MITIGATED NEGATIVE DECLARATION
Marin County Environmental Review

Pursuant to Section 21000 et. seq. of the Public Resources Code and Marin County Environmental Impact Review Guidelines and Procedures, a Negative Declaration is hereby granted for the following project.

1. Project Name: Dipsea Ranch Land Division

2. Location: 455 Panoramic Highway, Mill Valley/ Assessor's Parcel: 046-161-11

3. Project Summary:

   The applicant is requesting approval to subdivide an existing 8.29-acre lot into 3 single-family residential lots. The new residential lots would range in size as follows:

Proposed Lot Number	Proposed Lot Area
1	2.22
2	0.89
3	5.18

   Residential development currently exists at the property and access to the site is proposed to be provided via the existing entry driveway at 455 Panoramic Highway.

4. Project Sponsor: Dan Weissman

5. Finding:

   Based on the attached Initial Study and without a public hearing, it is my judgment that:

   ☐ The project will not have a significant effect on the environment.

   ☒ The significant effects of the project noted in the Initial Study attached have been mitigated by modifications to the project so that the potential adverse effects are reduced to a point where no significant effects would occur.

Rachel Reid _____ Date: 12/4/19

Rachel Reid
Environmental Planning Manager

Based on the attached Initial Study, a Mitigated Negative Declaration is granted.

_____ Date: _____

Deputy Zoning Administrator

1. Mitigation Measures:

   ☐ No potential adverse impacts were identified; and therefore, no mitigation measures are required.

   ☒ Please refer to mitigation measures in the attached Initial Study.

2. Preparation:

   This Mitigated Negative Declaration was prepared by Dan Sicular, Environmental Consultant on behalf of the Marin County Community Development Agency - Planning Division. Copies may be obtained at the address listed below.

   Marin County Community Development Agency
   Planning Division
   3501 Civic Center Drive, Suite 308
   San Rafael, CA 94903
   (415) 473-6269
   Monday-Thursday, 8:00 a.m. to 4:00 p.m.

MARIN COUNTY COMMUNITY DEVELOPMENT AGENCY

PLANNING DIVISION

INITIAL STUDY

DIPSEA RANCH LAND DIVISION

I. BACKGROUND

A. Project Sponsor's Name and Address: **Daniel Weissman**
455 Panoramic Highway
Mill Valley, CA

B. Lead Agency Name and Address: **Marin County Community Development Agency**
3501 Civic Center Dr., Suite 308
San Rafael, CA 94903

C. Agency Contact: **Sabrina Sihakom, Planner**
(415) 473-3607
ssihakom@marincounty.org

II. PROJECT DESCRIPTION

A. Project Title: **Dipsea Ranch Land Division**

B. Type of Application(s): **Subdivision, Tentative Map, Grading Permit**

C. Project Location: **455 Panoramic Highway, Mill Valley APN # 046-161-11**

D. General Plan Designation: **PR-Planned Residential**

E. Zoning: **RMP 0.5 (Residential, Multiple Planned District - 1 unit per 2 acres)**

F. Description of Project:

INTRODUCTION AND SUMMARY

The Marin County Community Development Agency has received a Land Division application to subdivide an existing 8.29-acre lot, located at 455 Panoramic Highway in unincorporated Mill Valley (the "Project site"), to create 3 single-family residential lots. The Project Applicant (Applicant) is the property owner, Daniel Weissman.

The Project site is currently developed with a 2,745 square foot (sf) single-family residence, a 1,400 sf 4-car garage, and a 480 sf detached accessory building. Several unpaved roads traverse the lower part of the property, including a gated "Fire Road" that provides access from Panoramic Highway. The Applicant proposes to provide access to the new lots via the existing entry driveway at 455 Panoramic Highway, which would be improved and. The Proposed Project (hereinafter "Project"), includes a proposal to install two new on-site sewage disposal systems. Water service to each of the three lots would be provided by the Marin Municipal Water District (MMWD), which currently serves the existing residence. The Project includes the development of a storm water management system that would utilize a system of storm drains, cisterns, and bioswales to control runoff.

The Project also includes the permitting of grading activity and replacement of an existing culvert that took place in March 2014 without the benefit of permits, when a quantity of soil was brought onto the Project site and used as fill to elevate the Fire Road. Marin County Code Section 23.08.025(1) requires a grading permit if artificial movement of earth exceeds 250 cubic yards; the grading of the Fire Road involved approximately 1,200 cubic yards. A notice of violation was posted on the site and the owners were notified to stop all grading work and to stabilize the entire area prior to the start of the rainy season. This work is being analyzed as part of the Project.

The proposed subdivision is a discretionary action, which the Board of Supervisors will have the ultimate authority to approve. The proposal therefore qualifies as a "project" under the California Environmental Quality Act (CEQA). CEQA is a California State law that requires environmental review of certain projects subject to discretionary approval by local or State agencies. Because the subdivision, if approved, would be the first step in enabling development of the two newly-created residential lots where there is currently no residence, the development of the lots is considered a reasonably foreseeable consequence of approval, and therefore a part of the Project. Therefore, the Project, for the purpose of this Initial Study, consists of the proposed subdivision and the future development of the three lots.[1]

This Project Description is based primarily on documents provided by the Applicant, listed in the reference section at the conclusion of the section.

PROJECT LOCATION AND SETTING

The Project site is located at 455 Panoramic Highway (Assessor's Parcel Number 046-161-11), on the southern flank of Mount Tamalpais, in the Muir Woods Park neighborhood (**Figure 1, Location**). The Project site is a roughly boot-shaped lot

[1] Section 14, Population and Housing, considers whether the Project could result in or enable additional development in the area.

within a neighborhood developed primarily with single-family homes. Much of the land, both within the Project site and surrounding area, is steep and heavily wooded (**Figure 2, Topographic Map, Figure 3, Aerial Photo of Project Site, and Figure 4, Photos of Project Site**). At 8.29 acres, the existing lot is much larger than those surrounding it (**Figure 5, Parcel Map**). The northern portion of the Project site, where the existing structures are located, is relatively flat, being the top of a small hill that has been graded. Elevations range from about 950 feet above mean sea level (msl) at the top of the hill, to about 750 feet above msl at the lowest part of the property along its southern boundary. The average slope is 36.76 percent (MarinMap, 2019).[2] Two ephemeral streams, both tributary to Redwood Creek, flow along the western and eastern edges of the Project site and meet just south of the property boundary. The Dipsea Trail, a recreational hiking trail, passes to the south about 350 feet from the property line.

The top of the hill and areas near the existing structures are open and landscaped, while much of the undeveloped part of the property is covered in dense brush and small trees. Native trees include coast redwood, Douglas fir, California Bay, and live oak. Non-native trees include Monterey pine, Monterey cypress, and acacia. The Project site is within the Wildland-Urban Interface (WUI) fire hazard zone (MarinMap, 2019).

The Project site is within the City-Centered Corridor, as defined in the Marin Countywide Plan (CWP). The CWP designates the land use within the Project site as PR-Planned Residential, which has an allowable density of one unit per 1-10 acres. The PR designation is a Rural/Residential land use category established for single-family residential development in areas where public services are limited and on properties where physical hazards and/or natural resources may restrict development. The Project site is not within a Ridge and Upland Greenbelt Area, as designated in the CWP. Portions of the Project site are within CWP-defined Stream Conservation Areas, within which development is restricted.

The zoning for the Project site is RMP 0.5 (Residential, Multiple Planned District - 1 unit per 2 acres). The RMP zoning district is intended for a full range of residential development types within the unincorporated urban areas of the County, including single-family, two-family dwellings, multi-family residential development, and limited commercial uses in suburban settings, along with similar and related compatible uses, where site or neighborhood characteristics require particular attention to design detail provided through a discretionary planning process, such as a Master Plan, Design Review, etc.

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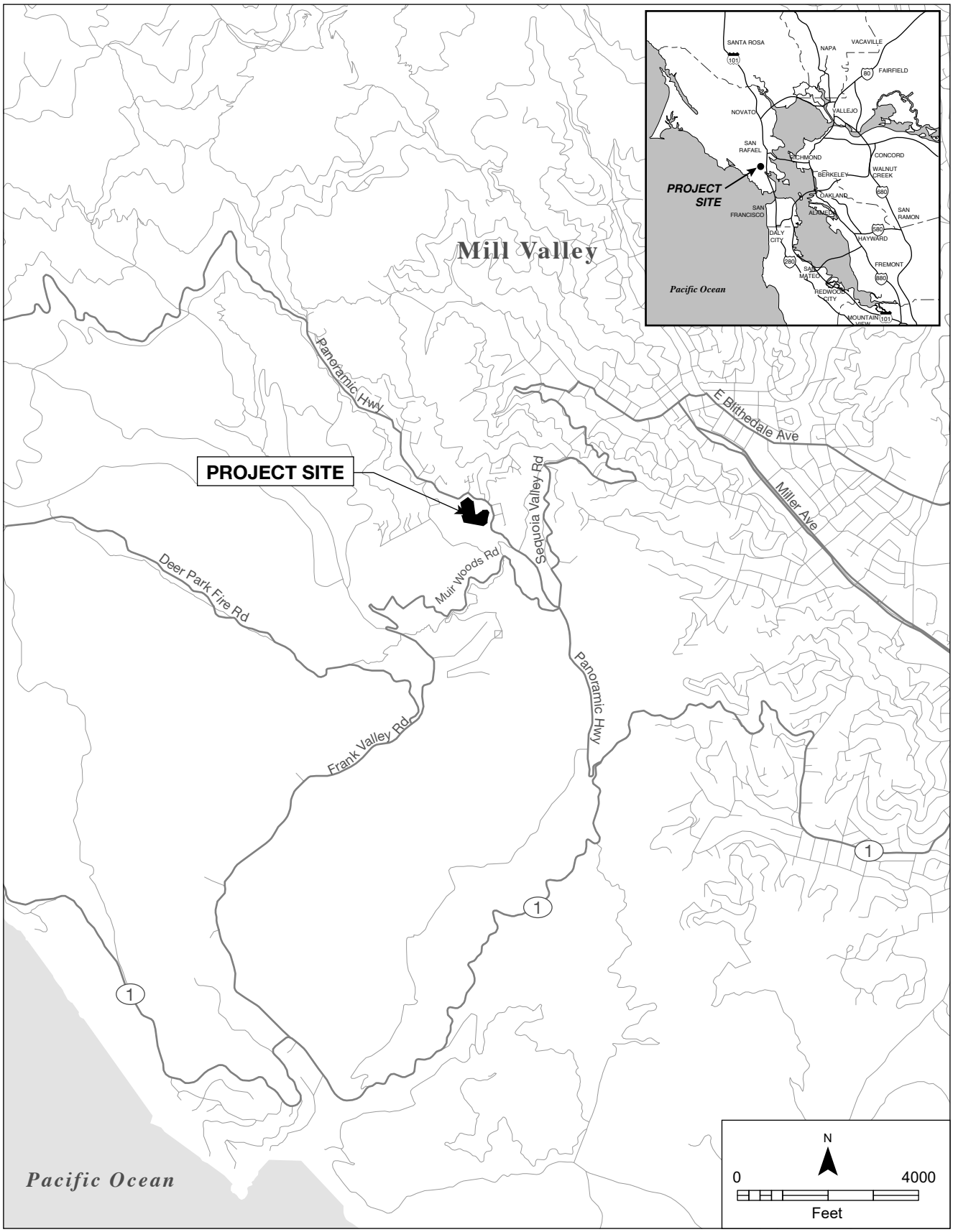
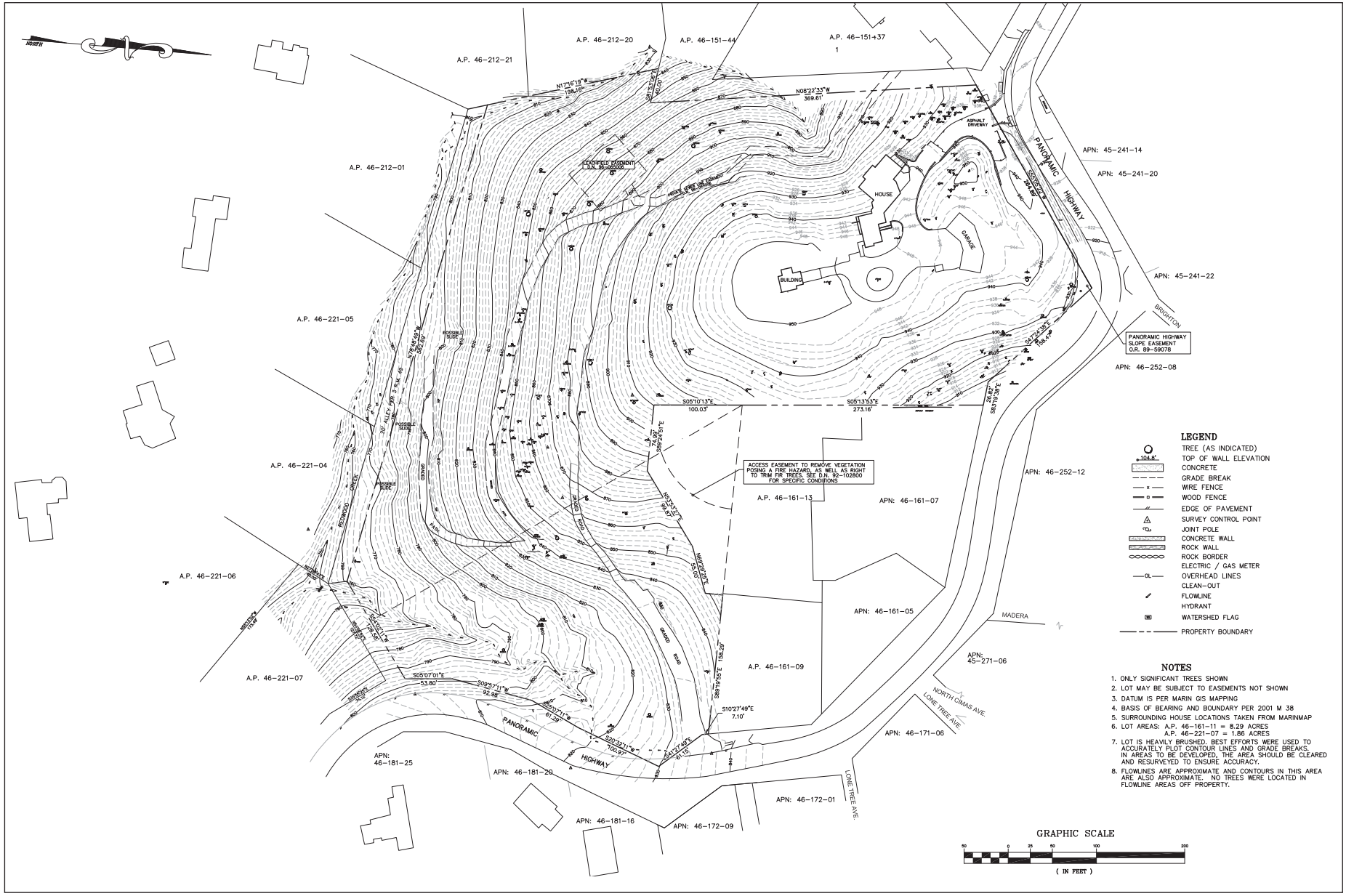
[2] Percent slope is calculated as rise/run x 100. With this nomenclature, a flat surface is 0 percent and a 1:1 slope (1 foot rise per 1 foot horizontal run) is 100 percent. The average slope of the Project site, 36.75 percent, corresponds to about 21 degrees tangential to the horizontal.



SOURCE: Marin County GIS Data Base

Figure 1
Project Location



SOURCE: Ziegler Civil Engineering

Figure 2
Project Site – Topographic Map

SOURCE: Marin Map; Base Map - Google Earth

Figure 3
Aerial Photo of Project Site

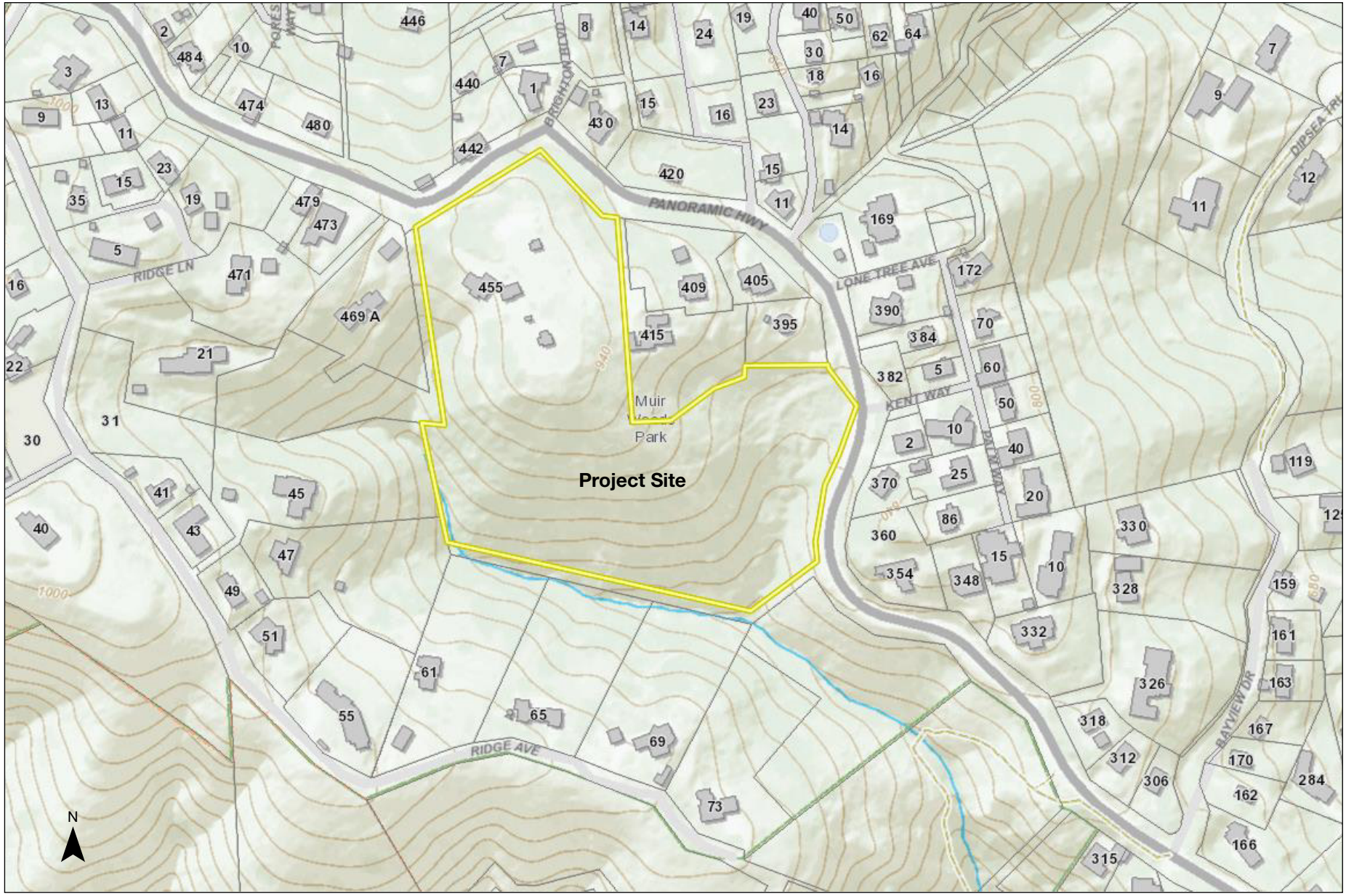
Existing Driveway and Residence

Existing Outbuilding and Garage

Project Site Looking North
toward Top of Hill

SOURCE: Sicular Environmental Consulting

Figure 4
Photos of Project Site



SOURCE: Marin Map

Figure 5
Parcel Map

The Project site is also subject to the Tamalpais Area Community Plan (Tam Plan), a community plan adopted by Marin County Board of Supervisors in 1992 that governs development within the plan area. The Tamalpais Planning Area totals an estimated 2,345 acres and is bounded on the south and west by the undeveloped ridges of the Golden Gate National Recreation Area, on the north by the City of Mill Valley, and on the east by Richardson Bay, specifically, the Bothin Marsh. The Tam Plan contains goals, policies, and special development standards specific to the plan area. These standards are also contained in Marin County Code §22.30.060. The Tam Plan restricts the allowable size of residential development on hillside lots, such as the Project Site, based on the area of the property. Restrictions include total floor area and the floor area ratio (**Table 1**).

LAND DIVISION

The Project site currently consists of one legal lot of record. Approval of the Project would divide the existing lot into three lots, ranging in size from just under one acre to just over five acres, as shown in Table 1.

Table 1: Proposed Lots

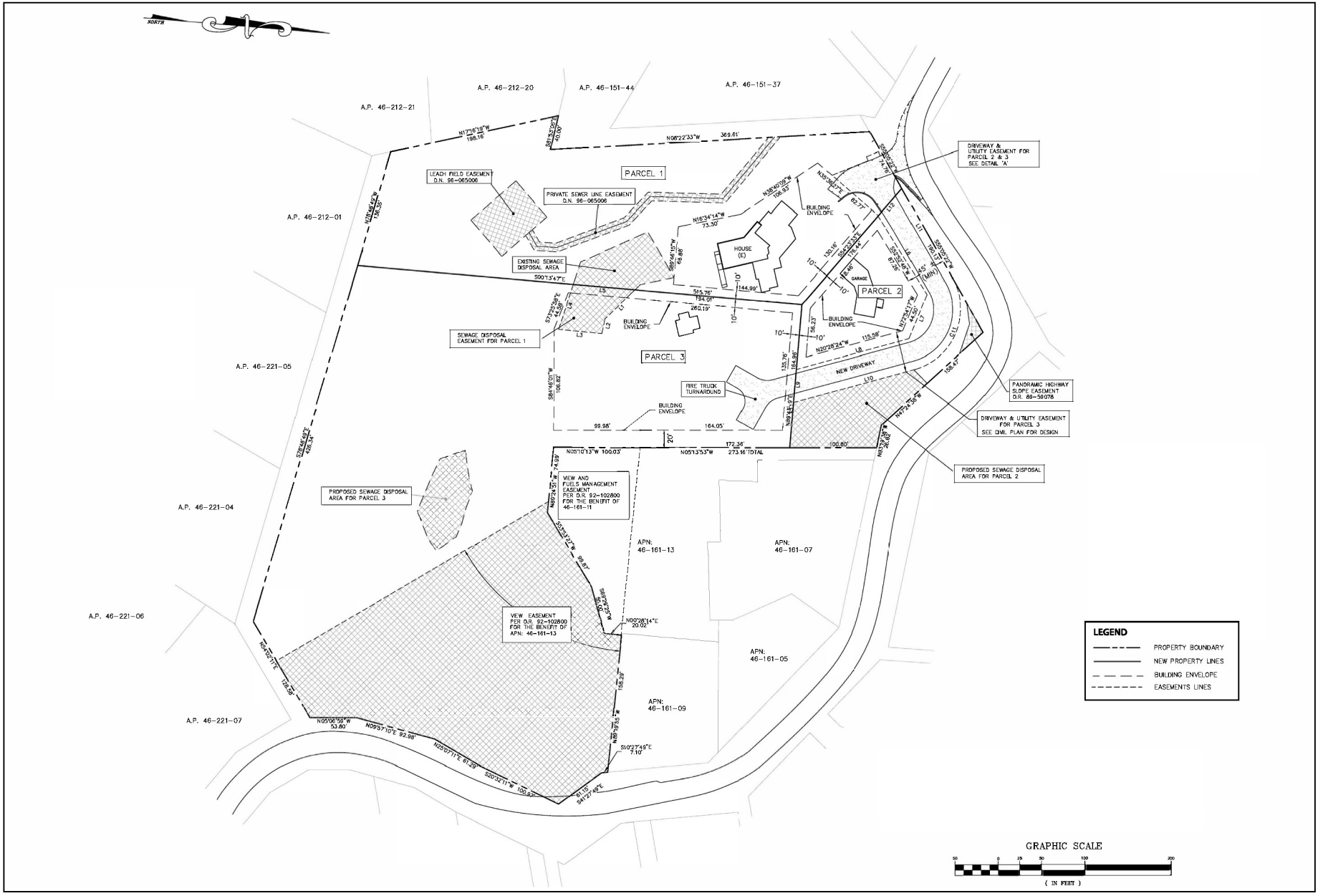
Proposed Lot Number	Proposed Lot Area (acres)	Proposed Building Envelope Area (square feet)	Estimated maximum allowable building floor area (square feet)	Maximum Floor Area Ratio Per Tam Plan
1	2.22	20,228	7,000	0.08
2	0.89	10,397	4,250	0.12
3	5.18	33,826	7,000	0.08

The proposed Tentative Parcel Map, which shows the proposed land division, is shown in **Figure 6**, **Proposed Land Division**. The existing house is within proposed lot 1; the existing garage is within proposed lot 2; and the existing outbuilding is within proposed lot 3. For the purpose of this Initial Study, it is assumed that, if the Project is approved, the existing residence would remain in newly created lot 1, and that new residences would be built on newly-created lots 2 and 3.

FUTURE DEVELOPMENT OF THE NEWLY-CREATED LOTS

The proposed Land Division Map (Figure 6) shows the “building envelopes” within which residences could be built. The sizes of the building envelopes are shown in Table 1. If the Project is approved, no construction could occur outside of these building envelopes without a new application and approval to alter the Tentative Parcel Map. Therefore, this Initial Study assumes that future residential development following Project approval, if such approval is forthcoming, would be within the mapped building envelopes.

Within the RMP zoning district, development of one single family dwelling and one accessory dwelling unit (ADU) on each lot would be principally permitted. Pursuant to Marin County Code §22.42.020, the development of a new single-family residence in the RMP zoning district requires Design Review. The RMP zoning establishes



SOURCE: Ziegler Civil Engineering

Figure 6
Proposed Land Division

height limits of 30 feet above surrounding grade for the primary dwelling and 15 feet for an ADU. A future Design Review process would review the proposed building size, setbacks, floor area ratio (FAR),[3] building height, and other specifications for future development. The Applicant's plans estimate that maximum building size for each lot would be 7,000 square feet (Zeigler Civil Engineering, 2018a), but this figure is a preliminary estimate.

Access

The Project includes improvement of the existing access for the Project site. The existing residence is accessed via a paved, gated driveway from Panoramic Highway. The Project would modify the intersection of the driveway and Panoramic Highway to improve visibility for drivers exiting the property, and to provide more space for turning movements for large vehicles (Ziegler Civil Engineering, 2018a, TJKM, 2018). This would include increasing the width of shoulders on Panoramic Highway on either side of the driveway to provide adequate "taper" for vehicles entering and exiting the driveway. A stop sign would be placed at the exit. Because Panoramic Highway is County-maintained, an encroachment permit would be required for all improvements within the right-of-way.

A new branch of the existing driveway would be developed to provide vehicle access to lots 2 and 3. The new driveway segment would end in a "hammerhead" to allow fire trucks and other large vehicles to turn around (Figure 6).

Utilities

Marin Municipal Water District provides potable water to the existing residence, and would provide water to the newly created lots. The Project site and surrounding parcels are not currently served by a municipal sewer system. The existing residence has an on-site sewage disposal (i.e., septic) system, that would be retained. The Project includes development of new on-site sewage disposal systems for lots 2 and 3 (Questa Engineering, 2018). The location of the proposed leach fields is shown in Figure 6. Electrical service to the Project site is and would continue to be provided by Pacific Gas and Electric Company (PG&E). The Project includes extension of water and electrical lines to each parcel.

Stormwater Controls

Because the Project would exceed 5,000 square feet of impervious surface and is part of a larger plan of development, it would be considered a "Regulated Project" per the Bay Area Stormwater Management Agencies Association (BASMAA) manual (BASMAA, 2014). Regulated projects are required to meet a higher standard of stormwater control. The Project includes a proposed stormwater management system that is intended to comply with the requirements for a Regulated Project (Ziegler Civil Engineering, 2018b, 2018c). The proposed stormwater management system includes a series of drains, bioswales, conveyance channels, and cisterns to control an anticipated increase in stormwater runoff from the increase in impervious areas, including paved and built areas. The proposed system is designed

[3] FAR is the ratio of floor area of a structure to the area of the lot on which it is situated.

to result in no increase in peak runoff associated with the predicted 100-year storm event.

Grading

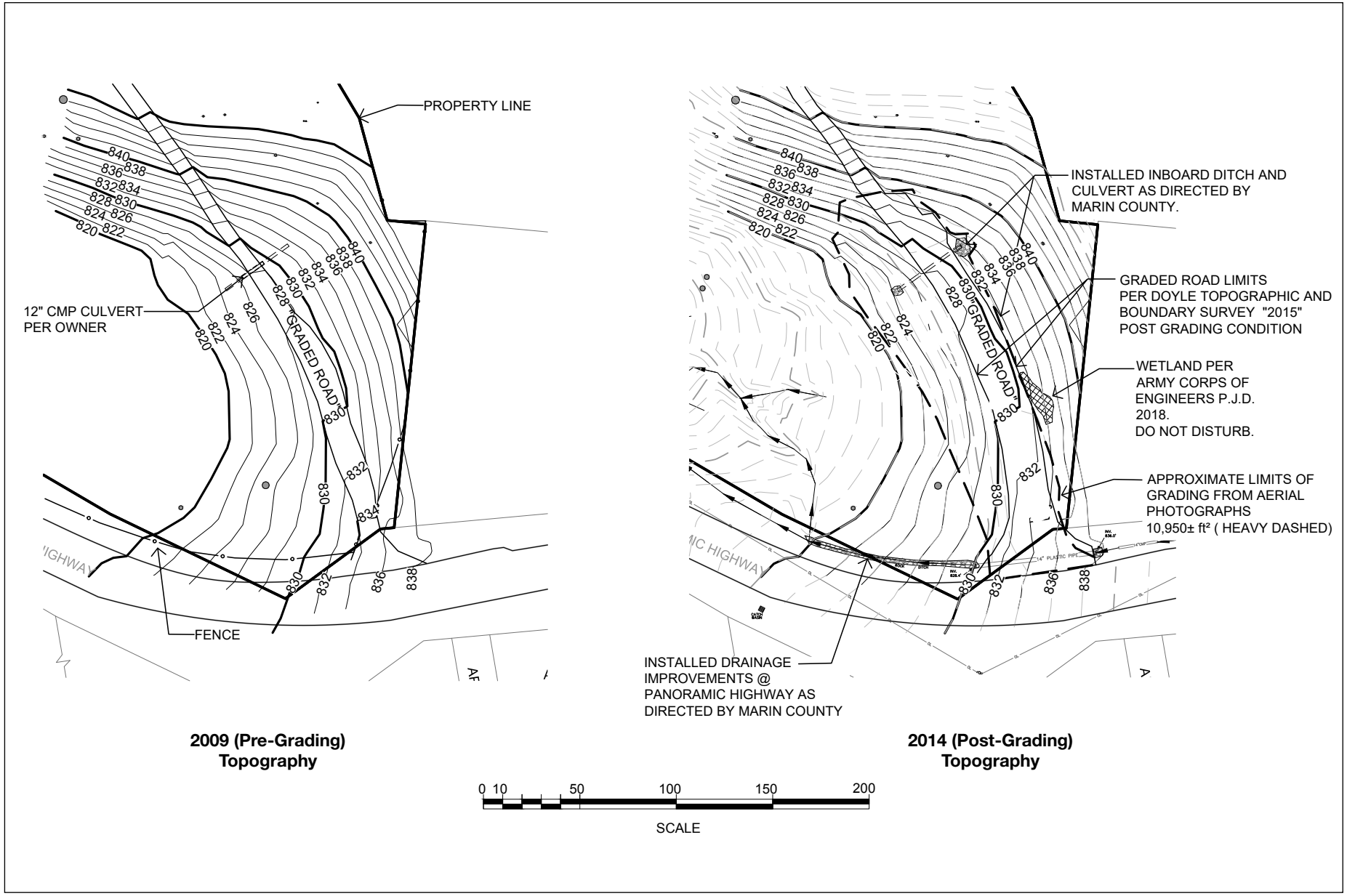
The Project proposes new grading, including grading of the entrance to the Project site, new driveway segment, stormwater management system elements, extension of underground utilities, and on-site sewage disposal systems. The Grading Plan estimates earthwork to be a total of 1,709 cubic yards of cut and 1,565 cubic yards of fill (Ziegler Civil Engineering, 2018a). The difference (about 140 cubic yards) would be stockpiled on-site or hauled off-site and disposed. The Grading Plan does not include grading of building pads or other grading that may be required for development of proposed lots 2 and 3.

Grading of the Fire Road

The Fire Road provides access to the lower part of the Project site via a gated entrance from Panoramic Highway. In 2014, the Applicant improved a section of the Fire Road near the gate, in order to improve access for vegetation management and firefighting crews. The Applicant discussed the planned work with the Marin County Fire Department, but the Fire Department was not involved in the execution of the work (neither does the Fire Department have permitting authority for this work).

The work involved the replacement of an existing culvert located under the Fire Road intended to drain the area upslope and placement of fill to raise and broaden the roadway. Based on a comparison of topographic surveys performed in 2009 before the work was undertaken, and 2014 after the work was completed, earthwork involved about 1,200 cubic yards of fill, as shown in **Figure 7, Fire Road Grading**. Following imposition of a Notice of Violation from the Marin County Department of Public Works (DPW) for undertaking the work without a grading permit, erosion control features, including straw mulch and netting, were installed by the property owner (**Figure 8, Photos of Fire Road Grading**). Since then, the Applicant has maintained the road for vegetation management and firefighting access, should the Fire Department wish to use it during an emergency.

CEQA analysis typically uses current conditions – that is, the existing physical environment as it existed at the time that the environmental analysis is initiated – as the baseline against which to measure a project's impacts. Changes that occurred before environmental review commenced, even if they were not permitted, are generally not considered a part of the baseline. For this Initial Study, however, the County has chosen to consider the impacts of the Fire Road grading. In each topical section, the analysis first considers the Project's impacts without Fire Road grading, then considers whether impacts of the Fire Road grading would change the significance conclusions. The consideration of Fire Road grading includes both impacts during construction, and ongoing impacts.



SOURCE: Ziegler Civil Engineering

Figure 7
Fire Road Grading

Before Grading

After Grading

Culvert Outlet

Current Condition

SOURCE: Daniel Weissman/Sicular Environental Consulting

Figure 8
Photos of Fire Road Grading

Protection for Sensitive Resources

The Project site drains to ephemeral streams that are tributary to Redwood Creek. In its lower reaches, Redwood Creek supports coho salmon, an endangered species, and steelhead trout, a threatened species. The ephemeral streams on the Project site themselves contain sensitive aquatic habitat and are bordered with riparian vegetation (LSA Associates, 2015, 2017, and 2018). The Project includes several features intended to protect these sensitive resources, including establishment of setbacks from streambanks and edge of riparian vegetation; protection of most of the native trees growing on the Project site; and the aforementioned proposed stormwater management system. The Applicant has also conducted geotechnical studies to address landsliding and other site conditions that could affect the ability to develop the proposed new lots (Herzog Consulting Geotechnical Engineers, 2013, 2018).

With regard to tree removal, the Applicant's Arborist Report (Urban Forestry Associates, 2018) indicates that the Project would result in the removal of 3 non-native trees, none of which qualifies as "protected" per Marin County Code §22.27 - Native Tree Protection and Preservation.

REQUIRED APPROVALS

Approvals required for the Project and the agency responsible for each approval include the following:

- Approval of Land Division and Tentative Map (Marin County Zoning Administrator);
- Grading Permit (Marin County DPWt); Septic Permits (Marin County Environmental Health Services [EHS] Division);
- Tree Removal Permit (Marin County Community Development Agency);
- Encroachment permit for driveway improvements within the Panoramic Highway right-of-way (Marin County DPW).
- Vegetation Management Plan for each parcel to comply with Fire Protection Standard 220 (Marin County Fire Department)

In addition, if the Project is approved, site development could only occur following approval of a Design Review, and issuance of building permits.

REFERENCES

Bay Area Stormwater Management Agencies Association (BASMAA), 2014. BASMAA Post-Construction Manual. Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties.

