Draft Initial Study/Mitigated Negative Declaration

for the proposed

Memorial Trail Improvement Project

at

Terra Linda / Sleepy Hollow Open Space Preserve

Public Comment Period: June 13 – July 15, 2022

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

MARIN COUNTY PARKS
OPEN SPACE DISTRICT

This document has been prepared pursuant to the

California Environmental Quality Act of 1970, as amended

TABLE OF CONTENTS

CEQA Checklist

References

Appendix A: Marin County Open Space District Road and Trail Management Plan Policies and Best Management Practices (BMPs)

PROJECT INFORMATION SHEET

Project Title

Memorial Trail Improvement Project

Lead Agency Name and Address

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

Contact Person

Jason Hoorn, Natural Resources Planner
JHoorn@marincounty.org
(415) 320-4610

Project Location

Terra Linda / Sleepy Hollow Open Space Preserve
San Rafael, Marin County, California

Assessor Parcel Number(s)

APN 177-220-64
APN 175-010-97

General Plan Designation - Marin Countywide Plan

APN 177-220-64: PROS – Parks, Recreation, and Open Space, City of San Rafael General Plan
APN 175-010-97: OS – Open Space, Marin Countywide Plan

Zoning

APN 177-220-64: P/OS – Parks and Open Space, City of San Rafael
APN 175-010-97: OA –Open Area, Marin County

Coordinates

Latitude: -122 33.229
Longitude: 37 59.667

Coordinates in Degrees, Decimal Minutes.
Prime Meridian: Greenwich.
Datum: D_WGS_1984. Spheroid: WGS_1984.

United States Geological Survey

USGS Quad: San Rafael 7.5 Minute Series
Township: T2N
Range: R6W
Section: within the San Pedro Santa Margarita y Las Gallinas Land Grant
Mt. Diablo Baseline and Meridian

MITIGATED NEGATIVE DECLARATION

Marin County Environmental Review

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

Project Name: Memorial Trail Improvement Project

Location: Terra Linda / Sleepy Hollow Open Space Preserve, San Rafael, Marin County, California

Project Summary:

The proposed project would decommission the currently eroding and unsustainable Memorial Trail alignment along with the social trails described above and develop a sustainable Memorial Trail system utilizing Dias Way, Del Haro Way, Malone Way, Oak Ridge Road, and Ridgewood Fire Road as access points. Some segments of the existing social trail network would be upgraded and incorporated into the sustainable trail system. These actions would meet the project purpose and objectives by reducing environmental impacts, improving trail sustainability, and providing greater accessibility for all trail users.

Project Sponsor: Marin County Open Space District (MCOSD)

Finding:

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

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

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

Rachel Reid Date: June 09, 2022

Rachel Reid
Environmental Planning Manager

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

Max Korten Date: June 09, 2022

Director and General Manager
Marin County Parks and Open Space District

Mitigation Measures:

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

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

☒ The potential adverse impacts have been found to be mitigable as noted under the following factors in the Initial Study attached.

The mitigation measure for the potentially significant environmental impact associated with nesting birds has been incorporated into the project and are required as conditions of approval.

Preparation:

This Mitigated Negative Declaration was prepared by Michelle Julene, Regulatory Open Space Planner of the Marin County Parks and Open Space District.

Due to restrictions associated with COVID-19, hardcopies of the document are not available to review at the MCOSD administrative office or the local library.

The document and the online comment form is available for review on the Marin County Parks website at: https://www.parks.marincounty.org/projectsplans/road-and-trail-management/memorial-trail-terra-linda

INTRODUCTION

The Marin County Open Space District (MCOSD) is an independent legal entity and a special district operating pursuant to the California Public Resources Code. Marin County Parks (MCP) oversees the management of the county parks system and provides public information on behalf of the MCOSD.

The proposed project occurs within the Terra Linda / Sleepy Hollow Open Space Preserve, one of its 34 open space preserves in Marin County. The Terra Linda / Sleepy Hollow Open Space Preserve (Preserve) encompasses 1,172 acres of open space land covering the ridges above the Santa Margarita Valley and the Terra Linda area of the City of San Rafael. The lands were acquired from 1972 to 1989 through numerous parcel acquisitions. The Terra Linda / Sleepy Hollow Open Space Preserve supports a network of fire roads[1] and trails for hikers, cyclists, dog walkers, and equestrians, and several hiker and equestrian only trails. It also offers expansive views of Mount Tamalpais, Big Rock Ridge, and San Pablo Bay.

Figure 1 shows the road and trail map for Terra Linda / Sleepy Hollow Open Space Preserve

PROJECT NEED, PURPOSE, AND OBJECTIVES

Project Need

The Memorial Trail is currently a hiking and equestrian only designated trail along the south-eastern border of the Preserve. In its existing condition, the Memorial Trail is a steep, fall-line connection between Ridgewood Fire Road on the San Rafael Hill ridgeline and the Terra Linda neighborhoods below. The poor alignment of the trail, along with its steep gradient, has resulted in accelerated erosion and the formation of rills and gullies on the trail tread, which extend into the natural landscape and negatively impact the surrounding environment. Water runoff that collects on the trail surface runs down the trail tread, increasing in volume and velocity and results in hydraulic erosion of the trail tread, resulting in rilling and gullying. This condition has resulted in an unsustainable trail because the uneven trail tread surfacing, trail erosion and sedimentation in the ephemeral streams, and the standard trail maintenance methods have become ineffective.

While erosion and sediment delivery to streams is a naturally occurring process, elevated rates of sedimentation originating from human-caused sources, such as roads and trails, impair water bodies and are considered a pollutant. Sediment can smother instream habitats, lead to shallower and warmer water conditions, and transport other pollutants attached to soil particles into water courses.

In addition to being unsustainable as described above, MCOSD has determined that the Memorial Trail is substandard in design and safety. The steep trail gradients, rill and gully erosional features, and loose tread conditions diminish visitor safety, limit accessibility, and severely reduces the ability of staff to properly maintain the trail.

Several social trails[2] connect and are adjacent to the Memorial Trail. This network of social trails is also contributing to degraded instream and upslope habitat on the Preserve through erosion, sediment delivery,

---

[1] In this context, a fire road is cleared of vegetation to provide fire fighters access to remote areas. In MCOSD preserves, fire roads are also utilized as multi-use trails.

[2] RTMP Policy SW.3 defines social trails as follows: 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.

RTMP Policy SW.2: System Roads and Trails includes the following: non-system 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.

and fragmentation of contiguous, relatively undisturbed areas that support native vegetation and wildlife and are unsustainable.

In total, the Memorial Trail and adjacent social trails comprise a network of steep, eroding, and unsustainable pathways totaling over three miles. By realigning the Memorial Trail and providing sustainable trailhead connections, the proposed project would reduce the overall trail length by 0.29 mile and provide more equitable access. This would also improve areas of native plant and wildlife refugia by reducing habitat fragmentation and encroachment into relatively undisturbed areas.

Project Purpose

The purpose of the proposed project is to implement the MCOSD's Road and Trail Management Plan (RTMP) to provide the public with a 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 safe year-round access along the trail alignment. The applicable RTMP Policies and BMPs would be implemented to minimize or eliminate potential environmental effects that could result from project implementation. These are described throughout this Initial Study and included in their entirety in Appendix A. Additionally, the proposed project would adhere to the Marin County Parks Inclusive Access Plan (IAP) where possible. The proposed multi-use trail lengths would meet IAP trail width and clearance parameters but would not meet the IAP trail grade parameters. Due to the steep terrain, it is not practicable for the proposed trail improvements to be fully compliant with the IAP. The RTMP and IAP are described in the Project Development section of this document.

Project Objectives

Implementation of the proposed project would achieve the following project objectives:

- Improve visitor access to the Preserve, including Terra Linda High School
- Reduce trail erosion and sedimentation
- Reduce trail density[3] and habitat fragmentation[4]

SUMMARY OF THE PROPOSED PROJECT

The proposed Memorial Trail Improvement Project would realign the Memorial Trail at the Terra Linda / Sleepy Hollow Open Space Preserve. The current trail alignment runs in a fall-line orientation[5] from Ridgewood Fire Road to Dias Way and exceeds 35 percent slope gradients in places. The proposed project would decommission the existing Memorial Trail alignment and develop a new alignment at a sustainable 5 to 10 percent grade, which would increase the trail length to reduce the trail grade. The existing trailhead at Del Haro Way would be signed to designate the realigned trail. The Memorial Trail is currently designated for hikers, equestrians, and dogs on leash and would be re-designated to provide non-motorized bike access. The proposed Memorial Trail realignment would also include hiking-only trail extensions to Malone

---

Policy SW.4: Overall Reduction of Road, Trail, and Visitor Impacts states the following: 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.

[3] Trail density refers to the ratio of trail length to the preserve area or project area in which they are contained. Elimination of unsustainable social trails would reduce trail density.

[4] Habitat fragmentation describes modification of the natural habitat that results in negative effects on biodiversity, characterized by a strong contrast between plant communities and their surrounding environment.

[5] In this context, a fall-line trail orientation describes the line a bowling ball would take if it were to roll down the trail from the highest point to the lowest point. Sustainable trails bisect the fall line by less than half of the trail's fall-line percentage, resulting in longer trails with gentler grades.

Lane and Dias Way and a hiking - equestrian trail extension to Oak Ridge Road. These trails would be signed as system trails, meaning that they would be included on trail maps.

The proposed project would decommission approximately 1.77 miles / 9,359 feet of trail, including the existing Memorial Trail alignment and several unsustainable and eroding social trails. The proposed project would implement approximately 1.93-miles / 10,150 feet trail improvements including the proposed new Memorial Trail alignment and some segments of the existing social trail network, which would be incorporated into the formal trail system. Of the 1.93 miles of sustainable trail development, 0.45 miles would incorporate and upgrade existing trails, and 1.48 miles would be the construction of new sustainable trail lengths. When comparing new trail construction to decommissioned trails, the proposed project would result in a net decrease of approximately 0.29 mile of trail. The proposed trail improvements would include 13 crossings of ephemeral streams, seven of which would be rock armored fords[6] and six would be bridges.

These actions would meet the project purpose and objectives by providing greater accessibility for trail users, reducing trail erosion and sedimentation into surface waters, reducing the number of redundant and unsustainable trails, and reducing habitat fragmentation.

The proposed project includes the following elements, which are summarized below and fully described in the Project Description section of this document:

Trail Improvements

- Realign the Memorial Trail and change use from hiker and equestrian trail to multi-use trail
- Realign the Oak Ridge social trail[7] to a sustainable equestrian and hiker only trail and formalize the trailhead
- Upgrade the Dias Way Trail to a sustainable hiker only trail
- Realign the Malone social trail to a sustainable hiker only trail and formalize the trailhead
- Incorporate and upgrade some segments of the existing social trail network into the Memorial and Malone Trails

Trail Decommissioning and Restoration

- The existing Memorial Trail alignment
- The existing Oak Ridge social trail alignments 1 and 2
- The existing Del Haro Way social trail alignment
- The existing Malone social trail alignment
- Social Trail A
- Social Trail B

EXISTING SETTING

Project Location, Surrounding Land Uses, and Access

The project area is located in the southeast portion of the 1,172-acre Terra Linda / Sleepy Hollow Open Space Preserve. The Terra Linda / Sleepy Hollow Open Space Preserve provides a greenbelt and ridgeline separator between central San Rafael and San Anselmo to the south and west and Terra Linda to the north and east. Twenty-foot-wide fire roads extend along most of the length of the ridgelines and narrower, two- to eight-foot-wide designated trails and social trails extend between the ridgelines and the residential areas.

---

[6] A rock armored ford is a type of low water crossing that uses rocks to stabilize the channel bed and bank, thereby reducing erosion potential and sedimentation from trail use.

[7] This is an existing social trail that begins at Oak Ridge Road that is not officially named of designated by the MCOSD but is commonly referred to by the neighbors that use it as the Oak Ridge Trail. The proposed project would develop a hiking and equestrian trail to replace the existing social trails and incorporate the Oak Ridge Trail into the MCOSD trail system.

The paved Mission Pass Path crosses the northern and southern portions of Terra Linda / Sleepy Hollow Open Space Preserve, near the residential streets Fox Lane and Fawn Drive. The adjacent land uses are primarily single-family residential housing. Access to the project area is from the following:

- Del Haro Way via Golden Hinde Boulevard in the City of San Rafael
- Dias Way via Devon Drive in the City of San Rafael
- Malone Lane via Devon Drive in the City of San Rafael
- Oak Ridge Road via Circle Road in unincorporated Marin County

Project Area

The project area is located in the southeast portion of the Terra Linda / Sleepy Hollow Open Space Preserve. The proposed project is located within an approximate 4-acre area of the Preserve. The specific trails included in the proposed project are described in this section.

Memorial Trail

The existing Memorial Trail is a 0.45-mile / 2,393-foot-long trail currently designated for use by hikers, equestrians, and dogs on leash, extending from Ridgewood Fire Road to Dias Way in Terra Linda. The trail varies in width from two to 12 feet. The trail occupies and extends longitudinally down the nose of a steep lateral ridge. Trail gradients average 20 percent and exceed 35 percent in some locations. The trail is poorly drained due to its position on the slope, which has resulted in rilling and gullying of the trail surface, increasingly unsafe trail conditions, and has severely limited public accessibility. There are two social trails associated with the Memorial Trail. The first is approximately 510-feet / 0.10-mile long and extends from Ridgewood Fire Road to the upper saddle on the Memorial Trail. The second is approximately 570-feet / 0.11-mile long and extends from the upper saddle area to a break in slope at the base of an excessively steep pitch. This trail appears to be only used by wildlife.

Oak Ridge Social Trail 1

The existing Oak Ridge Social Trail 1 is an inactive fall-line trail with an average width of six feet that appears to be an abandoned dozer cut. It is approximately 0.08-mile / 440-feet in length. In the past, it was a primary access connecting Memorial Trail to the Los Ranchitos neighborhood and was utilized heavily by equestrians. Weak soil strength, poor drainage, steep gradients, and seasonally wet conditions all contributed to its degraded state. This undesignated social trail does not meet RTMP trail standards.

Oak Ridge Social Trail 2

The existing Oak Ridge Social Trail 2 is a narrow, rutted, and actively eroding trail that is the currently used access connecting Oak Ridge Road to the existing Memorial Trail. The trail is approximately 0.11-mile / 604-feet in length, with an average width of four feet. It is primarily utilized by hikers and equestrians. Trail conditions can be muddy and slippery during wet weather. Poor trail drainage, weak soil strength, steep gradients, and seasonally wet conditions are contributing to the degraded state of the trail. The current undesignated Oak Ridge social trail does not meet RTMP trail standards.

Del Haro Social Trail

The existing Del Haro Social Trail is a 0.09-mile / 498-foot-long trail extending from the end of Del Haro Way to the existing Memorial Trail. Its average width is four feet. The trail runs along the fall-line of the ridge nose. It is poorly drained, actively eroding, and does not meet MCOSD standards.

Malone Social Trail

The existing Malone Social Trail is a 0.40-mile / 2,140-foot-long trail extending from Ridgewood Fire Road down the fall-line of the slope to Malone Drive. The social trail contains an unimproved crossing of an ephemeral stream and steep fall-line pitches that are eroding and delivering sediment to the stream. The average trail width is five feet.

Social Trail A
The existing Social Trail A is a 0.30-mile / 1,584-foot-long path extending from the abandoned road cut at the top of the ridge down to Malone Way. The trail exceeds 40 percent gradients in some locations and passes through a small serpentine grassland. Its average trail width is two feet.

Social Trail B
The existing Social Trail B is a 0.50-mile / 2,640-foot-long trail that extends from Ridgewood Fire Road near the northwestern end of the eucalyptus grove to a mid-slope position and eventually connects with the Malone Trail. The upper 0.2 miles of the trail is oriented in a fall-line position on a broad, low-gradient ridge. The lower 0.3 miles is comprised of five legs and four switchbacks to negotiate the steeper mid-slope of the ridge. Its average trail width is two feet.

Figure 2 shows the existing trail network in the project area

PROJECT DESCRIPTION

The proposed project would decommission the currently eroding and unsustainable Memorial Trail alignment along with the social trails described above and develop a sustainable Memorial Trail system utilizing Dias Way, Del Haro Way, Malone Way, Oak Ridge Road, and Ridgewood Fire Road as access points. Some segments of the existing social trail network would be upgraded and incorporated into the sustainable trail system. These actions would meet the project purpose and objectives by reducing environmental impacts, improving trail sustainability, and providing greater accessibility for all trail users.

Trail Decommissioning

Approximately 1.77 miles of existing trail would be decommissioned and approximately 1.93 miles of sustainable trail would be developed. Of the 1.93 miles of sustainable trail development, 0.45 miles would incorporate and upgrade existing trails, and 1.48 miles would be the construction of new sustainable trail lengths. When comparing new trail construction to decommissioned trails, the proposed project would result in a net decrease of approximately 0.29 miles of trail.

Trail decommissioning would include active and passive treatments. Active trail decommissioning would entail a suite of treatments, including tread decompaction, recontouring, and cross drain implementation techniques. Following these decommissioning treatments, erosion control seed and mulch products would be installed to protect the soil and promote revegetation. Downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit further use. Active decommissioning treatments would be utilized on those areas that are experiencing active erosion and are in need of surface drainage treatments. Approximately 1.26 miles of active decommissioning treatments would be implemented.

Passive decommissioning would entail non-ground disturbing techniques, such as brush stacking, mulch spreading, and seed distribution. Passive decommissioning would be utilized in areas that are not actively eroding and require minimal effort to effectively close the trail. These may include low gradient trail segments, and interior trail segments on lightly used trails. Restoration of passively decommissioned trails would occur naturally as they fill in with vegetation over time. Approximately 0.51 miles of existing social trail would be passively decommissioned.

Trails proposed for passive decommissioning would not result in any ground disturbance and the acreage attributed to passive trail decommissioning is not included in the calculation of temporary or permanent area of ground disturbance. Trails proposed for active decommissioning would be restored, therefore the area of ground disturbance attributed to active trail decommissioning is considered temporary. The proposed project would result in a total of 1.53 acres of temporary ground disturbance. Proposed trail improvements would be considered permanent ground disturbance. The proposed project would result in approximately 0.99 acres of permanent ground disturbance.

The proposed project would be designed and implemented in compliance with the MCOSD's RTMP including applicable policies, BMPs, and trail design standards.

The existing Memorial Trail and identified social trails would be decommissioned consistent with MCOSD's RTMP Trail Standards, policies, and BMPs which include the following:

- Decompact trail tread to promote infiltration and seed germination, and to slow runoff
- Install permanent drainage structures, such as cross drains, to dewater and disperse surface flows
- Install native seed to revegetate the old alignment and stabilize the soil
- Install mulch products, such as erosion control blankets, weed free rice straw, and waddles, and vegetation removed as part of project implementation, to further protect the soil from surface erosion
- Discourage future use of decommissioned trail corridors through recontouring and placement of brush, downed trees, and temporary informational signage as needed

Memorial Trail Decommissioning
Approximately 0.28-mile / 1,489-feet of the existing Memorial Trail alignment would be decommissioned. Cross drains would be installed at approximately 50-foot intervals. Where possible, segments of the trail would be totally recontoured to the natural hillslope by excavating the sidecast fills and incorporating them back in the decompacted trail cut. Following these decommissioning treatments, native grass seed and mulch products would be installed to protect the soil and promote revegetation, and downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit visitor use.

Memorial Social Trail 1 Decommissioning
Memorial Social Trail 1 is approximately 0.10-mile / 512-foot long and extends from Ridgewood Fire Road to the upper saddle on the Memorial Trail. Decommissioning actions would include decompacting the trail surface and installing cross drains at approximately 50-foot intervals. Following these actions, native grass seed and mulch products would be installed to promote revegetation and protect the soil from erosion, and downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit visitor use.

Memorial Social Trail 2 Decommissioning
Memorial Social Trail 2 is an inactive trail, approximately 0.11-mile / 576-feet in length. It is located within the interior of the preserve and can only be accessed from the current Memorial Trail alignment. It appears to be used primarily by wildlife and is not experiencing increased erosion. Decommmissioning of the Memorial Trail will effectively block access to Memorial Social Trail 2; therefore, no active decommissioning efforts are recommended for Memorial Social Trail 2. Instead, the trail will be allowed to naturally fill in with vegetation over time.

Del Haro Social Trail Decommissioning
Approximately 0.09-mile / 498-feet of the Del Haro Social Trail would be decommissioned. Cross drains would be installed at approximately 50-foot intervals. Where possible, segments of the trail would be totally recontoured to the natural hillslope by excavating the sidecast fills and incorporating them back in the decompacted trail cut. Following these decommissioning treatments, native grass seed and mulch products would be installed to protect the soil and promote revegetation, and downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit visitor use.

Oak Ridge Social Trail 1 Decommissioning
Oak Ridge Social Trail 1 is an inactive 0.10-mile / 547-foot-long trail, extending from Oak Ridge Road to the existing Memorial Trail. The trail appears stable and is not experiencing increased erosion. No active decommissioning efforts are recommended for Oak Ridge Social Trail 1. Passive decommissioning treatments will include brush stacking near its intersection with Oak Ridge Road to deter further use.

Oak Ridge Social Trail 2 Decommissioning
Oak Ridge Social Trail 2 is a 0.15-mile / 781-foot-long trail, extending from Oak Ridge Road to the existing Memorial Trail. It is currently used by equestrians and hikers. The trail is deeply rutted and in poor condition. Decommissioning actions will include total slope recontouring to the extent possible for the entire length of

the trail, and the installation of cross drains at approximately 50-foot intervals. Following these decommissioning treatments, native grass seed and mulch products would be installed to protect the soil and promote revegetation, and downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit further use.

Malone Social Trail Decommissioning

Malone Social Trail is a 0.42-mile / 2,236-foot trail, extending from Ridgewood Fire Road to the end of Malone Way. The trail would be decommissioned utilizing decompaction, recontouring, and cross drain implementation techniques. Following these decommissioning treatments, native grass seed and mulch products would be installed to protect the soil and promote revegetation, and downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit further use.

Social Trail A

Social Trail A is a 0.30-mile / 1,561-foot-long path extending from the abandoned road cut at the top of the ridge down to Malone Way. The trail exceeds 40 percent gradients in some locations and passes through a small serpentine grassland. This trail is lightly used and is not experiencing increased erosion. Downed brush and other organics would be placed across the upper trailhead and corridor as obstacles to prohibit further use and allow for natural revegetation to occur.

Social Trail B

Social Trail B is a 0.55-mile / 2,913-foot-long trail that extends from Ridgewood Fire Road near the northwestern end of the eucalyptus grove to a mid-slope position and eventually connects with the Malone Trail. The upper 0.2-mile of the trail is oriented in a fall-line position on a broad, low-gradient ridge. The lower 0.3-mile is comprised of five legs and four switchbacks to negotiate the steeper mid-slope of the ridge. Approximately 0.33-mile / 1,727-feet of the trail would be decommissioned utilizing decompaction, recontouring, and cross drain implementation techniques. Following these decommissioning treatments, erosion control seed and mulch products would be installed to protect the soil and promote revegetation, and downed brush and other organics would be placed across the decommissioned corridor as obstacles to prohibit further use.

Figure 3 show the location of the proposed trail decommissioning

Trail Improvements

Proposed trail improvements include the realignment and construction of the Memorial Trail, Malone Trail, Oak Ridge Trail, Dias Trail, and proposed signage. Trail realignments would be needed to provide sustainable access from the street ends of Dias, Del Haro, Malone and Oak Ridge to connect with the planned Memorial Trail realignment. Multi-use trail widths would be five feet and hiking only trail widths would be two feet. The proposed trail realignments would improve site drainage by blending the finished trail grade to the existing surrounding slopes without abrupt changes in grade. The proposed project would adhere to the Marin County Parks Inclusive Access Plan (IAP) where possible. Due to the steep terrain, it is not practicable for the proposed trail improvements to be fully compliant with the IAP.

Memorial Trail Realignment

After the existing Memorial Trail is decommissioned, the realigned Memorial Trail would be a 1.34-mile / 7,100-foot long, 6 percent gradient multi-use trail. The currently designated Memorial Trail ends at Dias Way. After the improvements are made, the Memorial Trail will end at Del Haro Way, and the segment of trail between Dias Way and the Memorial Trail will become the hiker only Dias Trail. The lower trailhead would be located at the end of Del Haro Way, which would be designated a formal trailhead. The realigned Memorial Trail would be designated multi-use, which would allow non-motorized bikes in addition to hikers, equestrians, and dogs on leash.

From the new trail termination point at Del Haro Way, the trail would climb in a southwesterly direction to a mid-slope position above Devon Drive before trending southeast to terminate at Ridgewood Fire Road, near Ridgewood Drive. The trail would be constructed with a multi-use width bench, with a minimum width of 48 inches and a maximum width of 60 inches. Pull-outs would be incorporated into the trail at regular intervals

to provide passing opportunities. In these locations, the maximum trail width would be 96 inches. Clear sight lines, gradual turns, gentle out-sloping, and speed reduction features, such as boulder and log chicanes would be incorporated into the trail to benefit all users and provide a safe and enjoyable trail experience. Chicanes would consist of a minimum of two boulders/logs on the inside of two tight corners, in some cases it may be necessary to use additional boulders/logs to block any undesirable lines to avoid the chicane. There would be at least 20 feet of straight trail before reaching a chicane to avoid heavy breaking and therefore reducing erosion before the chicane. In addition to chicanes, the realigned trail will be constructed with clear lines of sight, gradual turns, and gentle out-sloping. Permanent drainage features, such as tread out-sloping[8] and rolling dips,[9] also known as grade reversals,[10] would be constructed into the trail to provide positive drainage and hydrologically disconnect the trail from the stream system. One 8-inch diameter at breast height trunk of a multi-trunk California bay tree would be removed. This tree is located in the California Bay – Coast Live Oak plant community and is not associated with a stream crossing.

Eight stream crossings would be constructed as part of the Memorial Trail realignment. Four of the stream crossings would be bridges and four would be rock armored fords. Information regarding the trail bridges is summarized in Table 1 and information regarding the rock armored fords is summarized in Table 2 in the Trail Stream Crossings section of the Project Description.

Malone Trail

A hiking only trail would be constructed between Malone Lane and the Memorial Trail to realign and replace the current Malone Social Trail. The Malone Trail would be constructed as a two-foot wide, 0.35-mile / 1,850-foot-long hiking only path with an average gradient of 7.5 percent. The lower trailhead would be located at the end of Malone Lane, which would be designated a formal trailhead, and would ascend in a southerly direction into the drainage located upslope for 900 feet before switching back and climbing to the broad ridgeline meadow above Devon Drive. The trail would continue through the meadow and across the slope to the east to connect with the Memorial Trail. This alignment will shift the current use pattern from immediately behind the residential fence lines on Malone and Devon Drive to the interior of Terra Linda / Sleepy Hollow Open Space Preserve, to provide more privacy for the residents.

Five stream crossings would be constructed as part of the Malone Trail. Two would be bridges and three would be rock armored fords. Information regarding the trail bridges is summarized in Table 1 and information regarding the rock armored fords is summarized in Table 2 in the Trail Stream Crossings section of the Project Description.

Oak Ridge Trail

An improved hiking and equestrian trail would be constructed to replace the current Oak Ridge social trails. The Oak Ridge Trail would be 0.09-mile / 450-foot-long equestrian and hiking path with an average gradient of 3 percent, and an average width of five feet. The Oak Ridge Trail would connect Oak Ridge Road to the realigned Memorial Trail, which would be designated a formal trailhead. The trail tread would be hardened utilizing base rock with quarry fines to provide a stable surface for the heavier equestrian use.

Dias Trail

Following the realignment of the Memorial Trail and relocation of its lower trailhead to Del Haro Way, the current trail extending from the end of Dias Way would be realigned and improved as a hiking only trail. The

---

8 Outsloped trails are shaped to drain all surface water to the downhill or fill shoulder side where it flows away from the trail and is dispersed over, or absorbed into, the slope below the road to avoid concentration of surface runoff on the trail.

9 Rolling dips are excavated into the trail to convey water off the trail. The rolling dip consists of a lead-in section, a flat bottom section where water is conveyed off the trail, and a lead-out section. The lead-in and lead-out sections are steeper than the original trail.

10 Grade reversals take advantage of natural dips in the terrain. The grade of the trail is reversed for about 10 to 15 feet, then "rolled" back over to resume the descent. The trail user's experience is enhanced by providing an up-and-down motion as the trail curves up and around large trees or winds around boulders.

Dias Trail would be a 0.15-mile / 750-foot-long hiking only path with an average gradient of 9 percent and an average width of two feet. The lower segment of the trail, approximately 275 feet, would remain unchanged as it ascends into the axis of the swale behind Dias Way. The realigned portion of the trail, approximately 475 feet, would wrap around the knoll to the east and continue to climb up the ridge until connecting with the Memorial Trail. The realignment would reduce the overall trail grade from 15 percent to 9 percent. No stream crossings would be located on the Dias Trail.

Figure 4 show the location of the proposed trail improvements

Trail Stream Crossings

The project area includes ephemeral streams that would be crossed using six new trail bridges and seven rock armored fords. The specific treatment was selected based on site-specific channel morphology and peak discharge, both of which affect visitor accessibility and safety.

Trail Bridges

The proposed recreational use bridges would be developed based on standard plans from the U.S. Department of Agriculture Forest Service. The material would be determined at the time of construction based on relative cost, and could be sawn lumber, steel, or fiberglass. If lumber is used, it would be untreated wood. The proposed trail bridges would be located above the 100-year flood elevation spanning the banks of the ephemeral streams and would not be subject to regulatory permit authorizations. Concrete foundations would be set at the top of the stream banks and the bridge anchors would be set in the concrete foundation. Cut and fill volumes for the bridge foundations would be balanced in that the soil excavated for the footings would be replaced by concrete. All excavation associated with the bridge foundation would occur outside of the top of bank.

Figure 5 shows the typical recreational trail bridge standard design

TABLE 1: TRAIL BRIDGE STREAM CROSSINGS

TRAIL	LENGTH	TEMPORARY CONSTRUCTION IMPACT	PERMANENT IMPACT	CUT AND FILL VOLUME
Memorial Trail Social Trail 1	30 feet	80 feet	40 feet	3 cubic yards
Memorial Trail Social Trail 4	16 feet	40 feet	25 feet	2 cubic yards
Memorial Trail Social Trail 7	24 feet	80 feet	30 feet	4 cubic yards
Memorial Trail Social Trail 8	30 feet	80 feet	40 feet	6 cubic yards
Malone Trail Social Trail 10	18 feet	40 feet	28 feet	4 cubic yards
Malone Trail Social Trail 12	18 feet	40 feet	28 feet	2 cubic yards
TOTAL				21 cubic yards

Rock Armored Ford Crossings

The proposed rock armored ford crossings would be installed utilizing standard plans from the U.S. Department of Agriculture Forest Service. Rock armored ford crossings are generally constructed on streams with high banks and are designed so that the stream flow travels across the trail, which is armored with rock to minimize erosion. The proposed rock armored ford crossings range in width and length depending on the crossing, from 10 feet to 16 feet. The proposed armored ford crossings would consist of locally sourced rock varying in size from 3 to 18 inches embedded into the stream channel on both sides of the crossing and would be subject to regulatory permit authorizations.

TABLE 2: ARMORED FILL STREAM CROSSINGS

CROSSING TYPE	LENGTH	TEMPORARY CONSTRUCTION IMPACT	PERMANENT IMPACT	CUT AND FILL VOLUME
Memorial Trail Social Trail 2	10 feet	15 feet	10 feet	2 cubic yards
Memorial Trail Social Trail 3	10 feet	15 feet	10 feet	2 cubic yards
Memorial Trail Social Trail 5	12 feet	20 feet	12 feet	4 cubic yards
Memorial Trail Social Trail 6	16 feet	24 feet	16 feet	6 cubic yards
Malone Trail Social Trail 9	12 feet	20 feet	12 feet	3 cubic yards
Malone Trail Social Trail 11	8 feet	16 feet	8 feet	3 cubic yards
Malone Trail Social Trail 13	12 feet	20 feet	12 feet	3 cubic yards
TOTAL				**23 cubic yards**

Signage

New signage would be installed at each trailhead and trail intersection to indicate use.

Memorial Trail Change in Use

The project proposes to change the use designation of the Memorial Trail from hiker/equestrian to multi-use, which would allow hiker, horse, and bicycle access. To safely accommodate the addition of bicycles on the trail, the trail will be realigned to reduce the average grade from 20 percent to 7 percent, and chicanes would be installed to control speed.

Project Design Features

The MCOSD would design the project and plan the construction in compliance with the RTMP. Appendix A of this document contains a list of all BMPs incorporated into the project. The following trail design features have been incorporated into the project design.

Figure 5 shows the typical recreational trail bridge standard design

Figure 6 shows a typical rock armored ford

Figure 7 shows a typical rock spillway for drainage dip or cross drain

Figure 8 shows typical knicks for trail drainage

Figure 9 shows typical rolling drainage dips for trail drainage

Figure 10 shows a typical grade reversal for trail drainages

Figure 11 shows an 8 percent average grade trail

Figure 12 shows a typical outsloped trail

Figure 13 shows a typical insloped turn

Figure 14 shows a typical chicane

Figure 15 shows typical trail pull-out

Construction

Construction of the proposed project would adhere to the Road and Trail Standards and BMPs outlined in Chapter 6 of the RTMP and included in Appendix A. Implementation of the proposed project would span two construction seasons, generally March through October. Construction would begin as soon as soil moisture

conditions allow and after pre-construction surveys required by Mitigation Measure BIO-1 determined that sensitive species are not present in the project area. Construction related to water crossings and earthwork requiring use of equipment would be limited to the dry season as directed by the regulatory agencies, generally between May and September.

Construction would occur Monday through Friday, from 7:00 a.m. to 6:00 p.m. Equipment would include intermittent use of trail dozers, mini-excavators, compactors, cement mixers, rubber track carriers, generators, ATVs, generators, jackhammers, power saws, and other hand tools. Construction staging areas would be restricted to existing MCOSD roads and trails or other areas that would avoid any significant impacts on sensitive natural resources. Access to the project site for construction equipment would be at Ridgewood Fire Road, Del Haro Way, Dias Way, and Malone Lane.

During construction, trails within the project area would be closed to recreation for safety purposes. Emergency access would be maintained during construction.

Operation and Maintenance

After project construction, recreation on the trail network would follow the proposed designated uses. The new trail configurations would be designated into the trail system and would be published on trail maps as formal system trails. The proposed project would not include any parking or other amenities to improve access to the trail system. Trail use is expected to increase as the trail system will be more accommodating to multiple user groups. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The new trail configuration would improve access for ranger patrol and emergency responders on foot or using small all-terrain vehicles.

MCOSD maintains a monitoring program that would include regular inspections of all trails including closed and decommissioned trails. This allows for early detection of, and rapid response to any trail issue including trail widening due to visitors utilizing areas adjacent to formal system trails and visitors accessing decommissioned trails. The improved and decommissioned trails at Terra Linda / Sleepy Hollow Open Space Preserve would be incorporated into this monitoring program, which would identify locations where visitors are widening formal system trails or bypassing closed entrances to access decommissioned trails, determine the effectiveness of passive and active revegetation efforts, and assess the effectiveness of trail drainage features. If monitoring indicates an issue, MCOSD would identify and implement remediation actions. Remediation actions could include signage about remaining on the defined trail, not accessing decommissioned trails, and respecting neighbors. Physical obstacles, including logs, brush, and additional revegetation, could be placed in problem areas as a deterrent to going off trail or accessing decommissioned trails. Increased ranger presence could also be utilized.

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, the level of maintenance is expected to be low. Regular maintenance would include brushing of the trail corridor, maintaining the trail surface and drainage, and clearing fallen trees and trail obstructions as needed. As part of the proposed project, the decommissioned trail segments would be monitored to ensure revegetation is successful and to prevent continued use of the decommissioned trails. Minor maintenance work may occur as needed to prevent access to the decommissioned trails. Visitor use cameras would be installed for a six-week period in years 1, 2 and 5 after project implementation to capture visitor use trends. One camera would be placed on the Memorial Trail near the Oak Ridge social trail and the second would be placed on the Malone Trail.

Terra Linda High School - School of Environmental Leadership Partnership

The School of Environmental Leadership is a "school within a school" located within the public Terra Linda High School, which is a short walk from the Terra Linda / Sleepy Hollow Open Space Preserve and the proposed Memorial Trail project. The school is a project-based, environmentally focused program that emphasizes development in leadership and 21st century skills. MCOSD would partner with The School of Environmental Leadership on the implementation and post-project monitoring of many aspects of the

proposed Memorial Trail project. The proposed Memorial Trail project will offer a multitude of real-world opportunities for students to assist and learn about public land stewardship and public access management. The students of this program will work with MCOSD staff on several aspects of the proposed project such as assisting with trail construction, native seed collection and plant propagation, planting and maintaining native plants, restoring unstainable trails to native habitat, post project photo monitoring, and being a good neighbor.

