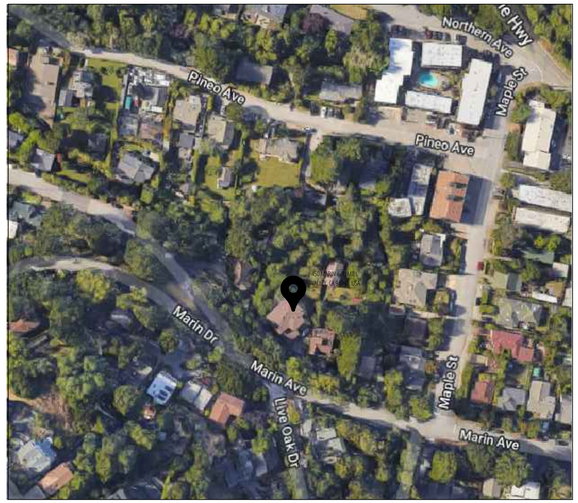
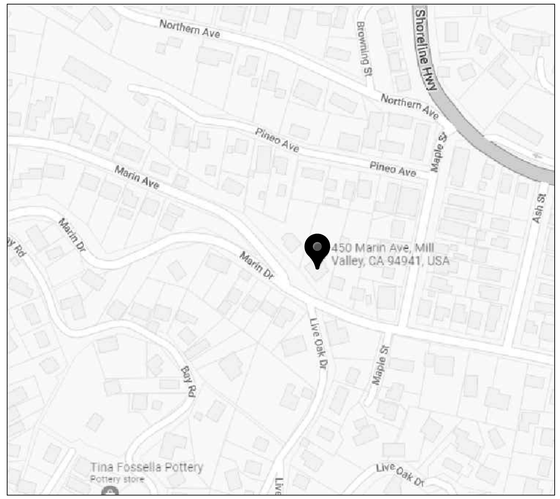
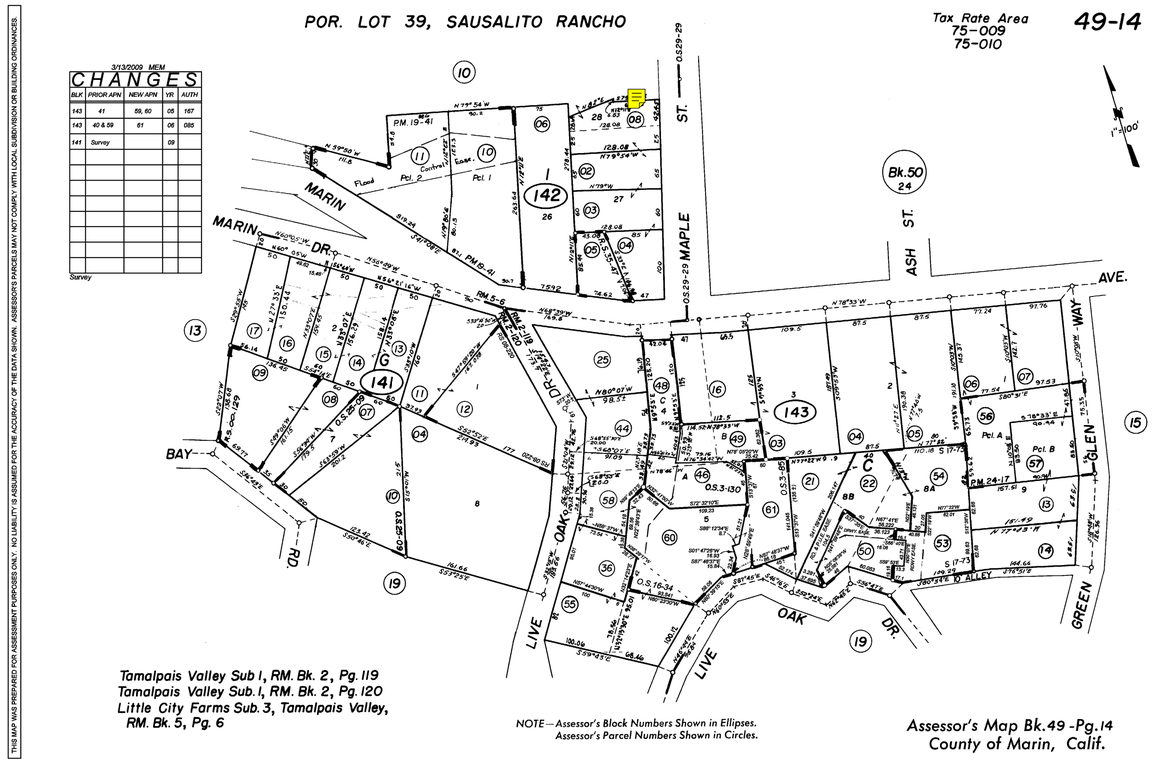
AERIAL PHOTO



VICINITY MAP



ASSESSORS PARCEL MAP



PROJECT TEAM

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PROJECT INFO

ZONING:	RA-B2
OCCUPANCY:	R-3
CONSTRUCTION TYPE:	V-B
STORIES:	2
WILDLAND URBAN INTERFACE ZONE (WUI):	YES
RESIDENTIAL FIRE SPRINKLERS REQUIRED:	YES
PERCENT SLOPE:	12.4
LATITUDE:	37°52'45" N
LONGITUDE:	122°32'22" W

PROJECT DESCRIPTION

450 MARIN AVE IS A TWO STORY, 4-BEDROOM, 4-BATH, 3,012 HOME ON A 23,000 SQUARE FOOT LOT. THERE IS A TWO- CAR GARAGE OF 461 SQUARE FEET. THE OWNERS, ALINE AND JOSHUA COPP, WOULD LIKE TO ADD A NEW UPPER-LEVEL BEDROOM, BATH, AND FORMAL ENTRY TOTALING 308 SQUARE FEET AND A NEW REAR DECK FROM THE UPPER-LEVEL LIVING ROOM. WE ARE PROPOSING A SHED DORMER AT THE UPPER-LEVEL LIVING ROOM IN ORDER TO GAIN ADDITIONAL CEILING HEIGHT GREATER THAN THE CURRENT 8'. THE NEW SQUARE FOOTAGE OF THE HOME IS PROPOSED TO BE 4,246 SQUARE FEET INCLUDING THE GARAGE AND REQUIRES DESIGN REVIEW. FROM A PRIOR COUNTER REVIEW OF THE SCHEMATIC PLANS, I UNDERSTAND THAT THE BEDROOM/BATH ADDITION AND THE FRONT ENTRY ADDITION REQUIRE DESIGN REVIEW AS THE PROPOSED TOTAL BUILDING AREA EXCEEDS 4,000 SQUARE FEET BUT NOT THE NEW DECK. ALL OTHER DEVELOPMENT STANDARDS ARE IN ORDER WITH A PROPOSED FAR OF .16, LOT COVERAGE OF .14, IMPERVIOUS SURFACE AT .41 AND SETBACKS THAT EXCEED THE RA-B2 REQUIREMENTS. THE LOT IS MODESTLY SLOPE AT 12% AND VEGETATED WITH FRUIT AND NATIVE TREES. THERE ARE TWO EASEMENTS IN THE REAR YARD; A 10' SANITARY SEWER EASEMENT AND A MARIN COUNTY FLOOD CONTROL EASEMENT, NEITHER OF WHICH IS CLOSE TO THE EXISTING OR PROPOSED BUILDING ENVELOPES.

SHEET INDEX

SITE DATA TABLE

STANDARD PROJECT DATA ON SITE PLAN
BASED ON APPLICABLE DEFINITIONS IN MARIN COUNTRY CODE, INCLUDE THE FOLLOWING INFORMATION:

1.	LOT AREA (BOTH THE DRY LAND AREA AND THE TOTAL AREA MUST BE PROVIDED FOR LOTS THAT ARE PARTIALLY SUBMERGED)	
	EXISTING	23,000 SQ. FT.
	PROPOSED	23,000 SQ. FT.
2.	BUILDING AREA	
	EXISTING	3,652 SQ. FT.
	PROPOSED	4,246 SQ. FT.
3.	FLOOR AREA	
	EXISTING	3,012 SQ. FT.
	PROPOSED	3,599 SQ. FT.
4.	FLOOR AREA RATIO	
	EXISTING	.14
	PROPOSED	.16
5.	PROPOSED AREA OF ADDITIONAL DISTURBANCE	N/A
6.	LOT COVERAGE	
	EXISTING	2,806 SQ. FT. - .12
	PROPOSED	3,264 SQ. FT. - .14
7.	GRADING CALCULATIONS (CUBIC YARDS)	
	CUT	N/A
	FILL	N/A
	OFF-HAUL	N/A
8.	PARKING	
	EXISTING	4
	PROPOSED	4
9.	MINIMUM SETBACKS FOR EXTERIOR WALLS OF PROPOSED BUILDING AREA:	
	FRONT	31'-7"
	WEST SIDE	20'-1"
	EAST SIDE	15'-1"
10.	MAXIMUM HEIGHT OF PROPOSED BUILDING AREA	26'-1"

LICENSED ARCHITECT
GEOFFREY E. BUTLER
C-21228
Exp. 3/2023
STATE OF CALIFORNIA

GEOFFREY E BUTLER
ARCHITECTURE & PLANNING

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T. 415.515.1148
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Date	No.	Issue Notes
6/30/2022		DESIGN REVIEW

Date	Delta	Revision Notes
-	1	-
-	2	-

COPP RESIDENCE

AP# 049-142-10

Cover Sheet

450 Marin Avenue
Mill Valley
CA 94941, USA

Drawn By: UR Studio

Date: 10/21/2021

A0.0

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

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

AIA California

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

Y	N/A	RESPON. PARTY

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.

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

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

SECTION 302 MIXED OCCUPANCY BUILDINGS

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

ABBREVIATION DEFINITIONS:

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
DIVISION 4.1 PLANNING AND DESIGN
SECTION 4.102 DEFINITIONS

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

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

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

4.106 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 Sections 4.106.4.1, 4.106.4.2, or 4.106.4.3 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code,* Article 625.

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 commercial power supply.
   1.2 Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or the developer by more than $400.00 per dwelling unit.
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 enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

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

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

Notes:
1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

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

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

1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the *California Building Code,* Chapter 11A, to allow use of the EV charger from the accessible parking space.
2. The EV space shall be located on an accessible route, as defined in 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 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3.

Note: Electric Vehicle charging stations serving public housing are required to comply with the *California Building Code,* Chapter 11B.

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

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

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

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

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

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

Notes:

1. Construction documents are intended to demonstrate the project's capability and capacity or facilitating future EV charging.
2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

4.106.4.3.1 Number of required EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1. Calculations for the required number of EV spaces shall be rounded up to the nearest whole number.

TABLE 4.106.4.3.1

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

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

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

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

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

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

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

DIVISION 4.2 ENERGY EFFICIENCY

4.201 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.

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

NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND
IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

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.

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 hamful 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.

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C-21228
Exp. 3/2023
STATE OF CALIFORNIA

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Date	No.	Issue Notes
6/30/2022		DESIGN REVIEW

Date	Delta	Revision Notes
-	△	-
-	△	-

COPP RESIDENCE
AP# 049-142-10
CAL GREEN
450 Marin Avenue
Mill Valley
CA 94941, USA

Drawn By: UR Studio

Date: 10/21/2021

A0.1

2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

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

AIA California

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 testing and product requirements of at least one of the following:

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

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

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

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

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

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

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

1. Product certifications and specifications.
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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AP# 049-142-10
CAL GREEN
450 Marin Avenue
Mill Valley
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Drawn By: UR Studio
Date: 10/21/2021

A0.2

MARIN COUNTY 2019 CALGREEN CHECKLIST

CALGreen Standards for Residential Additions & Alterations less than 1,200 square feet

This checklist is effective January 1, 2020 and applies to additions and alterations of low-rise residential buildings including hotels, motels, lodging houses, dwellings, dormitories, condominiums, shelters, congregate residences, employee housing, factory-built housing and other types of dwellings containing sleeping accommodations, and accessory structures.

The provisions of this checklist apply only to the portions of the building being added to or altered within the scope of the permitted work when the cumulative square footage of the project is less than 1,200 square feet. Existing site and landscaping improvements that are not otherwise disturbed are also not subject to the requirements of CALGreen.

Submit this checklist with your plans to demonstrate compliance with the green building ordinance. This checklist includes modifications specific to Marin County. For more information on the County's Green Building requirements, please visit www.maringreenbuilding.org

For more information on CALGreen and complete measure language, see Chapters 4 and Appendix 4 here: https://codes.iccsafe.org/content/CAGBSC2019/table-of-contents

PROJECT DETAILS

Project Address _____ APN _____

Geoffrey E. Butler
Applicant Name (Please Print)

PROJECT VERIFICATION

The green building professional[1] has reviewed the plans and certifies that the mandatory and elective measures listed below are hereby incorporated into the project plans and will be implemented into the project in accordance with the requirements set forth in the 2019 California Green Building Standards Code as amended by the County of Marin.

