Draft Initial Study/Mitigated Negative Declaration

for the proposed

Ponti Fire Road to Trail Project

at

Pacheco Valle Open Space Preserve

and

Ignacio Valley Open Space Preserve

View from the Upper segment of the Existing Ponti Fire Road

Public Comment Period: April 29 – May 31, 2019

Prepared by Marin County Open Space District
3501 Civic Center Drive, Suite 260
San Rafael, CA 94903
www.marincountyparks.org
(415) 473-5283

This document has been prepared pursuant to the

California Environmental Quality Act of 1970, as amended

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

PONTI FIRE ROAD TO TRAIL PROJECT
PACHECO VALLE AND IGNACIO VALLEY OPEN SPACE PRESERVES
NOVATO CALIFORNIA

April 29, 2019

The Marin County Open Space District (MCOSD) is proposing a trail project at Pacheco Valle and Ignacio Valley Open Space Preserves and has prepared an Initial Study / Mitigated Declaration (IS/MND) to comply with the California Environmental Quality Act (CEQA).

The purpose of this Notice of Intent to Adopt an MND (NOI) is to initiate the 30-day public review and comment period on the MND, which begins on April 29, 2019 and ends on May 31, 2019 at 5:00pm. Comments can be submitted online using the comment form https://www.marincountyparks.org/depts/pk/our-work/os-main-projects/rtmp-projects, under the section titled "Ponti Ridge." Comments can also be submitted by email or USPS as follows:

Jon Campo, Senior Resource Planner; jcampo@marincounty.org
Marin County Open Space District; 3501 Civic Center Drive, Suite 260; San Rafael, CA 94903

PROJECT TITLE: Ponti Fire Road to Trail Project

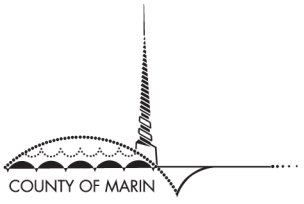
PROJECT LOCATION: Pacheco Valle and Ignacio Valley Open Space Preserves, Novato, CA

SUMMARY OF THE PROPOSED PROJECT. The purpose of the proposed Project is to implement the MCOSD Road and Trail Management Plan (RTMP) to provide the public with a safe multi-use trail system to enhance the visitor experience, reduce the environmental impacts of the road on sensitive resources by reducing sedimentation and erosion, and establish a sustainable system of roads and trails that meet design and management standards and would provide year-round access along the trail alignment. The project includes the following elements, which are summarized below and fully described in the Project Description section of the IS/MND:

- **Realign the Upper Segment of the Ponti Fire Road.** Realign the existing 1.2-mile long, 14-foot wide upper segment of the Ponti Fire Road with an average slope of 20 to 35 percent into a 2.8-mile long, 5-foot wide sustainable multi-use trail with an average grade of 10 percent. Change fire road designation to multi-use trail.
- **Maintain and Improve the Lower Segment of the Ponti Fire Road**. Improve the existing 0.5-mile long, 14-foot wide lower segment of the Ponti Fire Road within the existing footprint to improve stability, drainage, and the overall sustainability of the fire road for visitor use and to maintain access for emergency vehicles.
- **Construct a New Connector Trail from Ponti Fire Road to Pacheco Hill Pathway**. Construct a new connector trail from the lower segment of the Ponti Fire Road to the Pacheco Hill Pathway, which is an existing paved trail adjacent to State Highway 101. The connector trail would be 0.4 mile in length, 5 feet wide, earthen surface, and a grade of less than 10 percent.
- **Decommission Non-Designated Trail and Redundant Road and Trail Segments**. Decommission 1.02 miles of non-designated Trail 18645 in the Ignacio Valley Open Space District, approximately 3 miles of trails associated with the Ponti Fire Road that would include non-designated trails parallel to the existing Ponti Fire Road and sections of the existing Fire Road that would become redundant after the upper segment of the Ponti Fire Road is realigned.

The IS identified potentially significant environmental impacts in the areas of Biological Resources and Hydrology/Water Quality. Mitigation measures to reduce the significance of these impacts to a less-than-significant level are included in the IS. The IS concludes that, with implementation of the mitigation measures, the proposed project will not have significant environmental impacts. The document is available for review at Marin County Parks headquarters at the Marin Civic Center, 3501 Civic Center Drive, Suite 260, San Rafael CA; on the Marin County Parks website at https://www.marincountyparks.org/depts/pk/our-work/os-main-projects/rtmp-projects under the section titled "Ponti Ridge;" and at the South Novato Library, 931 C Street, Novato, CA.

If you have any questions or need more information, contact Jon Campo at (415) 473-2686.



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PROJECT INFORMATION

Project Title

Ponti Fire Road to Trail Project

Lead Agency Name and Address

Marin County Open Space District
3501 Civic Center Drive, Suite 260
San Rafael, California 94903

Contact Person

Jon Campo, Senior Resource Planner
(415) 415 473 2686 or jcampo@marincounty.org

Project Location

Pacheco Valle Open Space Preserve, Novato, Marin County, California
Ignacio Valley Open Space Preserve, Novato, Marin County, California
Marinwood County Services District Open Space, Marinwood, Marin County, California

Lead Agency Name and Address

Marin County Open Space District
3501 Civic Center Drive, Suite 260
San Rafael, California 94903

Local Jurisdiction, General Plan Land Use Designation, and Zoning

Pacheco Valle Open Space Preserve

APN 160-010-85	Novato	Open Space (OS)	Publicly Owned Open Space (PD)
APN 160-010-78	Novato	Open Space (OS)	Publicly Owned Open Space (PD)
APN 160-010-77	Novato	Open Space (OS)	Publicly Owned Open Space (PD)
APN 160-010-76	Novato	Open Space (OS)	Publicly Owned Open Space (PD)

Ignacio Valley Open Space Preserve

APN 160-010-55	Novato	Open Space (OS)	Publicly Owned Open Space (PD)

Marinwood Community Services District

APN 164-290-88	County of Marin	Open Area (OA)
APN 164-290-89	County of Marin	Open Area (OA)

INTRODUCTION

The Marin County Open Space District (MCOSD)[1] is proposing the Ponti Road-to-Trail Project (proposed Project) within Pacheco Valle and Ignacio Valley Open Space Preserves. This Initial Study has been prepared to provide information to the public and decision makers regarding the scope of the proposed Project, the potentially significant environmental impacts that could result from implementation of the proposed Project, and mitigation measures that would reduce potentially significant environmental impacts to a less than significant level.

CEQA Framework

This Initial Study has been prepared in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. The basic purposes of CEQA are to:

1. Inform governmental decision makers and the public about the potential significant environmental effects of proposed activities
2. Identify ways that environmental damage can be avoided or significantly reduced
3. Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible
4. Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved

The purpose of this Initial Study is to disclose information obtained during the analysis of environmental effects that could result from implementation of the proposed Project, including construction, operation, and maintenance that has a potential for resulting in a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. The conclusions of the Initial Study have been utilized to determine whether a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report should be prepared. This determination depends on the conclusions of the Initial Study regarding potentially significant environmental impacts, based on substantial evidence:

Negative Declaration The Initial Study concludes no potentially significant environmental impacts would occur from implementation of the proposed Project and no mitigation measures are required.

Mitigated Negative Declaration The Initial Study concludes that potentially significant environmental impacts could occur from implementation of the proposed project. Mitigation measures are included to reduce potentially significant environmental impacts to a less than significant level.

Environmental Impact Report The Initial Study concludes that potentially significant environmental impacts could occur from implementation of the proposed project. Mitigation measures are included to reduce potentially significant environmental impacts to a less than significant level, but potentially significant environmental impacts could still result.

The MCOSD is the CEQA Lead Agency for the proposed Project, meaning that the MCOSD has the principal responsibility for carrying out or approving a project, including the decision of which environmental document should be prepared.

[1] The MCOSD is a special district pursuant to the California Public Resources Code. Marin County Parks oversees the management of the county parks system and provides public information on behalf of the MCOSD.

Summary of the Proposed Project

The purpose of the proposed Project is to implement the RTMP to provide the public with a safe multi-use trail system to enhance the visitor experience, reduce the environmental impacts on sensitive resources by reducing sedimentation and erosion, and establish a sustainable system of roads and trails that meet design and management standards and would provide year-round access along the trail alignment. The project includes the following elements, which are summarized below and fully described in the Project Description section of this document:

- **Realign the Upper Segment of the Ponti Fire Road.** Realign the existing 1.2-mile long, 14-foot wide upper segment of the Ponti Fire Road with an average slope of 20 to 35 percent into a 2.8-mile long, 5-foot wide sustainable multi-use trail with an average grade of 10 percent. Change fire road designation to multi-use trail.
- **Maintain and Improve the Lower Segment of the Ponti Fire Road.** Improve the existing 0.5-mile long, 14-foot wide lower segment of the Ponti Fire Road within the existing footprint to improve stability, drainage, and the overall sustainability of the fire road for visitor use and to maintain access for emergency vehicles.
- **Construct a New Connector Trail from Ponti Fire Road to Pacheco Hill Pathway.** Construct a new connector trail from the lower segment of the Ponti Fire Road to the Pacheco Hill Pathway, which is an existing paved trail adjacent to State Highway 101. The connector trail would be 0.4 mile in length, 5 feet wide, earthen surface, and a grade of less than 10 percent.
- **Decommission Non-Designated Trail and Redundant Road and Trail Segments.** Decommission 1.02 miles of non-designated Trail 18645 in the Ignacio Valley Open Space District, approximately 3 miles of trails associated with the Ponti Fire Road that would include non-designated trails parallel to the existing Ponti Fire Road and sections of the existing Fire Road that would become redundant after the upper segment of the Ponti Fire Road is realigned.

Summary of the CEQA Analysis

The Initial Study utilized the Checklist included as Appendix G of the State CEQA Guidelines. The Checklist includes the following 21 topic areas:

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

For each topic area, the Checklist includes specific questions. For each question, one of four responses is given:

No Impact	The proposed Project will not have the impact described.
Less than Significant Impact	The proposed Project may result in the impact described, but at a level that is less than significant. Mitigation is not required, however, may be included to further reduce the impact.
Potentially Significant Unless Mitigated	The proposed Project may result in the impact described at a level that is potentially significant. The incorporation of proposed mitigation measures would reduce the potentially significant impact to a less than significant level. For these responses, proposed mitigation measures are included after the discussion of the potential impact.
Potentially Significant Impact	The proposed project may have the impact described at a level that is potentially significant. The potentially significant impact cannot be reduced to a less than significant level with the incorporation of proposed mitigation measures, requiring preparation of an Environmental Impact Report.

Each question is answered by evaluating the proposed Project as a whole, considering the potentially significant environmental impacts that could occur for any phase of the proposed project. The Checklist includes a discussion of the potential impacts and reasoning of the response provided. The Initial Study Checklist is included in this document after the Project Description.

The Initial Study concluded that implementation of the proposed Project would not result in any Potentially Significant Impacts that could be mitigated to a less than significant level. Most questions were answered with a No Impact or Less than Significant Impact response. Mitigation Measures have been included to address potentially significant impacts in the Biological Resources and the Hydrology and Water Quality topic areas. With implementation of these mitigation measures, potentially significant environmental impacts would be reduced to a less than significant level.

MCOSD Authority, Mission, and Leadership

The MCOSD is an independent legal entity and a special district operating pursuant to the California Public Resources Code. Marin County Parks oversees the management of the county parks system and provides public information on behalf of the MCOSD to fulfill the following mission:

> *We are dedicated to educating, inspiring, and engaging the people of Marin in the shared commitment of preserving, protecting, and enriching the natural beauty of Marin's parks and open spaces, and providing recreational opportunities for the enjoyment of all generations.*

A five-member Board of Directors oversees MCOSD operations. A seven-member Parks and Open Space Commission advises the MCOSD Board of Directors on policy matters related to acquisition, development, funding, management, and operation. The MCOSD's Director and General Manager oversees the day-to-day operations.

MCOSD Governing and Guidance Documents

The MCOSD is subject to the following governing and guidance documents:

- Marin County Strategic Plan, 2001
- Policy Review Initiative, 2005
- Marin Countywide Plan, 2007
- Marin County Department of Parks and Open Space Strategic Plan, 2008
- Marin County Fire Management Plan, 2008
- Marin County Integrated Pest Management Ordinance, 2009
- MCOSD Road and Trail Management Plan, 2014
- MCOSD Vegetation and Biodiversity Management Plan, 2015
- MCOSD Inclusive Access Plan, 2016

Road and Trail Management Plan (RTMP) Overview

On December 16, 2014, the MCOSD Board of Directors approved the Road and Trail Management Plan (RTMP)[2] and certified its program environmental impact report (EIR)[3]. The MCOSD developed the RTMP over the course of four years based on extensive outreach and public input. The RTMP is a science-based comprehensive management plan, the goals of which are to:

(1) establish and maintain a sustainable system of roads and trails that meet design and management standards;

(2) reduce the environmental impact from roads and trails on sensitive resource, habitats, riparian areas, native and special-status plant and animal species; and

(3) improve the visitor experience and safety for all users, including hikers, mountain bikers, and equestrians.

The MCOSD manages Open Space Preserves primarily for natural resource preservation and multi-use trail recreation. The RTMP divides the MCOSD's 34 open space preserves into six regions, as shown on Figure 1. Region 3, which includes the project area, includes the following open space preserves and all together, contains approximately 38 miles of roads and trail:

- Lucas Valley
- Loma Verde
- Pacheco Valle
- Ignacio Valley
- Indian Valley

The RTMP incorporates existing policies from the 2005 Policy Review Initiative[4] and the 2007 Countywide Plan. It identifies 34 new policies and BMPs that govern the MCOSD's road and trail system. The intent of the policies and BMPs is to meet the goals described above by reducing resource effects from any road and trail projects. The proposed Project incorporates the applicable RTMP policies and BMPs and these are referenced in each of the applicable resource sections in the Initial Study checklist. The complete list of RTMP policies and BMPs are included in Appendix A.

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[2] The RTMP is available at http://www.marincountyparks.org/~/media/files/departments/pk/projects/open-space/rtmp-eir/rtmp_lowres_3615_bookmarks.pdf?la=en.

[3] State Clearinghouse Number 2011012080 (MCOSD, 2014a and 2014b)

[4] The purpose of the 2005 Policy Review Initiative was for MCOSD, County Counsel, and the public to review and establish new policies to guide land management decision making in eleven policy areas related to core land management, fire, trail use, non-native plants and animals, special-status species, parking, camping, visitor amenities, disabled access, countywide and regional trail systems, and public outreach.

The condition of existing roads and trails within each of the 34 open space preserves were evaluated as part of the RTMP development, termed the Roads and Trails assessment[5]. After adoption of the RTMP, the MCOSD initiated a public process to designate a system of roads and trails in all existing open space preserves utilizing the 2013 Road and Trail Assessment. Consistent with the RTMP's *Policy SW.2: System Roads and Trails*, the roads and trails eligible for consideration for designation as a "system" road or trail must have existed as of November 2011, which is when the Roads and Trails Assessment was completed. The proposed designation of a system roads and trails has been proceeding on a regional basis. The Region 3 Proposed Designation process included stakeholder meetings with the following groups:

- Marin County, City of Novato, and Marinwood Community Services District Fire Departments
- Marin County Bike Coalition
- Access 4 Bikes
- Marin Conservation League
- Marin Audubon
- Marin Horse Council

The Region 3 Public Workshop was held on August 21, 2016. Following the workshop, the public had an opportunity to view and comment on the proposed road and trail system for Region 3 before the conceptual trail designation map was finalized. The Region 3 conceptual trail designation map is included as Figure 2.

Inclusive Access Plan

The Inclusive Access Plan (IAP) was finalized in July 2016. The IAP is a guidance document focused on improving the MCOSD trail accessibility and increase the equitability of access to visitors of all abilities, developed with a public engagement process that included open houses, focus groups, workshops, and review of the IAP. The IAP is a supplement to the RTMP and helps to guide the accessibility component of trail-planning efforts. It includes:

- An evaluation of the existing inventory of pedestrian trails, the identification of an initial system of Access and Discovery Trails, providing access for users of all abilities to experiences in a variety of natural settings and a framework for expanding an Improved Access Trail system
- A review of and recommendations for policies and procedures, including the use of service animals, mobility devices, and visitor amenities in MCOSD open space preserves
- Recommendations for methods of communicating information about trails and trail conditions
- Design guidelines and standards that incorporate inclusive design principles and accessible elements in new construction and reconstruction of existing open space trails

As required by the IAP for trail redevelopment projects, MCOSD completed a Trail Accessibility Standards analysis for the Ponti Fire Road-to-Trail Project relative to the applicability of accessibility standards as defined by the Architectural Barriers Act Accessibility Guidelines for Outdoor Developed Areas. The conclusion of this analysis was that the proposed Project would not be able to meet all accessibility trail design guidelines because the trail would not originate from an accessible trailhead and the steep topography where only maintenance is proposed would prohibit full compliance with the IAP. These decisions were made to minimize environment impact that would result from designing the project to be fully compliant with IAP, as this would result in a much longer trail and more trail structures though steep terrain. Although full compliance with these design standards could not be met, they would be implemented where possible. The new trail segments proposed as part of the Project would strive to meet an average

[5] Best, Timothy C. CEG Engineering, Geology, and Hydrology. Engineering Geologic and Geotechnical Assessment Ponti Fire Road to Trail Conversion Project. September 2018.

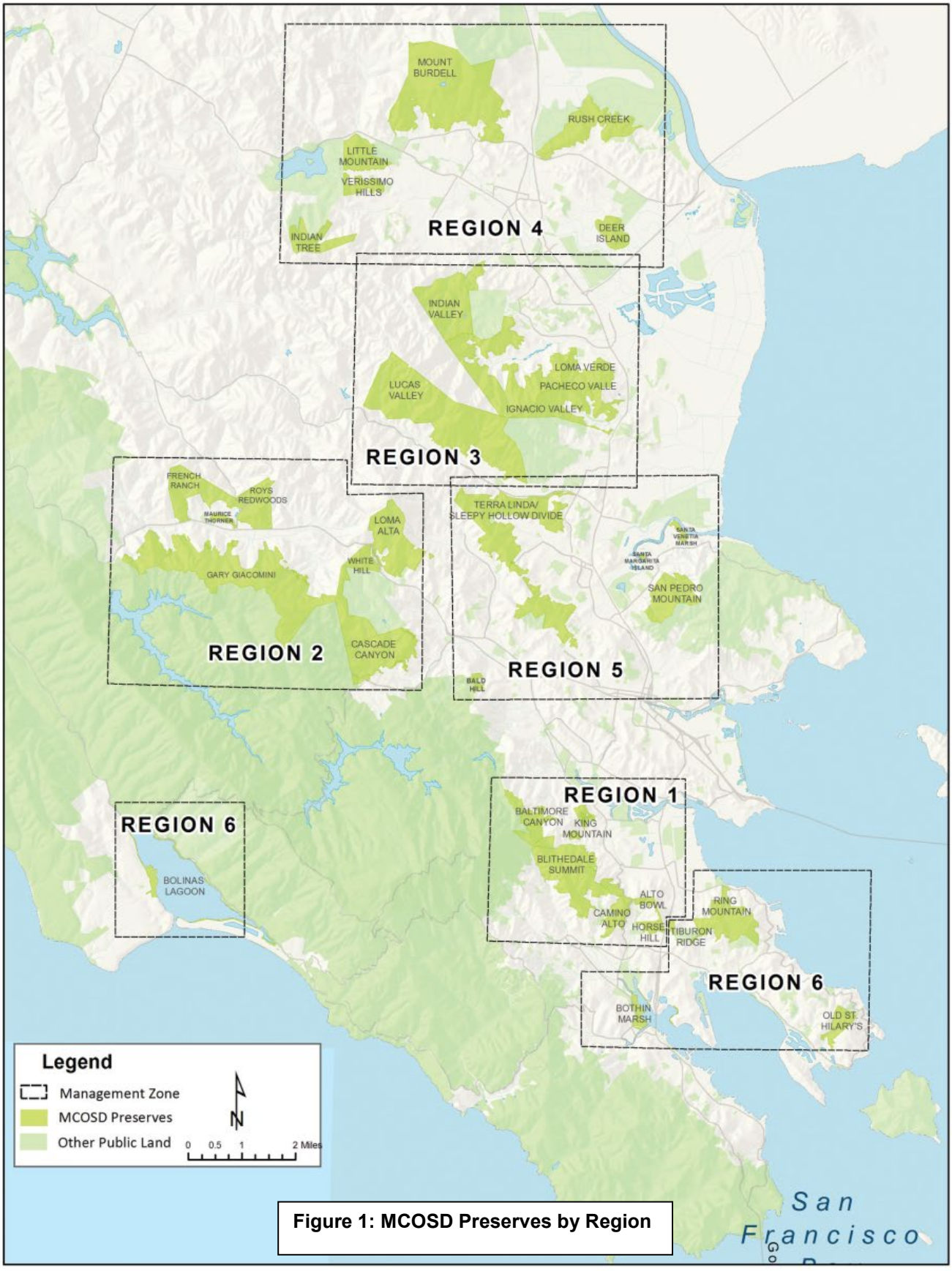

Figure 1: MCOSD Preserves by Region

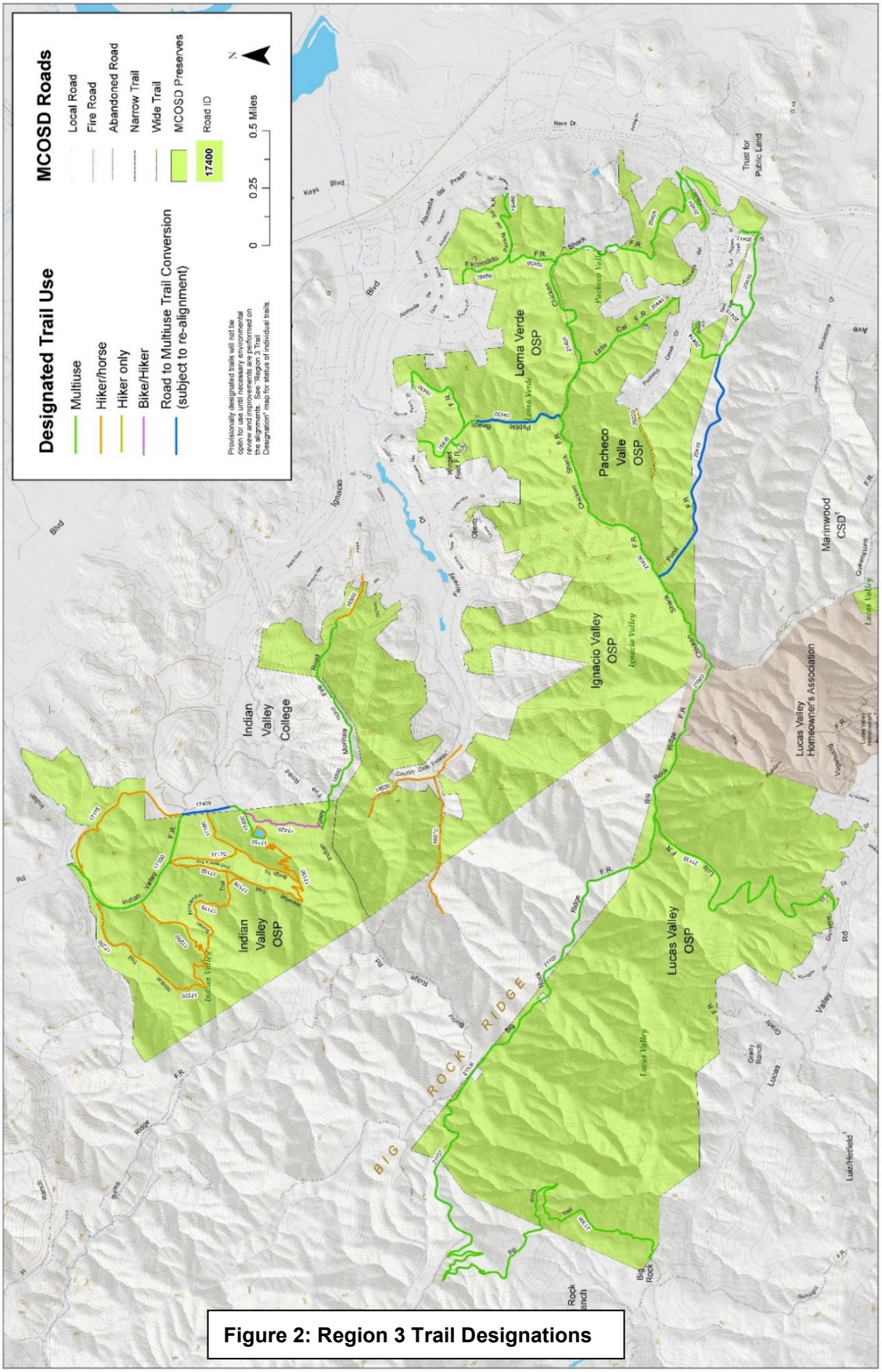

Figure 2: Region 3 Trail Designations

gradient of 10 percent or less, which would make the trail less steep than the existing conditions and therefore, the trail be more accessible to a greater number of users. A 5-foot wide trail width would be maintained for the entire alignment, ensuring safe use by multiple user groups. Level landings to act as resting areas would be incorporated, where feasible.

Vegetation and Biodiversity Management Plan

The MCOSD developed the Vegetation and Biodiversity Management Plan (VBMP) in April 2015 to be implemented along with the RTMP. Its primary prupose is to provide comprehensive, long-term guidance for a new science-based approach to vegetation management that will:

(1) Maintain the natural biodiversity of the vegetationwithin the preserves

(2) Maintain patrol, emergency and public access, and

(3) Manage fuel loads to reduce the threat of natural and human-caused fires.

The VBMP is not a prescriptive plan but rather it is a tool for decision-making associated with vegetation management projects on MCOSD lands. As part of this effort, the MCOSD classified vegetation within each of the 34 preserves into four management zones based on the ecological and/or cultural importance of distinctive vegetation types, the condition of resources in particular locations, and the proximity of particular locations to urban or suburban areas. The four management zones include:

Legacy Zone. Vegetation types or species with the highest biological value, often because they are unique or rare remnants of biological diversity. The legacy zone includes lands that support unique or irreplaceable remnants of natural biological diversity, along with other vegetation types with high biological value. The habitats for plants that have been identified as threatened, endangered, or rare in the world, the nation, the state of California, or Marin County are included in this zone, along with wetlands and selected upland vegetation types, including redwood forest, serpentine grasslands, and chaparral. Also included are habitats and vegetation types that are at the boundaries of their geographic distributions and that may be important to detecting, and managing for adaptation to, the effects of climate change. Native vegetation in this zone remains largely intact and free of invasion by nonnative plants. Because of their rarity and ecological importance, many species and vegetation types within this zone are protected by federal and state laws and regulations, or by other initiatives, such as the Upland Habitat Goals Project. The legacy zone will serve as a sanctuary for natural resources that otherwise could be permanently lost from Marin, California, and the world.

Sustainable Natural Systems. The sustainable natural systems zone includes lands that are valuable for ensuring the ecological resiliency of natural systems and the associated character of Marin County. Lands in this zone, which generally form a natural buffer around lands in the legacy zone, include corridors supporting wildlife movements and potentially the movements of species adapting to climate change, areas of refuge for species living within or migrating through Marin County, and vegetation types that are not considered as biologically valuable as those included in the legacy zone, but that are still considered “hot spots” in terms of relatively high species diversity. Lands in this zone contain only minimal infrastructure, and the vegetation types are relatively free of invasive species.

Natural Landscape Zone. The natural landscape zone includes lands that support native plants and natural vegetation types that are typical of Marin County landscapes. These common vegetation types, while not legally protected or recognized as rare, provide valuable habitat for a diversity of local native species. They contribute to the beauty of Marin County landscapes and add to the ecologically rich natural communities and scenic vistas that define the MCOSD preserves. Vegetation within the natural landscape zone often provides important buffers between the wildland-urban interface and other zones and contains large tracts of grasslands, common oak and other woodland vegetation types, and coastal scrub. While this zone is more infested with invasive plants than the legacy and sustainable natural

systems zones, it still provides valuable connectivity and important habitat for common wildlife and plants.

Highly Disturbed Zone. The Highly Disturbed Zone includes lands that provide essential services, such as fire protection, access to the MCOSD open space lands, and in many cases is within the state defined Wildland Urban Interface. While these lands are also important to the enjoyment and protection of the natural diversity of Marin County, their management is influenced by their role in preventing the movement of fire between residences and open space lands, transmitting utilities (e.g., power and water lines) to nearby communities, and facilitating visitor access. Due to high human use and disturbance, this zone is prone to invasive plant infestations; plant diseases and pathogen outbreaks; and neighboring land influences, such as trespass, predation by domestic pets, green waste dumping, and the introduction of garden plant escapees.

Pacheco Valle Open Space Preserve is classified as consisting of all four management zones Legacy Zone, Sustainable Natural Systems Zone, Natural Landscape Zone, Highly Disturbed Zone. The majority of the proposed project would occur on Marinwood CSD property, which is was not mapped as part of the VBMP. The portions of the proposed project that would occur within Pacheco Valle Open Space Preserve are within the Legacy Zone and the Natural Landscape Zone. The vegetation management zones for the entirety of Region 3, including Pacheco Valle Open Space Preserve, are shown on Figure 3 – Region 3 Vegetation Management Zones.

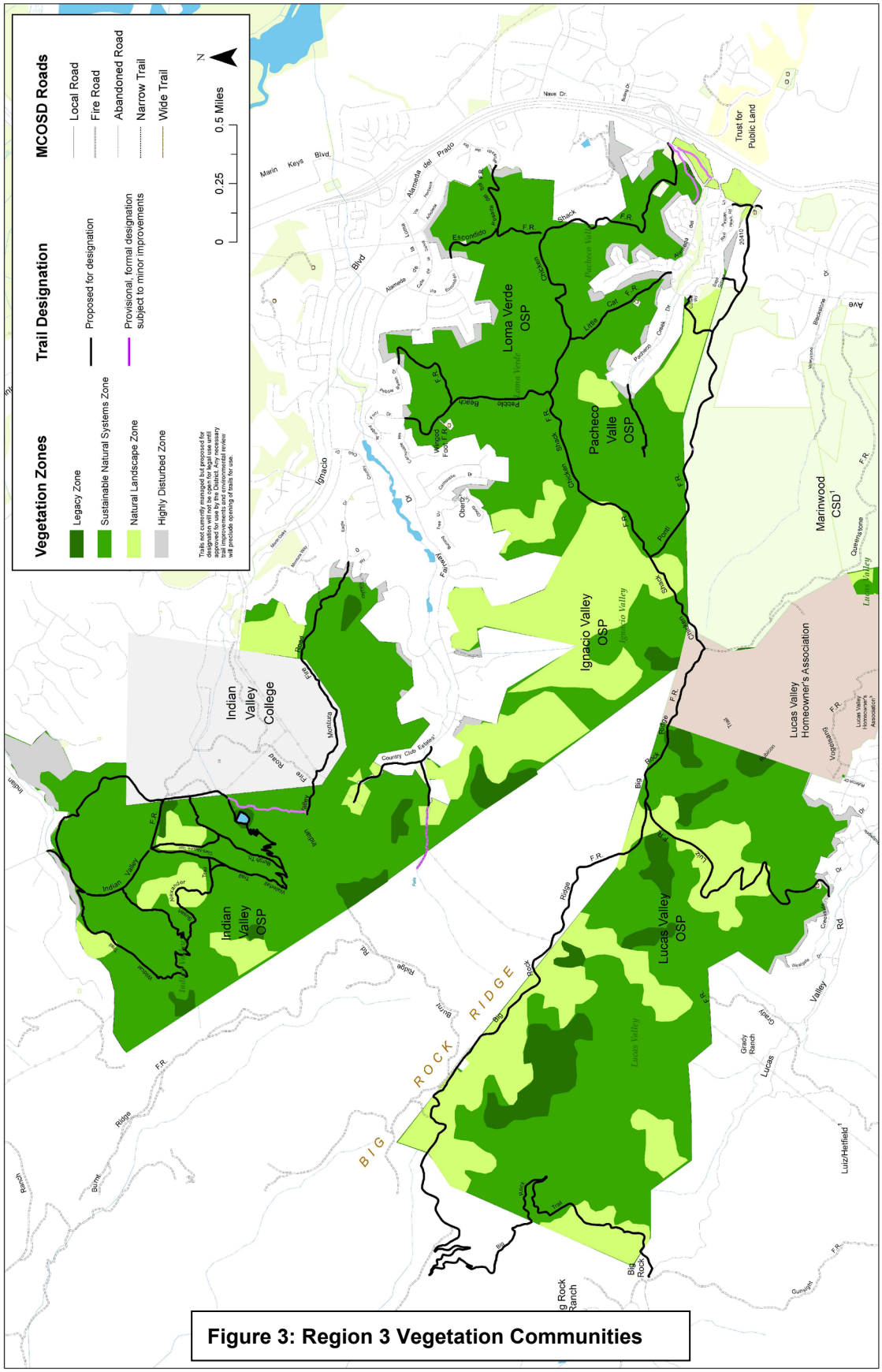

Figure 3: Region 3 Vegetation Communities

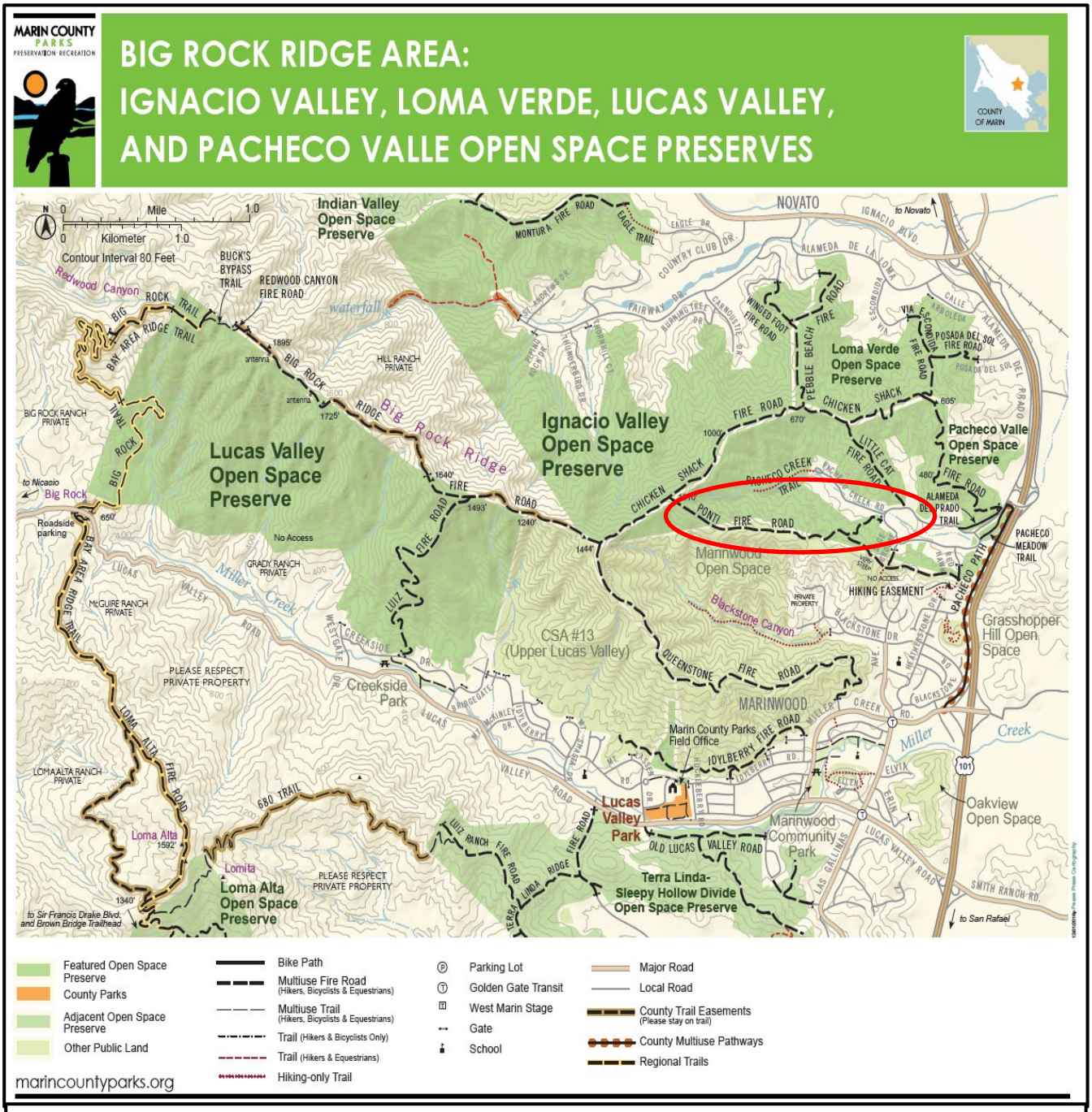

Figure 4 – Project Area

EXISTING SETTING

Project Location and Surrounding Land Uses

The project area is within the Pacheco Valle and Ignacio Valley Open Space Preserves, which are located within the City of Novato, and on open space property owned by the Marinwood Community Services District, which is unincorporated County of Marin jurisdiction, as shown on Figure 4 – Project Area.

Pacheco Valle and Ignacio Valley Open Space Preserves,[6] along with Loma Verde, Indian Valley, and Lucas Valley Open Space Preserves form a contiguous band of undisturbed open space encompassing virtually the entire northern slope of eastern Big Rock Ridge. Pacheco Valle Open Space Preserve is surrounded by single-family residential development and open space in the unincorporated neighborhoods of Marinwood and Lucas Valley to the south. Highway 101 is near the easterly boundary of Pacheco Valle Open Space Preserve. The Pacheco Hill Path is a paved trail adjacent to Highway 101 between Alameda del Prado to the north and Miller Creek Road to the south within Caltrans jurisdiction.

Access to the project area is from Heatherstone Drive of Miller Creek Road in Marinwood. There is no dedicated parking for Pacheco Valle or Ignacio Valley Open Space Preserves but limited on-street parking is available on nearby public roads.

Elevations within the project area range from 300 feet near the valley floor at Pacheco Valle Open Space Preserve to 1,250 feet at the intersection of Ponti Fire Road with Chicken Shack Fire Road. Much of the surrounding land is inaccessible and drops off precipitously into rugged, wooded canyons. The existing Ponti Fire Road serves as the watershed divide between Pacheco Creek to the north, a tributary to the Novato Creek, and Blackstone Canyon Creek to the south, a tributary to Miller Creek; both watersheds drain to San Pablo Bay.

Pacheco Valle Open Space Preserve

Pacheco Valle Open Space Preserve is approximately 519 acres. The majority of the property that comprises Pacheco Valle Open Space Preserve was acquired by MCOSD in the 1975, and the remainder was acquired in 1995 and 2014.

It is characterized as having steep slopes of chaparral and woodlands, rewarding visitors with expansive views of San Francisco Bay and Mount Tamalpais from multiple vantage points[7]. Pacheco Valle Open Space Preserve supports a mosaic of plant communities including woodlands, chaparral, grassland, and a small wetland seep. The lower elevations of Ponti Fire Road are dominated by valley oak, coast live oak, and California bay savanna with an open understory interspersed with non-native annual grassland. At the upper elevations, the woodlands are dominated by madrone forest and intermixed with California bay and coast live oak with California bay being dominant on the north-facing slopes and coast live oak on the drier, south-facing slopes. At the upper elevations, patches of chaparral interspersed with annual grassland are present on the south-facing ridgeline. Small patches of native grassland, Oregon oak, and a wetland seep are present as well. Habitats on the property offer nesting habitat, food, shelter, water, and migratory corridors for both common and special-status animals. One special-status plant species, bristly leptosiphon, is known to occur within the project area.

The existing trails in Pacheco Valle Open Space Preserve are predominantly fire roads that were located along the ridgelines. The fire roads connect with roads and trails in open space properties managed by the Marinwood Community Services District (Marinwood CSD) and the Lucas Valley Homeowners Association, as well as with the Loma Verde Open Space Preserve and Ignacio Valley Open Space Preserve, which are owned and managed by MCOSD. The primary trails in Pacheco Valle Open Space Preserve are Chicken

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[6] Ignacio Valley Open Space Preserve and Pacheco Valle Open Space Preserve are named of Ignacio Pacheco, on e of California's early pioneers who settled in the area in 1840. It is believed that he was the first to plant grape vines in the region after receiving the Rancho San Jose land grant which consisted of 6,680 acres or his services to the Mexican Government as the head of the customs house in Monterey, California. Valle, as in Pacheco Valle Open Space Preserve, is the Spanish spelling of "valley." Source: https://www.findagrave.com/memorial/75803586/ignacio-pacheco

[7] PCI, 2017

Shack Fire Road, which is approximately 3.21 miles in length and connects with Loma Verde and Ignacio Valley Open Space Preserves; Little Cat Fire Road, which is approximately 0.54 miles in length and connects Alameda del Prado and Chicken Shack Fire Road; Pacheco Creek Trail, which is approximately 0.26 mile in length; and Ponti Fire Road.

Ignacio Valley Open Space Preserve

Ignacio Valley Open Space Preserve is approximately 906 acres. The majority of the property was acquired by MCOSD in the 1975 with neighborhood support through County Service Area 20.

Ignacio Valley Open Space Preserve is similar in character to Pacheco Valle Open Space Preserve, as having steep slopes of chaparral and woodlands. Most of the slopes and ridges are composed of sandstone, which supports madrone trees and pure stands of madrone forest. The tallest manzanita species known in Marin County, *Arctostaphylos manzanita*, is abundant on the slopes of Big Rock Ridge in Pacheco Valle Open Space Preserve. Birds, including cedar waxwings, band tailed pigeons, hermit thrushes, and American robins are attracted to this area in winter when the madrone berries ripen.

The existing trails are predominantly fire roads that were located along the ridgelines. The fire roads connect with roads and trails with the Loma Verde Open Space Preserve, Indian Valley Open Space Preserve, and Pacheco Valle Open Space Preserve which are owned and managed by MCOSD. The primary trails in Ignacio Valley Open Space Preserve include the Montura Fire Road, which is approximately 1.11 miles and connects the northern boundary with Eagle Trail; Chicken Shack Fire Road, and several shorter length fire roads.

Marinwood Community Services District

The Marinwood CSD was formed in 1960 "for the purpose of providing public recreation by means of parks, including aquatic parks and recreation harbors, playgrounds, swimming pools or recreation buildings; protection against fire; and street lighting"[8] and to secure bond financing for improvements including land acquisition for Marinwood Park, development of the park, community center, pool, and a firehouse. In 1972, voters approved a tax for the purchase approximately 321 acres of open space that includes a ridge that borders the community to protect it from future development. Additional properties were purchased over time and the Marinwood CSD currently owns approximately 812 acres of open space, including much of the Miller Creek corridor, the ridges that overlook the Marinwood community, and Blackstone Canyon. The Marinwood CSD open space provides hiking opportunities on existing fire roads and trails. The objectives of the Marinwood CSD is to:

- Provide fire protection and emergency services to the residents of the District
- Provide street lighting services to the residents of the District
- Develop and promote recreation programs and activities which satisfy the majority demands of the residents of the District
- Develop and maintain park areas and recreational facilities and preserve open spaces for the enjoyment of the residents of the district

The Ponti Fire Road currently crosses the property boundaries of Pacheco Valle Open Space Preserve and Marinwood CSD open space. A significant portion of the proposed project would occur on Marinwood CSD open space property. The proposed project is consistent with the purposes of the Marinwood CSD associated with providing recreation and open space for Marinwood CSD residents. The MCOSD would require a right-of-entry and/or an easement from Marinwood CSD before the proposed project could be implemented. The MCOSD has been in communication with Marinwood CSD regarding the proposed project and support to grant a right-of-entry and/or easement has been indicated. The final actions to this effect would occur after the CEQA process is completed and the proposed project is approved.