PERMITS AND APPROVALS

The proposed project requires the following permits and approvals, which would be obtained prior to construction:[11]

- San Francisco Bay Regional Water Quality Control Board, Section 401 of the Clean Water Act, and the State of California's Porter-Cologne Water Quality Control Act
- California Department of Fish and Wildlife, California Fish and Game Code Sections 1062 – 1603: Lake or Streambed Alteration Agreement

PROJECT DEVELOPMENT

The proposed project was conceptually identified as part of the RTMP Region 5 Proposed Trail Designation Process. In MCOSD's Memorandum Regarding Proposed Conditional Designation for Region 5 dated January 24, 2019, the proposed project was listed as a priority for the Designation Process. Next steps included a feasibility analysis to provide a multi-use connection between the Terra Linda neighborhood and Ridgewood Fire Road.

Preliminary Trail Report

A preliminary trail report for the RTMP Region 5 area was prepared by Timothy C Best, Certified Engineering Geologist (CEG) in 2013.[12] This report was utilized during the RTMP trail designation process, a process that included public outreach and public comment. The designation process for Region 5 occurred in late 2018 and included a public meeting held on Saturday, August 25th, 2018.

Feasibility Analysis and Workplan Development

Following the Region 5 Conditional Designation, the MCOSD trail crew staff flagged several potential routes informed by the PCI Biological Resources Assessment and MCOSD staff biologist burrow surveys, described later in this document, to realign the Memorial Trail and to provide a multi-use connection between the Terra Linda neighborhood and Ridgewood Fire Road. Gold Ridge Resource Conservation District consulting geomorphologist, Jason Hoorn was contracted to analyze the flagged alternate routes, recommend a preferred alternative, and develop a conceptual project workplan. In January 2020, Jason Hoorn, a Certified Professional in Erosion Sediment Control (CPESC) prepared the *Memorial Trail Workplan* (Trail Workplan)[13] for the proposed project. The purpose of the Trail Workplan was to evaluate the geomorphic conditions at the project site and develop recommendations and design parameters based on the flagged alternatives for the proposed project. The Trail Workplan included review of published geologic and soil surveys; site surveys; geomorphic field mapping; data analysis; and recommendations for design and construction of the proposed project. Recommendations including preferred trail alignments, stream

---

11 Following consultation at the June 3, 2021, Marin Project Coordination meeting, the U.S. Army Corps of Engineers decided not to take jurisdiction over watercourses within the project areas as they are considered ephemeral streams. Further, all bridged stream crossings that are constructed with the footings above the ordinary high-water mark are exempt. Therefore, Section 404 of the Clean Water Act to permit the discharges of dredge and fill materials will not be sought for the project.

12 Best, Timothy C., CEG. Region 5: Terra Linda-San Pedro MT Complex. Road and Trail Assessment. Santa Cruz, CA. February 2013.

13 Hoorn, Jason F., DPESC #6786. Memorial Trail Work Plan. Gold Ridge Resource Conservation District. Sebastopol, CA. January 17, 2020. (Hoorn, Jason F. 2020.).

crossing locations, stream crossing structure recommendations, erosion control and water pollution prevention; and decommissioning of the existing trail network. These recommendations have been incorporated into the design of the proposed project, which was identified as the least environmentally damaging practicable alternative as it would accomplish the project purpose and objectives and would not result in any permanent potentially significant impacts, no impacts to rare, threatened, endangered species habitat in jurisdictional waters or wetlands.

Additional Outreach

The design of the proposed project was also informed by members of the community. MCOSD engaged the community through a series of stakeholder meetings and field visits to further facilitate the opportunity for feedback about the proposed project. In addition to the above-described outreach, there have been several other conversations between Marin County Parks and various stakeholders on this topic involving stakeholders.

Environmental Roundtable

The MCOSD Environmental Roundtable is a forum facilitated by MCOSD and includes two representatives from each of the following environmental organizations: California Native Plant Society, Sierra Club, Friends of Corte Madera Creek, Marin Conservation League, Environmental Forum of Marin, and Marin Audubon Society. The purpose of the Environmental Roundtable is to facilitate a natural resource focused discussion and exchange of ideas between MCOSD and the environmental community as it relates to natural resources management and project development. The proposed project has been presented at Environmental Roundtable monthly meetings regularly from September 2019 - June 2021 supplemented by a site visit on May 12, 2021. The Environmental Roundtable has expressed general support for the proposed project because the improvements would support the project objectives.

Marin County Parks and Open Space Commission

The Parks and Open Space Commission advises the Marin County Board of Supervisors regarding parks and open space policy and conducts public hearings on parks and open space matters considered for recommendation to the Board when appropriate. There are seven members appointed by the Board, each having demonstrated expertise and interest in subject areas and disciplines beneficial to the county's provision of parks and open space stewardship, facilities, programs, and services. MCOSD staff have presented the proposed project at multiple Commission meetings. The Commission has expressed general support of the proposed project.

Marin Project Coordination Meetings

Marin County Stormwater Pollution Prevention Program (MCSTOPPP) holds monthly project coordination meetings to review and guide projects through the environmental and regulatory permit process. These informal meetings are intended to provide a forum for interaction and input from regulatory agency representatives to assist with project design and implementation to minimize impacts to natural resources. Input provided at Marin Project Coordination (MPC) meetings does not replace the formal comments and input from regulatory agencies that are provided as part of the permit application process. Representatives from regulatory agencies including the United States Army Corps of Engineers, National Oceanic and Atmospheric Administration Fisheries, the San Francisco Regional Water Quality Control Board, California Department of Fish and Wildlife, the Bay Conservation and Development Commission, and County of Marin.

MCOSD staff presented the proposed project to the MPC group on June 3, 2021. The MPC has expressed general support of the proposed project and has provided advice regarding the regulatory permits that MCOSD would need to obtain prior to initiating project implementation. Permits would be required from the California Department of Fish and Wildlife and from the Regional Water Quality Control Board, San Francisco Bay Region. A permit from the U.S. Army Corps of Engineers would not be required because all the streams in the project area are ephemeral and furthermore, the bridge footings would be located above the ordinary high-water make and therefore are exempt.

Neighborhood Outreach

MCOSD staff held a public neighborhood outreach meeting on October 7th, 2020. The meeting was attended by 60 individuals, including Marin County Supervisor Damon Connolly, and residents of Terra Linda and surrounding communities. Public comments during the meeting were largely in favor of the project.

Staff held a meeting on October 29th, 2020, with representatives from Terra Linda High School to discuss the High School's current use and potential future use following completion of the proposed project. Faculty from the athletics and science departments are very supportive and eager for the project to move forward.

Staff held a meeting with representatives of the Marin Horse Council on December 7th, 2020, to present the project and gather feedback. The meeting was followed with a site visit, the equestrian community was supportive of the project.

Terra Linda Neighborhood Association

Staff held a meeting on February 9th, 2021, with representatives from the Terra Linda Neighborhood Association (TLNA) to present and answer questions regarding the project. This meeting was followed by additional meetings and field visits on March 20th and July 2nd with the HOA and Supervisor Connolly. Through the meetings and site visits MCOSD modified the project based on feedback provided by the TLNA. TLNA was supportive of the project.

Tribal Consultation

MCOSD staff provided notification of proposed project to the Federated Indians of Graton Rancheria, the Guidiville Indian Rancheria, the Ione Band of Miwok Indians, and the Coast Miwok Tribal Council of Marin on August 18, 2021 and invited each to participate in a tribal consultation process pursuant to Assembly Bill 52. MCOSD did not receive any replies to the invitation to consult. MCOSD will provide public notice regarding public review of this Initial Study to each of the tribes and tribal groups when the public review period is initiated. The notification satisfies the following RTMP BMP:

- Cultural Resources-3: Tribal Consultation

Project Development Studies and Report

Trail Alignment, Erosion and Sediment Control Review

Gold Ridge Resource Conservation District prepared the Memorial Trail Workplan in January 2020.[14] This report assessed several trail alternatives identified by the District, and made recommendations based on existing physical conditions, trail stability, potential erosion, and sediment generation as to a preferred alignment.

Biological Resources

A Biological Resources Assessment for the project area was completed by Prunuske Chatham, Inc. (PCI), in August 2019.[15] The study area broadly included the project area, but not the entire Terra Linda / Sleepy Hollow Open Space Preserve. PCI conducted botanical and wildlife surveys of the study area in spring 2019 to characterize biological communities and habitat conditions, determine if suitable habitat for special-status species is present, and identify potential biological constraints. These assessments informed and guided the trail planning alternative analysis to minimize biological impacts and protect sensitive habitats. The Biological Resources Assessment summarizes these field surveys and provided preliminary conclusions associated with potential effects that could result from implementation of the proposed project and provided preliminary recommendations to address potential effects.

---

[14] Hoorn, Jason F. 2020. Op. cit.

[15] Prunuske Chatham, Inc. Biological Resources Assessment; Terra Linda/Sleepy Hollow Open Space Preserve; Memorial Trail Project. August 2019. (PCI 2019).

The Biological Resources Assessment satisfies the following RTMP BMPs:

- Policy SW.22: Protect High-Value Vegetation Types
- Policy SW.23: Identify High Value Biological Resources
- Policy SW.24: Minimize Intrusions into Larger Contiguous Habitat Areas and Wildlife Corridors
- Special-Status Wildlife-1: Literature Reviews
- Special-Status Plants-1: Literature Reviews

Plant Communities and Habitat Types

The Biological Resources Assessment mapped nine plant communities and habitat types. Following commonly accepted nomenclature of the Manual of California Vegetation[16] classification, these are:

TABLE 3: PLANT COMMUNITIES MAPPED IN STUDY AREA

PLANT COMMUNITY	SENSITIVE	ACRES IN STUDY AREA	RELATIVE PERCENT
California Bay Forest	Yes	23.5 acres	32.1%
Annual and Perennial Grasslands	Yes	16.5 acres	22.5%
Coyote Brush Scrub	No	14.1 acres	19.2%
Valley Oak Woodland	Yes	9.3 acres	12.7%
Coast Live Oak forest	No	4.3 acres	5.9%
Eucalyptus Grove	No	2.6 acres	3.5%
Mixed Oak Forest	No	2.3 acres	3.1%
Serpentine Grassland	Yes	0.6 acre	0.8%
Cliffs/Rock Outcrop	No	0.1 acre	0.1%
TOTAL		73.3 acres	99.9%

Sensitive plant communities are those that are of limited distribution statewide or within a county or region. The California Department of Fish and Wildlife's List of California Terrestrial Natural Communities and the Manual of California Vegetation[17] indicate which plant communities are sensitive within the state of California classification. Within the study area, the California Bay Forest, Valley Oak Woodland, Annual and Perennial Grasslands, and Serpentine Grassland are considered sensitive plant communities.

A total of 91 plant taxa[18] were identified within the study area, none of which are designated as special-status or otherwise considered to be rare. Given the negative survey results, no special-status plant species are expected to occur in the study area and implementation of the proposed project is not expected to negatively impact special-status plant species.

Drainages and Wetland Features

The ephemeral drainages flow from the ridge top and flow north into the adjacent residential neighborhood, ultimately draining into the South Fork of Gallinas Creek and San Pablo Bay. The Biological Resources Assessment concluded that due to the steep topography, these drainages may only flow during the wet winter months, but the north-facing drainages are likely to stay cool and moist throughout the year. The drainages are unlikely to provide habitat for aquatic species due to their ephemeral nature however, they do

---

16 Sawyer, John O., Todd Keeler-Wolf, and Julie M. Evans. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press. (Sawyer 2009)

17 ibid

18 In biology, a taxon is a group of one or more populations of an organism or organisms seen by taxonomists to form a unit. Taxa is the plural form of the word taxon.

provide the microclimate conditions required by many wildlife species. These cool, moist drainages are also important movement corridors for wildlife as they navigate from the lower elevations to the summit and across the Preserve.

A small seasonal wetland was documented along a swale within grassland near the northeastern edge of the project area near Del Haro Way and multiple seasonal drainages. The seasonal wetland is fairly small and does not appear to support areas of standing water. PCI concluded that wildlife may use the wetland during the wetter months when the ground is saturated, and the wetland may provide seasonal water.

Figure 16 shows the study area for the PCI Biological Resources Assessment

Figure 17 shows the plant communities mapped by PCI

Figure 18 shows the proposed project relative to the plant communities mapped by PCI

Special Status Wildlife

The presence of special-status wildlife species on MCOSD lands has been well documented through focused surveys, and other observations made by MCOSD staff and the public. The Biological Resources Assessment evaluated data collected and maintained by the MCOSD, a review of the CNDDB, and other sources. PCI documented the presence of two special-status birds, oak titmice (*Baeolophus inornatus*) and Nuttall's woodpecker (*Picoides nuttalli*), within the Study Area. Seven additional special-status birds have been documented within the larger Terra Linda / Sleepy Hollow Open Space Preserve by MCOSD staff, but not necessarily confirmed within the Study Area.[19] These species include the following:

- Cooper's hawk *(Accipiter cooperi)*
- Sharp-shinned hawk *(Accipiter striates)*
- Grasshopper sparrow *(Ammodramus savannarum)*
- Golden eagle *(Aquila chrysaetos)*
- Burrowing owl *(Athena cunicularia)*
- Norther Harrier *(Circus hudsonius)*
- White-tailed kite *(Elanus leucurus)*

The Biological Resources Assessment identified nine special-status wildlife species that have a low potential to occur within the study area, including:

- California giant salamander *(Dicamptodon ensatus)*
- Foothill yellow-legged frog (*Rana boylii*)
- California red-legged frog *(Rana draytonii)*
- Western pond turtle *(Actinemys marmorata)*
- Great egret *(Ardea alba)*
- Great blue heron *(Ardea herodias)*
- Snowy egret *(Egretta thula)*
- Saltmarsh common yellowthroat *(Geothlypsis trichas sinuosa)*
- Northern spotted owl *(Trix occidentalis caurina)*

[19] Marin County Open Space District. Vegetation and Biodiversity Management Plan. Prepared by May & Associates, Inc. April 2015. (MCOSD 2015).

The Biological Resources Assessment identified the following three bat species that have a high potential to occur within the project area:

- Pallid bat (*Antrozous pallidus*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Hoary bat (*Lasiurus cinereus*)

Additional information from the Biological Resources Assessment is included in the Biological Resources section of the CEQA Checklist.

MCOSD staff biologists conducted burrow surveys in Terra Linda / Sleepy Hollow Open Space on October 30, 2017 and between March 22, 2018 and March 29, 2018. Staff walked all sections of open grassland in transect lines spaces roughly 50 feet apart, accommodating occasionally for terrain features. Upon detection of a burrow, the height and width of the entrance were measured with a measuring tape, and photos were taken of the entrance and dirt apron. Signs of activity, such as scat, tracks, or claw marks were noted along with an assessment of the species present. Signs of inactivity such as cobwebs, vegetation growing in the apron, or a collapsed entrance were also noted. No burrows with an opening smaller than 3 inches wide and 3 inches tall were recorded, as small rodents likely have no bearing on local badger distribution, and because there are no special status burrowing species of such small size within the survey area. Collapsed burrows were also noted if they featured a measurable entrance, as past activity is still useful for assessing habitat suitability. Lastly, GPS coordinates were recorded for mapping purposes. During the surveys, 45 burrows were observed and recorded. Of these, only two inactive ground squirrel burrows were within the project area. No signs of western burrowing owls were observed.

Cultural and Historical Resources Studies

Tom Origer & Associates prepared a Cultural Resources Study for the proposed project in 2021.[20] It included a cultural resources records search completed at the Northwest Information Center of the California Historical Resources Information System (CHRIS), initial contact with Native American tribes, and field inspection of the study area. The Cultural Resources Study satisfies the following RTMP BMPs:

- Cultural Resources-1: Historical and Archaeological Resource Mapping
- Cultural Resources-2: Consultation with Northwest Information Center

Tom Origer & Associates sent a request to the Native American Heritage Commission (NAHC) on September 2, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on October 15, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

Tom Origer & Associates sent emails to representatives of these tribes on September 3, 2021, stating that the firm was conducting a cultural resources study for the proposed project and that Marin County Parks would be completing an environmental document in compliance with CEQA. This correspondence did not constitute tribal consultation required by AB52. No responses were received. Tribal consultation required by

[20] Tom Origer & Associates. Cultural Resources Study for the Memorial Trail Project; Terra Linda/Sleepy Hollow Divide Open Space Preserve; San Rafael, Marin County, California. Lena Murphy, BA and Eileen Barrow, MA/RPA. October 22, 2021. (Origer 2021).

AB52 was initiated by MCOSD on August 18, 2021. No responses were received, and the tribal consultation process was concluded.

Tom Origer & Associates conducted archival research utilizing their in-house library, a records search at the Northwest Information Center, historic maps and aerial photos, and other sources of ethnographic literature. Archival research found that the study area had not been previously studied for cultural resources and that two studies that had been conducted within a quarter mile of the project area did not find cultural resources. Review of historic maps concluded that there were no buildings within the study area, and that two of the trails within the study area were once dirt access roads as of 1965. Tom Origer & Associates conducted an intensive field survey on September 24, 2021. The surface conditions were examined, and hoes were used to expose the ground surface. While vegetation was noted as a hindrance, ground visibility ranged between poor to excellent. The results of the field survey were that no archaeological site indicators were observed, and no buildings or structures were observed.

Given these findings, and the existing conditions of the study area including landform, geologic formation, steepness of the terrain, and limited water supply, the Cultural Resources Study concluded that there would be a very low potential for buried cultural resources to exist within the study area. No additional cultural resources work was recommended. The Cultural Resources Study included recommendations regarding discovery of buried archaeological resources and human remains:

- Pursuant to State CEQA Guidelines Section 15064.5(f), if archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds. Prehistoric archaeological site indicators included: obsidian and chert flakes and chipped stone tools; grinding and mashing implements including slabs and handstones, and mortars and pestles; bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains, such as building foundations and discrete trash deposits including wells, privy pits, and dumps.
- Pursuant to State CEQA Guidelines Section 15064.5(d), if human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC). The NAHC will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

The following RTMP BMPs address these recommendations:

- Cultural Resources-6: Construction Recovery Protocol
- Cultural Resources-7: Human Remains

Visitor Use Data Collection

In 2021, MCOSD staff placed visitor use cameras at two locations within the project area for a six-week period to establish baseline visitor use data. One camera was placed on the Memorial Trail near the Oak Ridge social trail between August 11 and September 22, 2021. The second camera was placed on the Malone Trail between September 2 and October 13, 2021. Over the six-week period, the Memorial Trail camera captured a total of 681 trail users. Of those, approximately 90 percent were hikers, 6 percent were equestrians, and 4 percent were cyclists. On the Malone Trail, the visitor use camera captured a total of 131 trail users, all of which were hikers, during the six-week period.

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 (MCP) 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)

On December 16, 2014, the MCOSD Board of Directors approved the Road and Trail Management Plan (RTMP) and certified its program Environmental Impact Report (EIR)[21] (MCOSD, 2014a and 2014b). The RTMP is a science-based comprehensive management plan to guide the MCOSD in the:

1. Establishment and maintenance of a sustainable system of roads and trails
2. Reduction of environmental impact from roads and trails on natural resources
3. Improvements to visitor experience and safety

The RTMP incorporates existing policies from the Countywide Plan and the MCOSD's Policy Review Initiative. Consistency with the RTMP assumes consistency with the Countywide Plan. Additionally, it identifies 34 new policies that govern the MCOSD's road and trail system. The intent of these policies is to reduce the environmental impact from the roads and trail system and to improve the recreational experience. In addition to these policies, the RTMP defined best management practices (BMPs) to reduce resource effects from any road and trail projects. Appendix A includes the RTMP Policies and BMPs. Within the body of the CEQA Checklist, the specific RTMP BMPs applicable to implementation of the proposed project are identified.

[21] State Clearinghouse Number 2011012080.

The RTMP covers six regions Within Marin County, and 34 open space preserves. Region 5, which includes the project area, covers the open space preserves listed below:

- Terra Linda / Sleepy Hollow
- San Pedro Mountain
- Santa Margarita Island
- Santa Venetia Marsh
- Bald Hill

The MCOSD developed the RTMP over the course of four years based on extensive outreach and public input. After adoption of the plan and consistent with the RTMP's *Policy SW.2: System Roads and Trails*, the MCOSD initiated a process to designate a system of roads and trails in all existing open space preserves. The roads and trails eligible for consideration must have existed as of November 2011, which is when the MCOSD completed a report on the condition of the existing roads and trails. The designation of a formal road and trail system is proceeding on a regional basis.

The road and trail designation for Region 5 occurred in late 2018. The Region 5 Designation Workshop was held on August 25, 2018. Following the workshop, the public had an opportunity to view and comment on the proposed road and trail system for Region 5. The proposed project was conceptually identified as part of the RTMP Region 5 Proposed Trail Designation Process. In MCOSDs, Memorandum Re-Proposed Conditional Designation for Region 5 dated January 24, 2019, the proposed project was listed as a priority for the Designation Process. Next steps included the feasibility analysis to provide a multi-use connection between the Terra Linda neighborhood and Ridgewood Fire Road, described in the Project Development section of this Initial Study.

Figure 19 shows the MCOSD Preserves by RTMP Region

Figure 20 shows the Region 5 trail designations

Inclusive Access Plan (IAP)

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 proposed 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 adhere to the IAP where possible. Due to the steep terrain, it is not practicable for the proposed trail improvements to be fully compliant with the IAP.

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 purpose 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 vegetation within 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 nor does it contain fine-scale vegetation information, rather it is a tool for decision-making associated with vegetation management projects on MCOSD lands. Project-specific biological resource studies are completed during the project-planning phase of most RTMP trail projects to provide detailed information. As part of the VBMP 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. 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 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, such as electrical 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.

Terra Linda / Sleepy Hollow 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 acreages of the project area within each of the management zones is shown in Table 4.

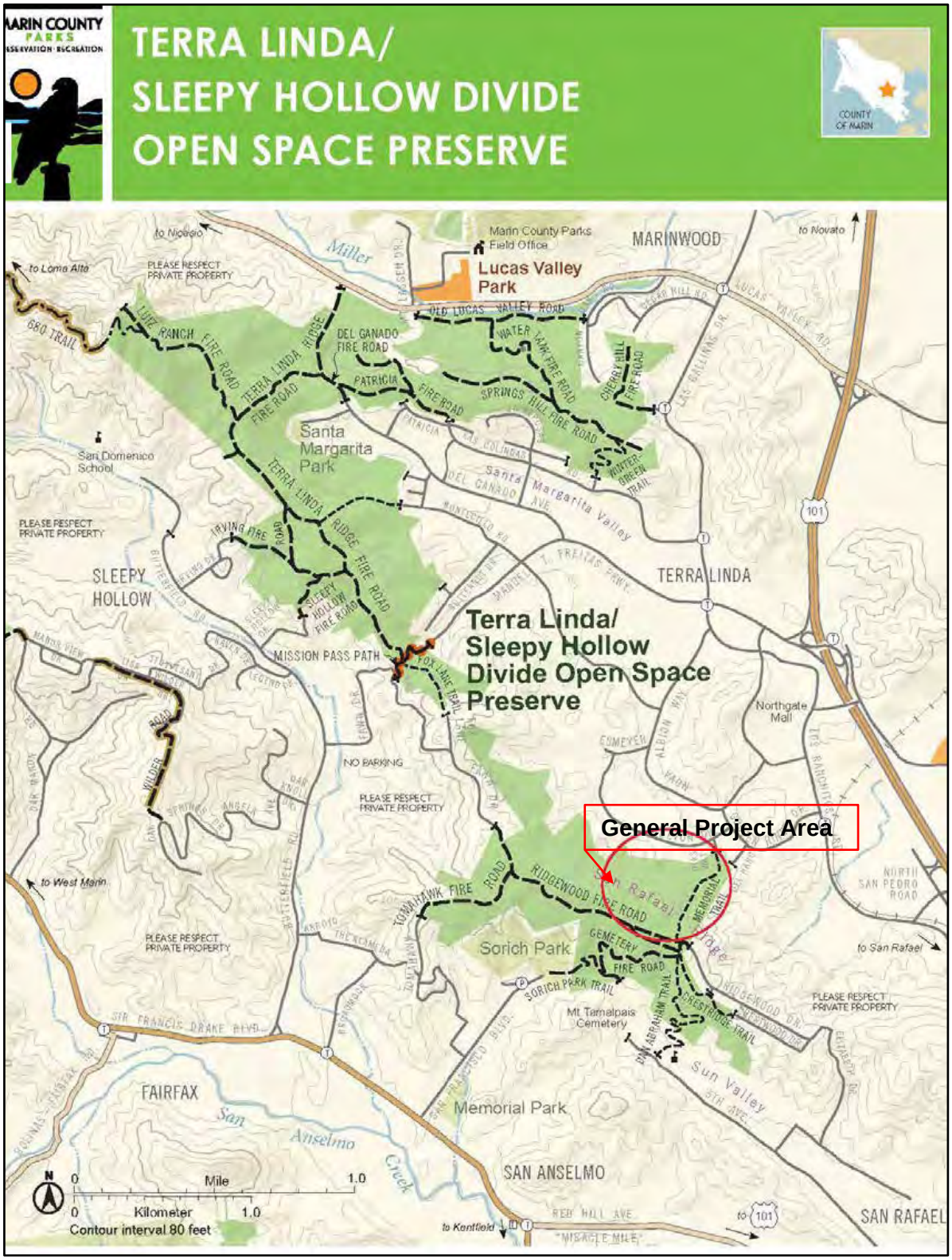
TABLE 4: VBMP MANAGEMENT ZONES IN THE PROJECT AREA

VBMP CLASSIFICATION ZONES	ACRES IN PROJECT AREA	RELATIVE PERCENT
Legacy	2.0 acres	2.74%
Sustainable Natural Systems	55.7 acres	76.41%
Natural Landscape	6.1 acres	8.37%
Highly Disturbed	9.1 acres	12.48%
Totals	**72.9 acres**	**100%**

Figure 21 shows the Region 2 VBMP classification in the Project Area

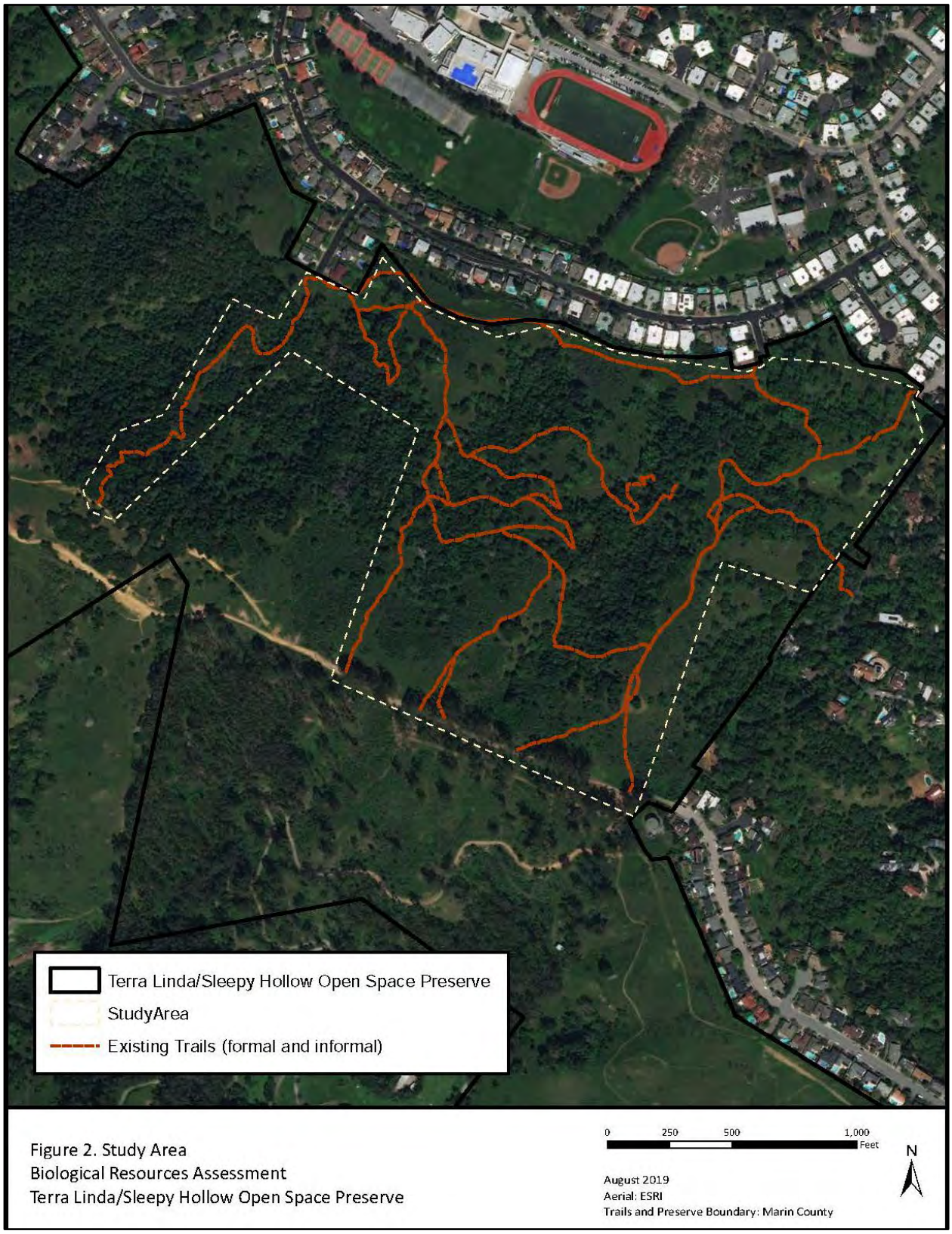
FIGURES

Figure 1: Terra Linda/Sleepy Hollow Divide Open Space Preserve Fire Road and Trail Map



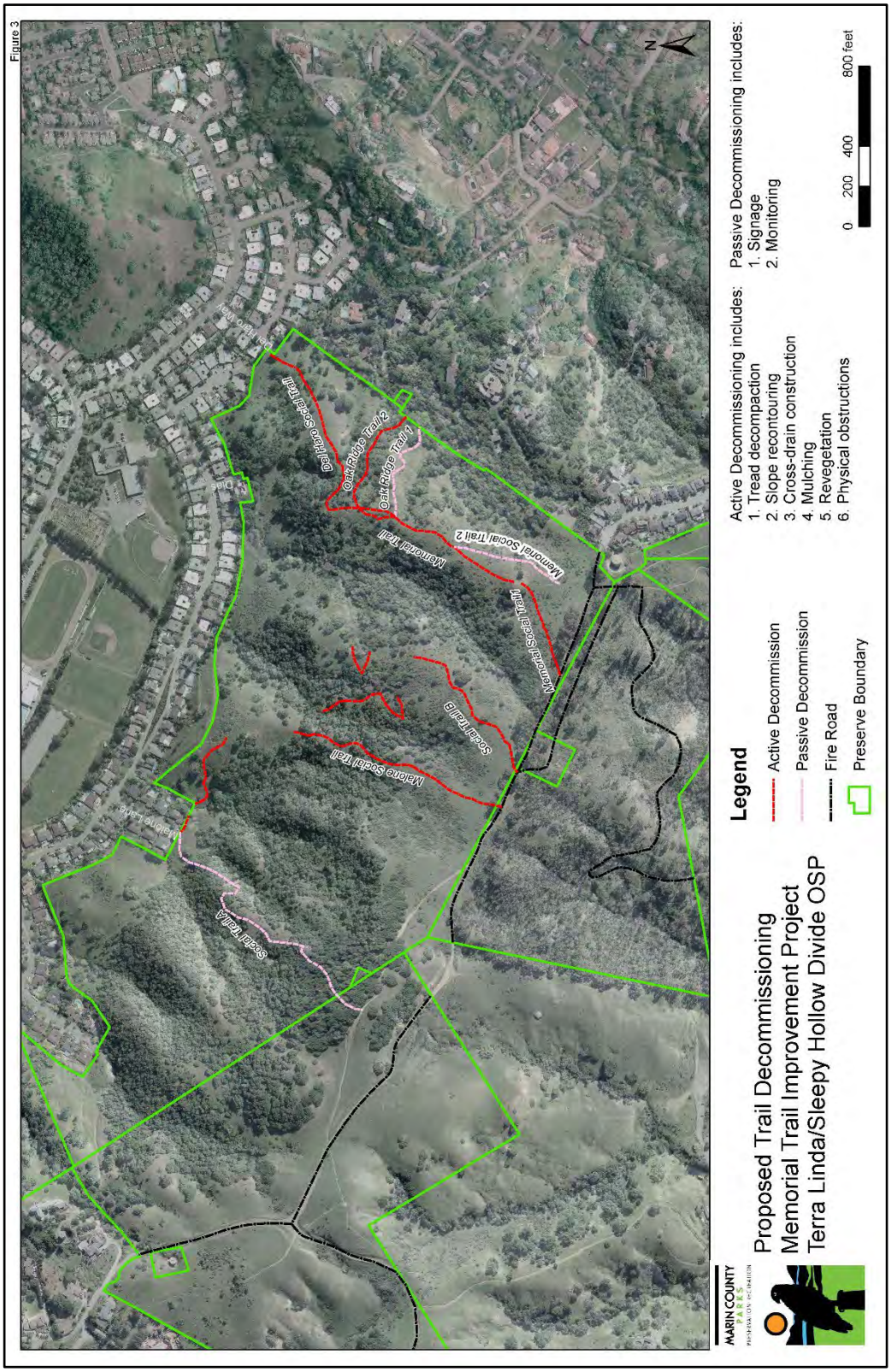
Source: Marin County Open Space District

Figure 2: Existing Trail Network within the Project Area



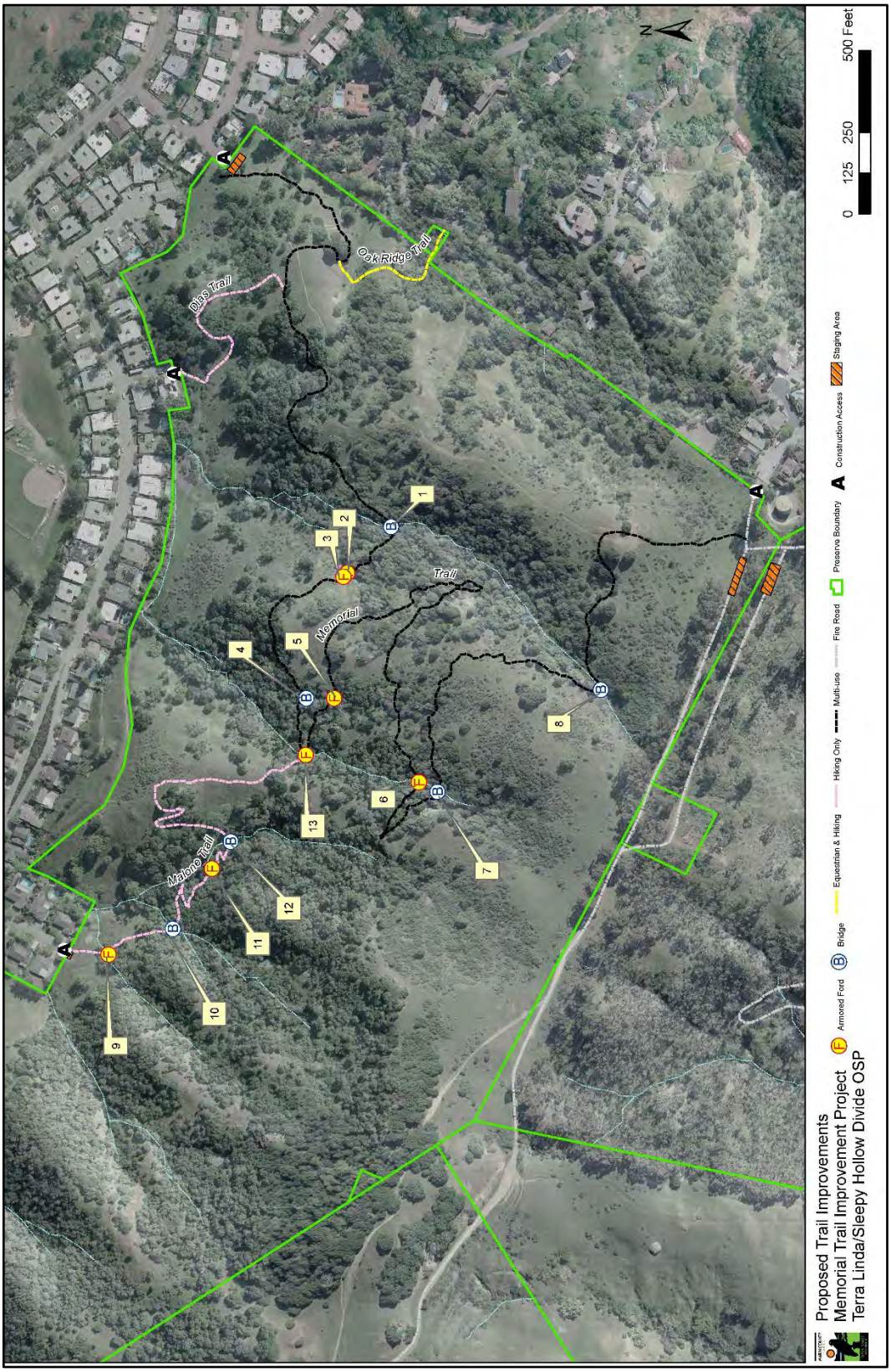
Source: Biological Resources Assessment, Prunuske Chatham, Inc. 2019.

