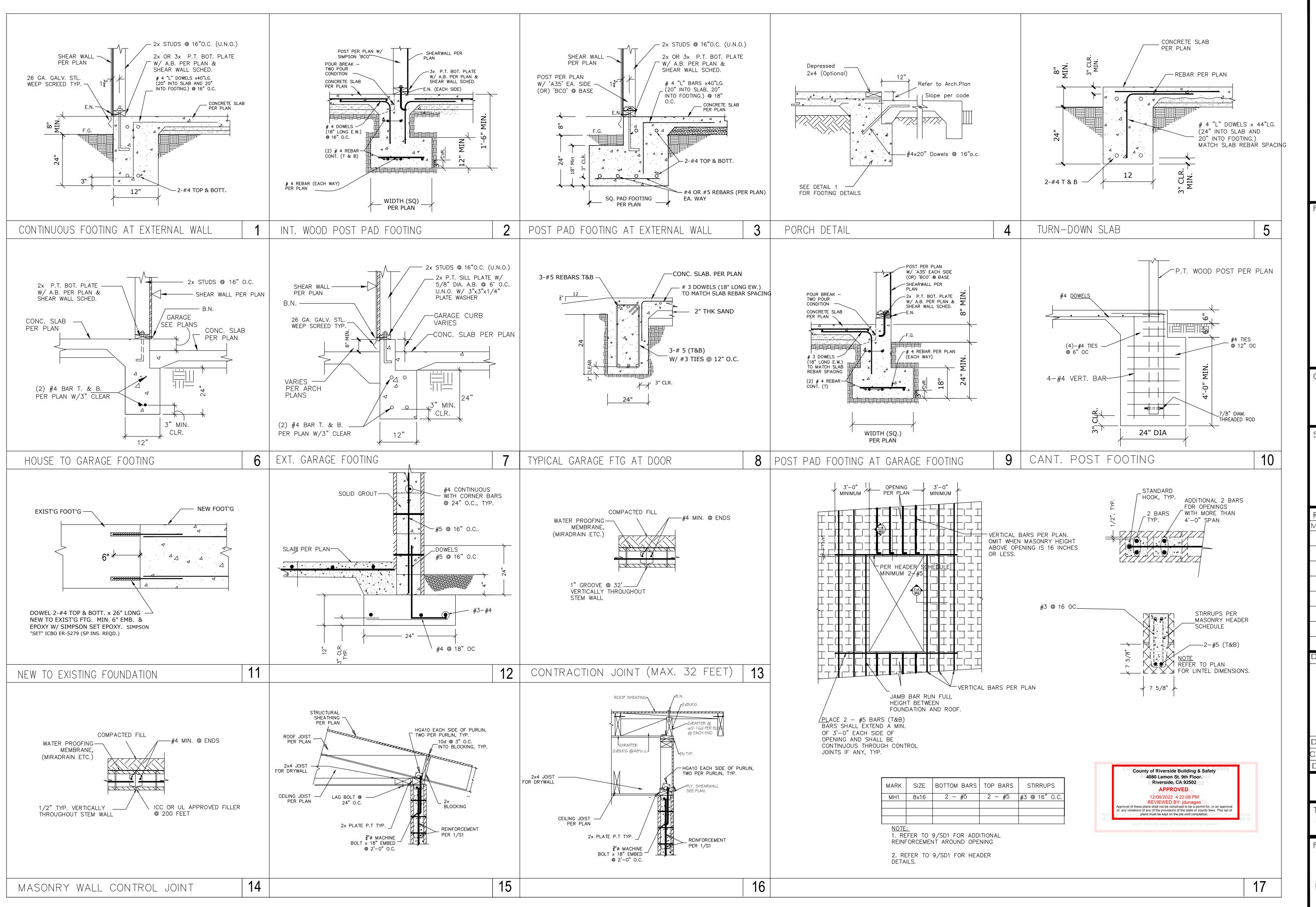
ADDITION FRAMING PLAN

PAGE NO:

ROOF FRAMING PLAN

SCALE: 1/4" = 1'





ENGINEERING RAHMAN

Project:

MURPHY & NELSON RESIDENCE ot Springs Rd, , CA 92883, USA 9306 Hot Corona, C

Owner:

C69263

Exp. <u>06/30/24</u>

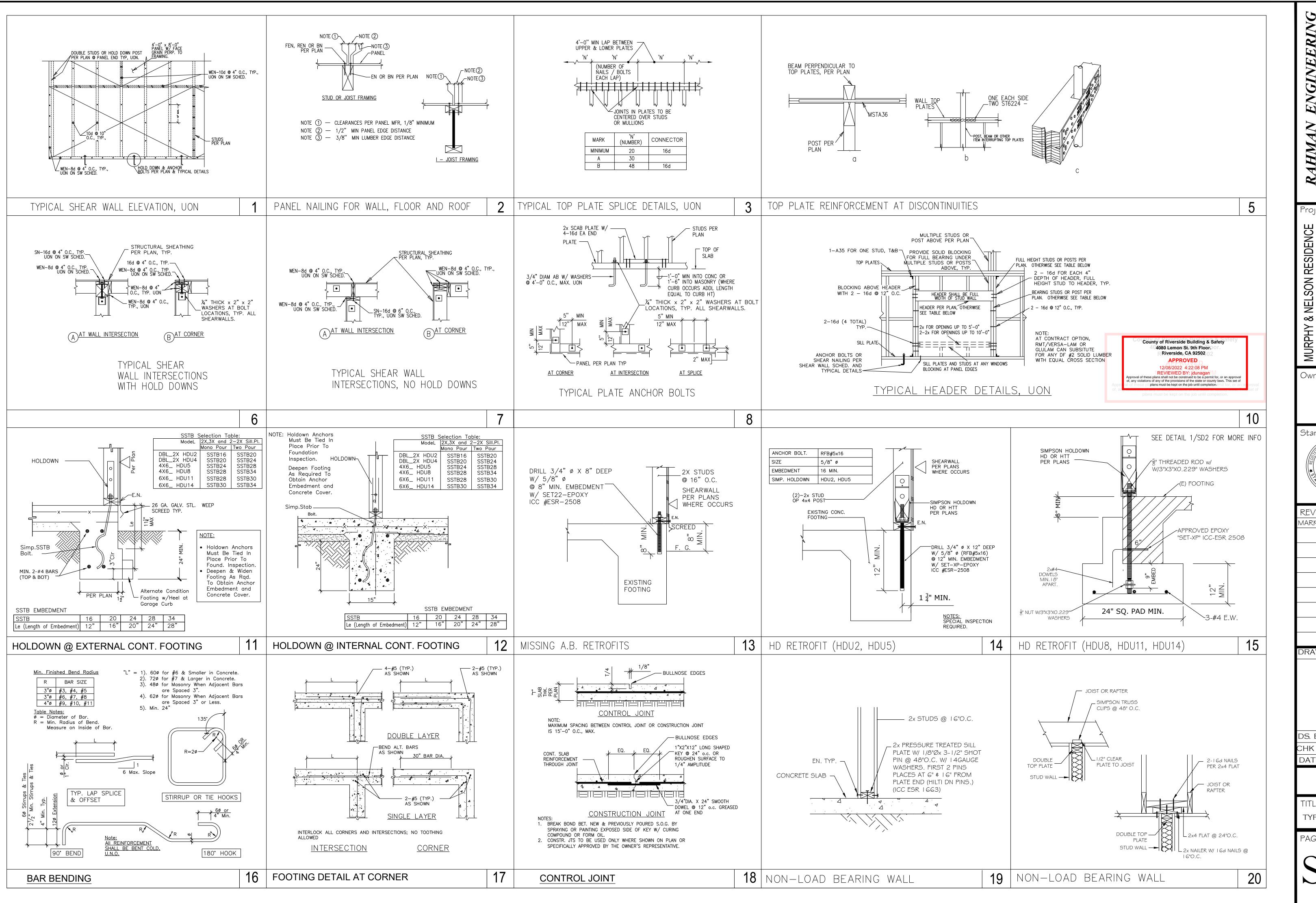
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DS. BY: MR CHK BY: м.к.

DATE: 10/06/2

TITLE: TYPICAL DETAIL

PAGE NO:



ENGINEERING **HMAN**

Project:

9306 Hot Springs Rd, Corona, CA 92883, USA

Owner:

C69263 Exp. 06/30/24 T

REVISIONS: MARK:DATE:DES./BY

DRAWN BY: MR

DS. BY: MR CHK BY: м.к. DATE: 10/06/2

TITLE:

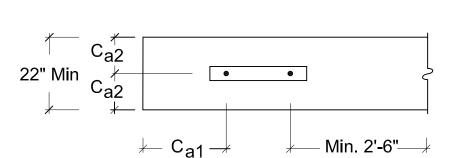
TYPICAL DETAIL PAGE NO:

BB-RA SECTIONS & ELEVATIONS

REINFORCED ANCHORAGE (RA)

	Panel		Rod			RA					
Model	Width (in)	Anchorage ¹	Dia (in)	Rod ^{2,3} Grade	le ⁴ (in)	C _{a1} (in)	C _{a2} ⁶ (in)	Stirrups ⁹ (in)	Shear ⁷ Ties		
HFX-9x	9	1-1/8-STD-RA		STD		19-3/4		8 - # 4	# 3 (min) @ 3-3/4" OC		
HFX-12x	12	1-1/8-STD-RA		STD		19-3/4	19-3/4	19-3/4	9 - # 4		
111 /-12/	12	1-1/8-HS-RA		HS				9-#4			
HFX-15x	15	1-1/8-STD-RA		STD					# 3 (min)		
111 7-137	13	1-1/8-HS-RA	1-1/8	HS	15		11	10 - # 4	@ 4" OC		
HFX-18x	18	1-1/8-STD-RA	1-1/0	STD	13		''	10-#4			
TIFX-TOX	10	1-1/8-HS-RA		HS		20. 5/0					
HFX-21x	21	1-1/8-STD-RA		STD		20-5/8		11 - # 4			
1117-218	21	1-1/8-HS-RA		HS				11-#4	// A /		
HFX-24x	24	1-1/8-STD-RA		STD				12 - # 4	# 4 (min) @ 4" OC		
111 /7-24X	27	1-1/8-HS-RA		HS				12 - π 4			

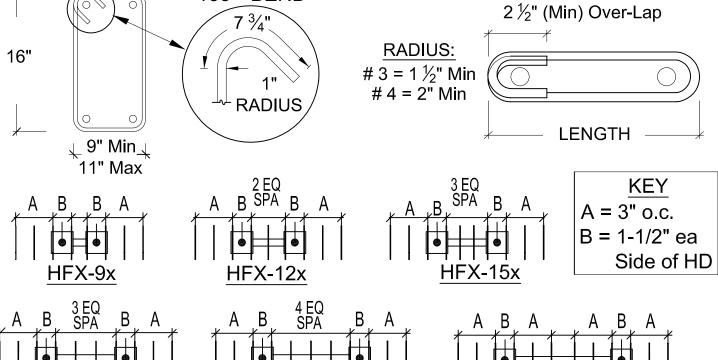
REINFORCED ANCHORAGE NOMENCLATURE 1-1/8 - STD - RA REINFORCED ANCHORAGE - ROD GRADE - ROD DIAMETER



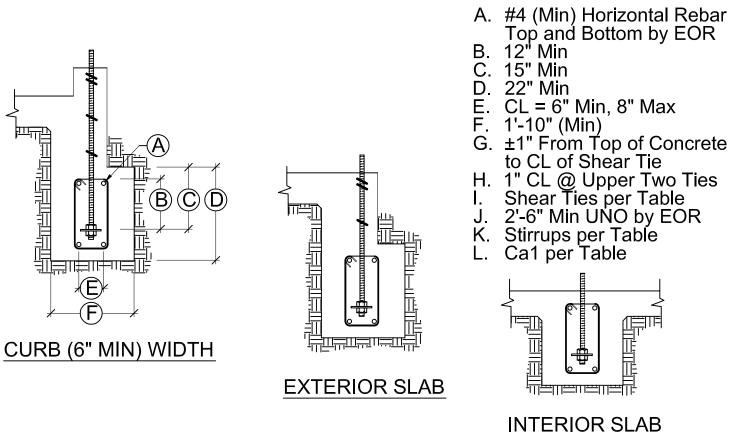
135° BEND



HFX-24x



	HFX-	18x			
RA	SHEAR	TIES	&	STIRRUPS	



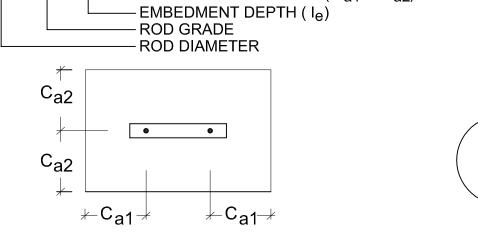
	INTERIOR SLAB
A	
B	
CURB @ OUTSIDE CORNER	CONTINUOUS FOOTING

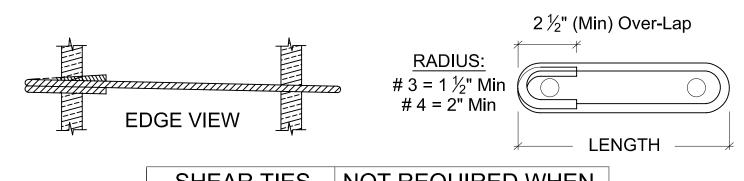
RA SECTIONS & ELEVATIONS

UNREINFORCED ANCHORAGE (UA)

			Rod	od I 🔒 👢		UA		
Model	Panel Height	Anchorage ¹	Dia (in)	Rod ^{2,3} Grade	le ⁴ (in)	C _{a1} ⁵ & C _{a2} ⁶ (in)	Shear ^{7,8} Ties	
HFX-9x	79.5" - 8'	1-1/8-STD-13-19		STD	13	19		
HFX-12x	 78" - 10'							
/ /		1-1/8-HS-20-30		HS	20	30	1 - # 3	
HFX-15x, 18x	 78" - 13'	1-1/8-STD-14-20		STD	14	20	1 11 0	
111 X 10X, 10X	70 10		1-1/8					
HFX-15x, 18x Balloon	14' - 20'	1-1/8-HS-20-30		HS	20	30		
HFX-21x, 24x	78" - 13'	1-1/8-STD-14-20		STD	14	20		
ΠΓΛ-21X, 24X	70 - 13	1-1/8-HS-23-34			23	34		
HFX-21x, 24x Balloon	14' - 20'	1-1/8-HS-20-30		HS	20	30	2 - # 3	

