



Marin Municipal Water District
**Addendum to the Biodiversity, Fire, and
Fuels Integrated Plan (BFFIP)**
Program Environmental Impact Report
State Clearinghouse No. 2017012007

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Marin Municipal Water District Addendum to the Biodiversity, Fire, and Fuels Integrated Plan (BFFIP) Program

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1 Introduction

1.1 Background and Proposed Addendum

The Marin Municipal Water District (District), chartered on April 25, 1912, is one of the first municipal water districts in California and was formed to ensure reliable water service in central and southern Marin, which had previously been served by small private companies. The District's mission is to manage natural resources in a sustainable manner, and to provide high-quality water at a reasonable price. As of 2025, the District serves more than 192,000 people in central and southern Marin and is an environmental steward to 22,000 acres of watershed land on Mount Tamalpais and in West Marin.

In 2019, the District adopted its Biodiversity, Fire, and Fuels Integrated Plan ("BFFIP", or "plan") and certified the Program Environmental Impact Report (PEIR) to reduce wildfire risk and enhance ecosystem function through 27 management actions, including year-round vegetation management to reduce fuel loads, maintain fuelbreaks and defensible space, and control invasive species. The District has been implementing vegetation management activities under the BFFIP for more than 6 years. These activities reduce the risk of high-intensity wildfire and support ecological restoration in the Mount Tamalpais Watershed through the removal of invasive plant species.

In 2023, the District amended the BFFIP and approved an addendum to the 2019 BFFIP PEIR, referred to as the 2023 addendum, to address several larger refinements to the approved plan, specifically it authorized beneficial treatments, including prescribed burning in rare plant areas; consolidated broom treatments into a single management action and expedited treatment of maximum allowable broom acreages; expanded conifer and hardwood forest stand treatments; and clarified procedures related to broadcast burning.

The purpose of this addendum is to allow for additional beneficial broadcast burning under the BFFIP, increasing the currently allowed annual maximum of 180 acres of burning to allow for up to 1,000 acres of annual burns.

1.2 CEQA Compliance

The District's Board of Directors certified the PEIR for the BFFIP (State Clearinghouse Number 2017012007) on October 15, 2019 (Marin Water District, 2019). The 2019 BFFIP PEIR was prepared in accordance with the California Environmental Quality Act (CEQA) to assess the environmental effects of the BFFIP. An Initial Study was prepared in support of the 2019 BFFIP PEIR and is attached to that document. The Notice of Determination for the 2019 BFFIP PEIR

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was posted on October 28, 2019. The 2023 addendum was prepared and approved March 16, 2023, to account for minor modifications to the BFFIP and BFFIP PEIR.

Pursuant to Section 15164 of the CEQA Guidelines, an addendum to an adopted Environmental Impact Report (EIR) shall be prepared if only minor technical changes or additions are necessary and none of the conditions described in Sections 15162 and 15163 of the CEQA Guidelines have occurred that call for preparation of a subsequent or supplemental EIR. As described in Section 15162(a), a subsequent or supplemental EIR would be required if substantial changes occur to the project or substantial changes to the circumstances under which the project is undertaken occur that would involve either (a) a new significant environmental effect or (b) a substantial increase in the severity of a previously identified significant effect.

Certain aspects of the BFFIP are proposed to be revised from what was analyzed in the certified 2019 BFFIP PEIR. Accordingly, this addendum describes the proposed changes and additions to the BFFIP and BFFIP PEIR (referred to as the “proposed revisions” and “2026 update”, respectively) and identifies any additional analysis in accordance with the Appendix G resource questions analyzed in the 2019 BFFIP PEIR and 2023 addendum.

The best management practices (BMPs) incorporated into the BFFIP, and the mitigation measures (MMs) adopted as part of the 2019 BFFIP PEIR, incorporating revisions from the 2023 addendum, are presented in Appendix A. Further, the revisions proposed pursuant to the 2026 addendum are shown in gray highlighted underline and ~~strikeout~~ in Appendix A.

Section 15164(c) of the CEQA Guidelines states that “[a]n addendum need not be circulated for public review but can be included in or attached to the final EIR or adopted negative declaration.” Because, as documented below, the impact determinations in the 2019 BFFIP PEIR have not changed, preparation of additional environmental documents, circulation, and review of public comments, are not required.

1.3 BFFIP Management Actions Pertaining to this Addendum

The BFFIP established goals for broadcast burning through following management action (MA), as follows:

- MA-23: Improve conifer and mixed hardwood forest stand structure and function in the Ecosystem Restoration Zone/ Wide Area Fuel Reduction Zone (WAFRZ)
- MA-24: Improve grassland and oak woodlands in the Ecosystem Restoration Zone

Under the existing plan, the District has successfully implemented broadcast burning in collaboration with the Marin County Fire Department under both of these MAs. Most recently, the District completed two broadcast burns in 2025 under MA-24 totaling 109 acres. Currently, the District has burn plans underway for approximately 216 acres.

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1.4 Summary of Plan Changes

The BFFIP calls for periodic review as part of its adaptive management framework. Since certification of the 2019 BFFIP PEIR and 2023 addendum, the District and other entities within the greater Bay Area have seen success in use of controlled broadcast fire in the reduction of wildfire risk and advancement of long-term ecological restoration. These successes include the District’s limited controlled broadcast burning within the Mount Tamalpais Watershed. Accordingly, the District now proposes to increase allowable annual broadcast burning treatment thresholds to better mimic historic fire return intervals, as feasible, by vegetation types.

Table 1.4-1 provides an overview of the proposed 2026 BFFIP changes in comparison to the approved BFFIP as assessed in the 2019 BFFIP PEIR and 2023 addendum. The primary change is to allow for up to a total of 1,000 acres of broadcast fire annually, which is an increase from the current maximum of 180 acres of annual burning. The purpose of this change is to reflect increased use and acceptance of broadcast burning by the public and fire agencies, as well as its demonstrated benefits as a cost-effective vegetation management tool. Specifically, the proposed increases in broadcast burning under MA-23 and MA-24 include 240 acres of forest understory annually and 760 acres annually of grasslands and open woodlands, as detailed in Table 1.4-1.

Table 1.4-1 Overview of 2026 BFFIP Updates

Topic	Approved 2019/2023 BFFIP and PEIR	Proposed 2026 BFFIP Updates
MA-23: BFFIP	<ul style="list-style-type: none"> Ramp up of burning up to two 20-acre projects annually (40 acres) by the 5th year of the BFFIP Up to 100 acres of broadcast burning in forest understory within the first 5 years of the BFFIP adoption (Year 1 through Year 5; 2020 to 2024) 	<ul style="list-style-type: none"> Annual burning up to 240 acres in forest understory (Year 7 [2027] and beyond)
MA-23: 2019 PEIR Modeling Assumption	<ul style="list-style-type: none"> Maximum of 40 acres of broadcast burning in conifer forest, mixed hardwood forest, and intermixed shrub and grassland communities Manual and mechanical pre-treatment acres are accounted for in the initial reduction and maintenance actions 	<ul style="list-style-type: none"> Maximum of 240 acres of broadcast burning in conifer forest, mixed hardwood forest, and intermixed shrub and grassland communities No change needed for manual and mechanical pre-treatment acres
MA-24: BFFIP	<ul style="list-style-type: none"> Ramp up of burning up to three projects annually (not exceeding 140 acres) by the 5th year of the BFFIP Up to 450 acres of broadcast burning in grasslands and open oak woodlands within 5 years of the BFFIP adoption (2020 to 2024) 	<ul style="list-style-type: none"> Annual burning up to 760 acres in grasslands and open oak woodlands (Year 7 [2027] and beyond)

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Topic	Approved 2019/2023 BFFIP and PEIR	Proposed 2026 BFFIP Updates
MA-24: 2019 PEIR Modeling Assumption	<ul style="list-style-type: none"> Maximum of 112.4 acres of broadcast burning in oak woodlands and grasslands Manual and mechanical pre-treatment acres are accounted for in the initial reduction and maintenance actions 	<ul style="list-style-type: none"> Maximum of 760 acres of broadcast burning in oak woodlands and grasslands No change needed for manual and mechanical pre-treatment acres
MA-25, MA-26, MA-27: BFFIP	<ul style="list-style-type: none"> Broadcast burning may be used under MA-25, MA-26, and MA-27 	<ul style="list-style-type: none"> Clarity that broadcast burning under MA-23 and MA-24 may be designed to achieve the desired outcomes of MA-25, MA-26, and MA-27
Total Broadcast Burning In All Management Actions	<ul style="list-style-type: none"> Maximum of 180 acres of annual broadcast burning 	<ul style="list-style-type: none"> Maximum of 1,000 acres of annual broadcast burning (an increase of 820 acres)
Changes to MM Biology-9	<ul style="list-style-type: none"> Provided Protection of Western Pond Turtle Nesting Habitat and Overwintering 	<ul style="list-style-type: none"> Name revised to 'Northwestern Pond Turtle' due to species name change
Changes to MM Biology-11	<ul style="list-style-type: none"> Focused on Marin Elfin Butterfly Host Plant Avoidance 	<ul style="list-style-type: none"> Broadened scope of this measure to cover other special-status butterfly species, such as the monarch butterfly

Revisions to the BFFIP are proposed in sections ES-5, 6.2.4, 6.2.5, and 6.3.3 as well as Table ES-9 and Table 6-1. The proposed revisions to the adopted BFFIP are displayed in the following sections in gray highlighted ~~strikeout~~ and underline.

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1.5 Revised BFFIP

1.5.1 ES.5 Implementation of the BFFIP

Table ES-3 on page ES-9 is proposed to be revised as follows:

Management Action No.	Action	Performance Criteria	Year 5 (2024) Implementation Level	Year 7 (2026) Implementation Levels
MA 23	Improve conifer and mixed hardwood forest stand structure and function in the Ecosystem Restoration Zone <u>WAFRZ</u>	<ul style="list-style-type: none"> Initial reduction in accumulated fuels and brush density in 180 acres of conifer and mixed hardwood stands within 5 years of plan adoption. 	150 acres	150 acres
		<ul style="list-style-type: none"> Maintenance of areas where fuels and brush density were reduced and trees planted. 	300 acres	300 acres
		<ul style="list-style-type: none"> Complete 100 acres of broadcast burning in forest understory within 5 years of the plan adoption. <u>Complete up to 240 acres of annual broadcast burning in forest understory from Year 7 onward.</u> 	Up to two 20 40 acres projects	<u>Up to 240 acres</u>
MA 24	Improve grasslands and oak woodlands in the	<ul style="list-style-type: none"> Conduct Douglas-fir thinning in grasslands and the understory of oak woodlands. 	200 acres	200 acres

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Management Action No.	Action	Performance Criteria	Year 5 (2024) Implementation Level	Year 7 (2026) Implementation Levels
	Ecosystem Restoration Zone. ^b	<ul style="list-style-type: none"> Complete 450 acres of broadcast burning in grasslands and open oak woodlands within five years of plan adoption. <u>Complete up to 760 acres of annual broadcast burning in grasslands and open oak woodlands from Year 7 onward.</u> 	Three projects (not to exceed Up to 140 acres combined per year)	<u>Up to 760 acres</u>
		<ul style="list-style-type: none"> Reduce goat grass to less than 5 percent of 2016 mapped levels. 	35 acres	35 acres
		<ul style="list-style-type: none"> Reduce effort needed to maintain 2016 extent of yellow starthistle by 25 percent. 	120 acres	120 acres
		<ul style="list-style-type: none"> Control other high priority weeds to prevent expansion beyond spatial extent documented in 2016 and achieve a 25 percent reduction in both weed cover and the level of effort needed to maintain it. 	Covered by patches identified in MA-22	Covered by patches identified in MA-22

1.5.2 Chapter 6: Implementation of Vegetation Management Actions

Table 6-1 on page 6-3 is proposed to be revised as follows to account for the increase in the upper annual thresholds for broadcast burning:

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Management Action No.	Action	Performance Criteria	Year 5 (2024) Implementation Level	Year 7 (2026) Implementation Levels	Goal	Approach
MA 23	Improve conifer and mixed hardwood forest stand structure and function in the Ecosystem Restoration Zone ^b <u>WAFRZ</u> .	<ul style="list-style-type: none"> Initial reduction in accumulated fuels and brush density in 180 acres of conifer and mixed hardwood stands within 5 years of plan adoption. 	150 acres	150 acres	1.2	1.1, 1.2, 1.3, 1.4
		<ul style="list-style-type: none"> Maintenance of areas where fuels and brush density were reduced and trees planted. 	300 acres	300 acres		
		<ul style="list-style-type: none"> Complete 100 acres of broadcast burning in forest understory within 5 years of plan adoption. 	Up to two 20 40-acre projects	<u>Up to 240 acres</u>		
		<ul style="list-style-type: none"> <u>Complete up to 240 acres of annual broadcast burning in forest understory from Year 7 onward.</u> 				
MA 24	Improve grasslands and oak woodlands in the Ecosystem Restoration Zone. ^b	<ul style="list-style-type: none"> Conduct Douglas-fir thinning in grasslands and the understory of oak woodlands. 	200 acres	200 acres	1.2	1.1, 1.3, 2.3, 2.4,
		<ul style="list-style-type: none"> Complete 450 acres of broadcast burning in grasslands and open oak woodlands within five years of plan adoption. <u>Complete up to 760 acres of annual broadcast burning in grasslands and open oak woodlands from Year 7 onward.</u> 	Three projects (not to exceed <u>Up to 140 acres combined per year</u>)	<u>Up to 760 acres</u>		

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Management Action No.	Action	Performance Criteria	Year 5 (2024) Implementation Level	Year 7 (2026) Implementation Levels	Goal	Approach
		<ul style="list-style-type: none"> Reduce goat grass to less than 5 percent of 2016 mapped levels. 	35 acres	35 acres		
		<ul style="list-style-type: none"> Reduce effort needed to maintain 2016 extent of yellow starthistle by 25 percent. 	120 acres	120 acres		
		<ul style="list-style-type: none"> Control other high priority weeds to prevent expansion beyond spatial extent documented in 2016 and achieve a 25 percent reduction in both weed cover and the level of effort needed to maintain it. 	Covered by patches identified in MA-22	Covered by patches identified in MA-22		

Notes:

^a CAL FIRE determines the start of the official fire season each year based on weather conditions. Fire season typically starts between mid-May and early- June and extends into mid-November but changes depending upon the conditions in each year.

^b ~~The Ecosystem Restoration Zone includes the WAFRZ.~~

^c A patch is defined as a maximum of 100 square meters (0.02 acre).

^d ~~A project is defined as 38 acres but could vary by year.~~

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Section 6.2.4 on pages 6-9 to 6-10 is proposed to be revised as follows:

Prescribed Burning

The District will conduct broadcast burning in the understory of conifer and mixed hardwood forests located within the Ecosystem Restoration Zone/WAFRZ as part of the follow-up maintenance described above. Broadcast burning will help improve the forest stand structure by suppressing the re-establishment of brush in the understory that competes with native trees and by stimulating seed germination of fire-dependent native species. A description of how the District will conduct broadcast burning is described later in this document, in Section 6.3.3. The initial target is to complete broadcast burning on 100 acres of forest understory in the Ecosystem Restoration Zone within 5 years of plan adoption. Up to 240 acres may be burned annually in subsequent years of plan implementation. Individual with individual burn projects may be limited to 20 acres in size up to 240 acres. Pile burning of accumulated brush is also included under prescribed burning, but not included within broadcast burning annual acreage assumptions.

Section 6.2.5 on page 6-10 is proposed to be revised as follows:

Prescribed Burning

The District will conduct broadcast burning in grasslands and oak woodlands within the Ecosystem Restoration Zone. Broadcast burning will help improve grassland and oak woodland by minimizing the spread of invasive species. Broadcast burning would also be used to treat some areas of weeds, including starthistles and goatgrass. These weeds occur in grasslands but also could be burned in chaparral. A description of how the District will conduct broadcast burning may be found in Section 6.3.3. The initial target is to complete broadcast burning on 450 acres of grasslands and open oak woodlands (and potentially chaparral) in the Ecosystem Restoration Zone within 5 years of plan adoption. Up to 760 acres may be burned annually in subsequent years of plan implementation. The District will conduct one to three broadcast burns per year; individual burn projects range from 30 to 100 acres in size, may be several hundred acres. Pile burning of accumulated brush is also included under prescribed burning, but not included within broadcast burning annual acreage assumptions.

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Table 6-2 on page 6-16 is proposed to be revised as follows to account for the increase in the upper annual thresholds for broadcast burning:

Technique		MA 20	MA 21	MA 22	MA 23	MA 24	MA 25	MA 26	MA 27
		Infrastructure Zone Maintenance	Fuelbreak Construction	Early Detection Rapid Response	Forest Stand Structure Improvement	Grasslands and Oak Woodland Improvement	Reintroduce or Enhance Species	Restoration Plans	Weed Control Trials
Prescribed Burning	Broadcast burning	-	-	-	<u>as appropriate per prescription infrequent</u>	<u>as appropriate per prescription infrequent</u>	infrequent (refer to MA-23 and MA-24)	Infrequent (refer to MA-23 and MA-24)	Infrequent (refer to MA-23 and MA-24)
	Pile burning	infrequent	often	-	often	often	infrequent	infrequent	-

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Section 6.3.2 on page 6-19 is proposed to be revised as follows:

Conifer and Mixed Hardwood Forest Stand and Woodland Enhancement

The methods and tools used to improve stand structure and woodlands to achieve multiple benefits include those described above. Mechanical methods will be used to remove dead and diseased trees and understory brush such as tanoak resprouts as well as encroaching trees in woodland communities that perpetuate undesirable fuel loading conditions and suppress the growth of desired native species. It will also include mulching and masticating in-place, and hand planting new seedlings or spreading seed.

Understory brush and diseased trees will be thinned and masticated with a combination of heavy equipment (excavators of various sizes and/or skidsteers with various mulching heads) and hand crews with chainsaws or brushcutters where slopes do not exceed 30 percent. Mulch will be redistributed evenly on site to maximize soil moisture retention and weed suppression. In areas cut by hand crews, material may be piled and burned. Stand manipulations will be limited to dead and downed trees, standing trees showing advanced disease, and understory brush. To the fullest extent feasible, existing healthy trees and seedlings will be retained. After initial work, there will be at least two rounds of follow-up brushing with heavy equipment to temporarily suppress resprouting tanoak, followed by planting of native trees, where appropriate. Maintenance work will be performed as needed to ensure trees establish, with a goal of transitioning to a minimal or no management regime within 5 years.

Revegetation efforts, where appropriate, will be designed with an end goal of establishing new trees in areas where disease has resulted in a discontinuous canopy with gaps large enough to contribute to hotter, drier soil conditions and natural regeneration is insufficient. A combination of disease-resistant native conifer and hardwood species may be used including Douglas-fir, redwood (*Sequoia sempervirens*), California nutmeg (*Torreya californica*), valley oak (*Quercus lobata*), and Oregon white oak (*Quercus garryana*). Both direct seeding and seedling installation may be used, and both will employ regionally appropriate material that incorporates genotypes from hotter and drier locations on Mount Tamalpais in anticipation of future climatic conditions. Natural regeneration of Douglas-fir, redwood and other desired tree species will be encouraged through the installation of protective flagging and structures ahead of any secondary treatment of resprouting tanoaks.

Control of Invasive Species

The methods used to control weeds include prevention, EDRR, ongoing control, and targeted restoration plantings. On District lands, weeds will be controlled on a species basis, a site basis, or both. Eliminating new colonies of weeds is the most effective action the District can take to preserve biodiversity (as well as reduce fuelbreak maintenance costs). The Early Detection and Rapid Response (EDRR) program includes conducting regular surveys of those parts of the watershed lands where weed invasion is most likely, and periodic surveys in remote areas where new weed invasions are likely to be

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less frequent. The surveys are performed by trained surveyors including District staff and volunteers. EDRR staff, led by new seasonal aides, pull, hoe, or dig out newly discovered invasions. A database of all EDRR populations is maintained and used to facilitate follow-up visits ensuring that the invasion was eliminated. Weeds are eliminated through pulling or cutting. In some instances, broadcast burning may be appropriate for weed management.

Weed removal sites are revisited and retreated annually until five consecutive years with no weed observations are recorded. The District's ongoing control of the invasive species population is accomplished entirely through pulling invasive weeds.

Section 6.3.3 on page 6-20 is proposed to be revised as follows:

Prescribed burning includes broadcast burning and pile burning. Permits from the Bay Area Air ~~Quality Management~~-District (BAAQMD) are required for all burns, as burning is only allowed on designated burn days during a specific time of the year.

Section 6.3.3 on page 6-21 is proposed to be revised as follows:

Broadcast burning will be used to achieve desired outcomes under MA-23 and MA-24. Burns will be conducted under optimal burn conditions (e.g., fuel moisture content) in accordance with a Burn Plan written by a qualified Burn Plan preparer and/or Smoke Management Plan. Burns may be scheduled to occur before new vegetation growth increases fuel loads, when logistically appropriate. The requirements of relevant regional, state, and federal laws pertaining to human health during prescribed broadcast burning will be included in the Burn Plan and/or Smoke Management Plan. Burns in Marin County are typically conducted when appropriate based on site and weather conditions per unit-based prescription between June and October to achieve the benefits of mimicking the historic fire regime, and when vegetation is dry enough to carry a fire with minimal smoke production and minimal damage to the seed bank. Broadcast burning under MA-23 and MA-24 may be used to achieve the desired outcomes of MA-25, MA-26, and MA-27.