Signature _____ Date _____

Geoffrey E. Butler, Architect
Name & Title (Please Print)

[1] A qualified building professional can be an architect, engineer, contractor, or qualified green building professional, such as a CALGreen Special inspector.

MARIN COUNTY 2019 CALGREEN CHECKLIST
CALGreen Standards for Residential Additions & Alterations less than 1,200 square feet

CALGREEN MEASURE ALL MEASURES ARE MANDATORY UNLESS NOT IN PROJECT SCOPE	COMPLETED? (YES OR N/A)
4.106.2 A plan is developed and implemented to manage stormwater runoff from the construction activities through compliance with the County of Marin's stormwater management ordinance. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.106.3 Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.106.4.1 One- and two-family dwellings, and townhouses with attached private garages. If the project scope includes an upgrade of the electrical service panel, achieve Level 2 EV readiness including a raceway and dedicated 208/240-volt branch circuit, as required in the Marin County Building Code, Chapter 19.04, Subchapter 2. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.106.4.2 Multifamily dwellings and hotels/motels. If the project scope includes an upgrade of the electrical service panel or modification of the parking lot, comply with EV Readiness requirements outlined in the Marin County Building Code, Chapter 19.04, Subchapter 2. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.201.1 Building meets or exceeds the requirements of the California Building Energy Efficiency Standards. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.303.1 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. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.303.2 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. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A

MARIN COUNTY 2019 CALGREEN CHECKLIST
CALGreen Standards for Residential Additions & Alterations less than 1,200 square feet

CALGREEN MEASURE ALL MEASURES ARE MANDATORY UNLESS NOT IN PROJECT SCOPE	COMPLETED? (YES OR N/A)
4.304.1 Residential developments shall comply with local water efficient landscape ordinance or the current California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
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. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.408.1 Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with the reporting standards outlined by Zero Waste Marin. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.410.2 Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve all buildings on the site and is identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with the 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 including the County of Marin Municipal Code (Wood-Burning Devices). *Plan sheet reference (if applicable):*	☐ YES ☐ N/A

MARIN COUNTY 2019 CALGREEN CHECKLIST
CALGreen Standards for Residential Additions & Alterations less than 1,200 square feet

CALGREEN MEASURE ALL MEASURES ARE MANDATORY UNLESS NOT IN PROJECT SCOPE	COMPLETED? (YES OR N/A)
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.2.3 Aerosol paints and coatings shall be compliant with product weighted MIR Limits for ROC and other toxic compounds. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used. Documentation may include (but isn't limited to) the Manufacturer's product specification or field verification of on-site product containers. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.3 Carpet and carpet systems shall be compliant with VOC limits. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.4 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.504.5 Particleboard, medium density fiberboard (MDF), and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A

MARIN COUNTY 2019 CALGREEN CHECKLIST
CALGreen Standards for Residential Additions & Alterations less than 1,200 square feet

CALGREEN MEASURE ALL MEASURES ARE MANDATORY UNLESS NOT IN PROJECT SCOPE	COMPLETED? (YES OR N/A)
A4.504.2 Install VOC compliant resilient flooring systems. Ninety (90) percent of floor area receiving resilient flooring shall comply with the VOC-emission limits established in section A4.504.2. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
A4.504.3 Thermal insulation installed in the building shall install thermal insulation in compliance with VOC limits *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.505.2 Vapor retarder and capillary break is installed at slab on grade foundations. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.506.1 Each bathroom shall be provided with the following: 1. ENERGY STAR fans ducted to terminate outside the building. 2. Fans must be controlled by a humidity control (Separate or built-in); OR functioning as a component of a whole-house ventilation system. 3. Humidity controls with manual or automatic means of adjustment, capable of adjustment between a relative humidity range of ≤ 50 percent to a maximum of 80 percent. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A
4.507.2 Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2016 or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D - 2016 or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014 or equivalent. *Plan sheet reference (if applicable):*	☐ YES ☐ N/A

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Date	No.	Issue Notes
6/30/2022		DESIGN REVIEW

Date	Delta	Revision Notes
-	1	-
-	2	-

COPP RESIDENCE
AP# 049-142-10
Marin County Green Building Standards
450 Marin Avenue
Mill Valley
CA 94941, USA

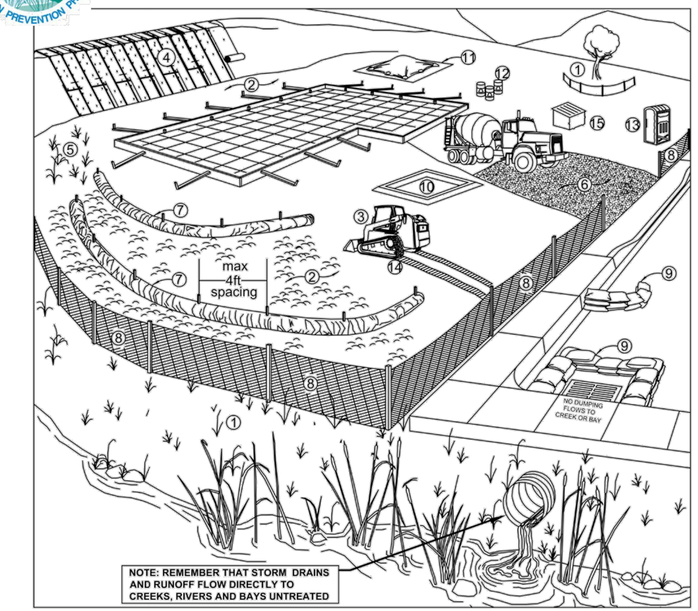
Drawn By: UR Studio

Date: 10/21/2021

A0.3

Marin County Stormwater Pollution Prevention Program

Minimum Control Measures
For Small Construction Projects



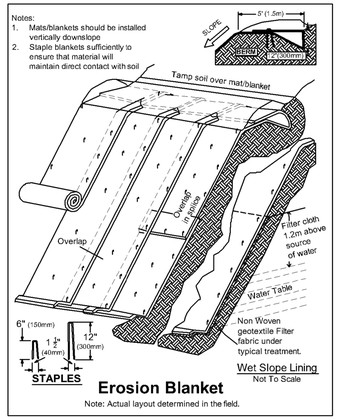
Erosion Controls	Sediment Controls	Good Housekeeping
NS Scheduling	6. Tracking Controls	10. Concrete Washout
1. Preserve Vegetation & Creek Set Backs	7. Fiber Rolls	11. Stockpile Management
2. Soil Cover	8. Silt Fence	12. Hazardous Material Management
3. Soil Preparation/ Roughening	9. Drain Inlet Protection	13. Sanitary Waste Management
4. Erosion Control Blankets	NS Trench Dewatering	14. Equipment and Vehicle Maintenance
5. Revegetation		15. Litter and Waste Management

NS=not shown on graphic

Note: Select an **effective combination of control measures from each category**, Erosion Control, Sediment Control, and Good Housekeeping. Control measures shall be **continually implemented and maintained throughout the project** until activities are complete, disturbed areas are stabilized with permanent erosion controls, and the local agency has signed off on permits that may have been required for the project. **Inspect and maintain the control measures** before and after rain events, and as required by the local agency or state permit.
More detailed information on the BMPs can be found in the related California Stormwater Quality Association (CASQA) and California Department of Transportation (Caltrans) BMP Factsheets. CASQA factsheets are available by subscription in the *California Best Management Practices Handbook Portal: Construction* at http://www.casqa.org. Caltrans factsheets are available in the *Construction Site BMP Manual March 2003* at http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm.
Visit www.mcstoppp.org for more information on construction site management and Erosion and Sediment Control Plans.

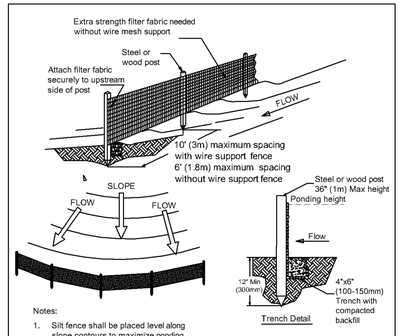
If you require materials in alternative formats, please contact:
415-473-4381 voice/TTY or disabilityaccess@co.marin.ca.us

Control Measure		General Description
Erosion Control Best Management Practices		
N/A	Scheduling	Plan the project and develop a schedule showing each phase of construction. Schedule construction activities to reduce erosion potential, such as scheduling ground disturbing activities during the summer and phasing projects to minimize the amount of area disturbed. *For more info see the following factsheets: CASQA: EC-1; or Caltrans: SS-1.*
1	Preserve Existing Vegetation and Creek Setbacks	Preserve existing vegetation to the extent possible, especially along creek buffers. Show creek buffers on maps and identify areas to be preserved in the field with temporary fencing. Check with the local Planning and Public Works Departments for specific creek set back requirements. *For more info see the following factsheets: CASQA: EC-2; or Caltrans: SS-2.*
2	Soil Cover	Cover exposed soil with straw mulch and tackifier (or equivalent). *For more info see the following factsheets: CASQA: EC-3, EC-5, EC-6, EC-7, EC-8, EC-14, EC-16; or Caltrans: SS-2, SS-4, SS-5, SS-6, SS-7, SS-8.*
3	Soil Preparation/ Roughening	Soil preparation is essential to vegetation establishment and BMP installation. It includes soil testing and amendments to promote vegetation growth as well as roughening surface soils by mechanical methods (decompacting, scarifying, stair stepping, etc.). *For more info see the following factsheets: CASQA: EC-15.*
4	Erosion Control Blankets	Install erosion control blankets (or equivalent) on disturbed sites with 3:1 slopes or steeper. Use wildlife-friendly blankets made of biodegradable natural materials. Avoid using blankets made with plastic netting or fixed aperture netting. See: http://www.coastal.ca.gov/nps/Wildlife-Friendly_Products.pdf. *For more info see the following factsheets: CASQA: EC-7; or Caltrans: SS-7.*
5	Revegetation	Re-vegetate areas of disturbed soil or vegetation as soon as practical. *For more info see the following factsheets: CASQA: EC-4; or Caltrans: SS-4.*
Sediment Control Best Management Practices		
6	Tracking Controls	Stabilize site entrance to prevent tracking soil offsite. Inspect streets daily and sweep street as needed. Require vehicles and workers to use stabilized entrance. Place crushed rock 12-inches deep over a geotextile, using angular rock between 4 and 6-in. Make the entrance as long as can be accommodated on the site, ideally long enough for 2 revolutions of the maximum tire size (16-20 feet long for most light trucks). Make the entrance wide enough to accommodate the largest vehicle that will access the site, ideally 10 feet wide with sufficient radii for turning in and out of the site. Rumble pads or rumble racks can be used in lieu of or in conjunction with rock entrances. Wheel washes may be needed where space is limited or where the site entrance and sweeping is not effective. *For more info see the following factsheets: CASQA: TC-1; TC-3; or Caltrans: TC-1; TC-3.*
7	Fiber Rolls	Use fiber rolls as a perimeter control measure, along contours of slopes, and around soil stockpiles. On slopes space rolls 10 to 20 feet apart (using closer spacing on steeper slopes). Install parallel to contour. If more than one roll is used in a row overlap roll do not abut. J-hook end of roll upslope. Install rolls per either Type 1 (stake rolls into shallow trenches) or Type 2 (stake in front and behind roll and lash with rope). Use wildlife-friendly fiber rolls made of biodegradable natural materials. Avoid using fiber rolls made with plastic netting or fixed aperture netting. See: http://www.coastal.ca.gov/nps/Wildlife-Friendly_Products.pdf. Manufactured linear sediment control or compost socks can be used in lieu of fiber rolls. *For more info see the following factsheets: CASQA: SE-5 (Type 1); SE-12, SE-13; or Caltrans: SC-5 (Type 1 and Type 2).*
8	Silt Fence	Use silt fence as a perimeter control measure, and around soil stockpiles. Install silt fence along contours. Key silt fence into the soil and stake. Do not use silt fence for concentrated water flows. Install fence at least 3 feet back from the slope to allow for sediment storage. Wire backed fence can be used for extra strength. Avoid installing silt fence on slopes because they are hard to maintain. Manufactured linear sediment control can be used in lieu of silt fences. *For more info see the following factsheets: CASQA: SE-1; SE-12; or Caltrans: SC-1.*
9	Drain Inlet Protection	Use gravel bags, (or similar product) around drain inlets located both onsite and in gutter as a last line of defense. Bags should be made of a woven fabric resistant to photo-degradation filled with 0.5-1-in washed crushed rock. Do not use sand bags or silt fence fabric for drain inlet protection. *For more info see the following factsheets: CASQA: SE-10; or. Caltrans: SC-10.*
N/A	Trench Dewatering	Follow MCSTOPPP BMPs for trench dewatering. http://www.marincounty.org/depts/pw/divisions/mcstoppp/development/~/media/Files/Departments/PW/mcstoppp/development/TrenchingSWReqMCSTOPPPFinal6_09.pdf. *For more info see the following factsheets: CASQA: NS-2; or Caltrans: NS-2.*
Good Housekeeping Best Management Practices		
10	Concrete Washout	Construct a lined concrete washout site away from storm drains, waterbodies, or other drainages. Ideally, place adjacent to stabilized entrance. Clean as needed and remove at end of project. *For more info see the following factsheets: CASQA: WM-8; or .Caltrans: WM-8.*
11	Stockpile Management	Cover all stockpiles and landscape material and berm properly with fiber rolls or sand bags. Keep behind the site perimeter control and away from waterbodies. *For more info see the following factsheets: CASQA: WM-3 or Caltrans: WM-3.*
12	Hazardous Material Management	Hazardous materials must be kept in closed containers that are covered and within secondary containment; do not place containers directly on soil. *For more info see the following factsheets: CASQA: WM-6; or Caltrans: WM-6.*
13	Sanitary Waste Management	Place portable toilets near stabilized site entrance, behind the curb and away from gutters, storm drain inlets, and waterbodies. Tie or stake portable toilets to prevent tipping and equip units with overflow pan/tray (most vendors provide these). *For more info see the following factsheets: CASQA: WM-9; or Caltrans: WM-9.*
14	Equipment and Vehicle Maintenance	Prevent equipment fluid leaks onto ground by placing drip pans or plastic tarps under equipment. Immediately clean up any spills or drips. *For more info see the following factsheets: CASQA: NS-8, NS-9, and NS-10; or Caltrans: NS-8, NS-9, and NS-10.*
15	Litter and Waste Management	Designate waste collection areas on site. Use watertight dumpsters and trash cans; inspect for leaks. Cover at the end of each work day and when it is raining or windy. Arrange for regular waste collection. Pick up site litter daily. *For more info see the following factsheets: CASQA: WM-5; or Caltrans: WM-5.*