UNREINFORCED ANCHORAGE NOMENCLATURE 1-1/8 - STD - 14 - 20 └ END & EDGE DISTANCE (Ca1 & Ca2)





SHEA	R HES	NOT REQUIRED WHEN				
Model	Length	End Distance ≥	Edge Distance ≥			
HFX-9x	7-1/2"	2-3/8"	2-3/8"			
HFX-12x	10-1/2"	6-1/4"	3-1/2"			
HFX-15x	12"	7-3/8"	4-1/4"			
HFX-18x	15"	8-3/8"	5"			
HFX-21x	18"	9-3/8"	5-1/2"			
HFX-24x	21"	10-3/8"	6"			

UA SHEAR TIES

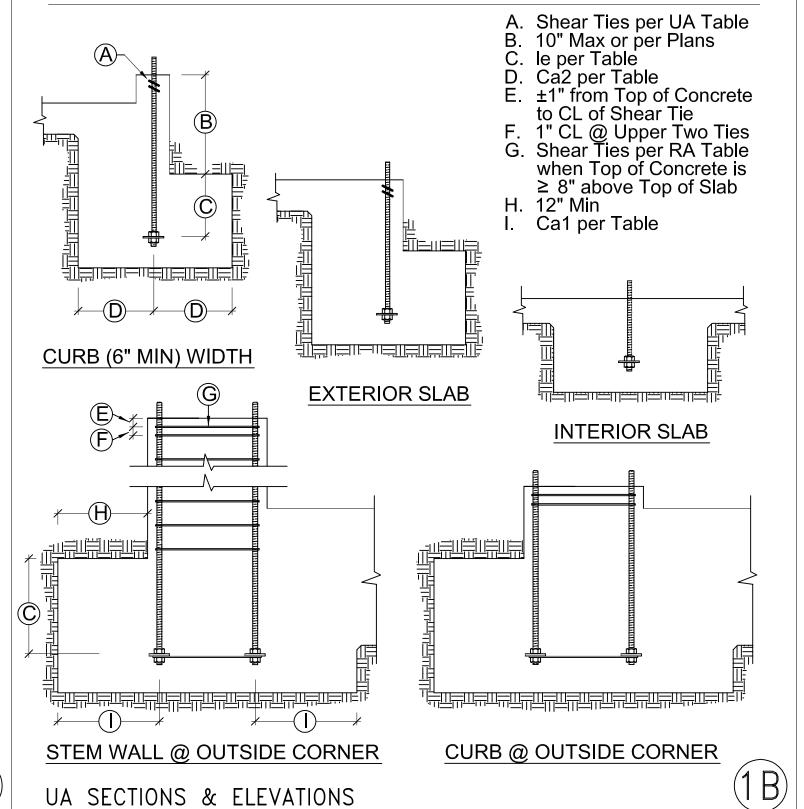
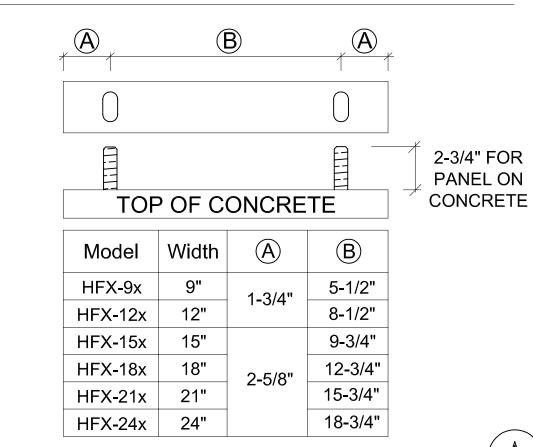


TABLE NOTES

- Designs are to resist loading per ACI 318-14, Section 17.2.3.4.3.
- STD indicates Anchors complying with ASTM F1554 Grade 36 with a Hardy Frame Bolt Brace (HFXBB) installed with double
- nuts on the embed end. HS indicates Anchors complying with ASTM A193 Grade B7 with a 1/2"x3"x3"(Min) Plate Washer installed with double nuts on the embed end (HFXBB not required).
- 4. le = length of embedment from the top of footing or grade beam to the top of the HFXBB Bolt Brace (top of the embedded Plate Washer @ HS anchors)
- 5. Ca1 = distance from HD Centerline to the end of the footing or grade beam.
- 6. Ca2 = distance from HD Centerline to both the front and the back face of the footing or grade beam.
- 7. Shear Ties are Grade 60 (Min) rebar and required for near edge distance conditions per ACI-318-14, f'c = 2,500 psi. Curbs and stem walls must be 6 inch (min) width for UA and RA, 12 inch (min) width for BB-RA.
- 8. For UA applications, additional ties may be required at stem walls. Shear Ties are not required for installation away from edge (see detail 1A), installation on wood framing, or for IRC Braced Wall Panel applications.
- Stirrups are Grade 60 (Min) rebar. See table for size and spacing. See "Stirrup Layout" diagrams and "Key" for layout patterns.
- 10. Concrete Edge Distances must comply with ACI 318-14, Section 17.7.1



HFX ANCHOR CENTERLINES

IMPORTANT!

- ANCHORAGE IS DESIGNED FOR TENSION AND SHEAR TRANSFER ONLY, FOUNDATION DESIGN PER EOR.
- 2. REINFORCEMENT SHOWN IS THE MINIMUM REQUIREMENT AND IS NOT INTENDED TO REPLACE REINFORCEMENT DESIGNED BY THE EOR.
- FOR RA AND BB-RA INSTALLATIONS, THE HFXBB BOLT BRACE MAY BE PLACED ON TOP OF THE STIRRUPS WITH DOUBLE-NUTS INSTALLED AT EMBED END OF STANDARD GRADE ANCHOR RODS. (NOTE: $\frac{1}{2}$ " x 3" x 3" PLATE WASHERS ARE REQUIRED TO BE DOUBLE-NUTTED AT EMBED END OF HIGH STRENGTH ANCHOR RODS.)
- HIGH STRENGTH ALL-THREAD RODS PROVIDED BY HARDY FRAMES ARE STAMPED ON BOTH





PALMA DRIVE, SUITE 200, EPHONE: 800 754-3030 / w

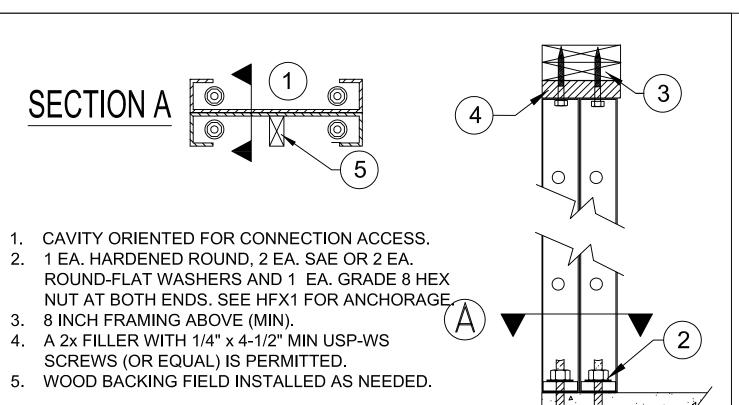
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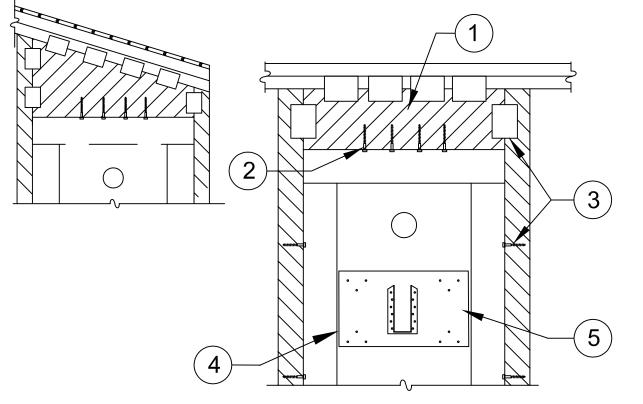
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REQUIRED DUCTS **PANEL** - HFX **DETAILS** ANCHORAGE THIS DETAIL (FOR PLA

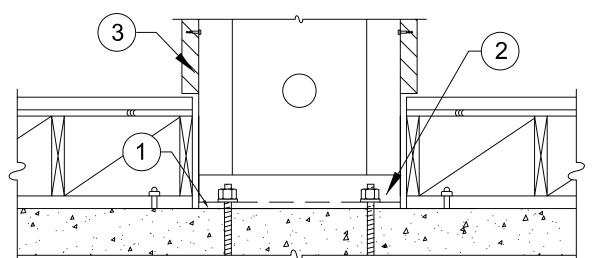


BACK TO BACK INSTALLATION



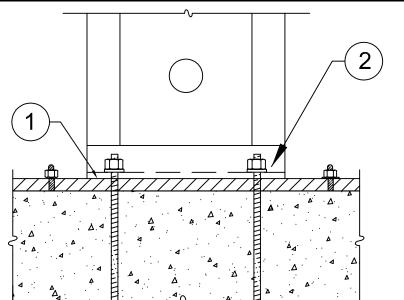
- 1. 4x WOOD FILLER WITH USP MP4-F CONNECTORS (OR EQUAL) BY BUILDING **DESIGN PROFESSIONAL**
- 1/4" x 3" (MIN) USP "WS-SERIES" SCREWS (OR EQUAL). QUANTITY PER TABLES
- 3. ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS IS INSTALLED AT THE EDGES WHEN INSTALLING A 4x FILLER ABOVE OR WHEN SPECIFIED BY DESIGN **PROFESSIONAL**
- OPTIONAL LEDGER PRE-DRILL 3/16" DIA. HOLES, EVENLY SPACED IN FACE OF PANEL AND INSTALL 1/4" DIA. WOOD SCREWS INTO 2x (MIN.) WOOD LEDGER LOCATED IN PANEL CAVITY.

TOP CONNECTION W/ 4x FILLER (10)



- 1. 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE
- 2. 1 EA. HARDENED ROUND, 2 EA. SAE OR 2 EA. ROUND-FLAT WASHERS AND 1 EA. GRADE 8 HEX NUT AT BOTH ENDS. SEE HFX1 FOR ANCHORAGE.
- 3. ADACCENT FRAMING WITH 1/4" DIAMETER SCREWS IS INSTALLED AT THE EDGES WHEN INSTALLING A 4x FILLER ABOVE OR WHEN SPECIFIED BY DESIGN

RAISED FLOOR HEAD-OUT



- 1. 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE
- 2. 1 EA. HARDENED ROUND, 2 EA. SAE OR 2 EA. ROUND-FLAT WASHERS AND 1 EA. GRADE 8 HEX NUT. SEE HFX1 FOR ANCHORAGE.

INSTALLATION ON 2x PLATE

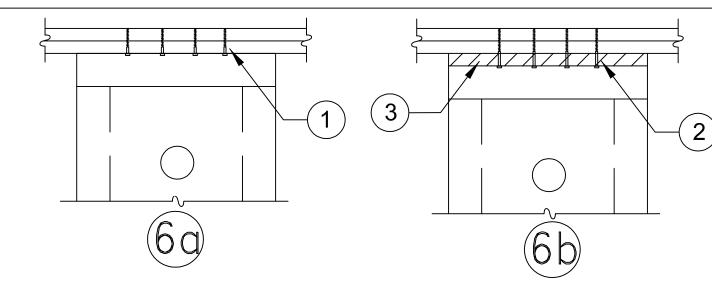
NOTES:

A) OUT OF PLANE FORCES TO BE RESISTED BY OTHER FRAMING MEMBERS PER THE BUILDING **DESIGN PROFESSIONAL.**

B) BALLOON WALL APPLICATIONS REQUIRE HIGH STRENGTH ANCHORAGE. SEE FOUNDATION PLAN AND ANCHORAGE TABLES ON SHEET HFX-1

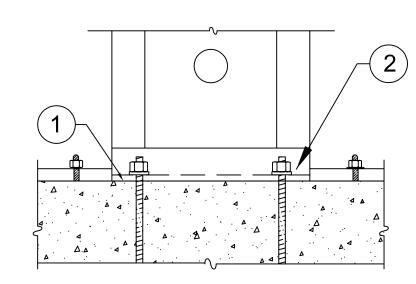
- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
- 1 EA. HARDENED ROUND, 2 EA. SAE OR 2 EA. ROUND-FLAT WASHERS AND 1 EA. GRADE 8 HEX NUT. SEE HFX1 FOR ANCHORAGE
- WELDED CONNECTION BY HARDY FRAMES, INC. (NO FIELD CONNECTION REQUIRED)
- A 2x FILLER WITH 1/4" x 4-1/2" MIN USP-WS SCREWS (OR EQUAL) IS PERMITTED.
- WHEN REQUIRED BY THE BUILDING DESIGN PROFESSIONAL ATTACH ADJACENT WOOD MEMBERS TO PANEL WITH 1/4" USP-WS SCREWS (OR EQUAL) THROUGH THE PANEL EDGE INTO THE WOOD

WALL INSTALLATION BALLOON



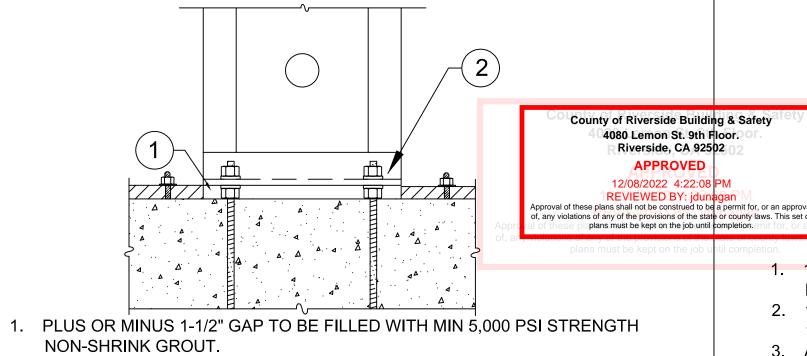
- 1. 1/4" x 3" (MIN) USP "WS-SERIES" SCREWS (OR EQUAL). QUANTITY PER TABLES 2. 1/4" x 4-1/2" (MIN) USP "WS-SERIES" SCREWS (OR EQUAL). QUANTITY PER TABLES
- 3. 2x WOOD FILLER.

