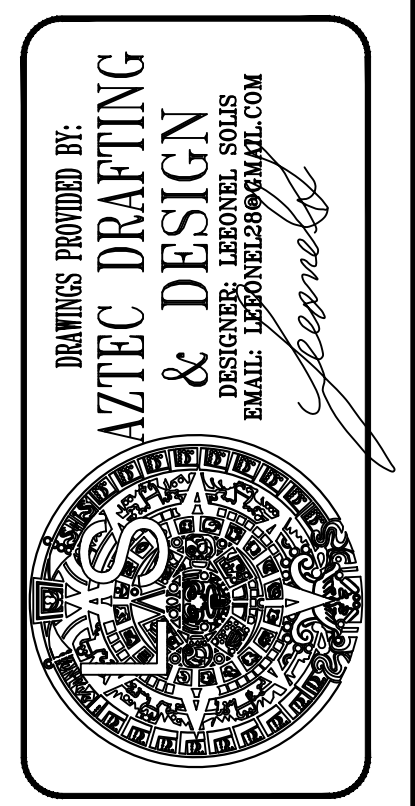


SHEET No.	SHEET NAME
SP-1	SITE PLAN
A-1	EXISTING FLOOR PLAN
A-2	NEW ADDITION FLOOR PLAN
A-3	ADU FLOOR PLAN
A-4	ADU ELECTRICAL PLAN
A-5	ADU ELEVATIONS
A-6	ADU ELEVATIONS
A-7	ADDITION ELEVATIONS
A-8	ADU ROOF PLAN / TRUSS LAYOUT
A-9	SECTION VIEW
A-10	UTILITY LAYOUT PLAN
S-1	STRUCTURAL NOTES
S-1.1	TYPICAL DETAILS
S-2	FOUNDATION PLAN
S-3	ROOF FRAMING PLAN
S-4	STRUCTURAL DETAILS
T-1	TRUSSES CALCS
T-01-05	TITLE 24 ENERGY CONSERVATION

CODE COMPLIANCE

PROJECT DESIGNED BASED ON THE FOLLOWING CODES:
 2019 CALIFORNIA ELECTRICAL CODE (CEC)
 2019 CALIFORNIA MECHANICAL CODE (CMC)
 2019 CALIFORNIA PLUMBING CODE (CPC)
 2019 CALIFORNIA FIRE CODE (CFC)
 2019 CALIFORNIA BUILDING CODE (CBC)
 2017 NATIONAL ELECTRICAL CODE (NEC)
 2019 CALIFORNIA ENERGY CODE
 2019 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN)
 AND ALL CITY OF NATIONAL CITY AMENDMENTS.

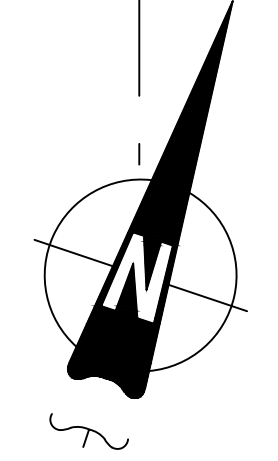
- SPECIFY AS INDICATED IN CF1R FORM (TITLE 24):
- DUCT SEALING (Y or N)
 - REFRIGERANT CHARGE (Y or N)
 - COOLING SYSTEM AIRFLOW (Y or N)
 - COOLING SYSTEM UNIT FAN EFFICACY (Y or N)
 - COOLING SYSTEM SEER AND/OR EER ABOVE MIN. (Y or N)
 - WHOLE-BUILDING VENTILATION AIRFLOW (Y or N)
 - BUILDING ENVELOPE AIR LEAKAGE (Y or N)
 - QUALITY INSULATION INSTALLATION (Y or N)
 - OTHER (SPECIFY BELOW)



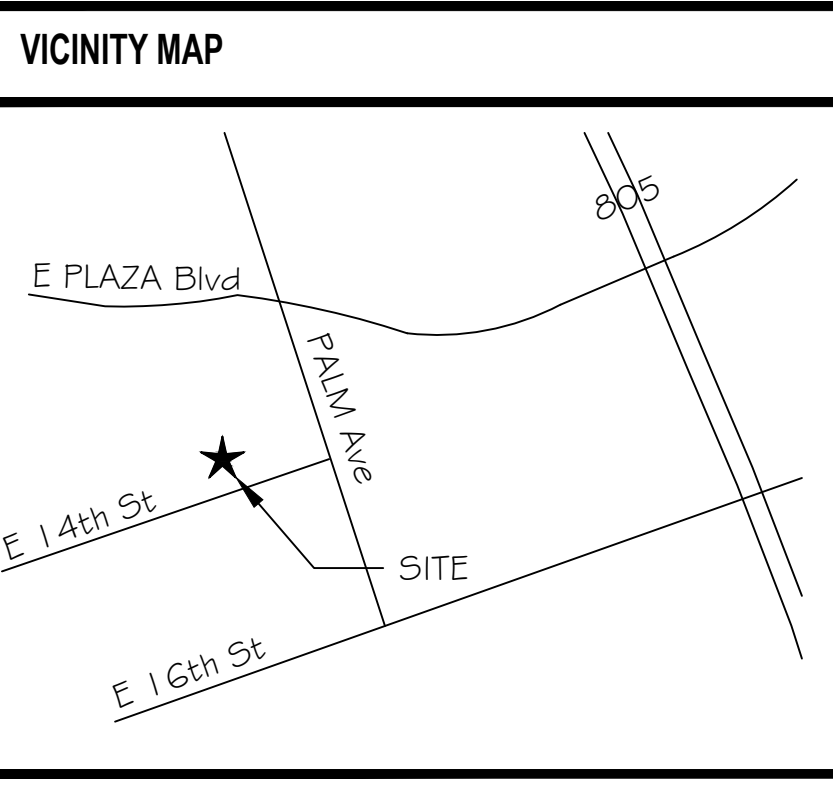
JUAN MANUEL DIARTE
 DETACH ADDITIONAL DWELLING UNIT
 1523 E 14th St, NATIONAL CITY CA 91950
 APN: 557-342-09-00
 UTILITY: SDG&E
 AJH: NATIONAL CITY

COVER SHEET & SITE PLAN

AZTEC DRAFTING & DESIGN
 DESIGNER: LEONEL SOLIS
 EMAIL: LEONEL28@GMAIL
 PHONE: 619-414-8506



1 SITE PLAN
 1"=10'



OWNER INFORMATION	
NAME:	JUAN MANUEL DIARTE
ADDRESS:	1523 E 14th St, NATIONAL CITY, 91950
PHONE:	1-619-773-3727
EMAIL:	VER01983@HOTMAIL.COM

CONTACT INFORMATION	
NAME:	JUAN MANUEL DIARTE
ADDRESS:	1523 E 14th St, NATIONAL CITY, 91950
PHONE:	1-619-773-3727
EMAIL:	VER01983@HOTMAIL.COM

PARCEL INFORMATION	
APN:	557-342-09-00
EXISTING LOT AREA:	6,859 sqft
EXISTING TENANT AREA:	1,096 sqft
ZONING:	RS2
BUILDING TYPE:	V
OCCUPANCY GROUP:	R3
CONSTRUCTION TYPE:	-

PROJECT SCOPE

NEW 498 SF DETACHED ACCESSORY DWELLING UNIT
 NEW 152 SF BEDROOM & BATHROOM TO EXISTING HOME

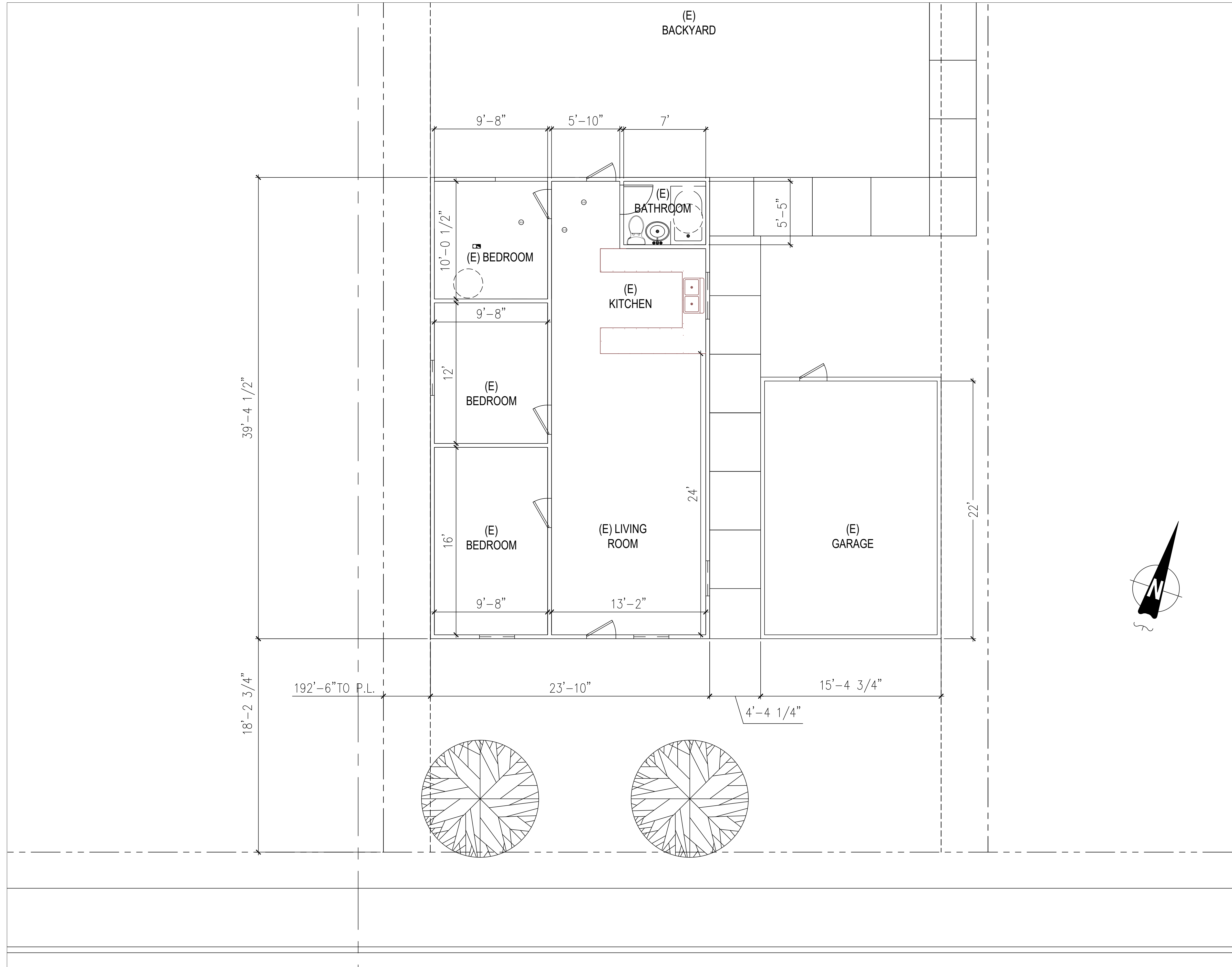
PERVIOUS SURFACE AREA TABLE				
SITE ID	PERVIOUS ITEM	DIMENSIONS	AREA (sf)	NOTES

PERVIOUS ELEMENT MANUFACTURER: _____
 PERVIOUS ELEMENT SLOPE AND DIRECTION OF SLOPE: _____
 MAINTENANCE PROGRAM: _____
 PERVIOUS ELEMENT CROSS SECTION LOCATED IN SHEET: _____
 CONSTRUCTED PERVIOUS SURFACES SHALL NOT BE SEALED

IMPERVIOUS SURFACE AREA TABLE				
SITE ID	IMPERVIOUS ITEM	DIMENSIONS	NEW OR REPLACED AREA (sf)	EXISTING AREA (sf)
1	ADU + OVERHANGS	29'-7" x 21'-9"	643 SF	
2	BEDROOM	12'-8" x 12'-0"	152 SF	
3				
4				

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0	02/14/22

PROJECT NO. P013
 SHEET NO. **SP-1**



FLOOR PLAN NOTES

- EXTERIOR WALLS WITHIN 3 FEET OF PROPERTY LINE (SPRINKLERS) OR 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS) REQUIRE 1-HOUR FIRE RATING FOR EXPOSURE TO BOTH SIDES
- PROJECTIONS:
 - PROHIBITED WITHIN 2 FEET OF PROPERTY LINE
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- OPENINGS:
 - PROHIBITED WITHIN 3FT OF PROPERTY LINE
 - MAXIMUM 25% OF WALL AREA WITHIN 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS)
- PENETRATIONS:
 - 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
 - 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- CONCRETE LANDING WITH MIN 36" DEPTH AND A MAXIMUM OF 1-1/2" LOWER THAN TOP OF DOOR THRESHOLD

AZTEC DRAFTING & DESIGN
 9119 JAMACHA RD, SUITE 115
 SPRING VALLEY, CA 91977
 CELL: 619-414-8508

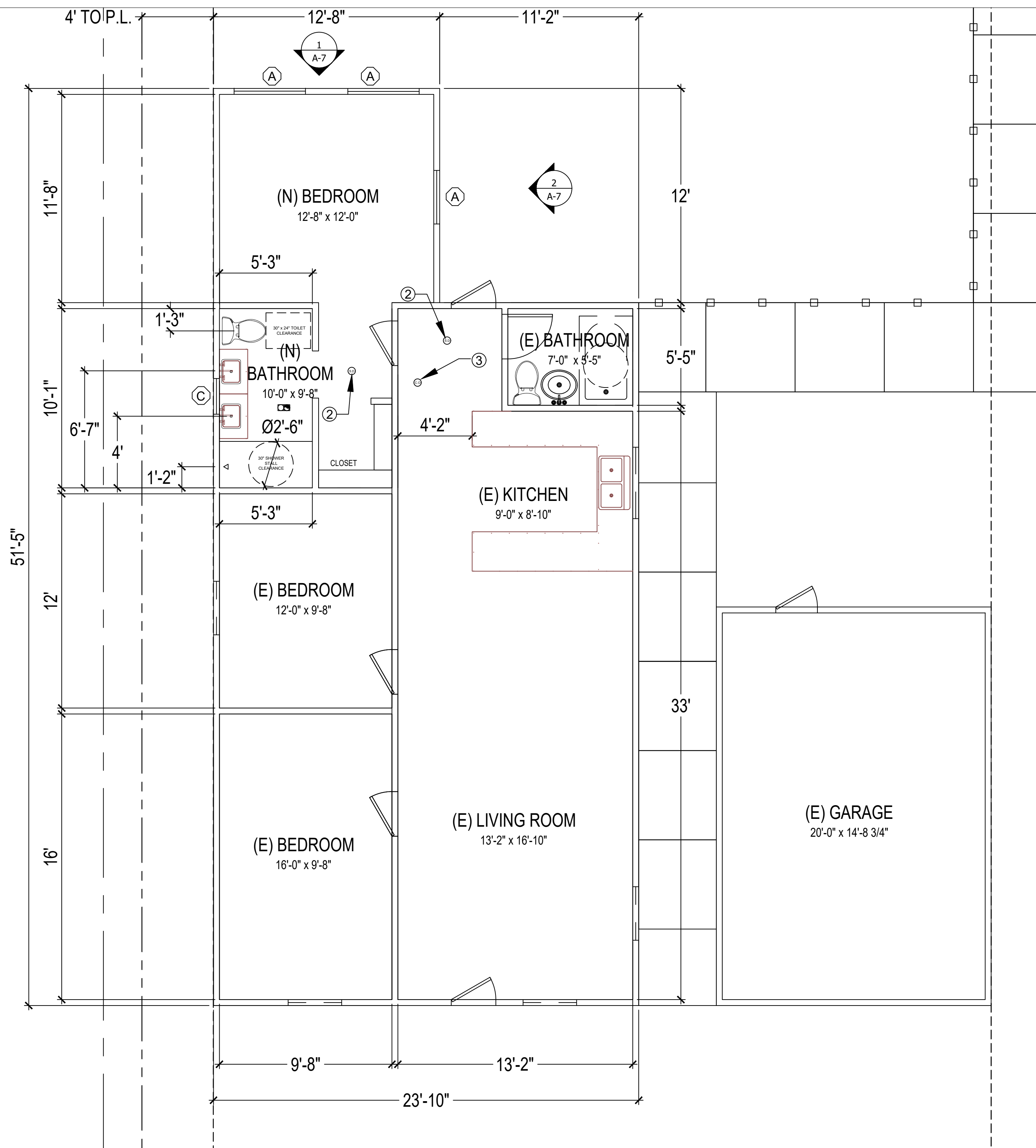
DRAWINGS PROVIDED BY:
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 DESIGNER: JUAN MANUEL DIARTE
 EMAIL: JDIARTE@AZTECDD.COM

JUAN MANUEL DIARTE
 DETACH ADDITIONAL DWELLING UNIT
 15223 E 14th St, NATIONAL CITY CA 91950
 APN: 557-342-09-00
 UTILITY: SDG&E
 AJH: NATIONAL CITY

EXISTING FLOOR PLAN

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PROJECT NO. P013		
SHEET NO. A-1		

EXISTING FLOOR PLAN
 1/4" = 1'-0"



FLOOR PLAN NOTES

- EXTERIOR WALLS WITHIN 3 FEET OF PROPERTY LINE (SPRINKLERS) OR 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS) REQUIRE 1-HOUR FIRE RATING FOR EXPOSURE TO BOTH SIDES
- PROJECTIONS:
 - PROHIBITED WITHIN 2 FEET OF PROPERTY LINE
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- OPENINGS:
 - PROHIBITED WITHIN 3FT OF PROPERTY LINE
 - MAXIMUM 25% OF WALL AREA WITHIN 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS)
- PENETRATIONS:
 - 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
 - 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- CONCRETE LANDING WITH MIN 36" DEPTH AND A MAXIMUM OF 1-1/2" LOWER THAN TOP OF DOOR THRESHOLD

PLUMBING NOTES

- MIN. 1/4" PER FOOT SLOPE FOR WASTE PIPES PER SECTION 708 CPC
- BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
- ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX(6) INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
- ALL DRAINAGE WASTE AND VENT PIPE SHALL COMPLY WITH TABLE 703.2 CPC.
- SHOWER AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER SECTION 408.3 CPC.
- TOILETS SHALL BE ULTRA-LOW FLUSH TYPE (1.28 G.P.F. MAX.)
- EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
- KITCHEN SINK FAUCET SHALL NOT EXCEED A WATER FLOW 1.8 GPM.
- EACH LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.2 GPM.
- ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- COPPER PIPING FOR ALL POTABLE WATER SYSTEMS.

SHOWER PLAN NOTES

- MIN. 1/4" PER FOOT SLOPE FOR WASTE PIPES PER SECTION 708 CPC
- BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
- ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX(6) INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
- ALL DRAINAGE WASTE AND VENT PIPE SHALL COMPLY WITH TABLE 703.2 CPC.
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- EACH LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.2 GPM.
- ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- COPPER PIPING FOR ALL POTABLE WATER SYSTEMS.

NEW ADDITION FLOOR PLAN
1/4" = 1'-0"

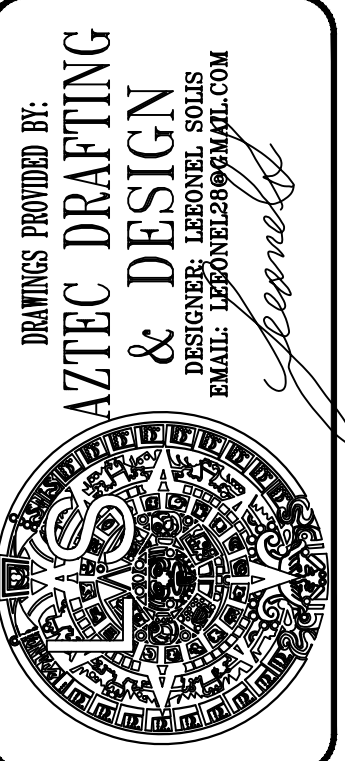
WINDOW SCHEDULE					
MARK	DIMENSION	TYPE	TEMPERED	U-factor	SHGC
(A)	4'-0" x 4'-0"	SLIDING		0.3000	0.2300

EXTERIOR WINDOWS, EXTERIOR GLAZED DOORS, GLAZED OPENINGS WITHIN EXTERIOR DOORS, GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS, AND EXTERIOR STRUCTURAL GLASS VENEER SHALL COMPLY WITH ONE OF THE FOLLOWING: (SELECT ONE)

- MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 101/1.S.2/A40
- MINIMUM 20-MIN FIRE-RESISTANCE-RATED
- MEET PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2

ELECTRICAL LEGEND

⊕	DUPLEX OUTLET	⊙	HIGH EFFICACY RECESSED LIGHT
⊞	WALL SWITCH	⊕	GARBAGE DISPOSAL
⊞ _{G.D.}	GARBAGE DISPOSAL SWITCH		
⊞ _{V.S.}	VACANCY SENSOR		
⊞	4" DIA DRYER VENT		
⊙	SMOKE DETECTOR		
⊙	CARBON MONOXIDE ALARM		
⊞	EXHAUST FAN AND LIGHT COMBINATION		
⊙	HIGH EFFICACY LIGHT FIXTURE		
			FAN & LIGHT COMBO

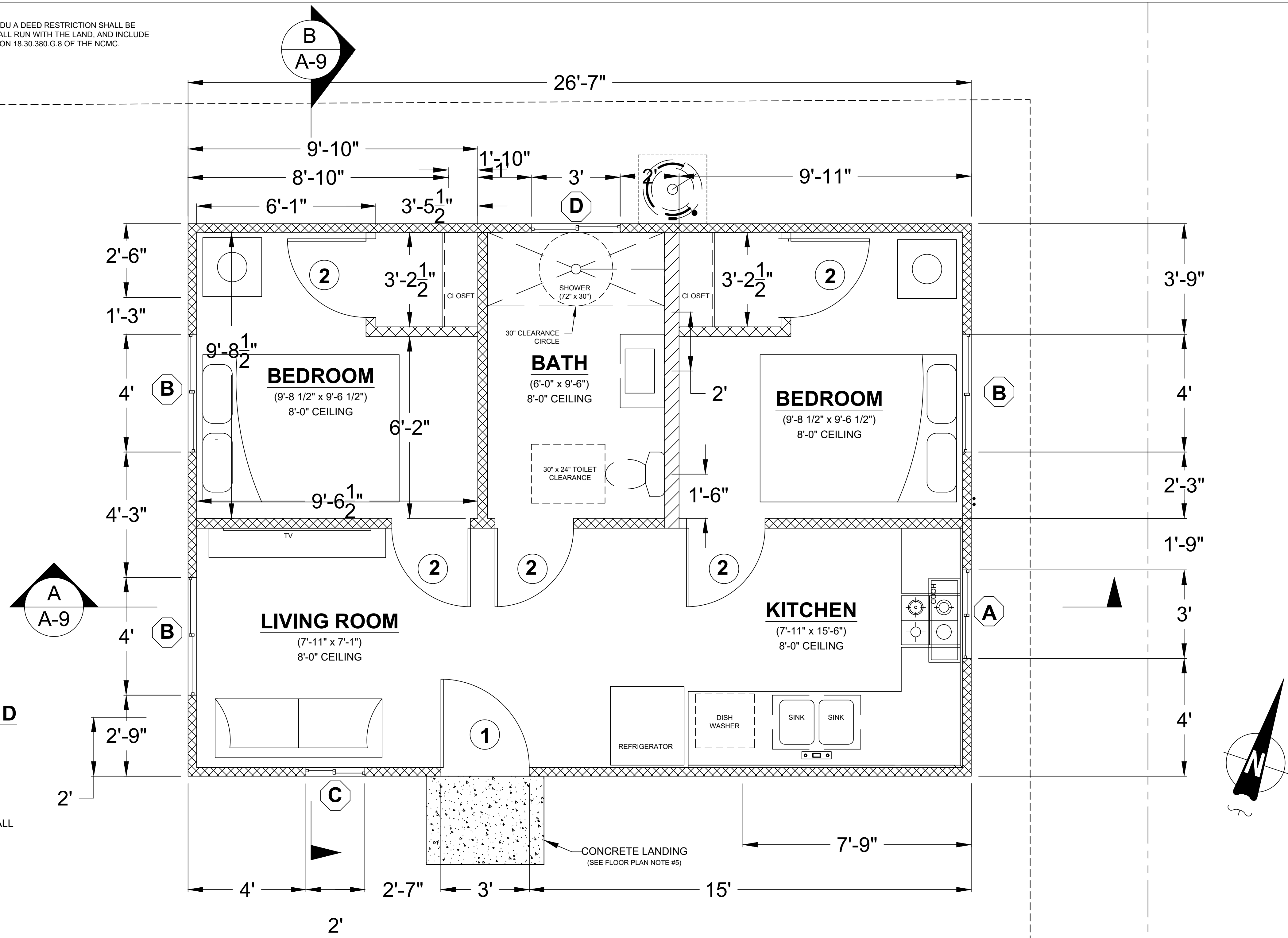


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APN: 557-342-09-00
UTILITY: SDG&E
AJH: NATIONAL CITY

NEW ADDITION FLOOR PLAN

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PROJECT NO. P013		
SHEET NO. A-2		

NOTE:
 1. AS A CONDITION OF APPROVAL FOR THE ADU A DEED RESTRICTION SHALL BE RECORDED WITH THE COUNTY, WHICH SHALL RUN WITH THE LAND, AND INCLUDE LANGUAGE IN CONFORMANCE WITH SECTION 18.30.380.G.8 OF THE NCMC.



WALL LEGEND

- 2x6 WALL
- 2x4 WALL
- 2x4 PONY WALL

FLOOR PLAN
 1/2" = 1'-0"

WINDOW SCHEDULE				
MARK	DIMENSION	TYPE	TEMPERED	NOTES
(A)	3'-0" x 4'-0"	SLIDING		
(B)	4'-0" x 4'-0"	SLIDING		
(C)	2'-0" x 3'-0"	SLIDING	Y	
(D)	3'-0" x 2'-0"	SLIDING	Y	

EXTERIOR WINDOWS, EXTERIOR GLAZED DOORS, GLAZED OPENINGS WITHIN EXTERIOR DOORS, GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS, AND EXTERIOR STRUCTURAL GLASS VENEER SHALL COMPLY WITH ONE OF THE FOLLOWING: (SELECT ONE)
 A. MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 101/I.S.2/A40
 B. MINIMUM 20-MIN FIRE-RESISTANCE-RATED.
 C. MEET PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2

DOOR SCHEDULE				
MARK	DIMENSION	TYPE	TEMPERED	NOTES
(1)	3'-0" x 6'-8"	SWINGING		1-3/8" SOLID CORE
(2)	2'-8" x 6'-8"	SWINGING		
(3)	8'-0" x 6'-8"	SLIDING		6FT CLOSET

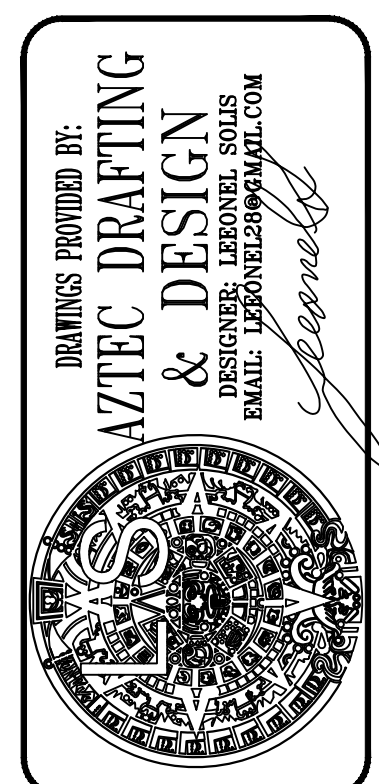
EXTERIOR DOORS SHALL COMPLY WITH ONE OF THE FOLLOWING: (SELECT ONE)
 A. EXTERIOR SURFACE OR CLADDING OF NON-COMBUSTIBLE OR IGNITION-RESISTANT MATERIAL
 B. SOLID CORE WOOD COMPLYING WITH THE FOLLOWING:
 - STILES AND RAILS MINIMUM 1-3/8 INCHES THICK
 - RAISED PANELS MINIMUM 1-1/4 INCHES THICK
EXCEPTION: EXTERIOR PERIMETER OF RAISED PANEL MAY TAPER TO A TONGUE MINIMUM 3/8 INCHES THICK
 C. MINIMUM 20-MIN FIRE RATED WHEN TESTED PER NFPA 252
 D. MEET PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1

FLOOR PLAN NOTES

- EXTERIOR WALLS WITHIN 3 FEET OF PROPERTY LINE (SPRINKLERS) OR 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS) REQUIRE 1-HOUR FIRE RATING FOR EXPOSURE TO BOTH SIDES
- PROJECTIONS:
 - PROHIBITED WITHIN 2 FEET OF PROPERTY LINE
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- OPENINGS:
 - PROHIBITED WITHIN 3FT OF PROPERTY LINE
 - MAXIMUM 25% OF WALL AREA WITHIN 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS)
- PENETRATIONS:
 - 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
 - 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- CONCRETE LANDING WITH MIN 36" DEPTH AND A MAXIMUM OF 1-1/2" LOWER THAN TOP OF DOOR THRESHOLD

OPTIONAL ROLL-IN SHOWER PLAN NOTES

- SHOWER COMPARTMENT SEAT
 - MUST BE FOLDING TYPE, NOT TO EXCEED MORE THAN 6 INCHES FROM MOUNTING WALL WHEN FOLDED
 - LOCATED WITHIN 27 INCHES OF SHOWER CONTROLS
 - MOUNTED MINIMUM 17 INCHES AND MAXIMUM 19 INCHES ABOVE BATHROOM FINISHED FLOOR
 - SEAT INSTALLED ON SIDE WALL ADJACENT TO CONTROLS AND EXTENDING FROM BACK WALL TO POINT WITHIN 3 INCHES OF SHOWER COMPARTMENT ENTRY
 - STRUCTURAL ADEQUACY OF MOUNTING HARDWARE AND FASTENERS TO ACCOMMODATE 250 POUND POINT LOAD APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE
- SHOWER GRAB BARS
 - MOUNTED MINIMUM 33 INCHES AND MAXIMUM 36 INCHES ABOVE SHOWER FLOOR
 - NOT EXTENDING OVER SHOWER SEAT
 - IF CROSS SECTION IS CIRCULAR, MINIMUM 1-1/4" AND MAXIMUM 2" OUTSIDE DIAMETER
 - IF CROSS SECTION IS NON-CIRCULAR, MINIMUM 4" AND MAXIMUM 4.8" PERIMETER AND MAXIMUM 2-1/4" CROSS SECTION DIMENSION
 - GRAB BARS MOUNTED ADJACENT TO A WALL, 1-1/2" ABSOLUTE SPACE BETWEEN WALL AND GRAB BAR
 - MINIMUM 1-1/2" SPACE BETWEEN GRAB BAR AND PROJECTING OBJECTS BELOW AND AT ENDS
 - MINIMUM 12 INCH SPACE BETWEEN GRAB BAR AND PROJECTING OBJECTS ABOVE
 - SURFACE MATERIAL OF ANY WALLS OR OBJECTS ADJACENT TO GRAB BARS MUST BE FREE OF SHARP OR ABRASIVE ELEMENTS AND HAVE ROUNDED EDGES
 - STRUCTURAL ADEQUACY OF MOUNTING HARDWARE AND FASTENERS TO ACCOMMODATE 250 POUND POINT LOAD APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE
 - WALL REINFORCEMENT TO BE PROVIDED AT LOCATION OF GRAB BARS (E.G. BLOCKING)
- OPERABLE PARTS OF SHOWER CONTROLS AND FAUCETS:
 - INSTALLED ON BACK WALL OF SHOWER COMPARTMENT ADJACENT TO SEAT WALL
 - LOCATED MINIMUM 19 INCHES AND MAXIMUM 27 INCHES FROM SEAT WALL
 - LOCATED ABOVE GRAB BAR BUT NO HIGHER THAN 48 INCHES ABOVE SHOWER FLOOR
 - CENTERLINE AT MINIMUM 39 INCHES AND MAXIMUM 41 INCHES ABOVE SHOWER FLOOR
 - SINGLE-LEVER DESIGN
 - OPERABLE WITH MAXIMUM 5 POUNDS OF FORCE
 - OPERABLE WITH ONE HAND AND WITHOUT TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST
- SPRAYER UNIT AND ASSOCIATED OPERABLE PARTS SHALL BE PROVIDED PER THE FOLLOWING:
 - OPERABLE PARTS, INCLUDING HANDLE, TO BE INSTALLED ON BACK WALL OF SHOWER COMPARTMENT MINIMUM 19 INCHES AND MAXIMUM 27 INCHES FROM SEAT WALL
 - OPERABLE PARTS LOCATED ABOVE GRAB BAR BUT NO HIGHER THAN 48 INCHES ABOVE SHOWER FLOOR, MEASURED TO TOP OF MOUNTING BRACKET
 - MINIMUM 59 INCH LONG HOSE
 - CAPABLE FOR USE AS FIXED SHOWER HEAD AND HAND HELD SHOWER
 - ON/OFF CONTROL WITH NON-POSITIVE SHUT OFF
 - ADJUSTABLE -HEIGHT SHOWER HEADS ON VERTICAL BAR SHALL NOT OBSTRUCT USE OF BATHTUB GRAB BARS
- WHERE SOAP DISHES ARE PROVIDED, MAXIMUM 40 INCHES ABOVE SHOWER FLOOR AND WITHIN REACH LIMITS FROM THE SHOWER SEAT
- MAXIMUM 2.1% SLOPE IN ALL DIRECTIONS OF ROLL-IN SHOWER FLOORS
- MAXIMUM 2" HIGH THRESHOLDS WITH MAXIMUM 50% BEVELED SLOPE AT ROLL-IN SHOWERS
- WHERE DRAINS ARE PROVIDED AT ROLL-IN SHOWERS, MAXIMUM 2" GRATE OPENINGS FLUSH WITH SHOWER FLOOR SURFACE



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ADU FLOOR PLAN

REVISION	
0	02/14/22

PROJECT NO. P013
 SHEET NO. A-3

ELECTRICAL NOTES

- KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 100 CFM DUCTED TO THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST FAN OR A DUCTED RANGE HOOD TO THE EXTERIOR.
- 3"X3"X0.229" PLATE WASHERS SHALL BE USED ON EACH SILL PLATE ANCHOR BOLT
- FOR STANDARD CUT WASHERS PLACED BETWEEN PLATE WASHER AND NUT, HOLE IN PLATE WASHER MAY BE DIAGONALLY SLOTTED WITH MAXIMUM LARGER WIDTH THAN BOLT DIAMETER AND MAXIMUM 1-3/4" SLOT LENGTH
- PROVIDE A MINIMUM OF TWO ANCHOR BOLTS PER SILL PLATE WITH ONE BOLT LOCATED MAXIMUM 12" AND MINIMUM 7 BOLT DIAMETERS FROM EACH END OF EACH SECTION.
- BOLTS LOCATED IN THE MIDDLE THIRD OF THE SILL PLATE WIDTH
- FASTENERS FOR PRESSURE-PRESERVATIVE TREATED AND FIRE RETARDANT TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL OR COPPER
- NO LPG PIPING ASSEMBLIES ALLOWED IN OR BENEATH SLABS WITHIN THE STRUCTURE
- ELECTRICAL RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT. (CEC 406.12)
- AT LEAST ONE 120 VOLT, 20-AMP BRANCH SHALL BE PROVIDED TO SUPPLY BATHROOM RECEPTACLE OUTLETS.
- ARC FAULT CIRCUIT INTERRUPTER PROTECTION FOR ALL OUTLETS.

UTILITY PLAN NOTES

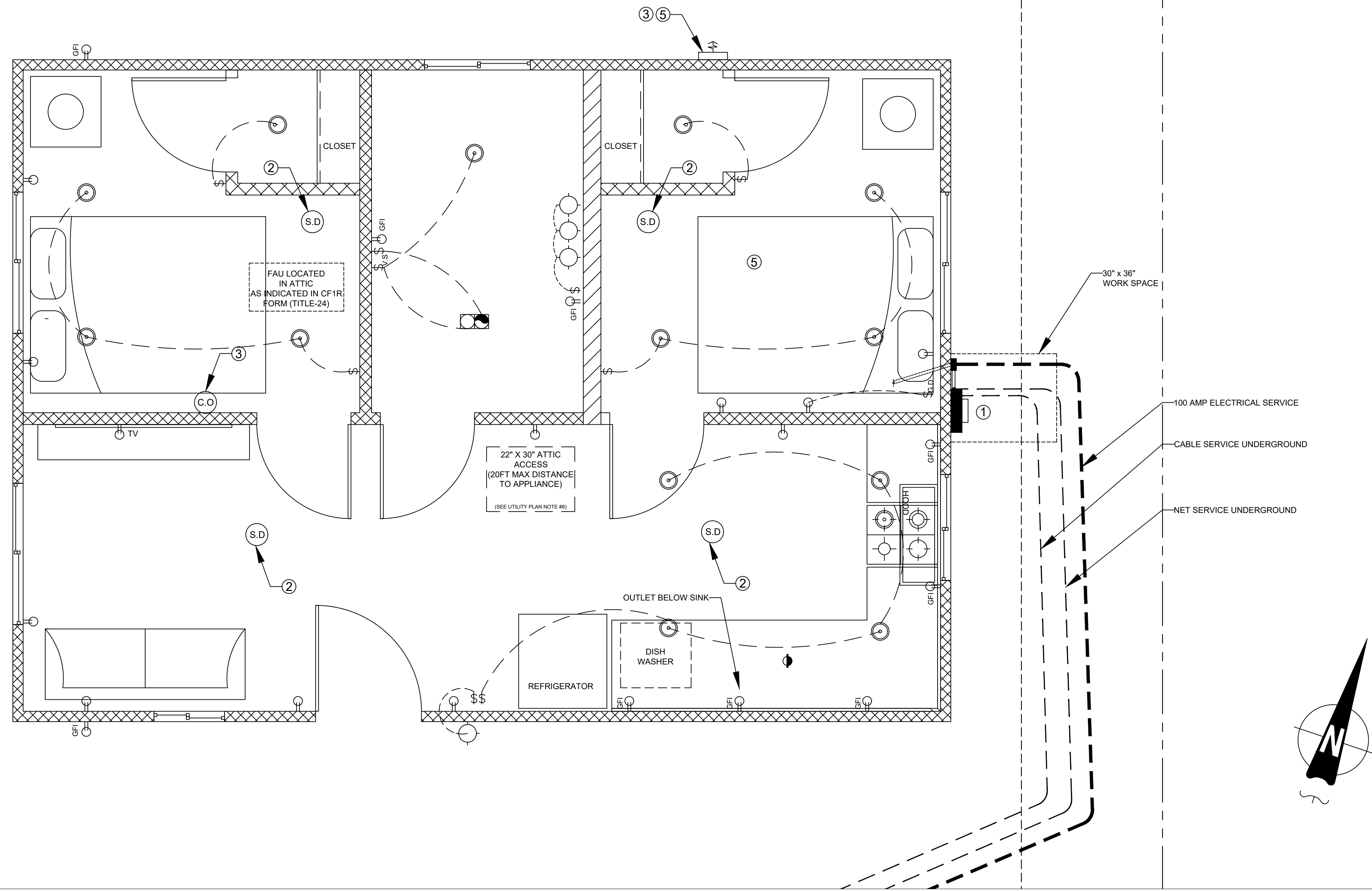
- LOCAL EXHAUST FANS TO EXTERIOR TO PROVIDE MINIMUM 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS VENTILATION.
- SMOKE DETECTORS TO BE INTERCONNECTED PER CRC R314.4 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6
- CARBON MONOXIDE ALARMS TO BE INTERCONNECTED PER CRC R315.7 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5
- 4" Ø DRYER VENT WITH MAXIMUM 14 FOOT COMBINED HORIZONTAL AND VERTICAL LENGTH WITH TWO 90 DEGREE ELBOWS.
- A MECHANICAL EXHAUST VENTILATION SYSTEM, SUPPLY VENTILATION SYSTEM, OR COMBINATION THEREOF SHALL BE INSTALLED FOR EACH DWELLING UNIT TO PROVIDE WHOLE-BUILDING VENTILATION WITH OUTDOOR AIR IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION.
- AN INTERMITTENTLY OR CONTINUOUSLY OPERATING LOCAL MECHANICAL EXHAUST VENTILATION SYSTEM SHALL BE INSTALLED IN EACH BATHROOM WITH A BATHTUB, SHOWER, OR SIMILAR MOISTURE SOURCE AND IN EACH KITCHEN IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION. INTERMITTENT LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 50 CFM IN BATHROOMS AND 100 CFM IN KITCHENS. CONTINUOUS LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 20 CFM IN BATHROOMS AND 5 AIR CHANGES PER HOUR IN KITCHENS BASED ON KITCHEN VOLUME.
- WATER HEATER OR FURNACE SHALL BE A DIRECT-VENT APPLIANCE
- LISTED GASKETED SELF CLOSING DOOR REQUIRED FOR GAS FAU
- MINIMUM 3" CLEARANCES FROM NEW BATHROOM AND KITCHEN RANGE HOOD EXHAUST TERMINATION TO ANY BUILDING OPENING AND PROPERTY LINE.
- EXHAUST DUCTS AND DRYER VENTS SHALL BE EQUIPPED WITH BACK-DRAFT DAMPERS PER SEC. 504.1.1 CMC.