Herzog Geotechnical Consulting Engineers, 2013. Preliminary Geotechnical Investigation, 455 Panoramic Highway. November 3, 2013.

Herzog Geotechnical Consulting Engineers, 2018. Preliminary Geotechnical Investigation, 455 Panoramic Highway - Report Update. May 1, 2018.

LSA Associates, 2015. Reconnaissance-Level Biological Assessment. October 9, 2015.

LSA Associates, 2017. Results of Stream Conservation Area Assessment. October 4, 2017.

LSA Associates, 2018. Request for Verification of a Preliminary Jurisdictional Delineation. January 3, 2018. Prepared for U.S. Army Corps of Engineers, North Branch.

MarinMap, 2019. MarinMap Site Parcel Report, Property ID: 046-161-11. Report generated March 28, 2019. www.marinmap.org

Questa Engineering, 2018. On-site Sewage Disposal Report for a Minor Subdivision (Dipsea Ranch Tentative Map). January 8, 2018.

TJKM, 2018. Traffic Impact Study for Residential Development located at 455 Panoramic Highway, Marin County, California. November 9, 2018

Urban Forestry Associates, 2018. Arborist Report for Dipsea Ranch Master Plan. Report dated January 2, 2018.

Ziegler Civil Engineering, 2018a. Dipsea Ranch Land Division Plan Set. Revised December 20, 2018.

Ziegler Civil Engineering, 2018b. Conceptual Stormwater Control Plan for a Regulated Project: Dipsea Ranch Tentative Map, Supplemental Merit Comments Submittal. December 14, 2018.

Ziegler Civil Engineering, 2018c. Hydrology and Land Use Report, Dipsea Ranch Tentative Map. Revised September 3, 2018.

III. CIRCULATION AND REVIEW

This Initial Study/Mitigated Negative Declaration is being circulated for a 30-day review and comment period pursuant to the State CEQA Guidelines Section 15073. It is being circulated to all agencies that have jurisdiction over the subject property or the natural resources affected by the Project and to consultants, community groups, and interested parties to attest to the completeness and adequacy of the information contained in the Initial Study as it relates to the concerns which are germane to the agency's or organization's jurisdictional authority or to the interested parties' issues.

Marin County Agencies:

- Marin County Department of Public Works (DPW)
- Marin County Community Development Agency, Environmental Health Services (EHS) Division
- Marin County Fire Department

Trustee and Responsible Agencies:

- National Marine Fisheries Services
- US Fish and Wildlife Service
- US Army Corp of Engineers
- California Department of Fish and Wildlife
- California Regional Water Quality Control Board

IV. EVALUATION OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to Section 15063 of the State CEQA Guidelines, and the County EIR Guidelines, Marin County will prepare an Initial Study for all projects not categorically exempt from the requirements of CEQA. The Initial Study evaluation is a preliminary analysis of a project which provides the County with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or Negative Declaration. The points enumerated below describe the primary procedural steps undertaken by the County in completing an Initial Study checklist evaluation and, in particular, the manner in which significant environmental effects of the project are made and recorded.

A. The determination of significant environmental effect is to be based on substantial evidence contained in the administrative record. As a procedural device for reducing the size of the Initial Study document, relevant information sources cited and discussed in topical sections of the checklist evaluation are incorporated by reference into the checklist (e.g. general plans, zoning ordinances). Other sources used or individuals contacted are also cited in the discussion of topical issues where appropriate. Documents incorporated by reference are listed at the end of the Initial Study.

B. In general, a Negative Declaration shall be prepared for a project subject to CEQA when either the Initial Study demonstrates that there is no substantial evidence that the project may have one or more significant effects on the environment. A Negative Declaration shall also be prepared if the Initial Study identifies potentially significant effects, but revisions to the project made by or agreed to by the applicant prior to release of the Negative Declaration for public review would avoid or reduce such effects to a level of less than significance, and there is no substantial evidence before the Lead County Department that the project as revised will have a significant effect on the environment. A signature block is provided in Section VII of this Initial Study to verify that the project sponsor has agreed to incorporate mitigation measures into the project in conformance with this requirement.

C. All answers to the topical questions must take into account the whole of the action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts. Significant unavoidable cumulative impacts shall be identified in Section 21 of the Initial Study checklist (Mandatory Findings of Significance).

D. A brief explanation shall be given for all answers except "Not Applicable" answers that are adequately supported by the information sources the District cites in the parenthesis following each question. A "Not Applicable" answer is

adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "Not Applicable" answer shall be discussed where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

E. "Less Than Significant Impact" is appropriate if an effect is found to be less than significant based on the project as proposed and without the incorporation of mitigation measures recommended in the Initial Study.

F. "Potentially Significant Unless Mitigated" applies where the incorporation of recommended mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The Lead County Department must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section IV, "Earlier Analyses", may be cross-referenced).

G. "Significant Impact" is appropriate if an effect is significant or potentially significant, or if the Lead County Department lacks information to make a finding that the effect is less than significant. If there are one or more effects which have been determined to be significant and unavoidable, an EIR shall be required for the project.

H. The answers in this checklist have also considered the current State California Environmental Quality Act Guidelines and Appendix G contained in those Guidelines.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a “potentially significant impact” as indicated by the checklist on the following pages.

- ☐ Aesthetics
- ☒ Air Quality
- ☐ Cultural Resources
- ☐ Geology and Soils
- ☐ Hazards and Hazardous Materials
- ☐ Land Use and Planning
- ☒ Noise
- ☐ Public Services
- ☐ Transportation
- ☐ Utilities and Service Systems
- ☐ Mandatory Findings of Significance
- ☐ Agriculture and Forestry Resources
- ☒ Biological Resources
- ☐ Energy
- ☐ Greenhouse Gas Emissions
- ☐ Hydrology and Water Quality
- ☐ Mineral Resources
- ☐ Population and Housing
- ☐ Recreation
- ☐ Tribal Cultural Resources
- ☐ Wildfire

Environmental Impact Checklist

1. Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

a) Have a substantial adverse effect on a scenic vista?

c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Scenic vistas are singular vantage points that offer unobstructed views of valued viewsheds, including areas designated as official scenic vistas along major highways or designated visual resources. The Marin Countywide Plan (CWP) primarily provides for the protection of scenic resources through the use of the Ridge and Upland Greenbelt

(RUG) designation. The Tamalpais Community Plan (Tam Plan) also identifies undeveloped ridges and upland greenbelts as important scenic resources. The CWP both maps designated RUG areas and includes policies that restrict development near or on these ridgelines, requiring development to be located in the least visually prominent areas possible. **Figure 1-1** shows designated RUG areas in proximity to the Project site. While there is designated RUG adjacent to the Project site to the south, the Project site itself is not designated as RUG. The Project site is located along a ridgeline; however, it is not protected by policies contained in the CWP. As discussed below, the Project would not block public views of RUG areas or other scenic vistas. Therefore, the Project would not adversely affect scenic vistas that include any designated RUG areas.

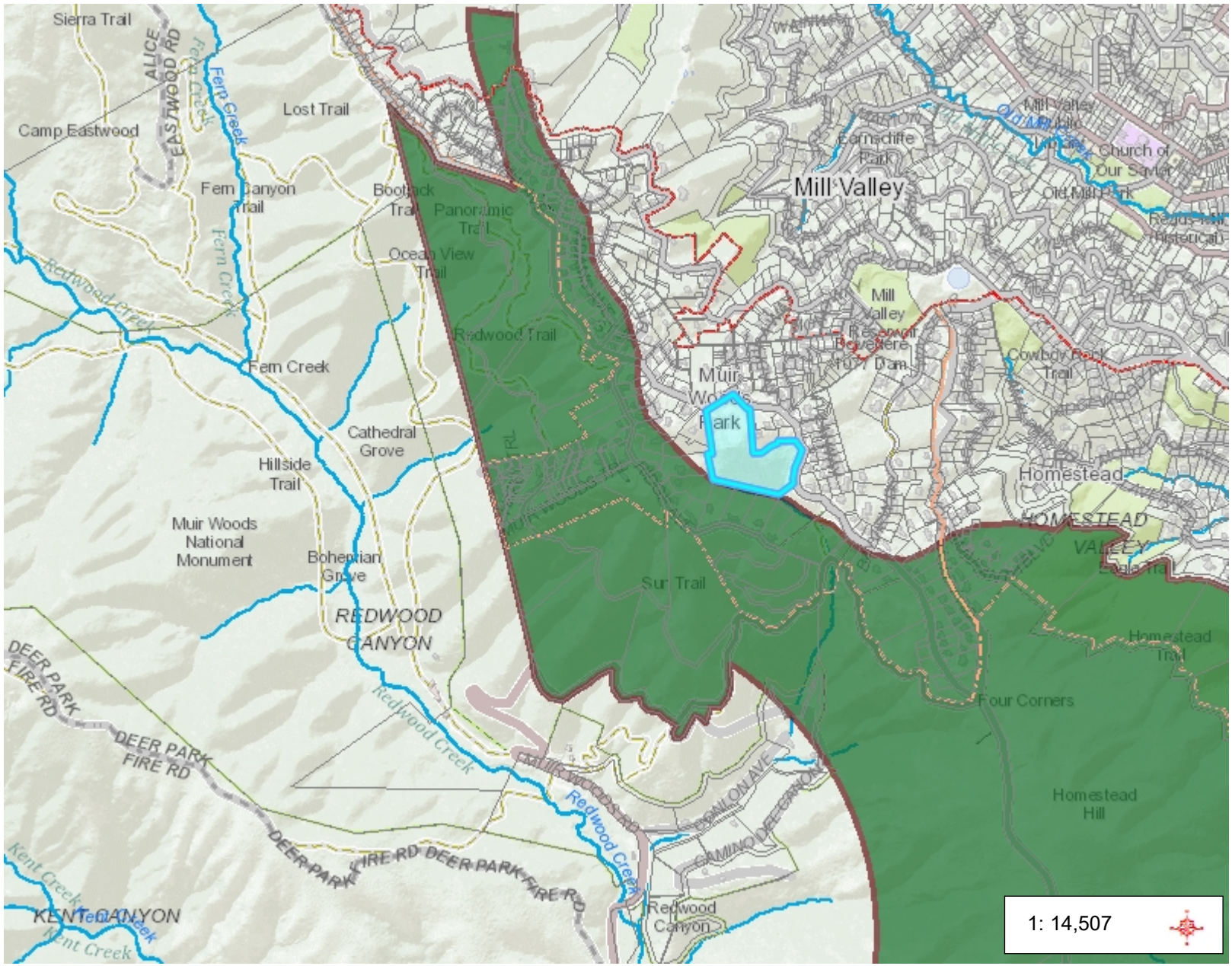
Public views of the Project site are limited by topography and vegetation. Portions of the Project site, including small portions of the proposed development envelopes for proposed lots 2 and 3, are visible from two nearby publicly accessible vantage points: the Dipsea Trail, near its intersection with Panoramic Highway, as well as points along this section of Panoramic Highway (**Figure 1-2**); and near the end of Ridge Avenue (**Figure 1-3**). There are much more distant views of the Project site from hiking trails and access roads within Tamalpais State Park; however, the Project site is minimally visible from these locations, and the Project would not substantially affect public views or scenic vistas from within Tamalpais State Park. The Project site is not visible, or only fleetingly visible, from other publicly accessible vantage points, including along Muir Woods Road and Highway 1 (Shoreline Highway). Several nearby houses and yards look over the Project site. Impacts on private views, however, are generally not considered significant impacts.

The Project site is already developed with a single-family residence and two outbuildings, driveways, and landscaping. The building envelopes for proposed lots 2 and 3, within which future development would occur, are within this developed area of the Project site. The scenic qualities of the Project site are similar to the surrounding neighborhood, and are characterized by low-density residential development and associated landscaping within a hilly, wooded setting. The scenic quality of the Project site would be affected, temporarily, by short-term construction impacts. These would include vegetation removal (including 3 trees), grading, and the presence of construction equipment. These impacts would be of short duration and public views of the construction area would be partially or wholly obscured by vegetation and topography. Construction impacts therefore would not substantially affect the scenic quality of the Project site or public views of it.

New residences developed on proposed lots 2 and 3 would be minimally visible from Ridge Avenue and also from the Dipsea Trail and nearby portions of Panoramic Highway. As noted in the Project Description, the overall size of the residences would be limited by the Tam Plan. Future development is estimated to be a maximum of 7,000 square feet for lots 1 and 3 and 4,250 on lot 2. Visual impacts of the Project would be reduced through compliance with Marin County Code §22.26.040, the Single-Family Residential Design Guidelines, and the mandatory findings for design review approval. The appearance and scale of new residences would be consistent with existing residences in the neighborhood, and would not substantially alter the scenic quality of

Marin Map

Figure 1-1: Ridge and Upland Greenbelt Areas



Legend

- Ridge and Upland Greenbelt 2007
- Stream - Perennial (NHD)

Notes

2,417.9 0 1,208.96 2,417.9 Feet

NAD_1983_HARN_StatePlane_California_III_FIPS_0403_Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

SOURCE: Sicular Environmental Consulting

Figure 1-2
View of the Project Site from The Dipsea Trail,
near Panoramic Highway, Looking Northwest

SOURCE: Sicular Environmental Consulting

Figure 1-3
View of the Project Site from Ridge Avenue, Looking North

the Project site or public views of it. Like the current residence, the new residences would be minimally visible from publicly accessible vantage points, and would be in keeping with existing development patterns in the surrounding neighborhood. Therefore, new residences would not have a significant impact on scenic quality or public views of the Project site.

Private views from several neighboring houses and yards may be affected by the Project, including altered views of the Project site itself, and potentially, partial obstruction of long-range views. While this may adversely affect the existing views for occupants of several nearby residences, the County does not consider limited impacts on private views to be a significant impact.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

Scenic resources can be defined as those landscape patterns and features that are visually or aesthetically pleasing. These include, but are not limited to trees, rock outcroppings, and historic buildings. Scenic areas, open spaces, rural landscapes, and vistas also contribute to a net visual benefit on individuals and the community.

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program to protect State highways located in areas of outstanding natural beauty. The State legislature created the California's Scenic Highway Program in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. While many roadways in Marin County offer views of some of the County’s most scenic resources, there are currently no designated State Scenic Highways or National Scenic Byways within Marin County. However, the entire stretch of State Route 1 running through the county is eligible to be a State Scenic Highway (Caltrans, 2019). The Project site is located off Panoramic Highway, which is not within the California Scenic Highway Program and is over a mile from State Route 1. The Project site is not visible from State Route 1, because topography, dense vegetation, buildings, and fences obstruct the view from nearby sections of the Highway. Therefore, the Project would not have a significant impact on scenic resources within a State scenic highway, or a highway that is a candidate for this designation.

As discussed under topics a) and c), above, the development of two additional residences and associated accessory dwelling units in a residential neighborhood would not have a substantial adverse effect on scenic resources. No rock outcroppings would be affected by implementation of the proposed Project, as none are present within the proposed development area. No historic buildings are present within the Project area, and so none would be affected by the Project. Therefore, the proposed Project would not result in impacts to scenic sources.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

New sources of light and glare can occur from lighting associated with buildings and from exterior light sources such as street lighting, building illumination, security lighting, and landscape lighting. Glare is the effect usually created by the reflection of sunlight or artificial light from highly polished surfaces, such as window or automobile glass during the daytime. During nighttime, glare is usually the result of the viewer being within the line-of-sight of a bright source of light, such as from a building or vehicle headlamps, which contrast with surrounding low-ambient light conditions. Light pollution is an unwanted consequence of outdoor lighting and includes such effects as sky glow, glare, and light trespass. Light trespass is light cast where it is not wanted or needed, such as light from a streetlight or a floodlight that illuminates a neighbor's bedroom at night making it difficult to sleep.

The new residences that would be developed under the Project can be expected to add new sources of nighttime lighting as well as daytime glare from reflective building surfaces. These new sources of lighting and glare may be visible to neighbors; however, the visibility would be reduced by the topography of the site and by vegetation. Exterior lighting would be reviewed through the Design Review process and new development under the Project would be subject to all applicable standards and regulations, such as requiring downcast lighting and low wattage exterior lights. Overall, additional lighting and glare would be similar to that associated with the existing residence and adjacent residences in the neighborhood and would not cause a substantial increase in light and glare compared to existing conditions. Therefore, the Project would result in a less than significant impact with respect to light and glare.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road likely resulted in short-term changes to the visual environment in the form of grading and earth disturbance associated with the approximately 900 cubic yards of fill material that was imported to the site, and grading over an approximately ½ acre area. Additional visual changes included construction staging equipment over the duration of the improvements. After conclusion of the grading activities, the area revegetated quickly. No tree removal occurred as part of the grading. Potential impacts to visual resources were limited to minimal short-term changes in the appearance of the ground. The grading of the Fire Road therefore would not have had a substantial impact on visual quality, scenic views, or public views of the Project site, and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact.

References

California Department of Transportation (Caltrans), 2019. California Scenic Highway Mapping System. http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/.

2. Agriculture and Forestry Resources

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land of conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) provides a classification system based on technical soil ratings and

current land use. The FMMP is an informational service only and does not have regulatory authority over local land-use decisions. The minimum land use mapping unit is ten acres unless specified; the map incorporates smaller units of land into the surrounding map classifications. Pursuant to the State CEQA Guidelines, Appendix G, the term “Farmland” refers to FMMP map categories Prime Farmland, Unique Farmland, and Farmland of Statewide Importance collectively referred to as “Farmland.” These map categories are as follows:

Prime Farmland. Land which has the best combination of physical and chemical characteristics to produce crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods.

Unique Farmland. Land of lesser quality soils used to produce specific high economic value crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. It is usually irrigated but may also include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops include oranges, olives, avocados, rice, grapes, and cut flowers.

Farmland of Statewide Importance. Land that is like Prime Farmland but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.

The Project area is not identified as farmland on the Farmland Mapping and Monitoring Program maps and does not contain agricultural or forestry use (California Department of Conservation, 2016). The Project area would continue to be used for residential land uses, in the same capacity as existing use. As a result, the Project would not result in impacts to Farmland.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The Project site is not in an agricultural area and is not zoned for agriculture. None of the parcels that would be developed under the Project are under Williamson Act contracts, and the Project site is not mapped as Prime Farmlands Soil or Farmland Soil of State Importance by the California Department of Conservation (Marin County, 2019; California Department of Conservation, 2016). Therefore, the Project would not adversely affect agricultural resources, operations, or contracts, and there would be no impact of this kind.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined

by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

In accordance with the definition provided in California Public Resources Code §12220(g), “forest land” is land that can support, under natural conditions, 10 percent native tree cover of any species, including hardwoods, and that allows for the preservation or management of forest-related resources, such as timber, aesthetic value, fish and wildlife, biodiversity, water quality, recreational facilities, and other public benefits. "Timberland" means land, other than land owned by the federal government and land designated as experimental forest land, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees. As described above, the zoning for the Project site is RMP-0.5 (Residential, Multiple Planned District). This zoning district recognizes lands that are intended to support residential development. The future development of new residences on the Project site would not conflict with this zoning. Therefore, the proposed Project would not impact forestland, timberland, or timberland zoned Timberland Production.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

The Project site is zoned for residential development and existing and future development of the Project would be consistent with that purpose. The Project area is not used for any timber-related activities. Therefore, the implementation of the proposed Project would not result in the loss of forest land or conversion of forest land to non-forest use.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The Project site is currently zoned for residential development, and implementation of the Project would support continued use of the site for that use. The Project area is not used for any Farmland, agricultural, or forestry activities. Therefore, the implementation of the Project would not involve any changes in the existing environment which could result in the conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use.

2014 Grading of the Fire Road

As there is no agricultural or forest land on the Project site, the 2014 unpermitted grading of the Fire Road did not impact these resources. Consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would have no impact on agriculture and forestry resources.

References

California Department of Conservation, 2016. Marin County Important Farmland 2016. Accessed online at: ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/

Marin County, 2019. Marin Map, Marin Agricultural Land Trust and Agricultural Contract Parcels. Accessed (June 27, 2019) http://www.marinmap.org

3. Air Quality

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

a) Conflict with or obstruct implementation of the applicable air quality plan?

The Project site is within the San Francisco Bay Area (Bay Area) Air Basin. Air quality in the Bay Area Air Basin is governed by the Bay Area Air Quality Air Management District (BAAQMD). The BAAQMD has developed air quality plans to attain and maintain air quality standards within designated timeframes. The BAAQMD plans estimate future emissions in the Bay Area Air Basin and contain strategies necessary for emissions reductions through regulatory controls. Emissions projections are based on population, vehicle, and land use trends typically developed by the BAAQMD, Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG).

In April of 2017, the BAAQMD adopted the Final 2017 Clean Air Plan/Regional Climate Protection Strategy (CAP/RCPS; BAAQMD, 2017a). The 2017 CAP/RCPS provides a roadmap for BAAQMD's efforts over the next few years to reduce air pollution and protect public health and the global climate. The CAP/RCPS includes the Bay Area's first-ever comprehensive Regional Climate Protection Strategy, which identifies potential rules, control measures, and strategies that the BAAQMD can pursue to reduce greenhouse gas (GHG) emissions in the Bay Area. Measures included in the 2017 CAP/RCPS that address the transportation sector are in direct support of Plan Bay Area,

which was prepared by ABAG and MTC and includes the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan.

Any project that would not support the 2017 CAP/RCPS goals would be considered inconsistent with the 2017 CAP/RCPS. The recommended measure for determining project support of these goals is consistency with BAAQMD CEQA thresholds of significance (BAAQMD, 2017b). As presented in the subsequent impact discussions, the Project would not exceed the BAAQMD significance thresholds; therefore, the Project would not conflict with the primary goals of the 2017 CAP/RCPS, and would not obstruct its implementation. The impact would therefore be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Criteria air pollutants include carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), particulate matter equal to or less than 10 micrometers (coarse particulates or PM_{10}), and particulate matter equal to or less than 2.5 micrometers (fine particulates or $PM_{2.5}$). Reactive organic compounds (ROG) and nitrogen oxides (NO_x) are precursors to the formation of ozone. The Bay Area Air Basin is currently designated nonattainment for State and National (1-hour and 8-hour) ozone standards, for the State annual and 24-hour PM_{10} standards, and for State annual and national 24-hour $PM_{2.5}$ standards (BAAQMD, 2017a). The Bay Area Air Basin is designated attainment or unclassifiable with respect to the other ambient air quality standards.

Intermittent (short-term construction emissions that occur from activities such as site-grading, paving, and building construction) and long-term air quality impacts related to the operation (that is, residential use following construction) of the Project were evaluated for this impact analysis. The California Air Resources Board (CARB) Emissions Estimator Model (CalEEMod), Version 2016.3.2 (CARB, 2016) was used to estimate construction-related and operational pollutant emissions.

BAAQMD's CEQA Air Quality Guidelines recommend the implementation of all Basic Construction Mitigation Measures, whether or not construction-related emissions exceed applicable thresholds of significance. The BAAQMD measures are also required by Marin County Code §22.20.040 (B). The emissions modeling therefore assumes that Project construction would employ the Basic Construction Mitigation Measures. These measures include the following:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, and graded areas, and unpaved access roads) shall be watered two times a day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to a maximum of 15 miles per hour.
5. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California of Regulations). Clear signage shall be provided for construction workers at all access points.
6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

Table 3-1 provides the estimated short-term emissions that would be associated with Project construction, assuming that single family residences and accessory dwelling units (ADUs) would be constructed on proposed lots 2 and 3 simultaneously over the course of one year.

Table 3-1: Estimated Daily Construction Emissions

Condition	ROG	NOx	PM_{10}[2]	$PM_{2.5}$[2]	CO
Tons per year	0.31	1.79	0.10	0.09	1.55
Pounds per day (avg)[1]	1.7	9.8	0.5	0.5	8.5
Significance Threshold (pounds per day)	54	54	82	54	--
Significant?	No	No	No	No	n.a.

Note: 1. Annual emissions averaged over 365 days.
2. PM_{10} and $PM_{2.5}$ are exhaust emission only, per BAAQMD guidance.
Source: CARB, 2016.

Operational Emissions

CalEEMod was also used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance expected to occur after the Project construction is complete and operational – that is, after residences are constructed on proposed lots 2 and 3. The proposed Project land use types and size and other Project-specific information were input to the model, based on Table 1 in the Project Description. The modeling assumed that one single family residence and one ADU would be constructed on each of the two lots, and that building square footage would equal that shown in Table 1. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater treatment (in this case, for on-site septic systems), and solid waste landfilling and transport. Per BAAQMD regulations, fireplaces,

if proposed for installation in the proposed homes, must use natural gas, not wood, as fuel.[4]

Estimated annual and daily operational emissions that would be associated with the Project are presented in **Tables 3-2 and 3-3** and are compared to BAAQMD's thresholds of significance. As indicated, the estimated Project operational emissions would be below the BAAQMD's significance thresholds and would therefore be less than significant.

Table 3-2: Estimated Annual Project Operational Emissions (Tons/Year)

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
Area	0.053	0.001	<0.000	<0.000	0.030
Energy	0.001	0.006	0.001	0.001	0.003
Mobile	0.012	0.045	0.050	0.014	0.152
Total Proposed Project	**0.065**	**0.052**	**0.051**	**0.015**	**0.185**
Significance Threshold	10	10	15	10	---
Significant?	No	No	No	No	No

Source: CARB CalEEMod Version 2016.3.2.

Table 3-3: Estimated Daily Project Operational Emissions (Pounds/Day)

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
Area	0.29	<0.01	<0.01	<0.01	0.16
Energy	<0.01	0.03	<0.01	<0.01	0.01
Mobile	0.06	0.24	0.28	0.08	0.83
Total Proposed Project	**0.36**	**0.28**	**0.28**	**0.08**	**1.01**
Significance Threshold	54	54	82	54	---
Significant?	No	No	No	No	No

Source: CARB CalEEMod Version 2016.3.2.

c) Expose sensitive receptors to substantial pollutant concentrations?

The BAAQMD has established thresholds of significance for exposure to toxic air contaminants (TACs) based on the projected increase in human health risk. Projects that would result in increased cancer risk of greater than 10 in a million or increased non-cancer risk greater than a Hazard Index of 1.0 are considered to have a significant impact. In addition, an increase in annual average ambient $PM_{2.5}$ concentrations in excess of 0.3 micrograms per cubic meter would be considered a significant impact. The BAAQMD recommends that lead agencies assess the incremental toxic air contaminant (TAC) exposure risk to all sensitive receptors within a 1,000-foot radius of a project's

[4] BAAQMD Regulation 6, Rule 3, prohibits installation of wood-burning devices in new construction after November 1, 2016.

fence line. (BAAQMD, 2017b). Sensitive receptors include residences, hospitals, schools, day care facilities, and nursing homes.

Project operation (that is, residential uses of new residences constructed on proposed lots 2 and 3) would not result in substantial new TAC emissions. However, Project construction activities would result in emission of diesel particulate matter (DPM) from use of diesel-powered trucks and equipment. DPM is considered to be a TAC, with both carcinogenic and non-carcinogenic health effects.

The closest sensitive receptors to the Project site are neighboring residences on Panoramic Highway. The closest residence to proposed lots 2 and 3, where construction activities would take place, is about 50 feet from the boundary of the building envelope. Several additional residences along Panoramic Highway and Brighton Boulevard are within 200 feet, including the existing residence within the Project site. The closest school to the Project site is the Old Mill Elementary School, about ¾ of a mile to the northwest. A daycare center, Mishka Daycare, is located about ½ mile to the east, on Park Way. There are no retirement homes in the vicinity of the Project site.

The dose to which receptors are exposed is the primary factor affecting health risk from exposure to TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects. However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the project (OEHHA, 2015).

Project construction is expected to occur for an approximately 1-year period, though the majority of DPM emissions would occur during site preparation and grading, which would likely last several weeks. Several nearby residences would be within 1,000 feet of DPM emission sources for up to a year. Emissions modeling results indicate that DPM emissions (Exhaust $PM_{2.5}$) would average 0.53 pounds per day of construction (.096 tons per year), and total $PM_{2.5}$ emissions would also average 0.53 pounds per day. The Basic Construction Mitigation Measures numbers 5 and 6, listed above, would result in reduction of DPM emissions and $PM_{2.5}$. Given the small amount of DPM emissions and the short exposure time, the Project would not be expected to substantially increase cancer or non-cancer health risks for nearby sensitive receptors. However, certain individuals, such as pregnant women and their fetuses, infants, and children, are more sensitive to toxic air contaminants than the population at large (OEHHA, 2015). Even short-term exposure to TACs could result in an increased risk of adverse health effects. To address this potential impact, Mitigation Measure AQ-1 is specified below. Mitigation Measure AQ-1 requires use of Tier 4 diesel engines for off-road equipment. This would reduce exhaust $PM_{2.5}$ emissions by approximately 96 percent below unmitigated emissions, as shown in **Table 3-4**. With implementation of Mitigation Measure AQ-1, exposure of nearby residents to TACs from construction equipment would be greatly reduced, and the resulting impact would be less than significant.

Table 3-4: Unmitigated and Mitigated DPM emissions

	Unmitigated	Mitigated	Percent Reduction
Exhaust $PM_{2.5}$ emissions – lbs/day	0.51	0.02	96%

Source: CARB CalEEMod Version 2016.3.2.

Mitigation Measure AQ-1: Diesel Exhaust Emissions Reduction. During Project construction, all off-road diesel-powered equipment with engines greater than 25 horsepower shall meet Tier 4 emissions standards.

Monitoring Measure AQ-1: The Marin County Community Development Agency and Department of Public Works shall verify that the provisions of the measure have been implemented.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

According to BAAQMD's CEQA Air Quality Guidelines, (BAAQMD, 2017c) odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source.

Though offensive odors rarely cause any physical harm, they still remain unpleasant and can lead to public distress and citizen complaints. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

The BAAQMD's significance criteria for odors are subjective and are based on the number of odor complaints generated by a project. Generally, the BAAQMD considers any project with the potential to frequently expose members of the public to objectionable odors to cause a significant impact. With respect to the proposed Project, diesel-fueled construction equipment exhaust would generate some odors. However, these emissions typically dissipate quickly and would be unlikely to affect a substantial number of people, or to persist for a substantial length of time. Therefore, odor impacts associated with the Project on existing sensitive receptors would be less than significant.

Odor impacts could also result from siting a new sensitive receptor near an existing odor source. Examples of land uses that have the potential to generate considerable odors include, but are not limited to wastewater treatment plants; landfills; refineries; and chemical plants. In the BAAQMD CEQA Air Quality Guidelines, odor screening distances are recommended by BAAQMD for a variety of land uses (BAAQMD, 2017c). Projects that would site a new receptor farther than the applicable screening distance from an existing odor source would not likely result in a significant odor impact. The odor screening distances are not used as absolute screening criteria, rather as information to consider along with the odor parameters and complaint history. The odor screening distances for a sewage treatment plant, refinery, and chemical plant are two miles (BAAQMD, 2017c). The Project is not within the odor screening distances for a sewage

treatment plant, refinery, or other odor producing sources. Therefore, odor impacts associated with the location of the Project would be less than significant.

2014 Grading of the Fire Road

Air quality impacts of the 2014 grading of the Fire Road would have included short-term emissions of criteria air pollutants and TACs from use of diesel-powered earth moving equipment, including off-road equipment and haul trucks. As noted in the Project Description, grading of the Fire Road involved an estimated 42 yards of cut and 882 yards of fill. The CalEEMod emissions model was used to estimate air emissions associated with the grading work. The model inputs included an assumption that 900 cubic yards of fill was imported to the site, none was exported, and grading took place over ½ acre. The model used emissions factors for 2014. The results of the modeling are shown in **Table 3-5**. As shown, emissions are estimated to have been well below significance thresholds. Furthermore, the short duration of the work, and the low amount of TACs emitted, together would limit exposure of nearby sensitive receptors. This would also have been less than significant. There is no record of odor complaints, so the work appears not to have caused offensive odors. In short, the Fire Road grading appears to have had less than significant air quality impacts, and consideration of the Fire Road grading does not change any of the conclusions about Project air quality impacts.

Table 3-5: Fire Road Grading

Condition	ROG	NOx	PM_{10}	$PM_{2.5}$	CO
Soil Import (Offsite) - Tons per Year	0.002	0.028	0.0004	0.0004	0.018
Grading - Onsite - Tons per Year	0.033	0.372	0.020	0.019	0.173
Grading - Total Tons per Year	0.035	0.400	0.021	0.019	0.191
Construction - lbs per day (avg)[1]	0.013	0.152	0.002	0.002	0.100
Significance Threshold (lbs per day)	54	54	82	54	--
Significant?	No	No	No	No	n.a.

Source: CARB CalEEMod Version 2016.3.2.

References

Bay Area Air Quality Management District (BAAQMD), 2017a. Air Quality Standards and Attainment Status. http://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status#five Accessed April 25, 2019.

BAAQMD, 2017b, Final 2017 Clean Air Plan, April 19, 2017.

BAAQMD. 2017c, CEQA Air Quality Guidelines, May 2017.

California Air Resources Board (CARB), 2016. California Emissions Estimator Model (CalEEMod), version 2016.3.2.

California Office of Environmental Health Hazard Assessment (OEHHA), 2015, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February 2015.

4. Biological Resources

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

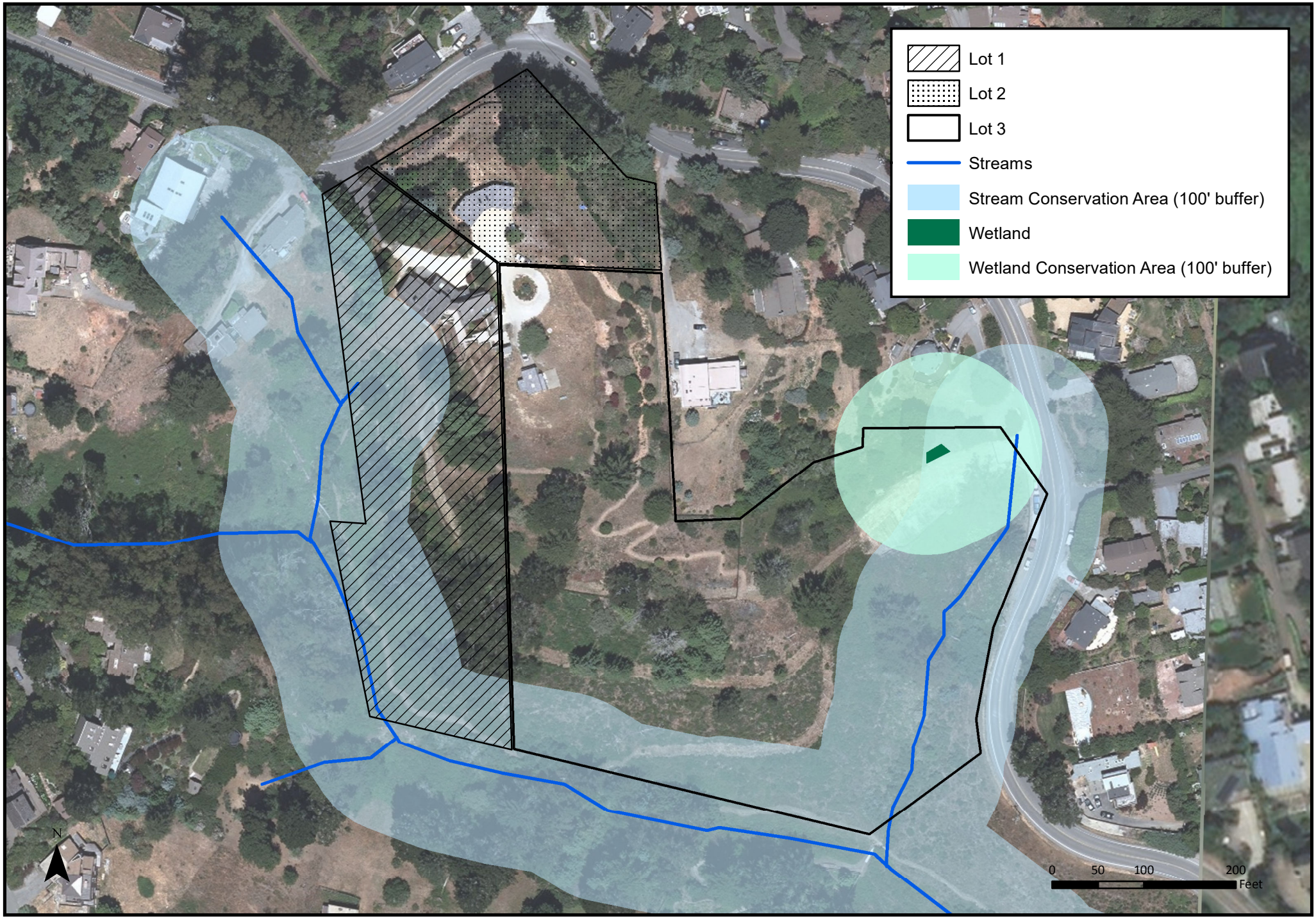
The biological resource conditions of the Project site were evaluated by LSA (LSA, 2015; 2017; and 2018). These reports contain detailed descriptions of existing conditions and conclusions regarding presence or absence of sensitive biological resources. The reports are available for review at the Marin County Community Development Agency office. A follow-up field reconnaissance survey and background review were completed in May 2019 to evaluate current site conditions and to confirm the findings of the LSA evaluations.