MM Biology-9 and MM Biology-11 are proposed to be revised as follows:

MM Biology-9: Protection of ~~Western-Northwestern~~ Pond Turtle Nesting Habitat and Overwintering

Nesting

Any mechanical method of vegetation management (i.e., heavy equipment), vehicle travel, or prescribed (broadcast and pile) burning that could occur where suitable northwestern pond turtle nesting habitat is present shall be reviewed by a qualified biologist to determine if northwestern pond turtle nesting could be present in the area. If the work with heavy equipment were to occur in loose soils in oak woodlands, mixed coniferous forests, broadleaf forests, or grasslands that are within 100 feet of ponds,

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during the northwestern pond turtle egg-laying season (May to August) as determined by the qualified biologist, the activity shall either be rescheduled to occur outside of the egg-laying period; or a survey shall be conducted to determine if eggs and nests are present in the work area and any identified eggs or nests and young turtles shall be avoided.

Overwintering of Hatchlings in Nests

Any mechanical method of vegetation management (i.e., heavy equipment) or vehicle travel that could occur where suitable overwintering habitat for hatchlings is present shall be reviewed by a qualified biologist to determine if any hatchlings could be present in the area. If work with heavy equipment were to occur in loose soils in oak woodlands, mixed coniferous forests, broadleaf forests, or grasslands that is within 225 meters of ponds known to be used by the northwestern pond turtle, during the overwintering season (October to April) (Holland, 1994) as determined by the qualified biologist, the activity shall either be rescheduled to occur outside of the overwintering period, or a survey shall be conducted to determine if hatchlings are present in the work area and any identified nests shall be avoided.

MM Biology-11: ~~Marin Elfin~~ Special-Status Butterfly Host Plant Avoidance

Prior to vegetation management activities in the limited areas where stonecrop is known to occur (steep slopes on southeast shore of Lake Lagunitas, north facing slopes south of Alpine Lake, and north of Kent Lake) host plants for special-status butterflies are known to occur, District botanical staff shall be notified. If the activity would occur in an area containing or potentially containing stonecrops host plants for special-status butterflies, then a survey shall be conducted to flag all stonecrop-plants within and bordering the work area. Work crews shall be instructed to avoid flagged plants or larger areas, and work crews shall be trained in identification of stonecrop-host plants for special-status butterflies

2 Evaluation

2.1 Aesthetics

The 2019 BFFIP PEIR analysis and 2023 addendum concluded that there would be less than significant impacts on scenic vistas and visual character and quality. The Initial Study for the BFFIP in support of the 2019 BFFIP PEIR, determined that the effects of the BFFIP on scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway or designated scenic roadway would be less than significant and found that the BFFIP would have no impact with regards to creating a new substantial source of light or glare, therefore these topics were not evaluated further in the 2019 BFFIP PEIR or 2023 addendum, and subsequently are not evaluated as part of the 2026 update.

Similar to the adopted BFFIP, implementation of the 2026 update would involve vegetation management in the field that would cause a visual change through the use of hand tools and mechanical equipment to establish and maintain fuelbreaks and defensible space; to remove invasive plant species; and to improve and restore native ecosystem on watershed lands. Similar to the adopted BFFIP, under the 2026 update, trails and roads that may afford views to management activities may remain open based on on-the-ground personnel expertise and in accordance with the burn-specific Burn Plan and/or Incident Action Plan.

Proposed revisions made to the BFFIP actions that involve a visible change on the District's landscape include an increase of approximately 820 acres of annual broadcast burning treatments. The burning is intended to improve conifer forest, mixed hardwood forest, and intermixed shrub and grassland community stand structures, but could result in visual impacts, as previously analyzed.

The 2019 BFFIP PEIR and 2023 addendum addresses changes to forest stand structures from implementation of MA-23. The analysis found that while the forest density and type may be altered, it would still conform to existing variability across the watershed and would not degrade the visual quality of the watershed. Increasing the acreage treated per year would still represent a less than significant impact because it would not result in significant changes in the landscape given the overall scale of the landscape and changes would remain consistent with existing variability, as discussed in the 2019 PEIR and 2023 addendum. Additionally, consistent with the 2019 BFFIP PEIR and 2023 addendum, the staging of equipment (e.g., water trucks) required for the increased broadcast burning locations may be visible. However, the number of viewers would not be substantial given the localized areas that would be used for staging compared with the overall size of the District's lands and trail system. The areas surrounding the burn sites would be closed to public access for at least 500 feet around the burn, in accordance with MM Hazards-4, and the timeframe of use for staging would be limited to a few

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days. Broadcast burns would require control lines (i.e., fire lines, firebreaks), as discussed in the 2019 BFFIP PEIR, which are customarily created to have “feathered” edges, as opposed to straight lines, to attain a more natural border between the broadcast burn, fire line, and unburned areas. The feathering of the edges of the fire line would limit the level of visual change. Broadcast burns would result in visual impacts from the burned area, such as charred ground and reduced ground cover; however, these impacts would last for one growing season followed by extensive bloom of fire-follower wildflowers and other seedlings. Therefore, signs of broadcast burns would be limited in area and would be temporary.

Visual change would remain low due to the localized and limited areas treated compared to the overall watershed, the limited ability for viewers to perceive changes, the natural condition left after treatment, and the benefits for tree health. Visual changes would continue to occur within the BFFIP landscape; however, visual impacts from these activities have already been described within the adopted BFFIP, 2019 BFFIP PEIR, and 2023 addendum. Therefore, the 2026 update would not result in new or substantially more severe impacts to aesthetics than those analyzed in the certified 2019 BFFIP PEIR and 2023 addendum.

2.2 Agriculture and Forestry Resources

The BFFIP Initial Study concluded that there would be no impacts to agriculture and forestry resources. These resource topics were not evaluated further within the 2019 BFFIP PEIR. The 2023 addendum mirrored this approach. The 2019 BFFIP PEIR determined that no lands within the BFFIP contained agricultural uses. The 2019 BFFIP PEIR also determined that although forests within the BFFIP lands met the definition of forest lands per the State Public Resource code Section 12220, as BFFIP lands can support 10 percent native tree cover, no impacts would occur since no rezoning or change in function and use of the forests would occur, nor would any activities occur that would result in the conversion of forest to non-forest lands. Consistent with the BFFIP Initial Study, while the 2026 update could result in the change in composition and density of some vegetation through broadcast burning, vegetation and trees would remain in relatively high levels post-treatment and no forest land would be lost as no deforestation would occur.

Under the 2026 update, no changes to conditions would occur that could result in an impact on agriculture or forestry resources that could result in a conversion of land to a different use (in this case forestry). The 2026 update would not result in new or substantially more severe significant impacts on agriculture or forestry resources than those analyzed in the 2019 BFFIP PEIR.

2.3 Air Quality

2.3.1 2019 PEIR and 2023 Addendum Summary

The 2019 BFFIP PEIR and 2023 addendum analysis concluded that there would be significant and unavoidable impacts from a cumulatively considerable net increase in a criteria pollutants for which the project region was in nonattainment. The 2019 BFFIP PEIR and 2023 addendum analysis also concluded that there would be significant and unavoidable impacts from conflict or obstruction of implementation of an applicable air quality plan. The 2019 BFFIP PEIR and 2023 addendum concluded less than significant impacts with mitigation to exposing sensitive receptors to substantial pollutant concentrations.

2.3.2 Criteria Pollutants

The 2019 BFFIP PEIR and 2023 addendum analysis concluded that there would be significant and unavoidable impacts on air quality from exceedance of the Bay Area Air District (BAAD; formerly known as the Bay Area Air Quality Management District) thresholds for criteria air pollutant particulate matter with a diameter of 10 microns or less (PM₁₀), particulate matter with a diameter of 2.5 microns or less (PM_{2.5}), and nitrogen oxides (NO_x) (a precursor to ozone), which would be emitted primarily from broadcast burning activities. The region remains in nonattainment for PM₁₀, PM_{2.5}, and ozone, as analyzed in the 2019 BFFIP PEIR (Bay Area Air District 2025).

The 2026 update would allow for an increase in allowable acreage of annual broadcast burns by 820 acres. Use of vehicles and equipment for broadcast burning (e.g., water trucks) and to allow workers to reach project sites would generate exhaust emissions. Fugitive dust would be generated from equipment and vehicle use on paved and unpaved roads and from broadcast burning itself. A summary of the estimated criteria pollutant emissions generated by the increase in broadcast burning is provided in Table 2.3-1.

Table 2.3-1 Estimated Revised Maximum Criteria Air Pollutant Generation (tons/year)

Pollutant	MA-23 ^a	MA-24 ^a	Revised Total ^b	BAAD Threshold
PM ₁₀	202.4	126.0	328.5	15
PM _{2.5}	174.7	104.1	278.3	10
NO _x	3.5	3.0	7.4	10
ROG	1.1	4.9	5.9	10
CO	2,295.7	1,347.3	3,639.1	--

Source: (Golden Gate National Parks Conservancy et al. 2021; U.S. Forest Service 2020)

Notes:

^a Revised emissions associated MA-23 and MA-24 account for the increase in broadcast burning. Manual and mechanical pre-treatment would not increase and is accounted for already in the previously analyzed emissions

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included in the 2019 BFFIP PEIR and 2023 addendum. Any increase in equipment and vehicle emissions associated with implementing the increased broadcast burns is assumed to be minimal.

- ^b Total value also includes the previously analyzed and unchanged minor increases in criterial air pollutant emissions associated with implementation of MA-20, MA-21, MA-22, MA-25, and MA-27.

While the increase in broadcast burning acreage would contribute considerably to regional particulate matter and ozone emissions that are in state and federal nonattainment, which would be potentially significant, as previously analyzed in the 2019 BFFIP PEIR. Consistent with the 2019 BFFIP PEIR and 2023 addendum, implementation of MM Air-1, which requires the District to minimize air pollutant emissions by requiring implementation of one or more methods, such as focusing these broadcast burns on vegetation types (such as grasslands versus hardwood or evergreen forest) that emit less air pollutants or reducing the area of broadcast burns each year, could minimize emissions but not to levels below the BAAD thresholds. Therefore, the 2026 update has the potential to contribute to air pollutant emissions in nonattainment areas as previously analyzed, and the impact would remain significant and unavoidable with this mitigation.

Although the 2026 update would continue to exceed BAAD emission thresholds for PM₁₀ and PM_{2.5}, as shown in Table 2.3-1, overall broadcast burning under the plan would reduce the likelihood of future catastrophic fires, as previously analyzed in the 2019 BFFIP PEIR. For instance, “wildland fires result in a greater quantity of carbon lost per acre and higher particulate matter emissions rates compared to prescribed burning and burn an order of magnitude more land than prescribed burning” (Liu et al. 2017; CARB 2017). It is expected that a wildfire on District lands would have many times greater criteria pollutant emissions than the proposed increase in broadcast burning. These benefits are not readily quantifiable in comparison to the emissions calculated in Table 2.3-1 because the likelihood of a catastrophic fire, the location, and the size cannot be estimated.

As discussed in the 2019 BFFIP PEIR, BAAD is the agency responsible for attainment and maintenance of national and California ambient air quality standards. Accordingly, the District must prepare and submit a Smoke Management Plan to BAAD for each individual broadcast burn in accordance with and including all the restrictions required by BAAD’s Regulation 5 and California Code of Regulations (CCR) Title 17, Subchapter 2. Implementation and adherence to the Smoke Management Plans would reduce some burn emissions due to adhering to seasonal and daily timing stipulations for optimal weather conditions, as well as fuel moisture. BAAD reviews and must approve each Smoke Management Plan prior to the broadcast burn. Additionally, ignition authorization must be given by the District by the BAAD within 24 hours of a burn, as BAAD authorizes specific burn days during which burn events can occur according to air quality in the region. While the annual maximum broadcast burning acreage would increase under the 2026 update, any individual broadcast burn would require approval by BAAD, which determines authorization with consideration for regional attainment status and air quality conditions.

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Based on the calculations, the increase in broadcast burning associated with the 2026 update would result in greater criteria pollutant emissions than were identified in the 2019 BFFIP PEIR. Impacts associated with these emissions are not new, as they were already described as significant and unavoidable in the 2019 BFFIP PEIR and 2023 addendum, and are not substantially more severe. Impacts under the 2026 update would be similar to the 2019 BFFIP, as they would be limited to the day of burning and controlled to a degree through Smoke Management Plans, which include restrictions regarding fuel and weather conditions. Also, as discussed in the 2019 BFFIP PEIR and 2023 addendum, although the impact associated with the 2026 update would still remain significant and unavoidable due to the increase in annual broadcast burning, approved mitigation measure, MM Air-1, would continue to be implemented to reduce impacts from criteria air pollutants under MA-23 and MA-24 by considering vegetation types that emit less air pollutants to meet the desired outcomes of these management actions. As such, the 2026 update would not result in new or substantially more severe impacts to air quality from criteria air pollutants than those analyzed, and disclosed as significant and unavoidable, in the certified 2019 BFFIP PEIR and adopted Statement of Overriding Consideration.

2.3.3 Toxic Air Contaminants and Other Pollutants

The 2019 BFFIP PEIR and 2023 addendum concluded that broadcast burning activities would release smoke, which could expose workers, recreationalists, and the public to TAC emissions, including particulate matter, acrolein, and formaldehyde.

The revised BFFIP would allow an increase in annual broadcast burning by 820 acres under MA-23 and MA-24. Broadcast burn events would not involve the disturbance of ground that could result in exposure to naturally occurring asbestos and in the event that burning occurs in areas where naturally occurring asbestos may be found, the potential for disturbance of soil such that it could become airborne is minimal as discussed in the 2019 BFFIP EIR.

Carbon monoxide (CO) emitted from prescribed burns, including broadcast burns, is rapidly diluted and is generally not a health concern to the general public due to the frequency and distance from active burn areas and sensitive populations, such as the elderly and children, would generally not be exposed to high CO concentrations as a result of broadcast burns, as previously analyzed. Worker health from high CO concentrations would be potentially significant, as discussed in the 2019 BFFIP PEIR, as CO is very dangerous if inhaled; however, MM Air-3 requires use of real-time CO monitors, and rotation of personnel out of heavy smoke, which would continue to reduce impacts to less than significant levels under the 2026 update. Actions implemented under the revised BFFIP would continue to require adherence to MM Air-3 and MM Air-4, which requires the preparation and implementation of a Smoke Management Plan in accordance with the BAAD regulation 5 for any broadcast burn. The 2023 addendum revised MM Air-3 to further clarify that the District would follow the requirements of relevant regional, state, and federal laws pertaining to human health during broadcast burning to minimize risks to worker health. The 2026 update would not result in new or substantially more

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severe impacts to workers from CO concentrations generated during broadcast burning actions than those analyzed in the certified 2019 BFFIP PEIR.

Prescribed burns would generate Toxic Air Contaminants (TAC) emissions, including fine particulate matter, acrolein, and formaldehyde, as discussed in the 2019 BFFIP PEIR. Smoke drift to neighboring residential areas or recreating public from broadcast burning can result in eye irritation and can be a threat to lung health, including through exacerbation of asthma and bronchitis, or can even scar lung tissue and reduce lung capacity from long-term exposure. MM Air-3 specifies that the distance requirements between broadcast burns and sensitive receptors would be 1,000 feet *or the distance specified in the Smoke Management Plan*, which must be approved by BAAD prior to any burn. This distance may be greater, or less than 1,000 feet given the particular conditions at the time of the planned broadcast burn. Burns are planned for and conducted under optimal weather conditions to limit air quality and smoke issues for neighboring communities and ensure fire fighters can maintain control. As discussed in the 2023 addendum, in accordance with MM Air-4, a Smoke Management Plan must be prepared and implemented for broadcast burns in accordance with and including all the information and restrictions required by BAAD's Regulation 5 and CCR Title 17, Subchapter 2. For burn events, exposure to TAC emissions would be minimized by ensuring smoke does not drift or blow towards areas with sensitive receptors, in accordance with the Smoke Management Plan. Smoke drift that could cause short-term health effects would, therefore, be minimized. Contingency actions identified in the Smoke Management Plan would be taken if a burn unexpectedly impacts sensitive receptors. Contingency actions would include halting ignition, suppressing fire, and beginning immediate mop up before a significant exposure can occur. It is acknowledged that some short-term effects from smoke may still be experienced in these rare circumstances, such as stinging, watery eyes, coughing, and runny noses as well as shortness of breath, headaches, dizziness, and nausea. The duration of such effects would be very short. Smoke generated by each broadcast burn conducted under the 2026 update could still expose sensitive receptors (including nearby residences) to TAC emissions, but those exposures would be short-term and would generally occur throughout District lands at differing times thus limiting exposure to any one population of sensitive receptors, and would not pose a significant health risk, consistent with the finding in the BFFIP PEIR. The 2026 update would not result in new or substantially more severe impacts to the public from TAC emissions generated during broadcast burning actions than those analyzed in the certified BFFIP PEIR due to implementation of MM Air-3, MM Air-4, and subsequent compliance with BAAD's Regulation 5 and CCR Title 17.

2.3.4 Conflict with or Obstruct Implementation of an Applicable Air Quality Plan

As discussed in the 2019 BFFIP PEIR and 2023 addendum, the 2017 Clean Air Plan includes voluntary programs and incentive measures for transportation and control measures that do not require vehicle upgrades or retrofits, as analyzed under the certified BFFIP PEIR. BAAD is currently developing a New Clean Air Plan; however, at the time of drafting this 2026 addendum, the 2017 Clean Air Plan remains the latest edition. Similar to the analysis in the 2019 BFFIP PEIR and 2023 addendum, the revised BFFIP would not conflict or obstruct

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implementation of the control measures identified to achieve the goals of the 2017 Clean Air Plan.

The revised BFFIP would increase broadcast burning acreages by 820 acres annually; however, as previously stated, broadcast burning activities would be temporary, would occur in varying locations within the District lands, would be required to comply with MM Air 1, and would overall reduce the likelihood of future catastrophic fires. Therefore, the 2026 update would not result in new or substantially more severe impacts that conflict with or obstruct the implementation of the 2017 Clean Air Plan than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

The 2001 Ozone Attainment Plan includes control measures for on-road motor vehicles. Similar to the adopted BFFIP, the 2026 update would require on-road vehicles used during operation of the plan to be inspected biennially as part of the current plan. Under the 2026 update, no changes to conditions would occur that could result in a conflict or could obstruct implementation of the 2001 Ozone Attainment Plan.

2.4 Biological Resources

2.4.1 PEIR Summary

The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts with mitigation on biological resources with the incorporation of numerous MMs to generally avoid impacts to listed species through pre-work surveys and modifications to treatments.

2.4.2 Special-Status Plant Species

The 2026 update would increase broadcast burning acreages by 820 acres annually under MA-23 and MA-24. As discussed in the 2019 BFFIP PEIR, broadcast burns could occur in areas where special-status plant species are found, and different species react differently to fire. Some sensitive species are encouraged to grow after low intensity fire, and others experience decreases in germination. The 2026 update would not increase the previously identified management boundary of the adopted BFFIP within which broadcast burning could occur, which were fully assessed in the 2019 BFFIP PEIR. Given this, the increase in broadcast burning under the 2026 update would have the same potential for impacts to special-status plant species as were analyzed in the 2019 BFFIP PEIR and 2023 addendum. Consistent with the 2019 BFFIP PEIR and 2023 addendum, implementation of MM Biology-1, MM Biology-2, and MM Biology-3 as well as BMPs would be implemented to minimize impacts of broadcast burning on native plant species. These measures require worker training programs presented by a qualified biologist prior to any commencement of activities, protection of special-status plants, and measures to prevent and spread invasive species and forest diseases from plan activities.

As discussed in the 2023 addendum, broadcast burning would only be conducted when and where rare plant species would benefit from the broadcast burn, as supported by scientific data,

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per the mitigation measure. A qualified professional would identify the species that may benefit from low intensity fire, based on their expert knowledge and/or scientific studies, prior to implementing the treatments in areas of significant resources in accordance with MM Biology-2. The 2026 update would not result in new or substantially more severe impacts to special-status plant species than those analyzed in the 2019 BFFIP PEIR and 2023 addendum, as the same protection protocols would be implemented.

2.4.3 Special-Status Wildlife

As discussed in the 2019 BFFIP PEIR, broadcast burns would occur in or adjacent to areas where several special-status wildlife species have been observed or where appropriate habitat occurs, since work could occur anywhere in the management zones where burning under MA-23 and MA-24 could occur. Broadcast burning could kill special-status amphibians and reptiles in upland areas, cause harm or injury to badgers, result in mortality of special-status butterflies, but would be unlikely to harm special-status mollusks that occur in springs and seeps due to avoidance buffers around wetlands. Smoke from broadcast burning could indirectly impact breeding special-status bird and bat species and the potential for increased erosion and sedimentation could affect special-status fish species. As part of the 2026 update, MM Biology-11 was revised to apply to all special-status butterfly species, rather than only the Marin elfin butterfly, to reflect the listing of additional special-status butterfly species in the plan area since publication of the 2019 BFFIP PEIR and 2023 addendum. This revision is not the result of a newly identified significant impact. MM Biology-11 would continue to provide the same level of protection to butterfly species as originally analyzed in the 2019 BFFIP PEIR, with an expanded scope to cover additionally listed special-status species.