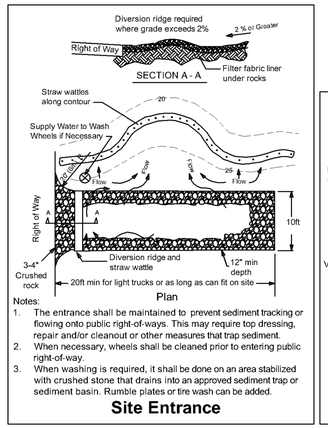
Erosion Blanket

Note: Actual layout determined in the field.



Silt Fence

NOT TO SCALE



Site Entrance

Note: Actual layout determined in field

Concrete Washout

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COPP RESIDENCE

AP# 049-142-10

Storm Water Prevention

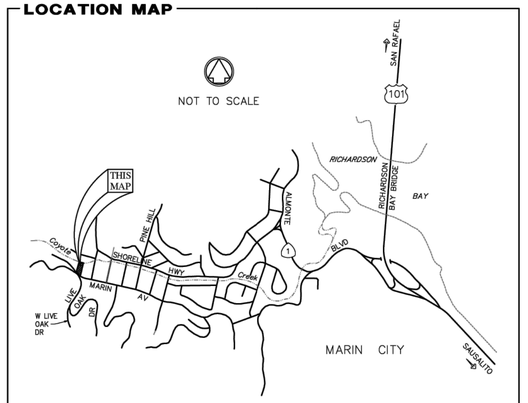
450 Marin Avenue
Mill Valley
CA 94941, USA

Drawn By: UR Studio

Date: 10/21/2021

A0.4

LOCATION MAP



LEGEND

	APPROXIMATE TREE DRIP LINE
—x—	FENCE LINE
—OH—	OVERHEAD LINES
	TOP OF BANK
	SURVEY CONTROL POINT
	JOINT POLE
←——	GUY ANCHOR
SSCO	SANITARY SEWER CLEAN OUT
IG	INVERT GRADE
WM	WATER METER
GM	GAS METER
EM	ELECTRIC METER
AC	ASPHALTIC CONCRETE
FL	FLOW LINE
CL	CLUSTER
RDWD	REDWOOD TREE
ORN	ORNAMENTAL TREE

1. 15.6' GARAGE DOOR SLAB EL=46.76'
2. 2.9' DOOR THRESHOLD EL=46.73'
3. 2.9' DOOR THRESHOLD EL=46.55'
4. 2.9' DOOR (2ND FLOOR) THRESHOLD EL=57.09'
5. 2.9' DOOR (2ND FLOOR) THRESHOLD EL=57.06'
6. 4.9' DOOR (2ND FLOOR) THRESHOLD EL=57.06'
7. 2.9' DOOR THRESHOLD EL=46.71'

ATTENTION

THIS MAP IS BEING PROVIDED IN AN ELECTRONIC CAD FILE AT THE REQUEST OF THE CLIENT. SINCE THE CAD FILE IS ALTERABLE, IT CANNOT CONSTITUTE OUR FINISHED WORK PRODUCT. ACCORDINGLY, WE DELIVERED A SIGNED PDF ALONG WITH THE CAD FILE. THE SIGNED PDF CONSTITUTES OUR PROFESSIONAL WORK PRODUCT, AND IT MUST BE REFERRED TO FOR THE ORIGINAL DRAWING INFORMATION. PHELPS & ASSOCIATES, INC., SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE TO THE ELECTRONIC CAD FILE, NOR FOR ANY PRODUCTS DERIVED THEREFROM.

BENCHMARK

BENCHMARK: NGS OPUS OBSERVATION AT CP5. ELEVATION = 33.76' (NAVD88).

MAPPING NOTES

THE ELEVATIONS AND RELATIVE POSITIONS OF FEATURES SHOWN HEREON ARE IN CONFORMANCE WITH THE NATIONAL STANDARDS OF THE AMERICAN CONGRESS ON SURVEYING AND MAPPING.

JOSEPH L. HUGHES — PROFESSIONAL LAND SURVEYOR — No. 8992 — STATE OF CALIFORNIA — PLS 8992

APN 049-142-10

TOPOGRAPHIC MAP

ALINE & JOSH COPP

450 MARIN AVENUE, MILL VALLEY

COUNTY OF MARIN — STATE OF CALIFORNIA

DATE: 1/31/2022

SCALE: 1" = 10'

SHEET: 1 OF 1

JOB No. MARIN-2022-04

PHELPS & ASSOCIATES
LAND SURVEYORS
632 PETALUMA AVE, SEBASTOPOL, CALIFORNIA 95472 / (707) 829-0400

1 A1.1 **(P) SITE PLAN**
SCALE: 3/32" = 1'-0"

NOT A SURVEY. PLACEMENT OF PROPERTY LINE ASSUMED.
BASED ON PREVIOUS FRONT SETBACK CONFIRMATION.
APN: 049-142-10
PARCEL AREA: ± 22,106.55 SQ. FT.

Jul 09 2008 10:48 MERIDIAN SURVEYING (415) 456-5451 p.2

MERIDIAN SURVEYING ENGINEERING, INC

Tuesday, July 08, 2008

Marin County Community Development Agency
3501 Civic Center Drive
Room 308
San Rafael, CA 94903

To whom it may concern,

On Tuesday, July 08, 2008, our field crew measured the following setbacks for the structure at 450 Marin Avenue and determined that the forms for new construction meets or exceeds the minimum setbacks that are approved on the Building Permit plans.

	Field-verified Setback	*Setback on Approved Plans*
Setback to Front Property line:	25 feet	25 feet

Sincerely,
MSE, Inc.

Stanley T. Gray, PLS
President

PROFESSIONAL LAND SURVEYOR STANLEY T. GRAY Exp. 09/30/08 STATE OF CALIFORNIA

plot released 7/9/08

1812 Union Street
San Francisco 94123
TEL: (415) 440-4131
FAX: (415) 440-4132

777 Grand Avenue, Suite 202
San Rafael, CA 94901
TEL: (415) 456-5450
FAX: (415) 456-5451

07/09/2008 WED 09:46 [TX/RX NO 9808] 002

LICENSED ARCHITECT GEOFFREY E. BUTLER C-21228 Exp. 3/2023 STATE OF CALIFORNIA

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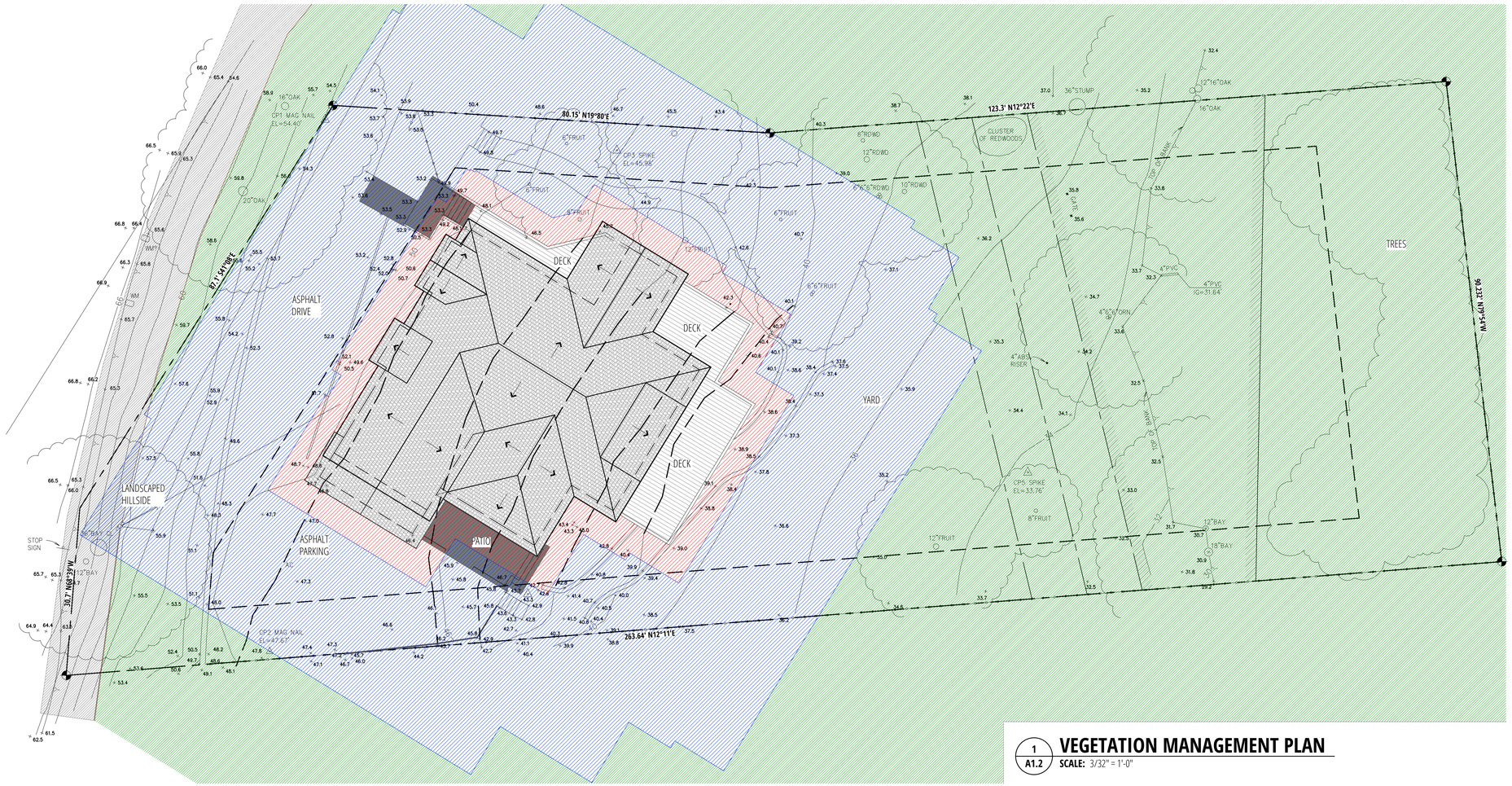
COPP RESIDENCE
AP# 049-142-10
Site Plan
450 Marin Avenue
Mill Valley
CA 94941, USA

Drawn By: UR Studio
Date: 10/21/2021

A1.1



1 A1.2 **VEGETATION MANAGEMENT PLAN**
SCALE: 3/32" = 1'-0"

VEGETATION MGMT. LEGEND

- TREES
- TREES TO BE REMOVED
- SHRUBS
- HARDSCAPE

VMP PLANT LIST

(E) TREES TO REMAIN

(N) TREES

(E)+(N) TALL NATIVE SCREENING

(N) LOW SCREENING

3/32" = 1'

0 8 16 32

HAZARD ZONES

IMMEDIATE ZONE (ZONE 0) 0' - 5'

THE IMMEDIATE ZONE EXTENDS 0-5' FROM YOUR HOUSE. ZONE 0 IS THE AREA CLOSEST TO YOUR HOUSE, INCLUDING THE STRUCTURE ITSELF, DECKS, OUTDOOR FURNITURE, AND THE OUTSIDE WALLS AND COVERINGS. THIS AREA IS MOST VULNERABLE, AND SHOULD BE MOST AGGRESSIVELY MAINTAINED FOR FIRE RESISTANCE.

