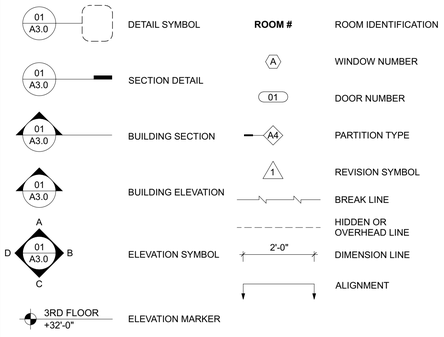
ABBREVIATIONS

AB	ANCHOR BOLT	J-BOX	JUNCTIONBOX
ABV	ABOVE	JT	JOINT
AC	AIR CONDITIONING		
ACOUST	ACOUSTICAL	LAM	LAMINATE
AD	ACCESS DOOR, AREA DRAIN	LOC	LOCATE
ADDL	ADDITIONAL	LTWT	LIGHTWEIGHT
AFF	ABOVE FINISHED FLOOR		
AL	ALUMINUM	MAINT	MAINTENANCE
ALT	ALTERNATE	MAS	MASONRY
ALUM	ALUMINUM	MAT	MATERIAL
ANOD	ANODIZED	MATL	MATERIAL
APPD	APPROVED	MAX	MAXIMUM
APPROX	APPROXIMATE	MECH	MECHANICAL
ARCH	ARCHITECT	MET	METAL
AUTO	AUTOMATIC	MFG	MANUFACTURER
AVG	AVERAGE	MISC	MISCELLANEOUS
		MO	MASONRY OPENING
BDRM	BEDROOM		
BEL	BELOW	NAT	NATURAL
BTWN	BETWEEN	(N)	NEW
BLDG	BUILDING	NOM	NOMINAL
BLK	BLOCK		
BLKG	BLOCKING	OC	ON CENTER
		OD	OUTSIDE DIAMETER
CB	CATCH BASIN	OF	OUTSIDE FACE
CCW	COUNTER CLOCKWISE	OHD	OVER HEAD
CEM	CEMENT	OPNG	OPENING
CER	CERAMIC	OPP	OPPOSITE HAND
CFT	CUBIC FOOT		
CIP	CAST-IN-PLACE	PLAM	PLASTICLAMINATE
CJ	CONTROL JOINT	PTTN	PARTITION
CL	CENTERLINE	PERP	PERPENDICULAR
CLG	CEILING	PLMBG	PLUMBING
CLR	CLEAR	PLTF	PLATFORM
CMU	CONCRETE MASONRY UNIT	PLWD	PLYWOOD
CONC	CONCRETE	PNT	PAINT
CONT	CONTINUOUS	PREFAB	PREFABRICATED
CPT	CARPET		
		QTY	QUANTITY
DBL	DOUBLE		
DEG	DEGREE	RA	RETURN AIR
DEM	DEMOLISH	RAD	RADIUS
DEMO	DEMOLITION	REBAR	REINFORCING BAR
DEPT	DEPARTMENT	REF	REFERENCE
DET	DETAIL	REQD	REQUIRED
DIAG	DIAGONAL	REV	REVISION
DIA	DIAMETER	RO	ROUGH OPENING
DIM	DIMENSION	RWD	REDWOOD
DN	DOWN		
DTL	DETAIL	SCHED	SCHEDULE
DWG	DRAWING	SC	SOLID CORE
DS	DOWNSPOUT	SECT	SECTION
		SF	SQUAREFOOT
EA	EACH	SHT	SHEET
EJ	EXPANSION JOINT	SIM	SIMILAR
ELECT	ELECTRICAL	SPECS	SPECIFICATIONS
ENGR	ENGINEER	SQ	SQUARE
EQ	EQUAL	SSTL	STAINLESS STEEL
EQUIP	EQUIPMENT	STD	STANDARD
(E)	EXISTING	STL	STEEL
		STRUCT	STRUCTURAL
FDTN	FOUNDATION		
FE	FIRE EXTINGUISHER	T&B	TOP AND BOTTOM
FEC	FIRE EXTINGUISHER CABINET	T&G	TONGUE & GROOVE
FF	FINISHED FLOOR	TBD	TO BE DETERMINED
FHC	FIRE HOSE CABINET	TD	TRENCH DRAIN
FLR	FLOOR	TRD	TREAD
FOS	FACE OF STUDS	TSLAB	TOP OF SLAB
FP	FIREPROOF	TS	TOP OF STEEL
FT	FEET	TW	TOP OF WALL
FTG	FOOTING	(TYP)	TYPICAL
GA	GAUGE	UL	UNDERWRITERS LAB
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
GB	GYPSUM BOARD	UON	UNLESS OTHERWISE NOTED
GC	GENERAL CONTRACTOR		
GL	GLASS	VERT	VERTICAL
GRND	GROUND	VIF	VERIFY IN FIELD
GWB	GYPSUM WALL BOARD		
		W/	WITH
H	HIGH	W/O	WITHOUT
HORIZ	HORIZONTAL	WC	WATER CLOSET
HR	HOUR	WD	WOOD
		WWM	WELDED WIRE MESH
ID	INSIDE DIAMETER	WP	WATERPROOF
IN	INCH		
INFO	INFORMATION		

SYMBOLS



GENERAL NOTES

1. THE CONTRACTOR SHALL THOROUGHLY EXAMINE THE PREMISES AND SHALL BASE HIS BID ON THE EXISTING CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE ACTUAL FIELD CONDITIONS. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND FIELD CONDITIONS.
2. THE WORK INCLUDED UNDER THIS CONTRACT SHALL INCLUDE ALL LABOR, MATERIALS, TRANSPORTATION, TOOLS AND EQUIPMENT NECESSARY FOR THE CONSTRUCTION OF THE PROJECT, LEAVING ALL WORK READY FOR USE.
3. PRIOR TO CONSTRUCTION, DISCREPANCIES BETWEEN THE ARCHITECTURAL AND ENGINEERING DRAWINGS SHALL BE REPORTED TO THE ARCHITECT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE APPLICABLE UNIFORM BUILDING CODE, HANDICAP ACCESS CODE AND ALL APPLICABLE ORDINANCES, INCLUDING STATE AND LOCAL BUILDING CODES AND REQUIREMENTS.
5. THESE PLANS INDICATE THE GENERAL EXTENT OF DEMOLITION AND NEW CONSTRUCTION NECESSARY FOR THE WORK, BUT ARE NOT INTENDED TO BE ALL INCLUSIVE. ALL DEMOLITION AND ALL NEW WORK NECESSARY TO ALLOW FOR A FINISHED JOB IN ACCORDANCE WITH THE INTENTION OF THESE DOCUMENTS SHALL BE INCLUDED REGARDLESS OF WHETHER SHOWN ON THE DRAWINGS OR IN THE NOTES. DO NOT DEMOLISH ANY ITEMS THAT APPEAR STRUCTURAL, UNLESS SPECIFICALLY INDICATED TO BE DEMOLISHED IN THE CONSTRUCTION DOCUMENT, WITHOUT PRIOR REVIEW AND WRITTEN APPROVAL BY THE ARCHITECT.
6. ANY ERRORS, OMISSIONS, AND CONFLICTS FOUND IN THESE CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND OWNER FOR CLARIFICATION BEFORE PROCEEDING WITH WORK.
7. ALL DIMENSIONS ARE TO FACE OF FINISH UNLESS NOTED OTHERWISE. ALL DIMENSIONS SHALL BE VERIFIED.
8. THE CONTRACTOR SHALL CONFIRM IN WRITING APPROXIMATE ON-SITE DELIVERY DATES FOR ALL CONSTRUCTION ITEMS AS REQUIRED BY THE CONSTRUCTION DOCUMENTS, AND SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY POSSIBLE DELAYS AFFECTING OCCUPANCY.
9. THE CONTRACTOR SHALL PROVIDE A SCHEDULE FOR CONSTRUCTION AS REQUIRED TO MEET THE OWNER'S PHASING REQUIREMENTS AND ULTIMATE COMPLETION DATE.
10. THE CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST IN THE LOCATION OF ANY AND ALL MECHANICAL, ELETRICAL, TELEPHONE, LIGHTING, PLUMBING AND FIRE SPRINKLER WORK (INCLUDING PIPING, DUCTWORK AND CONDUIT), AND THAT ALL CLEARANCES FOR INSTALLATION AND MAINTENANCE ARE PROVIDED.
11. NO WORK DEFECTIVE IN CONSTRUCTION OR QUALITY OR DEFICIENT IN ANY REQUIREMENT OF THE CONTRACT DOCUMENTS WILL BE ACCEPTABLE IN CONSEQUENCE OF THE OWNER'S OR ARCHITECT'S FAILURE TO DISCOVER OR POINT OUT DEFICIENCIES OR DEFECTS DURING CONSTRUCTION. DEFECTIVE WORK REVEALED WITHIN THE TIME REQUIRED BY GUARANTEES SHALL BE REPLACED BY WORK CONFORMING TO THE INTENT OF THE CONTRACT. NO PAYMENT, EITHER PARTIAL OR FINAL, SHALL BE CONSTRUED AS ACCEPTANCE OF DEFECTIVE WORK OR IMPROPER MATERIALS.
12. THE CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE EXISTING CONSTRUCTION AND SHALL BE RESPONSIBLE FOR REPAIRING ALL DAMAGES CAUSED BY CONTRACTOR AND SUB-CONTRACTORS.
13. THE CONTRACTOR SHALL REVIEW, APPROVE, STAMP AND SUBMIT WITH REASONABLE PROMPTNESS AND IN SUCH SEQUENCE AS TO CAUSE NO DELAY IN THE WORK, PRODUCT DATA, SHOP DRAWINGS AND SAMPLES FOR THE PROJECT.
14. BY APPROVING, STAMPING AND SUBMITTING SHOP DRAWINGS, PRODUCT DATA AND SAMPLES, THE CONTRACTOR REPRESENTS THAT HE HAS DETERMINED AND VERIFIED MATERIALS, FIELD MEASUREMENTS, AND FIELD CONSTRUCTION CRITERIA RELATED THERETO AND THAT HE HAS CHECKED AND COORDINATED THE INFORMATION WITHIN SUCH SUBMITTALS WITH THE REQUIREMENTS OF THE WORK AND CONTRACT DOCUMENTS.
15. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ANY DEVIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE ARCHITECT'S REVIEW OF THE SHOP DRAWINGS, PRODUCT DATA OR SAMPLES, UNLESS THE CONTRACTOR HAS SPECIFICALLY INFORMED THE ARCHITECT IN WRITING OF SUCH DEVIATION AT THE TIME OF SUBMISSION AND THE ARCHITECT HAS GIVEN WRITTEN APPROVAL TO THE SPECIFIC DEVIATION.
16. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT THREE (3) PRINTS, TYPICALLY, OF EACH SHOP DRAWING SUBMITTAL PLUS THREE (3) COPIES OF EITHER PRODUCT DATA OR SAMPLES.
17. THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR DIMENSIONS OR QUANTITIES ON REVIEWED SUBMITTALS.
18. SUBSTITUTIONS, REVISIONS AND/OR CHANGES MUST HAVE PRIOR WRITTEN APPROVAL BY THE ARCHITECT.
19. THE CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DOCUMENTS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION FOR USE BY ALL TRADES AND SHALL PROVIDE ALL SUBCONTRACTORS WITH CURRENT CONSTRUCTION DOCUMENTS AS REQUIRED.
20. THE CONTRACTOR SHALL PROVIDE COMPLETE PRODUCT DATA AND RELATED INFORMATION APPROPRIATE FOR THE OWNER'S MAINTENANCE AND OPERATION OF PRODUCTS FURNISHED UNDER THE CONTRACT.
21. WORK UNDER THIS CONTRACT SHALL BE WARRANTED BY THE CONTRACTOR AGAINST ALL DEFECTS FOR ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE WORK OR DESIGNATED PORTIONS THEREOF OR FOR ONE (1) YEAR AFTER ACCEPTANCE BY THE OWNER OF DESIGNATED EQUIPMENT. IN THE CASE OF ITEMS REMAINING UNCOMPLETED AFTER THE DATE OF SUBSTANTIAL COMPLETION, THE ONE-YEAR WARRANTY PERIOD SHALL BE FROM DATE OF ACCEPTANCE OF SUCH ITEMS.
22. EACH TRADE SHALL EXAMINE THE PREMISES TO INSURE THAT CONDITIONS ARE APPROPRIATE FOR HIS WORK TO COMMENCE, PRIOR TO COMMENCING HIS WORK. AREAS NOT APPROPRIATE SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. COMMENCING WORK IMPLIES ACCEPTANCE OF EXISTING CONDITIONS.
23. THE GENERAL CONTRACTOR SHALL ASSIST IN THE COORDINATION AND BE RESPONSIBLE FOR THE INSTALLATION OF N.I.C. ITEMS, INCLUDING BUT NOT LIMITED TO FURNITURE, EQUIPMENT, APPLIANCES, PLUMBING FIXTURES, DISHWASHERS, VOICE/ DATA CABLING, TELEPHONE WORK, ETC.
24. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE INSTALLATION AS REQUIRED FOR ACCESSORY ITEMS INCLUDING SINK, DISHWASHER, REFRIGERATOR, LAUNDRY EQUIPMENT, ETC.
25. ALL DRAWINGS AND NOTES ARE CONSIDERED COMPLEMENTARY, AND WHAT IS CALLED FOR BY EITHER WILL BE AS BINDING AS IF CALLED FOR BY ALL. ANY WORK SHOWN OR REFERRED TO ON ANY ONE SET OF DRAWINGS SHALL BE PROVIDED AS THOUGH SHOWN ON ALL RELATED DRAWINGS.
26. VERIFY ALL ARCHITECTURAL DETAILS AND COORDINATE DRAWINGS WITH STRUCTURAL AND MEP DRAWINGS BEFORE INITIATION OF ANY RELATED WORK.
27. ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, INDUSTRY AND BUILDING STANDARDS, AND CODE REQUIREMENTS. SEALANT, WEATHERSTRIPPING, AND FLASHING LOCATIONS IN DRAWINGS ARE NOT INTENDED TO BE INCLUSIVE.
28. LARGER SCALE DETAILED DRAWINGS SUPERCEDES SMALLER SCALED ELEVATION AND PLAN DRAWINGS.

PROJECT TEAM

PROPERTY OWNER:
NEVADA COUNTY
950 MAIDU AVENUE
NEVADA CITY CA 95959
T (530) 265-1218

PROJECT OWNER:
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CONTACT: JENNIFER PRICE
3123 PROFESSIONAL DRIVE, SUITE 210
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ARCHITECT
RUSSELL DAVIDSON ARCHITECTURE + DESIGN
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CIVIL ENGINEER
MILLENIUM ENGINEERING
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STRUCTURAL ENGINEER
ASHLEY & VANCE ENGINEERING
CONTACT: MIKE SIMMONS
1504 EUREKA ROAD, SUITE 370
ROSEVILLE, CA 95661
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MECHANICAL, ELECTRICAL & PLUMBING ENGINEER
OPTIMIZED ENERGY AND FACILITIES CONSULTING
CONTACT: ETHAN FELLERSON
5734 LONE TREE BLVD
ROCKLIN, CA 95765
T (916) 626-5518

APPLICABLE CODES

ALL CODES REFERENCED ARE TO BE USED AS AMENDED BY THE STATE OF CALIFORNIA AND LOCAL JURISDICTION.

2025 CALIFORNIA RESIDENTIAL BUILDING CODE
2025 CALIFORNIA MECHANICAL CODE
2025 CALIFORNIA ELECTRICAL CODE
2025 CALIFORNIA PLUMBING CODE
2025 CALIFORNIA GREEN BUILDING CODE
2025 CALIFORNIA FIRE CODE
2025 CALIFORNIA ENERGY CODE

PROJECT DATA

SITE DATA

ADDRESS	13668 AUBURN ROAD GRASS VALLEY, CA 95949
A.P.N.:	023-010-001-000
WIND EXPOSURE:	C
CLIMATE ZONE:	11
ZONING:	RA-3
SITE AREA:	2.0 ACRES (87,120 SF)
MAX. HEIGHT:	35'-0"

BUILDING ANALYSIS

OCC. GROUP:	R-3
CONST. TYPE:	V-B
FIRE SPRINKLERS:	NONE

AREAS:

CONDITIONED:	3,360 SF
GARAGE:	576 SF
(N) REAR DECK:	180 SF
(N) FRONT WALKWAY:	301 SF

1

SCOPE OF WORK

PROJECT CONSISTS OF THE FOLLOWING WORK:

RENOVATION TO EXISTING FIVE SINGLE OCCUPANCY BEDROOM RESIDENCE. 1

CONSTRUCT NEW EXTERIOR DECK AND WALKWAYS.

REPLACE EXISTING HVAC UNIT.

CONSTRUCT NEW KITCHEN ON 1ST FLOOR TO REPLACE EXISTING KITCHEN.

REMOVE EXISTING KITCHEN ON 2ND FLOOR.

INSTALL NEW EXTERIOR WINDOWS THROUGHOUT.

DEFERRED SUBMITTALS

THE FOLLOWING SUBMITTALS WILL BE DEFERRED:

SPECIAL INSPECTIONS

THE FOLLOWING SPECIAL INSPECTIONS ARE REQUIRED:

SHEET INDEX

REVIEWED FOR CODE COMPLIANCE

with County of Nevada Building Regulation Ordinance & current California Codes. The stamping of this plan and specifications SHALL NOT be held to permit or to be an approval of violation of any County Ordinance or State Law

County of Nevada Building Department

Monte Gillan
May 11, 2026
4:00 pm

Authorized Signature

These plans shall be kept on the premises and accessible to the inspector at all times.

SUBJECT TO FIELD INSPECTION

Plans shall reflect the scope of work of the project. Any changes or deviations must be submitted and reviewed by the Building Department prior to inspection.

VICINITY MAP

RUSSELL DAVIDSON
ARCHITECTURE + DESIGN

LICENSED ARCHITECT
RUSSELL DAVIDSON
No. C36895
Ren. 11-30-27
STATE OF CALIFORNIA

AUBURN RESIDENCE

13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

ID	NAME	DATE
1	REV 1	4/29/26

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

TITLE SHEET

JOB SET

T1.0

AGING-IN-PLACE DESIGN AND FALL PROTECTION

At least one bathroom on the entry level shall be provided with grab bar reinforcement. Reinforcement shall be nominal 2x8 lumber and shall be located between 32 inches and 39.5 inches above the finished floor. Water closet reinforcement shall be installed on both side walls of the fixture, or on the side wall and the back wall. Shower reinforcement shall be continuous where wall framing is provided. Bathtub and combination bathtub/shower reinforcement shall be continuous on each ed of the bathtub and the back wall. Back wall reinforcement for a lower grab bar shall be provided with the bottom edge located no more than 6 inches above the bathtub rim. Information identifying the location of the reinforcement shall be placed in the operations and maintenance manual. (CRC R328.1.1)

Electrical receptacles outlets, switches and controls shall be located not more than 48 inches measured from the top of the outlet box and not less than 15 inches measured from the bottom of the outlet box above the finished floor. (CRC R328.1.2)

At least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches measured with the door open at a 90-degree angle. (CRC R328.1.3)

Doorbell buttons shall be installed not more than 48" above the finished floor measured to the top of the button. (CRC R328.1.4)

GENERAL

Provide each bedroom, basement, and habitable attics with a minimum of one exterior window with a 44" maximum clear opening height, 5.7 sq. ft. minimum clear openable area (minimum 5.0 sq. ft. at grade floor openings), 24" minimum clear openable height and 20" minimum clear width, or an openable exterior exit door. Window wells, ladders, and steps shall comply with minimum code requirements. Bars, grilles, covers, ands screens shall be releasable or removable from the inside without the use of a key, tool, special knowledge, or force greater than 15lbs to operate the emergency escape and rescue openings. Photovoltaic panels & modules shall not be below an emergency escape and rescue opening within 36". (R319)

Each bathroom containing a bathtub, shower or tub/shower combination shall be mechanically ventilated with Energy Star approved equipment (minimum 50cfm) with an integral humidistat installed. (CRC R325.2.1)

Provide attic cross ventilation: 1/150 of attic area or 1/300 with at least 40% but not more than 50% of vents are a maximum 3 ft. below the ridge or highest space in the attic and the balance is provided in the lower third of the attic space (not limited to eaves or cornice vents). As an alternative in Climate Zone 16 (Truckee region), the net area may be reduced to 1/300 when a Class I or II vapor barrier is installed on the warm-in-winter side of the ceiling. Baffles are required at vents for insulation. Provide minimum of 1" inch of air space between insulation and roof sheathing. (CRC R806)

Enclosed rafter spaces shall have a 1-inch clear cross ventilation. (Properly sized rafters for insulation) (CRC R806.3)

Under floor cross ventilation: minimum 1.0 sq. ft. for each 150 sq. ft. of under floor area. When a class 1 vapor retarder is installed on the ground surface the minimum area of ventilation may be limited to 1sq.ft for each 1,500 square feet of under-floor space. One ventilation opening shall be within three (3) feet of each corner of the building (CRC R408.1). Unvented crawl spaces shall comply with CRC R408.2. Unvented crawl space added option for dehumidification of 70 pints moisture per day per 1,000 sf to requirement for exemption. (R408.3)

Exterior balconies and elevated walking surfaces exposed to water, where structural framing is protected by an impervious moisture barrier require construction documents with manufacturer's installation instructions. (R106.1.5) Must be inspected and approved before concealing barrier. (R109.1.5.3)

Enclosed framing in exterior balconies and elevated walking surfaces exposed to rain, snow or drainage from irrigation shall be provided with cross-ventilation area of at least 1/150. (R304.1.3)

Provide landings and a porch light at all exterior doors. Landings are to be minimum 3 ft deep x width of door. Landings at required egress doors may step down a maximum of 7.75 inches when the door does not swing over the landing and 1.5 inches when door swings onto the landing. Other than required exterior exit doors may have a threshold of 7.75 inches maximum; a landing is not required if a stair with two or fewer risers is located on the exterior side and the door does not swing over the stairway. (CRC R318.3)

At least one egress door shall be provided for each dwelling unit, the egress door shall be side hinged with a minimum openable width of 32 inches; the minimum clear openable height shall be 78 inches minimum (other doors shall not be required to comply with these dimensions). Egress doors shall be readily openable from the inside without the use of a key, special knowledge, or effort. (CRC R318.2)

Operable windows more than 72" above finish grade with a clear opening height less than 24" shall have openings not more than 4" apart or needs a compliant guard. (CRC R321.2.1)

FOUNDATIONS & CONCRETE SLABS

Slope drainage 6" within the first 10ft. from the foundation wall. If physical obstructions or lot lines prohibit the 10ft distance, a 2-5 percent slope shall be provided to an approved alternative method of diverting the water away from the foundation. Impervious surfaces shall also be sloped a minimum of 2 percent for 10ft away from structures to an approved drainage way. (CRC R401.3)

Footings shall extend at least 12 inches into the undisturbed ground surface. (CRC R403.1.4) Unless erected on solid rock, to protect against frost and freezing, the minimum foundation depth is 18 inches below grade if between 4,000-7,000 foot elevation and 24 inches below grade for 7,000 foot elevation and above. Exception: Interior footings shall be a minimum of 12 inches below grade. (Nevada County Code Section 14.03.190)

Stepped footings shall be used when slope of footing bottom is greater than 1 in 10 (V: H). Step footing detail shall be shown on building elevations and foundation plan. (CRC R403.1.5)

Concrete slabs: 3 ½" minimum (CRC R506.1). Slabs under living areas and garages shall be reinforced with wire 6" x 6", 10 guage x 10 gauge welded mesh or equivalent steel reinforcement and 4" thickness of 3/8 minimum gravel under the concrete slab. Separate from soil with a 6 mil polyethylene vapor retarder with joints lapped not less than 6 inches in living areas. A 4" rock capillary break shall be installed when a vapor retarder is required.

A minimum 18" x 24" under-floor access, unobstructed by pipes or ducts and within 5' of each under-floor plumbing cleanout and not located under a door to the residence, is required. Provide a solid cover or screen. (CRC 408.4 & CPC 707.9)

Minimum sill bolting: ½" anchor bolts or approved anchors at 6 ft. o.c. maximum for one-story. (CRC R403.1.6) Use anchor bolts at 4 ft. o.c. maximum for three story construction. Embed bolts 7" minimum. The anchor bolts shall be placed in the middle third of the width of the plate. Locate end bolts not less than 7 bolt diameters, nor more than 12" from ends of sill members. In SDC D0 and above: Provide 3"x3"X0.229 plate washers on each bolt at braced or shear wall locations, standard cut washers shall be permitted for anchor bolts not located in braced/shear wall lines. The hole in the plate washer is permitted to be diagonally slotted with a width of up to 3/16" larger than the bolt diameter; the slot length shall not exceed 1 ¾", provided a standard cut washer is placed between the plate washer and the nut. (CRC R403.1.6.1 & R602.11.1)

WOOD FRAMING

Columns shall be restrained to prevent lateral displacement at the bottom end. Wood columns shall be 4x material minimum and steel columns shall be schedule 40, 3" in diameter minimum. (CRC R407.3) Toenailing of posts to pier blocks no longer allowed in underfloor areas.

CLEARANCES AND TREATMENT FOR WOOD FRAMING

All joists, girders, ledgers, structural blocking and support posts/column shall be wood of natural resistance to decay or pressure-treated lumber when exposed to the weather. (CRC R04)

Columns in basements when in contact with basement slabs or metal pedestals shall be pressure treated or natural resistance to decay unless the pier/pedestals project 1" above concrete or 8" above earth. (CRC R304)

Columns in enclosed crawl spaces or unexcavated areas located within the periphery of the building shall be pressure treated or natural resistance to decay unless the column is supported by a concrete pier or metal pedestal of a height 8" or more. (CRC R304)

FLOORS

Under-floor areas with storage, fuel-fired equipment or electric-powered equipment with less than 2x10 solid joists or **composite lumber of equal or greater cross-sectional area** shall be protected on the underside by half-inch sheetrock or a sprinkler system. (R302.13)

Balconies and decks must be designed for a minimum live load of 60lbs per square foot. (CRC T-R301.5)

WALLS

Specify post to beam connections. Positive connection shall be provided to ensure against uplift and lateral displacement. (CRC R502.9 & CBC 2304.10.7)

All fasteners used for attachment of siding & into pressure treated lumber shall be of a corrosion resistant type. (CRC 304.3)

Provide approved building paper under the building siding and approved flashing at exterior openings. (CRC R703.2) Specify a minimum of 2 layers of Grade D paper under stucco and 2 layers of 15lb felt (or equivalent) under stone veneer.

Stucco shall have a minimum clearance to earth of 4 inches and 2 inches to paved surfaces with an approved weep screed. (CRC R703.7.2.1) Masonry stone veneer shall be flashed beneath the first course of masonry and provided with weep holes immediately above the flashing. (CRC R703.8.5 and R703.8.6)

ROOF

Show minimum 22" x 30" access opening to attic (CRC R807); may be required to be 30"x30" to remove the largest piece of mechanical equipment per the California Mechanical Code. Ceiling at attic access must be 30" measured from bottom of roof rafters to top of ceiling joists.

Provide adequate roof slope (minimum ¼ inch per 12 inches) for roof drainage. Roof drains/ gutters required to be installed per the California Plumbing Code with leaf/debris protection also installed.

Asphalt shingles with sloped roofs 2/12 to <4/12 shall have two layers of underlayment applied per CRC R905.2.2.

GARAGE AND CARPORT

Garage shall be separated from the dwelling unit & attic area by ½ inch gypsum board applied to the garage side. Garage beneath habitable rooms shall be separated by not less than 5/8" type X gypsum board. Structure supporting floor/ceiling assemblies used for required separations shall have ½" gypsum board installed minimum. Door openings from the garage to the dwelling shall be solid wood/steel doors or honeycomb steel doors not less than 1 3/8" thick or a 20-minute rated fire door. Doors shall be self-closing & self-latching. No openings directly into a sleeping room from the garage. When the dwelling and garage have fire sprinklers installed per R317.6 and R309, doors into the dwelling unit from the garage only need to be self-closing and self-latching. (CRC R302.5.1 & T-R302.6)

Ducts penetrating the garage to dwelling separation shall be a minimum of 26 gauge with no openings into the garage. (CRC R302.5.2)

Penetrations through the garage to dwelling separation wall (other than ducts as listed above) shall be fire-blocked per CRC section R302.11, item #4.

Garage and carport floor surfaces shall be non-combustible material and slope to drain towards the garage door opening. (CRC R317.1)

Appliances and receptacles installed in garage generating a glow, spark or flame shall be located 18" above floor unless it is listed as flammable vapor ignition resistant. (CMC 305.1) Provide protective post or other impact barrier from vehicles. (CMC 305.1.1)

Appliances in private garages and carports shall be installed with a minimum clearance of 6ft above the floor unless they are protected from vehicular impact. (CBC 406.2.9.3)

STAIRWAYS & RAMPS

Stair landings required every 12'7" of vertical rise. (CRC R318.7.3)

Exterior stair stringers must be naturally resistant to decay or pressure treated. (CRC R304.1)

Rise shall be maximum 7.75"; Run shall be 10" minimum; headroom 6'-8" minimum; width 36" minimum, 31.5" between a handrail on one side and 27" with handrails on two sides. Variation between riser heights 3/8" maximum. A nosing not less than .75 inches but not more than 1.25 inches shall be provided on stairways with solid risers where the tread depth is less than 11 inches. The leading edge of treads shall project not more than 1.25 inches beyond the tread below. Open risers are permitted, provided the opening between the treads does not permit the passage of a 4" sphere. (Openings are not limited when the stair has a rise of 30" or less). (CRC R318.7)

Stairways with 4 or more risers shall have a handrail on one side 34" to 38" above the tread nosing. Circular handrails shall have an outside diameter of 1.25"-2"; if not circular, it shall have a perimeter dimension of 4"-6.25" with a maximum cross-sectional dimension of 2.25". A minimum clearance of 1.5" shall be maintained from the wall or other surface. Handrails shall be returned and terminate in newel posts, or safety terminals. (CRC R320)

Guards shall be 42" minimum height (unless acting as a handrail/guard for a stairway; the guard height may be 34"-38" in height), with openings less than 4" inches clear (guards on the open sides of stairs may have 4 3/8" openings). (CRC R321)

Provide landings at the top/bottom of the stairway the width of the stairway. The depth of the landing shall be 36" minimum. (CRC R318.7.6)

Usable spaces underneath enclosed/unenclosed stairways shall be protected by a minimum of ½" gypsum board. (CRC R302.7)

Ramps serving the egress door shall have a slope of not more than 1 unit vertical in 12 units horizontal (8.3-percent slope). All other ramps shall have a maximum slope of 1 unit vertical in 8 units horizontal (12.5-percent slope). Exception: Where it is technically infeasible to comply because of site constraints, ramps shall have a slope of not more than 1 unit vertical in 8 units horizontal (12.5-percent slope) (CRC R318.8.1). Provide 3'X3' landings at the top and bottom of ramps, where doors open onto ramps, and where ramps change directions. (CRC R318.8.2)

DECKS

Guards are required if deck or floor is over 30" above grade, minimum 42" high, with openings less than 4". (CRC R312) Guardrails shall be designed and detailed for lateral forces according to CRC Table 301.5.

Flashing must extend vertically 2" above the ledger and 4" horizontal beyond the ledger face. (CRC R507.9.1.3)

Provide deck lateral load connections at each end of the deck and at deck intersections per CRC R507.9.2. Specify connectors with a minimum allowable stress design capacity of 1,500lbs and install with 24" of the end of the deck. 750lb rated devices are allowed (DTT1Z as example) if located at 4 points along the deck.

Posts/columns shall be retrained at the bottom end to prevent lateral displacement; clearly show approved post bases, straps, etc to achieve this per CRC R407.3

Joists, girders, structural blocking and support posts shall be wood of natural resistance to decay or pressure-treated lumber when exposed to the weather. (CRC R304.1)

Hardware and fasteners to be hot-dipped galvanized, stainless steel, silicon bronzed or copper. (CRC R304.3)

ELECTRICAL

Never install electrical panels in closets or bathrooms. Maintain a clearance of 36" inches in front of panels, 30" wide or width of equipment and 6'-6" high for headroom. (CEC 110.26)

All services supplying dwelling units shall be provided a surge protection device. The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto. (CEC 230.67)

Provide a minimum 3 lug intersystem bonding busbar at the main electrical service. (CEC 250.94)

Provide a four-wire feed (two ungrounded conductors, one grounded conductor and an equipment grounding conductor) to all detached structures.

Provide electrical service load calculations for dwellings over 3,000 sq. ft, services 400 amperes or greater or as determined by the Plans Examiner.

All automatic garage door openers that are installed in a residence shall have a battery backup function that is designed to operate when activated because of an electrical outage. (CBC 406.2.1)

A concrete-encased electrode (ufer) consisting of 20' of rebar or #4 copper wire placed in the bottom of a footing is required for all new construction. (CEC 250.52(A)(3)) Bond all metal gas and water pipes to ground. All ground clamps shall be accessible and of an approved type. (CEC 250.104)

All 15/20 ampere receptacles installed per CEC 210.52 including attached and detached garages and accessory buildings shall be listed tamper-resistant receptacles. (CEC 406.12)

All branch circuits supplying 15/20 ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, kitchens, laundry room or similar rooms/areas shall be protected by a listed combination type arc-fault circuit interrupter. (CEC 210.12)

Provide a minimum of one 20A circuit to be used for the laundry receptacle. (CEC 210.11(C)(2))

Provide a minimum of one 20A circuit for bathroom receptacle outlets. (CEC 210.11(C)(3)

GFCIs for Specific Appliances – 210.8(D) This change expands the requirement for GFCI-protected branch circuits or outlets to include those serving electric ranges, wall-mounted ovens, counter- mounted cooking units, clothes dryers and microwave ovens, no matter where they are located.

Provide at least 1 outlet in basements, garages, laundry rooms, decks, balconies, porches and within 3' of the outside of each bathroom basin. (CEC 210.52 (D), (F) & (G))

Furnaces installed in attics and crawl spaces shall have an access platform (catwalk in attics), light switch and receptacle in the space. Provide a service receptacle for the furnace. (CEC 210.63)

All dwellings must have one exterior outlet at the front and the back of the dwelling. (CEC 210.52(E))

Provide a minimum of one 20A circuit for attached and detached garage outlets. The circuit shall supply no other receptacle outlet. Exception: Garage circuit may serve readily accessible outdoor receptacle outlets. ((CEC 210.11 C)(4))

A minimum of 1 receptacle shall be provided for each car space. (210.52(G)(1))

At least one wall switched lighting outlet or fixture shall be installed in every habitable room, bathroom, hallways, stairways, attached garages and detached garages with electrical power, equipment spaces (attics, basements, etc). (CEC 210.70).

Kitchens, dining rooms, pantries, breakfast nooks, and similar areas must have a minimum of two 20A circuits. Kitchen, pantry, breakfast nooks, dining rooms, work surfaces and similar areas counter outlets must be installed in every counter space 12" inches or wider, not greater than 4' o.c., within 24" inches of the end of any counter space and not higher than 20" above counter. (CEC 210.52 (C)) 1 receptacle is required for peninsular counter spaces. Receptacles shall be located behind kitchen sinks if the counter area depth behind the sink is more than 12" for straight counters and 18" for corner installations. (CEC Figure 210.52(C)(1))

Receptacles on Kitchen Islands and Peninsulas – 210.52(C)(2) This change removes the requirement for providing receptacles to serve countertops and work surfaces on kitchen islands and peninsulas but requires undefined provisions for a future receptacle if none are provided. This section previously required one or more receptacles to serve islands and peninsulas based on their countertop area.

Receptacles shall be installed at 12' o.c. maximum in walls starting at 6' maximum from the wall end. Walls longer than two feet shall have a receptacle. Hallway walls longer than 10 ft shall have a receptacle in hallways. (CEC 210.52(A))

Receptacles installed Around Tub or Shower Spaces – 406.9(C) This change clarifies that the zone restricting the location of receptacles around a tub or shower space does not include those spaces separated by a floor, wall, ceiling, room door, window, or fixed barrier. The 2020 NEC extended the zone 3 feet beyond the bathtub rim or shower stall threshold.

Stairways with 6 or more risers shall have wall switch at each floor level at the stair landings. (CEC 210.70(A)(2))

Receptacles shall not be installed within or directly over a bathtub or shower stall. (CEC 406.9 (C)) Light pendants, ceiling fans, lighting tracks, etc shall not be located within 3ft horizontally and 8ft vertically above a shower and/or bathtub threshold. (CEC 410.10(D))

All lighting/fan fixtures located in wet or damp locations shall be rated for the application. (CEC 410.10)

GFCI outlets are required: for all kitchen receptacles that are designed to serve countertop surfaces, dishwashers, bathrooms, in under-floor spaces or below grade level, in unfinished basements, crawl space lighting outlets, in exterior outlets, within 6' of a laundry/utility/wet bar sinks, indoor damp locations, mud rooms, finished basements, laundry areas, and in all garage outlets including outlets dedicated to a single device or garage door opener. (CEC 210.8).

Carbon-monoxide alarms shall be installed in dwelling units with fuel-burning appliances or with attached garages (CRC R311):

- Outside of each separate sleeping area in the immediate vicinity of bedrooms
- On every level of a dwelling unit including basements
- Where a fuel-burning appliance is located within a bedroom, a carbon monoxide detector shall be installed in the bedroom.
- Alterations, repairs, or additions exceeding 1,000 dollars (May be battery operated)

Smoke alarms shall be installed (CRC R310):

- In each room used for sleeping purposes.
- Outside of each separate sleeping area in the immediate vicinity of bedrooms.
- In each story, including basements.
- At the top of stairways between habitable floors where an intervening door or obstruction prevents smoke from reaching the smoke detector.
- Shall not be installed within 20ft horizontally of cooking appliances and no closer than 3ft to mechanical registers, ceiling fans and bathroom doors with a bathtub or shower unless this would prevent placement of a smoke detector (R314.3(4)).
- **Within a room to which a sleeping loft is open, in the immediate vicinity of the sleeping loft.**
- Alterations, repairs, or additions exceeding 1,000 dollars. (May be battery operated.)

All smoke and carbon-monoxide alarms shall be hardwired with a battery backup (smoke alarms shall have a 10-year sealed battery). (CRC R314.4 & R315.1.2)

Smoke detectors within 10 feet to 20 feet of the stove shall be ionization type with alarm silencing switch. (CRC R314.3.3)

All 15/20 ampere receptacles in wet locations shall have in-use (bubble) covers installed. All receptacles in wet locations shall also be listed weather-resistant type. (CEC 406.9(B)(1))

ENERGY STORAGE SYSTEMS

Energy storage systems shall be installed per minimum code standards. (CRC R330) See the ESS handout for more details.

PLUMBING

Underfloor cleanouts shall not be more than 5' from an underfloor access, access door or trap door. (CPC 707.9)

Kitchen sinks require a cleanout above the floor level of the lowest floor of the building.

ABS piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paints. (CPC 906.1)

PVC piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paint, .04" thick wrap or otherwise protected from UV degradation. (CPC 906.1)

Underground water supply lines shall have a 14 awg blue tracer wire. (CPC 604.10.1)

The entire floor space in a room containing a shower without thresholds shall be considered a "wet location" when using the CRC, CBC, and the CEC. (CPC 408.5)

Shower compartments, regardless of shape, shall have a minimum finished interior of 1024 square inches (32" by 32") and shall also be capable of encompassing a 30" circle. The required area and dimensions shall be measured at a height equal to the top of the threshold and shall be maintained to a point of not less than 70" above the shower drain outlet. (CPC 408.7) Provide curtain rod or door a minimum of 22" in width (CPC 408.5). Showers and tubs with showers require a non-absorbent surface up to 6' above the floor. (CRC R307.2) Minimum shower receptor slope is 1/8" per foot. (CPC 408.5)

Curbless showers require a 2" temporary barrier for testing. (CPC 408.8.5)

Water heaters using gas or propane shall designate a space 2.5 feet by 2.5 feet and 7 feet tall suitable for future installation of a heat pump water heater. Additional features are required. (California Energy Code 150.0(n))

Domestic hot water lines shall be insulated. Insulation shall be the thickness of the pipe diameter up to 2" in size and minimum 2" thickness for pipes larger than 2" in diameter. (CPC 609.12)

A 3-inch gravity propane drain shall be provided at the low point of the space, installed which provides 1/4-inch per foot grade and terminate at an exterior point of the building protected from blockage. The opening shall be screened with a corrosion-resistant wire mesh with mesh openings of 1/4-inch in dimension. Lengths of the gravity drains over 10 feet in length shall be first approved by the Building Official. (Nevada County Code Section 14.08.090)

Water heaters located in attics, ceiling assemblies and raised floor assemblies shall show a water-tight corrosion resistant minimum 1 ½" deep pan under the water heater with a minimum ¾ inch drain to the exterior of the building. (CPC 507.5)

Rain gutters and downspouts to be installed for projects below 4,000ft elevation. Clearly show/note that approved leaf/debris guards will be installed on all gutters.

Water closets shall be located in a space not less than 30" in width (15" on each side) and 24" minimum clearance in front. (CPC 402.5)

Indicate on the plans that the maximum hot water temperature discharging from a bathtub or whirlpool bathtub filler shall not exceed 120 degrees F. (CPC 408.4.2)

Provide anti-siphon valves on all hose bibs. (CPC 603.5.7)

Floor drains shall be provided with a trap primer. (CPC 1007)

Added new trap arm maximum lengths. (CPC Table 1002.2)

Gas piping on roofs shall be elevated minimum 3-1/2" above roof surface. (CPC 1210.3.5.3)

MECHANICAL

Wood burning appliances shall not be installed in a new or existing project that is not one of the following:

A pellet-fueled wood burning heater.

A U.S. EPA Phase II Certified wood burning heater.

An appliance or fireplace determined to meet the U.S. EPA particulate matter emission standard of less than 7.5 grams per hour for a non-catalytic wood fired appliance or 4.1 grams per hour for a catalytic wood fired appliance and is approved in writing by the APCO.