TOP PLATE CONNECTIONS



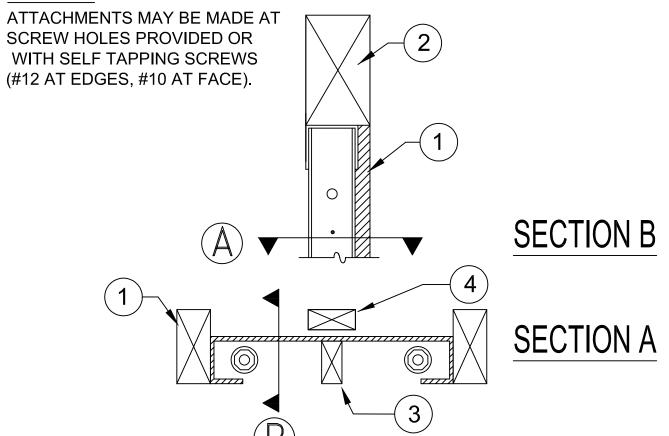
- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
- 2. 1 EA. HARDENED ROUND, 2 EA. SAE OR 2 EA. ROUND-FLAT WASHERS AND 1 EA. GRADE 8 HEX NUT AT BOTH ENDS. SEE HFX1 FOR ANCHORAGE.

INSTALLATION ON FOUNDATION



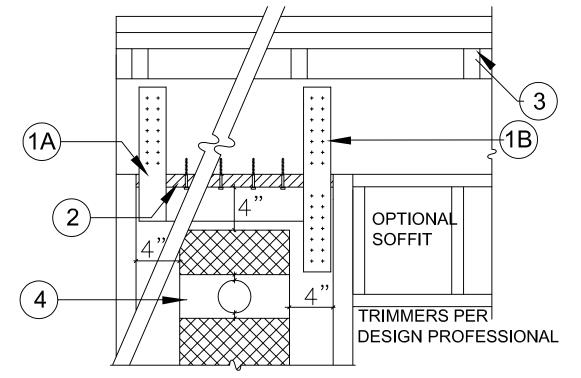
- 2. 1 EA. HARDENED ROUND, 2 EA. SAE OR 2 EA. ROUND-FLAT WASHERS AND 1 EA. GRADE 8 HEX NUT. SEE HFX1 FOR ANCHORAGE. INSTALLATION ON NUTS&WASHERS (4)
- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN
- 1 EA. GRADE 8 HEX NUT. SEE HFX1 FOR ANCHORAGE.

NOTES:



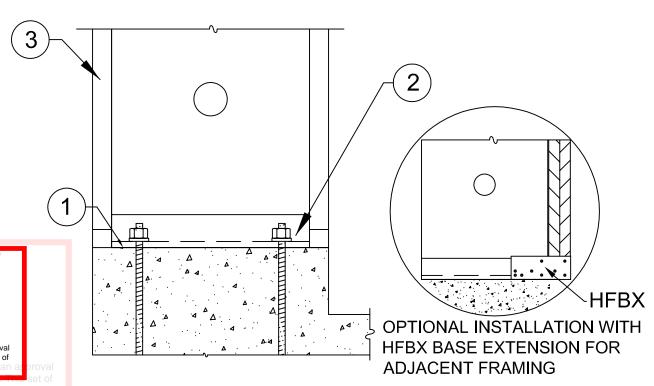
- TRIMMERS PROVIDE FULL BEARING FOR HEADER ABOVE, DESIGN AND CONNECTIONS BY OTHERS.
- 2. 6x HEADER
- 3. WOOD MEMBERS MAY BE INSERTED VERTICALLY OR HORIZONALLY IN CAVITY FOR BACKING AS NEEDED.

6x HEADER ABOVE-SECTION



- 1A. WELDED STRAPS ARE AVAILABLE FROM MANUFACTURER WHEN REQUIRED BY THE DESIGN PROFESSIONAL
- 1B. WHEN STRAPS ARE FIELD INSTALLED THE DESIGN AND CONNECTION IS BY THE DESIGN PROFESSIONAL. CONNECTION TO PANEL WITH SELF TAPPING SCREWS IS PERMITTED.
- 2. A 2x WOOD FILLER WITH 1/4"x4-1/2" (MIN.) USP "WS" SERIES SCREWS OR EQUAL IS PERMITTED.
- 3. WHEN CRIPPLE STUDS OCCUR, SHEAR TRANSFER DESIGN TO BE PER THE **DESIGN PROFESSIONAL**
- 4A. THERE IS NO "INSIDE" OR "OUTSIDE" FACE OF PANEL. TO PREVENT THE NEED FOR ADDITIONAL HOLES ORIENT THE PANEL CAVITY TOWARD THE FIXTURE BEING INSTALLED.
- 4B. A 1" DIA. HOLE MAY BE ADDED IN THE PANEL FACE WHEN IT IS LOCATED IN THE UPPER HALF OF THE PANEL HEIGHT AND IS 4" MIN. FROM ANY EDGE. FOR PANELS MORE THAN 12" WIDE, ADDITIONAL HOLES MUST ALSO BE 1" MINIMUM ABOVE AND BELOW THE 3" DIA. HOLE PROVIDED.
- 4C. FOR HOLES LARGER THAN 1" DIA. OR TO ADD MORE THAN ONE HOLE CONTACT HARDY FRAMES, INC.

CONNECTION TO HEADER



PANEL BASE AND CONCRETE

- 1 EA. HARDENED ROUND, 2 EA. SAE OR 2 EA. ROUND-FLAT WASHERS AND
- 3. ADJACENT FRAMING OPTIONAL U.N.O. BY BUILDING DESIGN PROFESSIONAL

INSTALLATION ON CURB

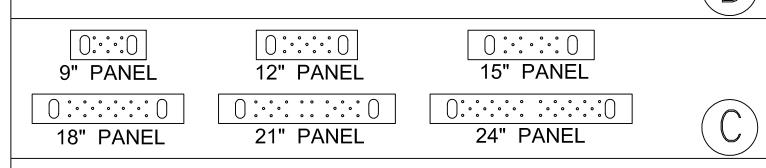
HFX-SER	IES 7	78 IN	. THRU	13 F00	Т
Model Number	Net Height (in)	Depth (in)	Hold Down Diameter ¹ (in)	Top Screw Qty ² (ea)	Screw Q Available Edges (e
HFX-12,15,18,21 & 24x78	78			 9" Width = 5	
HFX-9x79.5	79-1/2			9 Widti = 3	
HFX-12,15,18,21 & 24x8	92-1/4			12" Width = 6	4
HFX-9x8	93-3/4	3-1/2	1-1/8	 15" Width = 8	
HFX-12,15,18,21 & 24x9	104-1/4		, -		
HFX-12,15,18,21 & 24x10	116-1/4			18" Width = 10	5
HFX-15,18,21 & 24x11	128-1/4			21" Width = 12	<u> </u>
HFX-15,18,21 & 24x12	140-1/4				6
HFX-15 18 21 & 24x13	152-1/4			24" Width = 14	١

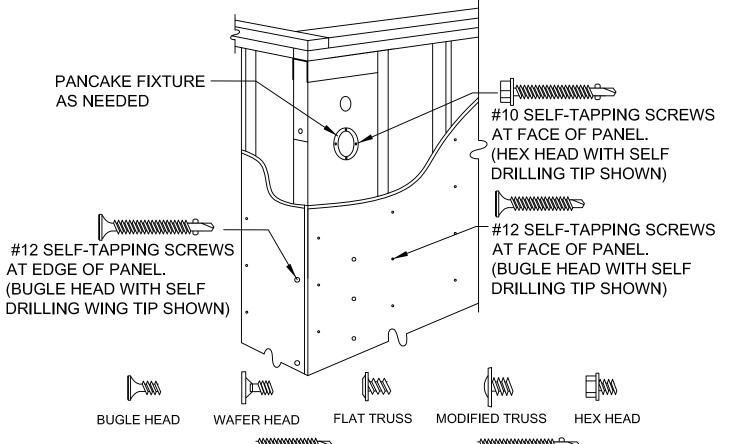
HFX-15,18,21 & 24x13	152-1	/4		24" VVIdth = 14	
BALLOON	PANEI	_S 1	4 FEET	THRU 20	FEET
Model Number	Net Height (in)	Depth (in)	Hold Down Diameter ¹ (in)	Top Screw Qty² (ea)	Screw Qty Available at Edges (ea) ³
HFX-15,18,21 & 24x14	164-1/4			15" Width = 8	
HFX-15,18,21 & 24x15	176-1/4			10 Widii 0	6
HFX-15,18,21 & 24x16	188-1/4			18" Width = 10	
HFX-15,18,21 & 24x17	200-1/4	3-1/2	1-1/8		7
HFX-15,18,21 & 24x18	212-1/4			21" Width = 12	'
HFX-15,18,21 & 24x19	224-1/4				8
HFX-15,18,21 & 24x20	236-1/4			24" Width = 14	0

- 1) Hold down bolts connect to the Panel base with (1 ea) Hardened Round, (2 ea) Round-Flat or (2 ea) SAE Washers below (1 ea) Grade 8 Hex Nut on each rod or as specified by the Building Design Professional.
- 2) 1/4" diameter USP-WS Series screws (or equal). Length is 3" (minimum) when attached directly to the collector and 4-1/2" (minimum) when installing a 2x filler above the Panel.
- 3) Adjacent framing with 1/4" diameter screws is required at the edges when installing a 4X filler above or when specified by the Design Professional.

INSTALLATION INSTRUCTIONS

- A) When installing directly on concrete, place Panel over bolts and connect with (1 ea) Hardened Round, (2 ea) Round-Flat or (2 ea) SAE Washers below (1 ea) Grade 8 or 2H Heavy Hex Nut. Secure with a deep socket (recommended) until "Snug Tight".
- B) If bottom connection is not detailed on plans, confirm with Design Professional before installing on Nuts & Washers or on a Mudsill.
- C) Use 1/4"x4-1/2" USP-WS Series screws (or equal) at top connections with a 2x filler. If the top of Panel is in direct contact with the collector above (top plates, header, beam, etc.) use1/4 x 3" (minimum)
- D) For installations with a 4x filler above 1/4" diameter screws are required at the Panel edges to brace for the out-of-plane hinge or when they are specified by the Design Professional.





1) SURFACE FINISHES, CONNECTORS AND FIXTURES ARE ATTACHED TO THE PANEL FACE WITH # 10 SELF-TAPPING SCREWS SPACED NO LESS THAN 2-1/4" OC. 2) ATTACHMENTS TO THE PANEL EDGES ARE MADE WITH # 12 SELF-TAPPING SCREWS. 3) STRUCTURAL CONNECTIONS ARE TO BE DESIGNED BY THE DESIGN PROFESSIONAL. 4) STRUCTURAL HARDWARE USED TO TRANSFER LOADS SHOULD NOT EXCEED 12 GAGE

SELF DRILLING WING TIP

SELF DRILLING TIP



REQUIREI IS

THIS DETAIL SHEET IS NOT PROPRIETARY AND IS NOT FOR PLAN SUBMITTAL WITH HARDY FRAME PRODUCT

FRAMING

732 PALMA DRIVE, SUITE 20 TELEPHONE: 800 754-3030 /

DATE:

1-1-2017

HFX2

A Civil / Structural & Environmental Engineering Services Company (Professional Engineer License # C69263, QSD/QSP # 22406)



STRUCTURAL CALCULATIONS

Project Name & Address

Proposed New ADU for Murphy & Nelson Residence 9306 Hot Springs Rd, Corona, CA 92883



Date: 06-Oct-22

by - Moksud Rahman, PE

County of Riverside Building & Safety
4080 Lemon St. 9th Floor.
Riverside, CA 92502 02
APPROVED
12/08/2022 4-06:17 PM
REVIEWED BY: jdunagan
Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.



A Civil / Structural & Environmental Engineering Services Company (Professional Engineer License # C69263, QSD/QSP # 22406)



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X	Lateral Analysis	
X	Roof Framing	
X	Foundation	

County of Riverside Building & Safety
4080 Lemon St. 9th Floor.
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Design Criteria

1. Codes and Loads: All Design & Construction work for this project will conform to CBC 2019, IBC 2018,

ASCE 7-16, ACI 318-14, NDS 2018.

2. <u>Seismic:</u> Site Class: D, S_{DS}: ...(see page-5)..., S_{D1}: ...(see page-4)..., I_E = 1.0

3. Wind: Basic wind speed: 96 mph, Exposure: C

4. Loads: Roof: DL = 20, L_r = 20; Floor: DL = 15, LL = 40; Deck: DL = 15, LL = 60 (in psf)

5. Soil: Allowable soil bearing capacity 1500 psf

6. Reinforcement: ASTM A615 Grade 60 (#4 & larger), Grade 40 for #3

7. Structural Steel: ASTM A-36, ASTM A-992

8. Pipe Columns: ASTM A-53, Grade B

9. Welding: Electric arc process by certified welders in approved licensed Fabrication Shop

10. Concrete Masonry: ASTM C-90, Grade N, f'm = 1500 psi

11. Mortar: Type M, 1:3:1/4 Mix = Cement : Sand : Lime Putty

12. Grout: 1:3:2 Mix = Cement : Sand : 3/8" pea gravel, f'c 2000 psi

13. Concrete: ASTM C150. f'c = 2500 psi @ 28 days, Ready-mixed, ASTM C94, Aggregate ATM C33,

Cement ASTM C150, Type II or V U.N.O.