Although the 2026 update would allow for an increase in broadcast burning under MA-23 and MA-24, the update would not change the previously identified plan area boundary, would not increase the overall plan acreage, nor would it allow additional management actions that were not previously analyzed under the adopted BFFIP. The increase in broadcast burning acreage under MA-23 and MA-24 would continue to require adherence to the following mitigation measures for the protection of special-status wildlife species: MM Geology-1 (Erosion Control and Slope Stability Measures), MM Biology-1 (Worker Training), MM Biology-5 (roosting bats), MM Biology-6 (Protection of Badgers), MM Biology-7 (Protection of Nesting Birds), MM Biology-8 (Northern Spotted Owl Avoidance During Nesting Season), MM Biology-9 (Protection of Northwestern Pond Turtle Nesting Habitat), MM Biology-10 (California Red-Legged Frog Avoidance), MM Biology-11 (Special-Status Butterfly Host Plant Avoidance), MM Biology-12 (Protection of Foothill Yellow-Legged Frog), MM Biology-13 (Mollusk Avoidance), MM Biology-14 (Northern Spotted Owl Avoidance of Nesting Season and Habitat), and MM Biology-17 (Protection of California Giant Salamander). The 2026 update would not result in new or substantially more severe impacts to special-status wildlife than those analyzed in the 2019 BFFIP PEIR or 2023 addendum.

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2.4.4 Riparian Habitat or Other Sensitive Natural Community

The 2019 BFFIP PEIR and 2023 addendum found that broadcast burning could have a positive overall impact on riparian habitats, such as through burning to remove weeds, which can regenerate soils and promote native plants; however, as noted in the 2019 BFFIP PEIR, the immediate impacts from temporary loss of riparian habitat could be significant. The 2026 update would continue to require implementation of MM Geology-1, which prohibits broadcast burning within perennial and intermittent streams and riparian forests and woodlands, and requires a 50-foot buffer when burning is proposed upslope on slopes exceeding 30 percent. With implementation of this measure, as was concluded in the 2019 BFFIP PEIR, impacts on riparian habitat from broadcast burning would be less than significant. As such, the increase in broadcast burning under the 2026 update would not result in new or substantially more severe impacts to riparian habitat and other sensitive natural communities than those analyzed in the 2019 BFFIP PEIR.

2.4.5 State and Federally Protected Wetlands

The 2019 BFFIP PEIR and 2023 addendum found that broadcast burns provide the opportunity for establishment of native vegetation including wetland-associated species and that impacts from burning in wetland habitat could be beneficial, as long as special-status species are not present, and therefore, less than significant. While the 2026 update would add 820 acres of annual broadcast burning to the BFFIP, the analyzed benefits of broadcast burning on wetlands would remain unchanged and per the BFFIP and adopted MMs, burning would remain prohibited where and when adverse effects could occur to special-status species. Implementation of the 2026 update would not result in new or substantially more severe impacts to state and federally protected wetlands than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.4.6 Wildlife Movement and Nursery Sites

The 2019 BFFIP PEIR and 2023 addendum found that, because watershed lands function as an important wildlife corridor, alteration of certain habitat types could affect wildlife movement. Control lines (approximately 1- to 3-foot-wide bands where vegetation is cleared to expose mineral soil) would be constructed prior to broadcast burn events to contain fires under the 2026 update, as per the approved BFFIP. These control lines could result in minor, temporary disturbances to wildlife movement, such as short-term avoidance or slight alterations in movement patterns during and immediately following burn operations but would not substantially impede species movement. As analyzed in the 2019 BFFIP PEIR and 2023 addendum, smoke or fire could harm nesting birds and roosting bats, or impact breeding, were it directly in the area of a burn or directly adjacent and affected by smoke. As also discussed in the 2019 BFFIP PEIR and 2023 addendum, broadcast burns could harm or kill special-status amphibians crossing upland areas to reach breeding sites or mollusks in springs and riparian habitat undergoing breeding, which could also occur under the 2026 update. Therefore, the effects on wildlife movement and nursery sites would be potentially significant, as found in the 2019 BFFIP PEIR and 2023 addendum. The 2026 update would continue to require

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implementation of MM Geology-1 (Erosion Control and Slope Stability Measures), MM Biology-1 (Worker Training), MM Biology-9 (Protection of Western Pond Turtle Nesting Habitat), MM Biology-10 (California Red-Legged Frog Avoidance), MM Biology-12 (Protection of Foothill Yellow-Legged Frog), MM Biology-13 (Mollusk Avoidance), MM Biology-17 (Protection of California Giant Salamander), and MM Hydrology-1 (Water Quality Protection During Waterway Crossing or Work Near Waterbodies) to reduce and effects to less than significant levels. These measures work to minimize ground disturbance, ensure qualified biologists perform the BFFIP activities, require biological surveys prior to commencing work, specify BMPs for District staff and contractors, avoidance of instream crossings, and special-status species protections designed to minimize species impacts during breeding. The 2026 update would not result in new or substantially more severe impacts to wildlife movement than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.5 Cultural Resources

2.5.1 2019 BFFIP PEIR and 2023 Addendum Summary

The 2019 BFFIP PEIR and 2023 addendum analysis concluded the plan would have less than significant impacts, with mitigation, on human remains and historical and archaeological resources.

2.5.2 Cultural Resources

The 2026 update would maintain the same management techniques as described within the adopted BFFIP, although it would increase the acreage of annual broadcast burning treatments by 820 acres under MA-23 and MA-24. The 2026 update would not result in additional disturbance types that have not already been analyzed per the 2019 certified BFFIP PEIR and 2023 addendum. As previously analyzed under the 2019 BFFIP PEIR and 2023 addendum, broadcast burning has some potential to cause adverse changes to significant cultural (historic or archaeological) resources. Specifically, while broadcast burning would not require ground disturbance because ignition is performed by hand, resources located on the surface may be obscured by vegetation or plant litter. Cultural resources could be damaged by scorching, residue buildup, fracturing, or, in some cases, destruction. The 2026 update would continue to require implementation of MM Cultural-1 through MM Cultural-4, which include worker training on archaeological and historic resource identification and sensitivity; review of maps identifying known cultural resource locations by trained District staff prior to activities; cessation of work within 165 feet of any previously undiscovered cultural resource to allow for avoidance or treatment; and, in the event of human remains, halting work within 165 feet and notifying the Marin County Coroner, followed by consultation with the Most Likely Descendant to determine appropriate treatment. With implementation of these measures, the 2026 update would not result in new or substantially more severe impacts to cultural resources than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.5.3 Paleontological Resources

The 2019 BFFIP PEIR and 2023 addendum identified less than significant impacts to paleontological resources. The 2019 BFFIP PEIR and 2023 addendum identified some fossils that have been recorded within the plan area, but none were considered to be unique paleontological resources. The geologic units that underlie the plan area have low or no potential to yield unique paleontological resources. The 2026 update would not change the boundaries of the plan area. Similar to the 2019 BFFIP PEIR and 2023 addendum, the activities under the 2026 update would not disturb soil to depths in excess of shrub or tree roots, as broadcast burns only affect the surface and a few centimeters below the ground surface. Therefore, the potential for the 2026 update to uncover, much less destroy, a unique paleontological resource, continues to be very unlikely. The 2026 update would not result in a new or substantially more severe significant impact related to paleontological resources than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.6 Energy

The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts associated with energy use. The 2019 BFFIP PEIR found that the fuel needed to implement the adopted BFFIP was considered beneficial, necessary, and not wasteful given the outcome of the work. The 2019 BFFIP PEIR and 2023 addendum also concluded that the adopted BFFIP would not substantially increase the overall demand for energy in California or substantially affect supply. The activities under the 2026 update would incrementally increase the use of energy as a result of the increase in broadcast burning acreages by 820 acres annually; however, as the work associated with the 2026 update would continue to minimize risks to structures and people from wildfire as well as enhance the natural ecosystem; the energy use would be considered beneficial, necessary, and not wasteful. Therefore, the increase in annual broadcast burning would not create an additional demand for energy in California or substantially affect energy supply. The 2026 update would also not change the conditions that could result in an impact on energy related to a state or local plan because no state or local plans for renewable or energy efficiency apply to the BFFIP. The 2026 update would not result in new or substantially more severe significant impacts related to energy than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.7 Geology and Soils

The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts with mitigation on geology and soils. The 2026 update would not increase the previously identified management boundary of the 2019 BFFIP PEIR or 2023 addendum, nor would it allow additional management actions that were not analyzed under the certified BFFIP PEIR. As discussed in the 2019 BFFIP PEIR, broadcast burning would result in an increased potential for erosion in burned areas and the potential to create water-repellent soils. As such, broadcast burns may result in an increase in stormwater flows over the exposed soils that could pick up

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silt and small soil particles, thereby eroding the surface. Groundcover less than 70 percent has been found to result in excessive runoff and erosion. Broadcast burns, particularly in grasslands and on slopes of greater than 30 percent, could be large enough so that the removal of vegetation and resultant exposed, hydrophobic soil, could result in a substantial increase in erosion and loss of topsoil, which would constitute a potentially significant impact. Consistent with the 2019 BFFIP PEIR and 2023 addendum, MM Geology-1 would be implemented to minimize erosion and loss of topsoil in denuded areas by requiring use of erosion control measures.

Consistent with the 2019 BFFIP PEIR and 2023 addendum, MM Geology-2 requires use of existing facilities for fire lines where they are available, or implementing other erosion control measures to minimize impacts from soil loss and slope instability to less than significant levels. The implementation of increased prescribed burning under the 2026 update would not result in new or substantially more severe significant impact related to geology and soils than those analyzed in the 2019 BFFIP PEIR with continued implementation of these MMs.

2.8 Greenhouse Gas Emissions

The 2019 BFFIP PEIR and 2023 addendum analysis concluded that the BFFIP would result in significant and unavoidable impacts related to greenhouse gas emissions (GHG) (e.g., carbon dioxide (CO₂)), water vapor, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) due to conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing GHG emissions. The 2019 BFFIP PEIR and 2023 addendum also concluded that the approved BFFIP would result in significant and unavoidable impacts related to generation of greenhouse gas emissions that may have a significant impact on the environment, largely due to broadcast burning activities. The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts related to substantially decreasing the overall ability of District lands in the plan area to sequester carbon.

The implementation of activities under the 2026 update would continue result in the emission of GHG emissions, as previously analyzed, although due to the increase in annual broadcast burning acreage, emissions would be greater than those analyzed in the 2019 BFFIP PEIR. Total acreage allowed per year of broadcast burning would increase by 820 acres. Additionally, vehicles and equipment used to travel to the sites where broadcast burning would occur would generate GHG emissions. The net GHG emissions would still exceed the significance threshold recommended by BAAD of 1,100 MTCO_{2e} per year for non-stationary operational emissions under the 2026 update, as shown in Table 2.8-1 (Bay Area Air District 2022).

Table 2.8-1 Estimated Revised Maximum Greenhouse Gas Emissions (metric tons CO_{2e}/year)

Revised MA-23	Revised MA-24	Revised Total	BAAD Threshold
13,849	9,784	23,978	1,100

Source: (Bay Area Air District 2022; U.S. Forest Service 2020)

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Note:

Revised emissions associated MA-23 and MA-24 account for the increase in broadcast burning. Manual and mechanical pre-treatment would not increase and is accounted for already in the previously analyzed emissions included in the 2019 BFFIP PEIR and 2023 addendum. Any increase in equipment and vehicle emissions associated with implementing the increased broadcast burns is assumed to be minimal.

The impact from generation of GHG emissions under the 2026 update would be reduced, but, as was the case with the 2019 BFFIP PEIR and the 2023 addendum, not to below the BAAD significance threshold. Implementation of the 2026 update could still conflict with the 2017 CAP because GHG emissions would exceed the BAAD significant thresholds for GHG as analyzed in the 2019 BFFIP PEIR; however, broadcast burning would reduce the likelihood of a catastrophic fire. Wildland fires have accounted for a generally increasing quantity of GHG emissions over the last 20 years, accounting for a greater quantity of California's overall GHG emissions (Moghaddas et al. 2018). The climate is anticipated to become drier and hotter, which is expected to lead to increased frequency and intensity of large wildland fires and greater fire risks if fuel management activities are not expanded across the state (CNRA 2018). An uncontrolled wildfire on District lands would be expected to have many times greater GHG emissions than BFFIP activities. Consistent with the 2019 BFFIP PEIR and 2023 addendum, the 2026 update would adhere to MM Air-1, which requires the District to minimize emissions by requiring implementation of one or more methods such as reducing the size and number of broadcast burns in any one year, and/or focusing these broadcast burns on vegetation types that emit fewer air pollutants that still meet the desired outcome of the management actions. So, while the impact would remain significant and unavoidable, as disclosed in the certified 2019 BFFIP PEIR and adopted Statement of Overriding Consideration, the 2026 update would not result in new or substantially more severe impacts associated with GHGs than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.9 Hazards and Hazardous Materials

2.9.1 Hazardous Materials

The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts with mitigation to hazards and hazardous materials. Under the 2026 update, no changes to conditions would occur that could result in an impact on hazardous materials related to contaminated sites, as burning would occur in the same management zones as previously assessed. The certified 2019 BFFIP PEIR identified one site as having potential for existing contamination. Implementation under the 2026 update would continue to adhere to MM Hazards-2, which requires avoidance of all former buildings and facilities associated with the contaminated site unless they are remediated and no hazardous materials remain. The 2026 update would allow for an increase in annual broadcast burning activities that involve the use of vehicles and equipment, such as drip torches under MA-23 and MA-24, which could result in the leakage or spilling of fuels. The 2026 update would continue to require adherence to MM Hazards-1, which requires the District to implement spill prevention and response BMPs;

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therefore, the 2026 update would not result in new or substantially more severe impacts to hazardous materials than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.9.2 Wildfire Hazards

The 2019 BFFIP PEIR and 2023 addendum analysis found the BFFIP would have a beneficial effect with regard to reducing wildfire risks including the size and spread of potential wildfires. Some increased risks were identified associated with implementation of the BFFIP, related to wildfire ignition and spread during the actual performance of work, which requires the use of vehicles and equipment that could ignite a fire through generation of sparks or heat. The 2026 update would continue to require the District to adhere to MM Hazards-1, MM Air-4, MM Hazards-4, MM Hazards-5, MM Hazards-6, and MM Hazards-7, which include implementation of the Smoke Management Plan and prescribed Burn Plan, establishment of a buffer between structures and the broadcast burn, closure of District-use-only roads, propane flaming training to minimize the risk of fire, and maintaining fire suppression equipment in work vehicles and prohibiting smoking. These measures would minimize risk of activities associated with starting a wildfire. As discussed in the 2019 BFFIP PEIR, the management actions implemented as part of the BFFIP would reduce the wildfire risk in the BFFIP area as well as the size, intensity, and spread of wildfires, were one to break out. The wildfire hazard impact within the BFFIP area would be less than significant with mitigation. Therefore, the revised BFFIP would not result in new or substantially more severe impacts to wildfire hazards than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.10 Hydrology and Water Quality

2.10.1 2019 BFFIP PEIR and 2023 Addendum Summary

The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts with mitigation to hydrology and water quality related to violation of water quality standards or discharge requirements, substantial erosion or siltation as a result of altering existing drainage patterns, and conflict with or obstruction of implementation of a water quality control plan or sustainable groundwater management plan. The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts to substantially increasing the rate or amount of surface runoff in a manner that would result in flooding or exceed capacity of existing or planning stormwater drainage systems. The BFFIP Initial Study concluded no impact and less than significant impacts related to the following topics: flooding from implementation of the plan; impacts from seiches, tsunamis, or mudflows; and groundwater supplies; therefore, these topics were not evaluated further within the 2019 BFFIP PEIR, the 2023 addendum, and are not included in the 2026 update.

2.10.2 Water Quality

The 2026 update would result in an increase in broadcast burning annually under MA-23 and MA-24 that could result in water quality impacts. Water quality impacts from broadcast burns

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are related to many factors including location of the burn in proximity to riparian areas, fire severity, burn patchiness, percent of slope, size of burn compared to catchment, and rainfall following the burn. Heating of soils can create hydrophobic conditions that reduce stormwater infiltration and increase runoff rates, potentially mobilizing sediments. However, as discussed in the 2019 BFFIP PEIR, large-scale runoff from broadcast burns is not expected to be substantial due to the presence of existing wettable patches, root channels, and other infiltration pathways. The 2019 BFFIP PEIR determined that, while broadcast burning could increase sedimentation in downstream waterbodies or waterways, it would not substantially affect the chemistry or turbidity of these waterbodies or waterways in such a way as to significantly and negatively impact water quality. While the 2026 update would involve a substantial increase in annual broadcast burning, the 2019 BFFIP PEIR analyzed the potential water quality impacts associated with burns throughout the entire management zones relevant to MA-23 and MA-24, which remain unchanged under the 2026 update, as the BFFIP plan area would not be expanded to accommodate the increased broadcast burning efforts. Additionally, all work performed under the 2026 update would continue to adhere to MM Geology-1, MM Geology-2, and MM Hazards-1. MM Geology-1 and MM Geology-2, which require implementation of several erosion control measures to avoid sedimentation of waterways or waterbodies, steep slopes, and existing erosional features or erodible soils. Specifically, MM Geology-2 requires broadcast burn boundaries to be designed to avoid gullies and erodible soils and use of existing facilities for fire lines where they occur. MM Hazards-1 requires the District to implement spill prevention and response BMPs, such as proper techniques for storage of hazardous materials, daily inspections of equipment, and emergency spill supplies for use should a spill occur. Therefore, implementation of the activities under the 2026 update would not result in new or substantially more severe impacts to water quality standards than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.10.3 Alteration of Existing Drainage Pattern

Under the 2026 update, no changes to conditions would occur that could result in an impact related to the alteration of an existing drainage pattern, including substantially increasing the rate or amount of surface runoff resulting in flooding, exceeding the capacity of existing or planning stormwater drainage systems, or impeding or redirecting flows. Similar to the adopted BFFIP, the 2026 update does not include the construction of any new roads or culverts, nor would the increase in broadcast burning result in major alterations of a stream or watercourse. The 2026 update would not result in new or substantially more severe significant impacts to hydrology and water quality related to the alteration of an existing drainage pattern than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.10.4 Conflict with a Water Quality Control Plan or Groundwater Management Plan

The 2019 BFFIP PEIR and 2023 addendum found that implementation of the BFFIP could impact water quality of waterbodies on and downstream from District lands that could result in a conflict with the San Francisco Bay Basin (Region 2) Water Quality Control Plan, but the effect

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was found to be mitigable. Implementation under the 2026 update would increase the amount of broadcast burning acreages under MA-23 and MA-24 by 820 acres annually, but implementation would continue to abide by MM Geology-1, MM Geology-2 and MM Hazards-1. MM Geology-1 and MM Geology-2, which require implementation of several erosion control measures to avoid minimize erosion including performing broadcast burns shall be performed outside of perennial and intermittent streams, and riparian forest/woodland, utilizing erosion control measures, such as sediment traps, during restoration following broadcast burning, and designing broadcast burn boundaries to avoid gullies and highly erodible soils to the fullest extent possible. MM Hazards-1 requires the District to implement spill prevention and response BMPs, such as proper techniques for storage of hazardous materials, daily inspections of equipment, and emergency spill supplies for use should a spill occur. Therefore, the 2026 update would not result in new or substantially more severe significant impacts to hydrology and water quality related to a conflict with a water quality control plan or groundwater management plan than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.11 Land Use and Planning

The BFFIP Initial Study concluded no impact on land use and planning, and this topic was not evaluated further within the 2019 BFFIP PEIR or 2023 addendum. Under the 2026 update, no changes to conditions would occur that could result in an impact on land use and planning. The 2026 update would not result in new or substantially more severe significant impacts on land use and planning than those analyzed in the 2019 BFFIP PEIR.

2.12 Mineral Resources

The BFFIP Initial Study concluded no impacts to mineral resources and this resource topic was not evaluated further within the 2019 BFFIP PEIR, nor was it included in the 2023 addendum. Similar to the adopted BFFIP, the 2026 update would not involve any activities that would permanently impede mineral recovery. The 2026 update would not result in new or substantially more severe significant impacts on mineral resources than those analyzed in the 2019 BFFIP PEIR.

2.13 Noise

The 2019 BFFIP PEIR and 2023 addendum found that broadcast burning could generate some noise; however, these impacts could be mitigated to less than significant levels. The 2026 update would increase annual broadcast burning by 820 acres. As discussed in the 2019 BFFIP PEIR, while the exact location of each individual broadcast burn within the management zones is not known, it is assumed that work could be as close as 50 to 100 feet from sensitive noise receptors, which remains unchanged. The loudest piece of equipment required for broadcast burning would be the water pump, generating 81 A-weighted decibels (dBA) at a distance of 50 feet, if running. As discussed in the 2019 BFFIP PEIR, equipment used for broadcast burning would be

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at any one burn site for fewer than 5 consecutive workdays at any given time and, as such, temporary noise increases would be considered less than significant. Additionally, MM Air-3 requires that broadcast burns not be conducted within 1,000 feet, or the distance specified in the Smoke Management Plan, of sensitive receptors. Per the mitigation, broadcast burns would not occur within 180 feet from a sensitive noise receptor (the distance needed to attenuate the noisiest equipment [water pump] to levels at or below 70 dBA, which is the noise threshold outlined in the 2019 BFFIP PEIR). Therefore, the implementation of the 2026 update would not result in new or substantially more severe impacts to noise associated with broadcast burning than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.14 Population and Housing

The BFFIP Initial Study concluded no impacts to population and housing, and this resource topic was not evaluated further within the 2019 BFFIP PEIR, nor included in the 2023 addendum. Similar to the adopted BFFIP, the 2026 update would not introduce elements that would allow for the addition of homes or businesses, or the infrastructure needed to induce population growth. The 2026 update would also not involve the replacement or removal of existing housing and would not result in the displacement of people. While the increase in burn days would increase worker presence in the plan area, the increase would not induce population growth as the workers are assumed to come from the local community and the overall number of workers required for any one individual burn day would remain relatively the same. Because the 2026 update would not change the conditions that could result in an impact on population and housing, the 2026 update would not result in new or substantially more severe significant impact related to population and housing than those analyzed in the 2019 BFFIP PEIR.