Figure 3: Proposed Trail Decommissioning



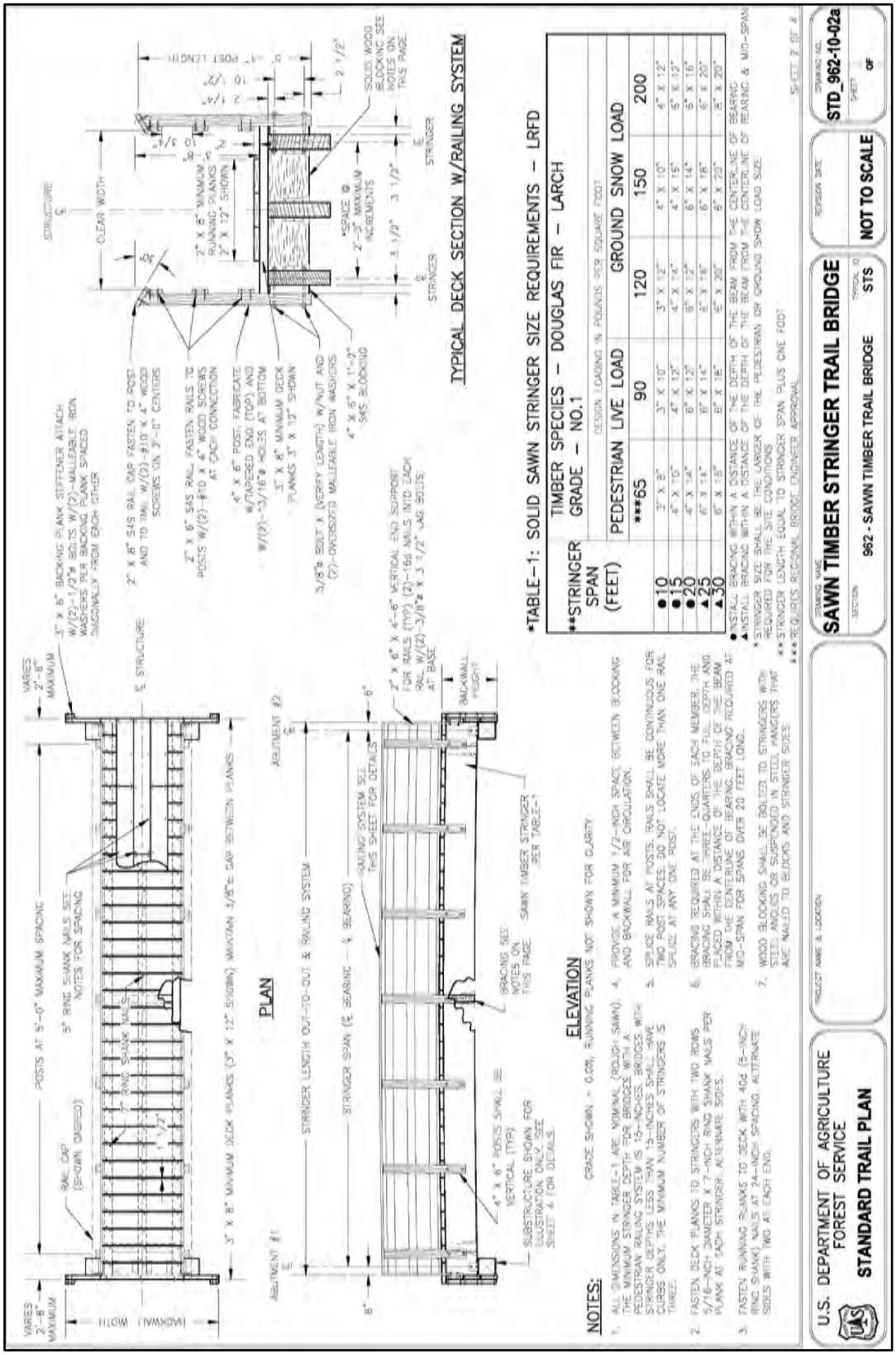
Source: MCOSD

Figure 4: Proposed Trail Improvements



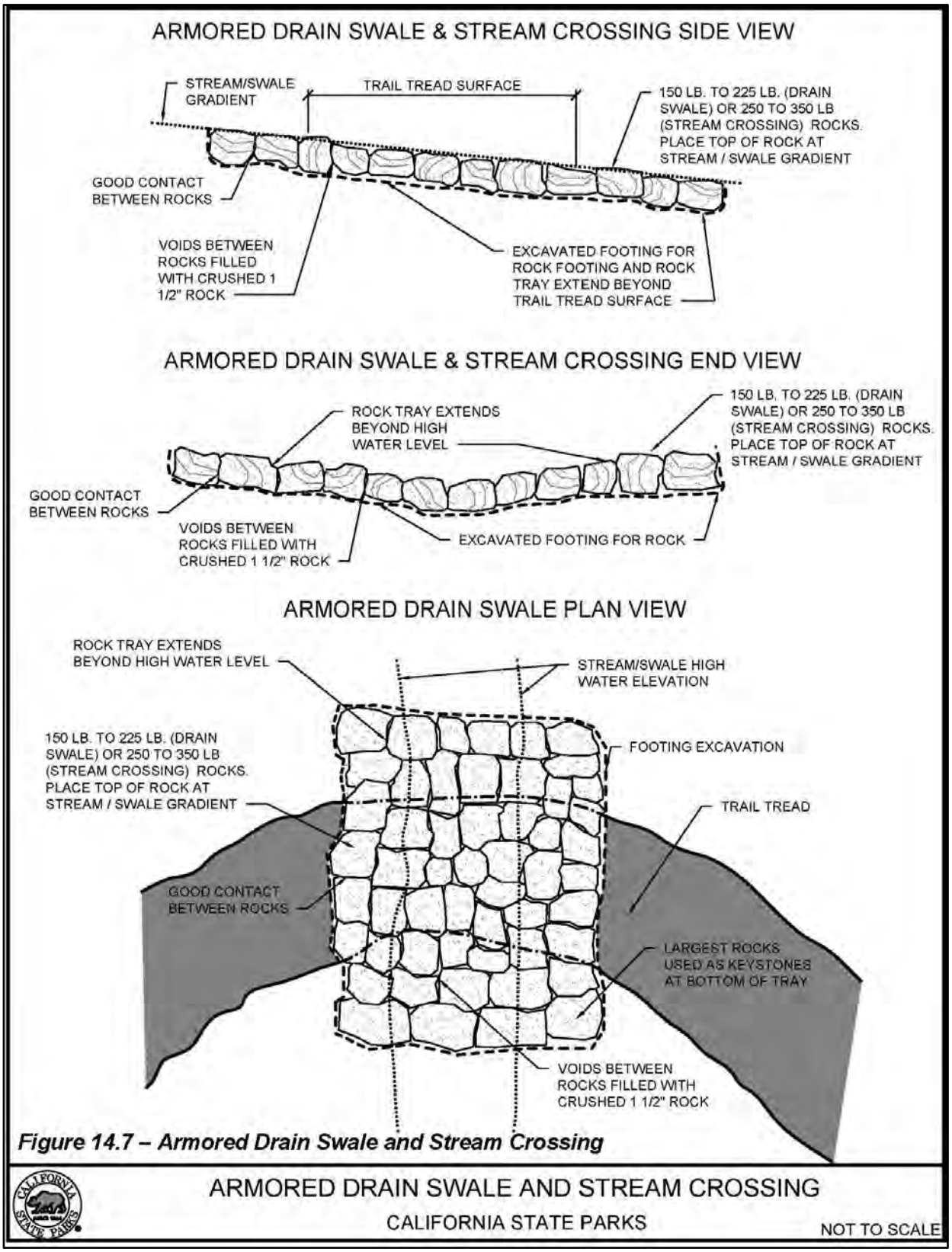
Source: MCOSD

Figure 5: Typical Recreational Trail Bridge Standard design



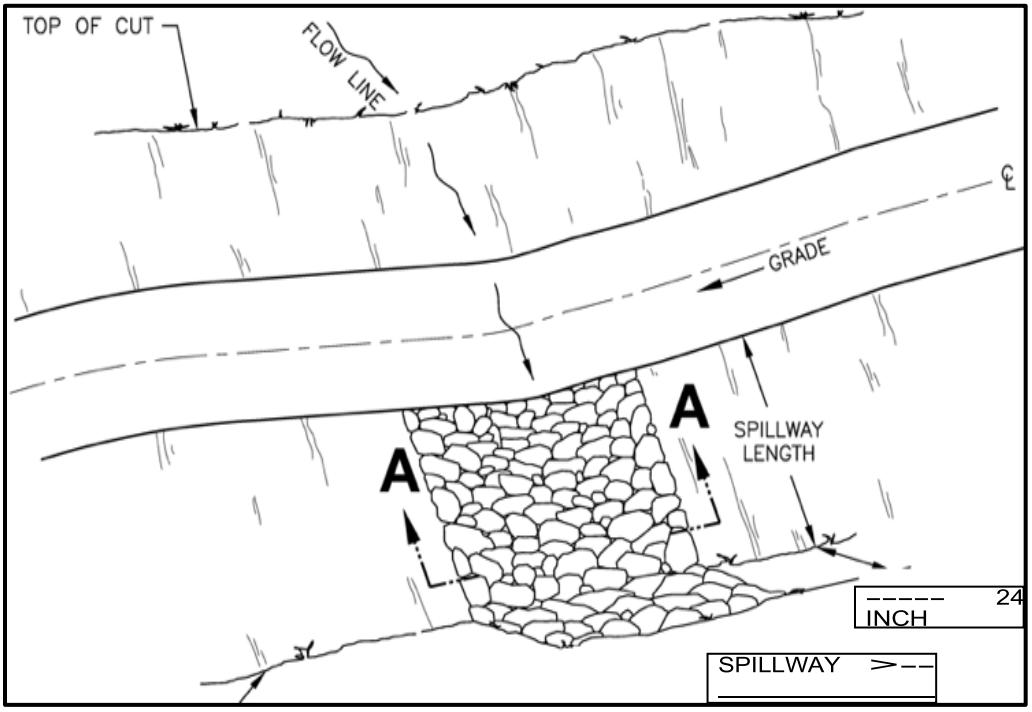
Source: U.S. Department of Agriculture, Forest Service

Figure 6: Typical Rock Armored Ford



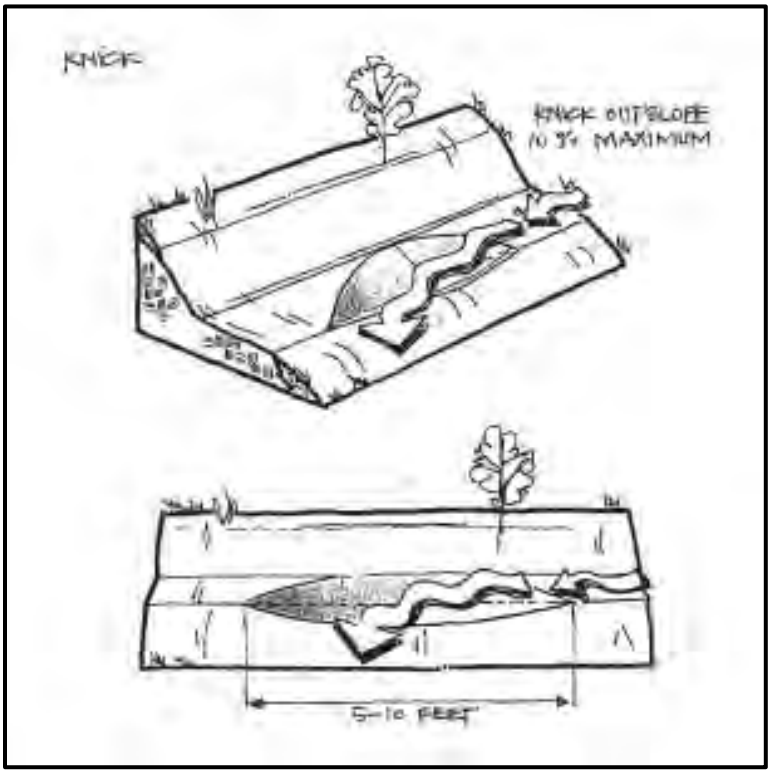
Source: CA State Parks Trail Design Manual

Figure 7: Typical Rock Spillway for Drainage Dip or Cross Drain



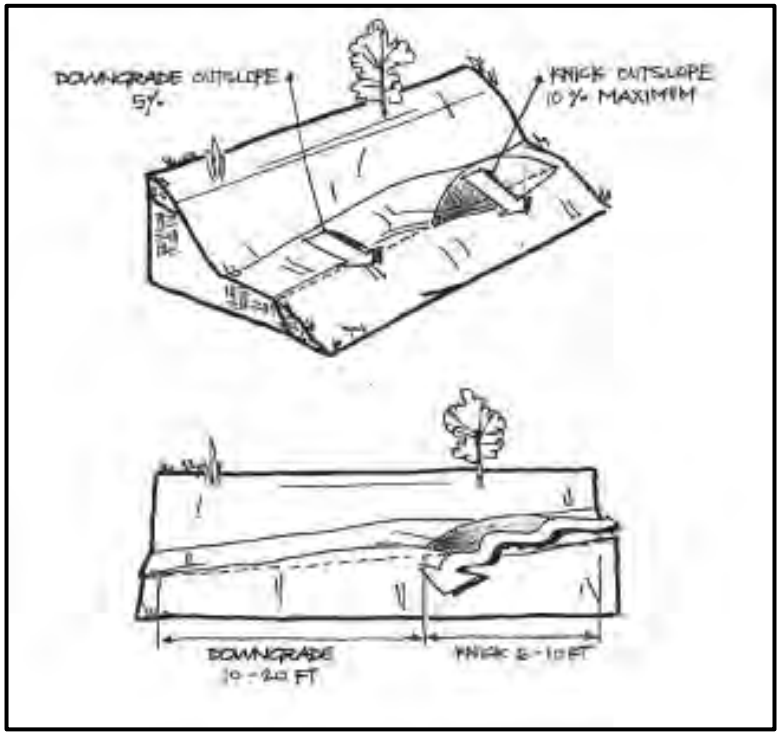
Source: Los Angeles County Trails Manual

Figure 8: Typical Knicks for Trail Drainage



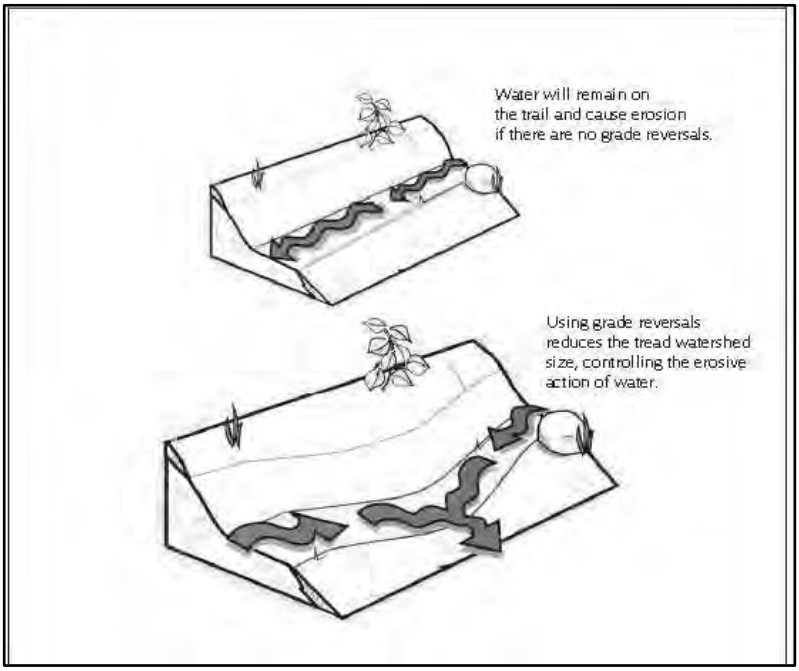
Source: Los Angeles County Trails Manual

Figure 9: Typical Rolling Drainage Dips for Trail Drainage



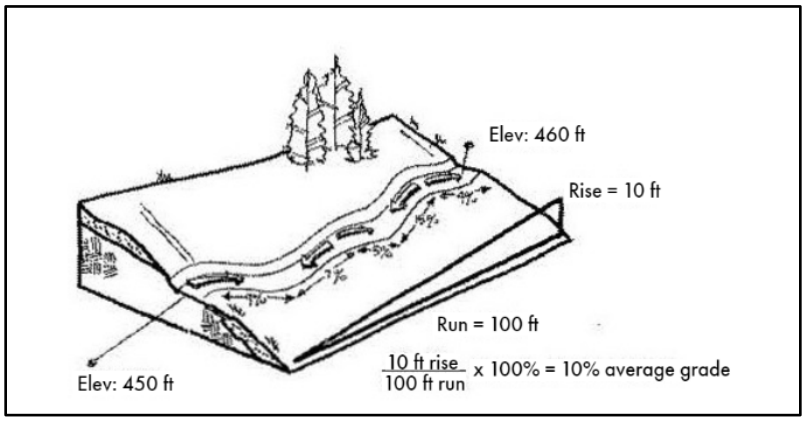
Source: LA County Trails Manual

Figure 10: Typical Grade Reversal for Trail Drainage



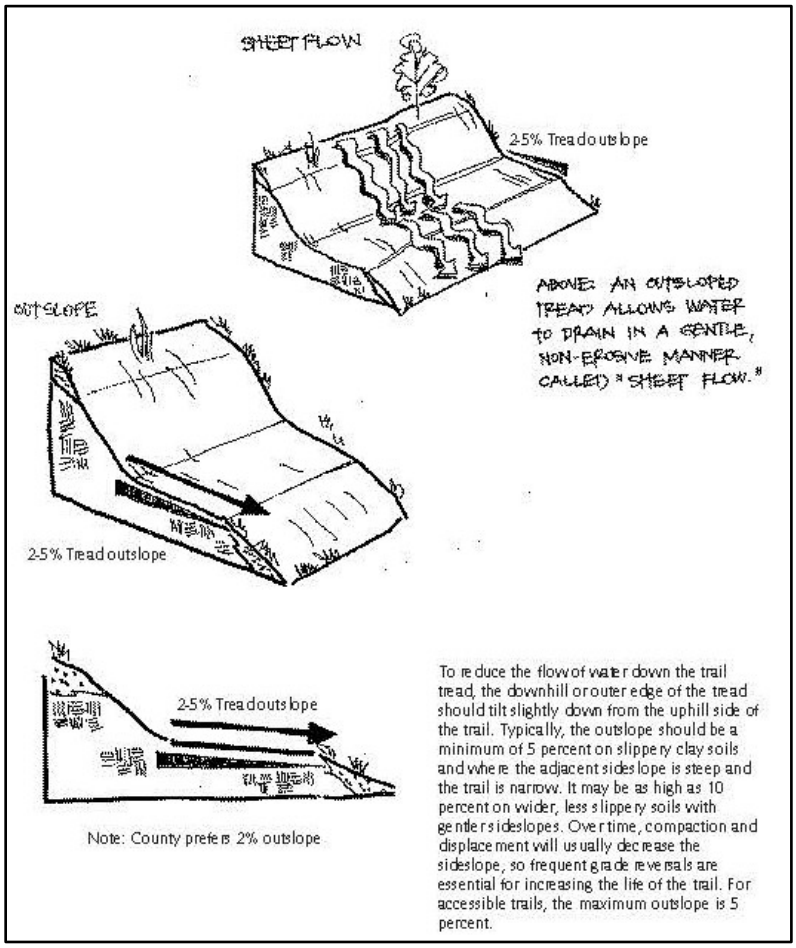
Source: LA County Trails Manual

Figure 11: Typical 8 Percent Average Grade Trail



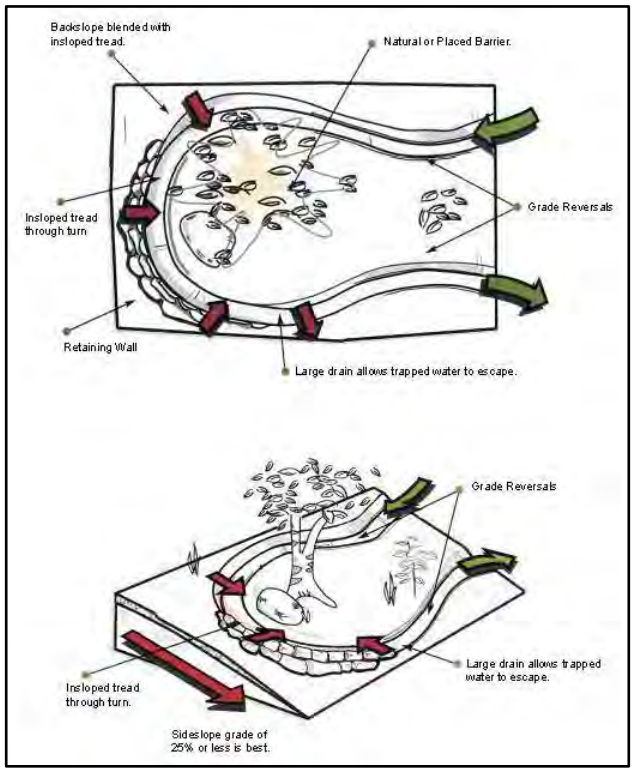
Source: LA County Trails Manual Modified by MCOSD Staff

Figure 12: Typical Outsloped Trail



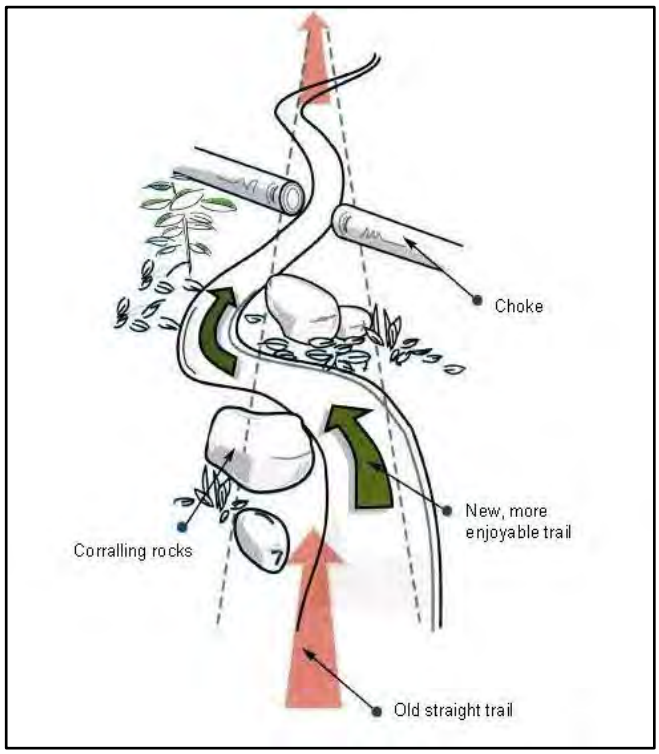
Source: LA Trails Manual

Figure 13: Typical Insloped Turn



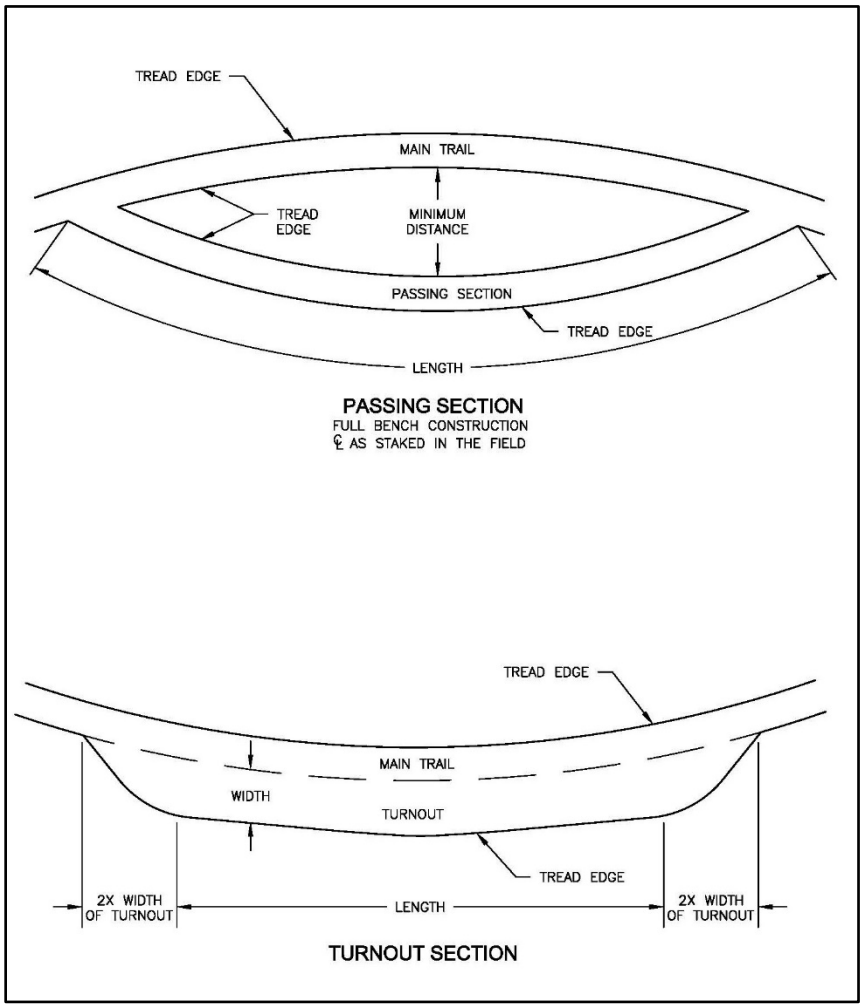
Source: LA Trails Manual

Figure 14: Typical Chicane



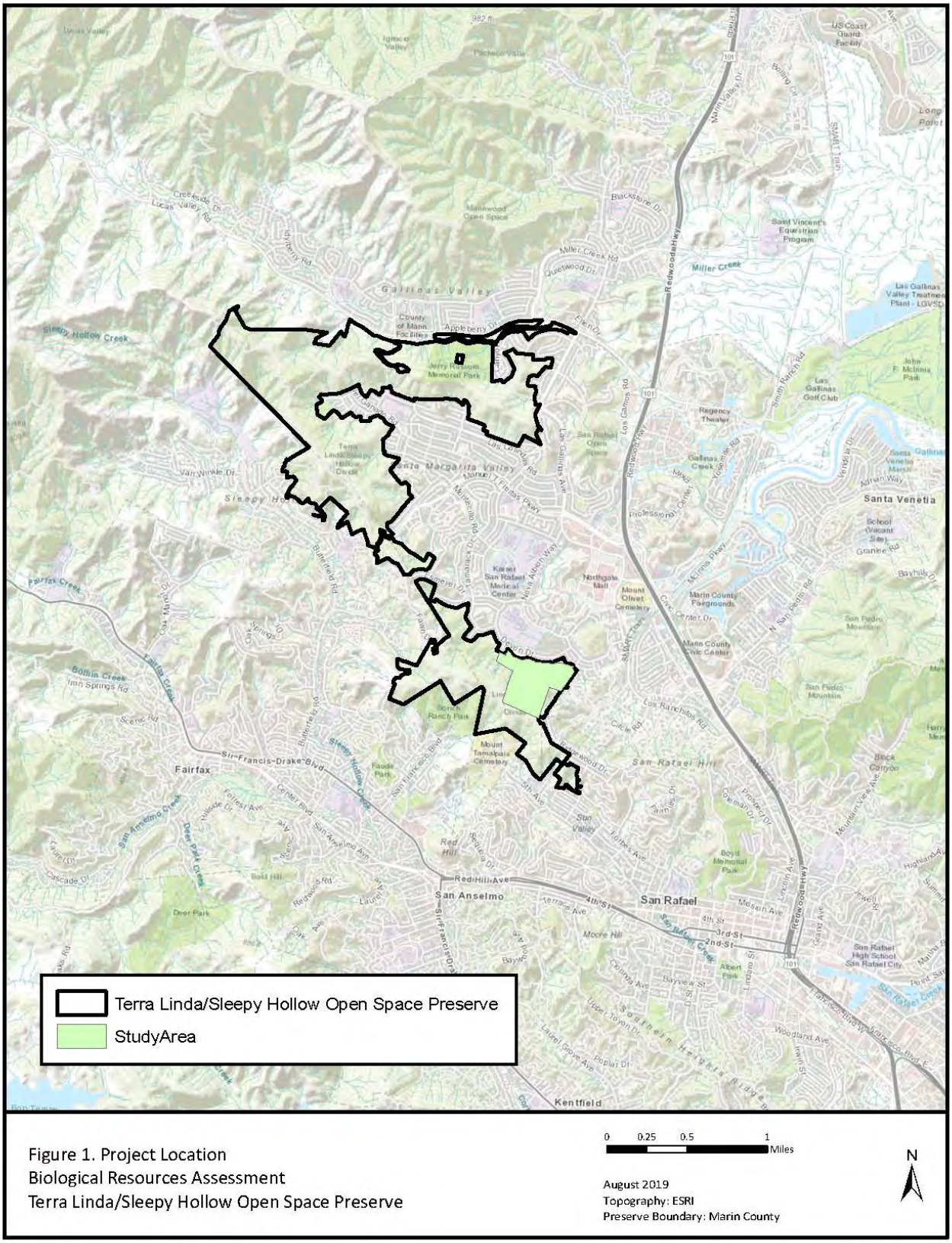
Source: LA County Trails Manual

Figure 15: Typical Trail Pull-Out



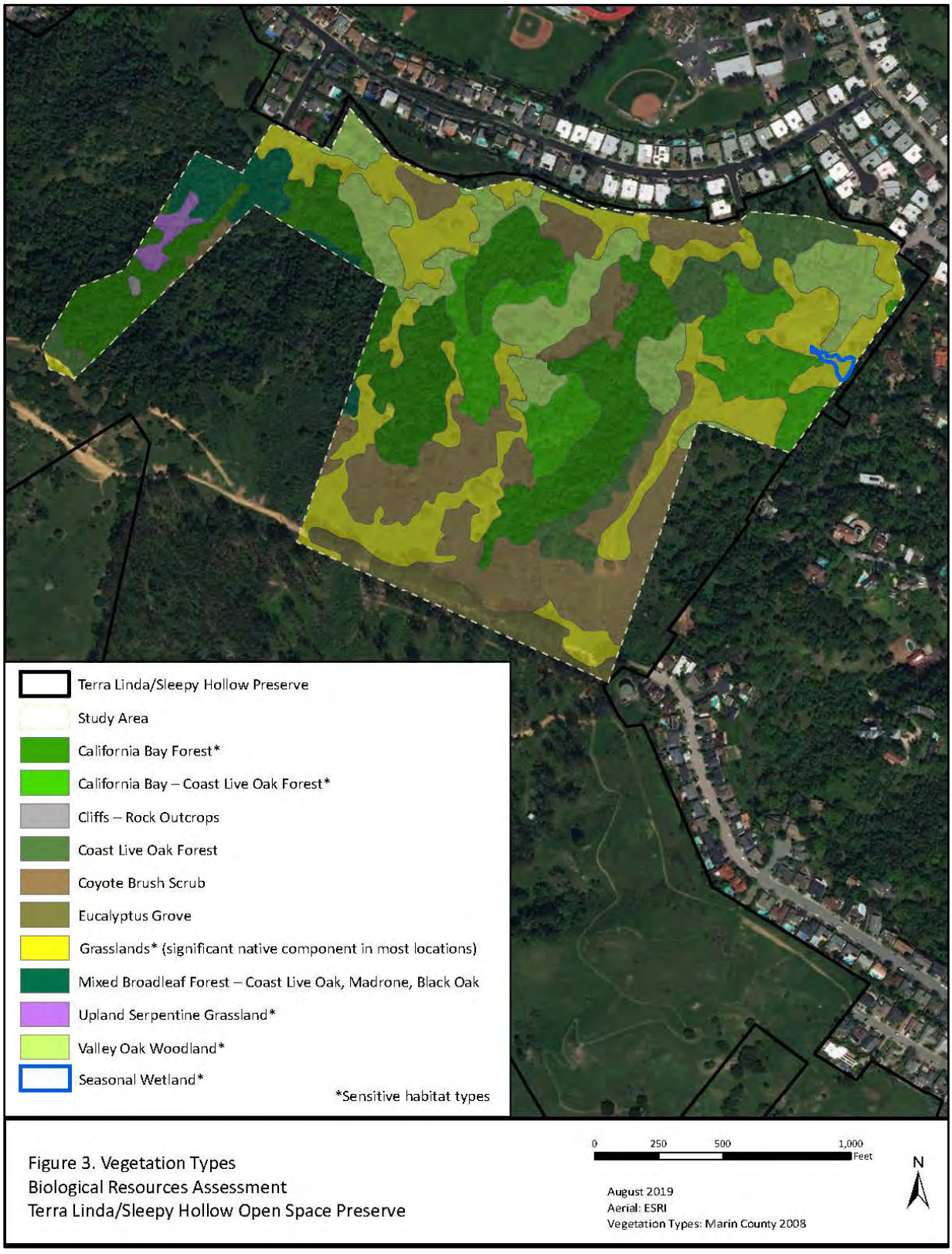
Source: United States Fish and Wildlife Service Standard Trail Plan

Figure 16: PCI Biological Resources Assessment Study Area



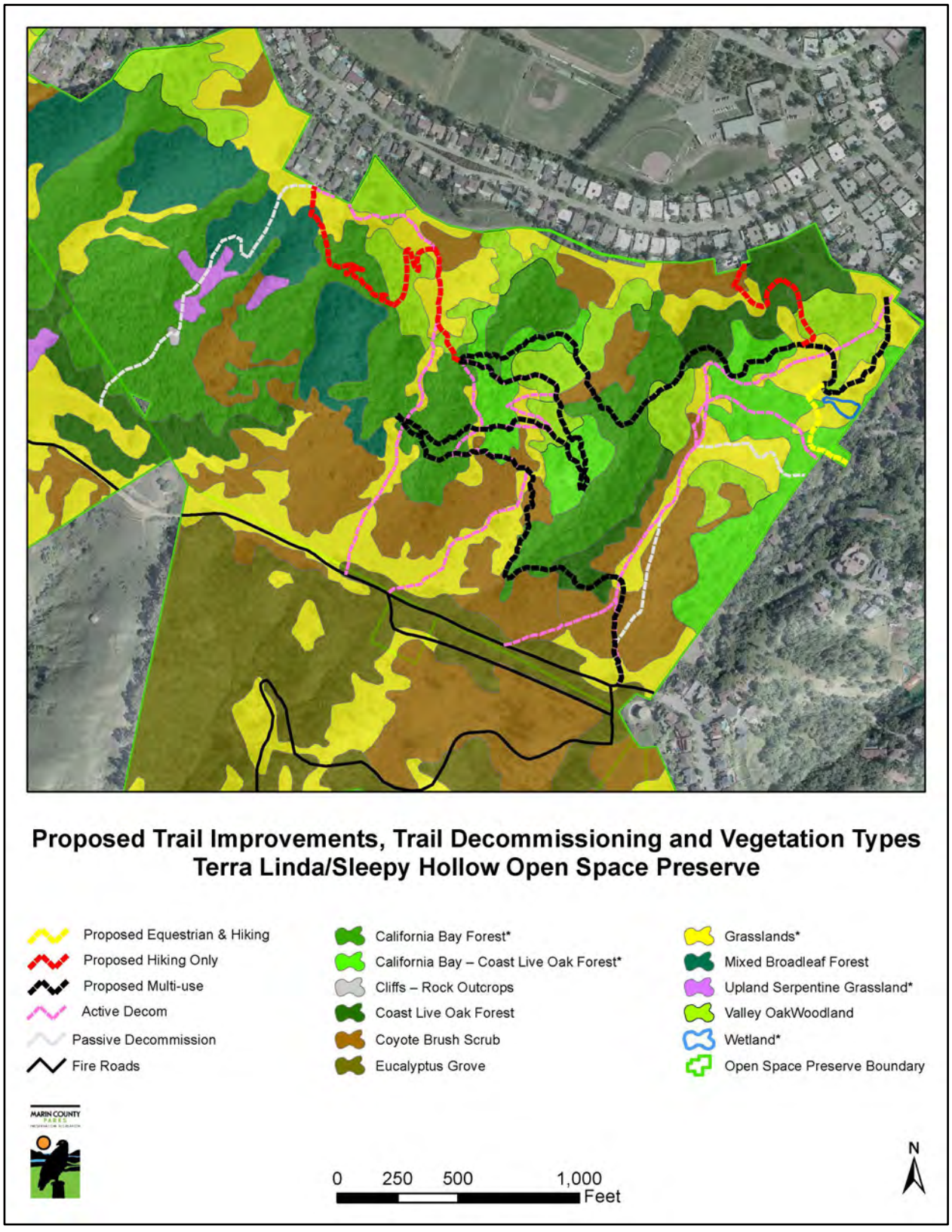
Source: PCI Biological Resources Assessment

Figure 17: Plant Communities Mapped by PCI



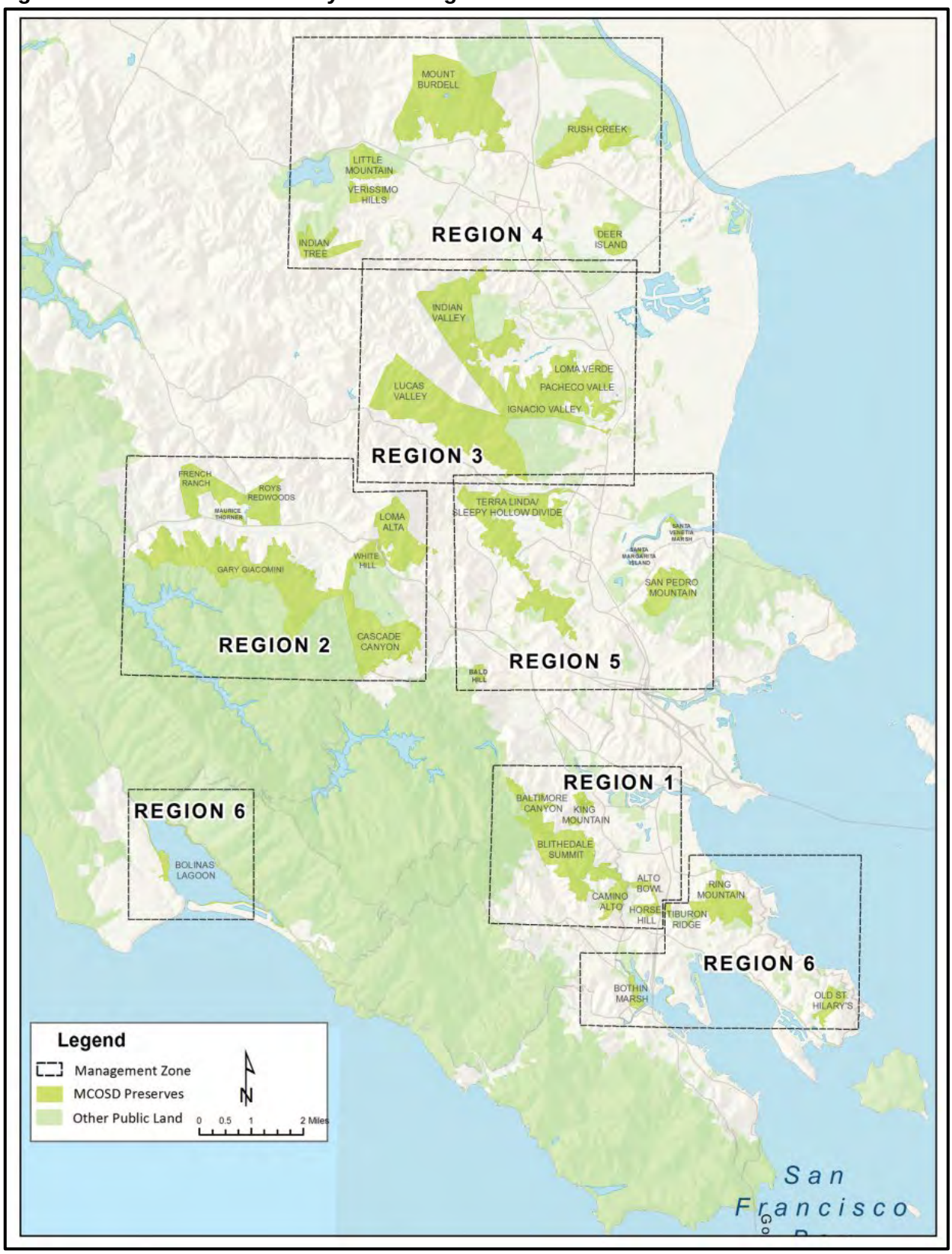
Source: PCI Biological Resources Assessment, 2019.