14. Wood Framing: WCLIB or WWPA Grading Rules Agency

a) Studs: Douglas Fir-Larch #2, DOC PS 20
b) Joist, Rafter: Douglas Fir-Larch #2, DOC PS 20
c) 6x Beam/Post: Douglas Fir-Larch #1, DOC PS 20
d) 4x Beam/Post: Douglas Fir-Larch #2, DOC PS 20

e) Glulam: 24F-V4 or 24F-V8 DF/DF, ASTM D3737, AITC A190.1

f) Parallam 2.0 PSL: ICC ESR-1387/Dry Condition (16% moisture)

g) Plywood: APA rated sheathing, or structural 1 per DOC PS1 AND DOC PS2, Exposure 1

h) Simpson Epoxy: RR25279, ICC ESR 1772 FOR CMU, ICC ESR 2508 for concrete (Set Epoxy)

i) TJI: ICC ESR 1153, ASTM D5055

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LATERAL ANALYSIS / DESIGN

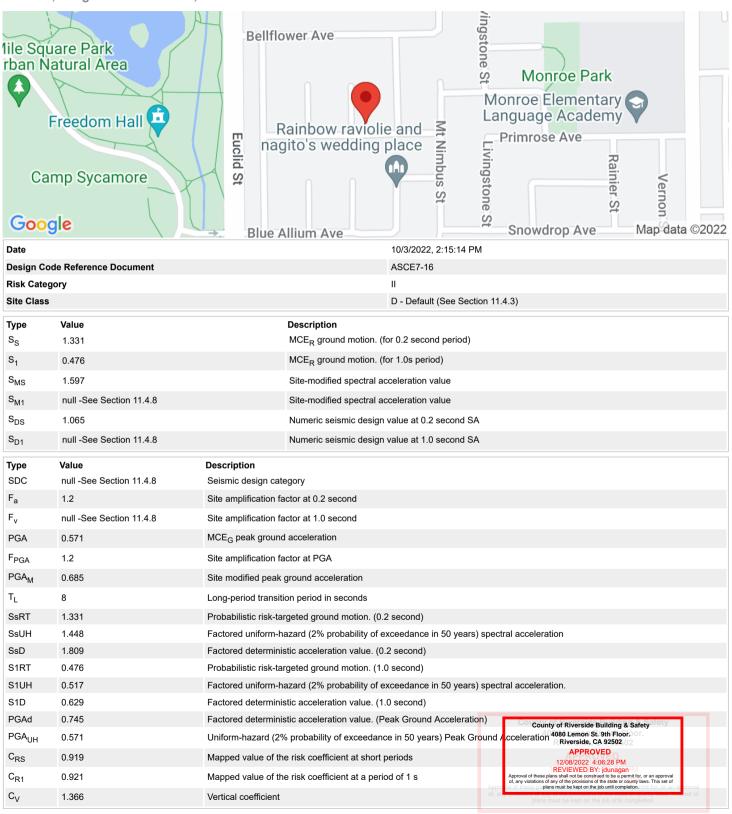
County of Riverside Building & Safety
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Riverside, CA 92500
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Approval of these plans that in the contrasted to be a permit for, or an approval of, any vioidinor and the contrasted to be a permit for, or an approval of, any vioidinor and the contrasted to be a permit for, or an approval of, any vioidinor should be a permit for, or an approval of any vioidinor and the contrasted to be a permit for, or an approval of any vioidinor and the contrasted to a permit for, or an approval of any vioidinor and the contrasted to a permit for, or an approval of any violetic and the contrasted to a permit for any violetic and the con





16230 Mt Lowe Cir, Fountain Valley, CA 92708, USA

Latitude, Longitude: 33.7275417, -117.93474



https://www.seismicmaps.org 1/2

PAGE: 10-06-22
Project #:

9306 Hot Springs Rd, Corona, CA 92883

1 STORY LATERAL LOAD (WIND)

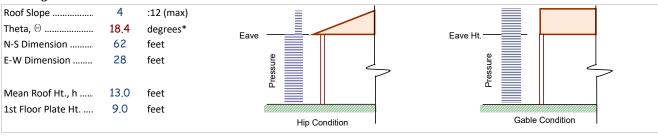
ASCE 7-16 Section 28: Envelope Procedure

Location / Description 1-STORY BLDG

Design Data & Inputs:

2 colgii 2 ava ce imparco.						
Basic Wind Speed (mph)	96	Figure 26.5-1	Gust Factor, G or G _f	0.85	Sect. 26.9	
Directionality Factor, K _d	0.85	Table 26.6-1	Enclosure Classification	Enclosed	Sect. 26.10	
Risk Factor, I	1.00	Table 1.5-2	Internal Pressure Coeff., GC _{pi}	0.18	Table 26.11-1	
Exposure Category	С	Sect. 26.7	External Pressure Coeff., C _p	see cha	rt ASCE	
Topographic Factor, K _{zt}	1.00	Sect. 26.8	Design Wind Load, p	qGC _p - c	I _i GC _{pi} Eqn. 28	.4-1
Terrain Exposure Constants, $\alpha \dots$	9.5	Table 26.9-1				
Terrain Exposure Constants, z _g	900	feet				

Building Data:



NORTH-SOUTH

Hip Roof:												
Location	Pressure	Tributary	Load	Load $^*\omega$								
Wall	16.00	4.50	72.00	56.16								
Roof	9.91	5.00	49.57	38.66								
Total (plf)	94.82											

Gable Roof:

Pressure	Tributary	Load	Load $^*\omega$
16.00	4.50	72.00	56.16
16.00	3.50	56.00	43.68
Total (plf)			99.84

-WEST

Hip Roof:				
Location	Pressure	Tributary	Load	Load $^*\omega$
Wall Below	18.60	4.50	83.68	65.27
Roof	8.00	5.00	40.00	31.20
Total (plf)				96.47

Gable Roof:

Pressure	Tributary	Load	Load* ω				
18.60	4.50	83.68	65.27				
18.60	3.50	65.09	50.77				
Total (plf)							

Notes:

When Alternative Basic Load Combination, Sect. 1605.3.2, is utilized the wind load shall be magnified by the following coefficient $0.6\omega = 0.78$ Since all internal wind pressures for enclosed buildings act equally on all the internal surfaces (equally and in opposite directions), these pressures cancel each other out in the lateral direction only. Net uplift pressures acting on components to be analyzed and designed separately.

References:

California Buiding Code (CBC), 2019 Edition

Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-16

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Lateral (Rev. 03/ 2014)

PAGE: DATE:

06-10-22

Project #:

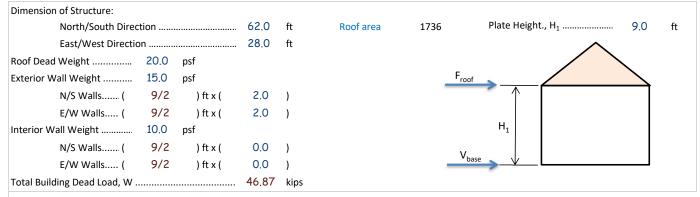
9306 Hot Springs Rd, Corona, CA 92883

1 STORY LATERAL LOAD ANALYSIS (SEISMIC)

ASCE 7-16 Section 12.8: Equivalent Lateral Force Procedure (ELFP)

1-STORY BLDG Location / Description

Derivation of Dead Loads and Building Weight:



Cojemia Daga Chaan

Seismic Ba	ise Sneai	":										
S _S	2.40	F _a	1.20	$S_{MS} = F_a * S$	S _s	2.88	S _{DS} = 2/3*S _{MS}	5	1.92	Site Class	D	
S ₁	0.96	F _v	1.50	$S_{M1} = F_v * S$	S ₁	1.44	S _{D1} = 2/3*S _{M1}	1	0.96	SDC	Ε	
Bld'g. Height	, h _n		13.00	Seismic C	oeff., C _t	0.020	Transition, T _L		8	Occupancy	II	
Response Co	eff., R		6.50	Period Ex	ponent	0.75	$T_a = C_t * h_n^x \dots$		0.14	Factor, I _E	1.00	
V =	(S _{DS} *I _E /R)	*W / 1.4		0.211	x W _{DL}	Eqn. 12.8-2	Governs	Use: Res	sponse Co	peff., C _s	0.211	
V _{Max} ≤	$(S_{D1}*I_E/R*$	°T)*W / 1.4		0.770	$x W_{DL}$	Eqn. 12.8-3		Base Sh	ear, V = C	s x W	9.89	kip
V _{Max} ≤	(S _{D1} *T _L *I _E	/R*T ²)*W / 1.4		45.01	$x W_{DL}$	Eqn. 12.8-4	n/a					
V _{Min} ≥	(0.01)*W	/ 1.4		0.007	$x W_{DL}$	Eqn. 12.8-5	n/a					
V _{Min} ≥	(0.5*S ₁ *I _F	-/R)*W / 1.4		0.053	x W _{DI}	Egn. 12.8-6						

Lateral Load at Roof:

	EQ Shear (lbs)	ρ	EQ Shear (psf)	Wind* Shear (plf)	Label	1
North/South Direction	9,890	1.30	8.0	100.0	(L3)	\longleftrightarrow
East/West Direction	9,890	1.30	8.0	117.0	(T3)	V



References:

California Buiding Code (CBC), 2019 Edition

Minimum Design Loads for Buildings and Other Structures, ASCE/SEI 7-16

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Lateral (Rev. 03/2014)

^{*} See previous caclulation

PAGE:

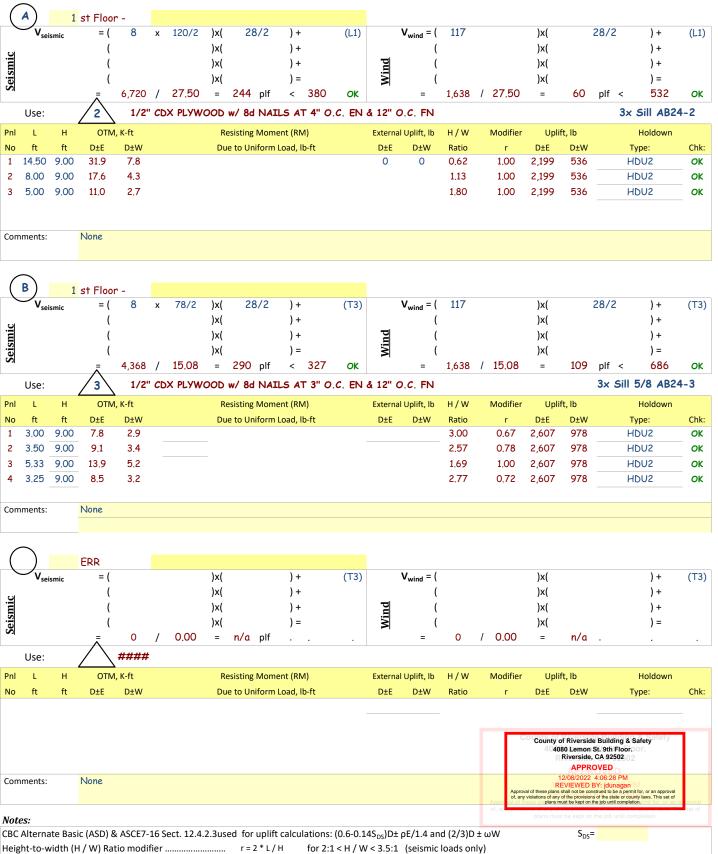
DATE: 10-06-22

Project #:

9306 Hot Springs Rd, Corona, CA 92883

SHEAR WALL (S.W.) / ELEMENT DESIGN

California Building Code (CBC) 2019 Edition, SDPWS-2018 & ASCE 7-16



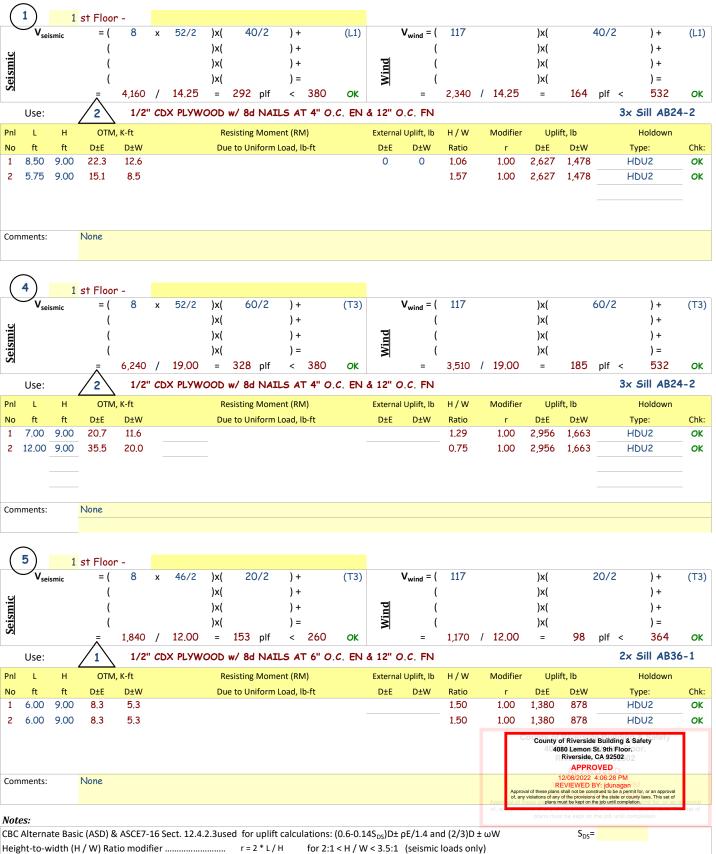
Shear Wall (Rev. 03/2014)

PAGE: 10-06-22
Project #:

9306 Hot Springs Rd, Corona, CA 92883

SHEAR WALL (S.W.) / ELEMENT DESIGN

California Building Code (CBC) 2019 Edition, SDPWS-2018 & ASCE 7-16



Shear Wall (Rev. 03/2014)



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ROOF FRAMING DESIGN

County of Riverside Building & Safety

4080 Lemon St. 9th Floor.
Riverside, CA 92502

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Wood Beam Project File: EC.ec6

LIC# : KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS (c) ENERCALC INC 1983-2022

DESCRIPTION: ROOF RAFTER

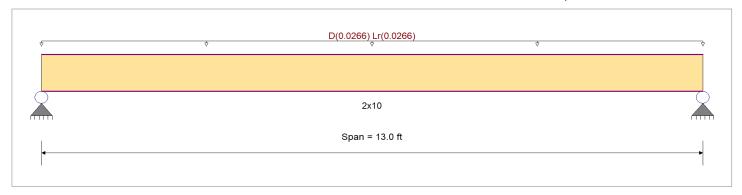
CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set: IBC 2018

Material Properties

Analysis Method: Allowable Stress Design	Fb +	900.0 psi	E : Modulus of Elast	ticity	
Load Combination IBC 2018	Fb -	900.0 psi	Ebend- xx	1,600.0ksi	
	Fc - Prll	1,350.0 psi	Eminbend - xx	580.0ksi	
Wood Species : Douglas Fir - Larch	Fc - Perp	625.0 psi			
Wood Grade : No.2	Fv	180.0 psi			
	Ft	575.0 psi	Density	31.210pcf	
Beam Bracing : Beam is Fully Braced against lateral-torsional	buckling		Repetitive Memb	er Stress Increase	