Ponti Fire Road

[8] http://www.marinwood.org/parks/trails-parks-open-space

The Ponti Fire Road is a native ground-surface trail that runs east-west along the crest of Ponti Ridge along the southern boundary of Pacheco Valle Open Space Preserve and the adjacent northern boundary of the Marinwood County Services District open space property. Ponti Fire road is approximately 1.75-mile long and 14-foot-wide. It extends from the end of Heatherstone Drive in Marinwood, up the Big Rock Ridge to Chicken Ranch Fire Road on the ridge between the Pacheco Valle and Ignacio Valley Open Space Preserves. It is used for year-round recreational trail use and maintenance vehicle use, and is accessible from Redhawk and Sage Grouse Roads, Pacheco Creek Drive in Pacheco Valle, which are multiuse fire roads, and from Heatherstone Drive, which is a hiking only trail, in Marinwood.

The Ponti Fire Road serves as the watershed divide between Pacheco Creek to the north, a tributary to Novato Creek, and Blackstone Canyon Creek to the south, a tributary to Miller Creek; both watersheds drain to San Pablo Bay. There are scenic vistas of the San Francisco Bay and Mount Tamalpais from multiple vantage points within the project area. Elevations climb from 240 feet at the lower trailheads to 1,310 feet at the intersection with Chicken Shack Fire Road at the Big Rock Ridge ridgeline. Much of the surrounding land is inaccessible and drops precipitously into rugged, wooded canyons.

For purposes of the proposed Project, Ponti Fire Road is described as consisting of two parts: the upper segment and the lower segment.

The upper segment is 1.2 miles in length. It is very steep with an average slope gradient of 20 to 35 percent. The steep slope contributes to erosion and landslides, factors that renders it poorly suited for recreational trail and vehicle access. Portions of the upper segment are in poor condition and have previously failed or are at risk for failure. Most of the upper segment is poorly drained, resulting in concentrated road runoff and increased risk of instability where water is ultimately drains of the fire road. Due to this existing condition, MCOSD in consulted with the Marinwood Community Services District (CSD), and the Marin County, Marinwood, and City of Novato Fire Departments. As a result of these meetings, it was concluded that upper segment is no longer desirable or acceptable to support fire and emergency access.[9] For these reasons, the proposed Project includes its realignment and subsequent conversion to a multi-use trail.

The lower segment is 0.5 mile in length. It is located on moderate gradient slopes along the ridge crest. The lower segment is in generally good condition and remains suitable for use as a fire road.

Non-designated Trail 18645

This trail is located in Ignacio Valley Open Space Preserve. It is approximately 1.03 miles in length, two feet wide, with a native ground surface. The trail gradient is steep, between 25 and over 50 percent in places. Due to the steepness of this trail and extreme maintenance requirements, it was determined to be not sustainable during the Region 3 designation process. As a result of the Region 3 designation process, Trail 18645 was not designated as part of the MCOSD trail system and therefore decommissioning is recommended.

Pacheco Hill Path

The Pacheco Hill Path is 1.2-mile long. 10-foot wide asphalt-paved Caltrans path providing access between Marinwood and Novato along Highway 101. The path can be accessed from the intersection of Nave Drive and Alameda del Prado in Novato and the intersection of Miller Creek Road and Marinwood Avenue in Marinwood, and transit stops are located along the path. An existing 16-foot wide gate is located approximately 27 feet from the outer edge of the existing paved path. The dirt road extending past the gate slopes away from the paved pathway and descends to the valley bottom accessing a grassy field. This dirt road is no longer used and is largely grassed over.

[9] MCOSD, Jon Campo correspondence with Christie Neill and Randy Engler. January 10, 2019

PROJECT DESCRIPTION

Project Purpose

The purpose of the proposed Project is to implement the RTMP to provide the public with a safe multi-use trail system to enhance the visitor experience, reduce the environmental impacts on sensitive resources by reducing sedimentation and erosion, and establish a sustainable system of roads and trails that meet design and management standards and would provide year-round access along the trail alignment.

The proposed Project, as described in this document, would meet the intent of the project purpose by re-aligning the upper segment of the existing Ponti Fire Road to develop a sustainable trail and decommissioning trails that were not designated as part of the Region 3 proposed trail designation process, non-designated trails that are parallel to the existing Ponti Fire Road, and portions of the Ponti Fire Road that will become redundant after the upper segment of the existing Ponti Fire Road is re-aligned. The upper segment of the existing Ponti Fire Road no longer supports emergency vehicles and is in a state of disrepair. Realigning the upper segment of the existing Ponti Fire Road would achieve the project purpose by reducing the trail grade, which currently exceed 30 percent and reducing the trail width, which is currently wider than is needed to support recreational use. Implementation of these improvements would enhance visitor experience by improving trail safety and would reduce environmental impacts on sensitive resources by establishing a sustainable trail system that meet design and management standards, reduces sedimentation and erosion, and improves water quality. The proposed decommissioning of existing fire road that would become redundant and non-designated trails would achieve the project purpose by establishing a sustainable trail system that meet design and management standards. In doing so, the environmental impacts on sensitive resources would be minimized by reducing sedimentation and erosion, which in turn, would improve water quality.

Project Development

The proposed Project was identified as part of the RTMP Region 3 Proposed Trail Designation Process, a process that included public outreach and public comment. After the Region 3 designation process was completed, MCOSD commissioned a preliminary trail report by Timothy C. Best, CEG Engineering Geology and Hydrology to evaluate the engineering, geologic, and geotechnical feasibility of the proposed project. The scope of the study included:

- Review of the proposed trail alignment as identified by MCOSD staff;
- Evaluation of geologic and geotechnical constraints associated with realigned trail construction and road to trail conversion;
- Qualitative assessment of the implications of the trail on erosion and slope stability; and
- Development of conceptual recommendations for trail construction.

Site reconnaissance occurred between October 2017 – July 2018 by MCOSD staff Jon Campo, Senior Natural Resources Planner; Carl Szawarzenski, Equipment Operator Supervisor; and David Frazier, Maintenance Equipment Operator. The site reconnaissance included site investigation of topography of project site, soil conditions, trail gradients, and drainage issues. Additionally, MCOSD engaged the community through a series of stakeholder meetings to further facilitate the opportunity for feedback about the proposed project, which is outlined below;

- Meeting with Regency Estates HOA to discuss MCOSD fire road easement for the lower Ponti Fire Road and the conversion of the upper Ponti Fire road to a multi-use trail
- Meeting with Mark Heine and the Pacheco Valle Firewise community to discuss the Ponti road to trail conversion
- Marinwood Park Commission presentation to keep the commissioners informed on the project
- Site visit to project area for invited stake-holders community members to gain a better understanding of project details

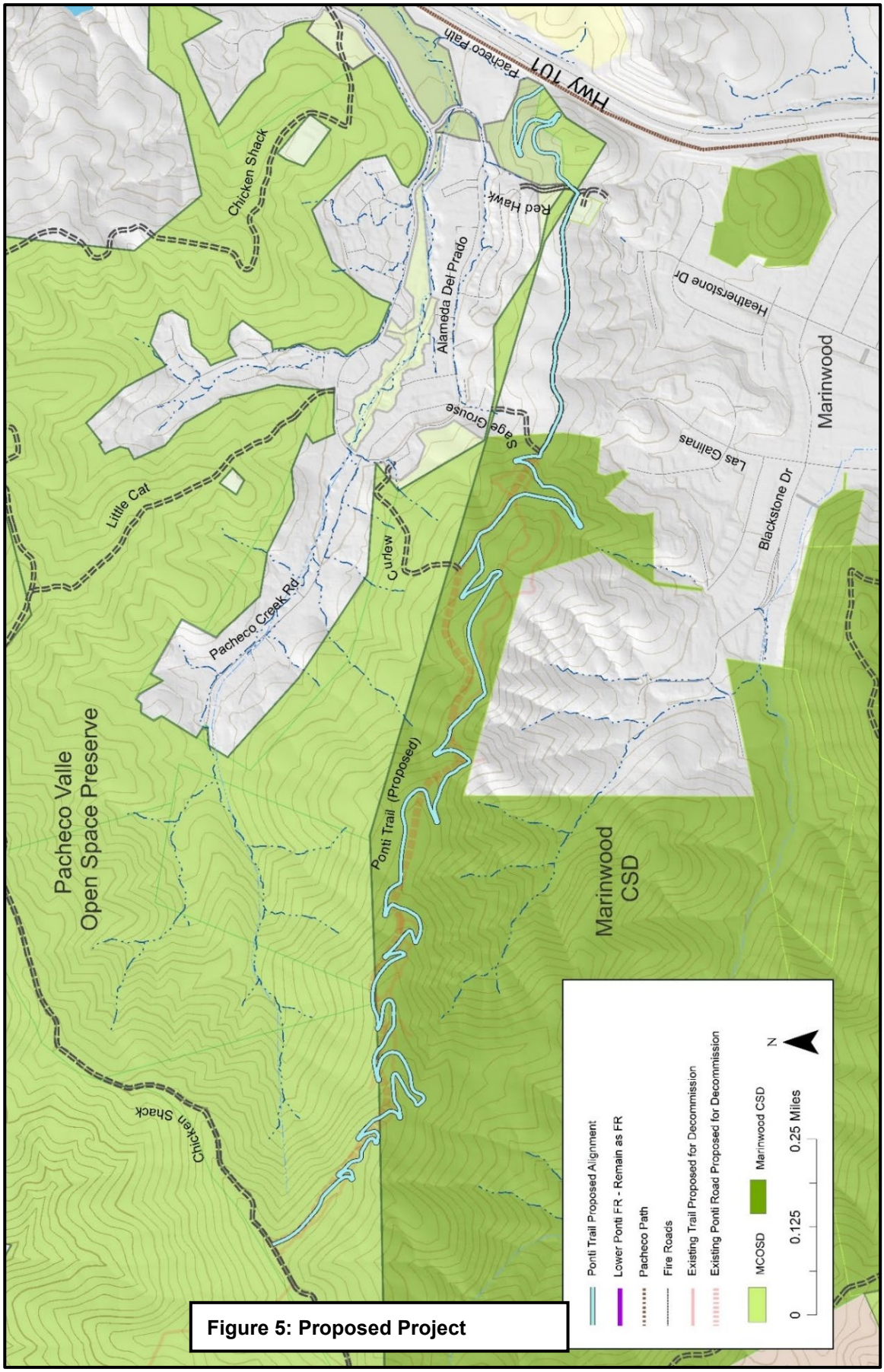

Figure 5: Proposed Project

Figure 6: Proposed Decommissioning

- Stakeholder meeting to gain additional feedback on community interests
- Published a Ponti Road to Trail conversion draft project description on MCOSD website and the Marinwood CSD website for a 30-day public comment period
- Presented to the Marinwood CSD and public to explain the project description and details and receive feedback
- Published a response to comments received on the draft project description and an interest to proceed to the CEQA review

Project Description

The proposed Project would result in approximately 3.7 miles of 5-foot wide trail with an average grade of 10 percent, extending between Pacheco Hill Pathway to Chicken Shack Fire Road on Big Rock Ridge. The existing length of trails and fire road in the project area is approximately 4.5 miles and thus, the proposed Project would result in a decrease of approximately 0.8 miles of trail and fire road. Trail width on the upper segment of the Ponti Fire Road would be reduced from 14 feet to 5 feet. Implementation of the proposed Project would reduce the existing Ponti Fire Road area by approximately 38,000 square feet, substantially reduce the grade of the existing upper segment of the Ponti Fire Road, reduce road and trail redundancy, and reduce erosion and sedimentation into nearby drainages and the San Francisco Bay. Realignment of the upper segment of the Ponti Fire Road would require new trail construction, which would result in approximately 1.7 acres of ground disturbance and generate over 1,500 cubic yards of fill that would be re-used within the project area. Implementation of the proposed Project would also result in approximately 0.22 acres of ground disturbance associated with construction of the new Connector Trail, 2 acres associated with the Ponti Fire Road decommissioning, and 0.85 acres associated with decommissioning non-designated trails. Thus, in total, implementation of the proposed Project would result in approximately 4.77 acres of ground disturbance.

Implementation of the proposed Project would occur within sensitive natural communities. The proposed realignment of the upper segment of Ponti Fire Road would remove some understory vegetation, cause soil disturbance and soil compaction, and shift the locations of visitor activity. Proposed trail decommissioning would include recontouring the roads and trails to a natural condition, brushing and erosion control, and active native revegetation along the ridgeline; activities which would reduce erosion, restore native understory, and reduce habitat fragmentation. The Pacheco Pathway Connector Trail and the re-aligned upper segment of the Ponti Fire Road would result in approximately 84,000 square feet of disturbance while the Ponti Fire Road and the non-designated trails decommission would reduce land disturbance by approximately 123,000 square feet. This would be a reduction in disturbance by approximately 38,000 square feet which would be an overall net benefit to both sensitive and non-sensitive vegetation communities. Proposed improvements would ensure the trail is properly drained, minimize future maintenance, improve sustainability, and improve user safety.

The proposed project consists of the following components:

- Realign the Upper Ponti Fire Road, designate as multi-use, and install new signage
- Maintain and improve Lower Ponti Fire Road;
- Construct a new connecter trail from Ponti Fire Road to Pacheco Hill Pathway;
- Decommission Trail 18645, unnamed non-designated trails parallel to Ponti Fire Road; and portions of Ponti Fire Road that will become redundant after Upper Ponti Fire Road is re-aligned.

Upper Segment of the Ponti Fire Road

The proposed Project would improve and realign the existing 1.2-mile-long, 14-foot wide upper section of the Ponti Fire Road into a 2.8-mile long, 5-foot wide multi-use earthen trail with a 10 percent trail grade. The trail re-alignment would be 5-feet in width to meet the Novato Fire Department's request to have the trail ATV accessible for fire crew access and the proposed trail alignment would more closely match the existing topography.

The realigned trail would include 18 switchbacks or climbing turns to reduce the trail grade to 10 percent, which would also result in the longer trail length. It is anticipated that three sections of realigned trail would require the following structures:

- 50-foot long, 1 to 2-foot high rock or timber buttress
- 150-foot long, 1 to 2-foot high rock buttress
- 30-foot long, 3 to 5-foot high retaining wall or rock buttress

Additional smaller retaining walls and buttresses may be required along the new alignment, which would be determined during implementation. Approximately 175 to 200 drainage features would be constructed to improve trail sustainability and minimize erosion. These features include cross drains, rolling dips, reverse grades and nicks installed at 75 to 150-foot spacings in woodland/forested areas and 50 to 75-foot spacings in open grassland areas, unless otherwise specified.

Trail Designation. After construction of the trail modifications, the Ponti Trail would be designated on the MCOSD Region maps as multi-use trail. This designation accommodates hiking, equestrian, and bicycle use. The change from fire road to multi-use trail would maintain consistency with the existing dog policy which requires dogs to be leashed on trails.

Photo 1: Landslide on Ponti Fire Road

Photo 2: Upper Ponti Fire Road

Photo 3: Rutting in Ponti Fire Road

Signage. New signage would be installed along the trail alignment to provide trail users with locational information, rules and regulations and more. Proposed signage would include three types of signs: primary, notice, and wayfinding. The primary sign is a redwood structure, set in concrete, which welcomes the visitor to the preserve. The primary sign would provide preserve rules, regulations, as well as a detailed preserve map with trail mileage and other wayfinding information. The notice sign, of similar construction to the primary, contains spaces in which to display notices to inform the public of upcoming events, hazards, trail closures, or other important information. There would also be a magnetic message board for the public to share information regarding lost or found items. The final signage element is the trail wayfinding post (6-inch by 6-inch redwood post) which identifies the trail name along with the allowed uses related to hiking, biking, equestrians, and dogs.

Lower Segment of the Ponti Fire Road. The proposed Project would improve the existing 0.5-mile-long, 14-foot wide lower segment of the Ponti Fire Road within the existing footprint. The lower segment of the Ponti Fire Road would connect to the new Pacheco Pathway connector trail, included as part of the proposed Project. It is located mainly on moderate gradient slopes along the ridge crest and is in generally good condition. The proposed Project would not modify the alignment or width of this section. Some routine improvements may be implemented to improve stability, drainage, and overall sustainability. The lower segment of the Ponti Fire Road would remain a designated fire road and the existing dog policy that allows dogs to be off-lease on fire roads would continue to apply.

Photo 4: Lower Ponti Fire Road looking east

Photo 5: Steep Intersection looking east

Pacheco Pathway Connector Trail. The Pacheco Pathway Connector Trail would be a new 0.4-mile-long, 5-foot wide trail with an average grade of less than 10 percent to connect the Lower Ponti Fire Road to the existing Pacheco Hill Path, the existing Caltrans paved path along Highway 101. The existing 16-foot wide gate would be removed and replaced with a 5-foot wide block stile barrier or similar barrier. No grading will be required to develop the access point. Construction activities would include vegetation removal within a 5 to 10-foot wide corridor using a Sweco dozer and excavators. After the trail corridor is cleared, the trail tread would be compacted using a compactor. The finished trail width would be 5-feet wide. Standard MCOSD signage would be installed at the access point.

Photo 6: Location of Proposed Pacheco Pathway Connector Trail

Photo 7: Visual Simulation of Proposed Pacheco Pathway Connector Trail

Decommission Non-Designated Trail 18645. Trail 18645 would be decommissioned as part of the proposed Project. Trail 18645 is a 1.02 mile-long and 2-foot wide non-designated trail connecting the Chicken Shack ridgeline to Thornhill Court. It was identified for decommissioning during the Region 3 trail designation process because it is extremely steep, with grades exceeding 50 percent in some places, and erosive. Decommissioning Trail 18645 would include scarification, installing dewatering features, straw application, split rail fencing if needed, and installing trail closure signage.

Decommission Ponti Fire Road-Related Trail Segments. The proposed project would decommission approximately 3 miles of trails associated with the Ponti Fire Road. Approximately 1.8 miles of 2.5-foot wide, unnamed, non-designated road and trail segments that are currently parallel to the existing Ponti Fire Road would be decommissioned because they were not designated as system trails as part of the Region 3 trail designation process and because they are steep, unsustainable, and would conflict with the re-aligned Upper Ponti Fire Road. These trail sections would be decommissioned with the following techniques: scarification; installing dewatering features; brushing with dead and local vegetation; applying straw; revegetation with native plants; installing split rail fencing if needed; and installing trail closure signage at top and bottom of the respective trail segments.

Approximately 1.2-miles of 14-foot wide trail sections that currently are part of the Ponti Fire Road would be decommissioned after the Upper Ponti Fire Road is re-aligned because these sections would become redundant with the re-aligned trail. These existing fire road trail sections would be abandoned and hydrologically restored to natural conditions by pulling back the perched and unstable fill, compacting the material along the adjacent inside edge of the road, and installing frequent drain dips at 50-foot spacings with fill material removed from the dip outlet. A revegetation effort would restore the fragmented ridgeline habitat with an appropriate local native plant palette.

Project Design Features

The project would be designed and constructed in compliance with the RTMP Road and Trail Standards and Best Management Practices, included in Chapter 6 of the RTMP. The figures below illustrate some of the trail design features that would be included in proposed Project implementation. These figures are excerpts from the County of Los Angeles Trail Manual,[10] which was one of the road and trail specifications that were utilized by the MCOSD in developing the Road and Trail Standards included in Chapter 6 of the RTMP.

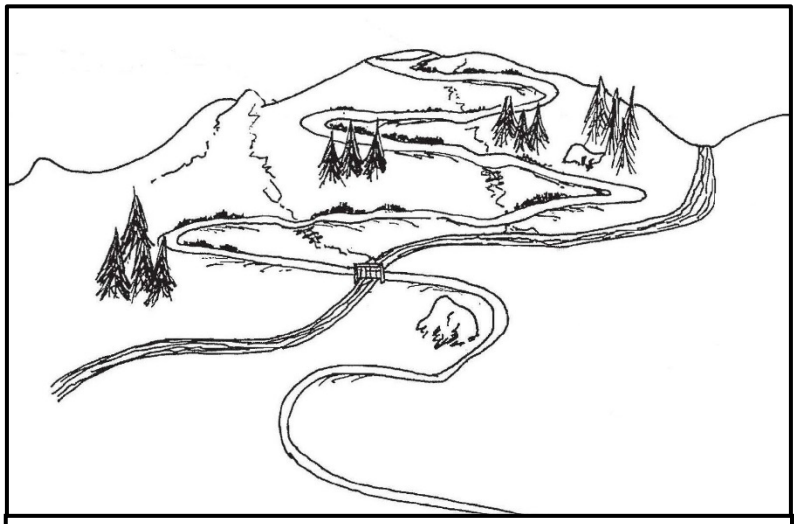

Figure 7: Typical Switchbacks

[10] County of Los Angeles. Trails Manual. Adopted May 17, 2011. http://file.lacounty.gov/SDSInter/dpr/208899_TrailsManual.pdf

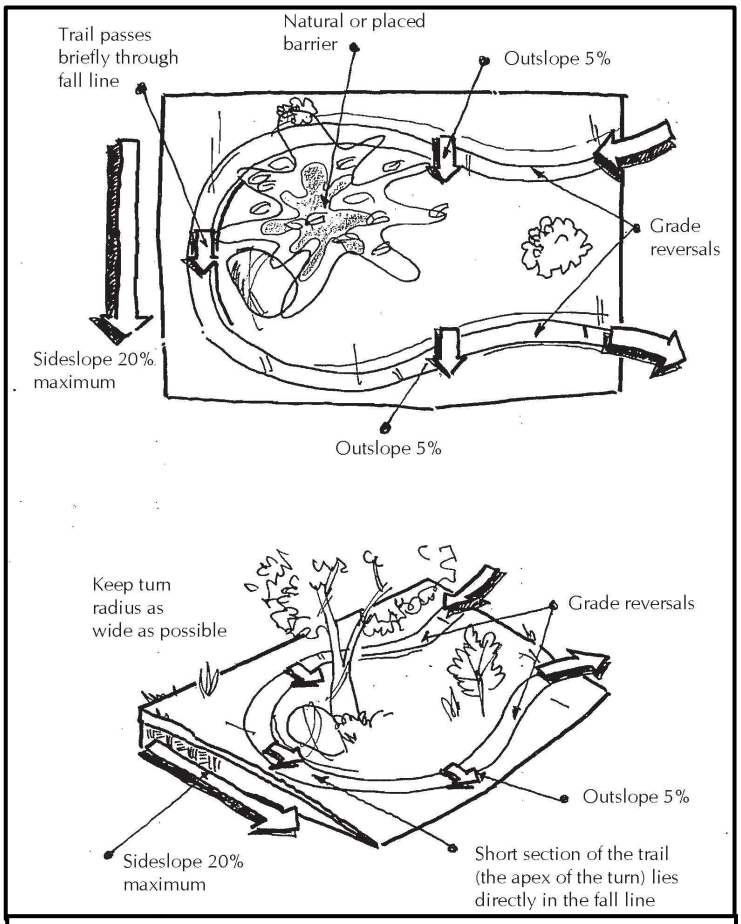

Figure 8: Typical Climbing Turns

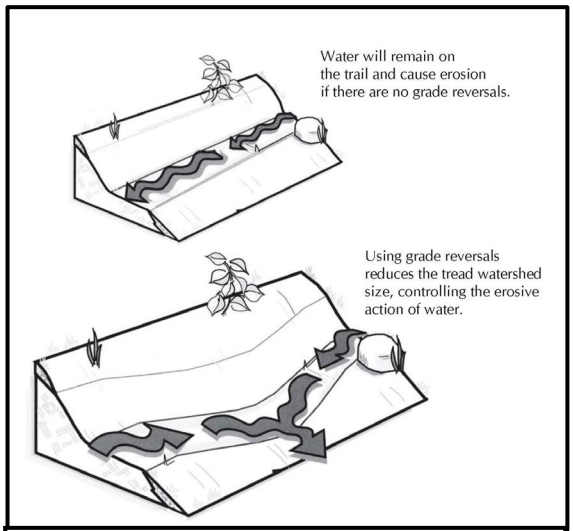

Figure 9: Typical Grade Reversal

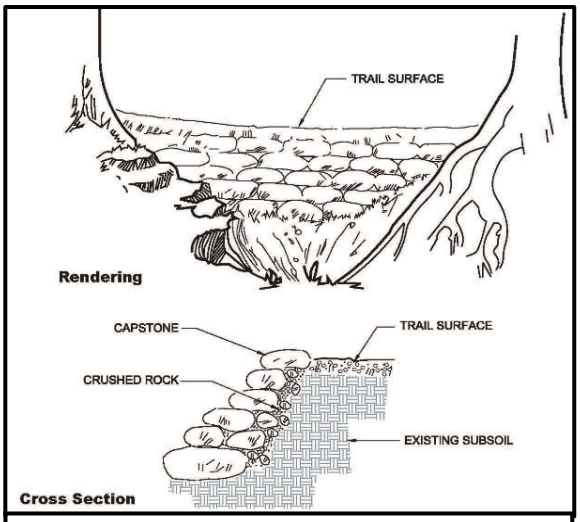

Figure 10: Typical Rock Wall

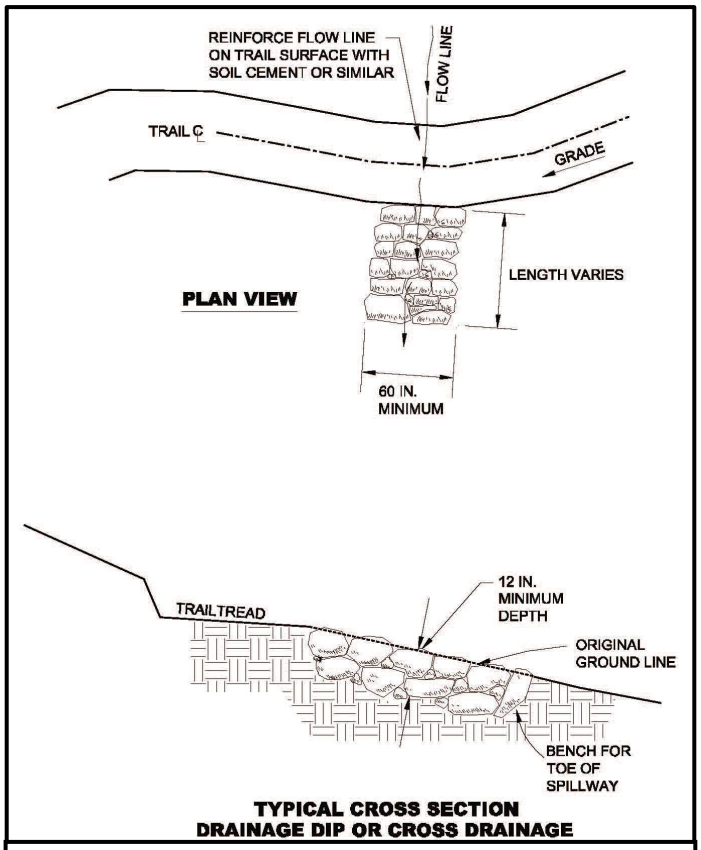

Figure 11: Typical Plan View and Cross Section for Drainage Dip or Cross Drainage

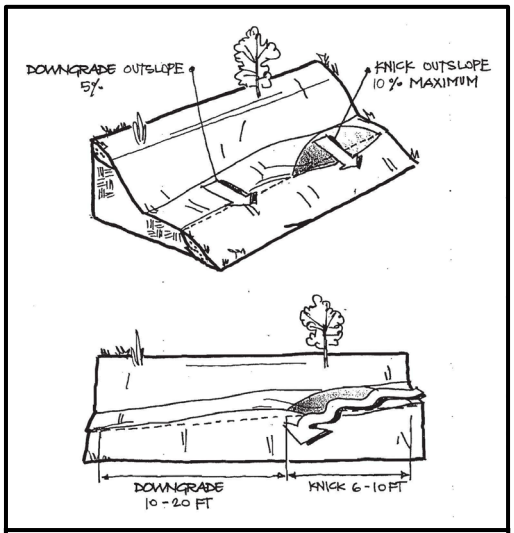

Figure 12: Typical Plan View and Cross Section for Rolling Grade Dip

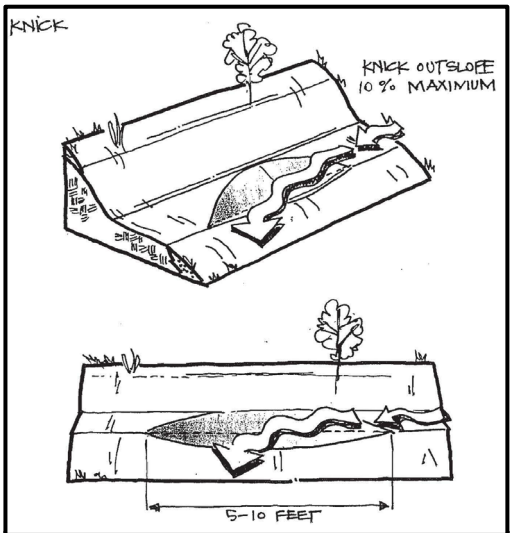

Figure 13: Typical Plan View and Cross Section for Drainage Knick

Construction Staging

Construction staging areas would be restricted to existing MCOSD roads and trails and other areas that would avoid any significant impacts on sensitive natural resources, as required by RTMP Best Management Practices (BMPs). Access to the project site for construction vehicles and equipment would be from Chicken Shack Fire Road, Little Cat Fire Road, Queenstone Fire Road, Curlew Fire Road, Sage Grouse Fire Road, Red Hawk Fire Road, and Heatherstone Drive. During construction, the MCOSD would limit and close trail access for safety purposes and would install signs at preserve entrances to warn trail users.

Construction Activities

Construction of the project would adhere to the Road and Trail Standards and BMPs outlined in Chapter 6 of the RTMP. Construction would be multi-phased to accommodate timing requirements due to sensitive species, as discussed in the Biological Resources section of the Initial Study Checklist. Construction is expected to begin in 2019 and would extend into 2020 and possibly 2021. Phase 1 would include the middle portion of the Upper Segment of the Ponti Fire Road re-alignment. Phase 2 would include the remainder of the proposed Project. Phasing of the proposed Project is shown on Figure 7 – Project Phasing.

Construction activities may occur throughout the year except when prevented by wet-weather conditions. Construction is expected take place four days a week, Monday through Thursday, between 7:00a.m. and 4:00p.m. utilizing 2 to 5 permanent MCOSD staff members, 4 to 6 seasonal employees, and volunteers. If MCOSD utilizes contractors, construction activities may also occur on Fridays between 7:00a.m. and 4:00p.m. Equipment for project would include:

- Medium and small Excavators
- Sweco(s) dozer
- 3 dump trucks
- 2 water tenders
- Carriers
- Compactors
- Cement mixers
- Generators
- All-Terrain Vehicles (ATVs)
- Jackhammer
- Hoe Ram (breaker attachment to an excavator)
- Skillsaw, sawzall, chainsaws, and hand tools

Construction of new trail sections would take place by removing vegetation, roots, brush, organic soils and other unsuitable material within a 5 to 10-foot-wide corridor using the Sweco dozer and excavators as needed. Once the trail corridor is cleared, the trail tread would then be compacted using a compactor. Construction would not involve importing soils from off site, but rather use existing excavated soils from on site. If additional materials are needed to complete the project MCOSD will only use approved non-organic materials such as rock or crushed baserock. The proposed alignment was thoroughly evaluated and selected to avoid removing any large trees. However, it is possible that some minor tree removal and/or trimming may be required to accommodate the trail when the final alignment is determined in the field.

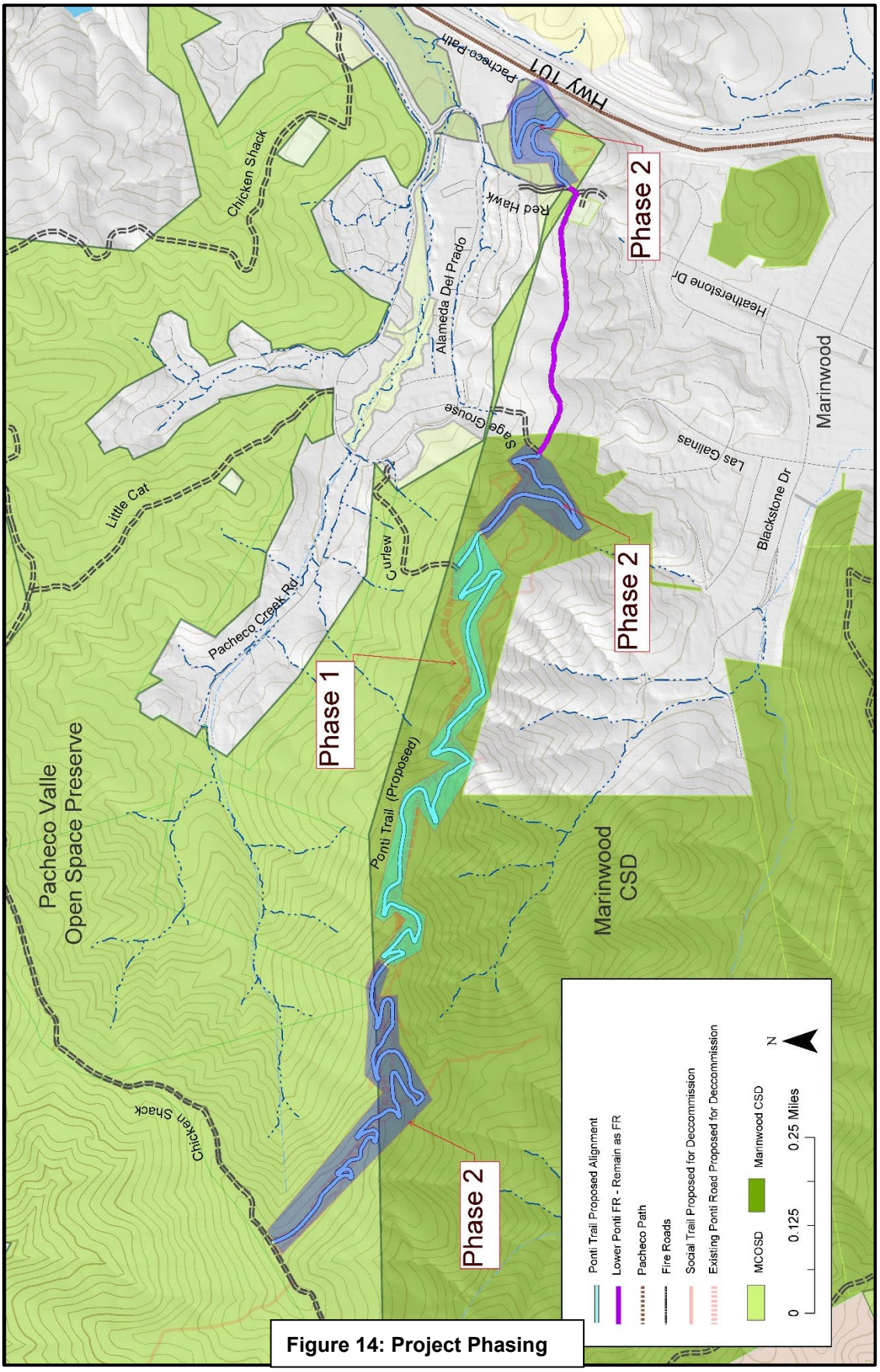

Figure 14: Project Phasing

Operation and Maintenance

After implementation of the proposed Project, MCOSD would incorporate the change in designation of the upper segment of the Ponti Fire Road to multi-use trail and would incorporate the new Pacheco Pathway Connector Trail into the Region 3 trail system. The Ponti Multi-Use Trail (re-aligned upper segment of the existing Ponti Fire Road), Ponti Fire Road (lower segment of the existing Ponti Fire Road), and the Pacheco Pathway Connector Trail would be open to hikers, bikers, equestrians, and dog walkers.

Visitor use may increase slightly as a result of the improvements to the trail system. A substantial increase in visitor use is not anticipated, primarily because there are not parking facilities provided at Pacheco Valle or Ignacio Valley Open Space Preserves and the proposed Project does not include any parking or other amenities to improve access to the trail system. Since visitors who would drive to Pacheco Valle and Ignacio Valley Open Space Preserves are limited to available on-street parking on public roads, visitor use at these facilities is functionally limited. For these reasons, while an increase in visitor use is anticipated, it is not expected to be substantial and would not contribute to potentially significant environmental impacts.

Once the trails are incorporated into the MCOSD trail system, the trails would be maintained by MCOSD staff. As the trails are designed to improve existing trail sustainability, this level of maintenance is expected to be low. Regular maintenance includes, brushing of the trail corridor, maintaining drainage structures, and clearing fallen trees and trail obstructions and would occur as needed. As part of the project, the decommissioned trail segment would be monitored to ensure revegetation is successful and to prevent continued use of the decommissioned trails. Minor work may occur as needed to prevent access to the decommissioned trails.

Required Approvals

The proposed project requires the following permits and approvals, which would be obtained prior to construction:

- Caltrans: Encroachment Permit
- Marinwood Community Services District: Right-of-Entry and/or Easement
- Regency Estates Homeowners Association: Right-of-Entry and/or Easement
- State Water Resources Control Board: Construction General Permit

Determination

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

☒ 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 revisions in the project have been made by or agreed to by the project proponent. 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.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature _____ Date _____

AESTHETICS

TABLE 1: AESTHETICS CHECKLIST QUESTIONS					
	Except as provided in Pubic Resources Code Section 20199, would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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 points)*. 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?	☐	☐	☐	☒

Setting

The project site is located within the Pacheco Valle Open Space Preserve, Ignacio Valley Open Space Preserve, and open space property within the unincorporated community of Marinwood. Pacheco Valle and Ignacio Valley Open Space Preserves are part of a contiguous band of open space preserves that also includes Lona Verde, Indian Valley, and Lucas Valley Open Space Preserves. Pacheco Valle Open Space Preserve is bordered by single-family residential development in the unincorporated neighborhoods of Marinwood and Lucas Valley to the south.

Elevations on the Pacheco Valle Open Space Preserve range from 240feet near the valley floor to 1,310 feet at the intersection of Ponti Fire Road with Chicken Shack Fire Road. Visitors can experience scenic vistas of the San Francisco Bay and Mount Tamalpais from multiple vantage points.[11] The Ponti Fire Road is located such that it is the watershed divide between Pacheco Creek to the north, a tributary to the Novato Creek, and Blackstone Canyon Creek to the south, a tributary to Miller Creek. Both of these watersheds drain to San Pablo Bay. The Ponti Fire Road passes through annual grassland, mixed woodland, and chaparral habitats. Much of the surrounding land is inaccessible and drops of precipitously into rugged, wooded canyons. The visual setting of the project area includes steep hillsides, scattered oak trees and open annual grasslands.

[11] PCI, 2017

Photo 8: Ponti Fire Road

Photo 9: Typical Visual Setting

CEQA Context.
Potentially significant environmental impacts associated with aesthetics can be subjective in nature because the response to aesthetics varies from person to person. In terms of methodology, potentially significant environmental impacts to aesthetics have been determined by identifying whether project elements would result in the loss or degradation of a scenic attribute or in a demonstrable negative effect to overall visual quality.

a) Would the Project have a substantial adverse effect on a scenic vista?
No Impact

A scenic vista can be defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Pacheco Valle and Ignacio Valley Open Space Preserves include scenic vistas and implementation of the proposed Project would not affect these existing scenic vistas. The proposed Project has been designed to avoid tree removal, however, implementation of the proposed Project may require removal of a small number of trees and/or removal of tree limbs along the trail corridor, if determined necessary during implementation. Tree removal and/or limbing would not result in a substantial adverse effect on scenic vistas. Construction activities could temporarily disrupt views within the specific Project area. These disruptions would be temporary in nature, limited to the area of construction only, and would not result in a substantial adverse effect on scenic vistas.

The Novato General Plan and Marin Countywide Plan do not contain any designated scenic vistas in the project area.[12] Therefore, implementation of the project would have no adverse impacts to scenic vistas and this impact would be less than significant.

b) Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
No Impact

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

[12] City of Novato, 1996 and Marin County, 2007

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.

As mentioned in the response to question (a), a few trees may require removal and/or limbing. This is not expected to result in a substantial adverse effect on scenic resources. No rock outcroppings would be affected by implementation of the proposed Project and no historic buildings are present within the Project area. There are no designated scenic highways in Marin County.[13] The proposed Project would not result in impacts to scenic sources within a scenic highway.

c) Would the Project 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 points)*. If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*)*

Less than Significant Impact

Visual character can be defined as the perceived contrast between the existing visual elements of an area with how the area will look after the Project is implemented as a measure of how compatible the Project, once implemented, will be with the existing environment.

Implementation of the proposed Project would result in temporary, small-scale visual impacts during construction in an area affected by existing trails, fire roads, and rural residential development near the trail heads. Construction of the proposed Project includes small modifications to the visual environment from the constructing trail improvements and re-routes and decommissioning of Ponti Fire Road segments.. These activities would include construction equipment staged at the site, disturbed land, and temporary stormwater protection measures such as straw wattles. Base rock, construction equipment including excavators, Sweco dozer, dump trucks, water tenders, carriers, compactors, cement mixers and other construction related materials would be temporarily stored on site prior during the construction period. Construction activities could temporarily disrupt views within the specific Project area. These disruptions would be temporary in nature and would be limited to the area of construction only and would not result in a substantial degradation to the existing visual character or quality of the project area and surroundings.

The proposed Project has been designed to avoid tree removal, however, implementation of the proposed Project may require removal of a small number of trees and/or removal of tree limbs along the trail corridor, if determined necessary during implementation. Tree removal and/or limbing would not result in a substantial degradation to the existing visual character or quality of the Project area and surroundings.

After construction, the new trail segments and decommissioned areas would be visible, but as new vegetation grows, it would soften the visibility of these changes. For the realigned Upper Point Fire Road, the trail length would be increased but the width would be reduced. Operation of the project would involve use of the trail for recreation, similar to existing conditions, and trail maintenance would occur as needed. Therefore, operation and maintenance of the proposed Project would have a less than significant impact on the visual character or quality of the Project area and surroundings.

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

No Impact

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

[13] Caltrans, 2018

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 leigh conditions. Light pollution is an unwanted consequence of outdoor lighting and includes such effects as sky glow, light trespass, and glare. 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 project area does not contain any stationary sources of light or glare, such as from buildings, exterior light sources, parking areas, or roadways. Existing conditions including headlamps from hikers and cyclists, bicycle headlights, vehicle headlights from vehicles using highway 101 and local roads, and from residential street lights and home interiors would continue to exist after the proposed Project is implemented. The proposed Project does not include any new sources of light or glare and, therefore, the project would not result in a significant impact.

AGRICULTURE AND FORESTRY RESOURCES

TABLE 2: AGRICULTURE AND FORESTRY RESOURCES CHECKLIST QUESTIONS					
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.					
	Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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 §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d)	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?	☐	☐	☐	☒

Setting

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 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.