- REMOVE ANY COMBUSTIBLE OUTDOOR FURNITURE.
- REPLACE JUTE OR FIBER DOOR MATS WITH FIRE RESISTANT MATERIALS.
- REMOVE OR RELOCATE ALL COMBUSTIBLE MATERIALS, INCLUDING GARBAGE AND RECYCLING CONTAINERS, LUMBER, TRASH, AND PATIO ACCESSORIES.
- CLEAN ALL FALLEN LEAVES AND NEEDLES REGULARLY. REPEAT OFTEN DURING FIRE SEASON.
- NO VEGETATION IS RECOMMENDED WITHIN 5' OF STRUCTURES.
- REMOVE TREE LIMBS THAT EXTEND INTO THIS ZONE. FIRE-PRONE TREE VARIETIES SHOULD BE REMOVED IF THEY EXTEND WITHIN 5' OF STRUCTURES.
- DO NOT STORE FIREWOOD, LUMBER, OR COMBUSTIBLES HERE, EVEN (ESPECIALLY) UNDER DECKS OR OVERHANGS. MOVE STORED COMBUSTIBLE INSIDE, OR AT LEAST 30' AWAY FROM STRUCTURES.
- USE ONLY INORGANIC, NON-COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL.

INTERMEDIATE ZONE (ZONE 1) 5' - 30'

THE INTERMEDIATE ZONE FROM 5' TO 30' OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. KEEP ZONE 1 "LEAN, CLEAN, AND GREEN" AND EMPLOY CAREFUL LANDSCAPING TO CREATE BREAKS THAT CAN HELP INFLUENCE AND DECREASE FIRE BEHAVIOR.

- REMOVE ALL DEAD PLANTS, GRASS, AND WEEDS (VEGETATION).
- REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.
- TRIM TREES REGULARLY TO KEEP BRANCHES A MINIMUM OF 10 FEET FROM OTHER TREES.
- REMOVE BRANCHES THAT HANG OVER YOUR ROOF AND KEEP DEAD BRANCHES 10 FEET AWAY FROM YOUR CHIMNEY.
- REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS.
- REMOVE FIRE-PRONE PLANTS, AND CHOOSE ONLY FIRE-RESISTANT VARIETIES. IRRIGATE REGULARLY.
- REMOVE LIMBS TO A HEIGHT OF 10' ABOVE THE GROUND (OR 1/3 THE HEIGHT OF THE TREE) TO PROVIDE CLEARANCE AND TO ELIMINATE A "FIRE LADDER".
- USE ONLY INORGANIC, NON-COMBUSTIBLE MULCHES SUCH AS STONE OR GRAVEL. COMPOSTED MULCH AND LARGE BARK AND CHIPS (GREATER THAN 1/2" DIAMETER) MAY BE OK.

EXTENDED ZONE (ZONE 2) 30' - 100'

THE EXTENDED ZONE FROM 30' TO 100' (OR MORE, IF REQUIRED DUE TO STEEP SLOPES, NEARBY VEGETATION CONDITIONS, AND/OR YOUR LOCAL FIRE DEPARTMENT). THE GOAL HERE IS NOT TO ELIMINATE FIRE BUT TO INTERRUPT FIRE'S PATH AND KEEP FLAMES SMALLER AND ON THE GROUND. THIS ZONE SHOULD INCLUDE AT A MINIMUM:

- CUT OR MOW ANNUAL GRASS DOWN TO A MAXIMUM HEIGHT OF 4 INCHES.
- CREATE HORIZONTAL SPACING BETWEEN SHRUBS, TREES AND VERTICAL SPACING BETWEEN GRASS, SHRUBS AND TREES.
- REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES IF EROSION CONTROL IS AN ISSUE.

ACCESS ZONE (ZONE 4) 0' - 10'

EXTENDS 10 FEET HORIZONTALLY FROM THE EDGE ON EITHER SIDE OF THE ROAD OR DRIVEWAY.

- WITHIN THIS ZONE, PLANTINGS SHALL BE FIRE RESISTANT AND SHALL NOT EXTEND WITHIN THE 14 FOOT VERTICAL
- CLEARANCE ABOVE THE SURFACE OF THE ROADWAY OR DRIVEWAY, AS REQUIRED FOR EMERGENCY ACCESS.
- ALL LANDSCAPE SHALL MEET THE REQUIREMENTS FOR SEPARATION AS STATED IN THE ZONE 2 ABOVE

VMP NARRATIVE

1. Existing Conditions
   There are currently a variety of medium to large shrubs such as Toyon and Coffee Berry, various fruit trees, mature coast redwood, a number of black acacia, coast live oaks and jacaranda. There is an abundance of low ground cover and ivy.

2. Proposed Scope
   The intent of the VMP and landscape plans is to maintain the mature trees with selective pruning and removal of all dead material per fire wise standards. New native screening will supplement the restored or removed screening. Fire prone species will be removed. Existing shrubs will be thinned or removed to provide a fire break from 0'-30' from the home. New FIREsafe Marin trees are proposed in various locations to further screen the home from neighbors.

3. Future Planting
   Any further plantings throughout the site will include fire-resistant, irrigated shrubs, perennials and ground covers as in the FIREsafe Marin planting lists located at www.firesafemarin.org/plants.

4. Long Term Maintenance Schedule and Safety Practices
   a. All fire prone fuels and dead material will be removed within 100' of the home.
   b. Remove branches beneath large trees for a 6'-minimum clearance.
   c. Needles and leaves and other combustible debris and litter shall be removed from roofs and gutter at minimum twice yearly.
   d. All weeds and grasses shall be cut regularly to a height of 4" or less.
   e. Vegetation shall be trimmed to within 10' horizontally of roadways, and trees shall be trimmed not to overhang roadways and provide 14' of clearance vertically.
   f. All dead and dying vegetation shall be removed seasonally to reduce vegetation volume and ladder fuels.
   g. Coordinate with adjacent property owners to maintain tree canopies, vegetation, and ladder fuels on an annual basis.
   h. No native grasses shall be panted within home ignition zones 1 and 2.
   i. All planted areas inside ignition zones 1 and 2 shall be irrigated.
   j. All plantings shall be selected in coordination with FIREsafe Marin planting list located at www.firesafemarin.org/plants. Other fire-resistant plants can be utilized with prior approval of the Fire Code Official.
   k. Regardless of plant selection, shrubs shall be spaces so that no continuity exists between ground fuels and tree crowns, such that a ground fire will not extend into the tree canopy.

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COPP RESIDENCE

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450 Marin Avenue
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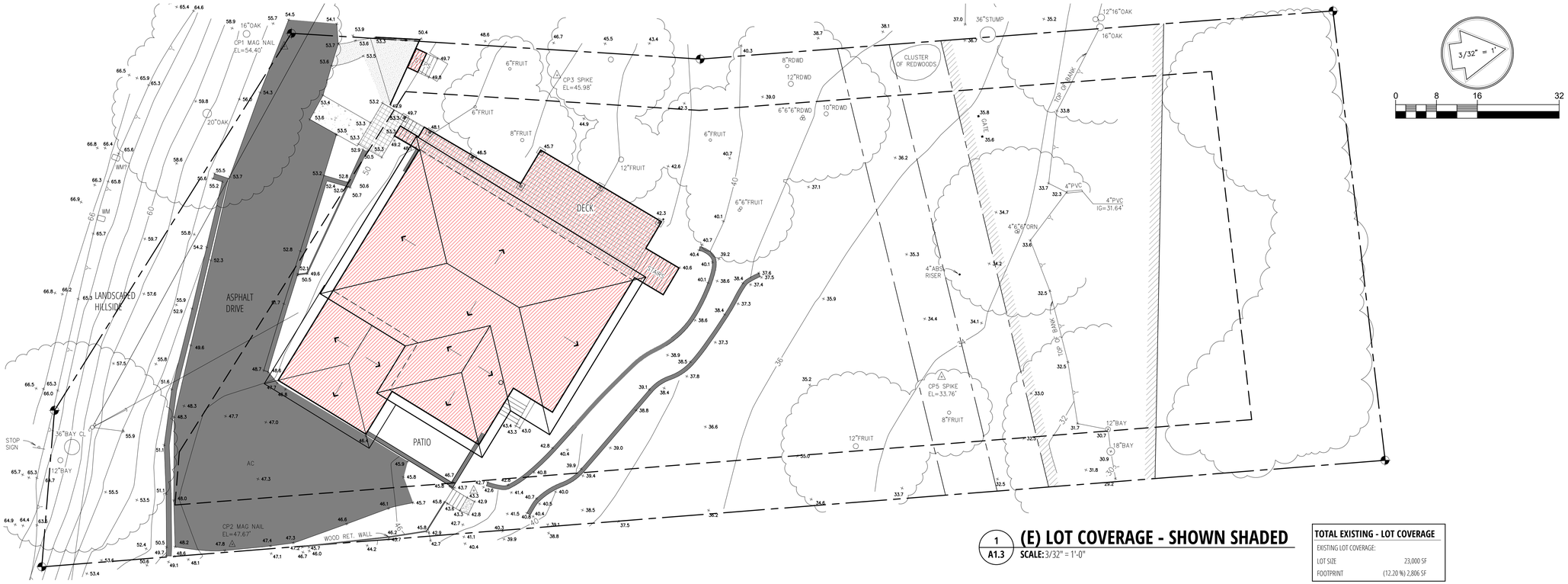
CA 94941, USA