Figure 18: Proposed Project Relative to the PCI Mapped Plant Communities



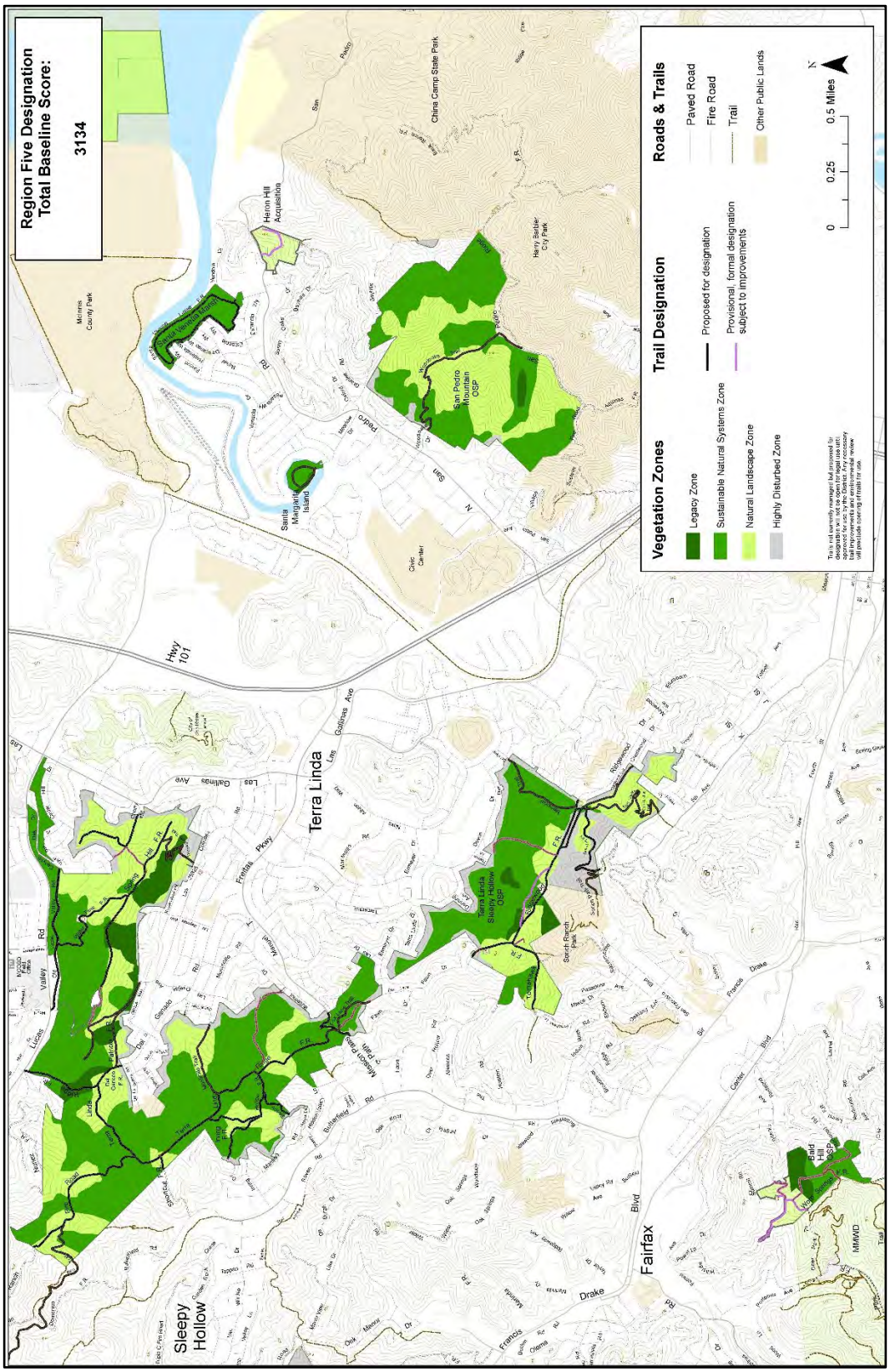
Source: MCOSD

Figure 19: MCOSD Preserves by RTMP Region



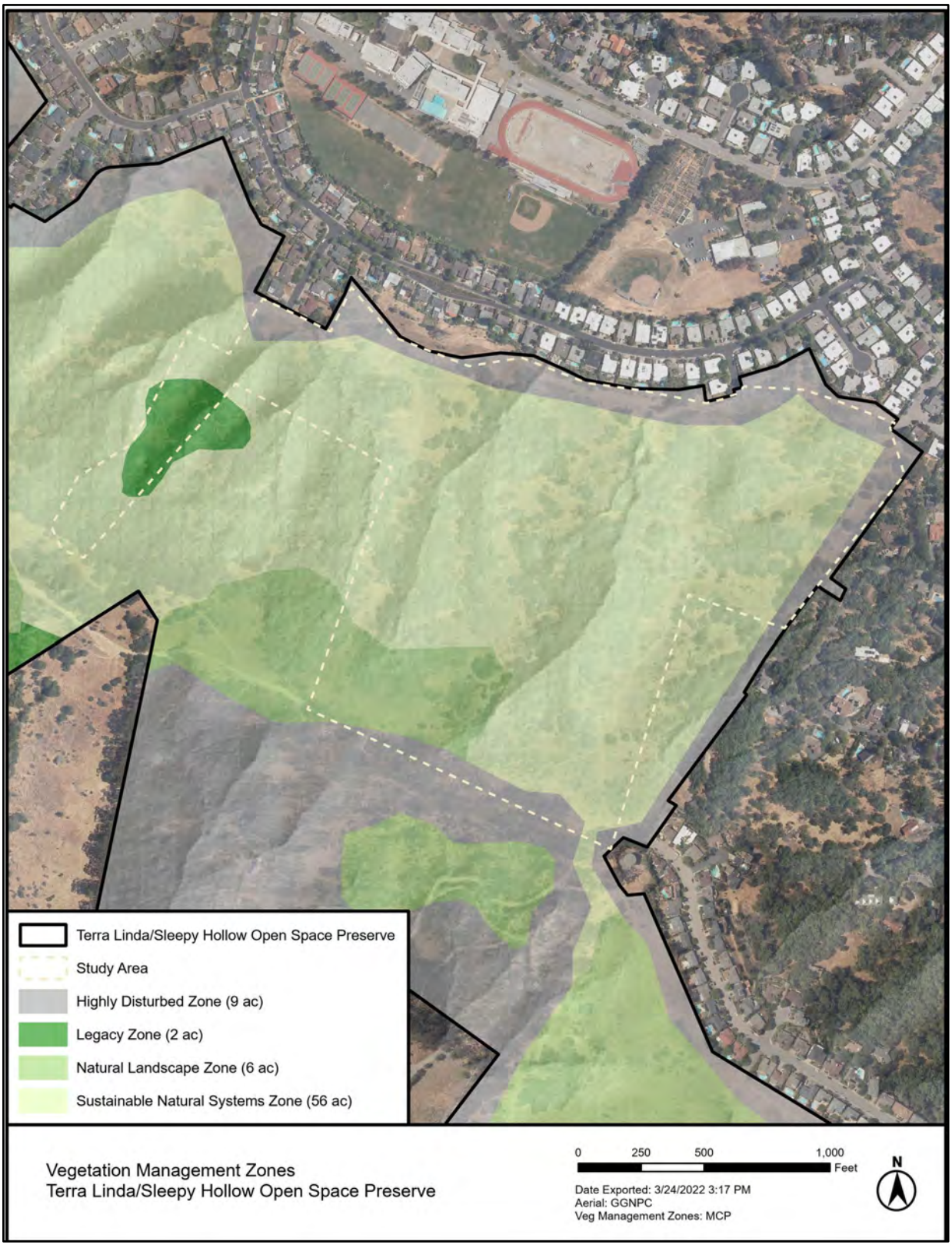
Source: MCOSD

Figure 20: Region 5 Trail Designations



Source: MCOSD

Figure 21: VBMP Classification within the Project Area



Source: MCOSD

Photo 1: Existing Memorial Trail

Photo 2: Existing Dias Way Social Trail off Memorial Trail

Photo 3: California Bay Forest within the Project Area

Photo 4: Grasslands Plant Community within the Project Area

Photo 5: Serpentine Grassland Plant Community within the Project Area

Photo 6: Small Seasonal Wetland in the Grassland Plant Community within the Project Area

Photo 7: Coyote Brush Scrub Plant Community within the Project Area

Photo 8: Valley Oak Woodland Plant Community within the Project Area

Photo 9: Mixed Oak Forest Plant Community within the Project Area

Photo 10: Eucalyptus Grove within the Project Area

Photo 11: Seasonal Creek within the Project Area

CEQA FRAMEWORK

Summary

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, and
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 Initial Study utilized the Checklist included as Appendix G of the State CEQA Guidelines. The Checklist topic areas are presented in alphabetical order:

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

For each topic area, the Checklist includes specific questions. Each question is answered by evaluating all phases of the proposed project, including construction and post-construction use, in consideration of the potentially significant environmental impacts that could occur for any phase of the proposed project. For each question, one of the four following conclusions is provided with supporting information:

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 still be included.

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. In order to adopt a Mitigated Negative Declaration, the Lead Agency must agree to incorporate all mitigation measures into the project as approved and a Mitigation Monitoring and Reporting Program must be adopted by the Lead Agency at the time of project approval.
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 even with the incorporation of proposed mitigation measures, requiring preparation of an Environmental Impact Report.

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.

SUMMARY OF THE CEQA ANALYSIS

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.

The Initial Study concluded that implementation of the proposed project would not result in any potentially significant impacts that could not be mitigated to a less than significant level. Most questions were answered with a No Impact or Less than Significant Impact response. Mitigation Measure BIO-1 has been included to address potentially significant impacts and/or augment RTMP BMPs associated with nesting birds. With implementation of the RTMP Policies and BMPs and Mitigation Measure BIO-1, potentially significant environmental impacts would be reduced to a less than significant level.

PROPOSED MITIGATION MEASURES

Applicable RTMP Policies and BMPs would be implemented to minimize potential impacts on biological resources however, the implementation of the proposed project could result in potential impacts to nesting birds. The following mitigation measure augment the applicable RTMP policies and BMPs.

Nesting Birds

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-1 clarifies how RTMP BMP Special-Status Wildlife-3: Seasonal Restrictions During Bird Nesting Season would be implemented and would supersede the buffers included in the RTMP BMPs. Implementation of Mitigation Measure BIO-1, 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-1: 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 shall not be necessary for special-status and nesting birds. The broadest nesting bird window based on Table BIO-2 would be January 1 – 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 BIO-2: 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 BIO-2: Guideline Buffers by Species or Guild, 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 BIO-2: 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 BIO-2: Guideline Buffers by Species or Guild, until the nest has been vacated, meaning that the chicks have fledged.

TABLE BIO-2: GUIDELINE BUFFERS BY SPECIES OR GUILD

Species/Guild	Recommended Buffer meters/feet	Nesting Season
Diurnal Raptors (i.e.: Cooper's hawk)	76 meters (250 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
California Black Rail	213 meters (700 feet)	February 01 – August 31
Ridgway's Rail	213 meters (700 feet)	February 01 – August 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

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.

CEQA Checklist Topic Areas

☐ 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.

Rachel Reid, Environmental Coordinator
Marin County Community Development Agency

DATE: June 09, 2022

AESTHETICS

TABLE 1: AESTHETICS CHECKLIST QUESTIONS

	Except as provided in Public 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)	In non-urbanized areas, 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 area is located in the northern portion of the Terra Linda / Sleepy Hollow Open Space Preserve (Preserve). The Preserve provides a greenbelt and ridgeline separator between central San Rafael and San Anselmo to the south and west and Terra Linda to the north and east. The adjacent land uses are primarily single-family residential housing. The project area is undeveloped and is an open space preserve providing a multi-use trail network for public recreation.

The Biological Resources Study completed for the proposed project mapped eleven plant communities including forest, scrub, and grassland habitats. These are described in the Biological Resources section of this CEQA Checklist. The project area is located on moderate to steeply sloping land with an average slope of approximately 24 percent and extreme slopes of 75 percent. Multiple unnamed small seasonal drainages cross the project area.

The Ridgewood Fire Road provides panoramic views including Mount Tamalpais and Big Rock Ridge. The photos in the graphics section of this document are representative of the views within the project area.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to Aesthetics. The RTMP Policies and BMPs and are provided, in their entirety, in Appendix A.

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. There are no officially designated scenic vistas in the project area. The Terra Linda / Sleepy Hollow Open Space Preserve includes non-designated scenic vistas and implementation of the proposed project would blend into the existing environment and would not result in a substantial adverse effect on scenic vistas.

The proposed project has been designed to avoid tree removal and minimize vegetation removal overall. Implementation of the proposed project would require removal of one 8-inch DBH trunk of a multi-trunk California bay tree associated with proposed trail improvements associated with the Memorial Trail improvements. This tree is located in the California Bay – Coast Live Oak plant community and is not associated with a stream crossing. Minimal vegetation removal would occur in the various plant communities and is specifically analyzed in the Biological Resources section of this CEQA Checklist. Vegetation removal would not result in a substantial adverse effect on scenic vistas because the entire project area is heavily vegetated and in context, the minor vegetation removal would not result in a substantial adverse effect on a scenic vista.

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 for the viewer.

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program to protect State highways located in areas of outstanding natural beauty. The state legislature created the California's Scenic Highway Program in 1963 to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment.

There are no designated scenic highways in Marin County and the project contains no structures, historic or otherwise.[22,23] There are no state highways within or within viewing distance of the project area. For these reasons, implementation of the proposed project would have no impact to scenic resources within a state scenic highway.

c) In non-urbanized areas, 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 and how the area will look after the project is implemented, as a measure of how compatible the project will be with the existing visual environment after it is implemented. The proposed project is located within an open space preserve, which is accessed by the public for outdoor recreation. Publicly accessible vantage points would be from the existing trails.

---

[22] California Department of Transportation (Caltrans), 2019. California Scenic Highway Mapping System. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

[23] California Department of Transportation (Caltrans), 2015. Officially Designated Scenic Highways. https://dot.ca.gov/-/media/dot-media/programs/design/documents/od-county-scenic-hwys-2015-a11y.pdf

Implementation of the proposed project would result in nominal changes in the visual character of the project area. The proposed trail decommissioning and trail improvements have been designed to blend into the existing visual character of the project area. Minor vegetation removal is not expected to substantially degrade the existing visual character or quality of public views of the project area and surroundings, particularly because substantial vegetation would remain. Implementation of the proposed project would include small modifications to the visual environment from the trail re-routes and decommissioning of trail segments. Trail improvements are not expected to change the visual character of these areas.

Given the design of the changes to be generally compatible with semi-natural areas, their location in the visual setting, and the limited scale compared to the entire preserve, implementation of the proposed project would result in a less than significant impact on visual quality and character of public views.

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 an objectionable brightness, the effect usually created by the reflection of sunlight or artificial light from highly polished surfaces, including windows and automobile glass during the daytime. During nighttime, glare is usually the result of the viewer being within the line of sight of a bright source of light, such as from a building or vehicle headlamps that contrast with surrounding low-ambient light 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 Terra Linda / Sleepy Hollow Open Space Preserve does not contain any sources of light or glare. However, local area roads adjacent to the preserve may have some lighting, and minor amounts of offsite lighting from neighboring residences may affect the preserve at night.

The proposed project would not include any new sources of light or glare and, therefore, the proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. For these reasons, the proposed project would result in no impact on new sources of light or glare.

AGRICULTURE AND FORESTRY RESOURCES

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.

TABLE 2: AGRICULTURE AND FORESTRY RESOURCES CHECKLIST QUESTIONS

	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 (hereafter collectively referred to as "Farmland"). Generally, any conversion of land from one of these categories to a lesser quality category or a non-agricultural use would be an adverse impact. 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.

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.

Terra Linda / Sleepy Hollow Open Space Preserve does not contain any prime, unique, or important farmland. The California Department of Conservation maps this area as "Other".[24]

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to Agriculture and Forestry Resources. The RTMP Policies and BMPs and are provided, in their entirety, in Appendix A.

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

As discussed above, the project area does not contain agricultural use and the use of the project area would remain as open space preservation and recreation. For these reasons, implementation of the proposed project would result in no impact to farmland because it would not convert any farmland to a non-agricultural use.

b) Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?
No Impact

The project area is designated for open space uses. There are no designated agricultural lands or Williamson Act contracted parcels on the site. For these reasons, implementation of the proposed project would result in no impact to 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 Section 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

[24] California Department of Conservation, 2018. Marin County, Important Farmland Data Availability. https://www.conservation.ca.gov/dlrp/fmmp/Pages/Marin.aspx

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.

The proposed project is located exclusively within the Terra Linda / Sleepy Hollow Open Space Preserve, which is designated as Open Space in the Marin Countywide Plan and is zoned as Parks and Open Space and Open Area. These land use and zoning designations are intended to support public recreation and the proposed project supports and continues that use. The project area does not include lands with forest land, timberland, or timberland production zoning. For this reason, implementation of the proposed project would result in no impact to lands zoned as forest land, timberland, or timberland production.

d) Would the Project result in the loss of forest land or conversion of forest land to non-forest use?
No Impact

As described above, the Terra Linda / Sleepy Hollow Open Space Preserve is used for preservation and outdoor recreation, does not contain zoned forest land, and is not used for any timber related activities. For these reasons, implementation of the proposed project would result in no impact to forestland. Please see the Biological Resources section of this CEQA Checklist for additional discussion regarding the potential impacts associated with vegetation removal.

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

Terra Linda / Sleepy Hollow Open Space Preserve does not include designated farmland or forest land. Implementation of the proposed project would not convert farmland to a non-agricultural use or convert forest land to a non-forest use. For these reasons, implementation of the proposed project would result in no impact associated with farmland or forest land conversion.

AIR QUALITY

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.

TABLE 3: AIR QUALITY CHECKLIST QUESTIONS

	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

Air quality can be described by the concentration of pollutants in the atmosphere and/or the pollutant emissions. Poor air quality can be locally problematic when they occur at high densities or when the source is close to a sensitive receptor. Air quality plans and standards set regarding criteria pollutants under applicable federal and state ambient air quality standards are related topics pertaining to ambient air quality and influenced by local, state, and federal regulations. Sensitive receptors to substantial pollutant concentrations refers to those 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. There are no air quality standards for odors.

Ambient Air Quality and Climate

Ambient air quality conditions in an area are affected by the rate, quantity, and source location of air pollutant emissions and by natural factors that affect the transport, dilution, and dispersal of air pollutant emissions including topography, air temperature, wind speed and direction, atmospheric stability, and sunlight. Ambient concentrations of air pollutant emissions are determined by the amount of air pollutant emissions and the atmosphere's ability to transport and dilute these emissions. 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.

Marin County is located within the nine-county San Francisco Bay Area Air Basin (Bay Area Air Basin), which encompasses Alameda, Contra Costa, Santa Clara, San Francisco, San Mateo, Marin, and Napa Counties, and the southern portions of Solano and Sonoma Counties. The Bay Area Air Basin is affected by proximity to San Francisco Bay and the Pacific Ocean, the coastal mountain ranges, inland valleys, and other topographical features that contribute to wind flow patterns and affect air quality. The Bay Area Air Basin is characterized by its Mediterranean-type climate with warm dry summers and cool wet winters.

Marin County is bounded on the west by the Pacific Ocean, on the east by San Pablo Bay, on the south by the Golden Gate, the one-mile-wide strait connecting San Francisco Bay and the Pacific Ocean, and on the north by the Petaluma Gap, which is a wind gap named after a coastal mountain opening that stretches east from the Pacific Ocean through the town of Petaluma and then roars south to San Pablo Bay. Although there

are a few mountains above 1,500 feet, most of the terrain is between 800 and 1,000 feet high. These features affect weather and air quality.

The west coast and southern portions are often subject to cool marine air and substantial fog due to closer proximity to the Pacific Ocean than the eastern side of Marin County, which is warmer and has less fog, due in part to further distance from the Pacific Ocean. The distance from the Pacific Ocean to eastern Marin County allows the marine air to be heated along the way, contributing to warmer average temperatures. In southern Marin the distance from the ocean is short and elevations are lower, resulting in higher incidence of maritime air in that area. In the winter, proximity to the ocean keeps the coastal regions relatively warm, with temperatures varying little throughout the year. The western side of Marin County has cooler weather than the eastern side because of its proximity to the ocean. The hills that separate eastern Marin from western Marin occasionally block the flow of the marine air, which also contributes to warmer temperatures. The temperatures of cities next to the Bay are moderated by the cooling effect of the Bay in the summer and the warming effect of the Bay in the winter.

In Marin County, prevailing winds are generally from the northwest, with wind speeds highest along the west coast, and average between 8 and 10 miles per hour. In the summer months, areas along the coast are usually subject to onshore movement of cool marine air. The complex terrain in central Marin creates sufficient friction to slow the air flow. Annual rainfall in the mountains is generally higher than in most parts of the Bay Area, averaging 37 to 49 inches. Most of the rainfall across the county occurs November through March.

Climate within the project area is a typical Mediterranean climate, with cool wet winters and warm dry summers. Average annual precipitation is 29 inches occurring as rain predominantly between the months of October and May.

Air pollution potential is highest in eastern Marin County where most of Marin County's population lives in small, sheltered valleys that act like a series of miniature air basins. Air pollution potential is less along the Marin County coast and in southern Marin County, because the influence of marine air from the Pacific Ocean helps to keep air pollution at a minimum. Towards north Marin County, there is greater potential for air pollution to build up because the valleys are more sheltered from the sea breeze. While Marin County does not have many polluting industries, the air quality on its eastern side, especially along the U.S. 101 corridor, may be affected by emissions from increasing motor vehicle use within and through the county.

Applicable Air Quality Regulations

The Federal Clean Air Act of 1970 directed U.S. Environmental Protection Agency (EPA) to establish national ambient air quality standards (NAAQS) at a level to provide an adequate margin of safety to protect public health for six air pollutants: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb) and suspended particulate matter (PM). Particulate matter is further classified as PM10, which are respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less and PM2.5, which are fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less. These pollutants are commonly referred to as “criteria pollutants.” The State of California also establishes air quality standards, referred to as “state standards.” State standards are determined by the California Air Resources Board (ARB), based on technical input from the Office of Environmental Health Hazard Assessment (OEHHA). In many cases, state standards are more stringent than national standards.

The Bay Area Air Quality Management District (BAAQMD) maintains a network of air quality and meteorological monitoring stations within the Bay Area Air Basin that monitor air quality, compliance with applicable ambient standards, and atmospheric phenomena, especially weather and weather conditions. The BAAQMD measures levels of O_3, CO, NO_2, SO_2, PM10, and PM2.5. The monitoring station closest to the project site is in downtown San Rafael, approximately three miles southeast of the project area, at which all criteria pollutants are measured except for SO_2. With the exception of PM10 and PM2.5, this monitoring

station has not reported any exceedances of ambient air quality standards over the past five years.[25] Ambient concentrations of all six of the criteria pollutants have been greatly reduced in the Bay Area over the past four decades. The Bay Area Air Basin attains federal and state standards for most criteria pollutants. While the Bay Area Air Basin has achieved reductions in ozone and particulate matter, all state and national standards have not yet been attained for these criteria pollutants. The Bay Area Air Basin is currently designated as a non-attainment area for federal and state ozone standards, the State PM10 standard, and the Federal and State PM2.5 standards.[26] The SFBAAB is designated attainment or unclassified for all other State and Federal air quality standards. Ozone is primarily a problem in the summer and PM2.5 pollution in the winter. Marin County in general does not experience problems with ozone, but the hilly terrain and colder winter temperatures can trap PM2.5 near the surface, resulting in air quality that exceeds health standards.[27]

Ozone is not emitted directly but is formed in the atmosphere through chemical reactions between precursor chemicals such as carbon dioxide (CO), nitrogen dioxide (NO_2), and volatile organic compounds (VOCs). 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 (NO_x) and reactive organic gases (ROG), in the Bay Area.

Particulate matter is a complex mixture of microscopic particles of solid or liquid matter suspended in the air that originate from natural sources such as wildfire or human-caused sources such as burning fuel. They can impact climate and precipitation that result in adverse health implications. Exposure to particulate matter can result in short-term and long-term health impacts including irritation of the eyes, ears, and throat resulting in sneezing, coughing, and shortness of breath. Prolonged exposure can result in permanent respiratory problems including asthma, chronic bronchitis, and heart disease. 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. 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. Particles ten microns or less in diameter are defined as respirable particulate matter or PM10. 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 can reduce PM10 emissions. PM2.5 refers to particles that have a diameter of less than 2.5 micrometers, which is more than 100 times thinner than a human hair. Due to its smaller size, PM2.5 can penetrate deeper into the lungs. These particulates can contribute significantly to regional haze and reduction of visibility and are contributors of smog. Most PM2.5 is comprised of combustion products such as smoke or formed in the atmosphere from regional emissions of NO_x. Wood burning in fireplaces and stoves is another significant source of particulate matter, primarily PM2.5.

---

25 BAAQMD 2020. https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/aqi?id=316&date=2018-11-01&view=monthly

26 BAAQMD 2017a. https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status

27 BAAQMD. In Your Community – Marin County. http://www.baaqmd.gov/about-the-air-district/in-your-community/marin-county

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts associated with air quality. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Policy SW.29: Retrofit or Upgrade Construction Equipment
- Air Quality-1: Implement BAAQMD Measures
- Air Quality-2: Minimize Dust Control Emissions during Construction
- Air Quality-3: Enhanced Dust Control during Construction
- Air Quality-4: Dust Control During Construction in Sensitive Resource Areas

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.

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

The applicable air quality plan for the project is the BAAQMD's 2017 Clean Air Plan: Spare the Air, Cool the Climate (2017 CAP)28 adopted April 19, 2017, which provides a regional strategy to reduce air pollution and thereby protect public health and climate. The 2017 CAP describes how the BAAQMD will continue progress towards attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. Regarding climate protection, the 2017 CAP focuses on achieving greenhouse gas reduction targets for 2030 and 2050, such as for methane and carbon dioxide. The 2017 CAP includes control measures designed to decrease emissions of air pollutants most harmful to Bay Area residents including ozone and particulate matter.

The BAAQMD published the CEQA Air Quality Guidelines in May 2017 (2017 BAAQMD Guidelines)[29] to assist in evaluating air quality impacts of projects and plans proposed in the Bay Area Air Basin and provide BAAQMD-recommended procedures for evaluating potential air quality impacts during the environmental review process consistent with CEQA requirements. The following air quality analysis for the proposed project is consistent with the methods included in 2017 BAAQMD Guidelines. The methodology described below is based on the BAAQMC Significance Determination Flowchart included as Figure 1-2 in the 2017 BAAQMD Guidelines.

1. Does the project meet all screening criteria? If the project does, then it would result in a less than significant impact. If the project does not, then an air quality analysis should be prepared using acceptable methods and compared to thresholds of significance.
2. If an air quality analysis is prepared, are the project's impacts less than the thresholds of significance? If they are, then the project would result in a less than significant impact. If the project's impact would exceed the thresholds of significance, then mitigation measures should be applied, and impact reductions calculated.

---

28 Bay Area Air Quality Management District. Clean Air Plan. Adopted April 19, 2017. https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en (BAAQMD 2017a).

29 Bay Area Air Quality Management District. California Environmental Quality Act Air Quality Guidelines. May 2017. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en (BAAQMD 2017b).

3. If the project's impacts are less than the thresholds of significance with the incorporation of mitigation measures, then the project's impact would be less than significant with mitigation. If the project's impact would still exceed the thresholds of significance after incorporation of mitigation measures, then the project's impact would be significant and unavoidable.

The 2017 BAAQMD CEQA Guidelines recommend quantification of construction-related exhaust emissions and comparison of those emissions to significance thresholds. Table 3-1 of the 2017 BAAQMD Guidelines provides the following screening criteria size thresholds for the city park land use category, which is the most closely related to the proposed project land use: 2,613 acres for operational criteria pollutants, 600 acres for operational greenhouse gases (GHG), and 67 acres for construction-related emissions (PM10).

The project area is located within an approximate 4-acre area of the Terra Linda / Sleepy Hollow Open Space Preserve. Project implementation would result in approximately less than one acre of temporary and permanent ground disturbance therefore the proposed project size is well below the described screening criteria size thresholds.

Construction of the proposed project would adhere to the Road and Trail Standards and BMPs previously listed and included in Appendix A. Construction is expected to require two seasons to complete, due to timing requirements of sensitive species and to avoid wet weather considerations. Construction would begin as soon as soil moisture conditions allow and after pre-construction surveys determined that sensitive species are not present in the project area. Construction related to water crossings and earthwork requiring use of equipment would be limited to the dry season as directed by the regulatory agencies, generally between May and September. Construction would occur Monday through Friday, from 7:00 a.m. to 6:00 p.m. and would require approximately 8 months. Equipment would include trail dozers, mini-excavators, compactors, cement mixers, rubber track carriers, generators, ATVs, generators, jackhammers, power saws, and other hand tools. Construction staging areas would be restricted to existing MCOSD roads and trails or other areas that would avoid any significant impacts on sensitive natural resources. Construction staging areas have been described in the project description and will be shown on the construction plans. Access to the project site for construction equipment would be at Ridgewood Fire Road, Del Haro Way, Dias Way, and Malone Lane.

Construction activities would also temporarily generate fugitive dust, including PM10, from earthmoving and equipment use. The 2017 BAAQMD Guidelines consider these impacts to be less than significant if BMPs are employed to reduce these emissions. The proposed project would incorporate RTMP policy SW.29 and the Air Quality BMPs listed in the setting section which are consistent with BMPs included in the 2017 BAAQMD Guidelines. The proposed project would incorporate RTMP BMPs which are consistent with 2017 BAAQMD CEQA Guidelines BMPs. For these reasons, implementation of the proposed project would result in a less than significant impact associated with air quality as it pertains to fugitive dust.

The proposed project would not include demolition, simultaneous occurrence of more than two construction phases such as paving and building construction occurring simultaneously, simultaneous construction of more than one land use type such as such as developing residential and commercial uses on the same site, extensive site preparation meaning greater than the default assumptions used by the Urban Land Use Emissions Model for grading, cut and fill, earth movement, or material transport greater than 10,000 cubic yards requiring considerable haul truck activity. Additionally, the proposed project would incorporate applicable RTMP Air Quality BMPs, as noted above, which would ensure that all basic construction measures recommended by the BAAQMD would be implemented during project construction. As a result, the proposed project would meet all of the screening criteria identified in the 2017 BAAQMD Guidelines and the project would not result in a cumulatively considerable net increase of any criteria pollutant. Therefore, both construction-period and operational impacts associated with the proposed project would result in a less-than-significant increase of ozone and particulate matter, the criteria pollutants for which the Bay Area Air Basin is in non-attainment under applicable federal and state ambient air quality standards. Construction and operation-related emissions associated with implementation of the proposed project would be well below the BAAQMD thresholds of significance and therefore, the proposed project would have no impact on air

quality as it pertains to compliance with an applicable air quality plan. Furthermore, the proposed project does not require preparation of an air quality analysis or implementation of mitigation measures.