All newly installed gas fireplaces shall be direct vent and sealed-combustion type. (CMC 912.3)

Any installed wood stove or pellet stove shall meet the U.S. EPA New Source Performance Standard emission limits and shall have a permanent label certifying emission limits.

Pre-fab fireplaces require manufacturer specifications, model and UL Laboratories certification. Top chimney must extend a minimum of 2 ft. above any part of the building within 10 ft. (CMC 802.5.4)

Fireplaces shall have closable metal or glass doors, have combustion air intake drawn from the outside and have a readily accessible flue dampener control. Continuous burning pilot lights are prohibited. (California Energy Code 150.0(e))

Provide combustion air for all gas fired appliances per CMC Chapter 7.

Masonry chimneys and fireplaces shall be constructed per CRC Chapter 10. Provide details and notes on the plans for the construction, foundation, seismic reinforcement, seismic anchorage, firebox dimensions, etc.

Gas water heater and furnace are not allowed in areas opening into bathrooms, closets or bedrooms unless installed in a closet equipped with a listed gasketed door assembly and a listed self-closing device with all combustion air obtained from the outdoors. (CPC 504)

Roof top equipment on roofs with over 4/12 slope shall have a level 30"x30" working platform. (CMC 304.2)

Exhaust openings terminating to the outdoors shall be covered with a corrosion resistant screen ¼"-1/2" in opening size (not required for clothes dryers). (CMC 502.1)

Vent dryer to outside of building (not to under-floor area). Vent length shall be 14 ft. maximum. Shall terminate a minimum of 3' from the property line and any opening into the building. (CMC 504.4.2)

Environmental Air Ducts shall not terminate less than 3' to a property line, 10' to a forced air inlet, 3' to openings into the building and shall not discharge on to a public way. (CMC 502.2.1)

Provide minimum 100 square inches make-up air for clothes dryers installed in closets. (CMC 504.4.1(1))

Heating system is required to maintain 68 degrees at 3 ft. above floor level and 2ft from exterior walls in all habitable rooms. (CRC R303.10)

Length of Passageway in Attic: Where the height of the passageway is 6' or more, the distance from the passageway access to the appliance shall not exceed 50' measured along the centerline of the passageway

TITLE 24 ENERGY

Provide compliance documentation for mandatory measures to shown throughout the plans. All ducts in conditioned spaces must include R-4.2 insulation. (California Energy Code 150.1(c)9) Minimum heating and cooling filter ratings shall be MRV 13. (California Energy Code 150.0(m)12)

Isolation water valves required for instantaneous water heaters 6.8kBTU/hr and above. Valves shall be installed on both cold and hot water lines. Each valve will need a hose bib or other fitting allowing for flushing the water heater when the valves are closed. (California Energy Code 110.3(c)6))

Energy storage system (ESS) ready. At least one of the following shall be provided:

ESS ready interconnection equipment with a minimum backed-up capacity of 60 amps and a minimum of four ESS-supplied branch circuits, or

A dedicated raceway from the main service panel to a panelboard (subpanel) that supplies the following branch circuits: refrigerator, lighting circuit near primary egress door, sleeping room receptacle and one additional.

The main panelboard shall have a minimum busbar rating of 225 amps. Space shall be reserved to allow future installation of a system isolation equipment/transfer switch within 3 feet of the main panelboard. Raceways shall be installed between the panelboard and the system isolation equipment to allow the connection of backup power source. (California Energy Code 150.0(s))

Heat pump space heater ready. Systems using a gas or propane furnace shall include a dedicated 240 volt branch circuit with 3 feet of the furnace. The branch circuit shall be rated at 30 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For future 240V use". (California Energy Code 150.0(t))

Electric cooktop ready. Systems using a gas or propane cooktop shall include a dedicated 240 volt branch circuit with 3 feet of the cooktop. The branch circuit shall be rated at 50 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For future 240V use". (California Energy Code 150.0(u))

Electrical clothes dryer ready. Systems using a gas or propane dryer shall include a dedicated 240 volt branch circuit with 3 feet of the clothes dryer. The branch circuit shall be rated at 30 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For future 240V use". (California Energy Code 150.0(v))

ALL luminaires must be high efficacy. (California Energy Code 150.0(k)1A)

Luminaries recessed in insulated ceilings must meet five requirements (California Energy Code 150.0(k)1C):

- They must be rated for direct insulation contact (IC).
- They must be certified as airtight (AT) construction.
- They must have a sealed gasket or caulking between the housing and ceiling to prevent flow of heated or cooled air out of living areas and into the ceiling cavity.
- They may not contain a screw base sockets
- They shall contain a JA8 compliant light source

In bathrooms, garages, walk-in closet, laundry rooms, and utility rooms, at least on luminaire in each of these spaces shall be controlled by a vacancy sensor or occupant sensor provided the occupant sensor is initially programmed like a vacancy sensor (manual-on operation). (California Energy Code 150.0(k)2E)

Lighting in habitable spaces, including but not limited to living rooms, dining rooms, kitchens and bedrooms, shall have readily accessible dimming controls. (California Energy Code 150(k) 2F)

Joint Appendix A (JA8) certified lamps shall be considered high efficacy. JA8 compliant light sources shall be controlled by a vacancy sensor or dimmer. (Exception: <70sf closets and hallway) (California Energy Code 150.0(k)2K)

Under-cabinet lighting shall be switched separately from other lighting systems. (California Energy Code 150.0(k)2L)

All exterior lighting shall be high efficacy, be controlled by a manual on/off switch and have one of the following controls (the manual switch shall not override the automatic control device) (150.0(k)3A):

- Photo-control and motion sensor
- Photo-control and automatic time switch control
- Astronomical time clock control turning lights off during the day

All high efficacy light fixtures shall be certified as "high-efficacy" light fixtures by the California Energy Commission.

The number of blank electrical boxes more than 5 feet above the finished floor shall not be greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor, or fan speed control. (California Energy Code 150(k)1B)

Provide a gasket/ insulation on all interior attic/under-floor accesses. (California Energy Code 110.7)

WILDLAND URBAN INTERFACE (WUI)

Exterior wall coverings shall be noncombustible, ignition resistant, heavy timber, log wall or fire resistive construction. (CWUIC 504.5.2)

Exterior wall coverings shall extend from the foundation to the roof and terminate at 2 inch nominal solid blocking between rafters and overhangs. (CWUIC 504.5.2.1)

Open/enclosed roof eaves and soffits, exterior porch ceilings, floor projections, under-floor areas and undersides of appendages to comply with ignition resistant construction requirements. (CWUIC 504.3, 504.7)

Facia boards shall be of ignition resistant material or minimum 2x. (CWUIC 504.3)

Spaces created between roof coverings and roof decking shall be fire stopped by approved materials or have one layer of minimum 72lb mineral surfaced non-perforated cap sheet complying with ASTM D 3909. (CWUIC 504.2.2.1)

Indicate on the plans where valley flashing is installed, the flashing shall be not less than 26awg and installed over not less than one layer of minimum 72lb mineral surfaced non-perforated cap sheet complying with ASTM D 3909 and at least 36 inches wide running the full length. (CWUIC 504.2.2)

All vents are required to resist building ignition from the intrusion of flame and burning embers through the ventilation openings including crawlspace vents, gable end vents, eave vents, etc. Exception: Ridge vents and vents installed in a sloped roof. (CWUIC 504.10.2)

Ridge vents and vents in roof decks to be noncombustible and corrosion resistant. (CWUIC 504.10.2)

Gable end and dormer vents shall be located not less than 10 feet from property lines. (CWUIC 504.10.3)

Underfloor ventilation openings shall be located as close to grade as practical. (CWUIC 504.10.3)

Indicate on plans exterior glazing shall have a minimum of one-tempered pane, glass block, have a fire resistive rating of 20 minutes or be tested to meet performance requirements of SFM Standard 12-7A-2. (CWUIC 504.8)

Operable skylights shall be protected by a noncombustible mesh screen 1/8" max openings (CWUIC 504.8.2)

Exterior doors including garage doors shall be noncombustible, ignition resistant material, minimum 1 3/8 inch solid core, minimum 20 minute fire resistive rating or shall be tested to meet the performance requirements of SFM Standard 12-7A-1. (CWUIC 504.9)

Garage door perimeter gap maximum 1/8". Metal flashing, jamb and header overlap, and weather-stripping meeting section requirements are permitted. (CWUIC 504.9.2)

The walking surface material of decks, porches, balconies and stairs within 10ft of grade level shall be ignition resistant material, exterior fire-retardant treated wood or noncombustible material. (CWUIC 504.7.3)

General notes based on the 2025 California Building Standard Codes. This is not an all inclusive list of code requirements specific to the project. Reference applicable sheets and specific areas of the plans for locations of fixtures/equipment, structural components, structural design criteria, building finishes and other components specific to the project construction.

RUSSELL DAVIDSON
ARCHITECTURE + DESIGN

LICENSED ARCHITECT
RUSSELL DAVIDSON
No. C36895
Ren. 11-30-27
STATE OF CALIFORNIA

AUBURN RESIDENCE

13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

ID	NAME	DATE

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

GENERAL NOTES

JOB SET

G1.0

2025 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 1

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

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

The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application.

Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

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

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

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.
Exceptions:
1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.
2. [HCD] For purposes of *CAL*Green, live/work units, complying with Section 419 of the *California Building Code*, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES

SECTION 4.102 DEFINITIONS

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

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106 SITE DEVELOPMENT

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

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

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

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

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

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

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

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Section 4.106.4.1 or 4.106.4.2. Electric vehicle supply equipment (EVSE) shall comply with the *California Electrical Code*.

Exceptions:
1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
   1.1 Where there is no local utility power supply or the local utility is unable to supply adequate power.
   1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

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

Exemption: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the *California Electrical Code*.

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

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities.
When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Section 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as an EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.

4.106.4.2.1 Reserved.

4.106.4.2.2 Multifamily dwellings, hotels and motels

1. EV ready parking spaces with receptacles.

a. Multifamily parking facilities with assigned parking. Where dwelling units are provided with assigned parking spaces equal to or greater than the number of dwelling units, at least one low power Level 2 EV charging receptacle shall be provided at an assigned parking space for each dwelling unit.

1. Where the total number of dwelling units exceeds the number of assigned parking spaces, all assigned parking spaces shall be provided with one low power Level 2 EV charging receptacle.

Exception: Areas of parking facilities served by parking lifts, including but not limited to, automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

b. Multifamily parking facilities with unassigned parking. Where dwelling units are provided with unassigned parking spaces equal to or greater than the number of dwelling units, at least one low power Level 2 EV charging receptacle shall be provided at an unassigned parking space for each dwelling unit.

1. Where the total number of dwelling units exceeds the number of unassigned parking spaces, all unassigned parking spaces shall be provided with one low power Level 2 EV charging receptacle.

Exception: Areas of parking facilities served by parking lifts, including but not limited to, automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

3. Multifamily parking facilities with assigned and unassigned parking. Where multifamily buildings are provided with both assigned and unassigned parking spaces equal to or greater than the number of dwelling units, at least one low power Level 2 EV charging receptacle shall be provided for each dwelling unit at either the assigned or unassigned parking space, but not both.

d. Receptacle power source. EV charging receptacles in multifamily parking facilities at assigned parking spaces shall be provided with a dedicated branch circuit connected to the dwelling unit's electrical panel, unless determined as infeasible by the project builder or designer and subject to concurrence of the local enforcing agency.

Exception: Areas of parking facilities served by parking lifts, including but not limited to, automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

e. Receptacle configurations. 208/240V EV charging receptacles shall comply with one of the following configurations:
1. For 20-ampere receptacles, NEMA 6-20R
2. For 30-ampere receptacles, NEMA 14-30R
3. For 50-ampere receptacles, NEMA 14-50R

2. EV ready parking spaces with EV chargers

a .Multifamily parking facilities with unassigned or common use parking. In addition to the low power Level 2 EV charging receptacle requirements of Section 4.106.4.2.2 (1), twenty-five (25) percent of unassigned or common use parking spaces not already provided with low power Level 2 EV charging receptacles, pursuant to Section 4.106.4.2.2 (1), shall be equipped with Level 2 EV chargers and shall be made available for use by all residents or guests.

b. EV charger connectors. EV chargers shall be equipped with J1772 or J3400 connectors.

c. An automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EV chargers shall have a capacity of not less than 30 amperes.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS).
Electric vehicle charging stations required by Section 4.106.4.2.2, Item 2, with EV chargers installed shall comply with Section 4.106.4.2.2.1.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See *California Building Code*, Chapter 11B, for applicable requirements.

4.106.4.2.2.1.1 Electric vehicle charging stations (EVCS) spaces with EV chargers installed; dimensions and location.

EVCS spaces shall be designed to comply with the following:

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

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

   b. The EVCS space shall be located on an accessible route, as defined in the *California Building Code*, Chapter 2, to the building.

   Exception: Electric vehicle charging stations designed and constructed in compliance with the *California Building Code*, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1.

4.106.4.2.2.1.2 Accessible electric vehicle charging station spaces.
In addition to the requirements in Section 4.106.4.2.2.1.1, all EV chargers, where installed, shall comply with the accessibility provisions for EV chargers in the *California Building Code*, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with *California Building Code*, Chapter 11A, Section 1109A.

4.106.4.2.3 Reserved.

4.106.4.2.4 Reserved.

4.106.4.2.5 Electric vehicle ready space signage.
Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.2.6 Hotels and motels.

1. EV ready parking spaces with receptacles.

a. Hotels and motels. Forty (40) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles.

Exception: Areas of parking facilities served by parking lifts, including but not limited to automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

b. Receptacle configurations. 208/240V EV charging receptacles shall comply with one of the following configurations:
1.For 20- ampere receptacles, NEMA 6-20R
2.For 30- ampere receptacles, NEMA 14-30R
3.For 50- ampere receptacles, NEMA 14-50R2.

2. EV Ready parking spaces with EV chargers.

a. Hotels and motels. Twenty-five (25) percent of the total number of parking spaces shall be equipped with Level 2 EV chargers.

b. EV charger connectors. EV chargers shall be equipped with J1772 or J3400 connectors.

Exception: Areas of parking facilities served by parking lifts, including but not limited to, automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

c. An automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EV chargers shall have a capacity of not less than 30 amperes.

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multi-family buildings, hotels and motels.
When existing parking facilities are altered or new parking spaces are added to existing parking facilities, and the work requires a building permit, each parking space added or altered shall have access to either a low power Level 2 EV charging receptacle or Level 2 EV charger, unless determined as infeasible by the project builder or designer and subject to concurrence of the local enforcing agency.

Exception: Where work requiring a permit is being performed for the installation of 120-volt electrical receptacle(s) for level 1 EV charging.

4.106.4.4 Bicycle parking. Bicycle parking shall comply with Sections 4.106.4.4.1 through 4.106.4.4.3.

4.106.4.4.1 Short-term bicycle parking for multifamily buildings, hotels and motels. Provide on-site bicycle parking at a ratio of one parking space for every 10,000 square feet, but not less than two spaces. Short-term bicycle parking shall be located within 200 feet of building entrances, and readily visible to passers-by. Acceptable parking facilities shall be conveniently accessed from the street and may include, but not be limited to:
1.Permanently anchored bicycle parking devices, racks, or lockers in an unsheltered, open area.
2.Covered or uncovered enclosures with permanently anchored bicycle parking devices or racks.

4.106.4.4.2 Long-term bicycle parking for multifamily buildings.
Provide on-site bicycle parking at a ratio of one parking space for every two dwelling units. Acceptable parking facilities shall be conveniently accessed from the street and may include, but not be limited to:
1. Covered, lockable enclosures with permanently anchored bicycle parking devices or racks.
2. Lockable bicycle storage rooms with permanently anchored bicycle parking devices or racks.
3. Lockable, weatherproof, permanently anchored bicycle lockers.

4.106.4.4.3 Long-term bicycle parking for hotel and motel buildings.
Provide one on-site long-term bicycle parking space for every 25,000 square feet, but not less than two. Acceptable parking facilities shall be conveniently accessed from the street and may include, but not be limited to:
1. Covered, lockable enclosures with permanently anchored bicycle parking devices or racks.
2. Lockable bicycle storage rooms with permanently anchored bicycle parking devices or racks.
3. Lockable, weatherproof, permanently anchored bicycle lockers.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

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

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.4.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

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

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

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

4.303.1.3 Showerheads.

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

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

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

4.303.1.4 Faucets.

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

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

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

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

4.303.1.4.5 Pre-rinse spray valves.
When installed, commercial pre-rinse spray values shall meet the requirements in the California Plumbing Code, Section 420.3.

4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings.
Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the *California Plumbing Code*.

4.303.3 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code,* and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code.*

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the *California Code Regulations*, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

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

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

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

Exceptions:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

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

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

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

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

Notes:

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

4.410 BUILDING MAINTENANCE AND OPERATION

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

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Operation and maintenance instructions for the following:
   a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
   b. Roof and yard drainage, including gutters and downspouts.
   c. Space conditioning systems, including condensers and air filters.
   d. Landscape irrigation systems.
   e. Water reuse systems.
3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
4. Public transportation and/or carpool options available in the area.
5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
6. Information about water-conserving landscape and irrigation design and controllers which conserve water.
7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
9. Information about state solar energy and incentive programs available.
10. A copy of all special inspections verifications required by the enforcing agency or this code.
11. Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures.
12. Information and/or drawings identifying the location of grab bar reinforcements.

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

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

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

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

SECTION 4.502 DEFINITIONS

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

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

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

RUSSELL DAVIDSON
ARCHITECTURE + DESIGN

LICENSED ARCHITECT
RUSSELL DAVIDSON
No. C36895
Ren. 11-30-27
STATE OF CALIFORNIA

AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

ID	NAME	DATE

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

CGBSC

JOB SET

G2.0

2025 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 2

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O^3/g ROC).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

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

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

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

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

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

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

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

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

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

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

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

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

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

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]

(Less Water and Less Exempt Compounds in Grams per Liter)

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

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

TABLE 4.504.2 - SEALANT VOC LIMIT

(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]

GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]

MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.

2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)
4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

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

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

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

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

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

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

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

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

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

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

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

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

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

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

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter.Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code.
2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.

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

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

Notes:

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
2. Lighting integral to bathroom exhaust fans shall comply with the *California Energy Code*.

4.507 ENVIRONMENTAL COMFORT
4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

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

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

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS
702 QUALIFICATIONS
702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

Notes:
1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS
703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

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LICENSED ARCHITECT
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STATE OF CALIFORNIA

AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

ID	NAME	DATE

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

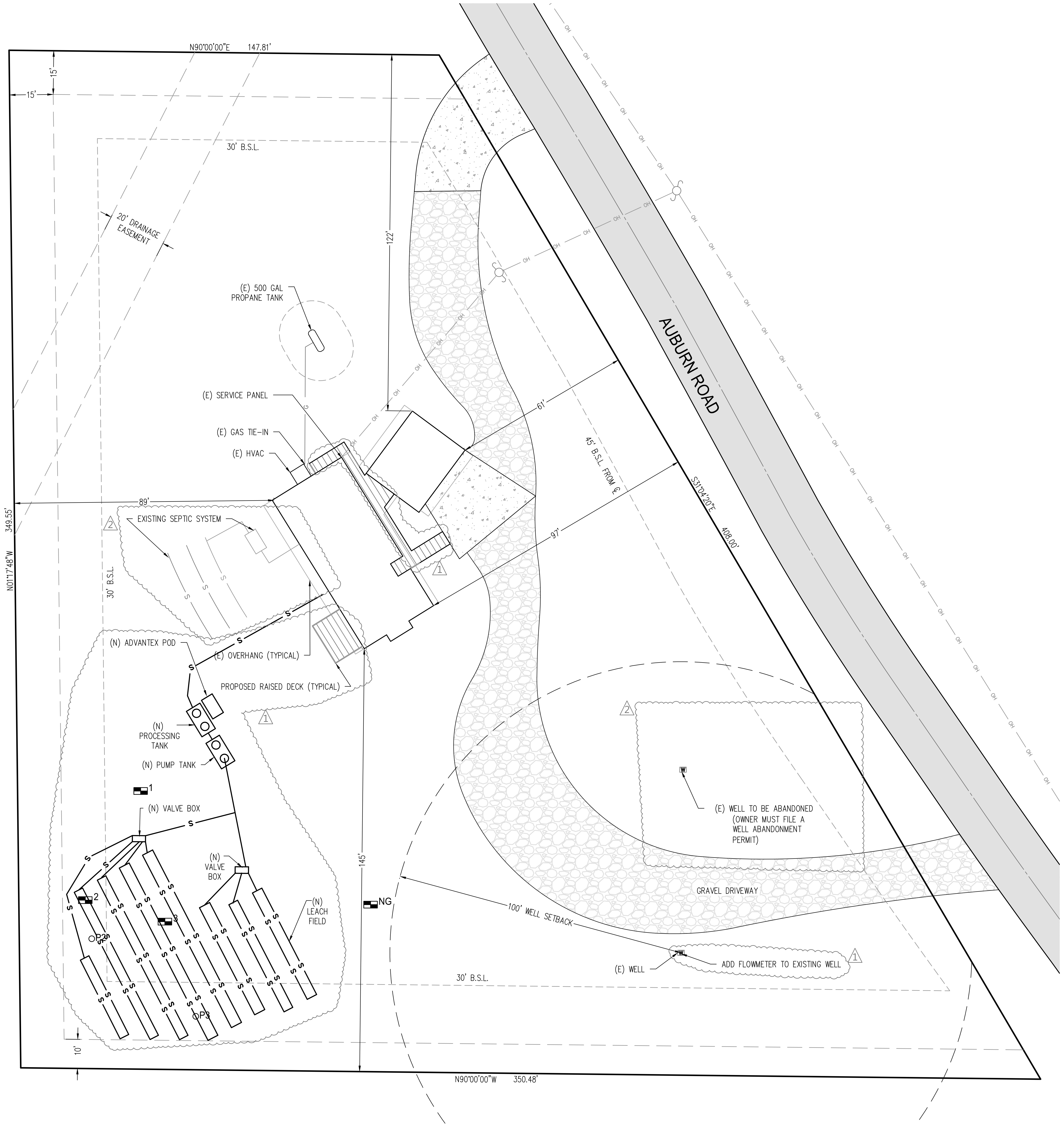
CGBSC

JOB SET

G2.1

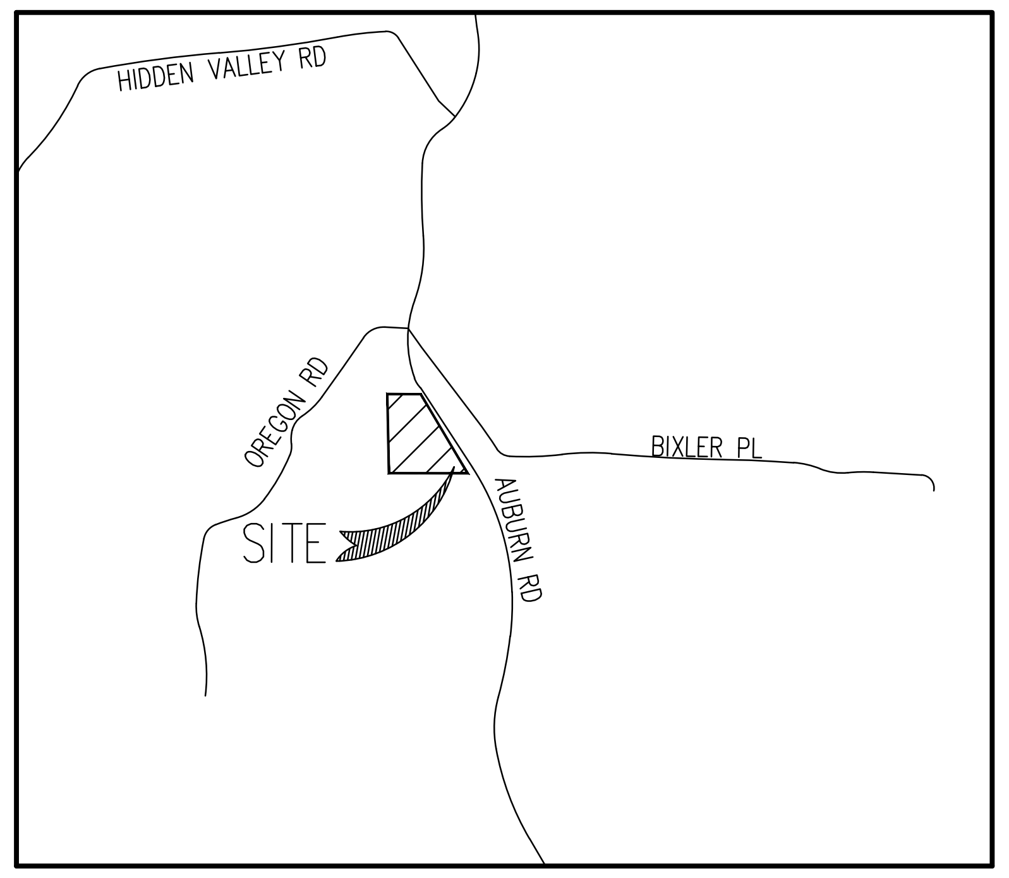
LEGEND

———	PROPERTY LINE
— — —	BUILDING SETBACK LINE (B.S.L.)
— — —	EASEMENT PER 03 SUB 003
▨	EXISTING ASPHALT
▨	EXISTING CONCRETE
— — —	PROPANE SETBACK LINE
—— G —— G ——	EXISTING GAS LINE
— OH — OH — OH — OH —	EXISTING OVERHEAD ELECTRICAL SERVICE
	EXISTING UTILITY POLE
W	EXISTING WELL
—— S —— S ——	PROPOSED SEPTIC SYSTEM (DESIGNED BY OTHERS)
2	MANTLE TEST LOCATION
○P1	PERCOLATION HOLE LOCATION



SITE PLAN

SCALE: 1" = 20'



VICINITY MAP

NTS

PROJECT INFORMATION

APPLICANT

NEVADA COUNTY – HOUSING AND COMMUNITY SERVICES
950 MAIDU AVE
NEVADA CITY, CA 95959
(530) 265–1625
CONTACT: ERIC ZIBBEL

CIVIL ENGINEERING

MILLENNIUM PLANNING & ENGINEERING
159 S. AUBURN STREET
GRASS VALLEY, CALIFORNIA 95945
(530) 446–6765
CONTACT: MICHELLE LAYSHOT, P.E.

SITE ADDRESS

13668 AUBURN ROAD
GRASS VALLEY, CA 95949

APN

023–010–001

SITE AREA

2.0 ACRES

ZONING

RA

Impervious Surface not to exceed 30%

Planning Department approval per Susan McLendon

MILLENNIUM
PLANNING ENGINEERING SURVEYING
159 SOUTH AUBURN STREET, GRASS VALLEY, CA 95945 (530) 446-6765

REV.	DESCRIPTION	DATE
1	SEPTIC , DECK, WALKWAY, WELL	5-1-26
2	PLAN CHECK COMMENTS	5-29-26

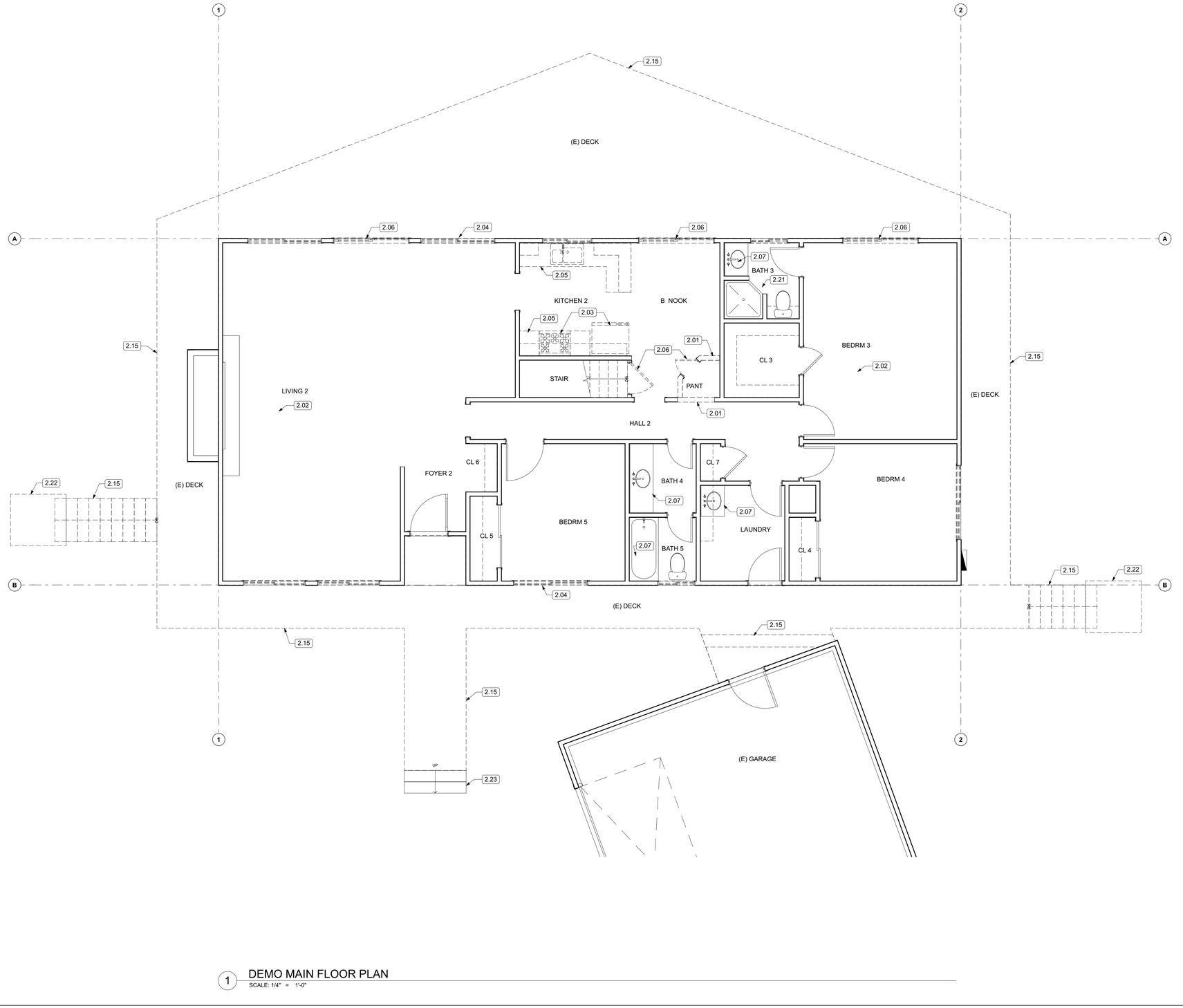
AUBURN ROAD RESIDENCE

13668 AUBURN ROAD
GRASS VALLEY, CA 95949

SITE PLAN

JOB SET

DESIGNED BY: MCL
DRAWN BY: BES
PROJECT NO.: 25-0908
DATE: 04-10-2026
SHEET NUMBER:
C1.0



1 DEMO MAIN FLOOR PLAN
SCALE: 1/4" = 1'-0"

LEGEND

- (E) WALL TO REMAIN
- (E) WALL TO BE DEMOLISHED
- (E) FINISHES TO BE REMOVED, STRUCTURE TO REMAIN

DEMO PLAN NOTES

1. REMOVE EXISTING FINISHES AS NOTED ON PLANS & REPAIR & PREPARE ALL SURFACES FOR FINISHES
2. MATERIAL HAVING SALVAGE VALUE SHALL BECOME THE PROPERTY OF THE OWNER ALL OTHER MATERIAL AND DEBRIS ACCUMULATED AS A RESULT OF DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER.
3. FURNISH, INSTALL, AND MAINTAIN IN SAFE CONDITIONS AT ALL TIMES TEMPORARY PROTECTION REQUIRED TO ENSURE SAFETY FOR PERSONS AND PROPERTY DURING DEMOLITION AND REMOVAL WORK.
4. FURNISH, INSTALL, AND MAINTAIN DUST COVERINGS TO PREVENT THE SPREAD OF DUST BEYOND THE IMMEDIATE AREA WHERE DEMOLITION IS BEING PERFORMED.
5. REMOVE EXISTING ELECTRICAL OUTLETS AND WIRING AS REQUIRED IN WALLS, FLOORS AND FURNISHINGS TO BE DEMOLISHED.
6. ALL ELECTRICAL, PLUMBING AND MECHANICAL WORK (DEMOLITION AND NEW) IS TO BE PERFORMED BY LICENSED, COMPETENT CONTRACTORS.
7. PRIOR TO THE START OF DEMOLITION WORK GENERAL CONTRACTOR SHALL DETERMINE THE LOCATION OF LOAD BEARING PARTITIONS AND COLUMNS AND PROVIDE TEMPORARY SUPPORTS AS REQUIRED BY REMOVAL OR RELOCATION OF SUCH PARTITIONS. G.C. TO ENSURE ALL TEMPORARY SUPPORTS ARE CARRIED TO SUFFICIENT BEARING MATERIALS.
8. REFER TO STRUCTURAL DRAWINGS FOR ALL STRUCTURAL DEMOLITION LOCATIONS & DETAILS.
9. IF ANY HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION, CONTRACTOR SHALL NOTIFY OWNER IN WRITING IMMEDIATELY. CONTRACTOR SHALL COMPLY WITH APPLICABLE REGULATIONS, LAWS AND ORDINANCES RELATIVE TO REMOVAL HANDLING, AND PROTECTION AGAINST EXPOSURE OR ENVIRONMENTAL POLLUTION.
10. ANY INTERRUPTION TO BUILDING UTILITIES SHALL BE CLEARED WITH OWNER 72 HOURS PRIOR TO PROPOSED INTERRUPTION.

KEYNOTES

2.01	DEMOLISH DESIGNATED WALLS INCLUDING STUDS, DRYWALL, AND ASSOCIATED MATERIALS
2.02	REMOVE ALL DESIGNATED FLOORING MATERIALS AND WALL BASE DOWN TO SUBFLOOR OR SUBSTRATE, TYPICAL ALL ROOMS
2.03	REMOVE DESIGNATED PLUMBING FIXTURES, APPLIANCES, AND ASSOCIATED COMPONENTS
2.04	REMOVE ALL WINDOWS, FRAMES, AND ASSOCIATED HARDWARE, TYPICAL ALL EXTERIOR
2.05	REMOVE DESIGNATED CABINETS, COUNTERTOPS, AND ASSOCIATED HARDWARE
2.06	REMOVE DESIGNATED DOORS, FRAMES, AND ASSOCIATED HARDWARE
2.07	PROVIDE ADEQUATE PROTECTION FOR ELEMENTS THAT WILL REMAIN DURING DEMOLITION
2.15	REMOVE EXISTING SECOND FLOOR WOOD FRAMED DECK AND STAIRS
2.21	EXISTING FLOORING TO REMAIN
2.22	REMOVE EXISTING CONCRETE STAIR LANDING
2.23	EXISTING CONCRETE STAIRS TO REMAIN

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APN: 023-010-001-000

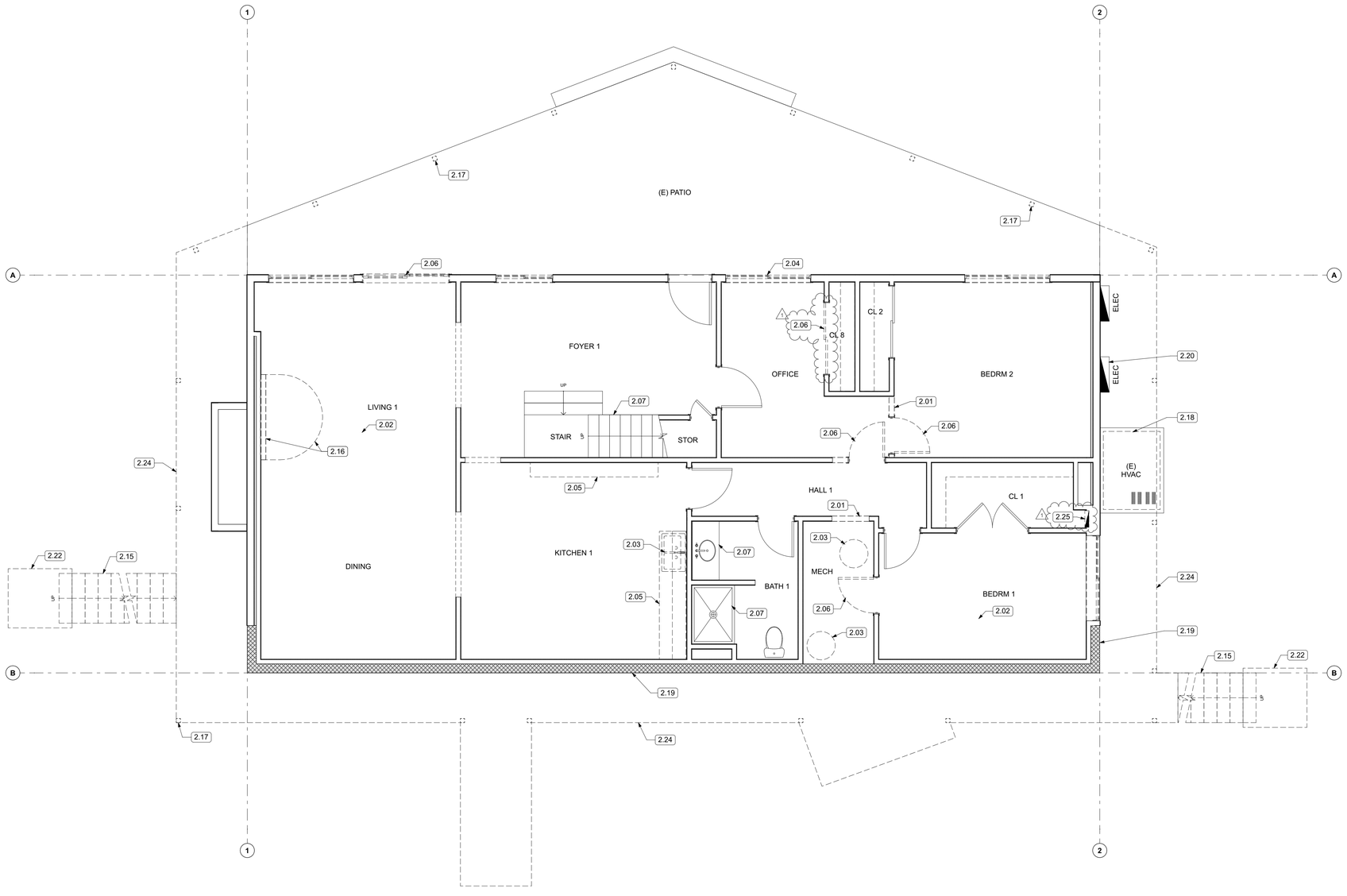
ID	NAME	DATE

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

DEMOLITION MAIN FLOOR PLAN

JOB SET

A1.0



1 DEMO LOWER FLOOR PLAN
SCALE: 1/4" = 1'-0"

LEGEND

(E) WALL TO REMAIN

(E) WALL TO BE DEMOLISHED

(E) FINISHES TO BE REMOVED, STRUCTURE TO REMAIN

DEMO PLAN NOTES

1. REMOVE EXISTING FINISHES AS NOTED ON PLANS & REPAIR & PREPARE ALL SURFACES FOR FINISHES
2. MATERIAL HAVING SALVAGE VALUE SHALL BECOME THE PROPERTY OF THE OWNER ALL OTHER MATERIAL AND DEBRIS ACCUMULATED AS A RESULT OF DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PREMISES BY THE CONTRACTOR AND DISPOSED OF IN A LEGAL AND PROPER MANNER.
3. FURNISH, INSTALL, AND MAINTAIN IN SAFE CONDITIONS AT ALL TIMES TEMPORARY PROTECTION REQUIRED TO ENSURE SAFETY FOR PERSONS AND PROPERTY DURING DEMOLITION AND REMOVAL WORK.
4. FURNISH, INSTALL, AND MAINTAIN DUST COVERINGS TO PREVENT THE SPREAD OF DUST BEYOND THE IMMEDIATE AREA WHERE DEMOLITION IS BEING PERFORMED.
5. REMOVE EXISTING ELECTRICAL OUTLETS AND WIRING AS REQUIRED IN WALLS, FLOORS AND FURNISHINGS TO BE DEMOLISHED.
6. ALL ELECTRICAL, PLUMBING AND MECHANICAL WORK (DEMOLITION AND NEW) IS TO BE PERFORMED BY LICENSED, COMPETENT CONTRACTORS.
7. PRIOR TO THE START OF DEMOLITION WORK GENERAL CONTRACTOR SHALL DETERMINE THE LOCATION OF LOAD BEARING PARTITIONS AND COLUMNS AND PROVIDE TEMPORARY SUPPORTS AS REQUIRED BY REMOVAL OR RELOCATION OF SUCH PARTITIONS. G.C. TO ENSURE ALL TEMPORARY SUPPORTS ARE CARRIED TO SUFFICIENT BEARING MATERIALS.
8. REFER TO STRUCTURAL DRAWINGS FOR ALL STRUCTURAL DEMOLITION LOCATIONS & DETAILS.
9. IF ANY HAZARDOUS MATERIALS ARE ENCOUNTERED DURING DEMOLITION, CONTRACTOR SHALL NOTIFY OWNER IN WRITING IMMEDIATELY. CONTRACTOR SHALL COMPLY WITH APPLICABLE REGULATIONS, LAWS AND ORDINANCES RELATIVE TO REMOVAL HANDLING, AND PROTECTION AGAINST EXPOSURE OR ENVIRONMENTAL POLLUTION.
10. ANY INTERRUPTION TO BUILDING UTILITIES SHALL BE CLEARED WITH OWNER 72 HOURS PRIOR TO PROPOSED INTERRUPTION.