Existing Conditions

The following is an overview of the existing conditions within the Project site; see **Figure 4-1**. A brief summary of the conditions within each proposed lot follows. Project site refers to the entire parcel. Development areas or building envelopes include those locations where residences could be built, or where the site would be modified to support the subdivision.

The proposed development areas are concentrated on the northern portion of the Project site on the ridgetop where the existing single-family residence, garage, and outbuilding, surrounded by ornamental landscaping and decking, are located. In this location, there is a large, flat undeveloped terrace and the site of one of the building envelopes. This area is dominated by non-native annual grassland and supports non-native ripgut brome (*Bromus diandrus*), mouse ear chickweed (*Cerastium glomeratum*), filaree (*Erodium* sp.), brome fescue (*Festuca bromoides*), scarlet pimpernel (*Lysimachia arvensis*), burclover (*Medicago* sp.), English plantain (*Plantago lanceolata*), wild radish (*Raphanus sativus*), sheep sorrel (*Rumex acetosella*), common dandelion (*Taraxacum officinale*), and spring vetch (*Vicia sativa*). Patches of native California poppy (*Eschscholzia californica*) grow to the east of the existing garage along with a dense carpet of non-native cape weed (*Arcthotheca prostrata*).

Along the edges and just downslope of the ridgetop, there are plantings of ceanothus (*Ceanothus* sp.), cotoneaster (*Cotoneaster franchetii*), Monterey cypress (*Hesperocyparis macrocarpa*), and Monterey pine (*Pinus radiata*). A few small, native coast live oaks (*Quercus agrifolia*) are present. Mature coast redwood (*Sequoia sempervirens*) trees are planted along the existing driveway and to the north of the residence along with other ornamental trees [incense cedar (*Calocedrus* sp.), red flowering gum (*Corymbia ficifolia*)]. Understory landscaping plants occur under the trees. The northern edge of the Project site along Panoramic Drive supports coast live oak and cotoneaster and other tree plantings. Patches of English ivy (*Hedera helix*), Himalayan



Source: Aerial and Stream, ESRI 10/2017

Note: Lot line boundaries, wetland, streams, and conservation areas are approximate locations

Figure 4-1
Proposed Land Division and Conservation Areas

blackberry (*Rubus armeniacus*) and various herbaceous species are present in the understory. To the west of the existing residence, there are pathways, garden beds, extensive landscape plantings, and mulch.

Beyond the building envelopes to the west, south, and southeast, the Project site supports scattered trees of native Douglas fir (*Pseudotsuga menziesii*) and coast redwood and non-native Monterey cypress and Monterey pine. Understory composition varies across the site, but non-native plants are pervasive, especially along the lower elevations. Invasive thickets of pampas grass (*Cortaderia selloana*), cotoneaster, cape ivy (*Delairea odorata*), pride of Madeira (*Echium candicans*), French broom (*Genista monspessulana*), and smaller acacias (*Acacia* sp.) occur.

Throughout the wooded areas on the Project site, native understory shrubs include coyote brush (*Baccharis pilularis*), California blackberry (*Rubus ursinus*), and poison oak (*Toxicondendron diversilobum*) with the occasional wild cucumber (*Marah fabacea*) and sword fern (Polystichum munitum). The Fire Road at the southeast corner of the site is maintained and frequently mown. The road bed supports low-growing annual grasses and forbs. There is a dense thicket of acacia on the south side of the Fire Road with pampas grass growing along the edge. The lower elevations on the Project site support dense stands of scrub vegetation dominated by non-native French broom and native coyote brush.

The Project site supports two drainages along the western and southeastern edges (LSA, 2017). These drainages converge just south of the property and flow directly to Redwood Creek. The western drainage flows through a ravine under a dense canopy of Douglas fir, Monterey cypress, and Monterey pine. The entire length of the drainage has a scoured bed and defined bank. The eastern drainage originates in a rock-lined ditch along Panoramic Highway. Road runoff is directed onto the Project site where it sheet flows for approximately 50 feet downhill before entering a defined channel. Willow (*Salix* sp.) and California bay (*Umbellularia californica*) trees are present along the lower reaches of this drainage. Both of these drainages are protected by a 100-foot Stream Conservation Area (SCA), as defined in the Marin Countywide Plan (CWP).

A small wetland seep is present along the northern edge of the lower fire road. This wetland was impacted by site grading and culvert replacement in 2014. This wetland was delineated by LSA in 2017 and then verified by the Army Corps of Engineers (ACE) in 2018 (ACE, 2018; LSA, 2018). The wetland is approximately 180 square feet and appears to be fed from upslope drainage. It supports wetland soils, wetland hydrology (ponded water was observed in May 2019), and hydrophytic vegetation. The wetland is dominated by native Pacific rush (*Juncus effusus*) and non-native cape ivy. Additional ground cover is provided by native California brome (*Bromus carinatus*), tall cyperus (*Cyperus eragrostis*), California blackberry (*Rubus ursinus*), and non-native common velvetgrass (*Holcus lanatus*) and common knotweed (*Polygonum aviculare*). The hillside upslope of the wetland is dominated by native coyote brush with a dense understory of cape ivy and specimens of coast live oak, pride of Madeira, and cotoneaster. A second small area of wetland vegetation occurs along the western tributary and appears to be associated with a small landslide. This wetland falls entirely within the 100-foot SCA.

Individual Lot Descriptions

Below is a brief summary of the existing conditions for each proposed lot; see Figure 4-1:

- Lot 1 includes the existing single-family residence, driveway/access roads, parking area, and septic/sewage disposal system. The western and southern portions of the lot are not proposed for development and include the seasonal drainage with an established SCA. Outside of the existing developed area, mixed non-native coniferous forest is dominant.
- Lot 2 includes the existing garage and access road and parking area. The proposed driveway and septic/sewage disposal system would be located in areas supporting non-native annual grassland and ornamental landscaping. The eastern edge of the lot has extensive infestations of cape weed and cotoneaster and ornamental plantings.
- Lot 3 includes only a portion of the existing access road and parking area and a small outbuilding. The proposed building envelope comprises the majority of the large, flat terrace at the ridgetop. A large portion of the lot would remain undeveloped including the lower fire road, seasonal wetland and surrounding WCA, eastern drainage with established SCA, extensive mixed non-native coniferous forest, and invasive plant infestations (e.g., acacia, cotoneaster, French broom).

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The biological assessment included a review of special-status species with potential to occur within the Project area. Records from the California Department of Fish and Wildlife (CDFW), California Natural Diversity Database (CDFW, 2019a), U.S. Fish and Wildlife Service (USFWS) IPaC resource list (USFWS, 2019ac), California Native Plant Society's electronic database (CNPS, 2019), Calflora (Calflora, 2019), Marin County documents and reports, and other resources were reviewed. The review identified 23 special-status plants and 21 special-status animal species for possible occurrence in the general vicinity of the Project (see Appendices A and B).

Definitions

Special-status plants and animals include those species that are afforded legal protection and include:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (ESA);
- Species listed or proposed for listing as threatened or endangered under California Endangered Species Act (CESA);

- Species that are recognized as candidates for future listing by agencies with resource management responsibilities, such as USFWS, National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NOAA Fisheries, also known as NMFS), and CDFW;
- Species defined by CDFW as California Species of Special Concern;
- Species classified as Fully Protected by CDFW;
- Plant species, subspecies, and varieties defined as rare or threatened by the California Native Plant Protection Act (California Fish and Game Code Section 1900, et seq.);
- Plant species listed by the California Native Plant Society (State CEQA Guidelines Section 15380) according to the California Rare Plant Ranks (CRPR);
- Species that otherwise meet the definition of rare, threatened, or endangered pursuant to Section 15380 of the State CEQA Guidelines; and
- Mountain lions protected under the California Wildlife Protection Act of 1990 (Proposition 117) and designated as a "specially protected mammal in California."

In addition to special-status species, nesting native bird species are protected under both federal and State regulations. According to the USFWS, under the federal Migratory Bird Treaty Act of 1918 (MBTA; 50 CFR 10.13), "it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird," unless authorized under a permit issued by the Secretary of the Interior. Some regulatory exceptions apply. Bald and golden eagles are also protected under the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c) of 1940.

Birds and their nests are protected under the California Fish and Wildlife Code (§3503 and §3513). Under §3503, "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Under §3513, "it is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act." The ESA and CESA also protect nesting threatened and endangered bird species.

Special-status Plants

As shown in **Table 4-1**, the biological assessment report by LSA and additional background review identified 23 special-status plant species in the general vicinity of the Project. Microhabitat components (such as serpentine soils) necessary to support 22 of these species do not occur within the Project site and as a result those species would not be expected to occur there. The Project site contains potential habitat for one special-status plant species, congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*). This species is listed as CNPS 1B.2 plant; rare, threatened, or endangered in California and elsewhere and moderately endangered in California. It is

an annual herb that blooms from April through November and occurs in valley and foothill grassland, and sometimes roadsides. The site was surveyed on September 22, 2015 during its reported blooming period and this plant was not detected (LSA, 2015). The plant was not observed during a follow-up survey in May 2019.

Table 4-1. Special-status Plants Evaluated for the Dipsea Ranch Land Division Project

Scientific Name	Common Name	Listing Status[1] USFWS/CDFW/CNPS	Life Form, Blooming Period, and General Habitat	Potential for Occurrence within the Project Site[2]
Amorpha californica var. napensis	Napa false indigo	--/--/ 1B.2	Perennial deciduous shrub. Blooms April-July. Broadleafed upland forest (openings), chaparral, woodland.	Not present – species not observed.
Arctostaphylos montana ssp. montana	Mt. Tamalpais manzanita	--/--/ 1B.3	Perennial evergreen shrub. Blooms February-April. Serpentinite, rocky chaparral or grassland.	Not present – no serpentine, species not observed.
Arctostaphylos virgata	Marin manzanita	--/--/ 1B.2	Perennial evergreen shrub. Blooms January-March. Sandstone or granite. Broadleafed upland forest, close-cone coniferous forest, chaparral, and North Coast coniferous forest.	Not present – species not observed.
Kopsiopsis hookeri	small groundcone	--/--/ 2B.3	Perennial rhizomatous herb (parasitic). Blooms April-August. North Coast coniferous forest.	Low – species not observed.
Cirsium hyrophilum var. vaseyi	Mt. Tamalpais thistle	--/--/ 1B.2	Perennial herb. Blooms June-September. Mt. Tamalpais, Marin County. Serpentine seeps.	Not present – no serpentine.
Eriogonum luteolum var. caninum	Tiburon buckwheat	--/--/ 1B.2	Annual herb. Blooms May-September. Serpentinite, sandy to gravelly locations in chaparral, woodland, coastal prairie, and grassland.	Not present – no serpentine.
Fritillaria lanceolata var. tristulis	Marin checker lily	--/--/ 1B.1	Perennial bulbiferous herb. Blooms February-May. Coastal bluff scrub, coastal prairie, coastal scrub.	Low – species not observed.
Helianthella castanea	Diablo helianthella	--/--/ 1B.2	Perennial herb. Blooms March-June. Usually rocky, azonal soils, often in part shade. Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland.	Not present – species not observed, no suitable microhabitat.

Scientific Name	Common Name	Listing Status[1] USFWS/CDFW/CNPS	Life Form, Blooming Period, and General Habitat	Potential for Occurrence within the Project Site[2]
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	--/--/ 1B.2	Annual herb. Blooms April-November. Valley and foothill grassland, sometimes roadsides.	Moderate, but plant not observed (LSA 2015)
Hesperolinon congestum	Marin western flax (Marin dwarf-flax)	FT/CT/ 1B.1	Annual herb. Blooms April-July. Serpentinite chaparral and grassland.	Not present – no serpentine.
Holocarpha macradenia	Santa Cruz tarplant	FT/SE/ 1B.1	Annual herb. Blooms June-October. Coastal prairie, coastal scrub, valley and foothill grassland (often clay, sandy).	Low – species not observed, not known from vicinity.
Horkelia tenuiloba	thin-lobed horkelia	--/--/ 1B.2	Perennial herb. Blooms May-July. Broadleafed upland forest, chaparral, valley and foothill grassland (mesic openings, sandy).	Low – species not observed, marginal habitat.
Lessingia micradenia var. micradenia	Tamalpais lessingia	--/--/ 1B.2	Annual herb. Blooms July-November. Usually serpentinite, often roadsides, in chaparral and grassland.	Low – species not observed, no serpentine, not known from vicinity.
Navarretia rosulata	Marin County navarretia	--/--/ 1B.2	Annual herb. Blooms May-July. Serpentinite, rocky soils in closed-cone coniferous forest and chaparral.	Not present – no serpentine.
Pentachaeta bellidiflora	white-rayed pentachaeta	FE/SE/ 1B.1	Annual herb. Blooms March-May. Woodland, grassland (often serpentinite).	Low – not known from vicinity.
Pleuropogon hooverianus	North Coast semaphore grass	--/ST/ 1B.1	Perennial rhizomatous herb. Blooms April-August. Wet, grassy usually shady areas, sometimes freshwater marsh; associated with forest environments.	Not present – no suitable habitat.
Quercus parvula var. tamalpaisensis	Tamalpais oak	--/--/ 1B.3	Perennial evergreen shrub. Blooms March-April. Lower montane coniferous forest.	Not present – species not observed.
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	--/--/ 1B.2	Perennial rhizomatous herb. Blooms April-September. Freshwater marshes and swamps (near the coast). 3-75 m.	Not present – no marsh habitat.
Sidalcea hickmanii spp. viridis	Marin checkerbloom	--/--/ 1B.3	Perennial herb. Blooms May-June. Chaparral.	Not present - not known from vicinity.
Stebbinsoseris decipiens	Santa Cruz microseris	--/--/ 1B.2	Annual herb. Blooms April-May. Open areas, sometimes serpentinite in broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, and grassland.	Low – no suitable habitat.

Scientific Name	Common Name	Listing Status[1] USFWS/CDFW/CNPS	Life Form, Blooming Period, and General Habitat	Potential for Occurrence within the Project Site[2]
Streptanthus batrachopus	Tamalpais jewelflower	--/--/ 1B.3	Annual herb. Blooms April-July. Serpentinite in coniferous forest, chaparral.	Not present – no serpentine.
Streptanthus glandulosus var. pulchellus	Mt. Tamalpais bristly jewel-flower	--/--/ 1B.3	Annual herb. Blooms May-July. Serpentinite in chaparral and grassland.	Not present – no serpentine.
Trifolium amoenum	two fork clover (showy Indian clover)	FE/--/ 1B.1	Annual herb. Blooms April-June. Coastal bluff scrub, valley and foothill grassland (sometimes serpentinite). Open, sunny sites, swales.	Not present – marginal habitat, species not observed.

Notes:

1 Listing Status: FE-federally listed as endangered**,** FT-federally listed as threatened**,** SE-state listed as endangered**,** ST-state listed as threatened**,** Candidate SE-state candidate to be listed as endangered under CESA Candidate**,** ST-state candidate to be listed as threatened under CESA**,** CR-state listed as rare; California Rare Plant Rank (CRPR): 1A – Presumed extinct in California and rare/extinct elsewhere**,** 1B – Rare, threatened, or endangered in California and elsewhere, 2A – Presumed extirpated in California, more common elsewhere**,** 2B – Rare, threatened, or endangered in California, more common elsewhere**,** 3 - Plants for which we need more information**,** 4 – Plants of limited distribution. Suffixes: .1 Seriously endangered in California**,** .2 Fairly endangered in California**,** .3 Not very endangered in California.

2 **Special-status Species Evaluation Criteria:** Special-status species were evaluated for their potential to occur within the project site. Potential for occurrence was classified as not present, low, moderate, high, or present based on the following criteria: **Not Present** – Suitable habitat is not present within the project site, species definitively not observed, and/or project site is outside the range of the species; **Low** – One or more key habitat components is absent from the project site; no known occurrences in vicinity, or habitat present but species not observed during field surveys that would be expected to discover species, if present, based on season and level of effort. Species is unlikely to occur within the project site; **Moderate** – Some of the habitat components required by this species are present within the project site and/or marginally suitable habitat is present within surrounding areas. Species may occur within the project site; **High** – All of the habitat components required by this species are present within the project site and/or it is known to occur in surrounding areas. Species is likely to occur within the project site; **Present** – Species has reported occurrences within the project site and/or was observed within the project site during field surveys.

The Project site does not support the required habitat characteristics for most special-status plants in the region. The area within the proposed building envelopes has been disturbed previously, and no special-status plants were observed within the Project site during the reported blooming period of the one species, congested-headed hayfield tarplant, that has potential to occur on site. Suitable habitat and special-status plant species are not present on the Project site; therefore, there would be no impact on special-status plants.

Special-status Wildlife

As shown in **Table 4-2**, 21 special-status animal species have the potential to occur in the general vicinity of the Project site. One special-status bird, oak titmouse, was documented within the Project site. One reptile species, northwestern pond turtle, and two fish species, steelhead and coho salmon, have the potential to occur downstream of the Project site in the Redwood Creek watershed, but suitable habitat is not present within the site itself. Four species of bats (pallid bat, Townsend's big-eared bat, western mastiff bat and hoary bat) have low to moderate potential to forage over the Project site

and roost in mature trees. Tree removal and trimming associated with future development within the Project site could impact special-status bats. California red-legged frog, northern spotted owl, and California giant salamander have low to moderate potential to occur within the drainages on the Project site, but no habitat for these species exists within the proposed buildings envelopes; therefore, there would be no impact on these species from future development. See Table 4-2 for additional wildlife descriptions.

Table 4-2. Special-status Animals Evaluated for the Dipsea Ranch Land Division Project

Common Name Scientific Name	Listing Status[1] (Federal/ State)	Description	Potential for Occurrence within the Project site[2]
Amphibians			
California giant salamander *Dicamptodon ensatus*	--/SSC	Occur in wet coastal forests near permanent and semi-permanent streams and springs. This species is one of the largest terrestrial salamanders in North America. Breeding occurs mostly in spring, but sometimes fall. Eggs are laid in water and larvae exhibit an enlarged tail fin for swimming with external gills. They transform into land dwelling salamanders with lungs around 18 to 24 months. They consume a wide variety of animals from small invertebrates to salamanders, rodents, and lizard – they exhibit a sit and wait feeding style. This species is endemic to California.	Moderate, limited upland non-breeding habitat present in forested areas along drainages outside of development area
California red-legged frog *Rana draytonii*	FT/SSC	Largest native frog in the western U.S. with females reaching up to 5¼ inches in length and males being slightly smaller. They are most common in marshes, streams, lakes, reservoirs, ponds, and other water sources with plant cover. Breeding occurs in deep, slow-moving waters with dense shrubby or emergent vegetation from late November through April. Floating egg masses are attached to emergent vegetation near the water's surface. Tadpoles require 3½ to 7 months to attain metamorphosis. During the non-breeding season, California red-legged frogs can remain at the breeding site (in the presence or absence of water) or move into surrounding non-breeding habitats. Adults eat invertebrates and small vertebrates. Larvae are algal grazers.	Low; temporary upland refugia habitat present in forested areas along drainages outside of development area
Foothill yellow-legged frog *Rana boylii*	--/Candidate ST, SSC	In or near partly shaded rocky streams that are shallow, slow, and moderately size from sea level to 6,300 feet. Breeding occurs from spring to early summer after high flows have receded. Eggs are laid at downstream end of rocks. Tadpoles require 3 to 4 months to attain metamorphosis. During all season, never found far from water.	Not present, extirpated downstream

Common Name Scientific Name	Listing Status[1] (Federal/ State)	Description	Potential for Occurrence within the Project site[2]
Reptiles			
Northwestern pond turtle *Actinemys marmorata*	--/SSC	A year-round resident of Marin County, found in or near permanent or semi-permanent water sources (e.g., ponds, lakes, rivers, streams) with suitable basking sites and underwater retreats. Eggs are laid in shallow holes dug by the female from April through August. Eggs hatch in late summer or fall. In northern California, hatchlings can remain buried until the following spring. Turtles may use uplands for overland migration (movements up to 5 km) and nesting sites (nesting can occur over 500 m from water).	Not present, but potentially downstream
Birds			
Burrowing owl *Athene cuniculari*	--/SSC (burrowing and some wintering sites)	A small, ground-dwelling species of grasslands, prairies, rolling hills, and ranchlands. Subterranean nesters that utilize abandoned burrows of ground squirrels and other mammals. Feed on a variety of prey items, including ground insects and small vertebrates. This species no longer breeds in Sonoma County. However, it is observed frequently in the winter, especially along the coast and baylands.	Suitable habitat not present
Oak titmouse *Baeolophus inornatus*	BCC/--	Small, gray-brown bird of oak woodlands. Characterized by small pointed crest and nasal tsick-a-dee-dee call that resonates through woodland habitats. Forages for insects and seeds, hopping from branch to branch. Nests in cavities in trees or nest boxes. Oak titmice are a year-round resident in Marin County.	Present, observed during field survey
Marbled murrelet *Brachyramphus marmoratus*	FT/SE (nesting)	Uncommon permanent resident of the west coast from California to Alaska. This species is permanent resident along the Marin Coast, but sightings are uncommon during the breeding season from May through July. This seabird forages for small fish and plankton in offshore areas and along the rocky coastline. It has an unusual nesting behavior. Unlike most alcids, it does not nest in burrows or cliff colonies, but uses old-growth forests dominated by conifers and redwoods. Nesting may occur as far as 45 miles inland. A single egg is laid on a platform of lichen and moss on large tree limbs. Adult movements to and from the nest occur most often at dusk and dawn. Breeding success is very low. The decline of this species has been attributed to the loss of old-growth forests.	Suitable habitat not present

Common Name Scientific Name	Listing Status[1] (Federal/ State)	Description	Potential for Occurrence within the Project site[2]
Northern harrier *Circus cyaneus*	--/SSC	Occupies wide-open habitats from grasslands to marshes. A slender, medium sized raptor. Fly low to ground hunting fo`r small animals. Rely heavily of sense of hearing to detect prey. Nests are constructed on the ground in well concealed vegetation or clumps of vegetation. A year-round resident in Marin County.	Suitable habitat not present
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	Candidate/SE (nesting)	A rare summer resident of valley foothill and desert riparian woodlands. Requires extensive thickets with low growing understory vegetation adjacent to water. Open cup nest constructed on horizontal branch from 2 to 25 feet off the ground. Breeds from June to July departing for South America in late August to early September. Feeds primarily on insects, but will also consume frogs, lizards, and fruit. Cuckoos have declined from former range due to a loss of riparian habitat. Historically may have nested in Marin County (Shuford, 1993).	Suitable habitat not present
Loggerhead shrike *Lanius ludovicianus*	--/SSC	A large, predatory bird of open woodlands and shrublands. Forage from exposed perches primarily for large insects but will also take small birds, and rodents with their large hooked bill. During the breeding season, they prefer semi-open habitats with scattered trees and shrubs for nesting. Breeding occurs from March through August. During winter, may frequent treeless habitats in the presence of wires and fences.	Suitable habitat not present
Northern spotted owl *Strix occidentalis caurina*	FT/ST, SSC	Dense forest habitats in northern California. Requires multi-layered canopy cover for roosting sites. Breeding sites include tree or snag cavities or broken tops of large trees. Nocturnal hunter eating mostly small mammals. Year-round resident in Marin County where it is known from breeding occurrences in old-growth and mixed forest habitats. Species occupies a large territory, approximately 5 square miles. A pair of owls may utilize the same breeding site for five to 10 year.	Low; Positive observations within 0.5 mile in Muir Woods National Park, but low potential for occurrence given habitat composition and proximity to development; may occasionally forage along the drainages outside of development area

Common Name Scientific Name	Listing Status[1] (Federal/ State)	Description	Potential for Occurrence within the Project site[2]
Mammals			
Pallid bat *Antrozous pallidus*	--/SSC Western Bat Working Group high priority species	Grassland, shrubland, forest, and woodland habitats at low elevations up through mixed coniferous forests. A social species forming small colonies. Roosting sites include caves, mines, crevices, buildings, and hollow trees during day, more open sites used at night. Pallid bats feed on large flightless arthropods. A yearlong resident throughout most of its range. During non-breeding season, both sexes may be found roosting in groups of 20 or more individuals. One to three (typically twins) pups born from April to July.	Moderate; suitable roosting habitat present in mature trees, may forage over Project site
Townsend's big-eared bat *Corynorhinus townsendii*	--/SSC Western Bat Working Group high priority species	Low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. Utilizes edge habitats for foraging. Roosting sites include caves, mines, tunnels, buildings, and other man-made structures. Mating typically occurs in winter with single young born in May or June. Maternal roosts consist of a small number of females with young, typically less than 100 individuals.	Low; limited potential roosting habitat, may forage over Project site
Western mastiff bat *Eumops perotis californicus*	--/SSC Western Bat Working Group high priority species	The largest native bat in the U.S., occupying open, semi-arid to arid habitats with cliff faces, high buildings, trees and tunnels for roosting. Typically occurs in conifer and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, desert scrub, and urban environments. Typically non-migratory and occurs throughout southern California but ranges north to Butte County.	Low; limited potential roosting habitat, may forage over Project site
Hoary bat *Lasiurus cinereus*	--/-- Western Bat Working Group medium priority species	Occur in open habitat or habitat mosaics. Requires medium to large trees for cover and habitat edges and/or open areas for foraging habitat. Tend to be solitary roosting in trees and foliage, and they are widespread in California except patchy in desert regions. Mating occurs during fall migration and young are born the following June. Favored food is moths.	Moderate; suitable roosting habitat present in mature trees, may forage over Project site
American badger *Taxidea taxus*	--/SSC	Occur in a variety of habitat types (e.g., herbaceous, shrub, or forest habitats) with dry, friable soils. Badgers are carnivorous and dig their own burrows. Consume primarily fossorial rodents but will also eat reptiles, insects, eggs, birds, and carrion. They are active year-round, although less active in winter. Mating occurs in summer and early fall with young (average 2 to 3) born in early spring.	Suitable habitat not present

Common Name Scientific Name	Listing Status[1] (Federal/ State)	Description	Potential for Occurrence within the Project site[2]
Invertebrates			
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE/--	Coastal, mountainous areas with grassy ground cover. All known locations restricted to San Mateo County. Host plant is Pacific sedum (*Sedum spathulifolium*) (eggs laid on plant and caterpillars feed on sedum). Adult flight season is late February to mid-April.	Suitable habitat not present
Monarch butterfly *Danaus plexippus*	--/--	Overwinter along the California coast. Eucalyptus, Monterey pine, and Monterey cypress groves are the most commonly used trees for roosting. Monarchs begin to arrive in September/October. They cluster in dense groups on tree branches and trunks. They require mild climates to survive through winter. They have limited activity in the winter - restricted to occasional sunning, rehydrating, and nectaring. They disperse after breeding in February/March.	Suitable habitat not present
Mission blue butterfly *Plebejus icarioides missionensis*	FE/--	Historically, occupied grassland and chaparral habitats in seven counties surrounding the San Francisco Bay. The majority of butterflies are restricted to San Bruno Mountain. Small isolated colonies are also reported at Twin Peaks in San Francisco (possibly extirpated?) and Golden Gate National Recreation Area in the Marin Headlands. Host plant is silver lupine (*Lupinus albifrons*) (eggs laid on plant and caterpillars feed on lupine). Adult flight season is late March to early July. Adults are known to feed on buckwheat, golden aster, wild hyacinths, and other plants. Hilltops and ridges are important breeding grounds.	Suitable habitat not present
Fish			
Steelhead – Central California Coast DPS *Oncorhynchus mykiss irideus*	FT/--	Spawn in fresh water and mature at sea. Steelhead generally spend their first and sometimes second year of life in freshwater creeks and then one to four years at sea. They return to spawn in their natal streams as many as four times as they do not always die after spawning like other salmonids. Juvenile steelhead generally occupy glides and riffles and less frequently pools. Adult steelhead spawn from December through April in cool, clear, well-oxygenated streams with pea to apple-sized gravel, usually at the head of a riffle. Federal listing applies to all coastal runs from Russian River south to Soquel Creek; it includes San Francisco and San Pablo Bay basins but excludes the Sacramento-San Joaquin Rivers.	Suitable habitat not present, but downstream in Redwood Creek

Common Name Scientific Name	Listing Status[1] (Federal/ State)	Description	Potential for Occurrence within the Project site[2]
Coho salmon – Central California Coast ESU *Oncorhynchus kisutch*	FE/SE	Coho salmon spend their adult life in the ocean, migrate up freshwater streams to spawn, rear at least partially in freshwater, and migrate to the ocean as juveniles. Unlike other Pacific salmon in California, their reproductive strategy is completed over a three-year cycle and is fairly rigid. Spawning years with relatively poor reproductive success can result in poor spawning runs three years later. They prefer cold, low gradient stream with dense riparian canopy. Adult coho salmon start to arrive in late summer and fall to begin acclimation to freshwater before they migrate upstream. Juvenile coho salmon emerge from the gravel the following spring and usually rear in the stream for one year before migrating to the ocean.	Suitable habitat not present, but downstream in Redwood Creek

Notes:

1 **Listing Status** (CDFW, 2018): FE-federally listed as endangered, FT-federally listed as threatened, BCC-Bird of Conservation Concern, SE-state listed as endangered, ST-state listed as threatened, Candidate SE-state candidate to be listed as endangered under CESA Candidate ST-state candidate to be listed as threatened under CESA, FP-State of California fully-protected species, SSC-California Species of Special Concern, and WL-Watch List.

2 **Special-status Species Evaluation Criteria:** Special-status species were evaluated for their potential to occur within the project site. Potential for occurrence was classified as not present, low, moderate, high, or present based on the following criteria: **Not Present** – Suitable habitat is not present within the project site, species definitively not observed; **Low** – One or more key habitat components is absent from the project site; no known occurrences in vicinity, or habitat present but species not observed during field surveys that would be expected to discover species, if present, based on season and level of effort. Species is unlikely to occur within the project site; **Moderate** – Some of the habitat components required by this species are present within the project site and/or marginally suitable habitat is present within surrounding areas. Species may occur within the project site; **High** – All of the habitat components required by this species are present within the project site and/or it is known to occur in surrounding areas. Species is likely to occur within the project site; **Present** – Species has reported occurrences within the project site and/or was observed within the project site during field surveys.

Downstream Aquatic Resources

As noted above, the Project site is located in the Redwood Creek watershed. The watershed is known to support sensitive aquatic resources. Redwood Creek is documented habitat for federally listed as threatened steelhead, federally and state listed as endangered coho salmon, and special-status pond turtles; see Table 4-2 for additional descriptions. Suitable habitat for these sensitive aquatic species is not present within the Project site. The Project would protect downstream aquatic resources through the establishment of SCA (per CWP, Policy BIO-4.1) along both of the drainages within the Project site; see section 3 below. The SCAs would allow for the protection of aquatic species by providing a 100-foot buffer from the creek and any development and would ensure no sedimentation and contamination from the Project site through

implementation of standard construction Best Management Practices (BMPs). The Project would not result in impacts on aquatic species or sedimentation of the Project site drainages or any downstream waterway or otherwise adversely affect water quality; see conclusions in Section 10, Hydrology.

Special-status Wildlife Descriptions

Northwestern pond turtle (*Actinemys marmorata*, CDFW Species of Special Concern) – found in or near permanent or semi-permanent water sources (e.g., ponds, lakes, rivers, streams) with suitable basking sites and underwater retreats. Suitable habitat downstream in Redwood Creek, but not present within the Project site.

Pallid bat (*Antrozous pallidus*, CDFW Species of Special Concern, Western Bat Working Group high priority species) – occurs in grassland, shrubland, forest, and woodland habitats at low elevations up through mixed coniferous forests. Suitable roosting habitat is present in mature trees and species may forage over the Project site. Moderate potential for occurrence within the Project site.

Oak titmouse (*Baeolophus inornatus*, Bird of Conservation Concern) – small, gray-brown bird of oak woodlands. Oak titmice are a year-round resident in Marin County. Species was documented within the Project site and may occur there year-round.

Townsend's big-eared bat (*Corynorhinus townsendii*, CDFW Species of Special Concern, Western Bat Working Group high priority species) – occurs in low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. Limited roosting habitat is present within the Project site; species may forage over the Project site. Low potential for occurrence within the Project site.

California giant salamander (*Dicamptodon ensatus*, CDFW Species of Special Concern) – occurs in wet coastal forests near permanent and semi-permanent streams and springs. Limited upland non-breeding habitat present in forested areas along drainages outside of development area. Moderate potential for occurrence within the Project site, but not within the proposed building envelopes.

Western mastiff bat (*Eumops perotis californicus*, CDFW Species of Special Concern, Western Bat Working Group high priority species) – occupies open, semi-arid to arid habitats with cliff faces, high buildings, trees and tunnels for roosting. Limited roosting habitat is present within the Project site; species may forage over the Project site. Low potential for occurrence within the Project site.

Hoary bat (*Lasiurus cinereus*, Western Bat Working Group medium priority species) – Occurs in open habitat or habitat mosaics. Requires medium to large trees for cover and habitat edges and/or open areas for foraging habitat. Suitable roosting habitat is present in mature trees and species may forage over the Project site. Moderate potential for occurrence within the Project site.

California red-legged frog (*Rana draytonii*, federally listed as threatened, State listed as threatened, CDFW Species of Special Concern) – common in marshes, streams, lakes, reservoirs, ponds, and other water sources with plant cover. Breeding occurs in deep, slow-moving waters with dense shrubby or emergent vegetation with water present into summer. Temporary upland refugia habitat present in forested areas along drainages outside of development area. Low potential for occurrence within the Project site.

Northern spotted owl (*Strix occidentalis caurina*, federally listed as threatened, State listed as threatened, CDFW Species of Special Concern) – occupy dense forest and woodland habitats. Year-round resident in Marin County where it is known from breeding occurrences in old-growth and mixed forest habitats. Positive observations of northern spotted owl are reported within 0.5 miles of the Project site in Muir Woods National Park (CDFW, 2019a). Suitable habitat is not present within the Project site due to habitat composition and proximity to development; may occasionally forage along western drainage outside of development area. Low potential for occurrence within the Project site, but not within the proposed building envelopes.

Special-status Wildlife and Habitat

A number of special-status animal species have been reported in the general vicinity of the Project site. As noted above, northwestern pond turtle, has potential to occur downstream of the Project site in the Redwood Creek watershed, but suitable habitat is not present within the site itself. California red-legged frog, northern spotted owl, and California giant salamander have low to moderate potential to occur within the drainages on the Project site, but no habitat for these species exists within the proposed buildings envelopes; see *Special-status and Common Bats* and *Special-status and Nesting Birds* below. Due the sensitivity of habitats within the Project site and in surrounding areas, precautionary measures are necessary to ensure the protection of special-status species and their habitats within the Project site. Direct impacts to special-status species would be significant. Development of the project site should include wildlife friendly practices such as appropriate fencing to reduce potential impacts on wildlife.

Implementation of Mitigation Measure BIO-1 would limit potential impacts on native wildlife by completing a worker training, defining Project boundaries and confining workers to those boundaries, and installation of wildlife friendly fencing.