Because 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 as analyzed in Impact b, following this discussion, implementation of the proposed project would not conflict with the primary goals of the 2017 CAP. The CAP includes 85 control measures across nine sectors: stationary industrial sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. The project would not include new stationary sources or new permanent mobile sources, would not introduce a new land use, and would not use a substantial amount of energy. The proposed project would incorporate all applicable control measures and implementation of the project would not hinder implementation of any control measures included in the CAP. Additionally, the proposed project would incorporate applicable RTMP Air Quality BMPs to avoid air quality impacts. Therefore, implementation of the proposed project would not conflict with or obstruct implementation of the applicable air quality plan, and there would be no impact and no impact would occur.

b) Would the Project result in a cumulatively considerable net increase of any criteria pollutant under an applicable federal or state ambient air quality standard?
Less than Significant

The Bay Area Air Basin is currently designated as a non-attainment area for federal and state ozone standards, the State PM10 standard, and the Federal and State PM2.5 standards. This is primarily to the region's development history. Past, present, and future development projects contribute to the Bay Area Air Basin's adverse air quality impacts on a cumulative basis and no individual project is sufficient in size to, by itself, to result in nonattainment of ambient air quality standards. Instead, an individual project's emissions contribute to existing cumulatively significant adverse air quality impacts. If an individual project's contribution to the existing cumulative impact is considerable, then the project's impact on air quality would be considered significant.

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 that could conflict with a region's air quality planning efforts and could result in a cumulatively considerable net increases of criterial pollutants. Increases in VMT beyond those 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 does include any new stationary sources of emissions or new development that could result in increased vehicle emissions. The proposed project will neither increase population nor employment, and therefore would not increase VMT for the region.

Implementation of the proposed project would result in minor criteria pollutant emissions during construction. Construction of the proposed project would include use of heavy equipment, which would result in emissions of criteria pollutants. Grading activities and the movement of equipment and workers within the project area would also result in some fugitive dust emissions. Additionally, MCOSD employees and contractors driving to and from the site would result in emissions from vehicle use. These construction-related emissions would be temporary and short-term in nature and would cease after construction of the proposed project.

Construction equipment that would be used during project implementation would result in criteria air pollutant emissions far below the thresholds of significance identified in Table 3-1 of the 2017 BAAQMD Guidelines. For these reasons, construction activities associated with implementation of the proposed project would result in a less than significant increase of ozone or particulate matter, the criteria pollutants for which the Bay Area Air Basin is in non-attainment under applicable federal and state ambient air quality standards.

Implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant under an applicable federal or state ambient air quality standard. MCOSD would implement RTMP BMPs to reduce emissions associated with project implementation. These BMPs require MCOSD to implement measures to reduce emissions and control dust during and after construction. For these reasons, construction activities associated with implementation of the proposed project would result in a less than significant increase of ozone and particulate matter, the criteria pollutants for which the Bay Area Air Basin is in non-attainment under applicable federal and state ambient air quality standards.

After project implementation, on-going operations would remain similar to existing and therefore would not result in a potentially significant impact regarding air quality. The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated, and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction. For these reasons, on-going operations associated with the proposed project would result in a less than significant increase of ozone and particulate matter, the criteria pollutants for which the Bay Area Air Basin is in non-attainment under applicable federal and state ambient air quality standards.

c) Would the Project expose sensitive receptors to substantial pollutant concentrations?
Less than Significant

Sensitive receptors to substantial pollutant concentrations refers to those 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 of facilities include schools, hospitals, and residential areas.

The significance of impacts to sensitive receptors is dependent on the chance of contracting cancer from exposure to Toxic Air Contaminants (TACs) or of having adverse health effects from exposure to non-carcinogenic TACs. A project is considered to be significant if the incremental cancer risk at a receptor exceeds 10 in a million. The Office of Environmental Health Hazard Assessment (OEHHA) does not recommend assessing cancer risk for projects lasting two months or less.[30] Health risk is evaluated for sensitive receptors within a 1,000-foot radius of a project's impact area. Sensitive receptors within 1,000 feet consist of residential structures and Terra Linda High School.

Implementation of the proposed project would span two construction seasons, generally the dry months between May and September. Although the construction seasons would be up to four months for each construction season, gas and diesel-powered equipment would be used intermittently during. Most of the proposed project construction-related activities would occur at a distance greater than 1,000 feet from the nearest residential structure and Terra Linda High School. Due to the intermittent use of gas and diesel-powered equipment over a four-month construction seasons and the distance of the project area to the nearest potential sensitive receptor, cancer-risk assessment is not required for the proposed project. Furthermore, the proposed project incorporates RTMP Air Quality BMPs 1 through 4 and RTMP Policy SW.29, which implements BAAQMD's 2017 CAP.

[30] Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments. February 2015. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

Implementation of the proposed project would not result in any long-term or chronic exposure to substantial pollution concentrations. For these reasons, implementation of the proposed project would result in a less than significant impact associated with exposure of sensitive receptors to substantial pollution.

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 no air quality standards for odors. Odor impacts are subjective as odor sensitivity varies from person to person. Odor impacts are related, to some degree, to the distance from the origin of the odor to the receptor. Offensive odors rarely impact public health however, they can cause headaches and on-going odors can result in a negative impact quality of life. In general, the type of land uses that pose potential odor emissions include refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and transfer stations.

BAAQMD's Regulation 7 – Odorous Substances[31] places general limitations on odorous substances and specific emission limitations on certain odorous compounds. These substances and compounds include dimethylsulfide, ammonia, mercaptans calculated as methylmercaptan, phenolic compounds calculated as phenol, and trimethylamine. The proposed project would not utilize these substances or compounds during construction or operation and maintenance activities, and therefore the proposed project would be in compliance with this regulation.

Implementation of the proposed project would neither result in any major sources of odor nor introduce land uses that would pose potential odor emissions. Short-term construction equipment related emissions, including diesel exhaust and fuel vapors, have the potential to result in short-term generation of odor emissions. These odor emissions would be temporary and would dissipate rapidly in the air, decreasing with increasing distance from the source, thus minimizing potential exposure to persons utilizing open space near the project area. For these reasons, implementation of the proposed project would not result in odor emissions that would adversely affect a substantial number of people.

[31] https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-7-odorous-substances/documents/rg0700.pdf?la=en

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 project area is located within the Terra Linda / Sleepy Hollow Open Space Preserve, which is approximately 1,172 acres within the Las Gallinas Creek watershed, which drains to San Pablo Bay. The Preserve provides a greenbelt and ridgeline separator between central San Rafael and San Anselmo to the south and west and Terra Linda to the north and east. The project area is located on moderate to steeply sloping land with an average slope of approximately 24 percent and extreme slopes of 75 percent. Multiple unnamed small seasonal drainages cross the project area. The adjacent land uses are primarily single-family residential housing. The project area is undeveloped and is an open space preserve providing a multi-use trail network for public recreation.

Biological Resource Studies

Prunuske Chatham, Inc. Biological Resources Assessment

A Biological Resources Assessment for the project area was completed by Prunuske Chatham, Inc. (PCI), in August 2019.[32] The study area broadly included the project area, but not the entire Terra Linda / Sleepy Hollow Open Space Preserve. PCI conducted botanical and wildlife surveys of the study area in spring 2019 to characterize biological communities and habitat conditions, determine if suitable habitat for special-status species is present, and identify potential biological constraints. The Biological Resources Assessment summarizes these field surveys and provided preliminary conclusions associated with potential effects that could result from implementation of the proposed project and provided preliminary recommendations to address potential effects.

Figure 16 shows the study area for the PCI Biological Resources Assessment

Figure 17 shows the plant communities mapped by PCI

Figure 18 shows the proposed project relative to the plant communities mapped by PCI

Plant Communities and Habitat Types

The Biological Resources Assessment mapped nine plant communities and habitat types in the study area, following commonly accepted nomenclature of the Manual of California Vegetation[33] classification. Sensitive plant communities are those that are of limited distribution statewide or within a county or region. The California Department of Fish and Wildlife's List of California Terrestrial Natural Communities and the Manual of California Vegetation[34] indicate which plant communities are sensitive within the state of California classification. Within the study area, the California Bay Forest, Valley Oak Woodland, Annual and Perennial Grasslands, and Serpentine Grassland are considered sensitive plant communities. The descriptions of the plant communities and habitat types are excerpted from the PCI Biological Resources Assessment.

California Bay Forest

California bay forest is considered sensitive by CDFW but is relatively common in Marin County. California bay forest in the study area ranges from relatively pure stands to mixed stands of California bay (*Umbellularia californica*) and coast live oak (*Quercus agrifolia*). It occurs primarily in the north-trending drainages. This vegetation type is dominated by evergreen species, creating a dense canopy that limits the understory. Bay is dominant, coast live oak is common, and madrone (*Arbutus menziesii*) is occasional. Sparse cover of shrubs, ferns, grasses, and forbs is present and primarily composed of native species. Typical species include poison oak (*Toxicodendron diversilobum*), honeysuckle (*Lonicera hispidula*), melic grass (*Melica* sp.), Pacific sanicle (*Sanicula crassicaulis*), Pacific pea (*Lathyrus vestitus*), goldenback fern (*Pentagramma triangularis*), lady fern (*Athyrium filix-fimina*), and maidenhair fern (*Adiantum jordanii*). Occasional non-native species including cotoneaster (*Cotoneaster* sp.) are present. Habitat quality in the bay forests is high. Although less diverse than the oak woodlands, non-native species are still limited, and natural regeneration of trees is common. These forests line the drainages of the study area, protecting water resources and providing sheltered movement opportunities for wildlife including birds, mammals, amphibians, and reptiles. California bay forests also provide carbon sequestration, soil protection, and cooling and shading for humans and wildlife.

Oak Woodland

Valley oak woodland is considered sensitive by CDFW. Oak woodland in the study area includes valley oak (*Quercus lobata*) stands mapped at lower elevations in the north, coast live oak stands mapped in the northeast, and mixed oak stands mapped in the northwest. However, these types intermingle extensively, and most stands include multiple species. Canopy cover in the oak woodlands ranges from nearly

---

32 PCI 2019. Op. cit.

33 Sawyer 2009. Op Cit.

34 ibid

continuous to relatively open and savanna-like. In addition to the dominant live oak and valley oak species, Oregon oak (*Quercus garryana*), black oak (*Quercus kelloggii*), madrone, and buckeye (*Aesculus californicus*) are common. Understory vegetation includes significant components of both native and non-native cover. In more open areas, non-native annual grasses such as rattlesnake grass (*Briza maxima)* and foxtail barley (*Hordeum murinum*) are abundant, but scattered native grasses and forbs are commonly present in these areas as well, such as blue wild rye (*Elymus glaucus)]*, blue dicks (*Dicehlostemma* spp.), sun cups (*Taraxia ovata*), ground iris (*Iris macrosiphon*), soaproot (*Chlorogalum pomeridianum*), and checkerbloom (*Sidalcea calycosa* ssp. *calycosa*). In areas of denser canopy, cover is reduced but dominated by native species including poison oak and hillside pea (*Lathyrus vestitus*), with lower cover by species such as hounds tongue (*Cynoglossum grande*), milkmaids (*Cardamine californica*), Torrey's melic (*Melica torreyana*), and California polypody (*Polypodium californicum*). Habitat quality in these woodlands is high. Although annual grasses are dominant in the understory in open areas, a diversity of native grasses and herbaceous species are also present at lower cover in most locations and highly invasive species are limited. The woodlands provide important opportunities for movement and dispersal of plants and wildlife along a topographic gradient. Oak woodlands provide a significant food and shelter resources for many wildlife species. Acorns in particular are important high-energy food sources for acorn woodpeckers, western-scrub jays, and western gray squirrels. Acorn dispersal provides opportunities for natural regeneration of oak trees. Oak woodlands also provide habitat for amphibians and a variety of mammals.

Eucalyptus Grove

A stand of mature blue gum eucalyptus trees (*Eucalyptus globulus*) is present along the Ridgewood Fire Road. These represent a historic planting. Coyote brush and grassland forms the understory. This grove provides low native plant diversity but provides some wildlife habitat, shade for hikers, and carbon sequestration.

Coyote Brush Scrub

Coyote brush (*Baccharis pilularis*) scrub occurs in scattered exposed, sunny locations throughout the Preserve, especially on gentle upper slopes near the ridge. Cover is usually patchy. Other native shrubs are present including poison oak and sticky monkeyflower (*Mimulus aurantiacus*). A grassy understory is present and is similar in composition to grassland found throughout the site, which is dominated by non-native annual grasses and forbs such as Italian thistle (*Carduus pycnocephalus*), but with a significant component of native perennial grasses and forbs as well. These native species include soaproot and small-flowered needlegrass (*Stipa lepida*). Habitat quality in the coyote brush scrub patches is moderate. Native understory species are present at low cover and diversity is moderate. However, these stands provide valuable habitat diversity for wildlife including rodents, herbivores, mammals, and birds. The coyote brush scrub habitat may also enable the gradual establishment of native trees and other native species.

Grasslands

Serpentine grassland, other grassland types with high cover of native species, and seasonal wetlands are considered sensitive. The PCI Biological Resources Assessment recommended considering the native annual and perennial grasslands as sensitive habitat. Grasslands occur in relatively narrow bands throughout uplands of the study area and are dominated by a mixture of non-native annual grasses and native perennial grasses, with occasional native forbs. A small area of serpentine grassland, and a nearby rock outcrop, are also mapped within the study area. Dominant non-native species include wild oats (*Avena* sp.), rattlesnake grass, foxtail barley, and soft chess (*Bromus hordeaceus*). Non-native forbs are common and include flax (*Linum bienne*), vetch (*Vicia* sp.), cutleaf geranium (*Geranium dissectum*), English plantain (*Plantago lanceolata*), and Italian thistle. Native species present in most locations at moderate, 5 to 20 percent, cover are purple needlegrass (*Stipa pulchra*), California oatgrass (*Danthonia californica*), ground iris, and soaproot. Other natives present in scattered locations include sun cups, yarrow (*Achillea millefolium*), lupine (*Lupinus* spp.), and checkerbloom. One stand of serpentine grassland, as well as a nearby rock outcrop, was previously mapped on the western edge of the study area but was not included in PCI's field visits due to steepness and poison oak cover and the proposed project includes trail

decommissioning. Based on the mapping data, native plant diversity would be expected to be high in the serpentine area due to the effects of serpentine chemistry. Rock outcrops also often support native grasses and forbs due to the limiting effects of thin soils. However, other smaller rock outcrops were observed elsewhere in the study area and species composition in these locations was similar to adjacent grassland areas. Overall, habitat quality in the grasslands is moderate. Non-native species dominate, but a diversity of native grasses and forbs are present at low to moderate but consistent cover throughout the study area. The grasslands support native plant biodiversity, soil protection, and foraging opportunities for wildlife.

Ephemeral Wetland and Drainage Features

A small seasonal wetland was documented along a swale within grassland near the northeastern edge of the project area near Del Haro Way. The seasonal wetland is fairly small and does not appear to support areas of standing water. Vegetation is dominated by common native wetland species including iris-leaf rush (*Juncus phaeocephalus*), gray rush (*Juncus patens*), dock (*Rumex* sp.), dense sedge (*Carex densa)*, and other sedge species *(Carex* sp.). PCI concluded that wildlife may use the wetland during the wetter months when the ground is saturated, and the wetland may provide seasonal water.

The study area includes several seasonal drainages that flow from the ridge top and flow north into the adjacent residential neighborhood, ultimately draining into the South Fork of Gallinas Creek and San Pablo Bay. Due to the steep topography, these drainages may only flow during the wet winter months, but the north-facing drainages are likely to stay cool and moist throughout the year and provide the microclimate conditions required by many wildlife species. These cool, moist drainages are also important movement corridors for wildlife as they navigate from the lower elevations to the summit and across the Preserve, especially in areas that are currently undeveloped.

Special-Status Wildlife

The presence of special-status wildlife species on MCOSD lands has been well documented through focused surveys, and other observations made by MCOSD staff and the public. The Biological Resources Assessment evaluated data collected and maintained by the MCOSD, a review of the CNDDB, and other sources. It identified two special-status birds documented within the study area, seven special-status birds have been documented within the larger Terra Linda / Sleepy Hollow Open Space Preserve by MCOSD staff but not necessarily confirmed within the study area,[35] and three special-status bat species with high potential to occur within or adjacent to the study area based regional occurrence data.[36]

Special-status birds documented by PCI within the study area include:

Oak titmouse (*Baeolophus inornatus)*
Listing Status: Bird of Conservation Concern

Oak titmice are common in urban areas and oak woodland habitats, nesting in tree cavities in oak woodlands. They typically forage for insects and seeds in trees and shrubs and nest in tree cavities and nest boxes. Oak titmice were documented within the study area by PCI. Suitable foraging and nesting habitat is present within the study area and PCI documented occurrences within the study area.

---

35 MCOSD 2015. Op. cit.

36 California Department of Fish and Wildlife. California Natural Diversity Database, RareFind Version 5.0, Spotted Owl Viewer, and BIOS. California Department of Fish and Game. Sacramento, CA. http://www.dfg.ca.gov/biogeodata/cnddb. 2019. (CDFW 2019).

Nuttall's woodpecker *(Picoides nuttallii)*
Listing Status: Bird of Conservation Concern

Nuttall's woodpeckers occur in oak woodlands and streamside habitats and nest in cavities of live and dead trees. This species probes for insects in tree bark and crevices. This species may forage and nest within the study area and were documented within the study area by PCI.

Additional special-status birds have been documented within the larger Terra Linda / Sleepy Hollow Open Space Preserve by Marin County staff,[37] but were not documented within the study area by PCI. The study area provides suitable habitat for these species and therefore there is potential for the species to exist within the project area even though PCI did not document presence. These species include:

Cooper's hawk *(Accipiter cooperi)*
Listing Status: California Department of Fish and Wildlife Watch List

The preferred habitat of Cooper's hawk includes mature forests, open woodland, and riparian forest and they nest in coast live oak and other forest habitats. This species forages for birds and mammals and nests in dense mixed forest, canyons, and riparian corridors. This species may forage and nest within the study area in more densely wooded areas.

Sharp-shinned hawk *(Accipiter striatus)*
Listing Status: California Department of Fish and Wildlife Watch List

Sharp-shinned hawks are known to nest in small numbers in oak woodland and mixed forests within Marin County. They forage over a variety of habitats, feeding primarily on small birds and may forage and nest within the study area in the more densely wooded areas.

Grasshopper sparrow *(Ammodramus savannarum)*
Listing Status: California Species of Special Concern

Grasshopper sparrows are a common summer resident in grassland habitats, nesting in grass clumps. This species forages for insects and seeds and may forage and nest within the study area in limited grassland locations. The grassland plant community in the project area provides seasonal breeding habitat.

Golden eagle *(Aquila chrysaetos)*

Listing Status: Bird of Conservation Concern, Watch List, and State of California fully protected species

Golden eagles are found in open woodlands and mountainous habitats where they nest in large trees or on cliffs. Golden eagles are a year-round resident of Marin County, but are a rare, local nesting bird with a very small breeding population. This species is not likely to use the study area with any frequency.

Burrowing owl *(Athena cunicularia)*
Listing Status: Bird of Conservation Concern and California Species of Special Concern

Burrowing owls are a ground-dwelling species found in grasslands, ranchlands, and open habitats. Historically, they nested along the baylands in Marin County, but now only occur seasonally, mostly as a winter resident. This species is not likely to use the study area with any frequency as suitable open habitats with underground burrows are largely absent; they may be found on a limited basis in winter.

Northern harrier *(Circus hudsonius)*
Listing Status: California Species of Special Concern

Northern harriers occupy wide-open habitats from grasslands to marshes. The study area provides limited open grassland habitat, mostly concentrated on the upper ridge line, suitable for Northern harriers though they may nest and forage within open habitats within the study area.

---

[37] MCOSD 2015. Op. cit.

White-tailed kite (*Elanus leucurus*)
Listing Status: State of California fully protected species

White-tailed kites occur in open woodlands and grassland habitats. They forage by hovering and diving for small rodents. Nests are constructed in trees and tall shrubs and the study area provides suitable habitat. Kites may forage and nest within the study area.

There are approximately 15 bat species with known occurrences in Northern California, and a number of these species have a high probability of occurring within the study area and adjacent lands. Bats are highly mobile and many are migratory. Foraging habitats include woodlands, forests, grasslands, and open water. All of Marin County's species are insectivorous and feed by echolocation.[38] Bats use caves, mines, buildings, bridges, tree hollows, and other natural and man-made crevices for roosting. Focused surveys for bats were not performed as part of PCI's assessment however, the study area supports suitable foraging and tree roosting habitat for special-status and common bat species.

Occurrences of the following special-status bat species have been reported nearby and they have a high likelihood of occurrence within Terra Linda / Sleepy Hollow Open Space Preserve. Roosting and foraging habitat is present within the study area.

Pallid bat *(Antrozous pallidus)*
Listing Status: California Species of Concern and Western Bat Working Group, High priority

Pallid bats are typically yearlong residents throughout most of their range and have a reported occurrence within two miles of the study area.[39] Suitable foraging and roosting habitat is present within the study area, including hollow trees. Generally, the preferred habitat for pallid bat includes grassland, shrubland, forest, and woodland habitats at low elevations up through mixed coniferous forests. Roosting sites include caves, mines, crevices, buildings, and hollow trees during day and more open sites used at night. Pallid bats are a social species that form small colonies and both sexes may roost in colonies of 20 or more individuals during the non-breeding season. Breeding occurs once yearly beginning in October and throughout the winter. Pups, typically twins, are born between the months of April and July.

Townsend's big-eared bat (*Corynorhinus townsendii)*
Listing Status: California Species of Concern and Western Bat Working Group, High priority

There are no nearby reported occurrences of Townsend's big-eared bat within or nearby the study area however, the study area provides suitable foraging habitat and roosting habitat in crevices. The preferred habitat of Townsend's big-eared bat includes low to mid-elevation mesic habitats including riparian, mixed forest, coniferous forest, prairies, and agricultural lands. Utilizes edge habitats for foraging. Roosting sites include caves, mines, tunnels, buildings, and other man-made structures. Mating typically occurs in winter with a single pup born in May or June. Maternal roosts consist of a small number of females with young, typically less than 100 individuals.

Hoary bat *(Lasiurus cinereus)*
Listing Status: Western Bat Working Group, Medium priority

Hoary bats have a historic occurrence within three miles of the study area[40] and the study area provides suitable foraging and roosting habitat. In the study area, hoary bats have a high potential to occur within the study area and they may roost in trees and foliage. The preferred habitat for Hoary bats includes open habitat and habitat mosaics. They require medium to large trees for cover and habitat edges and/or

---

38 A sensory system in which echoes are used to detect objects, also known as biosonar. High-pitched sounds are emitted by the bat and the echo against the object is interpreted to locate the object.

39 CDFW 2019. Op. cit.

40 CDFW 2019. Op. cit.

open areas for foraging habitat. Hoary bats tend to be solitary roosting in trees and foliage, and they are widespread in California except patchy in desert regions. Mating occurs during fall migration and young are born the following June.

Common Wildlife

The following common wildlife species were observed by PCI during field reconnaissance.

Reptiles

Coast Range Fence Lizard *(Sceloporus occidentalis bocourtii)*

Amphibians

California Slender Salamander *(Batrachoseps attenuates)*

Birds

Acorn Woodpecker *(Melanerpes formicivorus)*
American Robin *(Turdus migratorius)*
Anna's Hummingbird *(Calypte anna)*
American Crow *(Corvus brachyrhynchos)*
American Goldfinch *(Spinus tristis)*
Bushtit *(Psaltriparus minimus)*
Black Phoebe *(Sayornis nigricans)*
Band-tailed Pigeon *(Patagioenas fasciata)*
California Quail *(Callipepla californica)*
California Towhee *(Pipilo crissalis)*
Chestnut-backed Chickadee *(Poecile rufescens)*
Common Raven *(Corvus corax)*
Dark-eyed Junco *(Junco hyemalis)*
European Starling (non-native) *(Sturnus vulgaris)*
Golden-crowned Sparrow *(Zonotrichia atricapilla)*
House Finch *(Haemorhous mexicanus)*
Northern Flicker *(Colaptes auratus)*
Northern Mockingbird *(Mimus polyglottos)*
Orange-crowned Warbler *(Oreothlypis celata)*
Pacific-slope Flycatcher *(Empidonax difficilis)*
Red-tailed Hawk *(Buteo jamaicensis)*
Red-shouldered Hawk *(Buteo lineatus)*
Song Sparrow *(Melospiza melodia)*
Spotted Towhee *(Pipilo maculatus)*
Tree Swallow *(Tachycineta bicolor)*
Turkey Vulture *(Cathartes aura)*
Warbling Vireo *(Vireo gilvus)*
Western Bluebird *(Sialia Mexicana)*
Western Scrub-jay *(Aphelocoma californica)*
Wrentit *(Chamaea fasciata)*

Mammals

Black-tailed Deer *(Odocoileus hemionus)*
Botta’s Pocket Gopher *(Thomomys bottae)*
Broad-footed Mole *(Scapanus latimanus)*
Western Gray Squirrel *(Sciurus griseus)*

MCOSD Burrow Surveys

In addition to the PCI Biological Resources Assessment, MCOSD staff biologists conducted burrow surveys in Terra Linda / Sleepy Hollow Open Space on October 30, 2017 and between March 22, 2018 and March 29, 2018. Staff walked all sections of open grassland in transect lines spaces roughly 50 feet apart, accommodating occasionally for terrain features. Upon detection of a burrow, the height and width of the entrance were measured with a measuring tape, and photos were taken of the entrance and dirt apron. Signs of activity, such as scat, tracks, or claw marks were noted along with an assessment of the species present. Signs of inactivity such as cobwebs, vegetation growing in the apron, or a collapsed entrance were also noted. No burrows with an opening smaller than 3 inches wide and 3 inches tall were recorded, as small rodents likely have no bearing on local badger distribution, and because there are no special status burrowing species of such small size within the survey area. Collapsed burrows were also noted if they featured a measurable entrance, as past activity is still useful for assessing habitat suitability. Lastly, GPS coordinates were recorded for mapping purposes. During the surveys, 45 burrows were observed and recorded. Of these, only two inactive ground squirrel burrows were within the project area. No signs of western burrowing owls were observed.

Applicable RTMP Policies and BMPs

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.

- Policy SW.24: Minimize Intrusions into 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 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

Additionally, the relevant RTMP BMPs to prevent the spread of weeds, listed below, would be implemented:

- General-5: Modify Construction Methods Relating to Soil Disturbance, Restrict Use of Offsite Soil, Aggregate, or Other Construction Materials
- Special-Status Plants-6: Prevent or Reduce Potential for Pollution
- Invasive Plants-22: 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
- 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 Plan Removal
- Invasive Plants-9: Road and Trail Inspections
- Invasive Plants-10: Monitoring of Decommissioned Areas

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 plant 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

A Biological Resources Assessment for the project area was completed by Prunuske Chatham, Inc. (PCI), in August 2019.[41] The study area broadly included the project area, but not the entire Terra Linda / Sleepy Hollow Open Space Preserve. PCI conducted botanical and wildlife surveys of the study area in spring 2019 to characterize biological communities and habitat conditions, determine if suitable habitat for special-status species is present, and identify potential biological constraints. The PCI Biological Resources Assessment summarizes these field surveys and provided preliminary conclusions associated with potential effects that

[41] PCI 2019. Op. cit.

could result from implementation of the proposed project and provided preliminary recommendations to address potential effects.

The PCI Biological Resources Assessment mapped nine plant communities and habitat types following commonly accepted nomenclature of the Manual of California Vegetation classification, including the following four sensitive plant communities: California bay forest, annual/perennial grasslands, serpentine grassland, and valley oak woodland. Implementation of the proposed project would result in minimal disturbance within the delineated plant communities from active trail decommissioning treatments and trail improvements. The botanical surveys conducted as part of the PCI Biological Assessment concluded that no special-status plant species were documented within the study area.

Table BIO-1 presents information for each of the plant communities within PCI's study area including the acreage within the study area, relative percent, and area of the footprint associated with the proposed project.

TABLE BIO-1: AREA OF DISTURBANCE IN PLANT COMMUNITIES MAPPED IN STUDY AREA

PLANT COMMUNITY	SENSITIVE	ACRES IN STUDY AREA	RELATIVE PERCENT	AREA OF PROJECT FOOTPRINT
California Bay Forest	Yes	23.5 acres	32.1%	1.03 acres
Annual and Perennial Grasslands	Yes	16.5 acres	22.5%	1.40 acres
Coyote Brush Scrub	No	14.1 acres	19.2%	0.49 acres
Valley Oak Woodland	Yes	9.3 acres	12.7%	0.34 acres
Coast Live Oak forest	No	4.3 acres	5.9%	0.09 acres
Eucalyptus Grove	No	2.6 acres	3.5%	0.04 acres
Mixed Oak Forest	No	2.3 acres	3.1%	0.10 acres
Serpentine Grassland	Yes	0.6 acre	0.8%	0.04 acres
Cliffs/Rock Outcrop	No	0.1 acre	0.1%	0.01 acres

The PCI Biological Resources Assessment documented two special-status bird species within the study area: Oak titmouse *(Baeolophus inornatus)* and Nuttall's woodpecker *(Picoides nuttallii)*. Additional special-status bird species and bat species have been documented within Terra Linda / Sleepy Hollow Open Space Preserve but were not found during PCI's field surveys. The study area provides suitable habitat for these species and therefore there is potential for the species to exist within the project area even though PCI did not document presence. These include Cooper's hawk *(Accipiter cooperi)*, Sharp-shinned hawk *(Accipiter striatus)*, Grasshopper sparrow *(Ammodramus savannarum)*, Golden eagle *(Aquila chrysaetos)*, Burrowing owl *(Athena cunicularia)*, Northern harrier *(Circus hudsonius)*, White-tailed kite *(Elanus leucurus)*, Pallid bat *(Antrozous pallidus)*, Townsend's big-eared bat (*Corynorhinus townsendii)*, and Hoary bat *(Lasiurus cinereus)*.

In addition to the PCI Biological Resources Assessment, MCOSD staff biologists conducted burrow surveys in Terra Linda / Sleepy Hollow Open Space on October 30, 2017 and between March 22, 2018 and March 29, 2018. During the surveys, 45 burrows were observed and recorded. Of these, only two inactive ground squirrel burrows were within the project area. No signs of western burrowing owls were observed.

Implementation of the proposed project would include ground-disturbing activities associated with trail decommissioning utilizing active methods and implementation of trail improvements however, this minimal disturbance would not result in habitat modifications that could cause potential impacts to special-status species that have the potential to occur within the project area. Implementation of the proposed project would remove one trunk of a multi-trunk California bay tree. The trunk to be removed is 8-inch diameter at breast

height (DBH). This tree is located in the California Bay – Coast Live Oak plant community and is not associated with a stream crossing.

Construction of the proposed project would adhere to the Road and Trail Standards and BMPs listed under the Applicable RTMP Policies and BMPs subheading and included in Appendix A. Implementation of the proposed project would span two construction seasons, generally March through October. Construction would begin as soon as soil moisture conditions allow and after pre-construction surveys required by Mitigation Measure BIO-1 determined that sensitive species are not present in the project area. Construction related to water crossings and earthwork requiring use of equipment would be limited to the dry season as directed by the regulatory agencies, generally between May and September.

Construction would occur Monday through Friday, from 7:00 a.m. to 6:00 p.m. Equipment would include intermittent use of trail dozers, mini-excavators, compactors, cement mixers, rubber track carriers, generators, ATVs, generators, jackhammers, power saws, and other hand tools. Construction staging areas would be restricted to existing MCOSD roads and trails or other areas that would avoid any significant impacts on sensitive natural resources. Construction staging areas have been described in the project description and will be shown on the construction plans. Access to the project site for construction equipment would be at Ridgewood Fire Road, Del Haro Way, Dias Way, and Malone Lane.

The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated, and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction. For these reasons, increased visitor use including non-motorized bike use would have a less than significant impact associated with substantial adverse effects 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 either directly or through habitat modifications.

The PCI Biological Resources Assessment included several recommendations to minimize potential impacts to biological resources. Most of these recommendations have been incorporated into the project design or are included in the RTMP BMPs. MCOSD would implement applicable RTMP BMPs previously listed. Applicable RTMP Policies and BMPs to minimize potential impacts on biological resources however, the implementation of the proposed project could result in potential impacts to nesting birds. The following mitigation measure augments the applicable RTMP policies and BMPs.

Nesting Birds

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-1 clarifies how RTMP BMP Special-Status Wildlife-3: Seasonal Restrictions During Bird Nesting Season would be implemented and would supersede the buffers included in the RTMP BMPs. Implementation of Mitigation Measure BIO-1, 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-1: 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 shall not be necessary for special-status and nesting birds. The broadest nesting bird window based on Table BIO-2 would be January 01 – October 31. The project area does not include habitat for double-crested cormorant, herons, egrets, bitterns, waterfowl, California black rail, or Ridgway's rail and these species

would not be affected by implementation of the proposed project. The PCI Biological Resources Assessment concluded that northern spotted owl is unlikely to utilize the project area due to habitat composition, proximity to development, and the levels of public use. 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 BIO-2: 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 BIO-2, 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 BIO-2: 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 BIO-2: GUIDELINE BUFFERS BY SPECIES OR GUILD

Species/Guild	Recommended Buffer meters/feet	Nesting Season
Diurnal Raptors (i.e.: Cooper's hawk)	76 meters (250 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
California Black Rail	213 meters (700 feet)	February 01 – August 31
Ridgway's Rail	213 meters (700 feet)	February 01 – August 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

Bats

Three special-status species have potential to occur within Terra Linda / Sleepy Hollow Open Space Preserve including Pallid bat *(Antrozous pallidus)*, Townsend's big-eared bat (*Corynorhinus townsendii)*, and Hoary bat *(Lasiurus cinereus)*. Bats may use cavities, crevices, foliage, and exfoliating bark for roosting, but the presence of large maternity colonies would be restricted to trees with large cavities. The proposed project does not include removal of trees with large cavities and therefore implementation of the proposed project would not negatively impact roosting bats. Construction would be limited to daylight hours and therefore, implementation of the proposed project would not negatively impact foraging bats.

With implementation of the applicable RTMP BMPs previously listed and implementation of Mitigation Measure BIO-1, the proposed project would have a less than significant impact with mitigation associated with substantial adverse effects 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 either directly or through habitat modifications.

b) Would the Project 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 term riparian woodland refers to woodland associated with a stream or its floodplain, which is typically distinct from surrounding upland vegetation types and considered to provide exceptionally valuable habitat for plant and animal species. Riparian woodland is considered a sensitive habitat by regulatory agencies. In the project area, riparian woodland is not present in the form of a mappable plant community.

The PCI Biological Resources Assessment mapped nine plant communities and habitat types in the study area, following commonly accepted nomenclature of the Manual of California Vegetation[42] classification. Sensitive plant communities are those that are of limited distribution statewide or within a county or region. The California Department of Fish and Wildlife's List of California Terrestrial Natural Communities and the Manual of California Vegetation[43] indicate which plant communities are sensitive within the state of California classification. Within the study area, the California bay forest, valley oak woodland, annual and perennial grasslands, and serpentine grassland are considered sensitive plant communities.

The project area is located within the Gallinas Creek Watershed. The project area includes multiple small seasonal drainages that start below the ridgeline and flow north into the adjacent residential neighborhood, draining into the south fork of Gallinas Creek and ultimately to San Pablo Bay.

The proposed project includes thirteen stream crossings consisting of six new trail bridges and seven rock armored fords. Implementation of the proposed stream crossings would result in an estimated area of disturbance of 642 square feet in the California bay forest plant community and 70 square feet in the valley oak woodland plant community, both of which are sensitive plant communities. Implementation of the proposed stream crossings would result in an estimated area of disturbance of 150 square feet in the coyote brush scrub plant community and 40 square feet in the mixed oak forest plant community, which are not considered sensitive plant communities. In total, the proposed stream crossings would result in an estimated 902 square feet area of disturbance.

The proposed project has been designed to avoid impacts to vegetation, and where these impacts cannot be completely avoided, the proposed project has been designed to minimize the impact. Implementation of the proposed project would remove one trunk of a multi-trunk California bay tree. This tree is located in the California Bay – Coast Live Oak plant community and is not associated with a stream crossing. This minimal vegetation removal is not expected result in substantial adverse effects 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.

The PCI Biological Resources Assessment included several recommendations to minimize potential impacts to biological resources. Most of these recommendations have been incorporated into the project design or are included in the RTMP BMPs however, one recommendation specifically addressed trail decommissioning in the sensitive serpentine habitat. The recommendation suggested avoiding any ground disturbance in serpentine habitat, and if ground disturbance could not be avoiding, conduct a focused botanical survey of the area prior to disturbance and develop a restoration plan.

Implementation of the proposed project would include decommissioning of Social Trail A, which includes approximately 0.04 acres in serpentine grassland. Decommissioning Social Trail A would involve passive methods, and no ground-disturbing activity would occur within serpentine grassland. The remaining trails proposed for decommissioning or improvement do not occur within serpentine grassland. Given that no

---

42 Sawyer 2009. Op. cit.

43 ibid

ground-disturbing activity would occur within serpentine habitat, no impact would occur from implementation of the proposed project.