KEYNOTES

2.01 DEMOLISH DESIGNATED WALLS INCLUDING STUDS, DRYWALL, AND ASSOCIATED MATERIALS
2.02 REMOVE ALL DESIGNATED FLOORING MATERIALS AND WALL BASE DOWN TO SUBFLOOR OR SUBSTRATE, TYPICAL ALL ROOMS
2.03 REMOVE DESIGNATED PLUMBING FIXTURES, APPLIANCES, AND ASSOCIATED COMPONENTS
2.04 REMOVE ALL WINDOWS, FRAMES, AND ASSOCIATED HARDWARE, TYPICAL ALL EXTERIOR
2.05 REMOVE DESIGNATED CABINETS, COUNTERTOPS, AND ASSOCIATED HARDWARE
2.06 REMOVE DESIGNATED DOORS, FRAMES, AND ASSOCIATED HARDWARE
2.07 PROVIDE ADEQUATE PROTECTION FOR ELEMENTS THAT WILL REMAIN DURING DEMOLITION
2.15 REMOVE EXISTING SECOND FLOOR WOOD FRAMED DECK AND STAIRS
2.16 REMOVE EXISTING BRICK. PATCH AND REPAIR FLOORING AND WALL TO MATCH ADJACENT FINISHES.
2.17 REMOVE EXISTING WOOD COLUMN AND ASSOCIATED FOOTING, TYPICAL.
2.18 REMOVE AND REPLACE EXISTING HVAC UNIT. SEE MECHANICAL DRAWINGS
2.19 EXISTING CMU RETAINING WALL
2.20 REPLACE EXISTING ZINSCO PANEL, SEE ELECTRICAL DRAWINGS
2.22 REMOVE EXISTING CONCRETE STAIR LANDING
2.24 LINE OF REMOVED WOOD FRAMED DECK ABOVE
2.25 REMOVE EXISTING ZINSCO PANEL. SEE ELECTRICAL DRAWINGS

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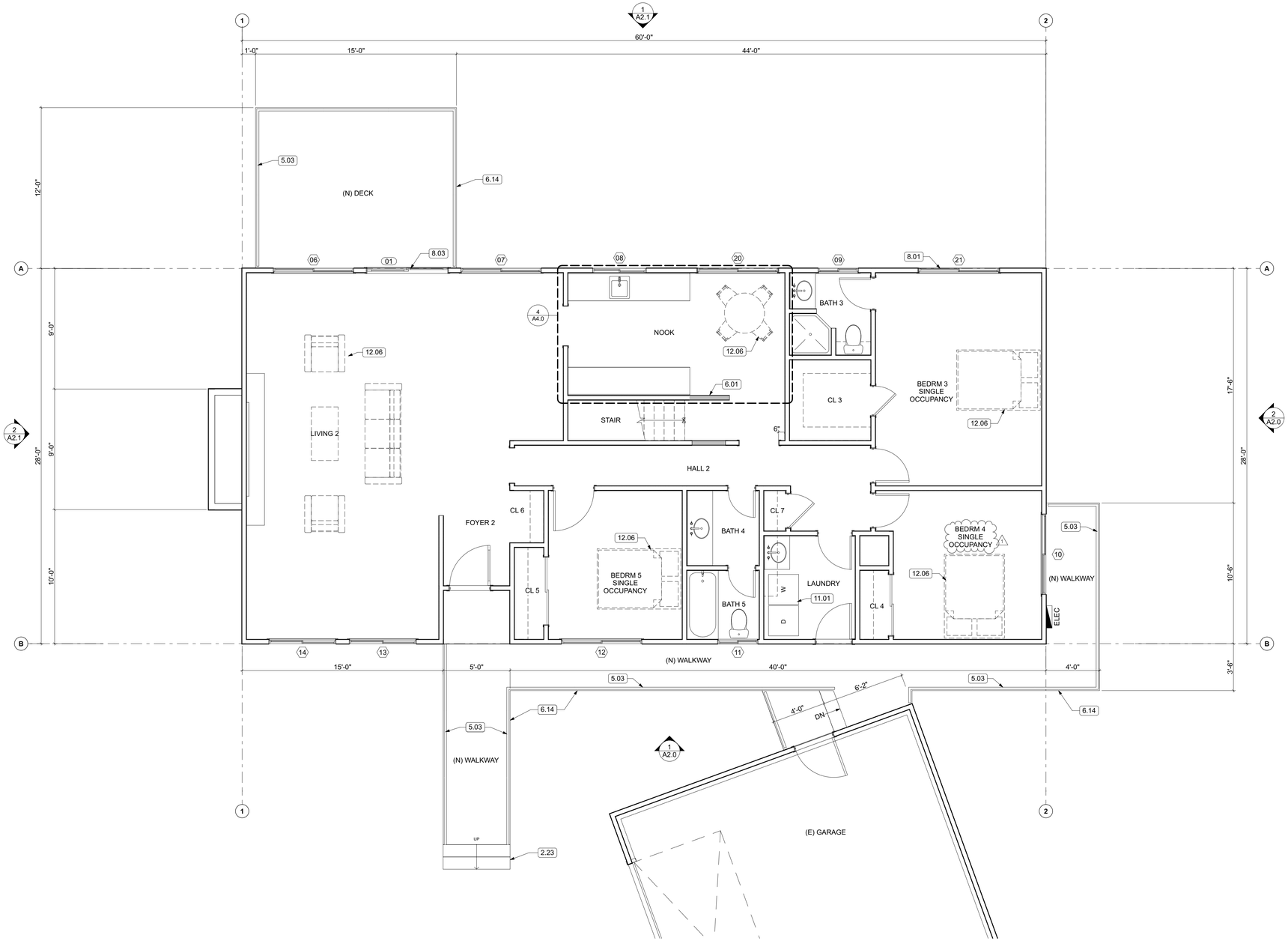
ID	NAME	DATE
1	REV 1	4/29/26

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

DEMOLITION LOWER FLOOR PLAN

JOB SET

A1.1



1 NEW MAIN FLOOR PLAN

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

LEGEND

- (E) WALL TO REMAIN
- (N) WALL
- ROOM NAME / ### — ROOM IDENTIFICATION
- A — WINDOW NUMBER
- 01 — DOOR NUMBER
- 6.01 — KEYNOTE

GENERAL NOTES

REFERENCES

1. REFER TO SHEET A5.0 FOR PARTITION ASSEMBLIES. ALL EXTERIOR WALLS K6 U.N.O. ALL INTERIOR WALLS A4 U.N.O.
2. REFER TO SHEET A6.0 FOR WINDOW & DOOR SCHEDULES.
3. REFER TO ENLARGED PLANS ON SHEET A4.0 FOR ADDITIONAL NOTATION AND DIMENSIONS.
4. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS.
5. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING GENERAL NOTES ON SHEET G1.0
6. INSTALL FINISHES PER FINISH PLAN ON SHEET A1.4
7. INSTALL WINDOWS & DOORS PER SCHEDULE ON SHEET A6.0

NOTES

1. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. SUBCONTRACTOR TO VERIFY ALL DIM. PRIOR TO CONSTRUCTION
2. EXTERIOR DIMENSIONS ARE MEASURED TO FACE OF STRUCTURAL STUD / CMU / SLAB EDGE OR CENTERLINE OF STRUCTURE U.N.O.
3. INTERIOR DIMENSIONS ARE MEASURED TO FACE OF STUD, U.N.O.
4. DOORS AND WINDOWS ARE MEASURED TO CENTERLINE OF OPENINGS.
5. ALL ANGLED WALLS ARE AT 45 DEGREES U.N.O.
6. SET JAMB AT HINGE SIDE OF:
   EXTERIOR DOORS @ 4.5" U.N.O.
   INTERIOR DOORS @ 4.5" U.N.O.
7. PROVIDE MIN. 36"x36" LEVEL LANDINGS OUTSIDE AT ALL EXTERIOR DOORS PER CRC SECTION R311.3, WITH LANDINGS NOT MORE THAN 7.75" BELOW INSIDE FINISHED FLOORS AT INWARD SWINGING (OR SLIDING) DOORS AND 1.5" AT OUTWARD SWINGING PER CRC SECTION R311.3.1. ALL LANDINGS SHALL SLOPE 1/4"/FT AWAY FROM DOORS MIN.TYP. PROVIDE MIN. 12" CLASS 2 AGGREGATE BASEROCK UNDER SLABS AT ALL DOORWAY LANDINGS, TYP.
8. GLASS DOORS & PANELS OF SHOWER & BATHTUB ENCLOSURES & ADJACENT WALL OPENINGS WITHIN 60" ABOVE A STANDING SURFACE OR DRAIN INLET SHALL BE TEMPERED SAFETY GLASS, AS PER CRC SECTION R308.4.5.
9. BATHROOM FLOORS TO HAVE SKID-RESISTANT SURFACE.
10. BASE LINING MATERIAL BENEATH SHOWER PAN SLOPED TO DRAIN AS PER CPC SECTION 408.7.
11. OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT A SPHERE 4 INCHES IN DIAMETER CANNOT PASS THROUGH.
12. PROVIDE FIREBLOCKING IN CONCEALED SPACES PER CRC R302.11.

WILDLAND URBAN INTERFACE

1. PROPOSED CONSTRUCTION MATERIALS ARE NON-COMBUSTIBLE / IGNITION RESISTANT PER CRC SECTION R337.4
2. PROPOSED ROOFING SHALL COMPLY WITH CRC SECTION R337.5
3. VENTING FOR SOFFITS AND EAVES SHALL HAVE MESH SCREENING PER CRC SECTION R337.6
4. EXTERIOR WINDOWS AND DOORS SHALL BE MULTI-PANED, TEMPERED GLASS PER CRC SECTION R337.8
5. EXTERIOR DECKING AND WALKWAYS SHALL BE NON-COMBUSTIBLE, IGNITION RESISTANT PER CRC SECTION R327.9

KEYNOTES

2.23	EXISTING CONCRETE STAIRS TO REMAIN
5.03	INSTALL 42" HIGH CODE-COMPLIANT METAL GUARDRAILS WITH SURFACE ANCHORING PER STRUCTURAL DRAWINGS
6.01	INSTALL WOOD FRAMING WITH REQUIRED SEISMIC BLOCKING AND CONNECTIONS, TYPICAL
6.14	NEW DECK / WALKWAY FRAMING PER STRUCTURAL DRAWINGS
8.01	INSTALL ENERGY-EFFICIENT WINDOWS WITH LOW-EMISSIVITY GLASS. TYPICAL AT ALL EXTERIOR
8.03	INSTALL INSULATED EXTERIOR DOORS WITH WEATHERSTRIPPING AND THRESHOLDS
11.01	INTALL NEW WASHER AND DRYER
12.06	NEW FURNITURE, SHOWN DASHED, TYP

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ARCHITECTURE + DESIGN

LICENSED ARCHITECT
RUSSELL DAVIDSON
No. C36895
Ren. 11-30-27
STATE OF CALIFORNIA

AUBURN RESIDENCE

13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

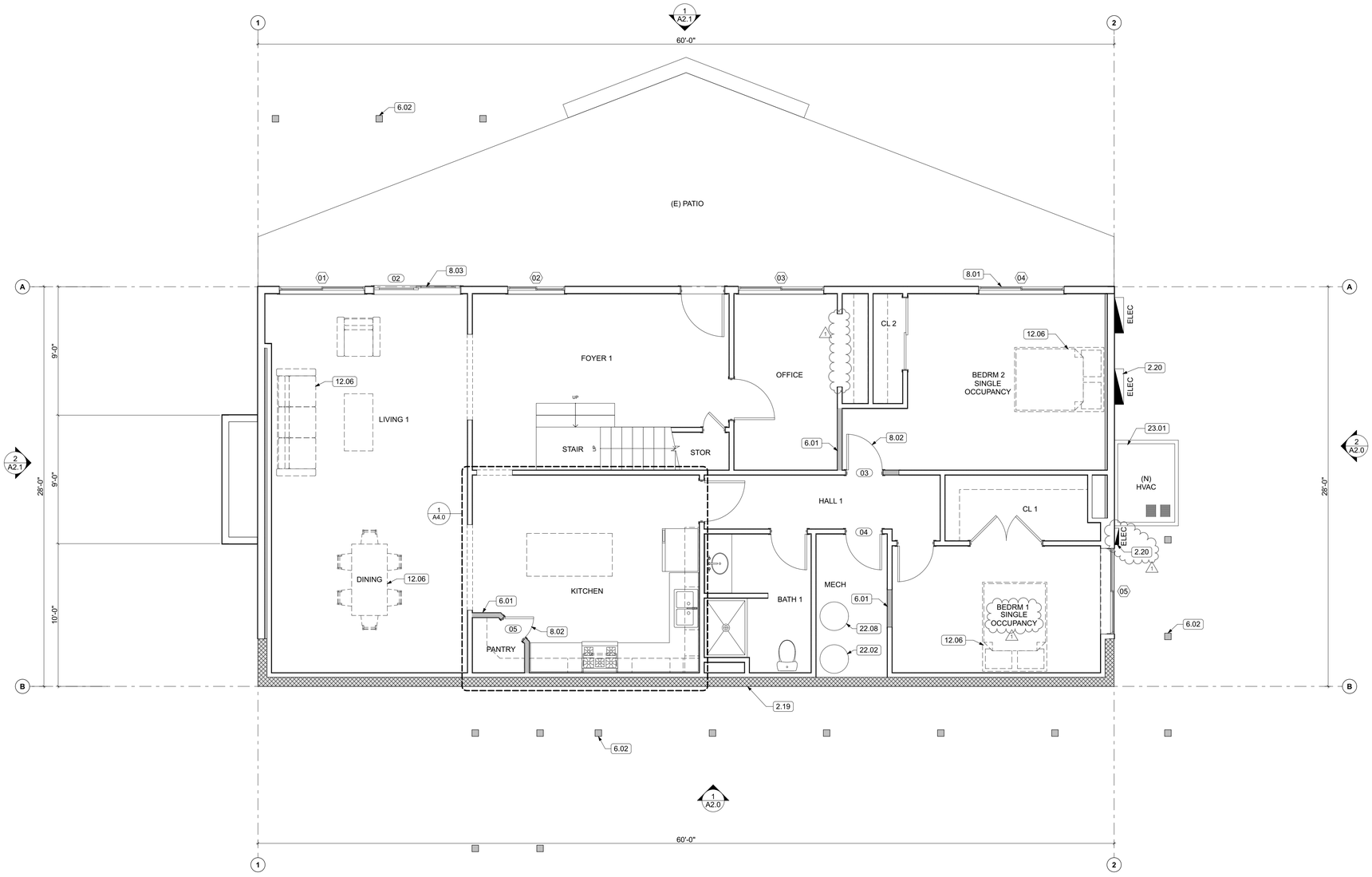
ID	NAME	DATE
1	REV 1	4/29/26

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

NEW MAIN FLOOR PLAN

JOB SET

A1.2



1 NEW LOWER FLOOR PLAN
SCALE: 1/4" = 1'-0"

LEGEND

- (E) WALL TO REMAIN
- (N) WALL
- ROOM NAME / ### — ROOM IDENTIFICATION
- A — WINDOW NUMBER
- 01 — DOOR NUMBER
- 6.01 — KEYNOTE

GENERAL NOTES

REFERENCES

1. REFER TO SHEET A5.0 FOR PARTITION ASSEMBLIES. ALL EXTERIOR WALLS K6 U.N.O. ALL INTERIOR WALLS A4 U.N.O.
2. REFER TO SHEET A6.0 FOR WINDOW & DOOR SCHEDULES.
3. REFER TO ENLARGED PLANS ON SHEET A4.0 FOR ADDITIONAL NOTATION AND DIMENSIONS.
4. REFER TO REFLECTED CEILING PLAN FOR CEILING HEIGHTS.
5. REFER TO MECHANICAL, ELECTRICAL AND PLUMBING GENERAL NOTES ON SHEET G1.0
6. INSTALL FINISHES PER FINISH PLAN ON SHEET A1.4
7. INSTALL WINDOWS & DOORS PER SCHEDULE ON SHEET A6.0

NOTES

1. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. SUBCONTRACTOR TO VERIFY ALL DIM. PRIOR TO CONSTRUCTION
2. EXTERIOR DIMENSIONS ARE MEASURED TO FACE OF STRUCTURAL STUD / CMU / SLAB EDGE OR CENTERLINE OF STRUCTURE U.N.O.
3. INTERIOR DIMENSIONS ARE MEASURED TO FACE OF STUD, U.N.O.
4. DOORS AND WINDOWS ARE MEASURED TO CENTERLINE OF OPENINGS.
5. ALL ANGLED WALLS ARE AT 45 DEGREES U.N.O.
6. SET JAMB AT HINGE SIDE OF:
   EXTERIOR DOORS @ 4.5" U.N.O.
   INTERIOR DOORS @ 4.5" U.N.O.
7. PROVIDE MIN. 36"x36" LEVEL LANDINGS OUTSIDE AT ALL EXTERIOR DOORS PER CRC SECTION R311.3, WITH LANDINGS NOT MORE THAN 7.75" BELOW INSIDE FINISHED FLOORS AT INWARD SWINGING (OR SLIDING) DOORS AND 1.5" AT OUTWARD SWINGING PER CRC SECTION R311.3.1. ALL LANDINGS SHALL SLOPE 1/4"/FT AWAY FROM DOORS MIN.TYP. PROVIDE MIN. 12" CLASS 2 AGGREGATE BASEROCK UNDER SLABS AT ALL DOORWAY LANDINGS, TYP.
8. GLASS DOORS & PANELS OF SHOWER & BATHTUB ENCLOSURES & ADJACENT WALL OPENINGS WITHIN 60" ABOVE A STANDING SURFACE OR DRAIN INLET SHALL BE TEMPERED SAFETY GLASS, AS PER CRC SECTION R308.4.5.
9. BATHROOM FLOORS TO HAVE SKID-RESISTANT SURFACE.
10. BASE LINING MATERIAL BENEATH SHOWER PAN SLOPED TO DRAIN AS PER CPC SECTION 408.7.
11. OPEN GUARDRAILS SHALL HAVE INTERMEDIATE RAILS OR AN ORNAMENTAL PATTERN SUCH THAT A SPHERE 4 INCHES IN DIAMETER CANNOT PASS THROUGH.
12. PROVIDE FIREBLOCKING IN CONCEALED SPACES PER CRC R302.11.

WILDLAND URBAN INTERFACE

1. PROPOSED CONSTRUCTION MATERIALS ARE NON-COMBUSTIBLE / IGNITION RESISTANT PER CRC SECTION R337.4
2. PROPOSED ROOFING SHALL COMPLY WITH CRC SECTION R337.5
3. VENTING FOR SOFFITS AND EAVES SHALL HAVE MESH SCREENING PER CRC SECTION R337.6
4. EXTERIOR WINDOWS AND DOORS SHALL BE MULTI-PANED, TEMPERED GLASS PER CRC SECTION R337.8
5. EXTERIOR DECKING AND WALKWAYS SHALL BE NON-COMBUSTIBLE, IGNITION RESISTANT PER CRC SECTION R327.9

KEYNOTES

2.19	EXISTING CMU RETAINING WALL
2.20	REPLACE EXISTING ZINSCO PANEL, SEE ELECTRICAL DRAWINGS
6.01	INSTALL WOOD FRAMING WITH REQUIRED SEISMIC BLOCKING AND CONNECTIONS, TYPICAL
6.02	INSTALL NEW WOOD COLUMNS PER STRUCTURAL
8.01	INSTALL ENERGY-EFFICIENT WINDOWS WITH LOW-EMISSIVITY GLASS. TYPICAL AT ALL EXTERIOR
8.02	INSTALL INTERIOR DOORS WITH CASINGS, HARDWARE, AND PROPER OPERATION, TYPICAL
8.03	INSTALL INSULATED EXTERIOR DOORS WITH WEATHERSTRIPPING AND THRESHOLDS
12.06	NEW FURNITURE, SHOWN DASHED, TYP
22.02	INSTALL NEW WATER HEATER PER PLUMBING DRAWINGS
22.08	RELOCATED EXISTING PRESSURE TANK PER PLUMBING DRAWINGS
23.01	INSTALL NEW HVAC UNIT. SEE MECHANICAL DRAWINGS.

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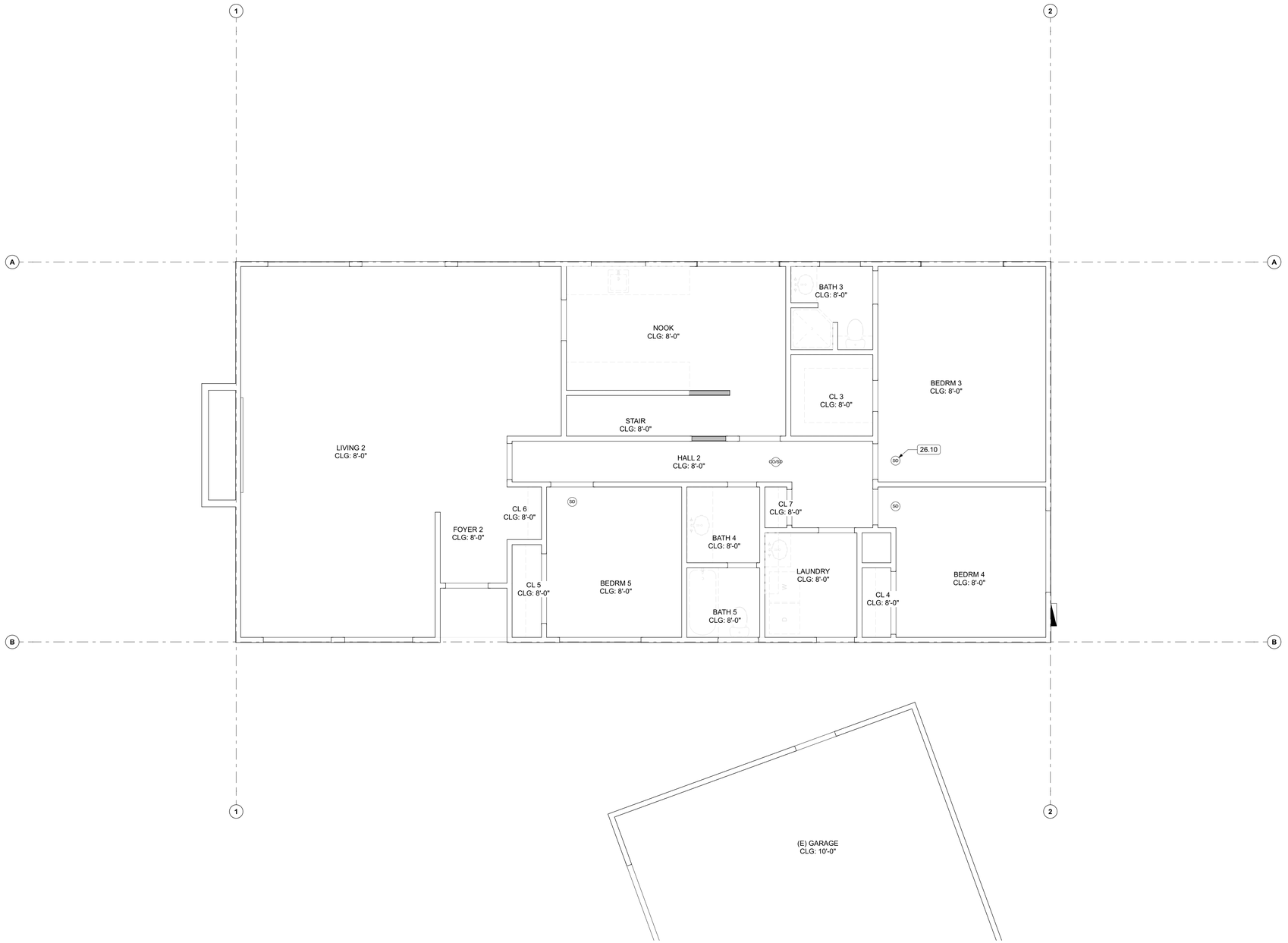
NEW LOWER FLOOR PLAN

JOB SET

A1.3



1 NEW MAIN REFLECTED CEILING PLAN

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

PLAN NOTES

1. WHERE BEAMS, PIPES AND OR OTHER CONSTRUCTION DETAILS PREVENT THE USE OF STANDARD RECESSED FIXTURES, SHALLOW RECESSED FIXTURES SHALL BE USED. (FIXTURE CUTS SHALL BE SUBMITTED FOR APPROVAL BY ARCHITECT OR ENGINEER.)
2. LAYOUT REQUIREMENTS: CONTRACTOR SHALL COORDINATE ALL STRUCTURAL FRAMING WITH ARCHITECTURAL LIGHTING, REFLECTED CEILING PLANS, MECHANICAL, PLUMBING, AND ELECTRICAL INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO, RECESSED AND SEMI- RECESSED LIGHTING, ROOF DRAINS, FIRE SPRINKLER PIPES AND HEADS, AND PLUMBING DRAINS, WASTE AND SUPPLY LINES.
3. CEILING HEIGHTS SHALL BE AS SHOWN ON ARCHITECTS REFLECTED CEILING PLAN AND ANY DEVIATION FROM HEIGHTS SHOWN SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL
4. PRIOR TO ENCLOSING ANY CEILING, ANY PLENUM SYSTEMS (HVAC, PLUMBING & ELECTRICAL) SHALL BE INSPECTED AND WHERE REQUIRED, TESTED BY CONTRACTORS, ENGINEERS AND PROPER AUTHORITIES HAVING JURISDICTION TO INSURE THEIR PROPER INSTALLATION AND FUNCTION.
5. WHERE CALIFORNIA FRAMING OCCURS PROVIDE MIN. 22" x 30" ACCESS THROUGH EXISTING ROOF SHEATHING.
6. THE CONTRACTOR SHALL PROVIDE ADEQUATE SPACE FOR MAINTENANCE ACCESS TO ALL LIGHT FIXTURES AS PER MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODES.

LEGEND

- DUPLEX OUTLET
- GFCI DUPLEX OUTLET
- OVERHEAD GFCI DUPLEX OUTLET
- FLOOR OUTLET
- WATERPROOF DUPLEX OUTLET
- 240V DUPLEX OUTLET
- SWITCHED DUPLEX OUTLET
- SWITCH
- 3-WAY SWITCH
- DIMMER SWITCH
- VACANCY SWITCH
- ELECTRICAL PANEL (200A UNO)
- SMOKE DETECTOR
- CO DETECTOR
- CO/SD COMBO DETECTOR
- FAN / LIGHT COMBO
- RECESSED LIGHT
- PENDANT FIXTURE
- CEILING MOUNT FIXTURE
- WALL MOUNTED FIXTURE
- UNDERCOUNTER LIGHT
- FLOURESCENT FIXTURE
- CEILING FAN

KEYNOTES

26.10 INSTALL NEW DETECTORS PER ELECTRICAL DRAWINGS, TYPICAL

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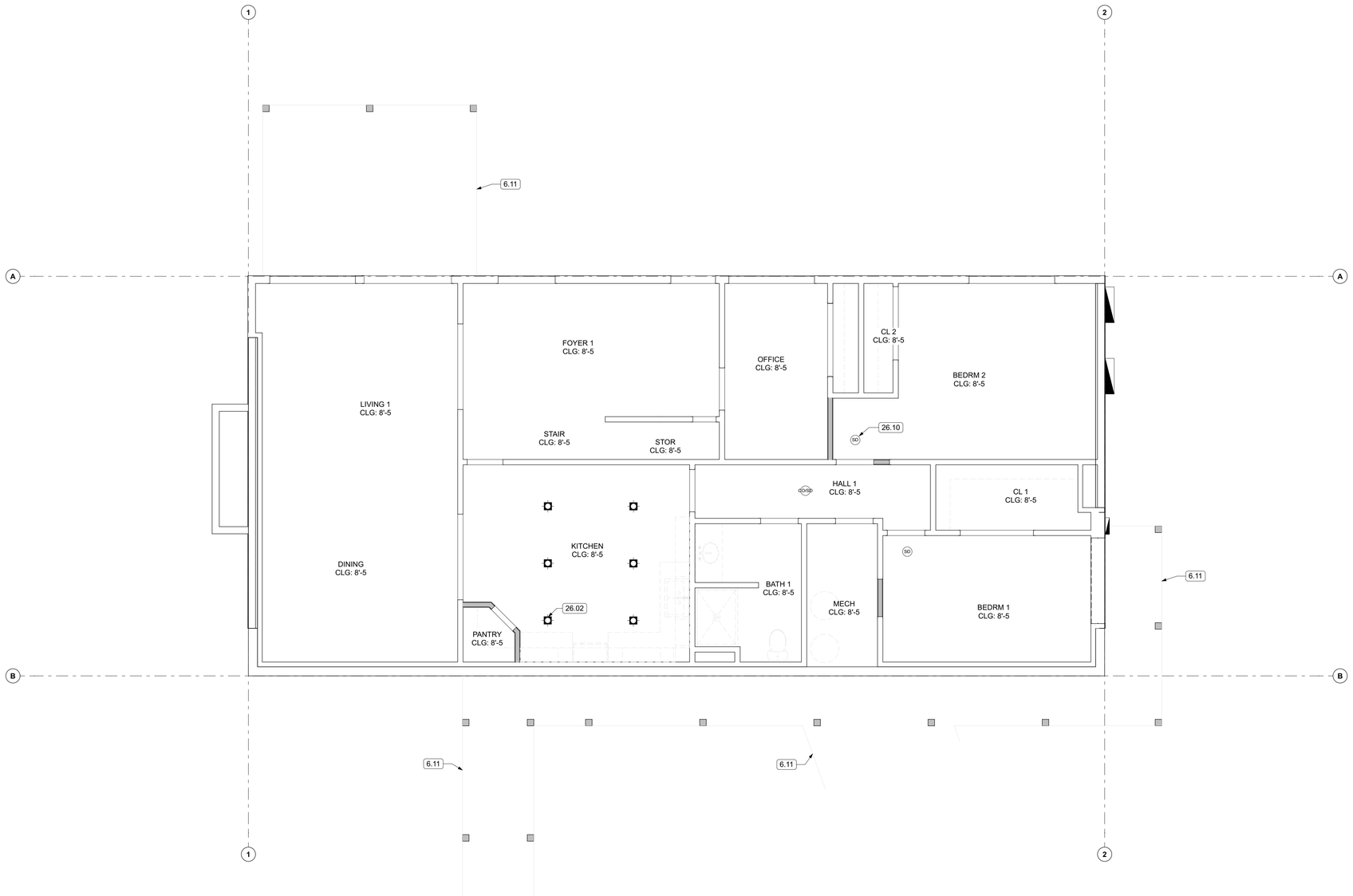
NEW MAIN REFLECTED CEILING PLAN

JOB SET

A1.4



1 NEW LOWER REFLECTED CEILING PLAN

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

PLAN NOTES

1. WHERE BEAMS, PIPES AND OR OTHER CONSTRUCTION DETAILS PREVENT THE USE OF STANDARD RECESSED FIXTURES, SHALLOW RECESSED FIXTURES SHALL BE USED. (FIXTURE CUTS SHALL BE SUBMITTED FOR APPROVAL BY ARCHITECT OR ENGINEER.)
2. LAYOUT REQUIREMENTS: CONTRACTOR SHALL COORDINATE ALL STRUCTURAL FRAMING WITH ARCHITECTURAL LIGHTING, REFLECTED CEILING PLANS, MECHANICAL, PLUMBING, AND ELECTRICAL INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO, RECESSED AND SEMI- RECESSED LIGHTING, ROOF DRAINS, FIRE SPRINKLER PIPES AND HEADS, AND PLUMBING DRAINS, WASTE AND SUPPLY LINES.
3. CEILING HEIGHTS SHALL BE AS SHOWN ON ARCHITECTS REFLECTED CEILING PLAN AND ANY DEVIATION FROM HEIGHTS SHOWN SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL
4. PRIOR TO ENCLOSING ANY CEILING, ANY PLENUM SYSTEMS (HVAC, PLUMBING & ELECTRICAL) SHALL BE INSPECTED AND WHERE REQUIRED, TESTED BY CONTRACTORS, ENGINEERS AND PROPER AUTHORITIES HAVING JURISDICTION TO INSURE THEIR PROPER INSTALLATION AND FUNCTION.
5. WHERE CALIFORNIA FRAMING OCCURS PROVIDE MIN. 22" x 30" ACCESS THROUGH EXISTING ROOF SHEATHING.
6. THE CONTRACTOR SHALL PROVIDE ADEQUATE SPACE FOR MAINTENANCE ACCESS TO ALL LIGHT FIXTURES AS PER MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODES.

LEGEND

- DUPLEX OUTLET
- GFCI DUPLEX OUTLET
- OVERHEAD GFCI DUPLEX OUTLET
- FLOOR OUTLET
- WATERPROOF DUPLEX OUTLET
- 240V DUPLEX OUTLET
- SWITCHED DUPLEX OUTLET
- SWITCH
- 3-WAY SWITCH
- DIMMER SWITCH
- VACANCY SWITCH
- ELECTRICAL PANEL (200A UNO)
- SMOKE DETECTOR
- CO DETECTOR
- CO/SD COMBO DETECTOR
- FAN / LIGHT COMBO
- RECESSED LIGHT
- PENDANT FIXTURE
- CEILING MOUNT FIXTURE
- WALL MOUNTED FIXTURE
- UNDERCOUNTER LIGHT
- FLOURESCENT FIXTURE
- CEILING FAN

KEYNOTES

6.11 LINE OF NEW DECK ABOVE

26.02 INSTALL NEW LIGHT FIXTURES PER ELECTRICAL DRAWING E1. TYPICAL.

26.10 INSTALL NEW DETECTORS PER ELECTRICAL DRAWINGS, TYPICAL

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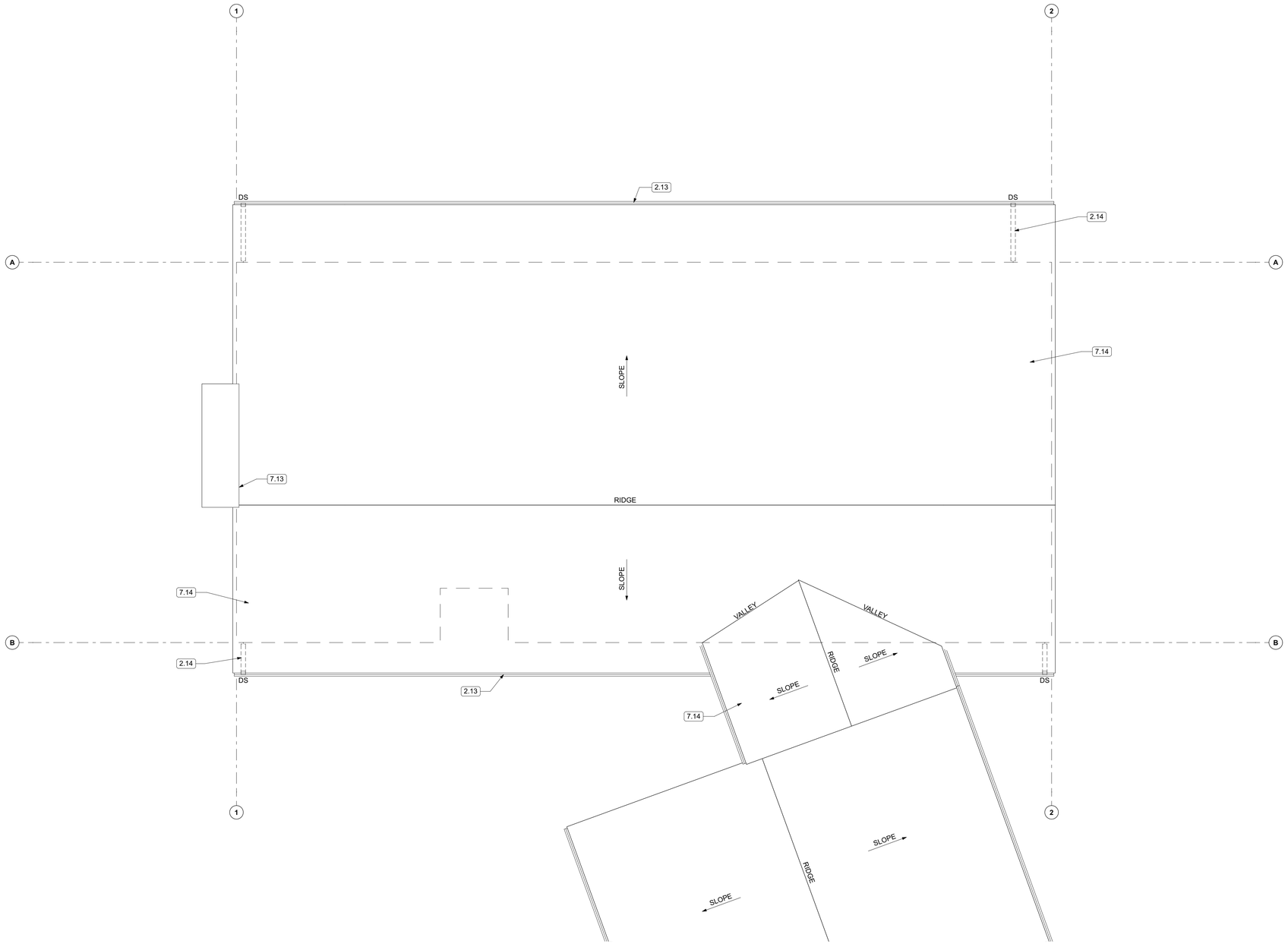
NEW LOWER REFLECTED CEILING PLAN

JOB SET

A1.5



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

LEGEND

WALL BELOW

DS 3" DOWNSPOUT

ROOF PLAN NOTES

1. THE CONTRACTOR SHALL HAVE PRESENT AT INSPECTIONS A COPY OF THE ICC-ES EVALUATION REPORT ON THE ROOFING SYSTEM.
2. ALL ROOF COVERING SHALL BE 'IGNITION RESISTANT' COMPLYING WITH CRC SECTION R902.1 AND CLASS "A".

   CLASS 'A' ROOFING COVERING: GAF TIMBERLINE OR EQUAL.
3. ALL ROOFING WORK MUST ADHERE TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS TO MAINTAIN WARRANTY COVERAGE.
4. ALL ROOF AND DECK SURFACES SHALL SLOPE AT 1/4" PER FOOT MINIMUM, U.O.N.
5. PROVIDE 1/2" EXT-GRADE SHEATHING OVER 2X CRICKETING AT 16" O.C. SLOPED TO DRAIN 1/4" PER FOOT MIN. OVER 5/8" STRUCTURAL PLYWOOD SHEATHING W/ INTEGRAL RADIANT BARRIER AT ALL CHIMNEYS, MECHANICAL EQUIPMENT, AND OTHER LOCATIONS AS REQUIRED FOR POSITIVE DRAINAGE TOWARD DRAINS.
6. FLASH AND SEAL ALL ROOF PENETRATIONS SUCH AS VENTS, FANS, HOODS, AS REQUIRED FOR A WATER-TIGHT INSTALLATION.
7. NOT USED.
8. 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.
9. ANY ROOF GUTTERS SHALL BE PROVIDED WITH MEANS TO PREVENT ACCUMULATION OF LEAVES AND DEBRIS.
10. SKYLIGHTS SHALL BE TEMPERED GLASS.
11. ALL VENTS (ROOF, FOUNDATION, COMBUSTION-AIR, ETC) SHALL RESIST THE INTRUSION OF FLAMES AND EMBERS
12. 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)
13. NOT USED.
14. NOT USED.
15. ALL SHEET METAL FLASHING AND TRIM SHALL BE G.S.M.
16. ENCLOSED RAFTER SPACES SHALL HAVE 1 IN. CLEAR CROSS VENTILATION.