Outdoor recreation activities within the Project area include horseback riding, hiking, dog walking, and biking. There are no agricultural or forestry activities within the Project area. The project area does not contain any prime, unique, or important farmland. The California Department of Conservation maps this area as "Other."[14]

CEQA Context

A Project would normally result in a significant impact to agriculture and/or forestry resources if the Project will alter existing agricultural land uses or land use designations. Generally, any conversion of land from one of the Farmland categories to a lesser quality category or a non-agricultural use would be a potentially significant impact.

a) Would the Project 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 a non-agricultural use?

No Impact

The Project area is not identified as farmland on the Farmland Mapping and Monitoring Program maps and does not contain agricultural or forestry use. The Project area would continue to be used for outdoor recreational use in the same capacity as existing use. In consideration of these factors, implementation of the proposed Project would not impact Farmland.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact

The Williamson Act is a state law that allows local governments to enter into contracts with private landowners that restrict specific lands to agricultural or open space use in return for a lower property-tax assessment. The proposed Project is not zoned for agricultural use and is not under a Williamson Act

[14] California Department of Conservation, 2018

contract. Therefore, implementation of the proposed Project would not result in an impact due to conflict with existing zoning for agricultural use or a Williamson Act contract.

c) Would the Project conflict with existing zoning for, or cause rezoning of, forest land *(as defined in Public Resources Code §12220(g)),* timberland *(as defined by Public Resources Code §4526),* or timberland zoned Timberland Production (as defined by Government Code §51104(g))?

No Impact

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 property is “Open Area” and “Conservation”. These zoning districts recognizes lands that have been committed to open space and the preservation of natural resources. acquired or dedicated for open space purposes and that are restricted in their use. Therefore, the proposed Project would not impact forestland, timberland, or timberland zoned Timberland Production.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact

The Project area is zoned for public recreation and is used for 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) Would the Project 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?

No Impact

The Project area is zoned for public recreation and is used for that purpose. The Project area is not used for any Farmland, agricultural, or forestry activities. Therefore, the implementation of the proposed 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.

AIR QUALITY

TABLE 3: AIR QUALITY CHECKLIST QUESTIONS					
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.					
	Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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 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 or dust)* adversely affecting a substantial number of people?	☐	☐	☐	☒

Setting

Marin County is part of the nine county San Francisco Bay Air Basin. Air quality in the region is affected by natural factors such as proximity to the bay and ocean, topography, and meteorology, as well as proximity to sources of air pollution. The Bay Area is characterized by its Mediterranean type climate with warm dry summers and cool wet winters.

The west coast and southern portions of Marin County are often subject to cool marine air and substantial fog. Temperatures in these areas remain steady through the year because of the nearby ocean. The eastern side of Marin County is warmer and has less fog, due in large part to its distance from the ocean. The extra distance from the ocean allows the marine air to be heated before arriving at eastern Marin cities. Prevailing winds throughout the county are generally from the northwest, with wind speeds highest along the west coast. Annual rainfall in the mountains is generally higher than in most parts of the Bay Area, averaging 37 to 49 inches. The majority of rainfall across the county occurs November through March.[15]

The ambient air quality in a region depends on the quantities of pollutants emitted within the area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, as well as the surrounding topography of the air basin. Air quality is described by the concentration of various pollutants in the atmosphere or the emissions of a pollutant or contaminant. Units of concentration are generally expressed in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$). Emissions are typically expressed as grams per mile, pounds per day, or tons per year.

Air quality studies generally focus on five pollutants that are most commonly measured and regulated: CO, O_3, NO_2, SO_2, and suspended particulate matter, i.e., PM10 and PM2.5. In Marin County, ozone and

[15] BAAQMD, 2016

particulate matter are the pollutants of greatest concern, as measured air pollutant levels exceed these concentrations at times.

Ground level ozone, often referred to as smog, is not emitted directly, but is formed in the atmosphere through complex chemical reactions. Fortunately, ozone is not a pollutant that adversely affects Marin County; however, emissions from motor vehicle use in Marin County contribute to high ozone levels in other parts of the Bay Area. Motor vehicles are the largest source of ozone precursor emissions, such as nitrogen oxides [NOx] and reactive organic gases [ROG], in the Bay Area. The Bay Area is currently classified as a federal and state nonattainment area for ozone.

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles ten microns or less in diameter are defined as "respirable particulate matter" or "PM10." Fine particles are 2.5 microns or less in diameter (PM2.5). These particulates can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the area is emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most PM2.5 is comprised of combustion products such as smoke or formed in the atmosphere from regional emissions of NOx. There are many sources of PM10 emissions, including combustion, industrial processes, grading and construction, and motor vehicles. The greatest quantity of PM10 emissions associated with motor vehicle uses is generated by re-suspended road dust. Reductions in motor vehicle miles traveled are necessary to reduce PM10 emissions, rather than changes to motor vehicle technology. Wood burning in fireplaces and stoves is another significant source of particulate matter, primarily PM2.5.

Air quality in Marin County is generally very good and with the exception of PM10 and PM2.5, the San Rafael air quality monitoring station has not reported any exceedances of ambient air quality standards over the past five years. The MCOSD confirmed this conclusion by reviewing current air quality data.[16]

CEQA Context

A Project would normally result in significant impacts to air quality if changes to existing air quality would result from construction, operation, use, and/or maintenance activities from implementation of the Project. The proposed Project has been evaluated to determine if changes to existing air quality would result from construction, public use, operations, and/or maintenance.

In addition to exhaust emissions caused by the use of mobile equipment, earthmoving activities would result in emissions of fugitive dust including PM10, which, given the relatively small amount of work to be accomplished with small heavy equipment, would not be expected to be significant. BAAQMD's approach to CEQA analyses of construction emissions is to emphasize the implementation of control measures rather than require detailed quantification of emissions. BAAQMD recommends implementation of a set of feasible fugitive PM10 control measures for construction projects of all sizes.

a) Would the Project conflict with or obstruct implementation of the applicable air quality plan? No Impact

The emissions inventories used to develop the region's air quality attainment plans are based primarily on projected population growth and vehicle miles traveled (VMT) for the region, which are based, in part, on the planned growth identified in regional and community plans. As such, projects that would result in increases in population or employment growth beyond that projected in regional or community plans could result in increases in VMT above that planned in the attainment plan, resulting in mobile-source emissions

[16] BAAQMD, 2016

that could conflict with a region's air quality planning efforts. Increases in VMT beyond that projected in area plans generally would be considered to have a significant adverse incremental effect on the region's ability to attain or maintain state and federal ambient air quality standards. The proposed Project will neither increase population nor employment, and therefore would not increase VMT for the region.

The most recently adopted air quality plan for the San Francisco Bay Area is the 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 CAP). The 2017 CAP focuses on two closely-related BAAQMD goals: protecting public health and protecting the climate. The consistency of the proposed Project with this regional plan is primarily a question of the consistency with the population and employment assumptions utilized in developing the 2017 CAP, which were based on projections from the Association of Bay Area Governments (ABAG). The proposed Project is consistent with the CAP and would not result in population growth through the construction of new residences or development. As a result, the proposed Project is consistent with the current growth projections in the 2017 CAP. In addition, determining the consistency with the 2017 CAP involves assessing whether applicable control measures contained in the 2017 CAP are implemented. The 2017 CAP includes approximately 85 control measures, consistent with the state's climate protection goals aimed at reducing Bay Area greenhouse gas (GHG) emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. These control measures are divided into nine control measure categories that include:[17]

- Stationary (Industrial) Sources;
- Transportation;
- Energy;
- Agriculture;
- Water;
- Waste;
- Buildings;
- Natural and Working Lands; and
- Super-GHG Pollutants.

BAAQMD recommends that the agency approving a Project where an air quality plan consistency determination is required analyze the project with respect to the following questions:

1) Does the project support the primary goals of the air quality plan?
2) Does the project include applicable control measures from the air quality plan? and
3) Does the project disrupt or hinder implementation of any 2017 CAP control measures?

If all the questions are concluded in the affirmative, BAAQMD considers the project consistent with air quality plans prepared for the Bay Area.[18] Any project that would not support the 2017 CAP goals would not be considered consistent with the 2017 CAP, and if approval of the project would not result in significant and unavoidable air quality impacts after the application of mitigation, then the project would be considered consistent with the 2017 CAP.

The proposed Project would not result in new long-term operations-related emissions and construction-related emissions would be short-term and less than significant; therefore, the project would support the primary goals of the 2017 CAP. The proposed Project would incorporate all feasible air quality plan control measures and therefore is consistent with the 2017 CAP. Additionally, the proposed Project would incorporate the RTMP Air Quality BMPs previously referenced and therefore, it would support the primary goals of the 2017 CAP and it would not disrupt or hinder implementation of any 2017 CAP control measures.

[17] BAAQMD, 2017
[18] BAAQMD, 2012

For these reasons, implementation of the proposed Project would not result in a conflict with or obstruct implementation of the applicable air quality plan.

- Air Quality-1: Implement BAAQMD Measures
- Air Quality-2: Minimize Dust Control Emissions during Construction
- Air Quality-2: Enhanced Dust Control during Construction
- Air Quality-4: Dust control during Construction in Sensitive Resource Areas

b) Would the Project 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?

No Impact

Generally, no single project, in and of itself, is sufficient in size to result in cumulatively considerable net increase of any criteria pollutant, regardless of non-attainment of ambient air quality standards. As such, a project's individual emissions may contribute to existing cumulatively significant adverse air quality impacts. According to the BAAQMD's CEQA Guidelines, any project that does not individually result in significant air quality impacts, determination of a project's significant cumulative impact is based on consistency of the project with air quality control measures contained in local and regional air quality plans.[19]

The proposed Project would result in minor criteria pollutant emissions during both construction and operation of the project. Implementation of the proposed Project would require use of heavy equipment, which would release criteria pollutant emissions. Emissions would also result from MCOSD employees and contractors driving to and from the site. These would be temporary, short-term, construction-related sources of emissions that would cease after implementation of the proposed Project. Emission sources associated with operation of the proposed Project would be associated with visitors driving to and from the project area and from regular maintenance activities. These are existing sources of emissions that are not expected to substantially increase after implementation of the proposed Project.

To determine the significance of the project's impact related to its potential to cause or contribute to an air quality standard violation, Marin County uses the screening criteria provided in the 2010 CEQA Air Quality Guidelines. The BAAQMD 2010 CEQA Guidelines are appropriate for the Project and the analysis prepared by BAAQMD Appendix D of the 2011 CEQA Air Quality Guidelines provided justification and substantial evidence supporting the thresholds identified. The BAAQMD CEQA Air Quality Guidelines do not have specific screening criteria for a project identical to the proposed Project. Table 3-1 of those guidelines entitled "Criteria Air Pollutants and Precursors and Greenhouse Gas Screening Level Sizes" shows that, for a "city park," the operational criteria for pollutant screening size would be 2,613 acres, the operational GHG screening size would be 600 acres and the construction criteria for pollutant screening size would be 67 acres for particulate matter with particles having a diameter of 10 micrometers or less (PM10).

The proposed Project would entail disturbance of approximately 1.7 acres associated with realigning the upper segment of the Ponti Fire Road, 0.22 acres associated with construction of the new Pacheco Pathway Connector Trail, two acres associated with decommissioning sections of the existing Ponti Fire Road that would become redundant after implementation of the proposed project, and 0.85 acres associated with decommissioning unsanctioned trails. In total, implementation of the proposed Project would disturb approximately 4.77 acres and therefore below the screening criteria identified for work within a city park. Emissions resulting from operation would be less than significant as associated emissions would be similar

[19] BAAQMD 2010

to existing conditions. The trail would be patrolled by existing staff and overall maintenance would be low as a result of improved trail sustainability from trail design and construction methods.

MCOSD would implement the previously referenced RTMP Air Quality BMPs 1 through 4 to reduce fugitive dust impacts during construction of the project.

As the proposed Project would incorporate the BAAQMD measures to reduce fugitive dust emissions and given the small scale and construction duration of the project, implementation of the proposed Project would not result in emissions, such as those leading to impacts from fugitive dust emissions would be less-than-significant. With incorporation of these BMPs into the project and the low-impact nature of the proposal, the improvements to the network of trails within the Project area would result in less than significant impacts under this criterion.

The proposed Project would incorporate the previously referenced RTMP BMPs Air Quality 1 through 4 and BAAQMD's BMPs for controlling fugitive dust and therefore, the proposed Project would not result in individual significant air quality impacts and the would not result in a conflict with the governing General Plans, Climate Action Plans, or BAAQMD's regional air quality plan. As such, the proposed Project would not generate cumulatively considerable construction or operational-related air emissions and there would be no contribution to cumulative air quality impacts.

Based on BAAQMD guidance, a project's emissions would have a significant cumulative impact if a project would exceed the significance thresholds. The short-term construction emissions associated with the proposed Project would be less than significant with implementation of applicable BMPs and the proposed Project would not result in substantial long-term operational emissions. Therefore, neither construction nor operation of the project would be cumulatively considerable, and implementation of the proposed Project would not result in impacts associated with any criteria pollutant.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations?
No Impact

Sensitive receptors are facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas. Sensitive receptors within the project area include park visitors and wildlife. Land uses surrounding the project area include residential communities, with the nearest located approximately 0.5 miles from the project area and the Mary Silveira Elementary School, which is approximately 0.38 miles from project area to the south of Pacheco Valle Open Space Preserve.

Implementation of the proposed Project would contribute to a minor temporary increase in air pollutants during project implementation as a result of vehicle emissions, operating construction equipment, and on-going maintenance activities. Much of the operational emissions would be from vehicles traveling to and from the project area, which would not result in localized concentrations of any criteria air pollutants and impacts to sensitive receptors would be less than significant. Additionally, implementation of the proposed Project would not significantly impact wildlife because the proposed Project would not generate substantial pollutant concentrations.

Construction and maintenance activities would result in temporary, short-term emissions of diesel particulate matter from vehicle and construction equipment exhaust. These short-term emissions would not result in air emissions that would, in turn, result in or contribute to an air quality violation. Moreover, mobilized equipment used for construction activities would be temporary at any on location and as standard practice, MCOSD would restrict public access near the construction area. For these reasons, construction activities would not expose sensitive receptors to increased levels of diesel PM. Fugitive dust emissions associated with construction-related ground disturbance likewise would not result in exposing sensitive receptors to substantial pollutant concentrations as the MCOSD would implement the previously referenced RTMP BMPs Air Quality 1 through 4.

Construction equipment can produce substantial amounts of diesel particulate matter (DPM), which was identified by the California Air Resources Board as a toxic air contaminate (TAC) in 1998. 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 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.[20] However, such health risk assessments should be limited to the duration of the emission-producing activities associated with the project.

Under current conditions, DPM emissions may result from regular maintenance activities such as mowing and weeding, including from rangers and maintenance staff driving to and from the preserve. The nearest potential sensitive receptors to the proposed project site is a private residence approximately 200 feet from the project area. Construction of the proposed Project would generate DPM emissions from the use of heavy equipment. DPM emissions generated in the vicinity of any one sensitive receptor location would be very limited as the project would take place within open space areas and construction equipment would only remain in one location for a matter of weeks as work progresses along the entire alignment. These receptors would not be affected by DPM emissions given the distance. DPM emissions near the residences would be very limited as a result of the small size of equipment used to construct trail projects compared to a typical construction project. The proposed Project would incorporate the previously referenced RTMP Air Quality BMPs previously referenced and therefore would not expose sensitive receptors to substantial pollutant concentrations.

Long-term operation of the proposed project would not result in new TAC emissions. Regular operation and maintenance emissions would be similar to existing emissions from MCOSD Park Ranger trucks, most of which use gasoline and not diesel fuel, driving to patrol the site and maintenance crews and equipment. The proposed Project would not result in long-term or chronic exposure to substantial pollution concentrations. For these reasons, implementation of the proposed Project would not result in exposing sensitive receptors to substantial pollutant concentrations.

d) Would the Project result in other emissions, such as those leading to odors, adversely affecting a substantial number of people?

No Impact

There are not air quality standards for odors however, the BAAQMD has established Regulation 7 – Odorous Emissions to address odor. Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Offensive odors rarely impact public health; however, they can negatively impact quality of life. Factors including the location of potential sources of odors and the location of potential receptors to the source of odor have been considered to determine the potentially significant effects from implementation of the proposed Project on people. Odor impacts are subjective in nature and related, to some degree, to the distance for the origin of the odor to the receptor.

In general, the types of land uses that pose potential odor problems include refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and transfer stations. Implementation of the proposed Project would neither result in any major sources of odor nor introduce land uses that would pose potential odor problems. Project-related emissions, including particulate matter, carbon monoxide, diesel exhaust, and fuel vapors, have the potential to result in short-term generation of odors. However, potential odors would be temporary and would dissipate rapidly in the air, decreasing with increasing distance from the source, thus minimizing any potential exposure to nearby residents or visitors to areas of the open space areas that would remain open during implementation of the proposed Project. Fore these reasons,

[20] OEHHA, 2003

implementation of the proposed Project would not result in emissions, including those leading to odors, that would adversely affect a substantial number of people.

Odors often consist of a mixture or blend of various odorous and/or volatile organic compounds. A human's odor detection sensitivity varies from person to person and also differs between genders and among age groups. Since the detection of odors is widely variable, the odor intensity, which is the perceived strength of the odor sensation, is also variable among people. Odors are not regulated under the Federal or State Clean Air Acts; however, they are considered in impact analysis pursuant to CEQA.

There are currently no sources of odor at the project site, such as wastewater treatment plants or other processing facilities. Minor odors may result from occasional maintenance equipment being used at the site. Diesel equipment used to construct the project may emit objectionable odors associated with combustion of diesel fuel. These emissions may be noticeable from time to time by people using the preserve for recreation; however, the project area is located at the very top of the preserve, which limits the number of nearby residents and other receptors that would notice the odors. Construction would progress along the trail alignment and as such, equipment would remain in one place for a few weeks at a time, which further limits exposure. The emissions are not likely to have adverse effects on surrounding uses to such an extent that people would file odor complaints due to the limited extent of construction and small number of equipment required to perform the work. After construction is complete, the proposed Project would not include any sources of odors that would cause problems for surrounding uses because operation would only require maintenance with equipment on a limited basis. For these reasons, implementation of the proposed Project would not result in emissions, such as those leading to odors, adversely affecting a substantial number of people.

BIOLOGICAL RESOURCES

TABLE 4: BIOLOGICAL RESOURCES CHECKLIST QUESTIONS					
	Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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 California Department of Fish and Wildlife 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 California Department of Fish and Wildlife 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?	☐	☐	☐	☒

Setting

The Pacheco Valle and Ignacio Valley Open Space Preserves are contiguous with the Loma Verde, and Indian Valley Preserves, owned and managed by MCOSD, and the Marinwood Open Space, owned and managed by Marinwood Community Service District. Collectively, these lands encompass the entire northern slope of eastern Big Rock Ridge, Pacheco Creek, and the Blackstone Canyon corridor between Novato and Marinwood. These protected lands are traversed by a number of fire roads and non-designated trails accessible by multiple entry points from the nearby residential communities.

Ponti Fire Road traverses the Pacheco Valle Preserve, to the north, and the Marinwood Open Space, to the south. The road follows the ridgeline in an east-west direction for approximately 1.75 miles. Elevations climb from 240 feet at the lower trailheads to 1,310 feet at the intersection with Chicken Shack Fire Road at the ridgeline. It is accessible from Redhawk and Sage Grouse Roads, Pacheco Creek Drive in Pacheco Valle, which are multiuse fire roads, and from Heatherstone Drive, which is a hiking only trail, in Marinwood. The Ponti Fire Road passes through annual grassland, mixed woodland, and chaparral habitats. Much of the surrounding land is inaccessible and drops precipitously into rugged, wooded canyons. The fire road serves as the watershed divide between Pacheco Creek to the north, a tributary to Novato Creek, and Blackstone Canyon Creek to the south, a tributary to Miller Creek; both watersheds drain to San Pablo Bay. It provides scenic vistas of the San Francisco Bay and Mount Tamalpais from multiple vantage points.

The lower elevations along Ponti Fire Road are dominated by valley oak, coast live oak, and California bay woodland with an open understory. These woodlands area interspersed with non-native annual grassland. At the upper elevations, the woodlands are dominated by madrone forest and intermixed with California bay and coast live oak. Understory species include madrone, manzanita, and sticky monkeyflower. California bay is dominant on the mesic north-facing slopes and coast live oak dominates on the drier, south-facing slopes. At the upper elevations, patches of chaparral are present on the south-facing ridgeline. Annual grassland is also interspersed within the chaparral. Small patches of native grassland, Oregon oak, and a wetland seep are also present.[21]

The project area supports a mosaic of plant communities including woodlands, chaparral, grassland, and a small wetland seep. The lower elevations of Ponti Fire Road are dominated by valley oak, coast live oak, and California bay savanna with an open understory. These woodlands are interspersed with non-native annual grassland. At the upper elevations, the woodlands are dominated by madrone forest and intermixed with California bay and coast live oak. California bay is dominant on the mesic north-facing slopes and coast live oak on the drier, south-facing slopes. At the upper elevations, patches of chaparral are present on the south-facing ridgeline. Annual grassland is also interspersed within the chaparral. Small patches of native grassland, Oregon oak, and a wetland seep are present as well. Habitats on the property offer nesting habitat, food, shelter, water, and migratory corridors for both common and special-status animals. One special-status plant species, bristly leptosiphon, is known to occur within the project area.

There are two stands of invasive French broom (*Genista monspessulana*) within the project area. These occur in relatively small, isolated patches. One patch is located directly along the lower segment of Ponti Fire Road. The site also supports non-native annual grassland, especially along the lower segment. This plant community is widespread around Marin County. Many of the grassland species present within the project area occur throughout the Pacheco Valle Open Space Preserve. The species present are not considered noxious or of high concern.

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

[21] PCI, 2017

and woodlands. Incidences of SOD have also been confirmed on the Pacheco Valle Open Space Preserve.[22] SOD mortalities have created heavy fuel loads in some forested areas in the region.

Botanical and Biological Resources Assessments

Information regarding existing biological resources within the project area was obtained from multiple sources, including professional knowledge and field experience of MCOSD staff biologists and assessments prepared by consultants. The consultant-prepared assessments contain detailed descriptions of existing conditions and conclusions regarding presence or absence of sensitive biological resources. Special-status species[23] are plants and animals with legal protection under the state and/or federal Endangered Species Acts, ESA and CESA, respectively[24] or other applicable regulations. Also included are other species that the scientific community and responsible/trustee agencies considers rare enough to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. The botanical and biological resources assessments are summarized below and are available for review at the MCOSD office.

Botanical Assessment of Ponti Ridge, Pacheco Valle Preserve and Addendum. The Botanical Assessment was prepared in 2017[25] and the Addendum was prepared in 2018[26] by Shelly Benson, Biological Consultant (Benson 2017 and 2018, respectively). Together, these assessments identified special status species with potential to occur within the project area and rare natural communities on Ponti Ridge. Records from the California Natural Diversity Database (CNDDB), U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Trust Resource List, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants, Calflora, Marin County documents and reports including MCOSD rare plant GIS files and vegetation map. Focused botanical surveys of the project area were conducted by Benson[27] to evaluate for potential presence within the project area. The database searches identified 45 species as having potential to occur based on habitat requirements and record of occurrences in the general vicinity, though none of those species were identified as special status. In 2017, three surveys were made during the early-, mid-, and late-blooming season to provide a comprehensive description of the species within the project area on May 1, 17, and June 29, 2017. A follow-up survey was

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[22] Oak Mapper, 2019

[23] In California, special-status plants and animals include those species that are afforded legal protection under the federal and California Endangered Species Acts and other regulations. These species must be considered during project evaluation to comply with CEQA, during consultation with State and federal resources agencies, and in development of specific management guidelines for resource protection. Special-status species are defined as the following:

- Species listed or proposed for listing as threatened or endangered under the federal ESA;
- Species listed or proposed for listing as threatened or endangered under CESA;
- Species that are recognized as candidates for future listing by agencies with resource management responsibilities, such as U.S. Fish and Wildlife Service (USFWS), NOAA's National Marine Fisheries Service (NOAA Fisheries), 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 as California Rare Plant Rank 1, 2 and 3 under CEQA (CEQA Guidelines Section 15380); and some list 4 plants based on CNPS guidelines;
- Species that otherwise meet the definition of rare, threatened, or endangered pursuant to Section 15380 of the 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".

[24] The federal Endangered Species Act (FESA) of 1973 declares that all federal departments and agencies shall use their authority to conserve endangered and threatened plant and animal species. The California Endangered Species Act (CESA) of 1984 parallels the policies of FESA and pertains to native California species.

[25] Benson, 2017

[26] Benson, 2018

[27] Benson, 2017 and 2018

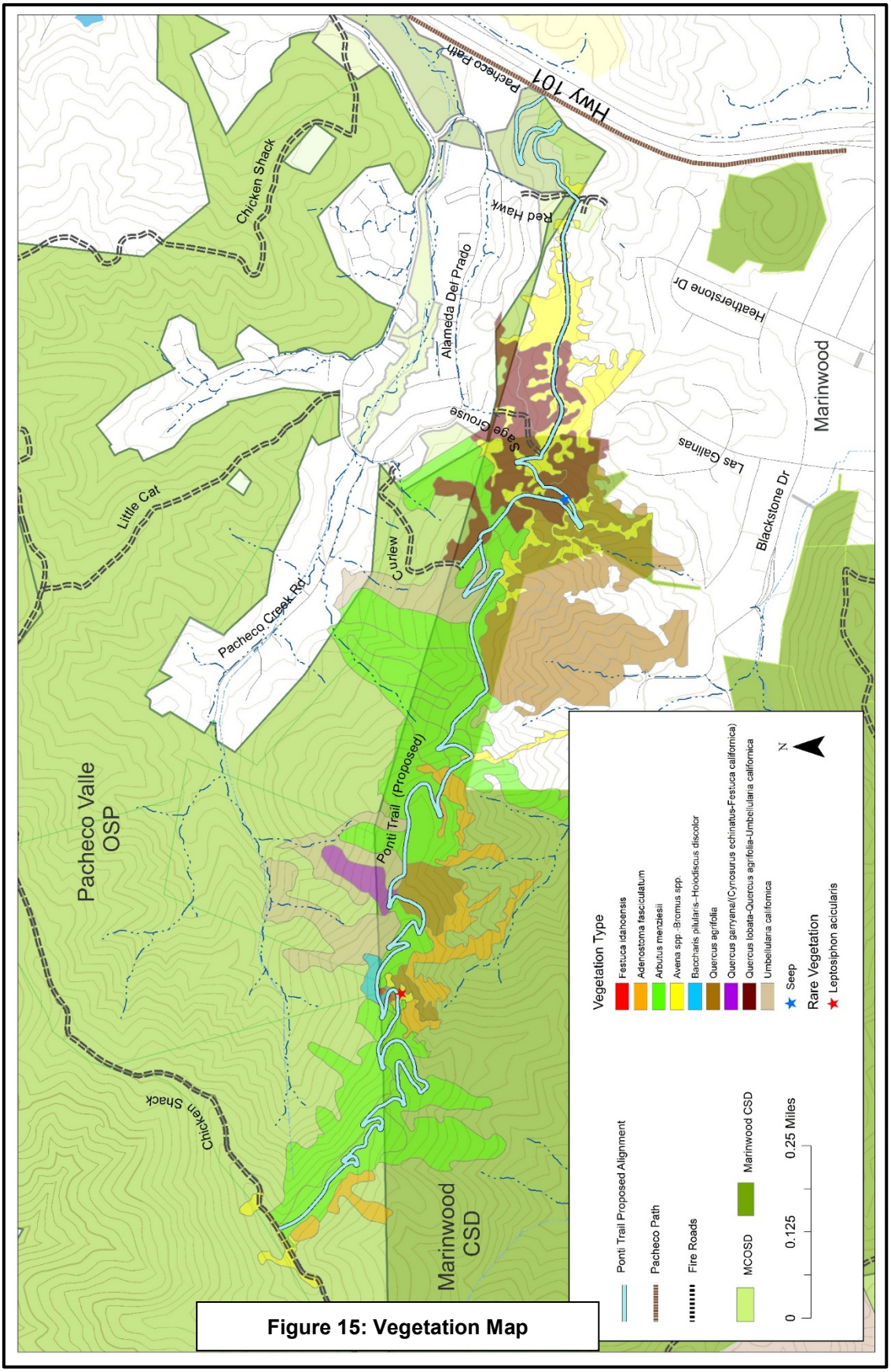

Figure 15: Vegetation Map

conducted on April 30, 2018 to evaluate additional areas of interest along the fire road that were not part of the 2017 surveys. The survey method used was the "complete survey"[28] consisted of a 100 percent visual examination of the project area using transects, and was floristic in nature, meaning that every plant taxon observed within the project area was identified to the taxonomic level necessary to determine rarity and listing status. The field survey documented populations of one special status plant species, four rare natural communities, and four non-sensitive plant communities, which are summarized in Table 5, and located a seasonal seep. Vegetation communities were identified to the alliance or association level using the standards outlined in A Manual of California Vegetation.[29] Figure 15 is a graphic showing the location of the plant communities, *Leptosiphon acicularis*, and the seasonal seep

Biological Resources Assessment, Ponti Ridge - Pacheco Valle Preserve. The Biological Resources Assessment was prepared in 2017 by Prunuske Chatham, Inc (PCI). It incorporated the 2017 Botanical Assessment prepared by Shelly Benson, provided a wildlife assessment of the project area, and provided recommendations to more effectively protect biological resources. These recommendations have been incorporated into the proposed Project. Sources reviewed for the wildlife assessment included the CNDDB, CDFW Natural Communities List, IPaC Trust Resource List, MCOSD Vegetation and Biodiversity Management Plan, Acoustic Monitoring for Bats at Indian Valley and Ignacio Valley Open Space Preserves, and various field guides and general reverences. A field survey for wildlife was completed on October 3, 2017. It included a general inventory of habitats within the project area and documented wildlife species observed or potentially occurring. Focused surveys for special-status wildlife species were not conducted as the primary purposes of the assessment was to determine whether suitable habitat for special-status wildlife species is present within the project area and to identify potential biological constraints. The potential for presence of a special-status wildlife species and habitats was determined based on habitat conditions, presence or absence of unique habitat features, proximity of the surveyed area to reported occurrences, and geographic ranges of relevant species. Five special-status animal species have been documented within the Preserve by Marin County staff or their consultants. Five additional species have a high to moderate potential to occur within the project area based regional occurrence data.

Special-status Plants and Sensitive Natural Communities. The Ponti Fire Road project area supports nine vegetation communities, which are listed in Table 5. Communities present include non-sensitive types including small patches of coast live oak woodland, chamise chaparral, coyote brush-ocean spray scrub, and non-native annual grassland; and sensitive types including madrone forest, Idaho fescue grassland, Oregon white oak/California fescue woodland, valley oak - coast live oak- California bay woodland, and California bay woodland. Sensitive natural communities are discussed below. Although Pacheco Valle Open Space Preserve is relatively rich in native plant species, only one special-status plant species, bristly leptosiphon *(Leptosiphon acicularis)*, was documented within the project area during project-specific surveys. The following descriptions and photos of sensitive natural communities are excerpted from the 2017 Botanical Assessment prepared by Shelly Benson.

[28] BLM, 2009
[29] Sawyer et al. 2009

TABLE 5: SPECIAL STATUS PLANT SPECIES AND NATURAL COMMUNITIES WITHIN THE PROJECT AREA		
Scientific Name	**Common Name**	**Status***
Special Status Plants		
Leptosiphon acicularis	Bristly leptosiphon	CRPR 4.2
Sensitive Natural Communities		
Arbutus menziesii Alliance	Madrone forest	CDFW S3.2
Sensitive Natural Communities		
Arbutus menziesii Alliance	Madrone forest	CDFW S3.2
Festuca idahoensis Alliance	Idaho fescue grassland	CDFW S3?
Quercus garryana/(Cynosurus echinatus-Festuca californica) Association	Oregon white oak/California fescue woodland	CDFW S3?
Quercus lobata-Quercus agrifolia-Umbellularia californica Association	Valley oak, coast live oak, and California bay savannah	CDFW S3
Non-Sensitive Natural Communities		
Adenostoma fasciculatum Alliance	Chamise chapparral	
Avena ssp. *Bromus* ssp.Alliance	Non-native annual grassland	
Baccharis pilularis (Holodiscus discolor) Association	Coyote brush – ocean spray scrub	
Quercus agrifolia Alliance	Coast live oak woodland	

***Status Key**	
CRPR 4.2:	Species listed on the CNPS Inventory have a California Rare Plant Rank (CRPR). Rarity Rank 4 means Plants of Limited Distribution – A Watch List. Threat Rank 0.2 means the species is fairly threatened in California, with 20 – 80 percent of occurrences threatened or a moderate degree and immediacy of threat.
CDFW S3:	S-Rank 3 means the species is vulnerable – at moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
	S-Rank 3.2 are plants about which more information is needed, considered fairly threatened in California.
	Rank 3? Denotes plants for which an exact rank is not possible due to insufficient samples over the full expected range of the species but for which existing information points to this rank.

Bristly leptosiphon is a small annual herb found on grassy slopes and flats, often on serpentine but also on thin soils of other parent material. It occurs primarily in chaparral, woodland, coastal prairie, and valley and foothill grasslands. It blooms from April through July.

Several small patches of plants were documented within the project area, as shown on Figure 15. The first occurrence was documented in 2017 on the south-facing slope of a grassy knoll bordering a stand of chamise chaparral. This western population is located approximately 2,000 feet east of the intersection of Ponti Fire Road and Chicken Shack Fire Road. There were over 50 plants in a six-foot diameter area. The extent of the occurrence may be larger, but it was difficult to detect the plants because most had gone to seed. At the time, ten percent flowering and the remaining 90 percent were fruiting or had already gone to seed. Plants were growing in pockets of thin non-serpentine soil with little vegetative cover.

In 2018, two new occurrences were found outside the first occurrence. Plants were documented at Sage Grouse Road growing in and along the edge of the roadbed. The area was approximately 20 feet long by 13 feet wide. The population was estimated at 1,000-10,000 individuals and plants were at peak bloom, with 100 percent of the plants flowering. The surrounding habitat was a small stand of non-native annual grassland within a mixed oak woodland. The second occurrence was on Ponti Fire Road approximately 500 feet east of the junction with Sage Grouse Road. The plants were growing along the road, in a swath 20 feet long by 13 feet wide. Approximately 100 individuals were observed, and all were in bloom.

Photo 10: *Leptosiphon acicularis* habitat, the bright green patches in the grassland are *Acmispon glaber.*

Photo 11: *L. acicularis* in bloom.

***Arbutus menziesii* Alliance, madrone forest**. The most common vegetation community in the survey area was *Arbutus menziesii* alliance. Associated tree species included *Quercus agrifolia* and *Umbellularia californica.* The relative abundance of these tree species varied along the ridgeline in response to microclimate conditions. In mesic[30] stands, *U. californica* was codominant with *A. menziesii* and in xeric[31] stands, *Q. agrifolia* was codominant with *A. menziesii*. Stands with an intermediate moisture regime were often dominated by *A. menziesii*. In general, stands with *U. californica* occurred on the north side of the ridge and stands with *Q. agrifolia* were found along the ridge crest and on south-facing slopes. Understory vegetation in pure stands of *A. menziesii* and mixed stands of *A. menziesii* and *U. californica* was sparse. The understory in *A. menziesii*-*Q. agrifolia* stands was relatively open with scattered shrubs (*Arctostaphylos manzanita*, *Frangula californica,* and *Mimulus aurantiacus*) and a mixture of grasses including *Agrostis* sp., *Briza maxima*, *Bromus laevipes, Elymus glaucus,* and *Festuca californica.*

***Festuca idahoensis* Alliance, Idaho fescue grassland.** A small stand of native bunchgrass, *Festuca idahoensis* alliance, was mapped on the opposite side of the ridge from the *L. acicularis* occurrence. The stand was on a moderately-steep, north-facing slope and measured 550m^2. It contained a diverse mix of native perennial grasses and forbs. Based on historical images in Google Earth, it appears that *Baccharis pilularis* has been expanding in the meadow. Without management action or a natural disturbance that would reduce *B. pilularis* cover, it is likely that this small *F. idahoensis* grassland will convert to shrubland in the future.

Photo 12: *Arbutus menziesii* stand with *Quercus agrifolia* as a codominant species in the tree layer.

Photo 13: *Festuca idahoensis* alliance, foreground, with *Baccharis pilularis* and *Mimulus aurantiacus* encroaching on the grassland, upper right corner.

[30] Mesic refers to an environment or habitat containing a moderate amount of moisture
[31] Xeric refers to a dry environment or habitat

***Quercus garryana* (*Cynosurus echinatus-Festuca californica*) Association, Oregon white oak/California fescue woodland.** One stand of *Quercus garryana/(Cynosurus echinatus-Festuca californica*) association was mapped along a nose on the north side of the ridge. It was flanked on either side by *Umbellularia californica* alliance in the drainages. The tree layer was composed entirely of *Q. garryana,* which formed a relatively closed canopy. The understory was dominated by large tussocks of *Festuca californica.* Most of this stand lay outside the survey area.

Quercus lobata - Quercus agrifolia - Umbellularia Californica Association. The lower segment of the Ponti Ridge Fire Road passed through open oak savannah with an understory of non-native annual grasses. This community was classified as *Q. lobata-Q. agrifolia-Umbellularia californica* Association. This vegetation type is characterized by a codominance of the three species that define it (*Q. lobata, Q. agrifolia,* and *U. californica)*.

Seasonal seep. A seasonal seep was mapped in a *Q. lobata-Q. agrifolia-Umbellularia californica* savannah. It was dominated by rush (*Juncas pattens)* and measured approximately 75 square meters. Associated species included Diego bent grass (*Agrostis pallens*), split awn sedge (*Carex tumulicola*), California oatgrass (*Danthonia californica*), and Yampah (*Perideridia kelloggii*).

Photo 14: *Festuca californica* in the understory of a *Quercus garryana* woodland.

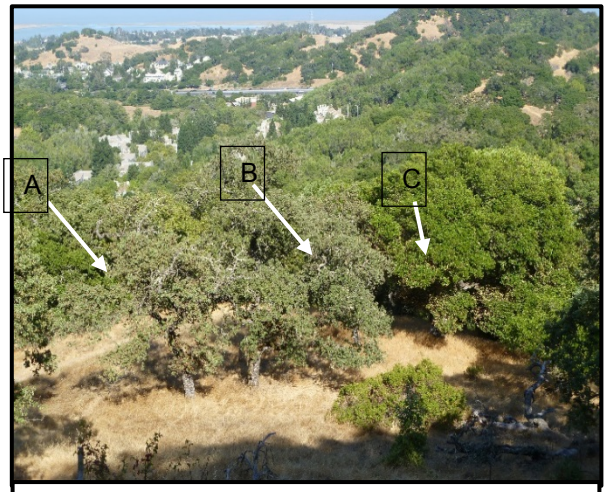

Photo 15: *Quercus lobate - Q. agrifolia-Umbellularia Californica* Association.
(A) *Q. lobata*
(B) *Q. agrifolia*
(C) *Q. Californica*

Native oak-bay woodlands comprise the majority of the wooded areas within the project area. These woodlands provide suitable habitat for a variety of terrestrial birds, mammals, amphibians, and reptiles. Birds represent the most abundant and prominent wildlife species within this habitat. Year-round resident birds observed included California scrub jay (*Aphelocoma californica*)[32], oak titmouse (*Baeolophus inornatus*), California quail (*Callipepla californica*), dark-eyed junco (*Junco hyemalis*), spotted towhee (*Pipilo crissalis*), and chestnut-backed chickadee (*Poecile rufescens*). Tree-climbing birds such as downy and acorn woodpeckers (*Picoides pubescens*, *Melanerpes formicivorus*), white-breasted nuthatch (*Sitta carolinensis*), and brown creeper (*Certhia americana*) were also seen. Casual winter residents included ruby-crowned kinglet (*Regulus calendula*) and yellow-rumped warbler (*Dendroica coronate*). A large flock of band-tailed pigeons (*Columba fasciata*) was seen repeatedly within the survey area.

[32] Referred to as western scrub jay in the PCI report

Suitable foraging and nesting habitats also exist for raptors; both red-shouldered and red-tailed hawks (*Buteo lineatus*, *B. jamaicensis*) were observed. Small vertebrates within the habitat are likely to serve as a food source for predatory birds. The larger oaks and bays are prime habitat for nesting raptors. Nocturnal avian predators may also be present.

The woodland habitats support a variety of mammals. Isolated habitats free of human disturbance provide escape, cover, and rearing sites for a number of larger mammals, including coyote (*Canis latrans*), bobcat (*Lynx rufus*), and gray fox (*Urocyon cinereoargenteus*); scat of all three species was observed within the project area. The presence of a large number of vertebrate species, such as birds, small mammals, and herpetofauna, may serve as a significant food source for these larger predatory mammals. Additional mammal species documented included black-tailed deer (*Odocolileus hemionus*) and western gray squirrel (*Sciurus griseus*). Bat species may forage over the woodlands and roost in larger trees. In many locations, game trails and informal trails were seen off the fire road. Deer were abundant throughout the project area. Within the woodland floor, woody debris piles and layers of duff provide potential habitat for amphibians. No amphibian species were observed during the biological assessment. Coast Range fence lizards (*Sceloporus occidentalis bocourtii*) were seen throughout the project area.

Annual grasslands and grassy openings are present within the woodlands and at the eastern end of the ridge. Grasslands provide important habitat for wildlife, but many species also require special habitat features (i.e., rocky outcroppings, woody cover, shrubs) and habitat margins to meet their needs. Grasslands provide foraging opportunities for a number of bird species who are attracted to seeds, other plant material, invertebrates, and small vertebrates. Species such as the western bluebird (*Sialia mexicana*), American goldfinch (*Carduelis tristis*), and black phoebe (*Sayornis nigricans*) were observed foraging in these open areas. The grassland openings among the more densely wooded areas provide foraging habitat for predatory hawks and owls, such as red-shouldered and red-tailed hawks observed in the project area. Small vertebrates and invertebrates within the habitat are likely to serve as a food source for these birds and other predatory vertebrates. Patches of perennial grasses and forbs add to the habitat's complexity and provide additional foraging opportunities. Native butterflies observed included California buckeye (*Junonia coenia*) and California sister (*Adelpha californica*).

Chaparral occurs in the upper elevations of the ridgeline. Chaparral provide habitat for a wide variety of wildlife adapted to shrub-dominated environments. Numerous rodent species inhabit chaparral, and deer and other herbivores make extensive use of it for browsing and protective cover. Some small herbivores use chaparral species in fall and winter when grasses are not abundant. Shrubs are important to many mammals, such as bobcat and gray fox as shade during hot weather. Chaparral provides a variety of resources for birds in the form of seeds, fruits, insects, protection from predators and climate, as well as singing, roosting, and nesting sites. Wildlife observed in the chaparral included California quail, western scrub-jay, Bewick's wren (*Thryomanes bewickii*), and spotted towhee. Rocky outcroppings mixed within chaparral add complexity to the habitat, providing additional foraging and nesting opportunities.