LIGHTING PLAN NOTES

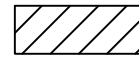


- ALL LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH CBEE'S TABLE 150.0-A
- ALL LED LUMINAIRES AND LAMPS SHALL BE MARKED "JA8-2016" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABASE AT [HTTPS://CACERTAPPLIANCES.ENERGY.CA.GOV/PAGES/APPLIANCESEARCH.ASPX](https://cacertappliances.energy.ca.gov/pages/appliancesearch.aspx)
- ALL RECESSED DOWNLIGHT AND ENCLOSED LUMINAIRES SHALL BE MARKED "JA8-2016-E" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABASE AT [HTTPS://CACERTAPPLIANCES.ENERGY.CA.GOV/PAGES/APPLIANCESEARCH.ASPX](https://cacertappliances.energy.ca.gov/pages/appliancesearch.aspx)
- RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS SHALL NOT BE SCREW-BASED
- BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS: AT LEAST ONE LUMINAIRE IN EACH SPACE SHALL BE CONTROLLED BY A VACANCY SENSOR
- ALL LUMINAIRES REQUIRING "JA8-2016" OR "JA8-2016-E" MARKING SHALL BE CONTROLLED BY A DIMMER OR VACANCY SENSOR
EXCEPTION: CLOSETS LESS THAN 70 S.F. & HALLWAYS
- OUTDOOR LIGHTING PERMANENTLY MOUNTED TO BUILDINGS SHALL BE CONTROLLED BY ONE OF THE FOLLOWING:
 - PHOTOCONTROL AND MOTION SENSOR
 - PHOTOCONTROL AND AUTOMATIC TIME-SWITCH CONTROL
 - ASTRONOMICAL TIME CLOCK
 - ENERGY MANAGEMENT CONTROL SYSTEM PER CBEE'S 150.0(K)3A11IC

SOLAR READY KEY NOTES

- THE MAIN ELECTRICAL SERVICE PANEL SHALL NOT BE OF A TYPE WITH A CENTER-FED MAIN CIRCUIT BREAKER AND SHALL INCLUDE RESERVED SPACE ALLOWING FOR INSTALLATION OF DOUBLE-POLE CIRCUIT BREAKERS FOR A FUTURE SOLAR PHOTOVOLTAIC SYSTEM. SUCH RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER OR MAIN CIRCUIT BREAKER LOCATION. THE RESERVED SPACE SHALL BE PERMANENTLY AND VISIBLY MARKED AS "FOR FUTURE SOLAR PHOTOVOLTAIC"
- APPROVED MINIMUM 4-INCH SQUARE ELECTRICAL JUNCTION BOX LOCATED WITHIN 72 INCHES HORIZONTALLY AND 12 INCHES VERTICAL OF MAIN ELECTRICAL SERVICE PANEL
- MINIMUM 1 INCH DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT READILY ACCESSIBLE ATTIC LOCATION WITH PROXIMITY TO SOLAR ZONE AREA AND TERMINATING AT THE REQUIRED ELECTRICAL JUNCTION BOX
- MINIMUM 1 INCH DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT THE REQUIRED ELECTRICAL JUNCTION BOX AND TERMINATING AT THE MAIN ELECTRICAL SERVICE PANEL
- ELECTRICAL JUNCTION BOX AND SEGMENT OF METALLIC RACEWAY IN THE ATTIC SHALL BE PERMANENTLY AND VISIBLY MARKED AS "FOR FUTURE SOLAR PHOTOVOLTAIC"



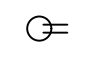




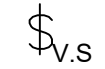
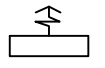



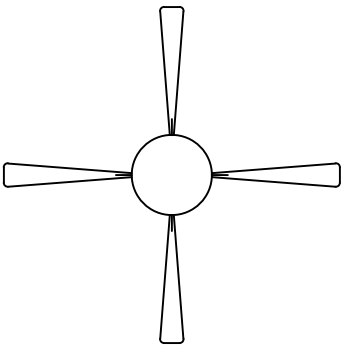
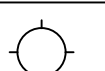
WALL LEGEND

-  2x6 WALL
-  2x4 WALL
-  2x4 PONY WALL

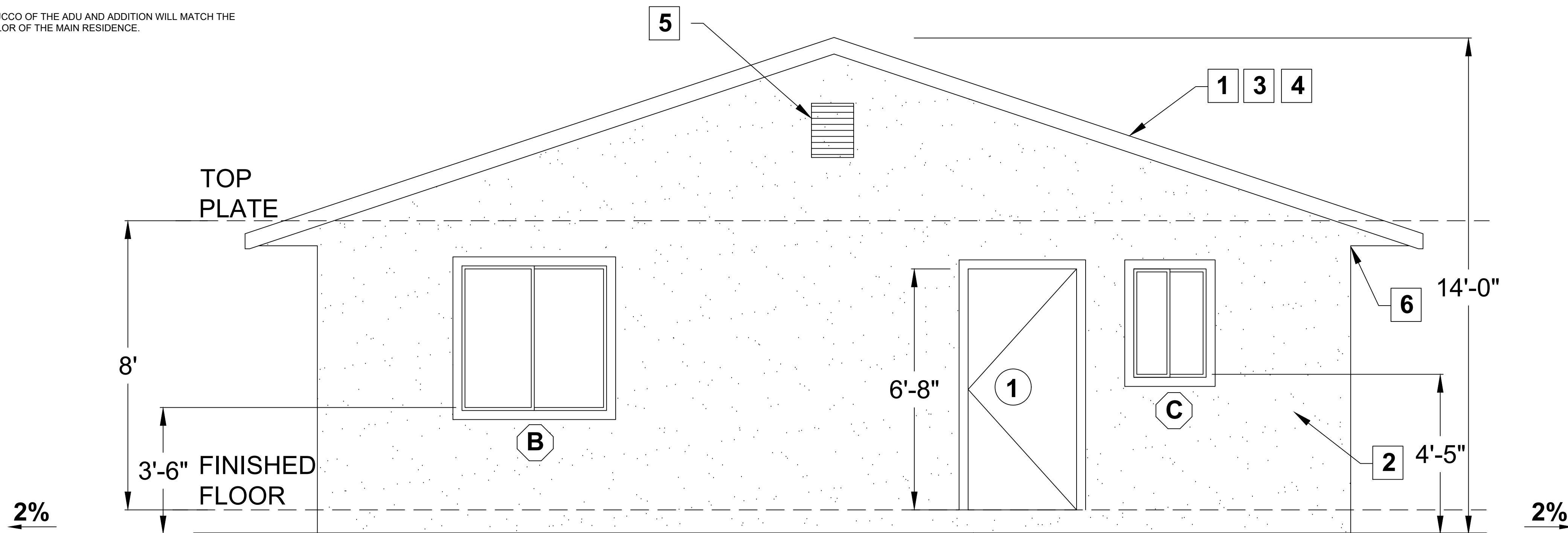
ELECTRICAL PLAN

1/2" = 1'-0"

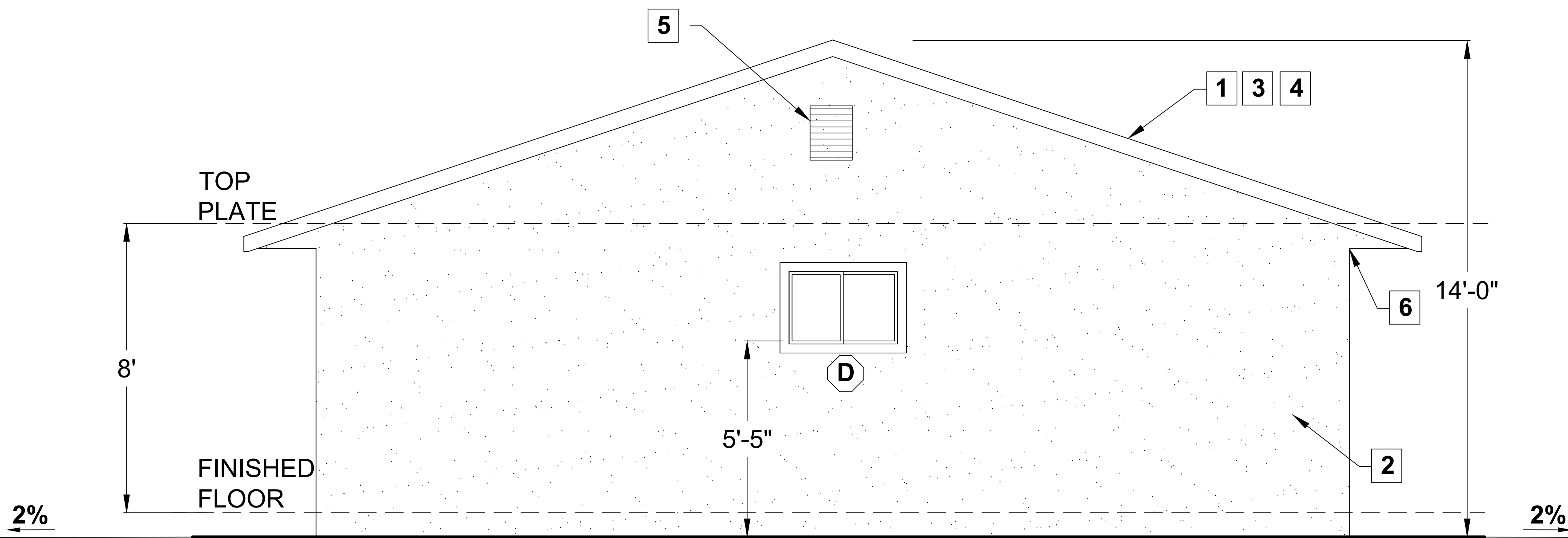
ELECTRICAL LEGEND

	DUPLEX OUTLET		HIGH EFFICACY RECESSED LIGHT
	WALL SWITCH		GARBAGE DISPOSAL
	GARBAGE DISPOSAL SWITCH		
	VACANCY SENSOR		
	4" DIA DRYER VENT		
	SMOKE DETECTOR		
	CARBON MONOXIDE ALARM		
	EXHAUST FAN AND LIGHT COMBINATION		FAN & LIGHT COMBO
	HIGH EFFICACY LIGHT FIXTURE		

- NOTE:
- CLEARLY VISIBLE ADDRESS NUMBER WITH 4" TALL LETTERS, WITH 4" TALL LETTERS, WITH A 1/2" MIN STROKE PER CRC R319.
 - STUCCO OF THE ADU AND ADDITION WILL MATCH THE COLOR OF THE MAIN RESIDENCE.



FRONT



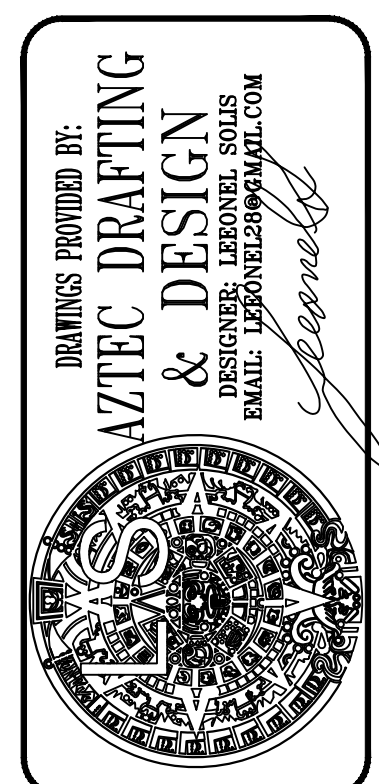
BACK

ELEVATION KEY NOTES

- ROOF: CLASS 'A' FIRE RATING - ROOF MATERIAL: OWENS CORNING ASPHALT SHINGLES FIRE RATING CLASS A. UNDERLAYMENT: OWENS CORNING ProArmor SYNTHETIC ROOFING UNDERLAYMENT. LISTING REPORT #: PROA21
- EXTERIOR WALL FINISH: STUCCO PAINTED TO MATCH EXISTING
- ROOF PITCH: 4:12
- RADIANT BARRIER IS REQUIRED
- GABLE VENT (SEE NOTE 5 & 6 BELOW) MANUFACTURER: GIBRALTAR BUILDING PRODUCTS MODEL: GLFF1418WH-0.125 NFVA: 110sqin (71 in²)
- EAVE VENT (SEE NOTE 5 & 6 BELOW)
 - A: MANUFACTURER: GIBRALTAR BUILDING PRODUCTS
 - B: GALV. STEEL 2-WAY REVERSIBLE VENT
 - C: 71sqin (MIN 23 in²)

WILDFIRE ZONE PLAN NOTES

- IN ROOF COVERINGS WHERE THE PROFILE CREATES SPACE BETWEEN THE ROOF COVERING AND COMBUSTIBLE ROOF DECKING, SPECIFY ONE OF THE FOLLOWING MEANS OF PROTECTING SPACES AT EAVES ENDS.
 - a. FIRE-STOPPING WITH APPROVED MATERIALS
 - b. ONE LAYER OF 72 POUND (32.4 KG) MINERAL-SURFACED NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909 INSTALLED OVER THE COMBUSTIBLE DECKING
 - c. OTHERWISE CONSTRUCTED TO PREVENT INTRUSION OF FLAMES AND EMBERS
- EXPOSED VALLEY FLASHINGS SHALL BE CONSTRUCTED WITH NOT LESS THAN 0.019-INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL. INSTALLED OVER A MINIMUM 36-INCH-WIDE UNDERLAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY.
- ANY ROOF GUTTERS SHALL BE PROVIDED WITH MEANS TO PREVENT ACCUMULATION OF LEAVES AND DEBRIS.
- SKYLIGHTS SHALL BE TEMPERED GLASS.
- ALL VENTS (ROOF, FOUNDATION, COMBUSTION-AIR, ETC) SHALL RESIST THE INTRUSION OF FLAMES AND EMBERS
- VENTILATION OPENINGS FOR ENCLOSED ATTICS, EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, UNDERFLOOR VENTILATION OPENINGS, AND VENT OPENINGS IN EXTERIOR WALLS AND EXTERIOR DOORS SHALL BE LISTED TO ASTM E 2886 AND COMPLY WITH ALL OF THE FOLLOWING:
 - a. THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER INTRUSION TEST
 - b. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST
 - c. THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662 DEGREES FAHRENHEIT (350 DEGREES CELSIUS)
- EXTERIOR WALL FINISH SHALL COMPLY WITH ONE OF THE FOLLOWING:
 - a. NON-COMBUSTIBLE MATERIAL (STUCCO, CEMENT FIBER BOARD, ETC)
 - STUCCO AND CEMENT PLASTER USED AS AN EXTERIOR WALL COVERING SHALL BE 7/8-INCH THICK
 - NONCOMBUSTIBLE OR FIRE-RETARDANT-TREATED WOOD SHAKE USED AS AN EXTERIOR WALL COVERING SHALL HAVE AN UNDERLAYMENT OF MINIMUM 1/2-INCH FIRE-RATED GYPSUM SHEATHING THAT IS TIGHTLY BUTTED, OR TAPED AND MUDDED, OR AN UNDERLAYMENT OF OTHER IGNITION-RESISTANT MATERIAL APPROVED BY THE BUILDING OFFICIAL.
 - b. IGNITION-RESISTANT MATERIAL
- PATIO COVER, CARPORT AND TRELLIS CONSTRUCTION WITH ALL EXPOSED ELEMENTS SHALL COMPLY WITH ANY OF THE FOLLOWING:
 - NON-COMBUSTIBLE MATERIAL
 - 1-HOUR FIRE-RESISTANT-RATED MATERIAL
 - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
 - MODIFIED HEAVY TIMBER (MIN 2X TONGUE-AND-GROOVE SHEATHING, 4X6 RAFTERS/BEAMS, 6X6 POSTS)
- DECK, BALCONY, AND EXTERIOR STAIR CONSTRUCTION, WITH ALL EXPOSED ELEMENTS SHALL COMPLY WITH THE FOLLOWING:
 - a. FRAMING
 - NON-COMBUSTIBLE MATERIAL
 - 1-HOUR FIRE-RESISTANT-RATED MATERIAL
 - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
 - MODIFIED HEAVY TIMBER (MIN 4X8 JOISTS, 4X10 OR 6X8 BEAMS, 6X6 POSTS)
 - b. DECKING AND TREAD MATERIAL (ANY OF THE FOLLOWING):
 - NON-COMBUSTIBLE MATERIAL
 - 1-HOUR FIRE-RESISTANT-RATED MATERIAL
 - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
 - APPROVED ALTERNATIVE DECKING MATERIAL MEETING TESTS REQUIREMENTS OF COUNTY BUILDING CODE 92.1.709A.1.4)
- EXTERIOR GARAGE DOORS SHALL RESIST THE INTRUSION OF EMBERS INTO THE GARAGE BY LIMITING THE SIZE OF ANY GAPS AT THE BOTTOM, SIDES, AND TOP OF THE DOOR TO 1/8 INCH OR LESS USING ONE OF THE FOLLOWING METHODS
 - a. WEATHER-STRIPPING PRODUCTS WITH TENSILE STRENGTH AND FLAMMABILITY RATING PER CBC 708A.4
 - b. DOOR OVERLAPS ONTO JAMBS AND HEADERS
 - c. GARAGE DOOR JAMBS AND HEADERS COVERED WITH METAL FLASHING
- PAPER-FACED INSULATION PROHIBITED IN ATTICS OR OTHER VENTILATED SPACES.
- FENCES OR ANY STRUCTURE WITHIN 5 FEET OF BUILDING SHALL BE CONSTRUCTED PER ONE OF THE FOLLOWING:
 - a. NON-COMBUSTIBLE MATERIAL
 - b. APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
 - c. MATERIAL MEETING SAME FIRE-RESISTIVE STANDARDS AS EXTERIOR WALLS OF BUILDINGS

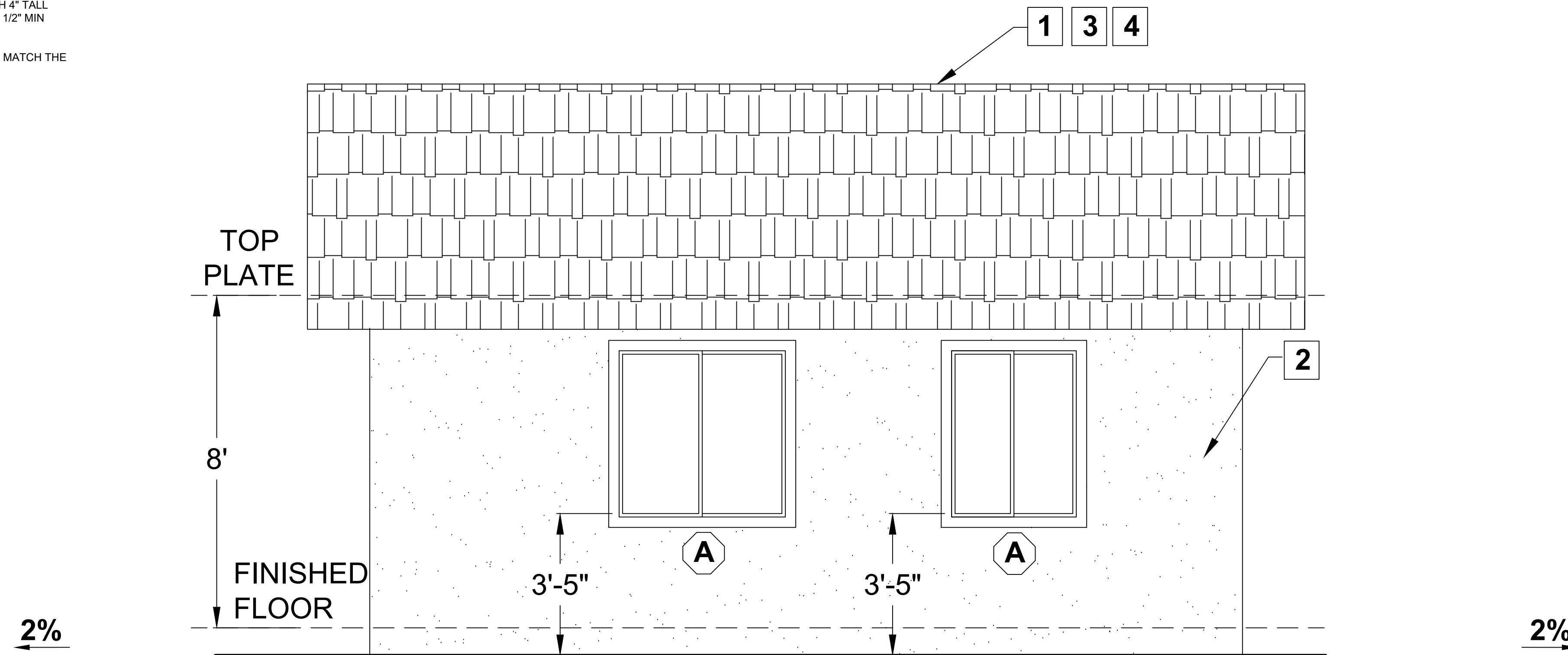


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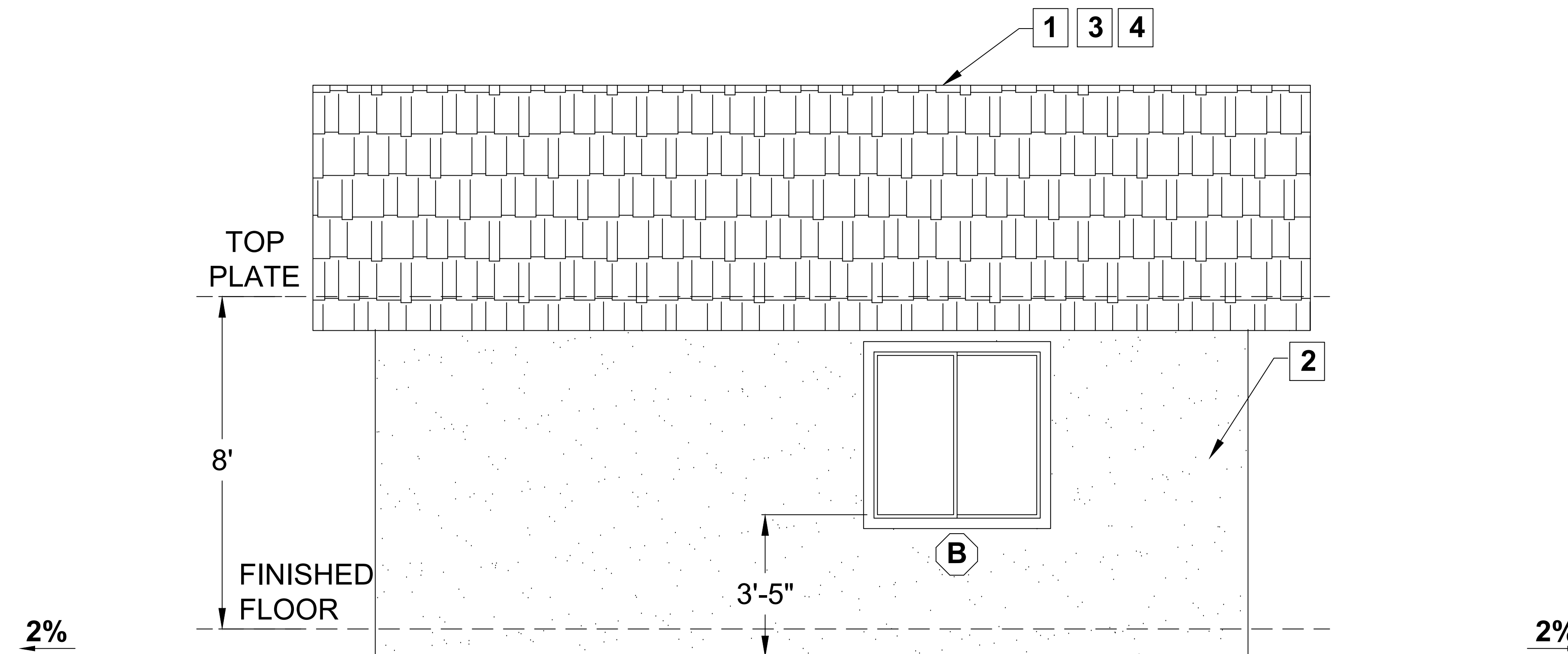
ADU ELEVATIONS

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PROJECT NO. P013		
SHEET NO. A-5		

- NOTE:
- CLEARLY VISIBLE ADDRESS NUMBER WITH 4" TALL LETTERS, WITH 4" TALL LETTERS, WITH A 1/2" MIN STROKE PER CRC R319.
 - STUCCO OF THE ADU AND ADDITION WILL MATCH THE COLOR OF THE MAIN RESIDENCE.



RIGHT



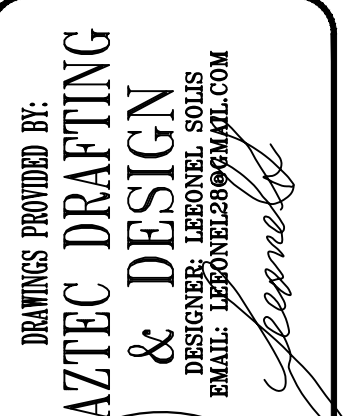
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ELEVATION KEY NOTES

SEE SHEET A3 FOR KEY NOTES

WILDFIRE ZONE PLAN NOTES

- IN ROOF COVERINGS WHERE THE PROFILE CREATES SPACE BETWEEN THE ROOF COVERING AND COMBUSTIBLE ROOF DECKING, SPECIFY ONE OF THE FOLLOWING MEANS OF PROTECTING SPACES AT EAVES ENDS.
 - FIRE-STOPPING WITH APPROVED MATERIALS
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 - NON-COMBUSTIBLE MATERIAL (STUCCO, CEMENT FIBER BOARD, ETC)
 - STUCCO AND CEMENT PLASTER USED AS AN EXTERIOR WALL COVERING SHALL BE 7/8-INCH THICK
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 - IGNITION-RESISTANT MATERIAL
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 - FRAMING
 - NON-COMBUSTIBLE MATERIAL
 - 1-HOUR FIRE-RESISTANT-RATED MATERIAL
 - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
 - MODIFIED HEAVY TIMBER (MIN 4X8 JOISTS, 4X10 OR 6X8 BEAMS, 6X6 POSTS)
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 - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
 - MATERIAL MEETING SAME FIRE-RESISTIVE STANDARDS AS EXTERIOR WALLS OF BUILDINGS



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P013
SHEET NO.

A-6

ELEVATION KEY NOTES

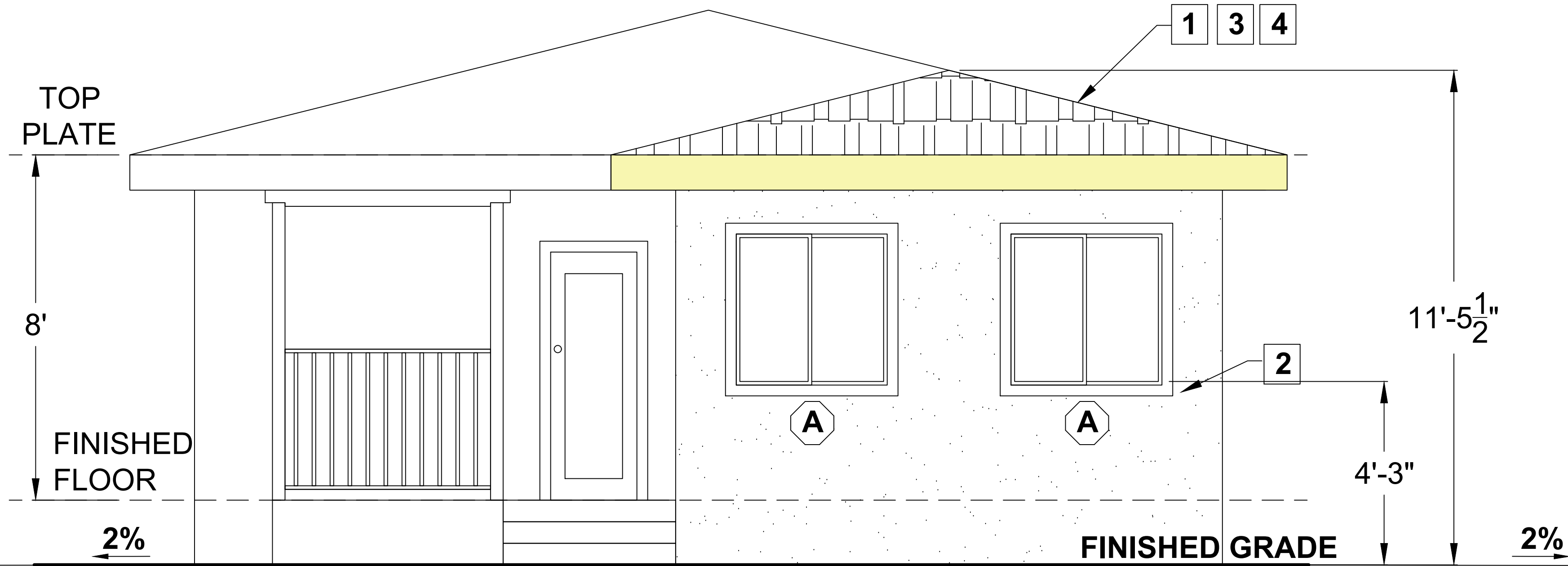
SEE SHEET A3 FOR KEY NOTES



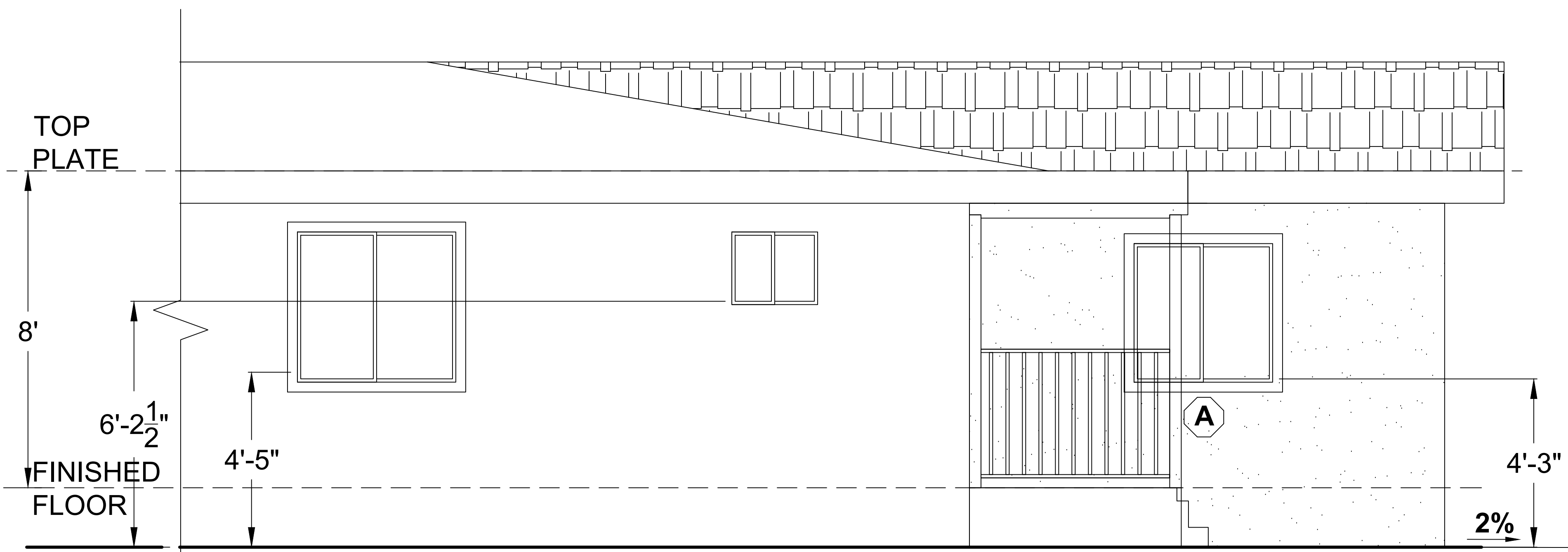
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ADDITION ELEVATIONS

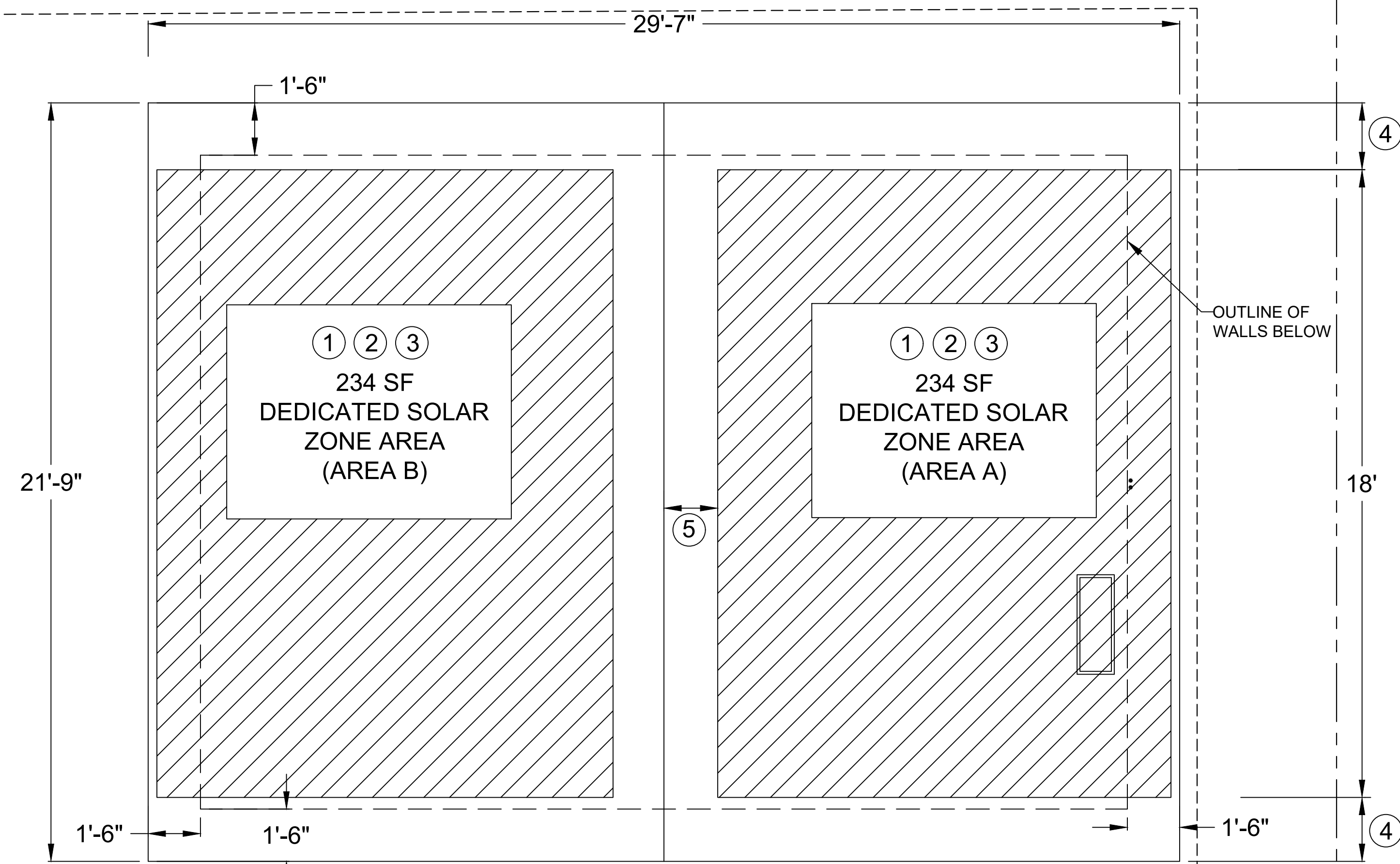
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BACK