KEYNOTES

2.13 EXISTING GUTTER TO REMAIN, REPAIR AS REQUIRED TYPICAL

2.14 EXISTING DOWNSPOUT TO REMAIN. REPAIR TERMINATION TO DIVERT WATER AWAY FROM FOUNDATION

7.13 REAPIR SIDING, TRIM AND FLASHING AS REQUIRED

7.14 EXISTING ROOF TO REMAIN. REPAIR DAMAGED ROOF SHINGLES, FLASHING AND GUTTERS, TYPICAL.

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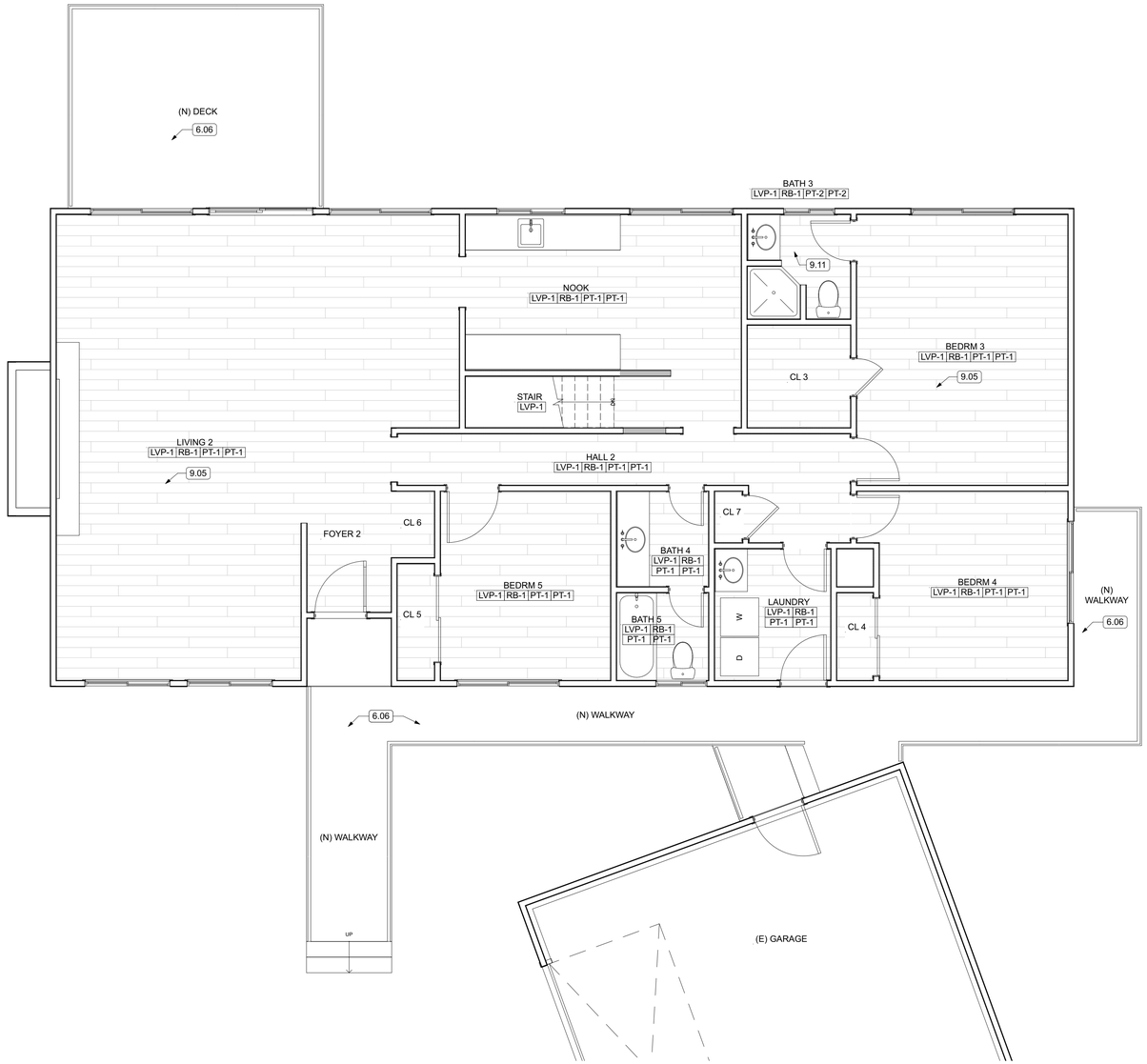
NEW ROOF PLAN

JOB SET

A1.6



1 NEW MAIN FLOOR FINISH PLAN
SCALE: 1/4" = 1'-0"

FINISH NOTES

1. THE FINISHES NOTED ON THE PLANS INDICATES THE TYPES AND EXTENT OF FINISHES. REFER TO OTHER CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.
2. SUBMIT SAMPLES IN ACCORDANCE WITH SPECIFICATIONS OF EACH FINISH AND FLOOR COVERING TO THE ARCHITECT FOR REVIEW AND APPROVAL BEFORE BEGINNING WORK. THE ARCHITECT HAS TEN (10) WORKING DAYS TO PROCESS SHOP DRAWINGS.
3. SUBSTITUTIONS, REVISIONS OR CHANGES MUST HAVE APPROVAL OF THE ARCHITECT PRIOR TO PURCHASE AND INSTALLATION
4. PAINT AT ALL INTERIOR WALLS & CEILINGS TO BE LOW SHEEN, UNLESS OTHERWISE NOTED.
5. NO GYP. BD. SURFACES EXPOSED TO VIEW SHALL BE LEFT UNFINISHED OR UNPAINTED.
6. "WATER RESISTANT" GYP. BD. AND/OR CEMENTITOUS BOARD AT ALL BATHROOMS, POWDER ROOM, AND UTILITY ROOM.
7. VERIFY WITH MANUFACTURER'S SPECIFICATIONS THAT FLOOR FINISHES ARE COMPATIBLE WITH RADIANT FLOOR HEATING SYSTEM IN AREAS WHERE INSTALLED.
8. ALL FINISH SURFACES OF MILLWORK TO BE FILLED, SEALED, AND SANDED SMOOTH. PAINT FINISHES AT MILL WORK TO BE SPRAYED ON FOR A SMOOTH FINISH FREE OF STREAKS, DROPS, BLOBS, ETC.
9. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER OR GYPSUM BOARD WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, EXCEPT FLOORS.
10. IN ALL CASES, PROVIDE ISOLATION OF ALUMINUM FROM ADJACENT STEEL OR COAT SURFACES IN CONTACT WITH BITUMINOUS PAINTS.

FINISH LEGEND

ROOM NAME
FLOOR | BASE | WALL | CEILING

FLOOR

LVP-1:
MANUFACTURER: LUXURY VINYL PLANK
COLOR: MANNIGNTON OR EQUAL
NUMBER: TBD
INSTALLATION: TBD
LOCATION: AS SHOWN ON PLAN
AS NOTED

SC-1:
MANUFACTURER: SEALED CONCRETE
FINISH: BENJAMIN MOORE OR EQUAL
NUMBER: CLEAR ACRYLIC SEALER
LOCATION: HP1270
AS NOTED

BASE:

RB-1:
MANUFACTURER: RUBBER BASE
COLOR: ROPPE OR EQUAL
TYPE: 150 DARK GREY
LOCATION: 4" TOPSET COVE
THROUGHOUT, UON

PAINT:

PT-1:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
COLOR: SWISS COFFEE
NUMBER: OC-45
FINISH: EGGSHELL
LOCATION: AS NOTED

PT-2:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
COLOR: SWISS COFFEE
NUMBER: OC-45
FINISH: SEMI-GLOSS
LOCATION: AS NOTED

PT-3:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
COLOR: CHANTILLY LACE
NUMBER: 2121-70
FINISH: SEMI-GLOSS
LOCATION: ALL WOOD TRIM

COUNTER:

QC-1:
MANUFACTURER: QUARTZ COMPOSITE:
COLOR: VIATERA OR EQUAL
NUMBER: TBD
LOCATION: KITCHEN & NOOK

CASEWORK:

MANUFACTUER: TBD
COLOR: FACTORY PAINT FINISH
LOCATION: KITCHEN & NOOK

DECK:

CD-1: COMPOSITE DECK
MANUFACTUER: TREX TRANSCEND OR APPROVED EQUAL
COLOR: TBD
NUMBER: TBD

NOTE: (E) = EXISTING TO REMAIN

NOTE: CLOSET FINISHES TO BE THE SAME AS ADJOINING ROOM

KEYNOTES

6.06 INSTALL COMPOSITE DECK BOARDS CD-1 WITH PROPER SPACING AND FASTENING SYSTEM
9.05 INSTALL LVT/LVP FLOORING WITH PROPER SUBFLOOR PREPARATION
9.11 INSTALL NEW LUXURY VINYL PLANK (LVP) OVER EXISTING FLOORING.

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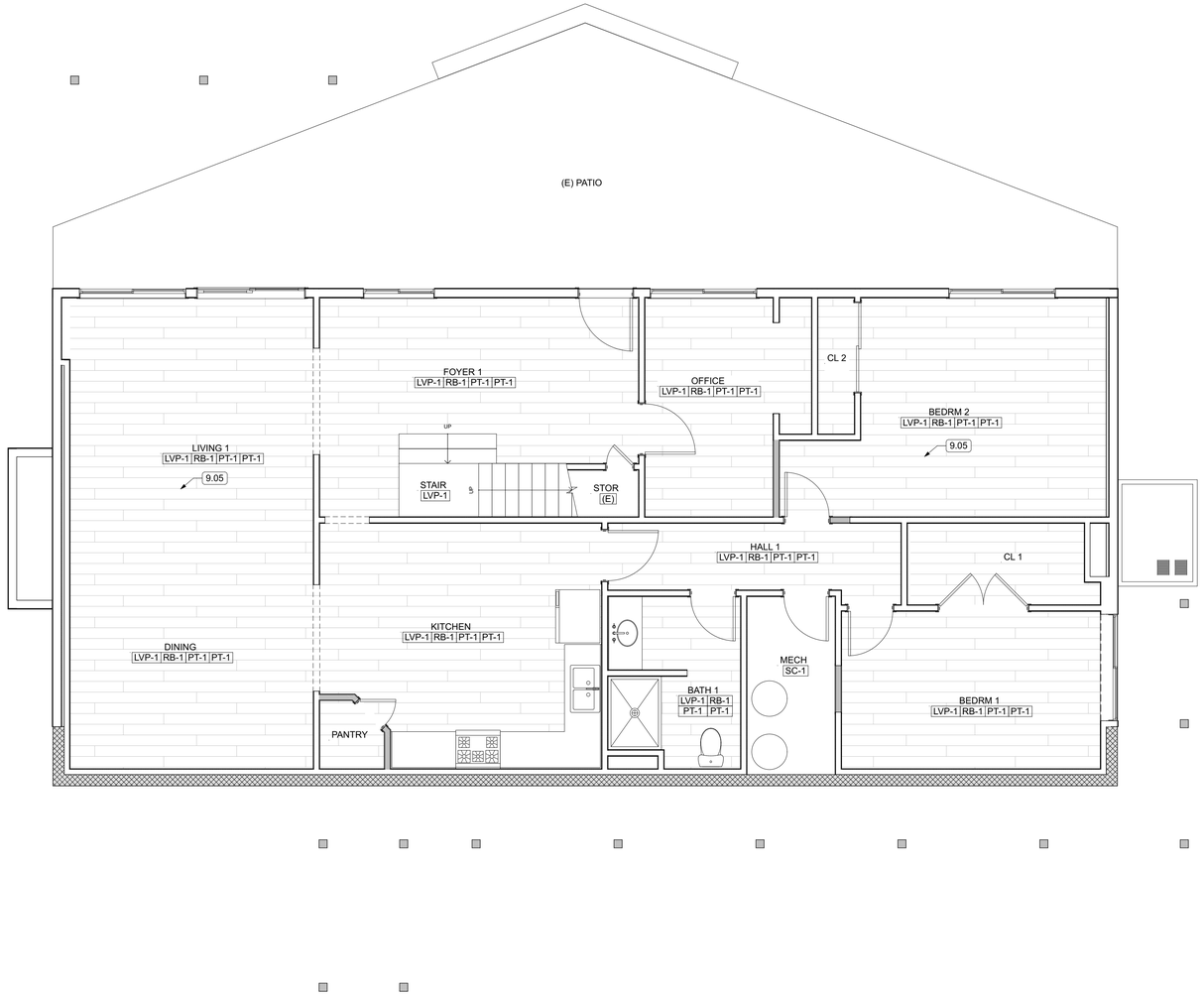
NEW MAIN FLOOR FINISH PLAN

JOB SET

A1.7



1 NEW LOWER FLOOR FINISH PLAN
SCALE: 1/4" = 1'-0"

FINISH NOTES

1. THE FINISHES NOTED ON THE PLANS INDICATES THE TYPES AND EXTENT OF FINISHES. REFER TO OTHER CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION.
2. SUBMIT SAMPLES IN ACCORDANCE WITH SPECIFICATIONS OF EACH FINISH AND FLOOR COVERING TO THE ARCHITECT FOR REVIEW AND APPROVAL BEFORE BEGINNING WORK. THE ARCHITECT HAS TEN (10) WORKING DAYS TO PROCESS SHOP DRAWINGS.
3. SUBSTITUTIONS, REVISIONS OR CHANGES MUST HAVE APPROVAL OF THE ARCHITECT PRIOR TO PURCHASE AND INSTALLATION
4. PAINT AT ALL INTERIOR WALLS & CEILINGS TO BE LOW SHEEN, UNLESS OTHERWISE NOTED.
5. NO GYP. BD. SURFACES EXPOSED TO VIEW SHALL BE LEFT UNFINISHED OR UNPAINTED.
6. "WATER RESISTANT" GYP. BD. AND/OR CEMENTITOUS BOARD AT ALL BATHROOMS, POWDER ROOM, AND UTILITY ROOM.
7. VERIFY WITH MANUFACTURER'S SPECIFICATIONS THAT FLOOR FINISHES ARE COMPATIBLE WITH RADIANT FLOOR HEATING SYSTEM IN AREAS WHERE INSTALLED.
8. ALL FINISH SURFACES OF MILLWORK TO BE FILLED, SEALED, AND SANDED SMOOTH. PAINT FINISHES AT MILL WORK TO BE SPRAYED ON FOR A SMOOTH FINISH FREE OF STREAKS, DROPS, BLOBS, ETC.
9. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF PLASTER OR GYPSUM BOARD WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, EXCEPT FLOORS.
10. IN ALL CASES, PROVIDE ISOLATION OF ALUMINUM FROM ADJACENT STEEL OR COAT SURFACES IN CONTACT WITH BITUMINOUS PAINTS.

FINISH LEGEND

ROOM NAME
FLOOR | BASE | WALL | CEILING

FLOOR

LVP-1:
MANUFACTURER: MANNIGNTON OR EQUAL
COLOR: TBD
NUMBER: TBD
INSTALLATION: AS SHOWN ON PLAN
LOCATION: AS NOTED

SC-1:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
FINISH: CLEAR ACRYLIC SEALER
NUMBER: HP1270
LOCATION: AS NOTED

BASE:

RB-1:
MANUFACTURER: ROPPE OR EQUAL
COLOR: 150 DARK GREY
TYPE: 4" TOPSET COVE
LOCATION: THROUGHOUT, UON

PAINT:

PT-1:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
COLOR: SWISS COFFEE
NUMBER: OC-45
FINISH: EGGSHELL
LOCATION: AS NOTED

PT-2:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
COLOR: SWISS COFFEE
NUMBER: OC-45
FINISH: SEMI-GLOSS
LOCATION: AS NOTED

PT-3:
MANUFACTURER: BENJAMIN MOORE OR EQUAL
COLOR: CHANTILLY LACE
NUMBER: 2121-70
FINISH: SEMI-GLOSS
LOCATION: ALL WOOD TRIM

COUNTER:

QC-1: QUARTZ COMPOSITE:
MANUFACTURER: VIATERA OR EQUAL
COLOR: TBD
NUMBER:
LOCATION: KITCHEN & NOOK

CASEWORK:

MANUFACTUER: TBD
COLOR: FACTORY PAINT FINISH
LOCATION: KITCHEN & NOOK

DECK:

CD-1: COMPOSITE DECK
MANUFACTUER: TREX TRANSCEND OR APPROVED EQUAL
COLOR: TBD
NUMBER: TBD

NOTE: (E) = EXISTING TO REMAIN

NOTE: CLOSET FINISHES TO BE THE SAME AS ADJOINING ROOM

KEYNOTES

9.05 INSTALL LVT/LVP FLOORING WITH PROPER SUBFLOOR PREPARATION

RUSSELL DAVIDSON
ARCHITECTURE + DESIGN

LICENSED ARCHITECT
RUSSELL DAVIDSON
No. C36895
Ren. 11-30-27
STATE OF CALIFORNIA

AUBURN RESIDENCE

13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

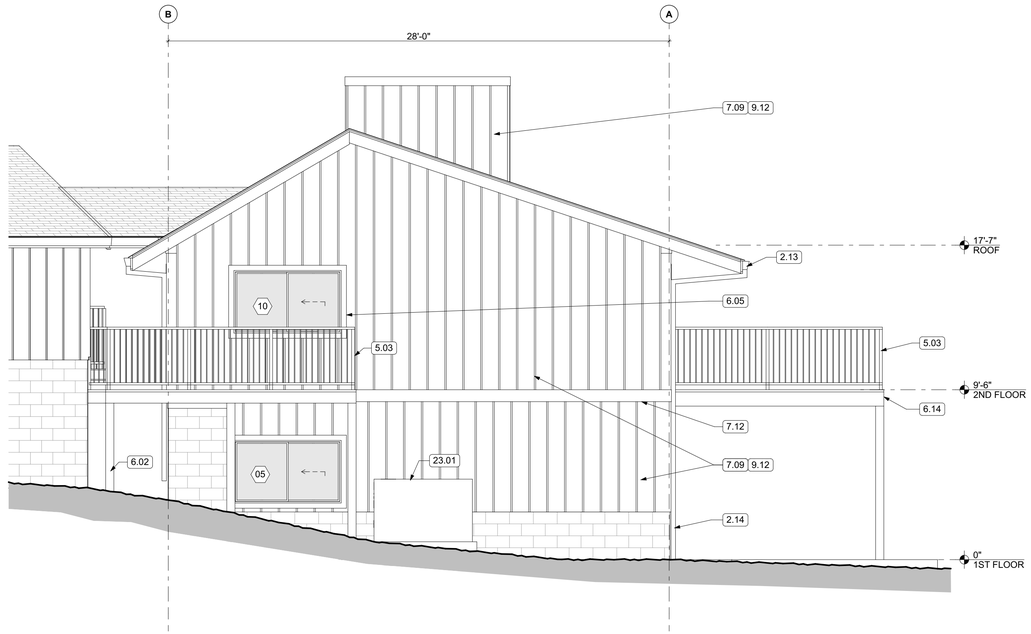
ID	NAME	DATE

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

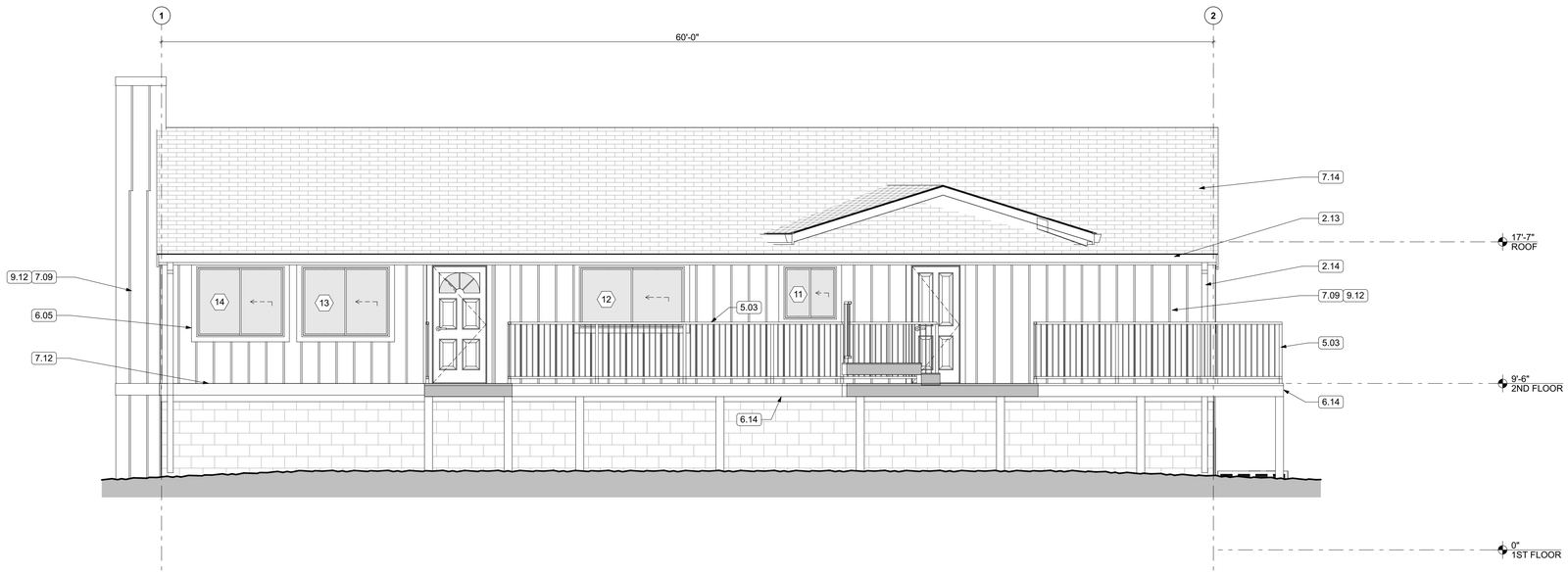
NEW LOWER FLOOR FINISH PLAN

JOB SET

A1.8



2 NORTH ELEVATION
SCALE: 1/4" = 1'-0"



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

GENERAL NOTES

1. REFER TO SHEET A6.0 FOR WINDOW & DOOR SCHEDULES.
2. INSTALL ALL FINISHES PER MANUFACTURER SPECIFICATIONS

KEYNOTES

2.13	EXISTING GUTTER TO REMAIN, REPAIR AS REQUIRED TYPICAL
2.14	EXISTING DOWNSPOUT TO REMAIN. REPAIR TERMINATION TO DIVERT WATER AWAY FROM FOUNDATION
5.03	INSTALL 42" HIGH CODE-COMPLIANT METAL GUARDRAILS WITH SURFACE ANCHORING PER STRUCTURAL DRAWINGS
6.02	INSTALL NEW WOOD COLUMNS PER STRUCTURAL
6.05	IREPAIR AND REPLACE WOOD TRIM AT ALL EXTERIOR OPENINGS AND SIDING. APPLY NEW PAINT
6.14	NEW DECK / WALKWAY FRAMING PER STRUCTURAL DRAWINGS
7.09	REPAIR AND REPLACE EXISTING WOOD SIDING AS REQUIRED. APPLY NEW PAINT AT ENTIRE EXTERIOR, PREPARATION AND COVERAGE, TYPICAL
7.12	INSTAL NEW HORIZONTAL TRIM BOARD AT LOCATION OF REMOVED DECK. APPLY NEW PAINT.
7.14	EXISTING ROOF TO REMAIN. REPAIR DAMAGED ROOF SHINGLES, FLASHING AND GUTTERS, TYPICAL.
9.12	APPLY PAINT AT ENTIRE EXTERIOR WOOD SIDING FINISH AND TRIM TO MATCH EXISTING.
23.01	INSTALL NEW HVAC UNIT. SEE MECHANICAL DRAWINGS.

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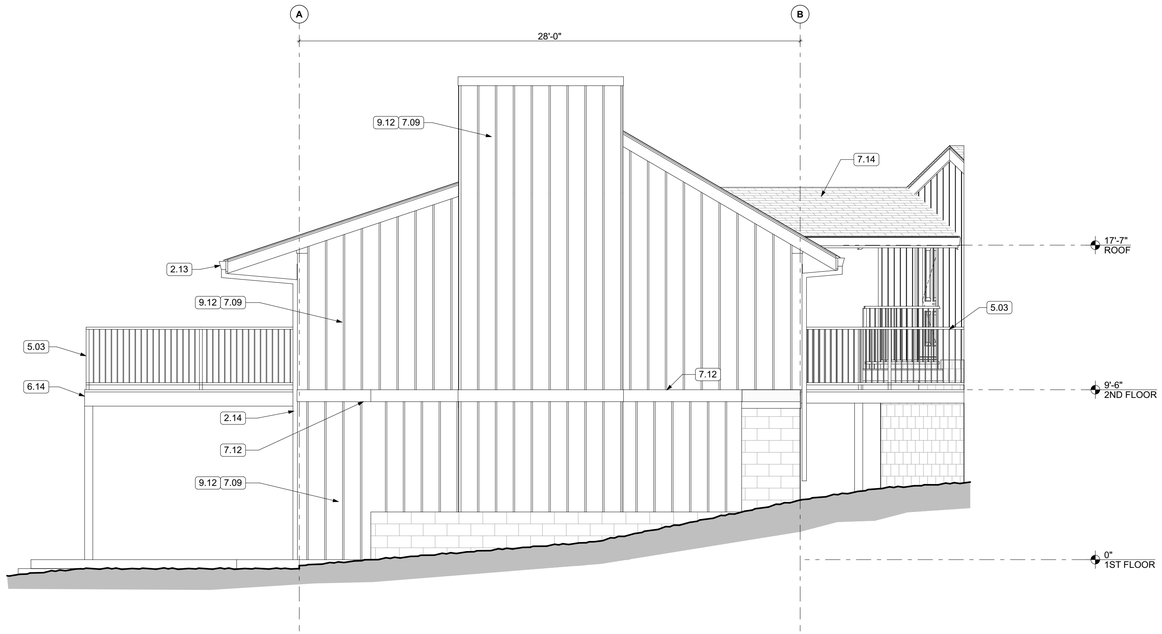
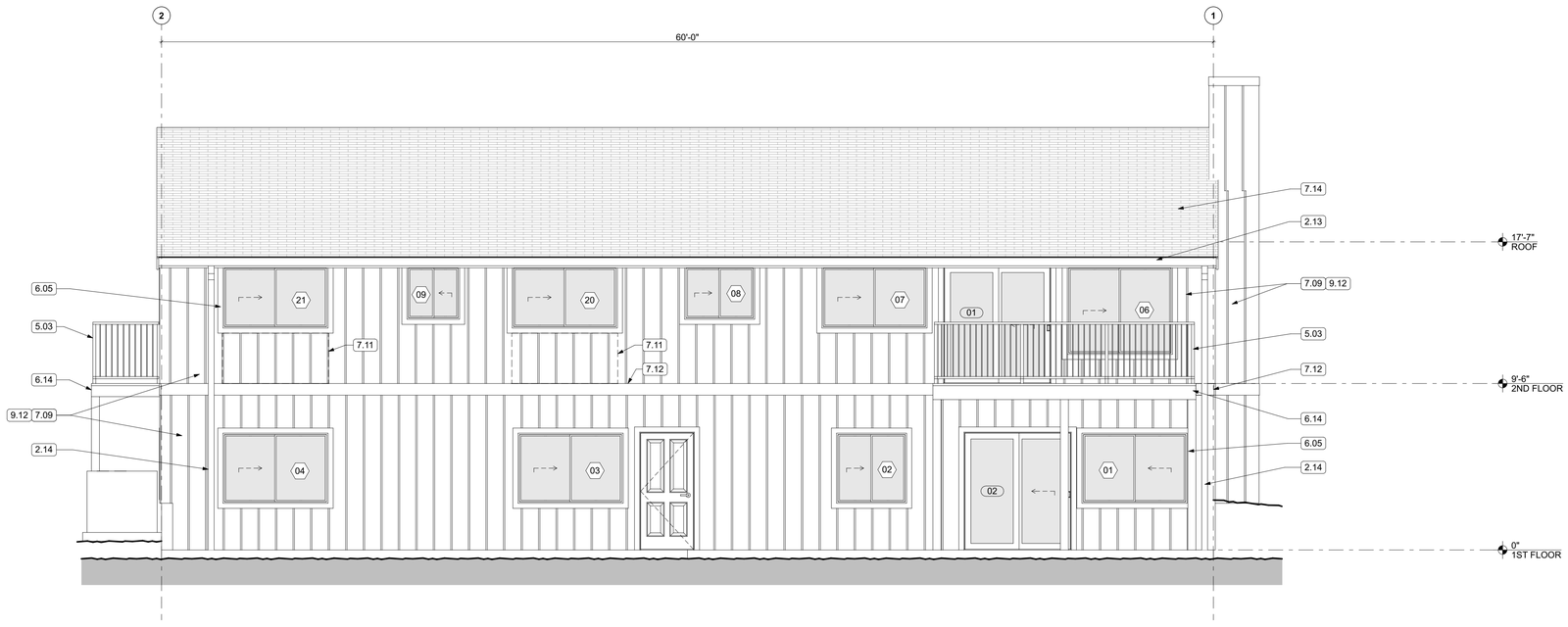
BUILDING ELEVATIONS

JOB SET

A2.0



2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



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

GENERAL NOTES

1. REFER TO SHEET A6.0 FOR WINDOW & DOOR SCHEDULES.
2. INSTALL ALL FINISHES PER MANUFACTURER SPECIFICATIONS

KEYNOTES

2.13	EXISTING GUTTER TO REMAIN, REPAIR AS REQUIRED TYPICAL
2.14	EXISTING DOWNSPOUT TO REMAIN. REPAIR TERMINATION TO DIVERT WATER AWAY FROM FOUNDATION
5.03	INSTALL 42" HIGH CODE-COMPLIANT METAL GUARDRAILS WITH SURFACE ANCHORING PER STRUCTURAL DRAWINGS
6.05	IREPAIR AND REPLACE WOOD TRIM AT ALL EXTERIOR OPENINGS AND SIDING. APPLY NEW PAINT
6.14	NEW DECK / WALKWAY FRAMING PER STRUCTURAL DRAWINGS
7.09	REPAIR AND REPLACE EXISTING WOOD SIDING AS REQUIRED. APPLY NEW PAINT AT ENTIRE EXTERIOR, PREPARATION AND COVERAGE, TYPICAL
7.11	INSTALL INFILL FRAMING AT DEMOLISHED OPENING WITH EXTERIOR SIDING FINISH TO MATCH EXISTING.
7.12	INSTAL NEW HORIZONTAL TRIM BOARD AT LOCATION OF REMOVED DECK. APPLY NEW PAINT.
7.14	EXISTING ROOF TO REMAIN. REPAIR DAMAGED ROOF SHINGLES, FLASHING AND GUTTERS, TYPICAL.
9.12	APPLY PAINT AT ENTIRE EXTERIOR WOOD SIDING FINISH AND TRIM TO MATCH EXISTING.

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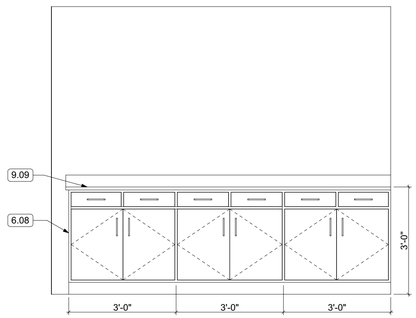
JOB:	2025.33

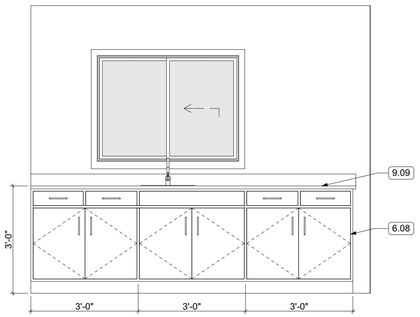
BUILDING ELEVATIONS

JOB SET

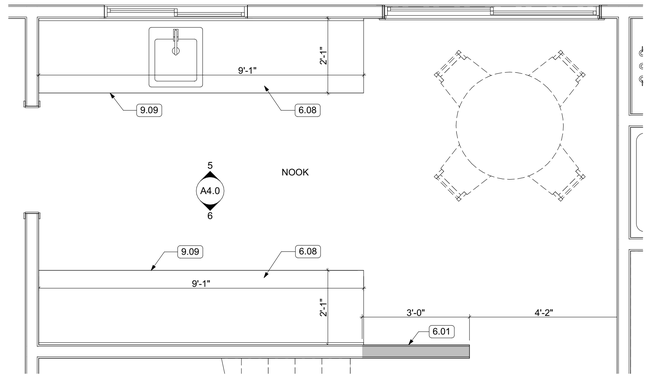
A2.1



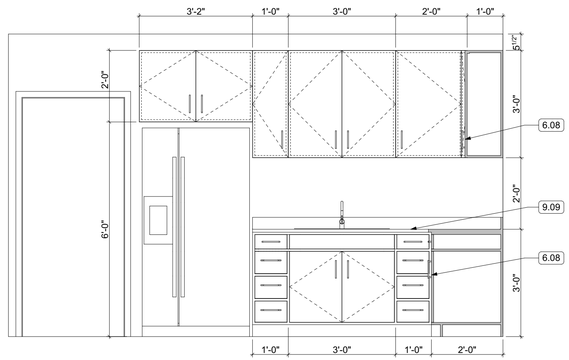
6 NOOK
SCALE: 1/2" = 1'-0"



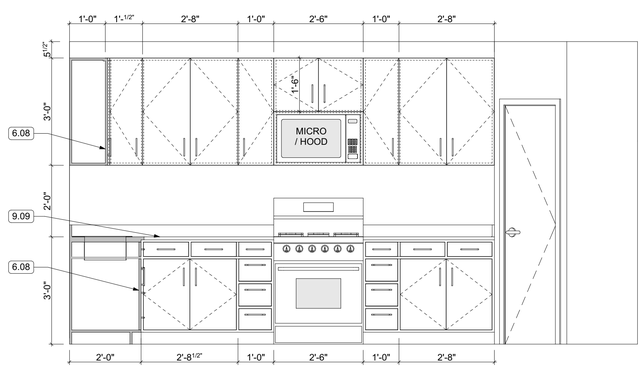
5 NOOK
SCALE: 1/2" = 1'-0"



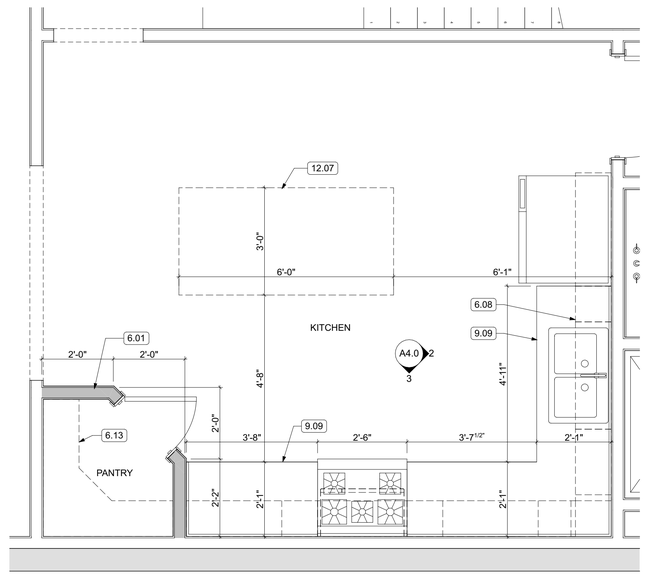
4 ENLARGED NOOK PLAN
SCALE: 1/2" = 1'-0"



2 KITCHEN
SCALE: 1/2" = 1'-0"



3 KITCHEN
SCALE: 1/2" = 1'-0"



1 ENLARGED KITCHEN PLAN
SCALE: 1/2" = 1'-0"

KEYNOTES

6.01	INSTALL WOOD FRAMING WITH REQUIRED SEISMIC BLOCKING AND CONNECTIONS, TYPICAL
6.08	INSTALL HAMPTON BAY OR APPROVED EQUAL CABINETS AND BUILT-INS PER DRAWINGS. PROVIDE HARDWARE PULLS ON ALL DOORS AND DRAWERS.
6.13	INSTALL FIVE LEVELS OF NEW SHELVING AT PANTRY
9.09	INSTALL ENGINEERED QUARTZ COUNTERTOP QC-1 WITH PROPER SUPPORT AND SEAMS
12.07	NEW MOVEABLE KITCHEN ISLAND WITH BUTCHER BLOCK TOP

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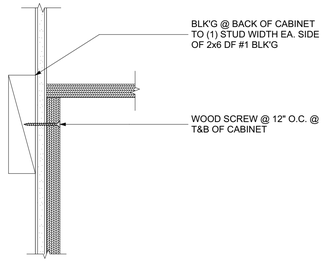
JOB:	2025.33

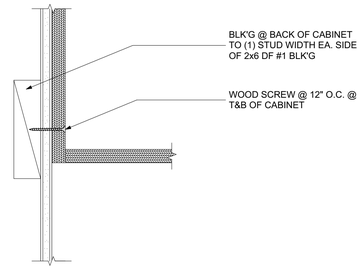
ENLARGED PLAN & INTERIOR ELEVATIONS

JOB SET

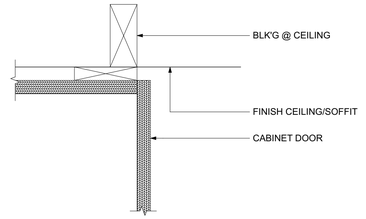
A4.0



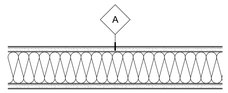
18 UPPER CABINET WALL ATTACHMENT
SCALE: 3" = 1'-0"



17 UPPER CABINET WALL ATTACHMENT
SCALE: 3" = 1'-0"



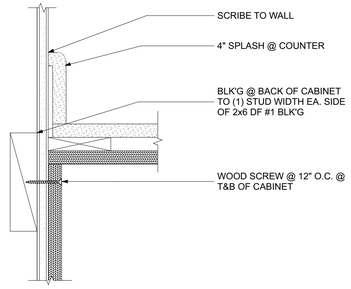
16 UPPER CABINET CEILING ATTACHMENT
SCALE: 3" = 1'-0"



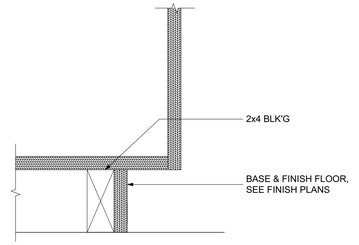
- STUDS @ 16" O.C.
- 5/8" GYPSUM BOARD ON EA. SIDE
- SOUND BATT INSULATION

TYPE	STUD WIDTH	ASSEMBLY WIDTH
A4	3 1/2"	4 3/4"
A6	5 1/2"	6 3/4"
A8	7 1/4"	9"

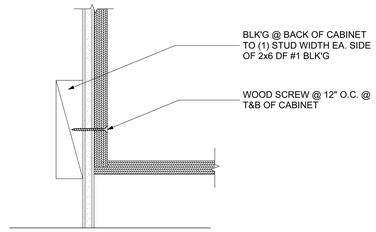
14 WALL TYPES
SCALE: 1 1/2"= 1'-0"



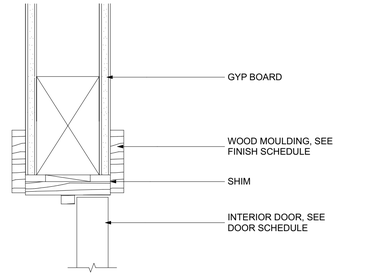
13 COUNTER WALL ATTACHMENT
SCALE: 3" = 1'-0"



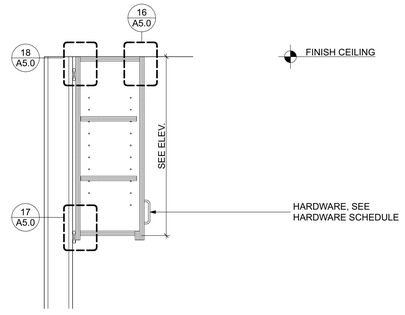
12 LOWER CABINET TOE KICK
SCALE: 3" = 1'-0"



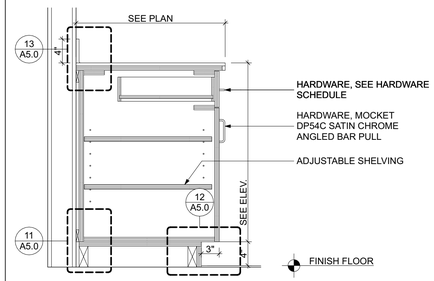
11 LOWER CABINET WALL ATTACHMENT
SCALE: 3" = 1'-0"



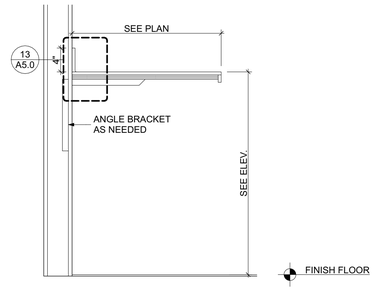
9 INTERIOR DOOR HEAD
SCALE: 3" = 1'-0"



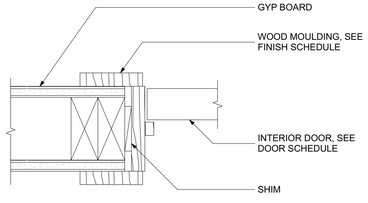
8 UPPER CABINET W/ DOOR
SCALE: 1" = 1'-0"



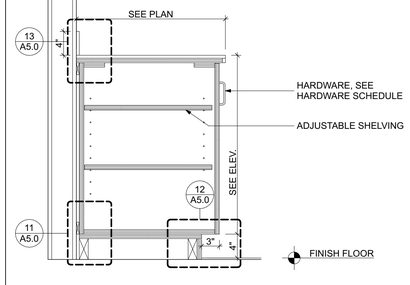
7 LOWER CABINET W/ DRAWER & DOOR
SCALE: 1" = 1'-0"



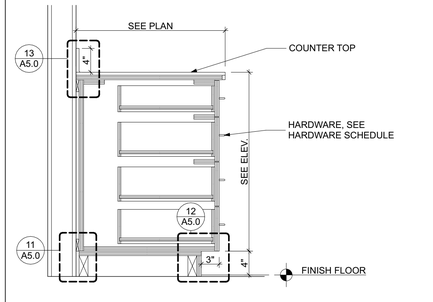
6 LOWER CABINET, OPEN BELOW
SCALE: 1" = 1'-0"



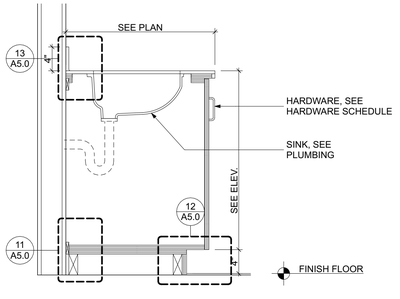
4 INTERIOR DOOR JAMB
SCALE: 3" = 1'-0"



3 LOWER CABINET W/ DOOR
SCALE: 1" = 1'-0"



2 LOWER CABINET W/ FOUR DRAWERS
SCALE: 1" = 1'-0"



1 LOWER CABINET W/ SINK
SCALE: 1" = 1'-0"

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JOB:	2025.33

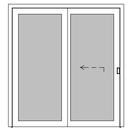
DETAILS

JOB SET

A5.0

DOOR SCHEDULE

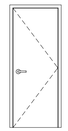
	DOOR #	ROOM NAME	TYPE	STATUS	W	H	MFG	FRAME		LEAF		U-VALUE	U/SHGC	FIRE RATING	HARDWARE SET	CLOSER	REMARKS
								MATERIAL	FINISH	MATERIAL	FINISH						
EXTERIOR																	
	01	LIVING 2	A	New	6'-0"	6'-8"	ANDERSEN 100 OR EQUAL	COMP.	WHITE	COMP.	STAINED	0.32	0.22			N	
	02	LIVING 1	A	New	6'-0"	6'-8"	ANDERSEN 100 OR EQUAL	COMP.	WHITE	COMP.	WHITE	0.32	0.22			N	
INTERIOR																	
	03	BEDRM 2	B	New	2'-6"	6'-8"	MASONITE OR EQUAL	WOOD	PAINTED	HCWD	STAINED				PRIVACY	N	
	04	MECH	B	New	2'-6"	6'-8"	MASONITE OR EQUAL	WOOD	PAINTED	HCWD	STAINED				STORAGE	N	
	05	KITCHEN	B	New	2'-0"	6'-8"	MASONITE OR EQUAL	WOOD	PAINTED	HCWD	STAINED				PASSAGE	N	



A

EXT SLIDER, GLASS

01, 02



B

HINGED, SGL

03, 04, 05

2 DOOR TYPES

SCALE: 1' = 1'-0"

DOOR NOTES

1. ALL GLASS IN DOORS SHALL BE TEMPERED. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
2. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE "U" VALUE.
3. REFER TO FLOOR PLANS FOR DIRECTION OF DOOR SWING.
4. DOORS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.
5. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303.
6. ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 36 OR GREATER.
7. DOORS MAY OPEN TO THE EXTERIOR ONLY IF THE FLOOR OR LANDING IS NOT MORE THAN 11/2 INCH LOWER THAN THE DOOR THRESHOLD. SECTION R311.3.1 CRC
8. GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATNG-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE,

WINDOW SCHEDULE

ID	LOCATION	TYPE	STATUS	W	H	MFG	TEMPERING	GLAZING	U-VALUE	U/SHGC	FRAME		REMARKS
											MATERIAL	FINISH	
01	LIVING 1	F	NEW	6'-0"	4'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
02	FOYER 1	C	NEW	4'-0"	4'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
03	OFFICE	F	NEW	6'-0"	4'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
04	BEDRM 2	F	NEW	6'-0"	4'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
05	BEDRM 1	E	NEW	6'-0"	3'-6"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
06	LIVING 2	G	NEW	6'-0"	5'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
07	LIVING 2	E	NEW	6'-0"	3'-6"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
08	NOOK	B	NEW	4'-0"	3'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
09	BATH 3	A	NEW	3'-0"	3'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
10	BEDRM 4	E	NEW	6'-0"	3'-6"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
11	BATH 5	A	NEW	3'-0"	3'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
12	BEDRM 5	E	NEW	6'-0"	3'-6"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
13	LIVING 2	D	NEW	5'-0"	4'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
14	LIVING 2	D	NEW	5'-0"	4'-0"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
20	NOOK	E	NEW	6'-0"	3'-6"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	
21	BEDRM 3	E	NEW	6'-0"	3'-6"	ANDERSEN 100 OR EQUAL	TEMPERED (SGL)	LOW-E	0.28	0.45	COMP.	WHITE	

A

SLIDER

11, 09

B

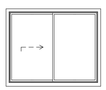
SLIDER

08

C

SLIDER

02



D

SLIDER

13, 14

E

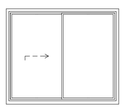
SLIDER

12, 10, 07, 20, 21, 05

F

SLIDER

01, 03, 04



G

SLIDER

06

1 WINDOW TYPES

SCALE: 1' = 1'-0"

WINDOW NOTES

1. SEE EXTERIOR ELEVATION FOR DIRECTION OF OPERATION OF WINDOWS (ALL OPERABLE WINDOWS TO HAVE SCREENS).
2. ALL WINDOW DIMENSIONS PERTAIN TO ROUGH OPENINGS (R.O.), CONTRACTOR TO FIELD VERIFY ACTUAL DIMENSIONS FOR WINDOWS.
3. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE NFRC LABEL.
4. ALL GLAZING SHALL BE SPECTRALY SELECTIVE LOW E COATED TO MEET TITLE 24 ENERGY REQUIREMENTS.
5. WINDOWS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.D
6. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303
7. EVERY SLEEPING ROOM SHALL HAVE ONE OPERABLE WINDOW FOR EMERGENCY ESCAPE OR RESCUE WITH A MIN. NET CLEAR OPENABLE AREA OF 5.7 SQ. FT, MIN. NET CLEAR OPENABLE HEIGHT OF 24" MIN., NET CLEAR WIDTH OF 20" AND A FIN. SILL HEIGHT OF NOT MORE THAN 44" A.F.F. PER CRC SECTION 3101
8. ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 30 OR GREATER.
9. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
10. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL VENTILATION AND NATURAL LIGHT BY MEANS OF VENTILATION / ARTIFICIAL LIGHT. CBC SECTIONS 1203.4 AND 1205.1 AND R303
    A) THE MINIMUM NET GLAZED AREA FOR NATURAL LIGHT SHALL NOT BE LESS THAN 8%OF THE FLOOR AREA OF THE ROOM SERVED. CBC SECTION 1205.2
    B) THE MINIMUM OPENABLE AREA TO THE OUTDOORS FOR NATURAL VENTILATION SHALL BE 4% OF THE FLOOR AREA BEING VENTILATED. SECTION 1203.4
11. EXTERIOR WINDOWS AND EXTERIOR GLAZED DOOR ASSEMBLIES SHALL BE CONSTRUCTED OF MULTIPANE GLAZING WITH ONE TEMPERED PANE, HAVE A FIRE RESISTANCE RATING OF 20 MINUTES OR MEET THE REQUIREMENTS OF SFM 12-7A-2.