Special-status Wildlife

The Ponti Fire Road project area supports a mosaic of wildlife habitats. It is part of a large network of protected lands across Marin County. The ridgeline is perfectly positioned in the landscape so that wildlife can move through it to and from surrounding lands. It provides key habitat for many of Marin County's wildlife species and can support a variety of wildlife through part or all of their life cycles.

Two special-status bird species were observed by PCI within the project area – oak titmouse and Nuttall's woodpecker (*Picoides nuttallii*). Marin County staff have confirmed the presence of special-status Cooper's hawk (*Accipiter cooperii*) and grasshopper sparrow (*Ammodramus savannarum*) on Pacheco Valle Open

Space Preserve and American badger (*Taxidea taxus*) are reportedly present.[33] One additional bird species, northern spotted owl (*Strix occidentalis caurina*), and three bat species - pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillii*) have moderate potential to occur within the project area. MCOSD has contracted with Point Blue Conservation Science to conducting northern spotted owl surveys throughout the county. Point Blue Conservation Science did not confirm presence for northern spotted owl during the 2018 survey and will be conducting the protocol-required second year of survey in 2019, the results of which are not available as of the publishing of this Initial Study. Additional bird species of concern may occur within the project area on a regular basis.

The Biological Resources Assessment identified 18 special status animal species and species of local interest known to occur within the general region. Species documented within the Ponti Fire Road project area or with moderate to high potential to be present are described below. Species descriptions are excerpted directly from the Biological Resources Assessment.

Birds

Cooper's hawk *(Accipiter cooperii)*. This species is on the CDFW Watch List (nesting). This species is a forest hawk of open woodlands and brushlands. They are efficient predators capable of fast flight over very short distances, foraging for birds, chipmunks, and squirrels through forest and edge habitats. Breeding habitat preferences include dense mixed forests, larger canyons, and riparian corridors. Nests are constructed in mature trees with high canopy coverage. Breeding occurs from March through August. Cooper's hawks are a year-round resident in Marin County. Species confirmed within the Pacheco Valle Preserve by Marin County staff.[34]

Grasshopper sparrow *(Ammodramus savannarum)*. This is a CDFW Species of Special Concern (nesting). This species is a small, open-country sparrow named for its buzzy, insect-like song. They forage for insects and seeds. Breeding habitat preferences include grasslands of intermediate height mixed with clumped vegetation and interspersed with bare ground. Nests are constructed on the ground and made of grasses and forbs. Breeding occurs from early April through mid-July; they lay four to five eggs per nesting attempt and may raise multiple broods per season. Nests are vulnerable to predation and trampling. Species confirmed within the Pacheco Valle Preserve by Marin County staff.[35]

Oak titmouse *(Baeolophus inornatus)*. This species is a Bird of Conservation Concern. This species is a 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. Breeding occurs from March through July; they lay three to nine eggs per nesting attempt. Nests in cavities in trees or nest boxes. Oak titmice are a year-round resident in Marin County. Species was documented within the project area by PCI.

Northern spotted owl *(Strix occidentalis caurina)*. Northern spotted owl is federally listed as threatened; State listed as threatened; on June 27, 2017, the California Fish and Game Commission issued a Notice of Findings that the listing of the northern spotted owl as a threatened species is warranted;[36] CDFW Species of Special Concern[37] This species occupy dense forest and woodland habitats. Breeding sites include tree or snag cavities or broken tops of large trees. Nocturnal hunter eating mostly small mammals, especially dusky-footed woodrats. Year-round resident in Marin County where it is known from breeding occurrences in old-growth and mixed forest habitats. Northern spotted owls have been documented in forested habitats within 2 miles of project area in the Indian Valley Open

[33] MCOSD, 2015
[34] ibid
[35] MCOSD, 2015 op cit
[36] CFGC 2017
[37] CDFW 2017c

Space Preserve.[38] Northern spotted owls are not likely to nest along the existing road or in the more open woodlands. This species has a large territory size that varies geographically, with a minimum size of approximately five square miles,[39] and adjacent forests are within the foraging range of this species.

Nuttall's woodpecker *(Picoides nuttalli).* This species is a Bird of Conservation Concern. It is a permanent, resident woodpecker of woodland habitats, prefers oak and streamside habitats. Characterized by black and white barring on backside. Probes for insects in tree bark and crevices. Breeding occurs from late March to early July. Nests in live or dead tree cavities excavated by males of the species, typically. Nuttall's woodpeckers are a year-round resident in Marin County. Species was documented within the project area by PCI. Precautionary protection measures should be in place to avoid potential impacts to all breeding birds.

Bats

Pallid bat *(Antrozous pallidus).* This species is a CDFW Species of Special Concern; Western Bat Working Group high priority species. Pallid bat occurs in 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. A maternity colony of pallid bats was documented within 1.25 miles of the project area in a residential structure in 2001, the colony is possibly extirpated.[40] Species documented at Mount Burdell,[41] which is the nearest known location relative the project area. Suitable foraging and roosting habitat is present within the project area, though pallid bats have not been observed within the project area.

Townsend's big-eared bat *(Corynorhinus townsendii).* This species is a CDFW Species of Special Concern, Western Bat Working Group high priority species; in August 2016, CDFW issued a notice that a petition to list Townsend's big-eared bat to the list of threatened or endangered species under CESA is not warranted.[42] Townsend's big-eared bat occurs in low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. Utilizes edge habitat for foraging. Roosting sites include caves, mines, tunnels, buildings, and other man-made structures. Mating typically occurs in winter with a single pup born in May or June. Maternal roosts consist of a small number of females with young, typically less than 100 individuals. Townsend's big-eared bat are reported from a collection from the 1930s within 2.5 miles of the project area.[43] Species documented at Mount Burdell[44] and Lucas Valley Open Space Preserves, approximately four miles from the project area. Suitable foraging habitat is present within the project area, though Townsend's big-eared bats have not been observed within the project area.

Western red bat *(Lasiurus blossevillii).* This is a CDFW Species of Special Concern, Western Bat Working Group high priority species. Western red bat occurs throughout California in forested and riparian habitat, typically along edges, field, and urban areas. A solitary bat, coming together only during mating and migration. A foliage dwelling species – roosting in leaves of trees and leaf litter in winter. Rarely enters buildings. Mate in flight during August and September. One to four pups born in late spring through early fall. There are no recent reports of western red bat in eastern Marin County,

[38] CDFW 2019
[39] USFWS 2011
[40] CDFW 2019
[41] Townsend 2016
[42] CDFW 2017b
[43] CDFW 2019
[44] Townsend 2016

but bats are typically underrepresented in the CNDDB.[45] Species documented at Mount Burdell.[46] Suitable foraging habitat is present within the project area, though western red bats have not been observed within the project area.

Mammals

American badger *(Taxidea taxus).* This is a CDFW Species of Special Concern. American badger is a widespread, uncommon resident across California; they are found year-round in Marin County. They occur in a variety of habitat types, such as herbaceous, shrub, or forest habitats with dry, friable soils. They are carnivorous and consume primarily burrowing rodents but will also eat reptiles, insects, eggs, birds, and carrion. Badgers are territorial throughout the year with size of the territory dependent on the availability of food. Typical territory size is approximately 3 to 4 square miles; underground dens can be quite extensive and include many entrances. Mating occurs in summer and early fall with young, usually 2 to 3, born in early spring. American badgers can tolerate some level of human activity. There are no recent reports of American badger in eastern Marin County in the CNDDB.[47] The nearest recorded observations are 9 miles to the north and 11 miles west of the project area from historic collections. However, badgers are reported within the Pacheco Valle Preserve by Marin County staff.[48] No evidence of American badgers was documented by PCI; Marin County Parks staff conducted burrow surveys by walking transects within the project area on April 4, 2018. No burrows or other signs of badgers were observed.

Invertebrates

Mission blue butterfly *(Plebejus icarioides missionensis).* This species is federally listed as endangered. Mission blue butterfly historically, occupied grassland and chaparral habitats in seven counties surrounding the San Francisco Bay. The majority of Mission blue butterflies are now restricted to San Bruno Mountain. Small, possibly extirpated, isolated colonies are also reported at Twin Peaks in San Francisco and Golden Gate National Recreation Area in the Marin Headlands. Host plant is silver lupine (*Lupinus albifrons*), which is present within Pacheco Valle Open Space Preserve.[49] The eggs are laid on the 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. Confirmations of adult butterflies have not been reported for the Pacheco Valle Preserve or nearby areas.[50]. The likelihood of occurrence within the project area is very low; however, all larval host plants should be protected as feasible.

Protected Bird Species

Nesting native bird species are protected under both federal and state regulations. According to US Fish and Wildlife Service, under the federal Migratory Bird Treaty Act of 1918,[51] "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. Take is defined as: 'pursue, hunt, shoot, wound, kill, trap, capture, or

[45] CDFW, 2019

[46] Townsend, 2016. Bat monitoring stations located in Pacheco Valle and Ignacio Valley Open Space Preserve detected the following common bat species: big brown bat, California myotis, small-footed myotis, Yuma myotis and Mexican free-tailed bat. Bat monitoring completed at Mount Burdell Open Space Preserve in 2016 detected the three special-status bat species discussed in the PCI, 2017 Assessment in habitats similar to those found within the project area.

[47] CDFW, 2019

[48] MCOSD, 2015

[49] ibid

[50] CDFW, 2017a

[51] MBTA; 50 CFR 10.13

collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." Bald and golden eagles are also protected under the federal Bald and Golden Eagle Protection Act[52] of 1940.

Birds and their nests are also protected under the California Fish and Wildlife Code[53]. 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 federal Endangered Species Act and California Endangered Species Act also protect nesting threatened and endangered bird species.[54]

CEQA Context

A Project would normally result in significant impacts to biological resources if it substantially modifies sensitive habitats, adversely affects wetlands, negatively affects endangered plan and/or animal species, or conflicts with established policies, ordinances, or plans associated with the protection of biological resources.

a) Would the Project 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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation

Special-Status Plants. MCOSD has designed the proposed Project to minimize its footprint however, implementation of the proposed Project would result in construction activities require use of construction equipment to complete the realignment of the upper segment of the Ponti Fire Road and the Pacheco Pathway Connector Trail.

Two of the bristly *leptosiphon* populations are located within close proximity to the proposed trail alignment or existing road, as shown on Figure 15. The western population is located approximately 30 feet to the south of the proposed alignment. The eastern population is currently within 15 feet of the existing road along the lower segment of Ponti Fire Road. No work is proposed near the population along Sage Grouse Road.

MCOSD would incorporate applicable RTMP Special Status Plants BMPs, which were designed to minimize or avoid potential environmental impacts to biological resources. The RTMP Special Status Plants BMPs are listed below and are provided, in their entirety, in Appendix A. With implementation of these BMPs, the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Additional mitigation measures would not be required.

- Special-Status Plants-1: Literature Reviews
- Special-Status Plants-2: Avoidance and Protection of Special-Status Plan Species near Road and Trail Management Projects
- Special-Status Plants-3: Ensure Proposed Actions are Consistent with Ongoing Special-Status Plant Management Programs
- Special-Status Plants-4: Earthwork Near Special-Status Plan Populations
- Special-Status Plants-5: Erosion Potential Near Special-Status Plants

[52] 16 U.S.C. 668-668c
[53] §3503 and §3513
[54] PCI, 2019

- Special-Status Plants-6: Introduction of Invasive and Non-native Plants and Plant Material
- Special-Status Plants-7: Revegetation with Native, Geographically Appropriate Plant Species
- Special-Status Plants-8: Worker Awareness Training
- Special-Status Plants-9: Relocation of Special-Status Plants
- Special-Status Plants-10: Road and Trail Inspections
- Special-Status Plants-11: Reuse and Replanting of Native Trees and Shrubs
- Special-Status Plants-12: Ripping and Recontouring Roads

General Wildlife and Habitat. Implementation of the proposed Project could modify wildlife habitat, potentially resulting in disturbance, displacement, or mortality of common terrestrial wildlife species. Mobile wildlife species could be displaced as result of realignment of the upper segment of the Ponti Fire Road and the Pacheco Pathway Connector Trail; however, these species would likely colonize adjacent habitats and move back into the area after construction. Direct mortality could result to less-mobile species.

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to biological resources. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A. With implementation of these BMPs, the proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any wildlife species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Additional mitigation measures would not be required to address potential impacts to general wildlife and habitat.

- Policy SW.24: Minimize Intrusions int larger Contiguous Habitat Areas and Wildlife Corridors
- General-1: Limit Work Area Footprints in Sensitive Resource Areas
- General-2: Modify Construction-related Vegetation Management Methods in and near Wetlands, Riparian Vegetation
- General-3: Minimize Potential for Erosion
- General-4: Control Food-related Trash.
- General-5: Modify Construction Methods Relating to Soil Disturbance, Restrict Use of Offsite Soil, Aggregate, or Other Construction Materials
- General-6: Prevent or Reduce Potential for Pollution
- General-7: Include Standard Procedures in Construction Contracts
- General-8: Control Noise
- General-9: Conduct Worker Training
- General-10: Road and Trail Inspections
- Construction Contracts-1: Standard procedures in Construction Contracts
- Sensitive Natural Resources-1: Modify Management Practices Near Sensitive Natural Resources
- Special-Status Wildlife-2: Preconstruction Surveys
- Special-Status Wildlife-3: Seasonal Restrictions During Bird Nesting Season
- Special-Status Wildlife-4: Avoidance and Protection of Northern Spotted Owl
- Special-Status Wildlife-8: Worker Awareness Training
- Special-Status Wildlife-9: Construction Monitoring
- Special-Status Wildlife-10: Relocation of Special-Status Species
- Special-Status Wildlife-11: Noise Control
- Special-Status Wildlife-12: Trash Control

- Special-Status Wildlife-13: Road and Trail Inspections

Special-status and Common Bats. There are approximately 15 bat species with known occurrences within California, and a number of these species have a high probability of occurring within the project area and adjacent lands. Bats are highly mobile; many are migratory. Foraging habitats range from woodlands, forests, and grasslands to open water. As noted above, three special-status species (western red bat, Townsend's big-eared bat, pallid bat) have potential to occur within the Preserve based on nearby observations.[55] Additional bat species identified as having moderate to high priority for conservation by the Western Bat Working Group may also occur within the project area.

Implementation of the proposed Project is not expected to remove trees during realignment of the upper segment of the Ponti Fire Road however, some tree removal and/or pruning may be required to accommodate a safe trail corridor. Some trees along the trail corridor could contain cavities and other conditions that could provide suitable roosting habitat for special-status and common bat species. Tree removal or pruning could result in disturbance to roosting bats through noise generated during the pruning or to removal of occupied habitat.

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to biological resources, including RTMP BMP Special Status Wildlife -2: Preconstruction Surveys. The RTMP does not include BMPs specific to bats, therefore, Mitigation Measure BIO-1 would be implemented to reduce potential impacts on special-status and common bat species to a less than significant level.

Mitigation Measure BIO-1: Special-status and Common Bats
The MCOSD shall ensure that the following protection measures for special-status and common bat species are implemented during project activities:

- For all trees previously identified as active (non-maternity) 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 (at the discretion of a qualified biologist) be followed by whole removal on day two. This approach will allow bats an opportunity to move out of the area prior to completing removal of the trees.
- 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.

Special-status and Nesting Birds. Habitats within the project area provide potential nesting habitat for special-status bird species. Cooper's hawk, grasshopper sparrow, Nuttall's woodpecker, and oak titmouse are known to occur year-round at Pacheco Valle Open Space Preserve. Northern spotted owl may forage within adjacent forests. Implementation of the proposed Project could occur during nesting season, which could affect special-status and nesting birds. The proposed Project has been designed to avoid tree removal, project implementation may require minimal tree removal or pruning. Implementation of the proposed Project would result in ground disturbance and 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.

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to biological resources, including special-status and nesting birds. Mitigation Measure BIO-2 clarifies how RTMP BMP Special-Status Wildlife-3: Seasonal Restrictions During

[55] Townsend, 2016

Bird Nesting Season would be implemented and would supersede the buffers included in the RTMP BMPs. Implementation of Mitigation Measure BIO-2, along with implementation of applicable RTMP BMPs, would reduce potential impacts on special-status and nesting birds to a less than significant level.

Mitigation Measure BIO-2: Special-status and Nesting Birds
The MCOSD shall implement the following seasonal restrictions to protect nesting birds. If work will occur outside the nesting bird window of January 1 to July 31, surveys and avoidance measures will not be necessary for special-status and nesting birds. The broadest nesting bird window based on Table 6 would be January 01 – October 31. The project area does not include habitat for double-crested cormorant, herons, egrets, or bitterns and these species would not be affected by implementation of the proposed Project. For these reasons, the nesting bird window of January 1 – July 31 is appropriate for the proposed Project.

- Surveys shall be conducted within 7 days of the start of active ground-disturbing activities within the general buffers identified in Table 6: Guideline Buffers by Species or Guild. If the work area is left unattended for more than 7 days following the initial surveys, additional surveys shall be completed. This timing is standard protocol based on common knowledge of avian biology. Ongoing construction monitoring of active nests shall occur to ensure no nesting activity is disturbed.
- If the biologist finds no active nesting or breeding activity, work can proceed without restrictions.
- If active raptor or owl nests or active nests of other special-status birds are identified within the buffer area guidelines included in Table 6, a qualified biologist shall determine whether construction activities may impact the active nest or disrupt reproductive behavior. If it is determined that construction would not affect an active nest or disrupt breeding behavior, construction can proceed without restrictions. The determination of disruption shall be based on the species' sensitivity to disturbance, which can vary among species; the level of noise or construction disturbance; and the line of sight between the nest and the disturbance. If the biologist determines activities would be detrimental to the species nest, the buffer area guidelines identified in Table 6: Guideline Buffers by Species or Guild would be established until the nest has been vacated, meaning that the chicks have fledged.
- If state and/or federally listed birds are found breeding within the construction area, activities shall be halted until the chicks have fledged. If construction activities must continue and would incur take of the listed species, MCOSD would consult with the CDFW and USFWS prior to the initiation of work that would result in take. If construction activities must continue and would not incur take of the listed species, MCOSD would establish the buffer area guidelines included in Table 6: Guideline Buffers by Species or Guild, until the nest has been vacated, meaning that the chicks have fledged.

TABLE 6: GUIDELINE BUFFERS BY SPECIES OR GUILD		
Species/Guild	**Recommended Buffer meters/feet**	**Nesting Season**
Diurnal Raptors (i.e.: Cooper's hawk)	100 meters (330 feet)	January 01 – July 31
Owls (except northern spotted owl)	50 meters (160 feet)	January 01 – July 31
Northern Spotted Owl	402 meters (1,320 feet or ¼ mile)	February 01- July 31
Double-crested Cormorant	50 meters (160 feet)	March 01 – October 31
Herons/Egrets/Bitterns	100 meters (330 feet)	January 01 – September 30
Waterfowl (Ducks/Geese/Swans)	30 meters (100 feet)	March 01 – July 31
Larger Passerines: Corvids (crows, jays), Thrushes	20 meters (65 feet)	March 01 – July 31
Most Songbirds	10 meters (30 feet)	March 01 – July 31
Hummingbirds	10 meters (30 feet)	January 01 – July 31
Woodpeckers	15 meters (50 feet)	March 01 – July 31
Band-tailed Pigeon (BTPI)	30 meters (100 feet)	March 01 – July 31
Pigeons/Doves (except BTPI)	20 meters (65 feet)	March 01 – July 31
Species of Special Concern (olive-sided flycatcher, grasshopper sparrow, San Pablo song sparrow)	22 meters (75 feet)	March 01 – July 31
Blackbirds (tri-colored and red-winged)	30 meters (100 feet)	March 01 – July 31
Turdidae (robins, thrushes)	20 meters (65 feet)	March 01 – July 31
Killdeer	22 meters (75 feet)	March 01 – July 31

American Badger. Habitats within the project area could potentially support American badger. Badgers have been reported within Pacheco Valle Open Space Preserve by Marin County staff.[56] No evidence of American badgers was documented during the biological resource assessment.[57] MCOSD staff conducted burrow surveys by walking transects within the project area on April 4, 2018 and did not observe American badger burrows or other signs of badgers. American badgers have a relatively large home range, can expand their territories in the breeding season and in search of food, and may move into the project area at any time.

Implementation of the proposed Project could result in disturbance to American badgers if they are present within the work area. Disturbance to soils could result in compaction of den and burrows if present. The presence of construction workers could preclude badgers from using the project area.

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to biological resources, including RTMP BMP Special-Status Wildlife-2, which requires preconstruction surveys during the appropriate time window as determined by a qualified biologist to determine the presence or absence of the species. If the preconstruction survey identifies any active burrows or other evidence of American badgers, such as hunting holes or scat, within the project

[56] MCOSD, 2015
[57] PCI, 2017

area, MCOSD would avoid the area until it is unoccupied. If evidence of past or current American badger activity is present in the project area, MCOSD would also implement RTMP BMP Special-Status Wildlife-9, which requires construction monitoring of federal- or state-listed wildlife species. Implementation of the RTMP BMPs would reduce potential impacts to a less-than-significant level and no additional mitigation measures would be required.

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 California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?
Less than Significant

The project area contains sensitive plan communities, which are previously summarized. Within the project area, madrone forest is relatively abundant, forming the dominant vegetation type on the upper ridgeline where realignment of the upper segment of the Ponti Fire Road is proposed. Non-sensitive annual grassland dominates the remaining project area. California bay forest is considered by CDFW to be relatively rare at the state level however, it is relatively widespread in Marin County.

Implementation of the proposed Project would occur within three sensitive natural communities, summarized below:

For madrone forest, bay woodland, and valley oak woodland, the trail decommissioning and construction would not involve significant tree removal, and impacts would be primarily to soil and understory vegetation. Understory in the madrone and bay settings is sparse, with scattered native and non-native shrubs and grasses. Understory in the valley oak setting is primarily non-native annual grasses. Given these conditions, trail construction would have limited impacts to plant diversity.

For Idaho fescue grassland, trail decommissioning in this area would include planting of Idaho fescue from plugs or salvaged plants and seeding with other appropriate native species. As a result, the project would have no significant net impact on this habitat.

For Oregon white oak/California fescue woodland, the trail would be decommissioned consistent with protocols established in the RTMP and therefore, implementation of the proposed Project would result in a net benefit for this habitat.

The proposed realignment of the upper segment of Ponti Fire Road would remove some understory vegetation, cause soil disturbance and soil compaction, and shift the locations of visitor activity. Proposed road and trail decommissioning would include recontouring the roads and trails to a natural condition, brushing and erosion control, and active native revegetation along the ridgeline, and reduce habitat fragmentation. The new Pacheco Pathway Connector Trail and realignment of the upper segment of Ponti Fire Road would result in approximately 84,000 square feet of disturbance. The road and trail decommissionings would restore approximately 127,000 square feet of area to natural conditions. This would result in approximately 43,000 square feet of restored area that exceeds the area of disturbance associated with new trail development, which would be benefit to both sensitive and non-sensitive vegetation communities. Overall, the proposed Project would result in the restoration of a larger area than affected by new construction. The proposed Project would benefit sensitive and other habitats by substantially reducing the grade of the existing trail, reducing road and trail redundancy, reducing erosion, and reducing habitat fragmentation. The MCOSD would incorporate the RTMP BMPs previously listed in this document and no additional mitigation measures would be required.

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?
Less than Significant

Wetlands and other waters of the U.S. and the state of California are considered jurisdictional areas. Wetlands and other waters include a variety of both permanent and ephemeral aquatic features. Regulations and policies that protect aquatic habitats have been enacted by a number of government agencies. Wetlands and waters fall under the jurisdiction of the U.S. Army Corps of Engineers, local Regional Water Quality Control Board, California Department of Fish and Wildlife, and Marin County. Any fill, removal of native riparian vegetation, or alteration of drainage patterns require permits and resource agency consultation.

The Botanical Assessment[58] identified one seasonal seep approximately 20-30 feet upslope of the proposed realignment of the upper segment of the Ponti Fire Road. This seep is mapped in a valley oak woodland and shown on Figure 15 – Vegetation Map. The seep is dominated by California grey rush (*Juncus patens*) and measures approximately 75 square meters, or 807 square feet. Associated species included Diego bent grass (*Agrostis pallens*), split awn sedge (*Carex tumulicola*), California oatgrass (*Danthonia californica*), and Yampah (*Perideridia kelloggii*). The proposed Project has been designed to avoid impact to the seep. MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to biological resources, including:

- General-2: Modify Construction-Related Vegetation Management Methods in and near Wetlands, Riparian Vegetation
- Construction Contracts-1: Standard procedures in Construction Contracts – Work in and near water bodies and wetlands.

Given that the seep is located 20-30 feet upslope of the proposed realignment of the upper segment of the Ponti Fire Road, implementation of the proposed Project cannot fully comply with the RTMP BMP General-2:Modify Construction-Related Vegetation Management Methods in and near Wetlands, Riparian Vegetation and RTMP Water Quality-1: Modification to Road and Trail Management Actions to Protect Water Bodies, Wetlands, and Tidally Influenced Areas, which require that a 100-foot buffer be established from wetland and tidally-influenced areas. While project implementation would not occur within the seep and no direct or indirect impacts are expected to occur to the seep from implementation of the proposed Project, Mitigation Measure BIO-3 will reduce potential impacts on the seep to a less-than-significant level.

Mitigation Measure BIO-3: Seep Protection
The MCOSD shall install temporary exclusionary fencing, such as a silt fence, around the seep. No construction work shall occur within this exclusionary fencing. The temporary exclusionary fencing shall be maintained throughout the duration of construction activities within 100-feet of the boundaries of the seep.

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?
Less Than Significant

Wildlife corridors connect large patches of natural open space and allow for the movement and migration of animals and plants. Corridors are critical for the maintenance of ecological processes and viable populations through several ways, including: (1) the continual exchange of genes between populations, which help maintain genetic diversity; (2) the access to adjacent habitat areas that represent additional territory for foraging and breeding; (3) allowing for greater carrying capacity; and (4) providing routes for

[58] Benson, 2017 and 2018

colonization of new habitat lands following location population extinctions or habitat recovery from ecological catastrophes.

Habitat linkages are broader stretches of open space that allow for the movement of multiple species and maintenance of ecological processes. These linkages do not have to provide continuous habitat but could also be patches of suitable areas that support movement from one patch to another to allow dispersal and migration. Habitat linkages reduce the adverse effects of habitat fragmentation that can lead to decreased gene flow for small animals, such as amphibians, reptiles, and rodents.

Native wildlife nursery sites are specific areas where certain species return yearly to breed, birth, and raise juveniles. For example, most salmonids require gravel beds in the upper reaches of a stream. There is a distinction between wildlife nursery sites and other breeding sites that do not have specific habitat conditions. In other words, a tree with a bird nest is not necessarily a wildlife nursery site.

The project area supports extensive madrone forest, annual grassland, and California bay and oak woodlands. The Pacheco Valle and Ignacio Valley Open Space Preserves are contiguous with the Loma Verde and Indian Valley Open Space Preserves, which are owned and managed by MCOSD, and the Marinwood Open Space, which is owned and managed by Marinwood Community Service District. Collectively, these lands encompass the entire northern slope of eastern Big Rock Ridge, Pacheco Creek, and the Blackstone Canyon corridor between Novato and Marinwood. Wildlife species can move between and through these protected areas. These protected areas provide key habitat for many of Marin County's wildlife species and can support a variety of wildlife through part or all of their life cycles. The biological report did not identify any wildlife nursery areas within the project area.[59]

Implementation of the proposed 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 within the project area or the surrounding area. Under existing conditions, resident wildlife have likely habituated to human activity along the trail alignment. Implementation of the proposed Project would not result in significant impacts on wildlife movement activity in the surrounding area because construction will take place during the day and would be temporary, ceasing after implementation of the proposed Project.

Wildlife may leave the immediate area surrounding the trail during construction activities; however, the impacts will be short-term and only occur during construction. Although the proposed Project would realign the upper segment of the Ponti Fire Road through existing habitat, wildlife uses would remain in the project area and any displaced wildlife would likely return following completion of construction. The existing Ponti Fire Road is 14 feet wide and would be narrowed to 5 feet wide with implementation of the proposed Project. This trail narrowing would reduce the overall trail footprint, which would increase habitat and resources, such as food, for wildlife. Additionally, a narrower trail would allow smaller species to cross the trail with fewer threats of predation or accidental injury or death associated with use of the trail.. Furthermore, the decommissioned trail in Ignacio Valley Open Space District and trail segments associated with the existing Point Fire Road would provide additional habitat to support wildlife species in the project area. These decommissioned trail areas would restore habitat to their natural state and wildlife use. Implementation of the proposed Project would not result in any negative long-term impacts on wildlife movement and use of wildlife nursery locations, and therefore additional mitigation measures would not be required.

[59] PCI, 2018

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
No impact

The project area is located within the Novato city limits, which is governed by the City of Novato's General Plan 2035[60] and unincorporated Marin County, which is governed by the Marin Countywide Plan[61]. These respective plans include goals and policies to protect natural resources and manage invasive species and the spread of plant pathogens. The RTMP includes numerous policies and BMPs to protect biological resources, which are previously listed in this document.

Implementation of the proposed Project would conform with the goals and policies of the Marin Countywide Plan or the City of Novato's General Plan. The RTMP BMPs and additional mitigation measures discussed under (a) through (d) in this section would ensure avoidance of special-status plants and animals and other sensitive resources protected under the Countywide Plan and the Novato General Plan. The following provides a review of the conformance of the proposed Project with respect to the Marin Countywide Plan and Novato General Plan goals to provide access to public open space and protect trees and woodlands, and to manage invasive plant species and the spread of plant pathogens.

Access to Public Open Space and Natural Resource Protection. The Marin Countywide Plan and Novato General Plan address protection of publicly-owned open spaces in their natural state. The Plans also encourage public access to publicly owned open space where appropriate in a manner compatible with the preservation and enhancement of the natural environment. The proposed Project would meet these goals by improving trail sustainability, reducing habitat fragmentation, and improving visitor experience for hikers and cyclists.

Native Tree Protection. The Native Tree Preservation and Protection Ordinance[62] establishes regulations for the preservation and protection of native trees in the non-agricultural unincorporated areas of the Marin 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 the species. Marin County may require mitigation for removal of a protected tree removal by replanting or through an in-lieu fee, where tree planting on the site is not feasible or appropriate. As a public agency, MCOSD is exempt from this ordinance per Marin County Code Section 22.06.050 – Exemptions from Land Use Permit Requirements. Nonetheless, MCOSD would incorporate the intent of the Native Tree Preservation and Protection Ordinance as part of standard practices.

The Novato General Plan requires protection of trees and woodlands that provide ecological, economic, and aesthetic benefits for Novato. Native woodlands are protected by maintaining the age and species diversity of trees and preserving the health of trees and other vegetation wherever feasible. The City of Novato has also established regulations for the preservation and protection of native trees and woodlands on or adjacent to public lands under the Novato Municipal Code, Chapter XVII and XIX.

The proposed Project has been designed to avoid tree removal however, implementation of the proposed Project may require the removal of small trees and removal of a small tree limbs along the realigned upper segment of the Ponti Fire Road trail corridor to accommodate a safe trail corridor. Tree removal will be minimized whenever possible. Any tree trimmed will remain and continue to grow.

[60] General Plan; City of Novato 2016
[61] Marin County, 2007
[62] Marin County Code Chapter 22.27

The RTMP does not include BMPs to address tree pruning and/or removal. Implementation of Mitigation Measure BIO-4 will limit impacts on native trees by minimizing removal and pruning, protecting tree perimeters, and requiring replanting for any tree removed.

Mitigation Measure BIO-4: Native Trees
The MCOSD shall ensure that the following measures are implemented during project activities to protect native trees:

- 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.
- Minimize impacts within the Root Protection Zone[63].
  - 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.
  - 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 tree removed over 6 inches in diameter. The plan should be developed in consultation with a revegetation specialist. The plan shall require replacement at a 2:1 basis, planting location, methods, plant sources, and timing. Mitigation should also include maintenance and monitoring of the planting during an establishment period of 5 years.

Invasive Species Management. Invasive plant species are present within the project area and the Pacheco Valle and Ignacio Valley Open Space Preserves, particularly in disturbed areas along trails, roads, and other places vegetation has been cleared or soil disturbed. Invasive species are those that have been 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. Implementation of the proposed Project would involve equipment operation, grading, and other disturbances that could result in the introduction or spread of invasive plant species along the corridor where the upper segment of the Ponti Fire Road would be realigned, which could result in the spread of invasive species into adjacent areas.

The RTMP Invasive Plants BMPs address reducing the spread of invasive species. These BMPs are listed below and included in their entirety in Appendix A. These BMPs have been incorporated into the proposed Project and no additional mitigation measures are required.

- Invasive Plants-1: Compliance with Integrated Pest Management Ordinance
- Invasive Plants-2: Herbicide Use Near Sensitive Natural Resources
- Invasive Plants-3: Survey and Control of Invasive Plants in Project Footprint
- Invasive Plants-4: Limited Soil Disturbance
- Invasive Plants-5: Cleaning of Heavy Equipment, Maintenance Tools, and Fire Management Vehicles

[63] 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.

- Invasive Plants-6: Reducing Potential for Establishment of Invasive Plants on Disturbed Soil Surfaces
- Invasive Plants-7: Monitor and Control of Invasive Plants in Road and Trail Management Work Areas
- Invasive Plants-8: Protection of Streambanks and Water Quality During Invasive Plant Removal
- Invasive Plants-9: Road and Trail Inspections
- Invasive Plants-10: Monitoring Decommissioned Areas

Sudden Oak Death. *Phytophthora ramorum* and other common plant pathogens have the potential to spread, especially as public uses increase, climate changes, and plants become more stressed. The RTMP includes BMP General-11: Management of Sudden Oak Death to reduce and control the spread of SOD within the MCOSD system. This BMP would be incorporated into the proposed Project. No additional mitigation measures would be required.

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?
No Impact

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. An HCP can apply to individual project that affect a limited number of species or can be regional plans to address endangered species impacts in the area from otherwise legal development.

A Natural Community Conservation Planning program (NCCP) takes 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.

There are no adopted HCPs or NCCPs in Marin County, and therefore, implementation of the proposed project would not conflict with an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

CULTURAL RESOURCES

TABLE 7: CULTURAL RESOURCES CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Cause a substantial adverse change in the significance of a historic 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?	☐	☐	☐	☒

Setting

MCOSD contracted with Tom Origer and Associates to prepare a cultural and historic resources study for the proposed Project, consistent with RTMP BMP cultural Resources-1: Historical and Archaeological Resource Mapping. The *Cultural Resources Study for the Ponti Fire Road to Trail Conversion Project* was prepared in January 2019 (Origer, 2019). It included literature research, consultation with the Northwest Information Center consistent with RTMP BMP cultural Resources-2: Consultation with Northwest Information Center, and site assessment to assess potentially significant environmental impacts that implementation of the proposed Project could have on cultural and historic resources. The study also included recommendations to ensure no significant environmental impacts would occur. Much of the setting information and environmental impact analysis is based on information contained in the study.

Archaeological evidence indicates that human occupation of California began at least 11,000 years ago. Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coeval with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods such as shell beads and obsidian tool stone, which are possible indicators of both status and increasingly complex exchange systems. At the time of European settlement, the study area was included in the territory controlled by the Coast Miwok. The Coast Miwok were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites.

Primary village sites were occupied throughout the year, and other sites were visited in order to procure resources that were especially abundant or available only during certain seasons. Sites often were situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant. It is believed that members of the Coast Miwok were the Native Americans who met with both Sir Francis Drake and Sebastian Rodriquez Cermeño during their voyages to California. After those two contacts, the Coast Miwok were left alone for nearly 200 years until the construction of the San Francisco Presidio and Mission Dolores in 1776. Even then, Coast Miwok did not enter Mission Dolores in significant numbers until 1800. Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and hand-stones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire affected stones.

Historically, the study area overlaps between Rancho San Jose and Rancho San Pedro Santa Margarita y Las Gallinas. Rancho San Jose was granted to Ignacio Pacheco in 1840, who was claimant for 6,659 acres. Mr. Pacheco and his wife, Josefa Higuera, named the Rancho after his father's birth in San Jose and her patron saint. Rancho San Pedro Santa Margarita y Las Gallinas was granted to Timothy Murphy in 1844, who was claimant for 21,679 acres. Mr. Murphy died in 1853, leaving his brother, Mathew Murphy, and nephew, John Lucas, portions of his land. In addition to his family, 317 acres were given to the Catholic Church with the intent of a future home for disadvantaged children. Mr. Murphy's intent was granted, and St. Vincent's School for Boys was erected in 1855, and still stands today. St. Vincent's School for Boys is located approximately three-quarters of a mile southeast of the study area. Following John Lucas' ownership of his Uncle's land, the neighborhood of Lucas Valley and Lucas Valley Road were named. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and features such as building foundations and discrete trash deposits such as wells, privy pits, and dumps.

CEQA Context

Cultural and historical resources are nonrenewable and easily damaged. Potential impacts to cultural and historical resources are determined by analyzing the potential effect of implementing the proposed Project to known and unknown cultural and historical resources.

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

No Impact

Historical resources are defined as *"Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Generally, a resource shall be considered historically significant if the resource meets the criteria for listing on the California Register of Historical Resources."*

A review of 19th and 20th century maps showed no buildings within the study area and no buildings were observed within the study area during the site visits. As a result, implementation of the project would not cause a substantial adverse change in the significance of a historic resources pursuant to §15064.5.

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

No Impact

An archaeological resource is defined as *"an archaeological artifact, object, or site, about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:*

1. *Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information*
2. *Has a special and particular quality such as being the oldest of its type of the best available example of its type*
3. *Is directly associated with a scientifically recognized important prehistoric or historic event or person"*

The cultural study found that based on the area's geologic age, environmental setting, and soil sensitivity for buried sites, there is a very low probability of identifying buried prehistoric archaeological site indicators or soils within the study area. Therefore, the project is unlikely to have significant impacts on known cultural resources. However, any excavation project runs the risk uncovering previously unknown historic or archaeological resources. Implementation of this RTMP BMP Cultural Resources-6: Construction Discovery Protocol and RTMP BMP Cultural Resources-7: Human Remains would ensure that

implementation of the proposed Project would not cause a substantial adverse change in the significance of an archaeological resources pursuant to §15064.5.

c) Disturb any human remains, including those interred outsides of formal cemeteries?
No Impact

Buried human remains, by law, must be reported to the County Coroner. The disposition of Native American burials is within the jurisdiction of the Native American Heritage Commission (NAHC), who has the statutory authority to mediate agreements regarding the disposition of Native American remains. In cases in which human remains are known or believed to be likely, consultation with the NAHC is initiated early in the planning process so that the consultations with appropriate Native American most likely descendant occurs and agreement regarding the disposition of the remains can be reached.

The cultural study for this project did not indicate that the site was likely to contain human remains. Implementation of this RTMP BMP Cultural Resources-7: Human Remains would ensure that implementation of the proposed Project would not disturb any human remains, including those interred outside of formal cemeteries.

ENERGY

TABLE 8: ENERGY CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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?	☐	☐	☐	☒

Setting

Current energy use at the project site is very minimal. Recreational users may use small amounts of gasoline to drive to and from the project site. Similarly, MCOSD rangers and maintenance staff drive to and from the preserve and also use petroleum during routine maintenance activities (mowing, weed wacking etc.). There is no electrical use at the project site.

CEQA Context

CEQA §21100(b) requires that an EIR discuss and consider mitigation measures for the potential energy impacts of proposed project, with emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Appendix F of the CEQA Guidelines provides guidance for assessing the significance of potential energy impacts. It provides three objectives for achieving the ultimate goal of conserving energy:

1. Decreasing overall per capita energy consumption;
2. Increasing reliance on natural gas and oil; and
3. Increasing reliance on renewable energy sources.

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

No Impact

The proposed Project would not result in measurable incremental increases in the use of fuel. During construction, the project would require the use diesel-powered heavy equipment and gas-powered vehicles to access the site and bring materials and equipment to the area. The proposed Project would result in energy consumption during both construction and operation of the project. Construction of the project would use heavy equipment to install water-control features, construct the realigned Upper Ponti Trail, improve the Fire Road, construct the Connecter Trail, and decommission abandoned trail segments and social trails. Construction of the project would be a limited time frame, a maximum of 64 weeks over several years. The project would also require employee trips driving to and from the project site during construction. Construction of the project would require up 2 to 5 permanent MCOSD staff members, 4 to 6 seasonal employees, and a number of volunteers. Equipment for project would include excavators, dozers, dump trucks, water tenders, carriers, compactors, cement mixers, generators, ATVs, jackhammer, skillsaw, sawzall, and hand tools such as hedge trimmers and chainsaws. Construction would largely take place four days a week, Monday through Thursday, from 7:00 a.m. to 6:00 p.m. Should MCOSD hire contractors

to augment staff, construction activities may also occur on Fridays. Operation of the project would occur as described in the project description and would result in energy use from trail users driving to and from the preserve and from regular maintenance. Because of the project's limited duration and the small scale of the proposed improvements, only a small amount fuel used for these activities and this consumption would not have a measurable effect on local and regional energy supplies.

Operation and maintenance activities would continue in a manner similar to existing conditions. Energy demand associated with operation and maintenance would include truck trips to and from the site from MCOSD staff to patrol the trails and for regular maintenance. Additional energy would be associated with trail uses driving to and from the project site. The trail would be patrolled and maintained by existing staffing and the frequency of patrols would not increase as a result of the project. Overall maintenance is expected to decrease as the trail improvements would improve the sustainability of the trail. Energy use would not increase compared to baseline conditions. Implementation of the project is not likely to significantly increase vehicle trips for recreational use of these trails. The fire road is an existing facility that primarily supports neighborhood recreation and improvement and conversion of the fire road to a trail is not expected to substantially increase car trips. MCOSD anticipates an increase in use of the trail as a result of the improvements; however, most additional users are expected to walk to bicycle to the project site for recreation. Further, the proposed project does not include any additional parking is provided at the trailheads, which will limit the number of users able to drive and park at the site. Therefore, the project would have a less than significant impact on energy use.

b) Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact

As discussed above, the project would use small amounts of energy during construction of the project, including the use of heavy equipment to install water-control features, construct re-routes, and decommission social trails as well as from truck trips associated with employees driving to and from the site and from material deliveries. Operation activities would be similar to existing conditions. Truck trips to and from the site from MCOSD rangers would be the same as existing conditions. There may be minor increases car trips driving to and from members of the public using the trail for recreation as a result of the improved experience. Energy used for maintenance is expected to decrease as a result of the improved trail construction and better drainage. Overall, energy required during operation and maintenance would be similar to existing conditions. Therefore, the proposed project would not conflict with renewable energy or energy efficiency plans, including goals set forth in AB 32, including the 39 Recommended Actions identified by the California Air Resources Board (CARB) in its Climate Change Scoping Plan. The project would also not conflict with goals and policies contained in the Marin CWP and Climate Action Plan. This impact would be less than significant.

GEOLOGY AND SOILS

TABLE 9: GEOLOGY AND SOILS CHECKLIST QUESTIONS						
	Would the project:		**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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 a 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?		☐	☐	☐	☒

Setting

The MCOSD preserves are within the central portion of the Coast Range Physiographic Province of California, composed of a series of northwest-southeast aligned coastal mountain chains dominated by a similar trending San Andreas Fault Zone.[64] Marin County has several faults delineated by the California Division of Mines and Geology, with the San Andreas Fault being the only fault identified by the Alquist-Priolo Earthquake Fault Zoning Act. Additionally, an active portion of the Hayward fault lies near the county. There is a 62 percent likelihood of fault rupture with a magnitude of 6.7 or greater to occur on one of the San Francisco Bay Area active faults, including the San Andreas or the Hayward faults, before the year 2032.[65] It is also possible, but with a low probability, that earthquakes may occur on inactive or previously unidentified faults.