Special-status and Common Bats

There are approximately 15 bat species with known occurrences within Northern California, and a number of these species have a high probability of occurring within the area around the Project site. Bats are highly mobile; many are migratory. Foraging habitats range from woodlands, forests, and grasslands to open water. As noted above, four special-status species (pallid bat, Townsend's big-eared bat, western mastiff bat, and hoary bat) have low to moderate potential to occur within the Project site based on nearby observations and site conditions. Additional bat species (e.g., fringed myotis, long-eared myotis, silver-haired bat, small-footed myotis, Yuma myotis) identified as

having moderate to high priority for conservation by the Western Bat Working Group[5] may also occur within the Project area.

A number of trees within the Project site could contain cavities and other conditions that could provide suitable roosting habitat for special-status and common bat species. Three non-native trees (i.e., English laurel, red flowering gum, and incense cedar) are proposed for removal (Urban Forestry Associates, 2018). Some minor pruning may be required to accommodate construction of the residences or new vehicle access. Tree removal or pruning could result in disturbance to roosting bats through noise generated during the pruning or direct removal of occupied habitat, and the impact could be significant.

Implementation of Mitigation Measure BIO-2 would limit potential impacts on special-status and common bat species by requiring preconstruction surveys, avoidance of disturbance to roosting bats, and work hour restrictions.

Special-status and Nesting Birds

The Project site provides potential nesting habitat for special-status bird species. Oak titmice are known to occur year-round in Marin County and were documented within the Project site. There have been observations of northern spotted owls within 0.5 mile of the Project site in Muir Woods National Park. The potential for occurrence within the Project site is low given habitat composition and proximity to development. Spotted owls may occasionally forage along the drainages outside of the proposed building envelops; however, there would be no impact on these species from the Project with adherence to the stream and wetland setback requirements.

Since construction could occur during the nesting season, the Project has the potential to affect special-status and nesting birds. Construction activities could result in tree removal or pruning, ground disturbance, or construction-related noise which could result in impacts on protected nesting birds if present in and near the work area. Potential impacts on nesting birds could result from destruction of eggs or occupied nests, mortality of young, and abandonment of nests with eggs or young birds prior to fledging. Such potential impacts on protected nesting birds could be significant.

The Marin County Development Code §22.20.040 (F) establishes nesting bird protection measures for outdoor construction activities that involve tree removal, grading, or other site disturbance in areas where nesting birds have a high probability of being present. Adherence to section 22.20.040 (F) would limit potential impacts on nesting birds by requiring preconstruction surveys by a qualified biologist to determine if nesting birds are present and by identifying buffer zones around the nests or delaying work until the breeding season is over or nesting is complete. If work would occur outside the nesting

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[5] The Western Bat Working Group (WBWG) is composed of agencies, organizations, and individuals interested in bat research, management, and conservation from the 13 western states and provinces. CDFW includes the listing status of other conservation organizations, including the WBWG, in their “Special Animals” publication (CDFW, 2018).

bird window of February 1 to August 15, surveys and avoidance measures would not be necessary for special-status and nesting birds.

Mitigation Measure BIO-1: Special-status Wildlife and Habitat

Implement the following protection measures for special-status wildlife and habitat during construction within each of the three proposed lots:

- Conduct a worker awareness training for all supervisory field staff. The training shall include the following information: a photograph and description of each special-status species or sensitive resource known from the area; a description of its ecology and habitat needs; potentially confusing resources (e.g., similar species or habitats); an explanation of the measures being taken to avoid adverse impacts; reporting and necessary actions if sensitive resources are encountered; and workers' responsibility under the applicable environmental regulation.
- The Project limits should be clearly marked on the final design drawings and work confined within those boundaries.
- Foot and vehicle traffic should be restricted to the designated work and staging areas.
- For any fencing needs, install fencing that reduces the risk of death or injury to wildlife and does not impede movement. See *Fencing with Wildlife in Mind* by Colorado Division of Wildlife for specific guidelines on fencing installation and types (Hanophy, 2009).

Monitoring Measure BIO-1: The Marin County Community Development Agency and Department of Public Works shall verify that the provisions of the measure have been implemented.

Mitigation Measure BIO-2: Special-status and Common Bats

Implement the following protection measures for special-status and common bat species during construction within each of the three proposed lots:

- Complete presence/negative finding bat surveys prior to removal or pruning of any trees over 6 inches in diameter at breast height. Surveys shall be completed by a qualified biologist.[6] Because each individual bat species may use different roosts seasonally and from night to day, surveys must be conducted by a qualified biologist at the appropriate times. If trees planned for pruning or removal are identified as active roost sites, appropriate avoidance measures shall be developed by a qualified biologist. This may include seasonal limitations on work when roosts are unoccupied and/or establishment of buffer areas around occupied roosts.

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[6] A qualified biologist has a minimum of five years of academic training and professional experience in biological sciences and related resource management activities with a minimum of two years conducting surveys for the target species.

- For all trees previously identified as active roost sites (during Project surveys) and subject to pruning or removal, trees shall be taken down in a two-step process – limb removal on day one shall be followed by bole removal on day two. This approach would allow bats, if present, an opportunity to move out of the area prior to completing removal of the trees. No trees supporting special-status bats shall be removed without prior consultation with CDFW.
- If work is postponed or interrupted for more than two weeks from the date of the initial bat survey, the preconstruction survey shall be repeated.
- Construction shall be limited to daylight hours to avoid interference with the foraging abilities of bats.

Monitoring Measure BIO-2: The Marin County Community Development Agency and Department of Public Works shall verify that the provisions of the measure have been implemented.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

CDFW has established a list of natural communities for California that it considers part of the natural heritage conservation triad, along with plants and animals of conservation significance. Since 1999, the CDFW Vegetation Classification and Mapping Program has undertaken the classification and mapping of vegetation throughout the state and has assumed the role of standardizing vegetation nomenclature for California to comply with the National Vegetation Classification System. One purpose of the vegetation classification is to assist in determining the level of rarity and imperilment of vegetation types. Ranking of alliances according to their degree of imperilment (as measured by rarity, trends, and threats) follows NatureServe's Heritage Methodology, which identifies both a G (global) and S (state) rank. Communities listed as critically imperiled (Rank 1), imperiled (Rank 2), or vulnerable (Rank 3) within the state are considered special-status, defined as "communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects" (CDFW, 2019b).

Several vegetation types occur within the Project site – non-native annual grassland, ornamental landscaping, mixed non-native coniferous forest with occasional native Douglas fir, seasonal wetland, scrub, and a small stand of riparian woodland along one of the drainages. Of these types, only wetlands and riparian woodlands would be considered sensitive natural communities as defined by CDFW and the Marin CWP (CDFW, 2019b). The riparian woodlands fall within a designated SCA, where development is restricted; see topic d below, for further discussion. Impacts on seasonal wetlands are discussed under topic c below. No work is proposed within the riparian woodlands; therefore, the Project would have no impact on this sensitive natural community.

c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Wetlands are either permanently or seasonally inundated by surface or groundwater. They are characterized by the presence of aquatic plants and unique soil characteristics. They provide many important functions including water purification and storage, recharge, and wildlife and fish habitat. Regulations and policies that protect aquatic habitats have been enacted by a number of government agencies. Wetlands fall under the jurisdiction of the ACE, local Regional Water Quality Control Board, and CDFW. Any fill, removal of native wetland vegetation, or alteration of drainage patterns require permits and resource agency consultation. Wetlands are also protected under CWP Policy BIO-3.1. Within the City-Centered Corridor, and defined in the CWP, for parcels greater than 2 acres in size, there is a minimum 100-foot development setback from wetlands. WCAs must be established around the wetland and include the required buffer.

As described above, the Project site supports two wetland features. A small area of wetland vegetation occurs along the western drainage that appears to be associated with a small landslide and is entirely within the 100-foot SCA; see topic d). No development is proposed in this area, and any site development would be well outside the WCA.

A second wetland seep is located along the northern edge of the Fire Road, where grading activities took place in 2014. A wetland delineation of this feature was completed in 2017 and then verified by the ACE in 2018 (ACE, 2018; LSA, 2018). Currently, the wetland is approximately 180 square feet, and supports hydrophytic vegetation, wetland soils, and wetland hydrology. Non-native invasive plant species, including cape ivy, are pervasive in this area, including in the wetland. The proposed development envelopes and other areas of Project disturbance, including on-site septic systems and drainage systems, are set-back at least 100 feet from the wetland, as required by the CWP, and would not alter drainage patterns within the wetland. Future development of the Project site is therefore not expected to adversely affect this wetland.

In sum, the Project would have no impact on wetlands.

2014 Grading of the Fire Road

No baseline assessment of the wetland area was completed prior to the unpermitted grading of the Fire Road in 2014. The extent and composition of the original feature is not known. It is assumed that impacts associated with site grading and fill placement may have resulted in disturbance to the wetland, such as hydrologic alteration, removal of wetland vegetation, or filling directly into the wetland. Based on present conditions, however, the wetland appears to be functionally intact. The grading of the Fire Road therefore appears not to have had lasting impacts on the wetland, and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on wetlands.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

A wildlife corridor is an area of habitat connecting wildlife populations otherwise separated by human activities or structures (e.g. roads, development, or logging). They are typically described as linear or relatively narrow strips of land. Wildlife corridors allow an exchange of individuals between populations separated by habitat fragmentation. This exchange helps prevent the negative effects of inbreeding and reduced genetic diversity that often occur within isolated populations. Habitat linkages refer to broader regions of connectivity that allow for the movement of multiple species and maintenance of ecological processes. Native wildlife nursery sites are specific areas where certain species return yearly to breed, birth, and raise young.

Future development would be concentrated on the northern portion of the Project site on the ridgetop that currently supports the existing single-family residence, garage, and an outbuilding surrounded by ornamental landscaping and decking, and non-native annual grassland. Native plant communities and significant stands of native vegetation are not present within the proposed building envelopes. The Project site is adjacent to urban development consisting of single-family residences and roads to the northwest, north, and east. More extensive stands of both native and non-native vegetation occur to the south and southwest, buffering the building envelopes from neighboring properties. The Project site is nearby to adjacent protected lands that provide high quality habitat, including Muir Woods National Park, which is located directly to the southwest.

Fencing surrounds a large portion of the Project site, including the building envelopes. The fencing currently restricts wildlife movement into the proposed development area. The drainages within Project site are likely to support local wildlife movement; however, no development, including roads or fencing, is proposed in these locations and these habitats are conserved within the SCA and WCA. Vegetated habitats beyond the proposed buildings envelopes would remain undisturbed.

The development area experiences a high level of human use already. Wildlife residing near the Project site are likely habituated to human activity. Construction-related disturbance would not cause significant impacts on wildlife movement activity in the surrounding area. Future construction of additional residences would be temporary. The Project would not result in any negative long-term impacts on wildlife movement and use of wildlife nursery locations, and it would not require any additional mitigation.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road in 2014 did not erect barriers, such as new fences, that would affect wildlife movement. As previously noted, impacts on the wetland, which may serve as a nursery for some species, appear to have been temporary. The area that was graded does not provide fish habitat, and so the alterations to the site would not have directly affected fish. Any impacts to downstream

fish habitat, such as from sedimentation, would have been temporary. As described in Section 10, Hydrology and Water Quality, there are no ongoing issues of sedimentation associated with the unpermitted work on the Fire Road. Therefore, consideration of the impacts of the 2014 grading would not alter the conclusion that the Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The CWP includes goals and policies to protect natural resources and manage invasive species and the spread of plant pathogens. The Project would not conflict with any goals and policies of the CWP with adherence to the below mitigation measures. Measures discussed under (a) through (d) above would ensure avoidance of special-status species, habitats, and other sensitive resources protected under the CWP. The following provides a review of the conformance of the Project with respect to the CWP's goals to protect wetlands, streams, native trees, and to manage invasive plant species and the spread of plant pathogens.

Wetland Conservation Area

The CWP, Policy BIO-1, establishes WCAs to protect wetlands and upland buffers. The WCA includes the wetland itself and a designated buffer from the edge of the jurisdictional boundary. Within the City-Centered Corridor, for parcels greater than 2 acres in size, there is a minimum 100-foot development setback. As described above, there are two wetlands within the Project site, but outside the area of proposed development. There are established WCAs surrounding these features. The Project would not affect compliance with Policy BIO-1; see Figure 4-1.

Stream Conservation Area

The CWP, Policy BIO-4.1, also establishes SCAs to protect stream and streamside habitats from the impacts of new development by providing habitat for aquatic species, absorption of water, and distribution of flood waters (Marin County, 2016). The SCA includes the creek itself, and is measured from the top of the creek bank. Within the City-Centered Corridor, for parcels greater than 2 acres in size, there is a minimum 100-foot development setback. As described above, there are two drainages within the Project site, but outside the area of proposed development. There are established SCAs surrounding these drainages. No work is proposed in these locations; therefore, the Project would not affect compliance with Policy BIO-4.1; see Figure 4-1.

Native Tree Protection

The Native Tree Preservation and Protection Ordinance (Chapter 22.27) of the Marin County Code establishes regulations for the preservation and protection of native trees in the non-agricultural unincorporated areas of the County by limiting tree removal in a manner that allows for reasonable use and enjoyment of private property. The purpose

of the ordinance is to establish regulations for the preservation and protection of native trees. This ordinance applies only to “protected trees,” generally prohibiting the removal of native trees between 6 and 10 inches in diameter (depending on species). The County may require mitigation for removal of a protected tree by replanting or, where tree planting on the site is not feasible or appropriate, through an in-lieu fee.

The Project would result in the removal of three non-native trees, including a 10” diameter trunk English laurel, 23” diameter trunk red flowering gum, and 24” diameter incense cedar) (Urban Forestry Associates, 2018). The Applicant proposes to construct a small rock retaining wall near a Marin County Code “protected tree” – a multi-trunk coast live oak. Tree protection fencing would be placed to protect this tree. An additional coast live oak would be protected near proposed excavation. In addition, some minor pruning of other trees may be required to accommodate construction of the residences or new vehicle access. Development of individual lots and septic disposal areas may result in tree removal depending on the specific site plan. Development could adversely affect existing trees through root damage from construction activities within the root zone of protected trees and tree mortality could occur. Trimming activities could also damage existing trees if completed during a time of year that could impact growth. The loss of trees could be inconsistent with the local tree ordinance, and the impact would be significant.

Implementation of Mitigation Measure BIO-3 would limit impacts on native trees by minimizing removal and pruning, protecting tree root zones, and requiring replanting for any “protected” tree removed.

Mitigation Measure BIO-3: Protect Native Trees

Implement the following tree protection measures during construction within each of the three proposed lots:

- Minimize tree removal and pruning. Light pruning may occur at any time of year. Heavy pruning may cause problems due to vigorous sprouting and subsequent witches broom or powdery mildew diseases. Heavy pruning shall be done on deciduous trees in the winter; see BIO-2 and BIO-3 for wildlife protection measures.
- Minimize impacts within the Root Protection Zone.[7]
    - Temporary protective fencing shall be installed around RPZs or, at a minimum, the dripline perimeter of trees near work areas.
    - Changes in drainage within protected tree perimeters shall be avoided to the extent feasible.

[7] Native trees are particularly susceptible to disturbance, especially within the root crown and root zone, commonly referred to as the Root Protection Zone (RPZ), which is defined as 1.5 times the dripline radius measured from the tree trunk. The RPZ also extends approximately three feet below the soil surface.

    - Soil compaction within protected tree perimeters shall be avoided to the extent feasible.
    - Heavy equipment, vehicles, and/or construction materials shall not be parked or stored beneath trees or operated within the delineated protected perimeter.
- Develop a tree replacement plan for any "protected" tree removed over 6 inches in diameter. The plan shall be developed in consultation with a Registered Professional Forester or Certified Arborist. The plan shall include appropriate ratios for replacement, planting location, methods, plant sources, and timing. Maintenance and monitoring of the planting during an establishment period of 5 years shall be required.

Monitoring Measure BIO-3: The Marin County Community Development Agency shall verify that the provisions of the measure have been implemented.

Invasive Plant Species Management

CWP policies BIO-1.6 and BIO-1.7 call for the control of the spread and removal of invasive exotic plants. Invasive plants are species that are introduced from other parts of the world that tend to grow and spread rapidly. They often create dense stands where little else can grow and change habitat conditions in ways that are detrimental to native plant species and native wildlife. They can also increase fire hazards. Project construction would involve equipment operation, grading, and other disturbances that could result in the introduction or spread of invasive plant species, allowing these species to spread into adjacent areas.

Invasive plant species are present within the proposed building envelopes and pervasive throughout the much of the Project site. Portions of the Project site include dense stands of acacia, cape ivy, cotoneaster, and French broom and smaller patches of cape weed, English ivy, Himalayan blackberry, pampas grass, and pride of Madeira. Most of the invasive plant species within the Project site are classified as moderately to highly invasive by the California Invasive Plant Council (Cal-IPC, 2019). The Project site also supports other more widespread and common non-native grasses and forbs; these are not considered noxious or of high concern. Introduction of additional invasive and further spread of existing plants both with the site and beyond into uninfected areas could result in conflicts with the CWP policies, and the impact could be significant.

The Project is subject to the requirements of the Marin County Fire Code, which requires developments within the Wildland-Urban Interface (WUI) to prepare and implement a Vegetation Management Plan (VMP) consistent with Marin County Fire Standard 220. The VMP must include a fire hazard risk assessment, plan for creation and maintenance of defensible space, and specify the species and spacing of landscape plants. Standard 220 includes a list of prohibited, highly flammable plants that includes many common invasive species.

Implementation of Mitigation Measure BIO-4 would limit the introduction and spread of invasive plant species through removal of existing plants, proper disposal, cleaning and

inspecting equipment and vehicles, site rehabilitation, prompt site restoration, and monitoring.

Mitigation Measure BIO-4: Invasive Plants

Implement the following protection measures to limit the introduction and spread of invasive plants during construction within each of the three proposed lots:

- Incorporate the removal of invasive species into site development. During site clearing for construction, remove, by hand or mechanical means, all non-natives within the area to be disturbed and within 25 feet of the disturbed area. Any material with potential to germinate or re-sprout shall be disposed in a landfill. If bare ground is left after removal, the area shall be reseeded and/or replanted with native species.
- The Vegetation Management Plans prepared for each parcel shall include provisions to prevent the introduction and spread of invasive plant species. Provisions shall include, but are not limited to, the following:
    - Any seed, straw, or mulch brought into the site shall be weed-free.
    - Construction vehicles and other landscaping equipment shall be cleaned of seed and soil from weed-infested locations before entering new areas.
    - Revegetation of disturbed soil shall occur promptly after disturbance.
    - All site restoration and erosion control seeding shall include only native species from the Redwood Creek watershed or Marin County.
    - Monitor areas of ground disturbance for invasive species infestation and remove any invasives.
    - Avoid planting any ornamental species known to be invasive.

Monitoring Measure BIO-4: The Marin County Community Development Agency, the Department of Public Works, and the Marin County Fire Department shall verify that the provisions of the measure have been implemented.

Sudden Oak Death

Sudden Oak Death (SOD) is a disease caused by the introduced oomycete (water mold) pathogen *Phytophthora ramorum*. This disease is well established in Marin County and in coastal California forests and woodlands (Oak Mapper, 2019). SOD Death mortalities have created heavy fuel loads in some forested areas in the region.

Phytophthora ramorum and other common plant pathogens can be spread to new sites by human activity. Using standard BMPs to reduce the spread of pathogens during construction would help protect plants and plant communities on the Project site and within adjacent areas. The CWP Implementing Program BIO-1e calls for the control of the spread of SOD. Introduction or spread of SOD into uninfected areas and loss of native trees could result in significant impacts and would conflict with CWP Implementing Program BIO-1e.

Implementation of Mitigation Measure BIO-5 would limit the spread of plant pathogens like SOD during construction by requiring equipment to be properly cleaned, avoiding work in wet weather, containing infected trees, and purchasing materials from appropriate nurseries.

Mitigation Measure BIO-5: Sudden Oak Death:

Implement the following protection measures to limit the introduction and spread of plant pathogens during construction within each of the three proposed lots:

- Clean equipment, boots, truck tires, and any other exposed material with a 10% bleach solution or other disinfectant after working in infected areas and bringing materials onto the site.
- Avoid pruning oaks or other affected trees in wet weather.
- Avoid work in wooded areas during the wet season when spores are being produced and infections are starting.
- Leave potentially infected downed trees on the Project site instead of transporting the material to an uninfected area.
- Purchase nursery stock for landscape plantings at nurseries that follow current BMPs for preventing the spread of SOD (consult the California Oak Mortality Task Force, www.suddenoakdeath.org, for current standards).

Monitoring Measure BIO-5: The Marin County Community Development Agency and Department of Public Works shall verify that the provisions of the measure have been implemented.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road was inconsistent with County policies regarding wetland protection by conducting grading activities within the WCA that may have had an adverse effect on wetland function and habitat. As previously noted, however, the wetland now appears to be functionally intact. The grading of the Fire Road therefore appears not to have had lasting impacts on the wetland, and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not conflict with CWP policies regarding wetland protection.

The Fire Road grading appears to have occurred outside of the SCA. The grading may have resulted in some delivery of sediment to the stream system, but erosion control required by the County and the Regional Water Quality Control Board appears to have been effective in controlling sedimentation (see Figure 8 in the Project Description, and the discussion in Section 10, Hydrology and Water Quality). In sum, there appears to be no ongoing conflict or inconsistency with County policies regarding stream protection, and the conclusions regarding this point are not changed with consideration of the unpermitted grading of the Fire Road.

The grading appears not to have affected trees protected by the Section 22.27 of the Marin County Code (Native Tree Protection), and so appears not to have conflicted with the County ordinance, nor with policies regarding control of SOD.

While the area around the Fire Road grading has grown in with invasive plants, this appears to be a general trend within the lower part of the property, and does not appear to have been exacerbated by the grading.

In sum, consideration of impacts of the unpermitted grading of the Fire Road does not change the conclusions regarding the Project's consistency with local policies and ordinances protecting biological resources.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

As described by the USFWS:

> "Habitat conservation plans (HCPs) are planning documents required as part of an application for an Incidental Take Permit. They describe the anticipated effects of the proposed taking; how those impacts would be minimized or mitigated; and how the HCP is to be funded. HCPs can apply to both listed and non-listed species, including those that are candidates or proposed for listing. HCPs are required to meet the permit issuance criteria of Endangered Species Act of 1973" (USFWS, 2019b).

There are no applicable HCPs in Marin County (USFWS, 2019c).

As described by CDFW:

> "A Natural Community Conservation Planning program (NCCP) is a State-led effort to take a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. It is broader in its orientation and objectives than the California and federal Endangered Species Acts, as these laws are designed to identify and protect individual species that have already declined in number significantly. An NCCP identifies and provides for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity" (CDFW, 2019b).

There are 14 approved NCCPs in the State. There are no adopted NCCPs in Marin County.

There are no applicable HCPs or NCCPs in Marin County; therefore, there would be no impact of this kind.

2014 Grading of the Fire Road

Like the current Project, the unpermitted grading of the Fire Road in 2014 did not conflict with an adopted conservation plan, as no such plan is in effect within Marin County.

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5. Cultural Resources

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

The State CEQA Guidelines, §15064.5, detail the measures for the evaluation and protection of cultural resources in a CEQA document. “Historical resources” are those cultural resources that are: (1) listed in or eligible for listing in the California Register of Historical Resources; (2) listed in a local register of historical resources (3) identified as significant in a historical resource survey meeting the requirements of Public Resources Code §5024.1(g); or (4) determined to be a historical resource by a project's lead agency. The Guidelines further state that “A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.”

The Applicant commissioned an Archeological Resources Study for the Project site and an adjacent property, also owned by the Applicant (Anthropological Studies Center, 2017). The study was used as the basis for the cultural resources impact analysis. The study included four main parts: a records and literature search at the Northwest Information Center of the California Historical Resources Information System, located at Sonoma State University and administered by the California Office of Historic Preservation; a further literature review of publications, files, and maps at the Anthropological Studies Center and online for ethnographic, historic-era, and prehistoric resources and background information; communication with the Native American Heritage Commission (NAHC) to request a review of the Sacred Lands File and contact

information for the appropriate tribal communities, who were then contacted by Anthropological Studies Center; and a pedestrian archaeological survey of the parcels. Based on the results of this review, this report concludes with an assessment of the potential for surficial and buried archaeological resources within the study area.

The records search found no previously recorded archaeological or historical resources within the Project site but did reveal two previously recorded cultural resources within the larger study area, which included the area within a quarter mile of the two subject parcels. These are two historic-era roads/trails (Dipsea Trail, P-21-000493 and Frank's Valley Road, P-21-000497), both of which are still in use, and neither of which would be affected by the Project. The pedestrian archaeological survey identified no unrecorded archaeological resources within the two subject parcels. The Native American Heritage Commission Sacred Land File search returned no records. The Federated Indians of Graton Rancheria were contacted to request additional information about or interest in the study area, but the Tribe did not respond to repeated written requests.

The likelihood that an area includes surface or buried archaeological remains is referred to as its “archaeological sensitivity.” Although the presence of known archaeological sites is an indicator of the sensitivity of the general landscape, the results of the records searches reflect only available information on resources that have already been documented. Predictions of an area's sensitivity are based on additional factors, including geological and soil conditions. Based on the geology of the Project site, which consists of older, pre-Quaternary (that is, prior to human habitation of the area) deposits and bedrock, the Archeological Resources Study concludes that the overall sensitivity for buried archaeological resources in the Project area is low. The lack of recorded prehistoric cultural resources within a quarter mile of the Project site indicates that the sensitivity for archaeological remains on the surface is also low. Historical research and the presence of two historic-era resources within a quarter mile of the Project site indicate that the potential for historic-era archaeological resources within the Project site is low as well.

Marin County Code §22.20.040 (D) addresses potential accidental discovery of archaeological and historical resources during construction. This Code section states that, in the event that archaeological or historic resources are discovered during any construction, construction activities shall cease, and the Community Development Agency shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may occur in compliance with State and Federal law.

Given the low archeological sensitivity of the Project site, and the provisions of Marin County Code §22.20.040 (D), the potential for the Project to cause a substantial adverse change in the significance of an archaeological or historical resource is less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Ground disturbing activities associated with site preparation, grading, and construction activities could disturb human remains, including those interred outside of formal cemeteries. The potential to uncover Native American human remains exists in locations throughout California. Given the low archeological sensitivity of the site, however (as discussed above), the potential for the presence and accidental disturbance of human remains is low.

Section 7050.5(b) of the California Health and Safety code requires certain procedures to be implemented if human remains, or possible human remains, are discovered. Section 7050.5(b) states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

The County Coroner, upon recognizing the remains as being of Native American origin, is responsible to contact the Native American Heritage Commission (NAHC) within 24 hours. The Commission has various powers and duties, including the appointment of a Most Likely Descendant (MLD) to the Project. The MLD, or in lieu of the MLD, the NAHC, has the responsibility to provide guidance as to the ultimate disposition of any Native American remains.

With adherence to Section 7050.5(b) of the California Health and Safety code, the potential for the disturbance of human remains during Project construction would be less than significant.

2014 Grading of the Fire Road

While the 2014 unpermitted grading of the Fire Road had the potential to disturb previously undiscovered archaeological or historical resources or human remains, no information has come to light suggesting that it did. The grading of the Fire Road therefore appears not to have had an impact on cultural resources, including human remains, and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on cultural resources.

References:

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6. Energy

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The Project would consume energy during both construction and operation of new residences. During construction, energy consumption would be in the form of electricity, natural gas, and diesel fuel required to power a variety of construction equipment, as well as gasoline associated with car trips from construction workers driving to and from the site each day. Operation of the site would consume gasoline, natural gas, and electricity from routine uses such as car trips, cooking, and electricity for lighting. Construction of future single-family residences would be required to meet the minimum requirements of the Marin County Green Building Submittal Checklist, California Title 24 (the CalGreen building code), and Ordinance 3492 (collectively, the Green Building Requirements). The Green Building Requirements include energy efficiency standards that would reduce energy consumption by the Project. Overall, minor amounts of energy consumption would be associated with the Project and energy would not be used in wasteful, inefficient, or unnecessary ways and this impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As discussed above, the Project would use small amounts of energy during construction of the Project, including the use of heavy equipment as well as from car and truck trips associated with employees driving to and from the site and from material deliveries. Energy use during operation would include car trips to and from the site from residents, use of electricity for lighting, refrigeration, and other uses, and natural gas for cooking. Overall, energy required during operation and maintenance would slightly increase compared to existing conditions. The Project would not conflict with renewable energy or

energy efficiency plans, including goals set forth in AB 32. These goals include the 39 Recommended Actions identified by the California Air Resources Board (CARB) in its Climate Change Scoping Plan (CARB, 2017). The Project would also not conflict with goals and policies contained in the Marin CWP and Climate Action Plan (Marin County, 2015). This impact would be less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road required energy consumption primarily in the form of diesel fuel required to power construction equipment and trucks, as well as gasoline associated with car trips from construction workers driving to and from the site. Energy use was limited to the duration of the grading activities. The relatively small amounts of energy consumed is not considered significant. Consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact with respect to energy use.

References

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7. Geology and Soils

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Introduction

This section relied on several sources for information on site-specific and regional geology, seismic response, and geotechnical considerations. Topography, geologic site conditions (surface and subsurface soil/bedrock materials), groundwater occurrence and geotechnical constraints and remedies were provided in an Applicant-commissioned geotechnical investigation report completed by Herzog Geotechnical Consulting Engineers in November 2015 (Herzog, 2015). That study considered a previously proposed project that included subdividing and developing 13 individual lots on the Project site rather the 3 lots that are currently proposed. In May 2018, Herzog updated the 2015 study to reflect the current Project in a letter-report that provided revisions to the geologic map/exploration plan, seismic design criteria, and criteria for design of driveway fill banks (Herzog, 2018). Supplemental site-specific and near-vicinity seismic and geologic information was provided through publicly available, published reports and studies by the California Geological Survey and United States Geologic Survey. Information and analysis of the feasibility of installing onsite septic tank and leachfield systems was developed using an Applicant-commissioned onsite sewage study completed by Questa Engineering Corporation (Questa, 2018). The California-certified engineering geologist who prepared this section of the Initial Study conducted a technical peer review of the geotechnical and sewage disposal investigation reports to verify that they were adequate and applicable information sources to inform the CEQA analysis (Sutro Science, 2019). Soil data for the site and vicinity were obtained from the United States Department of Agriculture, Natural Resources Conservation Service (NRCS) through its on-line Web Soil Survey (NRCS, 2019). Topography, geologic conditions, soil test locations, current slope stability conditions were verified and ground-truthed during a site reconnaissance conducted on March 14, 2019 by the preparer of this Initial Study section.

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence

of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The closest known active fault capable of causing ground fault rupture during an earthquake is the San Andreas fault, located 4.7 miles to the west of the Project site. The San Andreas fault is delineated within an Alquist-Priolo Earthquake Fault Hazards Zone (CGS, 2007). No other geomorphic features were found on the site that would suggest the presence of active faulting (Herzog, 2015). Given the distance to the nearest active fault and site-specific field observations of geomorphic features, the risk of ground rupture along a fault trace at the Project site is low and thus surface fault rupture is not considered an impact of the Project.

2014 Grading of the Fire Road

As discussed in the Project Description, the 2014 unpermitted grading of the Fire Road included placement of fill, soil stabilization and installation of a culvert. The Fire Road grading project did not increase or decrease seismic risk at the Project site.

ii) Strong seismic ground shaking?

Marin County is in a seismically active region of California that has experienced earthquakes throughout recorded history. The largest earthquakes to impact this region was the 1906 temblor, followed by the 1989 Loma Prieta event, both on the San Andreas fault. These earthquakes subjected the San Francisco Bay Region, including Marin County, to ground shaking and widespread damage. Based on recently updated earthquake probability modeling, over the next 30 years, there is a 100 percent likelihood that the San Francisco Bay region will experience a magnitude 5 to 6 earthquake and a 72 percent chance that it will experience a magnitude 6.7 to 7 earthquake. The percent likelihood decreases with greater magnitude earthquakes resulting in a 4 percent likelihood of a magnitude 8 or greater magnitude earthquake over the next 30 years (USGS, 2015). The degree of earthquake ground shaking experienced by the Project site depends on the causative fault, the distance to the epicenter, the earthquake magnitude and the response of the underlying geologic materials to the seismic waves. An earthquake on any of the San Francisco Bay region's active faults would likely subject the Project site to moderate to strong ground shaking. The California Building Code, as adopted by Marin County, requires design and construction of buildings intended for human occupancy to withstand the anticipated ground motion generated during a large earthquake with minimal damage and without structural collapse. While earthquakes are unavoidable and the Project could expose new occupants to the ground shaking hazards in this region, seismic design parameters required through enforceable building codes would reduce the risk of injury and the loss of life during an earthquake. Impacts associated with earthquake ground shaking are therefore considered less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road did not increase or decrease the risks associated with seismic ground shaking at the Project site.

iii) Seismic-related ground failure, including liquefaction?

Ground shaking during an earthquake can alter the structure and greatly reduce the strength of an underlying soil. Liquefaction occurs when saturated, loose, cohesionless sands or gravels are subjected to ground shaking during an earthquake, causing them to transform to a liquid state and lose bearing strength. The seismic hazards associated with liquefaction include lateral spreading, loss of bearing strength/collapse, densification, and settlement. The conditions for liquefaction are not present on the Project site as the geologic materials consist of fine-grained and poorly sorted colluvium[8] overlying deep competent sandstone and shale bedrock of the Franciscan Assemblage. This was verified in borings drilled on the Project site during a geotechnical investigation completed by Herzog in November 2015. Materials encountered during the investigation were relatively dense and/or contained a high percentage of fine-grained materials (silt and clay) (Herzog, 2015). Groundwater was encountered in the bedrock at a depth of 16 feet in only one of the borings drilled during the Herzog investigation. The Project site is not within a Seismic Hazard Zone for liquefaction delineated under the California Seismic Hazards Mapping Act of 1990 (CGS, 2008). Considering the subsurface materials, the likelihood of liquefaction during ground shaking is low. Liquefaction and other related ground failures are less than significant impacts of the Project.

2014 Grading of the Fire Road

The native soils underlying the Fire Road in the eastern portion of the property consist of sandy clays and the fill for the Fire Road that overlies the native soils is composed of clayey and silty gravels and sand. These materials are fine-grained and not susceptible to liquefaction or related seismically activated ground failures. Therefore, the 2014 unpermitted grading of the Fire Road did not increase or decrease the potential for liquefaction to occur at the Project site.

iv) Landslides?

The Project site is not within a Seismic Hazard Zone for seismically-induced landsliding delineated under the California Seismic Hazards Mapping Act of 1990 (CGS, 2008). However, published regional geologic maps locate the Project site within three Slope Stability Zones (Rice, 1976). The eastern-most portion of Project site lies in Slope Stability Zone 4, the least stable category. Zone 4 slope stability includes existing active or inactive landslides and those subject to downslope creep. Previous regional mapping identified an earth-flow type slope failure in the eastern portion of the Project site, along

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[8] Colluvium refers to loose, heterogenous soil material or rock fragments deposited on a slope through mechanical and water erosion. Colluvium can be representative of the underlying parent bedrock.

the south-trending swale adjacent to Panoramic Highway. The areas on the southwest flanking slopes of the Project site were mapped within Slope Stability Zone 3 where the steepness of the slopes approach the stability limits of the underlying materials (Rice, 1976). Landslide deposits in Zone 3 areas tend to be more stable than those in Zone 4 areas. The upper portion of the Project site along the knoll, where the topography is less sloped, was mapped as Slope Stability Zones 1 and 2. Zone 1 is characterized as the most stable, typically underlain by resistant bedrock in a stable slope position. Zone 2 is typically on ridge and spur crests, underlain by competent bedrock but with the side slopes that are potentially unstable. The existing developed area of the Project site and the proposed building envelopes are located primarily in Slope Stability Zones 1 and 2.

The November 2015 geotechnical investigation included detailed geologic mapping of the Project site (Herzog, 2015). The site-specific mapping was consistent with and verified findings from the regional mapping conducted by Rice in 1976 (Rice, 1976). Herzog identified topography that suggested legacy slope failure in the eastern-most portion of the Project site and mapped this area as landslide deposits that encompass much of the south-trending swale (Herzog, 2015). Herzog drilled a soil boring on the Fire Road and encountered landslide slide debris materials underneath the road fill.