Prior to the commencement of project implementation, all required permits, agreements, and authorizations would be obtained from the United States Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Wildlife. The MCOSD shall comply with all conditions of those permits. MCOSD would implement applicable RTMP BMPs listed under the subheading Applicable RTMP Policies and BMPs to minimize potential impacts on biological resources. These include BMPs to minimize potential impacts on riparian habitat or other sensitive natural communities. For these reasons, implementation of the proposed project would result in a less than significant impact associated with potential substantial adverse effects on 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) Would the Project 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, creeks, streams, and permanent and intermittent drainages are subject to the jurisdiction of the U.S. Army Corps of Engineers (USACOE) under Section 404 of the Federal Clean Water Act (CWA). The California Department of Fish and Wildlife (CDFW) generally has jurisdiction over creeks, streams, and drainages, together with other aquatic features that provide an existing fish and wildlife resource pursuant to Sections 1602-1603 of the California Fish and Game Code. The CDFW asserts jurisdiction to the outer edge of vegetation associated with a riparian corridor. Creeks and wetlands are subject to regulation of the Regional Water Quality Control Board (RWQCB) under both the federal CWA and the State of California's Porter-Cologne Water Quality Control Act (California Water Code, Division 7).

A small seasonal wetland was documented along a swale within grassland near the northeastern edge of the project area near Del Haro Way. The seasonal wetland is fairly small and does not appear to support areas of standing water. Vegetation is dominated by common native wetland species including iris-leaf rush (*Juncus phaeocephalus*), gray rush (*Juncus patens*), dock (*Rumex* sp.), dense sedge and other sedge species (*Carex densa, Carex* sp.). PCI concluded that wildlife may use the wetland during the wetter months when the ground is saturated, and the wetland may provide seasonal water. Implementation of the proposed project would not affect this small seasonal wetland.

The project area includes several seasonal drainages that flow from the ridge top and flow north into the adjacent residential neighborhood, ultimately draining into the South Fork of Gallinas Creek and San Pablo Bay. Due to the steep topography, these drainages may only flow during the wet winter months. The proposed project includes thirteen stream crossings consisting of six new trail bridges and seven rock armored fords. Implementation of the proposed stream crossings would result in an estimated area of disturbance of 642 square feet in the California Bay Forest plant community and 70 square feet in the Valley Oak Woodland plant community, both of which are sensitive plant communities. Implementation of the proposed stream crossings would result in an estimated area of disturbance of 150 square feet in the Coyote Brush Scrub plant community and 40 square feet in the Mixed Oak Forest plant community, which are not considered sensitive plant communities. In total, the proposed stream crossings would result in an estimated 902 square feet area of disturbance.

Implementation of the proposed project would span two construction seasons, generally March through October. Construction would begin as soon as soil moisture conditions allow and after pre-construction surveys required by Mitigation Measure BIO-1 determined that sensitive species are not present in the project area. Construction related to water crossings and earthwork requiring use of equipment would be limited to the dry season as directed by the regulatory agencies, generally between May and September. Equipment would include intermittent use of trail dozers, mini-excavators, compactors, cement mixers,

rubber track carriers, generators, ATVs, generators, jackhammers, power saws, and other hand tools. Construction staging areas would be restricted to existing MCOSD roads and trails or other areas that would avoid any significant impacts on sensitive natural resources.

Prior to the commencement of project implementation, all required permits, agreements, and authorizations would be obtained from the United States Army Corps of Engineers, the Regional Water Quality Control Board, and the California Department of Fish and Wildlife. The MCOSD shall comply with all conditions of those permits. MCOSD would implement applicable RTMP BMPs listed under the subheading Applicable RTMP Policies and BMPs to minimize potential impacts on biological resources. These include BMPs to minimize potential impacts on riparian habitat or other sensitive natural communities. For these reasons, implementation of the proposed project would result in a less than significant impact associated with potential substantial adverse effects on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means.

Implementation of the proposed project would substantially reduce the potential for accelerated erosion and sedimentation into the Gallinas Creek Watershed that could adversely impact water quality and listed aquatic species and their habitats by developing crossings of the seasonal streams. This would result in a beneficial effect on jurisdictional waters.

d) Would the Project 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 are described as pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or manmade obstacles such as urbanization. They allow for the movement and migration of animals and plants, and are critical for the maintenance of ecological processes and viable populations of plants and animals by promoting (1) the continual exchange of genes between populations, which helps to maintain genetic diversity; (2) access to adjacent habitat areas that provide additional territory for foraging and breeding; (3) greater carrying capacity; and (4) routes for colonization of new habitat following locational 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 is located in an undeveloped area and is surrounded by large expanses of open space. Wildlife currently use the project area for local and regional movements. The proposed project does not include the construction of any structures that would inhibit wildlife movement. The proposed crossings of seasonal streams would not block or otherwise affect streamflow or wildlife movement. Under existing conditions, resident wildlife have likely habituated to human activity along the trail system.

The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated, and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail.

The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction. For these reasons, increased visitor use including non-motorized bike use would have a less than significant impact associated with substantial interference 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.

Wildlife may leave the immediate area during project implementation; however, the impacts will be short-term and only occur during project implementation. Wildlife uses would remain in the project area and any displaced wildlife would likely return following completion of construction. After decommissioning, these trail areas would restore habitat to their natural state, resulting in a beneficial effect associated with wildlife use.

Implementation of the proposed project would reduce the potential for accelerated erosion and sedimentation into the Gallinas Creek Watershed that could adversely impact water quality and listed aquatic species and their habitats. This would result in a beneficial effect to the movement of native resident migratory fish and wildlife species and native wildlife nursery sites. For these reasons, the proposed project would not interfere with the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

For these reasons, implementation of the proposed project would result in a less than significant impact associated with substantial interference 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.

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

Terra Linda / Sleepy Hollow Open Space Preserve is governed by both the Marin Countywide Plan and zoning ordinance and the City of San Rafael General Plan 2040 and zoning ordinance. The County parcel is zoned as Open Area and has an Open Area designation in the Countywide Plan. The City parcel is zoned Parks and Open Space and has a Parks, Recreation, and Open Space General Plan designation. These zoning and land use designations are intended to support public recreation, and the proposed project supports and continues these land uses. These respective plans include goals and policies to protect natural resources. The RTMP includes 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 these documents.

Marin County Board of Supervisors adopted Ordinance 3342 – Native Tree Protection and Preservation on May 16, 2002, to establish regulations for the protection and preservation of native trees in non-agricultural unincorporated areas of Marin County by limiting tree removal. The ordinance defines protected trees and prohibits their removal unless one or more of the exceptions applies. Removal of protected trees require a permit. Implementation of the proposed project would remove one trunk of a multi-trunk California bay tree. This tree is located in the California Bay – Coast Live Oak plant community and is not associated with a stream crossing. The trunk to be removed is 8-inch diameter at breast height (DBH), which would not require a permit under Ordinance 3342.

Prior to the commencement of project implementation, all required permits, agreements, and authorizations would be obtained from the Regional Water Quality Control Board and the California Department of Fish and Wildlife. The MCOSD shall comply with all conditions of those permits. MCOSD would implement applicable RTMP BMPs listed under the subheading Applicable RTMP Policies and BMPs to minimize potential impacts on biological resources. These include BMPs to minimize potential impacts on riparian habitat or other sensitive natural communities. For these reasons, implementation of the proposed project

would result in no impact associated with potential conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Would the Project 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

There are no adopted HCPs or NCCPs in Marin County, and therefore, the proposed project would not conflict with any of these plans.

CULTURAL RESOURCES

TABLE 5: 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

Cultural and Historical Resources Studies

Tom Origer & Associates prepared Cultural Resources Study for the proposed project in 2021.[44] It included a cultural resources records search completed at the Northwest Information Center of the California Historical Resources Information System (CHRIS), initial contact with Native American tribes, and field inspection of the study area. The Cultural Resources Study satisfies the following RTMP BMPs:

- Cultural Resources-1: Historical and Archaeological Resource Mapping
- Cultural Resources-2: Consultation with Northwest Information Center

Tom Origer & Associates sent a request to the Native American Heritage Commission (NAHC) on September 2, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on October 15, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

Tom Origer & Associates sent emails to representatives of these tribes on September 3, 2021, stating that the firm was conducting a cultural resources study for the proposed project and that MCOSD would be completing an environmental document in compliance with CEQA. No responses were received.

Additionally, MCOSD submitted a request to Native American Heritage Commission (NAHC) on June 6, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on July 26, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

[44] Origer 2021. Op. cit.

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

The MCOSD emailed an Invitation to Consult per AB52 to the following tribes on August 18, 2021. No responses were received.

- Coast Miwok Tribal Council of Marin and the
- Ione Band of Miwok Indians
- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

Tom Origer & Associates conducted archival research utilizing their in-house library, a records search at the Northwest Information Center, historic maps and aerial photos, and other sources of ethnographic literature. Archival research found that the study area had not been previously studied for cultural resources and that two studies that had been conducted within a quarter mile of the project area did not find cultural resources. Review of historic maps concluded that there were no buildings within the study area, and that two of the trails within the study area were once dirt access roads as of 1965. Tom Origer & Associates conducted an intensive field survey on September 24, 2021. The surface conditions were examined, and hoes were used to expose the ground surface. While vegetation was noted as a hindrance, ground visibility ranged between poor to excellent. The results of the field survey were that no archaeological site indicators were observed, and no buildings or structures were observed.

Given these findings, and the existing conditions of the study area including landform, geologic formation, steepness of the terrain, and limited water supply, the Cultural Resources Study concluded that there would be a very low potential for buried cultural resources to exist within the study area. No additional cultural resources work was recommended. The Cultural Resources Study included recommendations regarding discovery of buried archaeological resources and human remains:

- Pursuant to State CEQA Guidelines Section 15064.5(f), if archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds. Prehistoric archaeological site indicators included: obsidian and chert flakes and chipped stone tools; grinding and mashing implements including slabs and handstones, and mortars and pestles; bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits including wells, privy pits, and dumps.
- Pursuant to State CEQA Guidelines Section 15064.5(d), if human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC). The NAHC will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

The following RTMP BMPs address these recommendations:

- Cultural Resources-6: Construction Recovery Protocol
- Cultural Resources-7: Human Remains

Project Area History

In northern California, archaeological evidence suggests human occupation had occurred by at least 12,000 years ago. Initial use of the area was for hunting and gathering resources by highly mobile, extended families who had limited exchange systems or social structure. With the introduction of milling technology, a dependence on an acorn economy, population growth, expansion, and trade systems were developed. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, by an increased range and distribution of trade goods such as shell beads and obsidian tools, which are possible indicators of both status and increasingly complex exchange systems. At Euromerican contact, Marin County was inhabited and controlled by the Coast Miwok people. They settled in large, permanent villages and also used seasonal camps and task-specific locations. Their society consisted of many tribelets that were small independent groups of usually related family members occupying a specific territory and speaking the same language or dialect. The Coast Miwoks pursued a subsistence cycle focused on gathering and harvesting seasonally available resources. This group managed their environment to improve and maintain it to suit their needs. Inter-tribelet relationships were socially and economically advantageous, offering marriage partners, information, and materials and services not available locally. In central Marin County, Native American archaeological sites are recorded on terraces adjacent to creeks and springs, along ridgelines and within rock outcroppings.

The project area is included the aboriginal territory of the Coast Miwok people which includes the areas of Novato, Marshall, Tomales, San Rafael, Petaluma, and Bodega. The Miwok of west Marin County have, through the years, been referred to as Marshall Indians, Marin Miwok, Tomales, Tomales Bay, and Hookooeko. In Marin County, the earliest recorded European account of the Coast Miwok people was found in a diary kept by Chaplain Fletcher, who was aboard Sir Francis Drake's ship, which landed in Marin County in 1579. The Coast Miwok and Southern Pomo people have continued to live in Marin County through the present day. Additional accounts documenting the history of the Coast Miwok people was provided by the Spanish and Russian explorers between 1595 and 1812, through Mission-period records between the years 1769 – 1834, land grant records between the years 1834 – 1850, and reports prepared by Bureau of Indian Affairs scholars between the years of 1905 – 1936.[45,46] The Cultural Resource Study noted that the Coast Miwok people lived in rich environments that provided for dense populations with complex social structures. Settlements included large, permanent villages, seasonal camps, and task-specific sites. The primary village sites were occupied throughout the year and the seasonal camps and site-specific sites were utilized for resources that were abundant or available seasonally, such as sites near sources of fresh water and in ecotones where plant and animal life were diverse and abundant and that the Coast Miwok economy focused on marsh resources and was supplemented by hunting and gathering.

Historically, the study area is within the 21,679-acre San Pedro, Santa Margarita, and Las Gallinas Rancho, which was granted to Timothy Murphy in 1844 by then Governor Micheltorena. Timothy Murphy was one of Marin's first Irish settlers and in 1837, was appointed by then California Governor as the third administrator of Mission San Rafael and as an Indian agent for those still living in and around Marin County. Timothy Murphy has the reputation of doing the most for the Native American population, including filing a land claim on their behalf with the United States Land Commission in 1852. Timothy Murphy died in 1853, and the land claim ultimately failed in 1856.[47]

---

[45] Source: https://gratonrancheria.com/culture/history/

[46] Source: https://gratonrancheria.com/culture/traditional-cultural-territory/

[47] Source: https://medium.com/anne-t-kent-california-room-community-newsletter/marin-pioneer-timothy-murphy-embraces-fun-and-faith-9798a168d31

Applicable Regulations

AB 52 Consultation

Assembly Bill 52 (AB 52) is described in the Tribal Cultural Resources section of this Checklist. MCOSD submitted a request to Native American Heritage Commission (NAHC) on June 6, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on July 26, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

MCOSD emailed an Invitation to Consult per AB52 to the following tribes on August 18, 2021, which also satisfied RTMP BMP Cultural Resources-3: Tribal Consultation. No responses were received.

- Coast Miwok Tribal Council of Marin and the
- Ione Band of Miwok Indians
- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

Subsequently, Tom Origer & Associates sent a request to the NAHC on September 2, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on October 15, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

Tom Origer & Associates sent emails to representatives of these tribes on September 3, 2021, stating that the firm was conducting a cultural resources study for the proposed project and that Marin County Parks would be completing an environmental document in compliance with CEQA. This correspondence did not constitute tribal consultation and is noted here as an additional contact with the tribes. No responses were received.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to cultural resources. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Cultural Resources-1: Historical and Archaeological Resource Mapping
- Cultural Resources-2: Consultation with Northwest Information Center
- Cultural Resources-3: Tribal Consultation
- Cultural Resources-5: Permanent Protection
- Cultural Resources-6: Construction Discovery Protocol
- Cultural Resources-7: Human Remains

CEQA Context

Cultural and historical resources are nonrenewable and are easily damaged or destroyed. 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) Would the Project cause a substantial adverse change in the significance of a historic resource pursuant to §15064.5?

Less than Significant Impact

Historical resources are defined by State CEQA Guidelines Section 15064.5 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."

Tom Origer & Associates conducted a records search at the Northwest Information Center of the California Historical Resources Information System. No historic resources or properties were identified, or are listed on federal, state, or local inventories within or abutting the project area. A review of 19th and 20th-century maps did not identify any potential for specific historic development and field survey did not identify any cultural resources within or adjacent to the project area.

Excavation required for project implementation could reveal unknown historic resources, which generally would include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains including building foundations and discrete trash deposits such as wells, privy pits, and dumps. To address a potential discovery, the proposed project would implement the applicable Road and Trail Management Plan BMPs, which would ensure that the implementation of the proposed project would not result in significant impacts. For these reasons, implementation of the proposed project would not result in a substantial adverse change in the significance of a historic resources pursuant to State CEQA Guidelines Section15064.5.

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

Less than Significant Impact

An archaeological resource is defined by Public Resources Code Section 21083.2 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.

No archaeological resources have been identified within the project area. Based on the geology and soil type mapped within the project area, there is a low potential for buried Native American archaeological resources and the proposed project would not result in significant impacts on known cultural resources. Excavation required for project implementation could reveal unknown archaeological or Native American resources. To address a potential discovery, the proposed project would implement the applicable RTMP BMPs, which would ensure that the implementation of the proposed project would not result in significant impacts to archaeological or Native American resources. Additionally, MCOSD would directly contact the Federated Indians of Graton Rancheria in the event that cultural resources are inadvertently discovered. For these reasons, implementation of the proposed project would result in a less than significant impact associated with a substantial adverse change in the significance of a historic resources pursuant to State CEQA Guidelines Section 15064.5.

c) Would the Project disturb any human remains, including those interred outsides of formal cemeteries?

Less than Significant Impact

Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial and Section 5097.99 of the Public Resources Code defines the obtaining or possession of Native American remains or grave goods to be a felony. Buried human remains encountered during project implementation, 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 the appropriate Native American most likely descendant occurs and agreement regarding the disposition of the remains can be reached. Additionally, MCOSD would directly contact the Federated Indians of Graton Rancheria in the event that human remains are discovered.

Excavation required for project implementation could reveal unknown human remains. Should this occur MCOSD would contact the County Coroner and the NAHC. MCOSD would also contact the Federated Indians of Graton Rancheria. The proposed project would implement the applicable RTMP BMPs. RTMP BMP Cultural Resources-7: Human Remains which identifies protocols to follow should the project uncover human remains.

For these reasons, implementation of the proposed project would result in a less than significant impact associated with human remains being encountered during project implementation, including those interred outside of formal cemeteries.

ENERGY

TABLE 6: 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 within the project area is very minimal. Recreational visitors may use small amounts of gasoline to drive to and from the project area. Similarly, MCOSD rangers and maintenance staff drive to and from the project area and use petroleum during routine maintenance activities such as mowing and weed whacking. There is no electrical use at the project area.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to energy use. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Policy SW.29: Retrofit or Upgrade Construction Equipment

CEQA Context

In order to assure that energy implications are considered in project decisions, Public Resources Code Section 21100(b)(3) requires that the potential energy impacts of proposed project be considered, 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.

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 proposed 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. Equipment would include a large crane, excavator, loader, compactor, cement truck, cement mixers, roller compactor, rubber track carrier, generators, dump truck, ATVs, generators, jackhammers, power saws, and other hand tools. Gas and diesel-powered equipment would be used intermittently during the construction season. Construction is expected to require two seasons to complete, due to timing requirements of sensitive species and to avoid wet weather considerations. Construction would begin as soon as soil moisture conditions allow and after pre-construction surveys determined that sensitive species are not present in the project area. Construction related to water crossings and earthwork requiring use of equipment would be limited to the dry season as directed by the regulatory agencies, generally between May and September. Construction would occur Monday through Friday, from 7:00 a.m. to 6:00 p.m. and would require approximately 8 months over the two-year construction season. The amount of fuel energy utilized to construct the proposed project would consist of that required for project implementation. For these reasons, the proposed project would not result

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

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 project area and from MSOSD staff to perform regular maintenance.

The proposed project is not expected to significantly increase vehicle trips for recreational use of these trails because the proposed project does not include a parking area and under existing conditions, parking is limited to on-street parking on public streets. The affected trails are existing facilities that primarily support neighborhood recreation. Implementation of the proposed project not likely to attract significantly more people to the area as no additional parking would be provided at the trailheads. Operation and maintenance activities would be similar to existing conditions and energy use would not increase compared to baseline conditions. Therefore, implementation of the proposed project would result in no impact associated with wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

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

No Impact

As discussed in item (a), the proposed project would use small amounts of energy during construction of the proposed project, including the use of heavy equipment to install water-control features, construct trail improvements, and decommission abandoned trail segments and social trails as well as from truck trips associated with employees driving to and from the site and from material deliveries. Operation and maintenance activities would be similar to existing conditions and energy use would not increase compared to baseline conditions. Implementation of RTMP Policy SW.29: Retrofit or Upgrade Construction Equipment would ensure that MCOSD uses the most efficient equipment available and conducts the project in an energy efficient manner. Therefore, the proposed project would not conflict with renewable energy or energy efficiency plans, including goals set forth in AB 32 and the 39 Recommended Actions identified by the California Air Resources Board (CARB) in its Climate Change Scoping Plan.[48] The proposed project would also not conflict with goals and policies contained in the Climate Action Plan. For these reasons, implementation of the proposed project would result in no impact associated with conflict or obstruct with a state or local plan for renewable energy or energy efficiency.

[48] California Air Resources Board. California 2017 Climate Change Scoping Plan. November 2017. https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf (CARB 2017).

GEOLOGY AND SOILS

TABLE 7: 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.[49] 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.[50] 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 and how easily they are compacted and eroded, and how stable they are on slopes.

Project Area Geology

Within the project area, they underlying geology consists of a mélange of rock fragments that belong to the Franciscan Complex, Chert, dating to the late Jurassic to early Cretaceous periods, approximately 163.5 to 100.5 million years ago. This geology consists of chert with shale interbeds. The chert is thinly bedded, closely fractured, and parts along bedding planes, and crops out as irregularly shaped bodies as long as 2.8 miles. In southern Marin County and parts of San Francisco, chert up to 328 feet thick overlies pillow lava and is overlain conformably by a few feet of fine-grained, black shale that grades into overlying graywacke and shale.[51] The project area also includes small, mapped areas of serpentinite of the Great Valley Complex. This geologic formation dates to the Jurassic period and is noted for its greenish-gray to bluish-green hue and presenting as sheared rock or having a sheared appearance within unsheared rock. Blocks of unsheared rock are generally less than ten feet in diameter but can range in size from several inches to several feet and consist of greenish-black serpentinite, schist, rodingite, ultramafic rock, and silica-carbonate rock.[52] A unit of Coast Range Ophiolite is mapped near Malone Lane. The upper and midslopes are mapped as mostly landslides, while the lower slopes are mapped as containing few landslides.[53]

Project Area Soils

Soils within the project area are comprised of the Tocaloma-Saurin association, which are characterized as fine, loamy, moderately well-draining soils typically found on uplands, with minor amounts of Bonnydoon and McMullin soils and rock outcrops. Approximately 40 percent of the project area is comprised of Tocaloma loam and 30 percent is comprised of Saurin clay loam, with minor amounts of Bonnydoon and McMullin soils

---

49 Marin County Open Space District. *Road and Trail Management Plan Recirculated Final Tiered Program Environmental Impact Report*, November 2014.

50 County of Marin. *Marin Countywide Plan,* November 2007.

51 Blake, M.C., Jr., Graymer, R.W. and Jones, D.L. *Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California*. United States Geologic Survey. United States Department of the Interior. 2000.

52 Ibid.

53 Hoorn, Jason F, 2020. Op. cit.

and rock outcrops. Tocaloma soils are well-drained, moderate permeability soils formed from sandstone or shale, with an average depth of between 20 and 40 inches to bedrock. Runoff is characterized as rapid, and the erosion hazard is high. Tocaloma soils are found on north and east-facing slopes and in drainages. Natural vegetation on Tocaloma soils include mixed hardwoods with brushy understory, which historically supported timber harvesting and firewood. Saurin soils are moderately drained, formed from sandstone or shale, with an average depth of between 20 to 40 inches to bedrock. Runoff is characterized as rapid, and the erosion hazard is high. Saurin soils are found on ridgetops and side slopes. Saurin soils were used for rangeland and wildlife habitat. Both soil types are classified as very limited for trail development, primarily due to the steepness of the slopes and the production of dust from soil pulverization caused by trail use. Soil pulverization on steep, poorly drained trails could lead to rutting and gully development, conditions which have been documented along several of the existing trail segments within the project area.[54]

Project Area Topography

Elevations within Terra Linda / Sleepy Hollow Open Space Preserve range from approximately 80 feet to 630 feet.[55] Average slopes in the project area are 36.77 percent.[56] The project area is located on north-facing slopes with hillslopes between 25 and 75 percent.[57] Multiple small seasonal stream drainages originate below the ridge and flow north into the adjacent residential neighborhood, draining into the south fork of Gallinas Creek and ultimately to San Pablo Bay.[58] These seasonal streams are characterized as extremely steep headwall swales and inner-gorge side slopes.[59]

Project Area Faulting and Seismicity

The San Andreas Fault Zone dominates this geologically active area and is located approximately 8.75 miles west of the project area. The San Andreas Fault system forms the boundary between the North American and Pacific tectonic plates. The Hayward-Rodgers Creek Fault Zone is located approximately 10 miles from the project area and the Rodgers Creek Fault is approximately 14 miles from the project area. The project area is not located within a mapped Earthquake Fault Zone as defined by the Alquist-Priolo Act of 1972 and there are no known earthquake faults that could result in surface rupture within the project area however, the project area is subject to strong seismic ground shaking in the event of a large magnitude earthquake on these nearby faults. Strong ground shaking can trigger liquefaction in loose granular soils in saturated conditions. Within the project area, the liquefaction susceptibility is very low due[60] to the medium dense nature of the soils, the grain size distribution of the sediments, and because ground water is below this depth. The liquefaction potential below ground water is unknown.[61]

Project Area Landsliding

The upper and midslopes are mapped as mostly landslides, while the lower slopes are mapped as containing few landslides.[62] The mostly landslides mapping consists of mapped landslides, intervening areas typically narrower than 1,500 feet, and narrow borders around landslides defined by drawing envelopes around

---

54 ibid

55 PCI 2019. Op. cit.

56 MarinMap. Accessed 2022-01-07.

57 Hoorn, Jason F., 2020. Op. cit.

58 PCI 2019. Op. cit.

59 Hoorn, Jason F. 2020. Op. cit.

60 Marin GeoHub. https://gisopendata.marincounty.org/datasets/MarinCounty::liquefaction/explore?location=38.017000%2C-122.674500%2C10.82. Accessed 2022-01-07.

61 Source: https://maps.conservation.ca.gov/cgs/EQZApp/app/ Accessed 2022-01-07.

62 Wentworth, C.M., Graham, S.E., Pike, R.J., Beukelman, G.S., Ramsey, D.W., and Barron, A.D., Summary Distribution of Slides and Earth Flows in Marin County, California. United States Geological Survey, 97-745 C, Sheet 4 of 11. 1997. https://pubs.usgs.gov/of/1997/of97-745/madl.html

groups of mapped landslides. The few landslides mapping contains locally scattered small landslides and questionably identified larger landslides.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to geology and soils. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- General-1: Limit Work Area Footprints in Sensitive Resource Areas
- General-3: Minimize Potential for Erosion
- General-4: Modify Construction Methods Relating to Soil Disturbance, Restrict Use of Offsite Soil, Aggregate, or Other Construction Materials
- General-7: Include Standard Procedures in Construction Contracts
- Construction Contracts-1: Standard Procedures in Construction Contracts
- Water Quality-1: Modifications to Road and Trail Management Actions to Protect Water Bodies, Wetlands, and Tidally Influenced Areas
- Water Quality-2: Temporary Erosion and Sediment Control
- Water Quality-3: Erosion Control Measures
- Water Quality-6: Grading Windows
- Geologic Hazards-1: Assessment and Requirements in Areas of Potential Geologic Hazard
- Geologic Hazards-2: Construction in Areas of Slides and Debris Flows
- Geologic Hazards-3: Construction in Areas of Erodible and Expansive Soils
- Geologic Hazards-4: Construction in Areas of Collapsible Soils

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

No Impact

The project area is located in an area that could experience earthquakes and very strong ground shaking as a result of a large magnitude earthquake on these nearby faults. The San Andreas Fault Zone is located approximately 8.75 miles west from the project area, the Hayward-Rodgers Creek Fault Zone is located approximately 10 miles from the project area, and the Rodgers Creek Fault is approximately 14 miles from the project area. However, the project area is not located within a mapped Earthquake Fault Zone as defined by the Alquist-Priolo Act of 1972 and there are no known earthquake faults that could result in surface rupture within the project area. The proposed project does not include construction of any structures that could pose a safety hazard to trail users in the event of an earthquake. The proposed bridges would be developed based on standard plans from the U.S. Department of Agriculture Forest Service. The material would be determined at the time of construction based on relative cost, and could be sawn lumber, steel, or fiberglass. If lumber is used, it would be untreated wood. The proposed trail bridges would be located above the 100-year flood elevation spanning the banks of the ephemeral

streams. Concrete foundations would be set at the top of the stream banks and the bridge anchors would be set in the concrete foundation. Cut and fill volumes for the bridge foundations would be balanced in that the soil excavated for the footings would be replaced by concrete. All excavation associated with the bridge foundation would occur outside of the top of bank. Implementation of the project would not alter or introduce new risk of earthquake. 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 issued by the State Geologist or based on other substantial evidence of a known fault. For these reasons, implementation of the proposed project would result in no impact associated with rupture of a known earthquake fault involving risk of loss, injury, or death.

ii. Strong seismic ground shaking?
No Impact

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. Soils within the preserves are predominantly loam to clay loam, which are not as susceptible to strong seismic ground shaking. For these reasons, implementation of the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Implementation of the proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

iii. Seismic-related ground failure, including liquefaction?
No Impact

Liquefaction can result when strong ground shaking, such as during an earthquake, occurs in loose granular soils in saturated conditions. Within the project area, the liquefaction potential is very low due to the medium dense nature of the soils, the coarse nature of the soil, grain size distribution of the sediments, probable increases in soil density with depth, and because ground water is below at depth. The proposed project would not be subject to other types of seismic-related ground failure, including differential settlement or lateral spreading. For these reasons, implementation of the proposed project would result in a less than significant impact associated with directly or indirectly causing potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure including liquefaction.

iv. Landslides
Less than Significant Impact

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 triggered by prolonged intense rainfall. In the project area, the upper and midslopes are mapped as mostly landslides and the lower slopes are mapped as containing few landslides. The steep slopes render the project area susceptible to debris flows particularly during intense rainfall events that quickly saturate the soil. While the project area may be vulnerable to landslides, mudslides, and slope instability due to the relatively steep hillsides, implementation of the proposed project would not result in a risk to property or public safety because of lack of habitable structures within the project area and the low density of public use. The proposed trail decommissionings and improvements have been designed to ensure that water flows over the improved trails without causing rills, gullies, or erosion that could lead to instability, debris flows, or landslides by limiting trail gradients to below 10 percent, constructing frequent drainage breaks and grade reversals, outsloping the trail tread, and providing regular maintenance. The proposed project would not expose recreational users to new landslide potential. For these reasons, implementation of

the proposed project would result in a less than significant impact associated with risk of loss, injury, or death involving landslides.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact

Erosion is a natural process in which soil and highly weathered rock materials are worn away and then transported by wind and/or water. Soil erosion can become problematic when human intervention causes 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 activities 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.

The soils within the project area are mostly Tocaloma-Saurin soils, which have a very high erosion potential. The existing Memorial Trail is poorly aligned and due to the steep gradient have contributed to accelerated erosion and the formation of rills and gullies on the trail tread, which extend into the natural landscape and negatively impact the surrounding environment. The existing Memorial Trail is substandard in design and safety. The steep trail gradients, rill and gully erosional features, and loose tread conditions diminish visitor safety, limit accessibility, and severely reduces the ability of staff to properly maintain the trail. The existing social trails in the project area also contribute to erosion and sediment delivery to surface waters under existing conditions.

By realigning the Memorial Trail and providing sustainable trailhead connections, implementation of the proposed project would reduce the overall trail length by nearly one mile, reduce the trail gradient to below 10 percent, and would include frequent drainage breaks and grade reversals, outsloping the trail tread, and would include crossings of the ephemeral streams, all of which would reduce existing trail erosion in the project area. Additionally, the applicable policies and Best Management Practices included in the MCOSD's Road and Trail Management Plan would be implemented during project implementation. For these reasons, implementation of the proposed project would result in a less than significant impact associated with substantial soil erosion or the loss of topsoil.

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?

Less than Significant Impact

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. 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 rearrange into a denser state. This decrease in volume and consolidation of soil can result in the settlement of overlying structural improvements. Landslides are the downward movement of materials such as rock, soil, or fill and lateral spreading refers to landslides that form on gentle slopes that have a rapid fluid-like flow movement. Subsidence is defined as the sinking of the ground caused by the movement of material beneath the ground's surface. It is most often caused by the removal of water, oil, natural gas, or mineral resources and can also result from natural events such as earthquake, soil compaction, erosion, sinkhole formation, and adding water to fine soils deposited by wind. Liquefaction can result when strong ground shaking, such as during an earthquake, occurs in loose granular soils in saturated conditions.

The project area is not located within a mapped Earthquake Fault Zone as defined by the Alquist-Priolo Act of 1972 and there are no known earthquake faults that could result in surface rupture within the

project area however, the project area is subject to strong seismic ground shaking in the event of a large magnitude earthquake on these nearby faults. The San Andreas Fault Zone is located approximately 8.75 miles west of the project area, the Hayward-Rodgers Creek Fault Zone is located approximately 10 miles from the project area, and the Rodgers Creek Fault is approximately 14 miles from the project area. Strong ground shaking can trigger liquefaction in loose granular soils in saturated conditions. Within the project area, the liquefaction susceptibility is very low due to the medium dense nature of the soils, the grain size distribution of the sediments, and because ground water is below this depth. The liquefaction potential below ground water is unknown.

The only structures proposed as part of the project are the proposed trail bridges crossing the season streams. A seismic event could result in damage to the proposed bridges, which would requiring subsequent repairs however, this would not result in significant environmental impacts. Implementation of the proposed project would involve minimal ground disturbance which would not cause the underlying geologic unit to become unstable. For these reasons, implementation of the proposed project would not cause a geologic unit or soil to become unstable and result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, resulting in a less than significant impact.

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?
Less than Significant Impact

Expansive Soils are soils that can shrink and/or swell, and thus change in volume, in relation to changes in their moisture content. Generally, the expansiveness relates to the clay content in the soil which enables the soil to absorb water and swell, increasing in volume, when they get wet and then shrink when they dry. These soils often expand in the winter and shrink in the dry summer months. Expansive soils are one of the more problematic soils because the shrinking and swelling in clayey soils can create enough force to cause major damage to building foundations, slabs, patios, and sidewalks.

The project area consists primarily of Tocaloma-Saurin soils, which have a low shrink-swell capacity and therefore are not considered expansive soils. The proposed trail improvements do not involve new structures that could result in risks to life or property associated with expansive soil. The proposed trail bridges are structures that could experience damage associated with expansive soils though would not result in substantial risks to life. For these reasons, implementation of the proposed project would result in a less than significant impact associated with substantial direct or indirect risks to life or property associated with expansive soils.

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 installation or use of any septic tanks or alternative wastewater disposal systems. For these reasons, implementation of the proposed project would result in no impact associated with septic tanks and alternative wastewater disposal systems.

f) Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
No Impact

Paleontological resources include fossils of life that existing prior to the start of the Holocene Epoch, approximately 11,700 years ago. The geology of the project area is of the Franciscan Complex that dates to the Jurassic Period, approximately 199.6 to 145.5 million years ago. Generally, vertebrate and marine fossils in the Franciscan Complex are extremely rare though micro-fossils, including single-celled organisms are sometimes found, particularly in cherts.

The Records Search completed as part of the Archaeological Survey Report for the proposed project 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 Epoch. The Franciscan complex, widespread in coastal California, has produced only small collections of significant fossils, none of which occurred in Marin County. For these reasons, implementation of the proposed project would not directly or indirectly destroy unique paleontological resources or site, or unique geologic features and therefore would result in no impact.

GREENHOUSE GAS EMISSIONS

TABLE 8: 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 a general scientific consensus that global climate change is occurring and is caused by increased emissions of greenhouse gasses (GHGs). Global climate change is the observed increase in average global temperatures, along with other changes in climatic factors such as wind, precipitation, and storm frequency and intensity. Climate change can result from natural factors and processes, but recent trends in global climate change, including the marked increase in global temperatures over the past half-century, are primarily attributable to human activities. By trapping heat in the atmosphere, GHGs, which result from a wide array of human activities such as the burning of fossil fuels and deforestation, are a primary cause of human-induced climate change. Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. There is international scientific consensus that human-caused increases in GHGs have, and will continue to, contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snowpack, increase in sea level rise, more extreme heat days per year, more high ozone days, larger forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.[63]

The gasses that are the principal contributors to GHG emissions are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). While the presence of the primary GHGs in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHGs, including hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, are generated in certain industrial processes. CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the GHGs could have on global warming is a combination of the mass of their emissions and their global warming potential. Global warming potential indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2. CH_4 and N_2O are substantially more potent GHGs than CO_2, with global warming potential of 25 and 310 times that of CO_2, respectively. Total GHG emissions are typically measured in metric tons of CO_2 equivalent ($MTCO_2e$).