2.15 Public Services

The BFFIP Initial Study concluded no impacts to public services would occur, and this resource topic was not evaluated further within the 2019 BFFIP PEIR. The 2023 addendum considered impacts to public services and found that the changes to the BFFIP under the 2023 addendum would not impact service ratios, or otherwise impact public services or facilities. The 2026 update would not require the provision of new or physically altered fire protection facilities. Similar to the analysis in the 2023 addendum, broadcast burning could require fire protection services if a burn becomes uncontrolled. This potential risk would be addressed through the Burn Plan, in accordance with MM Hazards-4, which specifies the anticipated numbers and types of personnel and equipment required, as well as contingency actions to ensure containment. Although annual broadcast burning acreage would increase under the 2026 update, no additional fire control resources or personnel beyond those provided by existing facilities and local fire protection agencies are anticipated to be required. The 2026 update would not result in a new or substantially more significant impact on public services related to fire protection.

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The 2026 update would also not increase service ratios for police services, schools, or other public facilities provided in the area, as the increase in burn days would not induce population growth. The number of workers required would remain relatively the same. The 2026 update would not alter the conditions that could result in new or more severe impacts to police services, schools, or other public facilities. Therefore, it would not result in new or substantially more severe impacts to these services compared to those analyzed in the 2023 addendum.

As discussed in the Initial Study, broadcast burning could impact recreational use by requiring the temporary closure of areas to recreational uses or by adversely affecting the natural quality of the area that attracts recreational users. These temporary impacts may lead to increased use of other recreation areas during the broadcast burns; however, broadcast burns would not result in complete closure of all District lands to recreation, leaving a substantial amount of District land available for recreation use. The 2026 update would continue to adhere to a burn-specific Burn Plan and/or Incident Action Plan, which requires notices of closures to be posted at the trail heads and on the District's website, when needed. Displacement of recreational use during 2026 update activities would thus be negligible. After activities in the 2026 update have been performed, recreation could continue on District lands. No new parks and no alterations to existing parks would be required to accommodate the negligible amount of displaced recreation. Implementation of the 2026 update would not result in new or substantially more severe significant impact related to recreation than those analyzed in the 2019 BFFIP PEIR.

2.16 Recreation

The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts with mitigation on recreation with mitigation. Implementation of increased annual broadcast burning under the 2026 update would continue to require application of MM Recreation-1, which would include temporary closure of roads or trails when work is occurring for protection and safety of recreationists. The activities under the 2026 update would increase the amount of broadcast burns by 820 acres annually, which could incrementally increase the number of days a particular road or trail may be closed within a year (under MA-23 and/or MA-24); however, this increase would be insignificant considering the 210 miles of trails and roads that are available to recreationalists within the District lands, allowing for recreationalists to choose to traverse alternate trails and roads, and due to the temporary nature of the activities. The 2026 update would continue to adhere to MM Hazards-5, which requires closure of trails and District-use only roads in accordance with a burn-specific Burn Plan and/or Incident Action Plan.

Although the increase in broadcast burning could impact the experience of recreationalists due to the anticipated change in visual character of the area, as discussed in Section 2.1, the result of the potential increase would be similar to existing conditions under the adopted BFFIP as the physical aesthetic change would last for one growing season before bloom of fire-follower wildflowers and other seedlings. Under the 2026 update, management practices of cutting charred skeletons of stems and branches post broadcast burn activities would continue. Signs of

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broadcast burns would be temporary in a given area, even if total acreages burned are larger. Therefore, the 2026 update would not result in a new or substantially more severe impact related to recreation than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.17 Transportation

The 2019 BFFIP PEIR and 2023 addendum concluded less than significant impacts with mitigation on transportation related to inadequate emergency access and an increase in hazards due to a design feature or incompatible use. The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts related to CEQA Guidelines Section 15064.3, subdivision (b) for vehicle miles traveled (VMT).

The 2019 BFFIP PEIR discussed that broadcast burning would generally occur away from existing roadways; however, in the event a broadcast burn is conducted near a District-use-only road or public road, worker safety could be significantly impacted. The 2026 update would include an increase in annual broadcast burning acreage; however, any one broadcast burn would continue to be required to be conducted away from existing roadways, as previously analyzed. When working on public roads, the District would continue to follow the California Manual on Uniform Traffic Control Devices under the 2026 update, which requires crew to wear safety equipment, such as high-visibility vests, when operating vehicles or equipment near public roads. Safety vests make crew members more visible on-road shoulders and reduce the hazard of working on the road shoulder. As part of the 2026 update, in accordance with MM Hazards-5, public roads would be closed if feasible, otherwise a Traffic Control Plan would be developed and implemented to ensure the safety of drivers which would further reduce the potential impacts under the 2026 update. Additionally, MM Hazards-5 requires closure of trails and District-use only roads in accordance with a burn-specific Burn Plan and/or Incident Action Plan, as amended in the 2023 addendum.

The District would continue to adhere to MM Transportation-1 under the 2026 update, which requires the District make provisions to be able to create access for emergency responders across any work site, as well as requires the road guards be equipped with two-way radios to inform the crew to cease operations to reopen the road for emergency vehicles should an emergency event occur. Similar to the 2019 BFFIP PEIR and 2023 addendum, the 2026 update does not include any actions to redesign, modify, or maintain any roads or intersections, and it would not change the use of any existing roadways. The 2026 update would also not change the conditions that could result in a new or substantially more severe impact related to incompatible uses of roadways between public motorists, hikers, bicyclists and recreationalists who may travel on the same roads that are being used by heavy equipment and District authorized vehicles. Implementation of activities under the 2026 update would continue to require a Traffic Control Plan in accordance with MM Hazards-5, if required.

In regard to VMT, the increase in broadcast burning would not be anticipated to generate greater than 110 vehicle trips per day, as the maximum amount of workers involved in a given

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broadcast burn is not expected to increase compared to the previous analysis. One hundred and ten vehicle trips per day is the Office of Planning and Research's screening threshold identified within the 2019 BFFIP PEIR and 2023 addendum. The 2026 update would not result in new or substantially more severe significant impact related to transportation than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.18 Tribal Cultural Resources

Tribal cultural resources were not analyzed in a separate section within the 2019 BFFIP PEIR, but were assessed within the 2019 BFFIP PEIR Section 3.4: Cultural and Tribal Cultural Resources and was analyzed as part of the 2023 addendum. The 2019 BFFIP PEIR and 2023 addendum analysis concluded less than significant impacts with mitigation on tribal cultural resources.

Similar to the adopted BFFIP, the 2026 update has the potential to significantly impact known and previously undiscovered archaeological resources during broadcast burning, with an increase in likelihood given increases in annual broadcast burning acreage treated under MA-23 and MA-24. Any prehistoric resources eligible for listing in the California Register of Historical Resources, could be considered a tribal cultural resource as well. Implementation of the 2026 update would continue to require adherence to MM Cultural-1 through MM Cultural-4, which include worker training, pre-activity review of known cultural resources, work stoppage and evaluation of previously undiscovered resources, and specific procedures for the treatment of human remains in coordination with the Marin County Coroner and Most Likely Descendant.

The 2019 BFFIP PEIR and 2023 addendum discussed input obtained from the Federal Indians of the Graton Rancheria and the importance of prehistoric trails used by the Federal Indians of the Graton Rancheria ancestors throughout the watershed. Similar to the adopted BFFIP, the 2026 update would not involve major alterations of land or the construction of built structures, as the only change would be increased acreage of broadcast burning within the same plan area. No new management activities have been incorporated into the 2026 update and the previously identified management activities, inclusive of broadcast burning, would be required to comply with the previously identified MMs. The 2026 update would continue to implement MM Cultural-2, which requires the trails that were identified by the Federal Indians of the Graton Rancheria tribe be included within the District's GIS database of cultural resources. Implementation of the 2026 update would not result in new or substantially more severe significant impact related to tribal cultural resources than those analyzed in the 2019 BFFIP PEIR and 2026 update.

2.19 Utilities and Service Systems

The BFFIP Initial Study concluded no impacts to utilities and service systems with the exception of sufficient water supplies, which was determined to be less than significant in the 2019 BFFIP

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PEIR and 2023 addendum. Utilities and service systems was not evaluated further within the 2019 BFFIP PEIR.

The 2026 update would not generate wastewater nor cause a violation of wastewater treatment requirements. The 2026 update would also not require or result in the construction of new water, wastewater, or stormwater treatment facilities or require the expansion of existing facilities. Water utilized for broadcast burning would be for the creation of control lines and other fire management requirements, such as escaping embers. The water needed to support the increase in broadcast burns each year would be minimal compared to the available supply; therefore, no new or expanded entitlements would be needed. Therefore, the 2026 update would not result in new or substantially more severe significant impact related to utilities and service systems than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.20 Wildfire

2.20.1 2019 BFFIP PEIR and 2023 Addendum Summary

Wildfire was not analyzed under its own section within the 2019 BFFIP PEIR but was incorporated within the 2019 BFFIP PEIR Section 3.7: Hazardous Materials and Fire Hazards. The 2019 BFFIP PEIR Findings of Fact and Statement of Overriding Considerations considered an alternative in which no broadcast burns would occur under the Program and determined that this alternative would not meet the second objective of the BFFIP regarding preservation and enhancement of existing significant biological resources through mimicking lost or diminished ecosystem processes, as broadcast burns have benefits to soils health, plant regeneration, understory growth, and species diversity over time. The 2019 BFFIP PEIR found that broadcast burns would overall have a beneficial effect with regard to reducing wildfire risks or the size and spread of wildfires overtime. The 2023 addendum included analysis of wildfire, which at the time was newly adopted under CEQA, in conformance with the CEQA Guidelines and concluded less than significant impacts with mitigation on wildfire.

2.20.2 Impair or Interfere with an Adopted Emergency Response Plan or Emergency Evacuation Plan

Under the 2026 update, no changes to conditions would occur that could result in impairing the implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. No emergency response or evacuation plans have been adopted for the roads in the BFFIP lands.

2.20.3 Expose Project Occupants to Pollutant Concentrations

The 2026 update would not increase the amount of occupants or other sensitive receptors occupying the plan area, as discussed in Section 2-30. For information regarding worker health during burns, refer to Section 2.3. Therefore, the 2026 update would not result in new or substantially more severe significant impacts to wildfire related to exposing project occupants to pollutant concentrations than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

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2.20.4 Installation or Maintenance of Infrastructure

The 2026 update would not result in new or substantially more severe significant impacts to wildfire related to installation or maintenance of infrastructure than those analyzed in the 2019 BFFIP PEIR, as the 2026 update would not require any installation or maintenance of infrastructure. The 2026 update is likely to increase the amount of control lines, as the update would involve an increase in annual broadcast burning, and control lines are needed around each individual burn unit to assist in containment; however, the impacts associated with creation of control lines were already assessed throughout the 2019 BFFIP PEIR, and would not result in any impacts beyond those analyzed previously.

2.20.5 Exposure to Wildfire Risks

The 2023 addendum concluded that no changes to conditions would occur that could result in an impact to wildfire related risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. Additionally, the 2019 BFFIP PEIR and 2023 addendum analysis found the BFFIP would have a beneficial effect with regard to reducing wildfire risks or the size and spread of wildfires. The 2026 update would allow for an increase in broadcast burning annually by 820 acres under MA-23 and MA-24, which is intended to improve native vegetation community structure and function, as well as to reduce wildfire risks. The 2026 update would not result in new or substantially more severe impacts to people or structures from wildfires than those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.21 Other CEQA Topics

2.21.1 Changes in Land Use that Commit Future Generations

The 2026 update would not result in a change to the zoning or land use designations. The revised BFFIP would not commit future generations to significant changes in land use. All impacts are consistent with those analyzed in the 2019 BFFIP PEIR and 2023 addendum.

2.21.2 Consumption of Non-Renewable Resources

Non-renewable resources include mineral resources, groundwater, and fossil fuels. Similar to the 2019 BFFIP PEIR and 2023 addendum, the 2026 update would not involve any activities that would permanently impede mineral recovery and would not require the use of substantial groundwater from the District area.

The revised BFFIP would require the use of fossil fuels for management activities, including broadcast burns. Use of vehicles and equipment to support the broadcast burns and to reach burn sites would also use fossil fuels. The 2026 update would use fossil fuels intermittently throughout the year, but would not require continued use. In addition, the use of fossil fuels would be considered beneficial, necessary, and not wasteful as discussed under subsection 3.6: Energy.

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2.21.3 Irreversible Damage from Environmental Accidents

Action proposed under the 2026 update would involve use of equipment and vehicles, which could result in the accidental spill of hazardous materials such as diesel and gasoline, similar to the 2019 BFFIP PEIR and 2023 addendum. The 2026 update would also increase the annual acres burned under MA-23 and MA-24, which requires the use of drip torches, which could also leak fuel, but would be very small quantities. The 2026 update would not change the types of management activities that were allowed under the adopted BFFIP and would continue to adhere to MM Hazards-1, which requires the District to implement spill prevention and response BMPs; therefore, the 2026 update would not result in irreversible damage from environmental accidents.

2.21.4 Growth-Inducing Impacts

Similar to the adopted BFFIP and as analyzed under the 2019 BFFIP PEIR and 2023 addendum, the 2026 update does not involve the construction of housing and would not directly contribute to population growth in the area. The 2026 update does not involve the expansion of infrastructure, such as roadways or sewer lines and it does not involve the construction of a new facility that would indirectly induce population growth. The 2026 update would not result in new or substantially more severe significant impacts related to growth-inducing impacts than those analyzed in the 2019 BFFIP PEIR.

2.21.5 Cumulative

The 2019 BFFIP PEIR considered cumulative impacts of projects in the vicinity of the plan area where impacts could combine with the BFFIP to result in the same type of impacts on District lands. The 2019 BFFIP PEIR found that construction or implementation of cumulative projects that also involve the use of prescribed burns could result in a significant cumulative impact related to increased risk of starting a fire and accidental wildfires, greater visual impacts, and greater TAC emissions. With implementation of MMs, the 2019 BFFIP PEIR found that the BFFIP's contribution to an overall increased risks related to accidental fires, visual impacts, and TAC emissions would not be incrementally significant. Since implementation of the 2019 BFFIP PEIR, new fuel reduction projects in Marin County and the broader Bay Area region have been approved under the California Vegetation Treatment Program (CalVTP) to reduce regional wildfire risks, thus increasing regional burning in the plan area and making the 2026 update increase in burning consistent with regional efforts (CalVTP, n.d.). The 2026 update would increase broadcast burning in the region, however with BAAD regulation compliance, implementation of MMs, and the overall increase in fuel reduction projects in the area, the 2026 update would not result in an incrementally significant cumulative impact.

3 Determination

No new or substantially more severe significant impacts would occur as a result of the 2026 update. No new substantial changes would occur with respect to the circumstances under which the 2026 update, the 2019 BFFIP PEIR, and 2023 addendum would be undertaken. The MMs and determination of significance for impacts included in the certified 2019 BFFIP PEIR and 2023 addendum would continue to be valid. The 2026 update also would not affect any of the mitigation measures, including their feasibility or implementation, although language in the MM Biology-9 has been revised to refer to the current name for one turtle species and MM Biology-11 has been revised to address multiple special-status butterfly species. These revisions are not a result of newly identified adverse impacts. Impacts related to GHGs and air quality would remain significant and unavoidable as part of the 2026 update, consistent with the 2019 BFFIP PEIR and 2023 addendum. Although the 2026 update would increase annual broadcast burning, it would reduce the overall likelihood of future catastrophic fires and wildfire intensity in the event of ignition, which would have many times greater criteria pollutant emissions than the proposed increase in broadcast burning. Additionally, the increase in broadcast burns would support ecological improvements in the Mount Tamalpais Watershed through native species and vegetation community enhancement and of the potential for reductions in invasive plant species.

None of the conditions described in CEQA Guidelines Section 15162 requiring the preparation of a subsequent EIR or CEQA Guidelines Section 15163 requiring preparation of a supplemental EIR have occurred. This addendum to the adopted BFFIP is the appropriate level of environmental review for the project revisions, as identified in CEQA Guidelines Section 15164. No subsequent or supplemental Mitigated Negative Declaration (MND) or EIR is needed to address the 2026 update to the BFFIP.

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Appendix A: Mitigation Monitoring and Reporting Program

4 Mitigation Monitoring and Reporting Program

4.1 Introduction

When approving projects with mitigation measures that if implemented would avoid or lessen significant impacts, CEQA requires public agencies to adopt monitoring and reporting programs or conditions of project approval to mitigate or avoid the identified significant effects (Public Resources Code Section 21081.6(a)(1)). A public agency adopting measures to mitigate or avoid the significant impacts of a proposed project is required to ensure that the measures are fully enforceable, through permit conditions, agreements, or other means (Public Resources Code Section 21081.6(b)). The mitigation measures required by a public agency to reduce or avoid significant project impacts not incorporated into the design or program for the project may be made conditions of project approval as set forth in a Mitigation Monitoring and Reporting Program (MMRP), detailed in Table 4.3-1. The program must be designed to ensure project compliance with mitigation measures during project implementation. The District will use the Project Environmental Review Checklist, provided in Appendix A of this Final EIR, to evaluate if impacts of individual projects are covered in the Program EIR and to identify best management practices and mitigation measures that are applicable to those individual projects. Individual projects that do not conform to the scope of the Program EIR may require additional environmental analyses.

4.2 Format

This MMRP is organized in a table format, keyed to each significant impact and mitigation measure.. Each mitigation measure is set out in full, followed by a tabular summary of monitoring requirements. The column headings in the tables are defined as follows:

- **Mitigation Measure.** This column presents the significant impact and full mitigation measure.
- **Implementation Responsibility.** This column assigns the party responsible for implementation of the measures.
- **Monitoring Responsibility.** This column assigns the party responsible for monitoring implementation.
- **Timing and Performance Standards:** Identifies at which stage of the project, mitigation must be completed. Performance standards are identified that must occur during the specified stage of project implementation to determine that the objectives of the mitigation are met.

4 MITIGATION MONITORING AND REPORTING PROGRAM

4.3 Enforcement

This MMRP will be incorporated as a condition of project approval. All mitigation measures must be carried out to fulfill the requirements of approval.