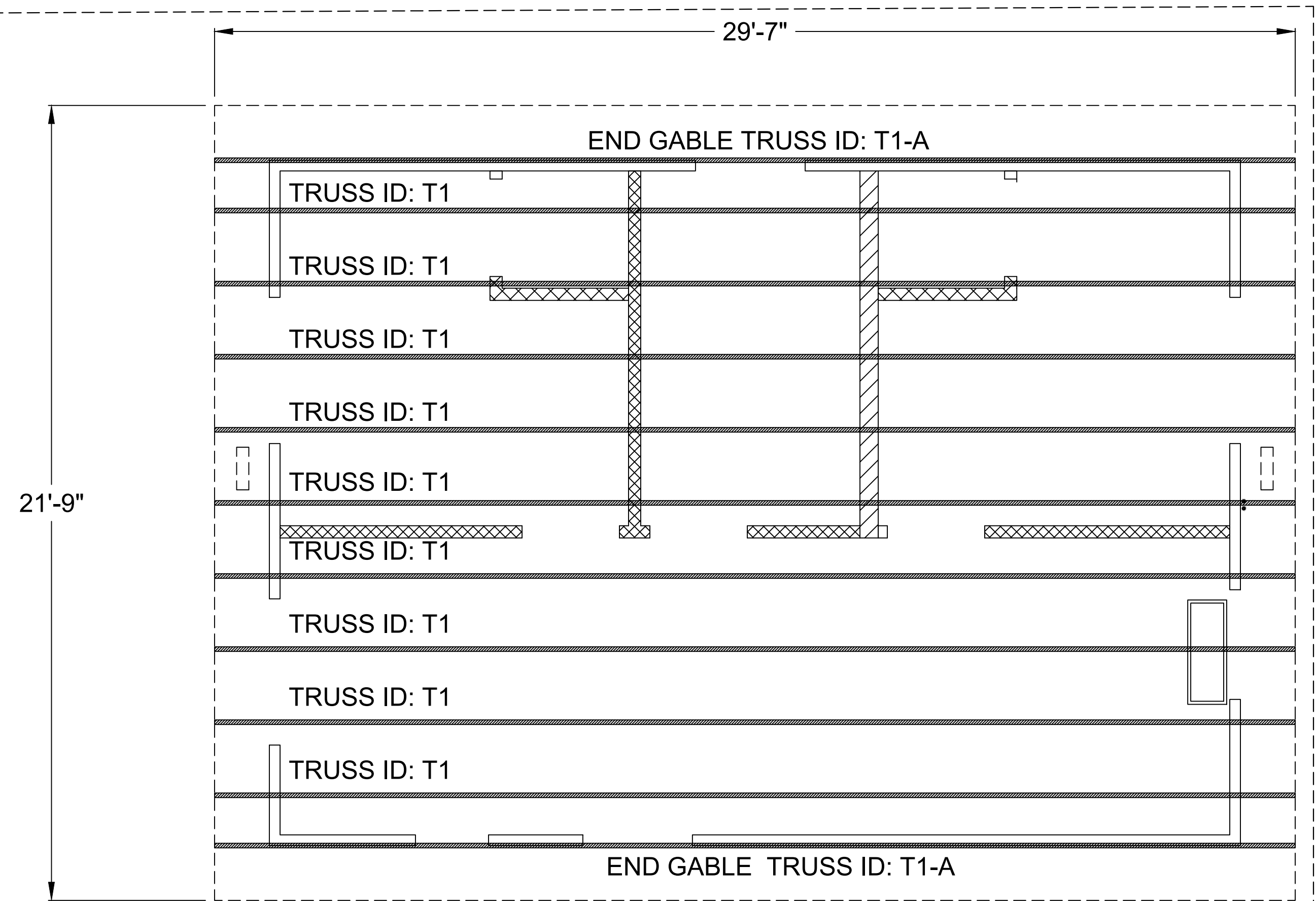
LEFT



DEDICATED SOLAR ZONE AREA

$\frac{3}{8}" = 1'-0"$

NOTE:
INSTALLATION OF ROOFING SHALL BE IN ACCORDANCE WITH
MANUFACTURER'S SPECIFICATIONS



ROOF PLAN / TRUSS LAYOUT

$\frac{3}{8}" = 1'-0"$

ATTIC VENTILATION REQUIRED

NET FREE CROSS VENTILATION AREA = $\frac{1}{300}$
VENT AREA REQ'D = $498 \text{ ft}^2 / 300 = 1.66 \text{ ft}^2 \times 144 = 240 \text{ in}^2$

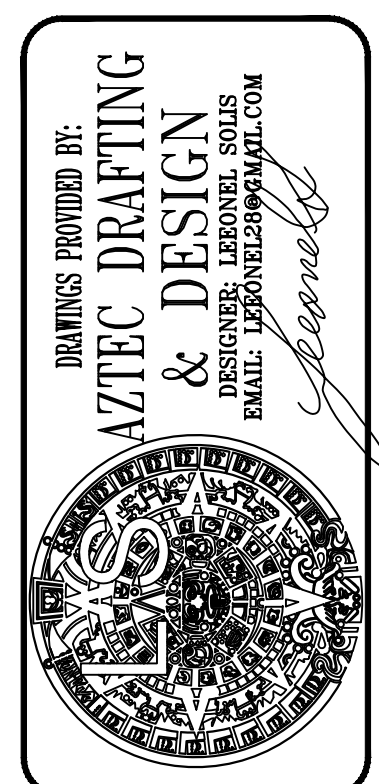
GABLE END VENTS
NFVA = 110 in^2
QTY = 2 VENTS
VENT AREA PROVIDED = $2 \times 110 \text{ in}^2 = 220 \text{ in}^2$

EAVE VENTS
NFVA = 71 in^2
QTY = 2 VENTS
VENT AREA PROVIDED = $2 \times 71 \text{ in}^2 = 142 \text{ in}^2$

TOTAL VENT AREA PROVIDED
 $(220 \text{ in}^2) + (142 \text{ in}^2) = 362 \text{ in}^2 > 240 \text{ in}^2$

SOLAR READY KEY NOTES

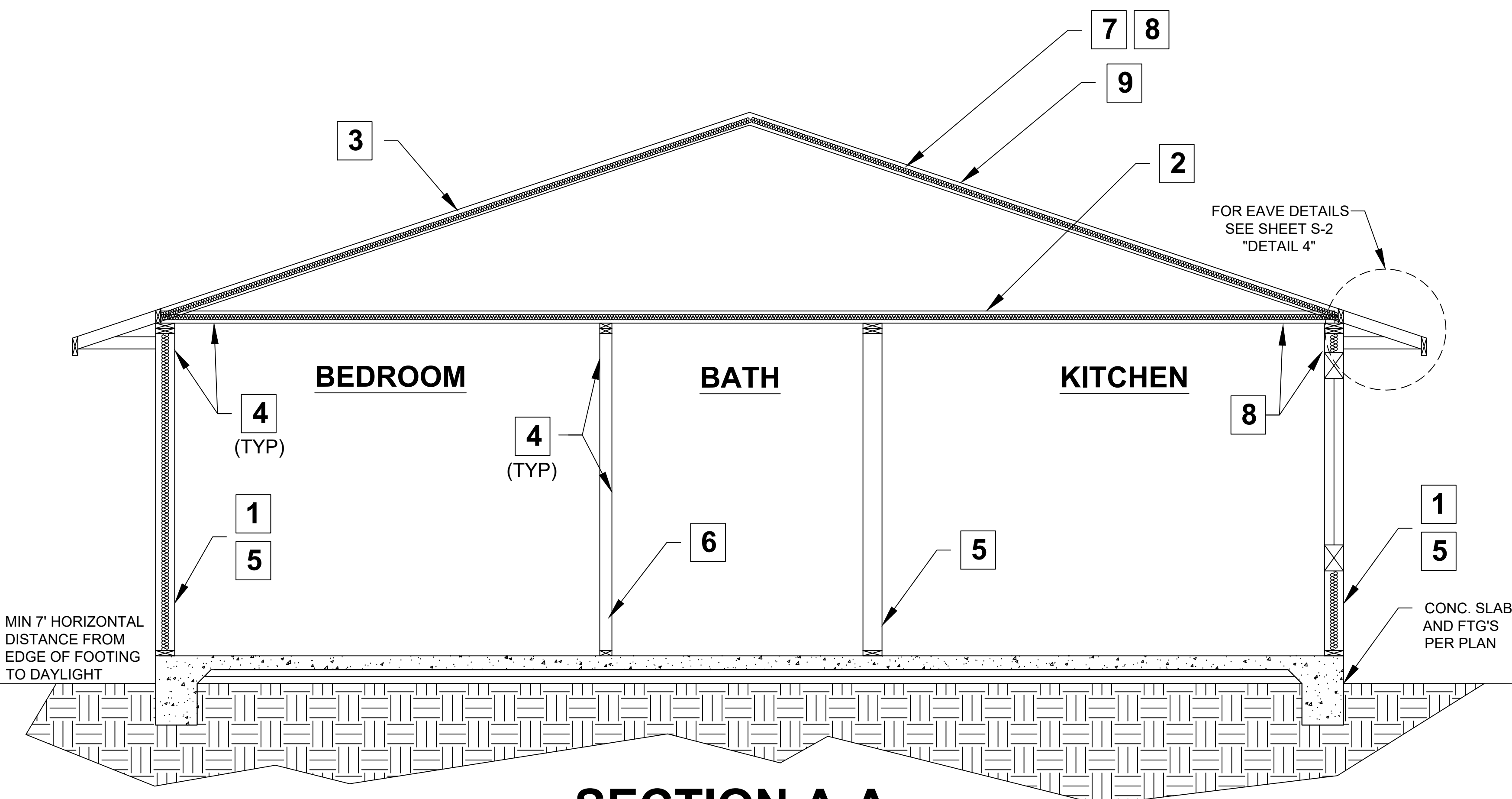
1. MIN 250 S.F. SOLAR ZONE AREA
2. DEDICATED SOLAR ZONE AREA LOCATED BETWEEN 110 AND 270 DEGREES OF TRUE NORTH - USE AREA A OR B AS NEEDED.
3. NO OBSTRUCTIONS - INCLUDING VENTS, CHIMNEYS, SKYLIGHTS, ARCHITECTURAL FEATURES, ROOF-MOUNTED EQUIPMENT - LOCATED WITHIN SOLAR ZONE.
4. 3' MIN FIRE FIGHTER ACCESS
5. 1'-6" SMOKE VENTILATION SETBACK AT RIDGES
6. SOLAR PANEL WILL BE INSTALLED UNDER A DEFERRED SUBMITTAL.



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ROOF PLAN / TRUSS LAYOUT

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SHEET NO. A-8	

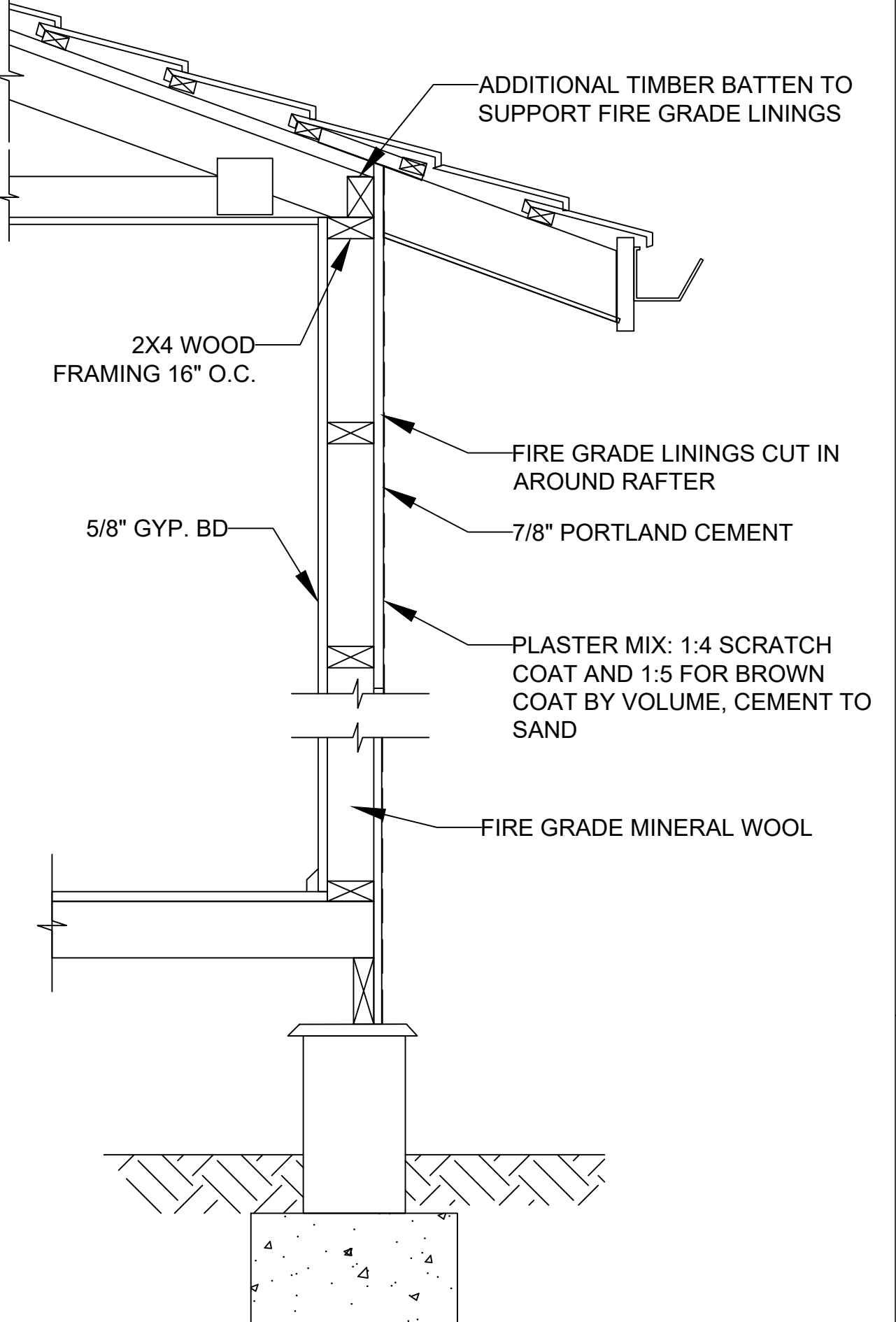


SECTION A-A

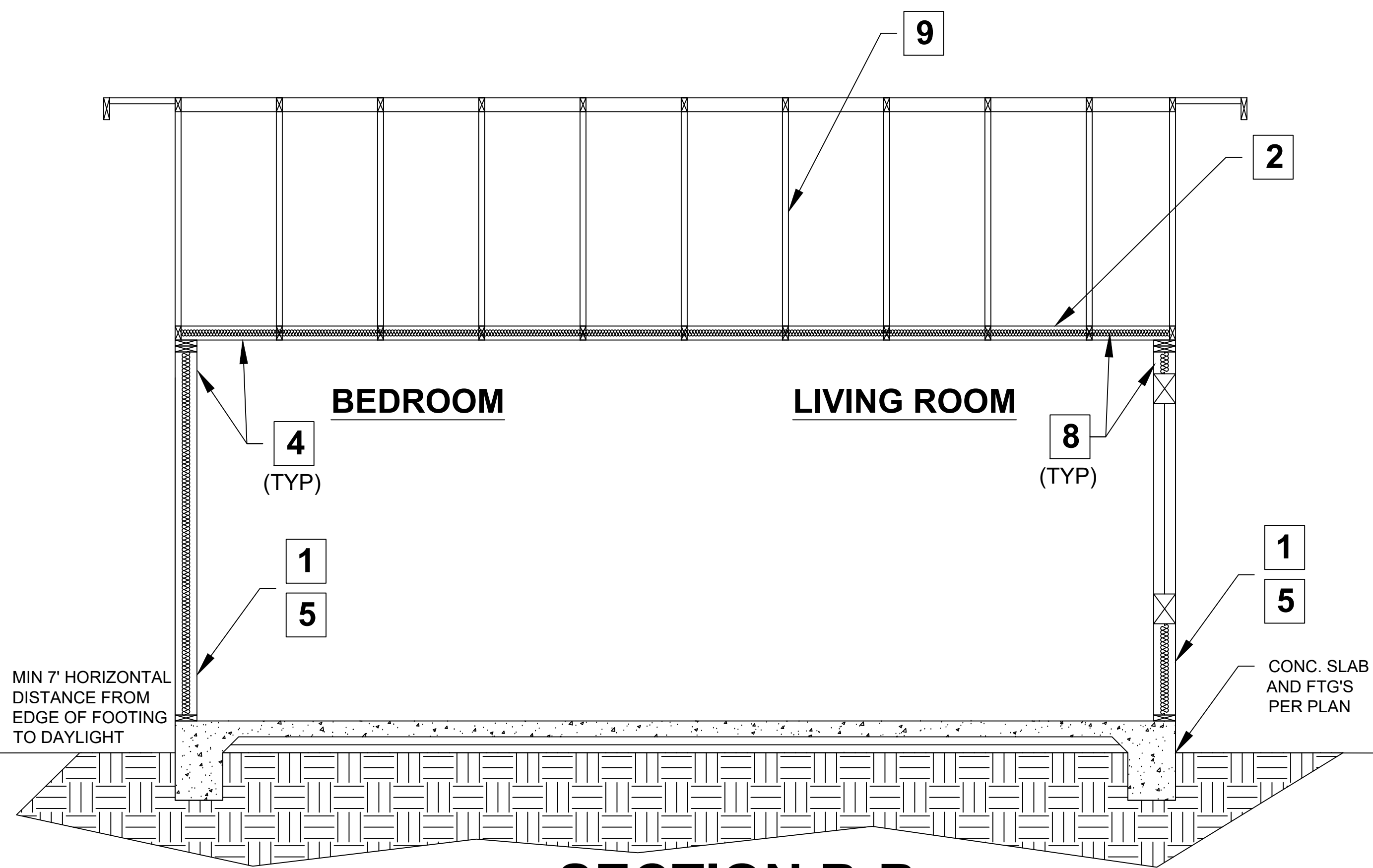
SECTION KEY NOTES

1. WALL INSULATION: R 15
2. CEILING INSULATION: R 30
3. ROOF (TOP CHORD) INSULATION: R 0
4. INTERIOR FINISH: 1/2" GYPSUM BOARD
5. EXTERIOR WALL/PLUMBING WALL: 2X6 STUD WALL
6. INTERIOR WALL: 2X4 STUD WALL
7. RADIANT BARRIER IS REQUIRED
8. CLIMATE ZONE 14 PROJECT (Y or N) if yes, see below:
A CLASS I OR II VAPOR RETARDER SHALL BE INSTALLED ON THE CONDITIONED SPACE SIDE OF ALL INSULATION IN ALL EXTERIOR WALLS AND VENTED ATTICS
9. MANUFACTURED TRUSSES

NOTE:
ONE-HOUR FIRE RESISTIVE WALL SHALL COMPLY WITH CBC TABLE 721.1(2), ITEM 15-3.1

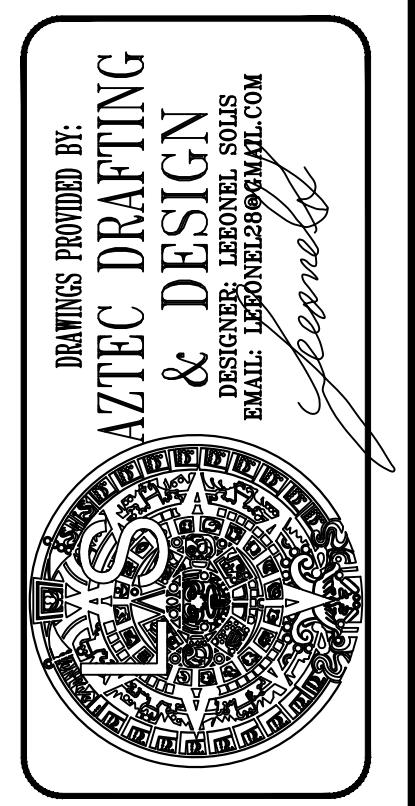


ONE-HOUR FIREWALL
1" = 1'-0"



SECTION B-B

SECTIONS
1/2" = 1'-0"

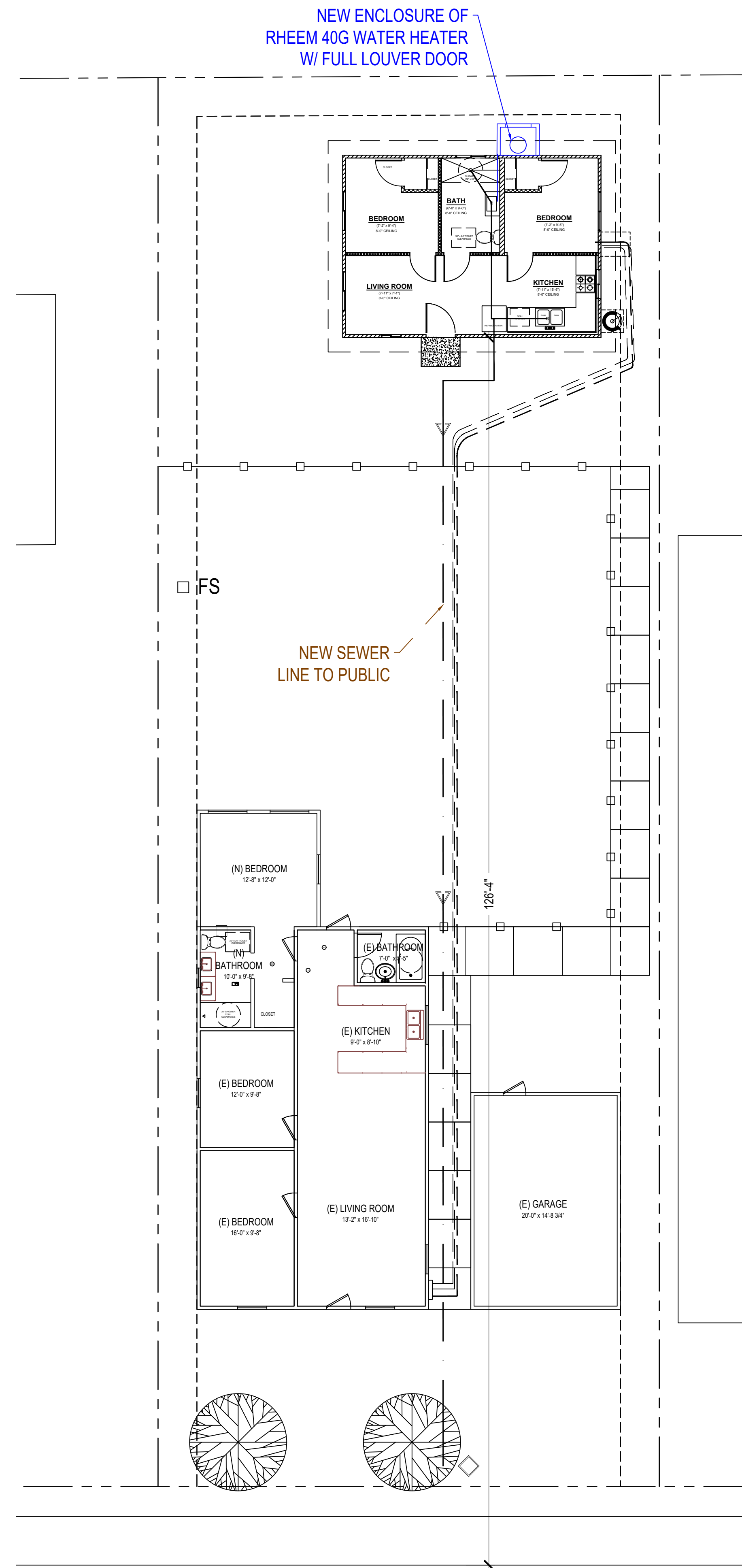


DRAWINGS PROVIDED BY:
AZTEC DRAFTING & DESIGN
DESIGNED BY: JUAN MANUEL DIARTE
EMAIL: JDIARTE@AZTEC-DRAFTING.COM

JUAN MANUEL DIARTE
DETACH ADDITIONAL DWELLING UNIT
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SECTIONS & DETAILS

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SHEET NO. A-9	



1 **UTILITY LAYOUT PLAN**
3/4"=1'

PLUMBING NOTES

1. MIN. 1/4" PER FOOT SLOPE FOR WASTE PIPES PER SECTION 708 CPC
2. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
3. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
4. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX(6) INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
5. ALL DRAINAGE WASTE AND VENT PIPE SHALL COMPLY WITH TABLE 703.2 CPC.
6. SHOWER AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER SECTION 408.3 CPC.
7. TOILETS SHALL BE ULTRA-LOW FLUSH TYPE (1.28 G.P.F. MAX.)
8. EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
9. KITCHEN SINK FAUCET SHALL NOT EXCEED A WATER FLOW 1.8 GPM.
10. EACH LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.2 GPM.
11. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
12. COPPER PIPING FOR ALL POTABLE WATER SYSTEMS.

GENERAL REQUIREMENTS

1. ALL SURFACE WATER TO DRAIN AWAY FROM BUILDING AND PROPERTY LINE TO ALLEY OR STREET.
2. CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS.
3. STATE HEALTH & SAFETY CODE SEC. 17921.9 BANS THE USE OF CHLORINATED POLYVINYL CHLORIDE (CPVC) FOR INTERIOR WATER-SUPPLY PIPING.
4. VOC'S ARE TO BE DOCUMENTED FOR ADHESIVES, PAINTS AND COATINGS, CARPET, COMPOSITION WOOD PRODUCTS. DOCUMENTATION TO BE PROVIDED BY PRODUCT CERTIFICATION AND SPECIFICATIONS. CHAIN OF CUSTODY CERTIFICATIONS, OR OTHER MEANS ACCEPTABLE TO THE ENFORCING AGENCY. CGBSC 4.504.2.
5. ALL SHOWER COMPARTMENTS, REGARDLESS OF SHAPE, SHALL BE CAPABLE OF ENCOMPASSING A 30 INCH CIRCLE.
6. PERMANENT VACUUM BREAKERS SHALL BE INCLUDED WITH ALL NEW HOSE BIBS.
7. ALL ABS AND PVC PIPING AND FITTINGS SHALL BE ENCLOSED WITHIN WALLS AND FLOORS COVERED WITH 'TYPE 'X' GYPSUM BOARD OR SIMILAR ASSEMBLIES THAT PROVIDE THE SAME LEVEL OF FIRE PROTECTION. PROTECTION OF MEMBRANE PENETRATIONS IS NOT REQUIRED.
8. SHOWER COMPARTMENTS AND BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A NON-ABSORBENT SURFACE THAT EXTENDS TO A HEIGHT OF NOT LESS THAN 6-FEET ABOVE FLOOR. (CRC R307.2)

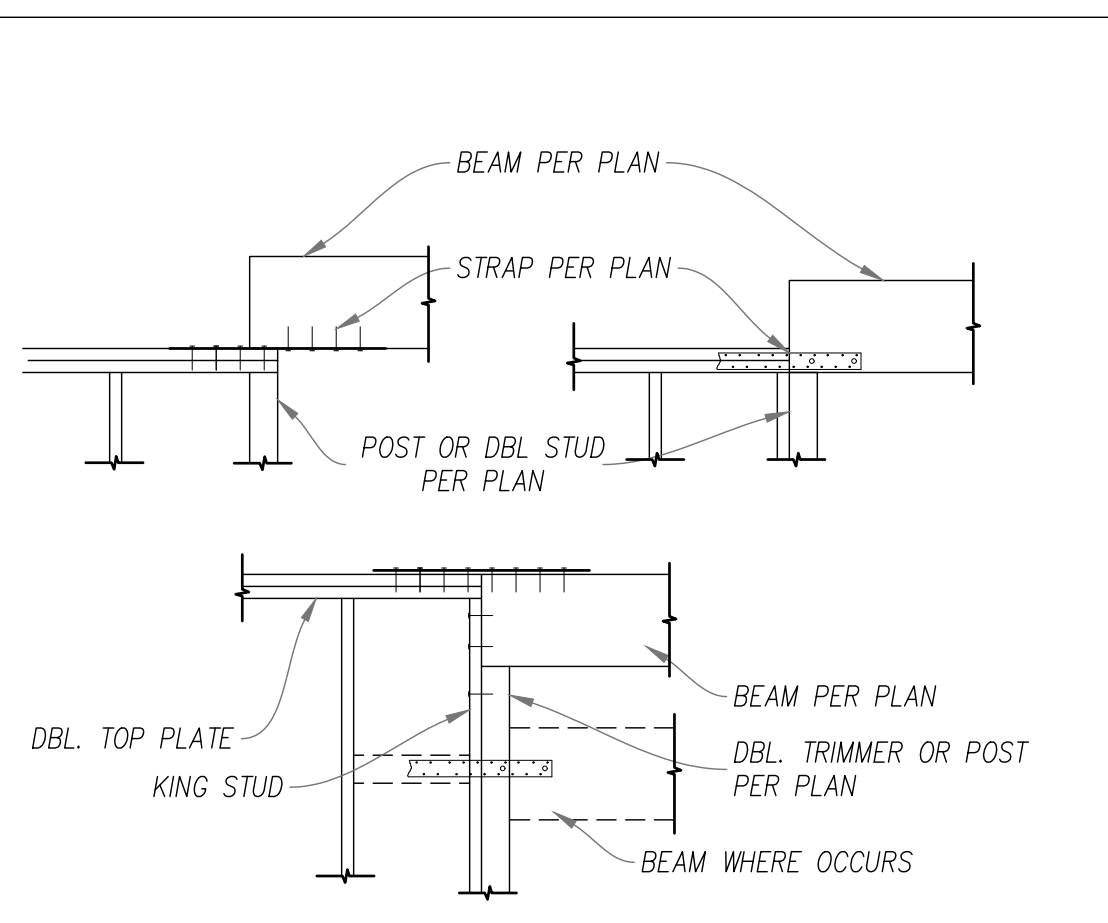


DRAWINGS PROVIDED BY:
AZTEC DRAFTING & DESIGN
 9119 JAMACHA RD, SUITE 115
 SPRING VALLEY, CA 91977
 TEL: 619-414-8508
 EMAIL: JLD@AZTECDRAFTING.COM

JUAN MANUEL DIARTE
 DETACH ADDITIONAL DWELLING UNIT
 1523 E 14th St, NATIONAL CITY CA 91950
 APN: 557-342-09-00
 UTILITY: SDG&E
 AJH: NATIONAL CITY

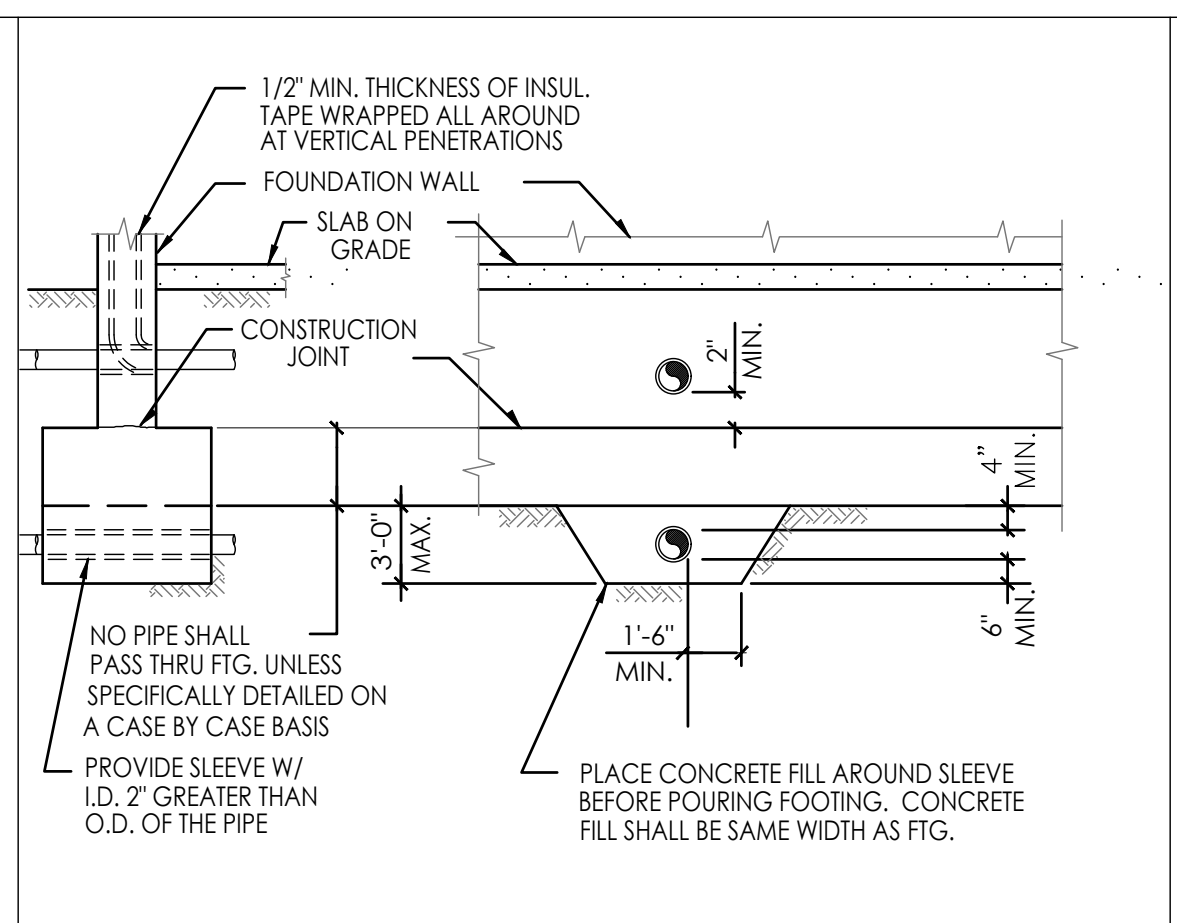
UTILITY LAYOUT

REVISION		
0	-	02/14/22
PROJECT NO. P013		
SHEET NO. A-10		



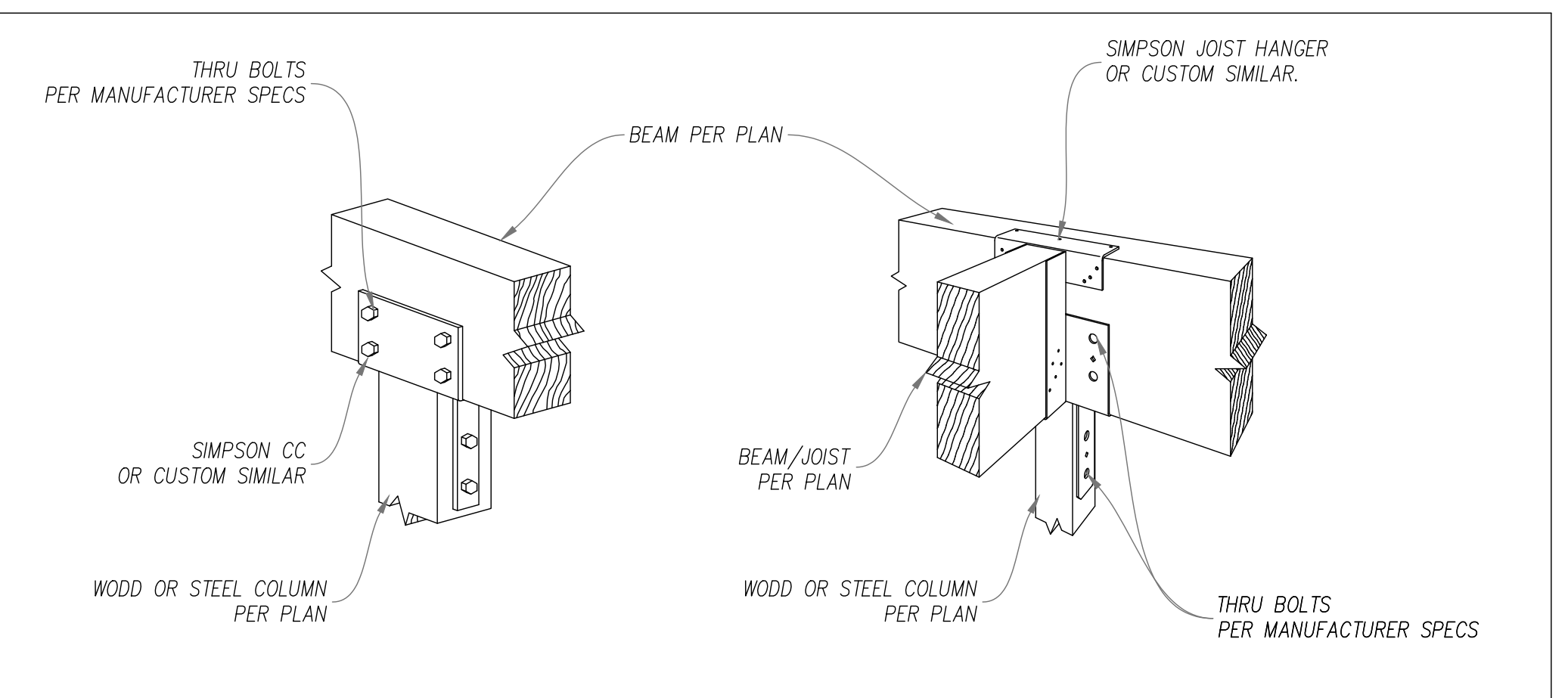
TYPICAL DRAG STRAPS TO BEAMS

10



DETAIL OF PIPE SLEEVE AT CONTINUOUS FOOTING.