Herzog also identified several smaller landslides, referred to as slumps, along the banks of the ephemeral drainage that borders the southern boundary of the Project site and along the cut banks for the earthen access roads traversing the Project site's south facing slopes. These slump failures are consistent with expected slope conditions within Slope Stability Zone 3.

Herzog did not encounter features indicative of slope failure in the upper, less sloped portions of the Project site near the crest of the knoll, consistent with previous regional mapping (Rice, 1976). These areas support the existing residence and the two proposed building envelopes in lots 2 and 3. Geologic materials that underlie this portion of the Project site consist of 1 to 3 feet of gravel/clay mixtures over competent sandstone bedrock described by Herzog as Cretaceous-age sedimentary bedrock consisting of sandstone and shale. Given the gradual slopes and the presence of competent bedrock, these areas are less susceptible to landsliding or ground failure.

There are areas of slope instability on the Project site, namely the old landslide in the eastern portion and slump failures along the southern slopes adjacent to the drainages and roads. These areas of are not, however, expected to adversely impact slope stability conditions within the building envelopes of the proposed lots, which are underlain by competent bedrock and are thus less susceptible to slope failure. Therefore, the impacts associated with slope failure and landslides are less than significant.

2014 Grading of the Fire Road

The area where the unpermitted grading for the Fire Road occurred overlies an old landslide identified by previous regional mapping and confirmed by Herzog's geotechnical investigation (Herzog, 2015). While the fill for the Fire Road was placed on the debris of a former landslide, the grading of the Fire Road appears not to have

increased the potential for future landsliding. Conversely, it is likely that grading the road bed for the Fire Road created a stable terrace on the slope that, in addition to channelizing and routing of storm flows through the culvert under the road, stabilizing the fill soils, and revegetating the slope, reduced the potential for further landsliding in this area. Therefore, impacts to slope stability on the Project site from the unpermitted grading of the Fire Road are less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

This analysis refers to excessive, long term soil erosion and topsoil loss that can cause noticeable and lasting changes to the topography, such as deep slope rills, gullies or the unmanageable accumulation of sediment. Under current conditions, the existing structures and proposed building envelopes are not subject to erosion or loss of topsoil as these areas are on relatively level to gradual slopes that currently support landscaping or hardscape with an effective drainage system. Areas with moderate slopes, such as the south portion of proposed lot 3, are covered with vegetation and do not show signs of past or ongoing surface erosion, instability or failure. As discussed in Section 10, Hydrology and Water Quality, construction activities during the development of the lots could cause temporary erosion of exposed soil, however, construction projects must comply with the prescriptions of California's Construction General Permit and apply measures that reduce or limit soil erosion and sedimentation. Under post-construction conditions, the proposed lots would be developed, and erosion and soil loss would be limited by the installation of hardscape, landscape, vegetation and an improved surface water drainage system that would not increase or concentrate stormwater drainage. Therefore, impacts associated with substantial soil erosion and loss of topsoil would be less than significant.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road did not cause new or exacerbate existing soil erosion and loss of topsoil because the grading project stabilized a slope composed of landslide debris by creating a benched slope break with stabilized fill material. The culvert installed beneath the road serves to direct stormwater flow under the road and into a channel downslope, thereby reducing the risk of long-term gully and rill erosion. Short-term erosion was minimized by the installation of erosion control features. It is likely that the Fire Road grading and associated soil stabilization reduced the potential for future soil erosion, loss of topsoil and downslope sediment accumulation.

c) Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

The three proposed building envelopes are located on a knoll of a spur ridge that is composed of gravelly-clay-silt colluvium overlying competent sandstone and shale bedrock. The bedrock consists of highly weathered, non-metamorphosed sandstone and shale which appears consistent with typical Cretaceous rocks of the Franciscan Assemblage (Herzog, 2015). These materials are considered stable and not susceptible

to excessive ground shaking, landsliding or secondary soil and rock failure mechanisms (i.e. liquefaction, densification. lateral spreading or subsidence or collapse). Areas of slope instability elsewhere on the Project site (i.e. slump failures on the southern slopes) are an adequate distance away and would not impact the proposed building envelopes. Therefore, impacts associated with current or potential future instability of a geologic unit are less than significant.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road did not destabilize the slopes in the eastern portion of the Project site or increase the potential for liquefaction. Furthermore, the Fire Road grading was an adequate distance away, such that it did not adversely impact the proposed building envelopes. The Fire Road grading stabilized a slope composed of landslide debris by creating a benched slope break with stable fill material and adequate drainage, and had a less-than-significant impact on current or potential future instability of a geologic unit.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Expansive soils are those that have the capability to swell when wet and shrink when desiccated. This shrink-swell behavior is common in soils that contain certain types and fractions of clay. The expansive behavior of certain soils can damage foundations and other structural elements. Typically, the common remedy for expansive soils is removal and replacement with non-expansive surface soils and/or gravel foundation base materials. The predominant soils type on the Project site is Bonnydoon Gravelly Loam (NRCS, 2019). The plasticity index (PI)[9] of this soil type ranges from a 5 to 15. Soils with a PI in this range are not considered expansive (Hunt, 2005). The California Building Code, which has been adopted by Marin County, requires design-level geotechnical investigations prior to grading and construction. Soils testing conducted as part of the design-level geotechnical investigation for any proposed structures on the newly created lots would require testing for expansive soil and if soils are found to be expansive, geotechnical recommendations would be prescribed to remove and replace the problematic soils prior to foundation construction. Given that the predominant soil type on the Project site is not considered expansive and that soils testing would be conducted prior to individual development on lots 2 and 3, the risk of impacts associated with expansive soils is less than significant.

[9] Plasticity index is a measure of the expansivity of a soil, which is defined as the Liquid Limit (moisture content at which a soil passes from the liquid to the plastic state as moisture is removed) minus the Plastic Limit (PL) the moisture content at which a soil passes from the plastic to semi-solid state.

2014 Grading of the Fire Road

The reworking of native soils and/or importation of fill required for the unpermitted grading of the Fire Road did not significantly alter the soil conditions on the Project site nor did it introduce a non-native source of expansive soils. The grading of the Fire Road had no impact on the presence or distribution of potentially expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Applicant engaged Questa Engineering Corporation (Questa) to complete an onsite sewage disposal investigation in January 2018. Questa reviewed the existing disposal system and leachfield for the existing residence (which is on proposed lot 1) and evaluated whether individual sewage disposal systems were feasible for proposed lots 2 and 3. The scope of the investigation included an assessment of underlying soil characteristics, groundwater conditions, percolation test data, and potential slope stability impacts. Based on that information, Questa recommended designs for the new onsite sewage disposal systems on proposed lots 2 and 3.

The leachfield serving the existing residence is a Class 1 alternative system that has a Marin County operating permit and is under the County's monitoring program. County records show that this 5-bedroom system is in good operating condition. The leachfield system requires a non-revocable sewage disposal easement into proposed lot 3 for monitoring and maintenance and does not allow any grading or development in the easement. There is also an existing septic system easement on proposed lot 1 that serves the property immediately to the west (APN 046-151-37). The leachfield for proposed lot 2 would be located on the east side of the lot and could support a 5-bedroom house with a leaching trench depth of 48 inches and total length of 210 linear feet. The leachfield on proposed lot 2 would be located approximately 200 feet northeast from the leachfield easement on proposed lot 1 and the leachfield serving the existing residence (Questa, 2018). The leachfield for proposed lot 3 would be located centrally on the lot and could serve a 5-bedroom house with leaching trench depth of 60 inches and 133 linear feet. The leachfield on proposed lot 3 would be located approximately 200 feet southeast from the leachfield easement on proposed lot 1 and the leachfield serving the existing residence (Questa, 2018).

Questa's findings indicate that there are suitable conditions and sufficient area on the three proposed lots to support pressure dosed leachfield systems, which can meet and exceed the minimum three-bedroom size requirement and comply with Marin County Sewage Disposal Regulations (Questa, 2018).

In addition to meeting the County's established leachfield siting and design criteria, the project applicant was also required to conduct an assessment of cumulative impacts in accordance with General Provision 308 of the Marin County Regulations for Design Construction and Repair of Individual Sewage Disposal Systems. In accordance with Provision 308, cumulative impact assessments are required for proposed projects

involving a subdivision of 3 or more lots, projects with large flow leachfield systems, or projects with leachfield systems that are closer than 100 feet upslope or downslope or within 50 lateral feet of an existing system (County of Marin, 2016). Assessments must evaluate potential groundwater mounding and nitrate loading conditions and demonstrate that a minimum water table clearance of 24-inches can be maintained beneath each system and that the proposed systems would not cause the groundwater nitrate-nitrogen concentration to exceed 10.0 milligrams of nitrogen per Liter (mg-N/L) in areas not served by groundwater wells. The Marin County Department of Environmental Health Services (EHS) Division reviews the results of the cumulative impact assessment to determine compliance and would not approve a project if it was found not to comply with General Provision 308.

Because the proposed Project is a subdivision with 3 or more lots, Questa performed a cumulative impact assessment, as required by Provision 308, in conformance with procedures and evaluation criteria contained in the Marin County Alternative Septic Systems Regulations, Section 807. The assessment assumed a 5-bedroom capacity septic system for each lot and a 500-gallon per day (gpd) long-term wastewater flow for each system. A groundwater mounding analysis was conducted for each leachfield separately as they drain in different directions and are between 160 feet and 500 feet apart. The results of the analysis show a 2- to 5-inch rise in groundwater level at the downslope edge of each leachfield, which is within the required minimum water table clearance of 24-inches. The mounding analysis for the existing leachfield on proposed lot 1 shows a 2-inch rise in the water table at a point 100 feet downslope and adjacent to the existing leachfield easement, which is within evaluation criteria and of no consequence to the functioning of either existing septic system (Questa, 2019). The nitrate loading analysis shows a projected groundwater value of 4 mg-N/L, which is within the 10 mg-N/L criterion. Questa concluded that cumulative wastewater loading impacts were within regulatory limits and are of no significance (Questa, 2019). The County Health Officer reviewed Questa's cumulative impact assessment and determined that the predicted groundwater rise between 2- and 5-inches downslope of the leachfields is acceptable (Marin County EHS, 2019).

Questa concluded that the proposed leachfield systems would comply with the County's established siting and design criteria, and thus, with Questa's design recommendations, the Project site could accommodate the two proposed and the two existing leachfield systems (Weissman, 2019). The cumulative impact assessment found that groundwater mounding and nitrate loading would be within regulatory limits. Therefore, adverse effects associated with the proposed septic/leachfield systems are not expected and this impact is less than significant.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road had no impact on the operation of existing leachfield systems or on the feasibility of developing new onsite sewage disposal and leachfields.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Project site is underlain by highly weathered, non-metamorphosed sandstone and shale, which appears consistent with typical Cretaceous rocks of the Franciscan Assemblage. These rocks have undergone extensive tectonic deformation associated with an ancient subduction zone and therefore, fossilized remains of flora or fauna in this formation are rare because they would not likely have remained intact. Some marine fossils have been found in Franciscan Assemblage rocks at sites in California, but these specimens are common and well-documented and thus would not be considered a unique paleontological resource. In general, the Franciscan Assemblage is considered to have a low paleontological sensitivity. Marin County Code, Section 22.20.040(d), addresses discovery of paleontological resources during construction. In the event that paleontological resources are discovered during any construction, construction activities shall cease, and the Community Development Agency shall be notified so that the extent and location of discovered materials may be recorded, and disposition of artifacts may occur in compliance with state and federal law.

The Project site is located on a knoll and along associated side slopes of a spur ridge. The Project could construct single-family residences on upper, relatively level portions of that knoll. There are no unique geologic features or outcroppings present on the Project site. While the Project would require grading and soil disturbance on the individual lots, the work would not change the overall site relief and topography. The spur ridge and knoll are not considered unique to this region and thus, the proposed Project would not adversely impact a unique geological feature. This impact is considered less than significant.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road did not destroy a paleontological resource nor did it adversely impact a unique geological feature.

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8. Greenhouse Gas Emissions

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Greenhouse Gas Emissions Setting

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years (International Panel on Climate Change [IPCC], 2014).

Natural processes and human actions have been identified as the causes of this warming. The IPCC concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing greenhouse gas (GHG) concentrations resulting from human activity such as fossil fuel burning and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere have been identified as the main cause of human-induced climate change. Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. Some GHGs occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space,

intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

The primary GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone, and water vapor. While the presence of the primary GHGs in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, increasing the concentration of these compounds within earth's atmosphere.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

The air quality modeling performed for the Project (CARB, 2016) also produced an estimate of GHG emissions from Project construction and operation (that is, residential use of the Project site following construction). Construction emissions would be associated with use of off-road fossil-fuel powered equipment, on-road cars and trucks used by construction workers and for delivery of materials and equipment, and electricity use. GHG emissions associated with operations include emissions produced by motor vehicles used by future residents, natural gas combustion for space and water heating, electricity use, and landscape maintenance equipment.

The Project's estimated construction and operational GHG emissions are presented in **Table 8-1.** There is no BAAQMD CEQA significance threshold for construction-related GHG emissions. Nevertheless, the BAAQMD recommends quantifying and disclosing construction-related GHG emissions. The CalEEMod model run estimated GHG emissions during construction are 219.1 metric tons of CO_2e (total GHG emissions expressed in terms of CO_2 equivalence), all of which would be from fossil sources.[10]

Table 8-1: Estimated Annual Greenhouse Gas Emissions (metric tons)

Source	Annual CO_2e Metric Tons
Construction	219.1
Operations	
Area Sources	0.39
Energy	16.7
Mobile	49.3
Solid Waste	0.56
Water	1.72
Total Operational Emissions	**68.6**
Significance Threshold	1,100
Significant?	No

Source: CARB, 2016.

[10] Fossil sources of GHG emissions are distinguished from non-fossil, "biogenic" sources. These latter include decomposition of organic matter. Biogenic emissions are considered part of the natural carbon cycle.

The BAAQMD has established a threshold for operational emissions of 1,100 metric tons of CO_2e per year (BAAQMD, 2017). The operational GHG emissions for the Project are estimated to be 68.6 metric tons per year, which is well below the BAAQMD threshold. Thus, the Project's GHG emissions would be less than significant.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

In 2006, the California legislature passed and Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must prepare a Scoping Plan and adopt regulations to achieve reductions in GHG emissions to meet the 1990 emissions cap by 2020. The Scoping Plan was adopted in 2008 (CARB, 2008).

SB 32, enacted in 2016, increased the required reductions in GHG emissions to 40 percent below 1990 levels by 2030. The AB 32 Scoping Plan 2017 Update contains the strategy for meeting the 2030 goal. This will be accomplished by increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries. The State has also established "renewable portfolio standards," which specify the percentage of retail energy sold in the state from renewable and zero carbon sources. In September of 2018, Governor Brown signed SB100, establishing a renewable portfolio standard of 100 percent by the year 2045.

Several of the Scoping Plan policies would result in a reduction of GHG emissions from Project construction and operation. The Low Carbon Fuel Standard (LCFS), which seeks a transition to cleaner, less-polluting fuels that have a lower footprint, seeks at least an 18 percent reduction in carbon intensity of liquid fuels, and applies to all fuels sold in California (CARB, 2017). Equipment and vehicles used in Project construction and

operation would use fuels subject to the LCFS, and would therefore be consistent with this State policy. The California Light-Duty Vehicle Greenhouse Gas Standards ("Pavley Standards") establish tailpipe limits for cars and light trucks sold in California, which would apply to vehicles purchased and used by future residents of the Project site. The original, 2008 Scoping Plan included High Recycling / Zero Waste measure for GHG reduction. This measure reduces GHG emissions primarily by reducing the substantial energy use associated with the acquisition of raw materials in the manufacturing stage of a product's lifecycle. Since the Project would comply with the California Green Building Code (CalGreen) requirement to divert at least 65 percent of construction and demolition waste from landfill disposal, and future residents would be served with comprehensive recycling programs, the Project would be consistent with the High Recycling measure. GHG emissions from Project operation would also be reduced through State-wide achievement of the renewable portfolio standards. Other Scoping Plan polices that would result in GHG emissions reductions for the Project include Energy Efficiency standards for buildings and appliances and the Green Building Strategy, which has been implemented by adoption of CalGreen.

The Scoping Plan's Regional Transportation-Related Greenhouse Gas Targets strategy, which is implemented by SB 375, requires regions, such as the Bay Area, to integrate development patterns and the transportation network in a way that achieves the reduction of greenhouse gas emissions, while meeting housing needs and other regional planning objectives. SB 375 reflects the importance of achieving significant additional reductions of greenhouse gas emissions from changed land use patterns and improved transportation to help achieve the goals of AB 32.

In the Bay Area region, responsibility for regional transportation and housing planning is shared by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). These two agencies have prepared Plan Bay Area 2013, and the Plan Bay Area 2040 Update (MTC and ABAG, 2017), which include the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan. Plan Bay Area 2040 prioritizes fixing an aging transportation system and directing future growth to reduce dependence on the automobile. Plan Bay Area 2040 identifies about 200 "Priority Development Areas" (PDAs). These existing neighborhoods are served by public transit and have been identified as appropriate for additional, compact development. Two PDAs are located in Marin County, the San Rafael Transit Center PDA in downtown San Rafael, and the Unincorporated Marin County PDA in Marin City.

The Project site is not within either of these PDAs. However, the Project site is within the City-Centered Corridor, as defined in the CWP. The City-Centered Corridor contains the County's urbanized areas, and is the focus for future urban development. Thus, while the Project is not wholly consistent with the Scoping Plan, SB 375, and Plan Bay Area 2040 priorities to focus development in areas to reduce reliance on automobiles for transportation needs, it is consistent with the County's similar focus, as expressed in the CWP.

Marin County has developed a Climate Action Plan (Marin County, 2015) that provides a roadmap for how the County will reduce energy consumption and GHG emissions to

contribute to meeting the State GHG emissions targets. In addition, the CWP outlines action items pertaining to sustainability including the preparation of policies that promote efficient management and use of resources in order to minimize GHG emissions. Marin County has also enacted green building requirements for construction of energy- and materials-efficient buildings. These are consistent with, and in some instances exceed the CalGreen (Title 24) State Green Building Code. Green building requirements that pertain to the Project include achievement of higher energy efficiency standards, installation of solar panels or other renewable energy generation capacity, and provision of electric car charging stations.

In summary, the Project would substantially be consistent with, and would not conflict with, State and County policies and regulations to reduce GHG emissions. The impact would be less than significant.

2014 Grading of the Fire Road

The CalEEMod emissions model was used to estimate GHG emissions from the 2014 unpermitted grading of the Fire Road, based on assumptions that 900 cubic yards of fill material was imported to the site, and grading took place over a ½ acre area. The results are shown in **Table 8-2**. As previously noted, the BAAQMD has not established a significance threshold for construction-related GHG emissions. However, for comparison, the estimated amount of emissions, about 35 tons, is well below the operational threshold of 1,100 tons per year.

Table 8-2 Fire Road Grading GHG Emissions

Condition	CO_2e	Biogenic CO_2
Grading – Soil Import (Offsite) - Tons per Year	5.8	—
Grading - Onsite - Tons per Year	28.8	—
Grading - Total Tons per Year	34.6	—

Source: CARB, 2016

The grading of the Fire Road therefore appears not to resulted in emissions of a significant amount of GHGs, and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact with respect to GHGs and climate change.

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9. Hazards and Hazardous Materials

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	☒
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

The Project does not propose to construct or operate a facility that mainly stores, handles or processes flammable or combustible chemicals or other hazardous materials or waste. Any use of hazardous materials would be incidental to Project construction and future residential use of the Project site.

The Project would involve construction activities that use limited quantities of hazardous materials, such as paint, solvents, oil and grease, concrete, and petroleum hydrocarbons. Any use of such materials carries the risk of accidental spill or release. The Project, however, would be subject to federal, State, and local laws and regulations governing hazardous material transport, storage, use, and disposal.

As discussed further in Section 10, Hydrology and Water Quality, topic a), the Project would be required to comply with federal National Pollutant Discharge Elimination System (NPDES) regulations by applying for coverage under the State Construction General Permit. Under the Construction General Permit, the Project would be required to implement construction BMPs as set forth in a detailed Stormwater Pollution Prevention Program. These would include measures for storage, use, and disposal of hazardous materials. As a result, the Project would not result in a significant impact related to accidental released of hazardous substances during Project construction.

Operation of the site, that is, post-construction residential use, would also result in the use, storage, and handling of small quantities of hazardous materials associated with routine cleaning, maintenance, repair, and landscaping. Such materials may include petroleum products, cleansers, paints, batteries, and electronics. Risk of release of such materials from residential uses in quantities and concentrations that could have a substantial adverse effect on the environment or human health, however, is low. With regard to disposal of household hazardous waste, Marin County operates a Household Hazardous Waste Collection Facility at 565 Jacoby Drive in San Rafael. The facility accepts a wide range of household hazardous materials from Marin County residents on a free, drop-off basis. The facility also accepts larger quantities of hazardous materials from businesses, on a fee basis.

A search of the area around the Project site using Google Maps identified no schools within ¼ mile of an existing school. The closest school identified is the Old Mill Elementary School, about ¾ of a mile to the northwest. A daycare center, Mishka Daycare, is located about ½ mile to the east, on Park Way. According to the Marin

County Community Development Agency, Planning Division, there are currently no proposed schools in the vicinity of the Project site (Marin County Community Development Agency, 2019).

Given the limited amount of hazardous materials that would be used during Project construction and operation, the low risk of release of such materials through accidental spill or upset, and the availability of a facility for disposal of hazardous wastes, the Project would have a less-than-significant impact with regard to hazardous materials. As there are no schools existing or planned within ¼ mile of the Project site, and the Project would not result in hazardous emissions or handle acutely hazardous materials, there would be no impact with regard to potential effects of hazardous materials use on nearby schools.

With regard to hazardous emissions during construction, please see the discussion of DPM emissions in Section 3, Air Quality, which finds that hazardous emissions would be less than significant with mitigation.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

A search of the State's Geotracker and EnviroStor databases revealed no hazardous materials sites within or in close proximity to the Project site (SWRCB, 2019a; DTSC, 2019a). The closest site found in the database searches was the closed Mill Valley City Landfill, located about 1,500 feet east of the Project site, south of the intersection of Edgewood Ave. and Cypress Ave.

According to the Envirostor summary, the Mill Valley City Landfill site was used as a water reservoir until 1967, when it was sold to the City of Mill Valley as a potential park. Also known as the Edgewood Disposal Area, the site was used for disposal of green waste, soil, and some construction debris. In the 1990s, the Marin County Local Enforcement Agency (LEA) (Marin County EHS) and the California Integrated Waste Management Board (CIWMB) monitored the site for landfill gases and did not find any results above detection levels. The site is listed in the State's Solid Waste Information System (SWIS) as a closed solid waste disposal facility. Inspection frequency by the LEA changed in 2001 from quarterly to annual. Given its distance from the Project site of over ¼ mile, the Project would not affect nor be affected by this closed landfill.

Additionally, the following "Cortese List" lists were searched:

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC, 2019b);
- List of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit (SWRCB, 2019b);
- List of "active" Cease and Desist Order (CDO) and Cleanup and Abatement Order (CAO) sites (SWRCB, 2019c);

- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code (DTSC, 2019c).

The Project site was not found on any of these lists.

Based on the search of State lists and databases, the Project site is not included on a list of hazardous materials sites, and therefore there is no impact of this kind.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The closest airports or airfields to the Project site are San Rafael Airport (also known as Smith Ranch Airport), located approximately 9 miles from the Project site, east of US 101, and Gnoss Field, near Novato, about 17 miles from the Project site. The Project site is not within an airport land use plan, and because of its distance from the nearest airports and airfields, the Project does not have the potential to result in a safety hazard or excessive noise due to proximity to an airport. There would be no impact of this kind.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Other than proposed work to improve the intersection of the existing driveway for the Project site with Panoramic Highway, the Project would not alter roads or other transportation facilities. Project construction is not expected to result in temporary or permanent road closures. Therefore, the Project would not have the potential to impair or interfere with an emergency response plan or evacuation plan. Any effects on roadways during Project construction would be minor and temporary, and would have a less-than-significant impact on emergency response plans and evacuation plans.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road in 2014 involved use of heavy equipment on the Project site and haul trucks importing fill material to the site. No information has come to light indicating that there was a spill or other release of hazardous materials during the grading. Therefore, the Fire Road grading appears not to have created a serious hazard to the public involving hazardous materials. The other topics in this section all cover the entire Project site, including the Fire Road. In short, the Fire Road grading appears not to have resulted in a significant impact with regard to hazards and hazardous materials, and consideration of the Fire Road does not change conclusions regarding the Project's less-than-significant impacts.

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10. Hydrology and Water Quality

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

The 8.29-acre Project site is located within the upper reaches of the 8.8 square mile Redwood Creek watershed at elevations ranging from 700 feet to 900 feet above sea level. The Project site receives mean annual precipitation of 34 inches of rain, mostly during the winter months. The Redwood Creek watershed is primarily comprised of undeveloped public lands and open space (95% of area) and private land (5%). The Project site forms a portion of a 37-acre drainage area (sub-watershed) within the Redwood Creek watershed that drains to two unnamed ephemeral channels. The sub-watershed area, defined here for the purposes of assessing hydrologic impacts (discussed further under c), below), represents approximately 0.7% of the Redwood Creek watershed. The two unnamed ephemeral streams, both tributary to Redwood Creek, flow along the western and eastern edges of the Project site and meet just south of the property boundary. All surface runoff, as well as shallow subsurface flows from the Project site and surrounding sub-watershed area flow via the unnamed drainages downstream approximately 0.8 miles to the confluence with Redwood Creek and then to the Pacific Ocean at Muir Beach, 4 miles farther downgradient. Salmon and steelhead habitat, currently undergoing recovery and enhancement efforts within the watershed, occurs within reaches of Redwood Creek at the valley floor downgradient and well downstream of the confluence with the unnamed streams on the Project site.

Construction of the Project would include earthwork activities (i.e., grading, excavation, and other soil-disturbing activities) and placement of engineered fill soils. Stormwater runoff from construction activities is a common source of pollutants (mainly sediment) to receiving waters. Earthwork activities can loosen soils making them more susceptible to erosion from stormwater runoff and causing them to migrate to storm drains and downstream or downgradient water bodies, such as Redwood Creek and its tributaries. Increased sediment in Redwood Creek could degrade water quality, exceed water quality standards, and degrade aquatic habitat for salmonids (see Section 4, Biological Resources). To protect sensitive aquatic habitat and ensure water quality is not degraded, especially as a result of erosion and sedimentation from direct disturbance, the Project establishes setbacks from streambanks and the edge of riparian vegetation (see Project Description). In addition, Project construction would likely involve the use of various materials typically associated with construction activities such as paint, solvents, oil and grease, petroleum hydrocarbons, concrete and associated concrete wash-out areas. If improperly handled, these materials could be released and be transported offsite by stormwater runoff (nonpoint source pollution) to eventually degrade receiving water quality.

Because the Project exceeds one acre of disturbance by construction activities, it would be required to comply with NPDES regulations and obtain coverage under the State Construction General Permit (CGP)[11]. Under the requirements of the CGP, the Applicant or their contractor(s) would implement stormwater controls referred to as construction BMPs, as set forth in a detailed Stormwater Pollution Prevention Plan (SWPPP). SWPPPs are a required component of the CGP and must be prepared by a California-certified Qualified SWPPP Developer (QSD) and implemented by a California-certified Qualified SWPPP Practitioner (QSP). SWPPPs must describe the specific erosion control and stormwater quality BMPs needed to minimize pollutants in stormwater runoff, and detail their placement and proper installation. The BMPs are designed to prevent pollutants from contacting stormwater and to keep all products of erosion (i.e., sediment) and stormwater pollutants from migrating offsite into receiving waters. Typical BMPs implemented at construction sites include placement of sediment barriers around storm drains, the use of fiber rolls or gravel barriers to detain small amounts of sediment from disturbed areas, and temporary or permanent stockpile covers to prevent rainfall from contacting the stockpiled material. In addition to erosion control BMPs, SWPPPs also include BMPs for preventing the discharge of NPDES pollutants such as paint, solvents, concrete, and petroleum products to downstream waters. BMPs for these NPDES pollutants also include routine leak inspections of equipment, maintaining labelling and inspecting integrity of containers, and ensuring that construction materials are disposed of in accordance with manufacture's recommended disposal practices and applicable hazardous waste regulations.

Under the provisions of the CGP, the QSD is responsible for assessing the risk level of a site based on both sediment transport and receiving water risk and developing and implementing the SWPPP. Projects can be characterized as Risk Level 1, 2, or 3, and these risk levels determine the minimum BMPs and monitoring that must be implemented during construction. Under the direction of the QSD, the QSP is required to conduct routine inspections of all BMPs, conduct surface water sampling, when necessary, and report site conditions to the State Water Resources Control Board (SWRCB) using the Stormwater Multi-Application Reporting and Tracking System (SMARTS). Compliance with the CGP is required by law and has proven effective in protecting water quality at construction sites.

Following the completion of construction (post-construction), the Project would be subject to compliance with the Phase II Stormwater NPDES Permit for small municipal separate storm sewer systems (MS4s) covering Marin's cities, towns and unincorporated areas. Provision E.12 of the MS4 Permit, the "Post-Construction Stormwater Management Program," is administered locally under the Marin County Stormwater Pollution Prevention Program (MCSTOPPP). Under MCSTOPPP post-construction requirements, the Project would be required to implement an approved Stormwater Control Plan consistent with the BASMAA post-construction manual (BASMAA, 2019),

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[11] National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities – Order no. 2009-0009-DWQ, NPDES No. CAS 000002

which specifies design guidance for stormwater treatment and control for projects in Marin. As such, the Project would be required to include design features that incorporate stormwater management guidelines and incorporate measures such as limiting clearing, grading and soil compaction; minimizing impervious surfaces; reducing runoff and peak storm discharges by dispersing runoff to landscaping or using pervious pavements; conserving natural areas of the site as much as possible; and protecting slopes and channels against erosion. At a minimum, the Project would be required to adhere to MCSTOPPP provisions, which would require source controls of stormwater volumes and implementation of BMPs for stormwater quality management, (discussed further under topic c), below), including implementation of Low Impact Design (LID) stormwater measures.

Additionally, because the Project exceeds 5,000 square feet of impervious surface, the proposed Project would be subject to the MCSTOPPP requirements for a Regulated Project[12] and would therefore be subject to more stringent post-development stormwater permit requirements. MCSTOPPP post-construction requirements specify that site designs for Regulated Projects, or where otherwise required by the local agency, must minimize the area of new roofs and paving. Where feasible, it is required that pervious surfaces be used instead of paving so that runoff can infiltrate to the underlying soil. Remaining runoff from impervious areas must be captured and used or treated through bioretention methods. Regulated Projects must also incorporate pollutant source control best management practices (BMPs) into the site design consistent with the BASMAA post-construction manual Appendix A checklist (BASMAA, 2019).

As discussed in the Project Description, the Project includes a proposed stormwater management system that is intended to comply with the requirements for a Regulated Project (Ziegler Civil Engineering, 2018a and 2018b). The proposed system to manage stormwater includes a series of drains, bioswales, conveyance channels, and cisterns to treat stormwater, minimize and avoid erosion, and control an anticipated increase in stormwater runoff from the increase in impervious areas, including paved and built areas. The design for the proposed stormwater management system was completed consistent with the BASMAA guidelines for post-construction activities, as required by MCSTOPPP. The Project civil engineer, Ziegler Civil Engineering, assessed the site and proposed stormwater management system by model analysis to ensure compliance and consistency with MCSTOPPP requirements for a Regulated Project and MS4 Permit standards (Ziegler Civil Engineering, 2018a) (see detailed discussion under topic c), below).

Required compliance with the prescriptions set forth by the CGP, SWPPP, and the construction and post-construction requirements of MCSTOPPP, including application of BASMAA design guidelines, as well as implementation of associated BMPs and pollutant source controls, would prevent the discharge of pollutants to surface waters or groundwater and minimize or eliminate the potential for degradation of surface water or

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[12] A regulated project is one that creates or replaces 5,000 square feet or more of impervious surface.

groundwater quality during Project implementation. Water quality impacts related to violation of water quality standards or degradation of water quality would be less than significant.

2014 Grading of the Fire Road

As discussed in the Project Description, the 2014 unpermitted grading of the Fire Road included placement of fill and installation of a culvert to capture and convey runoff from areas upslope of the fire road to the ephemeral stream that bounds the eastern edge of the Project site. The work related to improving the Fire Road created a shallow impoundment of surface runoff, resulting in a small wetland feature, on the inboard (uphill) edge of the road that drains westward towards the installed culvert (LSA, 2018; ACE, 2018). During construction, the grading activities and placement of fill materials likely resulted in temporary and localized erosion and a short-term increase in sediment concentrations within downgradient receiving waters. Following the grading operation, the Applicant installed erosion control features, including straw mulch and netting. The Hydrologist who prepared this section of the Initial Study conducted a site visit on March 14, 2019 and observed that the erosion control features installed by the property owner were present, in good repair, and appeared to be effective in minimizing erosion and sedimentation associated with the Fire Road improvements. Further, the revegetation downslope of the Fire Road improvements has resulted in dense vegetation on the slopes and areas adjacent to the culvert and ephemeral stream.

The vegetative cover along with the erosion control features required by the County, San Francisco Regional Water Quality Control Board, and CDFW has addressed any ongoing erosion and sedimentation associated with the Fire Road and there is no residual or ongoing impact relating to sedimentation or the degradation of water quality. As described above, the Project would not result in a significant impact related to violation of water quality standards or degradation of water quality; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Pumping of groundwater can cause groundwater levels to decline in the area around the point of extraction, which could interfere with the operation of nearby wells, if present. The Project would not include installation of groundwater wells or long-term groundwater extraction. Water service to each of the proposed three lots would be provided by the MMWD. MMWD currently serves the existing residence. There are no known wells within 100 feet of the Project site (Questa, 2018).

Project construction of utilities and foundations would involve subsurface excavation. If shallow groundwater were encountered during excavation activities, it would have to be pumped out of the construction trench to create a dry work area. It is unlikely that such excavations would intercept shallow groundwater, as shallow groundwater was not

encountered within proposed development locations during the geotechnical investigation[13] (Herzog, 2015). Based on the results of the geotechnical investigation, dewatering activities would not be required (Questa, 2018). If excavations intersect unanticipated shallow groundwater and dewatering activities are required, dewatering would be temporary, highly localized, and would typically involve the extraction of low volumes of shallow groundwater from excavation trenches. Because of its short-term nature and because there is limited groundwater underlying the site, construction dewatering would not affect local groundwater levels or volumes. Therefore, impacts relating to substantial changes in groundwater supplies through direct withdrawals or through intersection of an aquifer by cuts or excavations would be less than significant.

The Project would not add a substantial amount of impervious surfaces to reduce local groundwater recharge from rainfall infiltration into soils. Under existing conditions, 0.27 acres of the 8.29-acre site are covered with impervious surfaces. Under the proposed Project, an additional 0.31 acres of impervious surfaces would be added to the site, resulting in a total of 0.58 acres. The addition of 0.31 acres of impervious surface would not markedly alter local groundwater recharge because most precipitation flows as runoff to drainages rather than infiltrating into soils or the underlying bedrock, and the Project site does not appear to directly contribute substantially to groundwater recharge of basin aquifers. The addition of the proposed impervious surfaces would not substantially alter this drainage pattern; runoff would continue to run off the site and infiltrate into soils and creek beds down gradient. Therefore, the Project would not interfere with groundwater recharge, and impacts related to groundwater depletion and interference with groundwater recharge would be less than significant.