The main geologic hazards for the MCOSD's open space areas and trail infrastructure are landslides and other related slope stability hazards under strong seismic shaking, or more commonly, during intense rainfall events that quickly saturate the soil. Landslides are the downward movement of materials such as rock, soil, or fill. Debris flows are a rapid downslope movement of thick slurry composed of loose soil, rock, and organic material entrained with air and water; a debris avalanche is a more rapid or extreme debris flow.

Ground shaking is one of the key geologic hazards associated with seismic activity, with some areas more susceptible to strong shaking and potential damage due to their proximity to the fault zone or their underlying soil composition. Soils most susceptible to seismic shaking amplification tend to be younger alluvial deposits, bay mud, and artificial fill found in the lower lying areas around open water including Bolinas, San Pablo, and Richardson Bays. Road and trail stability are also influenced by the underlying soils—how easily they are compacted and eroded, and how stable they are on slopes.

MCOSD consulted with Timothy C. Best, CEQ, to evaluate the engineering geologic and geotechnical feasibility of the proposed project. The *Engineering Geologic and Feasibility Study of the Ponti Fire Road to Trail Conversion Project* (Best, 2018) includes background information regarding the project area relative to geology, soils, landsliding, slope stability. The report summarizes potential geologic hazards and constraints and includes recommendations to minimize potential environmental impacts that could result from implementation of the proposed Project. The proposed Project has been designed to implement these recommendations and those recommendations that are not directed to project design are reflected in the Mitigation Measures. Much of the descriptive and analytic information contained in this section of the CEQA Checklist is from this report.

Soils within the project area are predominantly loam to clay loam, which poses a severe to very severe erosion hazard for earthen roads and trails. According to field observations, the soils are moderately drained with high erosion potential. Erosion is most evident in areas where runoff has been concentrated.[66] The breakdown of soil under heavy trail use often leads to accelerated erosion and trail rutting.[67]

Bedrock geology in the vicinity of the project area consist of the Cretaceous and Jurassic Age Franciscan Complex, an accumulation of folded and faulted continental margin deposits. The majority of the trail area is mapped as underlain by arkosic sandstone and interbedded shale (TJfs). Where exposed in nearby road cuts and tread the rock appears moderately well cemented and competent. In most areas the rock supports a stable cutbank inclined at steeper than a 1:1 slope. Franciscan Mélange (KJfm) is mapped along the portion of Ponti Fire Road that is to be retained. Regionally, this rock is described as a tectonic mixture of tectonic mixture of masses of resistant rock types including sandstone, altered mafic volcanic rock

[64] MCOSD, 2014a
[65] County of Marin, 2007
[66] Best, 2018
[67] MCOSD, 2014a

(greenstone), chert, serpentinite, and exotic metamorphic rocks embedded in a sheared mudstone (argillite) and lithic sandstone.[68]

Overlying bedrock is a thin mantle of colluvium and soil of varying thicknesses with old alluvial and colluvial sediments found along the valley bottoms. Along the proposed re-aligned trail, surficial soils mapped by the Natural Resource Conservation Service (USDA, 1985) include Tocaloma-McMullin complex and Tocaloma-Saurin association. These soils are mainly silt and clay loams (ML – CL) to gravely loam (GM) that are well drained but with a severe erosion hazard rating. Field observations indicate soils tend to be moderately drained with a high erosion potential especially where runoff is concentrated. Depth to bedrock is variable but generally on the order to 1 to 4 feet. Along the portion of the Ponti Fire Road to be retained, NRCS-mapped soils include Gilroy-Gilroy variant-Bonnydoon variant loams and Saurin-Bonnydoon complex. These soils consist mainly of a loam to clay loam.[69]

The project area lies within the steep mountainous terrain of coastal California. Shallow and deep-seated landslides are common throughout the region and are one of the dominant processes shaping the present-day landscape. Shallow-seated landslides include debris slides, debris flows, channel bank failures and failure of road fill. These landslides are characterized by the rapid failure of unconsolidated rock, colluvium, and soil above a relatively shallow failure plane. The depth of failure is variable but typically confined to the overlying mantle of colluvium and weathered bedrock. These slides generally fail in a catastrophic manner in response to high intensity rainfall leaving a bare unvegetated scar in the head region. Deep-seated landslides include translational block slides and earthflows. These failures are typically much larger than debris slides, with a failure plane that extends below the surficial mantle of weathered earth material into the underlying bedrock. Many deep-seated landslides exceed 5 acres in area and have a failure plane extending 30 feet into bedrock. Deep-seated landslides tend to fail incrementally in response to intense ground shaking from earthquakes on nearby faults, such as the 1906 San Francisco earthquake, and/or from prolonged heavy rainfall; catastrophic failure is somewhat rare.[70]

Surface drainage at the project site is primarily by sheetwash. Groundwater was not observed during the project's field reviews. A seasonal perched groundwater table could develop within the colluvial soils capping bedrock. There are no watercourse crossings along the proposed alignment. The soils in the study area are primarily a silty loam to gravely loam that, based on field observations, tend to be moderately well drained but with a moderate to high erosion potential. Review of nearby unsurfaced roads and trails crossing similar earth materials reveal low trail erosion where the trail grade is less than 15 percent and runoff is adequately controlled.[71]

CEQA Context

A project would normally result in a significant impact to geology and soils if it would result in substantial erosion, expose people to major geologic hazards, or a permanent loss of natural geologic resources created by a substantial change in topography or land subsidence.

a) Would the Project 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

[68] Best, 2018
[69] Best, 2018
[70] ibid
[71] ibid

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

No Impact

No portion of the project area is located within an Alquist-Priolo Earthquake Fault Zone and there are no mapped active faults on the project sites.[72] The nearest known active earthquake faults are the San Andreas Fault, located approximately 12 miles to the west, and the Hayward Fault, approximately 6 miles east. The proposed Project would improve the existing Ponti Fire Road to provide a less-erosive, more sustainable trail alignment, and decommissioning of Trail 18645, which was not designated as a system trail during the Region 3 trail designation process because it is an erosive, unsustainable trail. Implementation of the proposed Project would not involve deep earthwork. Implementation of the proposed Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or other known fault.

ii) Strong seismic ground shaking?

No Impact

The project area in located in an area that could experience earthquakes and ground shaking. The proposed Project would improve the upper segment of the existing Ponti Fire Road to provide a less-erosive, more sustainable trail alignment, and decommissioning of Trail 18645 in Ignacio Valley Open Space Preserve, which was not designated as a system trail during the Region 3 trail designation process because it is an erosive, unsustainable trail. The proposed Project does not include construction of any occupied structures that could pose a safety hazard to trail users and would not substantially alter the existing conditions or introduce new hazards that could contribute to strong seismic ground shaking. Implementation of the proposed Project would support existing outdoor recreation uses would not alter or introduce substantial adverse effects related to strong seismic ground shaking, including the risk of loss, injury, or death involving strong seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction?

No Impact

The risk of liquefaction is relatively low within the project area. ABAG has identified the liquefaction hazard at the project sites as “very low” based on CGS data.[73] Liquefaction hazard would not result in significant harm to recreation users, because the proposed Project does not include any habitable structures and the density of people using trails is relatively low in comparison to urban and suburban areas of Marin County.

iv) Landslides

Less Than Significant

Most of the project area and Pacheco Valle Open Space Preserve is in an area that is identified as “mostly landslides” and some areas are identified as “few”. The project site contains moderate to steep terrain with slopes draining to the south and north of the preserve.[74] The Engineering Geologic and Feasibility Assessment prepared for the Project[75] further investigated risks associated with landslides. The Engineering Geologic and Feasibility Study[76]analyzed historic regional landslide mapping and aerial photographs to identify historic landslide events; however, none were identified. Field investigations did identify remnants of several small distinct but weathered debris slide/flow scars on steep (70+ percent gradient) slopes adjacent to the proposed trail at two locations. These slides were typically relatively small

[72] ABAG, 2018a
[73] ABAG, 2018b
[74] ABAG, 2018c
[75] Best, 2018
[76] Best, 2018

and shallow features incorporating less than 200 cubic yards of material with landsliding restricted to the thin mantle of overlying soil and colluvium. The age of these features is unknown but based on their distinct but subdued morphology was interpreted as having occurred within the past 50 to 100 years. In addition, several old small scale cutbank failures were observed locally along the road cut along Ponti Fire Road and a large 2005 debris flow along the outer edge of Ponti Fire Road. This large road failure involved the failure of approximately 40 feet of the road fill as a debris flow and impacted a downslope residence. This failure was subsequently repaired with a large soldier pin retaining wall. Although only these few recent or historic landslides were observed along the proposed trail alignment, site geomorphology, including the existence of locally steep slopes and presence of scattered old debris slide scars indicates that debris slide and debris flow landsliding are potential geologic hazards along portions of the proposed trail. The hazards appear greatest in steep swales and draws underlain by loose colluvial soils and on open slopes greater than 70 percent gradient. Additionally, the report evaluated the potential for deep-seated landslide hazards. Review of the historic set of aerial photographs and interpretations of LiDAR imagery reveal that portions of the project area are underlain by several relatively slow moving deep-seated translational block slides and earthflows. The landslides in the project area appear weathered, corresponding to the "dormant-young" to "dormant-mature" morphological age classification of Keaton and DeGraff[77]. Overall, the report determined that these slides are dormant or suspended with a low level of activity and do not appear to present a significant hazard to the proposed trail. Moreover, because of the small cuts and fills associated with trail construction in comparison to slide depth, the proposed trail should not have any measurable impact on the stability of the overall larger landslide.

The proposed re-alignment of the upper segment of the existing Ponti Fire Road has been designed to avoid or minimize crossing steep unstable slopes. However, approximately 600 feet of re-aligned upper segment of the Ponti Fire Road would need to cross relatively steep ground greater than 65 percent gradient with some areas having a moderate potential for shallow landsliding. In these areas, the proposed trail may be subject to infrequent natural debris slides and debris flow landsliding requiring periodic maintenance to clear debris and/or repair the trail tread. This risk appears to be similar to that of many other MCOSD located on similar gradient slopes. The risk of trail related instability can be addressed by constructing the trail at a narrow 5-foot width, minimizing the amount of sidecast fill, and where necessary, supporting the outer edge of the trail on a retaining wall or rock buttress as recommended in the Engineering Geologic and Feasibility Study[78]. While the project area may be vulnerable to landslides, mudslides, and slope instability, implementation of the proposed Project would not result in a risk to property or public safety, because of lack of structures and the low density of public use. Additionally, the proposed trail improvements would be designed to be hydrologically invisible.[79] Landslides would not cause significant harm to trail users as a result of project implementation given the lack of physical structures and the low-intensity ongoing recreation use. The proposed Project would not expose recreational users to new hazards and overall, implementation would result in impacts that are less than significant, and no mitigation measures are required.

b) Would the Project result in substantial soil erosion or the loss of topsoil?
No Impact

Erosion is a natural process whereby soil and highly weathered rock materials are worn away transported, most commonly by wind or water. Soil erosion can become problematic when human intervention causes

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[77] Keaton, J.R. and DeGraff, J.V., 1996. Surface Observations and Geologic Mapping. In: A.K. Turner and R. Schuster (Editors), Landslides: Investigation and Mitigation: Transportation Research Board, Special Report 247. National Academy Press, Washington D.C., pp. 178-230.

[78] Best, 2018

[79] Meaning that as water flows down a slope and interfaces with a trail, the water keeps flowing as if the trail was "invisible," ensuring that as water flows over the improved trails, it does not result in rills, gullies, or erosion that could lead to instability and landslides.

rapid soil loss and the development of erosional features, such as incised channels, rills, and gullies that undermine roads, buildings, or utilities. Vegetation clearing and earth-moving reduces soil structure and cohesion, resulting in abnormally high rates of erosion, referred to as accelerated erosion. Natural rates of erosion can vary depending on slope, soil type, and vegetative cover. Regional erosion rates are also dependent on tectonics and changes in relative sea level. Soils containing high amounts of silt are typically more easily eroded, while coarse-grained sand and gravel soils are generally less susceptible to erosion.

Soils within the project area consist of the Tocaloma-McMullin complex and Tocaloma-Saurin association. These soils are mainly silt and clay loams to gravely loam that are well drained but with a severe erosion hazard rating. Field observations indicate soils tend to be moderately drained with a high erosion potential especially where runoff is concentrated. Depth to bedrock is variable but generally on the order to 1 to 4 feet. Along the portion of the Ponti Fire Road to be retained, NRCS-mapped soils include Gilroy-Gilroy variant-Bonnydoon variant loams and Saurin-Bonnydoon complex. These soils consist mainly of a loam to clay loam.

According to field observations recorded during mapping and assessing the MCOSD's trail and road network, soils in the vicinity of roads and trails were moderately drained with high erosion potential, which was most evident in areas where runoff was concentrated. The breakdown of soil under heavy trail use often leads to accelerated erosion and trail rutting.[80] One of the primary purposes of the RTMP is to establish and maintain a sustainable system of roads and trails that meet design and management standards. This includes reduction of soil erosion.

The purpose of the proposed Project is to implement the RTMP, which in part includes reducing sedimentation of sedimentation and erosion. The proposed Project would accomplish this purpose by realigning the upper segment of the existing Ponti Fire Road, which is currently overly steep and erosive, and reducing its width. The project includes a variety of erosion control features, such as outsloping, rolling dips, water bars, and slope control to maintain a 10 percent running slope where possible. Additionally, the proposed Project includes provisions to treat all disturbed areas with erosion control measures. The MCOSD would use silt fences, erosion control blankets, and mulch to prevent significant erosion during and after construction. Finally, MCOSD would implement RTMP's BMP Geologic Hazards-3: Construction in Areas of Erodible and Expansive Soils and BMP Water Quality-3: Erosion Control Measures, which require implement measures to prevent significant erosion during construction and operation of trail project. Overall, implementation of the proposed Project would improve drainage and reduce erosion of topsoil and this would be considered a beneficial impact.

c) Would the Project be located on a 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?

No Impact

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, either triggered by static forces, such as gravity, or dynamic forces, such as earthquake. Slope stability can depend on several complex variables, including the geology, structure, and the amount of groundwater present, as well as external processes such as climate, topography, slope geometry, and human activity. Liquefaction is the rapid loss of shear strength experienced in saturated, predominantly loose granular soils below the groundwater level during strong earthquake ground-shaking and occurs due to an increase in pore water pressure. Earthquake-induced settlement of soils results when relatively unconsolidated granular materials experience vibration associated with seismic events. The vibration causes a decrease in soil volume as the soil grains tend to

[80] MCOSD, 2014b

rearrange into a denser state. This decrease in volume and consolidation of soil can result in the settlement of overlying structural improvements.

As previously discussed, the realignment of the upper segment of the Ponti Fire Road traverses through a Tocaloma-McMullin complex and Tocaloma-Saurin soil association. These soils are mainly silt and clay loams to gravely loam that are well drained but with a severe erosion hazard rating. Field observations indicate soils tend to be moderately drained with a high erosion potential especially where runoff is concentrated. Depth to bedrock is variable but generally on the order to 1 to 4 feet. Along the lower segment of the Ponti Fire Road, NRCS-mapped soils include Gilroy-Gilroy variant-Bonnydoon variant loams and Saurin-Bonnydoon complex. These soils consist mainly of a loam to clay loam.[81]

Much of the MCOSD's land, including the Pacheco Valle Preserve, is at risk for landslides. Several shallow landslides have occurred within the MCOSD's preserves in recent years from high intensity and long-duration storm events. The slides usually occur in areas where steep slopes are over-steepened due to bank erosion, or along ravines or swales with higher levels of surface and groundwater. The Engineering Geologic and Feasibility Study documented that the project area is within a zone subject to potentially strong ground motions during a major earthquake, which could result in seismically induced landsliding. Should a landslide occur, damage may occur to the improvements implemented as described in the project description, which would likely require trail repairs. Implementation of the proposed Project in and of itself would not result in on or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

Roads and trails could contribute to destabilization of slopes or alteration of water flow patterns that could exacerbate landslides and expansive soils hazards. Additionally, roads or trails could be damaged or destroyed by these hazards. These slope and soil stability issues are likely the main geologic hazards for the MCOSD preserves and trail infrastructure. Most of the project area is in an area that is identified as "mostly landslides".[82] The project site contains moderate to steep terrain with slopes draining to the south of the preserve. As with other geologic hazards at the site, landslides would not cause significant harm to trail users because the trail improvements would improve the hydrological function of the trail making it hydrologically invisible[83] and would ensure that runoff does not cause geological instability.

Implementation of the proposed Project would improve and realign portions of existing trails and would not increase the exposure of recreational users to these hazards. The MCOSD would implement the recommendations contained in the Engineering Geologic and Feasibility Assessment[84] into the final project design and alignment. For these reasons, implementation of the proposed Project would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse.

d) Would the Project 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?

No Impact

Expansive soils expand and contract in response to changes in soil moisture, most notably when near-surface soils change from saturated to dry and back again. Generally, the expansiveness relates to the clay content in the soil. These soils often expand in the winter and shrink in the dry summer months. Many of the earth flows that occur in the hillslopes are due to a thick accumulation of expansive soils, particularly in areas underlain by Franciscan mélange. Many of the soils in Marin County have moderate to high expansion potential. Expansive soils can create enough force to cause major damage to building foundations, slabs, patios, and sidewalks. The proposed realignment of the upper segment of the Ponti

[81] Best, 2018
[82] ABAG, 2018c
[83] Meaning that as water flows down a slope and interfaces with a trail, the water keeps flowing as if the trail was "invisible," ensuring that as water flows over the improved trails, it does not result in rills, gullies, or erosion that could lead to instability and landslides.
[84] Best, 2018

Fire Road and development of the Pacheco Pathway Connector Trail would not develop new structures such as foundations, sidewalks, or slabs. Therefore, implementation of the proposed Project would not create a substantial direct or indirect risk to life or property associated with placing structures on expansive soil as defined by the Uniform Building Code.

e) Would the Project 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?

No Impact

Implementation of the proposed Project would not generate wastewater and would not include the installation or use of any septic tanks or alternative wastewater disposal systems.

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

No Impact

The geology of the study area is of the Franciscan Complex that dates to the Jurassic Period, approximately 199.6 to 145.5 million years ago. The Franciscan complex consists of arkosic sandstone interbedded within shale. Arkose is a coarse and well sorted quartz with a fine-grained matrix. Additionally, the Franciscan Complex can include rocks such as chert, serpentinite, basalt, and greenstone.[85] A records search showed that no recorded fossil sites are located within Marin County, although there are multiple records of invertebrate and plant fossils assigned to the Holocene or recent epoch.[86] The Franciscan complex, widespread in coastal California, has produced only small collections of significant fossils, none of which occurred in Marin County.[87] Additionally, implementation of the proposed Project would disturb the top foot or two of soil and therefore, would not destroy unique paleontological resources or site or unique geologic features.

[85] Origer, 2019
[86] MCOSD, 2014b
[87] MCOSD, 2014a

GREENHOUSE GAS EMISSIONS

TABLE 10: GREENHOUSE GAS EMISSIONS CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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?	☐	☐	☐	☒

Setting

There is general scientific consensus is that global climate change is occurring and caused by increased emissions of greenhouse gasses (GHGs). The six gases that are the principal contributors to global climate change are: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

In 2012, estimated GHG emissions generated by community activities in Marin County's unincorporated areas were approximately 477,000 $MTCO_2e$ (Metric tons of carbon dioxide equivalent), or per capita emissions of approximately 7.1 $MTCO_2e$ for the 67,000 residents in the unincorporated areas. This amount is equivalent to the annual GHG emissions generated by approximately 100,000 passenger vehicles. Of these total emissions, on-road transportation and building energy use are the largest sources of emissions at 35 percent each. The third largest source is agriculture at 23 percent, followed by off-road equipment at 4 percent, solid waste treatment at 2 percent, wastewater treatment at 1 percent, and water conveyance at 0.2 percent.[88]

For municipal activities from County government operations, estimated GHG emissions in 2012 were approximately 15,000 $MTCO_2e$, or emissions of 7.0 $MTCO_2e$ per County employee. This amount is equivalent to the annual GHG emissions generated by approximately 3,000 passenger vehicles. Of these total emissions, employee commute is the largest source of emissions at 43 percent. Building energy use is the second largest source of emissions at 36 percent. The third largest source is the vehicle fleet at 18 percent, followed by wastewater treatment at 1.4 percent, streetlights and traffic signals at 0.6 percent, refrigerants at 0.4 percent, stationary sources at 0.4 percent, solid waste generation at 0.3 percent, and water conveyance at 0.2 percent.[89]

CEQA Context

A project would normally result in a significant environmental impact on greenhouse gas emissions if it results in a significant increase in greenhouse gas emissions or conflicts with a plan, policy, or regulation intended to reduce greenhouse gas emissions.

[88] County of Marin, 2014
[89] ibid

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

No Impact

The proposed project would result in minor GHG emissions during both construction and operation of the project. Construction of the project would use heavy equipment to install water-control features, construct re-routes and new trail segments, and decommission abandoned trail segments and social trails, which would release criteria pollutant emissions. Emissions would also result during construction from MCOSD employees driving to and from the site each day. GHG emissions associated with construction would be limited as a result of the project's limited duration and the small scale of the proposed improvements.

Operation of the project would occur as described in the project description and would result in GHG emissions from trail users driving to and from the preserve and from regular maintenance. GHG emissions associated with operation and maintenance would include truck trips to and from the site from MCOSD staff to patrol the trails and for regular maintenance. Additional energy would be associated with trail uses driving to and from the project site. The trail would be patrolled and maintained by existing staffing and the frequency of patrols would not increase as a result of the project. Overall maintenance is expected to decrease as the trail improvements would improve the sustainability of the trail and GHG emissions would not increase compared to baseline conditions. Implementation of the project is not likely to significantly increase vehicle trips for recreational use of these trails. The fire road is an existing facility that primarily supports neighborhood recreation and improvement and conversion of the fire road to a trail is not expected to substantially increase car trips. MCOSD anticipates an increase in use of the trail as a result of the improvements due to the improved conditions and reduced grade. The Marin County Parks Visitor Study Report found that three quarters of people surveyed were residents of Marin County and just over half lived within one mile of the park/preserve/path where surveyed.[90] The proposed Project does not include any additional parking at the trailheads, so visitation would remain limited by available on-street parking on public roadways. Visitors would continue to utilize on-street parking on public roads. Therefore, while increases in use of the Ponti Fire Road are anticipated, it is not expected to be substantial and would not generate greenhouse gas emissions that could result in a significant impact on the environment.

To determine the significance of the project's impact related to GHG, Marin County uses the screening criteria provided in the 2010 CEQA Air Quality Guidelines. MCOSD has decided that the BAAQMD 2010 CEQA Guidelines are appropriate for the project and that the analysis prepared by BAAQMD (Appendix D of the 2011 CEQA Air Quality Guidelines) provided justification and substantial evidence supporting the thresholds identified. The BAAQMD CEQA Guidelines do not have specific screening criteria for a project identical to the proposed project. However, Table 3-1 of those guidelines entitled "Criteria Air Pollutants and Precursors and Greenhouse Gas (GHG) Screening Level Sizes" shows that, for a "city park," the operational criteria for pollutant screening size would be 2,613 acres, the operational GHG screening size would be 600 acres. Compared to a city park, an open space preserve has a lower intensity of public use and the screening level size for an open space preserve is likely to be lower than the city park.

The proposed project would entail disturbance of approximately 1.7 acres associated with realigning the upper Ponti trail, 0.22 acres associated with construction of the new Connector Trail, 2 acres associated with the Ponti Fire Road decommissioning, and 0.85 acres associated with decommissioning unsanctioned trails. Thus, in total, the project would disturb about 4.77 acres and the project would be below the screening criteria identified for work within a city park. Implementation of the proposed Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

[90] MCOSD, 2016

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

No Impact

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Assembly Bill; AB 32). AB 32 focuses on reducing GHG emissions in California and requires the reduction to 1990 levels by the year 2020.

Implementation of the proposed Project would not conflict with GHG reduction goals set forth in AB 32, including the 39 Recommended Actions identified by the California Air Resources Board (CARB) in its Climate Change Scoping Plan. Implementation of the proposed Project also would not conflict with goals and policies contained in the Marin CWP and Climate Action Plan.

HAZARDS AND HAZARDOUS MATERIALS

TABLE 11: HAZARDS AND HAZARDOUS MATERIALS CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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?	☐	☐	☐	☒
g)	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Setting

Hazardous substances are materials designated in government codes and regulations or that exhibit certain characteristics such as being toxic, corrosive, flammable, reactive, or explosive. A non-hazardous substance can become a hazardous waste if during its normal use it comes to meet the definition of a hazardous material or hazardous substance.

The MCOSD uses a limited amount of hazardous materials at the project site during routine maintenance from the use of motorized equipment for weed and vegetation control, trail maintenance, and routine patrols. The vehicles that the MCOSD use at the project site contain hazardous materials, including gasoline, lubricants, and other solutions. The MCOSD does not store any hazardous materials at the project site.

CEQA Context

A project would normally have a significant impact associated with hazards and hazardous materials if the project would expose people and/or the environment to hazards.

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

Less Than Significant

During construction, the MCOSD would use small quantities of fuel, lubricants, and other similar construction materials that can be hazardous. There may be a potential for releases to occur during construction that could affect construction workers, recreational users, and the environment. During operation of the project, hazardous materials exposure would not be significant, though maintenance activities involving heavy equipment may have the potential to result in releases of hazardous materials. However, there are laws and regulations that govern the transport, use, storage, handling, and disposal of hazardous materials to reduce the potential hazards associated with these activities. California Occupational Safety and Health Administration (CalOSHA) is responsible for developing and enforcing workplace safety standards, including the handling and use of hazardous materials. The federal Department of Transportation (DOT) and the California DOT (Caltrans) regulate the transportation of hazardous materials. Together, federal and state agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release. Therefore, the transport, use, storage, handling, and disposal of hazardous materials for the project would be adequately controlled through existing regulatory requirements and the potential impact during construction would be less than significant. Implementation of RTMP BMP General-6: Prevent or Reduce Potential for Pollution and RTMP BMP Water Quality-4: Preventing or Reducing the Potential for Pollution would ensure that upset from accidents are reduced to a less than significant level.

b) Would the Project 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?

Less Than Significant

As discussed above, the proposed project would involve construction activities that use limited quantities of hazardous materials, such as gasoline, diesel fuel, oils, and lubricants, and other similar chemicals. The proposed Project would be subject to federal, state, and local laws and regulations governing hazardous materials. As a result, the project would not result in a significant impact related to this issue.

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

No Impact

The closest school to the proposed trail improvements is Mary Silveira Elementary School, which is approximately 0.38 miles from project site, which is over ¼ mile away. Other schools in the area are much further away, at least several miles. Although unlikely, the project could result in the release of hazardous materials from routine transportation or use of hazardous materials such as oils, lubricants and other fluids required for construction equipment. This is discussed under item (a) and (b). Accidental releases of hazardous emissions, materials, substances, or waste would be limited to fluids used for construction equipment; which would be in small quantities. Since the proposed project is located more than ¼ mile from a school, there is a very low potential for a spill to affect the school. Implementation of BMPs would control runoff from leaving the project sites and limit the potential spread of contaminate. Furthermore, implementation of the RTMP erosion control BMPs would reduce the risk of release or exposure of hazardous materials during construction. Therefore, the potential for a release of hazardous materials during construction that would result in increased exposure to hazardous materials at the nearby schools is very low and this impact is less than significant.

d) Would the Project 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?

No Impact

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the state, local agencies, and developers to provide information about the location of hazardous materials release sites. Government Code Section 65962.5 requires the California Environmental Protection Agency to updated Cortese List annually. A search of the current Cortese Lists identifies one open site in Marinwood, which is located 0.63 miles from the project site. As the project area is not included on a list of hazardous material sites, implementation of the proposed Project would not 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?

No Impact

The nearest airports are the public Gnoss Field Airport in Novato, which is approximately six miles north of the project area, and the private San Rafael Airport, located 2 miles to the southeast of the project area. Implementation of the proposed Project entails at grade improvements to an existing fire road, which would not result in safety hazards or excessive noise for people residing or working in the project area.

f) Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact

The proposed Project would not interfere with established emergency response plans or emergency evacuation plans for either Marin County or the City of Novato. The project area is not currently used for emergency access and would not change or disrupt vehicular or pedestrian traffic in the site vicinity in a way that would have the potential to interfere with emergency response or evacuation.

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

Less Than Significant

The lower segment of the Ponti Fire Road is located within the Wildland Urban Interface.[91] Construction and ongoing maintenance of the proposed Project would include equipment which could generate sparks and could temporarily increase fire risk. MCOSD would implement RTMP Policy SW.26: Control or Restrict Access to Ignition Prevention Zones when Red-Flag Conditions Exist which would halt construction activities that could contribute to wildland fires during red-flag conditions. In addition, the MCOSD equips its vehicles with fire extinguishers to address small fires ignited by construction activities before a problem develops. As a result, implementation of the proposed Project would not expose people or structures, directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

[91] Defined as a zone of transition between wildland and developed areas, such as residential communities. Communities in the wildland-urban interface are at risk of catastrophic wildfire.

HYDROLOGY AND WATER QUALITY

TABLE 12: HYDROLOGY AND WATER QUALITY CHECKLIST QUESTIONS						
	Would the project:		**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water 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?	☐	☐	☐	☒
	iv)	impede or redirect flood flows?	☐	☐	☐	☒
d)	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?		☐	☐	☐	☒
e)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?		☐	☐	☐	☒
f)	Place within a 100-year flood hazard area structures that would impede or redirect flood flows?		☐	☐	☐	☒
g)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?		☐	☐	☐	☒

Setting

Pacheco Valle Open Space Preserve is mostly located in the Novato Creek watershed. Novato Creek is the largest watershed in eastern Marin County and flows eastward through oak and bay forests, grasslands, the City of Novato, and into San Pablo Bay near the mouth of the Petaluma River and encompasses 45 square miles. The existing Ponti Fire Road is located on the Big Rock ridge, which is the boundary between the Novato Creek Watershed and the Miller Creek Watershed. The Miller Creek watershed covers 12 square miles with 30 miles of channels. Miller Creek flows eastward from open space and private ranches on Big Rock Ridge through multiple unincorporated housing developments, including Miller Creek Estates and Marinwood, until it passes under Highway 101 and enters the baylands at the Northwest Pacific Railroad (NWPRR) Bridge. Hydrologic features in project area include Pacheco Creek, which is part of Novato Creek watershed via Ignacio Creek. Gullying occurs along the ridgeline fire roads, including Chicken Shack, Little Cat, and Ponti.[92]

CEQA Context

A project would normally have a significant impact to hydrology or water quality if it would substantially degrade water quality, contaminate a public water supply, substantially degrade or deplete groundwater resources, interfere substantially with groundwater recharge, encourage activities that result in the use of large amounts of water, use water in a wasteful manner, or cause substantial flooding.

a) Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant with mitigation

Construction along the new and existing trail and road alignments could be a source of sediment affecting water quality. Implementation of the proposed Project could affect water quality by erosion from grading and earthmoving operations, a release of fuels or other chemicals used during construction, or a release of materials generated during demolition and construction. Grading and earthmoving would expose soil during construction and could result in erosion, with excess sediments carried in stormwater runoff. The earthwork may occur between October 15 and May 15, during the rainy season, which is inconsistent with RTMP BMP Water Quality-6: Grading Windows. Implementation of the proposed Project would incorporate and be consistent with the following RTMP Water Quality BMPs:

- Water Quality-2: Temporary Erosion and Sediment Control
- Water Quality-3: Erosion Control Measures
- Water Quality-4: Preventing or Reducing the Potential for Pollution
- Water Quality-5: Road and Trail Inspections
- Water Quality-8: Proper Disposal of Excess Materials
- Water Quality-9: Sidecasting Construction Material

One of the primary objectives of the project is to reduce trail erosion and sedimentation into nearby waterbodies. The long-term effect of implementation of the project would be to improve water quality over existing conditions. Implementation of the RTMP BMPs, policies, and design standards would minimize potential water quality impacts from construction and operation of the proposed trails. Except for BMP Water Quality-6 Grading Windows, the proposed project incorporates the policies, BMPs, and design guidelines from the RTMP that addresses potential water quality impacts.

[92] MCOSD, 2014b

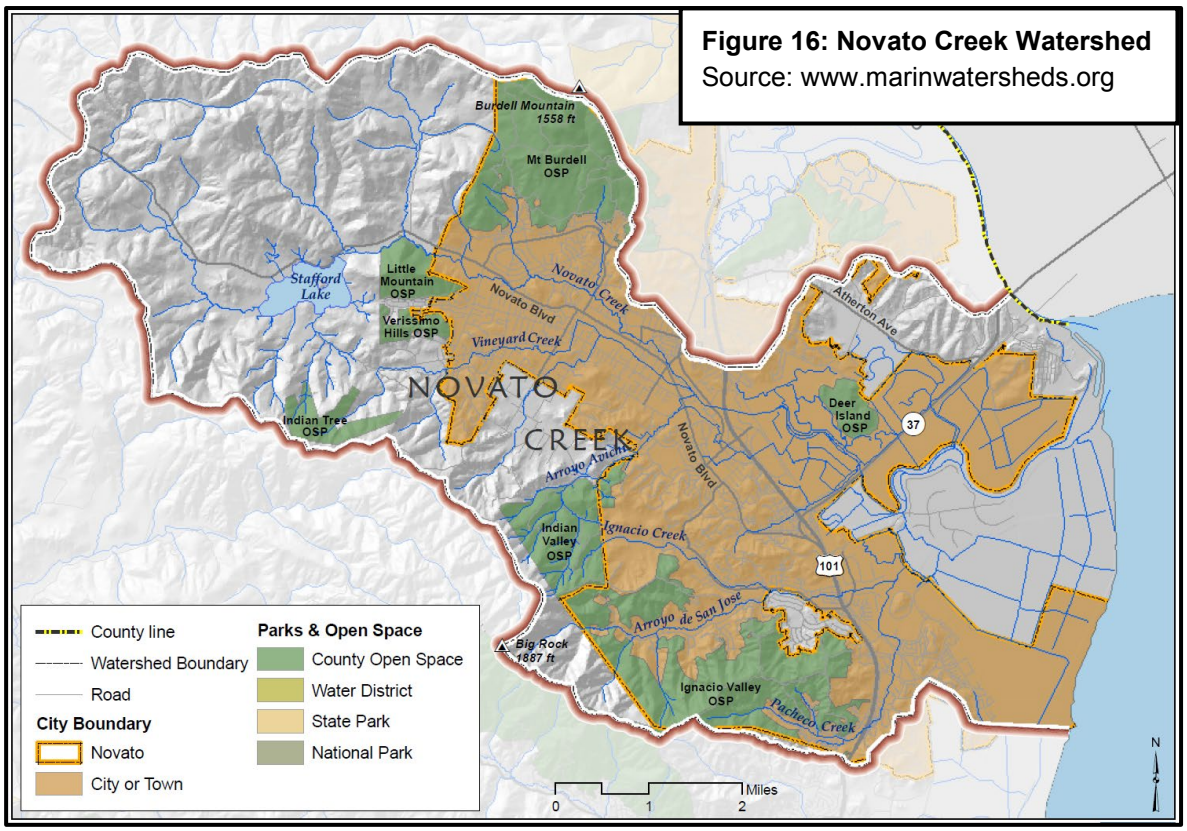

Figure 16: Novato Creek Watershed
Source: www.marinwatersheds.org

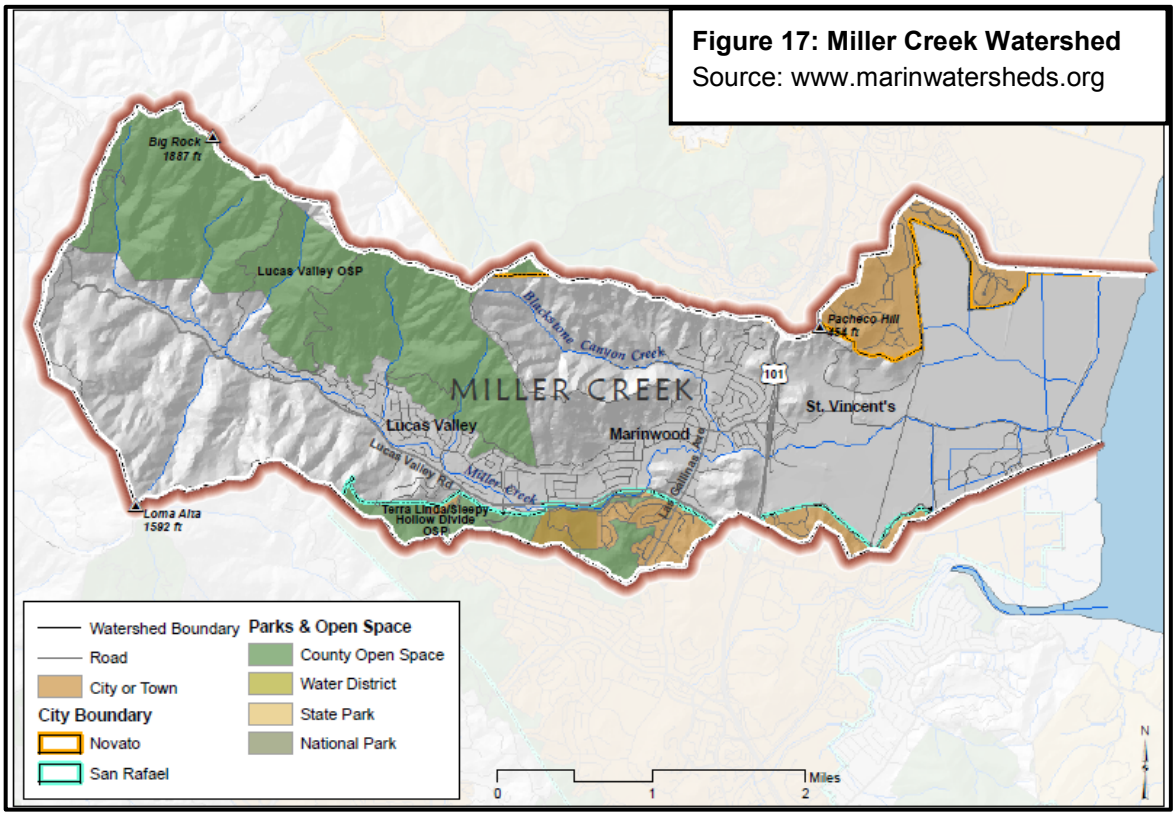

Figure 17: Miller Creek Watershed
Source: www.marinwatersheds.org

As described, conducting earthmoving activities during the rainy season has the potential to result in significant impacts to water quality and result in violation of water quality standards, unless the project incorporates appropriate mitigation to address this impact. Mitigation Measure WQ-1 would reduce the potential impact of rainy season construction to a less than significant level.

Mitigation Measure WQ-1: Erosion and Sediment Control Practices
Per the requirements of the Construction General Permit Order 2009-0009-DWQ for construction activity that disturbs one or more acres, the MCOSD will have a Storm Water Pollution Prevention Plan (SWPPP) developed by a Qualified SWPPP Developer. The SWPPP would identify potential sources of stormwater pollution that could result from implementation of the proposed Project, the specific stormwater Best Management Practices that would prevent project-related stormwater pollution, and how monitoring would occur during construction to ensure compliance with the BMPs.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
No Impact

The project area lies within the Novato Valley Groundwater Basin, which is a 32-square mile structural depression north of San Rafael and west of San Pablo Bay. Streams discharging to San Pablo Bay drain the basin and are subject to tidal influences in their lower reaches. Water in the basin occurs primarily in semi-confined alluvial deposits composed of unconsolidated clay, silt, sand, and intermittent gravel lenses. The alluvial deposits range from 60 to 200 feet thick and 25 to 50 feet deep wells yield an average of 50 gallons per minute. Groundwater type is typically calcium bicarbonate with the tidally influenced alluvium showing sodium chloride type. Tidal fluctuations can introduce brackish water into the groundwater reservoir, degrading water quality.[93]

Implementation of the proposed Project would improve an existing fire road, construct a new connecter trail, and decommission trail sections that would become redundant and are unsustainable. The MCOSD would not use groundwater during its construction and operation of the trails. The project area does not contain any impervious surfaces and the implementation of the proposed Project would not require the use of any impervious surfaces which could affect local groundwater recharge. Additionally, the MCOSD would improve the existing trail and design the new segments to be hydrologically invisible.[94] Project design incorporates the design standards included in the RTMP and recommendations from the Engineering Geologic and Feasibility Assessment[95] such as outsloping, grade reductions, and other similar measures, the proposed trail improvements would not significantly disturb the flow of water over the project area or adjacent areas. For these reasons, implementation of the proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

c) Would the Project 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?
Less Than Significant

The project area is within the Novato Creek and Miller Creek watersheds. Hydrologic features in project area include Pacheco Creek, which is part of Novato Creek watershed via Ignacio Creek. Gullying occurs

[93] MCOSD, 2014a
[94] Meaning that as water flows down a slope and interfaces with a trail, the water keeps flowing as if the trail was "invisible," ensuring that as water flows over the improved trails, it does not result in rills, gullies, or erosion that could lead to instability and landslides.
[95] Best, 2018

along the ridgeline fire roads, including Chicken Shack, Little Cat, and Ponti.[96] There are no creeks near the project area. Drainage within the project area sheet flows over land and collects in valleys and dips in the land that eventually lead to Novato Creek or Miller Creek and their tributaries.

Implementation of the proposed Project would improve an existing fire road, construct a new connecter trail, and decommission trail sections that would become redundant or are non-designated trails. Proposed improvements would ensure the trail is properly drained, minimize future maintenance, improve sustainability, and improve user safety. Overall, the project would result in a reduction of 0.8 miles of trail and fire road and a reduction of total disturbed area by approximately 38,000 square feet. Most of the trail decommissioning would include scarification of the trail, installing dewatering features, straw application to prevent erosion, installation of split rail fencing if needed, and installation of trail closure signage at top and bottom of both segments. The proposed Project would decrease the area of compacted surfaces, which would lessen the existing rate of erosion and sedimentation. Additionally, the proposed Project includes installation of drainage features to dewater the trails, including outsloping, water dips, reduced running slope, and other BMPs aimed at making the trails hydrologically invisible which would lessen the rate of erosion and sedimentation after the implementation of the proposed Project. For these reasons, implementation of the proposed Project would not substantially alter existing drainage patterns 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 that increases erosion and sedimentation.

ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Impact

Drainage improvements to the trails would include installation of rolling dips and outsloping of the trail. Rolling dips are drainage dips excavated into the trail to convey water off the trail. This is the preferred technique to get water off an existing trail. Outsloped tread is a technique that alters the trail to be lower on the outside or downhill side of the trail than it is on the inside or bank side. Outsloping lets water sheet across the trail naturally. The tread would be outsloped at approximately five percent. The project would entail the construction of rolling dips at various locations, to be determined in the field during construction. The net effect of these improvements is to move water off the trail surfaces as quickly as possible and drain them into the adjacent natural landscape. With these improvements, the project would reduce the concentration of runoff and water velocity over what currently occurs on these trails and this impact would be less than significant.