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added

Uniform Load: D = 0.020, Lr = 0.020 ksf, Tributary Width = 1.330 ft, (ROOF)

DESIGN SUMMARY						Design OK
Maximum Bending Stress Ratio	=	0.443 : 1	Maximum S	hear Stress Ratio	=	0.147 : 1
Section used for this span		2x10		2x10		
fb: Actual	=	630.47 psi		fv: Actual	=	33.02 psi
Fb: Allowable	=	1,423.13 psi		Fv: Allowable	=	225.00 psi
Load Combination		+D+Lr	Load C	ombination		+D+Lr
Location of maximum on span =		6.500ft	Locatio	n of maximum on span	=	12.241 ft
Span # where maximum occurs	=	Span # 1	Span #	where maximum occurs	=	Span # 1
Maximum Deflection						
Max Downward Transient Deflect	ion	0.109 in Ratio =	1436 >=240	Span: 1 : Lr Only		
Max Upward Transient Deflection	1	0 in Ratio =	0<240	n/a		
Max Downward Total Deflection		0.217 in Ratio =	718 >=180	Span: 1 : +D+Lr		
Max Upward Total Deflection		0 in Ratio =	<u>0</u> <180	n/a		

Maximum Forces & Stresses for Load Combinations

Maximum 1 Or		111 633		Loau	COIII	Dillati	0113									
Load Combination	N	Max Stre	ess Ratio	os							Mome	ent Values	3	S	hear Va	lues
Segment Length	Span #	М	V	c_d	$C_{F/V}$	Сi	c_r	c_{m}	c_t	c _L	М	fb	F'b	V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 13.0 ft	1	0.308	0.102	0.90	1.100	1.00	1.15	1.00	1.00	1.00	0.56	315.24	1024.65	0.15	16.51	162.00
+D+Lr					1.100	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 13.0 ft	1	0.443	0.147	1.25	1.100	1.00	1.15	1.00	1.00	1.00	1.12	630.47	1423.13	0.31	33.02	225.00
+D+0.750Lr					1.100	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 13.0 ft	1	0.388	0.128	1.25	1.100	1.00	1.15	1.00	1.00	1.00	0. <mark>9</mark> 8	551.68°	ty of Bigerside	Building & Safety t. 9th Floor.	28.89	225.00
+0.60D					1.100	1.00	1.15	1.00	1.00	1.00			Riverside, C	A 92502.00	0.00	0.00
Length = 13.0 ft	1	0.104	0.034	1.60	1.100	1.00	1.15	1.00	1.00	1.00	0. <mark>3</mark> 4	189.14	18247600		9.91	288.00
Overall Maximum	m Defle	ctions	5									Approval of these	12/08/2022 4 REVIEWED BY plans shall not be constr		an approval	
Load Combination		S	pan l	Max. "-	" Defl	Location	n in Sp	an	Load C	Combin	ation Appro	of, any violations of val of these plaps	f any of the provisions of ans must be 200 on the	of the state or county laws to until endetion. O	ation i	Span
+D+Lr			1	C).2172		6.547	7				plans	must be kept on the	0.0000	0	.000

Support notation: Far left is #1

Wood Beam Project File: EC.ec6 (c) ENERCALC INC 1983-2022

LIC#: KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS

DESCRIPTION: ROOF RAFTER

Load Combination	Support 1 Support 2	
Overall MAXimum	0.346 0.346	
Overall MINimum	0.173 0.173	
D Only	0.173 0.173	
+D+Lr	0.346 0.346	
+D+0.750Lr	0.303 0.303	
+0.60D	0.104 0.104	
Lr Only	0.173 0.173	

Vertical Reactions

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Values in KIPS

Wood Beam Project File: EC.ec6

LIC#: KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS (c) ENERCALC INC 1983-2022

DESCRIPTION: CEILING JOIST

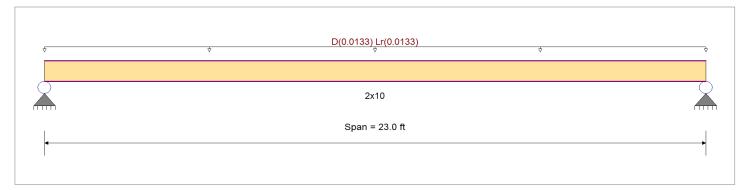
CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set: IBC 2018

Material Properties

Analysis Method: Allowable Stress Design	Fb+	900.0 psi	E : Modulus of Elas	ticity
Load Combination IBC 2018	Fb -	900.0 psi	Ebend- xx	1,600.0ksi
	Fc - Prll	1,350.0 psi	Eminbend - xx	580.0ksi
Wood Species : Douglas Fir - Larch	Fc - Perp	625.0 psi		
Wood Grade : No.2	Fv	180.0 psi		
	Ft	575.0 psi	Density	31.210pcf
Beam Bracing Beam is Fully Braced against lateral-torsional buckl	ina		Renetitive Memb	or Stross Increase



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added

Uniform Load: D = 0.010, Lr = 0.010 ksf, Tributary Width = 1.330 ft, (CEILING)

DESIGN SUMMARY						Design OK
Maximum Bending Stress Ratio Section used for this span	=	0.693: 1 2x10		hear Stress Ratio used for this span	=	0.137 : 1 2x10
fb: Actual	=	986.75 psi		fv: Actual	=	30.90 psi
Fb: Allowable	=	1,423.13 psi		Fv: Allowable	=	225.00 psi
Load Combination Location of maximum on span = Span # where maximum occurs =		+D+Lr 11.500ft Span # 1	11.500ft Location of maximum on span		= =	+D+Lr 0.000 ft Span # 1
Maximum Deflection Max Downward Transient Deflection Max Upward Transient Deflection Max Downward Total Deflection Max Upward Total Deflection		0.532 in Ratio = 0 in Ratio = 1.064 in Ratio = 0 in Ratio =	518 >=240 0 <240 259 >=180 0 <180	Span: 1 : Lr Only n/a Span: 1 : +D+Lr n/a		

Maximum Forces & Stresses for Load Combinations

Maximum 1 Of		111 033		Loau	00111	Dillati	0113									
Load Combination	ľ	Max Stre	ess Ratio	os							Mome	ent Values	5	Sh	near Va	lues
Segment Length	Span #	М	V	c_d	$C_{F/V}$	Сi	c_r	c_m	C t	CL	М	fb	F'b	V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 23.0 ft	1	0.482	0.095	0.90	1.100	1.00	1.15	1.00	1.00	1.00	0.88	493.37	1024.65	0.14	15.45	162.00
+D+Lr					1.100	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 23.0 ft	1	0.693	0.137	1.25	1.100	1.00	1.15	1.00	1.00	1.00	1.76	986.75	1423.13	0.29	30.90	225.00
+D+0.750Lr					1.100	1.00	1.15	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 23.0 ft	1	0.607	0.120	1.25	1.100	1.00	1.15	1.00	1.00	1.00	1. <mark>5</mark> 4	863. 4 0°	ty of Bigerside	Building & Safety t. 9th Floor.	27.04	225.00
+0.60D					1.100	1.00	1.15	1.00	1.00	1.00			Riverside,	CA 92502.00	0.00	0.00
Length = 23.0 ft	1	0.163	0.032	1.60	1.100	1.00	1.15	1.00	1.00	1.00	0. <mark>5</mark> 3	296.02		VED 0.09	9.27	288.00
Overall Maximus	m Defle	ctions	3											Y: jdunagan W		
Load Combination		S	pan I	Мах. "-	" Defl	Location	n in Sp	an	Load C	Combin	ation Appro	of, any violations o val of these plapla	f any of the provisions ans must A (2) On the	of the state or county laws. b until efficience. OC	ation i	Span
+D+Lr			1	1	.0643		11.584	ļ				plans	must be kept on ti	0.0000	0	.000

Wood Beam Project File: EC.ec6

LIC#: KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS (c) ENERCALC INC 1983-2022

DESCRIPTION: CEILING JOIST

Vertical Reactions Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1 Suppor	oport 2		
Overall MAXimum	0.306	0.306		
Overall MINimum	0.153	0.153		
D Only	0.153	0.153		
+D+Lr	0.306	0.306		
+D+0.750Lr	0.268	0.268		
+0.60D	0.092	0.092		
Lr Only	0.153	0.153		
•				

County of Riverside Building & Safety

4880 Lemon St. 9th Floor.
Riverside, CA 92502

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Project File: EC.ec6 **Wood Beam**

LIC#: KW-06017805, Build:20.22.8.17 (c) ENERCALC INC 1983-2022 MS CONSULTING ENGINEERS

DESCRIPTION: RIDGE BEAM

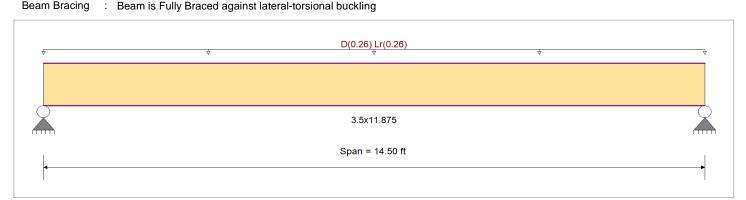
CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set: IBC 2018

Material Properties

Analysis Method: Allowable Stress Design	Fb+	2,900.0 psi	E : Modulus of Elas	sticity	
Load Combination IBC 2018	Fb -	2,900.0 psi	Ebend- xx	2,000.0ksi	
	Fc - Prll	2,900.0 psi	Eminbend - xx	1,016.54ksi	
Wood Species : Trus Joist	Fc - Perp	625.0 psi			
Wood Grade : Parallam PSL 2.0E	Fv	290.0 psi			
	Ft	2,025.0 psi	Density	45.070pcf	
Decar Decarded to Decar Ellips 1 1 1 1 1 1 1			•	•	



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading

Uniform Load: D = 0.020, Lr = 0.020 ksf, Tributary Width = 13.0 ft, (ROOF)

DESIGN SUMMARY						Design OK
Maximum Bending Stress Ratio Section used for this span	=	0.564: 1 3.5x11.875		hear Stress Ratio used for this span	=	0.334 : 1 3.5x11.875
fb: Actual =		2,043.51 psi	fv: Actual			121.14 psi
Fb: Allowable	=	3,625.00 psi		Fv: Allowable	=	362.50 psi
Load Combination Location of maximum on span Span # where maximum occurs	+D+Lr Load Combination um on span = 7.250ft Location of maximum on span				= =	+D+Lr 0.000 ft Span # 1
Maximum Deflection Max Downward Transient Deflect Max Upward Transient Deflection Max Downward Total Deflection Max Upward Total Deflection		0.266 in Ratio = 0 in Ratio = 0.546 in Ratio = 0 in Ratio =	653 >=240 0 <240 318 >=180 0 <180	Span: 1 : Lr Only n/a Span: 1 : +D+Lr n/a		

Maximum For	ces & S	tresse	es tor	Load	Com	ibinati	ons									
Load Combination	N	Max Stre	ess Rati	os							Mon	nent Value	S	,	Shear Va	lues
Segment Length	Span #	М	V	c_d	$C_{F/V}$, c _i	c_r	c_m	C t	C ^L	М	fb	F'b	V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 14.50 ft	1	0.401	0.238	0.90	1.000	1.00	1.00	1.00	1.00	1.00	7.18	1,046.69	2610.00	1.72	62.05	261.00
+D+Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 14.50 ft	1	0.564	0.334	1.25	1.000	1.00	1.00	1.00	1.00	1.00	14.01	2,043.51	3625.00	3.36	121.14	362.50
+D+0.750Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 14.50 ft	1	0.495	0.293	1.25	1.000	1.00	1.00	1.00	1.00	1.00	12. <mark>3</mark> 0	1,794. 9 %	nt8625eGGe Bu	ildin g 8083 fe	^{ty} 106.37	36 <mark>2</mark> .50
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00		4	4080 Lemon St. 9 Riverside, CA	92502.00	0.00	0.00
Length = 14.50 ft	1	0.135	0.080	1.60	1.000	1.00	1.00	1.00	1.00	1.00	4. <mark>3</mark> 1	628.02	464 09000	1.03	37.23	464.00
Overall Maximur	n Defle	ctions	5									Approval of these	12/08/2022 4:00 REVIEWED BY: plans shall not be construe	dunagan	or an approval	
Load Combination		S	pan	Max. "-	" Defl	Location	n in Sp	an	Load (Combin	ation App	of, any violations of ordival of these plant ar	of any of the provisions of the ans must we let	e seste oppounty la ountii) Co nfidetion. C	cation i	Span
+D+Lr			1	C	.5459		7.303	}				plans	must be kept on to.	0000	tion. O	.000

Wood Beam Project File: EC.ec6

LIC#: KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS (c) ENERCALC INC 1983-2022

DESCRIPTION: RIDGE BEAM

Vertical Reactions Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1 Support 2	
Overall MAXimum	3.864 3.864	
Overall MINimum	1.885 1.885	
D Only	1.979 1.979	
+D+Lr	3.864 3.864	
+D+0.750Lr	3.393 3.393	
+0.60D	1.188 1.188	
Lr Only	1.885 1.885	

County of Riverside Building & Safety

4080 Lemon St. 9th Floor.
Riverside, CA 92502

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Wood Beam Project File: EC.ec6

LIC# : KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS (c) ENERCALC INC 1983-2022

DESCRIPTION: GARAGE HDR: H1

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set: IBC 2018

Material Properties

Analysis Method: Allowable Stress Design	Fb+	2,900.0 psi	E : Modulus of Elas	ticity
Load Combination IBC 2018	Fb -	2,900.0 psi	Ebend- xx	2,000.0ksi
	Fc - Prll	2,900.0 psi	Eminbend - xx	1,016.54ksi
Wood Species : Trus Joist	Fc - Perp	625.0 psi		
Wood Grade : Parallam PSL 2.0E	Fv	290.0 psi		
	Ft	2,025.0 psi	Density	45.070pcf
Beam Bracing : Beam is Fully Braced against lateral-torsional but	uckling		·	·

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading

Uniform Load: D = 0.020, Lr = 0.020 ksf, Tributary Width = 13.0 ft, (ROOF)