2014 Grading of the Fire Road

The grading, placement of fill, and installation of a culvert to improve the Fire Road has not increased impervious surfaces at the Project site, has not altered drainage patterns (see discussion under topics a) and c)) such that groundwater recharge is reduced, and no groundwater extraction occurred as part of the fire road improvement. There is no residual or ongoing impact relating to groundwater supplies or groundwater recharge on-site or off-site. As described above, the Project would not result in a significant impact related to groundwater; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would: i) result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii) Create or contribute runoff water which

[13] Free groundwater was only encountered in Boring 1 at a depth of approximately 16 feet below ground surface in the vicinity of the wetland and culvert located near the eastern edge of the property.

would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) Impede or redirect flood flows?

As described in detail under topic a), the Project site is located within the upper reaches of the largely undeveloped 8.8 square mile Redwood Creek watershed. The 8.29-acre Project site is located within a 37-acre sub-watershed (drainage) area within the Redwood Creek watershed. All surface drainage from the Project site flows to two unnamed channels located along the western and eastern edges of the Project site and then downstream approximately 0.8 miles to the confluence with Redwood Creek. The proposed Project would not involve the direct alteration of a stream or river (including the two unnamed channels) and would not substantially alter on-site drainage patterns; stormwater runoff during construction and following completion of the Project would continue to primarily flow downgradient to the two unnamed channels bounding the Project site. The following assessment focuses on hydrologic and water quality related impacts that could result from the proposed addition of impervious surfaces and implementation of a stormwater management system associated with the Project. As described under topic b), above, the Project would result in an additional 0.31 acres of impervious surfaces (including the proposed driveway improvements and potential new buildings[14]), resulting in a total of 0.58 acres for the Project site.

Loss of watershed stormwater storage from the addition of impervious surfaces can be a primary impact of development because it can decrease rainfall infiltration into soils and increase runoff flow rates and volumes. Increased runoff can erode slopes and surface water channels as well as the transport of sediment and other pollutants downgradient. Additionally, increased peak stormwater discharges can overwhelm stormwater conveyance systems and cause flooding on-site or downgradient.

Regulations governing development and stormwater recognize the relationship between land-use changes and runoff and typically prescribe requirements relating to storage capacity and drainage that either minimizes concentration (such as through infiltration) or that redistributes concentrated runoff in a manner that mimics pre-development runoff conditions and thus avoids erosion or flooding. Regulations also typically protect water quality and require treating stormwater runoff via physical or biological systems, and minimizing disturbance areas. **Table 10-1** summarizes the regulatory standards and criteria for stormwater management relevant to the Project (see also the discussion of water quality regulations under topic a), above).

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[14] All building envelopes described in Table 1 of the Project Description assumed to be 50% pervious and 50% impervious to reflect likely two-story structures (Ziegler Civil Engineering, 2018a).

Table 10-1. Regulatory Requirements and Design Criteria for Project Stormwater and Runoff Management System

Regulatory Criteria	Design Parameter
MCSTOPPP / State MS4 Permit Section E.12.e.c.2.a, Flow Based Criteria	Retain and treat volume of runoff from 0.2 inch/hour storm
State MS4 Permit Section E.12, Hydromodification Criteria	Post-project peak runoff shall not exceed estimated pre-project flow rate for 2 year/24-hour storm 85th percentile storm volume capture
Marin County Culvert Design Criteria	Peak runoff capacity/stability 100 year/24-hour storm
Marin County Open Channel Design Criteria	Peak runoff capacity/stability 100 year/24-hour storm

Note: See also Marin County Code §23.18, Urban Runoff Pollution Prevention, and §24.04.520-627, Drainage Facilities

Source: Ziegler Civil Engineering, 2018a.

The Applicant's civil engineer completed a hydrologic and hydraulic study (hydrologic study) for the Project (Ziegler Civil Engineering, 2018a). The hydrologic study included a detailed review of the hydrologic characteristics of the sub-watershed and Project site. Model-based analyses were conducted to quantify changes to runoff rates and volumes resulting from implementation of the Project and to determine drainage patterns. The hydrologic study assessed potential impacts from increased runoff and altered drainage patterns and the model results were incorporated into the engineering design for a stormwater management system. The regulatory standards and criteria for stormwater management summarized in Table 10-1 were incorporated into the model analysis and stormwater system design. The resulting proposed stormwater management system comprises of a network of pervious paving, cisterns, bio swales, and detention areas to increase storage, treat runoff, and attenuate peak runoff rates in a manner that mimics pre-development hydrologic conditions at the Project site consistent with the applicable regulations.

The preparer of this Initial Study section peer-reviewed the hydrologic study for accuracy and to verify that methodologies and assumptions employed were defensible and appropriate and that the results were valid (Sutro Science, LLC., 2019). Where applicable, the results and findings of the hydrologic study are incorporated into the analysis of the Project's potential environmental impacts. Discussed below is a summary of the model analysis methodology, the results and findings, followed by the assessment of the Project's potential environmental impacts.

Methodology

The model analysis conducted by Ziegler (2018a) assessed the 37-acre sub-watershed that contains the Project site within the larger Redwood Creek watershed.[15] The watershed sub-area was divided into sub-drainages and peak runoff flow rates were calculated using the TR-55 model. TR-55 is the standard model used for such assessments and can simulate a wide variety of surface conditions, land-use changes, and the subsequent effect on stormwater runoff rates, volumes, and storage capacity. TR-55 is also suitable for modelling complex drainage networks and stormwater management systems such as the one proposed as part of the Project.

Accurate hydrologic modelling requires rainfall characteristics that are representative of the study area. For stormwater control and mitigation, the storm duration and intensity for stormwater system design is defined in the MS4 permit and has been adopted under MCSTOPPP as the minimum design standard. MCSTOPPP requires consideration of a design storm intensity of 0.2 inches/hour to calculate a treatment volume for stormwater runoff from a project site. Such a storm type is associated with peak potential stormwater pollution and pollutant transport. In addition to the MCSTOPPP minimum design standard, due to the size of the Project, criteria for hydromodification also applies to the design of the stormwater system (Table 10-1). The hydromodification standard requires that post-development peak runoff flow rates do not exceed those for pre-development conditions. To design a system consistent with the hydromodification standard, the model analysis included consideration of the rainfall depths and associated runoff from the 2 year 1-hour storm (0.64 inches), the 2 year 24-hour storm (3.38 inches), and the 100 year 24-hour storm (8.73 inches) to determine peak runoff rates and total volume generated during design storms. The hydrology of the sub-watershed area was modelled in the pre- and post- project condition for the design storms to ensure that the stormwater management system was designed and sized appropriately for the proposed and foreseeable level of development at the Project site.

Results

Hydrologic study results for the sub-watershed area under the pre- and post-project condition show that the proposed Project would not increase peak discharge rates and stormwater volumes discharged from the Project site (Ziegler Civil Engineering, 2018a, 2018c). The proposed stormwater management system would mimic the pre-project hydrology of the Project site and would slightly decrease overall the peak discharge rate for the sub-watershed area (**Table 10-2**). Therefore, the Project is consistent with applicable regulatory stormwater standards for development and would not result in hydromodification-related impacts on-site or downstream. The proposed design elements for stormwater capture, treatment, storage, conveyance and drainage routing

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[15] If the entire watershed were analyzed using model analysis to quantify stormwater changes resulting from the Project, the effects of the Project would be masked by the watershed scale runoff volumes (the sub-watershed area represents less than 0.7% of the total Redwood Creek watershed).

are sized appropriately for calculated peak discharges associated with the required design storms. Additionally, the stormwater system has been designed, based on engineering and model analysis, to ensure hillside, channel, and culvert stability for the 100-year/24-hour design storm. The results of the hydrologic study demonstrate that the Project would comply with the applicable stormwater management requirements (Ziegler Civil Engineering, 2018a and 2018b).

Table 10-2. Summary of Hydrologic Model Analysis Results

Project Site Condition	Sub-Watershed Discharge Summary by Design Storm			
	Q-2yr Peak (ft^3/s)	2yr-24hr Volume (ft^3)	Q-100yr Peak (ft^3/s)	100yr-24hr Volume (ft^3)
Existing Condition Pre-Project	21.83	317,857	69.85	1,010,417
Post-Project Full build out with proposed stormwater system	21.03	316,507	69.54	1,008,980

Source: Ziegler Civil Engineering, 2018a.

i) result in substantial erosion or siltation on- or off-site

As described under topic a), above, during construction of the Project, the Applicant would be required to comply with the NPDES regulations and apply for coverage under the CGP because ground disturbance at the Project site would exceed one acre. Under the CGP, the Applicant would be required to prepare a SWPPP. The SWPPP must include site-specific erosion and sedimentation control practices and would limit the amount of runoff that may be directed offsite during construction. Compliance with the requirements of the CGP, SWPPP, and the implementation of associated BMPs would prevent erosion and siltation on- and off-site during construction. Impacts related to erosion and/or siltation due to altered drainage patterns during construction would be less than significant.

Following the completion of construction (post-construction), the Project would be subject to compliance with the MCSTOPPP “Post-Construction Stormwater Management Program.” As described under checklist item a), the proposed Project would be subject to the MCSTOPPP requirements for a Regulated Project, and therefore subject to more stringent stormwater permit requirements for post-development. Adherence to MCSTOPPP provisions, which would require source controls of stormwater volumes and implementation of BMPs for stormwater quality management, such as through the proposed stormwater management system, would ensure impacts related to erosion and/or siltation due to altered drainage patterns following completion of construction would be less than significant.

2014 Grading of the Fire Road

As described under checklist item a), during construction, the grading activities and placement of fill materials likely resulted in temporary and localized erosion and a short-term increase in sediment concentrations within downgradient receiving waters. Erosion control features installed by the property owner remain effective in minimizing erosion and sedimentation associated with the Fire Road improvements and revegetation at the Fire Road site has resulted in dense cover of the slopes and areas around the culvert and ephemeral stream, stabilizing slopes and exposed soils. There is no residual or ongoing impact relating to erosion or sedimentation. As described above, the Project would not result in a significant impact related to erosion or sedimentation as a result of altered drainage patterns; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite

The Project area is not located within a flood hazard risk area associated with a 100-year flood (Marin County, 2019) and would not result in substantially altered on-site drainage patterns (i.e., only minor changes to drainage patterns) (Ziegler Civil Engineering, 2018a). Implementing the Project would create an additional 0.31 acres of impervious surfaces within the 37-acre sub-watershed area (0.8 percent increase), and contribute to the total of 0.58 acres of impervious surfaces within the 8.29-acre project site (3.7 percent). As described above under topic c), the stormwater management system proposed for Project ensures that peak stormwater discharge rates and volumes discharged from the Project site would remain at or below the existing conditions and not increase. Further, the stormwater management system has been designed with sizing and capacity to safely convey storm flows associated with 100-year storm. Impacts related to flooding due to altered drainage patterns or the addition of impervious surfaces following completion of construction would be less than significant.

2014 Grading of the Fire Road

The grading, placement of fill, and installation of a culvert to improve the Fire Road has not substantially altered drainage patterns. Prior to the Fire Road improvement, upslope runoff above the Fire Road was concentrated into one of the unnamed downgradient channels bounding the property area. Under existing conditions, upslope runoff is conveyed under the Fire Road through a culvert and continues to flow into that same downgradient channel. No additional impervious surface area was added within the Project site due to the Fire Road improvement and thus, the Fire Road has not contributed to an increase in surface runoff. As described above, the Project would not result in a significant impact related to flooding as a result of altered drainage patterns or the addition of impervious surfaces; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

As described above under topic c), the Project's proposed stormwater management system has been designed consistent with regulatory requirements, including those related to conveyance capacity for peak discharges associated with the 100-year/24-hour storm (Table 10-1). Stormwater treatment measures, such as the use of bioswales and cisterns for sediment capture, are incorporated into the design of the stormwater management system to ensure pollutants are not mobilized and transported to downgradient waters. Peak stormwater discharge rates and volumes from the project site would not increase as a result of the Project (Table 10-2). As described in detail under topics a) and c.i), the proposed Project would not result in new sources of pollutants that could be transported via storm runoff.

The proposed stormwater management system, including bioswales, has been designed consistent with setbacks established for all existing and proposed septic system components. The setbacks ensure that leachfields and other septic system components would be a minimum distance of 25 feet on all sides (and generally a greater distance of 50 feet or more) from areas of infiltration associated with bioswales, paths of concentrated stormwater flow, or other stormwater management system structures (Weissman, 2019). The setbacks would minimize the potential for stormwater to intersect leachfields in a manner that results in excessive infiltration and soil saturation of leachfields, to avoid pollutants being transported in stormwater or leachfields not operating as designed. The setbacks are consistent with recommendations by Questa Engineering following an onsite sewage disposal investigation (Questa, 2018; see Section 7, *Geology and Soils*, for additional details) as well as input from the County, including from Marin County Environmental Health Services (EHS). Following review of Project plans, including detailed drawings provided by the Applicant showing distances between septic system features (Weissman, 2019), EHS determined the application for the Project to be complete as it relates to onsite sewage disposal (Marin County EHS, 2019). One proposed bioswale on Lot 3 would cross the existing sewage conveyance pipe (which is not a perforated leachline) associated with the neighboring property septic system, as currently occurs for the existing bioswale. The existing conveyance pipe would be armored appropriately to avoid erosion and scour should its depth be determined to be insufficient. Impacts related to exceeding stormwater conveyance infrastructure or creating additional sources of polluted runoff would be less than significant.

2014 Grading of the Fire Road

Prior to the Fire Road improvement, runoff from the area upslope of the Fire Road was concentrated into the one of the unnamed downgradient channels bounding the property area. Under current conditions, upslope runoff is conveyed under the improved Fire Road through an 18-inch diameter culvert and continues to flow into that same downgradient channel.

During a site visit on March 14, 2019, the preparer of this Initial Study section confirmed that the erosion control features and energy dissipation structures at the culvert inlet and outlet were in good repair and appeared to be effective in minimizing erosion and sedimentation. As described above, the Project would not increase runoff rates or volumes conveyed to the Fire Road culvert. Based on the hydrologic model analysis completed by Ziegler (2018a), the peak 100-year 24-hour storm flow downgradient of the culvert is 6 cubic feet per second (cfs), which includes all flows routed from the proposed storm management system through the Fire Road culvert, runoff from the area directly upslope of the culvert, and runoff from portions of Panoramic Highway (which are not conveyed via the Fire Road culvert). Therefore, the 6 cfs peak discharge represents a conservative assumption for peak 100-year storm discharges conveyed via the Fire Road culvert. Applying the methodology for culvert sizing procedures for 100-year peak flow (Weaver *et al*., 2015), the Fire Road culvert has a peak discharge capacity of 6.5 cfs or greater (based on most conservative assumptions). Therefore, the Fire Road culvert is appropriately sized to convey existing and planned stormwater peak flood flows. The proposed Project would not result in a significant impact related to exceeding stormwater conveyance infrastructure or creating additional sources of polluted runoff; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

iv) impede or redirect flood flows

The Project site is not located within the 100-year flood hazard zone designated by the Federal Emergency Management Agency (FEMA) (Marin County, 2019). As described above, the stormwater management system proposed as part of the Project is sized appropriately for the calculated peak discharges associated with the 100-year/24-hour design storm. The design of the stormwater management system considered upslope runoff contributions, which flow onto the Project site and the drainage system design ensures that the Project does not increase the overall discharges from the Project site. Impacts related to impeding or redirecting flood flows would be less than significant.

2014 Grading of the Fire Road

As described above under topic c.iii, the culvert associated with the Fire Road that conveys upslope runoff to the downgradient ephemeral channel is sized appropriately. Following implementation of the Project, peak stormwater discharges would be reduced due to the design of the stormwater management system. The Project would not result in a significant impact related to impeding or redirecting flood flows; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

The Project site is not located within the 100-year flood hazard zone designated by the FEMA, is not in a tsunami hazard inundation zone, and is not in an area subject to current or projected future coastal flooding (Marin County, 2019). A seiche is caused by

oscillation of the surface of a large enclosed or semi-enclosed body of water due to an earthquake or large wind event. The Project site is not located near a large enclosed or semi-enclosed body of water. The Project site is not located near levees or dams and would not be exposed to flooding from failure of one of these structures (Marin County, 2019). Therefore, there would be no impact related to the release of pollutants due to inundation.

2014 Grading of the Fire Road

The grading, placement of fill, and installation of a culvert to improve the Fire Road has not resulted in an increase in flood risk at the Project site and, as discussed under topic c), has not altered drainage patterns in a manner that would result in flooding on- or off site. There is no residual or ongoing impact from the Fire Road improvements relating to a risk of pollutant release during flooding. As described above, the Project would not result in a significant impact related to pollutants being released due to flooding; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As discussed above under topics a), c), and b), no water quality degradation or groundwater impacts would occur as a result of the proposed Project. As described under topic a), the proposed Project would have a less-than-significant impact on surface water and groundwater quality on-site and off-site. This includes Redwood Creek and its tributaries, which are subject to the Regional Water Quality Control Board Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) water quality objectives. Basin Plan water quality objectives include parameters such as turbidity/sediment, nutrients, and fecal coliform. The Basin Plan water quality objectives are designed to preserve and enhance water quality and protect the beneficial uses[16] of all regional terrestrial surface water bodies (e.g., creeks, rivers, streams, and lakes), groundwaters, coastal drainages, estuaries, coastal lagoons, and enclosed bays within the Regional Water Quality Control Board's jurisdictional area. The beneficial uses designated for Redwood Creek include agricultural supply, municipal and domestic supply, freshwater replenishment, shellfish harvesting, cold freshwater habitat, spawning habitat, warm freshwater habitat, wildlife habitat, recreation, and navigation. Redwood Creek is not currently classified as impaired for any of the water quality objectives of the Basin Plan.

As discussed above under topic c), the Project would comply with the requirements of the CGP under the NPDES Permit program, including implementation of BMPs and other requirements of a SWPPP, as well as the stormwater management requirements

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[16] Aquatic resources provide many different benefits. Beneficial uses are those resources, services, and/or qualities of aquatic systems that are to be maintained and are the ultimate goals for protecting and achieving high water quality.

of MCSTOPPP, all of which are designed to ensure stormwater discharges associated with construction and long-term occupancy of the Project site comply with the Basin Plan water quality standards. Portions of the Project site are within SCAs defined in the Marin CWP, within which development is restricted. The Project includes setbacks consistent with the Stream Conservation Areas to ensure disturbance is avoided within these sensitive areas. The Project would not require ongoing groundwater withdrawals or reduce groundwater recharge, as discussed under topic b), and therefore would not conflict with or obstruct implementation of a sustainable groundwater management plan. As discussed under c), the proposed stormwater management system is designed such that there would be no increase in peak runoff from the Project site. The proposed stormwater system was designed to meet or exceed the minimum standards required by and to be consistent with the goals and policies of State and federal water quality requirements, the Marin CWP, Marin County Zoning, Marin County Ordinances, the Tam Plan Plan, the Redwood Creek Watershed Assessment and "Vision for the Future", and the Recovery Plan proposed for the steelhead and coho salmon of Redwood Creek (Ziegler Civil Engineering, 2018a). Impacts relating to conflict or obstruction of implementing a water quality control plan or sustainable groundwater management plan would be less than significant.

2014 Grading of the Fire Road

As discussed above under topics a) and c), the grading, placement of fill, and installation of a culvert to improve the Fire Road has not resulted in any ongoing or residual impact relating to water quality, including from erosion and sedimentation as a result of altered drainage patterns. As discussed under topic b), no ongoing or residual impacts relating to groundwater recharge or supplies have been identified as a result of the improvement of the Fire Road. As described above, the Project would not result in a significant impact related to conflict with or obstruction of implementing a water quality control plan or sustainable groundwater management plan; this conclusion is not altered as a result of the past grading, fill placement, and culvert installation associated with the Fire Road improvements.

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11. Land Use and Planning

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Physically divide an established community (including a low-income or minority community)?	☐	☐	☒	☐
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Result in substantial alteration of the character or functioning of the community, or present planned use of an area?	☐	☐	☒	☐
d) Conflict with applicable Countywide Plan designation or zoning standards?	☐	☐	☒	☐

a) Physically divide an established community (including a low-income or minority community)?

The Project site is located on Panoramic Highway, which is characterized by rural, low density residential development. The Project would result in the subdivision of an existing, developed residential lot. The subdivision would support future development of up to four single-family residences (two primary units and two accessory dwelling units) and would not result in the direct or indirect physical division of the established community of Tam Valley. It would result in infill development on existing, unoccupied land with the same single family residential land use as the surrounding community. Therefore, this impact would be less than significant.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The considerations of the Project's consistency with relevant County policies discussed below represent County staff interpretation. This Initial Study does not, however, determine policy consistency. The County decision-makers make the formal policy consistency determinations. Policy inconsistencies may not necessarily indicate

significant environmental effects. The State CEQA Guidelines §15358(b) states that "effects analyzed under CEQA must be related to a physical change [in the environment]." Therefore, only those policy inconsistencies that would lead to a significant effect on the physical environment are considered significant impacts pursuant to CEQA. Other policy issues not pertaining to physical changes will be addressed as part of the County's review of the merits of the Project. Many of the policies discussed in this section pertain to environmental topics evaluated elsewhere in this Initial Study. Where this is the case, the reader is directed to the relevant section.

The foremost plans adopted by Marin County that pertain to the Project are the 2007 Countywide Plan (CWP) and the 1992 Tamalpais Area Community Plan (Tam Plan). Both contain numerous goals, objectives, policies, and programs intended to protect the environment. Many of the land use provisions of the Tam Plan were incorporated into the 2007 CWP. The Tam Plan, however, is still in effect and still provides important and fine-grained guidance on future development in the Tamalpais area.

The Tam Plan states that its goals are to maintain the semi-rural character of the community as defined by its small town residential and commercial nature and the quality of its natural environment. Accordingly, the Tam Plan states that new development shall be integrated harmoniously into the neighborhoods and geographic areas of the community in order to maintain their distinctive characters.

The Tam Plan states that its guiding philosophy places a strong emphasis on protecting public safety and preserving the natural resources of the community, while still permitting individual property owners to realize reasonable development potentials.

The environmental protection policies contained in the CWP and Tam Plan that pertain to the proposed Project are considered below. Policies are grouped where appropriate to facilitate the policy analysis. Countywide Plan policies are designated "CWP" and Tamalpais Area Community Plan policies are designated "Tam Plan".

CWP Policy AIR-1.2: *Seek to attain or exceed the more stringent of federal or State Ambient Air Quality Standards for each measured pollutant.*

CWP Policy AIR-1.3: *Require projects that generate potentially significant levels of air pollutants, such as quarry, landfill operations, or large construction projects, to incorporate best available air quality mitigation in the project design.*

Consistent with Incorporation of Mitigation. As discussed above in Section 3, Air Quality, the Project would result in potentially significant impacts to air quality from construction-related emissions. Implementation of Mitigation Measure AQ-1, as described in Section 3, Air Quality, would reduce the identified impacts to less than significant and ensure consistency with the identified policies.

CWP Policy AIR-4.1 Reduce Greenhouse Gas Emissions. *Adopt practices that promote improved efficiency and energy management technologies; shift to low-carbon and renewable fuels and zero emission technologies.*

Consistent. As discussed in Section 8, Greenhouse Gas Emissions, all residences constructed under the Project would be required to comply with the Marin County Green Building Ordinance and California Title 24 building codes, which would ensure that construction and use of the residences minimizes GHG emissions. Section 8 finds that the Project would not result in significant increases in GHG emissions, nor would it conflict with existing plans to reduce such emissions.

CWP Policy WR-1.3 Improve Infiltration. *Enhance water infiltration throughout watersheds to decrease accelerated runoff rates and enhance groundwater recharge. Whenever possible, maintain or increase a site's predevelopment infiltration to reduce downstream erosion and flooding.*

CWP Policy BIO-4.19 Maintain Channel Stability*. Applicants for development projects may be required to prepare a hydraulic and/or geomorphic assessment of on-site and downstream drainageways that are affected by project area runoff. This assessment should be required where evidence that significant current or impending channel instability is present, such as documented channel bed incision, lateral erosion of banks (e.g., sloughing or landsliding), tree collapse due to streambank undermining and/or soil loss, or severe in-channel sedimentation, as determined by the County.*

CWP Policy BIO-4.20 Minimize Runoff. *In order to decrease stormwater runoff, the feasibility of developing a peak stormwater management program shall be evaluated to provide mitigation opportunities such as removal of impervious surface or increased stormwater detention in the watershed.*

Tam Plan Policy LU16.1 *The County shall regulate new or altered development and vegetation removal to ensure that site preparation and construction do not contribute to erosion or slope failure, with resulting loss of life or property, loss of soils, sedimentation in streams, damage to downslope properties, downstream flooding, or siltation of wetlands. Development shall be located in the most accessible, least environmentally sensitive, and most geologically-stable area or areas of a development site, as balanced by considerations of open space and visual resource values.*

Tam Plan Policy LU17.1 *Vegetation Removal. All new developments in the Planning Area should be designed to minimize vegetation removal, soils compaction and site coverage.*

Consistent. All of these policies pertain to reduction of stormwater runoff and its adverse effects resulting from alteration of the land. As discussed in detail in Section 10, Hydrology and Water Quality, the Project has been designed to comply with all applicable stormwater management requirements, and would result in no net increase in stormwater runoff, nor would the Project result in substantial erosion. The Project would therefore be consistent with these policies.

CWP Policy WR-1.4 Protect Upland Vegetation *Limit development and grazing on steep slopes and ridgelines in order to protect downslope areas from erosion and to ensure that runoff is dispersed adequately to allow for effective infiltration.*

CWP Policy WR-2.3 Avoid Erosion and Sedimentation. *Minimize soil erosion and discharge of sediments into surface runoff, drainage systems, and water bodies. Continue to require grading plans that address avoidance of soil erosion and on-site sediment retention. Require developments to include on-site facilities for the retention of sediments, and, if necessary, require continued monitoring and maintenance of these facilities upon project completion.*

Tam Plan Policy LU16.1 *The County shall regulate new or altered development and vegetation removal to ensure that site preparation and construction do not contribute to erosion or slope failure, with resulting loss of life or property, loss of soils, sedimentation in streams, damage to downslope properties, downstream flooding, or siltation of wetlands. Development shall be located in the most accessible, least environmentally sensitive, and most geologically-stable area or areas of a development site, as balanced by considerations of open space and visual resource values.*

Consistent. All of these policies address the potential for development in geologically unstable locations to result in erosion and slope failure. Section 7, Geology and Soils, finds that the Project would not substantially increase erosion or pose a substantial risk of slope failure. Furthermore, as described in Section 10, Hydrology and Water Quality, the Project has been designed to implement construction and post-construction stormwater management to control runoff from the Project site. The Project would also be required to implement standard measures for minimizing erosion per Marin County Code Title 24 and Marin County Code §23.08, *Excavation, Grading and Filling.* As discussed in Section 4, Biological Resources, the proposed development envelopes are within already-disturbed portions of the Project site. The Project would be consistent with these policies.

CWP Policy NO-1. Protection from Excessive Noise. *Ensure that new land uses, transportation activities, and construction do not create noise levels that impair human health or quality of life.*

Consistent. The Project would result in new noise sources during Project construction and also following construction, with the ongoing use of new single-family residences. Section 13, Noise, concludes that the noise associated with construction activities and the proposed residential uses would be less than significant, ensuring compliance with the identified policy.

CWP Policy BIO-1.3 – Protect Woodlands, Forests, and Tree Removal. *The County shall strive to protect large trees, trees with historical importance, and oak woodland habitat, and prevent the untimely removal of trees through implementation of tree preservation ordinance.*

Tam Plan Policy LU12.1 Native Vegetation. *Native trees (native to the ecosystem of the area), and the habitats that they support, shall be protected from destruction or removal. However, should development or land improvements result in the loss of any trees the County should require either replacement with similar size trees or 2-3 new native trees· for each tree removed where physically feasible.*

Consistent with Incorporation of Mitigation. The proposed building envelopes are largely disturbed and contain existing development and therefore future development would require little vegetation or tree removal. As described in Section 4, Biological Resources, the Project would result in the removal of three trees subject to review under Marin County Code §22.27 (Native Tree Protection and Preservation). Mitigation Measure BIO-3 requires the Applicant to submit and implement a Native Tree Protection and Replacement Plan to minimize and avoid direct and indirect impacts to protected trees during Project construction. Implementation of Mitigation Measure BIO-4 would limit the introduction and spread of invasive plant species through removal of existing plants, proper disposal, cleaning and inspecting equipment and vehicles, site rehabilitation, prompt site restoration, and monitoring. Additionally, implementation of Mitigation Measure BIO-5 would limit the spread of plant pathogens like Sudden Oak Death during construction by requiring equipment to be properly cleaned, avoiding work in wet weather, containing infected trees, and purchasing materials from appropriate nurseries. With implementation of Mitigation Measures BIO-3 through BIO-5, the Project would be consistent with the referenced policies.

CWP Policy BIO-4.1 – Restrict Land Use in Stream Conservation Areas. *A SCA is established to protect the active channel, water quality and flood control functions, and associated fish and wildlife habitat values along streams. Development shall be set back to protect the stream and provide an upland buffer, which is important to protect significant resources that may be present and provides a transitional protection zone. Best management practices shall be adhered to in all designated SCAs. Best management practices are also strongly encouraged in ephemeral streams not defined as SCAs.*

Tam Plan Policy LU11.1 Stream Setbacks*. Maintain a setback from stream courses adequate to accommodate anticipated storm water flows, and to protect associated riparian habitat from removal or destruction.*

Consistent. The Project's proposed building envelopes are outside of the SCA areas within the Project site. Therefore, the Project would be consistent with these policies.

CWP Policy BIO-1.4 *Support Vegetation and Wildlife Disease Management Programs. Support agency programs and proven methods to limit the impacts of Sudden Oak Death syndrome and any other diseases harmful to native vegetation and wildlife in Marin County, while addressing any potential adverse effects on sensitive resources.*

CWP Policy BIO-1.5 *Promote Use of Native Plant Species. Encourage use of a variety of native or compatible nonnative, non-invasive plant species indigenous to the site vicinity as part of project landscaping to improve wildlife habitat values.*

CWP Policy BIO-1.6 *Control Spread of Invasive Exotic Plants. Prohibit use of invasive species in required landscaping as part of the discretionary review of proposed development.*

CWP Policy BIO-1.7 Remove Invasive Exotic Plants. *Require the removal of invasive exotic species, to the extent feasible, when considering applicable measures in discretionary permit approvals for development projects unrelated to agriculture, and include monitoring to prevent re-establishment in managed areas.*

Consistent with Incorporation of Mitigation. All of these policies seek to protect and enhance native vegetation. As discussed in Section 4, Biological Resources, implementation of Mitigation Measure BIO-3 would protect native trees onsite and Mitigation Measure BIO-4 would limit the introduction and spread of invasive plant species through removal of existing plants, proper disposal, cleaning and inspecting equipment and vehicles, site rehabilitation, prompt site restoration, and monitoring. Additionally, Mitigation Measure BIO-5 would limit the spread of plant pathogens like Sudden Oak Death. Further, as the Project site is within the Wildland-Urban Interface (WUI), new landscaping for each developed lot would be required to comply with Marin County Fire Department Fire Protection Standard 220, Vegetation Management. Compliance would include development, submittal, and approval of a Vegetation Management Plan. This rule requires establishment of a defensible space zone around structures that must be planted with fire-resistant plants and irrigated if necessary. Standard 220 requires property owners to use fire resistant plants, and to select native or domesticated plants that best suit the architectural and planning design of the proposed Project. Standard 220 includes a list of prohibited plants, which includes many common invasive species. Adherence to Standard 220 and the above-cited mitigation measures will ensure that the Project does not result in introduction or spread of invasive plant species, and thus will ensure consistency with these policies.

CWP Policy BIO-2.1 Include Resource Preservation in Environmental Review. *Require environmental review pursuant to CEQA of development applications to assess the impact of proposed development on native species and habitat diversity, particularly special-status species, sensitive natural communities, wetlands, and important wildlife nursery areas and movement corridors. Require adequate mitigation measures for ensuring the protection of any sensitive resources and achieving "no net loss" of sensitive habitat acreage, values, and function.*

CWP Policy BIO-2.4 Protect Wildlife Nursery Areas and Movement Corridors*. Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits, including consideration of cumulative impacts. Features of particular importance to wildlife for movement may include riparian corridors, shorelines of the coast and bay, and ridgelines. Linkages and corridors shall be provided that connect sensitive habitat areas such as woodlands, forests, wetlands, and essential habitat for special-status species, including an assessment of cumulative impacts.*

CWP Policy BIO-2.5 Restrict Disturbance in Sensitive Habitat During Nesting Season*. Limit construction and other sources of potential disturbance in sensitive riparian corridors, wetlands, and baylands to protect bird nesting activities. Disturbance should generally be set back from sensitive habitat during the nesting season from March 1 through August 1 to protect bird nesting, rearing, and fledging activities. Preconstruction surveys should be conducted by a qualified professional where*

development is proposed in sensitive habitat areas during the nesting season, and appropriate restrictions should be defined to protect nests in active use and ensure that any young have fledged before construction proceeds.

TAM PLAN Policy LU1.1 Protect Natural Habitats. *All land use decisions within the Planning Areas neighborhoods will take into consideration the protection and preservation of the area's hillsides, ridges, water courses, wetlands, woodlands and any other unique natural habitats.*

TAM PLAN Policy LU15.1 Wildlife Corridors. *Development permits should include provisions to protect corridors for wildlife movement and dispersal where feasible.*

Consistent with Incorporation of Mitigation Measures. As stated in Section 4, Biological Resources, the Project site contains only non-sensitive habitats and is not an important wildlife nursery area or wildlife movement corridor. Mitigation Measure BIO-1, requiring construction worker training and other measures to protect wildlife, Mitigation Measure BIO-2, requiring measures to protect bats, and Mitigation Measure BIO-3, which would ensure protection or replacement of native trees, would reduce potential impacts on wildlife. Marin County Code §22.20.040 (F) establishes nesting bird protection measures for outdoor construction activities that involve tree removal, grading, or other site disturbance in areas where nesting birds have a high probability of being present. Adherence to this code section would limit potential impacts on nesting birds by requiring preconstruction surveys by a qualified biologist to determine if nesting birds are present and by identifying buffer zones around the nests or delaying work until the breeding season is over or nesting is complete. With adherence to the County Code and implementation of the above-cited mitigation measures, wildlife within the Project site would be adequately protected. Also as discussed in Section 10, Hydrology and Water Quality, the Project would not increase stormwater runoff or sediment delivery to Redwood Creek tributaries. As stated in Section 4, Biological Resources, the Project therefore would not degrade downstream salmonid habitat or otherwise degrade aquatic habitat. The Project would therefore be consistent with these policies.

CWP Policy EH-2.1 Avoid Hazard Areas. *Require development to avoid or minimize potential hazards from earthquakes and unstable ground surfaces.*

CWP Policy EH-2.3 Ensure Seismic Safety of New Structures. *Design and construct all new buildings to be earthquake resistant. The minimum level of design necessary would be in accordance with seismic provisions and criteria contained in the most recent version of the State and County Codes. Construction would require effective oversight and enforcement to ensure adherence to the earthquake design criteria.*

Consistent. As discussed in Section 7, Geology and Soils, the Project site is not located within geologic hazard areas. Like the entire Bay Area, the Project site is subject to strong ground shaking during an earthquake. The California Building Code (CBC), as adopted by Marin County, requires design and construction of buildings intended for human occupancy to withstand the anticipated ground motion generated during a large earthquake with minimal damage and without structural collapse. While earthquakes are

unavoidable and the Project would expose new home owners to the ground shaking hazards in this region, seismic design parameters required through enforceable building codes would reduce the risk of injury and the loss of life during an earthquake. The Project is therefore consistent with these policies.

CWP Policy EH-4.1 Limit Risks to Structures. *Ensure that adequate fire protection is provided in new development and when modifications are made to existing structures.*

CWP Policy EH-4.5 Regulate Land Uses to Protect from Wildland Fires. *Land use regulations, including but not limited to subdivision approvals and denials, as means of protecting people and property from hazards associated with wildland fires.*

Consistent. As discussed in Section 20, Wildfire, the Project site is located within the WUI. Furthermore, emergency escape routes and emergency access are limited in the Project area. As discussed in Section 15, Public Services, the Project site is served with fire protection by the Marin County Fire Department. Fire risk reduction measures are required by the Building Code and have been specified for the Project by the Fire Marshall. The proposed Tentative Parcel Map was reviewed by the Marin County DPW and the Marin County Fire Department for consistency with all applicable standards. The Fire Department only commented that each proposed house would require a sprinkler system and a VMP would be required for each house. Therefore, the Project would be consistent with these policies.