RUSSELL DAVIDSON
ARCHITECTURE + DESIGN

LICENSED ARCHITECT
RUSSELL DAVIDSON
No. C36895
Ren. 11-30-27
STATE OF CALIFORNIA

AUBURN RESIDENCE

13668 AUBURN ROAD
GRASS VALLEY, CA 95949
APN: 023-010-001-000

ID	NAME	DATE
1	REV 1	4/29/26

SUBMITTED:	DATE
SCALE	AS NOTED
DRAWN BY:	GTB
CHECKED BY:	RPD
JOB:	2025.33

DOOR & WINDOW SCHEDULES

JOB SET

A6.0

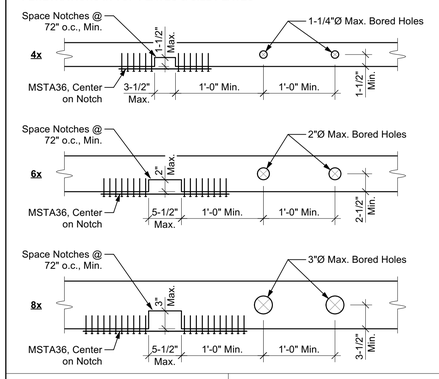
Nevada County Homekey + Auburn Residence

13668 Auburn Rd.
Grass Valley, CA 95949

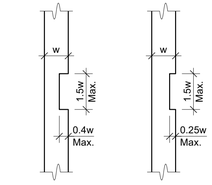
STANDARD DETAILS

9 TYPICAL NOTCHING & BORING

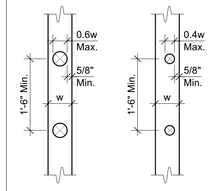
PENETRATIONS IN TOP PLATES & SILL PLATES



NOTCHING LIMITS FOR WOOD STUDS

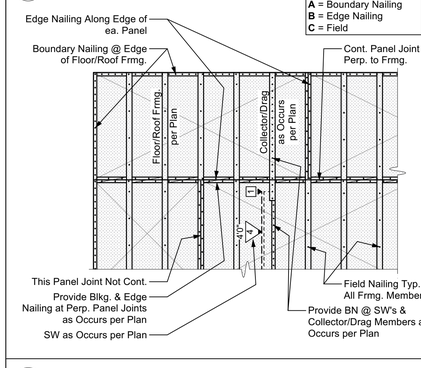


BORING LIMITS FOR WOOD STUDS

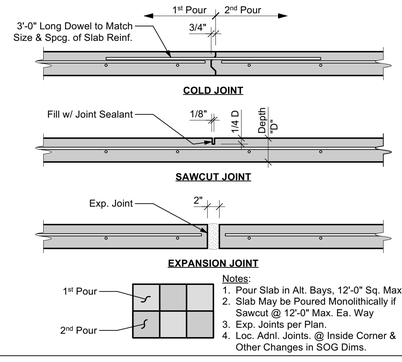


6 TYPICAL FLOOR / ROOF NAILING

Nailing per Plan w/ Spcg.
Denoted as **@ A", B", C"**
A = Boundary Nailing
B = Edge Nailing
C = Field

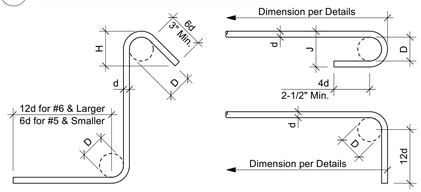


4 TYPICAL CONCRETE SLAB JOINTS



Notes:
1. Pour Slab in Alt. Bays, 12'-0" Sq. Max.
2. Slab May be Poured Monolithically if Sawcut @ 12'-0" Max. Ea. Way
3. Exp. Joints per Plan.
4. Loc. Adnl. Joints. @ Inside Corner & Other Changes in SOG Dims.

1 TYPICAL REINFORCING BAR BENDS



STANDARD TIES & STIRRUPS

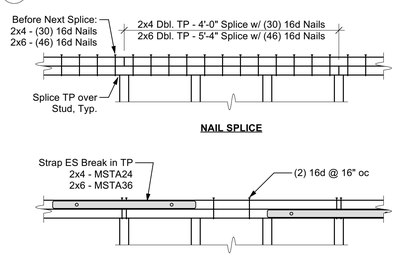
Bar Size	D	H (Approx.)
#3	1-1/2"	3"
#4	2"	3"
#5	2-1/2"	3-3/4"
#6	4-1/2"	4-1/2"
#7	5-1/4"	5-1/4"
#8	6"	6"

STANDARD END HOOKS

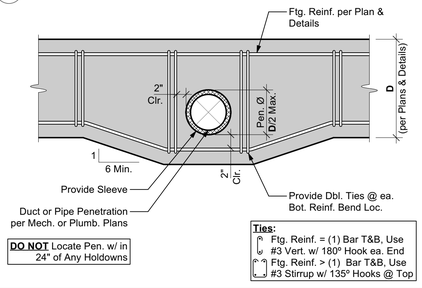
Bar Size	D	J
#3	2-1/4"	3"
#4	3"	4"
#5	3-3/4"	5"
#6	4-1/2"	6"
#7	5-1/4"	7"
#8	6"	8"

Note:
All Bar Bend Diameters & End Lengths Must Conform to the CRSI Manual of Standard Practice

7 TYPICAL 2x TOP PLATE SPLICE



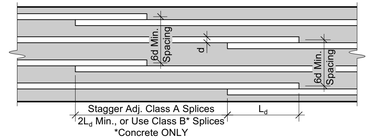
5 TYP. PENETRATION THROUGH FOUNDATION



DO NOT Locate Pen. w/ in 24" of Any Holdowns

Ties:
- Ftg. Reinf. = (1) Bar T&B, Use #3 Vert. w/ 180° Hook ea. End
- Ftg. Reinf. > (1) Bar T&B, Use #3 Stirrup w/ 135° Hooks @ Top

2 STD. DEVELOPMENT LENGTHS & LAP SPLICES



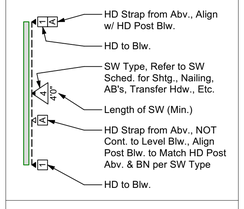
Bar Size	CONCRETE f'c = 2500 psi Length of Lap Ld & Class A	Class B	Hook Embed Ldh
#3	15 "	19 "	7"
#4	19 "	25 "	10"
#5	24 "	31 "	14"
#6	29 "	37 "	18"
#7	41 "	54 "	22"
#8	47 "	61 "	27"

Bar Size	MASONRY f'm = 2000 psi Length of Lap, Ld	Hook Embed Ldh
#3	13 "	5 "
#4	22 "	7 "
#5	35 "	9 "
#6	64 "	10 "
#7	87 "	12 "
#8	131 "	13 "

TYPICAL SHEAR WALL FRAMING NOTES:

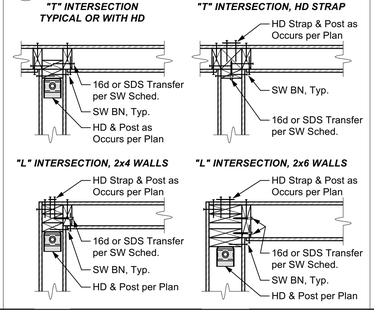
1. Single sided shear walls may be placed on EITHER side of the framed wall.
2. Sill plates on masonry or concrete to be pressure treated per Timber / Lumber specifications. Sill plate thickness per SW Sched.
3. Wall studs and blkg. are required at all adjoining panel edges. Thickness of wall studs and blkg. at panel edges per SW Sched.
4. Where plywood is applied on both faces of a wall, edge nails shall be staggered on adjacent panel edges OR panel joints shall be offset to fall on different framing members. Plywood joint and sill plate nailing shall be staggered in all cases.
5. Plywood panels shall butt along centerlines of framing members. Minimum plywood dimension for shearwall shall be 12".
6. Nails shall be located at least 3/8" from all panel edges.
7. The use of pneumatic nail guns for shear wall nailing is subject to continued satisfactory jobsite performance and subject to the review and approval by the Engineer of Record and/or Building Inspector. If the nail heads penetrate the outer ply more than would be normal for a hand held hammer, or if the minimum edge distances are not maintained, the performance will be deemed as unsatisfactory and the continued use of pneumatic nail for shear wall nailing will not be permitted.
8. At all bearing walls (both exterior and interior walls) not noted as shear walls, continuous full depth blocking shall be provided between joists and rafters with LTP4 or A35 to top plates @ 32" oc at floors and 48" oc at roofs, unless noted otherwise per plan.
9. Refer to material specifications for additional framing requirements.

SHEAR WALL LEGEND

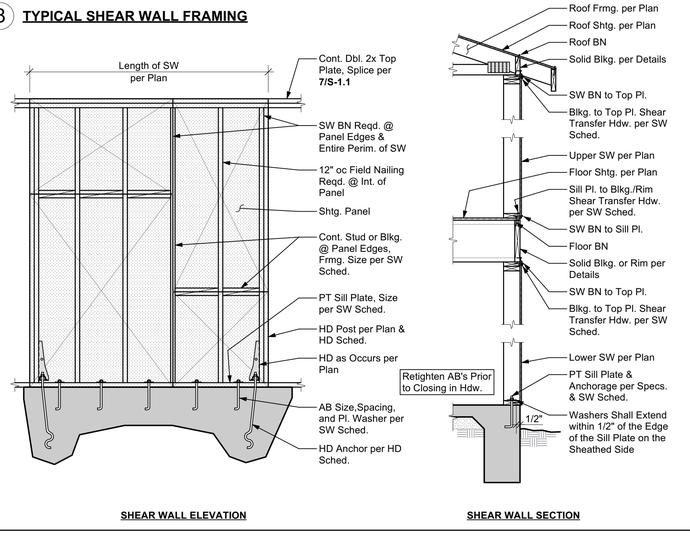


Refer to Plans for Specific Transfer & Connection Detail at each Shear Wall Location

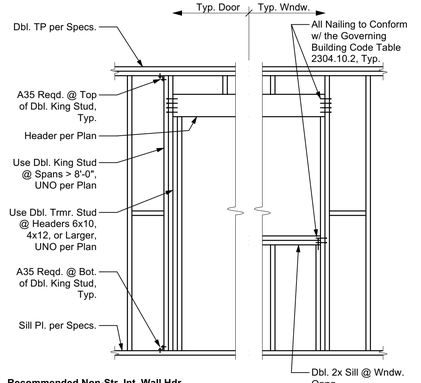
10 TYPICAL SHEAR WALL INTERSECTIONS



8 TYPICAL SHEAR WALL FRAMING



3 TYPICAL WOOD FRAMED OPENING



Recommended Non-Str. Int. Wall Hdr.

Span	2x4 Wall	2x6 Wall
< 4'-0"	Dbl. 2x4 Flat	Dbl. 2x6 Flat
< 6'-0"	4x4	4x6 Flat
< 8'-0"	4x6	6x6
> 8'-0"	Span in Feet Equals Beam Depth in Inches	

ABBREVIATIONS

AB	Anchor Bolt	Max.	Maximum
A&B	Above and Below	MB	Machine Bolt
Abv.	Above	MF	Moment Frame
Add'l.	Additional	Mfr.	Manufacture(r)
Adj.	Adjacent	Min.	Minimum
Alt.	Alternat(e), (ive)	Mod.	Modular, Module
Appd.	Approved	(N)	New
Arch.	Architect(ural)	N/A	Not Applicable
Avg.	Average	NTS	Not to Scale
AYC	Alaskan Yellow Cedar	o/	Over
		oc	On Center
Bldg.	Building	OD	Outside Diameter
Blkg.	Blocking	Opng.	Opening
Blw.	Below	Opp.	Opposite
Bm.	Beam	Opt.	Option, (al)
BN	Boundary Nailing	Para.	Parallel
Bot.	Bottom	Pen.	Penetrat(e), (ion)
Brg.	Bearing	Perf.	Perforated
Btwn.	Between	Perim.	Perimeter
Cant.	Cantilever(ed)	Perp.	Perpendicular
CIP	Cast in Place	Pl	Plywood Index
CJ	Ceiling Joist	PJP	Partial Joint Pen.
CJP	Complete Joint Penetration	PL	Plate
		Ply.	Plywood
CL	Center Line	Prep.	Prepare, (ation)
Clg.	Ceiling	Press.	Pressure
Clr.	Clear	Proj.	Project
CMU	Conc. Masonry Unit	Prop.	Property
Col.	Column	Psf.	Pounds per Sq.Ft.
Conc.	Concrete	PT	Pressure-Treated
Conn.	Connection	PV	Photovoltaic (Solar Panels)
Const.	Construction		
Cont.	Continu(e), (ous)	R	Radius
Ctr.	Center	Rec(s).	Recommendation(s)
d	Penny	Ref.	Reference
Dbl.	Double	Reinf.	Reinforc(e),(ed), (ement),(ing)
Defl.	Deflection		
Demo.	Demoli(ish), (tion)	Req'd.	Require(d)
Dep.	Depress(ed)	Reqs.	Requirements
DF	Douglas Fir	Ret.	Retain(ing)
Dia.	Diameter	RJ	Roof Joist
Diaph.	Diaphragm	RR	Roof Rafter
Dim.	Dimension	RW	Redwood
Dist.	Distance	Sched.	Schedule
DJ	Deck Joist	Shtg.	Sheathing
Dwg.	Drawing	Sim.	Similar
(E)	Existing	SIP	Struc. Insulated Panel
Ea.	Each		
EF	Each Face	SMS	Sheet Metal Screw
Elev.	Elevation	SOG	Slab on Grade
Embed	Embed(ded), (ment)	Spec.	Specifi(ed),(cations)
Engr.	Engineer	Sq.	Square
EOR	Engineer of Record	SS	Select Struc. Grade
Eq.	Equal, Equivalent	SS	Stainless Steel
ES	Each Side	Std.	Standard
EW	Each Way	Stl.	Steel
Exp.	Expansion	Struc.	Structur(e), (al)
Ext.	Exterior	SW	Shear Wall
Fdn.	Foundation	T&B	Top and Bottom
FF	Finished Floor	T&G	Tongue and Groove
FJ	Floor Joist	Temp.	Temporary
Flr.	Floor	Thk.	Thick(ness)
Frmg.	Framing	TN	Toe-Nail
Ft.	Feet	TP	Top Plate
Ftg.	Footing	TOB	Top of Beam
Ga.	Gauge	TOC	Top of Concrete
Galv.	Galvanized	TOG	Top of Grade
GB	Grade Beam	TOS	Top of Steel
GC	General Contractor	TOW	Top of Wall
GLB	Glulam Beam	Trmr.	Trimmer Stud
Gyp.	Gypsum	Typ.	Typical
HD	Holdown	UNO	Unless Noted Otherwise
Hdr.	Header		
Hdw.	Hardware	Vert.	Vertical
Hgr.	Hanger	VIF	Verify in Field
Horiz.	Horizontal	w/	With
Ht.	Height	w/n	Within
ID	Inside Diameter	w/o	Without
In.	Inch(es)	Wt.	Weight
Insp.	Inspect(ion)	WWF	Welded Wire Fabric
Int.	Interior	WWM	Welded Wire Mesh
Inv.	Invert, Inverted		
KS	King Stud	@	At
KP	King Post	&	And
Loc.	Location	°	Degrees
LW	Light Weight	Ø	Diameter
		>	Greater Than
		<	Less Than
		#	Number, Pound(s)
		%	Percent(age)
		±	Plus or Minus

PROJECT INFORMATION

ARCHITECT:
Russell Davidson Architecture + Design
149 Crown Point Court, Suite C
Grass Valley, CA 95945

DESIGN PARAMETERS

GENERAL PARAMETERS

Building Code	2025 CBC *
Roof Loads	
Dead Loads** (DL)	15 psf
**Includes 3 psf PV Loads	
Live Loads (LL)	20 psf
Snow Loads (SL) Pg/Ps	68/58 psf
Floor Loads - Typ.	
Dead Loads (DL)	15 psf
Live Loads (LL)	40 psf
Floor Loads - Deck	
Dead Loads (DL)	11 psf
Live Loads (LL)	60 psf

SOILS VALUES (Table 1806.2)

Bearing Pressure	1500 psf

WIND DESIGN BASIS

Ultimate Wind Speed, V_{ULT}	95 mph
Risk Category	II
Exposure	C

SEISMIC DESIGN BASIS

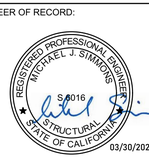
Seismic Design Category	D
Site Class (Default)	D
Seismic Factors	
S_S / S_1	0.730 / 0.230
S_{DS} / S_{D1}	0.660 / 0.400
Risk Category	II
Importance Factor, I_e	1.00
Resisting System:	Wood Shear Walls
Response Mod. Coefficient, R	6.5
Design Base Shear	V = 0.106W
Analysis Procedure:	Eqv. Lateral Force (ASCE 7-16, T. 12.6-1)

* The 2025 California Building Code (CBC), based on the 2024 International Building Code (IBC), is the governing code in the State of California.

SHEET INDEX

ASHLEY & VANCE ENGINEERING
1504 Eureka Road #370
Roseville, CA 95661
(916) 790-3181
WWW.ASHLEYVANCE.COM
CIVIL • STRUCTURAL

ENGINEER OF RECORD:



REVISION:

03.30.2026	Issued for Permit

PROJECT ENGINEER:
Arlene Castillo
(916) 790-3181 x217
arlene@ashleyvance.com

DATE: 03/30/2026 | SCALE: NTS
AV JOB: 251477 | SHEET SIZE: 24"x36"

STRUCTURAL TITLE SHEET
JOB SET
S-1.1

DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS.

Nevada County Homekey + Auburn Residence
13668 Auburn Rd.
Grass Valley, CA 95949

Mar 30, 2026
2:12:09 PM

GENERAL NOTES

1. The following notes, details, schedules & specifications shall apply to all phases of this project unless specifically noted otherwise. Notes and details on the structural plans shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work.
2. All drawings are considered to be part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any applicable code requirements shall be corrected by the Contractor at no expense to the Owner or Engineer.
3. All information on existing conditions shown on the structural plans are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall be responsible for the verifications of all dimension and conditions at the site. Any discrepancies between actual site conditions and information shown on the drawings or in the specifications shall be brought to the attention of the EOR prior to the start of construction.
4. Refer to the Architectural plans for the following:
   (a) Dimensions
   (b) Size and location of all interior and exterior wall locations.
   (c) Size and location of all floor, roof and wall openings
   (d) Size and location of all drains, slopes, depressions, steps, etc.
   (e) Specification of all finishes & waterproofing
   (f) All other non-structural elements
5. Refer to the mechanical, electrical and plumbing plans for the following:
   (a) Size and location of all equipment
   (b) Pipe runs, sleeves, hangers and trenches
   (c) All other mechanical, electrical or plumbing related elements
6. **DO NOT** scale structural plans. Contractor shall use all written dimensions on Architectural plans.
7. Construction materials shall be uniformly spread out if placed on floor or roof so as to not overload the framing. Load shall not exceed the design live load per square foot. It is the contractor's responsibility to provide adequate shoring and/or bracing as required.
8. Specifications and detailing of all waterproofing and drainage items, while sometimes shown on the structural plans for general information purposes only, are solely the design responsibility of others.
9. The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the activities delineated by these plans. It should be understood that the Contractor or his/her agent(s) shall supervise and direct all work and shall be solely and completely responsible for all construction means, methods, techniques, sequences, procedures and conditions on the job site, including safety of all persons and property during the entire period of construction. Periodic observations by the Engineer, his staff or representatives are not intended to include verification of dimensions or review the adequacy of the Contractor's safety measures on or near the construction site.
10. Modifications of the plans, notes, details and specifications shall not be permitted without prior approval from the Engineer.
11. All workmanship shall conform to the best practice prevailing in the various trades performing the work. The Contractor shall be responsible for coordinating the work of all trades.
12. It is the Contractor's responsibility to ensure that only approved structural plans are used during the course of construction. The use of unapproved documents shall be at the contractor's own risk. Corrections of all work based on such documents shall be performed at the Contractor's expense.
13. These plans and specifications represent the structural design only. No information nor warranty is provided for the work of any other Consultant (Architect, Mechanical, Electrical, etc.). This includes, but is not limited to, waterproofing, drainage, ventilation, accessibility, or dimensions.

FOUNDATIONS

1. Refer to Structural Design Parameters section on sheet S-1.1 for all soil design values used in calculations.
2. Soils values per Table 1806.2 of the latest edition of the Governing Building Code.
3. Unexpected Soil Conditions: At the discretion of the engineer of record, or the local building department, a soils report may be required in the event that substandard material is discovered on site. If this occurs, contact Engineer of Record for further guidance.
4. All compaction, fill, backfilling and site preparation shall be performed in accordance with project soils report or the Governing Building Code Chapter 18 & Appendix J. All such work shall be performed under the supervision of the building official.
5. Excavate to required depths and dimensions (as indicated in the drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbance of soils around high elevation.
6. Foundations forms and excavations shall be clean and free of debris, achieving all minimum dimesions noted. Enchroachment of soil at corners and reduced reinforcement clearances are not permitted.
7. Excavate all foundations to required depths into compacted fill or natural soil (as per plans and details) and as verified by the building official.
8. All foundations shall be inspected and approved by the appropriate building official prior to forming and placement of reinforcing or concrete.
9. Foundations shall not be poured until all required reinforcing steel, framing hardware, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the appropriate building official/inspector(s).
10. It is the responsibility of the contractor in charge of framing to properly position all holdown bolts, anchor bolts, column bases, and all other cast-in-place hardware. Refer to typical details. All hardware to be secured prior to foundation inspections.
11. The sides and bottoms of dry excavations must be moistened to optimum moisture content or just above, just prior to placing concrete. Conversely, de-water footings as required to remove standing water and to maintain optimum working conditions.
12. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring, and the protection of adjacent property, structures, streets, and utilities in accordance with all federal, state and local safety ordinances. The Contractor shall provide for the design and installation of all cribbing, bracing and shoring required.

EXISTING CONDITIONS

1. Work shown is new unless noted as Existing: (E).
2. Existing construction shown on these drawings was obtained from existing drawings and/or site investigation. Field verify all conditions & dimensions prior to shop drawing production and fabrication of structural elements.
3. Where existing conditions vary significantly from those shown on these drawings, the Engineer shall be notified prior to continued construction related to subject conditions.
4. Shore all existing construction as required, including where welding to existing steel framing. Shoring design by others.
5. Do not core or cut new openings in existing concrete or masonry without specific approval of the Engineer. All existing concrete surfaces to be in contact with new concrete shall be cleaned and roughened to 1/4" minimum amplitude. Use ICC approved bonding agent on existing concrete prior to placing new concrete.
6. Verify location of existing rebar before fabrication using non-destructive testing. Existing reinforcing shall be avoided where drilling for post-installed anchors or concrete dowels.
7. All existing (E) wood elements to remain shall be field inspected during construction and treated for dryrot removal / control. Where existing GLB's to remain are found to have extensive dryrot deeper than the top two laminations (3"), the structural engineer shall be notified prior to continued construction related to subject GLB's.
8. All existing connections at elements to be replaced shall be replaced or re-attached to match existing conditions.

CONCRETE

1. All portions of work pertaining to concrete construction shall conform to the Governing Building Code, Chapter 19, ACI Standard 318, and other referenced documents.
2. All concrete shall have:
   (a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days, UNO.
   (b) a maximum slump of 5" at point of placement.
   (c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all foundations, UNO.
   (d) a normal dry-weight density, UNO.
   (e) In regions with freeze/thaw cycles, 5% air entrainment shall be included in concrete exposed to weather.
3. Special inspection is NOT required as the foundations have been *designed* with f'c = 2,500 psi in accordance with the Governing Building Code, section 1705.3, exceptions 1, 2.1, and 2.3, unless explicitly specified herein, on the structural plans, or by the Building Department. At a minimum, special inspection is always required on:
   (a) structural slabs, flat plates
   (b) walls, columns, beams
   (c) piles, caissons
   (d) welding of reinforcement, installation of mechanical bar splice devices, epoxy application

   When required or specified, special inspection services shall conform to the Governing Building Code, Chapter 17 and shall be provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require special inspections. Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material.
4. Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency; such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1705.3. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner.
5. The contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense.
6. All concrete shall be in accordance with ASTM C94. Placement of concrete shall be in accordance with ASTM C94 and ACI Standard 304.
7. All cement shall be Portland Cement Type I or II and shall conform to ASTM C150. Where concrete is placed against soil that contains high levels of sulfides, use Type V cement.
8. All aggregates shall conform to ASTM C33. Maximum aggregate sizes:
   (a) Footings: 1-1/2"
   (b) All other work: 3/4"
9. Where not specifically detailed, the minimum concrete cover on reinforcing steel shall be:
   (a) Permanently exposed to earth or weather
      i. Cast against earth: 3"
      ii. Cast against forms: 2"
   (b) Not exposed to earth or weather
      i. Slabs, walls, joists: 3/4"
      ii. Beams, girders, columns: 1-1/2"
10. The minimum lap splice length for all reinforcing steel shall be as noted in the typical details on sheet S-1.1. All lap splices to be staggered.
11. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural and structural plans for locations of embedded items.
12. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly air and water cleaned and roughened to 1/4" amplitude, UNO. All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement.
13. Control joints shall be provided in all concrete slabs-on-grade per typical detail on sheet S-1.1, UNO.
14. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a reinforcement inspection prior to the placement of any concrete.
15. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening on or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All pipes or conduits passing through concrete members shall be sleeved with standard steel pipe sections.
16. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architect to ensure conformance with design intent.
17. Remove formwork in accordance with the following schedule:
   (a) Forms at slab edge: 1 day
   (b) Side forms at footings: 2 days
   (c) All other vertical surfaces: 7 days
   (d) Beams, columns, girders: 15 days
   (e) Elevated slabs: 28 days

   Engineer reserves the right to modify removal schedule above based on field observations, concrete conditions, and/or concrete test results.
18. Retaining walls shall not be backfilled until concrete has set a minimum of 14 days. Refer to structural plans for slab and/or framing installation sequencing.
19. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed to properly consolidate the concrete.
20. Concrete shall be maintained in a moist condition and above 40 degrees fahrenheit for a min. of seven (7) days after placement unless otherwise accepted by EOR.
21. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use tremie, pump or other method consistent with applicable standards.
22. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior to placement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures.
23. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.
24. Provide continuous horizontal reinforcing through all wall intersections and corner. See details for additional information.
25. Drypack or non-shrink grout shall have a minimum 28 day compressive strength of 7000 psi unless noted otherwise. Provide under base plates, etc., as required for full bearing. Grout shall be in conformance with ASTM C1107.
26. Calcium chloride and concrete admixtures containing chloride salts shall not be used with steel pan decking.

REINFORCEMENT

1. All portions of work pertaining to concrete reinforcing construction shall conform to the Governing Building Code, Chapter 19, ACI Standard 318, and other referenced documents.
2. Fabrication, placement and installation of reinforcing steel shall conform to the Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice and the Governing Building Code.
3. Reinforcing steel shall be deformed, clean, free of rust, grease or any other material likely to impair concrete bond.
4. All bars shall conform to ASTM A615, Grade 60 minimum (UNO on structural plans). All welded wire fabric (WWF) shall conform to ASTM A185 (flat sheets only).
5. Reinforcing steel that is to be welded shall conform to ASTM A706. All welding of reinforcement shall be subject to special inspection. Welding of reinforcement shall be with low hydrogen electrodes and shall conform to structural welding code - reinforcing steel, AWS D1.4, by the American Welding Society and ACI 318 Sec. 3.5.2. Welding rods used for the welding of reinforcing shall be E80XX. All welding shall be performed by certified welders.
6. Contractor shall take necessary steps (standard ties, anchorage devices, etc.) to secure all reinforcing steel in their true position and prevent displacement during concrete placement.
7. Shop drawings for fabrication of reinforcing steel shall be approved by the Contractor and submitted to the Architect and Engineer for review and approval prior to fabrication. Shop drawings are not required for slabs-on-grade or foundations unless specifically noted on the structural plans.
8. Heating of reinforcing steel to aid in bending and shaping of bars is not permitted. All bends in reinforcing steel are to be made cold. All bend radii shall conform to CRSI Manual of Standard Practice. Reinforcing bars shall not be pre-bent without approval of EOR.
9. Refer to Concrete and Masonry notes for specific minimum splice length and splice staggering requirements. Lap welded wire fabric (WWF) reinforcement a minimum of two (2) modules or 12", whichever is greater. All splices are to be staggered.
10. (Special lateral systems) The following reinforcement shall comply with ASTM A706, Grade 60, UNO:
    a. Vertical reinforcement at intersections and ends of concrete walls enclosed in ties or stirrups.
    b. Longitudinal moment frame reinforcement.
    c. Ties and stirrups providing lateral support of longitudinal bars or concrete confinement in columns and walls shall be ASTM A706, Grade 80.

ROUGH CARPENTRY

1. Refer to latest edition of the Governing Building Code, Table 2304.10.2. for all minimum nailing requirements.
2. Refer to individual sections for applicable material specifications.
3. Fabricate, size, install, connect, fasten, bore, notch, and cut wood and plywood with joints true, tight, and well-nailed, screwed or bolted as required, all members to have solid bearing without being shimmed, unless noted otherwise. Set horizontal members subject to bending with the crown up. Install framing plumb, square, true and cut for full bearing. Splices are not permitted between bearings. Use full lengths unless otherwise specified.
4. Metal framing angles, anchor, clips, straps, ties, holdowns, etc. shall be manufactured by Simpson Strong-Tie Co. No substitutions shall be permitted without prior approval of the Engineer.
5. All walls are to have continuous double 2x top plates spliced per Detail 7/S-1.1 unless specifically noted otherwise on the plans and details.
6. Wall Studs:
   (a) Unless specifically noted on the plan and details, use the following guidelines for wall framing:
      i. Use 2x4 studs at 16" oc for walls less than 9'-0" tall.
      ii. Walls 9'-0" to 16'-0" tall shall be constructed of 2x6 studs at 16" oc
      iii. Request specifically engineered wall details for walls greater than 16'-0" tall.
7. Blocking:
   (a) Provide min. one row of nominal 2" thick blocking of same width as stud, fitted snugly and spiked into studs at mid-height of partitions or walls over 8' high.
   (b) All foundation cripple walls (or "pony walls") less than 14" in height shall be solid blocking.
   (c) Rim blocking/rim board to be 1-1/4" minimum width x full depth at bearing walls, UNO per plans and details. Refer to shearwall section for additional rim/blocking requirements.
8. Notching:
   (a) Is not permitted of any structural member without prior approval
   (b) In exterior and bearing walls, notches shall not exceed 25% of the stud depth.
   (c) Non-bearing partition walls, notches shall not exceed 40% of the stud depth.
   (d) Successive notches in the same member shall be spaced a min of 18" apart.
9. Boring:
   (a) Is not permitted of any structural member without prior approval
   (b) In exterior and bearing walls, holes shall not exceed 40% of the stud depth.
   (c) Non-bearing partition walls, may be drilled not greater than 60% of stud depth.
   (d) Successive holes in the same member shall be spaced a minimum of 18" apart.
10. Bearing:
   (a) Provide a min. of 1-1/2" of bearing for all 2x joists and hdrs 4x10 / 6x8 & smaller.
   (b) Provide a min. of 3" of bearing for all beams and hdrs 4x12 / 6x10 & larger, UNO on plans.
   (c) Members bearing on prefabricated hangers are to have full bearing and nailing per manufacturer's specifications.
11. Posts:
   (a) Posts inside walls shall bear on sill plates and shall be continuous between top and bottom plates, unless specifically noted otherwise.
   (b) Provide posts under all beams, girders or double joists equal to the width of the supported member.
   (c) Posts on upper levels are to be stacked on posts of equal size at levels below, unless a larger post is specified on the plans.
   (d) Vertically oriented blocking ("squash blocking") shall be used to fully transfer the post area through floors to foundation. Vertical blocking shall be equal to floor thickness plus 1/16".
   (e) Headers framing into continuous posts without trimmer studs shall be supported in Simpson HUC hangers unless noted otherwise on the plans.
   (f) Isolated posts shall be seated in Simpson post or column bases, unless noted otherwise on the plans
12. Roof Framing:
   (a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
   (b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
   (c) Provide full depth solid 2x blkg or cross-bridging between the joists at 8' oc max.
   (d) Provide all cricket framing required to achieve positive drainage per Arch.
   (e) Install plywood panels with the face grain across the framing and close joints and nail at each support. Fully nail with common nails per the plans.
   (f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
   (g) Provide Simpson "PSCL" clips at all plywood joints perpendicular to framing. Provide clips midway between framing members at the unsupported edges of plywood when members are spaced at 24" oc or greater. If clips are not used, provide solid blocking for joints perpendicular to framing.
13. Floor Framing:
   (a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
   (b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
   (c) Provide full depth solid 2x blkg or cross-bridging between the joists at 8' oc max. For floors framed with I joists, refer to the mfg's spec's for blkg requirements.
   (d) Provide full depth solid 2x blocking between the joists under all walls and partitions where the wall or partition is perpendicular to the floor framing (including floors framed with I joists)
   (e) Install plywood sheathing with the face grain across supports, end supports staggered, and the edges of sheets centered over supports. If T&G plywood is used, blocking need not be provided at all plywood edges (UNO per plan). If T&G plywood is not used, blocking shall be provided at all plywood edges. Glue plywood to joists and fully nail with common nails per the plans.
   (f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
14. Shear Walls:
   (a) Refer to plans for all shearwall locations, length type and nailing.
   (b) Refer to Shearwall Schedule on title sheet for additional information.
   (c) Shear wall lengths specified on plans are minimum required.
   (d) Shear walls to be nailed with common nails. All nails to have minimum 3/8" edge distance to panel or framing member.
   (e) Where 3x framing is required per the shear wall schedule, stagger edge nailing.
   (f) Oriented Strand Board (OSB) may be used in lieu of plywood.
   (g) Typical Rim Board/Blocking at Shearwalls shall be 1-3/4" Min. LSL (refer to Engineered Lumber Section for Material Specifications). Refer to Shearwall Schedule per Plan for Min. Rim/Blkg Width Requirements per Transfer Fasteners.

TIMBER / LUMBER

1. All structural lumber shall be Douglas Fir-Larch, S4S and shall conform to the Governing Building Code, section 2303.1.1.
2. The minimum lumber grade of each member shall be as follows (unless specifically noted otherwise on plans and details) :
   (a) 2x studs, blocking, plates:Stud
   (b) 2x joists #2 or better
   (c) 4x4, 4x6, or 6x6 beams or posts #2 or better
   (d) 4x8, 6x8, or larger beams or posts #1 or better

   It is recommended (but not required) that all exposed members be Select Structural or better and free of heart center due to visual characteristics.
3. All lumber in contact with concrete or masonry shall be pressure treated Douglas Fir. Whenever it is necessary to cut, notch, bore or splice pressure treated material, all newly cut surfaces shall be thoroughly painted with the same preservative.
4. Maximum moisture content for all structural members shall not exceed 19%.
5. All plywood sheathing shall be CDX grade (or better) Douglas Fir with exterior glue. All sheathing shall conform to the Governing Building Code and grade-marked by the American Plywood Association (APA). Panel index to be 40/20 for floors and 24/0 for roofs unless specifically noted otherwise on the plans and details.

ENGINEERED LUMBER

1. Glu-laminated Beams (GLB):
   (a) shall have the following properties:

Use	EWS Combination Symbol	Species / Grade	Flexural Stress, Fb (psi)	Modulus of Elasticity, E (ksi)	Horiz. Shear Stress, Fv (psi)	Compression Fc para. (psi)	Compression Fc perp. (psi)
Simple Span Bm.	24F-V4	DF	+2,400/-1,850	1,800	265	1,650	650
Continuous or Cantilever Bm.	24F-V8	DF	+/- 2,400	1,800	265	1,650	650
Columns	2	DF / L2	+/- 1,800	1,300	265	1,600	560

   (b) shall not be notched, cut or drilled without prior approval from the Engineer
   (c) shall have exterior glue and weather-treatment prior to installation
   (d) shall be fabricated by an approved manufacturer & in accordance with ANSI A 190.1
   (e) shall have factory standard camber of 3,500-5,000 ft on beams UNO per Plan
2. Laminated Veneer Lumber (LVL) :
   (a) shall be 1-3/4" minimum thickness with the following minimum properties:
      i. E = 2000 ksi
      ii. Fb = 2600 psi
      iii. Fv = 285 psi
      iv. Fc (parallel) = 2500 psi
      v. Fc (perp.) = 750 psi
      vi. Ft (parallel) = 1500 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with mfg's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
      i. 16d @ 6" oc, 10d @ 5" oc, and 8d @ 4" oc
      ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
   (e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
   (f) shall not be cut, notched or drilled without specific written approval of the EOR.
3. Laminated Strand Lumber (LSL) :
   (a) shall be 1-3/4" minimum thickness with the following minimum properties:
      i. E = 1550 ksi
      ii. Fb = 2325 psi
      iii. Fv = 310 psi
      iv. Fc (parallel) = 2170 psi
      v. Fc (perp.) = 900 psi
      vi. Ft (parallel) = 1070 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with mfg's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
      i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 4" oc
      ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
   (e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
   (f) shall not be cut, notched or drilled without specific written approval of the EOR.
4. Parallel Strand Lumber (PSL) :
   (a) shall be 2-1/2" minimum thickness with the following minimum properties:
      i. E = 2200 ksi
      ii. Fb = 2900 psi
      iii. Fv = 290 psi
      iv. Fc (parallel) = 2900 psi
      v. Fc (perp.) = 625 psi
      vi. Ft (parallel) = 2300 psi
      vii. Specific Gravity = 0.50
   (b) shall be fabricated by an approved manufacturer
   (c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
   (d) shall be nailed in accordance with manufacturer's specifications. Unless otherwise approved, nailing shall not be spaced any closer than:
      i. Narrow face: 16d @ 6" oc, 10d @ 4" oc, and 8d @ 4" oc
      ii. Wide Face: 16d @ 8" oc, and 10d & 8d @ 6" oc
      iii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances
   (e) shall not be cut, notched or drilled without specific written approval of the EOR.
5. Plywood I Joists:
   (a) type and manufacturer shall be clearly noted on the plans. Substitutions shall not be permitted without prior approval of the Engineer.
   (b) shall be installed in accordance with applicable code approvals and mfg's spec's.
   (c) shall bear a minimum of 1-3/4" at all end supports, and 3-1/2" at intermediate supports. Provide full depth solid blocking at all bearing points.
   (d) shall be installed with intermediate blocking or bridging as specified by the Mfr. Only omit intermediate blocking when specifically allowed by the Mfr.
   (e) shall not be cut, notched or drilled without specific written approval of the EOR.