DESIGN SUMMARY						Design OK
Maximum Bending Stress Ratio Section used for this span	=	0.686: 1 3.5x11.875		hear Stress Ratio used for this span	=	0.375 : 1 3.5x11.875
fb: Actual	=	2,488.18 psi		fv: Actual	=	135.92 psi
Fb: Allowable	=	3,625.00 psi		Fv: Allowable	=	362.50 psi
Load Combination Location of maximum on span Span # where maximum occurs	= =	+D+Lr 8.000ft Span # 1	Locatio	ombination n of maximum on span where maximum occurs	= =	+D+Lr 15.066 ft Span # 1
Maximum Deflection Max Downward Transient Deflection Max Upward Transient Deflection Max Downward Total Deflection Max Upward Total Deflection		0.395 in Ratio = 0 in Ratio = 0.809 in Ratio = 0 in Ratio =	486 >=240 0 <240 237 >=180 0 <180	Span: 1 : Lr Only n/a Span: 1 : +D+Lr n/a		

Maximum Forces & Stresses for Load Combinations

maximum For					Com	ibinati	ons									
Load Combination		Max Stre	ess Rati	os							Mon	nent Value	S	,	Shear Va	lues
Segment Length	Span #	М	V	c_d	$C_{F/V}$, c _i	c_r	c_m	C t	C ^L	М	fb	F'b	V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 16.0 ft	1	0.488	0.267	0.90	1.000	1.00	1.00	1.00	1.00	1.00	8.74	1,274.45	2610.00	1.93	69.62	261.00
+D+Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 16.0 ft	1	0.686	0.375	1.25	1.000	1.00	1.00	1.00	1.00	1.00	17.06	2,488.18	3625.00	3.77	135.92	362.50
+D+0.750Lr					1.000	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length = 16.0 ft	1	0.603	0.329	1.25	1.000	1.00	1.00	1.00	1.00	1.00	14. <mark>9</mark> 8	2,184. 7 %9	nt8625e66e Bu	ilding &364fe	^{ty} 119.34	36 <mark>2</mark> .50
+0.60D					1.000	1.00	1.00	1.00	1.00	1.00		4	Riverside, CA	92502.00	0.00	0.00
Length = 16.0 ft	1	0.165	0.090	1.60	1.000	1.00	1.00	1.00	1.00	1.00	5. <mark>2</mark> 4	764.67	464 09000	P ₀ 1.16	41.77	464.00
Overall Maximus	m Defle	ctions	5									Approval of these	12/08/2022 4:00 REVIEWED BY: plans shall not be construe	dunagan V	or an approval	
Load Combination		S	pan	Max. "-	" Defl	Location	n in Sp	an	Load C	Combin	ation App	of, any violations or val of these plant	of any of the provisions of the lans must be land to	e arse orgounty la unii Gildletich C	öcation i	Span
+D+Lr			1	C	.8093		8.058	3				plans	must be kept on to.	0000	tion. 0	.000

Wood Beam Project File: EC.ec6

LIC#: KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS (c) ENERCALC INC 1983-2022

DESCRIPTION: GARAGE HDR: H1

Vertical Reactions Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1 S	Support 2		
Overall MAXimum	4.264	4.264		
Overall MINimum	2.080	2.080		
D Only	2.184	2.184		
+D+Lr	4.264	4.264		
+D+0.750Lr	3.744	3.744		
+0.60D	1.310	1.310		
Lr Only	2.080	2.080		

County of Riverside Building & Safety

4880 Lemon St. 9th Floor.
Riverside, CA 92502

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roval of these plans shall not be constructed to be a permit for, or an approval any vloations of any of the provisions of the state or county (laws. This set of plans must be kept on the job until completion. This set of

, and violations of any of the provisions of the state of sound

Project File: EC.ec6 **Wood Beam**

LIC#: KW-06017805, Build:20.22.8.17 (c) ENERCALC INC 1983-2022 MS CONSULTING ENGINEERS

DESCRIPTION: HDR: H2

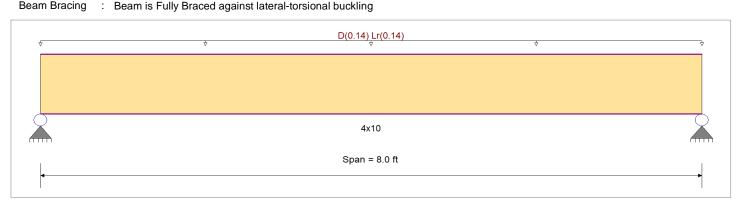
CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16

Load Combination Set: IBC 2018

Material Properties

Analysis Method: Allowable Stress Design	Fb+	900.0 psi	E : Modulus of Elast	ticity
Load Combination IBC 2018	Fb -	900.0 psi	Ebend- xx	1,600.0ksi
	Fc - Prll	1,350.0 psi	Eminbend - xx	580.0ksi
Wood Species : Douglas Fir-Larch	Fc - Perp	625.0 psi		
Wood Grade : No.2	Fv	180.0 psi		
11000 0.000	Ft	575.0 psi	Density	31.210pcf
December 1	1.1 1.12		•	•



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading

Uniform Load: D = 0.020, Lr = 0.020 ksf, Tributary Width = 7.0 ft, (ROOF)

DESIGN SUMMARY						Design OK
Maximum Bending Stress Ratio Section used for this span	=	0.409: 1 4x10		hear Stress Ratio used for this span	=	0.192 : 1 4x10
fb: Actual	=	552.05 psi	•	fv: Actual	=	43.10 psi
Fb: Allowable	=	1,350.00 psi		Fv: Allowable	=	225.00 psi
Load Combination Location of maximum on span Span # where maximum occurs	= =	+D+Lr 4.000ft Span # 1	Locatio	ombination n of maximum on span where maximum occurs	= =	+D+Lr 7.241 ft Span # 1
Maximum Deflection Max Downward Transient Deflect Max Upward Transient Deflection Max Downward Total Deflection Max Upward Total Deflection		0.035 in Ratio = 0 in Ratio = 0.072 in Ratio = 0 in Ratio =	2732 >=240 0 <240 1332 >=180 0 <180	Span: 1 : Lr Only n/a Span: 1 : +D+Lr n/a		

Maximum For	ces & S	tress	es tor	Load	Com	ibinati	ons									
Load Combination	N	Max Stre	ess Rati	os							Mome	ent Values	;	S	hear Va	llues
Segment Length	Span #	М	V	c_d	$C_{F/V}$, c _i	c_r	c_m	C t	CL	М	fb	F'b	V	fv	F'v
D Only													0.00	0.00	0.00	0.00
Length = 8.0 ft	1	0.291	0.136	0.90	1.200	1.00	1.00	1.00	1.00	1.00	1.18	282.77	972.00	0.48	22.08	162.00
+D+Lr					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length $= 8.0 \text{ ft}$	1	0.409	0.192	1.25	1.200	1.00	1.00	1.00	1.00	1.00	2.30	552.05	1350.00	0.93	43.10	225.00
+D+0.750Lr					1.200	1.00	1.00	1.00	1.00	1.00			0.00	0.00	0.00	0.00
Length $= 8.0 \text{ ft}$	1	0.359	0.168	1.25	1.200	1.00	1.00	1.00	1.00	1.00	2.02	484. 7 %	ty 350e 30e Bu	ildin@ 8832fety	37.84	225.00
+0.60D					1.200	1.00	1.00	1.00	1.00	1.00		40	4080 Lemon St. 9 Riverside, CA	92502.00	0.00	0.00
Length = 8.0 ft	1	0.098	0.046	1.60	1.200	1.00	1.00	1.00	1.00	1.00	0.71	169.66	172 89000	0.29	13.25	288.00
Overall Maximus	m Defle	ctions	5									Approval of these p	12/08/2022 4:06 REVIEWED BY: j	dunagan	an approval	
Load Combination		S	pan	Max. "-	" Defl	Location	n in Sp	an	Load (Combina	ation Appro	of, any violations of val of these plapla	any of the provisions of the not must he local	e arse repounty laws under de O	ation i	Span
+D+Lr			1	C	.0720		4.029	9				plans	must be kept on 0 .	0000 ompletion	on. O	.000

Wood Beam

Project File: EC.ec6

LIC#: KW-06017805, Build:20.22.8.17

MS CONSULTING ENGINEERS

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DESCRIPTION: HDR: H2

Vertical ReactionsSupport notation : Far left is #1 Values in KIPS

Load Combination	Support 1 Supp	Support 2
Overall MAXimum	1.148 <i>°</i>	1.148
Overall MINimum	0.560	0.560
D Only	0.588	0.588
+D+Lr	1.148	1.148
+D+0.750Lr	1.008	1.008
+0.60D	0.353	0.353
Lr Only	0.560	0.560

County of Riverside Building & Safety

4080 Lemon St. 9th Floor.
Riverside, CA 92502

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REVIEWED BY: dunagan

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Rahman Engineering Inc.

A Civil / Structural & Environmental Engineering Services Company (Professional Engineer License # C69263, QSD/QSP # 22406)



FOUNDATION DESIGN



Tel: (213) 400-8078

Project Title: Engineer: Project ID: Project Descr:

Soil Design Values

General Footing

Printed: 17 MAY 2021, 11:42AV

File: EC.ec6

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DESCRIPTION: PAD FOOTING: F1

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16

Load Combinations Used: IBC 2018

General Information Material Properties

			Oon Design Values		
=	2	.50 ksi	Allowable Soil Bearing	=	1.50 ksf
=	6	0.0 ksi	Increase Bearing By Footing Weight	=	No
=	3,12	2.0 ksi		=	150.0 pcf
=	14	5.0 pcf	Soil/Concrete Friction Coeff.	=	0.30
=	0	.90			
=	0.7	750	Increases based on footing Depth		
				=	ft
	=			=	ksf
	=	0.00180		=	ft
	=	1.0 : 1	3		
	=	1.0 : 1	Increases based on footing plan dimension		
	:	Yes	Allowable pressure increase per foot of depth		
	:	Yes	when may length or width is greater than	=	ksf
	:	No	when max, length or width is greater than	_	ft
	:	No		_	п
	= = =	= 6 = 3,12 = 14 = 0 = 0.7	= 60.0 ksi = 3,122.0 ksi = 145.0 pcf = 0.90 = 0.750 = 0.00180 = 1.0:1 = 1.0:1 : Yes : Yes : No	= 2.50 ksi Allowable Soil Bearing Increase Bearing By Footing Weight 3,122.0 ksi Soil Passive Resistance (for Sliding) 145.0 pcf Soil/Concrete Friction Coeff. 0.90 10.750 Increases based on footing Depth Footing base depth below soil surface Allow press. increase per foot of depth when footing base is below 1.0:1 1.0:1 Increases based on footing plan dimension Allowable pressure increase per foot of depth when max. length or width is greater than	= 2.50 ksi Allowable Soil Bearing = 60.0 ksi Increase Bearing By Footing Weight = 3,122.0 ksi Soil Passive Resistance (for Sliding) = 145.0 pcf Soil/Concrete Friction Coeff. = 0.90

2.0 ft

Dimensions

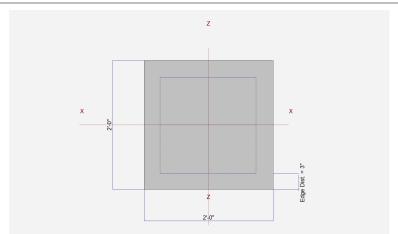
Width parallel to X-X Axis

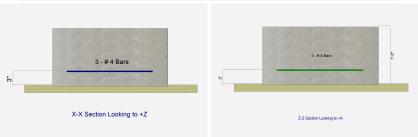
Length parallel to Z-Z Axis	=	2.0 ft
Footing Thickness	=	12.0 in

Pedestal dimensions... px : parallel to X-X Axis in pz : parallel to Z-Z Axis Height in in Rebar Centerline to Edge of Concrete... at Bottom of footing 3.0 in

Reinforcing

Bars parallel to X-X Axis Number of Bars Reinforcing Bar Size	=	#	3.0
Bars parallel to Z-Z Axis			
Number of Bars	=		3.0
Reinforcing Bar Size	=	#	4
Bandwidth Distribution Check (ACI 15.4.4.2)		
Direction Requiring Closer Separ	ation		
			n/a
# Bars required within zone			n/a
# Bars required on each side of z	ono		n/a
# bars required on each side of zi	JITE		II/a





Applied Loads

		D	Lr	L	S	W County of Riversige Building & Safety H
P : Column Load	=	2.70	2.70			Riverside, CA 92502 02 k
OB : Overburden	=					APPROVED 12/08/2022 4:06:29 PM
M-xx	=					REVIEWED BY: jdunagan M Approval of these plans shall not be construed to be a permit for, or an approval K
M-zz	=					Approval of these plans shall not be construed to be a permit for, or an approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or country laws. This set of plans must be kept on the job until completion.
V-x	=					plans must be kept on the job until completion.
V-z	=					k

Project Title: Engineer: Project ID: Project Descr:

Printed: 17 MAY 2021, 11:42AN

General Footing

Lic. # : KW-06007915

File: EC.ec6

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MS CONSULTING ENGINEERS

DESCRIPTIO	ON: PAD FOOT	ING: F1							WIS CONSUL	ING ENGINEERS
DESIGN SUI	MMARY								Design	n OK
	Min. Ratio	Item		А	pplied		Capacity	Governing	g Load Combina	tion
PASS	0.9967	Soil Beari	ng	1.4	495 ksf		1.50 ksf	+D+Lr+F	l about Z-Z axis	 ;
PASS	n/a	Overturni	ng - X-X		0.0 k-ft		0.0 k-ft	No Over	turning	
PASS	n/a	Overturni	ng - Z-Z		0.0 k-ft		0.0 k-ft	No Over	•	
PASS	n/a	Sliding - >	⟨- X		0.0 k		0.0 k	No Slidir	ng	
PASS	n/a	Sliding - Z	Z-Z		0.0 k		0.0 k	No Slidir	ng	
PASS	n/a	Uplift			0.0 k		0.0 k	No Uplift		
PASS	0.08095	Z Flexure			450 k-ft/ft		11.674 k-ft/ft		1.60Lr+0.50L+1	
PASS	0.08095	Z Flexure			450 k-ft/ft		11.674 k-ft/ft		1.60Lr+0.50L+1	
PASS	0.08095	X Flexure			450 k-ft/ft		11.674 k-ft/ft		1.60Lr+0.50L+1	
PASS	0.08095	X Flexure			450 k-ft/ft		11.674 k-ft/ft		1.60Lr+0.50L+1	
PASS	0.0560	1-way Sh			.20 psi		75.0 psi		1.60Lr+0.50L+1	
PASS	0.0560	1-way Sh			.20 psi		75.0 psi		1.60Lr+0.50L+1	
PASS	0.0560	1-way Sh			.20 psi		75.0 psi		1.60Lr+0.50L+1	
PASS	0.0560	1-way Sh			.20 psi		75.0 psi		1.60Lr+0.50L+1	
PASS Detailed Res	0.1331	2-way Pu	nching	19.9	964 psi		150.0 psi	+1.20D+	1.60Lr+0.50L+´	1.60H
Soil Bearing	SuitS									
Rotation Axis	0.			Xecc	Zecc	Acti	ıal Soil Bearing Stre	ss @ Locat	ion	Actual / Allow
	mbination	Gross	Allowable	(ir)	Bottom, -Z	Top, +Z	Left, -X	Right, +X	Ratio
X-X, +D+H			1.50	n/a	0.0	0.820	0.820	n/a	n/a	0.547
X-X, +D+L+H			1.50	n/a	0.0	0.820	0.820	n/a	n/a	0.547
X-X, +D+Lr+H X-X, +D+S+H			1.50 1.50	n/a n/a	0.0 0.0	1.495 0.820	1.495 0.820	n/a n/a	n/a n/a	0.997 0.547
X-X, +D+0.750	DLr+0.750L+H		1.50	n/a	0.0	1.326	1.326	n/a	n/a	0.884
X-X, +D+0.750	DL+0.750S+H		1.50	n/a	0.0	0.820	0.820	n/a	n/a	0.547
X-X, +D+0.60\			1.50	n/a	0.0	0.820	0.820	n/a	n/a	0.547
X-X, +D+0.70E	=+H OLr+0.750L+0.450\	N . LI	1.50 1.50	n/a n/a	0.0 0.0	0.820 1.326	0.820 1.326	n/a n/a	n/a n/a	0.547 0.884
	0L+0.750S+0.450V		1.50	n/a	0.0	0.820	0.820	n/a	n/a	0.547
	DL+0.750S+0.5250		1.50	n/a	0.0	0.820	0.820	n/a	n/a	0.547
X-X, +0.60D+0			1.50	n/a	0.0	0.4920	0.4920	n/a	n/a	0.328
X-X, +0.60D+0	0.70E+0.60H		1.50	n/a	0.0	0.4920	0.4920	n/a	n/a	0.328
Z-Z, +D+H Z-Z, +D+L+H			1.50 1.50	0.0 0.0	n/a n/a	n/a n/a	n/a n/a	0.820 0.820	0.820 0.820	0.547 0.547
Z-Z, +D+Lr+H			1.50	0.0	n/a	n/a	n/a	1.495	1.495	0.997
Z-Z, +D+S+H			1.50	0.0	n/a	n/a	n/a	0.820	0.820	0.547
Z-Z, +D+0.750			1.50	0.0	n/a	n/a	n/a	1.326	1.326	0.884
Z-Z, +D+0.750 Z-Z, +D+0.60V			1.50 1.50	0.0 0.0	n/a n/a	n/a n/a	n/a n/a	0.820 0.820	0.820 0.820	0.547 0.547
Z-Z, +D+0.00V Z-Z, +D+0.70E			1.50	0.0	n/a	n/a	n/a	0.820	0.820	0.547
)Lr+0.750L+0.450V	V+H	1.50	0.0	n/a	n/a	n/a	1.326	1.326	0.884
Z-Z, +D+0.750	L+0.750S+0.450W	/+H	1.50	0.0	n/a	n/a	n/a	0.820	0.820	0.547
)L+0.750S+0.5250	E+H	1.50	0.0	n/a	n/a	n/a	0.820	0.820	0.547
Z-Z, +0.60D+0 Z-Z, +0.60D+0			1.50 1.50	0.0 0.0	n/a n/a	n/a n/a	n/a n/a	0.4920 0.4920	0.4920 0.4920	0.328 0.328
Overturning S	Stability									
Rotation Axis	& nbination			Overturning	Moment		Resisting Moment	Stah	ility Ratio	Status
Footing Has N				2.57.Willing						
Sliding Stabil	ity							County of Rive 4080 Ler River	erside Building & Safe non St. 9th Floor. side, CA 92502	Äll units k
Force Applica	tion Axis			Sliding F	nrca		Pasisting Force	AF 12/08/2	PPROVED 2022 4:06:29 PM	Status
Footing Has N				Silulity F	UI CE		Resisting For ce	val of these plans shall not violations of any of the pr hese plans must be ke	be construed to be a permit for, ovisions of the state or county larept on the job until completion.	or an approval
i oomiy nas iv	io sliulity						of, art viola	nlane must be ke	nt on the job until comple	set of

Project Title: Engineer: Project ID: Project Descr:

Printed: 17 MAY 2021, 11:42AN

General Footing

Lic. # : KW-06007915

File: EC.ec6

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DESCRIPTION: PAD FOOTING: F1

Footing Flexure

Flexure Axis & Load Combination	Mu	Side	Tension	As Req'd	Gvrn. As	Actual As	Phi*Mn	Status
- I CAUTE AXIS & LOUG COMBINATION	k-ft		Surface	in^2	in^2	in^2	k-ft	
X-X, +1.40D+1.60H	0.4725	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.40D+1.60H	0.4725	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50Lr+1.60L+1.60H	0.5738	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50Lr+1.60L+1.60H	0.5738	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.30LF+1.00E+1.00H X-X, +1.20D+1.60L+0.50S+1.60H	0.4050	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+1.60L+0.50S+1.60H X-X, +1.20D+1.60L+0.50S+1.60H	0.4050	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
	0.4050	-Z +Z		0.2592	Min Temp %	0.30	11.674	
X-X, +1.20D+1.60Lr+0.50L+1.60H		+Z -Z	Bottom					OK
X-X, +1.20D+1.60Lr+0.50L+1.60H	0.9450		Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+1.60Lr+0.50W+1.60H	0.9450	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+1.60Lr+0.50W+1.60H	0.9450	- <u>Z</u>	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50L+1.60S+1.60H	0.4050	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50L+1.60S+1.60H	0.4050	- <u>Z</u>	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+1.60S+0.50W+1.60H	0.4050	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+1.60S+0.50W+1.60H	0.4050	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50Lr+0.50L+W+1.60H	0.5738	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50Lr+0.50L+W+1.60H	0.5738	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50L+0.50S+W+1.60H	0.4050	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50L+0.50S+W+1.60H	0.4050	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50L+0.70S+E+1.60H	0.4050	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +1.20D+0.50L+0.70S+E+1.60H	0.4050	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +0.90D+W+0.90H	0.3038	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +0.90D+W+0.90H	0.3038	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +0.90D+E+0.90H	0.3038	+Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
X-X, +0.90D+E+0.90H	0.3038	-Z	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.40D+1.60H	0.4725	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.40D+1.60H	0.4725	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.40D+1.60H Z-Z, +1.20D+0.50Lr+1.60L+1.60H	0.4723	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L1+1.60L+1.60H Z-Z, +1.20D+0.50Lr+1.60L+1.60H	0.5738		Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L1+1.60L+1.60H Z-Z, +1.20D+1.60L+0.50S+1.60H	0.3736	+X V	Bottom	0.2592	Min Temp %	0.30	11.674	OK OK
		-X						
Z-Z, +1.20D+1.60L+0.50S+1.60H	0.4050	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+1.60Lr+0.50L+1.60H	0.9450	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+1.60Lr+0.50L+1.60H	0.9450	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+1.60Lr+0.50W+1.60H	0.9450	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+1.60Lr+0.50W+1.60H	0.9450	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L+1.60S+1.60H	0.4050	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L+1.60S+1.60H	0.4050	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+1.60S+0.50W+1.60H	0.4050	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+1.60S+0.50W+1.60H	0.4050	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50Lr+0.50L+W+1.60H	0.5738	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50Lr+0.50L+W+1.60H	0.5738	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L+0.50S+W+1.60H	0.4050	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L+0.50S+W+1.60H	0.4050	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L+0.70S+E+1.60H	0.4050	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +1.20D+0.50L+0.70S+E+1.60H	0.4050	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +0.90D+W+0.90H	0.3038	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +0.90D+W+0.90H	0.3038	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +0.90D+E+0.90H	0.3038	-X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
Z-Z, +0.90D+E+0.90H Z-Z, +0.90D+E+0.90H	0.3038	+X	Bottom	0.2592	Min Temp %	0.30	11.674	OK
One Way Shear	0.3030	ΤΛ.	טטוטווו	0.2372	MINI I CITIN 10	0.30	11.074	UK
				. 7	- 7 V I	. 51114		

Load Combination	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @ +Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+1.40D+1.60H	2.10 ps	2.10 psi	2.10 ps	2.10 psi	2.10 psi	75.00	psi 0.03	OK
+1.20D+0.50Lr+1.60L+1.60H	2.55 ps	i 2.55 psi	2.55 ps	2.55 psi	2.55 psi	75.00	psi 0.03	OK
+1.20D+1.60L+0.50S+1.60H	1.80 ps	i 1.80 psi	1.80 ps	1.80 psi	1.80 psi	75.00 ו	psi 0.02	OK
+1.20D+1.60Lr+0.50L+1.60H	4.20 ps	i 4.20 psi	4.20 ps	4.20 psi	4.20 ps i	inty of Riverside Bu	Maning & Safety 0.06	OK
+1.20D+1.60Lr+0.50W+1.60H	4.20 ps	i 4.20 psi	4.20 ps	4.20 psi	4.20 psi	4080 Lemon Sc 9 Riverside, CA	#cFloor. 0.06	OK
+1.20D+0.50L+1.60S+1.60H	1.80 ps	i 1.80 psi	1.80 ps	1.80 psi	1.80 psi	APPROVE	0.02	OK
+1.20D+1.60S+0.50W+1.60H	1.80 ps	i 1.80 psi	1.80 ps	1.80 psi	1.80 psi	12/08/2052000	0.02 psipM	OK
+1.20D+0.50Lr+0.50L+W+1.60H	2.55 ps	2.55 psi	2.55 ps	2.55 psi	2.55 psi	e plans shall not be outstrued of any of the provisions of the	dunagan DS a permit for, or an approval e state or county laws. This set of	OK
+1.20D+0.50L+0.50S+W+1.60H	1.80 ps	i 1.80 psi	1.80 ps	1.80 psi	Appro 1.80 psi	plans must be ke 5 n 00 b	osilicompletion. 0.02	proval OK
+1.20D+0.50L+0.70S+E+1.60H	1.80 ps	i 1.80 psi	1.80 ps	1.80 psi	1.80 psi	s must be ke 75.00	osintil completion 0.02	OK
+0.90D+W+0.90H	1 35 ps	1.35 psi	1.35 ns	1.35 psi	1.35 psi	75.00 ı	nsi 0.02	OK

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Title Block Line 1 You can change this area using the "Settings" menu item and then using the "Printing & Title Block" selection. Title Block Line 6

Project Title: Engineer: Project ID: Project Descr:

Printed: 17 MAY 2021, 11:42AN

General Footing

Lic. # : KW-06007915

File: EC.ec6

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DESCRIPTION: PAD FOOTING: F1

One Way Shear

Load Combination	Vu @ -X	Vu @ +X	Vu @ -Z	Vu @	+Z	Vu:Max	Phi Vn	Vu / Phi*Vn	Status
+0.90D+E+0.90H Two-Way "Punching" Shear	1.35 psi	1.35 ps	i 1.3	5 psi	1.35 psi	1.35 psi	ر 75.00	osi 0.0 All un	
Load Combination		Vu	l	Phi*Vn		Vu / Phi*Vn			Status
+1.40D+1.60H		9.98 psi		150.00psi		0.06655			OK
+1.20D+0.50Lr+1.60L+1.60H		12.12 psi		150.00 psi		0.08081			OK
+1.20D+1.60L+0.50S+1.60H		8.56 psi		150.00 psi		0.05704			OK
+1.20D+1.60Lr+0.50L+1.60H		19.96 psi		150.00 psi		0.1331			OK
+1.20D+1.60Lr+0.50W+1.60H		19.96 psi		150.00 psi		0.1331			OK
+1.20D+0.50L+1.60S+1.60H		8.56 psi		150.00 psi		0.05704			OK
+1.20D+1.60S+0.50W+1.60H		8.56 psi		150.00 psi		0.05704			OK
+1.20D+0.50Lr+0.50L+W+1.60H		12.12 psi		150.00 psi		0.08081			OK
+1.20D+0.50L+0.50S+W+1.60H		8.56 psi		150.00 psi		0.05704			OK
+1.20D+0.50L+0.70S+E+1.60H		8.56 psi		150.00 psi		0.05704			OK
+0.90D+W+0.90H		6.42 psi		150.00 psi		0.04278			OK
+0.90D+E+0.90H		6.42 psi		150.00psi		0.04278			OK

County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502

APPROVED

12/08/2022 4:06:29 PM
REVIEWED BY: fdunagan
Approval of these plans shall not be onstrued to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of plans must be kept on the job until completion.