[63] California Environmental Protection Agency (CalEPA), March 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.*

In 2005, GHG emissions in unincorporated Marin County were estimated to total 493,985 $MTCO_2e$ and 380,318 in 2018, representing a 23 percent reduction over this time period.[64] Of the 2018 total, the agricultural sector accounted for 32 percent, the transportation for 31 percent, the built environment – natural gas for 24 percent, the built environment – electricity for 6 percent, waste for 5 percent, wastewater and off-road for one percent, and water for less than one percent. In 2012, estimated GHG emissions generated by community activities in Marin County's unincorporated areas were approximately 477,000 $MTCO_2e$, or per capita emissions of approximately 7.1 $MTCO_2e$ for the 67,000 residents in the unincorporated areas. This is a 15 percent decrease from estimated 1990 emissions, which were 561,851 $MTCO_2e$ and 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 four percent, solid waste treatment at two percent, wastewater treatment at one percent, and water conveyance at 0.2 percent.[65] 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.[66]

There are two means for reducing GHGs in the atmosphere: cutting emissions of GHGs and increasing sequestration, the process by which atmospheric GHGs are stably incorporated into non-mobile forms such as trees and soil. In California, there are four significant pieces of legislation seeking to address climate change and GHG emissions:

- Assembly Bill (AB) 32, the Global Warming Solutions Act, addresses total GHG emissions across the State and throughout different sectors of California's economy, with the goal of reducing emissions to 1990 levels by 2020 and 40 percent below 1990 levels by 2030.
- Senate Bill (SB) 375 requires reduction of emissions from automobiles and light trucks.
- SB 97 requires consideration of climate change in all environmental assessments under CEQA, regardless of the specific source of GHGs or other climate change effects.
- SB 32 sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030.

The California Air Resources Board (CARB) is tasked with the implementation of AB 32 through the development of a Scoping Plan, which is to be updated every five years. CARB produced its second update to the Scoping Plan in 2017.[67] The Scoping Plan identifies natural lands, such as open space preserves, and working lands, defined as agricultural lands, as a critical component to the State's climate change strategy and notes their potential to be both a source and a sink for GHG emissions. In recent years, natural and working lands in California have experienced significant carbon loss, primarily as a result of wildfire. The Scoping Plan states that the objective for natural lands such as Terra Linda / Sleepy Hollow Open Space Preserve is to promote their role as a carbon sink while minimizing GHG and other emissions associated with factors such as management and wildfire.

---

64 ibid

65 County of Marin, *Climate Action Plan,* July 2015. https://www.marincounty.org/-/media/files/departments/cd/planning/sustainability/climate-and-adaptation/full-cap-2015/marincapupdate_final_20150731.pdf?la=en

66 ibid

67 CARB 2017. Op. cit.

GHG emissions are also regulated by the Bay Area Air Quality Management District (BAAQMD). The BAAQMD 2017 CEQA Guidelines provide standards for analyzing a project's potential impacts on GHG emissions and thresholds of significance for operational emissions.[68] The BAAQMD 2017 Climate Action Plan also addresses climate change and GHG emissions. For natural and working lands, the CAP focuses primarily on increasing carbon sequestration on lands such as the Terra Linda / Sleepy Hollow Open Space Preserve.[69]

Locally, the Marin County Climate Action Plan 2030 was adopted by the Marin County Board of Supervisors in December 2020 and identifies GHG reduction targets and measures for unincorporated Marin County.[70] The overall goals include reducing emissions to 60 percent below 2005 levels by 2030 and reducing GHG emissions to below zero by 2045. The Marin County Climate Action Plan provides a range of strategies and actions for achieving GHG emission reduction targets across all sectors including on-road transportation, building energy use, agriculture, off-road equipment, solid waste treatment, wastewater treatment, and water conveyance.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to greenhouse gas emissions. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Policy SW.29: Retrofit or Upgrade Construction Equipment
- Air Quality-1: Implement BAAQMD Measures

CEQA Context

A project would normally result in a significant 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.

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

Less than Significant Impact

Marin County uses the screening criteria and process provided in the 2017 BAAQMD Guidelines[71] to evaluate the proposed project's potential GHG emissions impacts. The first step in this process is to evaluate whether the proposed project meets the screening criteria defined in the 2017 BAAQMD Guidelines. If the proposed project meets all screening criteria, its impact is considered to be less than significant and further detailed analysis of potential project emissions is not required. The BAAQMD 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 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 67 acres for construction-related emissions (PM10).

The proposed project is located within an approximate 4-acre area of Terra Linda / Sleepy Hollow Open Space Preserve, which is 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 would result in a significant impact on the environment.

---

[68] BAAQMD 2017b. Op. cit.

[69] BAAQMD 2017a. Op. cit.

[70] Marin County Climate Action Plan 2030. December 2020. https://www.marincounty.org/-/media/files/departments/cd/planning/sustainability/climate-and-adaptation/cap-2030_12082020final

[71] BAAQMD 2017b. Op. cit.

Construction activities associated with implementation of the proposed project would result in minor GHG emissions for the use of equipment which would release criteria pollutant emissions, and vehicles from contractors and 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 and would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Operation activities associated with on-going maintenance would continue in a manner similar to existing conditions as described in the project description. 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. 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. For these reasons, on-going operation and maintenance activities associated with implementation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated, and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction. Implementation of the proposed project is not likely to significantly increase vehicle trips for recreational use of these trails. 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. Additionally, these guidelines would apply to a new park or an addition of acreage to an existing park and therefore do not apply to the proposed project. Therefore, while a potential minor increase in use of the project area trails is 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. For these reasons, visitor use associated with implementation of the proposed project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Additionally, the proposed project would incorporate applicable RTMP BMPs, which would further reduce the GHG emissions associated with construction and operation of the project. As a result, the proposed project would meet all of the screening criteria identified in the 2017 BAAQMD Guidelines and the proposed project would not result in GHG emissions that would have a significant impact on the environment. Therefore, construction and operation of the proposed project would result in a less-than-significant impact associated with the generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

b) Would the Project 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 by way of Assembly Bill (AB 32). AB 32 focuses on reducing GHG emissions in California and requires the reduction to 1990 levels by the year 2020.

The proposed project would not create any new stationary or mobile sources of GHG emissions, alter land use, or otherwise inhibit carbon sequestration. 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, or conflict with goals and policies contained in the 2007 Marin Countywide Plan and Climate Action Plan 2030. For these reasons, implementation of the proposed project would result in no impact associated with conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

HAZARDS AND HAZARDOUS MATERIALS

TABLE 9: 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 limits use of hazardous materials at Terra Linda / Sleepy Hollow Open Space Preserve during routine maintenance activities that includes 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.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to hazards and hazardous materials. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Policy SW.26: Control or Restrict Access to Ignition Prevention Zones when Red-Flag Conditions Exist
- General-6: Prevent or Reduce Potential for Pollution
- Water Quality-3: Erosion Control Measures
- Water Quality-4: Preventing or Reducing the Potential for Pollution
- Geologic Hazards-3: Construction in Areas of Erodible and Expansive Soils

CEQA Context

A project would normally result in a significant impact on hazards and hazardous materials if the project would expose people and/or the environment to hazards or hazardous materials.

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 Impact

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, maintenance activities involving heavy equipment may have the potential to result in releases of hazardous materials. The MCOSD contractors and field staff would adhere to existing 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. Additionally, the applicable policies and Best Management Practices included in the MCOSD's Road and Trail Management Plan would be implemented. 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 and operation of the proposed project. For these reasons, implementation of the proposed project would result in a less than significant impact associated with creation of a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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?

No Impact

The proposed project would involve construction and operation activities that use limited quantities of hazardous materials, such as gasoline, diesel fuel, oils, and lubricants, and other similar chemicals. Construction and operation activities associated with implementation of the proposed project would be subject to federal, state, and local laws and regulations governing hazardous materials and all applicable policies and Best Management Practices included in the MCOSD's Road and Trail Management Plan would be implemented. For these reasons, implementation of the proposed project would result in a less-than-significant impact associated with creation of 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) 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?
Less than Significant Impact

The closest school to the proposed trail improvements is Terra Linda High School, which is located approximately 0.2 mile from the nearest point of the project area, at the Malone Trail, and approximately 0.3 mile from the Dias and Del Haro trails. Although unlikely, implementation of the proposed 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 and/or operation equipment. Releases would be limited to fluids used for construction equipment, which would be onsite in small quantities. Given the terrain and the limited amount of oil that would be used to implement the proposed project, there is a very low potential for a spill to affect the school. Construction and operation activities associated with implementation of the proposed project would be subject to federal, state, and local laws and regulations governing hazardous materials and all applicable policies and Best Management Practices included in the MCOSD's Road and Trail Management Plan would be implemented. For these reasons, implementation of the proposed project would result in a less-than-significant impact associated with the emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

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 update the Cortese List annually. A search of the current Cortese List identifies the nearest active cleanup site being approximately seven miles from the project area and the project area is not included on the Cortese List.[72] For these reasons, implementation of the proposed project would result in no impact associated with creation of a significant hazard to the public or the environment due to its location on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

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 project area is not located within an airport land use plan or within two miles of a public airport. The airports nearest to the project area are the private San Rafael Airport, located approximately 12 miles to the northeast and the public Gnoss Field Community Association in Novato, located approximately 12 miles to the north. The proposed project consists of trail improvements within an existing open space preserve and the use after project implementation would remain the same as current use. Implementation of the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area. For these reasons, implementation of the proposed project would

[72] California Department of Toxic Substances Control (DTSC), 2019. Envirostor environmental database. http://www.envirostor.dtsc.ca.gov/public/

result in no impact associated with creation of a safety hazard 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 project area is not located within an adopted emergency response plan or emergency evacuation plan area, nor is the project area currently used for emergency access. Implementation of the proposed project would improve egress of trail users in case of a fire or other emergency should one occur within Terra Linda / Sleepy Hollow Open Space Preserve. For these reasons, implementation of the proposed project would result in no impact associated implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

g) Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?
Less than Significant Impact

The project area is within an area mapped as Urban Wildland Interface. While no evacuation routes exist within the project area, a secondary evacuation route is mapped on Devon Drive and Tamarack Drive within the adjacent residential neighborhood. A primary evacuation route is mapped on Nova Albion Drive, also within the adjacent residential neighborhood.[73] The Terra Linda / Sleepy Hollow Open Space Preserve includes twenty-foot-wide fire roads that extend along most of the length of the ridgelines. In this context, a fire road is cleared of vegetation to provide fire fighters access to remote areas. In MCOSD preserves, fire roads are also utilized as multi-use trails. The California Department of Forestry and Fire Protection (CalFire) has mapped areas of high wildfire hazards throughout California, including Marin County. The project area is not mapped as within a fire hazard severity zone, though areas south and west of the project area are mapped as within the moderate fire hazard severity zone within the State Responsibility Area.[74]

Equipment used during construction and maintenance activities associated with the proposed project could generate sparks which could result in wildland fire. The MCOSD would require the contractor and maintenance staff to implement applicable policies and Best Management Practices included in the MCOSD's Road and Trail Management Plan to minimize risk of wildfire that could be initiated from equipment to construct and maintain the proposed project, such as requiring vehicles be equipped with fire extinguishers to address small fires ignited by construction or maintenance activities before a wildland fire develops. The MCOSD's Road and Trail Management 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. For these reasons, implementation of the proposed project would result in a less-than-significant impact associated with the exposure of people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

---

[73] Marin Map. https://marincounty.maps.arcgis.com/apps/webappviewer/index.html?id=688f506cfb144067826bb35a062b0f0a

[74] CA State Geoportal Fire Hazard Severity Zone Viewer. https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414

HYDROLOGY AND WATER QUALITY

TABLE 10: 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)	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

Setting

The Terra Linda / Sleepy Hollow Open Space Preserve is located on north facing slopes within the Gallinas Creek watershed, which ultimately drains to San Pablo Bay.[75] The Gallinas Creek watershed is located in the northern part of the city of San Rafael and includes the towns of Terra Linda and Santa Venetia. It is within a 5.6 square mile basin and has two primary drainage areas. The north fork is the larger of the two

[75] Hoorn, Jason F. 2020. Op. cit.

drainages and flows from the ridgeline through Santa Margarita Valley and the community of Terra Linda to its confluence with South Gallinas Slough near McInnis Park. The smaller drainage is the South Gallinas Slough, which is fed by several small tributaries that originate in the San Rafael Hills and San Pedro Ridge and flow through the highly urbanized communities of San Rafael Meadows and Santa Venetia. The project area includes several seasonal streams that flow into storm drains in the developed residential areas, which flow to Gallinas Creek and ultimately to San Pablo Bay.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to hydrology and water quality. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- 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-6: Grading Windows
- Water Quality-8: Proper Disposal of Excess Materials
- Water Quality-9: Sidecasting Construction Material

CEQA Context

A project would normally result in 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 Impact

Water quality standards and waste discharge requirements are established by the State Water Resources Control Board, created by the State Legislature in 1967 as a result of the Porter-Cologne Act. There are nine regional water quality control boards that regulate activities that could affect water quality by defined basin boundaries. The project area is in the San Francisco Bay Regional Water Quality Control Board. Activities, including discharges, that could affect surface, coastal, or ground waters generally require a permit from the regional water quality control board. The proposed project would be subject to Clean Water Act Section 401 Water Quality Certification and/or Report of Waste Discharge permit from the San Francisco Bay Regional Water Quality Control Board.

The purpose of the proposed project is to is to implement the MCOSD's 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 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 safe year-round access along the trail alignment. The existing Memorial Trail has become substandard in design and safety. The steep trail gradients, rill and gully erosional features, and loose tread conditions diminish visitor safety, limit accessibility, and severely reduces the ability of staff to properly maintain the trail. The existing social trails in the project area also contribute to erosion and sediment delivery to surface waters under existing conditions.

By realigning the Memorial Trail and providing sustainable trailhead connections, implementation of the proposed project would reduce the trail gradient to below 10 percent, and would include frequent drainage breaks and grade reversals, outsloping the trail tread, and would include crossings of the ephemeral streams, all of which would reduce existing trail erosion and sediment in the project area.

The applicable Road and Trail Standards and BMPs previously listed and included in Appendix A would be implemented during project construction. Implementation of the proposed project would span two construction seasons, generally during the dry months between May and September, due to timing requirements of sensitive species and to avoid wet weather considerations. Construction would begin as soon as soil moisture conditions allow and after pre-construction surveys determined that sensitive species are not present in the project area. Construction related to water crossings and earthwork requiring use of equipment would be limited to the dry season as directed by the regulatory agencies, generally between May and September. For these reasons, implementation of the proposed project would result in a less than significant impact associated with a potential violation of water quality standards or waste discharge requirements, and a less than significant impact associated with potential degradation of surface or ground water quality.

b) Would the Project 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 does not lie within any identified groundwater basin. The proposed trail improvements would retain natural tread surfacing, resulting in no change to groundwater recharge and the proposed project does not include development of a water supply that could decrease groundwater supplies. For these reasons, implementation of the proposed project would result in no impact associated with substantially decreased groundwater supplies or substantial interference 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?

No Impact

Implementation of the proposed project would not alter the course of the seasonal drainages within the project and does not include any impervious surfaces except for the decking associated with the proposed trail bridges and rocks associated with the armored fords. Potential erosion that could result from construction activities and the long-term benefits of the proposed project associated with reduced erosion and siltation are discussed under Checklist Item (a). For these reasons, implementation of the proposed project would not 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 result in substantial erosion or siltation on- or off-site and no impact would occur.

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

No Impact

Implementation of the proposed project would not include any impervious surfaces except for the decking associated with the proposed trail bridges and rocks associated with the armored fords, and therefore would not increase the rate or amount of surface runoff. For these reasons, implementation of the proposed project would not 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 substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site and no impact would occur.

iii. Create or contribute runoff which would exceed capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff?
No Impact

Implementation of the proposed project would not include any impervious surfaces except for the decking associated with the proposed trail bridges and rocks associated with the armored fords, and therefore would not increase the rate or amount of surface runoff. The project area does not contain existing stormwater drainage systems, and none are planned. Potential erosion that could result from construction activities and the long-term benefits of the proposed project associated with reduced erosion and siltation are discussed under Checklist Item (a). For these reasons, implementation of the proposed project would not 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 create runoff which would exceed capacity of stormwater drainage systems or provide additional sources of polluted runoff and no impact would occur.

iv. Impede or redirect flood flows?
No Impact

The proposed trail bridges would be located above the 100-year flood elevation spanning the banks of the ephemeral streams and would provide a sufficient freeboard allowance to minimize potential impacts from debris transported during high flow events. Concrete foundations would be set at the top of the stream banks and the bridge anchors would be set in the concrete foundation. The proposed rock armored ford crossings would consist of locally sourced rock varying in size from 3 to 18 inches embedded into the stream channel on both sides of the crossing. The rock armored ford crossings would be placed within on seasonal streams with high banks and the design is such that the stream flow travels across the trail, which is armored with rock to minimize erosion. Both the proposed trail bridges and the proposed rock armored ford crossings would utilize standard U.S. Department of Agriculture Forest Service plans. For these reasons, implementation of the proposed project would not 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 impede or redirect flood flows and no impact would occur.

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 mapped within the designated Zone X depicted on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map. Flood Zone X is one of the flood insurance rate zones that correspond to areas outside the one percent annual chance floodplain, areas of one percent annual chance sheet flow flooding where average depths are less than one foot, and areas of one percent annual chance of stream flooding where the contributing drainage area is less than one square mile, or areas protected from the one percent annual chance of flood by levees. Base flood elevations have not been determined at the project area.

Tsunami is a long high sea wave caused by an earthquake, submarine landslide or volcanic eruption, or other disturbance. The speed of tsunami waves is a factor of ocean depth versus distance from the ocean, and tsunami waves build to higher heights as they travel inland as the depth of the ocean decreases. Seiche is a temporary standing wave in the water level of a lake or partially enclosed body of water, usually caused by changes in atmospheric pressure caused by earthquakes or landslides. The project area is not located near a body of water that would be subject to tsunami or seiches. Elevations within Terra Linda / Sleepy Hollow Open Space Preserve range from approximately 80 feet to 630 feet, and the project area is located several miles away from areas subject to tsunamis. As a result of the distance from San Pablo Bay or the Pacific Ocean and the elevation of the project site, it would not be

affected by seiche or tsunami. For these reasons, implementation of the proposed project would result in no impact associated with the risk of the release of pollutants due to inundation by seiche, tsunami, or flood hazard inundation.

e) Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

No Impact

The project area is within the boundaries of the San Francisco Bay Basin Water Quality Control Plan (Basin Plan)[76] and the Marin Municipal Water District (MMWD) 2015 Urban Water Management Plan (UWMP).[77]

The Basin Plan is San Francisco Bay Regional Water Quality Control Board's master water quality control planning document. It designates beneficial uses and water quality objectives for Waters of the State, including surface waters and groundwater, and includes programs of implementation to achieve water quality objectives. The proposed project would result in a total project footprint of less than one acre and therefore would not be subject to Clean Water Act Section 401 Water Quality Certification and/or Report of Waste Discharge permit from the San Francisco Bay Regional Water Quality Control Board. The proposed project would implement applicable policies and Best Management Practices included in MCOSD's Road and Trail Management Plan in addition to any special conditions included in the Section 401 permit, and therefore would not conflict with or obstruct implementation of a water quality control plan.

The UWMP specific to water supply topics including water deliveries and uses, water supply sources, efficient water uses, and demand management measures within MMWD's service area. Regarding groundwater, the UWMP stated that water supply is from precipitation that contributes to local runoff and the Russian River, the latter is imported from Sonoma Water through a contractual agreement. The UWMP concluded that the potential for municipal groundwater use within the boundaries of MMWD's service area is very limited due to limited production capabilities, water quality constraints, and potential water rights issues. As a result of these studies, groundwater is not currently or planned to be used as a municipal water supply source by MMWD, though private groundwater wells are used within MMWD's service area. The proposed project would not utilize groundwater during construction or operation, and none of the proposed improvements would impede groundwater recharge. For these reasons, implementation of the proposed project would conflict with or obstruct implementation of a sustainable groundwater management plan.

---

[76] California Regional Water Quality Control Board, San Francisco Bay Region. Water Quality Control Plan (Basin Plan). Oakland, CA. Updated to reflect the Basin Plan amendments adopted up through May 4, 2017 https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/basin_plan/docs/basin_plan07.pdf

[77] Marin Municipal Water District. Urban Water Management Plan, 2015 Update. Prepared by RMC, Water and Environment, San Francisco, CA. June 2016. http://marinwater.org/DocumentCenter/View/3828/MMWD-2015-UWMP-Final---Report-Only?bidId=

LAND USE AND PLANNING

TABLE 11: 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 Terra Linda / Sleepy Hollow Open Space Preserve, which provides a greenbelt and ridgeline separator between central San Rafael and San Anselmo to the south and west and Terra Linda to the north and east. The adjacent land uses are primarily single-family residential housing. Terra Linda / Sleepy Hollow Open Space Preserve is used for walking, hiking, mountain biking, horseback riding, and other outdoor nature-based activities.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to land use and planning. The RTMP Policies and BMPs are provided, in their entirety, in Appendix A.

CEQA Context

A project would normally result in a significant impact to land use and planning 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

Implementation of the proposed project would occur exclusively within the Terra Linda / Sleepy Hollow Open Space Preserve. For this reason, 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 exclusively within the Terra Linda / Sleepy Hollow Open Space Preserve, which is regulated by the County of Marin and the City of San Rafael. The County parcel is zoned as Open Area and has an Open Area designation in the Countywide Plan. The City parcel is zoned Parks and Open Space and has a Parks, Recreation, and Open Space General Plan designation. Zoning and land use designations are intended to support public recreation, and the proposed project supports and continues these land uses.

The purpose of the proposed project is to is to implement the MCOSD's 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 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 safe year-round access along the trail alignment. Implementation of the proposed project would accomplish these purposes by realigning the existing Memorial Trail to a sustainable grade, developing crossings of ephemeral streams, and decommissioning unsustainable and actively eroding social trails. The proposed project is consistent with the zoning and land use designations for both the County and City of San Rafael land use plans. For these reasons, 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 12: 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 preserve, including Ring Mountain and Mount Burdell Open Space Preserve. There are no mineral resources in the Terra Linda / Sleepy Hollow Open Space Preserve.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to mineral resources. The RTMP Policies and BMPs are provided, in their entirety, in Appendix A.

CEQA Context

A project would normally result in a significant impact to mineral resources if a loss of availability of a known mineral or of a locally important mineral resources 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 install two trail bridges and make trail improvements. The proposed project would not include mineral extraction and would not impact a known mineral resource. For these reasons, implementation of the proposed project 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) Would the Project 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 implementation of the proposed project would not include mineral extraction or impact a known mineral resource. For these reasons, implementation of the proposed project would not 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.

NOISE

TABLE 13: 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

Noise is defined as unwanted sound. Sound is measured in decibels (dB), with zero dB corresponding to the lowest threshold of human hearing and 120 to 140 dB corresponding to the threshold of painful sound. Decibels are measured using different scales. The A-weighted decibel scale noted as dBA is cited in most noise criteria. Several time-averaged scales represent noise environments and consequences of human activities. The most commonly used noise descriptors are the equivalent A-weighted sound level over a given time period, noted as Leq, which represents a single value of a constant sound level for the duration of the measurement period. Ldn represents a 24-hour A-weighted equivalent sound level with a nighttime adjustment of increased 10dB between 10:00 p.m. and 7:00 a.m. to account for increased sensitivity to noise during the nighttime. Community noise equivalent level, noted as CNEL, is the average A-weighted noise level during a 24-hour day that includes an evening weighting of 5 dB between 7:00 p.m. and 10 p.m. and a nighttime weighting of 10 dB between 10:00 p.m. and 7:00 a.m.

Human response to sound and noise is subjective and can vary greatly from person to person, depending on a variety of factors including the intensity, frequency, and pattern of the sound, the background or ambient sound present without the unwanted sound, and the activity of the individual when the unwanted sound is occurring. Noise can interfere with concentration, communication, and sleep and, at high levels, can result in hearing damage. According to the U.S. Department of Housing and Urban Development's 1985 Noise Guidebook,[78] permanent physical damage to human hearing can begin with prolonged exposure to noise levels higher than 85 to 90 dBA. Prolonged noise exposure in excess of 75 dBA increases body tensions, which can affect blood pressure, functions of the ear, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. To avoid adverse effects on human physical and mental health in the workplace or in communities, the U.S. Department of Labor,

[78] U.S. Department of Housing and Urban Development. *The Noise Guidebook.* May 1985.

Occupational Safety and Health Administration (OSHA) requires the protection of workers from hearing loss when the noise exposure equals or exceeds an 8-hour time-weighted average of 85 dBA.[79]

TABLE NOISE -1: COMMON OUTDOOR AND INDOOR SOUND LEVELS

Common Outdoor Sound Sources	Sound Level in dBA	Common Indoor Sound Sources
Commercial Jet Flyover at 1,000 feet Concrete Mixer at 50 feet Gas Lawnmower at 3 feet	90 +	Rock Band
Diesel truck at 50 feet	80 - 90	Loud Television at 3 feet
Gas Lawnmower at 100 feet Noisy Urban Area	70 - 80	Garbage Disposal at 3 feet Vacuum Cleaner at 10 feet
Commercial Area	60 - 70	Normal Speech at 3 feet
Quiet Urban Daytime Traffic at 300 feet	40 - 60	Large Business Office Dishwasher in Adjoining Room
Quiet Rural and Suburban Nighttime	20 - 40	Library / Bedroom at Night
	10 - 20	Broadcast / Recording Studio
Threshold of Hearing	0	Threshold of Hearing

Source: RCH Group. December 2018.

Noise impacts can be organized into three categories. The first category comprises audible increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dBA or greater because this level has been found to be barely perceptible in outdoor environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dBA which is the range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dBA that are inaudible to the human ear. In terms of CEQA analyses, the audible changes in existing ambient or background noise levels associated with a proposed project are considered.

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.[80] Terra Linda / Sleepy Hollow Open Space Preserve is surrounded by open space and residential development and is typically quiet with noise levels in the 35 to 55 dBA range during the daytime. The project area is adjacent to residential communities. The nearest residential receptors on Malone Lane, which are adjacent to Terra Linda / Sleepy Hollow Open Space Preserve, are approximately 30 feet from the nearest point of the project area.

[79] Occupational Safety & Health Administration, 2011. Regulations, Standards 29 CFR, Occupational Noise Exposure 1910.95.

[80] Marin County Open Space District. *Road and Trail Management Plan Recirculated Final Tiered Program Environmental Impact Report*, November 2014.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to noise. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- BMP Noise-1: County Noise Ordinance Requirements
- BMP Noise-2: Noise Control During Construction Within and Adjacent to Sensitive Wildlife Populations

CEQA Context

A project would normally result in a significant impact to 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 uses 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 Impact

Noise standards that apply to the project area are established by the Marin County Noise Ordinance 3431, which is incorporated into the Marin County Code Sections 6.70.030(5) and 6.70.040 regarding construction activities and related noise, and penalties for violations. Under this code, construction activities are limited to Monday through Friday from 7:00 a.m. to 6:00 p.m. and Saturday from 9:00 a.m. to 5:00 p.m. The ordinance does not allow construction on Sundays or holidays. Consistent with MCOSD's Road and Trail Management Plan Best Management Practice Noise-1, construction activities associated with implementation of the proposed project would comply with this ordinance.

Noise generated during project implementation would be from construction equipment. Construction would occur Monday through Friday, from 7:00 a.m. to 6:00 p.m. Equipment would include intermittent use of trail dozers, mini-excavators, compactors, cement mixers, rubber track carriers, generators, ATVs, generators, jackhammers, power saws, and other hand tools. Construction staging areas would be restricted to existing MCOSD roads and trails or other areas that would avoid any significant impacts on sensitive natural resources. Access to the project site for construction equipment would be at Ridgewood Fire Road, Del Haro Way, Dias Way, and Malone Lane. Construction of the project would require approximately four workers onsite. Construction of the project would require approximately 36 total haul trips for hauling construction materials to the project area, including rock and aggregate.

Estimated noise levels associated with implementation of the proposed project would be attenuated by topography, vegetation, and distance. Construction activities would be short-term, requiring approximately four months per construction season, and the applicable Best Management Practices included in the MCOSD's Road and Trail Management Plan would be implemented. MCOSD would comply with the allowable construction hours in the Marin County Municipal Codes. Therefore, construction-related temporary increase in ambient noise would result in a less than significant impact associated with 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.

The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles

to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction. For these reasons, implementation of the proposed project would result in a less than significant impact associated with 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) Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact

Groundborne vibration or noise generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration or noise may be imperceptible at the lowest levels, low rumbling sounds and detectable vibrations at moderate levels, and slight damage to nearby structures at the highest levels. Groundborne vibration or 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. Construction equipment and activities have the potential to result in varying degrees of temporary groundborne vibration or noise, the amount is dependent on the specific construction equipment used and the specific construction activity being conducted.

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 0.02 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 vibrates. 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.[81] 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, and neither of these conditions exist in the project area. 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. Caltrans has also indicated that in most cases, vibration induced by typical construction equipment does not result in adverse effects on people or structures.

The nearest residential receptors on Malone Lane, which are adjacent to Terra Linda / Sleepy Hollow Open Space Preserve and approximately 30 feet from the nearest point of the project area. MCOSD staff has been coordinating with the neighbors regarding the proposed project and will continue to do so throughout project implementation. The neighbors have indicated support for the proposed project. While this does not minimize potential noise and groundborne vibration impacts, the neighbors are aware of the potential short-term, temporary construction-related impacts. Implementation of the proposed project would require some small construction equipment including intermittent use of trail dozers, mini-excavators, compactors, cement mixers, rubber track carriers, generators, ATVs, generators, jackhammers, power saws, and other hand tools but would not require heavy construction equipment or activities that would induce groudborne vibration or noise such as pile drivers or blasting.

[81] U.S. Department of Transportation. Federal Transit Administration. Transit Noise and Vibration Assessment Manual. September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

For these reasons, implementation of the proposed project would result in a less than significant impact associated with the 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?
No Impact

The project area is not located within an airport land use plan or within two miles of a public airport. The airports nearest to the project area are the public Gnoss Field Airport in Novato, which is over 10 miles east and the private San Rafael Airport, located over 6 miles to the southeast. The proposed project consists of trail improvements within an existing open space preserve and the use after project implementation would remain the same as current use. Implementation of the proposed project would not result in a safety hazard or excessive noise for people residing or working in the project area.

POPULATION AND HOUSING

TABLE 14: POPULATION AND HOUSING CHECKLIST QUESTIONS

	Would the project:	Potentially Significant Impact	Less than Significant with Mitigation	Less-than-Significant Impact	No Impact
a)	Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b)	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Setting

The project area is approximately four acres located in the southeast portion of the 1,172-acre Terra Linda / Sleepy Hollow Open Space Preserve. The Preserve provides a greenbelt and ridgeline separator between central San Rafael and San Anselmo to the south and west and Terra Linda to the north and east. The adjacent land uses are primarily single-family residential housing, and the nearest residential homes are adjacent to the Preserve.

Terra Linda / Sleep Hollow Open Space Preserve is governed by both the Marin Countywide Plan and zoning ordinance and the City of San Rafael General Plan 2040 and zoning ordinance. Land uses in the adjacent residential neighborhood are governed by the City of San Rafael General Plan 2040 and its implementing zoning regulations. The County parcel is zoned as Open Area and has an Open Area designation in the Countywide Plan. The City parcel is zoned Parks and Open Space and has a Parks, Recreation, and Open Space General Plan designation. These zoning and land use designations are intended to support public recreation, and the proposed project supports and continues these land uses.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to population and housing. The RTMP Policies and BMPs are provided, in their entirety, in Appendix A.

CEQA Context

A project would normally result in a significant impact to population and housing if it would cause substantial population growth or would 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 project area is located in the Terra Linda / Sleepy Hollow Open Space Preserve, which is used for outdoor recreation purposes, including walking, hiking, dog walking, horseback riding, and bike riding. The project area is undeveloped except for the trails and provides no housing or business opportunities. The proposed project does not include new homes or businesses or infrastructure that would support new homes or businesses. For these reasons, implementation of the proposed project would have no impact associated with the inducement of substantial unplanned population growth in an area, either

directly, such as by proposing new homes and businesses, or indirectly such as through extension of roads or other infrastructure.

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

No Impact

There is no housing within Terra Linda / Sleepy Hollow Open Space Preserve. For this reason, implementation of the proposed project would have no impact associated with the displacement of existing people or housing or necessitate the construction of replacement housing.

PUBLIC SERVICES

TABLE 15: 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 Terra Linda / Sleepy Hollow Open Space Preserve, which is in the jurisdiction of both the unincorporated Marin County and the City of San Rafael. The project area is served by Marin County Fire District CSD 31, Marin County Sheriff Department, San Rafael Fire Department, and the San Rafael Police Department. Terra Linda / Sleepy Hollow Open Space Preserved is owned and maintained by the MCOSD and includes public access trails. There currently are no park facilities such as parking, restrooms and playgrounds and none are proposed as part of the project.

The project area is within an area mapped as Urban Wildland Interface. While no evacuation routes exist within the project area, a secondary evacuation route is mapped on Devon Drive and Tamarack Drive within the adjacent residential neighborhood. A primary evacuation route is mapped on Nova Albion Drive, also within the adjacent residential neighborhood.[82] The Terra Linda / Sleepy Hollow Open Space Preserve includes twenty-foot-wide fire roads that extend along most of the length of the ridgelines. In this context, a fire road is cleared of vegetation to provide fire fighters access to remote areas. In MCOSD preserves, fire roads are also utilized as multi-use trails.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to public services. The RTMP Policies and BMPs are provided, in their entirety, in Appendix A.

CEQA Context

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

---

[82] Marin Map. https://marincounty.maps.arcgis.com/apps/webappviewer/index.html?id=688f506cfb144067826bb35a062b0f0a

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 improve the existing trail system at Terra Linda / Sleepy Hollow Open Space Preserve, which is an existing public facility. The proposed trail improvements would improve access for trail users, which would be a beneficial effect. Implementation of the proposed project would not increase emergency response demands. Existing emergency access would be maintained during implementation and operation of the proposed project.

The proposed project does not include new housing, commercial, or industrial development which could result in the need for new or improved public services such as fire protection, police protection, schools, parks, or other public facilities. For these reasons, implementation of the proposed project would not 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.

RECREATION

TABLE 16: 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

Terra Linda / Sleepy Hollow Open Space Preserve is a 1,172-acre outdoor recreational facility owned and operated by the MCOSD and located within the unincorporated Marin County and City of San Rafael. It supports a network of fire roads and trails for hikers, cyclists, dog walkers, and equestrians, and several hiker and equestrian only trails. It also offers expansive views of Mount Tamalpais, Big Rock Ridge, and San Pablo Bay. The Preserve provides a greenbelt and ridgeline separator between central San Rafael and San Anselmo to the south and west and Terra Linda to the north and east. Twenty-foot-wide fire roads extend along most of the length of the Preserve's ridgelines and narrower, two- to eight-foot-wide designated trails and social trails extend between the ridgelines and the residential areas. The paved Mission Pass Path crosses the northern and southern portions of the Preserve, near the residential streets Fox Lane and Fawn Drive. The adjacent land uses are primarily single-family residential housing. Access to the project area is from the following:

- Del Haro Way via Golden Hinde Boulevard in the City of San Rafael
- Dias Way via Devon Drive in the City of San Rafael
- Malone Lane via Devon Drive in the City of San Rafael
- Oak Ridge Road via Circle Road in unincorporated Marin County

The purpose of the proposed project is to implement the MCOSD's 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 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 safe year-round access along the trail alignment. Additionally, the proposed project would adhere to the Marin County Parks Inclusive Access Plan (IAP) where possible. Implementation of the proposed project would achieve the following project objectives:

- Improve visitor access to the Preserve, including Terra Linda High School
- Reduce trail erosion and sedimentation
- Reduce trail density and habitat fragmentation

To achieve the project purpose and objectives, the proposed project would realign the existing Memorial Trail to reduce existing trail grades, develop crossings of ephemeral streams, and decommission the existing Memorial Trail and several unsustainable and actively eroding social trails. The proposed project is consistent with the land use and zoning designations in the Marin Countywide Plan, the City of San Rafael's General Plan 2040, and the MCOSD's Road and Trail Management Plan.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to improve the recreational experience and to minimize or avoid potential environmental impacts from MCOSD's road and trail system. The RTMP Policies and BMPs that apply to specific CEQA Checklist topic areas are listed in each section of this checklist and are provided, in their entirety, in Appendix A.

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

Implementation of the proposed project would support existing uses at the Terra Linda / Sleepy Hollow Open Space Preserve. Implementation of the proposed project would improve visitor access, reduce trail erosion, sedimentation trail density, and habitat fragmentation resulting in a net improvement on sustainability and durability of the existing trail system.

Under existing conditions, formal trailheads within the project area are at the Ridgewood Fire Road and at Dias Way. The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated. Under existing conditions, non-motorized bike access is permitted within Terra Linda / Sleepy Hollow Open Space Preserve on the fire roads and designated multi-use trails. Implementation of the proposed project would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction. For these reasons, implementation of the proposed project would result in no impact associated with increasing 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 proposed project would realign the existing Memorial Trail to reduce existing trail grades, develop crossings of ephemeral streams, and decommission the existing Memorial Trail and several unsustainable and actively eroding social trails, which would support existing recreational use at Terra Linda / Sleepy Hollow Open Space Preserve.