4 MITIGATION MONITORING AND REPORTING PROGRAM

Table 4.3-1 Biodiversity, Fire, and Fuels Integrated Plan Mitigation, Monitoring, and Reporting Program

Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Air Quality					
Impact Air-1					
MM Air-1: Broadcast Burn Emission Minimization Measures					
Methods for reducing air pollutant emissions shall include one or more of the following:					
<ul style="list-style-type: none"> Reducing the broadcast burn areas in each year. When considering different types of prescribed burning projects, weigh the habitat benefits of burning in a particular fuel type against the emissions. With all other considerations being equal, choose lower emissions fuel types (such as grasslands versus hardwood or evergreen forest) for prescribed burning projects. 	Contractor	The District	Where broadcast burns could occur.	<p>Before Activity: (1) Reduce the acreage of broadcast burn, (2) Choose habitat types with fewer emissions, when other considerations are equal (3) Reduce the fuel load in the forest understory</p> <p>During Activity: (1) Burn when the fuel has lower moisture, (2) Minimize fire duration</p> <p>After Activity: Quickly mop up</p>	
Impact Air-2					
MM Air-2: Asbestos Management					
Prior to conducting any activities requiring use of mechanical equipment (e.g., skid steer loader, backhoe) or off-road access of a project site, consult the map created using GIS that shows where serpentine soils and rock formations are located. If the project site or temporary access route passes through an area with serpentine soils or rock formations, implement the asbestos management measures (below).					
Prior to conducting any activities requiring manual soil-disturbing activities (e.g., pulling of small vegetation, planting seedlings), consult the GIS that shows where serpentine soils are located. If the project site is in an area with serpentine soils, implement the asbestos management measures (below).					
Asbestos Management Measures:					
<ul style="list-style-type: none"> Areas known to have asbestos shall be watered during ground disturbing activities (e.g., pulling of medium to large vegetation, digging large holes for planting) to ensure that the soil remains moist during the extent of the activity. Vehicle speeds on unpaved roads shall be limited to 15 miles per hour. When mowing in serpentine soils, the mower head shall be set at least 6 inches above the ground to minimize asbestos dust generation. If when mowing, dust is seen from the mower pluming more than 4 feet above the ground surface, the mower shall be adjusted to the minimum height needed to avoid generating dust plumes. 	Contractor	The District	Areas with serpentine soils or rock formations where work could occur.	<p>Before Activity: Water areas with serpentine soils or exposed rock formations</p> <p>During Activity: Limit vehicle speeds</p> <p>After Activity: N/A</p>	
Impact Air-2					
MM Air-3: Minimization of Air Pollutant Risk					
The District shall require that prescribed burns on its lands are conducted a minimum of 1,000 feet away from sensitive receptors, specifically residences, schools, and childcare centers, or the distance specified to avoid smoke impacts to sensitive receptors in the Smoke Management Plan, as required under BAAQMD Regulation 5.					
The District shall require that prescribed burns on its lands are managed to reduce District worker exposure to CO concentrations and other air pollutants through implementation of the following measures:					
<ul style="list-style-type: none"> Use of realtime CO monitors Rotate personnel out of heavy smoke areas 	Contractor	The District	Where broadcast and pile burns could occur.	<p>Before Activity: (1) Purchase realtime CO monitors, (2) Purchase respirators and filters tested and approved by NIOSH</p> <p>During Activity: (1) Provide realtime CO monitor to firefighters, (2) Rotate firefighters out of heavy smoke areas, (3) Avoid burning of areas with heavy fuel loads, (4) Provide appropriate respirators and filters to firefighters</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> • Avoid burning heavy fuel loads on the ground, such as large logs, to avoid additional mop up • Tested and approved by NIOSH full-face and half-face air purifying respirators shall be equipped with filters for CO, formaldehyde, acrolein, and respirable particulate matter and available at all times for District staff or contractors working in the immediate vicinity of broadcast and pile burns, • Or otherwise follows the requirements of relevant regional, state, and federal laws pertaining to human health during prescribed burning. 					
Impact Air-2					
MM Air-4: Smoke Management Plan					
<p>Key considerations for broadcast and pile burns include, fuel, wind, relative humidity, air temperature, soil moisture, slope of the burn area, smoke management, and neighbouring land owners. A Smoke Management Plan and Prescribed Burn Plan (in accordance with MM Hazards-4) address the specifics related to these key factors. The District shall prepare a Smoke Management Plan in accordance with BAAQMD's Regulation 5 for all prescribed burns. The Smoke Management Plans shall be implemented for each burn. The Smoke Management Plan shall include all conditions and information detailed in Regulation 5, including the following:</p> <ul style="list-style-type: none"> • Burns shall not be ignited or fueled during calm conditions when winds are less than 5 miles per hour (mph) except for crossfiring, or when the wind direction at the site shall be such that the direction of smoke drift is toward a populated area in order to minimize local nuisances caused by smoke and particulate fallouts. • Burns shall not be ignited or fueled when winds are more than 15 mph (NRCS, 2012). • Burns shall not be ignited or fueled when wind direction blows towards populated areas. • Identify the contingency actions that would be taken if a burn unexpectedly impacts sensitive receptors, identifiable by smoke complaints or presence of smoke in areas with receptors. Contingency actions include: <ul style="list-style-type: none"> - halting ignition, suppressing fire, and/or beginning immediate mop up. 	The District and Contractor	The District	Where broadcast and pile buns could occur.	<p>Before Activity: Prepare a Smoke Management Plan including all identified details</p> <p>During Activity: Implement the Smoke Management Plan</p> <p>After Activity: N/A</p>	
Impact Air-2: Implement Mitigation Measure MM Hazards-5 (see below)					
Impact Air-3: Implement Mitigation Measure MM Air-1 (see above)					
Impact Air-Cumulative: Implement Mitigation Measures MM Air-1, MM Air-2, and MM Air-3 (see above)					
Biological Resources					
Impact Biology-1					
BMP-1: Routine Operations and Project/Activity Implementation					
<p>District operations encompass a variety of management activities ranging from day-to-day road maintenance to Incident Command emergency situations. The following measures shall be implemented:</p> <ul style="list-style-type: none"> • Prior planning may avoid the introduction and/or spread of weed species, such as by: <ul style="list-style-type: none"> - Implementing a periodic monitoring program for detecting new weed infestations in highly susceptible locations such as pull outs, railheads, picnic areas, parking lots, and concessionaire locations. - Defining "zero tolerance" zones in vulnerable, high-risk areas within the watershed which you commit to keeping weed-free through frequent monitoring and weed control efforts. • Minimize the extent and severity of soil disturbance, by: 	The District and Contractor	The District	BFFIP Area	<p>Before Activity: N/A</p> <p>During Activity: (1) Avoid introduction and/or spread of weed species, (2) Minimize soil disturbance, (3) Maintain facilities</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> - Setting up staging areas and equipment in a way that will minimize soil disturbance and avoid loss of desirable native vegetation. - When working in vegetation types with relatively closed canopies, retaining shade to the extent possible to suppress weeds and prevent their establishment and growth. • Maintain facilities by implementing the following techniques: <ul style="list-style-type: none"> - Maintain long-term staging areas, such as boneyards, dumps, and quarries in weed-free condition if possible, or contain weeds therein. If necessary, treat sites annually for weeds, and assign this duty to an appropriate, trained staff person. Consider ways of hardening these sites, such as deep mulching or scraping and tamping. - Maintain trailheads, picnic areas, roads leading to trailheads, and other areas of concentrated public use in a weed-free condition. Make high-use recreation areas a high priority for weed detection and eradication if not already heavily infested. 					
<p>Impact Biology-1</p> <p>BMP-2: Pre-Work Assessments and Planning</p> <p>Prevention begins with pre-work assessments and planning. The following are guidelines for general construction and maintenance activities:</p> <ul style="list-style-type: none"> • Inspect all potential and current permitted activity sites. Incorporate invasive plant prevention and containment practices such as mowing, flagging or fencing invasive plant patches, designating invasive plant free travel routes and washing equipment. Where possible, avoid permitting activities that would result in the transfer of weed materials from an infested site to a non-infested site. Consider routes of travel, transport, and equipment use and address pathways and spread concerns with permittees. • Before ground disturbing activities begin, inventory and prioritize weed infestations for treatment in construction sites and along access routes. Identify what weeds are on-site or within the project's vicinity and do a risk assessment accordingly. Control these weed infestations. Ideally, weeds should be managed prior to the planned disturbance to minimize weed seeds in the soil. • Begin project operations in non-infested areas. Restrict movement of equipment or machinery from weed-contaminated areas to non-contaminated areas. • Locate and use weed-free project staging areas. Avoid or minimize travel through weed-infested areas, or restrict travel to those periods when spread of seed or propagules is least likely, such as prior to seed development. 	The District and Contractor	The District	BFFIP Area	<p>Before Activity: Conduct pre-work assessments and planning for construction and maintenance activities.</p> <p>During Activity: N/A</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1</p> <p>BMP-3: Imports: Fills, Rock, Plant Material</p> <p>Knowing the sources of imported material is critical to prevent the introduction of invasive plants. If a project involves moving plants or soil, consider the following:</p> <ul style="list-style-type: none"> • Make sure plants and soil are not contaminated with weed seeds – use a certified weed-free source or sterilize soil prior to use. • When possible, get the plants and soil from the worksite, which is less likely to introduce foreign material. • Inspect materials at the source to ensure that they are weed-free before transport and use. If sources of sand, gravel, and fill are infested, eradicate the weeds, then strip and stockpile the contaminated material for several years, if possible, to further deplete the soil seed bank. Check regularly for weed re-emergence and treat as needed. 	Contractor	The District	BFFIP Area	<p>Before Activity: Import weed-free plants and soil</p> <p>During Activity: (1) Maintain stockpile in weed-free condition, (2) Use native fill material, (3) Train staff to identify weeds and inventory weed infestations and schedule them for treatment</p> <p>After Activity: (1) Monitor construction sites with imported material annually for at least 3 years after project completion, (2) Rehabilitate burn sites with seed and</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> • Maintain stockpiled, non-infested material in a weed-free condition by preventing weed seed contamination with physical barriers and by frequently monitoring and quickly eradicating new weeds prior to seed production. • Use fill within the project area, or stockpile clean fill on-site for local use. Dispose of excess excavation or spoils in a way that won't spread weeds within the watershed or to neighbors. • Work with the weed specialist to develop guidelines for where earth materials can be moved within the watershed. • For routine purchase of material, such as rock used for drain or road base, work with the weed specialist to evaluate the risk, and if necessary develop a procedure for procuring weed-free material and/or inspecting materials sources. • Maintain stockpiled, non-infested material in a weed-free condition by preventing weed seed contamination with physical barriers (e.g. tarps) and by frequently monitoring and quickly eradicating new weeds prior to seed production. • Survey for, document, and treat weeds on construction sites (or wherever fill/material is brought in) annually for at least 3 years after project completion to ensure that any weeds transported to the site are promptly detected and eradicated. For ongoing projects, continue to monitor until reasonably certain that weeds will not reappear. Plan for follow-up treatments based on inspection results. • Seed and mulch to be used for burn rehabilitation or slope stabilization (for wattles, straw bales, dams, etc.) all need to be inspected and certified that they are free of weed seed and propagules. Follow-up inspections of straw treated sites should be performed to insure any undetected source seed are treated. • Revegetation may include topsoil replacement, planting, seeding, and weed-free mulching as necessary. Use native material to the greatest extent possible. Consider stockpiling chipped local brush or cut and bale local weed-free grass for mulch – an added benefit is that mature seeds in the grass or brush can help restore local vegetation on the site. • Periodically inspect roads, trails, and rights-of-way for invasive plants. Train staff to recognize weeds and report locations to the local weed specialist. Inventory weed infestations and schedule them for treatment. 				mulch, (3) Use native material to revegetate construction sites	
<p>Impact Biology-1</p> <p>BMP-4: Prevent Contamination of Clean Nursery Stock or other Clean Plant materials.</p> <p>Planting stock shall be protected from potential contamination from the point that it leaves the production nursery or collection site until it has been planted. Note that container nursery stock has a high-risk of infection by <i>Phytophthora</i> species if exposed to these pathogenic agents. Exclusion of these pathogens provides the only viable option for maintaining nursery plants free of <i>Phytophthora</i>.</p> <p>Maintaining Nursery Stock in a Holding Facility</p> <p>By definition, nursery stock produced by the District should be free of exotic <i>Phytophthora</i> to the maximum degree attainable. If such material is held for a period after delivery and before planting, the following clean nursery practices must be followed to prevent contamination of the nursery stock with <i>Phytophthora</i>:</p> <p>Water used for irrigating plants shall comply with standards listed below.</p> <ul style="list-style-type: none"> • Delivered nursery plants that will be held before planting shall be transferred to cleaned and sanitized raised benches and maintained as described below under Handling and Transporting Nursery Plants BMPs. <p>Handling and Transporting Nursery Plants</p>	The District	The District	BFFIP Area	<p>Before Activity: N/A</p> <p>During Activity: (1) Maintain nursery stock in a holding facility with cleaned and sanitized raised benches, (2) Transport nursery stock with sanitized vehicles or equipment, and place nursery stock clean waterproof surfaces, (3) Use clean water sources for washing, soaking, or irrigation, (4) Use pre-approved materials for mulch, compost, and soil amendment, and inoculants, (5) Use new and uncontaminated irrigation supplies, erosion control fabrics, fencing, stakes, posts, and other planting site inputs</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> Nursery plants shall be transported on or in vehicles or equipment that has been sanitized before loading the stock. Truck beds, racks, or other surfaces will be cleaned (swept, blown with compressed air and/or power washed as needed) to be free of soil and plant detritus. Cleaned surfaces shall be sanitized as described below under Procedures for Sanitizing Tools, Surfaces, and Footwear. Keep plants in sanitized vehicles or on sanitized carts, trailers, etc. until delivered to their planting sites. At the job site, plants shall be handled to prevent contamination until delivered to each planting site. Nursery stock shall not be staged on the soil or other potentially contaminated surfaces except that plants may be placed on the soil surface at their specific planting sites. If it is necessary to offload plants at the job site, plants may be placed on clean waterproof plastic tarps or other clean, sanitized surfaces. If tarps are used for holding plants, one surface will be dedicated for contact with nursery stock and will be cleaned and sanitized as needed to maintain phytosanitary conditions. <p>Other Planting Site Inputs</p> <ul style="list-style-type: none"> Washing, soaking, or irrigation of plant material shall be conducted using clean water sources as specified below under Clean Water Specifications. Untreated surface waters shall not be used for these purposes. Mulch, compost, soil amendments, inoculants, and other organic products shall be pre-approved for use before delivery to the planting site. Materials shall be free of pathogen contamination due to composition, manufacturing conditions, or through effective heat treatment and subsequently handled and maintained in a manner to prevent contamination. If appropriate, testing may be required as specified by the District. At the job site, delivered materials shall be handled to prevent contamination until delivered to each planting site in the same manner specified above under Handling and Transporting Nursery Plants. All other materials to be installed at the site shall be of new material that has not been stored in contact with soil, untreated surface waters, or other potentially contaminated materials. This includes irrigation supplies (such as pipe, fittings, valves, drip line, emitters, etc.), erosion control fabrics, fencing, stakes, posts, and other planting site inputs. 					
<p>Impact Biology-1</p> <p>BMP-5: Cleaning and Sanitation Required Before Entering Planting Area to Prevent Introducing Contamination from Other Locations</p> <p><i>Phytophthora</i> contamination can be present in agricultural and landscaped areas, in commercial nursery stock, and in some infested native or restored habitat areas. Contamination can be spread via soil, plant material and debris, and water from infested areas. Arriving at the site with clean vehicles, equipment, tools, footwear, and clothing helps prevent unintentional contamination of the planting site from outside sources.</p> <p>Vehicles, Equipment, and Tools</p> <ul style="list-style-type: none"> Equipment, vehicles and large tools must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces before arriving at the planting area. A high pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed. Vehicles that only travel and park on paved roads do not require external cleaning. Contractors will comply with this provision by demonstrating that the equipment has been cleaned at a commercial vehicle or appropriate truck washing facility. The interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris. Interiors may be vacuumed or washed. 	<p>The District and Contractor</p>	<p>The District</p>	<p>BFFIP Area</p>	<p>Before Activity: Clean and sanitize vehicles, equipment, tools, footwear, and clothing before entering planting areas</p> <p>During Activity: N/A</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> • Small tools and other small equipment (including hoses, quick couplers, hose nozzles, and irrigation wands) must be washed to be free of soil or other contamination and sanitized as described below in Procedures for Sanitizing Tools, Surfaces, and Footwear. • Hoses shall be new or previously used only for clean water sources as described below in Clean Water Specifications. <p>Footwear and Clothing</p> <ul style="list-style-type: none"> • Soles and uppers of footwear must be free of debris and soil before arriving at the planting area. Clean and sanitize footwear as described in Procedures for Sanitizing Tools, Surfaces, and Footwear. • At the start of work at each new job site, worker clothing shall be free of all mud, soil or detritus. If clothing is not freshly laundered, all debris and adhered soil should be removed by brushing with a stiff brush. 					
<p>Impact Biology-1</p> <p>BMP-6: Prevent Potential Spread of Contamination within Planting Areas</p> <p><i>Phytophthora</i> can also be spread within plantings areas if some portions of the site are contaminated. However, it is not possible to identify every portion of a planting area that contains or is free of <i>Phytophthora</i>. Because <i>Phytophthora</i> contamination is not visible, working practices should minimize the movement of soil within the planting area to minimize the likelihood of spreading contamination.</p> <p>The District may designate specific portions of a planting area as having high or low risk of contamination. Areas with higher risk of contamination typically include areas adjacent to planted landscaping, areas previously planted with <i>Phytophthora</i>-infected stock, areas with existing or recently removed woody vegetation, areas directly along watercourses. Areas with low risk of contamination typically include upland sites with only grassy vegetation or sites where surface soils have been removed.</p> <p>Worker Training and Site Access</p> <ul style="list-style-type: none"> • Before entering the job site, field workers and contractors shall receive training that includes information on <i>Phytophthora</i> diseases and how to prevent the spread of these and other soil borne pathogens by following approved phytosanitary procedures. • Do not bring more vehicles into the planting area than absolutely necessary. Within the planting area, keep vehicles on surfaced or graveled roads whenever possible to minimize potential for soil movement. • Travel off roads or on unsurfaced roads should be avoided when such roads are wet enough that soil will stick to vehicle tires and undercarriages. <p>Especially from Higher to Lower Risk Areas</p> <ul style="list-style-type: none"> • Brush off substantial soil contamination from tools and gloves when moving between successive planting sites to prevent repeated collection and deposition of soil across multiple sites. • Avoid contaminating clothing with soil during planting operations. Use nonporous knee pads that are cleaned between planting sites if kneeling is necessary. • When possible, plant nursery stock from a given block in the same local area rather than spreading it widely. If a problem is associated with a given block of plants, it will be easier to detect and deal with it if the plants are spatially grouped. • Phase work to minimize movement between areas with high and low risk of contamination. Where possible, complete work in low risk areas before moving to higher risk areas. Alternatively, restrict personnel to working in either high or low risk areas exclusively to reduce the need for decontamination. 	<p>The District and Contractor</p>	<p>The District</p>	<p>BFFIP Area</p>	<p>Before Activity: (1) Any staff, contractors or volunteers performing any work in planting areas shall receive training about <i>Phytophthora</i> diseases and other soil borne pathogens, (2) Designate high and low risk contamination areas</p> <p>During Activity: (1) Avoid travelling on wet off roads or unsurfaced roads, (2) Clean and sanitize footwear and clothing when moving from higher to lower risk areas, (3) Keep all non-plant materials free of soil contamination</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> Clean soil and plant debris from large equipment and sanitize hand tools, buckets, gloves, and footwear when moving from higher risk to lower risk areas or when moving between widely separated portions of the planting area. All non-plant materials to be installed at the site (irrigation equipment, erosion control fabric, fencing, etc.) shall be handled to prevent movement of soil within the site, especially movement from higher risk to lower risk areas. Materials should be kept free of soil contamination by maintaining them in sanitized vehicles or on sanitized carts, trailers, etc., or stockpiling in elevated dry areas on clean tarps until used. 					
<p>Impact Biology-1</p> <p>BMP-7: Procedures for Sanitizing Tools, Surfaces, and Footwear</p> <p>Surfaces and tools should be clean and sanitized before use. Tools and working surfaces (e.g., potting benches) should be smooth and nonporous to facilitate cleaning and sanitation. Wood handles on tools should be sealed with a waterproof coating to make them easier to sanitize. Before sanitizing, removal all soil and organic material (roots, sap, etc.) from the surface. If necessary, use a detergent solution and brush to scrub off surface contaminants. The sanitizing agent may also be used as a cleaning fluid. Screwdrivers or similar implements may be needed to clean soil out of crevices or shoe treads. Brushes and other implements used to help remove soil must be cleaned and sanitized after use.</p>	The District and Contractor	The District	BFFIP Area	<p>Before Activity: Clean and sanitize tools, surfaces, and footwear prior to working in planting areas</p> <p>During Activity: N/A</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1</p> <p>MM Biology-1: Worker Training</p> <p>An environmental training program shall be developed and presented by a qualified biologist to all vegetation management workers before they are allowed to perform work under the BFFIP. The training shall describe special-status species and sensitive habitats that could occur within vegetation management areas, protection afforded these species and habitats, and the avoidance and minimization measures required to avoid and/or minimize impacts on these species and habitats, including maintaining avoidance areas, identification of species for avoidance, and protocols to follow, including protocols for minimizing the spread of invasive species and forest diseases.</p>	Contractor working with qualified biologist	The District	BFFIP Area	<p>Before Activity: (1) This measure would be implemented prior to any staff, contractors or volunteers performing any work under the plan, (2) sign-in sheets for trained staff should be maintained by District staff</p> <p>During Activity: N/A</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1</p> <p>MM Biology-2: Protection of Special-Status Plants</p> <p>The following measures shall be implemented to protect special-status plants:</p> <ul style="list-style-type: none"> Prior to conducting any vegetation management activity (mechanical or manual removal), prescribed (broadcast and pile) burning, propane flaming, and animal grazing the area shall be reviewed by the District's botanist against the most current mapping data of special-status plant species and habitats. If the work is to occur in in serpentine habitat, within 500 feet of known special-status plant populations, near wetlands, or within other habitats with potential to support special-status plant populations, botanical surveys shall be conducted by a qualified botanist ahead of the planned work. The surveys shall be specific to the species of plants that could occur, must be conducted during a period when the special-status species that could occur in that habitat can be most readily detected (e.g. blooming period), and shall include the entire footprint of the proposed work. Any species identified during surveys shall be added to the GIS of current mapping data. If work is to occur again in the same area within 5 years (e.g., new fuelbreaks or retreatment areas for forestry actions), a new survey is not required. For listed species with known rarity or declining populations that could be adversely impacted by treatments, including CRPR Rank 1B, 2, and some rank 4 species that are known rare), as determined and listed below by the MMWD botanical staff; the MMWD's botanical staff shall: 	The District's botanist and Contractor	The District	Serpentine habitat, within 500 feet of known special-status plant populations, near wetlands, or within other habitats with potential to support special-status plant populations	<p>Before Activity: (1) Check maps for habitat and known occurrences of special-status plants, (2) where applicable, conduct surveys in appropriate season (e.g. blooming season) before work is performed and record in GIS.</p> <p>During Activity: (1) Avoid the identified special-status species, (2) Avoid CRPR rank 1B and 2 special-status species or conduct reseeding/replanting</p> <p>After Activity: Monitor populations and make adjustment to future maintenance activities, if need.</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> - Flag or otherwise demarcate the individual or population to ensure workers avoid the species for no loss of individuals. - Establish a buffer of 100 feet around the individual or population, for species that could be adversely impacted by the treatments. - Require implementation of BMP-1 through BMP-3 for work conducted adjacent to these species to minimize the spread of invasive species. <ul style="list-style-type: none"> • Brewer's milk vetch (<i>Astragalus breweri</i>) • Brewer's calandrinia (<i>Calandrinia breweri</i>) • Johnny-nip (<i>Castilleja ambigua</i> var. <i>ambigua</i>) • Marin western flax (<i>Hesperolinon congestum</i>) • Bristly leptosiphon (<i>Leptosiphon acicularis</i>) • Santa Cruz microsaris (<i>Stebbinsoseris decipiens</i>)* • Coast rockcress (<i>Arabis blepharophylla</i>) • Pink star-tulip (<i>Calochortus uniflorus</i>) 		<ul style="list-style-type: none"> • Thin-lobed horkelia (<i>Horkelia tenuiloba</i>) • Small groundcone (<i>Kopsiopsis hooker</i>) • Gairdner's yampah (<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>) • North coast semaphore grass (<i>Pleuropogon hooverianus</i>) • Marin manzanita (<i>Arctostaphylos virgata</i>) • Glory brush (<i>Ceanothus gloriosus</i> var. <i>exaltatus</i>) • Mason's ceanothus (<i>Ceanothus masonii</i>) 			
<p>* This species is likely extirpated</p> <ul style="list-style-type: none"> • For other listed species of CRPR rank 1B or 2 (beyond those identified in part b, above) with the potential to occur on District lands, the following measures shall be implemented for any treatments that could adversely impact the species (per Approaches 2.3 and 2.4 of Chapter 4 of the BFFIP): <ul style="list-style-type: none"> - Perennials: <ul style="list-style-type: none"> ▪ Mark populations in the field with distinct flagging. Ensure that worker training is complete per MM Biology-1. ▪ Avoid populations. If mowing cannot be safely performed up to the perimeter of the individuals, or timed for when they are senescent, then hand methods (i.e., hand pulling or use of non-powered or powered hand tools) shall be employed to prevent damage or removal of listed species. ▪ Where tree or shrub species must be trimmed, such as Mount Tamalpais manzanita, follow any protocols or recommendations available, including the following the <i>Status and Management Recommendations for Arctostaphylos virgata (Marin Manzanita) in Point Reyes National Seashore</i> (Parker, 2007) and plant specific pruning tips (Las Pilitas Nursery, 2012) and perform the work by hand. ▪ No net loss of a perennial special-status species can occur. The population size shall be determined from the most recent survey data of the species. ▪ If an individual or population must be removed, one or two options can be employed (subject to CDFW approval) and monitoring conducted to ensure that no net loss of the species occurs. <ul style="list-style-type: none"> ◦ (1) The individual or population can be dug up and relocated to appropriate habitat outside the work area. (2) A nursery with experience growing special-status plants can be employed to grow seedlings of the species that shall be planted in appropriate habitat outside the work area or in the work area following completion of work. If located outside the work area, appropriate habitat shall be within the same watershed as the impact area, and shall be identified or approved of by MMWD botanical staff. ◦ A monitoring plan shall be developed that details the following components. Conduct annual monitoring of seeded or replanted locations for a minimum of 3 years and up to 5 years, 					