CWP Policy CD-1.1 Direct Land Uses to Appropriate Areas. *Concentrate urban development in the City-Centered Corridor, where infrastructure and facilities can be made available most efficiently. Protect sensitive lands in the Baylands Corridor. Emphasize agricultural uses in the Inland Rural Corridor, along with preservation of resources, habitat, and existing communities. Focus on open space, recreational, and agricultural land uses, as well as preservation of existing communities, in the Coastal Corridor.*

CWP Policy CD-5.1 Assign Financial Responsibility for Growth*. Require new development to pay its fair share of the cost of public facilities, services, and infrastructure, including but not limited to transportation, incremental water supply, sewer and wastewater treatment, solid waste, flood control and drainage, schools, fire and police protection, and parks and recreation. Allow for individual affordable housing projects to be exempted from the full cost of impact fees, subject to meeting specified criteria.*

CWP Policy CD-5.2 Correlate Development and Infrastructure. *For health, safety, and general welfare, new development should occur only when adequate infrastructure is available, consistent with the following findings:*

a. Project-related traffic will not cause the level of service established in the circulation element to be exceeded.

b. *Any circulation improvements or programs needed to maintain the established level of service standard have been programmed and funding has been committed.*

c. *Environmental review of needed circulation improvement projects or programs has been completed.*

d. *The time frame for completion of the needed circulation improvements or programs will not cause the established level of service standard to be exceeded.*

e. *Wastewater, water (including for adequate fire flows), and other infrastructure improvements will be available to serve new development by the time the development is constructed.*

Consistent. These CWP policies all direct development to areas deemed suitable for the type of development proposed and already served by essential infrastructure. As previously noted, the Project site is within the City-Centered Corridor and the proposed Project is consistent with the site's land use designation and zoning. As discussed in Section 15, Public Services and in Section 19, Utilities and Service Systems, the Project site is adequately served with infrastructure and essential services. These services are funded through property tax assessments or fees, and so property owners within the Project site would pay their fair share of the cost of public facilities, services, and infrastructure. As discussed in Section 17, Transportation, the Project would not cause a reduction in intersection level of service, and no circulation improvements are required. The Project would therefore be consistent with CWP Policies CD-1.1, CD-5.1, and CD 5.2.

CWP Policy DES-1.1, Address Design at the Community Level. *Use community plans to regulate building design and protect key resources. Encourage cities and towns to address design issues.*

CWP Policy DES-4.1 Preserve Visual Quality*. Protect scenic quality and views of the natural environment — including ridgelines and upland greenbelts, hillsides, water, and trees — from adverse impacts related to development.*

Tam Plan Policy LU1.3 Compatible Design*. New residential and commercial development shall be comparable and compatible with the scale (bulk, mass and height) and appearance (colors, materials and design) of the particular neighborhood and shall be integrated with and subordinate to the area's natural setting.*

Tam Plan Policy LU 1.4 Size, Height, Setbacks*. The size, height, and building setbacks of all new or expanded residential development shall be carefully regulated to maintain the existing character of residential neighborhoods and to protect the exposure to sun light, views and privacy of adjacent homes.*

Consistent. As discussed in Section 1, Aesthetics, the residences developed under the Project are expected to be consistent with the surrounding neighborhood and are not expected to block views or degrade important visual resources. The development of single-family residences would be consistent with the Project site's CWP land use designation and zoning. The Project would therefore be consistent with the referenced policies.

Tam Plan Policy LU3.1 Historic Lots. *Promote resubdivision, where feasible, of historic lots of record to ensure that future development is responsive to the inherent physical constraints and environmental amenities of the site.*

Tam Plan Policy LU4.1 Lot Mergers. *The County shall encourage owners of historic substandard legal lots of record to merge them to create new lots which conform. to the current required minimum lot size, including the minimum lot sizes required by the County's Slope Ordinance.*

Tam Plan Policy T11.1 *To require the dedication or provision through easements of additional land for roadway construction when an existing paper street does not have adequate width or alignment to serve proposed development.*

Tam Plan Policy T11.2 *To provide for adequate access, particularly emergency vehicles on private roads through the enforcement of parking standards.*

Consistent. All of these Tam Plan policies are intended to limit and condition development in historic subdivisions where access and lot configuration do not meet current standards. The proposed lots meet the minimum lot size and the Tentative Map proposes access that meets DPW standards and has been reviewed and approved by the Marin County Fire Marshall. The Project is consistent with these policies.

CWP Policy TR-1.2 Maintain Service Standards*. Establish level of service standards for vehicles on streets and highways and performance standards for transit, bicycles, pedestrians, and other modes of transportation.*

CWP Policy TR-1.5 Require Necessary Transportation Improvements. *Require necessary transportation improvements to be in place, or otherwise guaranteed to result in their timely installation, before or concurrent with new developments. In evaluating whether a transportation improvement is necessary, the County shall consider alternatives to the improvement consistent with Policy TR-1.1, Manage Travel Demand, and the extent to which the improvement will offset the traffic impacts generated by proposed and expected development and restore acceptable traffic levels of service.*

Consistent. As discussed in Section 17, Transportation, Project-related traffic, both during and after construction, is not expected to reduce intersection level of service. The Project would take its access from Panoramic Highway via an existing driveway. The intersection of the driveway and Panoramic Highway would be improved as part of the Project. The Project would therefore be consistent with referenced policies.

Conclusion: With implementation of the mitigation measures cited in the discussion above, the Project would be consistent with relevant CWP and Tam Plan policies. Therefore, this impact would be less than significant.

c) Result in substantial alteration of the character or functioning of the community, or present planned use of an area?

The Project site is currently developed with a single-family residence and the Project would enable development of up to four additional future residences on the new lots (two primary residences and two accessory dwelling units, or ADUs), continuing the residential use of the property and neighborhood. The visual character of the future development would be in keeping with the existing neighborhood and community because it would only consist of new single-family residences, garages, and various accessory structures, similar to the existing character of the area. The future residences would be subject to Design Review approval. Therefore, the Project would not result in a substantial alteration of the character or functioning of the community, or present or planned use of an area and this impact would be less than significant.

d) Conflict with applicable Countywide Plan designation or zoning standards?

Development at the Project site would be governed by the CWP, zoning standards contained in Title 22 of the Marin County Code, and the Tam Plan.

Marin Countywide Plan

The Project site is located within the City-Centered Corridor, as delineated in the CWP. The new lots that would be developed under the Project would, like the existing lot, have a land use designation of as PR (Planned Residential). The PR designation is a Rural/Residential land use category established for single-family residential development in areas where public services are limited and on properties where physical hazards and/or natural resources may restrict development. The Project site is not within a Ridge and Upland Greenbelt Area, as designated in the CWP. Portions of the Project site are within CWP-defined Stream Conservation Areas, within which development is restricted.

The PR designation is a rural/residential density land use category with a density range of one acre to 10 acres. Rural/residential density land use categories are established for single-family residential development in areas where public services are limited and on properties where physical hazards and/or natural resources may restrict development. The lots that would be established under the Project would be 2.22 acres (lot 1, with the existing residence), 0.89 acres (lot 2), and 5.18 acres (lot 3) The lots total 8.29 acres, and therefore the density for the Project is about 0.36 dwelling units per acre. It is assumed that residences developed on the lots would comply with the Floor Area Ratio (FAR) limits, as described in the Project Description. The Project would therefore be in substantial conformance with the CWP land use designation.

Tamalpais Area Community Plan

In addition to the CWP, the Marin County Board of Supervisors have adopted several Community Plans and other area plans, which contain policies for land use and development related specifically to a local unincorporated area. They are intended to reflect the unique character of local communities and are used to evaluate discretionary planning applications. The Tamalpais Area Communities Plan (Tam Plan) was adopted in 1992 and, in addition to goals and policies, contains special development standards specific to the Tamalpais area. These standards are also contained in Marin County Code §22.30.060. The Tam Plan states that the primary land use goal for the Tamalpais Planning Area is the conservation of the semirural small town residential and commercial character and scale of the community, and its close relationship with the natural beauty of its setting.

Marin County Development Code

All lots would be zoned RMP 0.5 (Residential, Multiple Planned District - 1 unit per 2 acres). The RMP zoning district is intended for a full range of residential development types within the unincorporated urban areas of the County, including single-family, two-family dwellings, multi-family residential development, and limited commercial uses in suburban settings, along with similar and related compatible uses, where site or neighborhood characteristics require particular attention to design detail provided through the through a Master Plan, Tentative Map, Design Review or other applicable discretionary entitlement process.

Each of the proposed lots would be zoned RMP 0.5, which has a 30-foot height limit for the main structure and 15-foot height limit for detached accessory structure. Development standards are determined on a site by site basis, depending on site constraints and implemented through discretionary review.

Special development standards that were established by the Tam Plan and that are contained in Marin County Code §22.30.060 would apply to development of those lots that require Design Review. For the two lots over 10,000 square feet with average slopes over 25 percent, these standards include a reduction of the maximum FAR, as shown in Table 1 in the Project Description.

For the purpose of this initial study, it is assumed that the houses developed on the new lots would be built to the maximum allowable FAR calculated using the special development standards for the Tamalpais area. This would result in houses of about 4,250 sf for lot 2 and 7,000 for both lots 1 and 3, as shown in Table 1 in the Project Description, plus garages and outbuildings. The heights of the future proposed residences would be reviewed through future discretionary action, such as the Design Review process, to ensure consistency with the zoning district standards and special development standards for the Tamalpais Area contained in the Marin County Code.

Overall, the project would be consistent with the CWP land use designation and zoning, and with the special development standards contained in the Tam Plan. Therefore, the impact would be less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road did not physically divide an existing community or alter the community character as the work entailed improvements to an existing fire road that is located on the Project site. However, the grading was inconsistent with County policies regarding wetland protection by conducting grading activities within a WCA that may have had an adverse effect on wetland function and habitat. As discussed in Section 4, Biological Resources, the wetland now appears to be functionally intact and the grading of the Fire Road therefore appears not to have had lasting impacts on the wetland. As the impact has been mitigated through remedial work performed by the Applicant, and through passage of time, the inconsistency no longer exists: there is no ongoing impact and no need for further mitigation. Therefore, consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not conflict with CWP policies regarding wetland protection. Additionally, the Fire Road grading appears to have occurred outside of the SCA. The grading may have resulted in some delivery of sediment to the stream system, but erosion control required by the County and the Regional Water Quality Control Board appears to have been effective in controlling sedimentation (see Figure 8 in the Project Description, and the discussion in Section 10, Hydrology and Water Quality). Overall, there appears to be no ongoing conflict with County policies regarding stream protection, and the conclusions regarding this point are not changed with consideration of the unpermitted grading of the Fire Road. The grading appears not to have affected trees protected by the Marin County Code §22.27 (Native Tree Protection), and so appears not to have conflicted with the County ordinance.

12. Mineral Resources

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

There are no known mineral resource deposits within the Project site. The Project therefore would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The Project site is not designated in the Countywide Plan as a significant mineral resource site, and there are no mineral extraction sites or operations in the vicinity of the Project site. The Project would have no impact on mineral resources.

2014 Grading of the Fire Road

There are no significant mineral resource sites in the Project area, let alone the Project site and therefore the 2014 unpermitted grading of the Fire Road therefore would have no impact on mineral resources.

13. Noise

Would the Project result in:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Setting

Noise Descriptors

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound pressure level has become the most common descriptor used to characterize the “loudness” of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain. Decibels are measured using different scales, and it has been found that A-weighting of sound levels best reflects the human ear’s reduced sensitivity to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale (dBA) is cited in most noise criteria. All references to decibels (dB) in this analysis will be A-weighted unless noted otherwise.

Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A–

weighted sound level over a given time period (Leq)[17]; average day–night 24-hour average sound level (Ldn)[18] with a nighttime increase of 10 dB to account for sensitivity to noise during the nighttime; and community noise equivalent level (CNEL)[19], also a 24-hour average that includes both an evening and a nighttime sensitivity weighting. **Table 13-1** identifies decibel levels for common sound heard.

Noise Attenuation

Stationary point sources of noise, including construction equipment, attenuate (lessen) at a rate of 6 to 7.5 dB per doubling of distance from the source, depending on ground absorption. Soft sites attenuate at 7.5 dB per doubling because they have an absorptive ground surface such as soft dirt, grass, or scattered bushes and trees. Hard sites have reflective surfaces (e.g., parking lots or smooth bodies of water) and therefore have less attenuation (6.0 dB per doubling). A street or roadway with moving vehicles (known as a "line" source), would typically attenuate at a lower rate, approximately 3 to 4.5 dB each time the distance doubles from the source, which also depends on ground absorption (Caltrans, 1998). Physical barriers located between a noise source and the noise receptor, such as berms or sound walls, will increase the attenuation that occurs by distance alone.

Table 13-1: Typical Noise Levels

Noise Level (dB)	Outdoor Activity	Indoor Activity
90+	Gas mower at 3 ft., jet flyover at 1,000 ft.	Rock band
80–90	Diesel truck at 50 ft.	Loud television at 3 ft.
70–80	Gas lawn mower at 100 ft., noisy urban area	Garbage disposal at 3 ft., vacuum at 10 ft.
60–70	Commercial area	Normal speech at 3 ft.
40–60	Quiet urban daytime, traffic at 300 ft.	Large business office, dishwasher next room
20–40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10–20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

Source: Modified from Caltrans Technical Noise Supplement (Caltrans, 2013)

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[17]The Equivalent Sound Level (Leq) is a single value of a constant sound level for the same measurement period duration, which has sound energy equal to the time–varying sound energy in the measurement period.
[18] Ldn is the day–night average sound level that is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to night between 10:00 p.m. and 7:00 a.m.
[19] CNEL is the average A-weighted noise level during a 24-hour day, obtained by addition of 5 decibels in the evening from 7:00 to 10:00 p.m., and an addition of a 10–decibel penalty in the night between 10:00 p.m. and 7:00 a.m.

Regulatory Framework

State Guidelines

State Land Use Compatibility Standards for Community Noise are provided in the State of California General Plan Guidelines (State of California, Governor's Office of Planning and Research, 2017). The guidelines indicate that a Community Noise Exposure up to 60 dB (Ldn or CNEL) is Normally Acceptable for Single Family Residential, and a Community Noise Exposure up to 70 dB (Ldn or CNEL) is Conditionally Acceptable.

Marin Countywide Plan

Noise policies are included in Section 3.10 of the Built Environment Element of the Marin Countywide Plan (CWP). The CWP refers to the State's acceptable noise levels (described above), and includes the following Implementing Programs:

Implementing Program NO-1.c, requires all development to mitigate noise impacts where the project would:

- Raise the Ldn by more than 5 dBA;
- Raise the Ldn by more than 3 dBA and exceed the Normally Acceptable standard; or
- Raise the Ldn by more than 3 dBA and the Normally Acceptable standard is already exceeded.

Implementing Program NO-1.d sets a maximum exterior noise level for all new residential units of 60 dBA Ldn, and maximum interior noise level of 45 dBA Ldn.

Implementing Program NO-1.i references §6.70.030(5) and §6.70.040 of the Marin County Code, which establish allowable hours of operation for construction-related activities. As a condition of permit approval for projects generating significant construction noise impacts, this Implementing Program requires construction management for any project to include development of a construction noise reduction plan and to designate a disturbance coordinator at the construction site to implement the provisions of the plan.

Marin County Code

The Marin County Code §6.70.030(5) establishes allowable hours of operation for construction-related activities.

a. Hours for construction activities and other work undertaken in connection with building, plumbing, electrical, and other permits issued by the Community Development Agency shall be limited to the following:

i. Monday through Friday: 7 a.m. to 6 p.m.

ii. Saturday: 9 a.m. to 5 p.m.

iii. Prohibited on Sundays and Holidays (New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.)

b. Loud noise-generating construction-related equipment (e.g., backhoes, generators, jackhammers) can be maintained, operated, or serviced at a construction site for permits administered by the Community Development Agency from 8 a.m. to 5 p.m. Monday through Friday only.

c. Special exceptions to these limitations may occur for:

i. Emergency work as defined in Section 22.130.030 of the Municipal Code provided written notice is given to the Community Development Director within forty-eight hours of commencing work;

ii. Construction projects of city, county, state, other public agency, or other public utility;

iii. When written permission of the Community Development Director has been obtained, for showing of sufficient cause;

iv. Minor jobs (e.g., painting, hand sanding, sweeping) with minimal/no noise impacts on surrounding properties;

v. Modifications required by the review authority as a discretionary permit condition of approval.

Existing Noise Sources

The Project site is in a low-density suburban area with generally low noise levels that are compatible with the residential use. The main noise sources are traffic on Panoramic Highway and noise from small power equipment used for landscaping and construction. All of these noise sources diminish or cease at night.

Existing Sensitive Receptors

The closest sensitive receptors that would be affected by noise resulting from the Project are nearby residences. The closest neighboring residence is about 50 feet from the boundary of the building envelope for proposed lot 3. Several additional residences along Panoramic Highway and Brighton Boulevard are within 200 feet. The existing residence on the Project site is also within about 20 feet of the boundary of the building envelope for proposed lot 3.

a) Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise

The use of power equipment and other tools during construction of the Project would result in increases in ambient noise levels in the Project vicinity. Construction activity would also result in noise from vehicles accessing the construction site (workers, supply deliveries, and trucks), but these pass-by vehicles would be limited in number and the noise from them would be similar to other existing pass-by vehicles. During construction, which may occur in one or more years, noise levels would vary considerably, with most periods having limited or no construction noise and other times when noise would be greater. The noise would also be generated from different locations, depending on which lot construction is occurring on, and the location of construction within a lot, and so would affect different sensitive receptors to different degrees, at different times.

The short-term increase in ambient noise from construction could be substantial. Adherence to the allowable construction hours in Marin County Code §6.70.030(5) would reduce noise exposure, and would ensure that nighttime noise levels are not increased. To ensure that the Project complies with Countywide Plan implementing program NO-1.i, Mitigation Measure NOISE-1 is added below. Mitigation Measure NOISE-1 would insure that increases in ambient noise levels from construction activities would not be in excess of standards established in the CWP or noise ordinance, and the impact of construction noise would be less than significant.

Operational Noise

After construction, impacts from the Project would include any noise generated by the new residences that would affect surrounding land uses. In general, residences are one of the quietest land uses (other than open space), and noise from the new residences would be compatible with the surrounding residences.

The primary source of operational noise from the Project would be new vehicle trips from Project residents. Based on an increase of 38 vehicles per day from the Project site, spread out over the course of the day (see Section 17, Transportation) Project-generated traffic is expected to result in only a minor incremental increase in traffic noise, which would not be perceptible at the nearest sensitive receptors (the homes along Panoramic Way). In sum, Project operations would not result in substantial increases in existing ambient noise levels. Operational noise would not be in excess of standards, including State compatibility guidelines, and the impact would be less than significant.

> **Mitigation Measure NOISE-1: Construction Disturbance Coordinator and Noise Reduction Plan.** In conformance with Marin Countywide Plan Implementing Program NO-1.i, as a condition of permit approval, construction

management shall be required to include development of a construction noise reduction plan and to designate a disturbance coordinator at the construction site to implement the provisions of the plan. The disturbance coordinator shall be responsible for receiving and acting on complaints about construction disturbances, including noise, during construction activities. The disturbance coordinator shall determine the cause of noise complaints and implement remedial measures as necessary to alleviate significant problems. Prior to commencing work, all neighbors within 500 feet of the Project site shall be informed of the name and contact information of the disturbance coordinator; this information shall also be posted at the entrance to the work site, in a location visible to the public.

The construction noise reduction plan shall include measures for minimizing and avoiding noise disturbance of nearby sensitive receptors. Such measures may include, but are not limited to, the following:

- Muffle and maintain all equipment used on site. All internal combustion engine-drive equipment shall be fitted with mufflers which are in good condition. Mufflers shall result in non-impact tools generating a maximum noise level of 80dB when measured at a distance of 50 feet.

- Schedule construction activities to have the least impact on noise-sensitive receptors (existing residents) in the area. This shall be accomplished by limiting construction activities, including grading, excavating, and paving, to weekdays between 7:00 AM and 6:00 PM, per Marin County Municipal Code Sec. 6.70.030(5)(a-c). Nearby sensitive receptors shall be informed of allowable construction hours.

Monitoring Measure NOISE-1: The Marin County Community Development Agency and Department of Public Works shall verify that the provisions of the measure have been implemented.

b) Would the project result in excessive groundborne vibration or groundborne noise levels?

Construction activities have the potential to result in varying degrees of temporary ground vibration. The amount of vibration depends on the specific construction equipment used and operations involved. In most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures (Caltrans, 2002). Project construction would not require significant sources of vibration such as pile driving or blasting. Based on the types of construction equipment expected to be used for Project construction, the Project would not be expected to result in excessive groundborne vibration or groundborne noise levels, and the impact would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles

of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The closest airports or airfields to the Project site are San Rafael Airport (also known as Smith Ranch Airport), located approximately 9 miles from the Project site to east of US 101 and north of Point San Pedro, and Gnoss Field, near Novato, about 17 miles from the Project site. The Project site is not within an airport land use plan, and because of its distance from the nearest airports and airfields, the Project does not have the potential to expose people residing or working in the area of the Project site to excessive noise levels from aircraft. There would be no impact of this kind.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road in 2014 would have caused noise from use of heavy equipment and from haul trucks entering and leaving the site. This may have caused short-term disturbance of neighbors, but there are no records of noise complaints in the County's files. It is unknown whether the grading work complied with the limits on construction noise in the Marin County Code, but there are no records of complaints or enforcement actions in this regard.

Because noise impacts of the grading work would have been short term, they would be considered less than significant. Consideration of noise impacts of the grading work does not change any of the conclusions regarding significance of the Project's noise impacts.

References

California Department of Transportation (Caltrans), 1998. Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects. October 1998.

California Department of Transportation (Caltrans), 2002. Transportation Related Earthborne Vibrations. February 2002. http://www.dot.ca.gov/hq/env/noise/pub/TRANSPORTATION_RELATED_EARTHBORNE_VIBRATIONS.pdf

California Department of Transportation (Caltrans), 2013. Technical Noise Supplement. September 2013. http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013A.pdf

State of California, Governor's Office of Planning and Research, 2017. General Plan Guidelines.

14. Population and Housing

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Increase density that would exceed official population projections for the planning area within which the project site is located as set forth in the Countywide Plan and/or community plan?	☐	☐	☒	☐
d) Displace existing housing, especially affordable housing?	☐	☐	☐	☒
e) Result in any physical changes which can be traced through a chain of cause and effect to social or economic impacts?	☐	☐	☒	☐

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed Project would include the extension of driveways, electrical, and water infrastructure to the new lots. However, the growth caused by the future residences is well within planned growth identified in the Marin Countywide Plan, and therefore the Project would result in a less than significant impact with respect to population growth.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The Project site is currently developed with one single-family residence. As no demolition of existing housing is proposed, the Project would not displace any housing and therefore there would be no impact.

c) Increase density that would exceed official population projections for the planning area within which the project site is located as set forth in the Countywide Plan and/or community plan?

The Project would add up to four single family residences (two primary residences and two accessory dwelling units, or ADUs), resulting in a population increase in the area of about 10 people, assuming the County-wide average of 2.4 persons per dwelling unit (US Census Bureau, 2018). The density of the proposed development (approximately 0.36 dwelling units per acre) is consistent with the CWP land use designation, Tam Plan, and County Zoning.[20] Therefore, the Project's density and additional population would be consistent with Countywide Plan and Community Plan population projections and density for the planning area, and this impact would be less than significant.

d) Displace existing housing, especially affordable housing?

As discussed above, the Project site is currently developed with one single family residence. As no demolition is proposed, the Project would not displace any housing and there would be no impact on existing housing or affordable housing.

e) Result in any physical changes which can be traced through a chain of cause and effect to social or economic impacts?

The proposed Project entails the subdivision of a lot that is currently developed with a single-family residence. As the Project site is zoned for future residential development and would support the future construction of up to four additional residences, the Project would not result in physical changes that would have social or economic impacts and this impact would be less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road had no impact to existing or future residential development and therefore consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on population and housing.

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[20] Accessory dwelling units do not count toward calculation of the site's density.

References:

US Census Bureau, 2018. Quick Facts Marin County, California, available online at: https://www.census.gov/quickfacts/marincountycalifornia

15. Public Services

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☒	☐
ii) Police protection?	☐	☐	☒	☐
iii) Schools?	☐	☐	☒	☐
iv) Parks?	☐	☐	☒	☐
v) Other public facilities including roads?	☐	☐	☒	☐

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i) Fire protection?

Fire protection services are provided to the Project site by the Marin County Fire Department. The new residences would be served by the Marin County Fire Department Throckmorton Station, located at 816 Panoramic Highway, Mill Valley (Marin County Fire Department, 2019). New residences would be constructed in accordance with fire safety standards contained in the California Building Code and Project site emergency access and defensible space would be reviewed during the Design Review process. The Project would not result in a need for new or altered fire protection service.

ii) Police protection?

Police protection services is provided to the Project site by the Marin County Sheriff's Department. The addition of up to four residences to this area would not be expected to result in the need for new or altered service from the Marin County Sheriff's Department (Marin County Sherriff's Office, 2019).

iii) Schools?

The Project site is within the Mill Valley Elementary School District and the Tamalpais Union High School District (Marin County, 2019). The Mill Valley School District has five elementary schools and one middle school with an enrollment of approximately 3,200 students in grades K through 8. Four of the schools are located within the City of Mill Valley, while two are located in the adjacent unincorporated areas of Strawberry and Tamalpais Valley. The District also includes the unincorporated communities of Alto, Almonte, Homestead Valley, and Muir Beach (Mill Valley School District, 2019). Old Mill Elementary School is located at 352 Throckmorton Ave, about a mile from the Project site. The Tamalpais Union High School District currently enrolls over 4,800 students served in three comprehensive high schools and two alternative programs (Tamalpais Union High School District, 2019). Both districts have the capacity for additional enrollments that may result from development of up to four additional residential units under the Project, if approved.

iv) Parks?

The Project area includes a wide variety of national, State, County, and City of Mill Valley parks, including Muir Woods National Monument managed by the US National Park Service, Mount Tamalpais State Park managed by California State Parks, Blithedale Summit Open Space Preserve managed by Marin County Open Space District, and Old Mill Park managed by the City of Mill Valley. Implementation of the Project would result in up to four additional residences. The addition of several residents would not substantially increase demand on park facilities. There are sufficient park facilities in the area of the Project site to accommodate the additional demand generated by the Project. Therefore, this impact would be less than significant.

v) Other public facilities including roads?

Implementation of the Project would slightly increase demand for public facilities and services, such as roads and libraries, as a result of the development of up to four new residences. Because of the small number and type of vehicles that would be used by future residents of the project (i.e., light vehicles), Project operations are not expected to result in a need for new or altered government service for road maintenance. Project construction would involve heavy trucks that have the potential to damage road surfaces, which could lead to the need for road repairs in order to return the road to its pre-Project condition, but given the limited amount of development, including a relatively modest amount of earth movement required for lot development, road damage from Project construction would not be expected to have a substantial effect upon, or result in

a need for new or altered government service for road maintenance. The impact would be less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road had no impact to police, schools, parks, and other facilities. It did improve access for fire and emergency vehicles to the lower portion of the project site. The improvements were made in conjunction with the Marin County Fire Department and were determined to improve access and reduce wildfire risks (Marin County Fire Department, 2014). The grading of the Fire Road therefore appears not to have had a negative impact on public services and may have had a beneficial impact. Therefore, consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on public services.

References:

Marin County, 2019. Marin Map, School layer. Accessed June 24, 2019. http://www.marinmap.org

Marin County Fire Department, 2019. Throckmorton Ridge Station, available online at. https://www.marincounty.org/depts/fr/divisions/operations/stations/throckmorton

Marin County Fire Department, 2014. Letter from Scott Alber, Fire Marshall, to Mr. Daniel Weissman, subject: Property Access – 455 Panoramic Highway, Mill Valley. April 3.

Marin County Sheriff's Office, 2019. Official website, available online at http://www.marinsheriff.org/

Mill Valley School District, 2019. Web Site: About Us. Available online at: https://www.mvschools.org/domain/597

Tamalpais Union High School District, 2019. District Website: "About" page. Available online at: https://www.tamdistrict.org/domain/3

16. Recreation

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Implementation of the proposed Project would result in the subdivision of an existing residential lot into three lots and the future development of up to four additional dwelling units. Therefore, the Project would not substantially increase demand on neighborhood or regional parks or other such recreational facilities or opportunities. Therefore, this impact would be less than significant.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The Project does not include any recreational facilities or require the expansion of recreational facilities which may have an adverse effect on the environment. As discussed above, implementation of the proposed Project would result in the subdivision of an existing residential lot into three lots and the future development of up to four new residences. This impact would be less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road was limited in scope to work on the Project site and had no offsite impacts to recreational facilities. Therefore, the grading of the Fire Road appears not to have had an impact on recreation and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on recreational facilities.

17. Transportation

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
d) Result in inadequate emergency access?	☐	☐	☒	☐

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

In the Bay Area region, responsibility for regional transportation and housing planning is shared by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC). These two agencies have prepared Plan Bay Area 2013, and the Plan Bay Area 2040 Update (MTC and ABAG, 2017), which include the region's Sustainable Communities Strategy and the 2040 Regional Transportation Plan, prepared pursuant to Senate Bill 375 (SB375). SB 375 builds on the existing framework of regional planning to tie together the regional allocation of housing needs and regional transportation planning in an effort to reduce greenhouse gas (GHG) emissions from motor vehicle trips. Plan Bay Area 2040 prioritizes fixing an aging transportation system and directing future growth to reduce dependence on the automobile. Plan Bay Area 2040 identifies about 200 "Priority Development Areas" (PDAs). These existing neighborhoods are served by public transit and have been identified as appropriate for additional, compact development. Two PDAs are located in Marin County, the San Rafael Transit Center PDA in downtown San Rafael, and the Unincorporated Marin County PDA in Marin City.

The Project site is not within either of these PDAs. However, the Project Site is within the City-Centered Corridor, as defined in the Countywide Plan (CWP). The City-Centered Corridor contains the County's urbanized areas, and is the focus for future urban development, as stated in CWP Built Environment Policy CD-1.1 and Implementing Program CD-1a:

> **Policy CD-1.1 Direct Land Uses to Appropriate Areas.** Concentrate urban development in the City-Centered Corridor, where infrastructure and facilities can be made available most efficiently. Protect sensitive lands in the Baylands Corridor. Emphasize agricultural uses in the Inland Rural Corridor, along with preservation of resources, habitat, and existing communities. Focus on open space, recreational, and agricultural land uses, as well as preservation of existing communities, in the Coastal Corridor.
>
> **Implementing Program CD-1.a Keep Urban Uses in the City-Centered Corridor.** Update the Development Code as necessary to ensure that urban development is confined primarily to the City-Centered Corridor, and designate specific areas within and surrounding the corridor for resource protection, including the Ridge and Upland Greenbelt Area, the Streamside Conservation Area, designated wetlands, and undeveloped historic baylands and floodplains.

Thus, while the Project site is not identified as a PDA within Plan Bay Area, it is consistent with CWP policy to focus development within the City-Centered Corridor, and, because the Project site is not within the Ridge and Upland Greenbelt Area, and proposed development envelopes avoid Streamside Conservation Areas and designated wetlands (see Section 4, Biological Resources), the Project is consistent with CWP Policy CD-1.1 and its Implementing Program CD-1a.

County transportation policies, per se, are contained in the Transportation Element of the CWP. Policies that pertain to the Project include several associated with **GOAL TR-1: Safe and Efficient Movement of People and Goods -** Provide a range of transportation options that meet the needs of residents, businesses, and travelers:

> **Policy TR-1.1 Manage Travel Demand.** Improve the operating efficiency of the transportation system by reducing vehicle travel demand and provide opportunities for other modes of travel. Before funding transportation improvements consider alternatives — such as Transportation Demand Management (TDM) — and prioritize projects that will reduce fossil fuel use and reduce single-occupancy vehicle trips.
>
> **Policy TR-1.2 Maintain Service Standards.** Establish level of service standards for vehicles on streets and highways and performance standards for transit, bicycles, pedestrians, and other modes of transportation.
>
> **Policy TR-1.8 Reduce Vehicle Miles Traveled (VMT).** Reduce the rate of increase for total vehicle miles traveled by single-occupant automobile to not exceed the population growth rate.

With regard to Policies TR-1.1 and TR1.8, as discussed above, while the Project site is not within a PDA identified in Plan Bay Area, it is within the CWP's City-Centered Corridor. Still, the Project site is not well-served by transit or other non-automobile modes of transportation. Marin Transit Route 61 (West Marin Stagecoach) provides bus service along Panoramic Highway west to Stinson Beach and Bolinas and east to Mill Valley, Marin City and Sausalito. There are four buses per weekday in each direction, and more on weekends from March to October (Marin Transit, 2019). The closest stop to the Project Site is at the intersection of Panoramic Highway and Ridge Road, about a 4-minute walk (511.org, 2019). There are no bicycle paths, bicycle lanes, or designated bicycle routes on Panoramic Highway or elsewhere around the Project site (Google Maps, 2019). It can be expected that future residents of the Project site will be primarily dependent on automobiles. On the other hand, compared to proposed developments in more rural and remote portions of the County, the Project does limit development to an existing neighborhood, surrounded by similar development, within the City-Centered Corridor**.** Therefore, conflicts with these County transportation policies is considered less than significant.

With regard to CWP Transportation Policy TR-1.2, Maintain Service Standards, CWP **Implementing Program TR-1.e - Uphold Vehicle Level of Service Standards**, establishes a standard of Level of Service (LOS) D or better for urban and suburban arterial roads. LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels of service are defined ranging from LOS A (best operating conditions) to LOS F (worst operating conditions), with LOS E operating "at or near capacity." When volumes approach capacity, stop-and-go conditions result. Per CWP Implementing Program TR-1e, Marin County generally strives to maintain LOS D or better for peak hour intersection operations.

During Project construction, the Project would result in a small incremental increase in vehicle traffic associated with construction worker commute trips and transportation of materials and equipment to and from the Project site. The number of trips would be small, however. The CalEEMod model used for forecasting air and GHG emissions (CARB, 2016) provides an estimate of construction vehicle trips. The model estimates that workers' vehicles may make up to 13 trips per day, with vendors' vehicles and heavier trucks hauling and materials making trips occasionally, but not daily. The small number of trips and the short duration of the construction period would be within the existing range of traffic conditions, and would not be expected to conflict with Countywide Plan policies regarding maintenance of adequate LOS.

Project operations, that is, residential use of the Project site post-construction, would result in long-term generation of additional vehicle trips. **Table 17-1** shows the expected trip generation for Project operations, based on factors provided by the Institute of Traffic Engineers (ITE, 2012). As shown in Table 17-1, the Project, which could add up to four additional residences (one primary unit and one accessory dwelling unit for each of proposed lots 2 and 3) may add up to about 38 additional daily vehicle trips to the roadways. This would include about 3 new trips during the a.m. peak hour, and 4 new trips during the p.m. peak hour. Given this small number of new vehicle trips, which would be within the current range of daily traffic fluctuation on Panoramic Highway and

intersections with connecting arterial roads (including the intersection of Panoramic Highway with Muir Woods Road and Sequoia Boulevard; the intersection of Panoramic Highway with Shoreline Highway) as well as more distant intersections (such as Tam Junction and intersections along Miller Avenue), the Project would not be expected to reduce LOS for roadways and intersections in the vicinity of the Project site, and so would not conflict with Countywide Plan policies regarding maintenance of adequate LOS.

Table 17-1: Operational Vehicle Trip Generation

Condition	# Residential Units	Daily Trips (Generation Rate = 9.52)	AM Trips (Generation Rate = 0.75)	PM Trips (Generation Rate = 1.0)
Existing	1	10	1	1
Existing Plus Project	5	48	4	5
Project Only	**4**	**38**	**3**	**4**

Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th edition, 2012 for Single Family Detached Housing (ITE Landuse #210).