WOOD FASTENERS

1. All Fasteners:
   (a) shall be hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper when in contact with preservative-treated wood.
      i. When used in exterior applications, fasteners shall have coating types and weights in accordance with the treated wood or bolt manufacturer's requirements. A min.of ASTM A153, type G185 zinc-coated galvanized steel (or equiv.) shall be used.
      ii. When used in an interior, dry environment in SBX/DOT or zinc borate preservative-treated wood, plain carbon nails shall be permitted.
2. Nails:
   (a) shall be with "common" nails unless noted otherwise.
   (b) shall not be driven closer than 1/2 their length nor closer than 1/4 of their length to the edge or end of a member, except for sheathing.
   (c) shall be installed in pre-drilled lead holes if necessary to avoid splitting.
   (d) All nailing shall conform to the Governing Building Code, Table 2304.10.2.
3. Lag screws:
   (a) shall be installed into pre-drilled lead holes. Lubricant (or soap) shall be used to facilitate installation and prevent damage to the screws.
4. Bolts to Wood Framing:
   (a) shall conform to ASTM A307, UNO specifically on plans and details.
   (b) shall be installed in pre-drilled holes a max of 1/16" larger than the specified bolt dia.
   (c) when installed against wood surfaces, shall have standard washers (ASTM F436) under the heads and nuts.
5. Anchor Bolts:
   (a) shall be installed at all exterior walls and all interior shear and/or bearing walls.
   (b) shall be 5/8" diameter with 3x3x0.229" steel plate washers at shearwalls.
   (c) shall be 5/8" diameter with 2x2x3/16" steel plate washers at non-shearwalls.
   (d) shall have 7" minimum embedment. (Contractor to coordinate length of bolts with sill plate thicknesses).
   (e) shall conform to ASTM F1554, Grade 36, UNO.
   (f) shall not be spaced greater than 72" oc Refer to shearwall schedule for specific anchor bolt spacing requirements.
   (g) shall be placed a maximum of 12" from wall corners, wall ends, and sill plate splices (but not less than 7 dia.) , and a min. of two bolts per piece of sill plate is required.
   (h) shall be secured in place prior to foundation inspection.
   (i) shall have a minimum edge distance of 1-3/4", UNO per plans and details.
6. Anchor Rods:
   (a) shall be fully threaded, UNO.
   (b) shall have 12" minimum embedment, UNO. (Contractor to coordinate length of bolts with min. projection above connected parts).
   (c) shall be heavy hex headed or terminate w/ double nut and washer per details, UNO.
   (d) shall conform to ASTM F1554, Grade 36, UNO.
   (e) shall be secured in place prior to foundation inspection.
   (f) shall have a minimum edge distance of 1-3/4", UNO per plans and details.
7. Powder Actuated Shot Pins:
   (a) shall be installed at all interior non-bearing, non-shearwalls.
   (b) shall conform to ICC ESR-2138, or equivalent.
   (c) shall be 0.157x3" with 1.5" diameter steel washers, UNO.
   (d) shall mechanically galvanized when installed in preservative-treated or fire-retardant-treated wood.
   (e) shall not be spaced greater than 32" o.c.

ASHLEY & VANCE ENGINEERING

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ENGINEER OF RECORD:

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. STRAUS
S-6016
STRUCTURAL
STATE OF CALIFORNIA
03/30/2026

Nevada County Homekey +
Auburn Residence
13668 Auburn Rd.
Grass Valley, CA 95949

REVISION:

	03.30.2026	Issued for Permit

PROJECT ENGINEER:
Arlene Castillo
(916) 790-3181 x217
arlene@ashleyvance.com

DATE: 03/30/2026	SCALE: NTS
AV JOB: 251477	SHEET SIZE: 24"x36"

STRUCTURAL SPECIFICATIONS

JOB SET

S-1.2

DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS.

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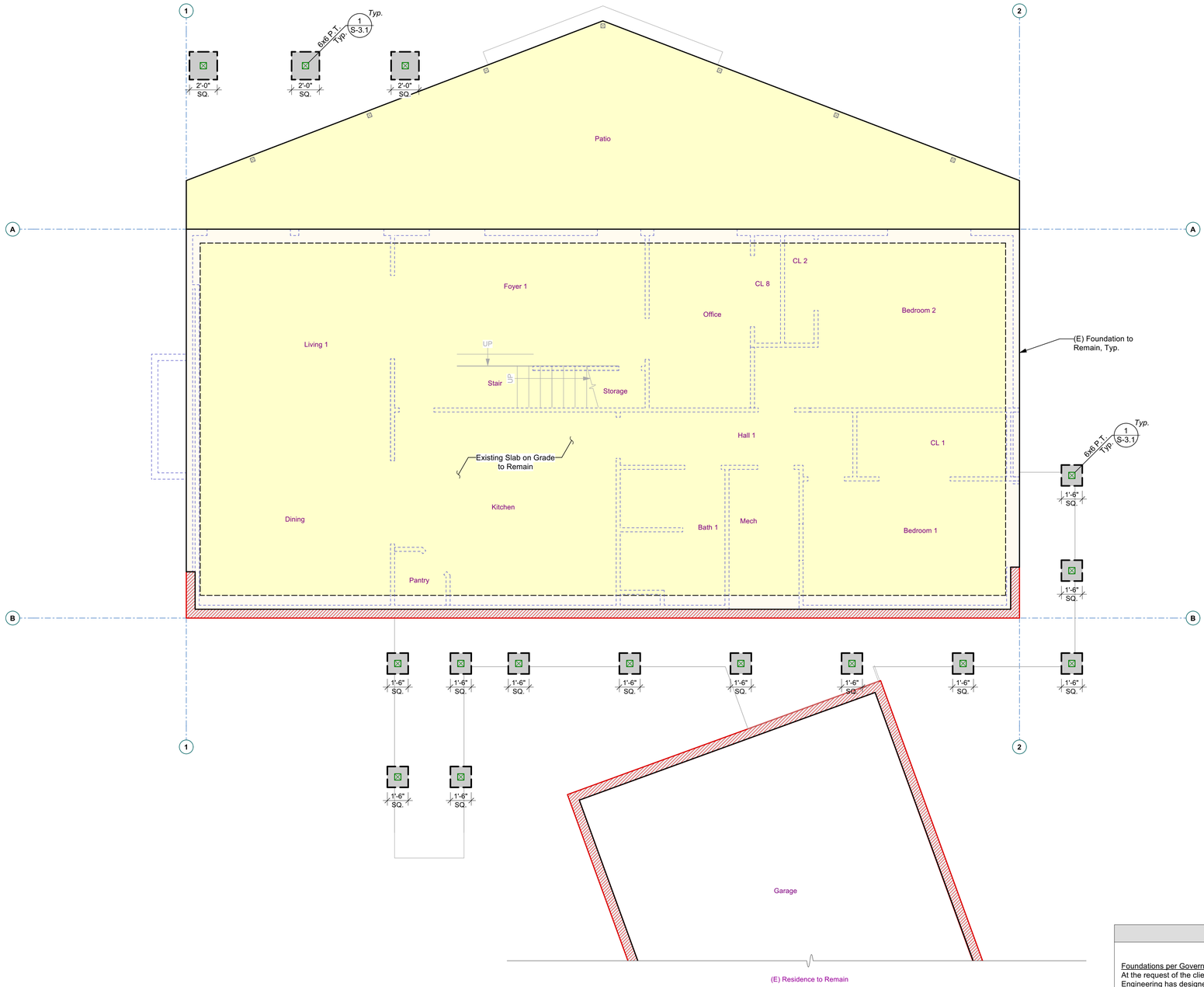

GENERAL FOUNDATION NOTES

Foundations per Governing Building Code, Table 1806.2
At the request of the client (or client's agent), Ashley & Vance Engineering has designed the foundations in conformance with Table 1806.2. If the building official determines that expansive soils are present, or other geologic issues of concern, then they may require that special provisions be made to the foundation design to safeguard against damage due to the expansiveness or due to other geologic issues. If this becomes the situation, all foundation construction must be halted and the client, at their own expense, shall: (a) obtain a soils report prepared by a Soils Engineer licensed in the state of the project; (b) commission Ashley & Vance Engineering to revise the foundation plans and details, and framing plans if necessary, to reflect the recommendations of the soils report; (c) submit the revised plans to the Building Department for approval.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

(E) Foundation to Remain

(E) Slab-on-Grade to Remain

Foundation per Details
12" Wide (UNO)

(N) Pad Foundation per Details
Dimensions per Plan

Wood Framed Wall Above (See S-2.2)

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MICHAEL J. STRAMS
S-6016
STRUCTURAL
STATE OF CALIFORNIA
03/30/2026

Nevada County Homekey + Auburn Residence

13668 Auburn Rd.
Grass Valley, CA 95949

REVISION:

	03.30.2026	Issued for Permit

PROJECT ENGINEER:
Arlene Castillo
(916) 790-31181 x217
arlene@ashleyvance.com

DATE: 03/30/2026	SCALE: 1/4"=1'-0"
AV JOB: 251477	SHEET SIZE: 24"x36"

FOUNDATION PLAN

JOB SET

S-2.1

DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS.

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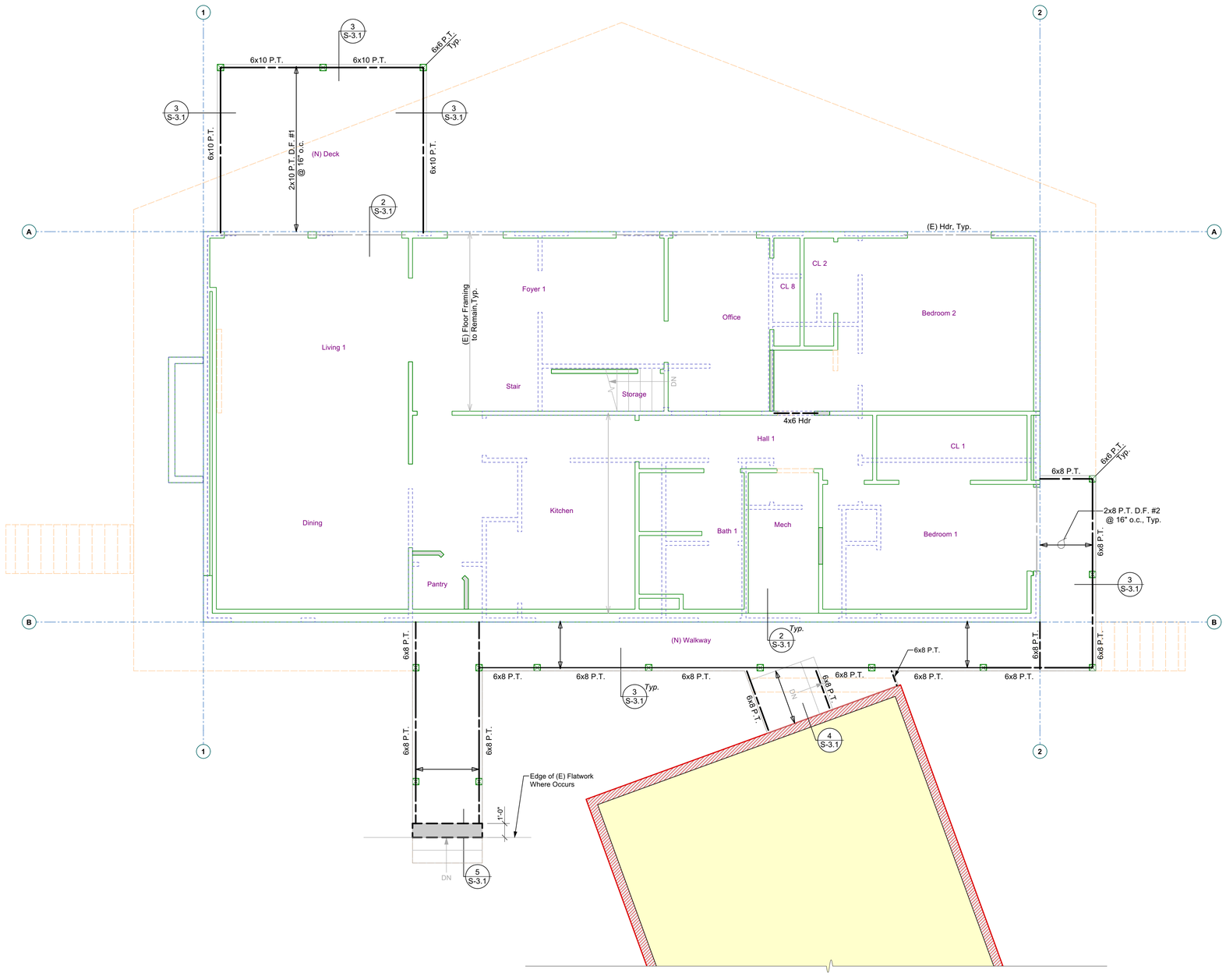

WALL SCHEDULE

Stud wall locations per Architecturals.

(E) Wood-Framed Wall to be Removed

(See Arch.)

(E) Wood-Framed Wall to Remain

(N) Wood-Framed Wall, Thk. per Arch.

2x4 Min. DF Stud @ 16"oc, @ Interior Walls

All Walls to have Continuous Double Top Plates, All Splices to be per Detail **7/S-1.1**

Walls above

(shown for clarity)

GENERAL FRAMING NOTES

Beams (per Call-out)

All Lumber 4x6, 6x6 and Smaller to be DF #2 UNO
All Lumber 4x8, 6x8 and Larger to be DF #1 UNO

All Beams to Bear on Plates w/ Indicated Post or Doubler Below UNO

All Hangers Shall be Installed w/ Max. Nailing per Mfr. & Sized for Full Width & Depth of Supported Members, UNO

Provide wall length continuous full depth solid blocking (where floor joists perpendicular) or double floor joist (where joists parallel) for all walls above.

(N) Deck Joists -- 2x8 P.T. D.F. #2 @ 24" oc in Simpson LUS Hangers to Fit (UNO)

(E) Framing (to Remain)

Waterproofing, flashing, & finish details per Architecturals.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

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S-6016
STRUCTURAL
STATE OF CALIFORNIA
03/30/2026

Nevada County Homekey + Auburn Residence

13668 Auburn Rd.
Grass Valley, CA 95949

REVISION:

	03.30.2026	Issued for Permit

PROJECT ENGINEER:
Arlene Castillo
(916) 790-3181 x217
arlene@ashleyvance.com

DATE: 03/30/2026	SCALE: 1/4"=1'-0"
AV JOB: 251477	SHEET SIZE: 24"x36"

2ND FLOOR FRAMING PLAN

JOB SET
S-2.2

DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL PLANS FOR ALL DIMENSIONS.

Mar 30, 2026
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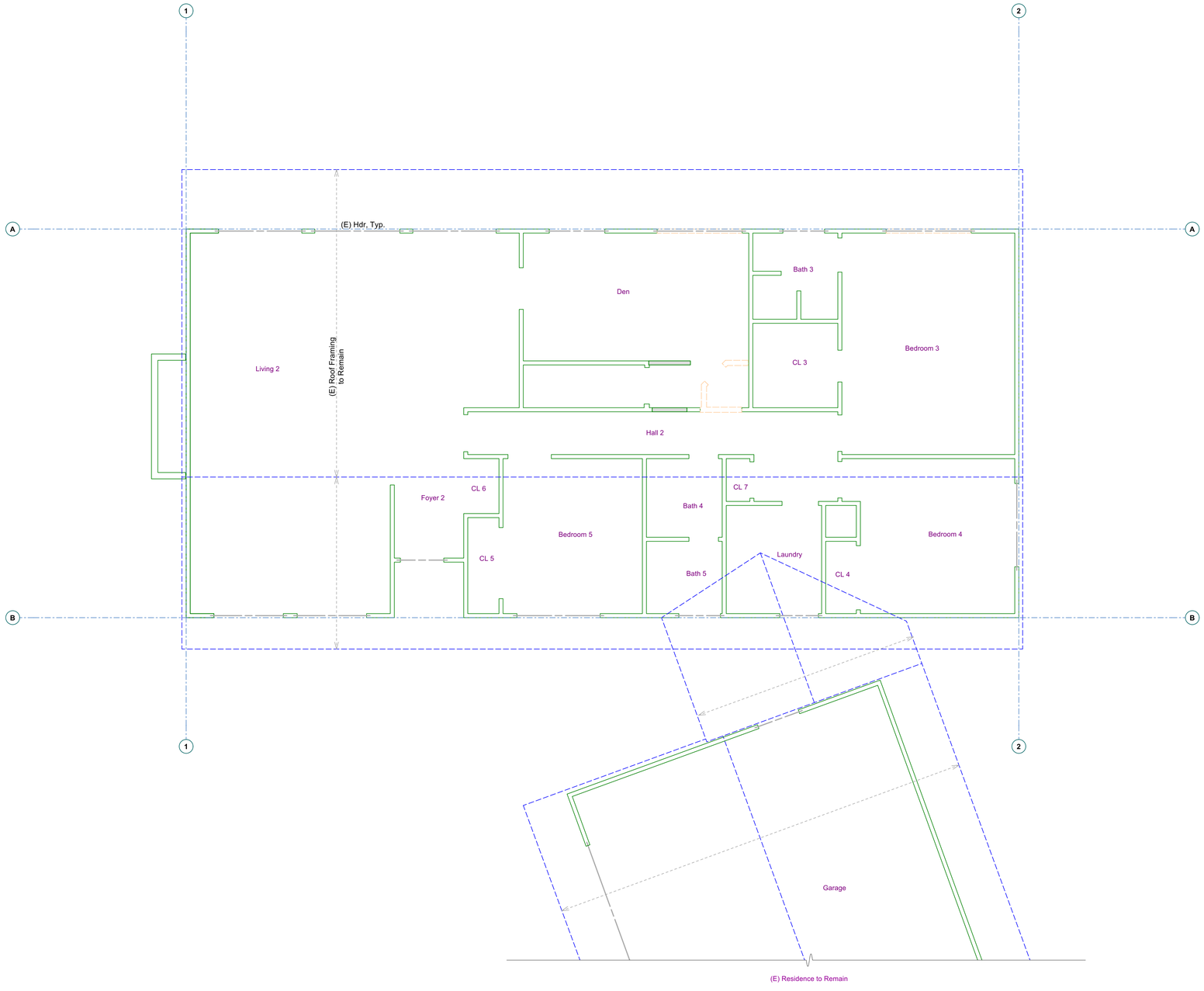

WALL SCHEDULE

Stud wall locations per Architecturals.

(E) Wood-Framed Wall to be Removed

(See Arch.)

(E) Wood-Framed Wall to Remain

(N) Wood-Framed Wall, Thk. per Arch.

2x4 Min. DF Stud @ 16" oc. @ Interior Walls

All Walls to have Continuous Double Top Plates, All Splices to be per Detail **7/S-1.1**

GENERAL FRAMING NOTES

Beams (per Call-out)

All Lumber 4x6, 6x6 and Smaller to be DF #2 UNO
All Lumber 4x8, 6x8 and Larger to be DF #1 UNO

All Beams to Bear on Plates w/ Indicated Post or Doubler Below UNO

All Hangers Shall be Installed w/ Max. Nailing per Mfr. & Sized for Full Width & Depth of Supported Members, UNO

(E) Framing (to Remain)

Waterproofing, flashing, & finish details per Architecturals.

See General Notes & Specifications for additional requirements and material specifications.

All dimensions per Architectural plans

Contractor to VERIFY all dimensions w/ Architectural plans PRIOR to commencement of construction.

ASHLEY &VANCE ENGINEERING

1504 Eureka Road #370
Roseville, CA 95661
(916) 790-3181

WWW.ASHLEYVANCE.COM

CIVIL • STRUCTURAL

ENGINEER OF RECORD:

REGISTERED PROFESSIONAL ENGINEER
MICHAEL J. STRAMS
S-6016
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ROOF FRAMING PLAN

JOB SET

S-2.3

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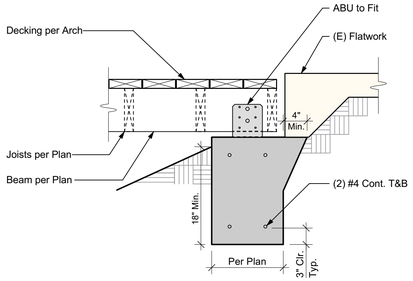
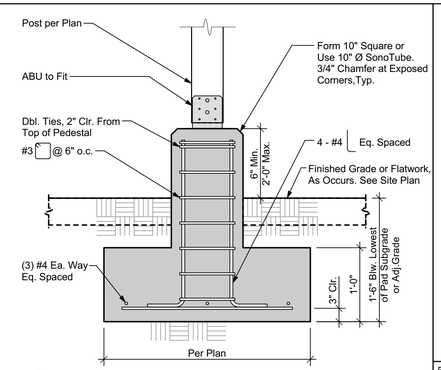
17 NOT USED

13 NOT USED

9 NOT USED



5 TYPICAL DECK STAIR



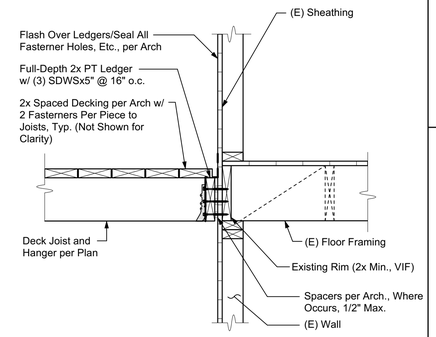
1 TYPCIAL DECK PAD FOOTING

18 NOT USED

14 NOT USED

10 NOT USED

6 NOT USED



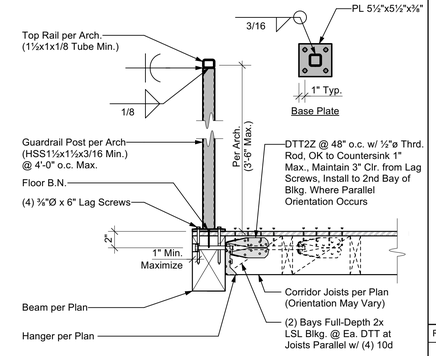
2 DECK FRAMING AT EXTERIOR WALL

19 NOT USED

15 NOT USED

11 NOT USED

7 NOT USED



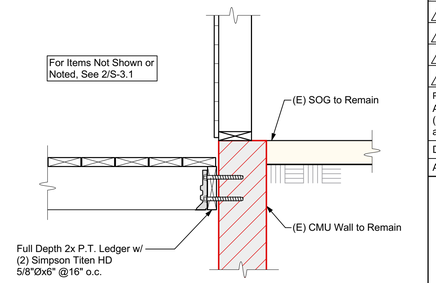
3 STEEL GUARDRAIL CONNECTION

20 NOT USED

16 NOT USED

12 NOT USED

8 NOT USED



4 DECK FRAMING AT EXISTING CMU WALL

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DATE: 03/30/2026	SCALE: NTS
AV JOB: 251477	SHEET SIZE: 24"x36"

STRUCTURAL DETAILS

JOB SET
S-3.1

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Mar 30, 2026
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RESIDENTIAL CALGREEN PLUMBING NOTES

1) ENHANCED DURABILITY AND REDUCED MAINTENANCE:
   4.406.1 ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY

2) BUILDING MAINTENANCE AND OPERATION:
   4.410.1 AN OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER

3) INDOOR WATER USE
   A) PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) INSTALLED IN RESIDENTIAL BUILDINGS SHALL COMPLY WITH THE PRESCRIPTIVE REQUIREMENTS OF SECTIONS 4.303.1.1 THROUGH 4.303.1.4.4

   B) PLUMBING FIXTURES AND FITTINGS REQUIRED IN SECTION 4.303.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE, AND SHALL MEET THE APPLICABLE REFERENCED STANDARDS.

PIPING SCHEDULE

TYPE	SIZE	JOINING METHOD	NOTES
SANITARY WASTE BELOW GRADE	ALL	SOLVENT	ABS
SANITARY WASTE ABOVE GRADE	ALL	SOLVENT	ABS
SANITARY VENT	ALL	SOLVENT	ABS
CONDENSATE PIPING	ALL	SOLVENT	PVC/CPVC
CONDENSATE PIPING EXPOSED	ALL	SOLVENT	PVC/CPVC (PROTECTED WITH WATER-BASED LATEX PAINT)
GAS PIPING BELOW GRADE	ALL	COMPRESSION	POLYETHYLENE
GAS PIPING ABOVE GRADE	ALL	THREADED	GALVANIZED STEEL
DOMESTIC WATER	ALL	95/5 SOLDER	TYPE "L" OR "K" COPPER W/SEISMIC BRACING
SANITARY WASTE/VENT	BELOW GRADE	SERVICE WEIGHT CAST IRON	NO-HUB COUPLING
	ABOVE GRADE	SERVICE WEIGHT CAST IRON	NO-HUB COUPLING

VALUE OPTION: (E) TANK WATER HEATER SCHEDULE

SYMBOL	MANU.	MODEL	LOCATION	RECOVERY AT 90°F ΔT	ENERGY FACTOR	CAPACITY (GAL)	VOLTAGE	REMARKS
WH-1	RHEEM	PROE50 T2 RH95	INTERIOR	21.0	0.95	50	240-1ø-60Hz	4.5KW, VALUE OPTION: EXISTING WH TO REMAIN

STANDARD OPTION: (N) HEAT PUMP TANK WATER HEATER SCHEDULE

SYMBOL	MANU.	MODEL NO.	LOCATION	SERVES	CAPACITY (GAL)	FIRST HOUR RATING (GPH)	INPUT MBH (KW)	ELECTRICAL			WEIGHT (LBS)	REMARKS
								HP	VOLTAGE	AMPS		
HPWH-1	RHEEM	XE80T10HS45U1	INTERIOR CLOSET	RESIDENCE	80	87	(4.5)	–	230-1ø-60Hz	–	244	INSTALL TMV-1 TO ENSURE 120°F SETPOINT, REPLACE (E) WH LIKE-FOR-LIKE

PLUMBING FIXTURE SCHEDULE - SEE FLOOR PLAN FOR APPLICABLE FIXTURES

TAG	FIXTURE	TYPE	MOUNTING	MANU.	MODEL NO.	WATER SUPPLY			DRAIN		PIPE SIZES				REMARKS
						MANU.	MODEL NO.	MAX GPM/GPF	TYPE	SIZE	WASTE	VENT	CW	HW	
BT-1	BATHTUB/SHOWER	–	FLOOR	COORDINATE MODEL SELECTION WITH OWNER		COORDINATE MODEL SELECTION WITH OWNER		–	P-TRAP	1-1/2"	1-1/2"	1-1/4"	1/2"	1/2"	
CW-1	CLOTHES WASHER	–	FLOOR	COORDINATE MODEL SELECTION WITH OWNER		–	–	–	P-TRAP	2"	2"	1-1/2"	1/2"	1/2"	
DW-1	DISHWASHER	RESIDENTIAL	UNDER COUNTER	COORDINATE MODEL SELECTION WITH OWNER		–	–	–	INDIRECT	1-1/2"	2"	1-1/2"	–	1/2"	SHALL COMPLY WITH UL 749
HB-1	HOSE BIBB	–	WALL	WOODFORD	26	–	–	–	–	–	–	–	1/2"	–	BACKFLOW PROTECTED, ASSE STANDARD 1052
LAV-1	LAVATORY (1X FAUCET MOUNTING HOLES)	METERED	UNDER COUNTER	COORDINATE MODEL SELECTION WITH OWNER		MOEN	WSL84733	1.2	P-TRAP	1-1/4"	1-1/2"	1-1/4"	1/2"	1/2"	OR EQUIVALENT, ADA COMPLIANT, BATTERY POWERED SENSOR ACTIVATED
	LAVATORY (3X FAUCET MOUNTING HOLES-CENTERSET)	METERED	UNDER COUNTER	COORDINATE MODEL SELECTION WITH OWNER		MOEN	WS84633SRN	1.2	P-TRAP	1-1/4"	1-1/2"	1-1/4"	1/2"	1/2"	OR EQUIVALENT, ADA COMPLIANT, BATTERY POWERED SENSOR ACTIVATED, PROVIDE 4" CENTERSET HOLES
SH-1	SHOWER	–	–	COORDINATE MODEL SELECTION WITH OWNER		DELTA ARVO	142840-SP-I	1.8	P-TRAP	2"	2"	1-1/2"	1/2"	1/2"	OR EQUIVALENT, ADA COMPLIANT
SK-1	SINK (1X FAUCET MOUNTING HOLES)	SINGLE COMPARTMENT	DROP-IN	COORDINATE MODEL SELECTION WITH OWNER		MOEN	7423	2.0	P-TRAP	1-1/2"	2"	1-1/2"	1/2"	1/2"	OR EQUIVALENT, INSTALL 3/4 HP COMPACT GARBAGE DISPOSAL
	SINK (3X FAUCET MOUNTING HOLES-WIDESPREAD)	SINGLE COMPARTMENT	DROP-IN	COORDINATE MODEL SELECTION WITH OWNER		MOEN	7425	2.0	P-TRAP	1-1/2"	2"	1-1/2"	1/2"	1/2"	OR EQUIVALENT, INSTALL 3/4 HP COMPACT GARBAGE DISPOSAL
SK-2	BAR SINK	METERED	UNDER COUNTER	COORDINATE MODEL SELECTION WITH OWNER		MOEN	7423	2.0	P-TRAP	1-1/2"	2"	1-1/2"	1/2"	1/2"	OR EQUIVALENT
TMV-1	THERMOSTATIC MIXING VALVE	–	–	WATTS	LFMMV-M1	–	–	–	–	–	–	–	1/2"	1/2"	ASSE STANDARD 1017, 1069, AND 1070 LISTED, 0.5-12 GPM FLOW RATING
WC-1	WATER CLOSET	GRAVITY	FLOOR	AMERICAN STANDARD	3378AB.128	–	–	1.28	INTEGRAL P-TRAP	–	3"	2"	1/2"	–	OR EQUIVALENT, ADA COMPLIANT, ELONGATED OPEN FRONT SEAT

NOTES: COORDINATE ALL TRIM AND ACCESSORY OPTIONS WITH OWNER
EQUIVALENT FIXTURES ACCEPTABLE CONTINGENT ON OWNER APPROVAL

PLUMBING SCOPE OF WORK

1) DEMOLITION OF UPPER FLOOR KITCHEN PLUMBING FIXTURES. PLUMBING PIPES SHALL BE CAPPED AND SEALED OFF AT THE WALL
2) ADDITION OF NEW FIXTURES PER PLAN
3) RELOCATION OF (E) LOWER FLOOR KITCHEN SINK
4) REPLACE ALL PLUMBING FIXTURE FAUCETS, SHOWER HEAD FITTINGS, & WATER CLOSETS. (E) LAVATORY/SINK BOWLS/TUB & SHOWER BASINS TO REMAIN.
5) NO INCREASE TO OVERALL WATER DEMAND
6) VALUE OPTION: (E) WH TO REMAIN
   STANDARD OPTION: (E) WH TO BE REPLACED BY (N) HPWH

PLUMBING LEGEND

—CW—	COLD WATER
—HW—	HOT WATER
—NG—	NATURAL GAS
SS	SANITARY SEWER
SSV	SANITARY SEWER VENT
VTR	VENT THRU ROOF
AFF	ABOVE FINISHED FLOOR
BF	BELOW FLOOR
FA, TB	FROM ABOVE, TO BELOW
FB, TA	FROM BELOW, TO ABOVE
FU	FIXTURE UNITS
GPM	GALLONS PER MINUTE
TMV	THERMOSTATIC MIXING VALVE
	POC - POINT OF CONNECTION
	GAS POC
	COLD WATER POC
	CONDENSATE POC
	CLEANOUT
	HOSE BIBB
	SHUT-OFF VALVE
	PUMP

JOB SET

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard Rocklin, CA 95765
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REGISTERED PROFESSIONAL ENGINEER
ALEX M. BATISTA
No M36994
EXP.09-30-2026
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED 05-01-26

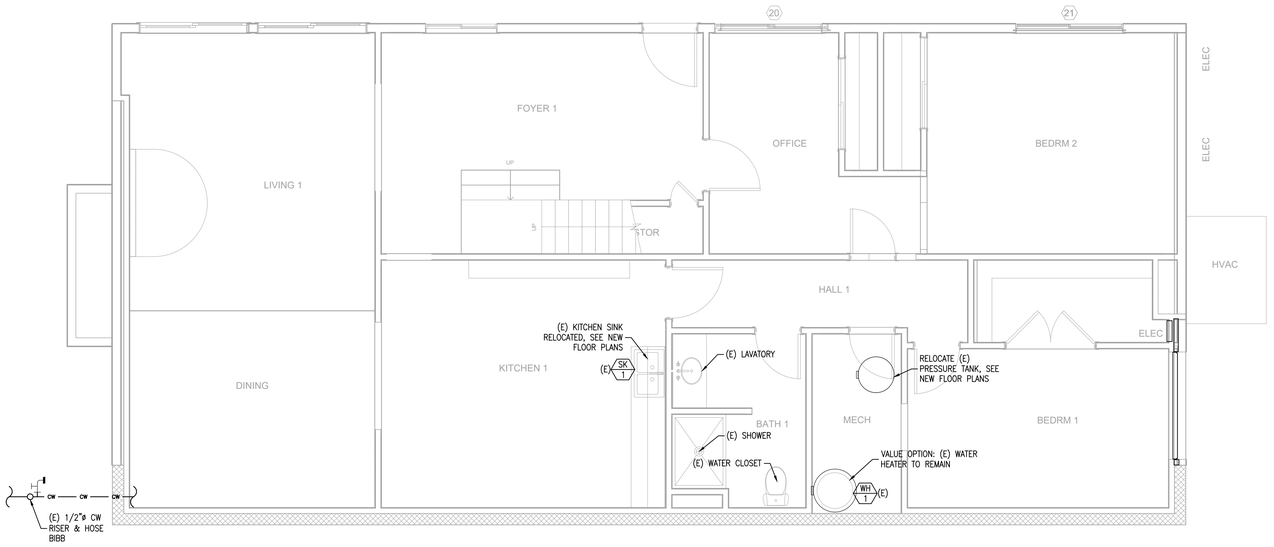
AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA. 95949

ISSUED FOR	DATE
PERMIT	04-02-26
⚠1 PLAN CHECK #1	05-01-26

PROJECT NUMBER 25341

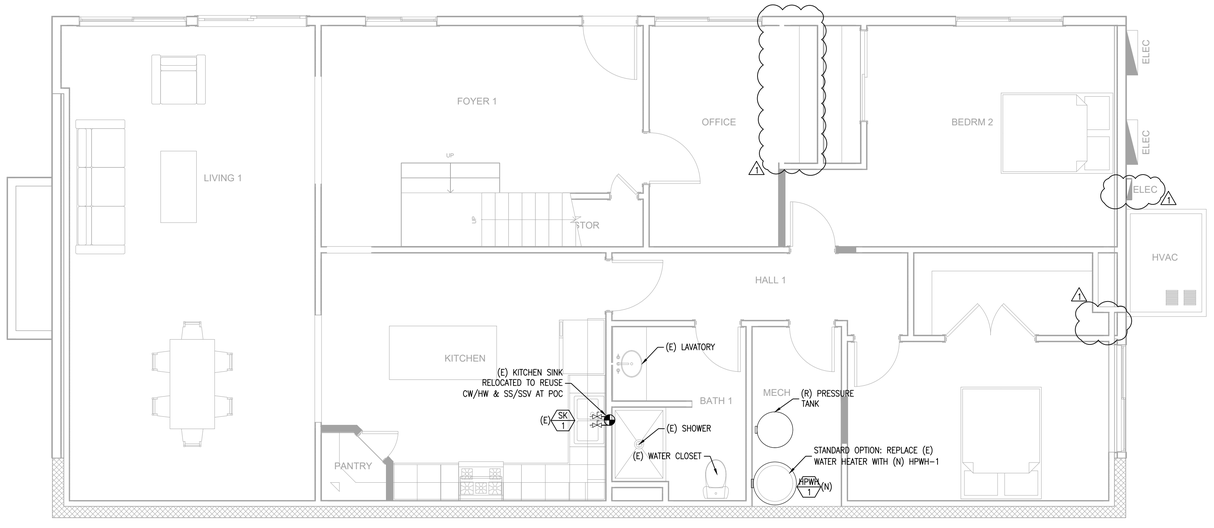
SHEET TITLE
PLUMBING GENERAL NOTES & SCHEDULES

SHEET NO.
P0



A PLUMBING PLANS - DEMOLITION PLANS - LOWER FLOOR

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



B PLUMBING PLANS - NEW PLANS - LOWER FLOOR

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

NORTH

JOB SET

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (D) DEMO
2. ALL EQUIPMENT, FITTINGS, FIXTURES, AND PIPING ARE (E) TO REMAIN U.O.N.
3. ALL PLUMBING FIXTURE FLOW RATES SHALL COMPLY WITH CGBC 4.303.1
4. ALL DOMESTIC HOT WATER POTABLE PIPING SYSTEMS SHALL BE INSULATED, AND THE INSULATION THICKNESS SHALL BE BASED ON THE CONDUCTIVITY RANGE IN TABLE 120.3-A. REFERENCE THE 2025 CALIFORNIA ENERGY CODE SECTION 150.0 (J).
5. PROTECT ALL PLASTIC AND COPPER PIPING RUNNING THROUGH FRAMING MEMBERS WITHIN 1" OF EXPOSED FRAMING WITH MIN. 18 GAUGE STEEL NAIL PLATES
6. LOW FLOW PLUMBING FIXTURE FLOW RATES:
   RESIDENTIAL LAVATORY FAUCETS:
   THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GPM AT 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GPM AT 20 PSI PER CPC 407.2.2
   SINGLE SHOWERHEAD [TUB/SHOWER COMBO]:
   SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GPM AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS IN COMPLIANCE WITH CHAPTER 5, DIVISION 5.3. OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN) PER CPC 408.2.1
   WATER CLOSETS:
   THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH.
   TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS IN COMPLIANCE WITH CHAPTER 5, DIVISION 5.3. OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN) PER CPC 411.2.4
7. ENSURE REGULAR INSPECTION OF SEPTIC TANK AND PUMPING AS REQUIRED TO ENSURE PROLONGED SYSTEM LIFE
8. ENSURE HOUSEHOLD WATER USE REMAINS WITHIN THE SEPTIC SYSTEM'S DESIGNED CAPACITY BY ENSURING A FLOW METER IS INSTALLED ON EACH WELL

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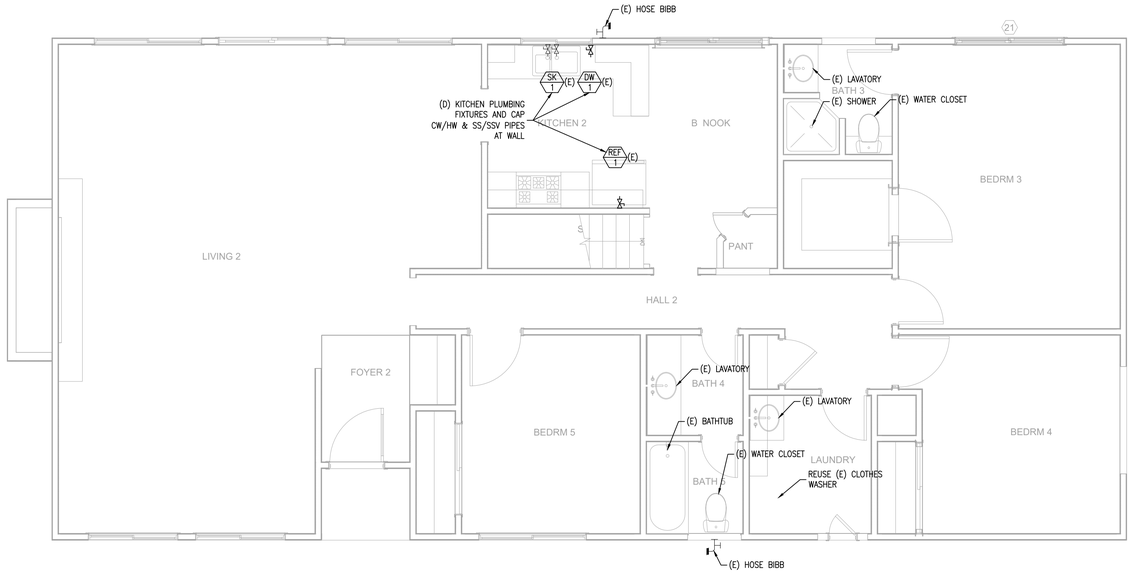
SHEET TITLE

PLUMBING PLANS - LOWER FLOOR

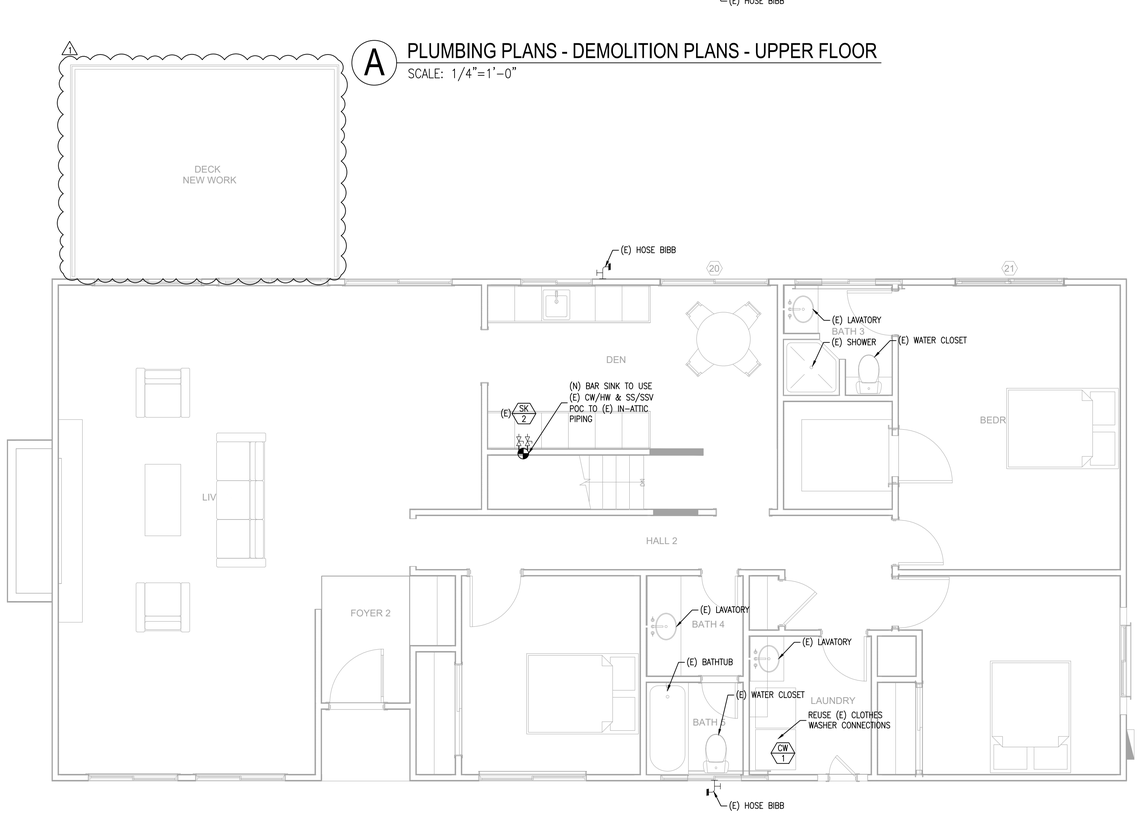
SHEET NO.