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<p>dependent upon the MMWD botanical staff recommendation and monitoring results. If the new population is not matching the pre-removal population data, more seeding or planting shall be conducted until pre-removal population is met.</p> <p>ii. Annuals:</p> <ol style="list-style-type: none"> 1) Flag or otherwise demarcate and ensure workers avoid the species as feasible; or, 2) Time vegetation management activities for when the special-status species occurring in the work area is senescent and/or after the seed has set. 3) Monitor populations between vegetation management activities to ensure that population sizes are not decreasing. If populations are decreasing and a correlation can be made to the maintenance activities, measures shall be identified by MMWD botanical staff and taken to improve the population, including but not limited to one of the following: avoiding the area in question or altering the management activity frequency. 4) No net loss of an annual special-status species can occur. Due to the variations in population from year to year as a result of weather fluctuations, average population data can be calculated from several years of data collected during the annual census conducted by MMWD or by volunteers as directed by MMWD. 5) If an individual or population must be removed, one or two options can be employed and monitoring conducted to ensure that no net loss of the species occurs. <ul style="list-style-type: none"> • (1) Seeds of the annuals shall be collected from existing on-site populations or from the same watershed (to maintain local genetic stock) and distributed in appropriate habitat outside the work area (within the same watershed) or in the work area following completion of work. (2) A nursery with experience growing special-status plants can be employed to grow seedlings of the species (from seeds collected locally) that shall be planted in appropriate habitat outside the work area or in the work area following completion of work. It should be noted that seeds derived from plants in the same watershed as the impact area may be available from local nurseries, and local nurseries may also be able to propagate seeds from adults grown from collected seeds. In this case, seeds do not need to be collected from a specific impact area site. Appropriate habitat shall be identified or approved of by MMWD botanical staff. • A monitoring plan shall be developed that details the following components. Conduct annual monitoring of seeded or replanted locations for a minimum of 3 years and up to 5 years, dependent upon the MMWD botanical staff recommendation and monitoring results. If the new population is not matching the average population data, more seeding or planting shall be conducted until pre-removal population levels are met. 					
<p>Impact Biology-1</p> <p>MM Biology-3: Prevent the Spread of Invasive Species</p> <p>Precautions shall be taken to minimize the introduction of any invasive weeds or to prevent the spread of existing infestations. Prior to conducting an activity that requires the use of mechanical equipment, the area shall be reviewed by a qualified biologist against the most recent maps of invasive species infestation. The biologist shall direct the work crews as to the need for vehicle cleaning and/or the order in which work should be conducted to minimize the possible spread of invasive species. If work is to commence in an area of known invasive species infestation, the work shall be limited to the area of infestation and no equipment shall move to uninfested areas without being washed first. Alternatively, work shall start in the uninfested areas and progress to the more heavily infested areas last.</p> <p>Areas of broadcast burns shall be monitored annually to ensure that invasive species/weeds are not taking over. Invasive species shall be removed until native vegetation establishes.</p>	Contractor working with qualified biologist	The District	Where activities covering more than 5 acres could occur in areas of invasive species	<p>Before Activity: Determine the areas where infestations are located and plan work accordingly to prevent spread</p> <p>During Activity: Clean vehicles between locations, if needed</p> <p>After Activity: Monitor burn areas for invasive species and weeds</p>	

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<p>Impact Biology-1 MM Biology-4: Prevent the Spread of Forest Diseases from Plan Activities Forest disease spread shall be evaluated by District biologists when management actions are being performed. An evaluation shall be triggered when a District biologist observes that a native vegetation type within the BFFIP area has been impacted by the disease. The biologists shall determine if mechanical methods of vegetation removal could result in the spread of the disease in a given project area, prior to implementing the project. This evaluation shall be conducted by looking at the location of the disease, the types of species that are being impacted, and the methods by which the disease is spreading. If the disease is spread by soil contact, then the biologist shall prescribe methodologies for reducing spread from mechanical methods of vegetation management. These methods would likely be similar to those identified in BMP-4 through BMP-7 including, but not be limited to, washing equipment after working in infected areas, and planning work to progress from uninfected areas to infected areas.</p>	Contractor working with the District's biologists	The District	Where activities covering more than 5 acres could occur in areas of forest disease	<p>Before Activity: Determine the areas where infestations are located and plan work accordingly to prevent spread</p> <p>During Activity: Implement measures to prevent spread, such as by cleaning vehicles between work locations, if needed</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1 MM Biology-5: Roosting Bats Broadcast Burning Prior to conducting broadcast burning, a qualified biologist shall review the selected location to determine whether potential roosting bat habitat is present. If adequate roosting trees are present, one of two options may be pursued: (1) A qualified bat biologist shall first conduct a focused assessment of the roosting habitat within 2 days of burning to determine whether bats are present. If bats are present, the bat biologist shall determine whether the broadcast burn poses a threat to the roosting bats based on the location of the bats as compared with the prescribed burn location, wind directions, and type of fuel to be burned. If bats could be within direct line of smoke, a threat would occur. If a threat could occur, the broadcast burn must be conducted when ambient temperatures are warmer to allow escape of the bats or the tree(s) avoided. (2) The broadcast burn will be conducted, avoiding the potential roosting trees.</p> <p>Tree Removal Prior to the removal of trees with a DBH of greater than 10", a qualified biologist shall conduct a focused tree habitat assessment. Trees containing suitable potential bat roost habitat features shall be clearly marked or identified. If day roosts are found to be potentially present, the biologist shall prepare a site-specific roosting bat protection plan to be implemented. Based on-site-specific conditions, the plan should incorporate the following guidance as appropriate:</p> <p>Roost Avoidance When possible, removal of trees identified as providing suitable roosting habitat should be conducted during seasonal periods of bat activity, including:</p> <ul style="list-style-type: none"> • Between March 1 and April 15, or after evening temperatures rise above 45 degrees Fahrenheit and/or no more than ½ inch of rainfall within 24 hours occurs; or • Between September 1 and about October 15, or before evening temperatures fall below 45 degrees Fahrenheit and/or more than ½ inch of rainfall within 24 hours occurs. <p>If it is determined that a colonial maternity roost is potentially present, the roost shall be avoided and shall not be removed during the breeding season (April 15 to August 31) unless removal is necessary to address an imminent safety hazard. Operation of mechanical equipment producing high noise levels (e.g., chainsaws, heavy equipment) in proximity to buildings/structures supporting or potentially supporting a colonial bat roost shall be restricted to periods of seasonal bat activity (as defined above), when possible.</p>	Contractor working with qualified biologist	The District	Where trees in bat roosting habitat could be impacted by activities (predominantly MA-21, MA-23, and MA-24)	<p>Before Activity: (1) Conduct surveys if tree removal could occur in bat roosting areas and work is occurring during roosting, (2) humanely evict bats, if appropriate</p> <p>During Activity: Avoid roosting bats</p> <p>After Activity: N/A</p>	

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<p>Assessment If work with loud, mechanical equipment must occur near a known or potential roosting structure/building during the maternity or hibernation roosting periods, then a qualified bat biologist shall first conduct a focused assessment of the structure. The site-specific plan shall be implemented to prevent noise-related impacts on roosting bats.</p> <p>Roost Removal If a tree potentially containing a colonial maternity roost must be removed, such as in the event of unsafe conditions requiring treatment, during the breeding season, then the following or other measures recommended by the qualified bat biologist may be implemented:</p> <ul style="list-style-type: none"> • Acoustic emergence surveys or other appropriate methods shall be conducted/implemented to further evaluate if the roost is an active maternity roost. • If it is determined that the roost is not an active maternity roost, then the roost may be removed in accordance with the other requirements of this measure. • If it is found that an active maternity roost of a colonial roosting species is present, the roost shall not be disturbed during the breeding season. <p>Potential colonial hibernation roosts will only be removed during seasonal periods of bat activity (i.e., non-hibernation periods). Potential non-colonial roosts that cannot be avoided shall be removed on warm days in late morning to afternoon when any bats present are likely to be warm and able to fly. Appropriate methods shall be used to minimize the potential of harm to bats during tree removal. Such methods may include using a two-step tree removal process. This method is conducted over two consecutive days, and works by creating noise and vibration by cutting non-habitat branches and limbs from habitat trees using chainsaws only (no excavators or other heavy machinery) on Day 1. The noise and vibration disturbance, together with the visible alteration of the tree, is very effective in causing bats that emerge nightly to feed, to not return to the roost that night. The remainder of the tree is removed on Day 2.</p>					
<p>Impact Biology-1 MM Biology-6: Protection of Badgers Prior to prescribed (broadcast and pile) burning, or prior to use of heavy equipment to remove and/or masticate vegetation in badger denning habitat, which is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils, a qualified wildlife biologist shall conduct a survey to identify any American badger burrows/dens. These surveys shall be conducted not more than 15 days prior to the start of work.</p> <p>American badger dens determined to be occupied during the breeding season (February 15 through June 30) shall be flagged, and ground disturbing activities avoided within 100 feet to protect adults and nursing young. Buffers may be modified by the qualified biologist, provided the badgers are protected, and shall not be removed until the qualified biologist has determined that the den is no longer in use.</p> <p>If the den is occupied during the non-maternity period (July 1 through February 14) and avoidance is not feasible, a passive badger relocation plan will be prepared and submitted to the CDFW for approval. Any passive relocation of American badgers shall occur only under the direction of a qualified biologist and with CDFW approval.</p>					
	Contractor working with qualified wildlife biologist	The District	Wherever broadcast burning or use of heavy equipment that could disturb ground (excluding mowers in fuelbreaks or defensible spaces) could be used in badger denning habitat	<p>Before Activity: Conduct surveys, as needed</p> <p>During Activity: Maintain non-disturbance areas around active dens or evict, as appropriate</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1 MM Biology-7: Protection of Nesting Birds If mowing with heavy equipment or other vegetation (including tree) removal activities or prescribed (broadcast and pile) burning would commence anytime during the nesting/breeding season of native</p>					
	Contractor working with qualified biologist	The District	Wherever heavy or noise equipment is used to implement BFFIP management actions	<p>Before Activity: (1) Conduct surveys, if appropriate, (2) identify nest buffers as needed</p>	

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<p>bird species (February 1 to September 1), a pre-construction survey for nesting birds shall be conducted by a qualified biologist within seven days of the habitat disturbance. The survey shall include visually surveying all suitable nesting habitat in the survey area, and be conducted during periods of high bird activity (i.e., 1-3 hours after sunrise and 1-3 hours before sunset). When the activity would occur along an existing fuel break or in other areas that are currently maintained such as along roads and in defensible spaces, then the survey area shall include only the disturbance footprint. During the construction of new fuelbreaks or during vegetation removal with heavy equipment in areas that were not previously managed (such as under MA-23 and MA-24), the survey area shall include the disturbance area and a surrounding buffer to be determined by a qualified biologist depending on type of equipment used, vegetation community, topography, resident bird species, and any other relevant factors.</p> <p>If active nests of bird species protected by the Migratory Bird Treaty Act and/or the California Fish and Game Code are found in areas that could be directly or indirectly disturbed (noise), a no-disturbance buffer zone shall be created around active nests during the breeding season or until a qualified biologist determines that all young have fledged. The size of the buffer zone shall be determined by the biologist, by taking into account factors including but not limited to the following:</p> <ul style="list-style-type: none"> • Noise and human disturbance levels at the site at the time of the survey and the noise and disturbance expected during the vegetation management activity; • Distance and amount of vegetation or other screening between the site and the nest; and • Sensitivity of individual nesting species and behaviors of the nesting birds. 				<p>During Activity: Maintain non-disturbance areas around active nests.</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1</p> <p>MM Biology-8: Northern Spotted Owl Avoidance During Nesting Season</p> <p>If mowing with heavy equipment, the mechanical removal of vegetation, or prescribed burning, including pile and broadcast burning, is to occur within the northern spotted owl nesting season (February 1 to July 31), the District shall commission two surveys for nesting northern spotted owls during the months of April and May preceding the commencement of these activities. At a minimum, the survey area shall include all suitable nesting habitats within 0.25 mile of any planned activity sites, and then one of the two options listed below shall be implemented:</p> <ol style="list-style-type: none"> 1. Following a round of protocol-level northern spotted owl surveys in accordance with the USFWS Protocol for Surveying Proposed Management Activities that may Impact Northern Spotted Owls (USFWS, 2012), if it is conclusively determined that there are nesting northern spotted owls, planned activities that generate noise (e.g., mowing, heavy equipment usage) that are within 0.25-mile of an identified active nest shall not begin prior to September 1 unless the young have fledged, at which time work may begin no earlier than July 10. Prescribed burns may only occur within suitable northern spotted owl habitat (as determined by a qualified biologist) during the nesting season if protocol surveys have determined that northern spotted owl nesting is not occurring. 2. Alternatively, the District shall perform a calculation to determine the minimum buffer needed to avoid impacts on this species from noise generation by equipment. The calculation shall be based on the guidance and methodology in the USFWS "Transmittal of Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California," (USFWS, 2006) which takes into consideration the baseline noise levels, the noise and duration of noise generated by the loudest equipment, and the topography of the landscape. The resulting buffer calculated using these methods shall be a minimum buffer, but in no case shall the buffer be less than 500 feet. If the calculation is not performed, a conservative 0.25-mile buffer shall be implemented per (1), above. If nesting northern spotted owls are found, activities shall not occur 	Contractor working with qualified biologist	The District	Any areas of the District's lands where northern spotted owls can occur, including the Watershed and the Nicasio administrative unit	<p>Before Activity: (1) Conduct surveys, (2) as appropriate calculate buffer distances or conduct work outside of nesting season</p> <p>During Activity: Maintain buffers</p> <p>After Activity: N/A</p>	

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<p>prior to September 1 unless the young have fledged, at which time work may begin no earlier than July 10.</p> <p>Manual methods shall not occur within 131 feet of the line-of-site of a nesting northern spotted owl.</p>					
<p>Impact Biology-1 MM Biology-9: Protection of Western Northwestern Pond Turtle Nesting Habitat and Overwintering Nesting</p> <p>Any mechanical method of vegetation management (i.e., heavy equipment), vehicle travel, or prescribed (broadcast and pile) burning that could occur where suitable <u>northwestern pond turtle nesting habitat</u> is present shall be reviewed by a qualified biologist to determine if <u>northwestern pond turtle nesting</u> could be present in the area. If the work with heavy equipment were to occur in loose soils in oak woodlands, mixed coniferous forests, broadleaf forests, or grasslands that are within 100 feet of ponds, during the <u>northwestern pond turtle egg-laying season</u> (May to August) as determined by the qualified biologist, the activity shall either be rescheduled to occur outside of the egg-laying period; or a survey shall be conducted to determine if eggs and nests are present in the work area and any identified eggs or nests and young turtles shall be avoided.</p> <p>Overwintering of Hatchlings in Nests</p> <p>Any mechanical method of vegetation management (i.e., heavy equipment) or vehicle travel that could occur where suitable overwintering habitat for hatchlings is present shall be reviewed by a qualified biologist to determine if any hatchlings could be present in the area. If work with heavy equipment were to occur in loose soils in oak woodlands, mixed coniferous forests, broadleaf forests, or grasslands that is within 225 meters of ponds known to be used by the <u>northwestern pond turtle</u>, during the overwintering season (October to April) (Holland, 1994) as determined by the qualified biologist, the activity shall either be rescheduled to occur outside of the overwintering period, or a survey shall be conducted to determine if hatchlings are present in the work area and any identified nests shall be avoided.</p>	Contractor working with qualified biologist	The District	Wherever heavy equipment, vehicle travel, or prescribed burning could occur in western pond turtle breeding habitat during their breeding season (May to August) or where heavy equipment and vehicle travel could occur during the overwintering season for hatchlings (October to April)	<p>Before Activity: (1) Biologist determines if the work area could support pond turtle breeding or overwintering based on the location of the work and proximity to ponds, (2) if no pond turtle could occur, work can proceed, (3) if pond turtle could be found in an area, the area shall be avoided or work rescheduled, (4) a survey can also be performed to rule out pond turtle eggs or overwintering hatchlings from the work area</p> <p>During Activity: Avoid pond turtle nests or overwintering hatchlings, if any had been found in surveys</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1 MM Biology-10: California Red-Legged Frog Avoidance</p> <p>Prior to implementing any vegetation management activities involving vehicles or equipment (i.e., mowers, graders, skid steer loader) within 0.25 mile of Lagunitas Creek downstream of Kent Lake, or around Soulajule Reservoir (or any location where California red-legged frogs have been found), a qualified biologist shall conduct protocol-level in accordance with the USFWS <i>Revised Guidance on-Site Assessments and Field Surveys for the California Red-legged Frog</i> (USFWS, 2015) surveys the areas where activities are to occur to ensure that no California red-legged frogs are present in the activity footprint. The biologist shall also mark the work area and the maintenance crew shall be directed to stay within the marked activity areas. If California red-legged frogs are found, no work shall occur until the frogs have moved on their own from the activity area.</p>	Contractor working with qualified biologist	The District	Locations where California red-legged frog have been observed or within designated critical habitat	<p>Before Activity: (1) Conduct a survey for any individuals in the work area, (2) if California red-legged frogs have been observed or if work is to occur within designated critical habitat, prior use of vehicles or equipment</p> <p>During Activity: If observed, activities must not occur until the individual(s) leave the area</p> <p>After Activity: N/A</p>	
<p>Impact Biology-1 MM Biology-11: Marin Elfia Butterfly Host Plant Avoidance</p> <p>Prior to vegetation management activities in the limited areas where <u>stonecrop is known to occur</u> (steep slopes on southeast shore of Lake Lagunitas, north-facing slopes south of Alpine Lake, and north of Kent Lake) <u>host plants for special-status butterflies are known to occur</u>, District botanical staff shall be notified. If the activity would occur in an area containing or potentially containing <u>stonecrop host plants for special-status butterflies</u>, then a survey shall be conducted to flag all <u>stonecrop</u> plants within</p>	Contractor working with the District's botanical staff	The District	Locations where <u>stonecrop is host plants for special-status butterflies are</u> known to occur (steep slopes on southeast shore of Lake Lagunitas, north-facing slopes south of Alpine Lake, and north of Kent Lake)	<p>Before Activity: (1) Determine if activity could occur in the limited areas where <u>stonecrop host plants for special-status butterflies</u> may also occur, (2) conduct survey for <u>stonecrop host plants for special-status butterflies</u>, if there is overlap.</p>	