6



TYPICAL BEAM TO COLUMN CONNECTORS

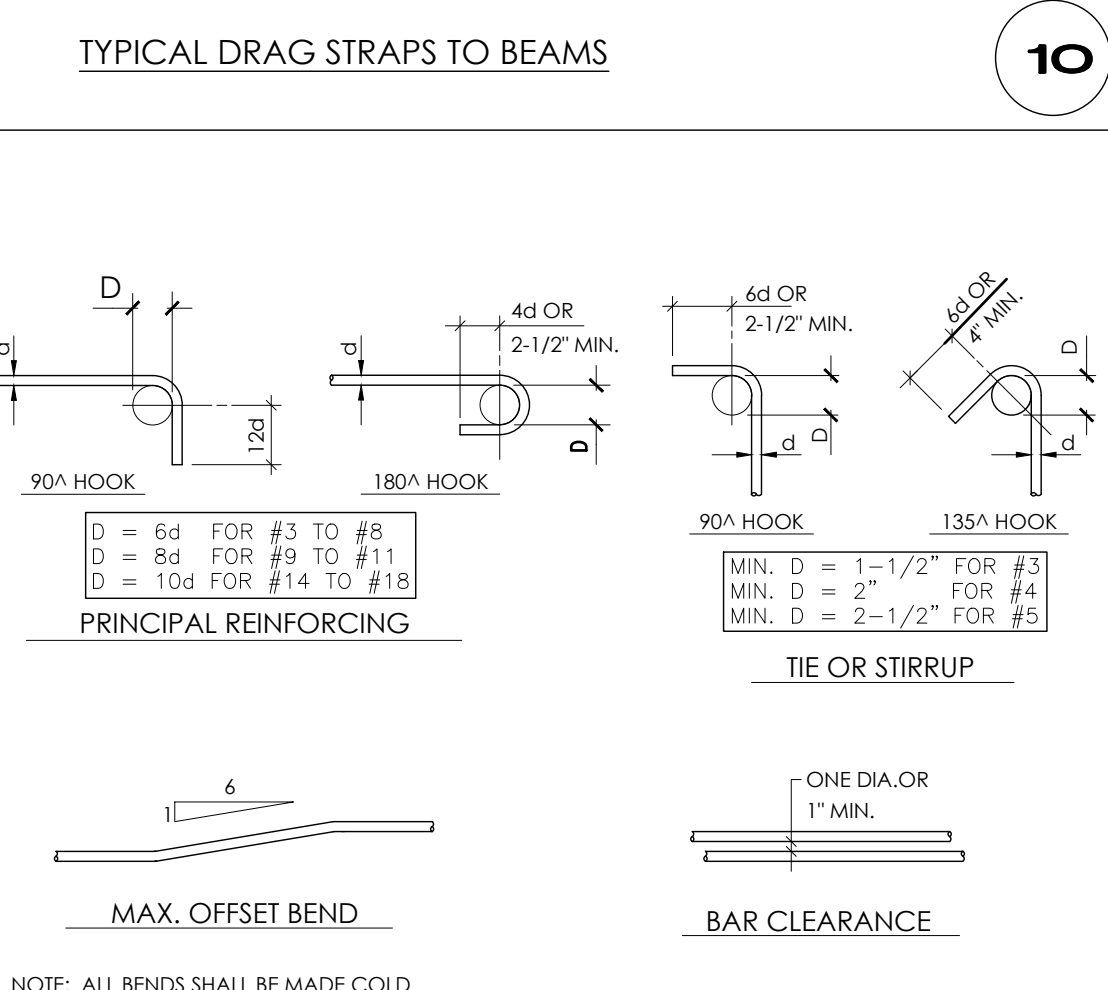
3

TABLE 2304.9.1 FASTENING SCHEDULE

CONNECTION	FASTENING	LOCATION
1. JOIST TO SILL OR GIRDER	3-8d COMMON (3 1/2"x0.131") 3-1" x 0.131" NAILS	TOENAIL
2. BRIDGING TO JOIST	2-8d COMMON (3 1/2"x0.131") 2-1" x 0.131" NAILS	TOENAIL AT EACH END
3. 1"x4" SUBFLOOR OR LESS TO EACH JOIST	3-8d COMMON (3 1/2"x0.131")	FACE NAIL
4. WIDER THAN 1"x4" SUBFLOOR TO EA. JOIST	3-8d COMMON (3 1/2"x0.131")	FACE NAIL
5. SUBFLOOR TO JOIST OR GIRDER	2-16d COMMON (3 1/2"x0.162") 2-14 GA. STAPLES	TYPICAL FACE NAIL
6. SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANEL	16d (3 1/2"x0.162") @ 16" O.C. 3-1" x 0.131" NAILS @ 8" O.C. 4-1" x 0.131" NAILS @ 16" O.C.	BRACED WALL PANELS
7. TOP PLATE TO STUD	2-16d COMMON (3 1/2"x0.162") 2-14 GA. STAPLES	END NAIL
8. STUD TO SOLE PLATE	2-16d (3 1/2"x0.162") 2-14 GA. STAPLES 4-1" x 0.131" NAILS	TOENAIL
9. DOUBLE STUDS	16d (3 1/2"x0.162") @ 24" O.C. 3-1" x 0.131" NAIL @ 8" O.C.	FACE NAIL
10. DOUBLE TOP PLATES	16d (3 1/2"x0.162") @ 16" O.C. 3-1" x 0.131" NAIL @ 8" O.C. 3-14 GA. STAPLE @ 16" O.C.	TYPICAL FACE NAIL
DOUBLE TOP PLATES	12-3" x 0.131" NAILS 12-3" x 0.131" NAILS	LAP SPLICE
11. BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3-8d COMMON (3 1/2"x0.131") 3-1" x 0.131" NAILS	TOENAIL
12. RIM JOIST TO TOP PLATE	3-1" x 0.131" NAILS @ 16" O.C. 3-1" x 0.131" NAILS	TOENAIL
13. TOP PLATES, LAPS AND INTERSECTIONS	2-16d (3 1/2"x0.162") 3-1" x 0.131" NAILS	FACE NAIL
14. CONTINUOUS HEADER, TWO PIECES	16d COMMON (3 1/2"x0.162")	16" O.C. ALONG EDGE
15. CEILING JOISTS TO PLATE	3-8d (2 1/2"x0.131") 3-1" x 0.131" NAILS	TOENAIL
16. CONTINUOUS HEADER TO STUD	4-8d COMMON (2 1/2"x0.131")	TOENAIL
17. CEILING JOISTS, LAPS OVER PARTITIONS (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	3-16d (3 1/2"x0.162") MIN. 4-1" x 0.131" NAILS	FACE NAIL
18. CEILING JOISTS TO PARALLEL (SEE SECTION 2308.10.4.1, TABLE 2308.10.4.1)	3-16d (3 1/2"x0.162") MIN. 4-1" x 0.131" NAILS	FACE NAIL
19. RAFTERS TO WALL (SEE SECTION 2308.10.1, TABLE 2308.10.1)	3-8d COMMON (3 1/2"x0.131") 3-1" x 0.131" NAILS	TOENAIL
20. 1" DIAGONAL BRACE TO EACH STUD AND PLATE	2-8d COMMON (2 1/2"x0.131") 2-1" x 0.131" NAILS	FACE NAIL
21. 1" x 8" SHEATHING TO EACH BEARING	3-8d COMMON (2 1/2"x0.131")	FACE NAIL
22. SHEATHING TO SHEATHING TO EACH BEARING	3-8d COMMON (2 1/2"x0.131")	FACE NAIL
23. BUILT-UP CORNER STUDS	16d COMMON (3 1/2"x0.162") 3-14 GA. STAPLES	24" O.C. @ BOTTOM STUD ON OPPOSITE SIDES
24. BUILT-UP GIRDER & BEAMS	16d (4"x0.162") @ 32" O.C. 3-14 GA. STAPLE @ 24" O.C. 3-1" x 0.131" NAILS @ 16" O.C.	FACE NAIL AT TOP & BOTTOM STUD ON OPPOSITE SIDES
25. 2" PLANKS	16d COMMON (3 1/2"x0.162") 3-1" x 0.131" NAILS	AT EACH BEARING
26. COLLAR TIE TO RAFTER	3-16d COMMON (3 1/2"x0.162") 4-1" x 0.131" NAILS	FACE NAIL
27. JACK RAFTER TO HIP	2-16d COMMON (3 1/2"x0.162") 2-14 GA. STAPLES	TOENAIL
28. ROOF RAFTER TO 2-BY-10 FRAMING	3-16d COMMON (3 1/2"x0.162") 3-14 GA. STAPLES	TOENAIL
29. JOIST TO BAND JOIST	2-8d COMMON (2 1/2"x0.131") 2-1" x 0.131" NAILS	FACE NAIL
30. LEDGER STRIP	3-16d COMMON (3 1/2"x0.162") 3-14 GA. STAPLES	FACE NAIL
31. WOOD STRUCTURAL PANELS & PARTICLE BOARD SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)	1/2" & LESS 6d-1" 2 3/8"x0.113" NAIL" 1 3/4" TD GA 0 3/4" TO 3/4" 19/32" TO 3/4" 7/8" TO 1" 3/4" TO 1" 1 1/8" TO 1 1/4" 10d OR 8d 1 1/2" & LESS 6d 7/8" TO 1" 1 1/8" TO 1 1/4" 10d OR 8d 1 1/2" & LESS 6d 5/8" 1/2"	FACE NAIL
32. PANEL SIDING (TO FRAMING)	1/2" & LESS 6d 7/8" TO 1" 1 1/8" TO 1 1/4" 10d OR 8d 1 1/2" & LESS 6d 5/8" 1/2"	FACE NAIL
33. FIBERBOARD SHEATHING	1/2" & LESS 6d 7/8" TO 1" 1 1/8" TO 1 1/4" 10d OR 8d 1 1/2" & LESS 6d 5/8" 1/2"	FACE NAIL
32. INTERIOR PANELING	1/4" 3/8" 4d 6d	FACE NAIL

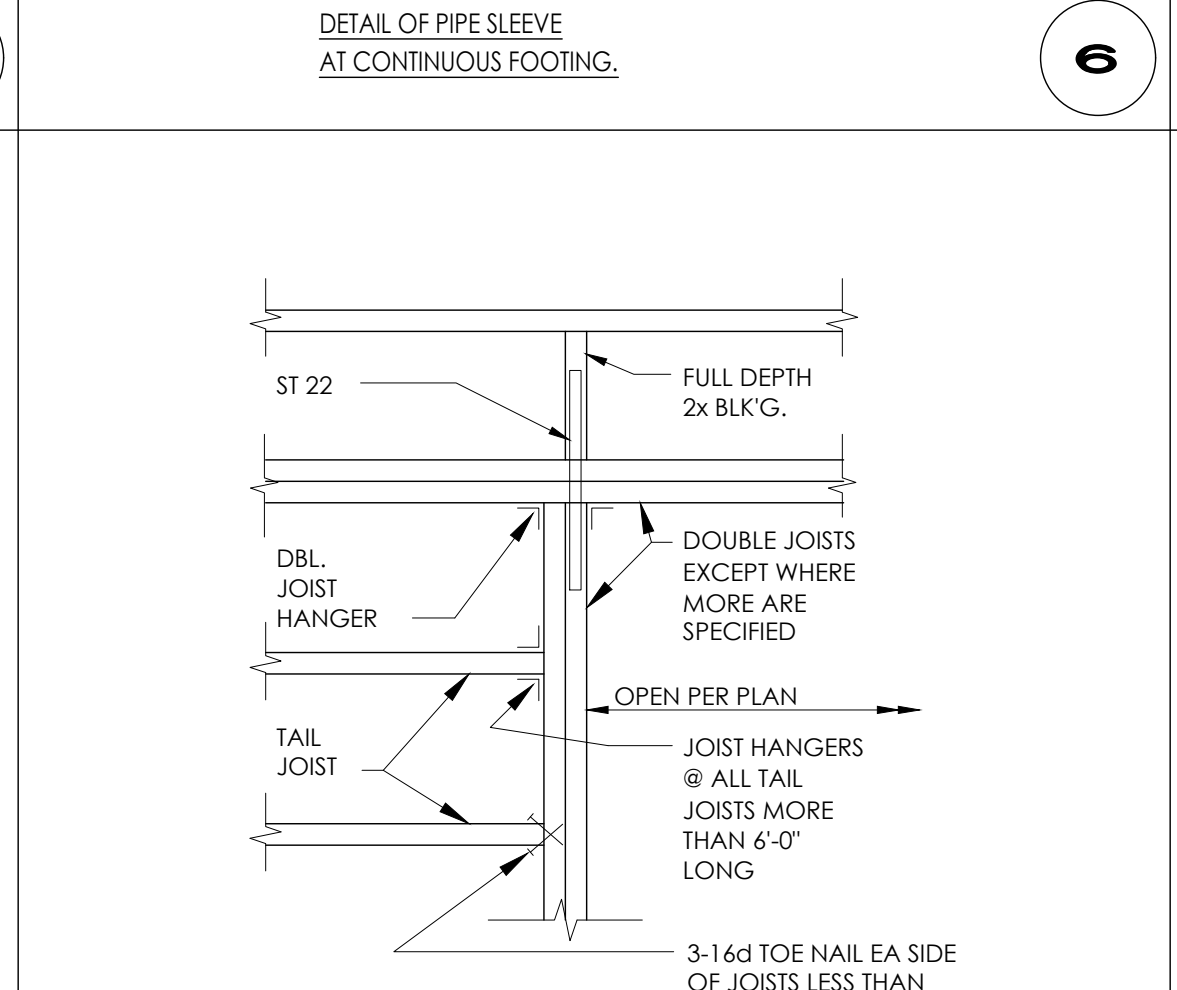
TYPICAL FASTENING SCHEDULE

2



BAR BENDS

11



TYP JOIST SUPPORT AT OPENING

7

SHEAR WALL SCHEDULE

MARKS	SHEATHING MATERIAL (INDEX)	ALLOW. LOAD	MIN. FRAMING WEA. STUDS DBL TOP	EDGELINE (EA.)	FIELD NAIL P/N	SILL >	ANCHOR BOLT 7,8,9	SILL NAILING	SIMPSON SCREWS AT BLOCKING	SHEAR TRANSFER WALLING
1	3/8 STRUCT I (24/0)	276	2x 2x 2x	10d @ 6"	10d @ 12"	2x 5/8"-A.B. x 12" @ 32" O.C.	16d @ 6"	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 16" O.C.
2	1/2 STRUCT I (24/0)	340	2x 2x 2x	10d @ 6"	10d @ 12"	2x 5/8"-A.B. x 12" @ 32" O.C.	16d @ 6"	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 16" O.C.
3	3/8 STRUCT I (24/0)	432	3x 2x 2x	10d @ 4"	10d @ 12"	2x 5/8"-A.B. x 12" @ 32" O.C.	20d @ 4" AT 3X	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 12" O.C.
4	3/8 STRUCT I (24/0)	552	3x 2x 2x	10d @ 3"	10d @ 12"	2x 5/8"-A.B. x 12" @ 32" O.C.	20d @ 3" AT 3X	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 8" O.C.
5	3/8 STRUCT I (24/0)	732	3x 2x 2x	10d @ 2"	10d @ 12"	3x 5/8"-A.B. x 12" @ 16" O.C.	20d @ 2" AT 3X	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 6" O.C.
6	1/2 STRUCT I (24/0)	870	3x 2x 2x	10d @ 2"	10d @ 12"	3x 5/8"-A.B. x 12" @ 16" O.C.	20d @ 2" AT 3X	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 6" O.C.
7	3/8 STRUCT I (24/0)	864	3x	8d @ 4"	8d @ 12"	4x 5/8"-A.B. x 12" @ 16" O.C.	20d @ 2" AT 3X	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 6" O.C.
8	3/8 STRUCT I (24/0)	1104	4x	8d @ 3"	8d @ 12"	4x 5/8"-A.B. x 12" @ 12" O.C.	20d @ 2" AT 3X	1/4"-5/8" @ 14" x LONG	1/4"-5/8" @ 14" x LONG	A35 @ 6" O.C.

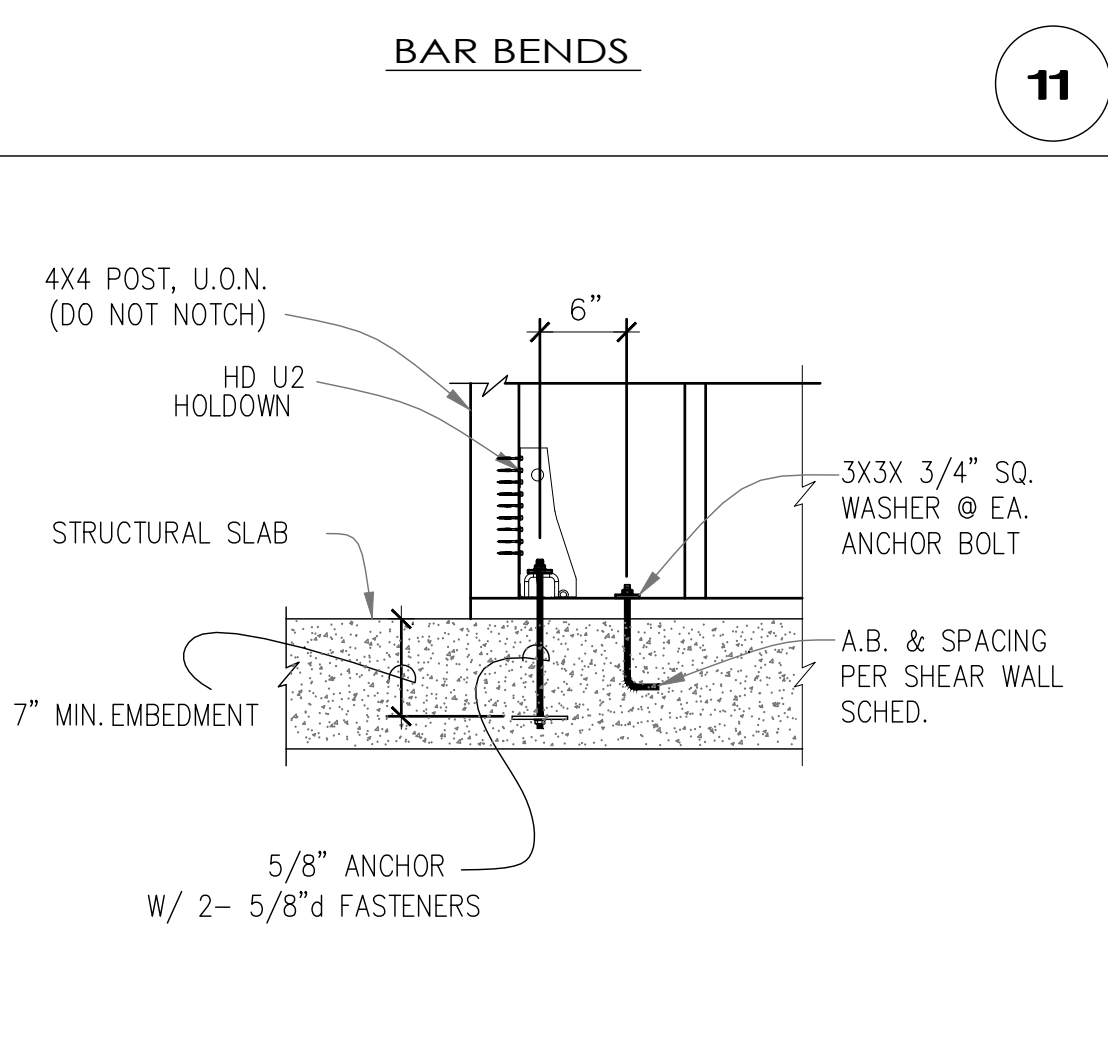
INDICATES HF13x18 1"-HARDY WALL PER ICBO PFC-5342 SEE SHEET H1 FOR MANUFACTURE SPECIFICATIONS

NOTES:

- FIELD NAILS @ 12" O.C. ALL PANEL EDGES BIKED
- ALL NAILING TO BE WITH COMMON NAILS
- 3 ANCHOR BOLTS MIN. PER SHEAR WALL SILL PLATES EXCEPT FOR SHEAR WALLS LESS OR EQUAL THAN 3'-0" PROVIDE 2 A.B. MIN. NOT INCLUDING HD ANCHOR
- PROVIDE 3x BLK.G. 3x STUDS, FOR SHEAR WALL TYPE 3, 2 & 2-4 AT F/W EDGES FOR PLYWOOD APPLIED ON TWO SIDES
- WHERE 3x PLATES ARE USED, USE 20d NAILS IN PRE-DRILLED HOLES IN LIEU OF 16d NAILS INDICATED PER SHEAR WALL SCHED.
- PROVIDE 2 1/4" TIMBERSTRAND LSL RIM JOIST FOR SILL NAILING LESS THAN 3' OTHERWISE 1" TIMBERSTRAND LSL RIM JOIST U/L/O
- PROVIDE 3x3x0.229 HOT DIPPED GALVANIZED WASHER PLATE AT ALL ANCHOR BOLTS. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" INCH (4.75 mm) LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1 1/2" INCH (44 mm). PROVIDE A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NAIL.

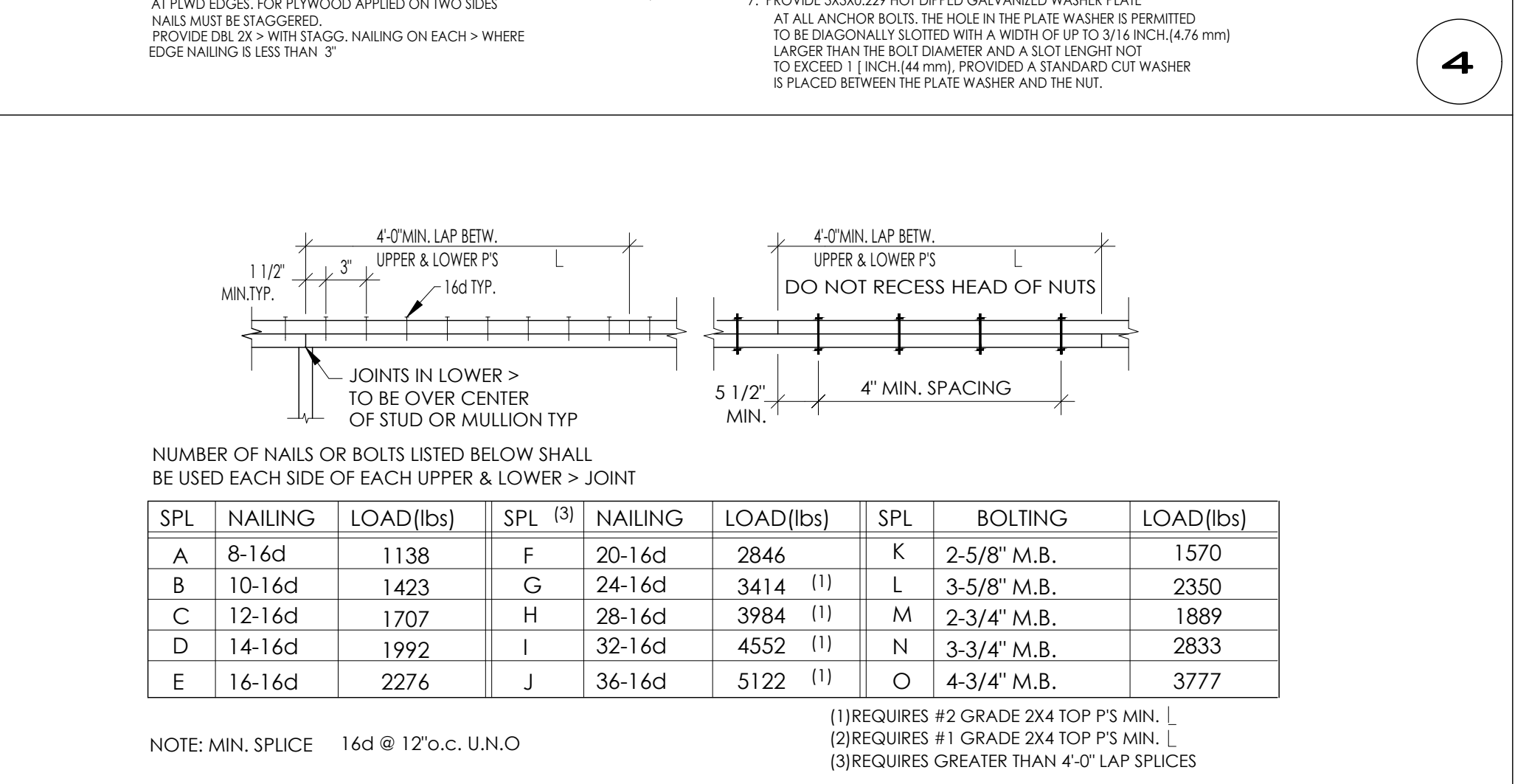
SHEAR WALL SCHEDULE

4



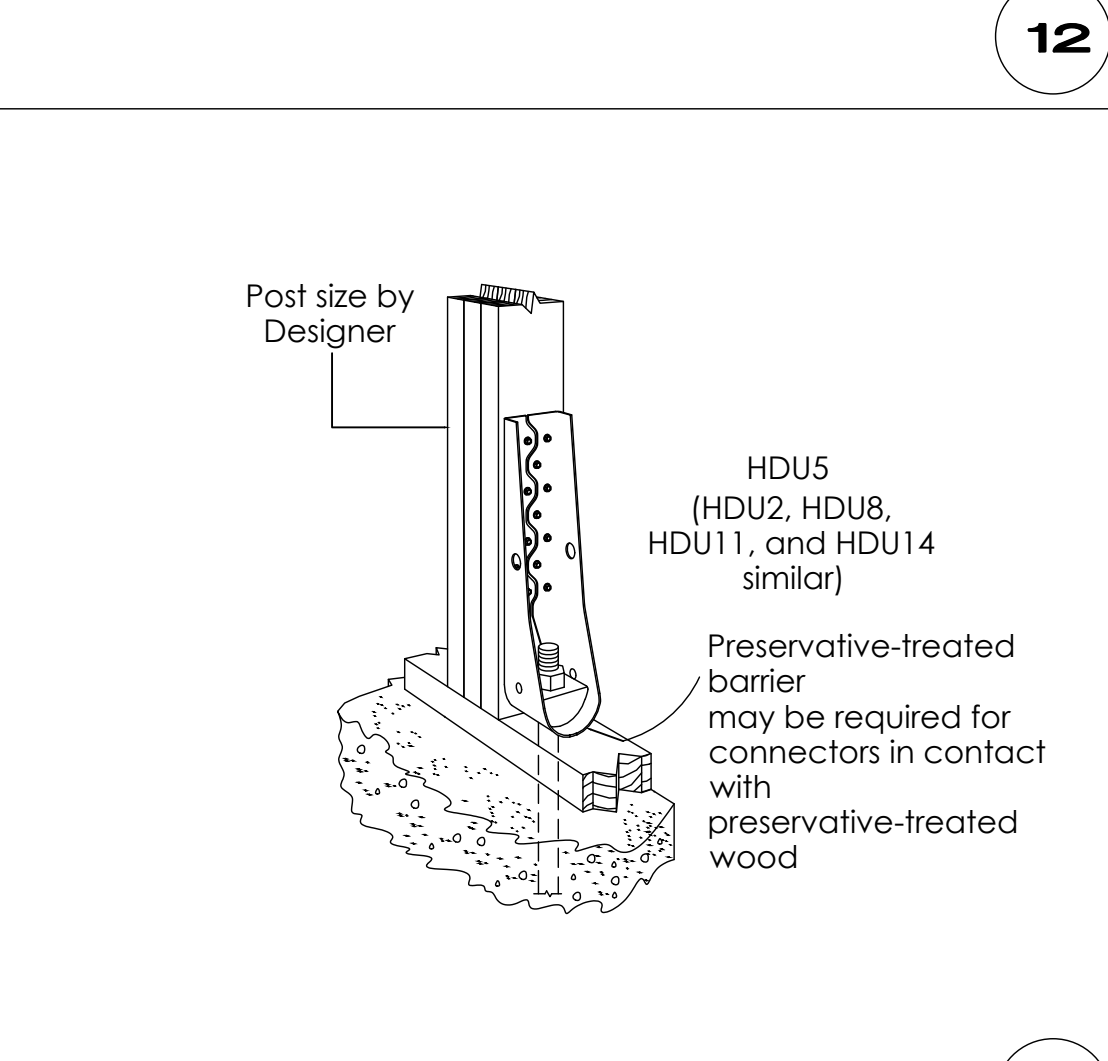
TYP. DIAPHRAGM NAILING

12



TYP. DOUBLE TOP PLATE SPLICE

5



TYP. HEADER FRAMING

13

TIEDOWN SCHEDULE

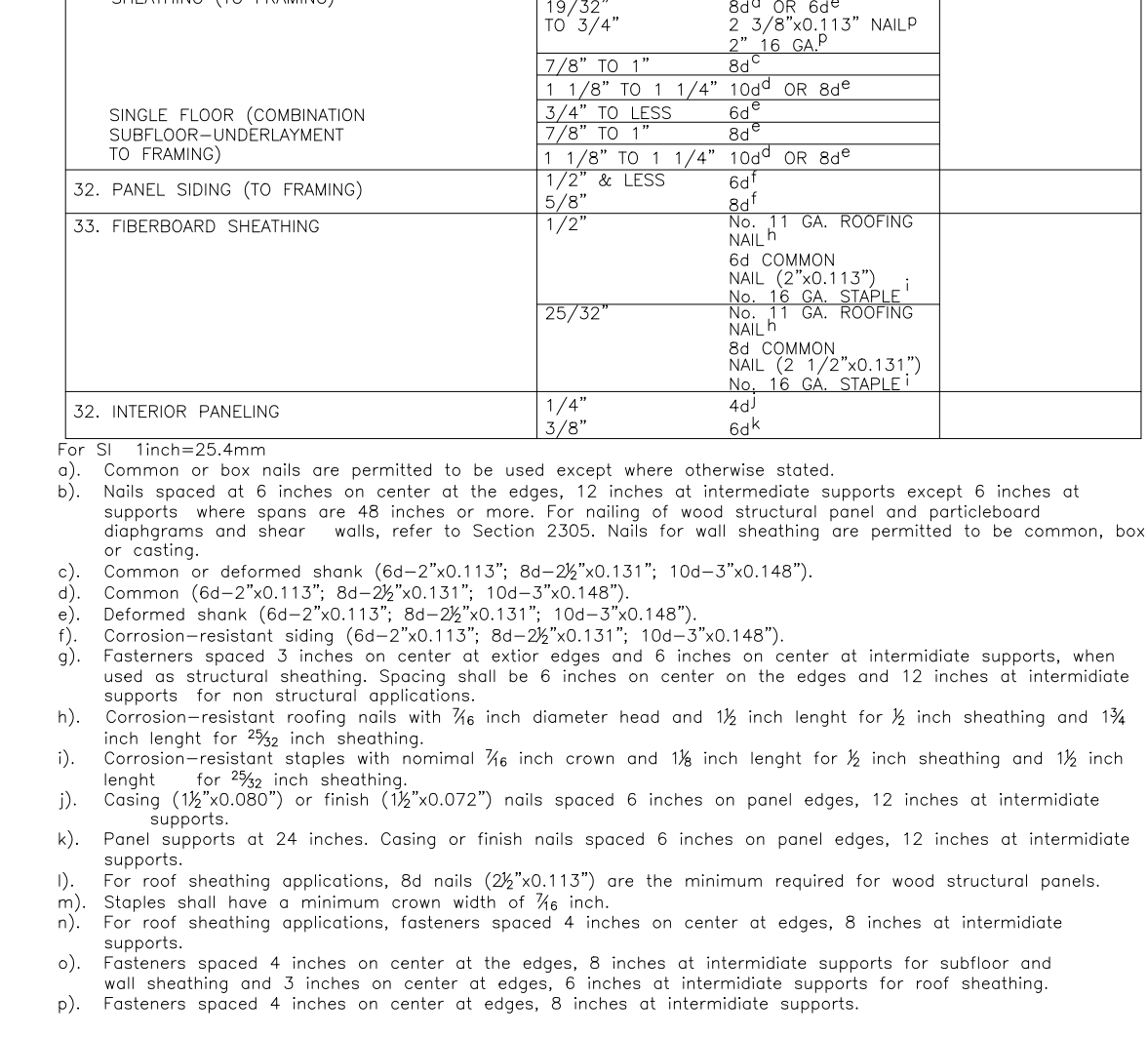
MARK	SIZE	L" MIN.	TIEDOWN ANCHOR	BOLTS TO EA. POST	NAILING TO EACH POST	NAILING TO FACE	HOLDOWN POST (MIN.)	CAPACITY (LBS)
S-1	MST37	11"	-	-	11-16d	-	4 x 4	2100
S-2	MST48	16"	-	-	17-16d	-	4 x 4	3330
S-3	MSTC48B3	21"	-	-	38-10d	12-10d	4 x 4	3930
S-4	MSTC66B3	21"	-	-	38-10d	14-10d	4 x 4	4440
S-5	MST60	22"	-	-	24-16d	-	4 x 4	4990
S-6	HD-2A	-	5/8"	2-5/8"	-	-	4 x 4	2775
S-7	HD-5A	-	3/4"	2-3/4"	-	-	4 x 4	4010
S-8	HD-6A	-	7/8"	2-7/8"	-	-	4 x 4	5100
S-9	MST72	27"	-	-	28-16d	-	4 x 6	5800
S-10	CMST12	45"	-	-	50-16d	-	4 x 6	9640
S-11	2-MST72	27"	-	-	28-16d EA. STRAP	-	6 x 8	11080
S-12	2-MST60	22"	-	-	24-16d EA. STRAP	-	6 x 8	9930

NOTE:

- DBL MST72 SHALL BE INSTALLED SIDE BY SIDE WITH A 3/8" GAP BETWEEN THEM.

TIE-DOWN SCHEDULE

2



TIE-DOWN BETWEEN WALL AND FLOOR BEAM

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Date February 17, 2023

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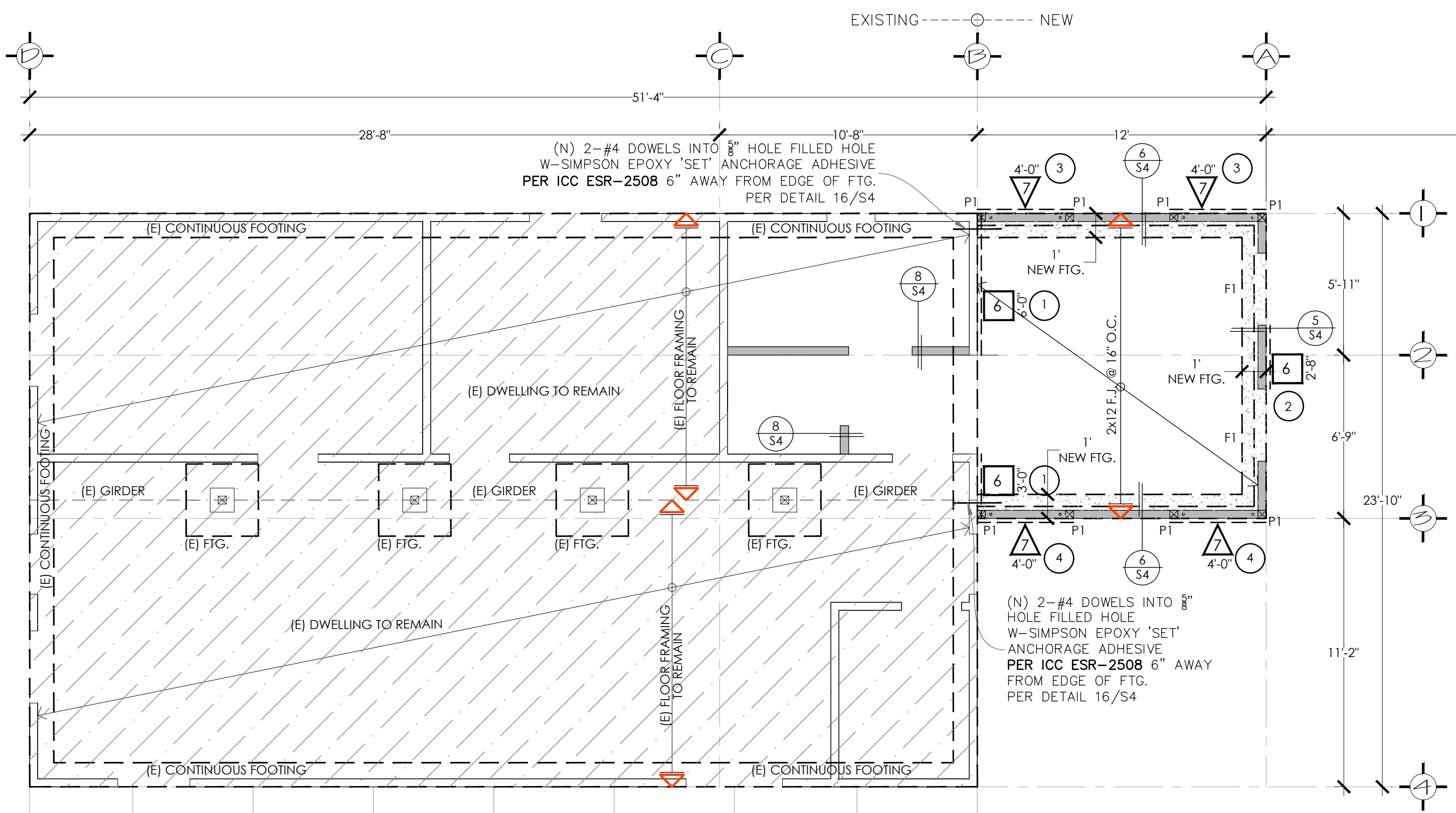
REGISTERED PROFESSIONAL ARCHITECT
NO. 72822
JAMES
6/10/2024
STATE OF CALIFORNIA

ADDITON & NEW ADU
1523 E 14th ST. NATIONAL CITY, CALIFORNIA 91950

02-17-2023

TYPICAL DETAILS

S1.1

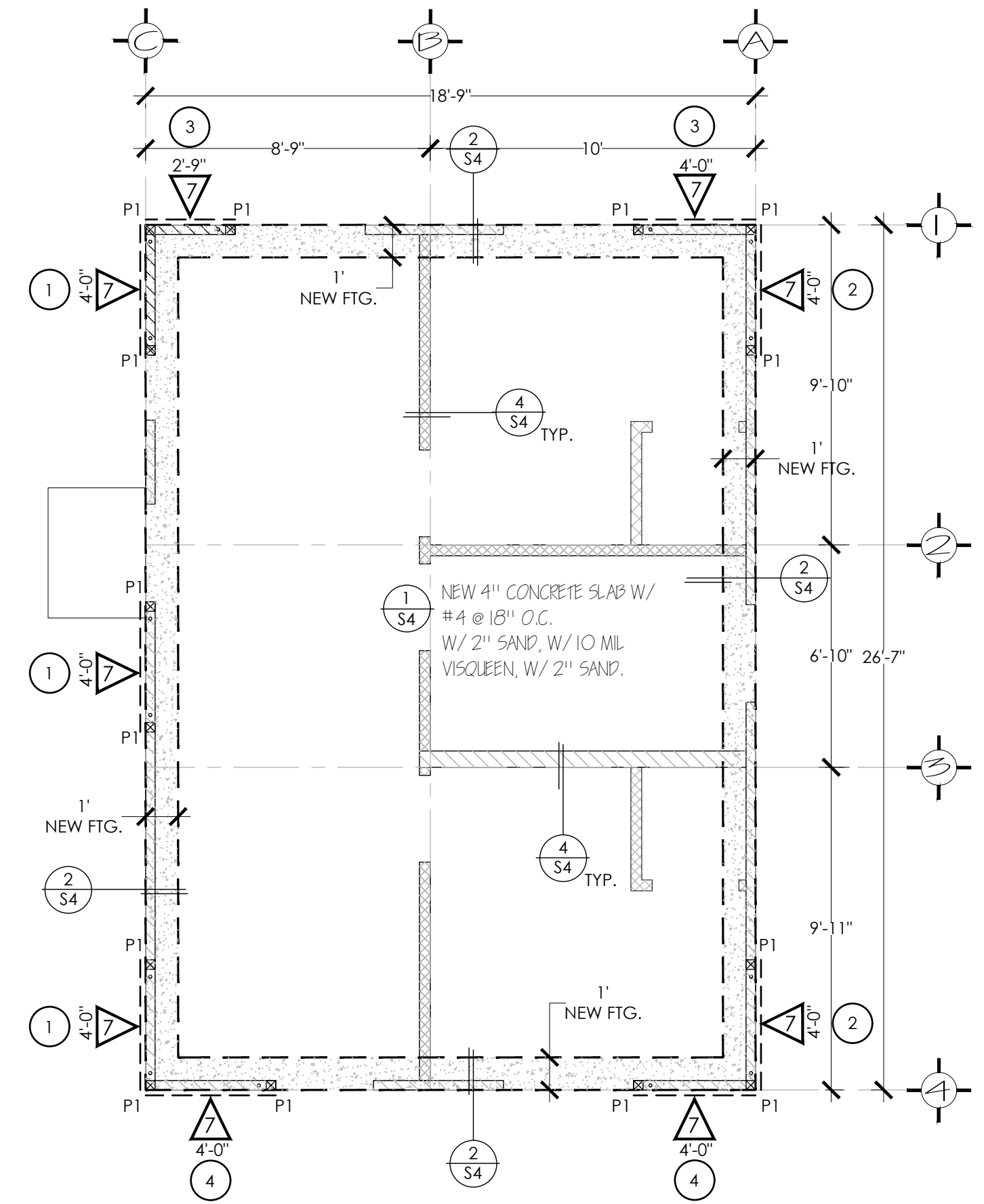


KEY LEGEND	
CONT. FIG.	12" X 18" 2 #4 T. & B.
F1	24" X 48" X 12" #4 @ 12" O.C. E.W.
P1	4" X 4" WOOD POST W/HDU2

ALL BEAM TO COLUMN CONNECTIONS SHALL USE SIMPSON COLUMN CAPS CONNECTORS OR CUSTOM SIMILAR, PER DETAIL 3/S1.1

WALLS LEGEND	
	PROPOSED WOOD-FRAMED WALLS USING 2X4 STUDS @ 16" O.C. MAX. 8'-0" HIGH PER CRC SECTION R602.3.1
	EXISTING WOOD-FRAMED WALLS TO REMAIN THE SAME.