P1



A PLUMBING PLANS - DEMOLITION PLANS - UPPER FLOOR

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



B PLUMBING PLANS - NEW PLANS - UPPER FLOOR

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NORTH

JOB SET

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SHEET TITLE

PLUMBING PLANS - UPPER FLOOR

SHEET NO.

P2

GENERAL NOTES

1) CONTRACTOR TO EXAMINE THE PROPOSED WORK SITE AND BECOME FAMILIAR WITH ALL JOB CONDITIONS AFFECTING THE WORK SHOWN. CONTRACTOR(S) SHALL FIELD-VERIFY SITE CONDITIONS INCLUDING LOCATIONS AND SIZES OF EXISTING PIPING, VALVES, CLEANOUTS, WASTE MAINS, GAS METERS, ETC., AND BIDS SHALL BE BASED ON ACTUAL FIELD CONDITIONS. NO ADDITIONAL ALLOWANCE WILL BE GRANTED DUE TO LACK OF KNOWLEDGE OF SITE CONDITIONS. ACCEPT SOLE AND COMPLETE RESPONSIBILITY FOR CONDITIONS OF THE JOBSITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.

2) DRAWINGS INDICATE DIAGRAMMATICALLY THE ARRANGEMENT OF PRINCIPAL APPARATUS, PIPING, DUCTWORK, AND OTHER MATERIAL. FOLLOW DRAWING AS CLOSELY AS POSSIBLE IN ORDER TO ACHIEVE A NEAT INSTALLATION WHILE STILL WORKING AROUND ANY OBSTRUCTIONS. INSPECT SITE CONDITIONS AFFECTING THE WORK AND PROVIDE FITTINGS AND ACCESSORIES AS REQUIRED TO MEET CONDITIONS WHETHER SHOWN OR NOT.

3) IT IS NOT THE INTENTION OF THE PLANS AND SPECIFICATIONS TO COVER ALL INCIDENTALS REQUIRED TO PROVIDE COMPLETE AND FULLY-OPERATIONAL SYSTEMS. THE CONTRACTOR IS TO FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC., REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION SHALL BE INCLUDED, WHETHER SPECIFICALLY SHOWN OR MENTIONED OR NOT. ENGINEER WILL PROVIDE INTERPRETATIONS UPON REQUEST.

4) ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE AUTHORITY(IES) HAVING JURISDICTION: 2025 CALIFORNIA BUILDING CODE, 2025 CALIFORNIA MECHANICAL CODE, 2025 CALIFORNIA PLUMBING CODE, 2025 CALIFORNIA ELECTRICAL CODE, 2025 CALIFORNIA ENERGY CODE (TITLE 24), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), AND ANY OTHER LOCAL CODES, ORDINANCES, REGULATIONS, OR AUTHORITIES HAVING JURISDICTION. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHER CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. THESE CODES SHALL DETERMINE MINIMUM REQUIREMENTS FOR MATERIALS, METHODS, AND LABOR PRACTICES NOT OTHERWISE DEFINED IN THESE SPECIFICATIONS.

5) DEFINITIONS:
   a. WORK: LABOR AND MATERIALS OF THE CONTRACTOR AND/OR SUBCONTRACTOR.
   b. FURNISH: OBTAIN, COORDINATE, SUBMIT THE NECESSARY DRAWINGS, DELIVER TO THE JOBSITE IN NEW CONDITION AND GUARANTEE.
   c. PROVIDE: FURNISH AND INSTALL.
   d. CONNECT: BRING SERVICE TO THE EQUIPMENT AND MAKE FINAL ATTACHMENTS INCLUDING NECESSARY PIPE FITTINGS, DUCTWORK, TRANSITIONS, ETC.
   e. CONCEALED: HIDDEN FROM SIGHT IN CHASES, FURRED SPACES, SHAFTS, ABOVE CEILING, EMBEDDED IN CONSTRUCTION, IN CRAWL SPACES, OR BURIED.
   f. EXPOSED: NOT INSTALLED UNDERGROUND OR CONCEALED AS DEFINED ABOVE.
   g. PERFORMANCE: CONTRACTOR SHALL PERFORM ALL WORK SPECIFIED, INDICATED, AND REQUIRED UNLESS OTHERWISE NOTED, INCLUDING FINAL CONNECTIONS, IN A WORKMANLIKE MANNER USING WORKERS SKILLED AND EXPERIENCED IN THE TRADE. PIPES, FIXTURES, EQUIPMENT, GRILLES, REGISTERS, ETC. TO BE INSTALLED LEVEL, SQUARE, OR CENTERED, ETC. TO GIVE A NEAT APPEARANCE.
   h. FULL FUNCTION: PROVIDE ALL MINOR ITEMS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.

6) CONTRACTOR SHALL CONFIRM ALL SITE VOLTAGES BEFORE BIDDING AND ORDERING EQUIPMENT. REIMBURSE ELECTRICAL CONTRACTOR, AT NO CHARGE TO CLIENT, FOR ELECTRICAL CONTRACTOR'S COST INCURRED DUE TO SUBSTITUTION OF MECHANICAL EQUIPMENT HAVING ELECTRICAL REQUIREMENTS DIFFERING FROM SITE CONDITIONS.

7) CONTRACTOR SHALL PROVIDE THE OWNER WITH COPIES OF OPERATION, MAINTENANCE, AND PREVENTATIVE MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF PLUMBING AND MECHANICAL EQUIPMENT.

8) CONTRACTOR SHALL PROVIDE EVIDENCE OF LICENSING, BONDING, AND INSURANCE, AND PROVIDE OTHER NECESSARY ADMINISTRATIVE FUNCTIONS FOR CONTRACTOR'S WORK.

9) CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED PERMITS AND SERVICE CHARGES.

10) COORDINATION: CONFORM TO GENERAL CONSTRUCTION CONTRACT DOCUMENTS EXCEPT AS MODIFIED HEREIN. REFER ALSO TO STRUCTURAL AND ELECTRICAL CONTRACT DOCUMENTS. COORDINATE ALL WORK WITH OTHER TRADES.

11) CUTTING AND PATCHING: CUT AND PATCH AS REQUIRED. CUT OR WELD STRUCTURAL MEMBERS ONLY WITH APPROVAL OF A STRUCTURAL ENGINEER. PATCHING SUBJECT TO ACCEPTANCE BY OWNER.

12) SAW CUT TRENCHES IN SLAB SHALL BE FULLY RESTORED AND REINFORCED TO PREVENT SAGGING. ROUGHEN SAW CUT EDGES PRIOR TO RE-POURING CONCRETE.

13) COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURAL MEMBERS. INSTALL ALL ABOVE GRADE (OVERHEAD) PIPING AS HIGH AS PRACTICAL.

14) RESTORE ALL DAMAGE RESULTING FROM YOUR WORK AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED.

15) GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR MINIMUM FROM DATE OF FILING NOTICE OF COMPLETION.

16) PROVIDE FLASHING AND COUNTER FLASHING FOR ALL WALL AND ROOF PENETRATIONS.

17) ADJUSTMENTS: MAKE MINOR ADJUSTMENTS TO WORK WHERE REQUESTED BY OWNER, WHEN SUCH ADJUSTMENTS ARE NECESSARY TO PROPER OPERATION AND WITHIN THE INTENT OF THE CONTRACT.

18) MATERIALS AND EQUIPMENT: PROVIDE NEW, UL-LISTED, COMMERCIAL-GRADE MATERIALS, DEVICES, EQUIPMENT, AND FIXTURES SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED. REUSE EXISTING ONLY WHEN COMPLIANT WITH THE CONTRACT DOCUMENTS, IN GOOD CONDITION, AND APPROVED BY THE ENGINEER.

19) INSTALLATION: INSTALL ALL MATERIALS, EQUIPMENT, AND SYSTEMS IN FULL ACCORD WITH MANUFACTURER'S INSTRUCTIONS.

20) LAYOUT: INSTALL ALL PIPING AND DUCTWORK TO PRESENT A NEAT AND ORDERLY APPEARANCE. RUN ALL LINES PARALLEL WITH BUILDING CONSTRUCTION AS MUCH AS POSSIBLE. MAINTAIN HEADROOM, EQUIPMENT CLEARANCE, AND GRADIENT WHERE REQUIRED. ALLOW FOR EXPANSION & CONTRACTION.

21) ACCESS DOORS: PROVIDE ACCESS DOORS OR PANELS FOR ALL VALVES, CLEANOUTS, DAMPERS, CONTROLS, DEVICES, AND OTHER ITEMS REQUIRING INSPECTION OR MAINTENANCE.

22) START-UP: THOROUGHLY TEST AND DEMONSTRATE PROPER OPERATION OF ALL SYSTEMS AND EQUIPMENT MODIFIED, FURNISHED OR INSTALLED UNDER THIS CONTRACT.

23) WARRANTY: ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY LEAKS AND/OR BREAKS IN PIPES AND FIXTURES INSTALLED UNDER THIS CONTRACT, AS WELL AS ANY DAMAGE FROM LEAKS VIA ROOF PENETRATIONS MADE AND SEALED UNDER CONTRACTOR'S SCOPE.

24) PATCHING & PAINTING: RESTORE ANY DAMAGE RESULTING FROM THE WORK AND LEAVE PREMISES CLEAN. ADJUST, CLEAN, REPAIR, AND/OR REPLACE ANY ITEMS DAMAGED BY THE WORK. RESTORE WALL AND ROOF PENETRATIONS TO MATCH SURROUNDING WALL OR ROOF, RESPECTIVELY.

25) AIR BALANCE: PROVIDE SERVICES NECESSARY TO VERIFY AIR QUANTITIES AND BALANCE FOR ESTABLISHED QUANTITIES AND UNIFORM TEMPERATURE IN THE SPACES SERVED. ADJUST ALL DAMPERS AND ELEMENTS IN GRILLES AND DIFFUSERS FOR PROPER AIR DISTRIBUTION AND TO MINIMIZE DRAFTS. COMPLY WITH SMACNA MANUAL FOR THE BALANCING AND ADJUSTMENT OF AIR DISTRIBUTION SYSTEMS.

26) DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARD.

27) ALL BRANCH DUCTS SHALL HAVE BALANCING DAMPERS WITH ACCESSIBLE LOCKING TYPE QUADRANT.

28) HVAC EQUIPMENT SHALL BE CERTIFIED BY THE MANUFACTURER FOR COMPLIANCE WITH CALIFORNIA ENERGY COMMISSION STANDARDS.

29) DUCT SHALL MEET UL 181, CLASS I AND NFPA 90A AND 90B. DUCT SHALL BE INSTALLED STRAIGHT AND SUPPORT SPACING SHALL BE IN STRICT ACCORDANCE WITH "SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE". FLEXIBLE DUCTWORK SHALL BE EXTENDED TO THE FULLEST POSSIBLE LENGTH, IN ORDER TO MINIMIZE PRESSURE DROP IN THE DUCT. EXCESS DUCT LENGTHS SHALL BE SHORTENED TO PREVENT UNNECESSARY CHANGES IN DIRECTIONS. WHERE ABRUPT CHANGES IN DIRECTION ARE UNAVOIDABLE USE ADJUSTABLE SHORT RADIUS SHEET METAL ELBOWS TO MAKE DIRECTION CHANGES. CONNECTIONS AT METAL DUCTS OR COLLARS SHALL BE MADE BY DRAW BANDS AND PRESSURE-SENSITIVE TAPE WITH THE DRAW BANDS TIGHTENED AS RECOMMENDED BY THE MANUFACTURER WITH AND ADJUSTABLE TENSIONING TOOL. USING PRESSURE-SENSITIVE TAPE ALONE WITHOUT DRAW BANDS IS NOT ACCEPTABLE. ALL PRESSURE-SENSITIVE TAPES AND MASTICS USED SHALL COMPLY WITH UL 181.

30) HVAC EQUIPMENT SHALL NOT BE OPERATED DURING CONSTRUCTION WITHOUT A FILTER INSTALLED TO PROTECT THE EVAPORATOR COIL. AFTER ALL CONSTRUCTION IS COMPLETED, ALL CONSTRUCTION FILTERS SHALL BE REMOVED AND NEW FILTERS SHALL BE INSTALLED.

RESIDENTIAL CALGREEN MECHANICAL NOTES

1) ENHANCED DURABILITY AND REDUCED MAINTENANCE:
   4.406.1 ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY

2) BUILDING MAINTENANCE AND OPERATION:
   4.410.1 AN OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER

3) ENVIRONMENTAL QUALITY:
   A) 4.503.1 ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET SOTVE SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS. WOODSTOVES, PELLET STOVES, AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE LOCAL ORDINANCES.
   B) 4.504.1 DUCT OPENINGS AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED DURING CONSTRUCTION
   C) 4.504.2.1 ADHESIVES, SEALANTS AND CAULKS SHALL BE COMPLIANT WITH VOC AND OTHER TOXIC COMPOUND LIMITS

4) INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS:
   A) 702.1 HVAC SYSTEM INSTALLERS ARE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS
   B) 702.2 SPECIAL INSPECTORS EMPLOYED BY THE ENFORCING AGENCY MUST BE QUALIFIED AND ABLE TO DEMONSTRATE COMPETENCE IN THE DISCIPLINE THEY ARE INSPECTING
   C) VERIFICATION OF COMPLIANCE WITH THIS CODE MAY INCLUDE CONSTRUCTION DOCUMENTS, PLANS, SPECIFICATIONS BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY WHICH SHOW SUBSTANTIAL CONFORMANCE

MECHANICAL SCOPE OF WORK

1) LIKE FOR LIKE REPLACEMENT OF (E) PACKAGE LENNOX UNIT. RECONNECT TO EXISTING UTILITIES AND DUCTWORK. ALL EXISTING DUCTWORK, GRILLES, AND DAMPERS TO REMAIN.

2) DEMOLITION AND CAPPING OF UPPER FLOOR KITCHEN RANGE/HOOD EXHAUST

3) INSTALLATION OF NEW LOWER FLOOR KITCHEN RANGE HOOD CONNECTED TO (E) KITCHEN EXHAUST RISER

(E) PACKAGED GAS/ELECTRIC SCHEDULE

TAG	MANU	MODEL	LOCATION	SERVES	TONS	REF	SUPPLY FAN			COOLING					HEATING		CONDENSER		COMPRESSOR		CMB FAN	ELECTRICAL			SEER (EER)	AFUE	WEIGHT (LBS)	REMARKS
							CFM	ESP	FLA	TOTAL MBH	SENSIBLE MBH	EDB	EWB	AMB	INPUT MBH	OUTPUT MBH	QTY	FLA (EA)	QTY	RLA (EA)	FLA	V-ø-Hz	MCA	MOCP				
AC-1	LENNOX	GCS20R-511-125-2P	OUTSIDE	HOUSE	4.0	HCFC-22	1600	0.8"	0.6	48.0	38.4	80°F	67°F	105°F	125.0	100.0	1	2.0	1	23.7	7.0	230-1-60	39.0	60.0	12.45 (10.7)	78.3%	600	TO BE REPLACED

(N) PACKAGED GAS/ELECTRIC SCHEDULE

TAG	MANU	MODEL	LOCATION	SERVES	TONS	REF	SUPPLY FAN			COOLING					HEATING		CONDENSER		COMPRESSOR		CMB FAN	ELECTRICAL			SEER2 (EER2)	AFUE	WEIGHT (LBS)	REMARKS
							CFM	ESP	FLA	TOTAL MBH	SENSIBLE MBH	EDB	EWB	AMB	INPUT MBH	OUTPUT MBH	QTY	FLA (EA)	QTY	RLA (EA)	FLA	V-ø-Hz	MCA	MOCP				
AC-1	LENNOX	LR13GEK48-126-EP-1-A	OUTSIDE	HOUSE	4.0	R-454B	1600	0.8"	6.0	48.0	38.4	80°F	67°F	105°F	126.0	102.1	1	1.7	1	18.0	–	230-1-60	30.3	45.0	13.4 (10.6)	81.0%	543.0	OR APPROVED EQUIVALENT, INSTALL UNIT WITH HORIZONTAL DISCHARGE CONFIGURATION TO MATCH EXISTING DUCTWORK.PROVIDE UNIT WITH R-454B REFRIGERANT (SAFETY GROUP A2L, HIGH PROBABILITY SYSTEM) AND FACTORY INTEGRAL REFRIGERANT LEAK DETECTION SENSOR & CONTROLS

MECHANICAL LEGEND

(1) AC-1	THERMOSTAT
	CONDENSATE POC
	ELECTRICAL POC
	GAS POC
	WATER POC
	CEILING DIFFUSER (HARDLID)
	CEILING RETURN (HARDLID)
	SIDEWALL SUPPLY/RETURN
	POC – POINT OF CONNECTION
	TRANSITION
	DAMPER
	50 CFM (4"ø) AND 100 CFM (6"ø) CEILING EXHAUST FANS
ø	DIAMETER
CFM	CUBIC FEET PER MINUTE
FA,TB	FROM ABOVE, TO BELOW
FB,TA	FROM BELOW, TO ABOVE
RA	RETURN AIR
SA	SUPPLY AIR

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REGISTERED PROFESSIONAL ENGINEER
ALEX M. BATISTA
No.M36994
EXP.09-30-2026
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED 05-01-26

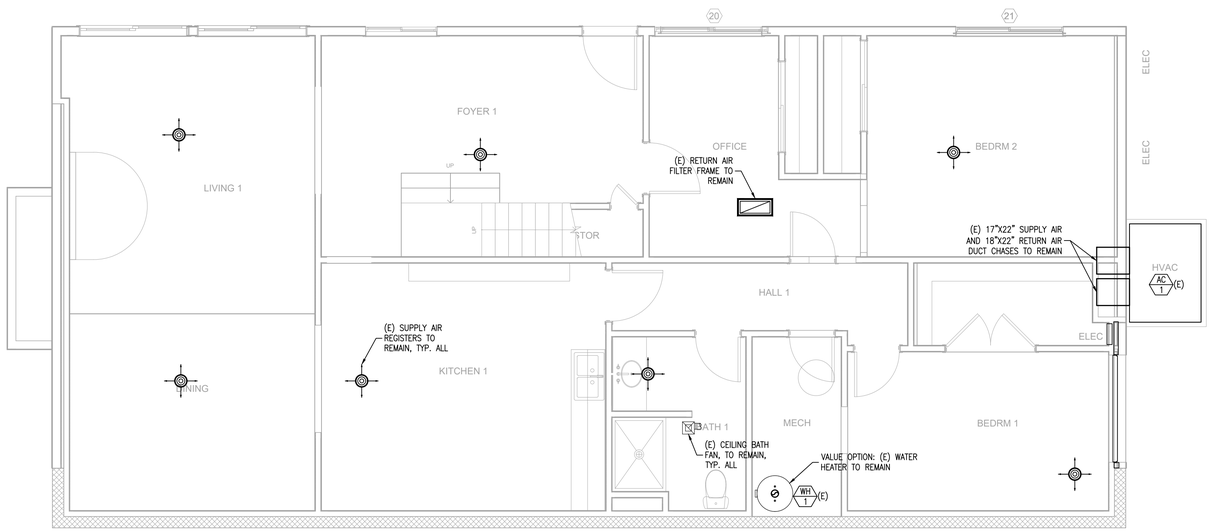
AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA. 95949

ISSUED FOR	DATE
PERMIT	04-02-26
⚠1 PLAN CHECK #1	05-01-26

PROJECT NUMBER 25341

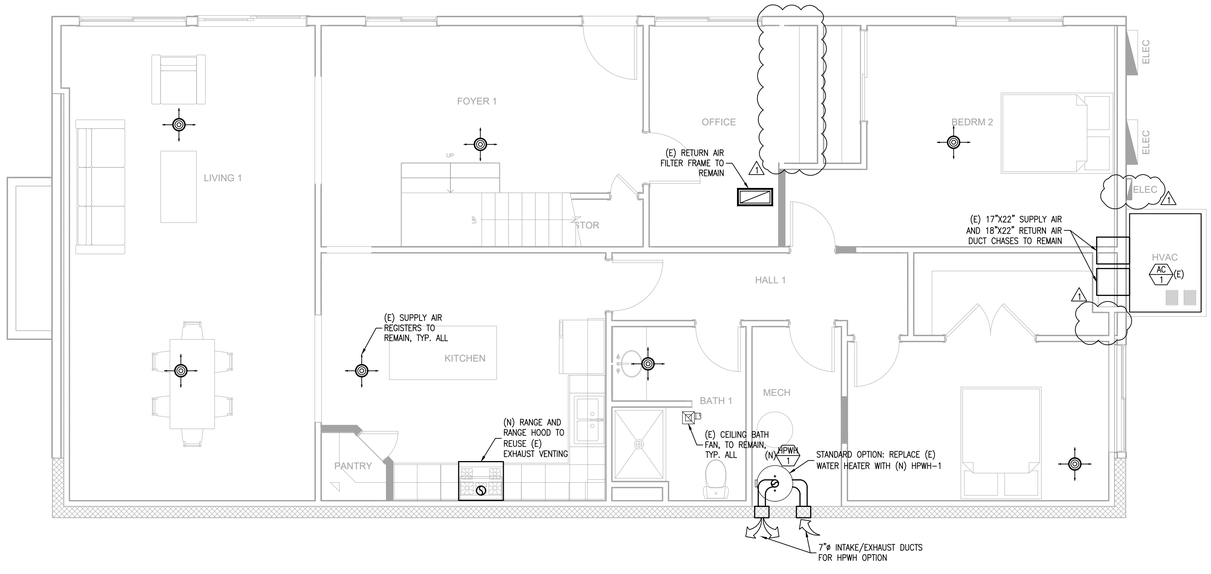
SHEET TITLE
MECHANICAL GENERAL NOTES, & SCHEDULES

SHEET NO.
M0



A MECHANICAL PLAN - DEMOLITION PLANS - LOWER FLOOR

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



B MECHANICAL PLAN - NEW PLANS - LOWER FLOOR

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

NORTH

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (D) DEMO
2. ALL EQUIPMENT/CONTROLS AND DUCTWORK/FITTINGS SHOWN ARE (E) TO REMAIN U.O.N.
3. HVAC EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED AS TO THE AREA OR SPACE SERVED BY THE EQUIPMENT PER CMC 303.6
4. CONTRACTOR SHALL VERIFY ALL A2L REFRIGERANT-CONTAINING SYSTEMS MEET THE REQUIREMENTS OF ASHRAE 15, INCLUDING ALL REFRIGERANT LEAK DETECTION SENSORS, SAFETY SHUT-OFF VALVES, AND VENTILATION, AS REQUIRED
5. PROVIDE NAMEPLATE FOR EACH SELF-CONTAINED REFRIGERATION SYSTEM PER CMC 1115.5, WHICH INCLUDES A SYMBOL INDICATING THAT A FLAMMABLE REFRIGERANT IS BEING USED PER CMC 1104.6.2.1. PROVIDE LABEL ADJACENT TO SERVICE PORTS AND OTHER LOCATIONS WHERE SERVICE INVOLVING COMPONENTS CONTAINING REFRIGERANT IS PERFORMED PER CMC 1104.6.2.2
6. THERMOSTATS TO BE INSTALLED AT 48" A.F.F. (TOP OF THERMOSTAT). DO NOT INSTALL THERMOSTATS OVER CASEWORK OR SHELVING OVER 24" IN DEPTH AND 34" IN HEIGHT. COORDINATE EXACT LOCATION WITH OWNER.
7. ALL DUCTWORK PENETRATIONS TO THE EXTERIOR OF BUILDING SHALL BE CORROSION-RESISTANT AND PROTECTED FROM INTRUSION BY WATER, INSECTS, ETC.
8. SPLIT SYSTEM HVAC UNITS AND HORIZONTAL DISCHARGE PACKAGED HVAC UNITS SHALL BE INSTALLED WITH FLEX CONNECTORS FROM UNIT TO DUCTWORK
9. EQUIPMENT IN ATTICS AND UNDER-FLOOR SPACES SHALL BE PROVIDED WITH AN ACCESS OPENING LARGE ENOUGH TO REMOVE THE LARGEST PIECE OF EQUIPMENT BUT NO LESS THAN 22"X30" PER CMC 304.4

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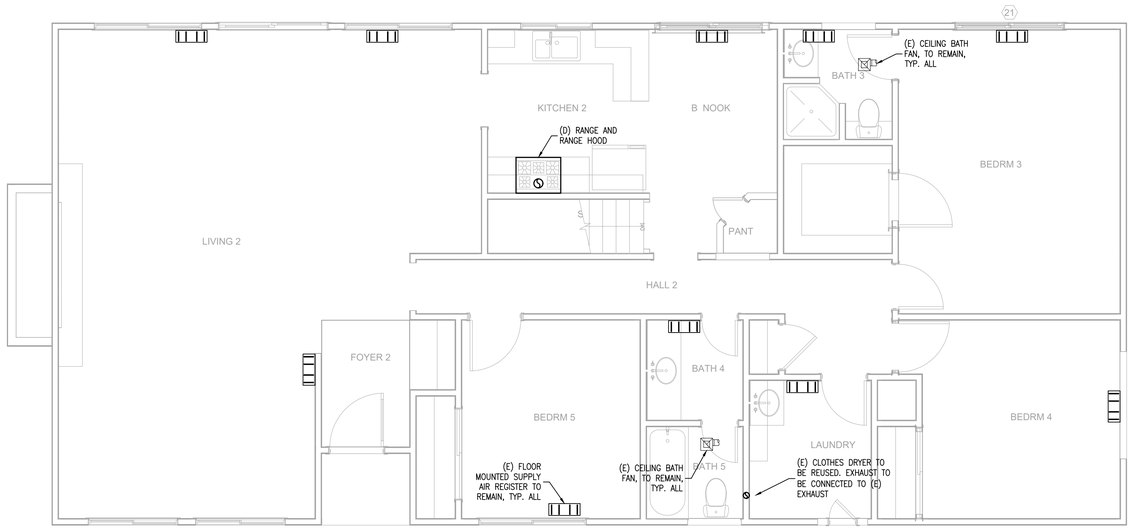
SHEET TITLE

MECHANICAL PLAN - LOWER FLOOR

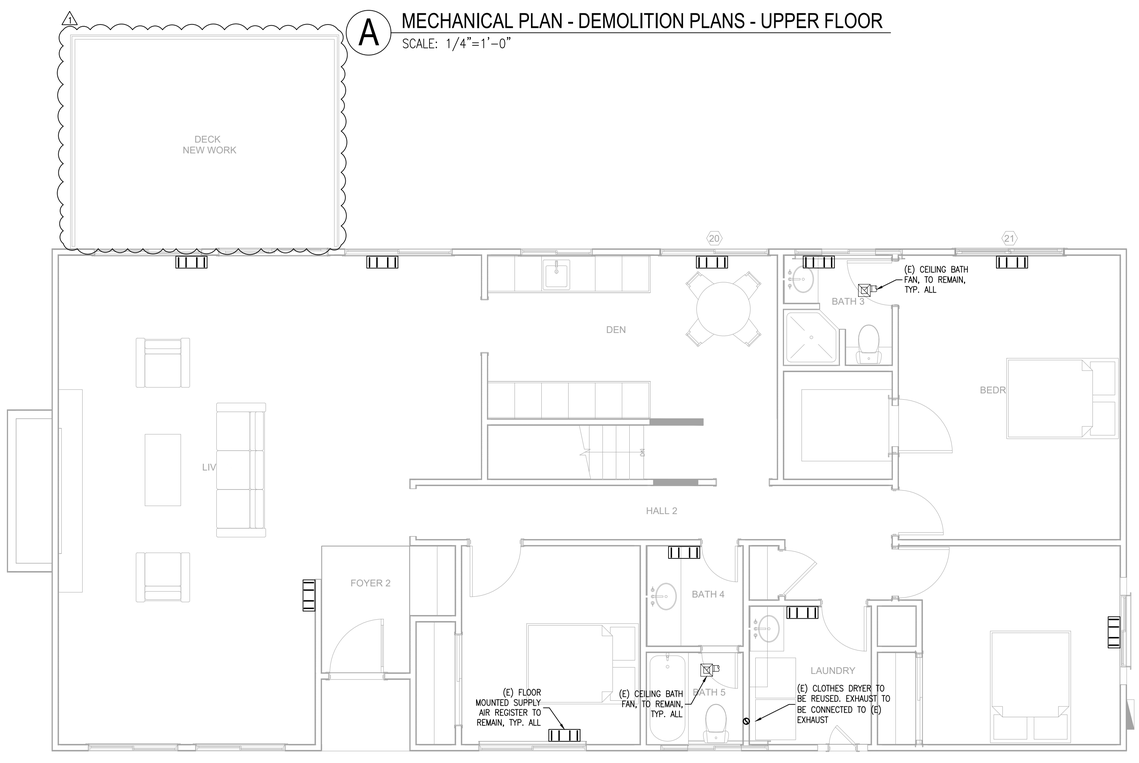
SHEET NO.

M1



A MECHANICAL PLAN - DEMOLITION PLANS - UPPER FLOOR

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



B MECHANICAL PLAN - NEW PLANS - UPPER FLOOR

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

NORTH

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (D) DEMO
2. ALL EQUIPMENT/CONTROLS AND DUCTWORK/FITTINGS SHOWN ARE (E) TO REMAIN U.O.N.
3. HVAC EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED AS TO THE AREA OR SPACE SERVED BY THE EQUIPMENT PER CMC 303.6
4. CONTRACTOR SHALL VERIFY ALL A2L REFRIGERANT-CONTAINING SYSTEMS MEET THE REQUIREMENTS OF ASHRAE 15, INCLUDING ALL REFRIGERANT LEAK DETECTION SENSORS, SAFETY SHUT-OFF VALVES, AND VENTILATION, AS REQUIRED
5. PROVIDE NAMEPLATE FOR EACH SELF-CONTAINED REFRIGERATION SYSTEM PER CMC 1115.5, WHICH INCLUDES A SYMBOL INDICATING THAT A FLAMMABLE REFRIGERANT IS BEING USED PER CMC 1104.6.2.1. PROVIDE LABEL ADJACENT TO SERVICE PORTS AND OTHER LOCATIONS WHERE SERVICE INVOLVING COMPONENTS CONTAINING REFRIGERANT IS PERFORMED PER CMC 1104.6.2.2
6. THERMOSTATS TO BE INSTALLED AT 48" A.F.F. (TOP OF THERMOSTAT). DO NOT INSTALL THERMOSTATS OVER CASEWORK OR SHELVING OVER 24" IN DEPTH AND 34" IN HEIGHT. COORDINATE EXACT LOCATION WITH OWNER.
7. ALL DUCTWORK PENETRATIONS TO THE EXTERIOR OF BUILDING SHALL BE CORROSION-RESISTANT AND PROTECTED FROM INTRUSION BY WATER, INSECTS, ETC.
8. SPLIT SYSTEM HVAC UNITS AND HORIZONTAL DISCHARGE PACKAGED HVAC UNITS SHALL BE INSTALLED WITH FLEX CONNECTORS FROM UNIT TO DUCTWORK
9. EQUIPMENT IN ATTICS AND UNDER-FLOOR SPACES SHALL BE PROVIDED WITH AN ACCESS OPENING LARGE ENOUGH TO REMOVE THE LARGEST PIECE OF EQUIPMENT BUT NO LESS THAN 22"X30" PER CMC 304.4

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PROJECT NUMBER 25341

SHEET TITLE

MECHANICAL PLAN - UPPER FLOOR

SHEET NO.

M2

GENERAL INFORMATION

01	Project Name	13668 Auburn Road			
02	Run Title	Title 24 Analysis			
03	Project Location	13668 Auburn Road			
04	City	Grass Valley	05	Standards Version	2025
06	Zip code	95949	07	Software Version	EnergyPro 10.0
08	Climate Zone	11	09	Front Orientation (deg/ Cardinal)	328
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Addition and/or Alteration	13	Number of Bedrooms	5
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	2
16	Existing Cond. Floor Area (ft²)	3144	17	Fenestration Average U-factor	0.29
18	Total Cond. Floor Area (ft²)	3144	19	Glazing Percentage (%)	12.53%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	Natural gas	23	No Dwelling Unit	No

COMPLIANCE RESULTS

Building Complies with Computer Performance

This building incorporates features that require field testing and/or verification by a certified ECC rater under the supervision of a CEC-approved ECC provider.

This building incorporates one or more Special Features shown below.

REQUIRED SPECIAL FEATURES

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

- Window overhangs and/or fins
- Non-standard duct location (any location other than attic)
- Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed
- One or more heat pump water heaters have been modeled as demand response compatible

ECC FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified ECC 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 ECC Registry

- Verified Refrigerant Charge
- Duct Sealing required if a duct system component, plenum, or air handling unit is altered

Compliance Summary

	Long Term System Cost (LSC)[1]		Source Energy Use	Peak Cooling**
	Efficiency[2] ($/ft²-yr)	Total[3] ($/ft²-yr)	Total[3] (kBtu/ft²-yr)	Electricity (kWh)
Standard Design	22.42			
Proposed Design	22.28			
Compliance Margins	0.14			
	Pass			

RESULT*: Complies

[1]Long-term System Cost (LSC) is a 30-year present value cost to California's energy system. LSC is not a projected utility bill.
[2]Efficiency measures include energy efficient improvements such as better building envelope and more efficient mechanical equipment
[3]Total includes the sum of efficiency measures, solar photovoltaic (PV) measures and battery storage measures
* Building complies when Proposed Design is equal to or less than Standard Design in all applicable compliance categories
** Peak cooling target represents 120% of the standard design building peak cooling energy use.

Standard Design PV Capacity: 0.00 kWdc

LSC AND SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS

Energy Use	Standard Design Source Energy (kBtu/ft²-yr)	Standard Design LSC[1] ($/ft²-yr)	Proposed Design Source Energy (kBtu/ft²-yr)	Proposed Design LSC[1] ($/ft²-yr)	Compliance Margin Source (kBtu/ft²-yr)	Compliance Margin LSC[1] ($/ft²-yr)
Space Heating	0	13.11	0	15.57	0	-2.46
Space Cooling	0	5.62	0	5.17	0	0.45
IAQ Ventilation	0	0	0	0	0	0
Water Heating	0	3.69	0	1.54	0	2.15
Self Utilization/Flexibility Credit	n/a	n/a	n/a	0	n/a	0
Efficiency Compliance Total	0	22.42	0	22.28	0	0.14
Photovoltaics And Battery	n/a	n/a	n/a	0	n/a	0
Flexibility	n/a	n/a	n/a	n/a	n/a	n/a
Indoor Lighting	0	1.52	0	1.52	n/a	0
Appl. & Cooking	0	3.88	0	3.87	n/a	0.01
Plug Loads	0	5.96	0	5.96	n/a	0
Outdoor Lighting	0	0.42	0	0.42	n/a	0
TOTAL COMPLIANCE	0	34.2	0	34.05	0.15	

ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	21.29	21.96	-0.67	-3.15
Net EUI[2]	21.29	21.96	-0.67	-3.15

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

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
13668 Auburn Road	3144	1	5	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	Status
Existing	Conditioned	HVAC1	3144	8.4	DHW Sys 1	Existing Unchanged

OPAQUE SURFACES SUMMARY

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
N	Existing	Existing Wall (stucco)	328	Front	207	21	90	none	Existing	No
N 2	Existing	Existing Wall (stucco)	328	Front	1	0	90	none	Existing	No
S	Existing	Existing Wall (stucco)	148	Back	208	0	90	none	Existing	No
W	Existing	Existing Wall (stucco)	238	Right	505	148.02	90	none	Existing	No
N 3	Existing	Existing Wall (stucco)	328	Front	257	21	90	none	Existing	No

OPAQUE SURFACES SUMMARY

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
E	Existing	Existing Wall (stucco)	58	Left	481	107.8	90	none	Existing	No
S 2	Existing	Existing Wall (stucco)	148	Back	257	0	90	none	Existing	No
W 2	Existing	Existing Wall (stucco)	238	Right	481	154.02	90	none	Existing	No
Roof 4:12	Existing	Existing Attic	n/a	n/a	928	n/a	n/a		Existing	No
Roof 8:12	Existing	Existing Attic	n/a	n/a	864	n/a	n/a		Existing	No
Raised Floor	Existing	R-19 Floor (no crawlspace	n/a	n/a	54	n/a	n/a		Existing	No
Underground Wall	Existing	Concrete Wall	n/a	n/a	561	n/a	n/a		Existing	No
Interior Surface	Existing	Interior Floor	n/a	n/a	1545	n/a	n/a		Existing	No

ATTIC

01	02	03	04	05	06	07	08a	09	10
Name	Construction	Type	Roof Rise (x in 12)	CRRC Rated Roof Reflectance	CRRC Rated Roof Emittance	Radiant Barrier	Above Roof Deck Air Gap	Status	Verified Existing Condition
Attic Existing	Attic RoofExisting	Ventilated	5.92857	0.1	0.85	No	No	Existing	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Surface	Orientation	Azimuth	Mult.	Area (ft²)	U-factor	SHGC	Rating Source	Status	Verified Existing Condition
05 6036	Window	N	Front	328	1	21	0.28	0.45	NFRC	Altered	No
01 6040	Window	W	Right	238	1	24	0.28	0.45	NFRC	Altered	No
Door 02 6068	Window	W	Right	238	1	40.02	0.32	0.22	NFRC	Altered	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Surface	Orientation	Azimuth	Mult.	Area (ft²)	U-factor	SHGC	Rating Source	Status	Verified Existing Condition
02 4040	Window	W	Right	238	1	16	0.28	0.45	NFRC	Altered	No
03 6040	Window	W	Right	238	1	24	0.28	0.45	NFRC	Altered	No
04 6040	Window	W	Right	238	1	24	0.28	0.45	NFRC	Altered	No
10 6036	Window	N 3	Front	328	1	21	0.28	0.45	NFRC	Altered	No
11 3030	Window	E	Left	58	1	9	0.28	0.45	NFRC	Altered	No
12 6036	Window	E	Left	58	1	21	0.28	0.45	NFRC	Altered	No
13 5040	Window	E	Left	58	1	20	0.28	0.45	NFRC	Altered	No
14 5040	Window	E	Left	58	1	20	0.28	0.45	NFRC	Altered	No
06 6050	Window	W 2	Right	238	1	30	0.28	0.45	NFRC	Altered	No
Door 01 6068	Window	W 2	Right	238	1	40.02	0.32	0.22	NFRC	Altered	No
07 6036	Window	W 2	Right	238	1	21	0.28	0.45	NFRC	Altered	No
08 4030	Window	W 2	Right	238	1	12	0.28	0.45	NFRC	Altered	No
20 6036	Window	W 2	Right	238	1	21	0.28	0.45	NFRC	Altered	No
09 3030	Window	W 2	Right	238	1	9	0.28	0.45	NFRC	Altered	No
21 6036	Window	W 2	Right	238	1	21	0.28	0.45	NFRC	Altered	No
Total North Facing Fenestration						0					
Total East Facing Fenestration						0					

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Surface	Orientation	Azimuth	Mult.	Area (ft²)	U-factor	SHGC	Rating Source	Status	Verified Existing Condition
Total South Facing Fenestration						0					
Total West Facing Fenestration						0					

OPAQUE DOORS

01	02	03	04	05	06	07
Name	Side of Building	Area (ft²)	U-factor	Status	Verified Existing Condition	NFRC Rating Req.
3068	W	20	0.5	Existing	No	No
3068 2	E	20	0.5	Existing	No	No
2868	E	17.8	0.5	Existing	No	No

OVERHANGS AND FINS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Window	Width (ft)	Height (ft)	Overhang				Left Fin				Right Fin				
			Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	Dist L	Bot Up	Depth	Top Up	Dist R	Bot Up
01 6040	6	4	12	0.1	10	10	0	0	0	0	0	0	0	0	0
Door 02 6068	6	6.67	12	0.1	10	10	0	0	0	0	0	0	0	0	0
11 3030	3	3	3.4	0.1	10	10	0	0	0	0	0	0	0	0	0
12 6036	6	3.5	3.4	0.1	10	10	0	0	0	0	0	0	0	0	0
13 5040	5	4	2	0.1	10	10	0	0	0	0	0	0	0	0	0
14 5040	5	4	2	0.1	10	10	0	0	0	0	0	0	0	0	0
06 6050	6	5	4.3	0.1	10	10	0	0	0	0	0	0	0	0	0

OVERHANGS AND FINS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Window	Width (ft)	Height (ft)	Overhang				Left Fin				Right Fin				
			Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	Dist L	Bot Up	Depth	Top Up	Dist R	Bot Up
02 4040	4	4	12	0.1	10	10	0	0	0	0	0	0	0	0	0
03 6040	6	4	12	0.1	10	10	0	0	0	0	0	0	0	0	0
04 6040	6	4	12	0.1	10	10	0	0	0	0	0	0	0	0	0
10 6036	6	6	12	0.1	10	10	0	0	0	0	0	0	0	0	0
11 3030	3	3	3.4	0.1	10	10	0	0	0	0	0	0	0	0	0
12 6036	6	3.5	3.4	0.1	10	10	0	0	0	0	0	0	0	0	0
13 5040	5	4	2	0.1	10	10	0	0	0	0	0	0	0	0	0
14 5040	5	4	2	0.1	10	10	0	0	0	0	0	0	0	0	0
06 6050	6	5	4.3	0.1	10	10	0	0	0	0	0	0	0	0	0

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08	09
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers	Non-Std Spray Foam
Attic RoofExisting	Attic Roofs	Wood Framed Ceiling	2x6 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4	☐
Existing Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-22	None / None	0.043	Over Ceiling Joists: R-12.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board	☐
R-19 Floor (no crawlspace	Exterior Floors	Wood Framed Floor	2x12 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x12	☐
Interior Floor	Interior Floors	Wood Framed Floor	2x12 @ 16 in. O. C.	R-0	None / None	0.196	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: no insuk / 2x12 Ceiling Below Finish: Gypsum Board	☐

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08	09
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers	Non-Std Spray Foam
Concrete Wall	Underground Walls	Concrete / ICF / Brick	None	n/a	None / None	0.892	Inside Finish: Gypsum Board Mass Layer: 8 in. Concrete	☐

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	ECC Verification	Water Heater Name (#)	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)	New	NA	

WATER HEATERS - HEAT PUMP

01	02	03	04	05	06	07	08	09	10
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source	UEF	JA13 Compliant
DHW Heater 1	1	66	A. O. Smith	HPTS-66 2** (66 gal, JA13)	Conditioned	Existing	Existing	n/a	☒

HVAC - HEATING UNIT TYPES

01	02	03	04	05	06
Name	System Type	Number of Units	Heating Efficiency	Status	Verified Existing Condition
Heating Component 1	Packaged Gas Furnace	1	AFUE - 81	New	No

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08	09	10
Name	System Type	Number of Units	Efficiency Metric	Efficiency EER/EER2/CEER	Efficiency SEER/SEER2	Airflow Target	Fan Power (Watts/CFM)	Status	Verified Existing Condition
Cooling Component 1	Central packaged AC	1	EER2/SEER2	10.6	13.4	0	0.4	New	No

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11
Name	Type	Design Type	Duct Ins. R-value		Duct Location		Status	Verified Existing Condition	Existing Distribution system	New Ducts >= 25 ft
			Supply/Return		Supply	Return				
Air Distribution System 1	Conditioned space-entirely	Non-Verified	R-6		Conditioned Zone	Conditioned Zone	Existing	No		n/a

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I, I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Jenna Green	Documentation Author Signature: Jenna Green
Company: Optimized Energy and Facilities Consulting, Inc.	Signature Date: 04/01/2026
Address: 5734 Lonetree Blvd	CEA/AEA/ECC Certification Identification (if applicable):
City/State/Zip: Rocklin, CA 95765	Phone: 916-626-5518

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. 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.
5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building and shall be made available to the enforcement agency for all applicable inspections. I will take the necessary steps to fulfill this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. I will take the necessary steps to fulfill this requirement.