The only hydrologic features within the project area is a small seep located near where a portion of the upper segment of the Ponti Fire Road would be realigned. The Project has been designed to avoid the seep, and potential environmental effects to the seep have been addressed in the Biological Resources section of this document. The project area is not located within a 100-year flood hazard zone.[97] The proposed Project would improve drainage of the site. It would not affect flood flows through the site and would not affect the risk of flooding. The project would not be located within a 100-year flood hazard zone and would not expose people or structures to flooding hazards. For these reasons, implementation of the proposed Project would not substantially alter existing drainage patterns 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 that would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

[96] MCOSD, 2014b
[97] Marin Map, 2018

iii) Create runoff which would exceed capacity of stormwater drainage systems or provide additional sources of polluted runoff?

No Impact

Drainage improvements to the trails would include installation of rolling dips and outsloping of the trail. Rolling dips are drainage dips excavated into the trail to convey water off the trail. This is the preferred technique to get water off an existing trail. Outsloped tread is a technique that alters the trail to be lower on the outside or downhill side of the trail than it is on the inside or bank side. Outsloping lets water sheet across the trail naturally. The tread would be outsloped at approximately five percent. The project would entail the construction of rolling dips at various locations, to be determined in the field during construction. The net effect of these improvements is to move water off the trail surfaces as quickly as possible and drain them into the adjacent natural landscape. For these reasons, implementation of the proposed Project would not substantially alter existing drainage patterns 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 that would substantially increase the rate or amount of surface runoff in a manner which would create runoff which would exceed capacity of stormwater drainage systems or provide additional sources of polluted water. Implementation of the proposed Project would reduce the concentration of runoff and water velocity over what currently occurs on these trails, which is a beneficial impact.

iv) impede or redirect flood flows?

No Impact

The project area is not located within a flood area. Implementation of the proposed Project does not include structures that could impede or redirect flood flows.

d) Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact

The project area is not located near a large body of water that would be subject to seiches or tsunami. Elevations on the preserve range from 300 feet near the valley floor to 1,250 feet at the intersection of Ponti Fire Road with Chicken Shack Fire Road, and the site is located several miles away from areas subject to tsunamis.

As a result of the distance from the San Francisco Bay or the Pacific Ocean and the elevation of the project area, it would not be affected by seiche or tsunami. There are no creeks or rivers in the project area that could cause flooding. Overall, the project would improve drainage of the Ponti Fire Road and would not be located in an area subject to flood hazard, tsunami, or seiche zones.

e) Would the Project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact

The project does include the construction or modifications of any housing units. Therefore, the project will have no effect on the placement of housing within a 100-year flood hazard area.

f) Would the Project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact

The proposed trail improvement project is located near the peak of the Big Rock Ridge and not near any drainage courses near the top of the watershed site. Therefore, the project is not located within a 100-year flood hazard area and would not have any impact on the flow of flood waters.

g) Would the Project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact

As described above, the project is located near the top of the watershed and water traverses the area in sheet flow. There are no streams, creeks, drainages, ponds, or other water features that are subject to flooding. Therefore, the project will have a less than significant impact on exposing people flooding hazards.

LAND USE AND PLANNING

TABLE 13: LAND USE AND PLANNING CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Physically divide an established 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?	☐	☐	☐	☒

Setting

The project area is located within the Pacheco Valle and Ignacio Valley Open Space Preserves, which are within City of Novato jurisdiction, and on Marinwood Community Service District open space property, which is within unincorporated Marin County jurisdiction. Pacheco Valle Open Space Preserve is surrounded by single-family residential development in the unincorporated neighborhoods of Marinwood and Lucas Valley to the south and by the Loma Verde Open Space Preserve to the north. Access to the project site is from Heatherstone Drive in Marinwood and Sage Grouse Fire Road, Red Hawk Fire Road, and Curlew Fire Road off Alameda del Prado in Novato. There is limited on-street parking on the public streets in the vicinity of Pacheco Valle Open Space Preserve but no dedicated parking.

The Pacheco Valle and Ignacio Valley Open Space Preserves are governed by the City of Novato General Plan and zoning ordinance. These properties are within the Open Space (OS) land use designation and are zoned Publicly Owned Open Space (PD). The Marinwood County Services District properties are governed by the Marin Countywide Plan and zoning ordinance. These properties are within the Open Area (OA) land use designation and zoning. Implementation of the proposed Project would not affect land use designations, zoning, or existing use of the properties. The project area would continue the existing use of the site for public recreation, which is consistent with the applicable land use and zoning designations

CEQA Context

A project would normally have a significant land use impact if it would conflict with the adopted land use and zoning regulations or if it would disrupt or divide the physical arrangement of an established community.

a) Would the Project physically divide an established community?

No Impact

The existing trails are within an existing open space preserve and open space property. The proposed modifications to the Ponti Fire Road and decommissionings would not otherwise divide or change communities in the City of Novato or community of Marinwood. Therefore, implementation of the proposed Project would not physically divide an established community.

b) Would the Project 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?

No Impact

The proposed project is located within the Pacheco Valle and Ignacio Valley Open Space Preserves, which are designated as Open Space (OS) and zoned as Publicly Owned Open Space (PD) by the City of Novato, and within Marin Community Services District, which is designated as Open Space (OS) by the Marin Countywide Plan. These respective land use and zoning designations are intended to support public recreation and the proposed Project supports and continues that use. Implementation of the proposed Project would not 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.

MINERAL RESOURCES

TABLE 14: MINERAL RESOURCES CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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?	☐	☐	☐	☒

Setting

The State Mining and Reclamation Act of 1975 requires that counties adopt policies to protect certain state-designated mineral resource sites from land uses that preclude or inhibit mineral extraction needed to satisfy local market demand on a timely basis. The purpose of the act is to ensure that construction materials are available to all areas of the state at a reasonable cost. The California State Department of Conservation Division of Mines and Geology has designated eight sites in Marin County as having significant mineral resources for the North Bay region. Of the eight mineral resource sites designated in Marin County, two no longer meet the minimum threshold requirements and are exempt from application of mineral resource policies. Of the remaining six sites, two sites are located within an MCOSD Open Space Preserves, including Ring Mountain and Mount Burdell Open Space Preserves. Neither of which would be affected by the proposed Project.

CEQA Context

A project would normally result in a significant effect on mineral resources if a loss of a known mineral or of a locally important mineral resource recovery area occurred from implementation of the project.

a) Would the Project 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?

No Impact

The proposed Project would improve the existing Ponti Fire Road. Proposed improvements would ensure the trail is properly drained, minimize future maintenance, improve sustainability, and improve user safety. The project does not include any mineral extraction and, 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?

No Impact

The project area is not identified as a locally important mineral recovery site and, therefore, the implementation of the proposed Project would not result in the loss of availability of a locally important mineral resource recover site delineated on a local general plan, specific plan, or other land use plan.

NOISE

TABLE 15: NOISE CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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

Existing noise levels at most of the MCOSD's preserves are similar to that found in rural areas of Marin County, except where preserves abut developed residential areas or major transportation facilities such as U.S. Highway 101. Near residential areas or roadways, noise levels within preserves would be dominated by those sources. For other areas, noise levels within and adjacent to preserves typically range from 40-60 dBA during daytime, and from 20-40 dBA at night.[98] The Pacheco Valle and Ignacio Valley Open Space Preserves are surrounded by open space and residential development and are is typically quiet with noise levels in the 35 to 55 dBA range during the daytime.

CEQA Context

A project would normally result in a significant impact associated with noise if it would substantially exceed or increase the ambient noise levels for adjoining areas or if it exceeded the noise levels recommended in an adopted plan or noise ordinance. Noise impacts are assessed by first determining which project components would generate noise and then comparing the anticipated noise levels with existing noise levels from other sources in the project area and with past land use practices on the property.

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?

Less than Significant

Noise would be generated by the project during construction from the use of equipment for grading and other activities required for the proposed trail upgrades. Construction would occur over two or more years to accommodate critical periods for sensitive species and for wet weather considerations. Construction

[98] MCOSD, 2014a

would take place four days a week, Monday through Thursday, from 7:00 a.m. to 4:00 p.m. If contractors are utilized to supplement MCOSD staff, construction activities may also occur on Fridays. Construction of the project would require up 2 to 5 permanent MCOSD staff members, 4 to 6 seasonal employees, and a number of volunteers. Equipment for project would include excavators, dozers, dump trucks, water tenders, carriers, compactors, cement mixers, generators, ATVs, jackhammer, skillsaw, sawzall, and hand tools such as hedge trimmers and chainsaws.

During ground clearing activities including trail decommissioning, noise levels could reach a maximum of 85 decibels on the A-weighted scale (dBA) at a distance of 50 feet[99]. Project work would be within the interior of the open space properties and not immediately adjacent to private property. The project could expose these receptors to noise levels of 70 to 85 dBA during construction when it is located adjacent to the residences.[100] The rest of the time, noise levels would be far below this level and would decrease and the distance of the equipment to the receptors increases.

During construction activities, the MCOSD would comply with RTMP BMP Noise-1: County Noise Ordinance Requirements. This would reduce noise by construction and maintenance activities using power equipment to implement the day and time restrictions for such equipment operation. Potential noise impacts to wildlife is discussed in the Biological Resources section of this CEQA Checklist. MCOSD would comply with RTMP BMP Noise-2: Noise Control During Construction Within and Adjacent to Sensitive Wildlife Populations. This would reduce noise that could affect sensitive wildlife populations by requiring the best available noise-control techniques, such as mufflers, intake silencers, engine enclosures, and acoustically attenuating shields or shrouds be utilized on power equipment and vehicles.

As stated in the project description, MCOSD expects the level and types of recreational use of the project area to remain essentially the same as existing use patterns after implementation of the proposed Project, although the improved conditions could attract a nominal increase in visitor use. Increased visitor use could result in increased noise within the project area from recreational use. However, this impact would not be significant for the following reasons: (1) recreational noise would from unamplified voices, the sound of non-motorized bikes, or the sound of horses or dogs; (2) these noise sources are part of the existing condition within the project area; (3) implementation of the proposed Project would not change the existing use of the project area; (4) implementation of the proposed Project would not result in a substantial permanent increase in ambient noise levels compared to existing conditions. As stated in the RTMP EIR, Marin County Code and the MCOSD Code prohibit excessive noise generated by recreational users of the open space preserves.[101] Therefore, implementation of the proposed Project would not result in a substantial permanent increase in ambient noise this impact would be less than significant.

b) Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

No Impact

Groundborne noise is experienced inside a building or structure from vibrations produced outside of the building and transmitted as ground vibration between the source and receiver. Groundborne noise can be a problem in situations where the primary airborne noise path is blocked, such as in the case of a subway tunnel passing near homes or other noise-sensitive structures.

There are no adopted state or local policies or standards for groundborne vibration. The average person is quite sensitive to ground motion, and the human body can detect levels as low as 0.50 millimeters per second (0.02 inch per second), when background noise and vibration levels are low. Vibration intensity is expressed as peak particle velocity (PPV), the maximum speed at which the ground moves while it

[99] Based on FHWA dBA levels for equipment that would be utilized during project implementation in relative proximity to residences nearest to the project area
[100] FHWA, 2006
[101] MCOSD, 2014a

temporarily shakes. Since groundshaking speeds are very slow, PPV is measured in inches per second. The Federal Railway Administration and the Federal Transit Administration (FRA) have published guidance relative to vibration impacts. According to the FRA, fragile buildings can be exposed to groundborne vibration PPV levels of 0.5 inch per second without experiencing structural damage. Caltrans recommends that extreme care be taken when sustained pile driving occurs within 25 feet of any building, or within 50 to 100 feet of a historic building or a building in poor condition. Groundborne vibration from construction activities that involve "impact activities," primarily pile driving and use of a hoe ram to break concrete, could produce detectable or significant vibration at nearby sensitive buildings and sensitive receptors unless the project includes proper mitigation.

Implementation of the proposed Project would would involve shallow excavation and ground disturbance, but no pile driving or blasting. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. This analysis applies a significance threshold of cosmetic damage to buildings of 0.5 inch per second (in/sec) PPV. Typical vibration levels from various types of construction equipment at 25 feet are listed below.

TABLE 16: GROUNDBORNE VIBRATIONS

Vibration Source	**Peak Particle Velocity (in/sec)a At 25 Feet**
Large vibratory compactor (Truck-mounted)	0.210
Large bulldozer/earthmoving equipment	0.089
Loaded trucks	0.076
[a.] Vibration amplitudes for construction equipment assume normal propagation conditions.	
[b.] By comparison, pile driving activities result in 1.518 PPV (in/sec) at 25 feet.	
Source: FEETA, 2006	

As indicated in the table above, project-related construction activities would generate vibration levels well below the 0.5-in/sec PPV vibration threshold for adjacent buildings. This would be true even if two pieces of equipment, such as an excavator and dozer, were both operating 25 feet from a structure and the closest residence is located approximately 1.6 miles away from the closest construction activities. Therefore, vibration effects on adjacent or nearby offsite buildings or structures would be less than significant. Implementation of the proposed Project would not generate 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?

No Impact

The proposed project is located approximately six miles from the Marin County Airport at Gnoss Field and approximately two miles from the San Rafael Airport. Implementation of the proposed Project is not located within the vicinity of a private airstrip, an airport land use plan, or within two miles of a public airport or public use airport and therefore would not expose people residing or working in the project area to excessive noise levels.

POPULATION AND HOUSING

TABLE 17: POPULATION AND HOUSING CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Would the Project 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?	☐	☐	☐	☒

Setting

Pacheco Valle Open Space Preserve is located adjacent to the Marinwood residential community, which is governed by the Marin Countywide Plan. The Marin Countywide Plan provides the framework for new homes, businesses, public roads, and other infrastructure. The Marinwood CSD, where the upper segment of the Ponti Fire Road is currently located and where the realignment would occur is zoned for Open Area, a designation that does not support new homes or businesses.

The proposed Project would improve the existing Ponti Fire Road, construct a new connecter trail to the Pacheco Hill Pathway, and decommission one undesignated trail and trail segments associated with the Ponti Fire Road that would become redundant. Implementation of the proposed Project would improve these existing outdoor recreation amenities for recreational purposes such as horseback riding, hiking, dog walking, and bike riding. The project area is undeveloped except for the trails and provides no housing or business opportunities.

CEQA Context

Generally, a project would result in a significant impact to population and housing if it would cuase substantial population growth or remove existing housing.

a) Would the Project 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)?

No Impact

The proposed project does not include new homes or businesses, road extensions, or other infrastructure and would not affect existing infrastructure, modify the Novato General Plan or zoning designations or the Marin Countywide Plan or zoning designations, or result in the need for new permanent workers. Implementation of the proposed Project would not induce substantial unplanned population growth in the area, either directly, by constructing new homes and businesses, or indirectly, by extending roads or other infrastructure.

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

No Impact

There is no housing within the project area. Implementation of the proposed project would not displace any existing people or housing or necessitate the construction of replacement housing.

PUBLIC SERVICES

TABLE 18: PUBLIC SERVICES CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**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:				
	Fire protection?	☐	☐	☐	☒
	Police protection?	☐	☐	☐	☒
	Schools?	☐	☐	☐	☒
	Parks?	☐	☐	☐	☒
	Other public facilities?	☐	☐	☐	☒

Setting

The project area is within existing open space areas used by the public for outdoor recreation in both the City of Novato and unincorporated Marin County jurisdictions. The project area currently is served by the Novato Fire Protection District and City of Novato Police Department, Marinwood Fire Department, and the Marin County Fire Department and Sherriff Department. Emergency access to the project site is via Heatherstone Drive, San Andreas Fire Road, Queenstone Drive, Redhawk Road, Sage Grouse Road, and Curlew Way.

The project area is within existing open space properties utilized for public recreation, and this use would continue after the proposed Project is implemented. There currently are no park facilities, such as restrooms or playgrounds, at existing Pacheco Valle and Ignacio Valley Open Space Preserves or the Marinwood CSD open space area and none are proposed as part of the Project.

CEQA Context

A Project would normally result in a significant impact to public services if it would result in the need for new or additional public services in order to maintain acceptable service ratios, including response times and other performance objectives.

a) Would the Project 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:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

No Impact

Implementation of the proposed Project would not develop new housing or businesses, schools, parks, or other public facilities. Therefore, implementation of the proposed Project would result in the 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 fire protection, police protection, schools, parks, or other public facilities.

Existing emergency response personnel would continue serve the project area, and implementation of the proposed Project would not increase emergency response demands. Existing emergency access would be maintained during both construction and operation and would be improved as a result of project implementation, resulting in a beneficial impact.

RECREATION

TABLE 19: RECREATION CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	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)	Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Setting

The proposed Project is located within existing open space utilized by the public for outdoor recreation including hiking, biking, and equestrian uses. The purpose of the proposed Project is to implement the RTMP to provide the public with a safe multi-use trail system to enhance the visitor experience, reduce the environmental impacts on sensitive resources by reducing sedimentation and erosion, and establish a sustainable system of roads and trails that meet design and management standards and would provide year-round access along the trail alignment. The proposed Project consists of the following components, which are consistent with the land use and zoning designations in the City of Novato General Plan, the Marin Countywide Plan, and the RTMP.:

- Realign the Upper Ponti Fire Road, designate as multi-use, and install new signage
- Maintain and improve Lower Ponti Fire Road;
- Construct a new connecter trail from Ponti Fire Road to Pacheco Hill Pathway;
- Decommission Trail 18645, unnamed non-designated trails parallel to Ponti Fire Road; and portions of Ponti Fire Road that will become redundant after Upper Ponti Fire Road is re-aligned.

CEQA Context

A project would normally result in a significant impact to recreation if it would conflict with the established recreational uses of the project area.

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?

No Impact

The proposed Project entails implementation of a new alignment on the upper segment of the existing Ponti Fire Road to improve the grade and sustainability of the trail, and the subsequent conversion of existing fire road to multi-use trail. The project would also construct a new connecter trail to the Pacheco Pathway and would decommission a non-system trails within Ignacio Valley Open Space Preserve and trails associated with the existing Ponti Fire Road that would become redundant with implementation of the proposed Project. Implementation of the proposed Project would reduce erosion and sedimentation by reducing the grade and width of the existing fire road which would improve sight lines, reduce environmental impacts associated with existing erosion and sedimentation, reduce habitat fragmentation, and improve the visitor experience. While use of the realigned Ponti Fire Road may increase, implementation of the proposed

Project would not result in increased use such that substantial physical deterioration of the facility would occur or be accelerated. By purpose and design, the proposed Project would lessen existing physical deterioration of an existing outdoor recreational facility by re-aligning a steep and erosive fire road into a sustainable multi-use trail and decommissioning trails that were not-designated as part of the Region 3 proposed trail designation process because they are steep, erosive, and not sustainable.

There are over 3.7 miles of roads and trails within Pacheco Valle Open Space Preserve and 6.4 miles of roads and trails within Ignacio Valley Open Space Preserve.[102] The proposed Project includes decommissioning portions of the Ponti Fire Road that would become redundant after the upper segment of the Ponti Fire Road is realigned and non-designated Trail 18645 in Ignacio Valley Open Space Preserve. Approximately four miles of existing trail would be decommissioned with implementation of the proposed Project, consisting of non-designated trail and trail segments which would become redundant as a result of the upper segment of the Ponti Fire Road realignment. This reduction in trail would be offset by the increased length of the realigned upper segment of the Ponti Fire Road, which would be created by creating switchbacks along existing topographical lines to reduce the existing steep grade. The new Ponti Trail would be 1.6 miles longer than the existing Ponti Fire Road. Overall, implementation of the proposed Project would result in a reduction of 0.8 mile of existing trail, including existing fire road utilized as trail. This slight reduction in trail mileage would not change the density of trails within Region 3. Implementation of the proposed Project would reduce trail density and miles of unsustainable roads and trails, which would reduce erosion, sedimentation, habitat fragmentation, and improve the visitor experience.

MCOSD would implement RTMP BMP General-10: Road and Trail Inspections regardless of whether the proposed Project is implemented. If, through this monitoring, MCOSD identifies deterioration of existing trails, it will implement appropriate repair and maintenance activities. For these reasons, implementation of the proposed Project would not 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) Would the Project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact

The project area includes a network of fire roads and trails including those designated as system trails as part of the Region 3 trail designation process and those which were not designated, used for ongoing recreation including horseback riding, hiking, biking, and dog walking. Implementation of the proposed Project would improve existing outdoor recreational facilities by reducing existing steep trail grades and trail width which would reduce erosion and sedimentation; decommissioning trails that were not-designated as part of the Region 3 proposed trail designation process because they are steep, erosive, and not sustainable; reduce habitat fragmentation; improve sightlines; and improve visitor access and safety. These are beneficial impacts to recreational facilities.

[102] MCOSD, 2014b

TRANSPORTATION

TABLE 20: TRANSPORTATION CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b)	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				
e)	Result in inadequate emergency access?	☐	☐	☐	☒
f)	Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Setting

The project is within both the City of Novato and unincorporated Marin County and is subject to the City of Novato General Plan and Marin Countywide Plan. The Transportation Authority of Marin (TAM) is the congestion management agency and the transportation sales tax authority for Marin County. As the congestion management agency, TAM is responsible for managing a variety of transportation projects and programs in Marin County, receiving federal, state, regional, and local funds, working closely with all eleven cities and towns as well as the county. As the designated congestion management agency for Marin County, TAM is tasked with preparing a Congestion Management Plan to fulfill state of California legislative requirements Propositions 111 and 116, which were approved in June 1990. The congestion management program monitors local multi-modal transportation networks including level of service monitors levels of service on the county's roadways and works to improve all methods of transportation locally and regionally. The 2017 Congestion Management Plan is the most recent biennial update.

CEQA Context

A project would normally result in a significant impact to transportation and traffic if it would conflict with the adopted transportation plans and goals of the community where it is located, interfere with emergency response plans or emergency evacuation plans, or cause an increase in traffic that is substantial in relationship to the existing traffic load and capacity of the street system.

a) Would the Project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

No Impact

Implementation of the proposed Project would improve the existing Ponti Fire Road which currently supports recreation including hiking, equestrian use, and biking, develop the Pacheco Connector Trail, decommission a non-designated trail, and decommission what will become redundant trails associated with the existing Ponti Fire Road. The proposed Project would reduce the existing grade and improve the user experience and therefore overall trail use may increase. Under existing conditions, there is not dedicated parking for the Ponti Fire Road and the proposed Project would not develop any. Visitors would continue to utilize on-street parking on public roads. Therefore, while increases in use of the Ponti Fire Road are anticipated, it is not expected to be substantial. Since the project would not result in a significant increase in traffic, it would not conflict with TAM Congestion Management Program. The proposed Project would not result in significant impacts on public roads, as it would modify the existing fire roads to reduce their environmental impacts, improve safety, and increase opportunities for recreation in the preserve. Some increased use may occur because of the trail improvements.

b) Would the Project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No Impact

As described in the section above, implementation of the proposed Project would not conflict with any congestion management program.

c) Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact

The proposed project is located approximately six miles from the Marin County Airport at Gnoss Field and approximately two miles from the San Rafael Airport. The proposed Project would improve the existing Ponti Fire Road, which would not include any elevated structures or facilities that would interfere with air traffic. Therefore, implementation of the proposed Project would not result in a change in air traffic patterns, including an in increase in traffic levels or a change in location, that would result in substantial safety risks.

d) Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact

The project area is located within open space property owned and managed by MCOSD and the Marinwood CSD. Implementation of the proposed Project would not include work on public roadways. For these reasons, implementation of the proposed Project would not substantially increase hazards due to a design feature or incompatible uses.

e) Would the Project result in inadequate emergency access?
No Impact

Emergency access to the project area is via Heatherstone Drive, which is a private road with a gate and a public easement, through San Andreas Fire Road, Queenstone Drive, Redhawk Road, Sage Grouse Road, and Curlew Way which are located on open space properties. Emergency service in the project area is provided by the City of Novato Police Department and Fire Protection District, Marinwood Community Services District, and Marin County Fire Department.

The existing upper segment of the Ponti Fire Road is in very poor condition and is not used by local fire departments to provide emergency services. The proposed Project would improve this section of fire road that would be accessible for ATVs and other off-road vehicles in cases of emergency. MCOSD has met with the Marinwood CSD, City of Novato, and Marin County fire departments on several occasions over the past 2 years to discuss the proposed Project. Through staff conversations the local and county fire departments have confirmed that the conversion of the upper segmentupper of the existing Ponti Fire Road to a trail would not affect firefighting operations. The fire departments all share the sentiment that the upper Ponti Fire Road is a dangerously situated road that offers little strategic value to wildland fire fighting. Furthermore, deploying firefighting personnel on the upper segment of the Ponti Fire Road would place staff at unnecessary safety risks. The critical lower segment of the Ponti Fire Road which is adjacent to homes would remain as a serviceable fire road for fire and emergency service vehicles and would be improved as part of the project. The section portion of the Ponti Fire Road would remain accessible to ATV emergency vehicles for search and rescue and medical emergencies. During construction, access to the project area would be more limited because of construction equipment and personnel; however, the trails would be closed to recreation and emergency access would be maintained during construction. After construction, use of the project area for recreation would continue similar to current conditions. The proposed Project would improve access for rangers and emergency responders on foot or using ATVs. Overall, implementation of the proposed Project would have a beneficial impact on emergency access.

f) Would the Project conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
No Impact

The Marin Countywide Plan and Marin County's Congestion Management Program contain policies to encourage non-vehicle modes of travel and the proposed project would be consistent with these plans. Additionally, the project implements the RTMP, which encourages pedestrian and bicycle modes of travel. For these reasons, implementation of the proposed Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

TRIBAL CULTURAL RESOURCES

TABLE 21: TRIBAL CULTURAL RESOURCES CHECKLIST QUESTIONS					
	Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	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 §5020.1(k)?	☐	☐	☐	☒
b)	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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	☒

Setting

Assembly Bill 52 (AB52) is a CEQA amendment approved September 24, 2014 provides California Native American tribes on the Native American Heritage commission (NAHC) list the right to consult with a CEQA lead agency prior to the release of a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report for a project if they have requested AB52 consultation. AB52 also established the Tribal Cultural Resources section of the CEQA Checklist, requires CEQA lead agencies to consider tribal cultural values when assessing project impacts and mitigation, and requires formal notice to tribes who request it and meaningful consultation.

Consultation is defined as means the meaningful and timely process of seeking, discussing, and considering carefully the views of others, in a manner that is cognizant of all parties' cultural values and, where feasible, seeking agreement. Consultation between government agencies and Native American tribes shall be conducted in a way that is mutually respectful of each party's sovereignty. Consultation shall also recognize the tribes' potential needs for confidentiality with respect to places that have traditional tribal cultural significance.

AB 52 defines tribal cultural resources as either of the following:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
  - Included or determined to be eligible for inclusion in the CA Register of Historic Resources
  - Included in a local register of historical resources

- Determined by the Lead Agency to be significant pursuant to criteria set forth in PRC Section 5024.1. Must be supported by substantial evidence and in consideration of the significance of the resource to a CA Native American tribe.
- A cultural landscape that meets on of the above criteria and is geographically defined in terms of size and scope of the landscape.
- A historical resource described in PRC Section 21084.1
- A unique archaeological resource described in PRC Section 21083.2
- A non-unique archaeological resource if it conforms with the above criteria

While CEQA evaluates potential impacts on a physical aspect, tribal cultural resources can also include intangible attributes such as their association with historical events, oral history, customs, and traditions. Both tangible and intangible should be considered, evaluated, and managed together.

The MCOSD has received two such notices, one from the Federated Indians of Graton Rancheria (FIGR) and one from the Ione Band of Miwok Indians. On December 28, 2018, MCOSD sent an AB52 notice to the NAHC, FIGR, and Ya-Ka-Ama. The NAHC replied on January 8, 2019 with a letter via email stating that their search of the Sacred Land File resulted in negative findings. No response was received from FIGR or Ya-Ka-Ama. On January 31, 2019 the MCOSD sent an AB52 notice to the Ione Band of Miwok Indians. No response was received. Since no response requesting consultation on the proposed Project was received, tribal consultation was concluded.

CEQA Context

A project would normally result in a significant impact to tribal cultural resources if it would adversely change the significance of a tribal cultural resource, including those identified by tribes.

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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 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 §5020.1(k)?

No Impact

There are no sites within the project area that are listed or eligible for listing in the California Register of Historic Resources[103] or in a local register of historical resources as defined in PRC Section 5020.1(l). No historical resources were found within the study area by the cultural resources report prepared for the project.[104] Therefore, implementation of the proposed Project would not result in a substantial adverse change in the significance of a tribal cultural resource cultural landscape listed or eligible for listing on the California Register of Historical Resources.

b) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §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 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 Resource Code Section

[103] CDPR, 2019
[104] Origer, 2019

5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

No Impact

Although the Big Rock Ridge is not on the California Register of Historic Resources, it is a prominent geographic feature that is visible for miles around Marin and Sonoma Counties. Implementation of the proposed Project would not affect Big Rock Ridge, significantly alter the environs surrounding Big Rock Ridge, or the existing use of the project area including trails in the vicinity of Big Rock Ridge. FIGR did not share concerns regarding implementation of the proposed Project. For these reasons, implementation of the proposed Project would not cause a substantial adverse change in the significance of a tribal cultural resource defined in PRC §21074.

UTILITIES AND SERVICE SYSTEMS

TABLE 22: UTILITIES AND SERVICE SYSTEMS CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction 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?	☐	☐	☐	☒

Setting

The project area consists of undeveloped open space used primarily for preservation of natural resources and for recreational activities. Facilities include trails, fire roads for emergency and maintenance access, gates, and signs to inform the public. MCOSD does not provide any parking, restrooms, drinking water or other similar facilities that would require utilities, such as electricity, potable water, or wastewater on its open space preserves. MCOSD does place and maintain trash cans at some trailheads to capture trash and pet waste.

CEQA Context

A project would normally result in a significant impact on utilities and service systems if it would exceed or conflict with existing standards, service capacities, and/or entitlements. Potentially significant impacts to utilities and service systems have been evaluated by determining new or altered services that would be required to implement the proposed Project.

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

No Impact

Implementation of the proposed Project entails conversion of an existing fire road to a trail and implementation of a new alignment that would improve the grade and sustainability of the trail. The proposed Project would also construct a new connecter trail to the Pacheco Pathway and would decommission other non-designated trails. The construction or operation of this trail would not require any new electrical, water, wastewater, or solid waste collection facilities. Additionally, the proposed Project would not require the movement of replacement of existing utility facilities such as water or electrical lines or infrastructure as none are located in the Pacheco Valle or Ignacio Valley Open Space Preserves. MCOSD would import water to the project area during construction for dust control and construction of trail improvements. MCOSD would utilize recycled wastewater if it is available. Implementation of the proposed Project would not require electricity but would rely on construction equipment powered by diesel fuel and gasoline and would not require or impact any electrical infrastructure. For these reasons, implementation of the proposed Project would not require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities.

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

No Impact

The project area is between areas is served by the North Marin Municipal Water District (NMWD), which provides water to the Novato area, and the Marin Municipal Water District, which provides water service to central and southern Marin. The project area currently does not have water service and none is proposed as part of the project. Implementation of the proposed Project would not create new demands for water supply and would not include or require any drinking fountains, irrigation, or water facilities. During construction, the MCOSD may need some minor amounts of water, which it would bring to the site by truck, as needed. If available, the MCOSD would use recycled wastewater. For these reasons, there would be sufficient water supplies available to serve the Project.

c) Would the Project 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?

No Impact

There are no proposed or existing bathrooms or water facilities available at the project area. Therefore, implementation of the proposed Project would not require any wastewater treatment facilities and would not include or require any new or expanded wastewater facilities.

d) Would the Project 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?

No Impact

The MCOSD would take waste generated from the project site to the Redwood Landfill, located in Novato. Redwood Landfill is permitted throughput capacity to receive 2,300 tons per day of waste material, has a design capacity of 26,000,000 cubic yards, and is estimated to cease operations in 2024.[105]

[105] CalRecycle, 2019

Project construction may generate small amounts of waste, but the volume of this waste would not affect land landfill capacity. In addition, the project would comply with applicable county, state, and federal regulations regarding solid waste disposal. Project construction would involve vegetation clearing and trail maintenance, which would generate very minor amounts of solid waste. For these reasons, implementation of the proposed Project would not 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) Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact

Solid waste generated by implementation of the proposed Project would not result in exceedance of the permitted throughput capacity or long-term capacity of this facility. Additionally, the implementation of the proposed Project would comply with applicable county, state, and federal regulations regarding solid waste disposal.

WILDFIRE

TABLE 23: WILDFIRE CHECKLIST QUESTIONS					
	If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
a)	Impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b)	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?	☐	☐	☐	☒
c)	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?	☐	☐	☐	☒
d)	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?	☐	☐	☐	☒

Setting

In accordance with California Public Resource Code Sections 4201 through 4204 and Government Code Sections 51175 through 51189, the Novato Fire Protection District and CalFire has mapped areas of significant fire hazards because of fuels, terrain, weather, and other relevant factors. The portion of the project area within the City of Novato is mapped by the Novato Fire Protection District and the portion of the site within unincorporated Marin County is mapped by CalFire. The project area is mapped as a moderate and very high risk.[106]

MCOSD currently implements RTMP Policy SW.26: Control or Restrict Access to Ignition Prevention Zones when Red-Flag Conditions Exist, and would continue to do so regardless of whether the proposed Project is implemented.

a) Would the Project impair an adopted emergency response plan or emergency evacuation plan? No Impact

Implementation of the proposed Project would not interfere with established emergency response plans or emergency evacuation plans.[107] MCOSD has closely coordinated with all local fire departments who share the sentiment that the upper Ponti Fire Road is a dangerously situated road that offers little strategic value to wildland fire fighting. Furthermore, deploying firefighting personnel on the upper segment of the Ponti Fire Road would place staff at unnecessary safety risks. The critical lower segment of the Ponti Fire Road which is adjacent to homes would remain as a serviceable fire road for fire and emergency service vehicles and would be improved as part of the project. The upper segment of the Ponti Fire Road would remain

[106] MarinMap, 2019
[107] City of Novato, 2009; Marin County, 2007

accessible to ATV emergency vehicles for search and rescue and medical emergencies. Implementation of the proposed Project would not change or disrupt vehicular or pedestrian traffic in the site vicinity in a way that would have the potential to interfere with emergency response or evacuation. For these reasons, implementation of the proposed Project would not impair an adopted emergency response plan or emergency evacuation plan.

b) 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?

No Impact

Implementation of the proposed Project would not exacerbate wildfire risks in the area. The existing Ponti Fire Road is in very poor condition and is not used by local fire departments to provide emergency services. The proposed Project would convert the upper segment of the Ponti Fire Road into a narrower trail with a lower grade that would be accessible for ATVs and other off-road vehicles in cases of emergency. MCOSD has met with the Marinwood, Novato and County Fire Departments on several occasions over the past two years to discuss the proposed Project. Through staff conversations the local and county fire departments have confirmed that the conversion of the upper segment of the existing Ponti Fire Road to a trail would not affect firefighting operations. The fire departments all share the sentiment that the upper Ponti Fire Road is a dangerously situated road that offers little strategic value to wildland fire fighting. Furthermore, deploying firefighting personnel on the upper segment of the Ponti Fire Road would place staff at unnecessary safety risks. The critical lower portion of the Ponti Fire Road which is adjacent to homes would remain as a serviceable fire road for fire and emergency service vehicles and would be improved as part of the project. The upper segment of the Ponti Fire Road would remain accessible to ATV emergency vehicles for search and rescue and medical emergencies.

Although construction and maintenance equipment could generate sparks and could temporarily increase fire risk, the RTMP contains policies and BMPs to reduce this hazard. RTMP Policy SW.26 allows the MCOSD to temporarily or permanently close preserves or restrict uses in preserves to reduce fire risk during periods of high fire danger. In addition, MCOSD vehicles are equipped with fire extinguishers to address small fires ignited by construction activities before a problem develops. For these reasons, implementation of the proposed Project would not exacerbate wildfire risks and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

c) Would the Project 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?

No Impact

Implementation of the proposed Project would convert an existing fire road to a narrower trail with a lower grade. The proposed Project would improve the trail and the recreation experience and reduce its sedimentation and erosion impacts. The trail improvements do not include any structures or other facilities that would be flammable or otherwise increase the wildfire risk. Additionally, the trail is in a remote wildland area that has no infrastructure to support wildfire protection. Because of the relatively low intensity of use, remote location, and the lack of flammable structures, no additional infrastructure is necessary to reduce the risk of wildfire. The proposed trail improvements will not have any effect on the MCOSD's fuel management activities within the preserve. The proposed Project has been designed in close coordination with the Marinwood Fire Department and Marin County Fire Department and overall the proposed Project would improve fire department access by improving the condition of the Ponti Fire Road and ensuring that fire department ATVs and other equipment can access the interior of the preserve, where currently access is restricted due to the steep slopes and poor condition of the fire road. This is a beneficial impact. For these reasons, implementation of the proposed Project would not 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.

d) Would the Project 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?

No Impact

The Ponti Fire Road is located along the Big Rock Ridge and there is very little watershed above the trail. The proposed improvements to the trail would improve the flow of water across it and reduce slope instability. Additionally, trail project does not include any structures or other facilities that would be at risk due to post-fire slope instability. The trail itself could be damaged due to post-fire runoff or slope instability, but it is relatively inexpensive to repair any damage, which the MCOSD would easily address. Finally, because of the low intensity of use of the trail and the short duration that people are on the trail, when compared to residential or commercial areas, the risk to people is relatively low. For these reasons, implementation of the proposed Project would not 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.

MANDATORY FINDINGS OF SIGNIFICANCE

TABLE 24: MANDATORY FINDINGS OF SIGNIFICANCE CHECKLIST QUESTIONS					
	Would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less-than-Significant Impact**	**No Impact**
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, current, and probable future projects.)?	☐	☐	☒	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

Setting

Implementation of the proposed Project would result in an overall beneficial effect to the environment as it would decommission trail segments that would become redundant and are unsustainable, which would result in less erosion, sedimentation, and habitat fragmentation. The proposed improvements to the upper segment of the Ponti Fire Road would result in a sustainable trail section with a narrower width than the existing condition, which likewise would result in less erosion and sedimentation. Potential impacts described in this document that could result from implementation of the proposed Project would be temporary. MCOSD would implement the recommendations included in the Engineering Geologic and Feasibility Assessment,[108] applicable RTMP BMPs described in this document, and would implement the mitigation measures included in this document to reduce potential impacts not addressed by the Engineering Geologic and Feasibility Assessment or RTMP BMPs to a less than significant level.

[108] Best, 2018

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?

Less than Significant with Mitigation

The proposed project would maintain and improve 0.5 mile of Lower Ponti Fire Road, realign 1.2 miles of existing Upper Ponti Fire Road into 2.8 miles of 5-foot wide trail, construct a new 0.4-mile long, 5-foot wide connecter trail from Ponti Fire Road to Pacheco Path along Highway 101, designate the realigned trail as multiuse, and decommission Trail 18645, portions of Ponti Fire Road and an unnamed social trails parallel to Ponti Fire Road. These improvements would reduce overall grade and therefore reduce erosion and improve safety. The project would improve drainage by installing water-control features, such as outsloping and rolling dips to minimize the trail's effect on the movement of water across the path. Overall the goal of the project is to make the trail hydrologically invisible and would result in a reduction of 0.8 miles of trail and fire road and a reduction of total disturbed area by approximately 38,000 square feet. With the improvements to the trail's hydrology and the other trail decommissionings and implementation of mitigation measures Hydrology-1 through 5, the proposed Project would reduce the impacts from the existing trails in Pacheco Valle and Ignacio Valley Open Space Preserves by reducing hydrologic impacts and the area natural habitat disturbed by trails.

Implementation of the proposed Project could impact sensitive plant and wildlife communities and special status species. The project area supports nine vegetation communities and is relatively rich in native plant species. In particular, the project area is known to support one special-status plant species, bristly leptosiphon (*Leptosiphon acicularis*) which was documented within the project area during project-specific surveys. One rush-dominated seep is located within the project area, approximately 20-30 feet upslope of one area that will be realigned. MCOSD would implement the recommendations included in the Engineering Geologic and Feasibility Assessment,[109] applicable RTMP BMPs described in this document, and would implement the mitigation measures included in this document to reduce potential impacts not addressed by the Engineering Geologic and Feasibility Assessment or RTMP BMPs to a less than significant level. For these reasons, implementation of the proposed Project would not 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 plan 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, current, and probable future projects.)

Less than Significant

The proposed Project is one of several trail projects that the MCOSD has constructed in the last five years as part of its implementation of the RTMP. These projects include repairs and improvements to the following trails:

- Dawn Falls Trail, Baltimore Canyon Open Space Preserve, Larkspur
- Piedmont Trail, Blithedale Summit Open Space Preserve, Larkspur
- Roy's Redwoods Loop Trail, Roy's Redwoods Open Space Preserve, San Geronimo Valley)
- Cascade Canyon Fire Road, Cascade Canyon Open Space Preserve, Fairfax

[109] Best, 2018

- Old Railroad Grade Trail, Loma Alta Open Space Preserve, Fairfax
- Val Vista Trail, Camino Alto Open Space Preserve, Mill Valley
- Octopus Trail, Camino Alto Open Space Preserve, Mill Valley
- Contour/Candelero complex trails, Gary Giacomini Open Space Preserve, San Geronimo Valley
- Bob Middagh and Gasline trails, Alto Bowl Open Space Preserve, Mill Valley
- Hunt Camp Trail, Gary Giacomini Open Space Preserve, San Geronimo Valley
- Irving Fire Road, Terra Linda – Sleepy Hollow Divide Open Space Preserves, San Anselmo

During 2018 and 2019 at the time of publication of this document, the MCOSD implemented improvements and repairs to several roads and trails, including the following:

- 2019 Eagle Rim Trail, Mount Burdell Open Space Preserve, Novato
- 2018 Old Railroad Grade, Loma Alta Open Space Preserve, Fairfax
- 2018 Alto Bowl Fire Road, Alto Bowl Open Space Preserve, Mill Valley
- 2018 Bob Middagh Culvert Replacement, Alto Bowl Open Space Preserve, Mill Valley
- 2018 Conifer Fire Road Gary Giacomini Open Space Preserve, San Geronimo Valley

Additionally, the MCOSD and Marin County Parks are undergoing a planning process for several road and trail improvement projects including, but not limited to, the following:

- Blue Oak Trail, Rush Creek Open Space Preserve, Novato
- Cascade Fire Road Bridges, Cascade Canyon Open Space Preserve, Fairfax
- Middle Fire Road, Mount Burdell Open Space Preserve, Novato
- Roy's Redwoods access and restoration, Roys Rewoods Preserve, Woodacre
- Toyon fire Road, Cascade Canyon Open Space Preserve, Fairfax
- Buck Gulch Falls Trail, Ignacio Open Space Preserve, Novato
- Memorial and Fox Lane Trail, Terra Linda Open Space Preserve, San Anselmo

All the MCOSD projects would comply with the requirements of the RTMP, including Policy SW.4: Overall Reduction in Road, Trail, and Visitor Impacts, which mandates the designation of new roads and trails resulting in a net reduction of environmental impacts from the existing road and trail system. The projects would achieve this policy goal through reducing erosion and sedimentation, improving the environmental impacts from existing stream crossings, redesigning trails to avoid impacts to sensitive habitat and species, and decommissioning of existing non-designated trails. In combination, these projects would result in a net improvement to the resources of the open space preserves. The proposed trail projects included measures to avoid impacts to special-status species, sensitive habitats, nesting birds, wildlife, native trees, and a seep. MCOSD would implement the recommendations included in the Engineering Geologic and Feasibility Assessment,[110] applicable RTMP BMPs described in this document, and would implement the mitigation measures included in this document to reduce potential impacts not addressed by the Engineering Geologic and Feasibility Assessment or RTMP BMPs to a less than significant level. For these reasons, implementation of the proposed Project would not result in impacts that are individually limited, but cumulatively considerable.