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



FOUNDATION PLAN ADU
SCALE: 1/4" = 1'-0"

FOUNDATION NOTES:

- REFER TO SHEETS S1 FOR GENERAL NOTES & STANDARD DETAILS. THESE NOTES & DETAILS SHALL BE USED WHERE APPLICABLE WHETHER SPECIFICALLY REFERENCED OR NOT.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
 - ALL DIMENSIONS NOT SHOWN.
 - ALL OPENINGS NOT SHOWN.
 - ALL NON-BEARING WALL NOT SHOWN.
- EXTERIOR WALLS ARE 2x4 AT 16" O.C AND 2x6's @ 16" O.C. AT STAIRS
- a) THE STRUCTURE WILL BE LOCATED ON NATIVE/UNDISTURBED

SOIL SIGNATURE LICENSED ENGINEER

b) IF THE BUILDING INSPECTOR SUSPECTS FILL, EXPANSIVE SOIL OR ANY GEOLOGIC INSTABILITY BASED UPON OBSERVATION OF THE FOUNDATION EXCAVATION, A SOILS OR GEOLOGICAL REPORT, AND RESUBMIT OF PLANS TO PLAN CHECK TO VERIFY THAT THE REPORT RECOMMENDATIONS HAVE BEEN INCORPORATED, MAY BE REQUIRED.

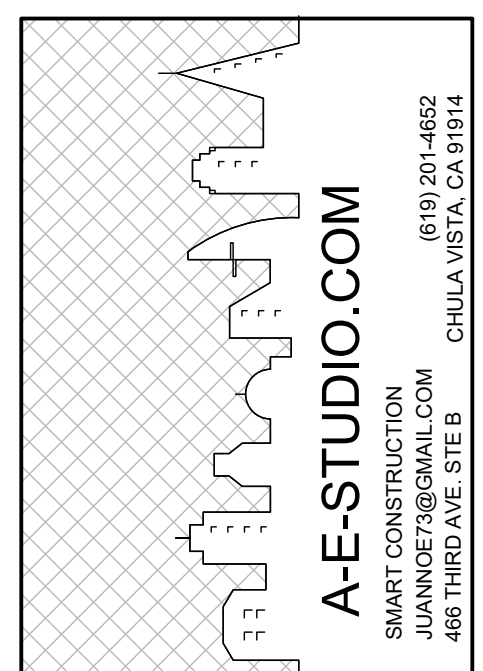
5. PROVIDE A MIN. OF 2 BOLTS PER PIECE OF SILL OR WOOD PLATE. ONE BOLT SHALL BE LOCATED NOT MORE THAN 12" OR LESS THAN 7 BOLT DIAMETER FROM EA. END OF THE PIECE OF SILL OR WOOD PLATES. BOLTS SHALL BE INSTALLED W/ PROPERLY TIGHTENED NUTS & WASHERS

6. PROVIDE STEEL WASHERS OF MIN. 3" X 3" X 1/4" THICKNESS AT EACH WOOD PLATE OR SILL BOLT.

7. SHEAR-WALL PER SCHEDULE ON S1.1 SHEET

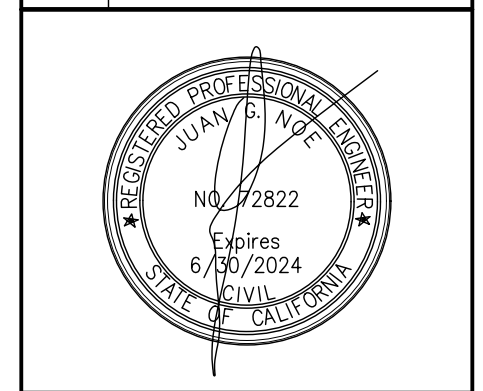
* ANY DIFFERENCES BETWEEN PLANS AND REAL DIMENSIONS OR MATERIALS SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL ENGINEER.

FASTENERS IN PRESERVATIVE-TREATED WOOD AND FIRE-RETARDANT WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER.



Date February 17, 2023

REVISIONS	
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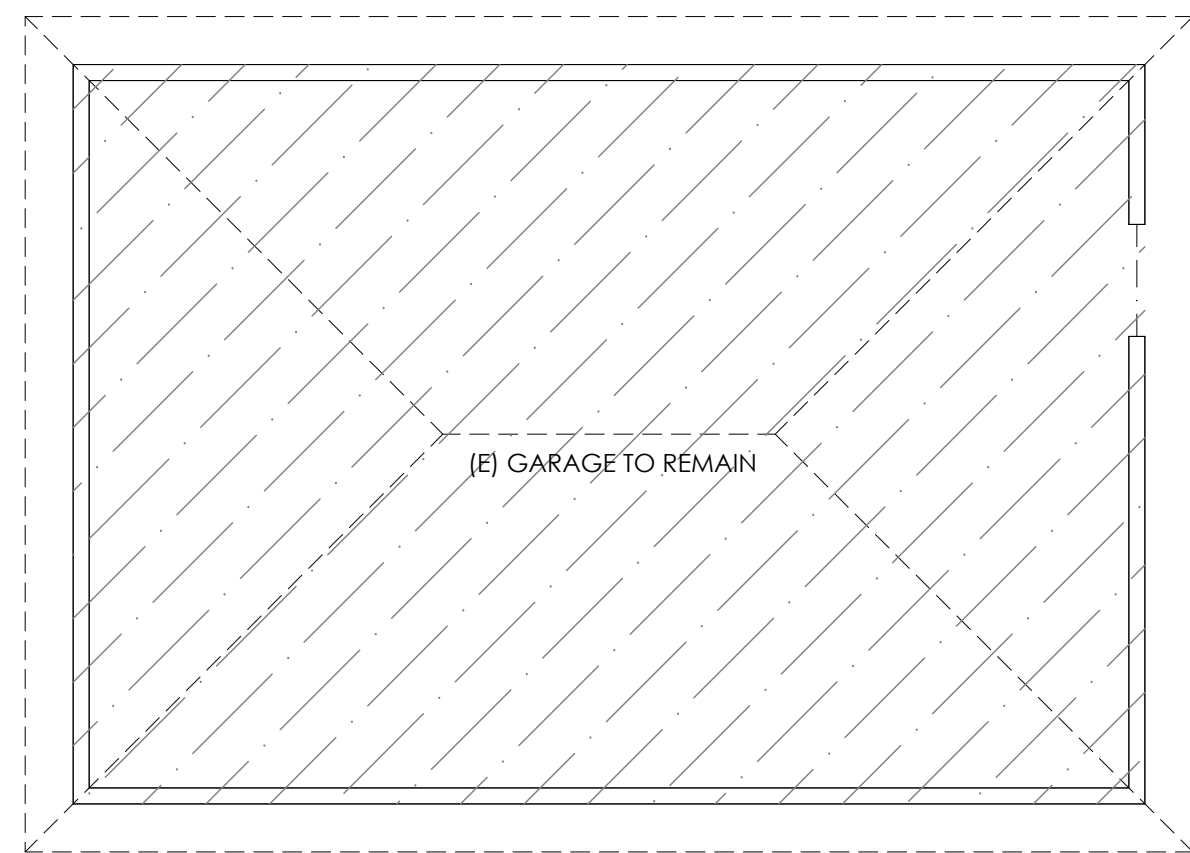
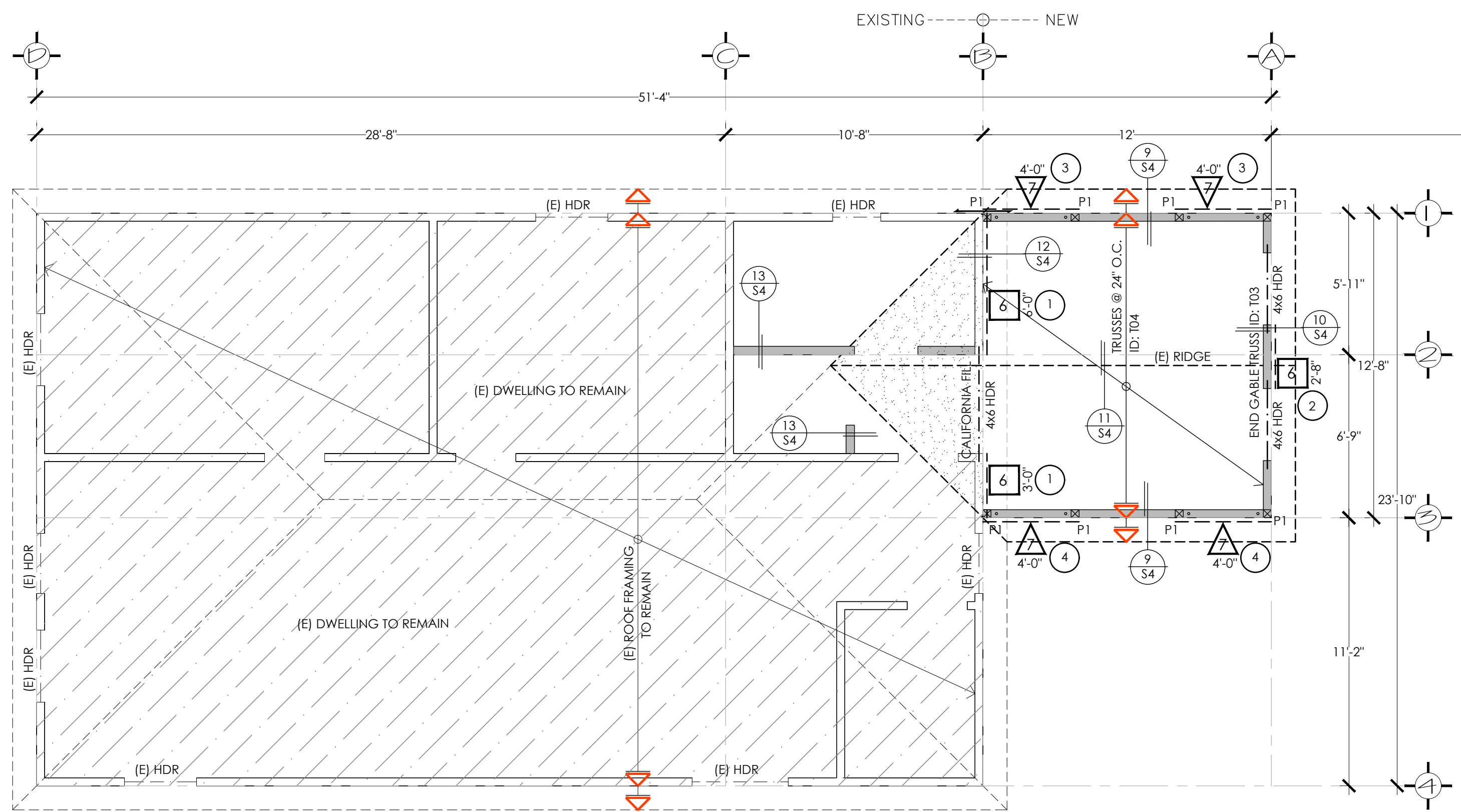


ADDITION & NEW ADU
1523 E 14th ST, NATIONAL CITY, CALIFORNIA 91950

02-17-2023

FOUNDATION PLAN

S2



ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

TYP. ROOF DIAPH.
1/2" PLYWD. INDEX (S2/16)
10d @ 4" E.N. & B.N.
10d @ 12" F.N.

"DIAPHRAGM SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN SO THAT THEIR HEAD OR CROWN IS FLUSH W/ THE SURFACE OF THE SHEATHING"

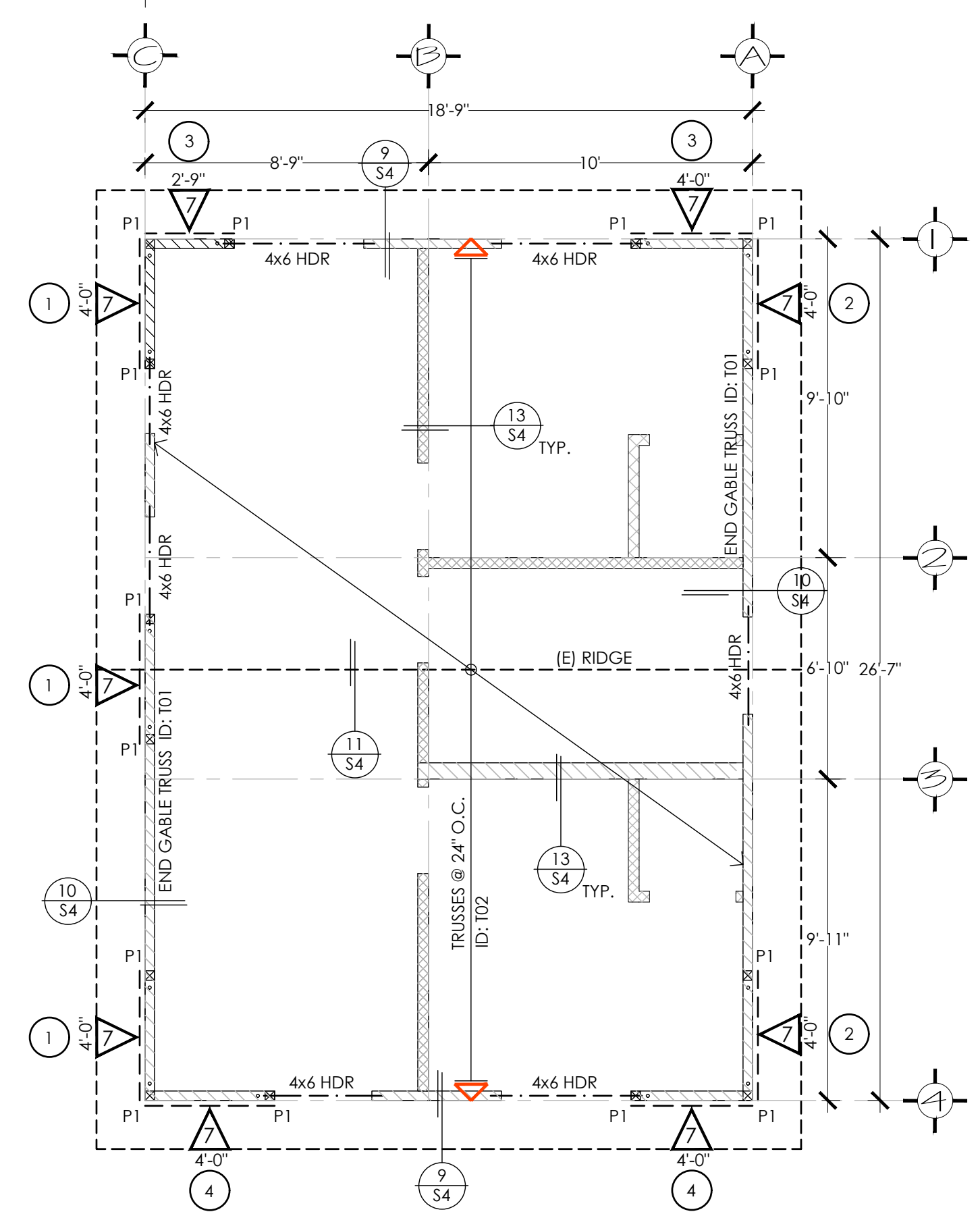
KEY LEGEND

P1	4"x4" WOOD POST
HDR-01	4x6 HDR
HDR-02	4x8 HDR
HDR-03	4 x 12 BM

ALL BEAM TO COLUMN CONNECTIONS SHALL USE SIMPSON COLUMN CAPS CONNECTORS OR CUSTOM SIMILAR, PER DETAIL 3/S1.1

WALLS LEGEND

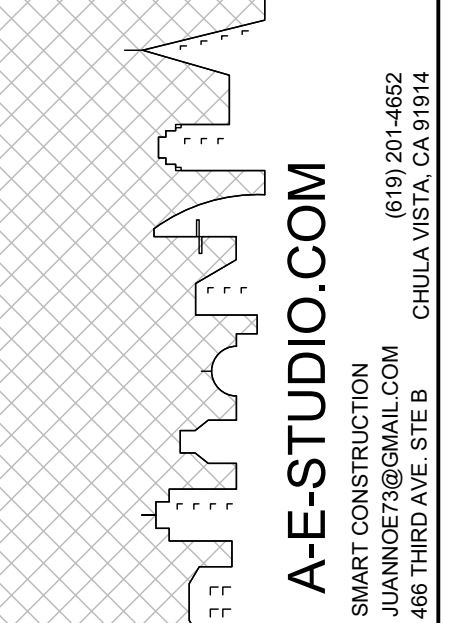
	PROPOSED WOOD-FRAMED WALLS USING 2X4 STUDS @ 16" O.C. MAX. 8'-0" HIGH PER CRC SECTION R602.3.1
	EXISTING WOOD-FRAMED WALLS TO REMAIN THE SAME.



ROOF FRAMING PLAN ADU
SCALE: 1/4" = 1'-0"

FRAMING NOTES:

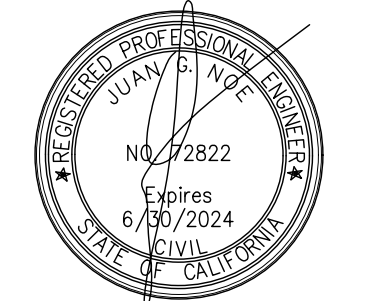
- REFER TO SHEETS S1.1 FOR GENERAL NOTES & STANDARD DETAILS. THESE NOTES & DETAILS SHALL BE USED WHERE APPLICABLE WHETHER SPECIFICALLY REFERENCED OR NOT.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
 - ALL DIMENSIONS NOT SHOWN.
 - ALL OPENINGS NOT SHOWN.
 - ALL NON-BEARING WALL NOT SHOWN.
- STUDS= 2X4's @ 16" O.C. WOOD STUDS WHERE APPLICABLE
- INDICATES SHEAR WALL MARK FROM THIS LEVEL TO LEVEL ABOVE PER SHEAR WALL SCHEDULE ON S1 PROVIDE NON-SHEAR PLYWOOD ADJACENT TO SHEAR PANELS IN ORDER TO PROVIDE A FLUSH FINISH.
 - INDICATES SHEAR WALL PANEL APPROX. MIN. LENGTH IF NOT SHOWN, THEN PROVIDE PLYWOOD ON ENTIRE FACE.
 - INDICATES SHEAR WALL PANEL NUMBER PER STRUCTURAL CALCULATIONS
- | | |
|-----|---------------------------------------|
| (B) | INDICATES BEAM DIRECTLY BELOW JOISTS. |
| (F) | INDICATES BEAM FLUSH W/ JOISTS. |
| (H) | INDICATES HEADER. |
| (L) | INDICATES LINTEL. |
- FOR POSTS, POST TO BEAM CONNECTION SEE UNO
- DO NOT CUT, NOTCH, DRILL, BORE, SHAVE, TAPER OR FOR ANY REASON MODIFY PRE-ENGINEERED/MANUFACTURED STRUCTURAL ELEMENTS SUCH AS GLUED-LAMINATED MEMBERS, PARALAMS, MICROLAMS, I-JOIST, LIGHT GAUGE METAL MEMBERS AND OTHER SIMILAR TIMBER OR STEEL PRODUCTS OR A LETTER OF CERTIFICATION FROM THE MANUFACTURE'S ENGINEER WITH DETAIL SIGNED AND STAMPED IS ISSUED AND AUTHORIZED BY THE PROJECT ENGINEER OF RECORD AND APPROVED BY THE CITY OF SAN DIEGO BUILDING OFFICIAL.



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Date February 17, 2023

REVISIONS	



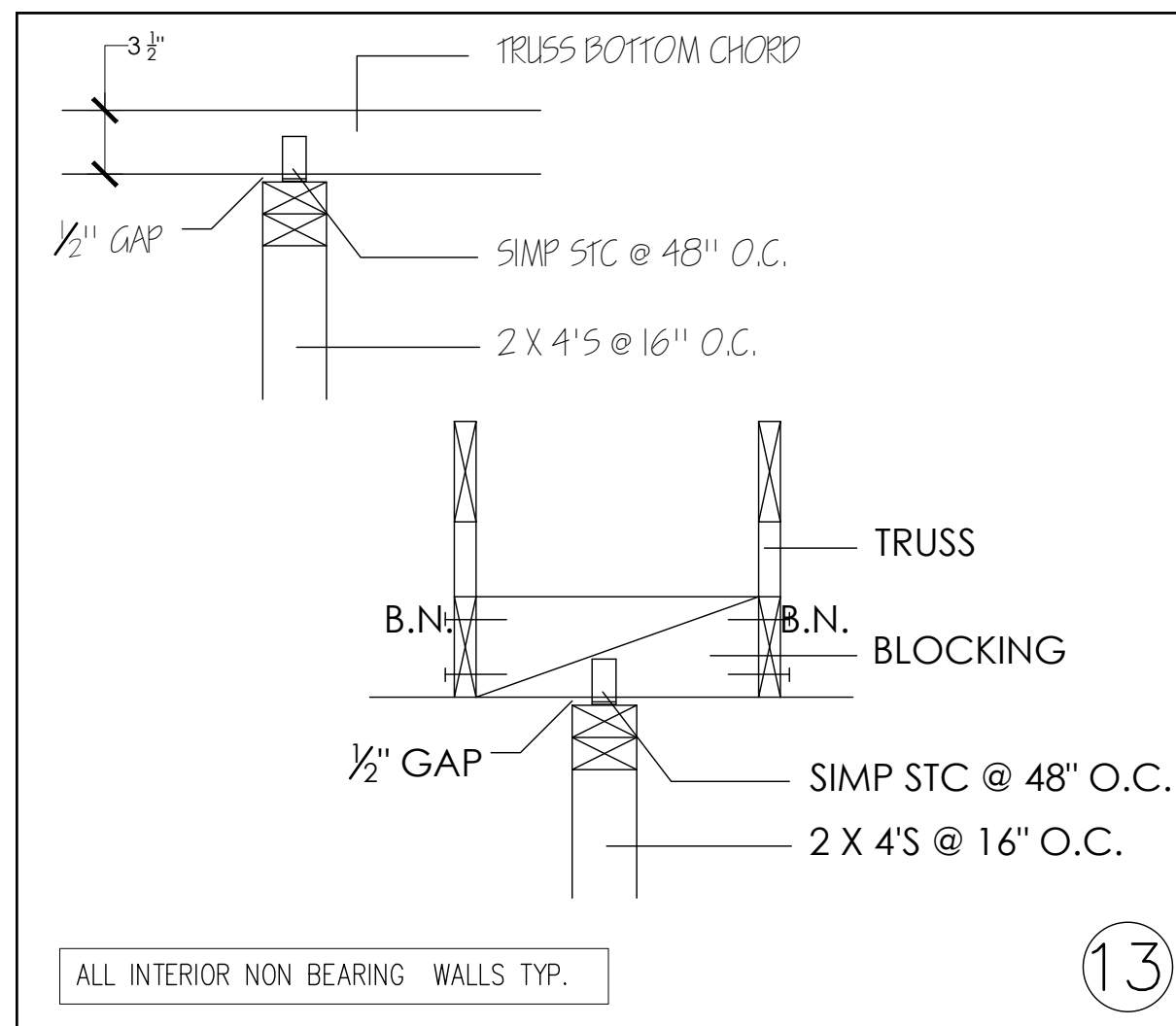
REGISTERED PROFESSIONAL ENGINEER
NO. 72822
Expires 6/30/2024
STATE OF CALIFORNIA

ADDITION & NEW ADU
1523 E 14th ST. NATIONAL CITY, CALIFORNIA 91950

02-17-2023

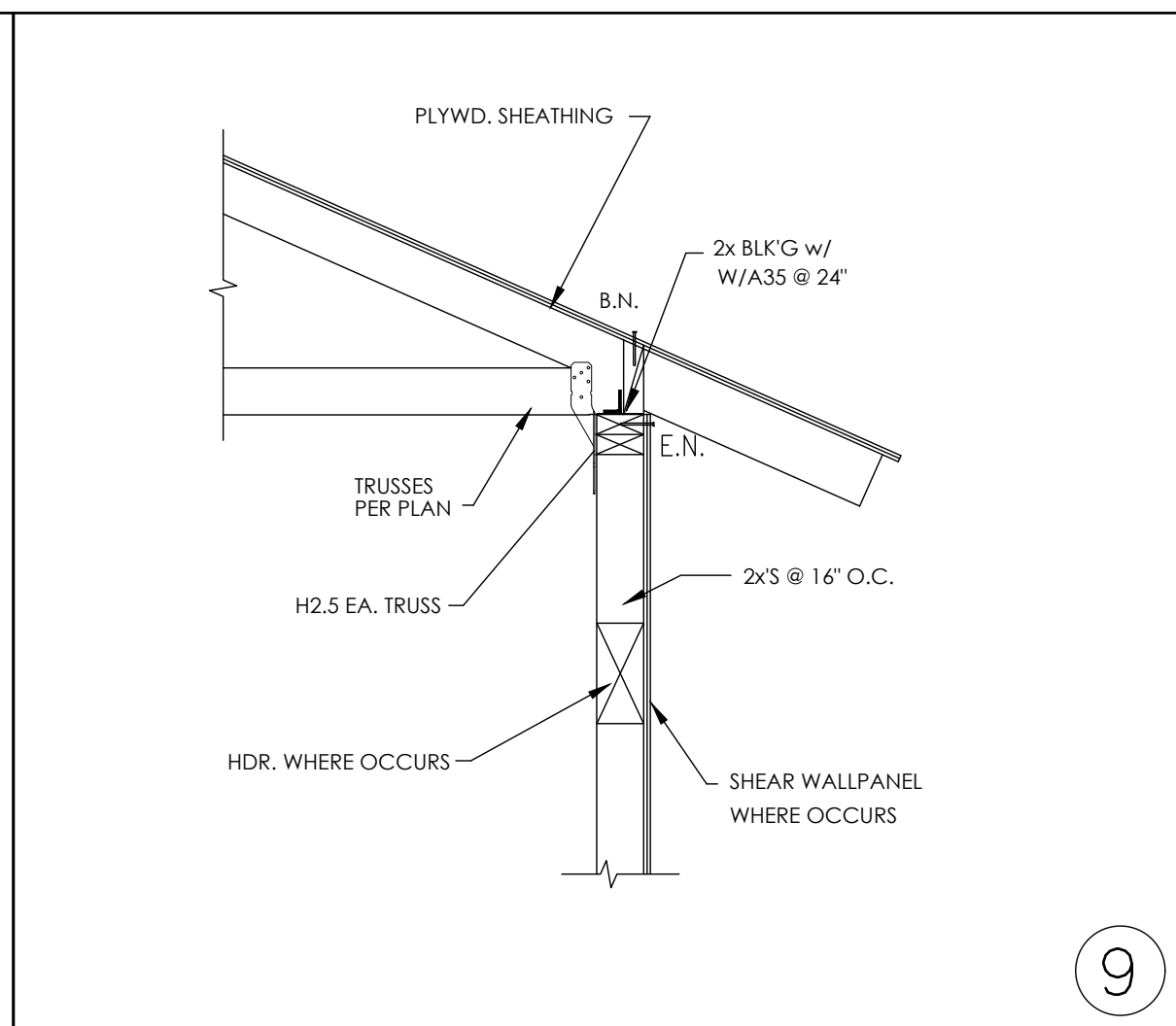
ROOF FRAMING PLAN

S3

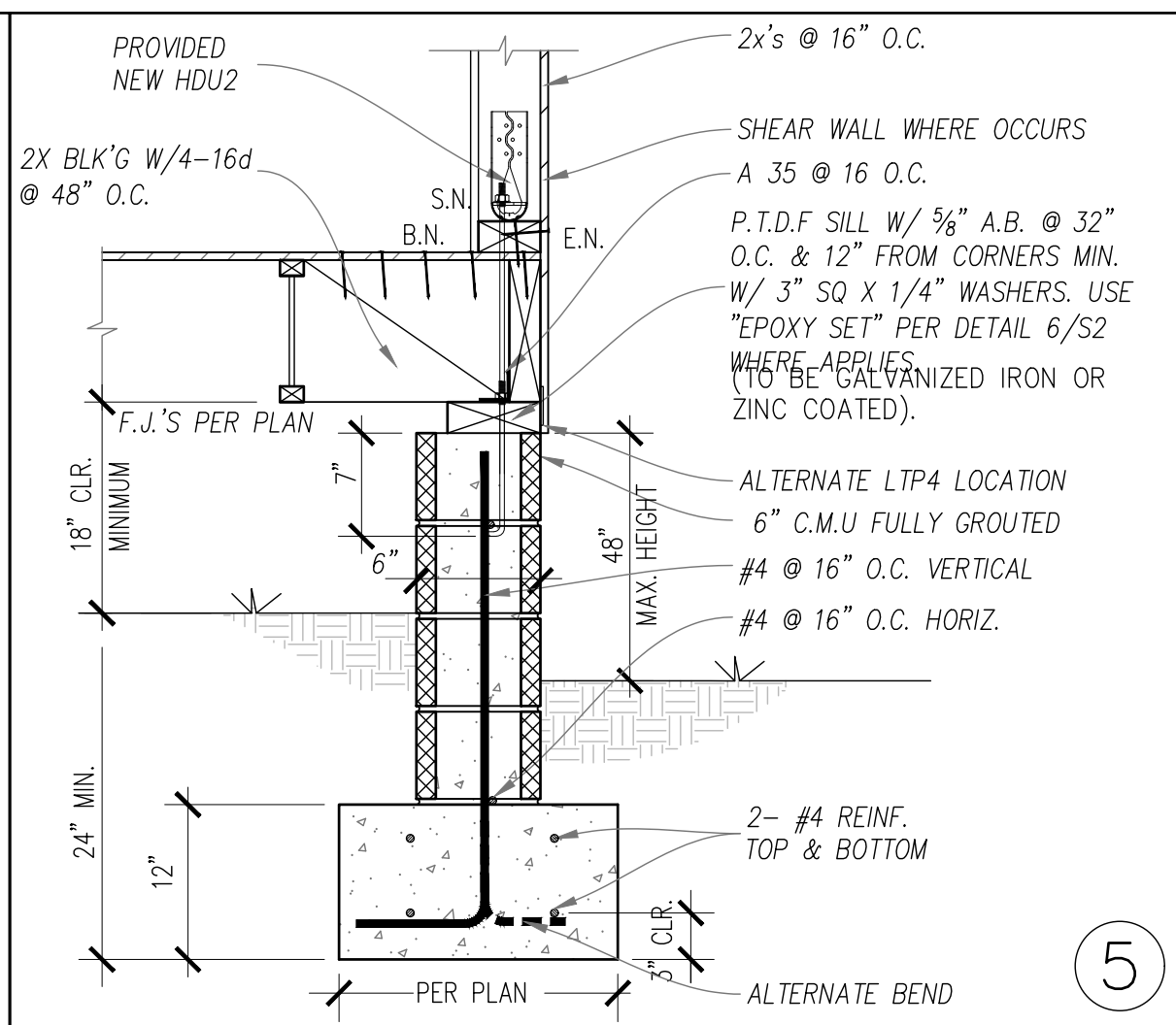


ALL INTERIOR NON BEARING WALLS TYP.

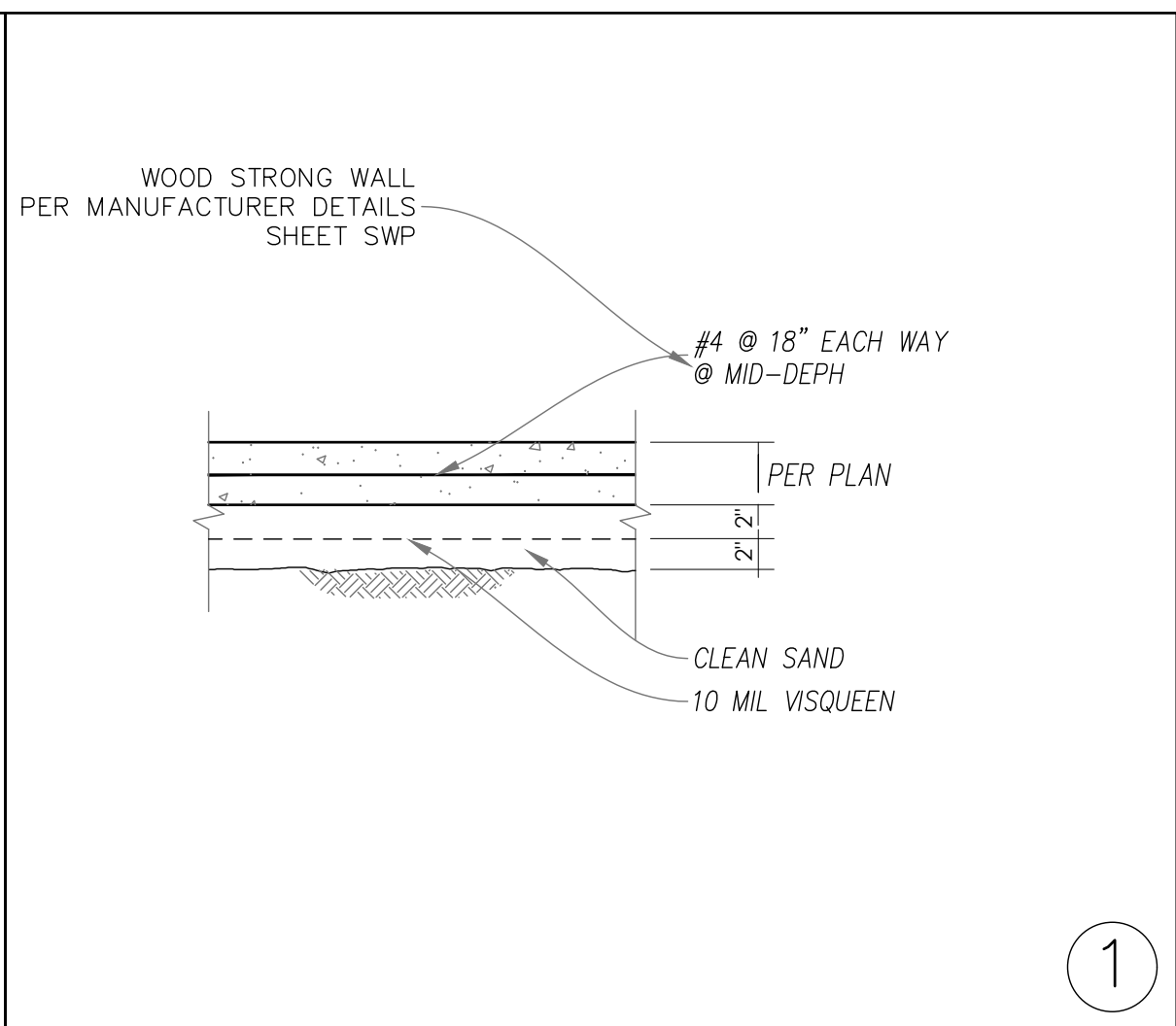
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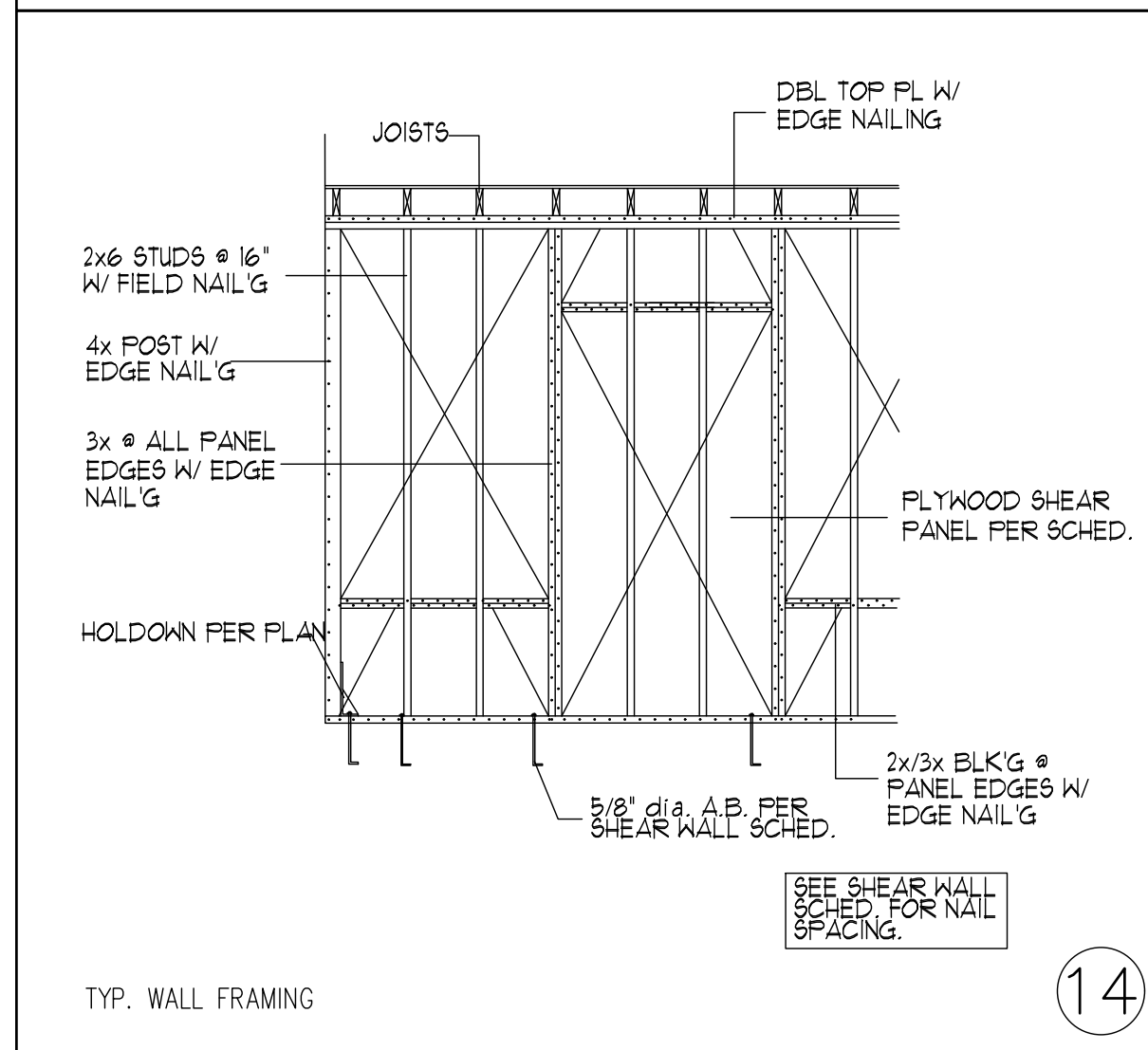
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5