Vegetation Management Plan

Drawn By: UR Studio

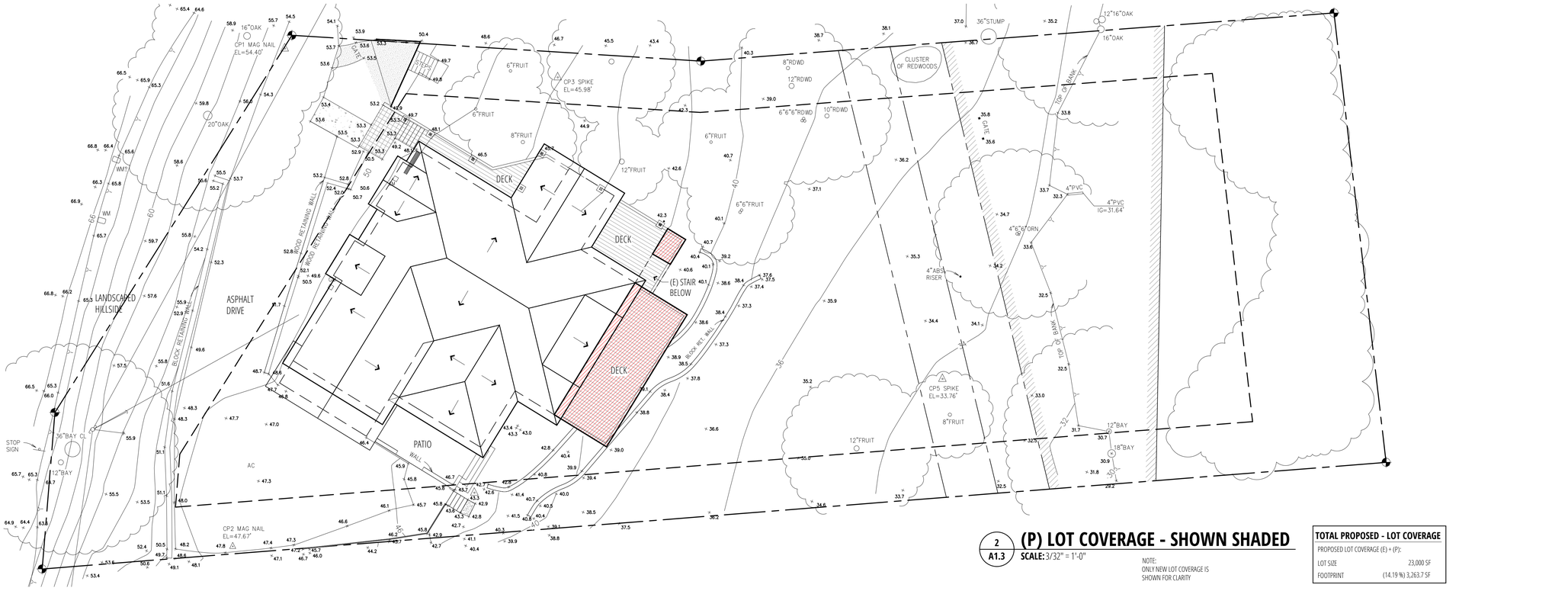
Date: 10/21/2021

A1.2



1 A1.3 **(E) LOT COVERAGE - SHOWN SHADED**
SCALE: 3/32" = 1'-0"

TOTAL EXISTING - LOT COVERAGE	
EXISTING LOT COVERAGE:	
LOT SIZE	23,000 SF
FOOTPRINT	(12.20 %) 2,806 SF



2 A1.3 **(P) LOT COVERAGE - SHOWN SHADED**
SCALE: 3/32" = 1'-0"

NOTE:
ONLY NEW LOT COVERAGE IS SHOWN FOR CLARITY

TOTAL PROPOSED - LOT COVERAGE	
PROPOSED LOT COVERAGE (E) + (P):	
LOT SIZE	23,000 SF
FOOTPRINT	(14.19 %) 3,263.7 SF

3/32" = 1'
0 8 16 32

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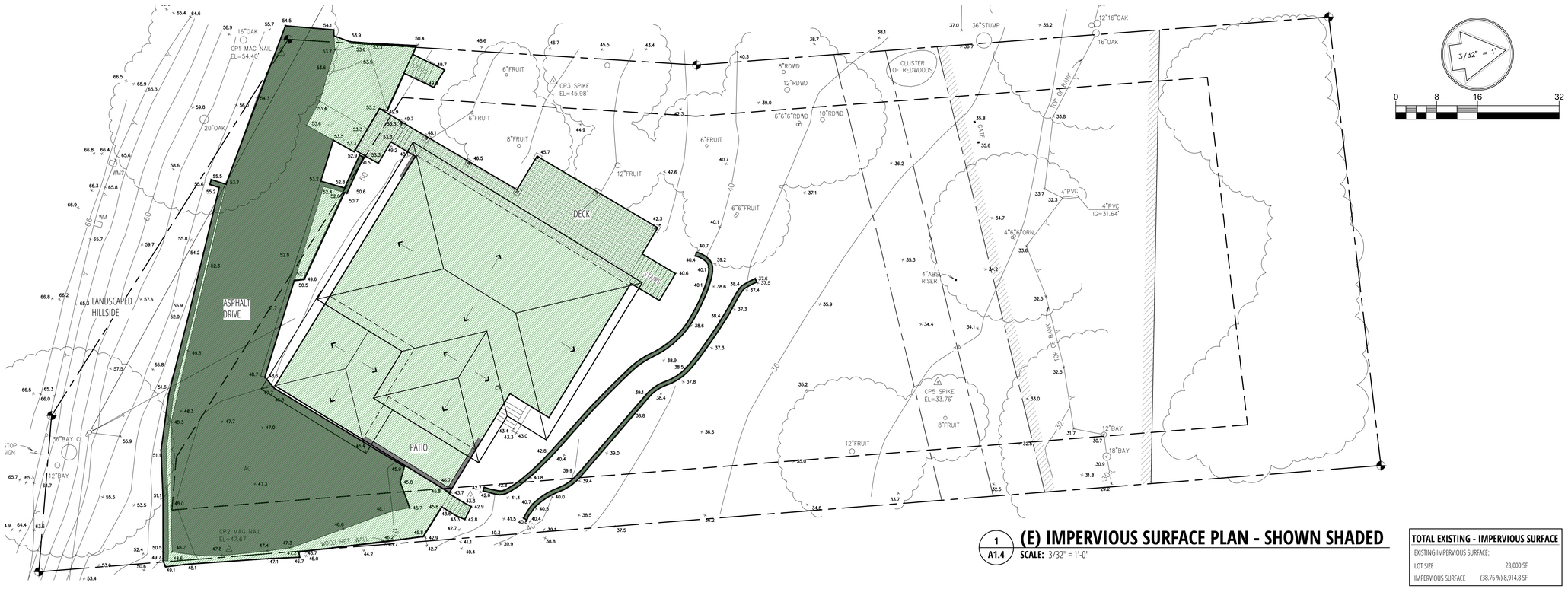
(E) & (P) Lot Coverage

Drawn By: UR Studio

Date: 10/21/2021

A1.3

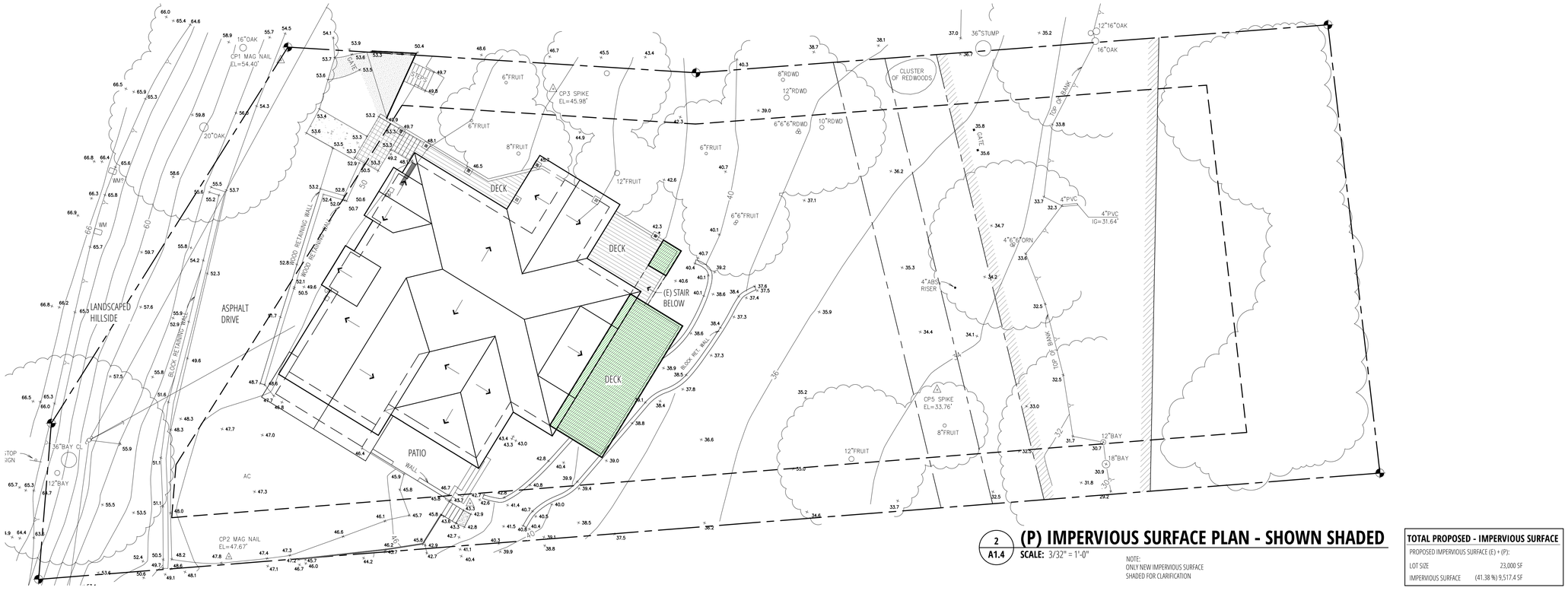


1 A1.4 (E) IMPERVIOUS SURFACE PLAN - SHOWN SHADED

SCALE: 3/32" = 1'-0"

TOTAL EXISTING - IMPERVIOUS SURFACE

EXISTING IMPERVIOUS SURFACE:		
LOT SIZE	23,000 SF	
IMPERVIOUS SURFACE	(38.76 %)	8,914.8 SF



2 A1.4 (P) IMPERVIOUS SURFACE PLAN - SHOWN SHADED

SCALE: 3/32" = 1'-0"

NOTE:
ONLY NEW IMPERVIOUS SURFACE
SHADED FOR CLARIFICATION

TOTAL PROPOSED - IMPERVIOUS SURFACE

PROPOSED IMPERVIOUS SURFACE (E) + (P):		
LOT SIZE	23,000 SF	
IMPERVIOUS SURFACE	(41.38 %)	9,517.4 SF

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COPP RESIDENCE

AP# 049-142-10

450 Marin Avenue
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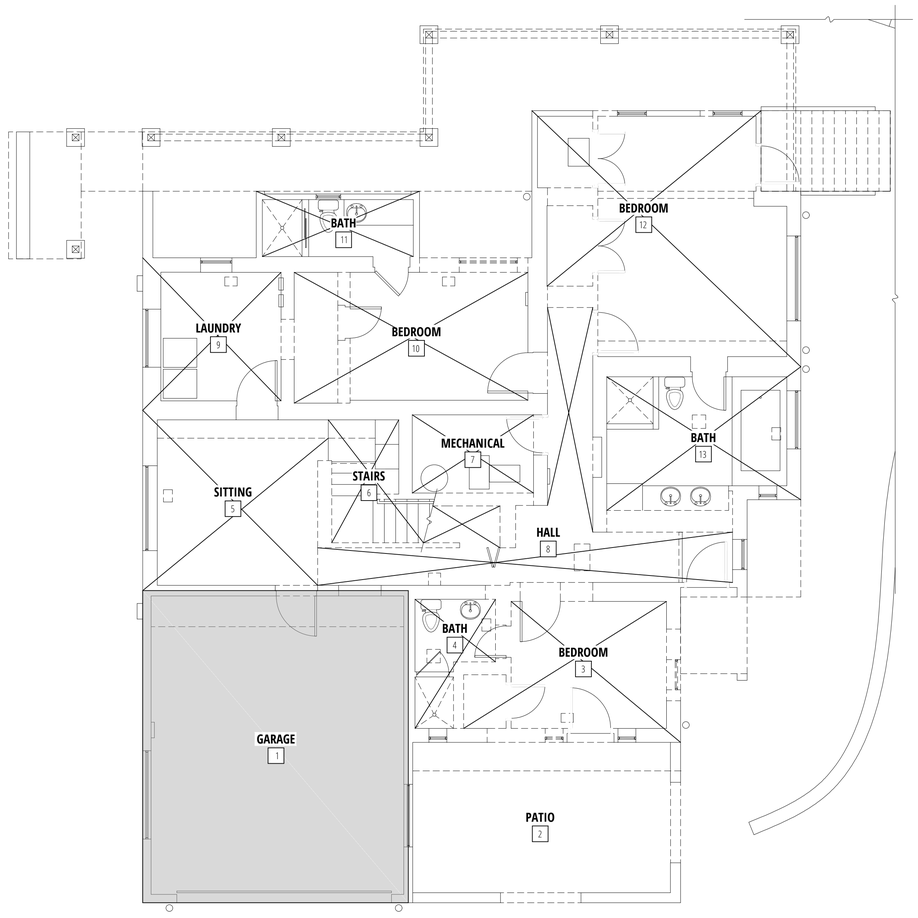
(E) & (P) Impervious Surface

Drawn By: UR Studio

Date: 10/21/2021

A1.4



1 A1.5 EXISTING FAR LOWER FLOOR PLAN

SCALE: 3/16" = 1'-0"

EXTG. BLDG. AREA LOWER FLOOR	
AREA	**FLOOR AREA**
1 GARAGE	460.69 SF
3 BEDROOM	150.42 SF
4 BATH	42.25 SF
5 SITTING	178.18 SF
6 STAIRS	53.90 SF
7 MECHANICAL	186.87 SF
8 HALL	52.73 SF
9 LAUNDRY	117.27 SF
10 BEDROOM	166.89 SF
11 BATH	60.37 SF
12 BEDROOM	335.17 SF
13 BATH	151.62 SF
TOTAL BLDG. AREA	1,956.36 SF

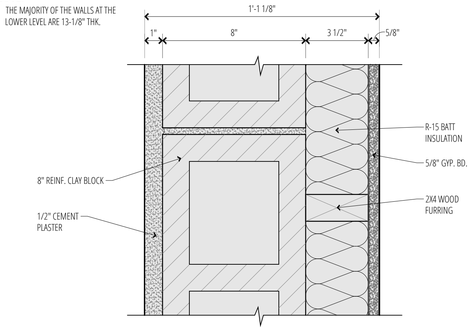
LEGEND

FLOOR AREA COUNTED AS F.A.R.

NOT COUNTED AS F.A.R.