The Project's effects on vehicle miles traveled (VMT), the subject of Policy TR-1.8, is addressed under the following topic, which finds that the Project would not substantially increase VMT. Therefore, the Project would not conflict with Policy TR-1.8 to the extent that a significant impact would occur.

In sum, the Project would not substantially conflict with a program, plan, ordinance, or policy addressing the circulation system, and the impact would therefore be less than significant.

b) Conflict or be inconsistent with State CEQA Guidelines section 15064.3, subdivision (b)?

The State CEQA Guidelines section 15064.3(b) is a new provision that establishes thresholds for determining the significance of transportation impacts. This section uses a Project's potential to increase VMT as the most appropriate measure of transportation impacts. VMT refers to the amount and distance of automobile travel attributable to a project. Beginning July 1, 2020, a project's effect on automobile delay (that is, an increase in traffic congestion) shall not constitute a significant environmental impact.

As discussed in a State advisory bulletin on the change to VMT as a measure of transportation impacts (Governor's Office of Planning and Research, 2017), the change is prompted by three major considerations: the nexus of VMT with greenhouse gas (GHG) emissions; other impacts of automobile use on human health and the environment; and the relationship between VMT and economic growth. The text of the State advisory explaining these connections is excerpted below.

> **VMT and Greenhouse Gas Emissions Reduction.** Senate Bill 32 (Pavley, 2016) requires California to reduce GHG emissions 40 percent below 1990 levels by 2030, and Executive Order B-16-12 provides a target of 80 percent

> below 1990 emissions levels for the transportation sector by 2050. The transportation sector has three major means of reducing GHG emissions: increasing vehicle efficiency, reducing fuel carbon content, and reducing the amount of vehicle travel. The California Air Resources Board (CARB) has provided a path forward for achieving these emissions reductions from the transportation sector in its 2016 Mobile Source Strategy. CARB determined that it will not be possible to achieve the State's 2030 and post-2030 emissions goals without reducing VMT growth.
>
> **VMT and Other Impacts to Health and Environment.** Beyond GHG emissions, increases in VMT also impact human health and the natural environment. Human health is impacted as increases in vehicle travel leads to more vehicle crashes, poorer air quality, increases in chronic diseases associated with reduced physical activity, and worse mental health. Increases in vehicle travel also negatively affects other road users, including pedestrians, cyclists, other motorists, and many transit users. The natural environment is impacted as higher VMT leads to more collisions with wildlife and fragments habitat. Additionally, development which leads to more vehicle travel also tends to consume more energy, water, and open space (including farmland and sensitive habitat). This increase in impermeable surfaces raises the flood risk and pollutant transport into waterways.
>
> **VMT and Economic Growth.** While it was previously believed that VMT growth was a necessary component of economic growth, data from the past two decades shows that economic growth is possible without a concomitant increase in VMT. Recent research shows that requiring development projects to mitigate LOS may actually reduce accessibility to destinations and impede economic growth.
>
> (Governor's Office of Planning and Research, 2017, pp. 1-2)

As noted above, the Project would result in an incremental increase in long-term vehicle trips, and therefore VMT, by adding up to about 38 new vehicle trips per day. Project construction would add up to as many as 13 new vehicle trips per day during some construction phases.

The CalEEMod model used to estimate air and greenhouse gas emissions for the Project (CARB, 2016), uses a default figure of 10.8 miles for commuter trips for construction workers, but for the modeling for the Project, the figure was changed to 15 miles, to account for the distance of the Project site from a major transportation corridor (U.S. 101). Using this figure, Project construction could result in a short-term increase of about 195 VMT per workday, and long-term operational VMT would be 133,934 per year (367 miles per day average).

The County considers projects that would generate or attract fewer than 110 trips per day to cause a less-than-significant transportation impact, based on guidance from the State (Governor's Office of Planning and Research, 2017). Because the Project would

generate an estimated 38 trips per day during operation, and about 13 trips per day during construction, the Project would not conflict or be inconsistent with State CEQA Guidelines section §15064.3, subdivision (b), and the impact would therefore be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

As noted in the Project Description, the existing residence within the Project site is accessed via a paved, gated driveway from Panoramic Highway. The Project would modify the intersection of the driveway and Panoramic Highway to improve visibility for drivers exiting the property, and to provide more space for turning movements for large vehicles. This would include increasing the width of shoulders on Panoramic Highway on either side of the driveway to provide adequate "taper" for vehicles entering and exiting the driveway. A "Stop" sign and a "Right Turn Only" sign would be placed at the exit (Ziegler Civil Engineering, 2018).

Both Project construction and operation would increase use of the driveway for vehicles entering and leaving the Project site. Improvement of the driveway would occur prior to development of the proposed new lots, and so both construction-related vehicles and future residents' vehicles would utilize the improved driveway.

A search of U.C. Berkeley's Transportation Injury Mapping System (TIMS) on-line database identified three accidents along the stretch of Panoramic Highway between Brighton Blvd. and Sunrise Lane, from 2006 through 2018 (TIMS, 2019). Two were injury accidents involving bicycles. One was a fatal accident caused by a sideswipe collision. None of these accidents were within 200 feet of the driveway intersection with Panoramic Highway.

According to a traffic analysis prepared on behalf of the Applicant (TJKM, 2018) and the Project plan set (Ziegler Civil Engineering, 2018), the driveway and intersection improvements meet Marin County Code and Caltrans Highway Design Manual (HDM; Caltrans, 2018) requirements for urban driveways and private road connections for taper length and width, turning radius, and access opening width. These design features would improve intersection safety, would facilitate egress and ingress by large vehicles, and would not increase safety hazards.

Project plans (Driveway Intersection Plan sheet 1; Ziegler Civil Engineering, 2018) show the "site distances" for the proposed intersection improvements. This shows the distance that a driver exiting the driveway onto Panoramic Highway could see, given roadway geometry, vegetation, etc. According to the Plans, a driver looking right would have a site distance of about 235 feet, to the intersection of Panoramic Highway and Brighton Blvd. Looking left, the site distance would be about 518 feet, to a curve in the road before Sunrise Lane. According to the HDM, Table 201.1, the minimum site distance for a driveway or private road intersecting with a road with a 30 MPH speed limit is 200 feet

in both directions. The Project's intersection design would therefore comply with HDM requirements.

The American Association of State Highway and Transportation Officials (AASHTO) also establishes guidelines for road geometry standards, in its "Policy on Geometric Design of Highways and Streets," generally known as the "AASHTO Greenbook." (AASHTO, 2011). The AASHTO Greenbook's recommendations for site distance for driveways and private roads differ substantially from the HDM: for a 30 MPH road, the standards are 335 feet for a left turn (looking to the right and left), and 290 feet for a right turn (looking to the left). According to the AASHTO Greenbook recommendations, site distance at the intersection is adequate for right turns, but not adequate for left turns. For this reason, the Applicant proposes to install a "Right Turn Only" sign, in addition to a "Stop" sign, for vehicles exiting the driveway (Ziegler Civil Engineering, 2018, Driveway Intersection Sheet 2).

Because the site distances do not achieve the recommendations contained in the AASHTO Greenbook, the County DPW may require the Applicant to submit an exception request, pursuant to Marin County Code §24.15, including findings pursuant to §24.15.020 demonstrating that the granting of an exception will not create a safety hazard.

The limited site distances and the resulting inconsistency with AASHTO Greenbook recommendations are an existing condition at the driveway intersection. The proposed intersection improvements would reduce the safety hazard by providing improved taper, width, and radius, all of which would facilitate turning movements of vehicles in and out of the driveway. While more vehicles would be using the driveway, thus increasing the possibility for a conflict with other vehicles on Panoramic Highway, the improved design would reduce the potential for conflicts. With the proposed installation of a Right Turn Only sign at the driveway exit, the left turn site distances would not be an issue. With this Project feature, the Project would not create a safety hazard due to a geometric design feature, and the impact would be less than significant.

d) Result in inadequate emergency access?

Project plans include improving the existing driveway to meet County standards, including Fire Department standards, for driveway width (minimum 20-foot paved width), turnouts, and a "hammerhead" turn-around at the driveway terminus (Ziegler Civil Engineering, 2018). With the proposed improvements to the driveway, the proposed new lots would all have adequate emergency access, and the impact would be less than significant.

2014 Grading of the Fire Road

The unpermitted grading of the Fire Road in 2014 would have involved the generation of vehicle trips from workers arriving at and leaving the site, equipment move-in/move-out, heavy trucks hauling fill material to the site, other materials hauling and vendor trips, and trips by agency personnel visiting the site in connection with the Notice of Violation and

subsequent clean-up and mitigation requirements. This may have amounted to several trips per day, which would have added incrementally to traffic in the area, likely on Shoreline Highway and Panoramic Highway. The short-term nature of the grading work, and its limited nature, preclude a conclusion of significance: the grading would not have resulted in a substantial increase in VMT, and would not have caused a significant deterioration in level of service or otherwise conflicted with transportation policies. Consideration of the transportation impacts of the Fire Road grading does not alter the conclusions regarding transportation impacts of the Project.

References

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California Governor's Office of Planning and Research, 2017. Technical Advisory on Evaluating Transportation Impacts in CEQA. November, 2017. http://opr.ca.gov/docs/20171127_Transportation_Analysis_TA_Nov_2017.pdf

Google Maps, 2019. Bicycle routes, 455 Panoramic Highway. Google Maps search completed June 7, 2019. https://goo.gl/maps/QJ1rNeyjkvHZJspA7

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Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG), 2017. Plan Bay Area 2040: Regional Transportation Plan and Sustainable Communities Strategy for the San Francisco Bay Area, 2017–2040. Adopted July 26, 2017.

TJKM, 2018. Traffic Impact Study for Residential Development located at 455 Panoramic Highway, Marin County, California. November 9, 2018

Transportation Injury Mapping System (TIMS), 2019. Transportation Injury Mapping System, On-Line GIS Database. Safe Transportation Research and Education Center, University of California, Berkeley. On-line search completed 6/7/19. https://tims.berkeley.edu/

Ziegler Civil Engineering, 2018a. Dipsea Ranch Land Division Plan Set. Revised December 20, 2018.

18. Tribal Cultural Resources

Would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☒	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of

the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

As described in Section 5, Cultural Resources, the Applicant commissioned an Archeological Resources Study by the Sonoma State University Anthropological Studies Center for the Project site and an adjacent lot also owned by the Applicant (Anthropological Studies Center, 2017). The study included a survey of the Project site by a qualified archaeologist and a records search at the California Historical Resources Information System, Northwest Information Center (NWIC) at Sonoma State University in Rohnert Park, California, as well as a search of the Sacred Lands File maintained by the California Native American Heritage Commission. The results of the study indicate there are no previously recorded archaeological sites or other cultural resources within the Project site. Accidental discovery provisions in County and State statutes (see Section 5, Cultural Resources) would ensure that any previously unknown archaeological resources accidentally discovered during Project construction would be protected and properly handled, including, if appropriate, consultation with Native American Tribes regarding the final disposition of any such materials. Since no tribal cultural resources have been identified within the Project site, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource that has been previously listed or that is eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, and the impact would therefore be less than significant.

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

On August 28, 2018, Marin County Community Development Agency staff contacted representatives of the Federated Indians of Graton Rancheria (FIGR) and the Ione Band of Miwok Indians, the two tribes that have previously requested notification of proposed projects in Marin County, to determine whether they had any interest in the Project, and to provide them with an opportunity for formal consultation (Sihakom, 2018a and 2018b). As of June 5, 2019, neither tribe had responded. Therefore, the County has no information from either tribe about the presence or potential presence of tribal cultural resources at or in the vicinity of the Project site.

Based on the lack of response from the Tribes, and the lack of any previously recorded or identified archaeological resources within the Project site (see previous discussion), the Project is not expected to cause a substantial adverse change in the significance of a tribal cultural resource, and the impact would therefore be less than significant.

2014 Grading of the Fire Road

As there are no known tribal cultural resources within the Project site, the 2014 unpermitted grading of the Fire Road would not have caused a substantial adverse change in any such resources. Consideration of the Fire Road does not alter the conclusion reached above: the Project would have a less-than-significant impact on tribal cultural resources.

References

Anthropological Studies Center, 2017. Archeological Resources Study of APN 046-161-11 and APN 046-221-07, 455 Panoramic Highway, Mill Valley, Marin County, California. Prepared by Whitney McClellan, M.A., Anthropological Studies Center at Sonoma State University under the supervision of direction of Dr. Thomas Whitley, Director.

Sihakom, Sabrina, 2018a. Letter from S. Sihakom, Planner, Marin County Community Development Agency, to Buffy McQuillen, Tribal Heritage Preservation Officer, Federated Indians of Graton Rancheria, re: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1. Sent August 28, 2018.

Sihakom, Sabrina, 2018b. Letter from S. Sihakom, Planner, Marin County Community Development Agency, to Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indieans, re: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1. Sent August 28, 2018.

19. Utilities and Service Systems

Would the project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

a) Require or result in the relocation or construction of new or expanded water, wastewater or storm water drainage, electric power, natural gas, or

telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water service is provided to the Project site by the Marin Municipal Water District, who has indicated the ability to serve the future residences. Water lines would be extended to the two new lots from the existing connection on site, which would be a minor extension of water facilities.

The existing residence is served by an onsite septic system and similarly, the project proposes to install two new on-site sewage disposal systems to serve proposed lots 2 and 3. The construction of two additional septic systems would not cause significant environmental effects as minor earthwork would be required and the system design and installation would be reviewed and approved by the Marin County EHS Division. Therefore, this impact would be less than significant.

Additional stormwater generated by the future development would be accommodated on site through a system of bioswales and stormwater collection facilities. As described in Section 10, Hydrology and Water Quality, the planned stormwater management system would result in no additional runoff from the Project site. Therefore, the Project would not require new or expanded stormwater facilities off-site.

Pacific Gas and Electric (PG&E) is the power provider for the Project area. Currently, utilities run to the existing residence and would be extended a short distance to connect to the future new residences. No new facilities or transmission lines would be required to provide power to the Project. Marin County Code §22.20.110 requires undergrounding of utilities to new developments. This impact would be less than significant.

b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The Project site is within the MMWD, which has stated that it would provide hook-ups to the future residences (Marin County, 2018). The Project would therefore not result in the need for new or expanded regional water treatment or distribution facilities and this impact would be less than significant.

c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The existing residence is served by an onsite septic system and similarly, the Project proposes to install two new on-site sewage disposal systems to serve proposed lots 2 and 3. The proposed on-site sewage disposal systems are discussed in Section 7, Geology and Soils, topic e. As the Project would not be served by a wastewater treatment provider, there would be no impact of this kind.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Solid waste and recycling collection service is provided to the Project area by Mill Valley Refuse Service (Marin County, 2019). Mill Valley Refuse operates its own vehicle fleet and makes separate weekly collection of refuse, recyclable materials, and greenwaste (Mill Valley Refuse Service, 2019). Collected materials are taken to the Marin Resource Recovery Center, operated by Marin Sanitary Service and located on Jacoby Drive in San Rafael. There, recyclable materials are processed for market and compostable and disposed materials are transferred to the Redwood Landfill, located north of Novato just east of US 101. Redwood Landfill is permitted to accept 1,390 tons per day of refuse for disposal, and has sufficient capacity through approximately 2040, given the most likely scenario for future waste receipts (R3 Consulting, 2018). The EarthCare Composting Facility, located on the landfill site, is permitted to receive up to 514 tons per day of material for composting (CalRecycle, 2019). Solid waste generated by Project construction and future single-family residences would not result in exceedance of the permitted throughput capacity or long-term capacity of these facilities. Therefore, this impact would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Solid waste generated from construction and operation of the future single-family residences would be required to comply with applicable County and State regulations regarding solid waste disposal and recycling, including the CalGreen (Title 24) requirement to recycle 65 percent of construction and demolition waste. Following construction, new residents would be served by Mill Valley Refuse Service with solid waste, recycling, and composting collection. In these ways, the Project would comply with statutes and regulations related to solid waste, and the impact would be less than significant.

2014 Grading of the Fire Road

The 2014 unpermitted grading of the Fire Road had no impact on utilities and service systems and therefore consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on utilities and service systems.

References:

CalRecycle, 2019. Facility/Site Summary Details: Redwood Landfill (21-AA-0001). Accessed May 14, 2019. http://www.calrecycle.ca.gov/SWFacilities/Directory/21-AA-0001/Detail/

Marin County, 2019. Marin Map, Refuse Franchise layer. Accessed June 24, 2019. http://www.marinmap.org

Marin County, 2018. Community Development Agency-Environmental Health Services memo dated April 12 from Gwendolyn R. Baert, Senior REHS to Curtis Havel, Senior Planner, subject: Dipsea Ranch Land Division (Weissman).

Mill Valley Refuse Service, 2019. Mill Valley Refuse Service website, Accessed on October 22, 2019. https://www.millvalleyrefuse.com/

R3 Consulting, 2018. Remaining Landfill Capacity Projections for Redwood Landfill. Memo from Emily Ginsburg, Senior Analyst, to Judith Silver, Marin County Public Works, March 30, 2018.

20. Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Significant or Potentially Significant Impact	Less Than Significant Impact with Mitigation Incorporated	Less than Significant	No Impact
a) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☒	☐
b) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
c) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☒	☐
d) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

a) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

In accordance with California Public Resource Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, The California Department of Forestry and Fire Protection (CalFire) has mapped areas of significant fire hazards because of fuels, terrain, weather, and other relevant factors. CalFire's Statewide and County maps (adopted November 2007) depict Fire Hazard Severity Zones (FHSZs) that are within the State Responsibility Area (SRA). The SRA is the area of the state where the State of California is financially responsible for the prevention and suppression of

wildfires. The SRA does not include lands within city boundaries or in federal ownership. The FHSZs in the SRA are further classified as being Moderate, High, or Very High.

Per Marin County Code Section 16.17.080, the County designates lands within the Wildland-Urban Interface (WUI). The Project site is within the mapped WUI, and is also within an area mapped as a very high fire hazard severity zone (Marin County, 2019). The Project would confine new development to already developed and landscaped portions of the Project site, and new construction would be subject to requirements and restrictions of the WUI ordinance (California Building Code Section 7a, Materials and Construction Methods for Exterior Wildfire Exposure), which requires fire-resistant building materials and methods. Therefore, the Project would not exacerbate wildfire risks, and the impact would be less than significant.

b) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Implementation of the Project would extend infrastructure, including new driveways, power, and utility lines a short distance from the existing residence, in order to serve proposed lots 2 and 3. This would not be expected to exacerbate wildfire risks or result in other environmental impacts. This impact would be less than significant.

c) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

As discussed in Section 7, Geology and Soils and Section 10, Hydrology and Water Quality, the proposed building envelopes are on stable ground, not subject to landsliding or flooding. As they would be located at the top of a hill, new structures would not be below areas of potential landslides, runoff, or slope instability or drainage changes resulting from a wildfire. The impact would be less than significant.

d) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

As noted above, the Project site is within the WUI and is within an area of elevated fire hazard severity (County of Marin, 2019). Adherence to Fire Department requirements and building code requirements, including requirements of the WUI ordinance, would reduce the risk of loss, injury, or death involving wildland fires to less than significant.

2014 Grading of the Fire Road

According to the Applicant, the unpermitted grading of the Fire Road in 2014 was undertaken to improve access for vegetation management for fire hazard reduction, and for emergency vehicles. The work likely did improve emergency access, particularly to the southern part of the Project site. The grading work did not cause a wildfire, or

increase the risk of wildfire. Therefore, the grading work's impact on wildfire would have been less than significant, and consideration of the Fire Road grading does not alter the conclusions reached above about the wildfire impacts of the Project.

Reference

Marin County, 2019. MarinMap: State Responsibility Area, Wildland-Urban Interface, and Fire Hazard Severity layers. Accessed June 7 and 24, 2019. www.marinmap.org

21. MANDATORY FINDINGS OF SIGNIFICANCE. Pursuant to Section 15065 of the State EIR Guidelines, a project shall be found to have a significant effect on the environment if any of the following are true:

	Yes	No	Maybe
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐
d) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	☐	☒	☐

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Section 4, Biological Resources, finds that the Project could have an adverse impact on sensitive wildlife species and their habitat. With the mitigation measures specified in that section, however, all impacts on biological resources would be reduced to less than significant, and the Project would not substantially degrade the quality of the environment or substantially impact sensitive plants or animals. Section 5, Cultural Resources, finds that the Project site has no known archaeological or historical resources present, and that it has low archeological sensitivity. The Project therefore does not have the potential to cause a substantial adverse change in the significance of an archaeological or historical resource, and therefore would not have the potential to eliminate important examples of the major periods of California history or prehistory.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Cumulative impacts analysis considers whether the impacts of a project could combine with impacts of other nearby past, present, and reasonably foreseeable future projects in a cumulative manner, and if so, whether the project's contribution to the cumulative impact would be "cumulatively considerable" and therefore significant. Other projects considered in the cumulative analysis include current, recent, and foreseeable future projects in the vicinity of the Project site. Several such projects are listed at the Marin County Community Development Agency website (Marin County CDA, 2019), including those listed below. Several other, smaller projects, including additions and remodels of existing residences, are also listed in the vicinity of the Project site, but these are considered too small to make a considerable contribution to any cumulative impact.

Harris Land Division (412 Laverne Avenue, Unincorporated Mill Valley)**,** a Tentative Map approval to divide a developed, 1.32-acre (57,512-square-foot) parcel into two parcels consisting of the following: Parcel 1 – 0.31-acre (13,636-square-foot) parcel; and Parcel 2 – 1.01 acre (43,996-square-foot) parcel as shown on the proposed Tentative Map. The average slope for proposed Parcel 1 would be 18.3-percent; the average slope for proposed Parcel 2 would be 41.6-percent. This project is undergoing review.

Maddox Design Review (42 Ridge Avenue, Unincorporated Mill Valley), Design Review approval to replace an existing 1,924 square foot two-story residence and 54 square foot accessory structure and construct a new two-story 3,357 square foot residence in the Tamalpais Valley area. The proposed development would consist of 3,357 square-feet of

total building area and 3,004 square-feet of total floor area, which would result in a floor area ratio of 25.9 percent on the 11,554 square-foot lot. The residence would reach a maximum height of 26 feet and 9 inches above existing grade and the exterior walls will have the following setbacks: 25 feet from the western front property line; 24 feet from the northern side property line; 14 feet from the southern side property line; and 36 feet from the eastern rear property line. The exterior materials include grey stained vertical siding, doors and windows trimmed in dark bronze, and grey Versico roofing. Various site improvements are also included in the approved development, including replacement of the existing septic system and undergrounding of utilities.

Alta Way Extension Project (Alta Way at Blue Jay Way, off of Shoreline Highway, Unincorporated Mill Valley)**,** a grading permit to allow the extension of Alta Way, an existing residential street in unincorporated Mill Valley. The extension of Alta Way would provide access and utility extensions to several undeveloped lots, enabling their development. The application for the project is currently being reviewed by the County for completeness.

Gurley Design Review (529 Charles Lane, Unincorporated Mill Valley), a proposed new 1,508 square foot residence and relocate an existing 125 square foot accessory structure on a developed lot in Mill Valley. The 1,633 square feet of proposed development would result in a floor area ratio of 34 percent on the 4,802 square foot lot. The proposed residence would reach a maximum height of 30 feet above surrounding grade. This project is undergoing planning review.

Qi Design Review (343 Loring Avenue, Unincorporated Mill Valley), is a proposed new 1,803-square foot single-family residence and a 480-square-foot attached garage on a vacant lot in Mill Valley. The plans indicate that the approximately 2,283 square feet of proposed development would result in a floor area ratio 29.9-percent on the approximately 6,048-square-foot lot. The proposed building would reach a maximum height of 25 feet above surrounding grade and the exterior walls would have the following setbacks 19.5 feet from the west front property line; 5 feet from the north side property line; 8.5 feet from the south side property line; and 56 feet from the east rear property line. The project is undergoing planning review.

Tsang Variance / Design Review (15 Midway Avenue, Unincorporated Mill Valley)**,** is a new 1,866-square-foot, two-story residence and a 378-square-foot attached garage on a lot developed with a 1,057-square foot residence that would be demolished to construct the project. The 2,244 square feet of proposed development would result in a floor area ratio of 31.5-percent on the 5,924-square-foot lot. The proposed building would reach a maximum height of 29 feet above surrounding grade and the exterior walls would have the following setbacks: 10 feet from the south front property line; 3 feet from the west side property line; 1 foot from the east side property line; and 27 feet from the north rear property line. The project is undergoing planning review.

As discussed in this Initial Study, the only environmental issue areas for which the Project could have a significant impact are Air Quality (Section 3), Biological Resources (Section 4), and Noise (Section 13). The Project could have a less-than-significant

impact in several other issue areas. However, most of these less-than-significant impacts would not tend to combine with impacts of other projects, either because they are highly localized, or because the impacts are too slight to have the ability to combine in a cumulative manner. The following discussion therefore focuses on the three issue areas which have the potential for a significant impact, and on Hydrology and Water Quality, since many impacts of this kind are cumulative by nature.

Air Quality

According to the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines (BAAQMD, 2017), a project with a significant air quality impact for criteria pollutant emissions would also be considered to have a significant cumulative air quality impact, but a project with a less-than-significant air quality impact would be considered not to make a considerable contribution to cumulative air quality impacts. Because the Project's criteria pollutant emissions would be less than significant, the Project's contribution to cumulative criteria pollutant levels would therefore be less than significant as well.

A search of the BAAQMD's interactive map showing areas of elevated pollutant concentrations (BAAQMD, 2019) shows that the Tamalpais Valley area does not have high levels of TACs or $PM_{2.5}$. Because the Project, with the incorporation of Mitigation Measure AQ-1: Diesel Exhaust Emissions Reduction Measures, would emit very low levels of TACs and $PM_{2.5}$, over a short period of time, in a neighborhood that does not have elevated levels of pollutant concentrations, the Project's contribution to cumulative health risk would be less than significant.

Biological Resources

Several of the listed cumulative projects could, like the Project, impact special status wildlife species and their habitat. Additionally, they could have similar policy conflicts with the CWP related to tree removal, invasive species, and Sudden Oak Death. As implementation of Mitigation Measures BIO-1 through 5 would reduce these impacts to a less than significant level, the proposed Project would tend not to combine with impacts of other past, current, or foreseeable future projects to result in a cumulative impact on special-status species, natural communities, or other biological resources. Where cumulative impacts may occur, the Project's contribution would not be cumulatively considerable. Thus, the cumulative effect would be less than significant.

Noise

As described in Section 13, Noise, construction of the project would result in a short-term increase in ambient noise that could be substantial. Adherence to the allowable construction hours in Marin County Code §6.70.030(5) would reduce noise exposure, and would ensure that nighttime noise levels are not increased. To ensure that the Project complies with Countywide Plan implementing program NO-1.i, Mitigation Measure NOISE-1 would insure that increases in ambient noise levels from construction activities would not be in excess of standards established in the local general plan or noise ordinance, and would therefore be less than significant. Two of the cumulative

projects listed above, Maddox Design Review and Gurley Design Review, are located close enough to the Project site that there could be the potential for cumulative noise impacts, should construction proceed simultaneously.

Noise impacts are highly dependent on distance, as noise attenuates (lessens) at a rate of 6 to 7.5 dB per doubling of distance from the source, depending on ground absorption. Additionally, physical barriers located between a noise source and the noise receptor, such as berms or sound walls, would increase the attenuation that occurs by distance alone. It is therefore unlikely that noise from construction of either of the cumulative projects considered here would combine with noise from construction of the Dipsea Ranch Land Division Project in a cumulative manner. Furthermore, all development projects are subject to the noise restrictions of Marin County Code §6.70.030(5), including restrictions on hours during which noisy construction activity may occur (see Section 13, Noise). Even if construction projects were to occur simultaneously, adherence to the Marin County Code by all projects, and implementation of Mitigation Measure NOISE-1 would reduce any cumulative noise impact to less than significant.

Hydrology and Water Quality

The geographic scope for assessing potential cumulative hydrology and water quality impacts consists of the Project site and surrounding lands within the Redwood Creek watershed. Of the projects on the list above, only one (Maddox Design Review) is within the Redwood Creek Watershed. The Project site is designated within the CWP as PR-Planned Residential, which has an allowable density of one unit per 1-10 acres. Within the PR designation are requirements for development that must be implemented to ensure conformance to the CWP and all related regulatory requirements. As described below, the Project would not result in or contribute to cumulative impacts; cumulative impacts to hydrology and water quality would be mitigated on a project-by-project level in accordance with applicable regulatory requirements, and through the established regulatory review process.

The analysis of cumulative impacts considers that all future development with the potential to impact hydrology and water quality would be required to demonstrate compliance with applicable federal and state regulatory requirements, which are intended to reduce and/or avoid potential adverse environmental effects on surface and groundwater resources as a result of multiple actions, such as development projects within a watershed. Through implementing regulatory stormwater management requirements, surface water, groundwater, and aquatic habitats are protected from potential sources of degraded water quality, increased flow rates and runoff volumes, which can result in downstream erosion, sedimentation, and other water quality and quantity impacts to a watershed system.

Construction of the Project would include preparation of a SWPPP and implementation of BMPs required under the CGP. Once construction is completed, the Project would be required to adhere to MCSTOPPP provisions, which would require source controls of stormwater volumes and implementation of BMPs for stormwater quality management.

Consistent with MCSTOPPP requirements, the Project includes a stormwater management system that complies with the requirements for a Regulated Project (see Section 10, Hydrology and Water Quality), and which includes a series of drains, bioswales, conveyance channels, and cisterns to treat stormwater, facilitate infiltration, capture sediment, minimize and avoid erosion, and control an anticipated increase in stormwater runoff from the increase in impervious areas, including paved and built areas. Implementation of the Project would not increase the rate or amount of peak runoff, increase flooding or flood risks, erosion, and/or sedimentation on- or off-site, or reduce groundwater recharge.

The cumulative projects listed above could involve excavation and use of heavy equipment during construction. Therefore, the cumulative projects have the potential to degrade surface water quality as a result of construction-related soil erosion or accidental discharges of hazardous construction chemicals. Redwood creek is not currently listed on the 303(d) list as impaired due to water quality (such as high turbidity or sediment), indicating that no cumulative water quality impact is currently ongoing within the watershed; this is consistent with the largely undeveloped nature of the Redwood Creek watershed. Further, compliance with the CGP and MCSTOPPP requirements for the Project and any future projects would protect surface water quality from impacts resulting from cumulative development in the watershed. With adherence to the described regulatory requirements, the effects of the Project, combined with those of cumulative projects, would not cause a cumulatively significant effect to surface water or groundwater resources and the Project would not result in a cumulatively considerable contribution to any significant cumulative effect.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As discussed in Section 3, Air Quality, the Project could have a significant adverse effect on human health, but Mitigation Measure AQ-1: Diesel Exhaust Emissions Reduction Measures would reduce this impact to less-than-significant. With this measure, the Project would not have a substantial adverse effect on human beings. Other potential direct or indirect impacts on human beings, such as from geologic hazards (Section 7, Geology and Soils), exposure to hazardous materials (Section 9, Hazards and Hazardous Materials), and construction noise (Section 13, Noise), would be less than significant, and would not have substantial adverse effects on human beings.

d) Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?

The Project's objectives are to support new residential development to provide housing in the Tamalpais Valley community, which would benefit the community. While the Project would have short-term environmental impacts that require mitigation, long-term operation of the property for additional residential development would not result in any potential environmental impacts requiring mitigation. While the residences would contribute, albeit to a less-than-significant extent, to a number of issues such as traffic, air emissions, and greenhouse gas emissions, the benefits of the additional housing

would offset these less-than-significant impacts. Therefore, the Project would not disadvantage the County's long-term environmental goals, as embodied in the Marin CWP.

References:

BAAQMD, 2017. CEQA Air Quality Guidelines, May 2017.

BAAQMD, 2019. Planning Healthy Places Interactive Map. Accessed June 25, 2019. https://www.arcgis.com/home/webmap/viewer.html?webmap=9b240e706e6545e0996be9df227a5b8c&extent=-122.5158,37.5806,-122.0087,37.8427

Marin County Community Development Agency (CDA), 2019. Projects by Geographic Location. Accessed June 25, 2019. https://www.marincounty.org/depts/cd/divisions/planning/projects

V. PROJECT SPONSOR'S INCORPORATION OF MITIGATION MEASURES:

Acting on behalf of the Project sponsor or the authorized agent of the Project sponsor, I (undersigned) have reviewed the Initial Study for the Dipsea Ranch Land Division and have particularly reviewed the mitigation measures and monitoring programs identified herein. I accept the findings of the Initial Study, including the recommended mitigation measures, and hereby agree to modify the proposed Project applications now on file with Marin County to include and incorporate all mitigation measures and monitoring programs set out in this Initial Study.

DANIEL WEISSMAN

(Project Sponsor's Name or Representative)

(Project Sponsor's signature)

12/4/19

Date

VI. DETERMINATION: (Completed by Marin County Environmental Planning Manager). Pursuant to Sections 15081 and 15070 of the State Guidelines, the forgoing Initial Study evaluation, and the entire administrative record for the Project:

[ ] I find that the proposed project WILL NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

[X] I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the Project. A MITIGATED NEGATIVE DECLARATION will be prepared.

[ ] I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Rachel Reid

Rachel Reid, Environmental Planning Manager

Date 12/4/19

Dipsea Ranch Land Division

DOCUMENTS INCORPORATED BY REFERENCE

The following is a list of relevant information sources that have been incorporated by reference into the foregoing Initial Study pursuant to Section 15150 of the State CEQA Guidelines. These documents are both a matter of public record and available for public inspection either online or at the Planning Division office of the Marin County Community Development Agency (CDA), Suite 308, 3501 Civic Center Drive, San Rafael. The information incorporated from these documents shall be considered to be set forth fully in the Initial Study.

1. Marin Countywide Plan, CDA - Planning Division (2007)

2. Tamalpais Area Community Plan, Adopted by the Marin County Board of Supervisors September 21, 1992.

3. Marin County Development Code, Title 22, CDA - Planning Division

4. Marin County Development Standards, Title 24, Marin County Department of Public Works - Land Use & Water Resources Division

5. Soil Survey of Marin County, USDA Soil Conservation Service (1985)

6. Flood Insurance Rate Map Series of Marin County, California, prepared by the Federal Emergency Management Agency

7. Association of Bay Area Governments (ABAG), 2013. Marin County Earthquake Hazard Map. Available online: http://gis.abag.ca.gov/website/liquefactionsusceptibility/index.html

8. California Department of Conservation, (CDC), 2014. Marin County Tsunami Inundation Maps, available online: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Marin/Pages/Marin.aspx.

9. California Geological Survey, Alquist–Priolo Special Studies Zone Maps (1974)

10. Bay Area Air Quality Management District (BAAQMD), 2017. CEQA Air Quality Guidelines, May 2017.

11. Bay Area Air Quality Management District (BAAQMD), 2009. Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance, October, 2009.

12. BAAQMD, 2019 Air Quality Standards and Attainment Status, obtained on-line (http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm).

13. California Office of Environmental Health Hazard Assessment (OEHHA), 2015, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February 2015.Mineral Resources, CDA - Planning Division (1987)

14. California Department of Fish and Wildlife. Rarefind v. 5. Online version of the California Natural Diversity Database (CNDDB).

15. California Department of Toxic Substances Control (DTSC), 2019. EnviroStor database. Available online: http://www.envirostor.dtsc.ca.gov/public/

16. County of Marin, 2019. Marin Map, Hazard, Fire Hazard Severity Zone. Available online: http://www.marinmap.org/Geocortex/Essentials/Marinmap/Web/Viewer.aspx?Site=MMDataViewer.

17. State Water Resources Control Board (SWRCB), 2019. GeoTracker database. Available online: http://geotracker.waterboards.ca.gov/

18. Marin County Sheriff Department, official website, available online at http://www.marinsheriff.org/.

19. CalRecycle, Facility/Site Summary Details: Redwood Sanitary Landfill (21AA0001), available online at: http://www.calrecycle.ca.gov/SWFacilities/Directory/21-AA-0001/Detail/.

20. Marin County Archaeological Sites Inventory Map, CDA - Planning Division (undated) *confidential.*