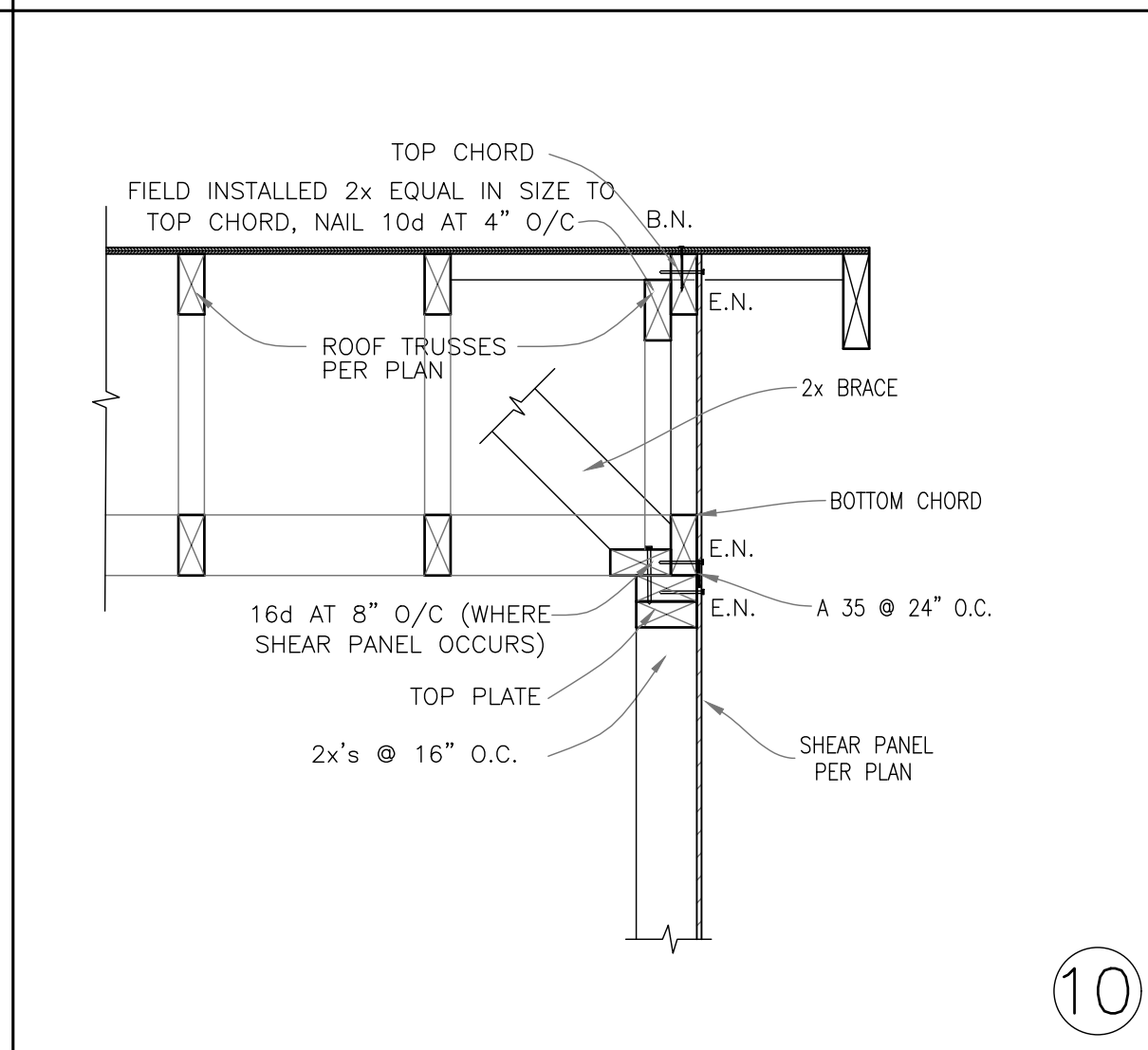


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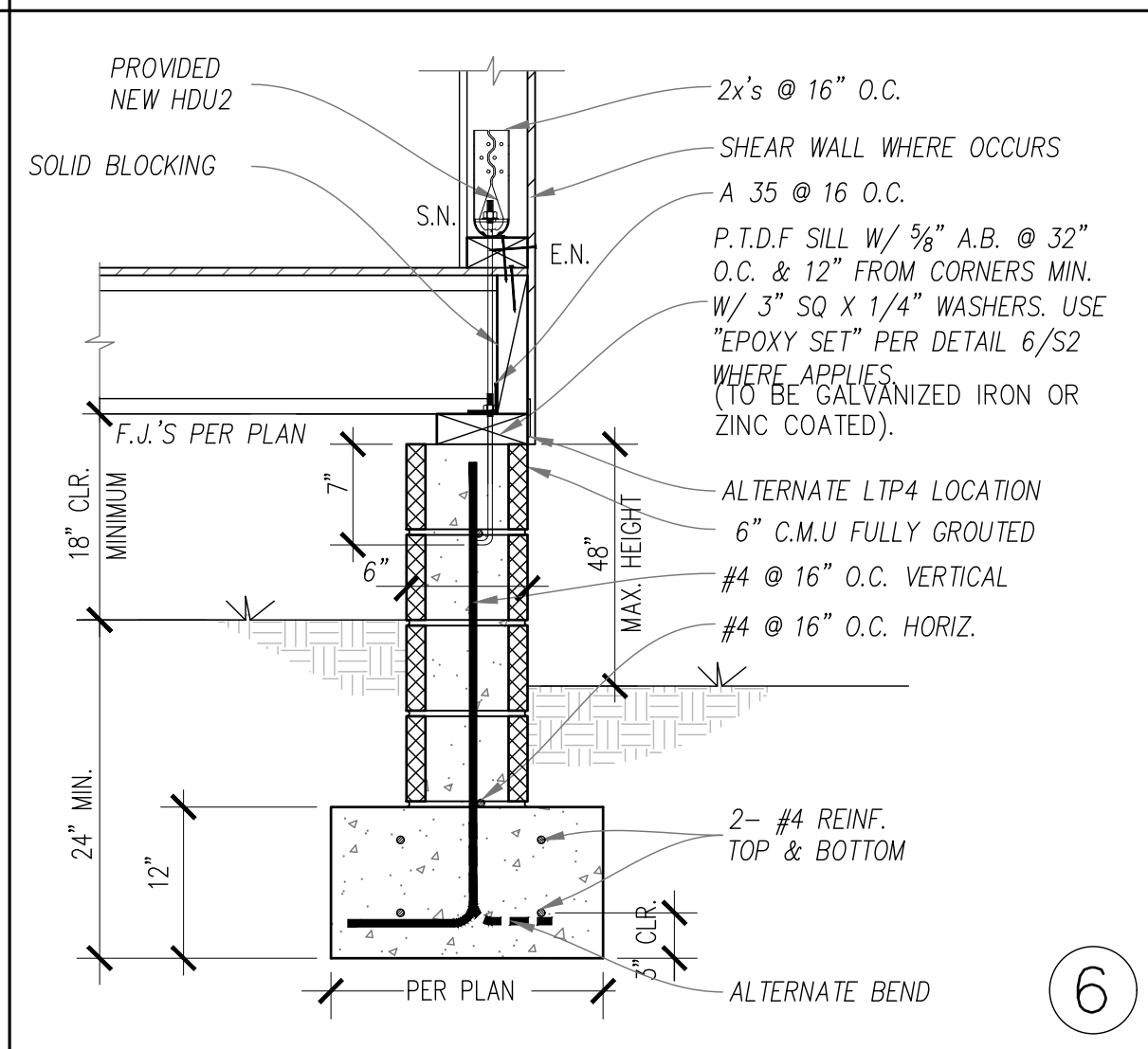


TYP. WALL FRAMING

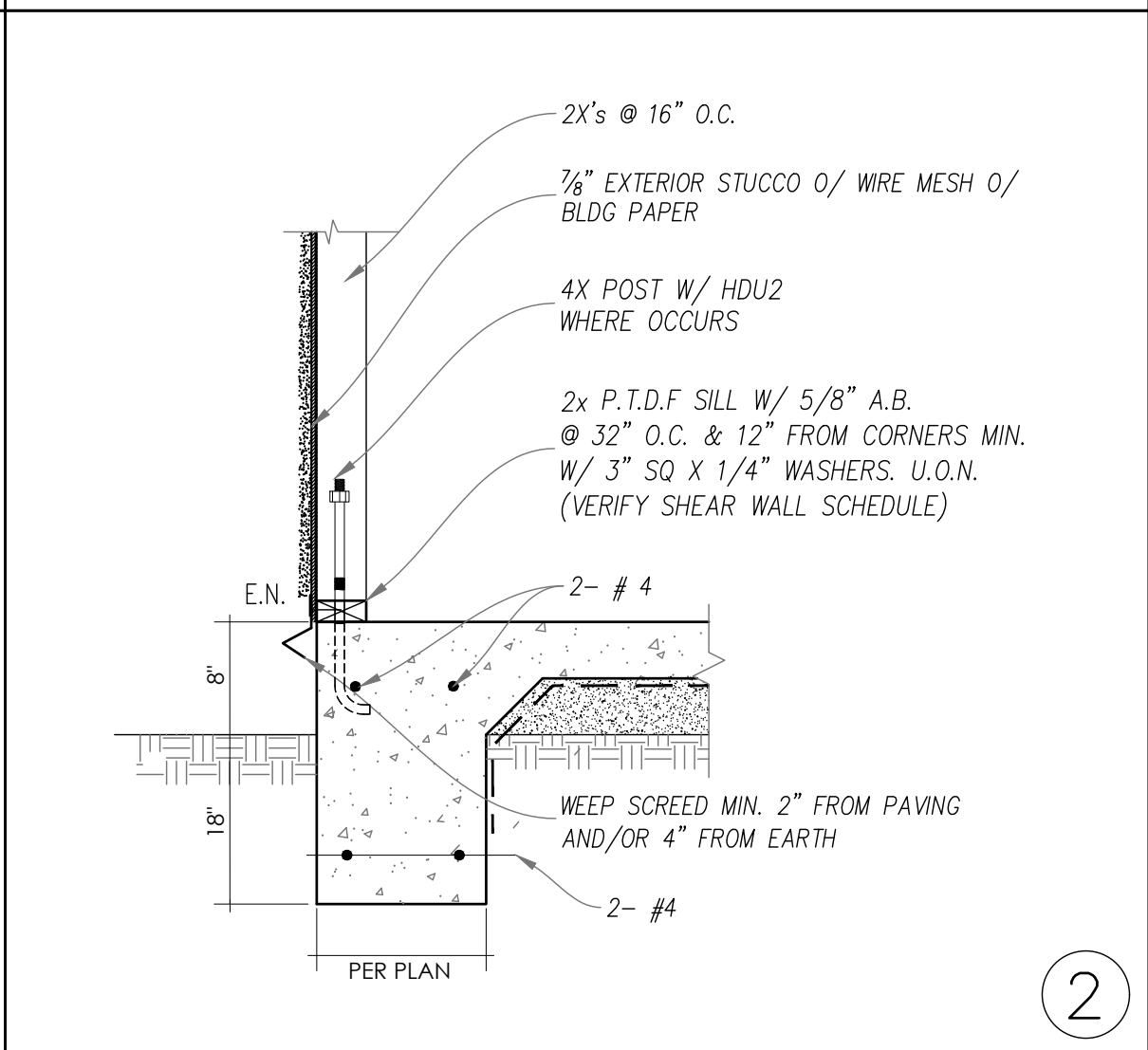
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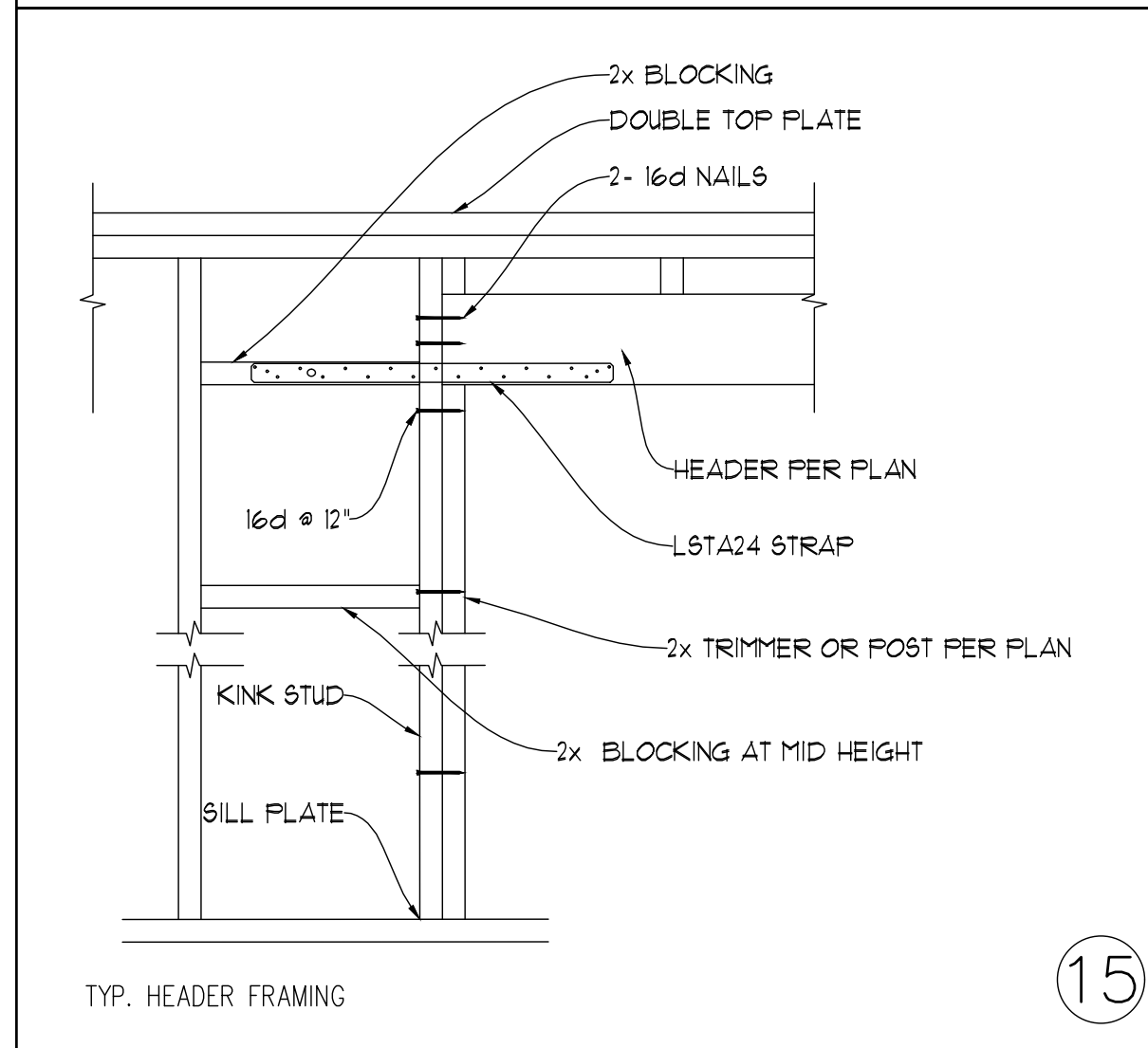
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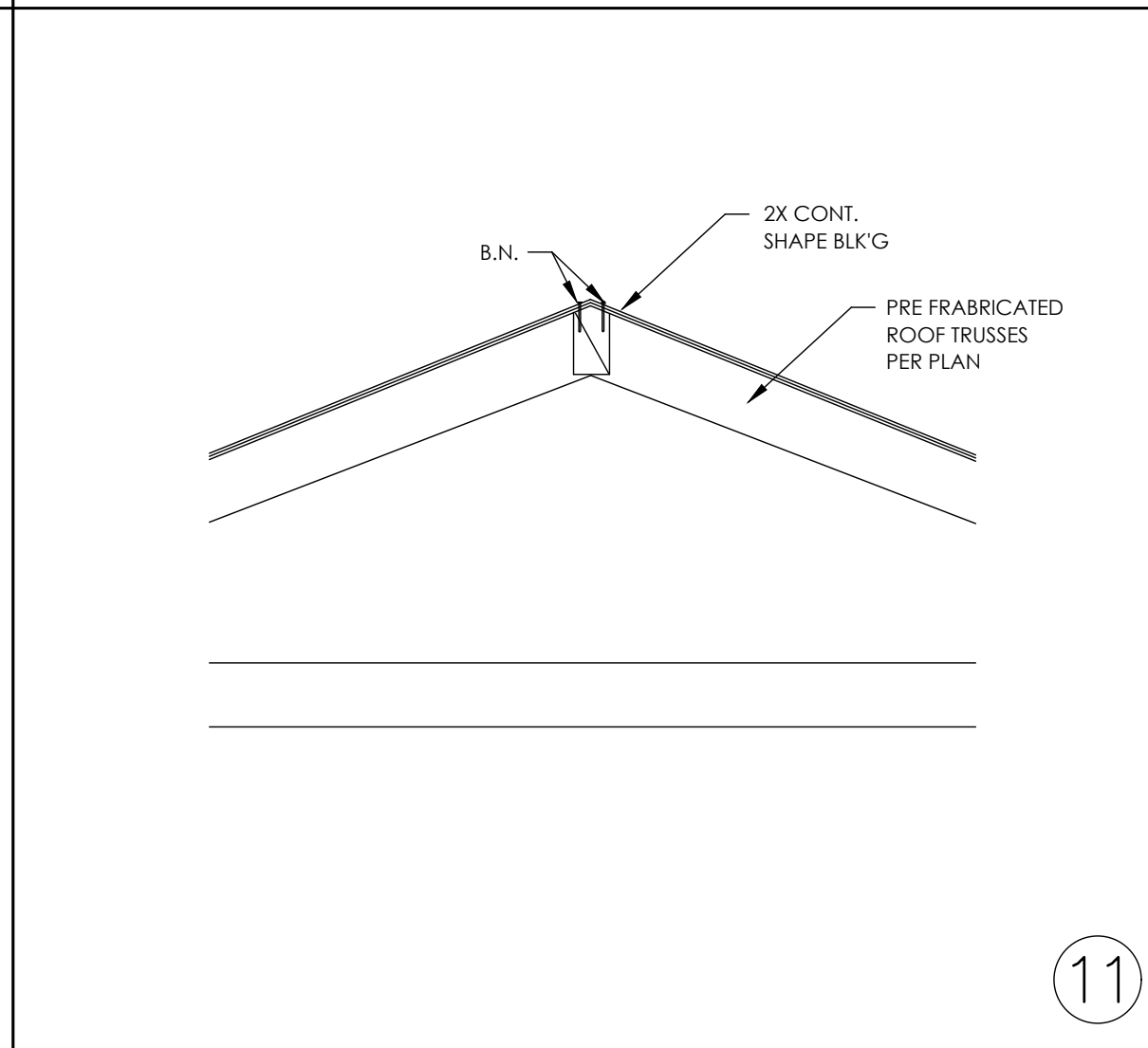


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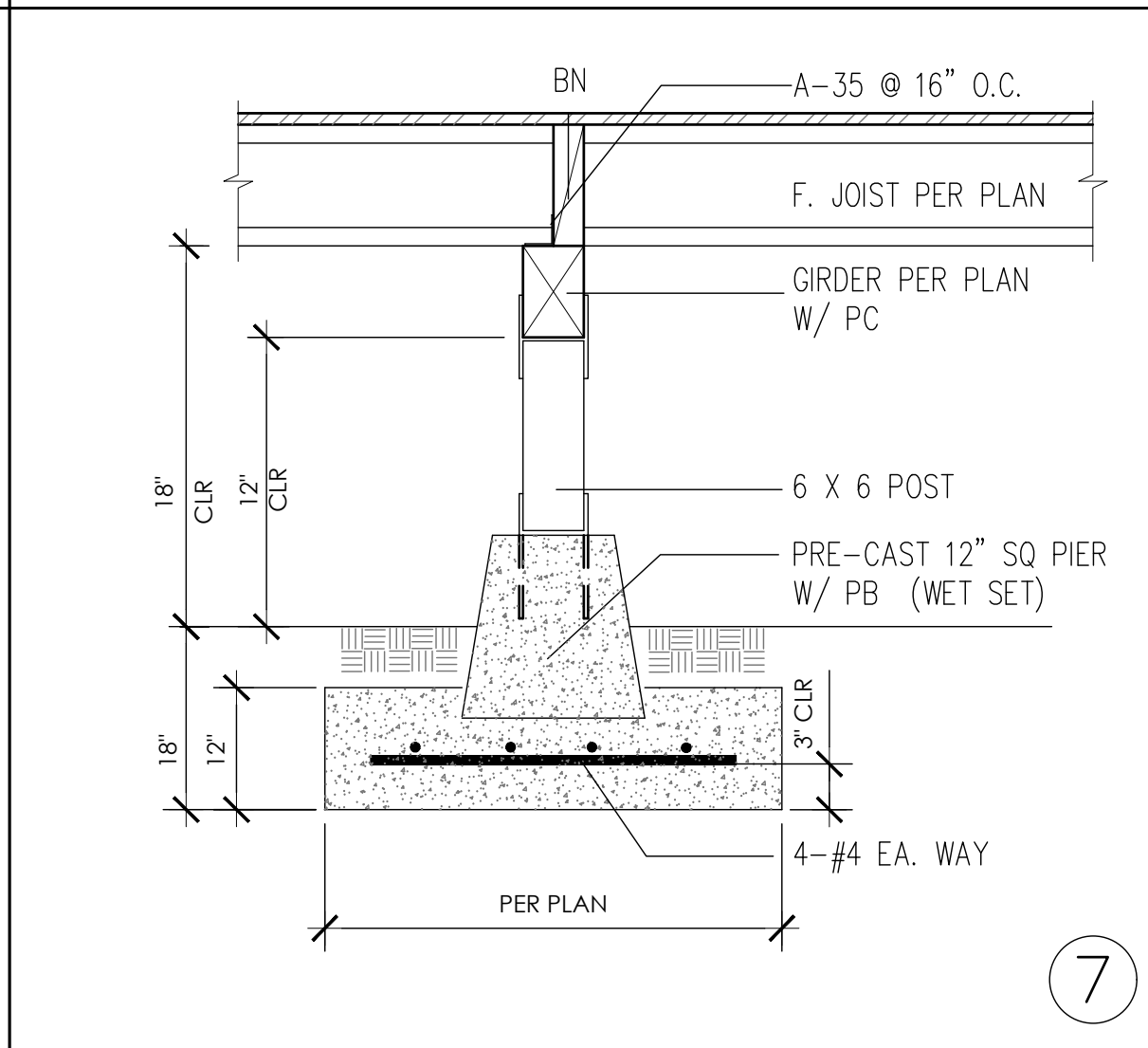


TYP. HEADER FRAMING

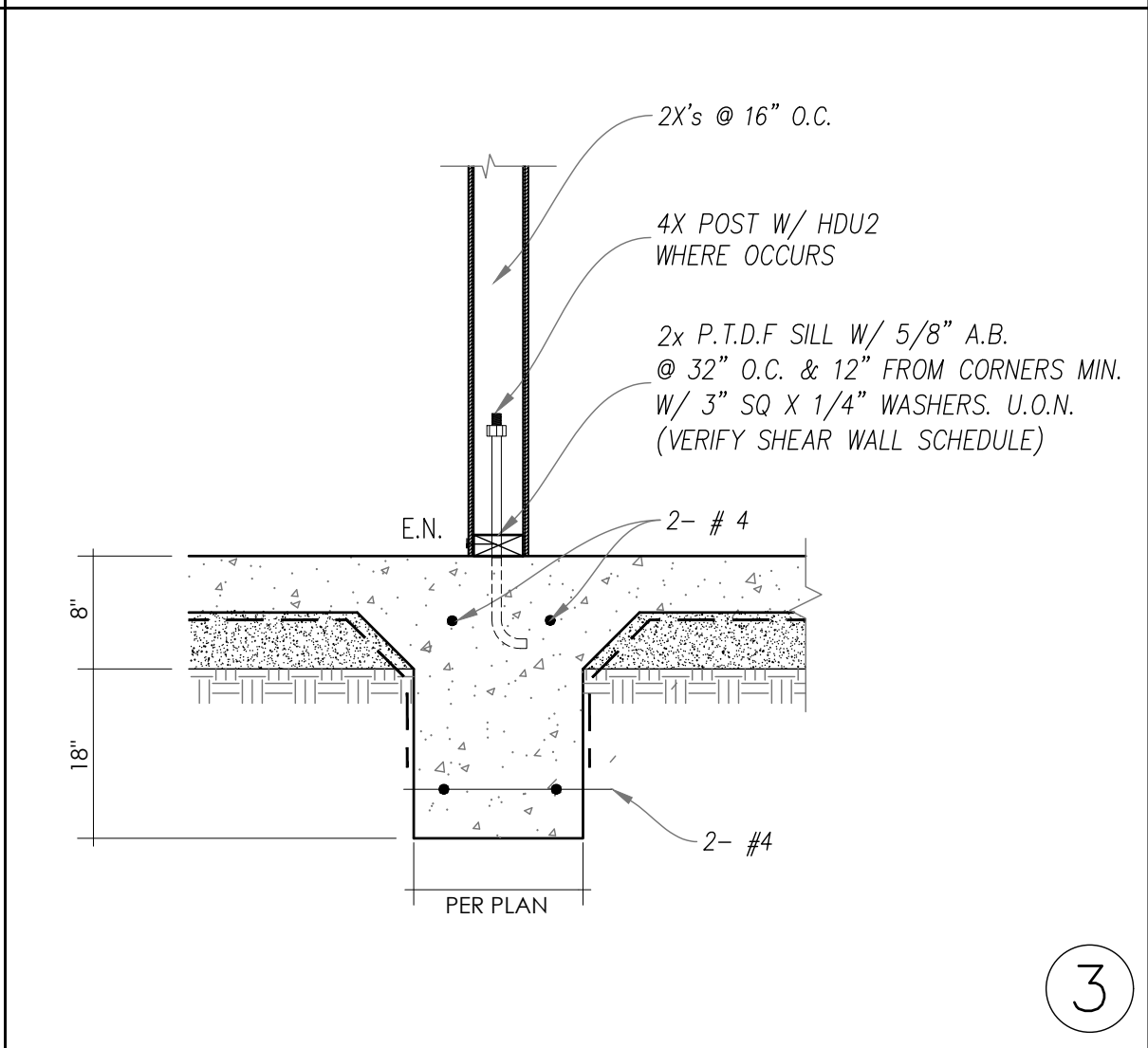
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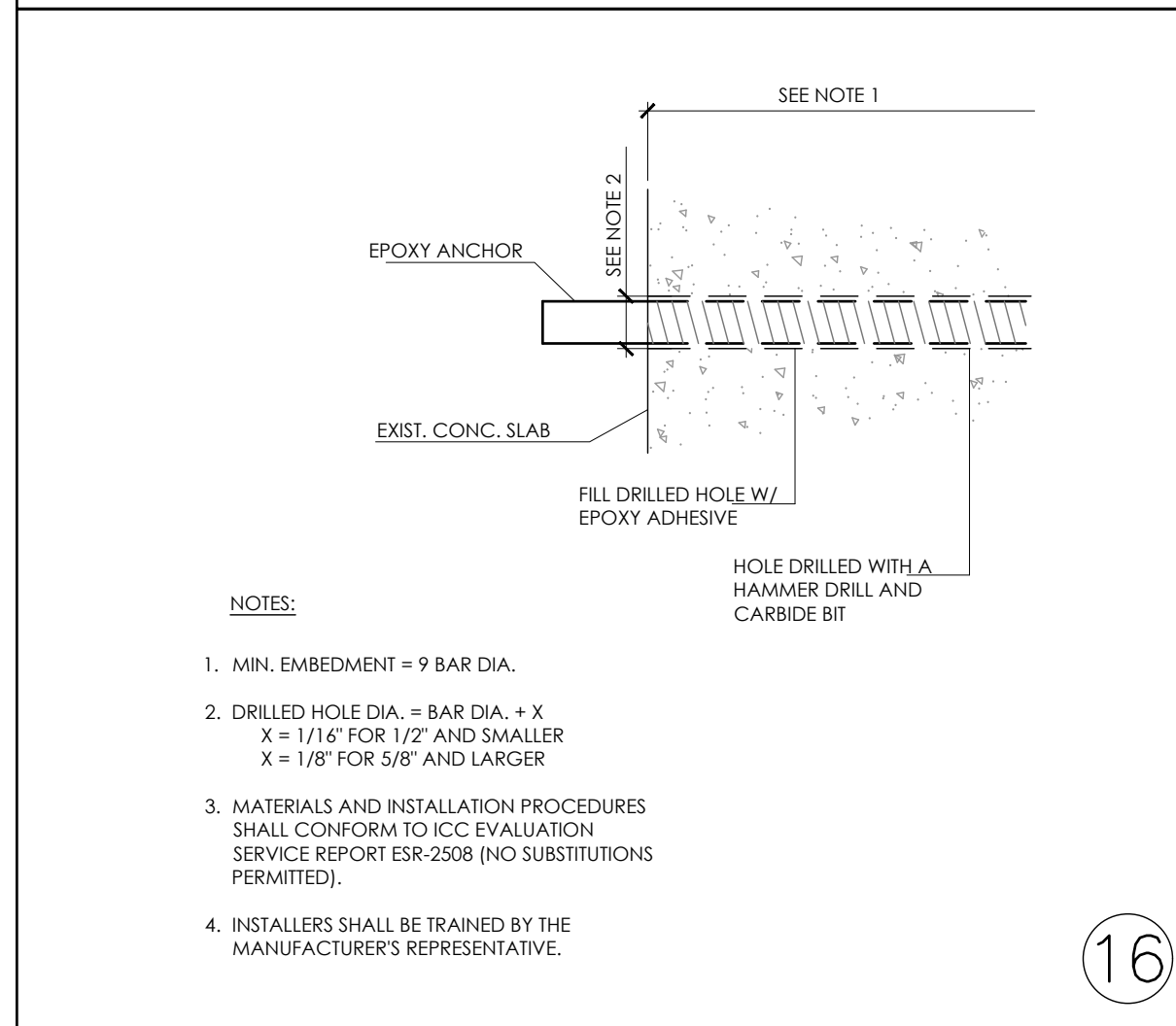
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7



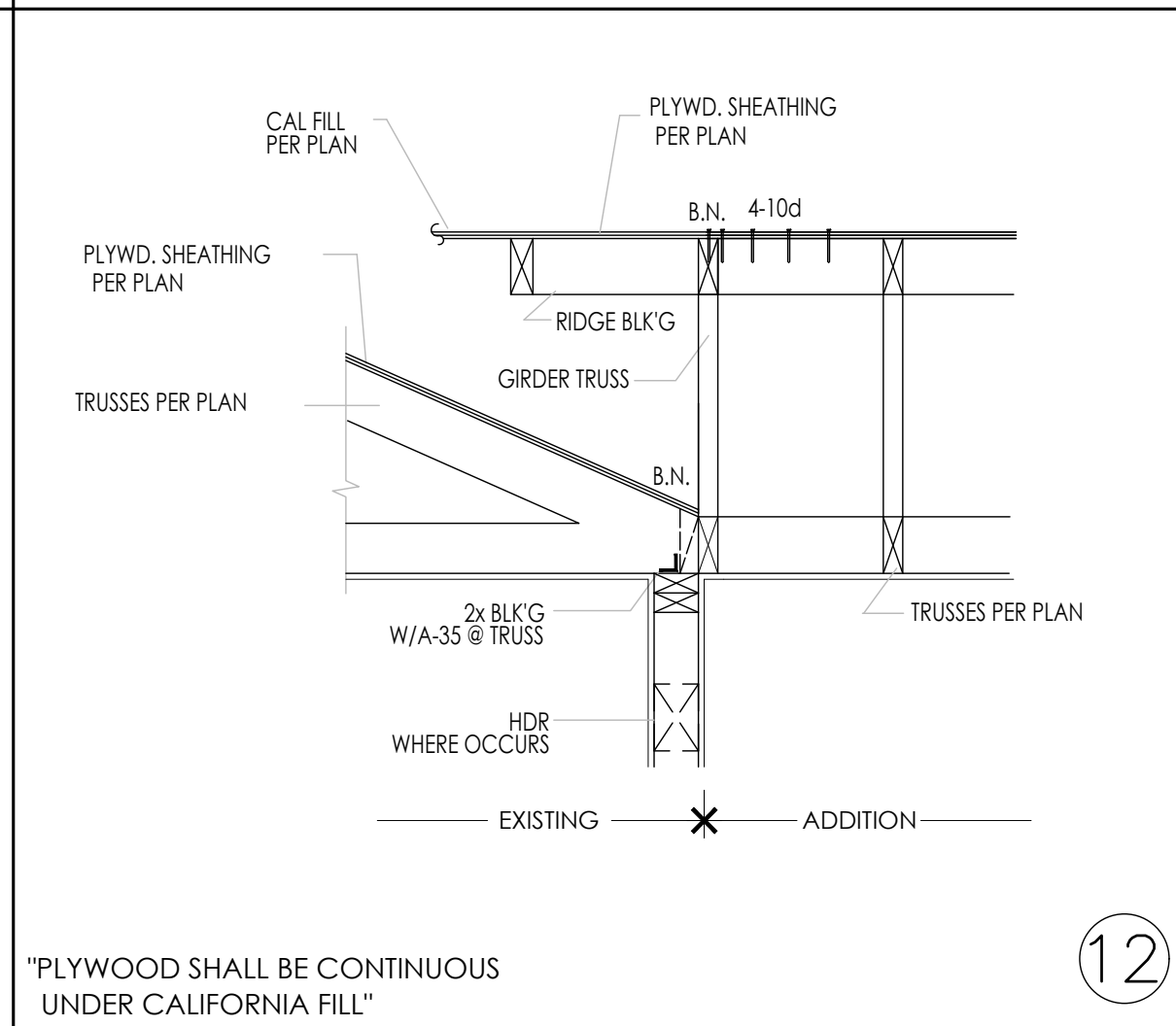
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NOTES:

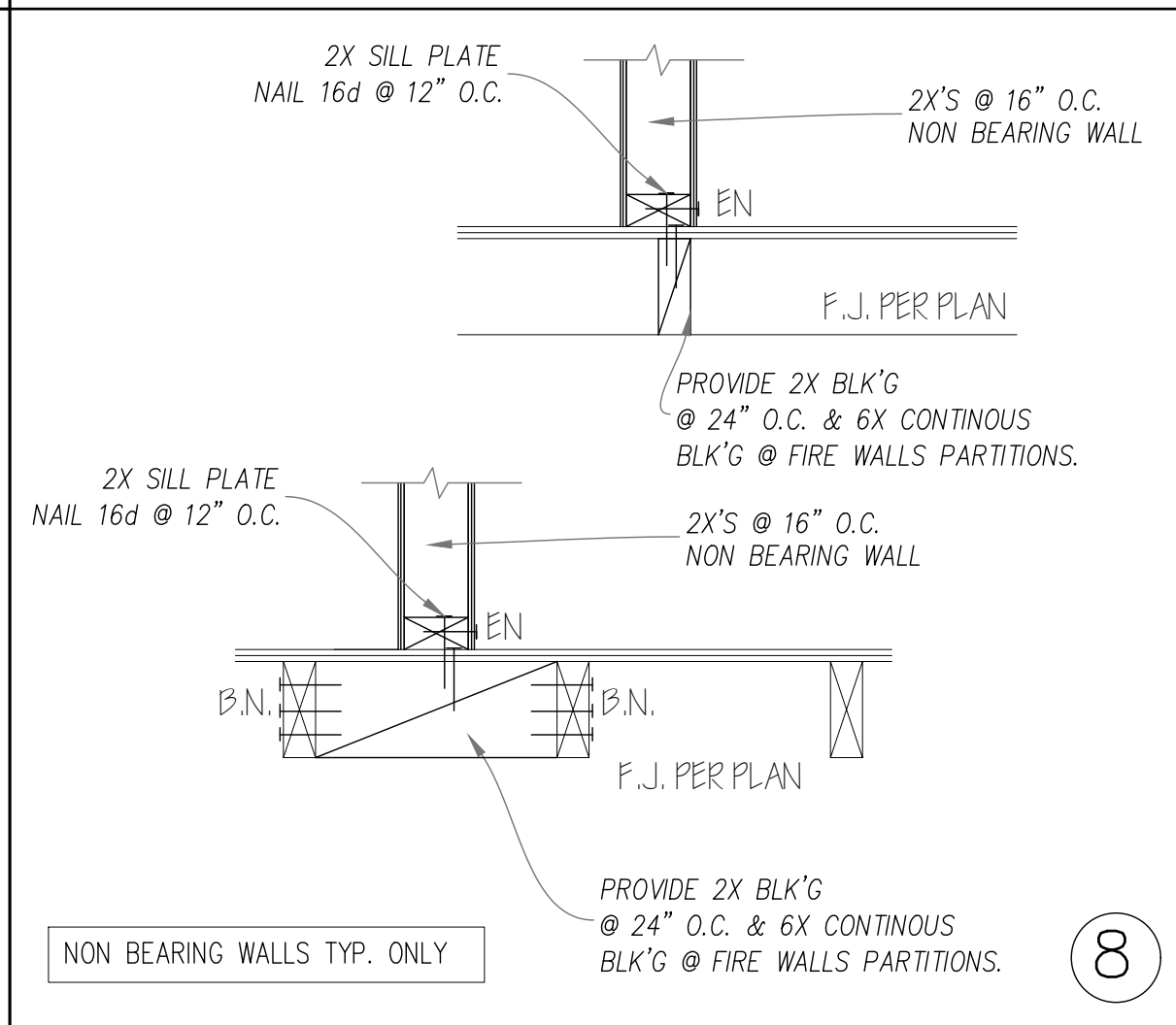
- MIN. EMBEDMENT = 9 BAR DIA.
- DRILLED HOLE DIA. = BAR DIA. + X
X = 1/16" FOR 1/2" AND SMALLER
X = 1/8" FOR 5/8" AND LARGER
- MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO ICC EVALUATION SERVICE REPORT ESR-2508 (NO SUBSTITUTIONS PERMITTED).
- INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