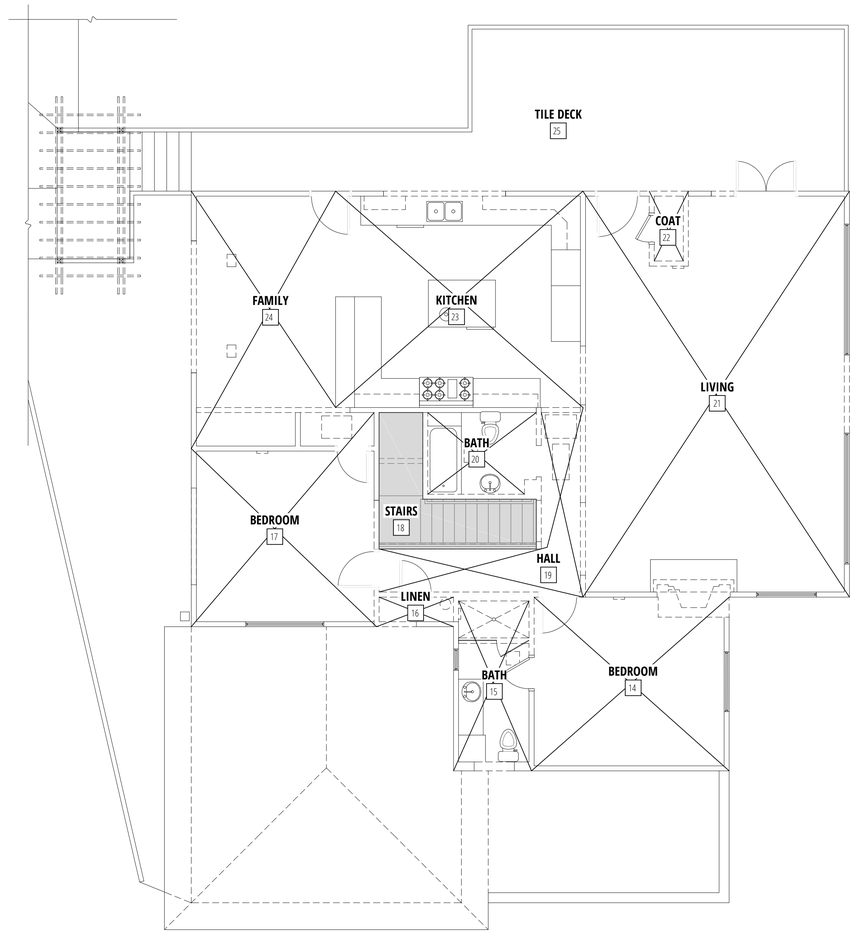
NOTE:

THE MAJORITY OF THE WALLS AT THE LOWER LEVEL ARE 13-1/8" THK.



3 A1.5 (E) LOWER LEVEL EXTERIOR WALLS

SCALE: 3" = 1'-0"



2 A1.5 EXISTING FAR UPPER FLOOR PLAN

SCALE: 3/16" = 1'-0"

EXTG. BLDG. AREA UPPER FLOOR	
AREA	**FLOOR AREA**
14 BEDROOM	190.87 SF
15 BATH	73.59 SF
16 LINEN	12.65 SF
17 BEDROOM	195.64 SF
19 HALL	81.40 SF
20 BATH	46.26 SF
21 LIVING	584.44 SF
22 COAT	16.31 SF
23 KITCHEN	297.50 SF
24 FAMILY	197.14 SF
TOTAL BLDG. AREA	1,695.96 SF

LEGEND

FLOOR AREA COUNTED AS F.A.R.

NOT COUNTED AS F.A.R.

TOTAL EXISTING - BLDG. AREA	
LOWER FLOOR	1,956.36 SF
UPPER FLOOR	1,695.96 SF
TOTAL	3,652.32 SF
GARAGE CREDIT	<460.69> SF
18 STAIRS	<64.43> SF
LOWER LEVEL THICK WALL CREDIT	<114.75> SF
TOTAL FLOOR AREA	3,012.45 SF
LOT SIZE	23,000.00 SF
F.A.R.	**.14**

0 2 4 8 12 20

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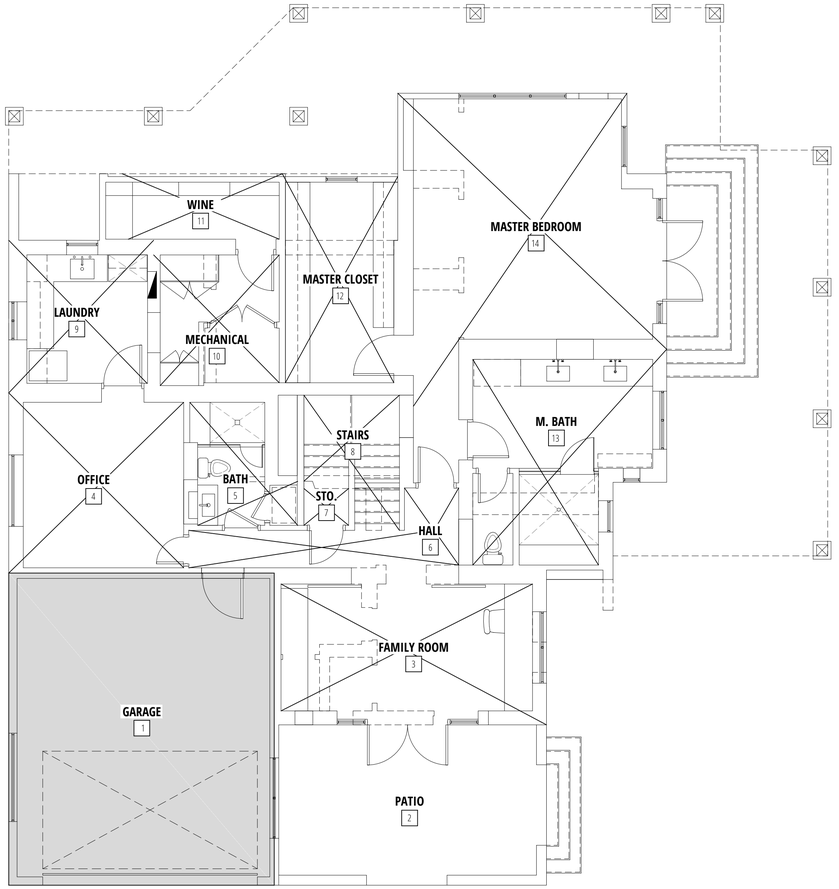
Existing FAR Calculations

Drawn By: UR Studio

Date: 10/21/2021

A1.5



1 A1.6 PROPOSED F.A.R. LOWER PLAN

SCALE: 3/16" = 1'-0"

PROPOSED BLDG. AREA LOWER FLOOR	
AREA	**FLOOR AREA**
1 GARAGE	460.59 SF
3 FAMILY ROOM	213.08 SF
4 OFFICE	175.21 SF
5 BATH	55.64 SF
6 HALL	67.61 SF
7 STORAGE	9.15 SF
8 STAIRS	59.99 SF
9 LAUNDRY	122.87 SF
10 MECHANICAL	96.31 SF
11 WINE	58.17 SF
12 MASTER CLOSET	130.92 SF
13 M. BATH	207.79 SF
14 MASTER BEDROOM	382.76 SF
TOTAL BLDG. AREA	2,040.00 SF

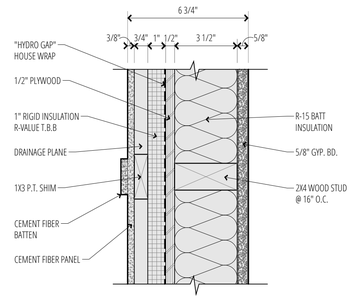
LEGEND

FLOOR AREA COUNTED AS F.A.R.

NOT COUNTED AS F.A.R.

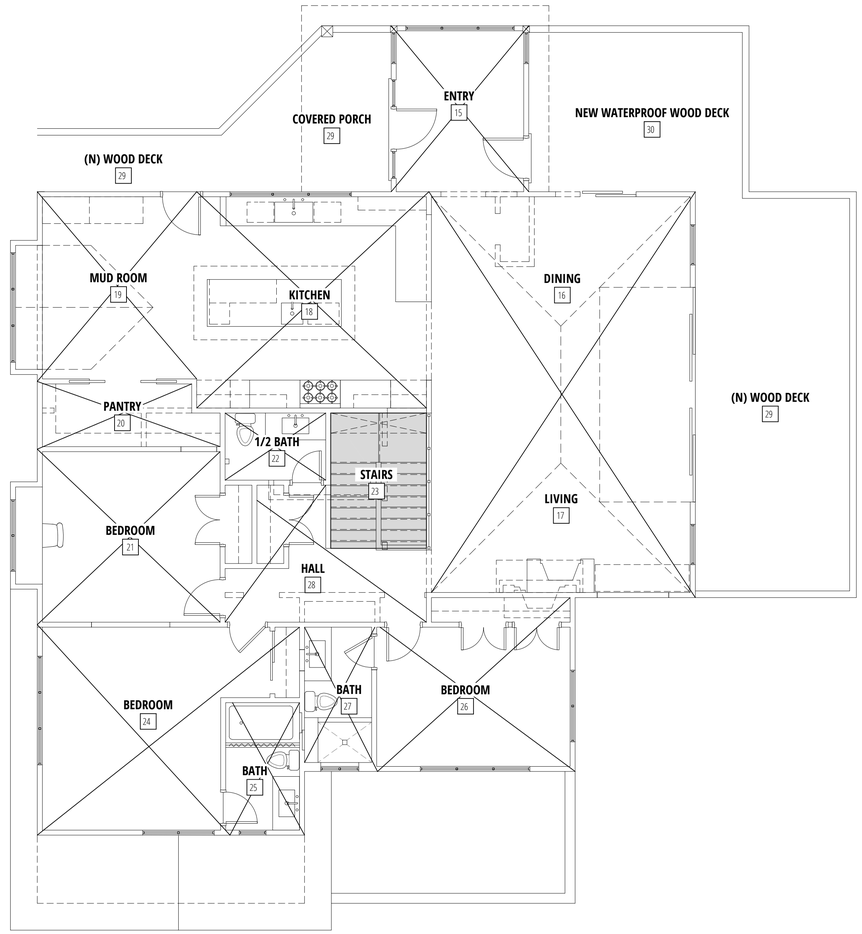
NOTE:

THE MAJORITY OF THE WALLS AT THE LOWER LEVEL ARE 13-1/8" THK.



3 A1.6 RETROFIT (E) EXTERIOR WALLS

SCALE: 3" = 1'-0"



2 A1.6 PROPOSED F.A.R. UPPER PLAN

SCALE: 3/16" = 1'-0"

PROPOSED BLDG. AREA UPPER FLOOR	
AREA	**FLOOR AREA**
15 ENTRY	126.78 SF
16 DINING	297.49 SF
17 LIVING	297.49 SF
18 KITCHEN	276.09 SF
19 MUD ROOM	188.01 SF
20 PANTRY	64.60 SF
21 BEDROOM	194.32 SF
22 1/2 BATH	37.50 SF
23 STAIRS	71.82 SF
24 BEDROOM	255.35 SF
25 BATH	53.08 SF
26 BEDROOM	181.82 SF
27 BATH	58.42 SF
28 HALL	103.16 SF
TOTAL FLOOR AREA	2,205.93 SF

TOTAL PROPOSED - BLDG. AREA	
LOWER FLOOR	2,040.00 SF
UPPER FLOOR	2,205.93 SF
TOTAL	4,245.93 SF
GARAGE CREDIT	<460.69> SF
STAIR	<71.82> SF
LOWER LEVEL THICK WALL CREDIT	<114.75> SF
TOTAL FLOOR AREA	3,598.77 SF
LOT SIZE	23,000.00 SF
F.A.R.	**.16**

LEGEND

FLOOR AREA COUNTED AS F.A.R.

NOT COUNTED AS F.A.R.