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and bordering the work area. Work crews shall be instructed to avoid flagged plants or larger areas, and work crews shall be trained in identification of stonecrop <u>stonecrop host plants for special-status butterflies.</u>				During Activity: Avoid stonecrop <u>stonecrop host plants for special-status butterflies</u> After Activity: N/A	
<p>Impact Biology-1 MM Biology-12: Protection of Foothill Yellow-Legged Frog</p> <p>Immediately prior to the use of heavy equipment, any other ground disturbing Plan activities, or prescribed (broadcast and pile) burning within 50 feet of Big Carson Creek, Little Carson Creek, or their tributaries, a clearance survey for foothill yellow-legged frog shall be conducted by an individual trained in the identification of the species. If foothill yellow-legged frogs are found, no work shall occur until the frogs have moved on their own from the activity center.</p>	Contractor working with trained individual and qualified biologist	The District	Activities (not including manual methods or planting) within 50 feet of Big Carson Creek, Little Carson Creek, or their tributaries	<p>Before Activity: (1) Survey for the species During Activity: If observed, activities must not occur until the individual(s) leave the area After Activity: N/A</p>	
<p>Impact Biology-1 MM Biology-13: Mollusk Avoidance</p> <p>Only hand methods of removal shall be used when working directly in seeps or springs, unless a survey for Marin Hesperian and robust walker is undertaken. If the species are not found in surveys, the work can proceed. If individuals are found, the area should be avoided or work shall only proceed using hand methods, supervised by a qualified biologist.</p> <p>If the use of equipment other than hand tools are required in Potrero Meadow, then a site-specific protection plan for Marin Hesperian and robust walker shall be prepared by a qualified biologist. The plan may include conducting clearance surveys and having a qualified monitor on-site during construction activities, as well as ensuring that activities in that area would protect and/or enhance habitat in that area in the long-term.</p>	Contractor working with qualified biologist	The District	The locations where treatments could need to occur in habitat suitable for Marin Hesperian and Robust Walker (i.e., springs or seeps)	<p>Before Activity: Survey for the species if work could occur in their habitat During Activity: Avoid the species or only perform hand work in the immediate vicinity of the species After Activity: N/A</p>	
<p>Impact Biology-1 MM Biology-14: Northern Spotted Owl Projects Within 0.25 Mile of an Activity Center <i>Determine Type of Habitat Present</i></p> <p>Prior to vegetation management within an area the latest GIS data available for northern spotted owl activity centers shall be consulted to determine whether the project is within 0.25 mile of an activity center. Once determined to be within 0.25 mile of an activity center, the habitat shall be reviewed to determine whether the project is proposed to occur within a forest habitat type that provides potential northern spotted owl foraging, roosting, and/or nesting habitat. This may be accomplished as follows:</p> <ol style="list-style-type: none"> 1. A review of GIS data shall be conducted to determine if the activity is proposed to occur in a forest type potentially used by northern spotted owls (i.e., Douglas-fir, redwood, mixed conifer/hardwood forest, mature broadleaf/evergreen forest types). If the activity would not occur within a forest type potentially used by northern spotted owls, then no further actions is required to protect northern spotted owl habitat. 2. If the project is proposed to occur in a forest type potentially used by northern spotted owls, then a site-specific habitat evaluation shall be conducted within the month of February prior to the activity by a qualified northern spotted owl biologist to determine if the area provides the required habitat characteristics to provide northern spotted owl foraging, roosting, and/or nesting habitat. <p><i>Projects Within Appropriate Habitat</i></p> <p>For projects which are proposed to occur in potential northern spotted owl foraging, roosting, or nesting habitat, the following action shall be implemented prior to management activities:</p>	Contractor working with qualified northern spotted owl biologist	The District	Areas within 0.25-mile of where northern spotted owls could forage, roost, or nest	<p>Before Activity: (1) Consult GIS layers to determine if a project would occur in northern spotted owl activity areas, (2) conduct surveys to evaluate habitat if work is to occur in a forest that could support northern spotted owls During Activity: Alter habitat as specified in measure, avoid woodrat stick nests After Activity: N/A</p>	

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<ul style="list-style-type: none"> Habitat alteration within core use areas (nesting and roosting habitat) shall be planned and conducted under the guidance of a qualified northern spotted owl biologist. Opportunities to conduct vegetation management to enhance development of late- successional characteristics or to meet other restoration goals in a manner compatible with retaining resident northern spotted owls shall be evaluated and implemented. Restoration activities conducted near northern spotted owl sites shall first focus on areas of younger forest less likely to be used by northern spotted owls and less likely to develop late-successional forest characteristics without vegetation management. Vegetation management projects shall be designed to include a mix of disturbed and undisturbed areas, retention of woody debris, and development of understory structural diversity to maintain small mammal populations across the landscape. Presumed active woodrat stick nests (i.e., with visible signs of activity as determined by the qualified biologist) would be temporarily demarcated during surveys by the qualified biologist. Woodrat stick nests and areas around the nests, shall be avoided during vegetation management activities. Any flagging or other markings would be removed following the activity. 					
Impact Biology-1					
MM Biology-17: Protection of California Giant Salamander					
Immediately prior to the use of heavy equipment, any other ground disturbing Plan activities, or prescribed (pile and broadcast) burning within 50 feet of a stream or within riparian habitat, a clearance survey for California giant salamander shall be conducted by an individual trained in the identification of the species. Any identified California giant salamander shall be relocated (by a qualified biologist in possession of a valid Scientific Collecting Permit, or appropriate permit at the time of work if listing status changes) to a suitable nearby location at least 250 feet from the original location. Alternatively, the activity may be delayed until the salamander has left the area on its own.	Contractor working with trained individual and qualified biologist	The District	Activities (not including manual methods or planting) within 50 feet of a stream or within riparian habitat	<p>Before Activity: (1) Survey for the species, (2) move any individuals found in the work footprint prior to conducting activities</p> <p>During Activity: N/A</p> <p>After Activity: N/A</p>	
Impact Biology-1: Implement Mitigation Measures MM Geology-1, MM Geology-3, and MM Hydrology-1 (see below)					
Impact Biology-2: Implement Mitigation Measures MM Biology-1, MM Biology-2, MM Biology-3, and MM Biology-4 (see above), MM Geology-1 and MM Geology-3 (see below), and Best Management Practices BMP-1 through BMP-7 (see above).					
Impact Biology-2					
MM Biology-15: Protection of Wetlands					
All projects involving mowing with heavy equipment or mechanical removal with heavy equipment shall be evaluated by a qualified biologist prior to initiation of the work. If the biologist determines that the project would occur in an area where wetlands are known or potentially present, the following avoidance and minimization measures shall be implemented:	Contractor working with qualified biologist	The District	Areas where wetlands could occur	<p>Before Activity: (1) Biologist reviews work areas to determine if work could occur in a wetland, (2) if yes, areas of wetlands shall be flagged for avoidance prior to conducting work</p> <p>During Activity: Use only equipment designated for use in wet, saturated soils</p> <p>After Activity: Restore any rutting before the wet season</p>	
<ul style="list-style-type: none"> Prior to mowing or mechanical removal, all wetlands in the disturbance area shall be flagged (or otherwise demarcated) and heavy equipment shall not operate within the flagged area(s); or Heavy equipment may be operated in a seasonal wetland only when the wetland is dry (as determined by the biologist); or Only heavy equipment designed to operate within wet or saturated soils may be used. The equipment must be able to operate without causing rutting, compaction of soils, or other soil and topography disturbances. If rutting or soil compaction occurs, these areas shall be restored prior to the wet season. 					
Impact Biology-2					
MM Biology-16: Protection of Native Grasslands					
All projects involving mowing with heavy equipment, mechanical removal with heavy equipment, or grazing shall be evaluated by the District's biologist prior to initiation of the work. For the purposes of this measure, a native grassland community is defined as an area with a relative cover or absolute	Contractor working with the District's biologist	The District	Areas where mowing, heavy equipment, or grazing could be used in sensitive grasslands	<p>Before Activity: Biologist reviews work areas to determine if work could occur in a sensitive grassland, (2) if yes, areas sensitive communities</p>	

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<p>cover of native grasses that meets the “Membership Rules” defined in a Manual of California Vegetation (Sawyer, Keeler-Wolf, & Evens, 2009), and that has a minimum stand size of 0.25-acre. If the biologist determines that the project would occur in an area where native grassland communities are known or potentially present, the following avoidance and minimization measures shall be implemented:</p> <ul style="list-style-type: none"> • Prior to mowing or mechanical removal, all native grassland communities in the disturbance area shall be identified. The District biologist shall then evaluate if the proposed activity may be detrimental to the grassland area. At a minimum, MM Biology-3 shall be implemented to prevent the spread of invasive species. As needed, the District biologist may also require the following: <ul style="list-style-type: none"> - Flagging the boundaries of the sensitive grassland area and heavy equipment shall not operate within the flagged area(s); or - Heavy equipment may be operated in the area only after the grasses have gone to seed and when soils are dry; or - Monitoring of the grassland area following the disturbance to ensure that the cover of native grasses has not been altered by the activity, and the implementation of restoration activities as needed. 				<p>shall be flagged for avoidance prior to conducting work</p> <p>During Activity: Avoid flagged areas and only enter the sensitive grasslands after grasses have gone to seed when soils are dry</p> <p>After Activity: Monitor the grassland areas following the disturbance for any changes in its size or composition</p>	
<p>Impact Biology-3: Implement Mitigation Measure MM Biology-1 (see above), MM Geology-3 and MM Hydrology-1(see below)</p>					
<p>Impact Biology-4: Implement Mitigation Measures MM Biology-3, MM Biology-5, MM Biology-6, MM Biology-7, MM Biology-8, and MM Biology-9 (see above), MM Geology-1, MM Geology-3, and MM Hydrology-1 (see below)</p>					
<p>Impact Biology-Cumulative: Implement Mitigation Measures MM Biology-1, MM Biology-2, MM Biology-3, MM Biology-4, MM Biology-5, MM Biology-6, MM Biology-7, MM Biology-8, MM Biology-9, and MM Biology-10 (see above), MM Geology-1, MM Geology-3, and MM Hydrology-1 (see below)</p>					
<p>Cultural and Tribal Cultural Resources</p>					
<p>Impact Cultural Resources-1</p>					
<p>MM Cultural-1: Cultural Resources Training</p>					
<p>All employees and contractors shall receive cultural resource training conducted by a qualified cultural resources specialist (e.g., an archaeologist or tribal monitor, if appropriate) prior to working on BFFIP projects. For tracking purposes, a list of individuals who have received training shall be maintained at the District headquarters. The training shall address appropriate work practices necessary to effectively implement the mitigation measures (MM Cultural-2, -3, and -4), for historical resources, archaeological resources, tribal cultural resources, and human remains. The training shall address the potential for exposing subsurface resources, recognizing basic signs of a potential resource, understanding required procedures if a potential resource is identified including reporting the resource to a qualified archaeologist or cultural resources specialist, and understanding all procedures required under Health and Safety Code § 7050.5 and PRC §§ 5097.94, 5097.98, and 5097.99 for the discovery of human remains.</p>	<p>Contractor working with qualified cultural resources specialist</p>	<p>The District</p>	<p>BFFIP Area</p>	<p>Before Activity: Train employees and contractors how to implement the mitigation measures (MM Cultural-2 through MM Cultural-4)</p> <p>During Activity: N/A</p> <p>After Activity: N/A</p>	
<p>Impact Cultural Resources-1</p>					
<p>MM Cultural-2: Known Cultural Resources and Pre-Activity Surveys</p>					
<p>The District shall maintain a confidential GIS database of all survey areas and discovered historic and archaeological resources in the BFFIP area. In the event that a Native American tribe identifies a prehistoric trail alignment on District land, the alignment shall be added to the confidential GIS database.</p> <p>Prior to conducting any work associated with the BFFIP, the work areas shall be compared against the GIS data to determine if the area has been previously surveyed and if it has been surveyed, if any historic or archaeological resources are found in the work area. Any resources that have not been evaluated shall be assumed eligible for listing in the CRHR and assumed significant.</p>	<p>Contractor working with qualified archaeologist; the District</p>	<p>The District</p>	<p>BFFIP Area</p>	<p>Before Activity: Consult the GIS cultural resources layer for the presence of recorded sites</p> <p>During Activity: (1) Avoid recorded resources or impacts on resources or use only hand methods in resource areas, (2) Examine area where piles are proposed for resources</p> <p>After Activity: Remove resource delineators</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<p>If the GIS data shows that the areas where soil -disturbance below the surface through use of heavy equipment, or burning is proposed have not been previously surveyed, consultation with the Tribe shall occur. Notification with maps of the location of work shall be provided to a Native American tribe identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the project site. A pre-activity cultural resources survey shall be conducted by a qualified archaeologist or cultural resources specialist in accordance with industry standards prior to performing work, unless vegetation is too dense making a survey impossible. In the event vegetation is too dense, making a pre-activity survey challenging or impossible, the training conducted under MM Cultural-1, shall be sufficient to permit work to be conducted using only manual techniques accessed on foot.</p> <p>If historical or archaeological resources are located in the work area (either as identified in previous surveys or during pre-activity surveys), the resource, plus a 50-foot buffer, shall be avoided. For resources that are not readily evident in the field, the boundaries around the resource shall be temporarily marked such as with fencing or flagging. If work must commence in the sensitive area, it can only be performed using hand tools or powered hand tools, cannot include ground disturbance below the topsoil layer, and can only be accessed on foot. Alternatively, the resource can be evaluated for eligibility for the CRHR and reviewed by a tribal monitor to determine whether it constitutes a tribal cultural resource, if the resource is archaeological. If found ineligible and not a tribal cultural resource, work could proceed as normal. If found eligible or to be a tribal cultural resource, impacts on the resource must be avoided (through total avoidance of the area, or through use of hand methods only in the area of the resource, as described here). After work is completed, all cultural resource delineators (flags, fencing) shall be removed in order to avoid potential vandalism, unauthorized excavation(s), etc.</p> <p>Prior to stashing slash for pile burning, the areas where piles are proposed for location shall be examined by the workers creating the piles to ensure that no resources are located on the ground surface under the piles. All workers shall be trained in the identification of cultural resources. If a potential resource is identified, piles for burning shall be moved to avoid the resource(s) and MM Cultural-3 implemented.</p>					
<p>Impact Cultural Resources-1</p> <p>MM Cultural-3: Previously Unidentified Cultural Resources</p> <p>In the event that a previously unidentified cultural resource is discovered during implementation of an activity all work within 165 feet (50 meters) of the discovery shall be halted. The resource shall be located, identified, and recorded in the District’s cultural resources GIS identified in MM Cultural-2. Data regarding archaeological resources shall be shared with Native American tribes identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the project site.</p> <p>A qualified cultural resource specialist/archaeologist shall inspect the discovery and determine whether further investigation is required. If the discovery can be avoided and no further impacts shall occur, the resource shall be documented on California State Department of Parks and Recreation cultural resource record forms and no further effort shall be required. If work must commence in the sensitive area, it can only be performed using hand tools or powered hand tools, cannot include ground disturbance below the topsoil layer, and can only be accessed on foot. Alternatively, the cultural resource specialist/ archaeologist shall evaluate the resource and determine whether it is:</p> <ul style="list-style-type: none"> • Eligible for the CRHR (and a historical resource for purposes of CEQA), • A unique archaeological resource as defined by CEQA, and/or • A potential tribal cultural resource (all archaeological resources could be a tribal cultural resource). <p>If the cultural resources specialist/archaeologist determines that the resource could be a tribal cultural resource, he or she shall, within 48 hours of the discovery, notify each Native American tribe identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the project site of</p>	<p>Contractor working with qualified archaeologist</p>	<p>The District</p>	<p>BFFIP Area</p>	<p>Before Activity: N/A</p> <p>During Activity: (1) Cease activity if a cultural resource is uncovered, (2) Avoid resource if possible, (3) Evaluate and determine whether the resource is eligible, unique, or could be a tribal cultural resource, (4) If the resource could be a tribal cultural resource, notify Native American tribe identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the project site, (5) If the resource is not eligible, unique, and/or a tribal cultural resource, work may commence, (6) If the resource is eligible, unique, and/or a tribal cultural resource, work remains halted and a method selected to ensure that adverse change to the resource does not occur, (7) Preserve</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<p>the discovery. A tribal monitor shall inspect the resource to determine whether it constitutes a tribal cultural resource. If the resource is determined to be neither a unique archaeological, an historical resource, or a potential tribal cultural resource, work may commence in the area.</p> <p>If the resource meets the criteria for either a historical resource, unique archaeological resource, and/or tribal cultural resource, work shall remain halted and the cultural resources specialist/archaeologist shall consult with the District staff regarding methods to ensure that no substantial adverse change would occur to the significance of the resource pursuant to CEQA Guidelines Section 15064.5(b). The responding tribes shall be given an opportunity to participate in determining the appropriate mitigation methods for tribal cultural resources in consultation with the District.</p> <p>Avoidance of the area, or avoidance of impacts on the resource, is the preferred method of mitigation for impacts on cultural resources and shall be required unless there are other equally effective methods. Other methods to be considered shall include evaluation, collection, recordation, and analysis of any significant cultural materials in accordance with a Cultural Resources Management Plan prepared by the qualified cultural resource specialist/archaeologist. The methods and results of evaluation or data recovery work at an archaeological find shall be documented in a professional level technical report to be filed with California Historical Resources Information System (CHRIS).</p> <p>Work may commence upon completion of evaluation, collection, recordation, and analysis, as approved by the qualified archaeologist and tribal monitor, for tribal cultural resources.</p>				<p>in place if possible, (8) If not possible to preserve in place, and as deemed appropriate by the qualified cultural resource specialist/archaeologist and tribal monitor, for tribal cultural resources, recover and record cultural materials. Once recovered and recorded, the activity can commence in this area.</p> <p>After Activity: Ensure resource has been appropriately recorded in District’s cultural resources GIS.</p>	
<p>Impact Cultural Resources-2</p> <p>MM Cultural-4: Human Remains</p> <p>The treatment of human remains and of associated or unassociated funerary objects discovered during any soil-disturbing activity within the proposed plan area shall comply with applicable State laws.</p> <ul style="list-style-type: none"> • If human remains are at any time noted during activities around MRN-496/P-21-000445 or in the plan area, work shall be halted within 165 feet (50 meters) of the discovery. The professional archaeologist and the District shall notify the Marin County Coroner’s office as prescribed in Public Resources Code §5097.98 and Health and Safety Code §7050.5. • In the event of the coroner's determination that the human remains are Native American, notification of the Native American Heritage Commission is required, who shall appoint a Most Likely Descendant (MLD) (PRC §5097.98). • The human remains shall be protected until a decision is reached on the final disposition of the remains. • The District, the professional archaeologist, and the MLD shall make all reasonable efforts to develop an agreement for the treatment, with appropriate dignity, of human remains and associated or unassociated funerary objects (CEQA Guidelines Section 15064.5[d]). The agreement should take into consideration the appropriate excavation, removal, recordation, analysis, custodianship, curation, and final disposition of the human remains and associated or unassociated funerary objects. If the MLD and the other parties do not agree on the disposition of the remains, the reburial method shall follow PRC §5097.98(b) which states that: <ul style="list-style-type: none"> ... the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American burials with appropriate dignity on the property in a location not subject to further subsurface disturbance. 	Contractor, coroner, the District, the professional archaeologist, the MLD	Marin Municipal Water District	BFFIP Area	<p>Before Activity: N/A</p> <p>During Activity: (1) Avoid known location of human remains, (2) Cease activity if human remains are uncovered, (3) Appoint a Most Likely Descendant, (4) Protect human remains until a decision is reached, (5) If avoidance is not possible, the District, professional archaeologist, and MLD, remove human remains and associated or unassociated funerary objects from the location and move to selected location in accordance to decision reached. Once moved then the activity can commence again in this area.</p> <p>After Activity: N/A</p>	
Impact Cultural Resources-3: Implement Mitigation Measures MM Cultural-1, MM Cultural-2, MM Cultural-3, and MM Cultural-4 (see above)					
Impact Cultural Resources-Cumulative: Implement Mitigation Measures MM Cultural-1, MM Cultural-2, MM Cultural-3, and MM Cultural-4 (see above)					