16



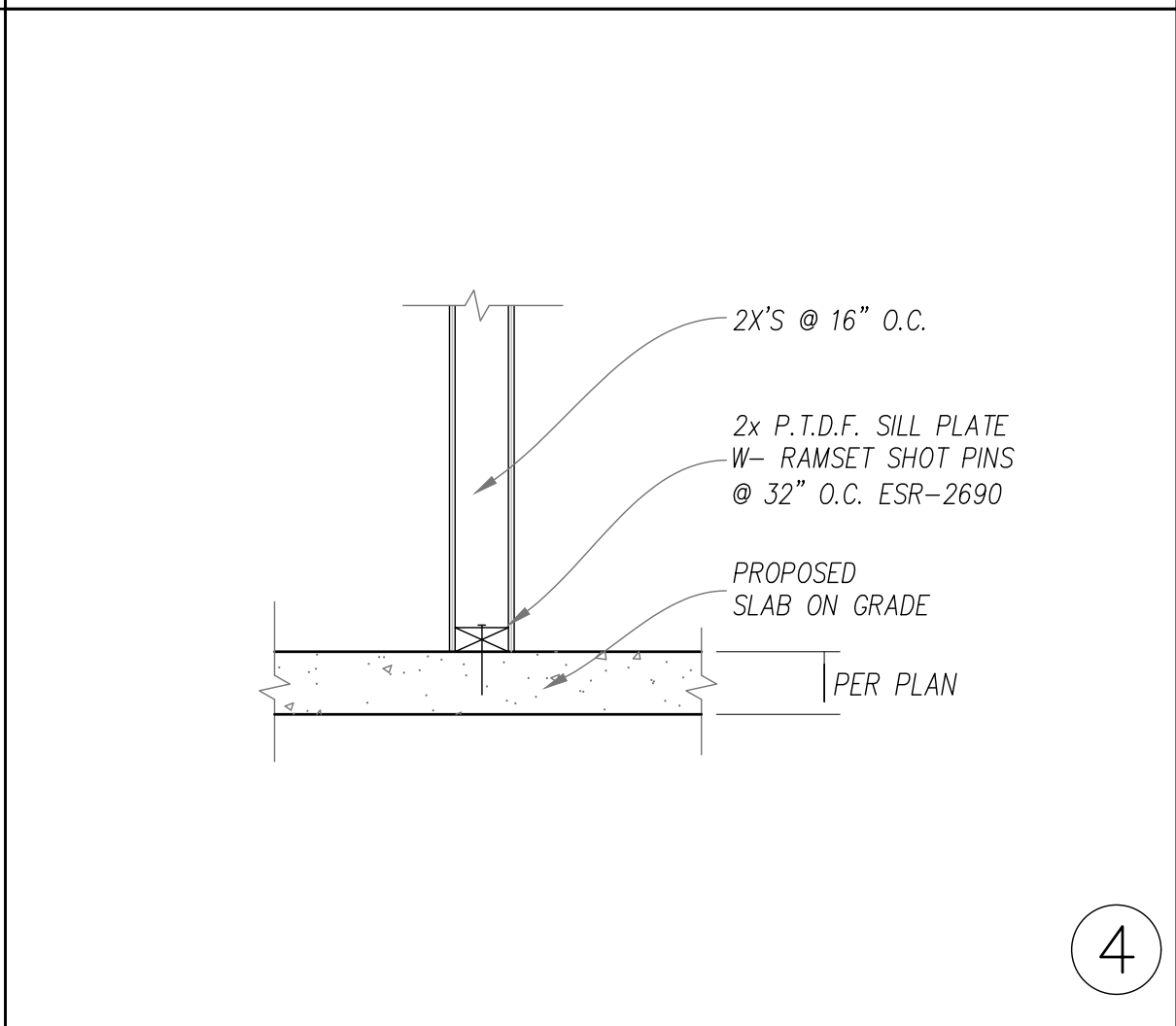
PLYWOOD SHALL BE CONTINUOUS UNDER CALIFORNIA FILL

12

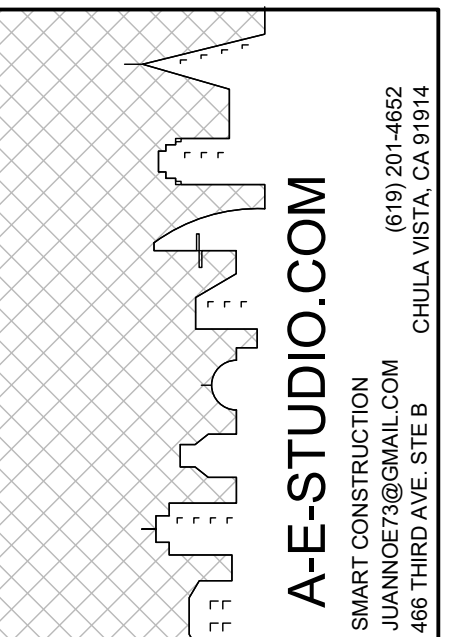


NON BEARING WALLS TYP. ONLY

8



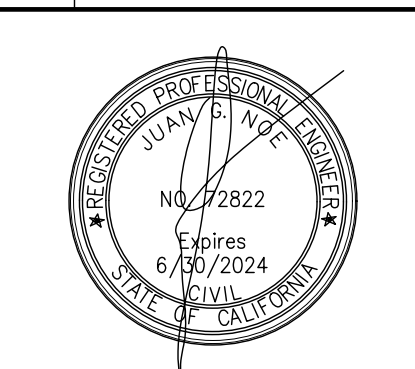
4



Date February 17, 2023

REVISIONS

NO.	DESCRIPTION

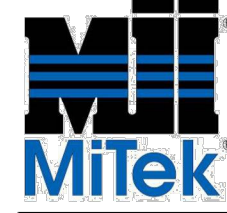


ADDITION & NEW ADU
1523 E 14th ST. NATIONAL CITY, CALIFORNIA 91950

02-17-2023

STRUCTURAL DETAILS

S4



MITek USA, Inc.
 MITek USA, Inc.
 400 Sunrise Avenue, Suite 270
 Roseville, CA 95661
 Telephone 916-755-3571

Re: 230080
 14th st

The truss drawing(s) referenced below have been prepared by MITek USA, Inc. under my direct supervision based on the parameters provided by Pacific Truss (El Cajon).

Pages or sheets covered by this seal: R74806870 thru R74806873

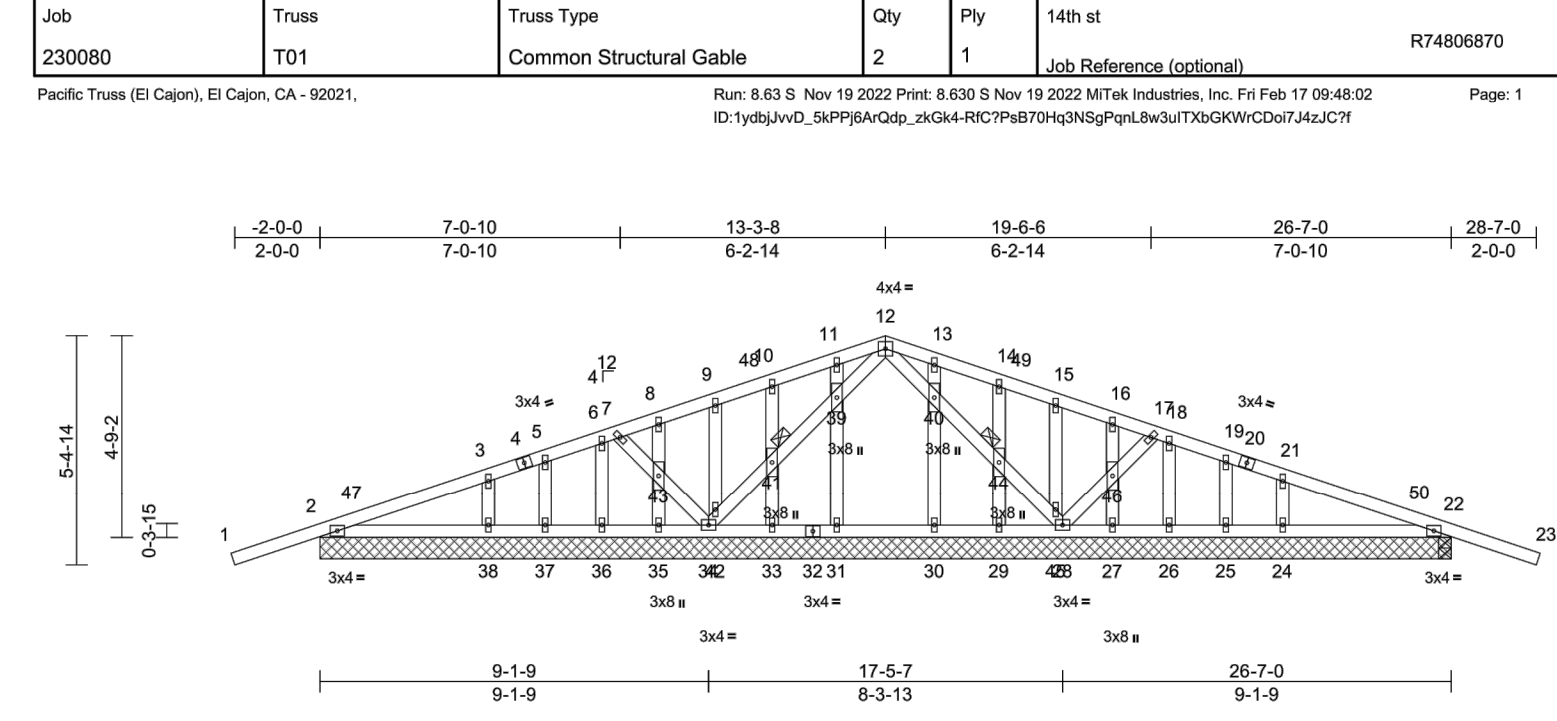
My license renewal date for the state of California is September 30, 2024.



February 17, 2023

Zhao, Xiaoming

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MITek or TRENCO. Any project specific information included is for MITek's or TRENCO's customer's file reference purposes only, and was not taken into account in the preparation of these designs. MITek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly incorporate these designs into the overall building design per ANSI/TPI 1, chapter 2.



Scale = 1:54.2

Loading	(psf)	Spacing	2-0-0	CSI	DEFL	in	(occ)	l/60	L/12	PLATES	GRP
TCLL (roof)	20.0	Plate Grip DOL	1.25	TC	0.34	Vert(LL)	-0.01	2-38	-999	M/20	220/195
TCOL	20.0	Lumber DOL	1.25	BC	0.08	Vert(C)	-0.01	2-38	-999	M/20	220/195
BCLL	0.0	Rep Stress Incr	YES	WB	0.03	Horz(C)	0.00	22	n/a	n/a	n/a
BCOL	10.0	Code	IBC2018/TP12014	Matrix-S							

Weight: 149 lb FT = 20%

- LOAD CASE(S)** Standard
- NOTES**
- Unbalanced roof live loads have been considered for this design.
 - Wind ASCE 7-16, Vult=11mph (3-second gust) Vast=87mph, TCDF=12.0psf, BCDF=46.0psf, h=20ft; Ke=1.00, Cal. II, Exp B; Enclosed: MWFRS (envelope) exterior zone and C-C Exterior(Z); 2-0-0 to 1-1-7, Interior (I) 0-1-1 to 10-3-8, Exterior(ZR) 10-3-8 to 16-3-8, Interior (I) 16-3-8 to 25-7-9, Exterior(Z) 25-7-9 to 35-1-9, Interior (I) 35-1-9 to 44-1-19, Interior (I) 44-1-19 to 53-1-9, Exterior(ZR) 53-1-9 to 62-1-19, Interior (I) 62-1-19 to 71-1-19, Exterior(Z) 71-1-19 to 80-1-19, Interior (I) 80-1-19 to 89-1-19, Exterior(ZR) 89-1-19 to 98-1-19, Interior (I) 98-1-19 to 107-1-19, Exterior(Z) 107-1-19 to 116-1-19, Interior (I) 116-1-19 to 125-1-19, Exterior(ZR) 125-1-19 to 134-1-19, Interior (I) 134-1-19 to 143-1-19, Exterior(Z) 143-1-19 to 152-1-19, Interior (I) 152-1-19 to 161-1-19, Exterior(ZR) 161-1-19 to 170-1-19, Interior (I) 170-1-19 to 179-1-19, Exterior(Z) 179-1-19 to 188-1-19, Interior (I) 188-1-19 to 197-1-19, Exterior(ZR) 197-1-19 to 206-1-19, Interior (I) 206-1-19 to 215-1-19, Exterior(Z) 215-1-19 to 224-1-19, Interior (I) 224-1-19 to 233-1-19, Exterior(ZR) 233-1-19 to 242-1-19, Interior (I) 242-1-19 to 251-1-19, Exterior(Z) 251-1-19 to 260-1-19, Interior (I) 260-1-19 to 269-1-19, Exterior(ZR) 269-1-19 to 278-1-19, Interior (I) 278-1-19 to 287-1-19, Exterior(Z) 287-1-19 to 296-1-19, Interior (I) 296-1-19 to 305-1-19, Exterior(ZR) 305-1-19 to 314-1-19, Interior (I) 314-1-19 to 323-1-19, Exterior(Z) 323-1-19 to 332-1-19, Interior (I) 332-1-19 to 341-1-19, Exterior(ZR) 341-1-19 to 350-1-19, Interior (I) 350-1-19 to 359-1-19, Exterior(Z) 359-1-19 to 368-1-19, Interior (I) 368-1-19 to 377-1-19, Exterior(ZR) 377-1-19 to 386-1-19, Interior (I) 386-1-19 to 395-1-19, Exterior(Z) 395-1-19 to 404-1-19, Interior (I) 404-1-19 to 413-1-19, Exterior(ZR) 413-1-19 to 422-1-19, Interior (I) 422-1-19 to 431-1-19, Exterior(Z) 431-1-19 to 440-1-19, Interior (I) 440-1-19 to 449-1-19, Exterior(ZR) 449-1-19 to 458-1-19, Interior (I) 458-1-19 to 467-1-19, Exterior(Z) 467-1-19 to 476-1-19, Interior (I) 476-1-19 to 485-1-19, Exterior(ZR) 485-1-19 to 494-1-19, Interior (I) 494-1-19 to 503-1-19, Exterior(Z) 503-1-19 to 512-1-19, Interior (I) 512-1-19 to 521-1-19, Exterior(ZR) 521-1-19 to 530-1-19, Interior (I) 530-1-19 to 539-1-19, Exterior(ZR) 539-1-19 to 548-1-19, Interior (I) 548-1-19 to 557-1-19, Exterior(Z) 557-1-19 to 566-1-19, Interior (I) 566-1-19 to 575-1-19, Exterior(ZR) 575-1-19 to 584-1-19, Interior (I) 584-1-19 to 593-1-19, Exterior(Z) 593-1-19 to 602-1-19, Interior (I) 602-1-19 to 611-1-19, Exterior(ZR) 611-1-19 to 620-1-19, Interior (I) 620-1-19 to 629-1-19, Exterior(ZR) 629-1-19 to 638-1-19, Interior (I) 638-1-19 to 647-1-19, Exterior(Z) 647-1-19 to 656-1-19, Interior (I) 656-1-19 to 665-1-19, Exterior(ZR) 665-1-19 to 674-1-19, Interior (I) 674-1-19 to 683-1-19, Exterior(Z) 683-1-19 to 692-1-19, Interior (I) 692-1-19 to 701-1-19, Exterior(ZR) 701-1-19 to 710-1-19, Interior (I) 710-1-19 to 719-1-19, Exterior(ZR) 719-1-19 to 728-1-19, Interior (I) 728-1-19 to 737-1-19, Exterior(ZR) 737-1-19 to 746-1-19, Interior (I) 746-1-19 to 755-1-19, Exterior(Z) 755-1-19 to 764-1-19, Interior (I) 764-1-19 to 773-1-19, Exterior(ZR) 773-1-19 to 782-1-19, Interior (I) 782-1-19 to 791-1-19, Exterior(Z) 791-1-19 to 800-1-19, Interior (I) 800-1-19 to 809-1-19, Exterior(ZR) 809-1-19 to 818-1-19, Interior (I) 818-1-19 to 827-1-19, Exterior(ZR) 827-1-19 to 836-1-19, Interior (I) 836-1-19 to 845-1-19, Exterior(Z) 845-1-19 to 854-1-19, Interior (I) 854-1-19 to 863-1-19, Exterior(ZR) 863-1-19 to 872-1-19, Interior (I) 872-1-19 to 881-1-19, Exterior(Z) 881-1-19 to 890-1-19, Interior (I) 890-1-19 to 899-1-19, Exterior(ZR) 899-1-19 to 908-1-19, Interior (I) 908-1-19 to 917-1-19, Exterior(ZR) 917-1-19 to 926-1-19, Interior (I) 926-1-19 to 935-1-19, Exterior(ZR) 935-1-19 to 944-1-19, Interior (I) 944-1-19 to 953-1-19, Exterior(Z) 953-1-19 to 962-1-19, Interior (I) 962-1-19 to 971-1-19, Exterior(ZR) 971-1-19 to 980-1-19, Interior (I) 980-1-19 to 989-1-19, Exterior(ZR) 989-1-19 to 998-1-19, Interior (I) 998-1-19 to 1007-1-19, Exterior(ZR) 1007-1-19 to 1016-1-19, Interior (I) 1016-1-19 to 1025-1-19, Exterior(ZR) 1025-1-19 to 1034-1-19, Interior (I) 1034-1-19 to 1043-1-19, Exterior(ZR) 1043-1-19 to 1052-1-19, Interior (I) 1052-1-19 to 1061-1-19, Exterior(ZR) 1061-1-19 to 1070-1-19, Interior (I) 1070-1-19 to 1079-1-19, Exterior(ZR) 1079-1-19 to 1088-1-19, Interior (I) 1088-1-19 to 1097-1-19, Exterior(ZR) 1097-1-19 to 1106-1-19, Interior (I) 1106-1-19 to 1115-1-19, Exterior(ZR) 1115-1-19 to 1124-1-19, Interior (I) 1124-1-19 to 1133-1-19, Exterior(ZR) 1133-1-19 to 1142-1-19, Interior (I) 1142-1-19 to 1151-1-19, Exterior(ZR) 1151-1-19 to 1160-1-19, Interior (I) 1160-1-19 to 1169-1-19, Exterior(ZR) 1169-1-19 to 1178-1-19, Interior (I) 1178-1-19 to 1187-1-19, Exterior(ZR) 1187-1-19 to 1196-1-19, Interior (I) 1196-1-19 to 1205-1-19, Exterior(ZR) 1205-1-19 to 1214-1-19, Interior (I) 1214-1-19 to 1223-1-19, Exterior(ZR) 1223-1-19 to 1232-1-19, Interior (I) 1232-1-19 to 1241-1-19, Exterior(ZR) 1241-1-19 to 1250-1-19, Interior (I) 1250-1-19 to 1259-1-19, 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Interior (I) 1502-1-19 to 1511-1-19, Exterior(ZR) 1511-1-19 to 1520-1-19, Interior (I) 1520-1-19 to 1529-1-19, Exterior(ZR) 1529-1-19 to 1538-1-19, Interior (I) 1538-1-19 to 1547-1-19, Exterior(ZR) 1547-1-19 to 1556-1-19, Interior (I) 1556-1-19 to 1565-1-19, Exterior(ZR) 1565-1-19 to 1574-1-19, Interior (I) 1574-1-19 to 1583-1-19, Exterior(ZR) 1583-1-19 to 1592-1-19, Interior (I) 1592-1-19 to 1601-1-19, Exterior(ZR) 1601-1-19 to 1610-1-19, Interior (I) 1610-1-19 to 1619-1-19, Exterior(ZR) 1619-1-19 to 1628-1-19, Interior (I) 1628-1-19 to 1637-1-19, Exterior(ZR) 1637-1-19 to 1646-1-19, Interior (I) 1646-1-19 to 1655-1-19, Exterior(ZR) 1655-1-19 to 1664-1-19, Interior (I) 1664-1-19 to 1673-1-19, Exterior(ZR) 1673-1-19 to 1682-1-19, Interior (I) 1682-1-19 to 1691-1-19, Exterior(ZR) 1691-1-19 to 1700-1-19, Interior (I) 1700-1-19 to 1709-1-19, Exterior(ZR) 1709-1-19 to 1718-1-19, Interior (I) 1718-1-19 to 1727-1-19, Exterior(ZR) 1727-1-19 to 1736-1-19, Interior (I) 1736-1-19 to 1745-1-19, Exterior(ZR) 1745-1-19 to 1754-1-19, Interior (I) 1754-1-19 to 1763-1-19, Exterior(ZR) 1763-1-19 to 1772-1-19, Interior (I) 1772-1-19 to 1781-1-19, Exterior(ZR) 1781-1-19 to 1790-1-19, Interior (I) 1790-1-19 to 1799-1-19, Exterior(ZR) 1799-1-19 to 1808-1-19, Interior (I) 1808-1-19 to 1817-1-19, Exterior(ZR) 1817-1-19 to 1826-1-19, Interior (I) 1826-1-19 to 1835-1-19, Exterior(ZR) 1835-1-19 to 1844-1-19, Interior (I) 1844-1-19 to 1853-1-19, Exterior(ZR) 1853-1-19 to 1862-1-19, Interior (I) 1862-1-19 to 1871-1-19, Exterior(ZR) 1871-1-19 to 1880-1-19, Interior (I) 1880-1-19 to 1889-1-19, Exterior(ZR) 1889-1-19 to 1898-1-19, Interior (I) 1898-1-19 to 1907-1-19, Exterior(ZR) 1907-1-19 to 1916-1-19, Interior (I) 1916-1-19 to 1925-1-19, Exterior(ZR) 1925-1-19 to 1934-1-19, Interior (I) 1934-1-19 to 1943-1-19, Exterior(ZR) 1943-1-19 to 1952-1-19, Interior (I) 1952-1-19 to 1961-1-19, Exterior(ZR) 1961-1-19 to 1970-1-19, Interior (I) 1970-1-19 to 1979-1-19, Exterior(ZR) 1979-1-19 to 1988-1-19, Interior (I) 1988-1-19 to 1997-1-19, Exterior(ZR) 1997-1-19 to 2006-1-19, Interior (I) 2006-1-19 to 2015-1-19, Exterior(ZR) 2015-1-19 to 2024-1-19, Interior (I) 2024-1-19 to 2033-1-19, Exterior(ZR) 2033-1-19 to 2042-1-19, Interior (I) 2042-1-19 to 2051-1-19, Exterior(ZR) 2051-1-19 to 2060-1-19, Interior (I) 2060-1-19 to 2069-1-19, Exterior(ZR) 2069-1-19 to 2078-1-19, Interior (I) 2078-1-19 to 2087-1-19, Exterior(ZR) 2087-1-19 to 2096-1-19, Interior (I) 2096-1-19 to 2105-1-19, Exterior(ZR) 2105-1-19 to 2114-1-19, Interior (I) 2114-1-19 to 2123-1-19, Exterior(ZR) 2123-1-19 to 2132-1-19, Interior (I) 2132-1-19 to 2141-1-19, Exterior(ZR) 2141-1-19 to 2150-1-19, Interior (I) 2150-1-19 to 2159-1-19, Exterior(ZR) 2159-1-19 to 2168-1-19, Interior (I) 2168-1-19 to 2177-1-19, Exterior(ZR) 2177-1-19 to 2186-1-19, Interior (I) 2186-1-19 to 2195-1-19, Exterior(ZR) 2195-1-19 to 2204-1-19, Interior (I) 2204-1-19 to 2213-1-19, Exterior(ZR) 2213-1-19 to 2222-1-19, Interior (I) 2222-1-19 to 2231-1-19, Exterior(ZR) 2231-1-19 to 2240-1-19, Interior (I) 2240-1-19 to 2249-1-19, Exterior(ZR) 2249-1-19 to 2258-1-19, Interior (I) 2258-1-19 to 2267-1-19, Exterior(ZR) 2267-1-19 to 2276-1-19, Interior (I) 2276-1-19 to 2285-1-19, Exterior(ZR) 2285-1-19 to 2294-1-19, Interior (I) 2294-1-19 to 2303-1-19, Exterior(ZR) 2303-1-19 to 2312-1-19, Interior (I) 2312-1-19 to 2321-1-19, Exterior(ZR) 2321-1-19 to 2330-1-19, Interior (I) 2330-1-19 to 2339-1-19, Exterior(ZR) 2339-1-19 to 2348-1-19, Interior (I) 2348-1-19 to 2357-1-19, Exterior(ZR) 2357-1-19 to 2366-1-19, Interior (I) 2366-1-19 to 2375-1-19, Exterior(ZR) 2375-1-19 to 2384-1-19, Interior (I) 2384-1-19 to 2393-1-19, Exterior(ZR) 2393-1-19 to 2402-1-19, Interior (I) 2402-1-19 to 2411-1-19, Exterior(ZR) 2411-1-19 to 2420-1-19, Interior (I) 2420-1-19 to 2429-1-19, Exterior(ZR) 2429-1-19 to 2438-1-19, Interior (I) 2438-1-19 to 2447-1-19, Exterior(ZR) 2447-1-19 to 2456-1-19, Interior (I) 2456-1-19 to 2465-1-19, Exterior(ZR) 2465-1-19 to 2474-1-19, Interior (I) 2474-1-19 to 2483-1-19, Exterior(ZR) 2483-1-19 to 2492-1-19, Interior (I) 2492-1-19 to 2501-1-19, Exterior(ZR) 2501-1-19 to 2510-1-19, Interior (I) 2510-1-19 to 2519-1-19, Exterior(ZR) 2519-1-19 to 2528-1-19, Interior (I) 2528-1-19 to 2537-1-19, Exterior(ZR) 2537-1-19 to 2546-1-19, Interior (I) 2546-1-19 to 2555-1-19, Exterior(ZR) 2555-1-19 to 2564-1-19, Interior (I) 2564-1-19 to 2573-1-19, Exterior(ZR) 2573-1-19 to 2582-1-19, Interior (I) 2582-1-19 to 2591-1-19, Exterior(ZR) 2591-1-19 to 2600-1-19, Interior (I) 2600-1-19 to 2609-1-19, Exterior(ZR) 2609-1-19 to 2618-1-19, Interior (I) 2618-1-19 to 2627-1-19, Exterior(ZR) 2627-1-19 to 2636-1-19, Interior (I) 2636-1-19 to 2645-1-19, Exterior(ZR) 2645-1-19 to 2654-1-19, Interior (I) 2654-1-19 to 2663-1-19, Exterior(ZR) 2663-1-19 to 2672-1-19, Interior (I) 2672-1-19 to 2681-1-19, Exterior(ZR) 2681-1-19 to 2690-1-19, Interior (I) 2690-1-19 to 2699-1-19, Exterior(ZR) 2699-1-19 to 2708-1-19, Interior (I) 2708-1-19 to 2717-1-19, Exterior(ZR) 2717-1-19 to 2726-1-19, Interior (I) 2726-1-19 to 2735-1-19, Exterior(ZR) 2735-1-19 to 2744-1-19, Interior (I) 2744-1-19 to 2753-1-19, Exterior(ZR) 2753-1-19 to 2762-1-19, Interior (I) 2762-1-19 to 2771-1-19, Exterior(ZR) 2771-1-19 to 2780-1-19, Interior (I) 2780-1-19 to 2789-1-19, Exterior(ZR) 2789-1-19 to 2798-1-19, Interior (I) 2798-1-19 to 2807-1-19, Exterior(ZR) 2807-1-19 to 2816-1-19, Interior (I) 2816-1-19 to 2825-1-19, Exterior(ZR) 2825-1-19 to 2834-1-19, Interior (I) 2834-1-19 to 2843-1-19, Exterior(ZR) 2843-1-19 to 2852-1-19, Interior (I) 2852-1-19 to 2861-1-19, Exterior(ZR) 2861-1-19 to 2870-1-19, Interior (I) 2870-1-19 to 2879-1-19, Exterior(ZR) 2879-1-19 to 2888-1-19, Interior (I) 2888-1-19 to 2897-1-19, Exterior(ZR) 2897-1-19 to 2906-1-19, Interior (I) 2906-1-19 to 2915-1-19, Exterior(ZR) 2915-1-19 to 2924-1-19, Interior (I) 2924-1-19 to 2933-1-19, Exterior(ZR) 2933-1-19 to 2942-1-19, Interior (I) 2942-1-19 to 2951-1-19, Exterior(ZR) 2951-1-19 to 2960-1-19, Interior (I) 2960-1-19 to 2969-1-19, Exterior(ZR) 2969-1-19 to 2978-1-19, Interior (I) 2978-1-19 to 2987-1-19, Exterior(ZR) 2987-1-19 to 2996-1-19, Interior (I) 2996-1-19 to 3005-1-19, Exterior(ZR) 3005-1-19 to 3014-1-19, Interior (I) 3014-1-19 to 3023-1-19, Exterior(ZR) 3023-1-19 to 3032-1-19, Interior (I) 3032-1-19 to 3041-1-19, Exterior(ZR) 3041-1-19 to 3050-1-19, Interior (I) 3050-1-19 to 3059-1-19, Exterior(ZR) 3059-1-19 to 3068-1-19, Interior (I) 3068-1-19 to 3077-1-19, Exterior(ZR) 3077-1-19 to 3086-1-19, Interior (I) 3086-1-19 to 3095-1-19, Exterior(ZR) 3095-1-19 to 3104-1-19, Interior (I) 3104-1-19 to 3113-1-19, Exterior(ZR) 3113-1-19 to 3122-1-19, Interior (I) 3122-1-19 to 3131-1-19, Exterior(ZR) 3131-1-19 to 3140-1-19, Interior (I) 3140-1-19 to 3149-1-19, Exterior(ZR) 3149-1-19 to 3158-1-19, Interior (I) 3158-1-19 to 3167-1-19, Exterior(ZR) 3167-1-19 to 3176-1-19, Interior (I) 3176-1-19 to 3185-1-19, Exterior(ZR) 3185-1-19 to 3194-1-19, Interior (I) 3194-1-19 to 3203-1-19, Exterior(ZR) 3203-1-19 to 3212-1-19, Interior (I) 3212-1-19 to 3221-1-19, Exterior(ZR) 3221-1-19 to 3230-1-19, Interior (I) 3230-1-19 to 3239-1-19, Exterior(ZR) 3239-1-19 to 3248-1-19, Interior (I) 3248-1-19 to 3257-1-19, Exterior(ZR) 3257-1-19 to 3266-1-19, Interior (I) 3266-1-19 to 3275-1-19, Exterior(ZR) 3275-1-19 to 3284-1-19, Interior (I) 3284-1-19 to 3293-1-19, Exterior(ZR) 3293-1-19 to 3302-1-19, Interior (I) 3302-1-19 to 3311-1-19, Exterior(ZR) 3311-1-19 to 3320-1-19, Interior (I) 3320-1-19 to 3329-1-19, Exterior(ZR) 3329-1-19 to 3338-1-19, Interior (I) 3338-1-19 to 3347-1-19, Exterior(ZR) 3347-1-19 to 3356-1-19, Interior (I) 3356-1-19 to 3365-1-19, Exterior(ZR) 3365-1-19 to 3374-1-19, Interior (I) 3374-1-19 to 3383-1-19, Exterior(ZR) 3383-1-19 to 3392-1-19, Interior (I) 3392-1-19 to 3401-1-19, Exterior(ZR) 3401-1-19 to 3410-1-19, Interior (I) 3410-1-19 to 3419-1-19, Exterior(ZR) 3419-1-19 to 3428-1-19, Interior (I) 3428-1-19 to 3437-1-19, Exterior(ZR) 3437-1-19 to 3446-1-19, Interior (I) 3446-1-19 to 3455-1-19, Exterior(ZR) 3455-1-19 to 3464-1-19, Interior (I) 3464-1-19 to 3473-1-19, Exterior(ZR) 3473-1-19 to 3482-1-19, Interior (I) 3482-1-19 to 3491-1-19, Exterior(ZR) 3491-1-19 to 3500-1-19, Interior (I) 3500-1-19 to 3509-1-19, Exterior(ZR) 3509-1-19 to 3518-1-19, Interior (I) 3518-1-19 to 3527-1-19, Exterior(ZR) 3527-1-19 to 3536-1-19, Interior (I) 3536-1-19 to 3545-1-19, Exterior(ZR) 3545-1-19 to 3554-1-19, Interior (I) 3554-1-19 to 3563-1-19, Exterior(ZR) 3563-1-19 to 3572-1-19, Interior (I) 3572-1-19 to 3581-1-19, Exterior(ZR) 3581-1-19 to 3590-1-19, Interior (I) 3590-1-19 to 3599-1-19, Exterior(ZR) 3599-1-19 to 3608-1-19, Interior (I) 3608-1-19 to 3617-1-19, Exterior(ZR) 3617-1-19 to 3626-1-19, Interior (I) 3626-1-19 to 3635-1-19, Exterior(ZR) 3635-1-19 to 3644-1-19, Interior (I) 3644-1-19 to 3653-1-19, Exterior(ZR) 3653-1-19 to 3662-1-19, Interior (I) 3662-1-19 to 3671-1-19, Exterior(ZR) 3671-1-19 to 3680-1-19, Interior (I) 3680-1-19 to 3689-1-19, Exterior(ZR) 3689-1-19 to 3698-1-19, Interior (I) 3698-1-19 to 3707-1-19, Exterior(ZR) 3707-1-19 to 3716-1-19, Interior (I) 3716-1-19 to 3725-1-19, Exterior(ZR) 3725-1-19 to 3734-1-19, Interior (I) 3734-1-19 to 3743-1-19, Exterior(ZR) 3743-1-19 to 3752-1-19, Interior (I) 3752-1-19 to 3761-1-19, Exterior(ZR) 3761-1-19 to 3770-1-19, Interior (I) 3770-1-19 to 3779-1-19, Exterior(ZR) 3779-1-19 to 3788-1-19, Interior (I) 3788-1-19 to 3797-1-19, Exterior(ZR) 3797-1-19 to 3806-1-19, Interior (I) 3806-1-19 to 3815-1-19, Exterior(ZR) 3815-1-19 to 3824-1-19, Interior (I)

GENERAL INFORMATION							
01	Project Name	Proposed Detached ADU					
02	Run Title	Title 24 Analysis					
03	Project Location	1523 E 14TH STREET					
04	City	National City	05	Standards Version	2019		
06	Zip code	91950	07	Software Version	EnergyPro 8.3		
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal)	162		
10	Building Type	Single family	11	Number of Dwelling Units	1		
12	Project Scope	NewConstruction	13	Number of Bedrooms	2		
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	1		
16	Existing Cond. Floor Area (ft²)	n/a	17	Penetration Average U-factor	0.3		
18	Total Cond. Floor Area (ft²)	498	19	Glazing Percentage (%)	14.46%		
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a		
22	Is Natural Gas Available?	Yes					

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

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ENERGY DESIGN RATING				
	Efficiency ^a (EDR)	Total ^a (EDR)	Efficiency ^b (EDR)	Total ^b (EDR)
Standard Design	65.4	28.4		
Proposed Design	63.4	26.4	2	2

RESULT: **COMPLIES**

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

ENERGY USE SUMMARY				
Energy Use (kTDU/ft ² -yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	10.37	1.01	-0.64	-173
Space Cooling	25.16	28.09	-2.93	-11.6
IAQ Ventilation	6.32	6.32	0	0
Water Heating	45.52	35.51	10.01	22
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	77.37	70.93	6.44	8.3

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

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REQUIRED SPECIAL FEATURES							
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.							
• Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed							

HERS FEATURE SUMMARY							
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Ns and CF3Ns are required to be completed in the HERS Registry							
Building-level Verifications:							
• Indoor air quality ventilation							
• Kitchen range hood							
Cooling System Verifications:							
• -- None --							
Heating System Verifications:							
• Verified heat pump rated heating capacity							
• HVAC Distribution System Verifications:							
• -- None --							
Domestic Hot Water System Verifications:							
• -- None --							

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Proposed Detached ADU	498	1	2	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Detached ADU Zone	Conditioned	New MiniSplit1	498	8	DHW Sys 1	N/A

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OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
New Front Wall	Detached ADU Zone	R-15 Wall	162	Front	212.7	26	90
New Right Wall	Detached ADU Zone	R-15 Wall	72	Right	150	28	90
New Left Wall	Detached ADU Zone	R-15 Wall	252	Left	150	32	90
New Back Wall	Detached ADU Zone	R-15 Wall	342	Back	162	6	90
New Roof	Detached ADU Zone	R-30 Roof Attic	n/a	n/a	498	n/a	n/a

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Detached ADU Zone	Attic/Roof Detached ADU Zone	Ventilated	4	0.1	0.85	No	No

PENETRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
C	Window	New Front Wall	Front	162			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
A	Window	New Right Wall	Right	72			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
B	Window	New Right Wall	Right	72			1	16	0.3	NFRC	0.23	NFRC	Bug Screen
B	Window	New Left Wall	Left	252			1	16	0.3	NFRC	0.23	NFRC	Bug Screen
B	Window	New Left Wall	Left	252			1	16	0.3	NFRC	0.23	NFRC	Bug Screen
D	Window	New Back Wall	Back	342			1	6	0.3	NFRC	0.23	NFRC	Bug Screen

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OPAQUE DOORS				
01	02	03	04	
Name	Side of Building	Area (ft²)	U-factor	
1	New Front Wall	20	0.5	

SLAB FLOORS							
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
New Slab On Grade	Detached ADU Zone	498	0.1	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior/Exterior Continuous R-value	U-factor	Assembly Layers
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
Attic/Roof Detached ADU Zone	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-30.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

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

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

WATER HEATERS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition
DHW Heater 1	Heat Pump	n/a	1	40	NEEA Rated	<= 12 KW	n/a	n/a	n/a	Rheem/VE40T1DHS 45U0 (40 gal)	Outside

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

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SPACE CONDITIONING SYSTEMS										
01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
New MiniSplit1	Heat pump heating cooling	Heat Pump System 1	Heat Pump System 1	n/a	n/a	Setback	New	NA	1	1