Responsible Designer Name: Russell Davidson	Responsible Designer Signature: Russell Davidson
Company: Russell Davidson Architecture + Design	Date Signed: 04/01/2026
Address: 149 Crown Point Ct, Suite C	License: C36895
City/State/Zip: Grass Valley, CA 95945	Phone: 5309132370

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

JOB SET

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5734 Lonetree Boulevard Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEX M. BATISTA
No M36994
EXP 09-30-2026
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED 05-01-26

AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA.

2025 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Code must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective sections for more information.

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0-110.3:	**Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, 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 Tables 110.2-A through -L.*
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Heaters.** Heat pumps with supplementary heaters must have control requirements as specified in § 150.0(h)7 and § 150.0(i)2.*
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.3(c)7:	**Backup Heat and Ventilation.** All heat pump water heaters must have backup heat (internal or external) if inlet air is unconditioned, unless compressor cut-off temperature is below Heating Winter Median of Extremes from Reference Appendix JA2. Heat pump water heater installation space and/or communicating space(s) must meet minimum volume, ducting, and/or grille net free area by kBtuh of compressor capacity.
§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without electrical supply voltage connection with pilot lights that consume less than 150 Btu/h); pool and spa heaters.*
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.*
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from any dryer outlet or combustion inlet.
§ 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(h)5:	**System Selection.** Equipment sizing and selection must meet the cooling and heating loads of § 150.0(h)1 & 2, and systems must be sized per ACCA Manual S-2023 with no minimum cooling capacity. Furnace heating capacity must meet ACCA Manual S. Heat pump heating capacity must meet minimum CBC requirements without including supplementary heat with no limit on maximum heating capacity.
§ 150.0(h)6:	**Defrost.** Installer-adjustable defrost delay timers must be set to greater than or equal to 90 minutes. CP2R certification required.*
§ 150.0(h)7:	**Supplementary Heating Control Configuration:** Heat pumps with supplementary heating must have controls to lock supplementary heating above outside air temperature no greater than 35°F, allowed during defrost or emergency operation. CF2R certification required.*
§ 150.0(h)8:	**Sizing of Electric Resistance Supplementary Heat:** When heat pumps have electric resistance heat, the capacity of electric resistance heat must not exceed the heat pump nominal cooling capacity (at 95°F ambient conditions) multiplied by 2.7 kW per ton, rounded up to the closest kW.*
§ 150.0(h)9:	**Capacity Variation with Thermostatic Thermostats:** For variable or multi-speed systems, the space conditioning system and thermostat must be capable of responding to heating and cooling loads by modulating system compressor speed and must meet thermostat requirements of § 110.12(c)2. CF2R certification required.*
§ 150.0(i):	**Thermostat.** All heating or cooling systems including heat pumps which are not controlled by energy management control system (EMCS) must have set-back thermostat. Additional requirements for thermostats that control heat pumps with supplemental heating include thermostat reset display outdoor air temperature, must lock out supplementary heat when outdoor air temperature is above 35°F, and must notify when supplemental heat is in use.*
§ 150.0(j)1:	**Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.12 of the California Plumbing Code.*
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including from sunlight, moisture, equipment maintenance, and wind, as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater.
§ 150.0(n)2:	**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

§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply- and return-air ducts and plenums must be insulated to R-6.0 or higher. Ducts located entirely in conditioned space as confirmed via field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation; in dwelling units with attics, the ducts must be below the ceiling separating occupiable space from the attic. 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 applicable UL requirements; or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", if mastic or tape is used. Building cavities, air handler support

2025 Single-Family Residential Mandatory Requirements Summary

	platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts, ducts installed in these spaces must not be compressed.
§ 150.0(m)2:	**Factory-Fabricated Duct Systems** must comply with applicable requirements of UL 181 for duct construction, connections, and closures, joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems** must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.*
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between 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 openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Flex ducts with porous inner cores that have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth, or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters and prevents air from bypassing the filter.*
§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*

Ventilation and Indoor Air Quality:

§ 150.0(o)1:	**Requirements for Ventilation and Indoor Air Quality.** All dwelling units shall meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in §150.0(o)1.*
§ 150.0(o)1B:	**Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers used in CFI systems is not a permissible method to provide whole-dwelling unit ventilation airflow required per § 150.0(o)1C. A motorized damper(s) shall be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per § 150.0(o)1B-i&ix. CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with §150.0(o)1C.
§ 150.0(o)1C:	**Whole-Dwelling Unit Mechanical Ventilation for Single-Family dwellings.** Single-family dwellings shall have mechanical ventilation specified in §150.0(o)1C and 150.0(o)1Civ.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 may reduce their required mechanical ventilation rates in accordance with §150.0(o)1Civ.ii.* Vertically attached dwelling units shall not reduce their minimum ventilation rates in accordance with §150.0(o)1Civ.iii.
§ 150.0(o)1G:	**Local Mechanical Exhaust.** Kitchens and bathrooms shall have local mechanical exhaust; nonenclosed kitchens shall have demand-controlled exhaust system meeting requirements of §150.0(o)1Gii, enclosed kitchens and bathrooms shall either use demand-controlled as specified in §150.0(o)1Giii or continuous exhaust as specified in §150.0(o)1Giv. Airflow shall be measured by the installer per §150.0(o)1Gv, and rated for sound per §150.0(o)1Gvi.*
§ 150.0(o)1H-J:	**Whole Measurement, Sound Ratings, Label of Whole-Dwelling Unit Ventilation Systems.** The airflow required per §150.0(o)1C shall be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems shall be rated for sound per ASHRAE 62.2 §7.3 at no less than the minimum airflow rate required by §150.0(o)1C. Manual on-off switches must be labeled per §150.0(o)1J.
§ 150.0(o)2:	**Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy shall be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods shall be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per §150.0(o)1G

Electric and Battery Energy Storage Ready:

§ 150.0(o):	**Battery Energy Storage System (BESS) Ready.** All single-family residences that include one or two dwelling units, which a load serving entity provides with electrical service for the dwelling unit that is greater than 125 amps, shall meet at least one of the following: Either BESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more BESS supplied branch circuits in §150.0(o)2, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(o)2; at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the BESS

2025 Single-Family Residential Mandatory Requirements Summary

	with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3 feet of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source. *
§ 150.0(o):	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(o):	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(o):	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, light sources, and luminaires must meet the applicable requirements of §110.9.*
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires and light sources must meet the requirements of Reference Joint Appendix JA8, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 40 lumens per watt; and ceiling fan kits subject to DOE's Appliance and Equipment Standards.*
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw-based sockets, be airtight with air leakage rate < 2.0 cfm at 75 Pascals, and leak paths be sealed with a gasket or caulk. California Electrical Code Article 410.116 must also be met. *
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources installed in enclosed or recessed luminaires must meet the JA8 elevated temperature requirements, including marking requirements.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)2A:	**Indoor Lighting Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off.
§ 150.0(k)2D:	**Controls Permitted.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per §110.9 and the physical controls specified in §150.0(k)2A. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function installed to comply with §150.0(k)2.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down, except lighting integral to kitchen range hoods and bathroom exhaust fans, navigation lighting less than 5 watts, lighting internal to drawers, cabinetry with opaque fronts or doors and controlled by automatic-off controls, luminaires in a circuit with controlled lighting power less than 20 watts or controlled by an occupancy or vacancy sensor. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A. Lighting integrated with ceiling fan may be controlled via a remote control.
§ 150.0(k)2G:	**Independent Controls.** Lighting integral to exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3:	**Residential Outdoor Lighting.** Outdoor lighting permanently mounted to a single-family residential building or other buildings on the same lot must meet luminaire efficacy requirements of §150.0(k)1A, have a manual on/off switch and either a photocell and motion sensor, a photocell and automatic time switch, or an astronomical time clock. Controls that override to ON are not allowed, unless that override automatically returns the automatic control to its normal operation within 6 hours. An EMCS or other controls that provides the specified control functionality may be used but must meet all applicable requirements.
§ 150.0(k)4:	**Internally Illuminated Address Signs** must either comply with §140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

2025 Single-Family Residential Mandatory Requirements Summary

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§110.6(a)2-4:	**U-factor, Solar heat gain coefficient, Visible transmittance.** The fenestration product and exterior door's U-factor and solar heat gain coefficient (SHGC) shall be rated in accordance with NFRC 100 and NFRC 200, or use the applicable defaults in Table 110.6-A and TABLE 110.6-B. The visible transmittance (VT) shall be rated in accordance with NFRC 200 or ASTM E972, for tubular daylighting devices VT shall be rated using NFRC 203.*
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of §10-111(a).
§ 110.6(b):	**Field-Fabricated Exterior Doors and Fenestration** products must use U-factors from Table 110.6-A and solar heat gain coefficient (SHGC) values from Table 110.6-B. Must be caulked and/or weather-stripped.*
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather-stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of §110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling, and Rafter Roof Insulation.** Roof decks in newly constructed attics above conditioned space in climate zones 4 and 8-16 area-weighted average U-factor not exceeding 0.143. Ceiling and rafter roofs minimum R-22 insulation in wood-framed ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling that 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-15 insulation in 2x4 inch wood framing wall or have a U-factor of 0.095 or less, or R-21 in 2x6 inch wood framing or have a U-factor of 0.069 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.*
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in wood framed raised-floor or 0.037 maximum U-factor.
§ 150.0(f):	**Slab Edge Insulation.** Slab-edge insulation must meet the following: water absorption rate no greater than 0.3 percent for insulation material alone without facings; water vapor permeance no greater than 2.0 perm per inch; protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of §110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum area-weighted average U-factor of 0.40.*

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of §110.10(b)-(e).
§ 110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements per Title 24, Part 9, or other parts of Title 24, or any requirements adopted by a local jurisdiction. 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. The solar zone total area must be comprised of areas with no dimension less than 5 feet and no less than 80 square feet each for buildings with roof areas up to 10,000 square feet; or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. **
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	**Shading.** No obstructions in solar zone, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.*
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.

2025 Single-Family Residential Mandatory Requirements Summary

§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from §110.10(b)-(c) must be provided to the occupant.
§ 110.10(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."

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e):	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Pool/spa heating equipment must be certified as compliant with Appliance Efficiency Regulations; have an externally mounted, readily accessible on-off switch that allows shutting off the heater without adjusting the thermostat; permanent, easily readable weatherproof plate or card with energy efficiency rating and operating instructions.
§ 110.4(b)1:	**Heating Equipment.** Pool/spa heating equipment must meet applicable standards, by fuel type.
§ 110.4(b)2:	**Piping.** At least 18 inches of horizontal or vertical pipe installed between the filter and the heater; or dedicated suction and return lines; or built-in or built-up connections installed to allow for the future addition of solar heating equipment.
§ 110.4(b)3:	**Covers.** Outdoor pools or spas with electric or gas heater must have a cover.
§ 110.4(b)4:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a permanently installed time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.4(c):	**Heat Source Sizing.** Pool/spa heating systems must be solar heating system with collector area of at least 60% of pool/spa surface area; heat pump sized per JA18.3; combination of solar and heat pump; or use 80% or more on-site renewable/recoverable energy. *
§ 110.4(d):	**Heat Pump Pool Heaters with Supplementary Heating.** Controls for such systems must limit supplementary heating when the heating load can be met by the heat pump alone.
§ 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.** Single-family pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.

*Exceptions may apply.

JOB SET

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REGISTERED PROFESSIONAL ENGINEER
ALEX M. BATISTA
No.M36994
EXP.09-30-2026
MECHANICAL
STATE OF CALIFORNIA

DATE SIGNED 05-01-26

AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA. 95949

ISSUED FOR	DATE
PERMIT	04-02-26
⚠1 PLAN CHECK #1	05-01-26

PROJECT NUMBER 25341

SHEET TITLE
TITLE 24 ENERGY

SHEET NO.
EN1

ELECTRICAL GENERAL NOTES

1) ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE 2025 CALIFORNIA ELECTRICAL CODE, NATIONAL ELECTRICAL CODE, AND ALL STATE AND LOCAL CODES, RULES AND ORDINANCES HAVING JURISDICTION.

2) ALL CONDUCTORS SHALL BE PER DESIGN SHEETS. ELECTRICAL CODE AND MAXIMUM VOLTAGE DROP OF 3% WILL DEFINE CONDUCTOR SIZING.

3) CONDUITS SHALL BE USED IN THE FOLLOWING METHODS:
- POLY VINYL CHLORIDE (PVC) CONDUITS MAY BE USED IN CONCRETE SLABS AND UNDERGROUND PROVIDED ELBOWS AND RISERS ARE RGS;
- ALL EXPOSED CONDUIT SUBJECT TO WEAR OR COLLISION SHALL BE RIGID GALVANIZED STEEL (RGS) OR INTERMEDIATE METALLIC TUBING (IMT). APPLY BITUMASTIC COATING TO ALL METALLIC CONDUITS IN SLABS OR UNDERGROUND.
- PROVIDE FIRE RETARDANT U.L. APPROVED SEALANT ON ALL RACEWAY PENETRATIONS OF FIRE RATED CEILINGS, PARTITIONS, WALLS AND STRUCTURAL SLABS.

4) FOR TELEPHONE SYSTEM: PROVIDE GROUNDING FOR ALL TELEPHONE BACKBOARDS, TERMINAL CABINETS AND EQUIPMENT PER REQUIREMENTS OF NEC 800 AND TELEPHONE COMPANY.

5) ALL DISCONNECT SWITCHES SHALL BE SIZED PER NEC TO ACCOMMODATE EQUIPMENT SERVED, INCLUDING REQUIRED FUSES, U.N.O. SWITCHES SHALL BE HORSE POWER RATED, OF HEAVY DUTY TYPE. PROVIDE MEANS FOR PAD LOCKING IN THE OPEN POSITION.

6) ALL CIRCUIT BREAKERS SHALL BE INVERSE TIME (THERMAL MAGNETIC) "PERMANENT TRIP" TYPE. TWO AND THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP.

7) ALL CONNECTIONS TO GROUND RODS AND GRID, ETC., SHALL BE MADE WITH U.L. APPROVED WELDED CONNECTIONS, UNLESS NOTED OTHERWISE.

8) LIGHTING SYSTEMS SHALL COMPLY WITH TITLE 24. ALL LIGHTING FIXTURES, LAMPS, BALLASTS, DIMMER SWITCHES, AND CONTROLS SHALL BE CERTIFIED WITH THE CALIFORNIA ENERGY COMMISSION ("CEC") AS MEETING ALL TITLE 24 REQUIREMENTS AND BE LISTED IN THE APPLICABLE CEC DIRECTORY. ALL SUCH DEVICES AND EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. LIGHT FIXTURES IN SUSPENDED CEILINGS SHALL BE SUPPORTED IN STRICT ACCORDANCE WITH CALIFORNIA BUILDING CODE (LATEST EDITION) SEISMIC REQUIREMENTS.

9) ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED, FOR THE INTENDED USE, WITH UNDERWRITER'S LABORATORIES, INC., (UL), WHERE STANDARDS HAVE BEEN ESTABLISHED BY UL. ALL EQUIPMENT SHALL BE RAIN TIGHT WHERE EXPOSED TO THE WEATHER. ALL FLEX CONDUITS CONNECTED TO SUCH EQUIPMENT SHALL BE METALLIC LIQUID TIGHT. ALL EQUIPMENT IN HAZARDOUS LOCATIONS, PER NEC, CHAPTER 5, SHALL BE IN ACCORDANCE WITH THE NEC. ALL EQUIPMENT IN CORROSIVE ENVIRONMENTS SHALL BE IN ENCLOSURES (SUCH AS NEMA 4X) RATED FOR THE ENVIRONMENT.

10) UTILITY SERVICE AND REQUIREMENTS SHALL BE COORDINATED WITH POWER SERVICE WITH POWER COMPANY; PROVIDE FOR ALL STANDARD POWER COMPANY REQUIREMENTS. FAULT CURRENT RATINGS SHALL BE PROVIDED BY UTILITY.

11) THE LAYOUTS OF THE CONTRACT DRAWINGS ARE DIAGRAMMATIC. IT IS NOT INTENDED TO SHOW EVERY OFFSET AND FITTING, NOR EVERY STRUCTURAL DIFFICULTY THAT WILL BE ENCOUNTERED DURING THE INSTALLATION OF THE WORK. ALIGNMENT OF EQUIPMENT AND ROUTING OF RACEWAYS MAY BE VARIED SLIGHTLY TO ACCOMMODATE ARCHITECTURAL CONDITIONS OR TO AVOID THE WORK OF OTHER TRADES. IF ANY CONFLICTS OCCUR NECESSITATING DEPARTURES FROM CONTRACT DRAWINGS, DETAILS OF DEPARTURES AND REASONS THEREFORE SHALL BE SUBMITTED AS SOON AS PRACTICABLE FOR WRITTEN APPROVAL OF THE ENGINEER.

12) THE WORD "CONTRACTOR", AS USED IN THE ELECTRICAL CONTRACT DOCUMENTS, SHALL MEAN THE PRIME (I.E. GENERAL) CONTRACTOR AND HIS/HER SUBCONTRACTORS FOR THE APPROPRIATE TRADE. WHERE THE OWNER ACTS AS HIS OWN CONTRACTOR, THE WORD CONTRACTOR APPLIES TO THE OWNER.

13) CONTRACTOR SHALL PROVIDE EVIDENCE OF LICENSING, BONDING, AND INSURANCE, AND PROVIDE OTHER NECESSARY ADMINISTRATIVE FUNCTIONS FOR CONTRACTOR'S WORK.

14) CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED PERMITS AND SERVICE CHARGES.

15) COORDINATION: CONFORM TO GENERAL CONSTRUCTION CONTRACT DOCUMENTS EXCEPT AS MODIFIED HEREIN. REFER ALSO TO STRUCTURAL AND MECHANICAL CONTRACT DOCUMENTS. COORDINATE ALL WORK WITH OTHER TRADES.

16) CUTTING AND PATCHING: ANY CUTTING, ATTACHING, OR WELDING TO BUILDING STRUCTURE SHOULD BE COORDINATED AND APPROVED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER. PATCHING SUBJECT TO ACCEPTANCE BY OWNER.

17) SAW CUT TRENCHES IN SLAB SHALL BE FULLY RESTORED AND REINFORCED TO PREVENT SAGGING. ROUGHEN SAW CUT EDGES PRIOR TO RE-POURING CONCRETE.

18) COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURAL MEMBERS. INSTALL ALL ABOVE GRADE (OVERHEAD) PIPING AS HIGH AS PRACTICAL.

19) RESTORE ALL DAMAGE RESULTING FROM THE WORK AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED.

20) PROVIDE FLASHING AND COUNTER FLASHING FOR ALL WALL AND ROOF PENETRATIONS.

21) WARRANTY: ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY WORK UNDER THIS CONTRACT, AS WELL AS ANY DAMAGE FROM LEAKS VIA ROOF PENETRATIONS MADE AND SEALED UNDER CONTRACTOR'S SCOPE.

RESIDENTIAL CALGREEN ELECTRICAL NOTES

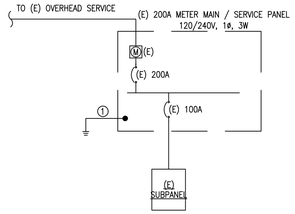
1) ENHANCED DURABILITY AND REDUCED MAINTENANCE:
4.406.1 ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY

2) BUILDING MAINTENANCE AND OPERATION:
4.410.1 AN OPERATION AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER

3) SITE DEVELOPMENT:
4.106.4 PROVIDE CAPABILITY FOR ELECTRIC VEHICLE CHARGING IN ONE- AND TWO-FAMILY DWELLINGS AND IN TOWNHOUSES WITH ATTACHED PRIVATE GARAGES; AND 10 PERCENT OF TOTAL PARKING SPACES, AS SPECIFIED, FOR MULTIFAMILY DWELLINGS.

ONE-LINE DIAGRAM

KEY NOTES:
① (E) GROUNDING/BONDING



Panel Name:	A - Main Panel			Bus Rating:		200A			
Voltage & Phase:	120/240V - 1Ø - 3W			AIC Rating:					
Mounting:	Recessed			Main Type:		Circuit Breaker			
Enclosure Rating:	NEMA 3R			MCB Rating:		200A			
	Description	BRK	Ckt	PHASE	Ckt	BRK	Description		
	SPD		1	A	2				
	-		3	B	4				
			5	A	6				
			7	B	8				
			9	A	10				
			11	B	12				
	Range	50/2	13	A	14				
	-	-	15	B	16				
	House/A/C	60/2	17	A	18				
	-	-	19	B	20				
			21	A	22				
			23	B	24				
			25	A	26	100/2	Subpanel - B		
			27	B	28	-	-		
			29	A	30	40/2			
			31	B	32	-	-		

Panel Name:	B - Subpanel			Bus Rating:		100A			
Voltage & Phase:	120/240V - 1Ø - 3W			AIC Rating:					
Mounting:	Surface			Main Type:		Circuit Breaker			
Enclosure Rating:	NEMA 3R ⚠1			MCB Rating:		100A			
	Description	BRK	Ckt	PHASE	Ckt	BRK	Description		
	(E) GFI Outlets	20/1	1	A	2	20/1	(E) Upstairs Outlets		
	(E) Upstairs Outlets	20/1	3	B	4	20/1	(E) Upstairs Lights		
	(E) Down Stairs Outlets	15/1	5	A	6	15/1	(E) Upstairs Bathroom Outlets		
	(E) Garage Lights - Door - Laundry-Bedroom #2	15/1	7	B	8	15/1	(E) Down Stairs Outlets + Plugs		
	(E) Upstairs Lights	15/1	9	A	10	20/1	(E) Fridge		
	(E) Kitchen + Dining Plugs	20/1	11	B	12	20/1	(E) Dishwasher		
	(E) Garbage Disposal	20/1	13	A	14	20/1	(E) Kitchen + Dining Plugs		
	(E) Washer	20/1	15	B	16	20/2	(E) Water Heater		
	(E) Pump	30/2	17	A	18	-	-		
	-	-	19	B	20	30/2	(E) Dryer		
	(E) Kitchen Plugs	20/1	21	A	22	-	-		
	(E) Bath Plugs	20/1	23	B	24				
			25	A	26				
			27	B	28				
			29	A	30				
			31	B	32				

ELECTRICAL SCOPE OF WORK

1) DEMOLITION OF RECEPTACLES PER PLANS

2) RELOCATION AND ADDITION OF LIGHTING FIXTURES PER PLANS. CONNECT TO EXISTING LIGHTING SYSTEMS AND ASSOCIATED POWER AND CONTROLS

3) PROVIDE POWER FOR REPLACED HVAC UNIT, VERIFY EXISTING DISCONNECT/WIRING AND UPSIZE AS REQUIRED

4) REPLACEMENT AND RELOCATION OF (E) ZINSCO SUBPANEL

5) NO INCREASE TO OVERALL ELECTRICAL DEMAND

LIGHTING LEGEND

- DOWNLIGHT
- PENDANT LIGHT
- SURFACE MOUNT
- TRACK LIGHT
- WALL MOUNT FIXTURE
- $S_{X,X}$ WALL MOUNTED SWITCH (D= DIMMER, V= VACANCY SENSOR, 3= 3-WAY

POWER LEGEND

- $\ominus_X$ DUPLEX OUTLET – WALL, FLOOR, CEILING MOUNTED GFI – GROUND FAULT INTERRUPT WP – WEATHERPROOF +44" – 44" AFF
- FLOOR-MOUNTED DUPLEX OUTLET
- QUADRUPLEX OUTLET 16IN A.F.F. U.O.N.
- FLOOR-MOUNTED QUADRUPLEX OUTLET
- DEDICATED OUTLET
- 20A, 208/240V OUTLET (NEMA 6-20R)
- 30A, 208/240V OUTLET (NEMA 6-30R)
- PHONE-DATA PORT
- SMOKE DETECTOR
- CARBON MONOXIDE DECTECTOR
- JUNCTION BOX
- TELEVISION
- 3P 60/40 DISCONNECT – POLES (CAPACITY/FUSE)
- LP-1,3,5 HOME RUN – PANEL-POLE(S)
- POWER PANEL
- T-1 TRANSFORMER

ELECTRICAL LEGEND

A.F.F.	ABOVE FINISHED FLOOR
+48"	HEIGHT (INCHES) AFF
D	DIMMER
TX	TRANSFORMER

JOB SET

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
KEEM M. BATISTA
No.E23735
EXP. 12-31-2027
ELECTRICAL
STATE OF CALIFORNIA

DATE SIGNED 05-01-26

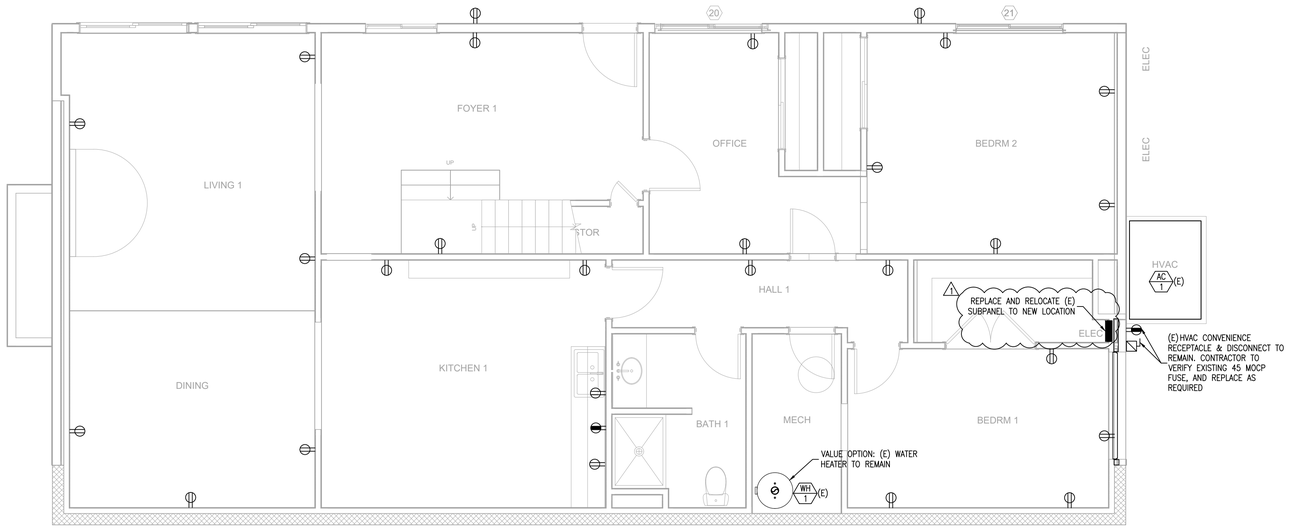
AUBURN RESIDENCE
13668 AUBURN ROAD
GRASS VALLEY, CA. 95949

ISSUED FOR	DATE
PERMIT	04-02-26
⚠ PLAN CHECK #1	05-01-26

PROJECT NUMBER 25341

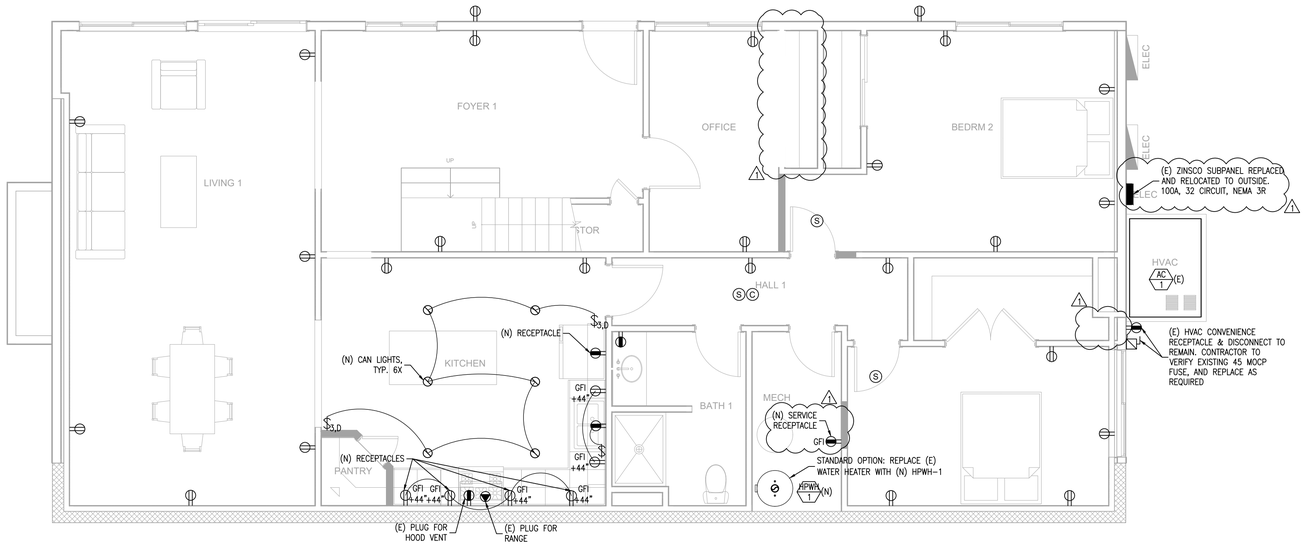
SHEET TITLE
ELECTRICAL GENERAL NOTES

SHEET NO.
E0



A ELECTRICAL PLAN - DEMOLITION PLANS - LOWER FLOOR

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



B ELECTRICAL PLAN - NEW PLANS - LOWER FLOOR

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

NORTH

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (D) DEMO
2. ALL RECEPTACLES/EQUIPMENT ARE (E) TO REMAIN U.O.N.
3. ALL WIRING TO BE #12 AWG U.O.N.
4. ALL INTERIOR WIRING TO BE 2-CONDUCTOR, NON-METALLIC SHEATHED. ALL EXTERIOR WIRING TO BE INSULATED WITH THWN-2. ALL EXTERIOR CONDUIT SHALL BE FLEX CONDUIT ABOVE GROUND, OR PVC IF BELOW GROUND
5. SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS ARE TO BE HARDWIRED AND INTERCONNECTED AND HAVE A BATTERY BACKUP. SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS SHALL SOUND AN ALARM AND BE AUDIBLE IN ALL SLEEPING AREAS
6. ALL 120-VOLT, SINGLE PHASE, 15- & 20-AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, DINING ROOMS, FAMILY ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, REC ROOMS, CLOSETS, LAUNDRY AREAS, HALLWAYS AND SIMILAR ROOMS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT PER CEC 210.12
7. NON-METALLIC SHEATHED CABLE SHALL BE SECURED BY STAPLES, CABLE TIES, STRAPS, HANGERS OR SIMILAR AT INTERVALS NOT EXCEEDING 4-1/2' WITHIN 12" OF EACH CABINET, BOX OR FITTING. FLAT CABLES SHALL NOT BE STAPLED ON EDGE
8. ALL NEW 125-VOLT, 15 AND 20 AMP RECEPTACLES IN THE DWELLING ARE LISTED TAMPER-RESISTANT. CEC 406.12
9. ALL RECEPTACLES LOCATED IN BATHROOMS, GARAGES, OUTDOORS, CRAWLSPACES, UNFINISHED AREAS OF BASEMENTS, KITCHENS, BOATHOUSES, LAUNDRY AREAS, OR WITHIN 6FT OF SINKS, TUBS, OR SHOWERS TO HAVE GFI PROTECTION PER CEC 210.8(A)
10. PROVIDE AT LEAST TWO 20-AMPERE BRANCH CIRCUITS TO SERVE COUNTER TOP RECEPTACLES FOR SMALL KITCHEN APPLIANCES PER CEC 210.52(B)
11. RECEPTACLES IN DWELLINGS TO BE LOCATED PER CEC 210.52
12. ALL SWITCHES TO BE DECORA DIMMERS, ALL OUTLETS TO BE DECORA TR RECEPTACLES

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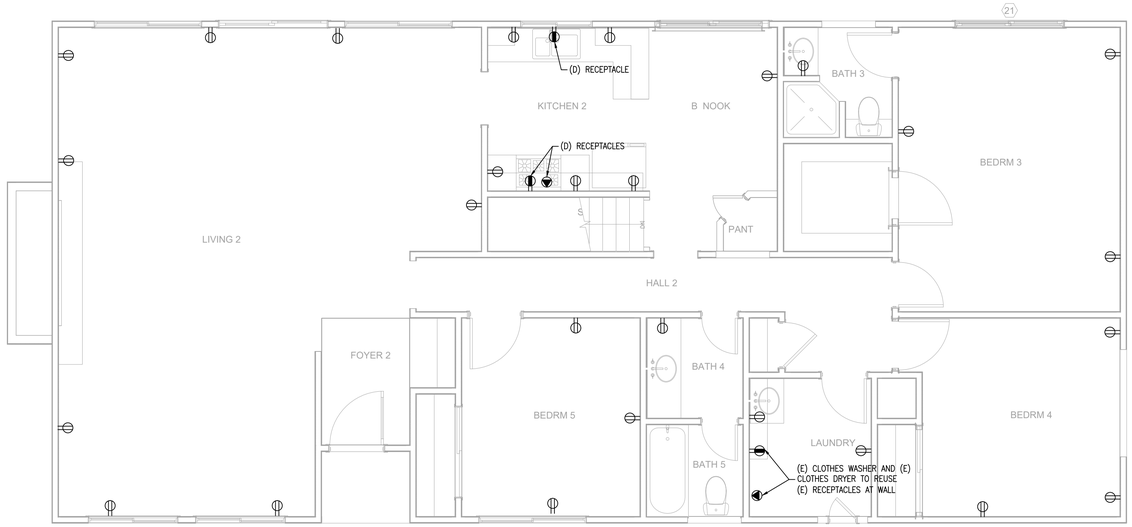
SHEET TITLE

ELECTRICAL PLAN - LOWER FLOOR

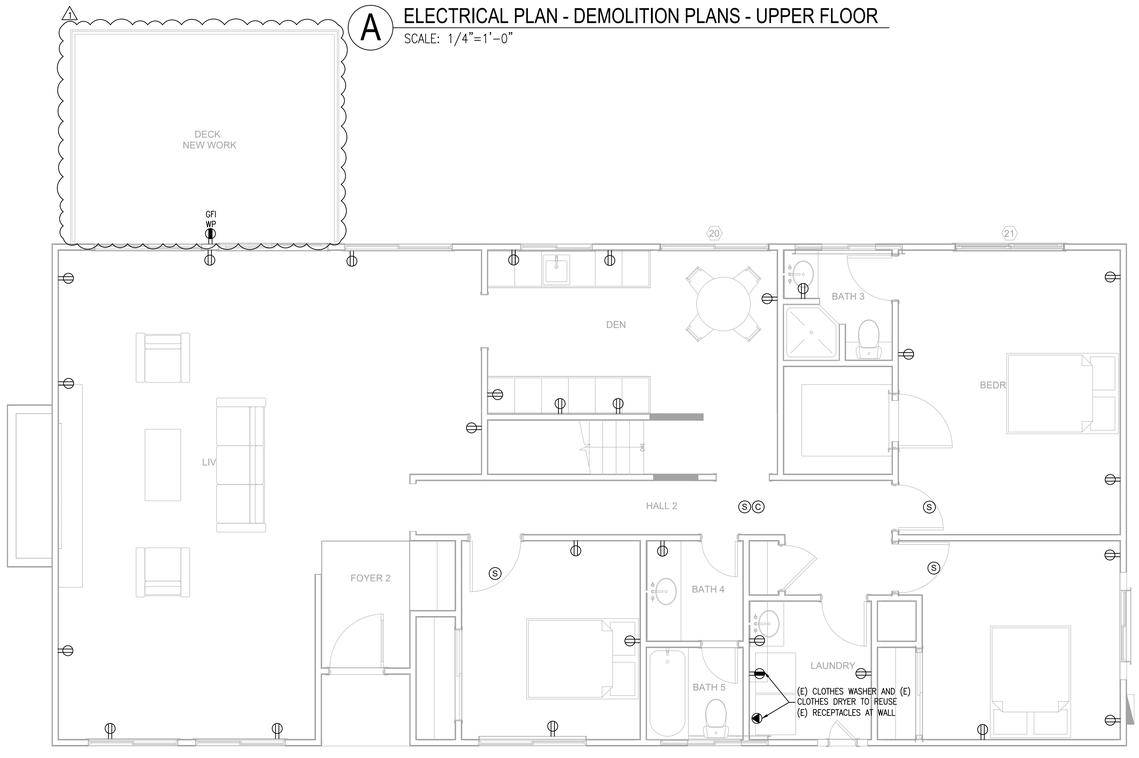
SHEET NO.

E1



A ELECTRICAL PLAN - DEMOLITION PLANS - UPPER FLOOR

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



B ELECTRICAL PLAN - NEW PLANS - UPPER FLOOR

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

NORTH

JOB SET

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (D) DEMO
2. ALL RECEPTACLES/EQUIPMENT ARE (E) TO REMAIN U.O.N.
3. ALL WIRING TO BE #12 AWG U.O.N.
4. ALL INTERIOR WIRING TO BE 2-CONDUCTOR, NON-METALLIC SHEATHED. ALL EXTERIOR WIRING TO BE INSULATED WITH THWN-2. ALL EXTERIOR CONDUIT SHALL BE FLEX CONDUIT ABOVE GROUND, OR PVC IF BELOW GROUND
5. SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS ARE TO BE HARDWIRED AND INTERCONNECTED AND HAVE A BATTERY BACKUP. SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS SHALL SOUND AN ALARM AND BE AUDIBLE IN ALL SLEEPING AREAS
6. ALL 120-VOLT, SINGLE PHASE, 15- & 20-AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, DINING ROOMS, FAMILY ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, REC ROOMS, CLOSETS, LAUNDRY AREAS, HALLWAYS AND SIMILAR ROOMS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT PER CEC 210.12
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11. RECEPTACLES IN DWELLINGS TO BE LOCATED PER CEC 210.52

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SHEET TITLE
ELECTRICAL PLAN - UPPER FLOOR

SHEET NO.
E2