[110] Best, 2018

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

No Impact

The proposed Project will not have substantial adverse direct or indirect impacts on human beings. The project area is a natural area that people visit for recreational purposes. The nearest private residence approximately 200 feet from the project area. Potential environmental effects of the proposed Project in the vicinity of the residential area would be very limited as the proposed Project would take place within open space areas and construction equipment would only remain in one location for a matter of weeks as work progresses along the entire alignment. Implementation of the proposed Project could affect visitors to for recreational purposes during project implementation as the work areas would be closed during that time. This would be a temporary impact, and ultimately, implementation of the proposed Project would improve the visitor experience. The proposed Project includes decommissioning unused portions of the Ponti Fire Road and unsanctioned Trail 18645, a 5,438-linear foot non-designated trail in Ignacio Valley Open Space Preserve, and several unnamed social trails parallel to Ponti Fire Road to reduce erosion and habitat fragmentation. Overall, the implementation of the proposed Project would result in a reduction of 0.8 miles of trail and fire road and a reduction of total disturbed area by 38,000 square feet. However, this reduction in total trail would be offset by the increased length of the Ponti Trail created during realignment of the upper segment and by the increased accessibility and improved experience resulting from the reduced grade. Therefore, implementation of the proposed Project would not result in environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

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Appendix A

Marin County Open Space District

Road and Trail Management Plan

Policies and Best Management Practices

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RTMP POLICIES

Policy SW.1: Application of this Road and Trail Management Plan Policies. The policies and requirements of this plan will apply within all open space preserves, and within any new preserves that may be established. These policies will also apply to existing and future trail easements unless they would conflict with the terms of the easement, in which case the easement will prevail.

Policy SW.2: System Roads and Trails. The MCOSD will, following adoption of this plan, designate a system of roads and trails, referred to as "system roads and trails", in all existing and new open space preserves, through a collaborative public process. Those roads and trails eligible for consideration as part of the system must have been constructed as of November 2011. The MCOSD may improve, maintain, convert, or reroute system roads and trails according to the policies and requirements of this plan, as time and resources allow. Nonsystem roads and trails, defined as those roads and trails not designated as system roads and trails, may be decommissioned at any time, as time and resources allow.

Policy SW.3: Social Trails. For the purpose of this policy, social trails are defined as narrow pedestrian footpaths that a) were not constructed; and b) have not been improved, managed, or maintained. This definition extends to wildlife trails used occasionally by pedestrians. This plan recognizes that, for all practical purposes, social trails will continue to exist after the system of roads and trails has been designated. Social trails are not subject to closure or decommissioning unless a) their continued existence compromises public safety; b) results in unacceptable levels of erosion, or damage or disruption to plants and wildlife; c) their volume of use increases; and/or d) they are used by equestrians or bikers.

Policy SW.4: Overall Reduction of Road, Trail, and Visitor Impacts. The designated system of roads and trails will have less overall impact to resources compared to the network of roads and trails existing as of November 2011. Impacts will be reduced by decommissioning non-system roads and trails, and by the improvement, conversion, or rerouting of system roads and trails. The MCOSD will maximize the reduction of road, trail, and visitor impacts in Sensitive Resource Areas, compared to Conservation Areas and Impacted Areas. Impacted Areas will exhibit the widest range of acceptable road, trail and visitor impacts.

Policy SW.5: Policy on Pedestrian Activities. Pedestrians are encouraged to stay on system roads and trails.

Policy SW.6: Prohibition on Off-Road or Off-Trail Equestrian Use. Horses and pack animals must stay on system roads and trails, except when watering or resting the animal. Off-trail riding is prohibited. Riding or possession of a horse or pack animal on non-system roads and trails is prohibited. Riding or possession of a horse or pack animal on social trails is prohibited.

Policy SW.7: Prohibition on Off-Road or Off-Trail Bicycle Use. Mountain bikers must stay on system roads and trails designated for bicycle use. Off-trail riding is prohibited. Riding or possession of a bicycle on non-system roads and trails is prohibited. Riding or possession of a bicycle on social trails is prohibited.

Policy SW.8: Prohibition on Off-Road or Off-Trail Pedestrians with Dogs or Other Domestic Animals. Pedestrians with dogs and other domestic animals must stay on system roads and trails. Off-trail use by pedestrians with dogs and other domestic animals is prohibited. Use of non-system roads and trails, and social trails, by pedestrians with dogs and other domestic animals is prohibited.

Policy SW.9: Prohibition of Dogs within Sensitive Water Resources. Dogs are not allowed to travel, run, walk, hunt, or bathe in streams or any sensitive water bodies, such as marshes, lakes, or ponds, within the preserves.

Policy SW.10: Policy on Leash Only Preserves. Due to the occurrence of sensitive resources, dogs must be leashed on all roads and trails in those preserves currently designated as "leash only" (i.e., Cascade

Canyon, Ring Mountain, and Rush Creek Preserves). The MCOSD may designate other "leash only" preserves in the future.

Policy SW.11: Policy on Leash Requirements for Dogs. Dogs must be on leash (no more than 6 feet in length) a) in all designated "leash only" preserves; and b) on all trails. Dogs may be off leash, but under voice control, only on fire roads that are not within leash only preserves. The MCOSD will identify roads passing through leash only preserves with signs. Dogs under voice control must remain on the fire road.

Policy SW.12: Road and Trail Connectivity. The MCOSD will strive to increase road and trail connectivity for all trail users. The MCOSD will strive to provide opportunities for short to medium distance loops and long-distance routes. The MCOSD may consider one-way, uphill-only, time separation, and single-use or priority-use trails to achieve these ends.

Policy SW.13: Prohibition on Dangerous Activities. Activities that exceed the established speed limit, are reckless, or pose a danger to the user or to other road and trail users, are prohibited.

Policy SW.14: Road and Trail Etiquette. All road and trail users will practice good etiquette at all times. Mountain bikers will always yield to both hikers and equestrians. Hikers will yield to equestrians. Mountain bikers must announce their presence by using a bell or calling out when overtaking other trail users.

Policy SW.15: Expectation of Active Cooperation of All Road and Trail Users. Increased trail use opportunities must be coupled with cooperation among all trail users, and with the MCOSD, to promote lawful trail use, reduce violations, reduce impacts to natural resources, prevent displacement of any trail user types, minimize disturbance to existing neighbors, and avoid endangerment of other trail users.

Policy SW.16: Prohibition of Uses. The MCOSD may prohibit certain trail uses or apply increased trail use restrictions within certain areas to enhance safety, minimize conflicts between trail users, and protect natural resources. Examples of areas where this policy may apply include, but are not limited to, those proximate to stables and those traditionally heavily traveled by equestrians, and in Sensitive Resource Areas.

Policy SW.17: Displacement of Existing Trail Users. The MCOSD will strive to prevent displacement of equestrians and pedestrians when accommodating trail access and trail connections for mountain bikers. When considering the designation of existing trails as single-use or priority-use, the MCOSD will take care to maintain connectivity between destinations for user groups historically using those trails.

Policy SW.18: Unauthorized Trail Construction and Maintenance. The MCOSD has no tolerance for unauthorized trail construction and unauthorized reopening of closed or decommissioned roads and trails. The MCOSD will prosecute such violations to the fullest extent of the law. The MCOSD will apply new deterrence methods, including rigorous investigation and increased penalties to stop such damaging and unlawful activities.

Policy SW.19: Redundant Roads and Trails. Redundant roads or trails are defined as those that roughly parallel an existing route serving essentially the same purposes, uses, and user groups. Through designation of the road and trail system, the MCOSD will reduce the overall level of redundancy compared to baseline levels and when doing so will exclude from designation the road or trail segment or segments that have the highest overall maintenance costs and the worst profile of environmental impacts. The MCOSD may strategically retain some redundant roads and trails in the interest of separating user groups and avoiding user conflict. Redundant roads and trails that are not designated as system roads and trails will be decommissioned as time and resources allow. All decommissions of redundant fire road segments will be subject to consultation with Marin County Fire and the relevant local fire agencies.

Policy SW.20: Conversion of System Roads to Trails. The MCOSD may convert system roads to trails to protect natural resources, enhance visitor experience and/or safety, or align maintenance costs with available funds. System roads encumbered by license, lease, or easement for nonrecreational purposes,

and roads required for maintenance or emergency access, may not be converted to trails unless encumbrances are removed, or roads are no longer necessary for maintenance or emergency use.

Policy SW.21: Roads or Trails Serving Nonrecreational Uses. Roads or trails subject to or encumbered by license, lease, or easement, for nonrecreational purposes, and those roads required for maintenance or emergency access, will become system roads and trails, unless encumbrances are removed, or roads are no longer necessary for maintenance or emergency use.

Policy SW.22: Protect High-Value Vegetation Types. As a general policy, visitors will be directed away from areas of high-value vegetation types, as identified in the MCOSD's mapped Legacy Vegetation Management Zones and other more site-specific biotic assessments undertaken or commissioned by the MCOSD, to prevent disturbance and adverse impact. This will be done through the appropriate placement of new and rerouted trails, by erecting fencing, or by installing educational signs that provide information about the resource values being protected.

Policy SW.23: Identify High Value Biological Resources. Designation of the road and trail system and evaluation of road and trail project proposals will be based on best available data, including inventories of wildlife, and vegetation resources. The MCOSD will undertake site specific and programmatic efforts to extend and improve upon the biological data underlying its decision-making criteria. System designations, project design, and project implementation are subject to amendment on the basis of new information.

Policy SW.24: Minimize Intrusions into Larger Contiguous Habitat Areas and Wildlife Corridors. In designating the system of roads and trails, the MCOSD will minimize their adverse effects on sensitive vegetation, as well as, habitat connectivity and migration corridors for all native species of wildlife.

Policy SW.25: Helmet Requirement. Per California state law, bicycle riders less than 18 years old are required to wear a helmet when riding on the MCOSD roads and trails.

Policy SW.26: Control or Restrict Access to Ignition Prevention Zones when Red-Flag Conditions Exist. Appropriate actions will be taken to minimize the risk of wildfire ignition when red-flag conditions exist. These actions may include prohibiting vehicle access, closing trails, or closing entire areas to all human activities until red-flag conditions expire. The public will be informed of the reasons why such actions are being taken, and areas will be patrolled to ensure compliance.

Policy SW.27: Protect High-Value Cultural and Historic Resources by Rerouting or Confining Visitor Access. Areas of high- value cultural and historic resources will be protected from disturbance and adverse impact. This will be done through the appropriate placement of trails, by erecting barriers, or other methods to discourage access.

Policy SW.28: Remove or Realign Roads and Trails Away from High-Value Cultural and Historic Resources. As a general policy, designated roads and trails will be rerouted away from high-value cultural and historic resources whenever possible and feasible. Areas where roads or trails are removed will be restored to natural conditions. The removal or realignment of roads will be done in consultation with Marin County Fire and other local fire agencies.

Policy SW.29: Retrofit or Upgrade Construction Equipment. Work with the Bay Area Air Quality Management District to implement feasible actions from the 2010 Clean Air Plan MSM C-1 – Construction and Farming Equipment. Pursue funding to retrofit the existing construction equipment engines with diesel particulate filters or upgrade to equipment with electric, Tier III, or Tier IV off-road engines. Seek to rent construction equipment that meets these criteria, if available.

Policy SW.30: Permeable Paving. For any new parking areas and other large areas of potentially impermeable surfaces, use permeable paving or an equivalent for all paved areas to provide for the infiltration of rainfall.

Policy SW.31: Floodplain Policy for New and Improved Roads and Trails. The MCOSD will review current Federal Emergency Management Agency Flood Insurance Rate Maps and other current flood maps to assess potential flood impacts to any proposed new or improved road, trail, or associated facilities located in the lower elevation bayland or coastal areas (i.e., Santa Margarita Island, Santa Venetia Marsh, Bothin Marsh, Rush Creek, Deer Island, and Bolinas Lagoon). In cases where a flood risk is identified, proposed facilities shall either be relocated outside of the flood prone area or designed and constructed in a manner to protect public safety and not increase base flood elevations. As part of public safety, the MCOSD shall also review the most current Tsunami Inundation Maps as part of the trail improvement planning efforts in those areas in order to identify areas that may require escape plans or proper notification.

Policy T.1: Loop and Long-Distance Trail Connections. When designating system roads and trails, the MCOSD will seek to maintain and/or develop new opportunities for loop and long-distance travel, when such opportunities do not conflict with resource protection or visitor safety.

Policy T.2: Visitor Amenities. The MCOSD may provide or permit visitor amenities such as a) facilities to encourage the pickup and disposal of pet waste; b) watering opportunities for horses and other pack animals; c) potable water; and d) small bike repair stations.

Policy T.3: Visitor Safety. The safety of all road and trail users depends in large part on visitor conduct. The MCOSD expects that all users will conduct themselves in a safe manner, to protect their own safety and the safety of other users. The MCOSD shall consider visitor safety in designating the road and trail system.

SPECIAL USE POLICIES

In addition to providing public access for recreational uses, the MCOSD preserves also allows uses such as commercial dog walking, recreational events, and access for utility providers such as Verizon and PG&E. There is a need for a consistent and structured approach for the MCOSD to respond to requests for special uses. New policies to accomplish this are described below.

Policy SP-1: Lease/License/Other Form of Approval Required for Land Management or Utility Activities. Consistent with the MCOSD's Nonconforming Use Policy, all agencies and service providers requesting access to open space preserves will be required to obtain a lease, license, or other form of approval from the MCOSD describing the purpose and timing of their activities. The MCOSD may impose fees and conditions. Such conditions may include, but will not be limited to, the timing of the activity with respect to seasonal and weather concerns, the protection of natural resources, and the location of the activity. The MCOSD's Nonconforming Use Policy provides specific guidance for permitting use of open space by utilities, water districts, and other similar entities.

Policy SP-2: Permit Required for Organized Recreational Activities or Events. All private parties or public agencies requesting access to the MCOSD preserves for recreation-related or other special events will be required to complete and obtain a permit detailing the purpose and timing of their activities. The MCOSD may impose fees and conditions. Such conditions may include, but will not be limited to, the timing of the activity with respect to seasonal and weather concerns, the number of participants, the protection of natural resources, and the location of the activity. An administrative fee will be charged by the MCOSD for reviewing and granting any permits. Additional fees may be incurred by the applicant for administration and monitoring of the event by the MCOSD staff, or if compliance with the California Environmental Quality Act or any regulatory permit is required. The MCOSD insurance and indemnity requirements will also apply.

Policy SP-3: Prohibition on Unofficial, Non-sponsored Group Activities. Any unofficial, non-sponsored outdoor recreation event involving more than 15 participants is prohibited.

RTMP BEST MANAGEMENT PRACTICES (BMPs)

GENERAL BMPs

General 1: Limit Work Area Footprints in Sensitive Resource Areas. Limit the size of construction-related road and trail management activities to the minimum size needed to meet project objectives. BMPs include:

- **Minimize project footprint.** Minimize the size of the work area, including the project area, access roads, and staging areas. Wherever possible, use existing upland roads, trails, and other disturbed areas for project activities in order to reduce unnecessary disturbance, minimize soil and water erosion, and reduce overall project costs.
- **Reduce or relocate footprint during planning and design phase.** Reduce the work area footprint in sensitive resource areas or move the work area to common natural communities and upland areas. Implement further refinements during site preparation and construction to further reduce impacts.
- **Minimize soil disturbance.** Minimize soil disturbance to the greatest extent possible to reduce the potential for introducing or spreading invasive plants, to protect topsoil resources, and to reduce available habitat for the establishment of new invasive plants.
- **Mark project footprint near sensitive natural resources.** Mark ingress/egress routes, staging areas, and sensitive resources to prevent inadvertent impacts to sensitive resources.
- **Restrict soil disturbance and import of nonnative soil or fill material.** To reduce the potential for damage of native plants and/or introduction of invasive plants, the contractor will be required to minimize the footprint of soil disturbance to the minimum amount necessary to complete the contracted work. In particular, access roads, staging areas, and areas of temporary disturbance will be minimized in size. The contractor and its staff and subconsultants agree not to drive off-road or drive or park on native vegetation unless approved in advance by the MCOSD natural resource staff. The contractor agrees that if soil excavation is required, every attempt will be made to have a balanced cut and fill project that reuses all native soils onsite. No nonnative soil or fill material will be brought onsite or used during the contractor's activities unless approved by the MCOSD natural resource staff.

General-2: Modify Construction- Related Vegetation Management Methods in and near Wetlands, Riparian Vegetation. Restrict construction-related vegetation management near wetlands in a manner that reduces the potential for sediment or pollutants to enter wetlands. Implement the following BMPs, as needed:

- **Establish a buffer of 100 feet from wetland and tidally influenced areas** (i.e., from the ordinary high-water mark of flowing or standing water in creeks, streams, or ponds). Avoid construction work within this buffer area.

If construction work in wetlands and riparian areas cannot be fully avoided, consult with the appropriate state and federal agencies to obtain permits.

- Within the buffer, restrict routine vegetation management activities in creeks, streams, other waterways, and tidally influenced areas. Limit vegetation management work to least-harmful methods; restrict herbicides to those that are EPA-approved for use near water. Prohibit activities that disturb soil or could cause soil erosion or changes in water quality.
- **Within the buffer, limit work that may cause erosion to the low flow or low tide periods.** Low flow months for local creeks are typically August to October. For tidal areas, work will not occur within 2 hours of high tide events at construction sites when high tide is greater than 6.5 feet measured at the Golden Gate Bridge, using corrections for areas near individual MCOSD preserves. Tide charts

are available online from the National Oceanic and Atmospheric Agency/National Weather Service (http://www.wrh.noaa.gov/mtr/sunset.php).

- **Within the buffer, minimize erosion and sedimentation; maintain erosion and sediment control devices during ground disturbing activities and until all disturbed soils have been stabilized.** Measures include weed-free straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap, and rice straw wattles, etc.) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.
- **Prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to protect water quality for work in or near wetlands, ponds, seeps, creeks, tidal areas, or stream crossings.**

General-3: Minimize Potential for Erosion. Conduct road and trail activities in a manner that controls and minimizes the potential for soil erosion and contribution of sediment to wetlands. Implement the following as needed:

- **To minimize erosion and sedimentation, maintain erosion and sediment control devices during ground disturbing activities and until all disturbed soils have been stabilized.** Measures include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.
- **Unless no feasible alternative is available, avoid using heavy equipment in areas with soils that are undisturbed, saturated, or subject to extensive compaction.** Where staging of heavy equipment, vehicles, or stockpiles is unavoidable, limit and mark the allowable disturbance footprint with flagging or fencing. Following the end of work, scarify surface soils to retard runoff and promote rapid revegetation.
- **Immediately rehabilitate areas where project actions have disturbed soil.** Require areas disturbed by equipment or vehicles to be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include decompacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion control materials, revegetating areas with native plants, and removing and monitoring invasive plants.

General-4: Control Food-Related Trash. Food-related trash can attract wildlife to road and trail project sites. Store food-related trash in closed containers and remove from the project site daily.

General-5: Modify Construction Methods Relating to Soil Disturbance, Restrict use of Offsite Soil, Aggregate, or Other Construction Materials. Conduct construction-related vegetation management in a manner that restricts the use of offsite materials that could introduce or spread invasive plants. Implement the following as needed:

- **Minimize soil disturbance.** Minimize soil disturbance to the greatest extent possible to reduce the potential for introducing or spreading invasive plants, to protect topsoil resources, and to reduce available habitat for the establishment of new invasive plants.
- **Do not allow the introduction of incompatible fill**. Use only clean, native soils and aggregate materials from projects within the preserve or use fill that is purchased from a certified weed-free source, before allowing the importation of materials from outside the preserves. Fill materials should

be approved by natural resource staff to ensure compatibility with future restoration/rehabilitation goals.

- **Segregate and treat soils and vegetation contaminated with invasive plant seeds and propagules. Treat, as appropriate, to prevent the spread of invasive plants.** Treatment may include disposal onsite within already infested areas, chipping or pile burning and mulching to eliminate viable seeds, or disposal at an approved cogeneration plant or green waste facility.
- **Salvage, store, and reuse topsoil.** Where activities disturb soil temporarily, require salvage of the top 6 to 12 inches of topsoil (to retain seeds, soil mycorrhizae, and fungi) from all excavation and disturbance areas. Require reapplication of the salvaged topsoil as a topdressing or topcoat over backfill, unless known to contain invasive plant seeds or propagules.
- **Establish dedicated areas for cleaning vehicles, inside and out, of soil or invasive plant seeds or plant parts before entering the MCOSD preserves, whenever moving equipment between areas within the preserves, and before leaving preserves.** Within the wash areas, the tires and body of vehicles and equipment will be brushed off and/or hosed down.
- **Inspect construction equipment for soil or invasive seeds or plant parts.** Require contractors to make equipment available for inspection before entering the MCOSD preserves, when moving between sites within the preserves, and before leaving preserves.
- **Develop a native seed mix for erosion control.** Develop the seed mixture on a project-by-project basis based on the observed mixture of native and naturalized plants in and near the impact area. Where possible, ensure that seeds are collected locally (i.e., within the same watershed or preserve as the impact), or obtained from a reputable native plant nursery specializing in seed that is collected from local sources.
- **Maintain erosion and sediment control devices during ground disturbing activities and until all disturbed soils have been stabilized to help minimize erosion and sedimentation.** Measures include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified as weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.) and not of plastic monofilaments or other materials that could entrap snakes or amphibians.
- **Immediately rehabilitate areas where road and trail project activities have disturbed soil.** Areas disturbed by equipment or vehicles should be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include de-compacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion control materials, revegetating areas with native plants, and removing and monitoring invasive plants.

General-6: Prevent or Reduce Potential for Pollution. Ensure that actions are taken during ongoing road and trail project activities to prevent or reduce the potential for pollutants entering the MCOSD preserve. Implement the following as needed:

- **Prohibit, or restrict equipment refueling, fluid leakage, equipment maintenance, and road surfacing activities near wetlands.** Require placement of fuel storage and refueling sites in safe areas well away from wetlands. Safe areas include paved or cleared roadbeds, within contained areas such as lined truck beds, or other appropriate fuel containment sites. Inspect equipment and vehicles for hydraulic and oil leaks regularly. Do not allow leaking vehicles on the MCOSD preserves and require the use of drip pans below equipment stored onsite. Require that vehicles and construction equipment are in good working condition, and that all necessary onsite servicing of equipment be conducted away from the wetlands.

- **Require all contractors to possess, and all vehicles to carry, emergency spill containment materials.** Absorbent materials should be on hand at all times to absorb any minor leaks and spills.

General-7: Include Standard Procedures in Construction Contracts. When using contractors to perform vegetation management, related to road and trail project activities, the MCOSD will include some or all of the following standard procedures in those contracts.

The contractor will work with the MCOSD natural resource staff to determine the optimal timing of contracted work. Many timing restrictions relate to protecting special-status species. Other types of timing restrictions include timing to control invasive plants; timing to avoid migration, gestation, or flowering periods for special- status species; or timing work in wetlands to the dry season.

- **Establish a buffer of 100 feet from wetland and tidally influenced areas** (i.e., from the ordinary high-water mark of flowing or standing water in creeks, streams, or ponds). Avoid construction work within this buffer area.
  - Within the buffer, limit work that may cause erosion to low flow periods. Low flow months for local creeks are typically August to October. For tidal areas, work will not occur within 2 hours of high tide events at construction sites when high tide is greater than 6.5 feet measured at the Golden Gate Bridge, using corrections for areas near individual MCOSD preserves. Tide charts are available online from the National Oceanic and Atmospheric Agency/National Weather Service (http://www.wrh.noaa.gov/mtr/sunset.php).
  - If construction work cannot be fully avoided in wetlands and riparian areas, consult with the appropriate state and federal agencies to obtain permits.
  - Require the contractor to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) to protect water quality for road and trail project work in or near wetlands, ponds, seeps, creeks, tidal areas, or stream crossings.

The contractor will work with the MCOSD natural resource staff to identify any priority invasive plants that occur near the project work area, including the project footprint, access roads, staging areas, and similar work areas. The contractor agrees to comply with requirements to reduce the spread or transport of priority invasive plants related to construction activities. Requirements may include some or all of the following:

- **Conduct a training program for all field personnel involved with the proposed road and trail project prior to initiating project.** The program will consist of a brief presentation by person's knowledgeable in the special-status species, sensitive resource, or invasive plants known from the project area. The program will include the following: a photograph and description of each special-status species, sensitive resource, or invasive plant known from the project area; a description of its ecology and habitat needs; an explanation of the measures being taken to avoid or reduce adverse impacts; and the workers' responsibility under the applicable environmental regulation. The worker training may be conducted in an informal manner (e.g., as part of a routine tailgate safety meeting).
- **Restrict work to periods when invasive plants are not in fruit or flower.**
- **Establish dedicated area for cleaning vehicles, inside and out, of soil or invasive plant seeds or plant parts before entering the MCOSD preserves, whenever moving equipment between areas within the preserves, and before leaving preserves.** Within the wash areas, the tires and body of equipment will be brushed off or hosed down.
- **Inspect construction equipment for soil or invasive seeds or plant parts**. Require contractors to make equipment available for inspection before entering the MCOSD preserves, when moving between sites within the preserves, and before leaving preserves.

- **Dispose of green waste in a manner that does not spread invasive plants.** Methods include onsite disposal in an already infested area; offsite disposal to a cogeneration plant or an approved green waste composting facility).
- **Protect environmentally sensitive areas.** The MCOSD natural resource staff will identify any Environmentally Sensitive Areas in or near the road and trail project area prior to the start of work. Environmentally Sensitive Areas may include: special-status plant or wildlife species or their habitats (e.g., woodrat nests, habitat for special-status plant and wildlife species, individuals or populations of listed special-status plant or wildlife species or locally rare species); wetlands including creeks streams and related riparian area; and sensitive vegetation types as described in this report. The MCOSD staff and contractors will fully avoid and protect such areas during habitat restoration work or will help obtain and comply with necessary permits and regulatory requirements.
    - **Use locally collected plant materials for revegetation projects.** Plant materials will be collected onsite at the MCOSD preserves or within the same watershed as the revegetation project. The contractor will work with the MCOSD to identify native plant nurseries that can collect and propagate seed and other plant materials from the local area. No use of commercial grassland mixtures for erosion control unless approved in advance by the MCOSD. The contractor will allow the MCOSD to inspect and approve all plant materials and seed prior to use onsite.
    - **Protect special-status species habitat.** For vegetation work in or near special-status species habitat, the contractor is required to comply with requirements of the MCOSD project permits to protect special- status species and their associated habitats before and during construction, and to cooperate with the MCOSD in implementing any state and federal permits and agreements for the project. The special- status species population plus a buffer should be designated as an "Environmentally Sensitive Area" using lath and flagging, pin flags, or temporary fencing (depending on resource sensitivity to work). The contractor will be required to avoid all designated Environmentally Sensitive Areas during construction. For any special-status species or their habitats that cannot be fully avoided, the contractor will work with the MCOSD to obtain and comply with federal and state Endangered Species Acts, the federal Migratory Bird Treaty Act, and the state Fish and Game Code permits and agreements.
    - **Restrict soil disturbance, import of nonnative soil or fill material.** To reduce the potential for damage of native plants and/or introduction of invasive plants, the contractor will be required to minimize the footprint of soil disturbance to the minimum amount necessary to complete the contracted work. In particular, minimize the footprint of access roads, staging areas, and areas of temporary disturbance. The contractor and its staff and subconsultants agree not to drive off-road or drive or park on native vegetation unless approved in advance by the MCOSD natural resource staff. The contractor agrees that if soil excavation is required, every attempt will be made to have a balanced cut and fill project that reuses all native soils onsite. Unless pre-approved by the MCOSD natural resource staff, there will be no use of nonnative soil or fill material during the contractor's activities.
    - **To minimize erosion and sedimentation, maintain erosion and sediment control devices during ground disturbing activities and until all disturbed soils have been stabilized**. Measures include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials will be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion control materials will be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.

Other procedures:

- **All entry gates to the project site not used for construction access will be locked at all times and gates used for construction access will be locked during non-construction hours.**
- **All vehicles will carry a suitable fire extinguisher.**
- **Immediately rehabilitate areas where project actions have disturbed soil.** Require areas disturbed by equipment or vehicles to be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include de-compacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion control materials, revegetating areas with native plants, and removing and monitoring invasive plants.
- **Unless no feasible alternative is available, avoid using heavy equipment in areas with soils that are undisturbed, saturated, or subject to extensive compaction.** Where staging of heavy equipment, vehicles, or stockpiles is unavoidable, limit and mark the allowable disturbance footprint with flagging or fencing. Following the end of work, scarify surface soils to retard runoff and promote rapid revegetation.

General-8: Control Noise. To reduce daytime noise and potential disturbance to wildlife species, the MCOSD will require contractors to muffle or control noise from equipment through implementation of the following measures:

- Equipment and vehicles should utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, and use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds, and installation of sound blanket around the project site.

General-9: Conduct Worker Training. The MCOSD will conduct a worker-training program for all field personnel involved with the proposed road and trail management project prior to initiating the project. The program will consist of a brief presentation by persons knowledgeable in the special-status species, sensitive resource, or invasive plants known from the project area. The worker training may be conducted in an informal manner (e.g., as part of a routine tailgate safety meeting). The program will include a photograph and description of each special-status species, sensitive resource, or invasive plant known from the project area; and a description of its ecology and habitat needs; an explanation of the measures being taken to avoid or reduce adverse impacts; and the workers' responsibility under the applicable environmental regulation(s).

General-10: Road and Trail Inspections.

- **Regularly inspect road and trail features and associated infrastructure to ensure they are well maintained and posing no threat to surrounding sensitive and/or special-status natural resources.** Staff will record information pertaining to the status of biophysical resources that could be affected by road or trail use, maintenance, or management activities. These inspections will monitor for the spread of invasive, exotic plants that could affect sensitive and/or special-status native plant or wildlife habitats and any other changes that could create negative impacts to known sensitive and/or special-status native plant or wildlife populations in the immediate vicinity. Staff will report any findings and make recommended corrective actions if appropriate.

General-11: Management of Sudden Oak Death. To reduce and control the spread of Sudden Oak Death (SOD) within the MCOSD system, the following practices will be implemented.

The MCOSD staff will educate visitors about preventing the spread of Sudden Oak Death (SOD).

- **The MCOSD may use interpretive signs, brochures, ranger talks, and other online and print materials that explain the importance of preventing the spread of pathogens and use of preventative measures.**

- **The education materials should explain that SOD occurs within the preserve; identify typical symptoms; explain that SOD can be spread by park users, especially during rainy and windy weather; and request that park visitors:**
    - Use designated parking areas
    - Avoid transporting SOD on shoes, bicycles, and the feet of pet dogs and horses through the use of cleaners and disinfectants.

The MCOSD staff shall be trained about SOD host species and disease transmission pathways and, when undertaking road and trail construction and maintenance activities in areas of the preserves affected by SOD, shall implement the following measures.

- **Clean equipment, boots, truck tires, and any other exposed material after working in forest and woodland habitats, with a 10% bleach solution or other disinfectant**
- **Avoid pruning oaks or other affected trees in wet weather.**
- **Avoid work in forest and woodlands during the wet season when spores are being produced and infections are starting.**
- **Leave potentially infected downed trees on site instead of transporting the material to an uninfected area.**
- **Remove potentially infected downed trees from the property only if it is the first infected tree to be detected in the area or if there is a high fire risk.**
- **Dispose of infected materials at an approved and permitted dump facility within the 14-county infected quarantine zone.**
- **If necessary to reduce safety or fire hazards or to address aesthetic or recreational impacts, cut, branch, chip, and/or split infected trees in areas where the material would be less likely to be transported to an uninfected location.**
- **Purchasing nursery stock for restoration plantings at nurseries that follows current BMPs for preventing the spread of SOD (consult the California Oak Mortality Task Force, www.suddenoakdeath.org, for current standards).**
- **Inspect all plant materials for symptoms of SOD before bringing any plants onto the property.**

SENSITIVE NATURAL RESOURCES BMP

Sensitive Natural Resources–1: Modify Management Practices near Sensitive Natural Resources. For construction related activities requiring extensive ground disturbance in and near known sensitive biological resources, the MCOSD will assess the project or proposed action prior to the start of work to suggest modifications to standard procedures considered necessary to help ensure avoidance of impacts to special- status species and other sensitive biological resources. Actions that many be taken include one or more of the following:

- **Mark project footprint near sensitive natural resources.** Mark ingress/egress routes, staging areas, and sensitive resources to prevent inadvertent impacts to sensitive resources.
- **Inspect ingress/egress routes, escort vehicles, and equipment onto the site if necessary to help prevent impacts on ground nesting and ground dwelling species.** Work should be conducted during bird non- breeding season (published California Department of Fish and Wildlife non-breeding season dates are August 15 - March 1 but should be adjusted to local conditions).
- **Maintain a 15 MPH speed limit in sensitive habitat areas.** This will reduce the potential for mortality, dust impacts on vegetation and wildlife. For larger projects, water the roads for dust control near sensitive resources.

SPECIAL STATUS WILDLIFE BMPs

Special-Status Wildlife-1: Literature Reviews. Prior to all road and trail management activities, literature reviews will be conducted to determine if special- status wildlife-species or critical habitats exist within the project area.

The first source reviewed will be the MCOSD's database of special-status wildlife occurrences and sensitive habitats. This database is actively updated and maintained by the MCOSD natural resource staff and contains the most relevant data on sensitive resources on MCOSD land.

In addition to the MCOSD database, the following resources will be reviewed, as necessary, prior to work:

- U.S. Geological Survey topographic maps
- Aerial photographs
- California Department of Fish and Wildlife Natural Diversity Database records
- U.S. Fish and Wildlife Service quadrangle species lists
- University of California at Davis Information Center for the Environment Distribution Maps for Fishes in California
- National Marine Fisheries Service Distribution Maps for California Salmonid Species

Database searches for known occurrences of special-status wildlife species will focus on the vicinity of the project area. Biological communities will be classified as sensitive or non-sensitive as defined by the California Environmental Quality Act and other applicable laws and regulations

Special-Status Wildlife-2: Preconstruction Surveys. If it is determined that special-status wildlife species may occur in a project area, a qualified biologist will survey the area during the appropriate time window to determine the presence or absence of the species. If the species is located, the MCOSD should conduct the activity to avoid impacts to the species. If avoidance is not possible, the appropriate resource agencies will be contacted to obtain guidance or the necessary permits.

Special-Status Wildlife-3: Seasonal Restrictions During Bird Nesting Season. The MCOSD will implement the following seasonal restrictions to protect nesting birds. If work will occur outside the nesting bird window of February 1 to August 31, surveys and avoidance measures will not be necessary for nesting birds. However, surveys for special-status species may still be necessary if they are present in the area.

- **Identify potential habitat for nesting birds and survey to determine if active nests are present before initiating road and trail management actions.** Surveys will include the proposed road and trail management footprint, and a ¼ mile buffer area (for raptors) or a 150 foot buffer area (for other birds). Surveys will be conducted within 14 days of the start of active ground-disturbing activities.
- **If any active nests of protected bird species are found, prohibit brushing, mowing and tree removal activities at the nest site and within a buffer area until the young birds have fledged and left the site, and/ or the nest has been abandoned.** The buffer area will be 50-250 feet, or as determined through consultation with the California Department of Fish and Wildlife, pursuant to section 2081 of the California Fish and Game Code and the federal Migratory Bird Treaty Act. In general, a line-of-site buffer of at least 150 feet between the nest site and road and trail management activities is recommended. For raptors, buffer distances may be increased to 250 feet or more, depending on the visual distance from the nest to the road and trail management work area, and the sensitivity of the raptor species to road and trail management activities. In addition, a 5 MPH speed limit will be enforced in and near bird nesting habitats and other sensitive habitat areas.

- **If impacts to nesting birds cannot be avoided, contact the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife to obtain the necessary permits before initiating road and trail management activities.**

Special-Status Wildlife-4: Avoidance and Protection of Northern Spotted Owl. Northern spotted owls have potential to occur on the MCOSD preserves. The MCOSD will undertake the following actions when construction-related road and trail management actions are planned to occur within or adjacent to potential northern spotted owl habitat:

- **Identify potential habitat for the northern spotted owl and survey to determine if it is occupied or if active nests are present before initiating road and trail management activities.** Surveys will include the proposed road and trail management footprint and a 150 foot buffer area. Surveys will be conducted within 14 days of the start of active ground-disturbing activities.
- **To the greatest extent possible, avoid occupied habitat completely during key northern spotted owl breeding and nesting season (March-September).**
- **Mark occupied habitat with flagging or temporary fencing.**
- **Avoid removal of trees with documented northern spotted owl nests. Removal of nest trees typically requires compensatory mitigation.**
- **Establish a buffer of at least 100 feet around occupied habitats.** Within the buffer area, select least harmful road and trail management activities. Within the buffer area, retain old-growth forest trees and forest canopy, and minimize removal of other vegetation to the fullest extent possible.
- **Avoid cutting native trees greater than 10 inches in diameter at breast height within occupied northern spotted owl habitat.**
- **Conduct a worker training program for all field personnel involved with the proposed road and trail management project prior to project initiation.** The program will consist of a brief presentation by persons knowledgeable about the northern spotted owl. The program will include the following: a photograph and description of the northern spotted owl, a description of its ecology and habitat needs, an explanation of the measures being taken to avoid or reduce adverse impacts, and the workers' responsibility under applicable environmental regulations. The worker training may be conducted in an informal manner (e.g., as part of a routine tailgate safety meeting).
- **If impacts cannot be avoided, contact the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife to obtain the necessary permits before initiating road and trail management activities.**
- **Notify the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife within 24 hours of finding any injured northern spotted owl or any unanticipated damage to its habitat associated with the proposed action**. Notification must include the date, time, and precise location of the specimen/ incident, and any other pertinent information. Dead animals will be sealed in a plastic zip lock bag containing a piece of paper indicating the location, date, and time when it was found, and the name of the person who found it; the bag should be frozen in a freezer in a secure location. The MCOSD will contact the U.S. Fish and Wildlife Service within seven days to transfer any dead or injured specimens.

Special-Status Wildlife-5: Avoidance and Protection of Double-Crested Cormorant Nests and Heron and Egret Rookery Sites. There are several known or suspected double-crested cormorant, great blue heron, snowy egret, and black- crowned night heron rookery or nesting sites existing on the MCOSD preserves. These procedures are similar to those described in Special-Status Wildlife Protection-3 for seasonal restrictions during bird nesting season but are more specific to these particular bird species and therefore supersede the more general practices for protecting all nesting birds. The MCOSD will

undertake the following procedures when construction-related road and trail management is planned to occur within or adjacent to potential nesting or rookery sites for these species:

- **Identify potential habitat for double-crested cormorant, heron, and egret nest and rookery sites and survey to determine if they are occupied or if nests are present before initiating road and trail management actions.** Surveys will include the proposed road and trail management footprint and a 150-foot buffer area. Surveys will be conducted within 14 days of the start of active ground-disturbing activities.
- **To the greatest extent possible, avoid nests and rookery sites completely during key breeding and nesting periods.** Activities in or near known sites will be limited during the known nesting seasons for each species, or until young have fully fledged.
- **Establish a buffer of at least 100 feet around rookery and nest sites. Within the buffer area, select least harmful road and trail management activities.** Restrict activities within the buffer to those that will not disturb roosting or nesting behavior (e.g., noise and visual disturbances).
- **Mark occupied habitat with flagging or temporary fencing.**
- **Prohibit the removal of known roost or nest trees. Restrict the removal of other mature riparian trees within the buffer zone.**
- **Conduct a worker training program for all field personnel involved with the proposed road and trail management project prior to project initiation.** The program will consist of a brief presentation by persons knowledgeable about the special-status species. The program will include the following: a photograph and description of the special-status species, a description of its ecology and habitat needs, an explanation of the measures being taken to avoid or reduce adverse impacts, and the workers' responsibility under applicable environmental regulations. The worker training may be conducted in an informal manner (e.g., as part of a routine tailgate safety meeting).
- **If impacts cannot be avoided during the nesting season (March 1 – August 31), contact the California Department of Fish and Wildlife to obtain the necessary permits before initiating road and trail management activities.**
- **Notify the California Department of Fish and Wildlife within 24 hours of finding any injured special-status species or any unanticipated damage to its habitat associated with the proposed action.** Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. Dead animals will be sealed in a plastic zip lock bag containing a piece of paper indicating the location, date, and time when it was found, and the name of the person who found it; the bag should be frozen in a freezer in a secure location. The MCOSD will contact the California Department of Fish and Wildlife within seven days to transfer any dead or injured specimens.
- **Prohibit or restrict equipment refueling, fluid leakage, equipment maintenance, and road surfacing activities near wetlands**. Fuel storage and refueling will occur in safe areas well away from wetlands; safe areas may include paved or cleared roadbeds and other contained areas, such as lined truck beds. Equipment and vehicles will be inspected regularly for hydraulic and oil leaks, and leaking vehicles will not be allowed on the MCOSD preserves. Drip pans will be placed underneath equipment stored on site. Vehicles and construction equipment will be maintained in good working condition, and any necessary on-site servicing of equipment will be conducted away from the wetlands.
- **Require all contractors to possess, and all vehicles to carry, emergency spill containment materials**.
- **Absorbent materials will be on hand at all times to absorb any minor leaks and spills**.

Special-Status Wildlife-6: Avoidance and Protection of California Clapper Rail, California Black Rail, and Salt Marsh Harvest Mouse. The MCOSD preserves encompass some tidal areas that are known to support, or have the potential to support, California clapper rail, California black rail and salt-marsh harvest mouse. In areas where road and trail management activities are planned to occur within or adjacent to salt marsh or brackish marsh habitats, the MCOSD will first consult with the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife to determine locations where these species could potentially be affected. The MCOSD will obtain and comply with necessary permits for working in suitable habitat for these species, including, but not limited to the following types of protective actions to prevent harm to these species:

- **To the greatest extent possible, avoid occupied California clapper rail and California black rail habitat completely during key breeding and nesting periods**. Noise-generating activities, including operating heavy machinery in or near known California clapper or California black rail sites, will be avoided during the nesting season (March 1 – August 31).
- **During the California clapper rail and California black rail breeding season, identify potential habitat for California clapper rail and California black rail, and survey to determine if it is occupied before initiating road and trail management activities**. Survey will include the proposed road and trail management footprint and a 150-foot buffer area around occupied habitat. Surveys will be conducted within 14 days of the start of active ground- disturbing activities. Occupied habitat will be marked with flagging or temporary fencing.
- **Assume presence of salt marsh harvest mouse in appropriate habitats, avoid impacting these areas, and establish a protective buffer**. Because the U.S. Fish and Wildlife Service frequently does not allow trapping of the salt marsh harvest mouse to determine its presence, the MCOSD will assume presence in appropriate habitats and avoid disturbing them. If appropriate habitats are present, a 200-foot buffer will be established around the habitat. If work is required within the buffer, activities will be restricted within the buffer to those that will not disturb nesting behavior (e.g., through noise or visual disturbances), and vegetation will be removed by hand under the supervision of a qualified biologist to ensure no impacts to the salt marsh harvest mouse occur.