The proposed project has been designed to minimize potential adverse physical effects on the environment through design by incorporating the design standards included in the MCOSD's RTMP. The existing Memorial Trail is substandard in design and safety. The steep trail gradients, rill and gully erosional features, and loose tread conditions diminish visitor safety, limit accessibility, and severely reduces the ability of staff to properly maintain the trail. The existing social trails in the project area also contribute to erosion and sediment delivery to surface waters under existing conditions. By realigning the Memorial Trail and providing sustainable trailhead connections, implementation of the proposed project would reduce the overall trail length by nearly one mile, reduce the trail gradient to below 10

percent, and would include frequent drainage breaks and grade reversals, outsloping the trail tread, and would include crossings of the ephemeral streams, all of which would reduce existing trail erosion in the project area.

This Initial Study has identified a potentially significant impact to nesting birds that could result from implementation of the proposed project and has included a mitigation measure to reduce the potentially significant environmental impacts to a less than significant level. With the implementation of the applicable RTMP Policies and BMPs, and the mitigation measure identified in this Initial Study, implementation of the proposed project would not result in a significant adverse physical effect on the environment. The proposed project consists of improvements to an existing trail system at an existing recreational facility and does not involve construction of a new recreational facility or expansion of an existing recreational facility. For these reasons, implementation of the proposed project would have no impact associated with recreational facilities or the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

TRANSPORTATION

TABLE 17: TRANSPORTATION CHECKLIST QUESTIONS

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

Setting

The proposed project is within unincorporated Marin County and the City of San Rafael and is subject to the Marin Countywide Plan and the San Rafael General Plan 2040. 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 on the county's roadways and works to improve all methods of transportation locally and regionally. The 2021 Congestion Management Plan is the most recent biennial update.[83]

Access to the project area is from the following

- Del Haro Way via Golden Hinde Boulevard in the City of San Rafael
- Dias Way via Devon Drive in the City of San Rafael
- Malone Lane via Devon Drive in the City of San Rafael
- Oak Ridge Road via Circle Road in unincorporated Marin County

There is no parking at Terra Linda / Sleepy Hollow Open Space Preserve except for a limited amount of roadside parking, and the proposed project does not include the provision of parking facilities.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to transportation. The RTMP Policies and BMPs are provided, in their entirety, in Appendix A.

[83] Transportation Authority of Marin (TAM). 2019 Congestion Management Program Update. September 2021. https://2b0kd44aw6tb3js4ja3jprp6-wpengine.netdna-ssl.com/wp-content/uploads/2021/10/036-051_Final-Draft-2021-Marin-County-CMP.pdf

CEQA Context

Effective January 01, 2020, CEQA documents are required to utilize the vehicle miles traveled (VMT) methodology to analyze transportation impacts. Vehicle miles traveled refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Automobile delay, represented by level of service (LOS) analysis, does not constitute a significant effect on the environment though it can still be utilized as an augment to the required VMT analysis. Other considerations include conflict with programs, plans, ordinances, or policies that address circulation systems, including transit, roadway, bicycle, and pedestrian facilities; an increase in hazards due to road geometry or project design features; and inadequate emergency access.

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

No Impact

Implementation of the proposed project would improve the existing trail system at the existing Terra Linda / Sleepy Hollow Open Space Preserve, which currently supports outdoor recreation. Under existing conditions, there is no dedicated parking for Terra Linda / Sleepy Hollow Open Space Preserve and the proposed project would not develop parking facilities. Visitors accessing Terra Linda / Sleepy Hollow Open Space Preserve by vehicle would continue to utilize on-street parking on public roads, or walk or bike to the site. For these reasons, implementation of the proposed project is not expected to result in a significant increase in traffic, and therefore it would not conflict with TAM Congestion Management Program.

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 purpose of the proposed project is to implement the MCOSD's Road and Trail Management Plan and consists of improvements to the existing trail system at Terra Linda / Sleepy Hollow Open Space Preserve, which would benefit existing pedestrian and bicycle facilities. 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. Implementation of the proposed project would result in a beneficial effect on existing bicycle and pedestrian facilities at Terra Linda / Sleepy Hollow Open Space Preserve.

b) Would the Project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

No Impact

State CEQA Guidelines Section 15064.3, subdivision (b) describes the criteria for analyzing transportation impacts associated with the proposed project's projected increase in vehicle miles traveled. This refers to the amount and distance of automobile travel attributable to a project.

Under existing conditions, there is no dedicated parking for Terra Linda / Sleepy Hollow Open Space Preserve and the proposed project would not develop parking facilities. For these reasons, implementation of the proposed project is not expected to result in an increase of vehicle miles traveled, public transit, or non-motorized travel. The level and types of recreational use of the project area after implementation of the proposed project are expected to remain essentially the same as existing use patterns. Increased use is expected to be minimal and largely result from the local communities, proportional with regional population growth. For these reasons, implementation of the proposed project is not expected to result in an increase in non-motorized travel. For these reasons, implementation of the proposed project would result in no impact associated with a conflict or inconsistency with State CEQA Guidelines Section 15064.3, subdivision (b).

c) Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
No Impact

The project area is located within Terra Linda / Sleepy Hollow Open Space Preserve, a public outdoor recreation facility that is owned and managed by MCOSD. Implementation of the proposed project would not reconfigure public roadways. Large construction equipment would access the project area from public roadways including neighborhood streets. The geometric design of the public roadways and neighborhood streets that would be utilized are sufficiently wide and devoid of sharp curves and dangerous intersections that would be incompatible with construction equipment access. For these reasons, implementation of the proposed project would result in no impact associated with substantially increasing hazards due to a geometric design feature or incompatible uses.

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

Access to the project area is from the following public roadway networks and neighborhood streets, all of which currently provide adequate emergency access to the project area:

- Del Haro Way via Golden Hinde Boulevard in the City of San Rafael
- Dias Way via Devon Drive in the City of San Rafael
- Malone Lane via Devon Drive in the City of San Rafael
- Oak Ridge Road via Circle Road in unincorporated Marin County

The Terra Linda / Sleepy Hollow Open Space Preserve includes twenty-foot-wide fire roads that extend along most of the length of the ridgelines. In this context, a fire road is cleared of vegetation to provide fire fighters access to remote area. While no designated evacuation routes exist within the project area, a secondary evacuation route is mapped on Devon Drive and Tamarack Drive within the adjacent residential neighborhood. A primary evacuation route is mapped on Nova Albion Drive, also within the adjacent residential neighborhood.[84]

Emergency services in the project area is provided by the Marin County Sheriff Department, Marin County Fire, San Rafael Police Department, and San Rafael Fire Department. The nearest police station is located in San Rafael, approximately 3.7 miles from the project area. The nearest fire station is located in San Rafael, approximately two miles from the project area.

The proposed trail improvements would improve safety for trail users, which would be a beneficial effect and would not change existing emergency access. For these reasons, implementation of the proposed project would result in no impact associated with inadequate emergency access.

[84] Marin Map. https://marincounty.maps.arcgis.com/apps/webappviewer/index.html?id=688f506cfb144067826bb35a062b0f0a

TRIBAL CULTURAL RESOURCES

TABLE 18: 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), 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. 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.

Consultation is defined as 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.

Public Resources Code (PRC) Section 21074 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 as defined in PRC Section 5020.1(k).[85]
- A resource determined by the Lead Agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c).[86] In applying the criteria set forth in PRC Section 5024.1(c), for the purposes of this paragraph, the Lead Agency shall consider the significance of the resource to a CA Native American tribe.
- A cultural landscape that meets the above criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of size and scope of the landscape.
- A historical resource described in PRC Section 21084.1,[87] a unique archaeological resource described in PRC Section 21083.2(g),[88] or a non-unique archaeological resource as defined in PRC 21083.2(h)[89] if it conforms with the criteria of subdivision (a).[90]

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.

---

[85] "Local register of historical resources" means a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution.

[86] A resource may be listed as an historical resource in the California Register if it meets any of the following National Register of Historic Places criteria:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

(2) Is associated with the lives of persons important in our past.

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.

(4) Has yielded, or may be likely to yield, information important in prehistory or history.

[87] A project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. For purposes of this section, an historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources included in a local register of historical resources, as defined in subdivision (k) of Section 5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1, are presumed to be historically or culturally significant for purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of Section 5024.1 shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section.

[88] As used in this section, "unique archaeological resource" means 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 that there is a demonstrable public interest in that information.

(2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(3) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

[89] As used in this section, "nonunique archaeological resource" means an archaeological artifact, object, or site which does not meet the criteria in subdivision (g). A nonunique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects.

[90] As part of the determination made pursuant to Section 21080.1, the lead agency shall determine whether the project may have a significant effect on archaeological resources. If the lead agency determines that the project may have a significant effect on unique archaeological resources, the environmental impact report shall address the issue of those resources. An environmental impact report, if otherwise necessary, shall not address the issue of nonunique archaeological resources. A negative declaration shall be issued with respect to a project if, but for the issue of nonunique archaeological resources, the negative declaration would be otherwise issued.

Cultural and Historical Resources Studies

Tom Origer & Associates prepared a Cultural Resources Study for the proposed project in 2021.[91] It included a cultural resources records search completed at the Northwest Information Center of the California Historical Resources Information System (CHRIS), initial contact with Native American tribes, and field inspection of the study area. The Cultural Resources Study satisfies the following RTMP BMPs:

- Cultural Resources-1: Historical and Archaeological Resource Mapping
- Cultural Resources-2: Consultation with Northwest Information Center

Tom Origer & Associates sent a request to the Native American Heritage Commission (NAHC) on September 2, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on October 15, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

Tom Origer & Associates sent emails to representatives of these tribes on September 3, 2021, stating that the firm was conducting a cultural resources study for the proposed project and that Marin County Parks would be completing an environmental document in compliance with CEQA. No responses were received. Additionally, MCOSD submitted a request to Native American Heritage Commission (NAHC) on June 6, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on July 26, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

MCOSD emailed an Invitation to Consult per AB52 to the following tribes on August 18, 2021. No responses were received.

- Coast Miwok Tribal Council of Marin
- Ione Band of Miwok Indians
- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

Tom Origer & Associates conducted archival research utilizing their in-house library, a records search at the Northwest Information Center, historic maps and aerial photos, and other sources of ethnographic literature. Archival research found that the study area had not been previously studied for cultural resources and that two studies that had been conducted within a quarter mile of the project area did not find cultural resources. Review of historic maps concluded that there were no buildings within the study area, and that two of the trails within the study area were once dirt access roads as of 1965. Tom Origer & Associates conducted an intensive field survey on September 24, 2021. The surface conditions were examined, and hoes were used to expose the ground surface. While vegetation was noted as a hindrance, ground visibility ranged between

[91] Origer 2021. Op. cit.

poor to excellent. The results of the field survey were that no archaeological site indicators were observed, and no buildings or structures were observed.

Given these findings, and the existing conditions of the study area including landform, geologic formation, steepness of the terrain, and limited water supply, the Cultural Resources Study concluded that there would be a very low potential for buried cultural resources to exist within the study area. No additional cultural resources work was recommended. The Cultural Resources Study included recommendations regarding discovery of buried archaeological resources and human remains:

- Pursuant to State CEQA Guidelines Section 15064.5(f), if archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds. Prehistoric archaeological site indicators included: obsidian and chert flakes and chipped stone tools; grinding and mashing implements including slabs and handstones, and mortars and pestles; bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits including wells, privy pits, and dumps.
- Pursuant to State CEQA Guidelines Section 15064.5(d), if human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the county coroner contacted. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission (NAHC). The NAHC will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

The following RTMP BMPs address these recommendations:

- Cultural Resources-6: Construction Recovery Protocol
- Cultural Resources-7: Human Remains

AB 52 Consultation

Assembly Bill 52 (AB 52) is described in the Tribal Cultural Resources section of this Checklist. MCOSD submitted a request to Native American Heritage Commission (NAHC) on June 6, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should be contacted regarding the proposed project. The NAHC responded on July 26, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

MCOSD emailed an Invitation to Consult per AB52 to the following tribes on August 18, 2021, which also satisfied RTMP BMP Cultural Resources-3: Tribal Consultation. No responses were received.

- Coast Miwok Tribal Council of Marin and the
- Ione Band of Miwok Indians
- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

Subsequently, Tom Origer & Associates sent a request to the NAHC on September 2, 2021, seeking information from the Sacred Lands File and the names of Native American individuals and groups that should

be contacted regarding the proposed project. The NAHC responded on October 15, 2021, stating that the Sacred Lands File did not indicate the presence of cultural resources within the project area and that the following tribes may have knowledge of cultural resources in the project area and should be contacted:

- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria
- Wuksache Indian Tribe/Eshom Valley Band

Tom Origer & Associates sent emails to representatives of these tribes on September 3, 2021, stating that the firm was conducting a cultural resources study for the proposed project and that Marin County Parks would be completing an environmental document in compliance with CEQA. This correspondence did not constitute tribal consultation and is noted here as an additional contact with the tribes. No responses were received.

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to tribal cultural resources. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Cultural Resources-1: Historical and Archaeological Resource Mapping
- Cultural Resources-2: Consultation with Northwest Information Center
- Cultural Resources-3: Tribal Consultation
- Cultural Resources-5: Permanent Protection
- Cultural Resources-6: Construction Discovery Protocol
- Cultural Resources-7: Human Remains

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 Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

No Impact

Public Resources Code Section 21074 defines tribal cultural resources and PRC Section 5020.1(k) defines the local register of historic resources, both of which are included in the Setting section of this Tribal Cultural Resources section.

No cultural resources, artifacts, indications of fossil soils, or historic resources/or properties that are listed on federal, state, or local inventories were identified within or adjacent to the project area.

MCOSD emailed an Invitation to Consult per AB52 to the following tribes on August 18, 2021.

- Coast Miwok Tribal Council of Marin and the
- Ione Band of Miwok Indians
- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

No responses were received. MCOSD does not have information indicating that tribal cultural resources could be present within the project area or vicinity from the Cultural Resources Study or from tribal

consultation. For these reasons, implementation of the proposed project would result in no impact associated with a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k).

The MCOSD would directly notify the Federated Indians of Graton Rancheria of any discovery of cultural or historical resources, human remains, and/or tribal cultural resources.

b) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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.

No Impact

Public Resources Code Section 21074 defines tribal cultural resources and PRC Section 5024.1(c) defines the criteria used to determine if a resource can be considered for listing on the California Register of Historic Resources, both of which are included in the Setting section of this Tribal Cultural Resources section.

MCOSD emailed an Invitation to Consult per AB52 to the following tribes on August 18, 2021.

- Coast Miwok Tribal Council of Marin and the
- Ione Band of Miwok Indians
- Federated Indians of Graton Rancheria
- Guidiville Indian Rancheria

No responses were received. MCOSD does not have information indicating that tribal cultural resources could be present within the project area or vicinity form the Cultural Resources Study or from tribal consultation. For these reasons implementation of the proposed project would result in no impact associated with a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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.

The MCOSD would directly notify the Federated Indians of Graton Rancheria of any discovery of cultural or historical resources, human remains, and/or tribal cultural resources.

UTILITIES AND SERVICE SYSTEMS

TABLE 19: 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 Terra Linda / Sleepy Hollow Open Space Preserve is an undeveloped natural area used for natural resource preservation and for outdoor recreational activities. 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. Facilities include trails, fire roads for emergency and maintenance access, gates, signage, and trash cans at some trailheads to capture trash and pet waste.

Applicable RTMP Policies and BMPs

The RTMP does not include Policies and BMPs specific to utilities and service systems. The RTMP Policies and BMPs are provided, in their entirety, in Appendix A.

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 would not require the relocation, construction, or expansion of any utility or public service facility. MCOSD may import water by tank trucks to the project area during construction for dust control and implementation of trail improvements. MCOSD would utilize recycled wastewater if it is available. Implementation of the proposed project would utilize 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 result in no impact associated with 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) 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

Implementation of the proposed project may require water be imported by tank trucks during construction for dust control and implementation of trail improvements. MCOSD would utilize recycled wastewater if it is available. Implementation of the proposed project would not require regular supply. 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. For these reasons, implementation of the proposed project would result in no impact associated with the sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

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 existing restrooms or water facilities available within the project area. The proposed project does not include new restrooms that would increase projected demand for wastewater treatment. For these reasons, implementation of the proposed project would result in no impact associated with adequate wastewater treatment capacity to serve the project's projected demand in addition to the provider's existing commitments.

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

Implementation of the proposed project would not generate solid waste. All cut vegetation would be used for cover on decommissioned trails or for on-site mulch. For this reason, implementation of the proposed project would result in no impact associated with generation of 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

As discussed in item (d), implementation of the proposed project would not generate solid waste. For this reason, implementation of the proposed project would result in no impact associated with compliance with federal, state, and local management and reduction statutes and regulations related to solid waste.

WILDFIRE

TABLE 20: 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, would the Project 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

The project area is within an area mapped as Urban Wildland Interface. While no evacuation routes exist within the project area, a secondary evacuation route is mapped on Devon Drive and Tamarack Drive within the adjacent residential neighborhood. A primary evacuation route is mapped on Nova Albion Drive, also within the adjacent residential neighborhood.[92] The Terra Linda / Sleepy Hollow Open Space Preserve includes twenty-foot-wide fire roads that extend along most of the length of the ridgelines. In this context, a fire road is cleared of vegetation to provide fire fighters access to remote areas. In MCOSD preserves, fire roads are also utilized as multi-use trails. The California Department of Forestry and Fire Protection (CalFire) has mapped areas of high wildfire hazards throughout California, including Marin County. The project area is not mapped as within a fire hazard severity zone, though areas south and west of the project area are mapped as within the moderate fire hazard severity zone within the State responsibility area.[93]

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.

---

[92] Marin Map. https://marincounty.maps.arcgis.com/apps/webappviewer/index.html?id=688f506cfb144067826bb35a062b0f0a

[93] CA State Geoportal Fire Hazard Severity Zone Viewer. https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414

Applicable RTMP Policies and BMPs

MCOSD would incorporate applicable RTMP Policies and BMPs, which were designed to minimize or avoid potential environmental impacts to wildfire. The applicable RTMP Policies and BMPs are listed below and are provided, in their entirety, in Appendix A.

- Policy SW.26: Control or Restrict Access to Ignition Prevention Zones when Red-Flag Conditions Exist
- Construction Contracts-1: Standard Procedures in Construction Contracts

CEQA Context

A project would normally result in a significant impact on wildfire if it is located in or near state responsibility areas or lands classified as a very high fire hazard severity zone and would increase wildfire risk, increase air pollution concentration from wildfire due to topographic features or prevailing winds, increase risk to people or structures from post-wildfire flooding or landslides, or conflict with an adopted emergency response plan or emergency evacuation plan.

a) Would the Project impair an adopted emergency response plan or emergency evacuation plan?

No Impact

Terra Linda / Sleepy Hollow Open Space Preserve is not within an adopted emergency response plan area or an emergency evacuation plan area. Implementation of the proposed project would improve trail access within the project area, which would improve egress of visitors from the project area in case of an emergency. Terra Linda / Sleepy Hollow Open Space Preserve supports existing fire roads that can be used by emergency service vehicles in case of wildfire or other emergency, which will be unaffected after implementation of the proposed project. The new trail configuration would also improve access for ranger patrol and emergency responders on foot or using small all-terrain vehicles. For these reasons, implementation of the proposed project would result in no impact associated with impairment of an adopted emergency response plan or emergency evacuation plan.

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

Less than Significant Impact

The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated, and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination attraction and does not include any structures or amenities that could potentially exacerbate wildfire risks. The new trail configuration would also improve access for ranger patrol and emergency responders on foot or using small all-terrain vehicles.

Construction and maintenance equipment could generate sparks and could temporarily increase fire risk. To address this potential, MCOSD vehicles are equipped with fire extinguishers to address small fires ignited by construction activities before a problem develops and the MCOSD Road and Trail Management Plan Best Management Practice Construction Contracts-1 requires all construction vehicles to be equipped with a suitable fire extinguisher. For these reasons, implementation of the proposed project would result in a less than significant impact associated with exacerbation of wildfire risks that would 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 improve the existing trail system at Terra Linda / Sleepy Hollow Open Space Preserve, the only infrastructure within the project area. There are no existing vehicular roads, water sources, power lines or other utilities within the project area and none are proposed as part of the project. The proposed project does not include any structures or other facilities that would be flammable or otherwise increase the wildfire risk. Implementation of the proposed project would not increase emergency response demands.

Implementation of the proposed project would result in a beneficial effect on the existing MCOSD's fuel management activities within Terra Linda / Sleepy Hollow Open Space Preserve because the trail access would be improved. The proposed trail system improvements would improve egress for visitors utilizing the trail system in case of emergency. Terra Linda / Sleepy Hollow Open Space Preserve supports existing fire roads that can be used by emergency service vehicles in case of wildfire or other emergency, which would continue to be available for emergency vehicle use. The new trail configuration would also improve access for ranger patrol and emergency responders on foot or using small all-terrain vehicles. For these reasons, implementation of the proposed project would result in no impact associated with 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

As described in the Hydrology and Water Quality section of this CEQA Checklist, implementation of the proposed project would not adversely affect the flow of drainage within the project area or result in other substantial drainage changes. The proposed project does not include any structures or other facilities that would be at risk due to post-fire slope instability. The trail system including the proposed crossings of ephemeral streams could be damaged due to post-fire runoff or slope instability, but the risk to people or structures would be low. Use of the project area would be similar to existing conditions and would not result in increased wildfire risk. For these reasons, implementation of the proposed project would result in no impact associated with the exposure of 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 21: 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 decrease erosion and sedimentation entering surface waters and thereby improve water quality. Potential environmental impacts described in this document that could result from implementation of the proposed project would be short-term, construction-related impacts that would cease upon completion of construction activities. This Initial Study has identified a potentially significant impact to nesting birds that could result from implementation of the proposed project and has included Mitigation Measure BIO-1 to reduce the potentially significant environmental impacts to a less than significant level. MCOSD would implement the applicable Road and Trail Management Plan Best Management Practices described in this document.

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 realign the existing Memorial Trail to reduce existing trail grades, develop crossings of ephemeral streams, and decommission the existing Memorial Trail and several unsustainable and actively eroding social trails, which would support existing recreational use at Terra Linda / Sleepy Hollow Open Space Preserve.

The proposed project has been designed to minimize potential adverse physical effects on the environment through design by incorporating the design standards included in the MCOSD's RTMP. The existing Memorial Trail is substandard in design and safety. The steep trail gradients, rill and gully erosional features, and loose tread conditions diminish visitor safety, limit accessibility, and severely reduces the ability of staff to properly maintain the trail. The existing social trails in the project area also contribute to erosion and sediment delivery to surface waters under existing conditions. By realigning the Memorial Trail and providing sustainable trailhead connections, implementation of the proposed project would reduce the overall trail length by nearly one mile, reduce the trail gradient to below 10 percent, and would include frequent drainage breaks and grade reversals, outsloping the trail tread, and would include crossings of the ephemeral streams, all of which would reduce existing trail erosion in the project area and thereby improve water quality. Restoration of decommissioned trails would decrease habitat fragmentation and improve wildlife habitat.

This Initial Study has identified a potentially significant impact to nesting birds that could result from implementation of the proposed project and has included a mitigation measure to reduce the potentially significant environmental impacts to a less than significant level in the following CEQA Checklist topic areas. With the implementation of the applicable RTMP Policies and BMPs, and the mitigation measure identified in this Initial Study, implementation of the proposed project would not result in a significant adverse physical effect on the environment. Overall, the implementation of the proposed project would reduce the existing impacts from the existing trail system by reducing erosion and sedimentation and the natural habitat area disturbed by trails.

As described in the Cultural Resources section of this CEQA Checklist, the project area does not contain known important examples of the major periods of California history or prehistory. For these reasons, with mitigation measures identified in this document, the implementation of the proposed project would result in a less than significant impact associated with 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.)
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:

- Alto Bowl Open Space Preserve, Mill Valley - Bob Middagh and Gasline trails
- Baltimore Canyon Open Space Preserve, Larkspur - Dawn Falls Trail
- Blithedale Summit Open Space Preserve, Larkspur - Piedmont Trail
- Camino Alto Open Space Preserve, Mill Valley - Val Vista Trail
- Camino Alto Open Space Preserve, Mill Valley - Octopus Trail
- Cascade Canyon Open Space Preserve, Fairfax - Cascade Canyon Fire Road
- Gary Giacomini Open Space Preserve, San Geronimo Valley - Contour/Candelero complex trails
- Gary Giacomini Open Space Preserve, San Geronimo Valley - Hunt Camp Trail
- Gary Giacomini Open Space Preserve, San Geronimo Valley - Conifer Fire Road Trail
- Loma Alta Open Space Preserve, Fairfax - Old Railroad Grade Trail
- Roy's Redwoods Open Space Preserve, San Geronimo Valley - Roy's Redwoods Loop Trail

- Terra Linda / Sleepy Hollow Open Space Preserve, San Anselmo - Irving Fire Road
- Rush Creek Open Space Preserve, Novato - Blue Oak Trail
- Rush Creek Open Space Preserve, Novato - Spurs Trail
- Rush Creek Open Space Preserve, Novato - Lucky Aces Trail
- Rush Creek Open Space Preserve, Novato - Acorn Trail

At the time of publication of this document, the MCOSD is implementing improvements and repairs to the following roads and trails:

- Terra Linda / Sleepy Hollow Open Space Preserve, San Rafael - Water Tank Fire Road
- Terra Linda / Sleepy Hollow Open Space Preserve, San Rafael - Irving Fire Road
- Terra Linda / Sleepy Hollow Open Space Preserve, San Rafael - Cherry Hill Fire Road
- Terra Linda / Sleepy Hollow Open Space Preserve, San Rafael - Mont Marin Trail

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:

- Blithedale Summit Open Space Preserve, Mill Valley - Greenwood Fire Road
- Cascade Canyon Open Space Preserve, Fairfax - Bridges and Trail Improvement
- Cascade Canyon Open Space Preserve, Fairfax - Carey Camp Bridges
- Cascade Canyon Open Space Preserve, Fairfax - Lower Cascade Fire Road
- Cascade Canyon Open Space Preserve, Fairfax - Toyon Fire Road
- Cascade Canyon Open Space Preserve, Fairfax - Wagon Wheel Bridges
- Ignacio Open Space Preserve, Novato - Buck Gulch Falls Trail
- Roy's Redwoods Open Space Preserve, Woodacre - Roy's Redwoods Restoration
- Blithedale Summit Open Space Preserve, Larkspur - West Baltimore Trail
- Mount Burdell Open Space Preserve, Novato - Bowman Canyon Roads & Trails
- Stafford Lake Park, Novato - Five-Mile Trail
- White Hill Open Space Preserve, Fairfax - Saddle Cut Trail

All past RTMP projects have complied with the requirements of the RTMP and all future RTMP would also 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 environmental resources of the open space preserves.

Regarding the proposed project, MCOSD would implement the applicable MCOSD RTMP BMPs described in this document and would implement the mitigation measure regarding nesting birds included in this document to reduce potential impacts not addressed by the RTMP BMPs to a less than significant level. Cumulatively, MCOSD projects would result in beneficial effects to environmental resources by improving its road and trail system, decreasing erosion and sedimentation, improving water quality, reducing habitat fragmentation, and improving habitat. For these reasons, implementation of the proposed project would not result in impacts that are individually limited, but cumulatively considerable.

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

No Impact

The project area is adjacent to residential communities and Terra Linda High School. The nearest residential receptors on Malone Lane, which are adjacent to Terra Linda / Sleepy Hollow Open Space Preserve and approximately 30 feet from the nearest point of the project area.

The proposed project would formalize the Malone Lane, Oak Ridge and Del Haro Way trailheads, which are currently undesignated, and would designate the formalized Del Haro Trailhead of the realigned Memorial Trail to multi-use, which would provide access to non-motorized bikes on the Memorial Trail in addition to hikers, equestrians, and dogs. These changes to the trail system within the project area are anticipated to increase neighborhood trail access at the designated trailheads and introduce bicycles to the Memorial Trail. The increase in use is anticipated to be locally driven by the residents of Terra Linda and the Terra Linda High School sports programs, particularly the cross-country running team and the mountain bike team, Go Trojans. The proposed project does not include new designated parking or other amenities that would normally contribute to a significant increase in visitors, new types of visitors, or create a destination. The new trail configuration would also improve access for ranger patrol and emergency responders on foot or using small all-terrain vehicles.

Potential impacts to the humans have been analyzed in this Initial Study, including Air Quality, Greenhouse Gas Emissions, Noise, and Transportation. No potentially significant environmental impacts were identified that would affect human beings. For these reasons, implementation of the proposed project would result in no impact associated with environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

REFERENCES

Allen-Diaz, B.H., R. Standiford, and R.D. Jackson. 2007. Oak Woodlands and Forests. Pages 313-338, in http://gis.abag.ca.gov/website/Hazards/?hlyr=apZones

Association of Bay Area Governments (ABAG). Liquefaction Hazard Maps. http://gis.abag.ca.gov/website/Hazards/?hlyr=liqSusceptibility

Association of Bay Area Governments (ABAG). Landslide Maps. http://gis.abag.ca.gov/website/Hazards/?hlyr=cgsLndsldZones

Bay Area Air Quality Management District (BAAQMD). Clean Air Plan. Adopted April 19, 2017. https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en

Bay Area Air Quality Management District (BAAQMD). California Environmental Quality Act Air Quality Guidelines. May 2017. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Bay Area Air Quality Management District (BAAQMD). https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status 2020

Bay Area Air Quality Management District (BAAQMD). In Your Community – Marin County.http://www.baaqmd.gov/about-the-air-district/in-your-community/marin-county

Bay Area Air Quality Management District (BAAQMD). Regulation 7 – Odorous Substances.https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-7-odorous-substances/documents/rg0700.pdf?la=en

Best, Timothy C., CEG. Region 5: Terra Linda-San Pedro MT Complex. Road and Trail Assessment. Santa Cruz, CA. February 2013

Blake, M.C., Jr., Graymer, R.W. and Jones, D.L. Geologic Map and Map Database of Parts of Marin, San Francisco, Alameda, Contra Costa, and Sonoma Counties, California. United States Geologic Survey. United States Department of the Interior. 2000

California Air Resources Board. California 2017 Climate Change Scoping Plan. November 2017. https://ww2.arb.ca.gov/sites/default/files/classic//cc/scopingplan/scoping_plan_2017.pdf (CARB 2017).

California Department of Conservation, 2018. Marin County, Important Farmland Data Availability. https://www.conservation.ca.gov/dlrp/fmmp/Pages/Marin.aspx

California Department of Conservation. Earthquake Zones of Required Investigation. https://maps.conservation.ca.gov/cgs/EQZApp/app/

California Environmental Protection Agency (CalEPA), March 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature

California Department of Forestry and Fire Protection (CalFire) Wildfire Hazard Zone Maps http://frap.fire.ca.gov/webdata/maps/marin/fhszl_map.21.pdf

California Department of Toxic Substances Control (DTSC), 2019. Envirostor environmental database. http://www.envirostor.dtsc.ca.gov/public/

California Department of Transportation (Caltrans), 2015. Officially Designated Scenic Highways. https://dot.ca.gov/-/media/dot-media/programs/design/documents/od-county-scenic-hwys-2015-a11y.pdf

California Department of Transportation (Caltrans), 2019. California Scenic Highway Mapping System. https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways

California Regional Water Quality Control Board, San Francisco Bay Region. Water Quality Control Plan (Basin Plan). Oakland, CA. Updated to reflect the Basin Plan amendments adopted up through May 4, 2017 https://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/basin_plan/docs/basin_plan07.pdf

California State Geoportal Fire Hazard Severity Zone Viewer. https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414

Federal Highway Administration (FHWA). Construction Noise Handbook. August 2006

Federated Indians of Graton Rancheria. https://gratonrancheria.com/culture/history/

Federated Indians of Graton Rancheria. https://gratonrancheria.com/culture/traditional-cultural-territory/

Hoorn, Jason F., DPESC #6786. Memorial Trail Work Plan. Gold Ridge Resource Conservation District. Sebastopol, CA. January 17, 2020

Marin County Climate Action Plan. July 2015. https://www.marincounty.org/-/media/files/departments/cd/planning/sustainability/climate-and-adaptation/full-cap-2015/marincapupdate_final_20150731.pdf?la=en

Marin County Climate Action Plan 2030. December 2020. https://www.marincounty.org/-/media/files/departments/cd/planning/sustainability/climate-and-adaptation/cap-2030_12082020final

Marin County Library. Anne T. Kent California Room. https://medium.com/anne-t-kent-california-room-community-newsletter/marin-pioneer-timothy-murphy-embraces-fun-and-faith-9798a168d31

Marin County. Marin Countywide Plan. November 2007

Marin County Open Space District (MCOSD). Vegetation and Biodiversity Management Plan. Prepared by May & Associates, Inc. April 2015

Marin County Open Space District (MCOSD). Road and Trail Management Plan. December 2014

Marin County Open Space District (MCOSD). Road and Trail Management Plan Recirculated Final Tiered Program Environmental Impact Report. November 2014

Marin GeoHub. https://gisopendata.marincounty.org/datasets/MarinCounty::liquefaction/explore?location=38.017000%2C-122.674500%2C10.82

Marin Map. https://marincounty.maps.arcgis.com/apps/webappviewer/index.html?id=688f506cfb144067826bb35a062b0f0a

Marin Municipal Water District. Urban Water Management Plan, 2015 Update. Prepared by RMC, Water and Environment, San Francisco, CA. June 2016. http://marinwater.org/DocumentCenter/View/3828/MMWD-2015-UWMP-Final---Report-Only?bidId=

Occupational Safety & Health Administration, 2011. Regulations, Standards 29 CFR, Occupational Noise Exposure 1910.95

Occupational Safety & Health Administration, 2011. Regulations, Standards 29 CFR, Occupational Noise Exposure 1910.95

Office of Environmental Health Hazard Assessment (OEHHA). *Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments.* February 2015. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

Origer, Tom & Associates. Cultural Resources Study for the Memorial Trail Project; Terra Linda/Sleepy Hollow Divide Open Space Preserve; San Rafael, Marin County, California. Lena Murphy, BA and Eileen Barrow, MA/RPA. October 22, 2021

Office of Environmental Health Hazard Assessment (OEHHA). Air Toxics Hot Spots Program, Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments. February 2015. https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

Prunuske Chatham, Inc. Biological Resources Assessment; Terra Linda/Sleepy Hollow Open Space Preserve; Memorial Trail Project. August 2019

Sawyer, John O., Todd Keeler-Wolf, and Julie M. Evans. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society Press

Transportation Authority of Marin (TAM). 2019 Congestion Management Program Update. September 2021. https://2b0kd44aw6tb3js4ja3jprp6-wpengine.netdna-ssl.com/wp-content/uploads/2021/10/036-051_Final-Draft-2021-Marin-County-CMP.pdf

U.S. Department of Housing and Urban Development. The Noise Guidebook. May 1985.

U.S. Department of Transportation. Federal Transit Administration. Transit Noise and Vibration Assessment Manual. September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Wentworth, C.M., Graham, S.E., Pike, R.J., Beukelman, G.S., Ramsey, D.W., and Barron, A.D., Summary Distribution of Slides and Earth Flows in Marin County, California. United States Geological Survey, 97-745 C, Sheet 4 of 11. 1997. https://pubs.usgs.gov/of/1997/of97-745/madl.html

36 Code of Federal Regulations (CFR) Part 800: Protection of Historic Properties. https://www.achp.gov/sites/default/files/regulations/2017-02/regs-rev04.pdf

36 CFR 60.4: National Register of Historic Places. https://www.ecfr.gov/cgi-bin/text-idx?SID=b36f494ab8c19284178b4c593eda2a8f&tpl=/ecfrbrowse/Title36/36cfr60_main_02.tpl

54 USC 306108: Effect of Undertaking on Historic Property. https://www.law.cornell.edu/uscode/text/54/306108

All webpages referenced in this document were accessible at the date of document publication.

APPENDIX A: MARIN COUNTY OPEN SPACE DISTRICT ROAD AND TRAIL MANAGEMENT PLAN POLICIES AND BEST MANAGEMENT PRACTICES (BMPs)

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.

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 non-sensitive 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
Less than or equal to 20 percent	Greater than 150 feet	Allowed
Less than or equal to 50 percent	Greater than 300 feet	Allowed
Greater than 50 percent	Long vegetated slope	Allowed
Greater than 50 percent	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 QUALITY 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.