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Geology and Soils					
Impact Geology and Soils-1					
MM Geology-1: Erosion Control and Slope Stability Measures					
<p>Best management practices (BMPs) for forestry shall be implemented to ensure vegetation management does not result in erosion, loss of topsoil, or slope instability in areas where work could result in the exposure of bare soils or the loss of root-soil matrix strength. If groundcover is determined to be less than 70 percent^a following work, then BMPs, as identified here, shall be implemented.</p> <p>Prior to conducting work in any given area under any management action that could result in erosion or slope instability (e.g., broadcast burns, tree removal, weed removal, or forest treatments that could reduce the groundcover and expose soil) the area shall be inspected for existing signs of erosion or slope instability (e.g. rills, slumped soil). Depending on the slope and the downslope resources (roads that could be impacted if a slope failed, waterbodies or habitat that could be impacted from erosion, important habitat, etc.), erosion and slope stabilization measures shall be determined prior to implementation of work, based on the list below. Generally, if an action would expose soils (groundcover less than 70 percent), then measures to protect soils, minimize erosion, and prevent slope instability shall be implemented. The measures to be implemented shall depend on the site's specific characteristics and the type and extent of vegetation management work to be performed. The inspection and determination of appropriate measures shall be made by personnel with knowledge and experience in the application of erosion and slope stabilization BMPs through training or field experience with BMP installation. The personnel shall memorialize in writing their field observations, and corresponding recommendations regarding installation of BMPs.</p> <p>The following measures shall be implemented during work, if the activity would reduce groundcover by 70 percent or more and as applicable:</p> <ul style="list-style-type: none"> • Minimize areas to be disturbed to the greatest extent feasible • Avoid use of heavy equipment on slopes greater than 30 percent • Shut down use of heavy equipment, skidding, and truck traffic when soils become saturated and unable to support the machines • Sow native grasses and other herbs on denuded areas where natural colonization or other replanting shall not occur rapidly; use slash or chips to prevent erosion on such areas • Use surface mounds, depressions, logs, rocks, trees and stumps, slash and brush, the litter layer, and native herbaceous vegetation downslope of denuded areas to reduce sedimentation and erosion, as necessary to prevent erosion or slope destabilization • Stabilize steep slopes (i.e., greater than 30 percent) with mats or natural materials after tree removal or weed removal and prior to planting, where soils are exposed and could erode • Broadcast burns shall be performed outside of perennial and intermittent streams, and riparian forest/woodland. A 50-foot buffer around perennial and intermittent streams shall be maintained when the broadcast burn is proposed on a slope greater than 30 percent and upslope of the stream • Install approved erosion control measures and non-filament-based geotextiles when: <ul style="list-style-type: none"> - conducting substantial ground disturbing work (i.e., use of heavy equipment, pulling large vegetation) within 100 feet^b and upslope of currently flowing or wet wetlands, streams, lakes and riparian areas; - causing soil disturbance on moderate to steep (10 percent slope and greater) slopes; and - following the removal of invasive plants from stream banks to prevent sediment movement into watercourses and to protect bank stability. 					
	Contractor	The District	Any areas where the ground is disturbed and soils are exposed through vegetation management actions	<p>Before Activity: Inspect areas for treatment prior to treatment to assess the potential for erosion and soil instability</p> <p>During Activity: Implement the protection measures as needed to avoid or minimize erosion and slope instability</p> <p>After Activity: Conduct inspections as needed after actions, depending on the size and nature of the work and the site, to ensure that erosion is not occurring and to remove any erosion control devices once they are no longer needed</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> Sediment control devices, if installed, shall be certified weed-free, as appropriate. Sediment control devices shall be inspected daily to ensure that they are in good repair and working as needed to prevent sediment transport into the waterbodies (and repaired as needed) Prior to conducting ground disturbing work the weather forecast shall be consulted; No substantial ground disturbing work (i.e., use of heavy equipment, pulling large vegetation) shall occur during rain events and 48 hours after a rain event, defined as 0.5 inch of rain or greater within a 48-hour period, or until soils are determined to not saturated <p>Once work is completed the areas shall be inspected as needed and as accessible but at least annually until groundcover exceeds 70 percent and it is clear that significant erosion and slope instability are not occurring. At that time, erosion control and slope stability devices shall be removed.</p>					
<p>Impact Geology and Soils-1</p> <p>MM Geology-2: Fire Lines During Broadcast Burns</p> <p>One or more of the following measures shall be implemented during broadcast burns to reduce erosion from fire lines:</p> <ul style="list-style-type: none"> Use existing barriers such as roads, trails, or wet lines as fire lines Restore fire lines upon completion of the burn if they would not be used again (unless they are existing roads, trails, or other permanent elements). Utilize erosion control measures, such as sediment traps, during restoration to reduce sedimentation impacts. Restoration shall occur prior to one month after the fire line was created, assuming the fire line will not be used by another burn in the same year Design broadcast burn boundaries to avoid gullies and highly erodible soils to the fullest extent possible 	Contractor	The District	Broadcast burn areas	<p>Before Activity: Determine fire lines</p> <p>During Activity: Set up provisions as specified in the measure</p> <p>After Activity: Restore fire lines upon completion of work</p>	
<p>Impact Geology and Soils-1</p> <p>MM Geology-3: Grazing Land and Trail Control</p> <p>Methods shall be implemented to reduce the possibility that grazing trails form include the following:</p> <ul style="list-style-type: none"> Prohibit grazing within 100 feet of lakes/reservoirs, creeks, streams, riparian corridors, and wetlands. Install fencing 100 feet from streams and riparian areas to exclude livestock Implement methods, which could include rotating or providing multiple feeding areas, to minimize congregation of animals in any one location Limit the number of animals spent grazing in a particular sized area, using the stocking rate equation taking into account days assumed to graze, slope, yield of the land, number of animals, weight of animals, and other appropriate factors Conduct surveys of the grazing area during active grazing, identify if trails or other erosion features are forming Ensure there are appropriate rest periods between grazing in any one area to allow regrowth of plants If grazing trails or damaged areas form, the bare area shall be remediated by decompacting the soil and discontinuing grazing in the area until the trails are revegetated Install off-stream watering tanks Install fencing to exclude livestock from grazing on steep slopes (generally slopes with more than 30 percent grade), unless accounted for in stocking rate equation During surveys of active grazing, conduct ongoing surveillance of installed erosion control features around riparian areas and fences around riparian areas Repair damaged fencing or erosion control features as necessary 	Contractor	Marin Municipal Water District	Grazing areas	<p>Before Activity: Install fencing as needed</p> <p>During Activity: (1) Limit number of animals in an area based on appropriate calculations and minimize congregation of animals in any one location, (2) Repair damaged fencing or erosion control features, and (3) Conduct surveys during grazing to identify problem areas</p> <p>After Activity: (1) Permit appropriate rest periods after grazing, and (2) Remediate any bare areas</p>	
<p>Impact Geology and Soils-2: Implement Mitigation Measures MM Geology-1, MM Geology-2, and MM Geology-3 (see above)</p>					

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Impact Geology and Soils-Cumulative: Implement Mitigation Measures MM Geology-1, MM Geology-2, and MM Geology-3 (see above)					
Greenhouse Gas Emissions					
Impact GHG-1: Implement Mitigation Measure MM Air-1					
Impact GHG-2: Implement Mitigation Measure MM Air-1					
Impact GHG-Cumulative: Implement Mitigation Measure MM Air-1					
Hazardous Materials and Fire Hazards					
Impact Hazards-1					
MM Hazards-1: Spill Prevention and Response					
The District shall, at a minimum, implement best management practices that address the following procedures related to the use of hazardous materials during construction:					
<ul style="list-style-type: none"> • Proper disposal or management of contaminated soils and materials (i.e., clean up materials) • Daily inspection of vehicles and equipment for leaks and spill containment procedures • Emergency response and reporting procedures to address hazardous material releases • Emergency spill supplies and equipment shall be available to respond in a timely manner if an incident should occur • Response materials such as oil-absorbent material, tarps, and storage drums shall be available in the plan area at all times during management activities and shall be used as needed to contain and control any minor releases • The absorbent material shall be removed promptly and disposed of properly • Use of secondary containment and spill rags when fueling • Discourage “topping-off” fuel tanks • All workers shall be trained on the specific procedures for hazardous materials and emergency response as an element of the required worker environmental training prior to working in the plan area 	Contractor and the District	The District	BFFIP Area	<p>Before Activity: N/A</p> <p>During Activity: (1) Implement appropriate best management practices that limit the potential for spills, (2) Cleanup any inadvertent spills appropriately</p> <p>After Activity: N/A</p>	
Impact Hazards-2					
MM Hazards-2: Avoidance of MVAFS Hazards					
Workers shall avoid all existing and former buildings and facilities within MVAFS or until the site is found to not have contamination in excess of background levels.					
	Contractor	The District	Projects within MVAFS	<p>Before Activity: N/A</p> <p>During Activity: Avoid existing and former buildings and facilities when conducting weed removal activities</p> <p>After Activity: N/A</p>	
Impact Hazards-4: Implement Mitigation Measures MM Hazards-1 (see above) and MM Hazards-3 (see below)					
MM Hazards-3: Fire Risk Reduction for Stockpiling and Pile Burning					
Piles shall not be burned during the fire season. Pile burning shall only be allowed on days when fire is less likely to spread (e.g., wind speeds are less than 15 mph). All requirements of the BAAQMD shall be met, including any permit, notification, and reporting requirements. Public notification shall be provided at least 24 hours in advance of a burn to individuals within 1 mile and at trailheads and fire roads leading to the area with piles proposed for burning. The public notification shall include current contact numbers to the appropriate burn coordinator.					
	Contractor	The District	Wherever stockpiles of slash are made and piles burned	<p>Before Activity: Notify public and obtain all permits and make all necessary notifications as required by BAAQMD and MCFD</p> <p>During Activity: (1) Ensure that piles are away from highly ignitable areas (2) Ensure proper weather conditions during pile burning (3) Ensure proper fire-fighting equipment is on-hand during pile burning</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Impact Hazards-4 MM Hazards-4: Prescribed Burn Plan Prescribed Burn Plans shall be prepared for each broadcast burn project or for a larger area covering several planned projects. The Prescribed Burn Plan shall include the following information, at a minimum:					
<ul style="list-style-type: none"> • Project purpose and predicted outcome • Project location • Fuel conditions (discussion of types of plants and trees within and adjacent to project area) • Allowable atmospheric conditions and times to conduct the burn for safety and smoke dispersal (i.e., wind speeds, temperature, humidity, moisture of vegetation). Prescribed Burn Plans shall specify that burns generally occur: <ul style="list-style-type: none"> - After the morning inversion layer and before the evening inversion layer - When the atmosphere is neutral to unstable - During the day, to avoid nighttime inversion layers - When wind speeds are high enough that the air is not stagnant (i.e., 5 mph) and low enough that the broadcast burn can be managed safely • Avoidance of high fire danger days (e.g., Red Flag Days and Fire Weather Watch) Have fire suppression crews on-site from the start of the fire season determined by CAL FIRE (usually mid-May to early June) to the end of fire season (mid-November) during broadcast and pile burns • The broadcast burn specialist shall determine an appropriate buffer between flammable infrastructure or buildings and the broadcast burn, which is dependent upon the types of vegetation burned, moisture, weather, and topography • Event day logistics (numbers and types of personnel and equipment required, personal protective equipment) • Contingency plans (i.e., location and response time of emergency response, secondary fire lines) • Public notification at least 24 hours in advance of the burn to individuals within 1.5 miles and at trailheads and fire roads leading to the area proposed for burning. The public notification shall include current contact numbers to the appropriate burn coordinator • Agency notification and coordination as required • Requirements of BAAQMD and MCFD 	Contractor	The District	Broadcast burn projects	Before Activity: (1) Prepare Prescribed Burn Plan including all identified details, (2) Notify the public at least 24 hours prior to broadcast burn and obtain necessary permits form or provide necessary notifications to MCFD and BAAQMD, (3) Arrange for appropriate crew and equipment to be on-site During Activity: Implement Prescribed Burn Plan After Activity: N/A	
Impact Hazards-4 MM Hazards-5: Roads and Trails Around Broadcast Burns Trails and District-Use-Only Roads District-use-only roads and trails shall be closed to public recreational access if determined to be necessary in accordance with the burn-specific Burn Plan and/or Incident Action Plan. District-use-only roads and trails shall be posted and blockaded with temporary fencing or the like, if closures are needed. Notices of closures shall be posted at the trail heads and on the District’s website, when needed. Additional measures such as staffing trail head closures can be implemented as needed.					
Public Roads If possible, public roads within 500 feet of the outermost edges of a broadcast burn shall be closed in coordination with the appropriate agency (e.g., Caltrans, Marin County). In the event this is not feasible, due to volume of traffic or lack of alternative routes, a Traffic Control Plan shall be prepared and	Contractor	The District	Within 500 feet of the outer edges of a broadcast burn	Before Activity: (1) Post notices of closures at trailheads and online, (2) Prepare Traffic Control Plan During Activity: (1) Place blockades along District-use-only roads and trails, (2) staff closures of District-use-only roads and trails, if needed, (3) Implement Traffic Control Plan for public roads adjacent to broadcast burns After Activity: Remove blockades and signage	

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<p>adopted, in coordination with the appropriate agency. The Traffic Control Plan shall include the following at a minimum:</p> <ul style="list-style-type: none"> • Requirement to coordinate with local law enforcement (e.g., County Sheriff, California Highway Patrol) • Installation of temporary signage at intervals ahead of and adjacent to the broadcast burn indicating that a broadcast burn is in progress • Use of flaggers to slow traffic during the burn or stop traffic if wind conditions shift, resulting in smoke crossing the road 					
<p>Impact Hazards-4</p> <p>MM Hazards-6: Propane Flaming Training</p> <p>Workers shall be trained prior to use of a propane torch. The training shall specify that, at a minimum, areas treated with a propane torch shall be monitored until it is clear that no smoke, smoldering vegetation, or flames are present.</p>					
	Contractor	The District	In areas treated with a propane torch	<p>Before Activity: Train workers for safe use of a propane torch</p> <p>During Activity: Monitor areas where propane flaming has been used for potential fires prior to leaving</p> <p>After Activity: N/A</p>	
<p>Impact Hazards-4: Implement Mitigation Measures MM Air-4 (see above) and MM Hazards-7 (see below)</p> <p>MM Hazards-7: Fire Ignition and Spread Reduction</p> <p>The following provisions shall be implemented during all management actions that involve the use of equipment that can generate sparks or heat:</p> <ul style="list-style-type: none"> • Maintain fire suppression equipment in work vehicles • Closely monitor for ignited vegetation from equipment and tool use • Observe Red Flag Day and Fire Weather Watch warnings • Train workers to properly handle and store flammable materials, minimize potential ignition sources • Prohibit smoking in any vegetated areas 					
	Contractor	The District	BFFIP Area	<p>Before Activity: N/A</p> <p>During Activity: Ensure that measures are being implemented</p> <p>After Activity: N/A</p>	
<p>Impact Hazards-5: Implement Mitigation Measures MM Hazards-1, MM Hazards-3, MM Hazards-4, MM Hazards-5, MM Hazards-6, MM Hazards-7, and MM Air-4 (see above)</p>					
<p>Impact Hazards-6: Refer to individual analyses of MA-20 and MA-21 for application of mitigation measures pertinent to installation of fuelbreaks.</p>					
<p>Impact Hazards-7: Implement Mitigation Measures MM Geology-1 and MM Geology-2 (see above)</p>					
<p>Impact Hazards-Cumulative: Implement Mitigation Measures MM Geology-1, MM Geology-2, MM Hazards-3, and MM Air-4 (see above)</p>					
<p>Hydrology and Water Quality</p>					
<p>Impact Hydrology-1</p> <p>MM Hydrology-1: Water Quality Protection During Waterway Crossing or Work Near Waterbodies</p> <p>Vehicles and heavy equipment shall avoid instream crossings. If instream (waterway) crossings must occur because no other options for access are reasonably available, the crossing shall be performed when the stream is dry and soils are not saturated. The crossing shall be performed in a way that does not result in any permanent alteration of the stream bank or bed (e.g., choosing areas with stable soils and the least slope or with vegetation to protect the bed and bank). If water is flowing or the stream has flow or saturation, temporary plates or the equivalent shall be installed from bank to bank so for equipment to access across the waterway. If an instream crossing that could impact the bank or bed or riparian vegetation is needed, the crossing shall only be performed after and in accordance with the appropriate 1600 Streambed Alteration permit from CDFW and Section 404 and 401 Clean Water Act</p>					
	Contractor	The District	Anywhere vehicles and heavy equipment must cross streams or creeks	<p>Before Activity: (1) Obtain permits, (2) install plates or record vegetative conditions, as appropriate</p> <p>During Activity: Minimize soil or vegetation disturbance, as appropriate</p> <p>After Activity: Restore crossing area</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
permits. All soils shall be restored after the instream crossing and banks revegetated after the work is completed, in accordance with permits.					
Impact Hydrology-1: Implement Mitigation Measures MM Geology-1, MM Geology-2, MM Geology-3, and MM Hazards-1 (see above)					
Impact Hydrology-3: Implement Mitigation Measures MM Hydrology-1, MM Geology-1, MM Geology-2, MM Geology-3, and MM Hazards-1 (see above)					
Impact Hydrology-Cumulative: Implement Mitigation Measures MM Hydrology-1, MM Geology-1, MM Geology-2, MM Geology-3, and MM Hazards-1 (see above)					
Noise					
Impact Noise-1: Implement Mitigation Measures MM Air-3 and MM Hazards-5 (see above), and MM Noise-1 (see below)					
MM Noise-1: Noise Reduction Measures					
Work Timeframe Restrictions Near Sensitive Receptors					
Work within 180 feet of a sensitive receptor shall only occur Monday through Friday from 7 am to 6 pm and Saturdays from 9 am to 5 pm, with no work allowed on Sundays or holidays, to follow the requirements of the Marin Countywide Plan (NO-1.i).					
Near Residences and Ranger Residences					
For activities that occurs in any one location (1,000 square foot area) for longer than 5 days within a 30-day period, the following noise buffers for equipment shall be implemented:					
Equipment		Buffer Between Equipment and Sensitive Receptors (feet)			
Backhoe/ Brushcutter		80		Before Activity: (1) Notify affected parties 1 week before, if applicable; (2) Conduct noise study, if desired During Activity: (1) A designated coordinator shall ensure setbacks or other conditions are implemented: (2) Maintain buffer between receptor and equipment, if needed After Activity: N/A	
Chainsaw/ Excavator		113			
Chipper		180			
Generator/ Water pump		127			
Fire engine		71			
Leaf blower		64			
Skid steer		90			
		Contractor and the District		The District	
				BFFIP Area	
<ul style="list-style-type: none"> If these restrictions are not implementable between residences and a given location, the District shall notify the resident or contact at the sensitive receptor within 1 week of conducting the work. Work shall be coordinated to minimize disturbance to the receptor, such as conducting the work when no one is there. Noise barriers or other means could also be used, if necessary, to keep noise levels below 70 dBA. The District shall designate a disturbance coordinator to address any noise complaints under these circumstances. If these restrictions are not implementable between ranger residences and a given location, the District shall coordinate work with rangers at ranger residences to conduct work lasting more than 5 days within a 30-day period, to a time when rangers are not in the residences or when they would not be disturbed by the noise. 					
Near Cushing Memorial Amphitheater					
<ul style="list-style-type: none"> Coordinate with operators at Cushing Memorial Amphitheater to conduct work outside of event times. 					
Near Schools					

4 MITIGATION MONITORING AND REPORTING PROGRAM

Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
<ul style="list-style-type: none"> Coordinate work with Deer Park School and the San Anselmo Children’s Center to occur when classes or other instructional activities are not occurring for any work involving mechanical/powered equipment that would last longer than 1 day and could cause noise to exceed 70 dBA at the school or childcare center. <p>Noise Study If the District, based on their extensive history of conducting vegetation management activities, questions whether a noise level of 70 dBA may actually be exceeded by equipment at a sensitive receptor per the analysis in this section, the District may undertake a noise study to measure actual noise levels from equipment used during management actions to recalibrate the distances listed here. The noise study would be conducted by a noise consultant to industry standards. Resultant noise levels at sensitive receptors cannot exceed 70 dBA if the work lasts for more than 10 days near residences, ranger residences, and Cushing Memorial Amphitheater, or for more than 1 day near a school.</p>					
Impact Noise-Cumulative: Implement Mitigation Measure MM Noise-1 (see above)					
Recreation					
Impact Recreation-1: Implement Mitigation Measures MM Hazards-5 (see above) and MM Recreation-1 (see below)					
<p>MM Recreation-1: Protection of Recreationalists Along Trails and Roads</p> <p>The following measures shall be implemented when management actions require heavy equipment or generate other hazardous conditions along roads and trails:</p> <ul style="list-style-type: none"> Close roads or trails when they are being used regularly by heavy trucks, transporting heavy equipment, or other large equipment that poses a hazard to recreationalists. Provide a road guard to usher recreationalists around hazards where work could impede on a road or trail, such as for stockpiling removed trees or vegetation. Provide fencing to protect recreationalists from active work, as necessary. Provide signage at trailheads at least one week prior to closure indicating that work may be occurring along the trails and for recreationalists to use caution. 	Contractor	The District	Anywhere that implementation of management actions could pose a hazard to recreationalists	<p>Before Activity: Post notices at least one week prior to trail closure</p> <p>During Activity: Use road guards, fences, or implement closures as appropriate as work is being conducted</p> <p>After Activity: Remove signage, as appropriate</p>	
Impact Recreation-Cumulative: Implement Mitigation Measure MM Recreation-1 (see above)					
Transportation					
Impact Transportation-2: Implement Mitigation Measures MM Recreation-1 and MM Hazards-5 (see above)					
Impact Transportation-3					
<p>MM Transportation-1: Emergency Access</p> <p>The District shall ensure emergency access to the plan area along public roads is maintained during work. The following measures shall be implemented to ensure access is maintained:</p> <ul style="list-style-type: none"> In the event of an emergency, roads blocked or obstructed for maintenance activities shall be cleared to allow the vehicles to pass. The District shall use road guards equipped with two-way radios during temporary lane or road closures. During an emergency, road guards will radio to the crew to cease operations and reopen the road to emergency vehicles. All District authorized vehicles at the treatment site shall be parked so they do not block roads when there is no operator present to move the vehicle. <p>The District shall contact the fire district or other emergency response agency with jurisdiction over the road subject to temporary closure to ensure that the agency is notified of the closure in advance.</p>	Contractor and the District	The District	All locations on district lands where roads or trails may be blocked to perform work	<p>Before Activity: N/A</p> <p>During Activity: Inform emergency responders of road closures and ensure road guards, and crew are equipped with two-way radios</p> <p>After Activity: N/A</p>	

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Best Management Practice and Mitigation Measure	Implementation Responsibility	Monitoring Responsibility	Applicable Locations	Timing and Performance Standards	Compliance Verification
Impact Transportation-Cumulative: Implement Mitigation Measure MM Transportation-1 (see above)					

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