HVAC - HEAT PUMPS										
01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Number of Units	Heating			Cooling		Zoneally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Ductless MiniSplit HP	1	HSPF/CDP	Cap 47	Cap 17	SEER	EER/CEER	14	Single Speed	Heat Pump System 1-hers-htpump
			8.2	6000	5000	11.5				

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

IAQ (INDOOR AIR QUALITY) FANS						
01	02	03	04	05	06	07
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness - SRE	IAQ Recovery Effectiveness - ASRE	HERS Verification
Sfam IAQ/VentRpt	37	0.35	Exhaust	n/a	n/a	Yes

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Ricardo Perez	Documentation Author Signature: Ricardo Perez
Company: Estudio75	Signature Date: 2022-04-18 12:12:54
Address: 4275 Executive Square #200	CEA/HERS Certification Identification (if applicable): R19-19-30062
City/State/Zip: La Jolla, CA 92037	Phone: 619-274-2838

RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California:	
1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.	
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.	
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.	
Responsible Designer Name: Ricardo Perez	Responsible Designer Signature: Ricardo Perez
Company: Estudio75	Date Signed: 2022-04-18 12:12:54
Address: 4275 Executive Square #200	License: R19-19-30062
City/State/Zip: La Jolla, CA 92037	Phone: 619-274-2838

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Registration Number: 222-P010074206A-000-000-0000000-0000
Registration Date/Time: 2022-04-18 12:12:54
CA Building Energy Efficiency Standards - 2019 Residential Compliance
Report Version: 2019.2.000
Schema Version: rev 20200901
HERS Provider: CalCERTS, Inc.
Report Generated: 2022-04-18 12:09:41



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1523 E 14TH Street
National City, California 91950

Project Address

T01

RESIDENTIAL MEASURES SUMMARY RMS-1

Project Name Proposed Detached ADU		Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family	<input type="checkbox"/> Addition Alone <input type="checkbox"/> Existing+ Addition/Alteration	Date 4/18/2022
Project Address 1523 E 14TH Street National City		California Energy Climate Zone CA Climate Zone 07	Total Cond. Floor Area 498	Addition n/a
		# of Units 1		
INSULATION		Area (sq ft)	Special Features	Status
Construction Type	Cavity			
Wall	Wood Framed	R 15	583	New
Door	Opaque Door	- no insulation	20	New
Slab	Unheated Slab-on-Grade	no insulation	498	Perim = 0'
Roof	Wood Framed Attic	R 30	498	New

FENESTRATION		Total Area: 72	Glazing Percentage: 14.5%	New/Altered Average U-Factor: 0.30			
Orientation	Area (sq ft)	U-Fac	SHGC	Overhang	Sidelines	Exterior Shades	Status
Front (S)	6.0	0.300	0.23	none	none	N/A	New
Right (E)	28.0	0.300	0.23	none	none	N/A	New
Left (W)	32.0	0.300	0.23	none	none	N/A	New
Rear (N)	6.0	0.300	0.23	none	none	N/A	New

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

Location	Heating	Cooling	Duct Location	Duct R-Value	Status
New Minisplit	Ductless / No Fan	Ductless	n/a	n/a	New

Qty.	Type	Gallons	Min. Eff	Distribution	Status
1	Heat Pump	40	3.75	Standard	New

2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(h)3A:	Cleanances. 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(i)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(i)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 1.7: 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(i)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(i)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 ungrounded conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker spare in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use", a Category II or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(i)2:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(i)5.
§ 150.0(i)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(i)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 backed 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, mastic, 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 one inch depth of media per Equation 150.0-A. Pressure drops and labeling must meet the requirements in § 150.0(m)12. Filters must be accessible for regular service.*
§ 150.0(m)13:	Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≥ 0.45 wats per CFM for gas furnace air handlers and ≤ 0.58 wats 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 wats per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*

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 multi-state programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	Interior Switches and Controls. All lighting fixtures 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 on/off functionality. If an occupant sensor is installed, it must be initially configured to maintain 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 requirements in Item § 150.0(k)3A (ON and OFF switch) and the requirements in either § 150.0(k)3A(i) (photocell) or § 150.0(k)3A(ii) (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, 140.8, 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 controlled by Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	Interior Common Areas of Low-Rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: <ol style="list-style-type: none"> 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 occupancy sensors that reduce the lighting power in each space by at least 50 percent. The occupancy sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)1:	Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(g).
§ 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(g).
§ 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 150 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 overhang equipment.*
§ 110.10(b)3B:	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)4:	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	Interconnection Pathways. The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.*
§ 110.10(e)1:	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

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. *Exemptions may apply. (01/2020)

§ 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 1011.5.2/440-2011.*
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 110.11(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 J4.4.5 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 striped.
§ 110.6(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.6(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(b):	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 §110-113 when the installation of a cool roof is specified on the CFR.
§ 110.8(b):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 110.6(b):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceilings; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	Loose-fill insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unventilated 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 unventilated attics with air-permeable insulation.
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 110.5(a):	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(j):	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.*
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)4:	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.*
§ 110.3(c)6:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.5 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour.); and pool and spa heaters.*
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

2019 Low-Rise Residential Mandatory Measures Summary

Requirements for Ventilation and Indoor Air Quality:	
§ 150.0(o)1:	Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.
§ 150.0(i)C:	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(i)C.
§ 150.0(i)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(i)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 needer for compliance.
§ 150.0(i)1G:	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(i)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 HVAC to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump, or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
Lighting Measures:	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B:	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and fitting 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)1:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)2C:	Interior Switches and Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)2D:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)2F:	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name Proposed Detached ADU		Date 4/18/2022	
System Name New Minisplit		Floor Area 498	
ENGINEERING CHECKS	SYSTEM LOAD		
Number of Systems	1		
HEATING SYSTEM			
		COIL COOLING PEAK	
		CFM	Sensible
Heating System	Output per System	Latent	COIL HTG. PEAK
	6,000	344	CFM
Total Output (Btu/h)	6,000	104	Sensible
Output (Btu/h/sqft)	12.0		
Cooling System	Output per System		
	6,000		
Total Output (Btu/h)	6,000	</	

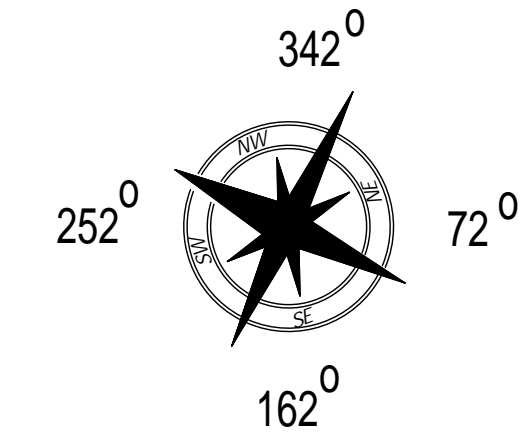
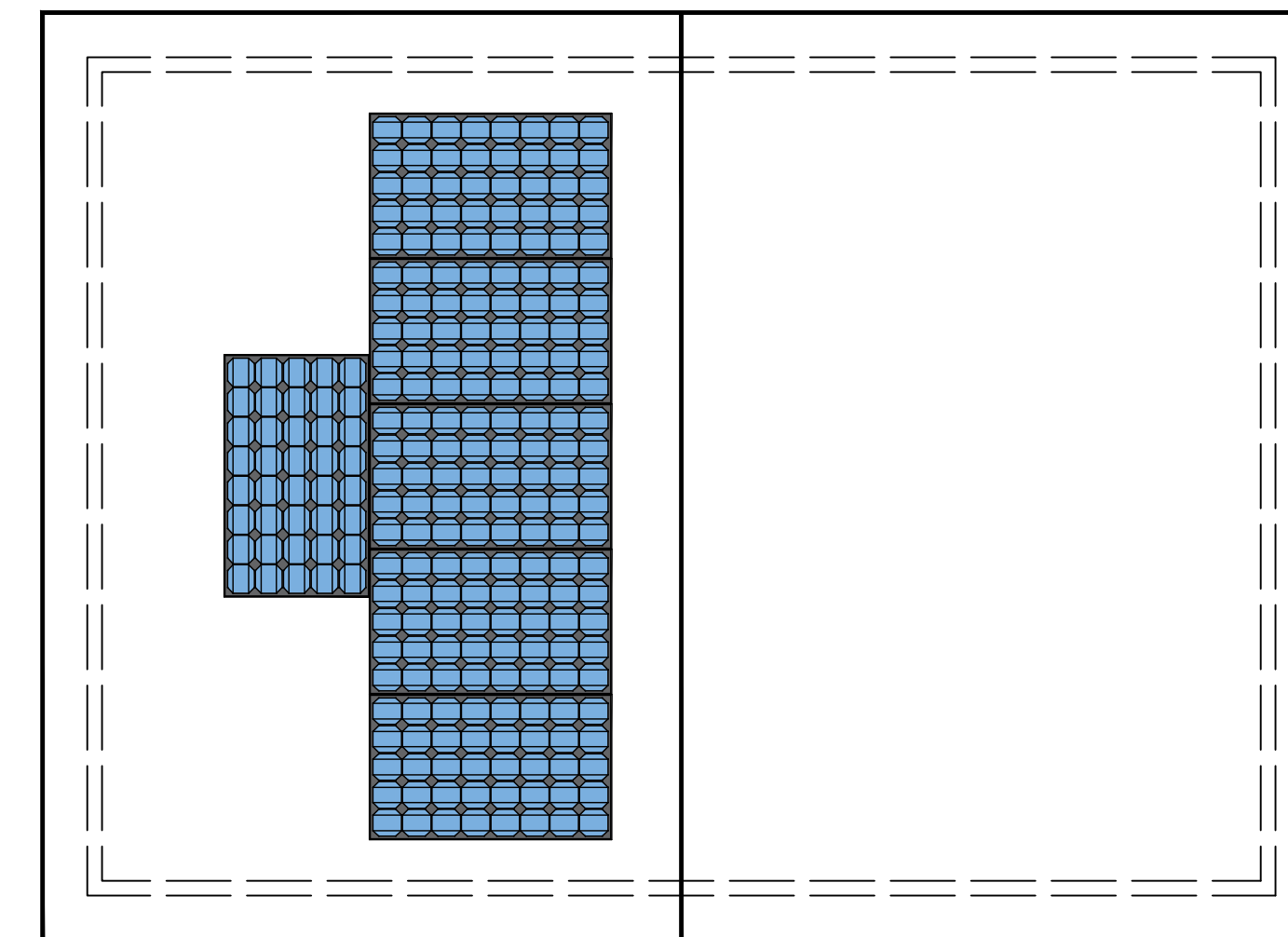
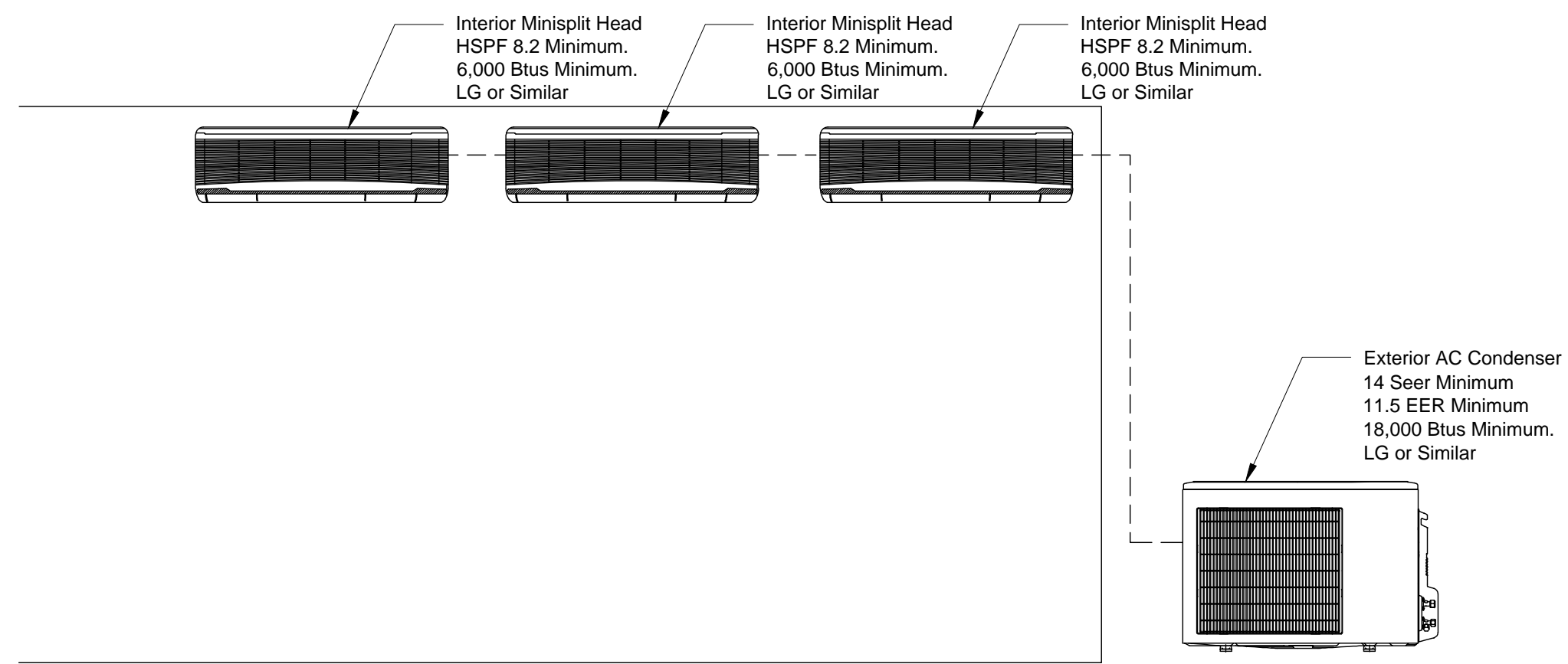


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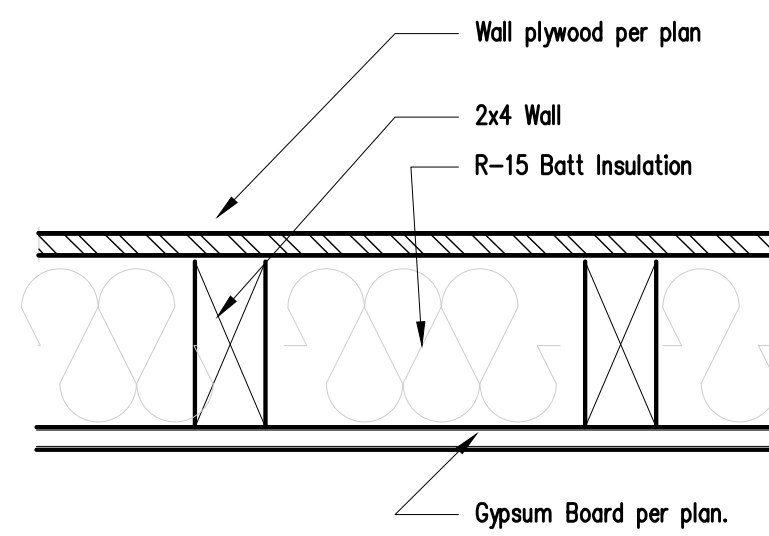
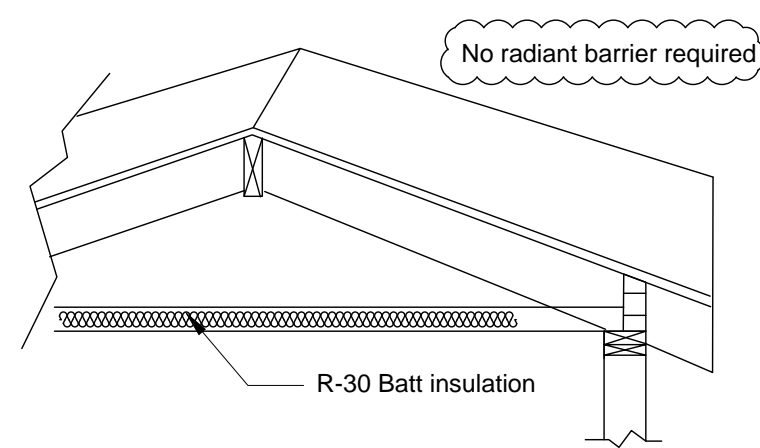
Project
 Address

T03



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

MINISPLIT DETAIL



INSULATION AT ROOF ATTIC

INSULATION AT EXTERIOR WALL

REQUIRED PV SYSTEMS

Certificate of Product Ratings

AHRI Certified Reference Number : 8552226 Date : 02-07-2020 Model Status : Active

Brand Name : RHEEM

Model Number : RTG-950VLN-1

Rated as follows in accordance with Department of Energy (DOE) Water Heater test procedures as published in the latest edition of the Code of Federal Regulations, 10 CFR Part 430 and subject to verification of rating accuracy by AHRI-sponsored, independent, third party testing:

Max GPM : 5.0

Uniform Energy Factor : 0.82

The following data is for reference only and is not certified by AHRI

Energy Source : Natural Gas

Heater Type : Instantaneous

Usage Bin : High Usage

Nominal Capacity (gal) : 0

DOE Rated Storage Volume (gal) : 0

Input (MBtu/h) : 199.9

Recovery Efficiency, (%) : 84

Heat Traps : No

PANASONIC FV-0511VH1 Specification Submittal Data / Panasonic Ventilation Fan/Heater

Description:
 Ventilating fan/heater shall be low noise ceiling mount type rated for continuous run. Fan/heater shall be certified by the Home Ventilating Institute (HVI). Heating elements shall be included. Evaluated by Underwriters Laboratories and conform to both UL and cUL safety standards. Fan/heater is not intended for installation over a sub-power enclosure.

Motor/Blower:
 -Enclosed brushless ECM motor technology rated for continuous run.
 -Fan ventilation rates shall be manually adjustable for 50-80-110 CFM.
 -Power rating shall be 120 volts and 60 Hz.
 -Motor equipped with thermal-cutoff fuse.
 -Removable with permanently lubricated plug-in motor.
 -Minimum 20 Amp dedicated circuit required.

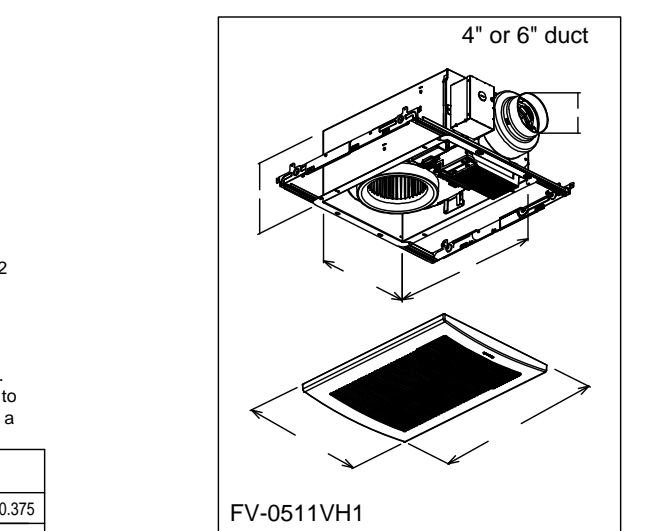
Housing:
 -26 gauge Zinc-Aluminum-Magnesium (ZAM) housing.
 -Integrated dual 4" or 6" diameter duct adapter.
 -Built-in back draft damper.
 -Built-in metal flange provides blocking for penetrations through drywall as an Air Barrier, and assists with the decrease in leakage in the building envelope during blower door testing.
 -Building Envelope during blower door testing.
 -Suitable for installation in ceilings insulated up to R60.
 -Articulating and expandable installation bracket up to 24".

Grille:
 -Attractive design using Poly Pro material.
 -Attaches directly to housing with tension springs.
 -Circulation grille with built-in diffuser for higher output velocity and directional heat throw.

Heater:
 -1600W Positive Temperature Coefficient (PTC) heater for greater safety and reliability.
 -Heater is self-limiting. As it approaches designed operating temperature, the electrical consumption automatically decreases, which prevents overheating.

Warranty:
 -6 years ECM Motor, 5 years LED, 3 years all other parts.

Architectural Specifications:
 Ventilating fan/heater combination shall be ceiling mount, with built-in speed selector. Select from 50/80/110 CFM and no more than $0.3/0.3/0.7$ sone as certified by the Home Ventilating Institute (HVI) at 0.1 static pressure in inches water gauge (w.g.), with 5/8" x 12" CFM and no more than 0.8/1.0/1.5 sone as certified by HVI at 0.25 w.g., and no less than 53/80/110 CFM at 0.375 w.g. Power Consumption shall be no greater than 4,777/7,172 watts at 0.1 w.g., 8,613/13,919.0 watts at 0.25 w.g., and 12,318/22,620.0 watts at 0.375 w.g. Energy efficiency shall be no less than 10.6/10.4/9.2 CFM/watt at 0.1 w.g., 6.9/6.5 CFM/watt at 0.25, and 4.3/4.5/4.0 CFM/watt at 0.375 w.g. Power rating shall be 120V/60Hz. Minimum 20 Amp dedicated circuit required. Duct diameter shall be inclusive of an integrated dual 4" or 6" duct adapter. Also suitable for installation in ceilings insulated up to R60. Fan/heater is not intended for installation over a



WhisperWarm DC FV-0511VH1	4"			6"		
	0.1	0.25	0.375	0.1	0.25	0.375
Static Pressure in inches w.g.	0.1	0.25	0.375	0.1	0.25	0.375
Air Volume (CFM)	110	112	110	80	82	50
Noise (sone)	0.7	1.5	-	0.3	1.0	-
Power Consumption (watts)	12	19.0	26.0	7.7	13.3	18.2
Energy Efficiency (CFM/Watt)	9.2	5.9	4	10.4	6.2	4.5
Speed (RPM)	861	1090	1249	736	1008	1173
Current (amps)	0.24	0.37	0.49	0.16	0.26	0.36
MAX. Current (amps)	0.50					
Power Rating (V/Hz)	120/60					
Motor Type	ECM					
ENERGY STAR rated	N/A - No ENERGY STAR category for fan/heater					

*Industry research indicates static pressure in typical installations ranges from 0.20" to 0.375".
 -HVI testing and certification based on 4" duct.

HERS FEATURE SUMMARY

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

- Building-level Verifications:**
 - Indoor air quality ventilation
 - Kitchen range hood
- Cooling System Verifications:**
 - None
- Heating System Verifications:**
 - Verified heat pump rated heating capacity
- HVAC Distribution System Verifications:**
 - None
- Domestic Hot Water System Verifications:**
 - None

GAS TANKLESS WATER HEATER

IAQ FAN (HERS VERIFICATION REQUIRED)

ENERGY EFFICIENCY HERS VERIFICATION

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 1 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

GENERAL INFORMATION	
01	Project Name Addition
02	Run Title Title 24 Analysis
03	Project Location 1523 E 14th Street
04	City National City
05	Standards Version 2019
06	Zip code 91950
07	Software Version EnergyPro 8.3
08	Climate Zone 7
09	Front Orientation (deg/ Cardinal) 162
10	Building Type Single family
11	Number of Dwelling Units 1
12	Project Scope AdditionOnly
13	Number of Bedrooms 3
14	Addition Cond. Floor Area (ft²) 152
15	Number of Stories 1
16	Existing Cond. Floor Area (ft²) 704
17	Penetration Average U-factor 0.3
18	Total Cond. Floor Area (ft²) 856
19	Glazing Percentage (%) 31.58%
20	ADU Bedroom Count n/a
21	ADU Conditioned Floor Area n/a
22	Is Natural Gas Available? Yes

Addition Alone Project Analysis Parameters					
01	02	03	04	05	06
Existing Area (excl. new addition) (ft²)	Addition Area (excl. existing) (ft²)	Total Area (ft²)	Existing Bedrooms	Addition Bedrooms	Total Bedrooms
704	152	856	2	1	3

COMPLIANCE RESULTS				
01	Building Complies with Computer Performance			
02	Building does not require field testing or HERS verification			
03	Building does not incorporate Special Features			

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
Registration Date/Time: Report Version: 2019.2.000
HERS Provider: Report Generated: 2022-10-07 10:33:46
Schema Version: rev 20200901

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 2 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

ENERGY USE SUMMARY				
Energy Use (kWh/ft²·yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	0	0	0	
Space Cooling	69.39	61.2	8.19	11.8
IAQ Ventilation	0	0	0	
Water Heating	145.7	145.7	0	0
Self Utilization/Flexibility Credit	n/a	0	0	n/a
Compliance Energy Total	215.09	206.9	8.19	3.8

REQUIRED SPECIAL FEATURES
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
* NO SPECIAL FEATURES REQUIRED

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

- Building-level Verifications:
 - None -
- Cooling System Verifications:
 - None -
- Heating System Verifications:
 - None -
- HVAC Distribution System Verifications:
 - None -
- Domestic Hot Water System Verifications:
 - None -

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
Addition Zone	Conditioned	Wall Heater1	152	8	DHW Sys 1	N/A

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
Registration Date/Time: Report Version: 2019.2.000
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Schema Version: rev 20200901

CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 3 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

OPAQUE SURFACES									
01	02	03	04	05	06	07	08	09	10
Name	Zone	Construction	Area (ft²)	Orientation	Tilt (deg)	Window and Door Area (ft²)	TIK (deg)	Wall Exceptions	Status
Left Wall	Addition Zone	R-15 Wall	252	Left	96	16	90	Extension	New
Back Wall	Addition Zone	R-15 Wall	342	Back	101	32	90	none	New
Right Wall	Addition Zone	R-15 Wall	72	Right	96	0	90	none	New
Interior Wall	Addition Zone	R-0 Wall	n/a	n/a	70	0	n/a	n/a	New
Roof	Addition Zone	R-30 Roof Attic	n/a	n/a	152	n/a	n/a	n/a	New
Raised Floor	Addition Zone	R-19 Floor Crawlspace	n/a	n/a	152	n/a	n/a	n/a	New

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Addition Zone	Attic RoofAddition Zone	Ventilated	4	0.08	0.75	No	No

FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Area (ft²)	Height (ft)	Mult.	U-factor	SHGC	SHGC Source	SHGC	SHGC	SHGC	Exterior Shading
Window A	Window	Left Wall	Left	252		1	16	0.3	NFRC	0.23	NFRC	Bug Screen	
Window A.	Window	Back Wall	Back	342		1	16	0.3	NFRC	0.23	NFRC	Bug Screen	
Window. A	Window	Back Wall	Back	342		1	16	0.3	NFRC	0.23	NFRC	Bug Screen	

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
Registration Date/Time: Report Version: 2019.2.000
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CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 4 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
R-0 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic RoofAddition Zone	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O.C.	R-19	None / None	0.049	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x6
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

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

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
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CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 5 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

WATER HEATING SYSTEMS						
01	02	03	04	05	06	07
Name	System Type	Distribution Type	Water Heater Name (R)	Solar Heating System	Compact Distribution	HERS Verification
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a

WATER HEATERS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Ht. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition	Status	Verified Existing Condition
DHW Heater 1	Gas	n/a	1	50	0.64-EF	<=75 kWh/hr	0	82	n/a	n/a	n/a	Existing	n/a

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

SPACE CONDITIONING SYSTEMS										
01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Heating Existing Condition	Heating Equipment Count	Cooling Equipment Count
Wall Heater1	Heating and cooling system other	Heating Component 1	Cooling Component 1	HVAC Fan 1	n/a	n/a	Existing	NA	1	1

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
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CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 6 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

HVAC - HEATING UNIT TYPES			
01	02	03	04
Name	System Type	Number of Units	Heating Efficiency
Heating Component 1	Gas wall furnace	1	AFUE-70

HVAC - COOLING UNIT TYPES							
01	02	03	04	05	06	07	08
Name	System Type	Number of Units	Efficiency EER/CEER	Efficiency SEER	Zonally Controlled	Multi-speed Compressor	HERS Verification
Cooling Component 1	No Cooling	1	n/a	n/a	Not Zonal	Single Speed	n/a

HVAC - FAN SYSTEMS			
01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	n/a

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
Registration Date/Time: Report Version: 2019.2.000
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CERTIFICATE OF COMPLIANCE CF1R-PRF-01E (Page 7 of 7)

Project Name: Addition Calculation Date/Time: 2022-10-07T10:33:30-07:00 Input File Name: 1523 E 14th St Add..ribd19x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I, I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Ricardo Perez	Documentation Author Signature: Ricardo Perez
Company: Estudio 75	Signature Date: 10/7/2022
Address: 4275 Executive Square, Suite 200	CEA/HERS Certification Identification (if applicable): R19-19-30062
City/State/Zip: La Jolla, CA 92037	Phone: 619 274-2838

RESPONSIBLE DESIGNER'S DECLARATION STATEMENT	
I hereby declare, under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permits application.	
Responsible Designer Name: Leonel Solis	Responsible Designer Signature: Leonel Solis
Company: Aztec Drafting & Design	Date Signed: 10/7/2022
Address: 9119 Jamacha Rd, Suite 115	License: na
City/State/Zip: Spring Valley, CA 91977	Phone: 619 414-8506

Registration Number: CA Building Energy Efficiency Standards - 2019 Residential Compliance
Registration Date/Time: Report Version: 2019.2.000
HERS Provider: Report Generated: 2022-10-07 10:33:46
Schema Version: rev 20200901

RESIDENTIAL MEASURES SUMMARY										RMS-1	
Project Name Addition		Building Type Single Family		Addition Alone		Date 10/7/2022		Floor Area 152		Date	
Project Address 1523 E 14th Street National City		California Energy Climate Zone CA Climate Zone 07		Total Cond. Floor Area 152		Addition 152		# of Units 1		Floor Area 152	

INSULATION					Cavity Area (ft²)		Special Features		Status	
Wall	Wood Framed	R 15	80							New
Wall	Wood Framed	R 15	165							New
Demisting	Wood Framed	-no insulation	70							Existing
Roof	Wood Framed Attic	R 30	152	Cool Roof						New
Floor	Wood Framed w/Crawl Space	R 19	152							New

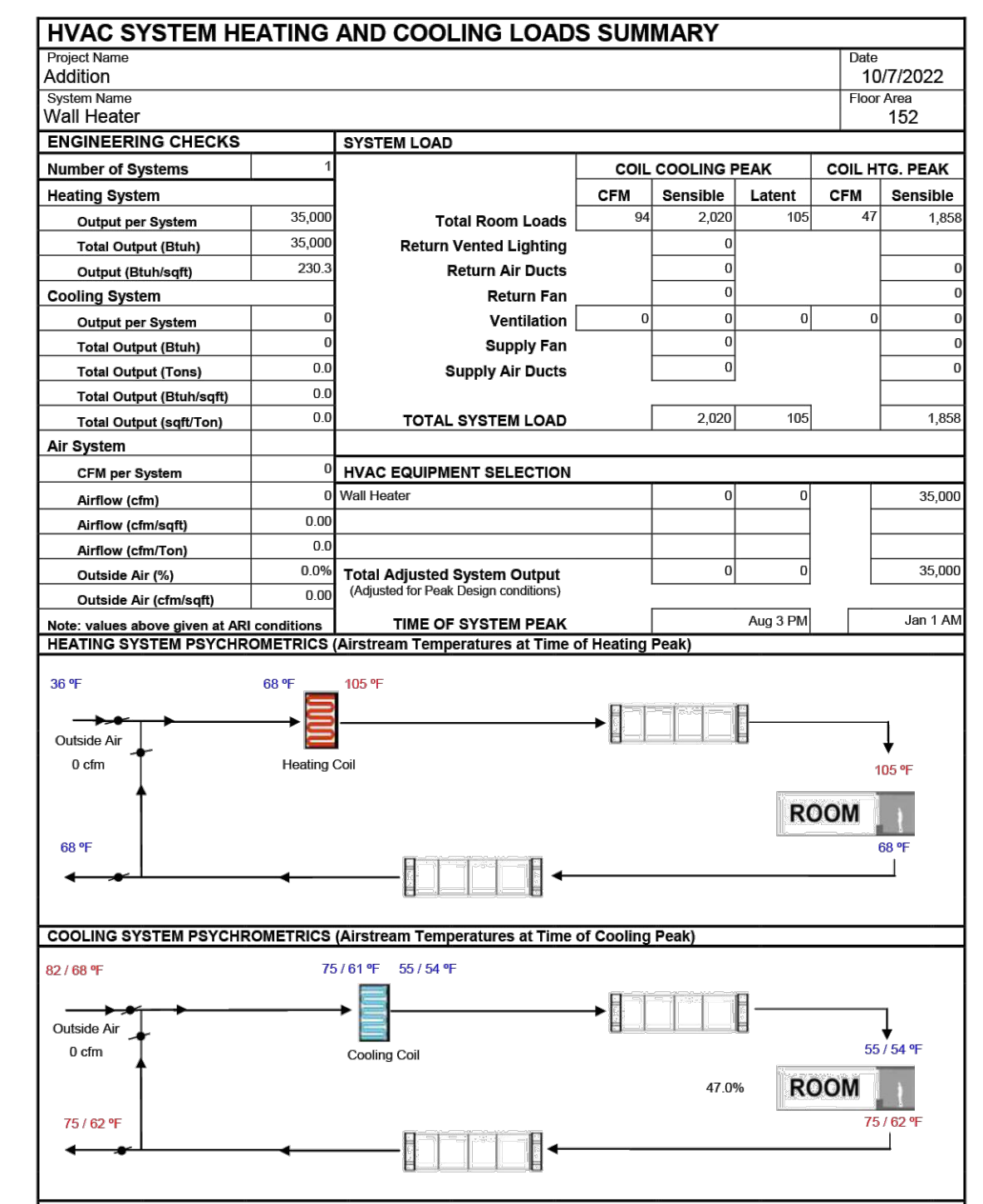
FENESTRATION						Orientation Area (ft²)		U-Fac SHGC Overhang Sidelights Exterior Shades		Status	
Left (W)	16.0	0.300	0.23	none	none	N/A					New
Right (R)	32.0	0.300	0.23	none	none	N/A					New

HVAC SYSTEMS HEATING AND COOLING LOADS SUMMARY							
HVAC SYSTEMS Qty. Heating		Min. Eff Cooling		Min. Eff Thermostat		Status	
1 Gravity Wall Furnace		20% AFUE		No Cooling		14.0 SEER Backstab Existing	

HVAC DISTRIBUTION					
Location	Heating	Cooling	Duct Location	Duct R-Value	Status
Wall Heater	Ductless / No Fan	Ductless	n/a	n/a	Existing

WATER HEATING				
Qty. Type	Gallons	Min. Eff	Distribution	Status

EnergyPro 8.3 by EnergySoft User Number: 6441 ID: Page 10 of 15



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(619) 274-2838 / t24.e75@gmail.com

Addition
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National City, California 91950

Project
Address

T05

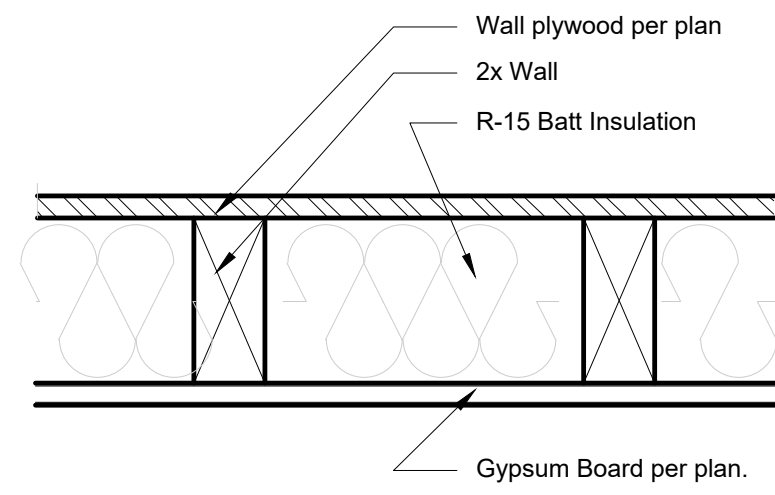


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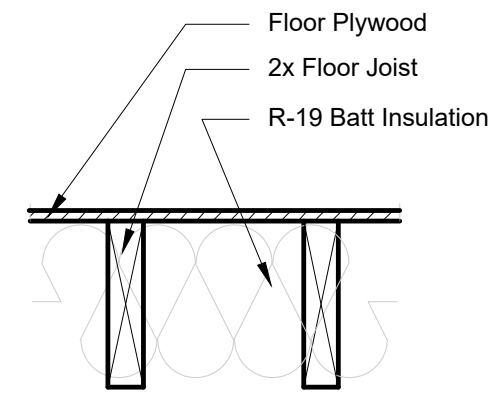
Addition
 1523 E 14th. St.
 National City, California 91950

Project Address

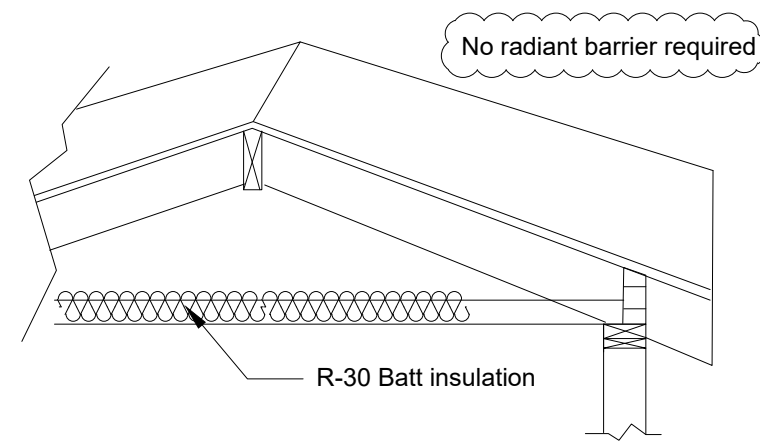
T05



INSULATION AT EXTERIOR WALL



INTERIOR AT RAISED FLOOR



INSULATION AT ROOF ATTIC

PROPERLY COMPLETED AND SIGNED CERTIFICATES OF INSTALLATION (CF2R FORMS) SHALL BE PROVIDED TO THE INSPECTOR IN THE FIELD. FOR PROJECTS REQUIRING HERS VERIFICATION, THE CF2R FORMS SHALL BE REGISTERED WITH A CALIFORNIA-APPROVED HERS PROVIDER DATA REGISTRY.

PROPERLY COMPLETED CERTIFICATES OF VERIFICATION (CF3R FORMS) SHALL BE PROVIDED TO THE INSPECTOR IN THE FIELD FOR ITEMS REQUIRING HERS VERIFICATION. CF3R FORMS SHALL BE REGISTERED WITH A CALIFORNIA-APPROVED HERS PROVIDER DATA REGISTRY.

Windows: U-Factor=.30 SHGC=.23	French Door: U-Factor=.30 SHGC=.23	Folding Door: U-Factor=.30 SHGC=.23	Skylight: U-Factor=.30 SHGC=.23
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ENERGY EFFICIENCY HERS VERIFICATION