General Footing

LIC#: KW-06017805, Build:20.22.8.17 MS CONSULTING ENGINEERS

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Project File: EC.ec6

DESCRIPTION: PAD FOOTING: F2

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16

Load Combinations Used: IBC 2018

General Information

Material Properties				Soil Design Values		
f'c : Concrete 28 day strength	=	2	.50 ksi	Allowable Soil Bearing	=	1.50 ksf
fy : Rebar Yield	=	6	0.0 ksi	Soil Density	=	110.0 pcf
Ec : Concrete Elastic Modulus	=	,	2.0 ksi	Increase Bearing By Footing Weight	=	No [']
Concrete Density	=	14	5.0 pcf	Soil Passive Resistance (for Sliding)	=	150.0 pcf
₀ Values Flexure	=	0	.90	Soil/Concrete Friction Coeff.	=	0.30
Shear	T					
Analysis Settings				Footing base depth below soil surface	=	ft
Min Steel % Bending Reinf.		=		Allow press, increase per foot of depth	=	ksf
Min Allow % Temp Reinf.		= 0.00180		when footing base is below		ft
Min. Overturning Safety Factor		=	1.0 : 1	S		
Min. Sliding Safety Factor		=	1.0 : 1	Increases based on footing plan dimension	on	
Add Ftg Wt for Soil Pressure		:	Yes	Allowable pressure increase per foot of de	epth	
Use ftg wt for stability, moments & shea	rs	:	Yes		=	ksf
Add Pedestal Wt for Soil Pressure		: No		when max. length or width is greater than		
Use Pedestal wt for stability, mom & shear :			No		=	ft
Ose redesial willof stability, mont & she	zai	•	INO			

Dimensions

Width parallel to X-X Axis	=	2.50 ft
Length parallel to Z-Z Axis	=	2.50 ft
Footing Thickness	=	12.0 in

Pedestal dimensions...

px : parallel to X-X Axis = in

pz : parallel to Z-Z Axis = in

Height = in

Rebar Centerline to Edge of Concrete...

at Bottom of footing = 3.0 in

Reinforcing

Bars parallel to X-X Axis
Number of Bars
Reinforcing Bar Size

Bars parallel to Z-Z Axis
Number of Bars
Reinforcing Bar Size

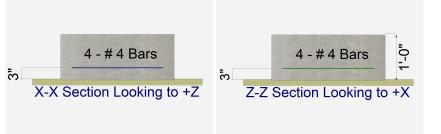
Reinforcing Bar Size

Bandwidth Distribution Check (ACI 15.4.4.2)
Direction Requiring Closer Separation

n/a

Bars required within zone

Bars required on each side of zone



Applied Loads

		D	Lr	L	S	W County of Riversine Building & Safety H
P : Column Load	=	4.20	4.20			Riverside, CA 92502 02
OB : Overburden	=					APPROVED ksf 12/08/2022 4:06:29 PM
M-xx M-zz	= =					Approval of these plans shall not be construed to be a permit for, or an approval of, any violations of any of the provisions of the state or county laws. This set of k-ft
V-x	=					of, a.l. plans must be kept on the job until completion.
V-z	=					k

n/a

General Footing

LIC# : KW-06017805, Build:20.22.8.17

MS CONSULTING ENGINEERS

Project File: EC.ec6
(c) ENERCALC INC 1983-2022

DESCRIPTION: PAD FOOTING: F2

DEC	10	101		AADV
DES	NGN	v St	IIVIIV	<i>IARY</i>

Design OK

	Min. Ratio	Item	Applied	Capacity	Governing Load Combination
PASS	0.9927	Soil Bearing	1.489 ksf	1.50 ksf	+D+Lr about Z-Z axis
PASS	n/a	Overturning - X-X	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Overturning - Z-Z	0.0 k-ft	0.0 k-ft	No Overturning
PASS	n/a	Sliding - X-X	0.0 k	0.0 k	No Sliding
PASS	n/a	Sliding - Z-Z	0.0 k	0.0 k	No Sliding
PASS	n/a	Uplift	0.0 k	0.0 k	No Uplift
PASS	0.1184	Z Flexure (+X)	1.470 k-ft/ft	12.418 k-ft/ft	+1.20D+1.60Lr
PASS	0.1184	Z Flexure (-X)	1.470 k-ft/ft	12.418 k-ft/ft	+1.20D+1.60Lr
PASS	0.1184	X Flexure (+Z)	1.470 k-ft/ft	12.418 k-ft/ft	+1.20D+1.60Lr
PASS	0.1184	X Flexure (-Z)	1.470 k-ft/ft	12.418 k-ft/ft	+1.20D+1.60Lr
PASS	0.1161	1-way Shear (+X)	8.711 psi	75.0 psi	+1.20D+1.60Lr
PASS	0.1161	1-way Shear (-X)	8.711 psi	75.0 psi	+1.20D+1.60Lr
PASS	0.1161	1-way Shear (+Z)	8.711 psi	75.0 psi	+1.20D+1.60Lr
PASS	0.1161	1-way Shear (-Z)	8.711 psi	75.0 psi	+1.20D+1.60Lr
PASS	0.2202	2-way Punching	33.030 psi	150.0 psi	+1.20D+1.60Lr

Detailed Results

Soi	il R	42	rii	ոո
OU		cu	•	''y

		V	7	A - 1I	O - 'I D ' (34	-0	
Rotation Axis & Load Combination	Gross Allowable	Xecc Zecc (in)		Bottom, -Z	al Soil Bearing Stress @ Loo Top, +Z Left, -X		Right, +X	Actual / Allow Ratio
X-X, D Only	1.50	n/a	0.0	0.8170	0.8170	n/a	n/a	0.545
X-X, +D+Lr	1.50	n/a	0.0	1.489	1.489	n/a	n/a	0.993
X-X, +D+0.750Lr	1.50	n/a	0.0	1.321	1.321	n/a	n/a	0.881
X-X, +0.60D	1.50	n/a	0.0	0.4902	0.4902	n/a	n/a	0.327
Z-Z, D Only	1.50	0.0	n/a	n/a	n/a	0.8170	0.8170	0.545
Z-Z, +D+Lr	1.50	0.0	n/a	n/a	n/a	1.489	1.489	0.993
Z-Z, +D+0.750Lr	1.50	0.0	n/a	n/a	n/a	1.321	1.321	0.881
Z-Z, +0.60D	1.50	0.0	n/a	n/a	n/a	0.4902	0.4902	0.327

Overturning Stability

Rotation Axis & Load Combination	Overturning Moment	Resisting Moment	Stability Ratio	Status
Footing Has NO Overturning				

Sliding Stability

All units k

Force Application Axis				
Load Combination	Sliding Force	Resisting Force	Stability Ratio	Status
Footing Has NO Sliding				

Footing Flexure

Flexure Axis & Load Combination	Mu k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	Actual As in^2	Phi*Mn k-ft	Status
X-X, +1.40D	0.7350	+Z	Bottom	0.2592	AsMin	0.320	12.418	ок
X-X, +1.40D	0.7350	-Z	Bottom	0.2592	AsMin	0.320	12.418	OK
X-X, +1.20D+0.50Lr	0.8925	+Z	Bottom	0.2592	AsMin	0.320	12.418	OK
X-X, +1.20D+0.50Lr	0.8925	-Z	Bottom	0.2592	AsMin	0.320	12.418	OK
X-X, +1.20D	0.630	+Z	Bottom	0.2592	AsMin	0.320	12.418	OK
X-X, +1.20D	0.630	-Z	Bottom	0.2592	AsMin	0.320	12.418	OK
X-X, +1.20D+1.60Lr	1.470	+Z	Bottom	0.2592	AsMin	0.320	12.418	OK
X-X, +1.20D+1.60Lr	1.470	-Z	Bottom	0.2592	AsMin	ი ვვი	12 418	_ OK
X-X, +0.90D	0.4725	+Z	Bottom	0.2592	AsMin	0.030 mgy of Rive	rside Buildip 2 & Sale ty	OK
X-X, +0.90D	0.4725	-Z	Bottom	0.2592	AsMin	0.320 ⁴⁰⁸⁰ Len	non St. 9th Floor ide, CA 92502.418	OK
Z-Z, +1.40D	0.7350	-X	Bottom	0.2592	AsMin		PROVED 12.418	OK
Z-Z, +1.40D	0.7350	+X	Bottom	0.2592	AsMin	0.320 12/08/2	022 4:06:2 9 2 4418	OK
Z-Z, +1.20D+0.50Lr	0.8925	-X	Bottom	0.2592	AsMin	Approva Of 1320 ns shall not be	ED BY: jdunagan se construed to be so eAit looor an approval	OK
Z-Z, +1.20D+0.50Lr	0.8925	+X	Bottom	0.2592	AsMin	of, any violations of any of the pro Approval of th 0.32 ens must be ke	visions of the state or county laws. This set of pt on the job until completion. Sit for, or an	OK
Z-Z, +1.20D	0.630	-X	Bottom	0.2592	AsMin	of, ar 0.320 ust be kep	ot on the job 12.418 ion.	OK
Z-Z, +1.20D	0.630	+X	Bottom	0.2592	AsMin	0.320	12.418	OK
Z-Z, +1.20D+1.60Lr	1.470	-X	Bottom	0.2592	AsMin	0.320	12.418	OK

General Footing

LIC#: KW-06017805, Build:20.22.8.17

MS CONSULTING ENGINEERS

Project File: EC.ec6 (c) ENERCALC INC 1983-2022

OK

OK

DESCRIPTION: PAD FOOTING: F2

+1.20D+1.60Lr

+0.90D

Footing Flexure									
Flexure Axis & Load Combination	n <mark>Mu</mark> k-ft	Side	Tension Surface	As Req'd in^2	Gvrn. As in^2	s Actual As in^2	S Phi*N k-fi		Status
Z-Z, +1.20D+1.60Lr	1.470	+X	Bottom	0.2592	AsMin	0.320	12	.418	ок
Z-Z, +0.90D	0.4725	-X	Bottom	0.2592	AsMin	0.320	12	.418	OK
Z-Z, +0.90D	0.4725	+X	Bottom	0.2592	AsMin	0.320	12	.418	OK
One Way Shear									
Load Combination	Vu @ -X	Vu @	+X Vu (@ -Z Vu @) +Z	Vu:Max Pl	ni Vn Vu	/ Phi*Vn	Status
+1.40D	4.36 p	si	4.36 psi	4.36 psi	4.36 psi	4.36 psi	75.00 psi	0.06	ОК
+1.20D+0.50Lr	5.29 p	si	5.29 psi	5.29 psi	5.29 psi	5.29 psi	75.00 psi	0.07	OK
+1.20D	3.73	si	3.73 psi	3.73 psi	3.73 psi	3.73 psi	75.00 psi	0.05	OK
+1.20D+1.60Lr	8.71 p	si	8.71 psi	8.71 psi	8.71 psi	8.71 psi	75.00 psi	0.12	OK
+0.90D	2.80 p	si	2.80 psi	2.80 psi	2.80 psi	2.80 psi	75.00 psi	0.04	OK
Two-Way "Punching" Shear			·	·	·	·	·	All units	, k
Load Combination		Vu		Phi*Vn		Vu / Phi*Vn			Status
+1.40D		16.5	2 psi	150.00ps	i	0.1101			ОК
+1.20D+0.50Lr			5 psi	150.00 ps	i	0.1337			OK
+1.20D		14.1	6 psi	150.00ps	i	0.09437			OK
			<u> </u>	'					

150.00psi

150.00psi

0.2202

0.07078

33.03 psi

10.62 psi

County of Riverside Building & Safety 4080 Lemon St. 9th Floor. Riverside, CA 92502

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File: EC.ec6

Pole Footing Embedded in Soil

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DESCRIPTION: CANTILEVER POST FOOTING

Code References

Calculations per IBC 2018 1807.3, CBC 2019, ASCE 7-16

Load Combinations Used: IBC 2018

General Information

Calculate Min. Depth for Allowable Pressures

Lateral Restraint at Ground Surface

Controlling Values

Governing Load Combination: +D+0.70E+H

 Lateral Load
 0.490 k

 Moment
 3.920 k-ft

Restraint @ Ground Surface

Pressure at Depth

 Actual
 554.76 psf

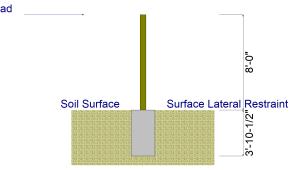
 Allowable
 581.25 psf

 Surface Retraint Force
 2,639.68 lbs

Minimum Required Depth 3.875 ft

Footing Base Area 3.142 ft^2
Maximum Soil Pressure 0.0 ksf

Point Load



Applied Loads

Lateral Concentrated Load (k)		Lateral Distributed Loads (k	Lateral Distributed Loads (klf)		Vertical Load (k	
D : Dead Load	k		k/ft	k-ft	k	
Lr : Roof Live	k		k/ft	k-ft	k	
L : Live	k		k/ft	k-ft	k	
S : Snow	k		k/ft	k-ft	k	
W : Wind	0.70 k		k/ft	k-ft	k	
E : Earthquake	0.70 k		k/ft	k-ft	k	
H : Lateral Earth	k		k/ft	k-ft	k	
Load distance above		TOP of Load above ground surface				
ground surface	8.0 ft	S	ft			
_		BOTTOM of Load above ground surface				
		ů,	ft			

Load Combination Results

	Forces @	Forces @ Ground Surface		Pressure at Depth		Soil Increase
Load Combination	Loads - (k)	Moments - (ft-k)	Depth - (ft)	Actual - (psf)	Allow - (psf)	Factor
+D+H	0.000	0.000	0.13	0.0	18.8	1.000
+D+L+H	0.000	0.000	0.13	0.0	18.8	1.000
+D+Lr+H	0.000	0.000	0.13	0.0	18.8	1.000
+D+S+H	0.000	0.000	0.13	0.0	18.8	1.000
+D+0.750Lr+0.750L+H	0.000	0.000	0.13	4 0408 0 Lem	side Building & Safety on St. 9th Floor 8.8	1.000
+D+0.750L+0.750S+H	0.000	0.000	0.13	0.0	ide, CA 92502 PROVED 18.8	·.000
+D+0.60W+H	0.420	3.360	3.63	543 REVIEW	022 4:06:30 PM ED BY: jduna 944 3.8	.000
+D+0.70E+H	0.490	3.920	3.88 AP	of, any violations of any of the provo	e construed to be a permit for, or an visions of the state or sountly lews. The ton the job until contraction	approval his set of r, or an air .000
+D+0.750Lr+0.750L+0.450W+H	0.315	2.520	3.38	pla 470 .1 be kep	t on the job un $506.3^{ m tion}$.	1.000

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Title Block Line 1
You can change this area using the "Settings" menu item and then using the "Printing & Title Block" selection.
Title Block Line 6

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Pole Footing Embedded in Soi	Softwa	File: EC.ec6 Software copyright ENERCALC, INC. 1983-2020, Build:12.20.8.24					
Lic. # : KW-06007915			Solition	17 7	IS CONSULTING		
DESCRIPTION: CANTILEVER POST FOOT	ING						
+D+0.750L+0.750S+0.450W+H	0.315	2.520	3.38	470.1	506.3	1.000	
+D+0.750L+0.750S+0.5250E+H	0.368	2.940	3.50	510.0	525.0	1.000	
+0.60D+0.60W+0.60H	0.420	3.360	3.63	543.4	543.8	1.000	
+0.60D+0.70E+0.60H	0.490	3.920	3.88	554.8	581.3	1.000	

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