0 2 4 8 12 20

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Proposed FAR Calculations

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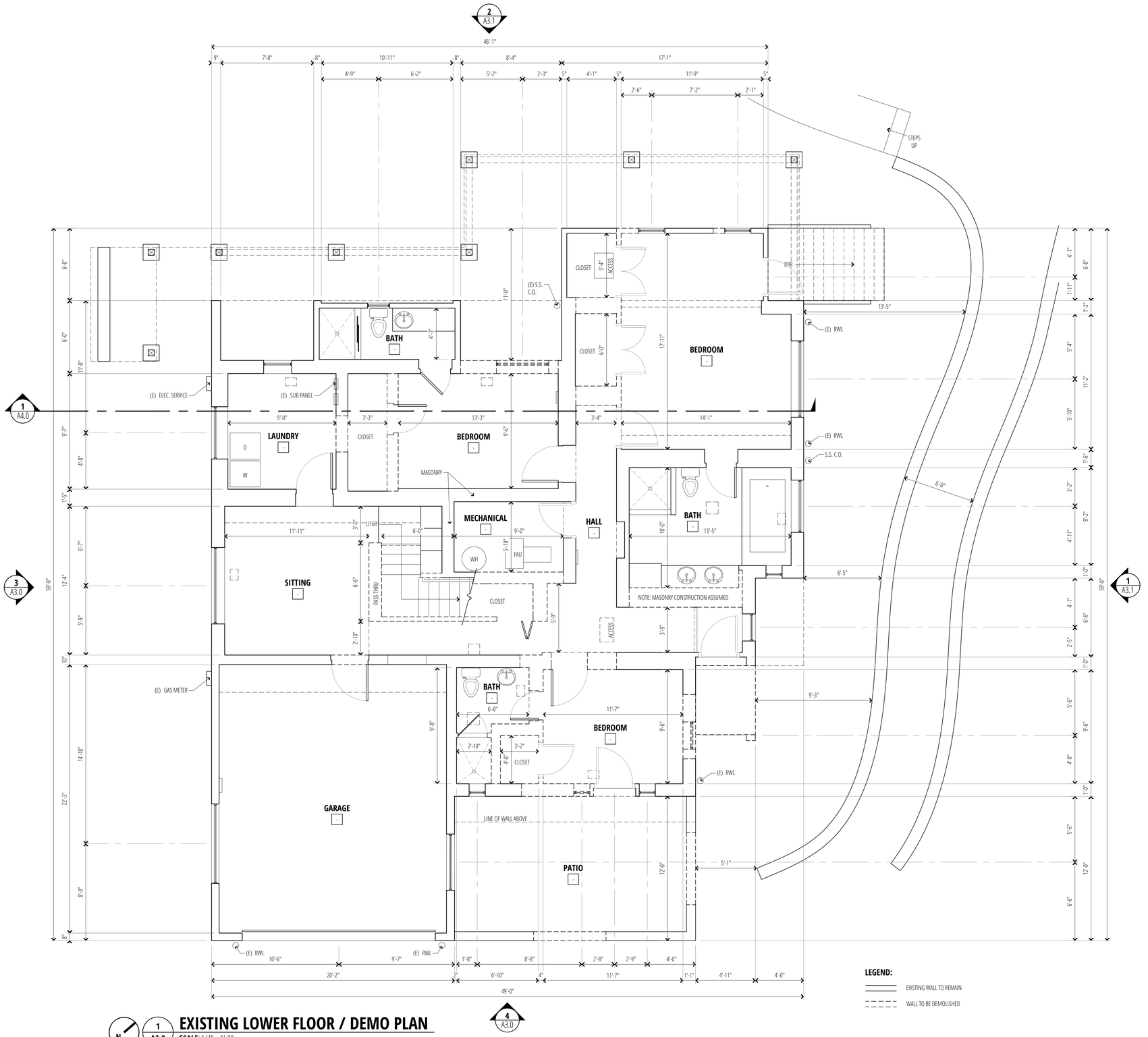
Drawn By: UR Studio

Date: 10/21/2021

A1.6



N

1
A2.0

EXISTING LOWER FLOOR / DEMO PLAN

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

LEGEND:

EXISTING WALL TO REMAIN

WALL TO BE DEMOLISHED

0 2 4 8 12 20

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COPP RESIDENCE

AP# 049-142-10

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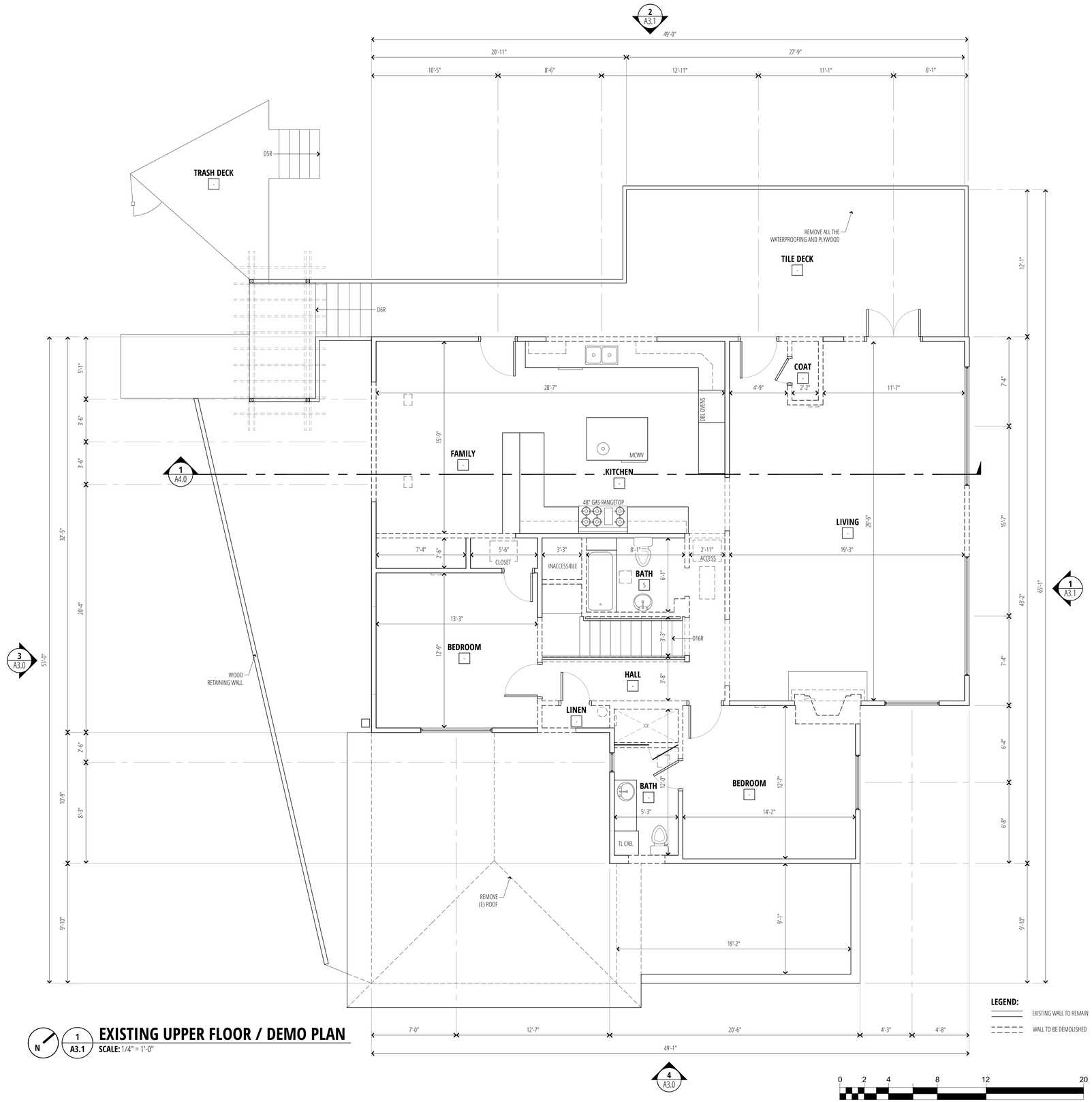
Existing Lower Floor / Demo Plan

Drawn By: UR Studio

Date: 10/21/2021

A2.0



N

1 / A3.1 **EXISTING UPPER FLOOR / DEMO PLAN**

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

LEGEND:

EXISTING WALL TO REMAIN

WALL TO BE DEMOLISHED

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Existing Upper Floor / Demo Plan

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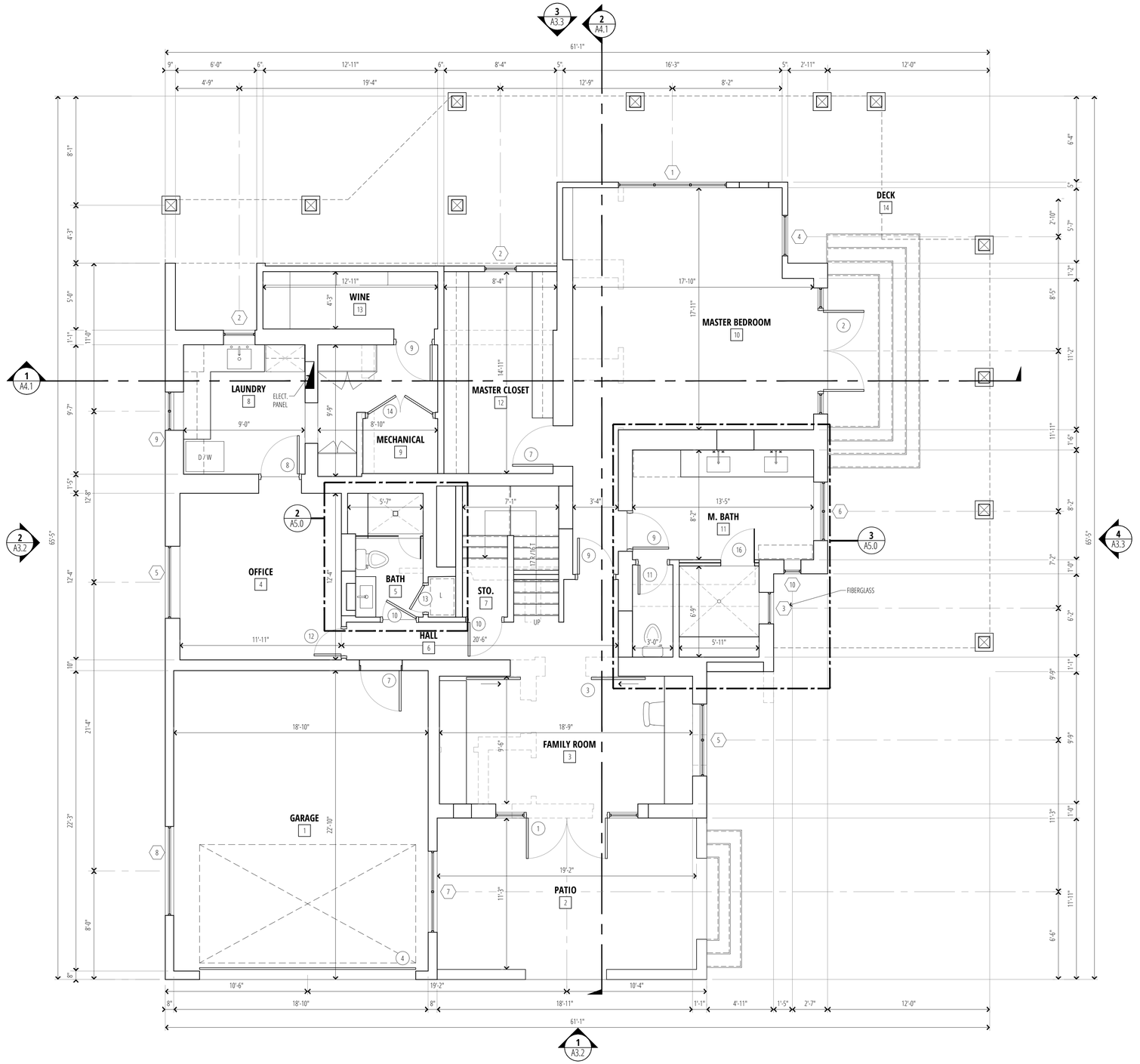
A2.1



N

1 A2.2

PROPOSED LOWER FLOOR PLAN

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

LEGEND:

NEW WALL

EXISTING WALL TO REMAIN

0 2 4 8 12 20

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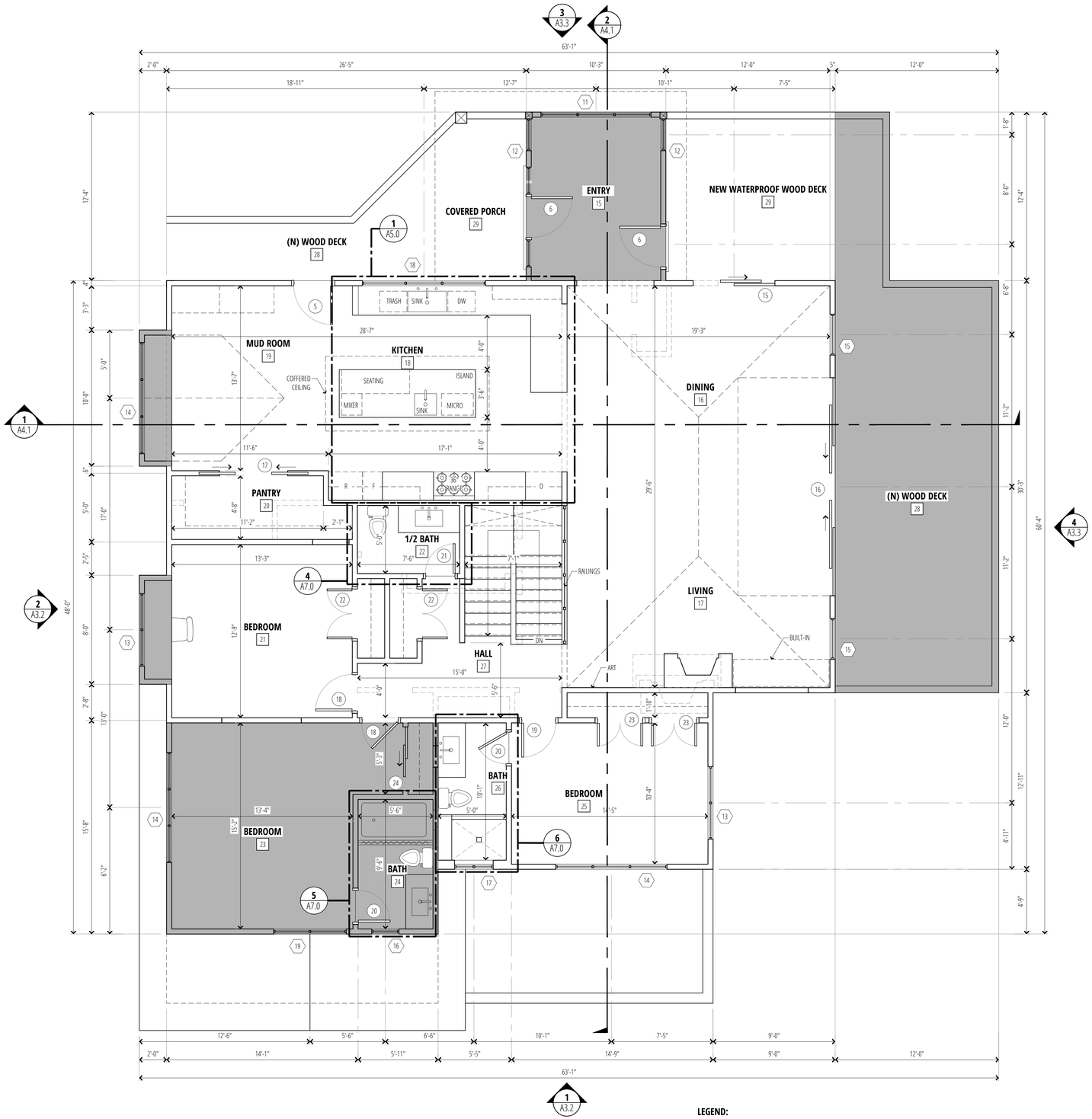
Proposed Lower Floor Plan

Drawn By: UR Studio

Date: 10/21/2021

A2.2



N

1 A2.3 **PROPOSED UPPER FLOOR**

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

LEGEND:

NEW WALL

EXISTING WALL TO REMAIN

0 2 4 8 12 20

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Proposed Upper Floor

Drawn By: UR Studio

Date: 10/21/2021

A2.3

1 EXISTING EAST ELEVATION

A3.0 **SCALE:** 1/4" = 1'-0"

LEGEND:

NEW WINDOWS

2 EXISTING SOUTH ELEVATION

A3.0 **SCALE:** 1/4" = 1'-0"

LEGEND:

NEW WINDOWS

0 2 4 8 12 20

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Existing Exterior Elevations

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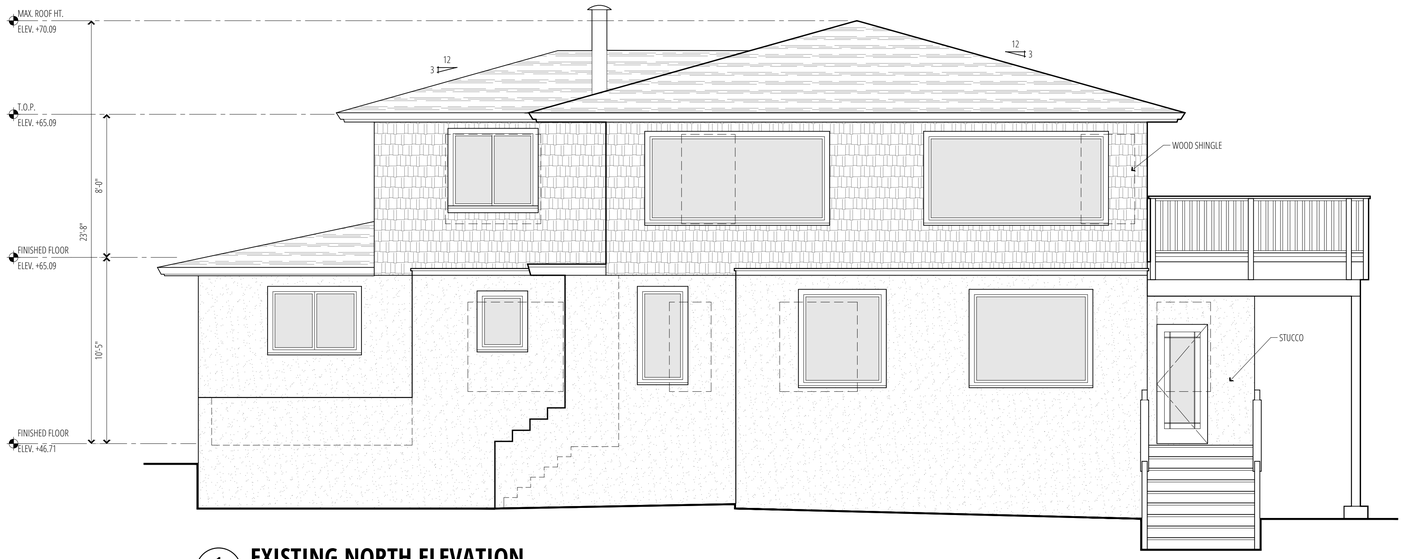
A3.0



1 / A3.1 **EXISTING NORTH ELEVATION**
SCALE: 1/4" = 1'-0"

LEGEND:
NEW WINDOWS

2 / A3.1 **EXISTING WEST ELEVATION**
SCALE: 1/4" = 1'-0"

LEGEND:
NEW WINDOWS

0 2 4 8 12 20

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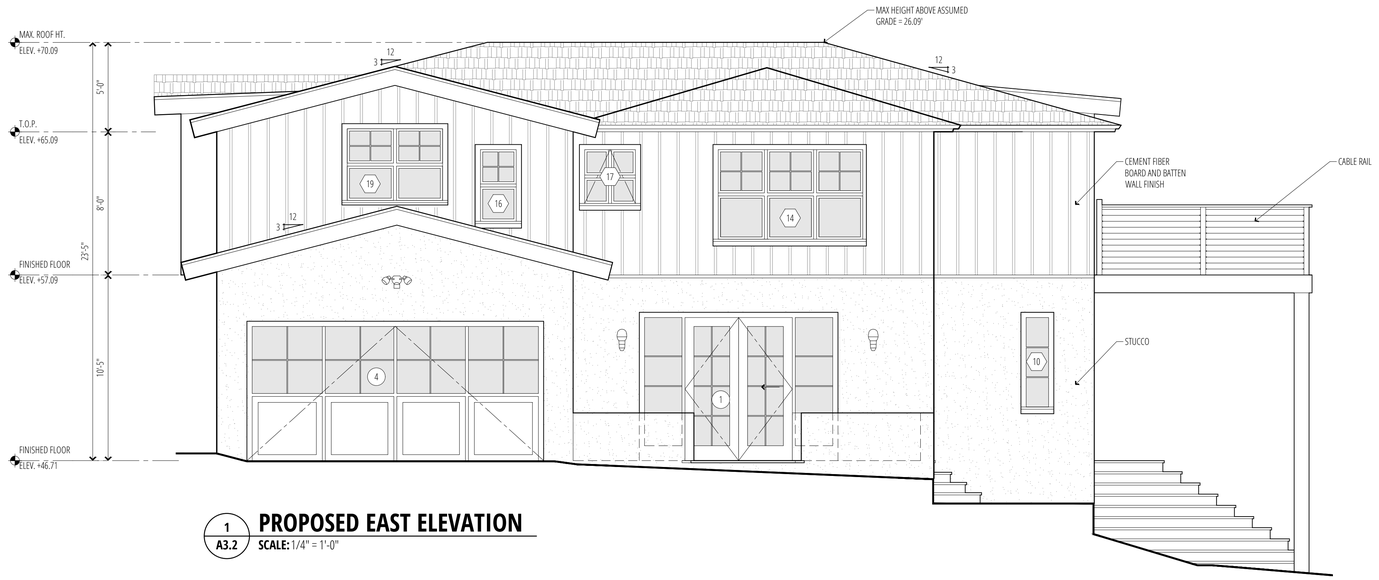
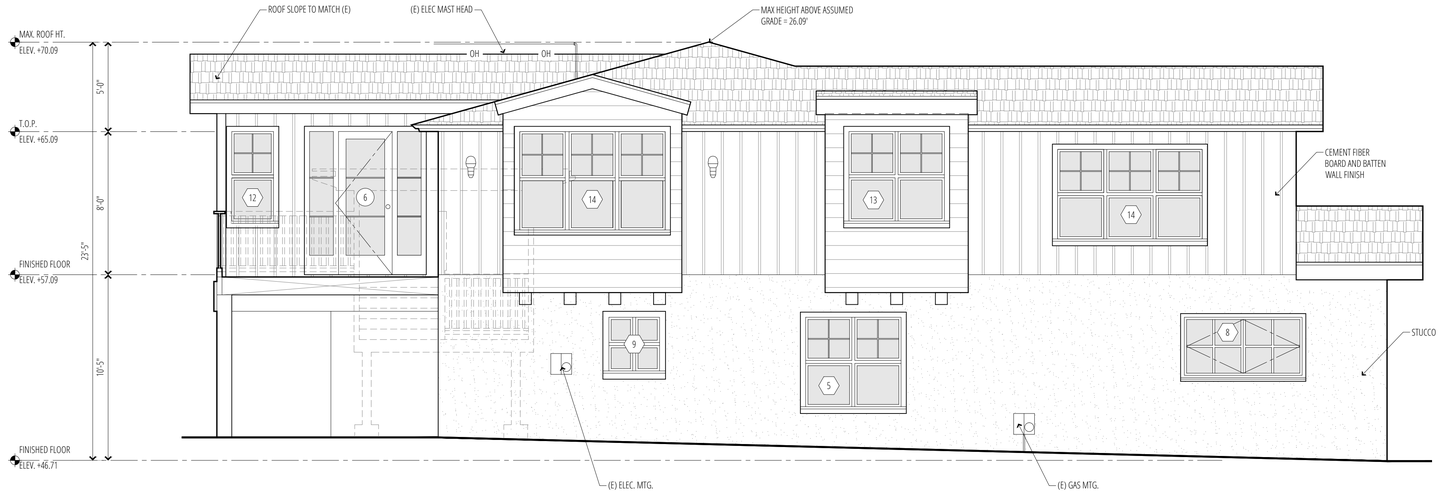
A3.1



1 A3.2 PROPOSED EAST ELEVATION

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



2 A3.2 PROPOSED SOUTH ELEVATION

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

VIEW RAIL SIGNATURE SERIES

GAF TIMBERLINE HDZ REFLECTOR STONE

SIERRA PACIFIC BLACK - 023

SMOOTH STUCCO
BENJAMIN MOORE
ICE MIST 0C-67

JAMES HARDI
BENJAMIN MOORE
ICE MIST OC-67

0 2 4 8 12 20

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Proposed Exterior Elevations

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A3.2

1 A3.3 PROPOSED WEST ELEVATION

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

2 A3.3 PROPOSED NORTH ELEVATION

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

VIEW RAIL SIGNATURE SERIES

GAF TIMBERLINE HDZ REFLECTOR STONE

SIERRA PACIFIC BLACK - 023

SMOOTH STUCCO
BENJAMIN MOORE
ICE MIST OC-67

JAMES HARDI
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Proposed Exterior Elevations

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Date: 10/21/2021

A3.3

1 A4.0 **EXISTING BUILDING SECTION**

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

0 2 4 8 12 20

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AP# 049-142-10

Existing Building Section

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Drawn By: UR Studio

Date: 10/21/2021

A4.0

1 A4.1 **PROPOSED BUILDING SECTION**

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

2 A4.1 **PROPOSED BUILDING SECTION**

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

0 2 4 8 12 20

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Proposed Building Sections

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A4.1

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Context Photos

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A6.0

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Context Photos

Drawn By: UR Studio

Date: 10/21/2021

A6.1