Special-Status Wildlife-7: Protection of Fish Habitat. If crossing a stream with the potential to support fish is part of a road or trail project, proper fish passage will be designed:

- **Preference will be for a bridge instead of a culvert, and an open-arch culvert instead of a pipe culvert.** A bridge that will not affect streamflow will be the preferred option. If a culvert is necessary, an open-arch design that does not affect the bed or flow of the stream will be preferred. If an open arch culvert is not possible, pipe culverts will be installed slightly below grade in an area perpendicular to the crossing where the existing streamflow is linear. Resting pools will be designed above and below culverts to allow fish to rest before and after having to pass through the culvert.

Special-Status Wildlife-8: Worker Awareness Training. Conduct worker awareness training. Worker training will include the following information: a photograph and description of each special-status species, sensitive, resource, or invasive plant known from the project 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 or reduce adverse impacts; reporting and necessary actions if sensitive resources are encountered; and workers' responsibility under the applicable environmental regulation.

Special-Status Wildlife-9: Construction Monitoring. If federal- or state-listed wildlife species are known to be present in the project area or immediate surroundings, a qualified biologist will monitor construction activities to ensure impacts to species will be avoided. If listed wildlife species are present within the immediate vicinity of the project area, a more involved monitoring program might be necessary to ensure that these species do not enter the project area. If a listed species is observed by a worker or construction

monitor, work will cease immediately, and the appropriate resource regulatory agency will be contacted if necessary. A construction monitoring program will be developed for each project on a project-specific basis.

Special-Status Wildlife-10: Relocation of Special-Status Species.: If federal- or state-listed wildlife species are located on site, the appropriate resource agency will be contacted, and a qualified biologist possessing any necessary permits will relocate individuals to suitable habitat off site as applicable.

Special-Status Wildlife-11: Noise Control. Utilize the best available noise-control techniques when in proximity to occupied sensitive wildlife habitat. The best available noise-control techniques (e.g., improved mufflers, equipment redesign, and use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds) will minimize disturbance of nearby wildlife populations.

Special-Status Wildlife Protection-12: Trash Control. Store food-related trash in closed containers and remove it from the project site daily. Food-related trash can attract wildlife to construction sites, disrupting their normal behavior patterns.

Special-Status Wildlife-13: Road and Trail Inspections. Regularly inspect road and trail features and associated infrastructure to ensure they are well maintained and posing no threat to surrounding special-status wildlife species. Staff will record information pertaining to the spread of invasive exotic plants that could affect wildlife habitats and to the status and quality of any known special-status wildlife species in the immediate vicinity that could be affected by road or trail use, maintenance, or management activities. Staff will report any findings to MCOSD natural resource staff and make recommended corrective actions if appropriate.

SPECIAL STATUS PLANTS BMPs

Special-Status Plants-1: Literature Reviews. Prior to all management activities, literature reviews will be conducted to determine if special-status plant species, critical habitats, or sensitive communities exist within the project area. In addition to the MCOSD database, the following resources will be reviewed, as necessary, prior to work:

- U.S. Geological Survey topographic maps
- U.S. Fish and Wildlife Service National Wetlands Inventory maps
- Bay Area Aquatic Resource Inventory Database
- Aerial photographs
- California Department of Fish and Wildlife Natural Diversity Database records
- U.S. Fish and Wildlife Service quadrangle species lists
- California Native Plant Society inventory records

Database searches for known occurrences of special-status plant species will focus on the vicinity of the project area. Biological communities present in the project location and surrounding areas will be classified based on existing plant community descriptions described in the Preliminary Descriptions of the Terrestrial Natural Communities of California. Biological communities will be classified as sensitive or nonsensitive as defined by the California Environmental Quality Act and other applicable laws and regulations.

Special-Status Plants-2: Avoidance and Protection of Special- Status Plant Species near Road and Trail Management Projects. The MCOSD will undertake the following actions when construction-related road and trail management is planned to occur within or adjacent to special-status plant populations:

- **Identify potential special-status plant habitat and survey to determine if it is occupied before initiating road and trail management activities.** Surveys will include the proposed road and trail management footprint and a 100-foot buffer area around the footprint if potential special-status plant habitat exists. Surveys will be conducted within 14 days of the start of active ground-disturbing activities.
- **To the greatest extent possible, avoid occupied special-status plant populations completely.**
- **If full avoidance is not possible, restrict work to the period when special-status plants have flowered or set seed**.
- **Establish a buffer of at least 100 feet around special-status plant populations**. Within the buffer area, select the least harmful road and trail management activities.
- **Mark special-status plant populations with flagging or temporary fencing.**
- **Prevent unnecessary vehicular and human intrusion into special-status plant species habitat from adjacent construction, maintenance, and decommissioning activities.** Where necessary, reroute or sign and fence trails to avoid the special-status plant population.
- **Prohibit or restrict equipment refueling, fluid leakage, equipment maintenance, and road surfacing activities near special-status plant populations.** Activities will be restricted within the buffer to those that will not disturb roosting or nesting behavior (e.g., through noise or visual disturbances). Fuel storage and refueling will occur in safe areas well away from wetlands; safe areas may include paved or cleared roadbeds and other contained areas, such as lined truck beds. Equipment and vehicles will be inspected regularly for hydraulic and oil leaks, and leaking vehicles will not be allowed on the MCOSD preserves. Drip pans will be placed underneath equipment stored on site. Vehicles and construction equipment will be maintained in good working condition, and any

necessary on-site servicing of equipment will be conducted away from special-status plant populations.

- **To minimize downslope erosion and sedimentation near special-status plants, maintain erosion- and sediment-control devices during ground-disturbing activities and until all disturbed soils have been stabilized.** Control devices include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion-control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.
- **Conduct a worker training program for all field personnel involved with the proposed road and trail management project prior to project initiation.** The program will consist of a brief presentation by people knowledgeable about the special-status species. The program will include the following: a photograph and description of the special-status species, a description of its ecology and habitat needs, an explanation of the measures being taken to avoid or reduce adverse impacts, and the workers' responsibility under applicable environmental regulations. The worker training may be conducted in an informal manner (e.g., as part of a routine tailgate safety meeting).
- **If impacts cannot be avoided, contact the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife to obtain the necessary permits before initiating road and trail management activities.** Permit conditions will likely require presence of a biological monitor, installation of exclusion fencing, surveys to relocate or avoid the species, and/or possibly timed or staged road and trail management activities that avoid the species or reduce potential for take or harm.
- **If a special-status plant species is detected during work activities, stop work immediately at that location and contact the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife within two working days.** Work will not resume at that location until authorization is obtained from the appropriate agency (unless prior approval has already been granted).
- **Notify the U.S. Fish and Wildlife Service and/or the California Department of Fish and Wildlife within 24 hours of finding any damaged special-status plant species or any unanticipated damage to plant habitats associated with the proposed action.** Notification must include the date, time, and precise location of the specimen/incident, and any other pertinent information. Dead plants should be sealed in a zip lock bag containing a piece of paper indicating the location, date, and time when it was found, and the name of the person who found it; the bag should be frozen in a freezer in a secure location. The MCOSD will contact the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service within two days and transmit the specimen in the appropriate manner.
- **If work occurs during the dry season and is greater than 100 feet from special-status plant species habitat, erosion control and water quality protection measures generally will not be necessary**.

Special-Status Plants-3: Ensure Proposed Actions are Consistent with Ongoing Special-Status Plant Management Programs. Some MCOSD preserves (e.g., Ring Mountain and Old Saint Hilary's) have ongoing special-status plant management and monitoring programs. In these locations the MCOSD will ensure that all new proposed road and trail management activities are consistent with the ongoing management of these sites:

- **Review existing management plans and analyze proposed actions for consistency against adopted procedures.**

- **Ensure that new road and trail management projects do not interfere with ongoing management and maintenance activities.**

Special-Status Plants-4: Earthwork near Special-Status Plant Populations. Many special-status plants are closely associated with specific soil types or geologic conditions (e.g., serpentine or ultramafic soils). To protect these species, the MCOSD will implement the following practices:

- **Use native soil in all MCOSD road and trail management projects in natural habitat areas.**
- **Do not allow the introduction of incompatible fill near special-status plant populations.** Fill will consist of clean, native soils and aggregate materials from other projects within the preserve if available, or it will be purchased from a certified weed-free source before allowing the importation of other materials from outside the preserves. Fill materials will be approved by natural resource staff to ensure compatibility with future restoration/rehabilitation goals.
- **Salvage, store, and reuse topsoil.** Where activities disturb soil temporarily, the top 6 to 12 inches of topsoil will be salvaged to retain seeds, soil mycorrhizae, and fungi from the excavated or otherwise disturbed area. The salvaged topsoil will be reapplied as a topdressing or topcoat over backfill, unless it is known to contain invasive plant seeds or propagules.

Special-Status Plants-5: Erosion Potential near Special-Status Plants. The MCOSD will seek to prevent erosion near special-status plants. To protect these species, the MCOSD will:

- **Unless no feasible alternative is available, avoid using heavy equipment in areas with soils that are undisturbed, saturated, or subject to extensive compaction**. Where staging of heavy equipment, vehicles, or stockpiles is unavoidable, the allowable disturbance footprint will be limited and marked with flagging or fencing. Following the end of work, surface soils will be scarified to retard runoff and promote rapid revegetation.
- **Maintain a 15 MPH speed limit in sensitive habitat areas**. This will reduce the potential for dust impacts on vegetation. For larger projects, roads will be watered for dust control near sensitive resources.
- **Immediately rehabilitate areas where project actions have disturbed soil.** Areas disturbed by equipment or vehicles will be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include decompacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion-control materials, revegetating areas with native plants, and removing and monitoring invasive plants.
- **To minimize erosion and sedimentation, maintain erosion- and sediment-control devices to protect special-status plant populations during ground- disturbing activities and until all disturbed soils have been stabilized**. Measures include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds, must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.), and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians. If work occurs during the dry season and is more than 100 feet from special- status plant populations, erosion-control and water quality protection measures will not be necessary.

Special-Status Plants-6: Introduction of Invasive and Nonnative Plants and Plant Material. The MCOSD will prevent the introduction of invasive and other nonnative plant material into special-status plant habitats by implementing the following practices:

- **To the extent feasible, use plant seeds, cuttings, and other propagules that are collected from the same area as the project site** (usually the same watershed or preserve). Allow collection of no more than 5% of any native plant population to prevent over collecting of wild plant material sources.

- **To minimize erosion and sedimentation, maintain erosion- and sediment-control devices during ground- disturbing activities and until all disturbed soils have been stabilized**. Measures include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Only weed-free materials will be used as erosion- and sediment control devices. Materials must be certified weed- free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion-control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.) and not of plastic monofilaments or other materials that could entrap snakes or amphibians.
- **Do not allow the introduction of incompatible fill near special-status plant populations.** Fill will consist of clean, native soils and aggregate materials from other projects within the preserve if available, or it will be purchased from a certified weed-free source before allowing the importation of other materials from outside the preserves. Fill materials will be approved by natural resource staff to ensure compatibility with future restoration/rehabilitation goals.
- **Segregate and treat soils and vegetation contaminated with invasive plant seeds and propagules.** To prevent the spread of invasive plants, treatment of contaminated soils may include disposal on site within already infested areas, chipping or pile burning and mulching to eliminate viable seeds, or disposal at an approved cogeneration plant or green-waste facility.
- **Clean vehicles of contaminated soil, invasive plant seeds, or plant parts before entering the MCOSD preserves, whenever moving equipment between areas within the preserves, and before leaving the preserves.** Vehicle-cleaning areas will be established for this purpose. Within the cleaning areas, tires and interior and exterior of vehicles and equipment will be brushed off or hosed down.
- **Inspect construction equipment for soil or invasive seeds or plant parts.** Contractors will be required to make equipment available for inspection before entering the MCOSD preserves, when moving between sites within the preserves, and before leaving the preserves.

Special-Status Plants-7: Revegetation with Native, Geographically Appropriate Plant Species. The MCOSD will revegetate areas where construction and ground disturbance has occurred, to promote a species composition and vegetative structure that integrates with the surrounding natural community, to the maximum extent possible. This will be accomplished by implementing the following:

- **Revegetate with annual grasses and forbs.** Use of annual grasses and forbs can provide rapid vegetative cover and initial soil stabilization, and erosion control, promote habitat for native species, and provide a more desirable visual cover.
- **Prepare a project-specific revegetation plan.** The MCOSD natural resource staff will develop a revegetation plan for projects as needed.
- **Wherever possible use locally collected native plant materials from the project footprint and surrounding areas.** If possible, plant materials should be collected from within the same watershed or preserve. The MCOSD will allow collection of no more than 5% of any native plant population to prevent over collection of wild plant material sources. If sufficient local plant materials are not available for collection prior to project activities, geographically appropriate native plant materials will be purchased from a local nursery or seed supplier.

Special-Status Plants-8: Worker Awareness Training. The MCOSD will conduct a worker awareness training for all field personnel involved with proposed road and trail management activities prior to initiating the project. The program will include the following:

- a photograph and description of each special-status species, sensitive resource, or invasive plant known from the project 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 or reduce adverse impacts
- reporting and necessary actions if sensitive resources are encountered
- workers' responsibility under the applicable environmental regulation

Special-Status Plants-9: Relocation of Special- Status Plants. If special-status species are located in the project area and impacts to these species are unavoidable, plants and/or propagules will be relocated to suitable habitat off site prior to the commencement of construction or management activities. Alternatively, off-site mitigation for impacts could be considered. If special-status wildlife species are located on site, the appropriate resource agency will be contacted, and a qualified biologist possessing any necessary permits will relocate individuals to suitable habitat off site as applicable.

Special-Status Plants-10: Road and Trail Inspections. Regularly inspect road and trail features and associated infrastructure to ensure they are well maintained and posing no threat to surrounding special-status plant resources. Staff will record information pertaining to the spread of invasive, exotic plants that could affect special-status plant habitats and to the status and quality of any known special-status plant populations in the immediate vicinity that could be affected by road or trail use, maintenance, or management activities. Staff will report any findings and make recommended corrective actions if appropriate.

Special-Status Plants-11: Reuse and Replanting of Native Trees and Shrubs. Where feasible, replant excavated trees and shrubs, removed from unstable fill slopes and cut banks, on graded contours to restore the areas with native vegetation and promote native plant habitat. These plants will represent the most locally appropriate materials for restoration and conform to the vegetation types of the surroundings.

Special-Status Plants-12: Ripping and Recontouring Roads. Rip and de-compact road and trail surfaces where appropriate. Ripping surfaces provides a more suitable substrate for recolonization or revegetation by native plant materials. Decommissioned road and trail surfaces will be recontoured and sloped away from wetlands and water bodies to prevent the potential for erosion into these features. Any shoulders, ditches, or embankments will also be removed, and the area graded to a natural contour.

INVASIVE PLANTS BMPs

Invasive Plants-1: Compliance with Integrated Pest Management Ordinance. All herbicide use will be administered under Marin County's Integrated Pest Management (IPM) Ordinance, and work will only be conducted under the supervision of a certified pest control applicator. All herbicide use for vegetation management actions will be posted and reported consistent with the ordinance.

Invasive Plants-2: Herbicide Use near Sensitive Natural Resources. Limit herbicide use within 100 feet of sensitive natural resources. Hand control, mechanical control, and cultural control will be used wherever possible to minimize the use of herbicides near sensitive resources.

Invasive Plants-3: Survey and Control of Invasive Plants in Project Footprint. Before ground-disturbing activities begin, inventory, and prioritize invasive plant infestations for treatment within the project footprint and along access routes. Controlling priority invasive plant infestations at least a year prior to the planned disturbance, if feasible, will minimize invasive plant seeds in the soil.

- **Where feasible, survey the road shoulders of access routes for invasive plant species and remove priority invasive plants that could be disturbed by passing vehicles.**
- **Avoid establishing staging areas in areas dominated by invasive plants.** If populations of priority invasive plants occur within or near staging areas, their perimeters will be flagged so that vehicle and foot traffic can avoid them.
- **Clean vehicles of contaminated soil, invasive plant seeds, or plant parts before entering the MCOSD preserves, whenever moving equipment between areas within the preserves, and before leaving the preserves.** Vehicle-cleaning areas will be established for this purpose. Within the cleaning areas, tires and the insides and outsides of vehicles and equipment will be brushed off or hosed down.
- **Inspect construction equipment for soil or invasive seeds or plant parts.** Contractors will be required to make equipment available for inspection before entering the MCOSD preserves, when moving between sites within the preserves, and before leaving the preserves.

Invasive Plants-4: Limited Soil Disturbance. Soil disturbance during road and trail projects will be minimized to reduce the potential for introduction or spread of invasive plant species, to protect topsoil resources and to reduce available habitat for new invasive plant species:

- **Plan all road and trail management activities to disturb as little area as possible.**

Invasive Plants-5: Cleaning of Heavy Equipment, Maintenance Tools, and Fire Management Vehicles. The MCOSD will implement the following procedures when working in or near infested areas:

- **Clean vehicles of contaminated soil, invasive plant seeds, or plant parts before entering the MCOSD preserves, whenever moving equipment between areas within the preserves, and before leaving the preserves.** Vehicle-cleaning areas will be established for this purpose. Within the cleaning areas, tires and the insides and outsides of vehicles and equipment will be brushed off or hosed down.
- **Inspect construction equipment for soil or invasive seeds or plant parts.** Contractors will be required to make equipment available for inspection before entering the MCOSD preserves, when moving between sites within the preserves, and before leaving the preserves.

Invasive Plants-6: Reducing Potential for Establishment of Invasive Plants on Disturbed Soil Surfaces. To minimize the establishment of invasive species in disturbed soil areas, the MCOSD will implement one or more of the following actions:

- **To minimize erosion and sedimentation, maintain erosion- and sediment-control devices during ground- disturbing activities and until all disturbed soils have been stabilized.** Control devices include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion-control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles, etc.) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.
- **Do not allow the introduction of incompatible fill.** Fill will consist of clean, native soils and aggregate materials from other projects within the preserve if available, or it will be purchased from a certified weed- free source before allowing the importation of other materials from outside the preserves. Fill materials will be approved by natural resource staff to ensure compatibility with future restoration/rehabilitation goals.
- **Segregate and treat soils and vegetation contaminated with invasive plant seeds and propagules.** To prevent the spread of invasive plants, treatment of contaminated soils may include disposal on site within already infested areas, chipping or pile burning and mulching to eliminate viable seeds, or disposal at an approved cogeneration plant or green-waste facility.

Invasive Plant Management-7: Monitor and Control of Invasive Plants in Road and Trail Management Work Areas

- **Periodically monitor areas subject to road and trail management activities for a minimum of three years following project completion for the presence of invasive plant species.** If invasive plants threaten to become established or spread as a result of project activities, they will be treated in conformance with the Vegetation and Biodiversity Management Plan.

Invasive Plant Management-8: Protection of Streambanks and Water Quality During Invasive Plant Removal.

- **Install approved erosion-control devices following the removal of invasive plants from streambanks to prevent sediment movement into watercourses and to protect bank stability.** The MCOSD will obtain and comply with necessary wetland permits and integrated pest management procedures related to work in and near wetlands. Where appropriate, the MCOSD will also seek guidance from a fisheries biologist regarding the amount of material permissible to remove from stream corridors when controlling large patches of invasive plants, so as to prevent changes in water temperature and quality. If work occurs during the dry season near seasonally wet areas, erosion-control and water quality protection measures generally will not be necessary.

Invasive Plant Management-9: Road and Trail Inspections. Regularly inspect road and trail features and associated infrastructure to ensure they are well maintained and posing no threat to surrounding sensitive biological resources. Inspectors will record information pertaining to invasive exotic plant populations and new infestations that may be threatening sensitive species and habitats. Inspectors will report any findings and make recommended corrective actions if appropriate.

Invasive Plant Management-10: Monitoring Decommissioned Areas. Monitor areas of decommissioned roads and trails for the presence of invasive plant species for two years following decommissioning to ensure no infestations develop. If invasive species are detected at this time, corrective actions will be taken as appropriate.

CONSTRUCTION CONTRACTS BMP

Construction Contracts-1: Standard Procedures in Construction Contracts. When using contractors to perform road and trail management, the MCOSD will include some or all of the following standard procedures into construction contracts.

Time of work. The contractor will work with the MCOSD natural resource staff to determine the optimal timing of contracted work. Many timing restrictions relate to avoiding migration, gestation, or flowering periods for special-status species. Other types of timing restrictions relate to avoiding the spread of invasive plants or scheduling work in wetlands during the dry season.

Work in and near water bodies and wetlands. To protect water quality, the contractor will be required to prepare and implement a stormwater pollution prevention plan for road and trail management work in or near wetlands, ponds, seeps, creeks, tidal areas, or stream crossings. The following practices will be followed to protect these habitats:

- **Avoid construction work within a buffer of 100 feet from the ordinary high-water mark of any water body, wetland, or tidally influenced area.** If construction work cannot be fully avoided in water bodies, wetlands and riparian areas, the appropriate state and federal agencies will be consulted and permits obtained.
- **Within the buffer, restrict activities to the least-harmful methods.** For example, herbicides will be restricted to those that are EPA-approved for use near water. Activities that disturb soil or could cause soil erosion or changes in water quality will be prohibited.
- **Within the buffer, limit work that may cause erosion to low-flow periods.** Low-flow months for local creeks are typically August to October. For tidal areas, work will not occur within two hours of high-tide events at construction sites when high tide is greater than 6.5 feet as measured at the Golden Gate Bridge, using corrections for areas near individual MCOSD preserves. Tide charts are available online from the National Oceanic and Atmospheric Agency/National Weather Service (http://www.wrh.noaa.gov/mtr/sunset.php).

Work in and near invasive plant infestations. The contractor will work with the MCOSD natural resource staff to identify any priority invasive plants that occur near the project work area, including the project footprint, access roads, staging areas, and similar work areas. The contractor will agree to comply with requirements to reduce the spread or transport of priority invasive plants related to construction activities. Requirements may include some or all of the following:

- **Conduct a training program for all field personnel involved with the proposed road and trail management project prior to initiating the project.** The program will consist of a brief presentation by persons knowledgeable about the special-status species, sensitive resource, or invasive plants known from the project area. The program will include the following: a photograph and description of each special-status species, sensitive resource, or invasive plant known from the project area; a description of its ecology and habitat needs; an explanation of the measures being taken to avoid or reduce adverse impact; and the workers' responsibility under the applicable environmental regulation. The worker training may be conducted in an informal manner (e.g., as part of a routine tailgate safety meeting).
- **Restrict work to periods when invasive plants are not in fruit or flower.**
- **Clean vehicles of contaminated soil, invasive plant seeds, or plant parts before entering the MCOSD preserves, whenever moving equipment between areas within the preserves, and before leaving the preserves.** Vehicle-cleaning areas will be established for this purpose. Within the cleaning areas, tires and insides and outsides of vehicles and equipment will be brushed off or hosed down.

- **Inspect construction equipment for soil or invasive seeds or plant parts.** Contractors will be required to make equipment available for inspection before entering the MCOSD preserves, when moving between sites within the preserves, and before leaving the preserves.
- **Dispose of green waste in a manner that does not spread invasive plants.** Disposal practices may include on-site disposal in an already infested area or off-site disposal in a cogeneration plant or an approved green-waste composting facility.

Work in environmentally sensitive areas. The MCOSD natural resource staff will identify any environmentally sensitive areas in or near construction projects prior to the start of the project. The following practices will be followed to protect these resources: Environmentally sensitive areas may include special-status plant or wildlife species or their habitats; wetlands; creeks, streams, and related riparian areas; and sensitive vegetation types as described in this report.

- **Avoid work in environmentally sensitive areas.** If work cannot be fully avoided, any applicable regulatory agencies will be consulted and the necessary permits obtained.
- **Use locally collected plant materials for revegetation projects.** Whenever possible, locally collected native plant materials from the project footprint and surrounding area will be used for revegetation. Plant materials should be collected from within the same watershed or the MCOSD preserve if possible. The MCOSD will allow collection of no more than 5% of any native plant population to avoid over collection of wild plant material sources. If sufficient local plant materials are not available for collection prior to project activities, geographically appropriate native plant materials will be purchased from a local nursery or seed supplier. The contractor will allow the MCOSD to inspect and approve all plant materials and seed prior to use on site.
- **Comply with requirements of the MCOSD project permits to protect special-status species and their associated habitats.** For road and trail management work in or near special-status species habitat, the contractor is required to comply with requirements of the MCOSD project permits to protect special-status species and their associated habitats before and during construction, and to cooperate with the MCOSD in implementing any state and federal permits and agreements for the project. The special-status species population plus a buffer will be designated as an environmentally sensitive area using lath and flagging, pin flags, or temporary fencing (depending on resource sensitivity to work). The contractor will be required to avoid all designated environmentally sensitive areas during construction. For any special-status species or their habitats that cannot be fully avoided, the contractor will work with the MCOSD to obtain and comply with federal and state Endangered Species Acts, the federal Migratory Bird Treaty Act, and the California Fish and Game Code permits and agreements.
- **Restrict soil disturbance and import of nonnative soil or fill material.** To reduce the potential for damage of native plants and/or introduction of invasive plants, the contractor will be required to minimize the footprint of soil disturbance to the minimum amount necessary to complete the contracted work. This includes the footprint of access roads, staging areas, and areas of temporary disturbance. The contractor and its staff and subcontractors will agree not to drive off road or drive or park on native vegetation unless approved in advance by the MCOSD natural resource staff. The contractor will agree that if soil excavation is required, every attempt will be made to have a balanced cut-and-fill project that reuses all native soils on site. Nonnative soil or fill material will not be used unless preapproved by the MCOSD natural resource staff.
- **To minimize erosion and sedimentation, maintain erosion- and sediment-control devices during ground- disturbing activities and until all disturbed soils have been stabilized.** Control devices include rice straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials will be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion-control materials will be constructed of natural

fibers (e.g., coconut fiber mats, burlap and rice straw wattles) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.

Other procedures:

- **Keep all entry gates to the project site locked during non-construction hours or locked at all times if not needed for construction access.**
- **Equip all vehicles with a suitable fire extinguisher.**
- **Immediately rehabilitate areas where project actions have disturbed soil**. Areas disturbed by equipment or vehicles will be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include de-compacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion-control materials, revegetating areas with native plants, and removing and monitoring invasive plants.

CULTURAL RESOURCES BMPs

Cultural Resources-1: Historical and Archaeological Resource Mapping. Prior to constructing any project that would involve ground disturbance outside road or trail beds or other areas previously disturbed when constructing the road and trail system, the MCOSD staff will determine whether or not the project area is located within an area that is mapped as "historically or archaeologically sensitive" according to map 4-1 (Historical Resources) in the Marin Countywide Plan and/or identified as culturally sensitive on other confidential maps on file with the county that list prehistoric or archeological sites. If the project area is identified as sensitive on any of these maps, the site will be field surveyed by a state-qualified archeologist or an archeological consultant recommended by the Federated Indians of Graton Rancheria, who will make recommendations and develop proposals for any procedures deemed appropriate to further investigate and/or mitigate adverse impacts to those resources.

Cultural Resources-2: Consultation with Northwest Information Center. Prior to constructing any project that would involve ground disturbance outside road or trail beds or other areas previously disturbed when constructing the road and trail system, the MCOSD staff will contact the Northwest Information Center of the California Historical Resources Information System and request a records search of known historic and cultural resources within and adjacent to the proposed project area, and seek the determination of the information center coordinator regarding the potential for cultural resources on the site. Should the records request or the recommendation of the coordinator indicate the presence of sensitive resources, the site will be field surveyed by a state-qualified archeologist or archeological consultant recommended by the Federated Indians of Graton Rancheria, who will make recommendations and develop proposals for any procedures deemed appropriate to further investigate and/or mitigate adverse impacts to those resources.

Cultural Resources-3: Tribal Consultation. The following tribal consultations will be conducted prior to any new ground disturbance related to road or trail construction:

- Send the road and trail project description information to the Native American Heritage Commission and request contact information for tribes with traditional lands or places located within the geographic areas affected by the proposed changes.
- Contact each tribe identified by the commission in writing and provide them the opportunity to consult about the proposed project.
- Organize a consultation with tribes that respond to the written notice within 90 days.
- Refer proposals associated with proposed road and trail modifications to each tribe identified by the commission at least 45 days prior to the proposed action.
- Provide notice of a public hearing at least 10 days in advance to tribes and any other persons who have requested that such notice be provided.

Cultural Resources-4: Alteration of Historic Structures. Limit the modification of ranch structures or other historical features to maintain the aesthetic quality, historical setting, and rural character of the preserves.

Cultural Resources-5: Permanent Protection. Where road and trail activities cannot avoid sensitive cultural resources, require modifications to the actions to incorporate the resource and include a resource protection plan for its maintenance and future protection.

Cultural Resources-6: Construction Discovery Protocol. If cultural resources are discovered on a site during construction activities, halt all earthmoving activity in the area of impact until a qualified archeological consultant examines the findings, assesses their significance, and develops proposals for any procedures deemed appropriate to further investigate and/or mitigate adverse impacts to those resources.

Cultural Resources-7: Human Remains. In the event that human skeletal remains are discovered, discontinue work in the area of the discovery and contact the County Coroner. If skeletal remains are found to be prehistoric Native American remains, the coroner will call the Native American Heritage Commission within 24 hours. The commission will identify the person(s) it believes to be the most likely descendant of the deceased Native American. The most likely descendant will be responsible for recommending the disposition and treatment of the remains. The most likely descendant may make recommendations to the landowner or the person responsible for the excavation/grading work for means of treating or disposing of the human remains and any associated grave goods as provided in section 5097.98 of the California Public Resources Code.

Cultural Resources-8: Community Awareness. Increase public awareness of local history and archeology, and the need to protect cultural resources. This may be accomplished by highlighting cultural resources along a road or trail with interpretive signs and information kiosks, and/or by placing a historical marker along the road or trail segment to inform trail users about the importance of the site and/or event.

WATER QUALITY BMPs

Water Quality-1: Modifications to Road and Trail Management Actions to Protect Water Bodies, Wetlands, and Tidally Influenced Areas. Road and trail management activities will be restricted near wetlands and other waters to reduce the potential for sediment or pollutants to enter water bodies or wetlands. If work occurs during the dry season and is greater than 100 feet from creeks and wetlands, erosion control and water quality protection measures will not be necessary.

- **If possible, avoid work around water bodies, wetlands, and tidally influenced areas, including a buffer area of 100 feet around these areas** (i.e., as measured from the top bank of creeks, streams, or ponds).
- **If construction work in wetlands, riparian areas, or tidally influenced areas cannot be fully avoided, consult with the appropriate state and federal agencies.** This consultation may result in wetland delineation, permit applications, and mitigation that meets Countywide Plan and other regulatory requirements.
- **Within the 100-foot buffer, limit construction activities.** Limit activities to least-harmful methods; restrict herbicides to those that are EPA-approved for use near water. Prohibit activities that disturb soil or could cause soil erosion or changes in water quality.
- **Within the 100-foot buffer, limit work that might cause erosion to low-flow or low-tide periods.** Low-flow months for local creeks are typically August to October. For tidal areas, work will not occur within two hours of high-tide events at construction sites when high tide is greater than 6.5 feet as measured at the Golden Gate Bridge, using corrections for areas near individual MCOSD preserves. Tide charts are available online from the National Oceanic and Atmospheric Agency/National Weather Service (http://www.wrh.noaa.gov/mtr/sunset.php).
- **Within the 100-foot buffer, minimize erosion and sedimentation by maintaining erosion- and sediment- control devices during ground-disturbing activities and until all disturbed soils have been stabilized.** Control devices include weed-free straw, hydromulch, geofabrics, wattles, sediment traps, check dams, drainage swales, and sand bag dikes. Materials must be certified weed-free to prevent the introduction of wheat, barley, and other nonnative plant seeds. Erosion-control materials must be constructed of natural fibers (e.g., coconut fiber mats, burlap and rice straw wattles) and may not be constructed with plastic monofilaments or other materials that could entrap snakes or amphibians.

Water Quality-2: Temporary Erosion and Sediment Control. Temporary sediment-control practices will be implemented when new trail construction or existing trail improvements will result in greater than 1 acre of disturbance. Temporary practices may also be required when disturbance is less than 1 acre but close to a sensitive resource or has the potential to discharge a significant amount of sediments or pollutants to surface water. Several of the listed temporary practices can also be used as post-construction stabilization measures: Information and standard details for temporary erosion-control BMPs can be found in the California Stormwater BMP Handbook – Construction (CASQA 2009).

- **Install temporary fencing around staging areas and along limits of construction when work areas are immediately adjacent to sensitive resources.** This will limit the disturbance footprint and help protect resources, including native vegetation, wetlands, and streams, during grading operations.
- **Install linear sediment barriers to slow and filter stormwater runoff from disturbed areas.** Fiber or straw roll barriers can also be spaced along the contours of a disturbed area after construction to prevent concentrated flow and stabilize the area until there is sufficient vegetation coverage.

- **Apply one or more of the following to restore or protect areas disturbed by excavation or grading operations:**
  - tilling (minimum 6-inch depth) and seeding
  - hydromulch and tackifier
  - planting
  - straw or wood mulch
  - coir (jute) netting
  - biodegradable erosion-control blankets
  - plastic sheeting (only as an interim protection during storm events when construction site is still active)
- **Cover soil and loose material stockpiles with weighted plastic sheeting when inactive or prior to storm events.**
- **Active and inactive material stockpiles will be encircled at all times with a linear sediment barrier.**
- **Manage sediment when diverting streamflow.** When constructing trail or road stream crossings, a temporary clear-water diversion may be required. The following options will be considered for isolating the work area and protecting resources when diverting streamflow via gravity-fed flexible pipe or active pumping around the work area: sand or gravel bag coffer dam enclosed in plastic sheeting, water-filled dam (e.g., Aquadam), sheet piling, and turbidity curtains.
- **Manage sediment during dewatering operations.** The following options will be considered for applying or containing and treating sediment-laden water produced during dewatering operations: sprinkler system to open area (as long as there is no visible surface runoff), temporary constructed sediment basin or trap, rented sedimentation tank (e.g., Baker Tank).

Water Quality-3: Erosion Control Measures.

- **Avoid the use of heavy equipment in areas with soils that are undisturbed, saturated, or subject to extensive compaction.**
- **If no feasible alternative is available and staging of heavy equipment, vehicles, or stockpiles is unavoidable, limit the disturbance footprint and flag or mark the allowable disturbance area in the field.** Following the end of work, newly disturbed soils will be scarified to retard runoff and promote rapid revegetation.
- **Immediately rehabilitate areas where project actions have disturbed soil.** Require areas disturbed by equipment or vehicles to be rehabilitated as quickly as possible to prevent erosion, discourage the colonization of invasive plants, and address soil compaction. Techniques include decompacting and aerating soils, recontouring soils to natural topography, stabilizing soils via erosion-control materials, revegetating areas with native plants, and removing and monitoring invasive plants.
- **Leave the roots of target invasive trees and shrubs in place in areas with highly erosive soils or steep slopes. Stumps may be cut or ground down to the ground level.**

If work occurs during the dry season and is greater than 100 feet from water bodies and wetlands, erosion control and water quality protection measures will not be necessary.

Water Quality-4: Preventing or Reducing the Potential for Pollution.

- **Include spill prevention and clean-up in annual staff training sessions.**
- **Properly use, store, and dispose of chemicals, fuels, and other toxic materials according to manufacturer's specifications and agency regulations.**
- **Prohibit or restrict equipment refueling, fluid leakage, equipment maintenance, and road surfacing activities near wetlands.** Fuel storage and refueling will occur in safe areas well away from wetlands; safe areas may include paved or cleared roadbeds and other contained areas, such as lined truck beds.
- **Equipment and vehicles will be inspected regularly for hydraulic and oil leaks, and leaking vehicles will not be allowed on the MCOSD preserves.** Drip pans will be placed underneath equipment stored on site. Vehicles and construction equipment will be maintained in good working condition, and any necessary on-site servicing of equipment will be conducted away from the wetlands.
- **Require all contractors to possess, and all vehicles to carry, emergency spill containment materials.**
- **Absorbent materials will be on hand at all times to absorb any minor leaks and spills.**

Water Quality-5: Road and Trail Inspections. Inspect roads and trails for conditions that might adversely affect water quality or other resources. Road and trail maintenance staff will use road/trail inspection forms to facilitate complete and consistent data capture and reporting of the following conditions:

- concentrated flows on roads and trails that cause erosion, rilling, or gullying
- runoff and effects to water quality of nearby habitats
- the spread of invasive exotic plants near wetlands and waters
- the status and quality of any known sensitive resources in the immediate vicinity that could be affected by road or trail use and/or maintenance

Staff will report any findings and make recommended corrective actions if appropriate.

Water Quality-6: Grading Windows. Restrict grading activity to the dry months (generally May 15 – October 15), when associated erosion will be reduced to the maximum extent possible.

Water Quality-7: Culvert Inspection. Inspect culverts on a regular basis. Inspections will ensure that culverts do not clog with sediment or debris. Blocked culverts may affect water quality, change the water course, increase erosion or sediment runoff, or affect wildlife. Any materials blocking culverts will be removed and disposed of outside of the watercourse in an area not subject to erosion. If a significant blockage or sedimentation exists, the MCOSD will plan and implement corrective actions as necessary. Excavation of sediments within streams may require a maintenance permit from the U.S. Army Corps of Engineers, the California Department of Fish and Wildlife, and/or the San Francisco Water Quality Control Board.

Water Quality-8: Proper Disposal of Excess Materials. Avoid resource impacts when disposing of materials. Any excess material related to new construction, maintenance, or decommissioning (including soils, debris, trash, or other materials that need to be removed as part of management activities) will be disposed of at an appropriate site where materials could not impact sensitive resources. For example, grading-related excess soils or removed debris will not be placed in or around a water body or wetland, where the materials could be subject to erosion that would affect water quality.

Water Quality-9: Sidecasting Construction Material. Avoid sidecasting, or at a minimum contain and remove sidecast material when it has the potential to reach surface waters. The following "rules of thumb" based on Fishnet 4C Guidelines (2007) will be used as guidance:

Slope Gradient	Distance to Watercourse	Sidecast Rule
Any slope	Will likely enter watercourse	Not Allowed
≤20%	≥150 feet	Allowed
≤50%	≥300 feet	Allowed
> 50%	Long vegetated slope	Allowed
>50%	Shorter, sparsely vegetated slope	Not Allowed

GEOLOGIC HAZARDS BMPs

Geologic Hazards-1: Assessment and Requirements in Areas of Potential Geologic Hazard. Given the unique and potentially high risks associated with geologic hazards, general best management practices for these types of potential impacts are not appropriate. Instead, when new trails or trail improvements are proposed in preserve areas with a propensity for geologic instabilities, including slides or debris flows in the more elevated areas and subsidence or liquefaction in the low-lying areas, a site assessment will be conducted by a certified geologist or geotechnical engineer. If geologic hazards are confirmed in the area, the site assessment will propose adequate avoidance measures or engineering elements to ensure trail and infrastructure stability and maintained public safety.

Geologic Hazards-2: Construction in Areas of Slides and Debris Flows. In areas of identified slide and debris flow hazards, locate and design new trails, drainage improvements, or irrigation so as not to alter the shape or stability, or change the drainage or groundwater conditions, of an existing slide area. Such alterations would potentially result in reactivation or further destabilization of the slope.

Geologic Hazards-3: Construction in Areas of Erodible and Expansive Soils. Use avoidance tactics or engineered grading to mitigate adverse geologic conditions and potential hazards. Prior to final road or trail project design, consult with engineering geologists and/or geotechnical engineers to identify and implement mitigating road or trial designs for new facility locations or when improving existing facilities.

Geologic Hazards-4: Construction in Areas of Collapsible Soils. In any of the lower elevation preserves (i.e., those near sea level) assess soil type and the potential for subsidence to determine optimum trail location and structural foundations necessary to avoid collapsible soils. In consultation with a certified geologist or geotechnical engineer, design roads and trails to avoid or reduce this potential hazard through optimizing location or by implementing appropriate engineering designs.

AIR QULITY BMPs

Air Quality-1: Implement BAAQMD Measures. As part of the review process required under the California Environmental Quality Act, the MCOSD will use the current Bay Area Air Quality Management District guidelines to evaluate the significance of air quality impacts from road and trail management plans and projects, and to establish appropriate mitigation requirements.

Air Quality-2: Minimize Dust Control Emissions during Construction. The MCOSD will require its staff or contractors to implement appropriate Bay Area Air Quality Management District control measures for emissions of dust during construction of all road and trail modifications and improvements. The following basic control measures cover routine operation and maintenance and day-to-day upkeep of roads and trails, minor road and trail reconstruction, and minor decommissioning activities, they also cover changes in use, the conversion of a road to a trail, or any proposed action that does not involve construction activities, but an increase or decrease in the level of activity:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard (vertical space between the top surface of the material and the top of the hauling container).
- Pave, apply water three times daily, or apply nontoxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Air Quality-3: Enhanced Dust Control during Construction. The following enhanced control measures cover major road and trail reconstruction, rerouting, and decommissioning activities, such as repairing, replacing, or restoring heavily used and wide road and trail segments; they also cover resurfacing, replacing, and restoring trailhead areas and installing new water quality and drainage features:

- Hydroseed or apply nontoxic soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).
- Enclose, cover, water twice daily, or apply nontoxic soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 miles per hour.
- Install sandbags or other erosion-control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

Air Quality-4: Dust Control during Construction in Sensitive Resource Areas. The MCOSD will require its staff or contractors to implement appropriate Bay Area Air Quality Management District optional control measures for emissions of dust during construction of all road and trail modifications and improvements that are large in area, located near sensitive resources, or which for any other reason may warrant additional emission reductions. The following measures cover rerouting road and trail alignments, significant decommissioning or restoration activities, and the construction of a new road and trail alignment on undisturbed land to connect previously unconnected points:

- Install wheel washers for all exiting trucks or wash off the tires or tracks of all trucks and equipment leaving the site.
- Install wind breaks, or plant trees/vegetative wind breaks, at windward side(s) of construction areas.

- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 miles per hour.
- Limit the area subject to excavation, grading, and other construction activity at any one time.

NOISE BMPs

Noise-1: County Noise Ordinance Requirements. For all maintenance and construction projects using powered or heavy equipment, implement the day and time restrictions for equipment operation and maintenance specified by Marin County Ordinance 3431, Construction Noise.

Noise-2: Noise Control during Construction within and adjacent to Sensitive Wildlife Populations.

- Ensure that equipment and vehicles utilize the best available noise-control techniques (e.g., improved mufflers, equipment redesign, and use of intake silencers, ducts, engine enclosures and acoustically attenuating shields or shrouds) to prevent disturbance of nearby wildlife populations.
- Except for emergency projects, prohibit nighttime operations or planned operations during breeding season in areas adjacent to sensitive wildlife populations.