

Supplemental Environmental Assessment

Hillsborough Fire Mitigation

Town of Hillsborough

PDMC-PJ-09-CA-2008-057

October 2015



FEMA

Federal Emergency Management Agency
Department of Homeland Security
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Acronyms and Abbreviations

APE	Area of Potential Effect
BA	Biological Assessment
BAAQMD	Bay Area Air Quality Management District
BMP	Best Management Practice
CalEMA	California Emergency Management Agency
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CRLF	California red-legged frog
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
IPCC	International Panel on Climate Change
GCR	General Conformity Rule
GHG	greenhouse gas
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAHC	(California) Native American Heritage Commission
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO _x	nitrogen oxides
O ₃	ozone
PA	Programmatic Agreement
PDM	Pre-Disaster Mitigation
PEA	Programmatic Environmental Assessment
PM _{2.5}	particulate matter less than 2.5 micrometers in diameter
SEA	Supplemental Environmental Assessment
SFBAB	San Francisco Bay Area Air Basin
SFGS	San Francisco garter snake
SHPO	State Historic Preservation Officer

SOD	Sudden Oak Death
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
VOC	volatile organic compound

**Supplemental Environmental Assessment (SEA)
to the Final Programmatic Environmental Assessment (PEA)
for Typical Recurring Actions Resulting from Flood, Earthquake,
Fire, Rain, and Wind Disasters in California**

Federal Emergency Management Agency

Town of Hillsborough

Hillsborough Fire Hazard Mitigation and Fuel Reduction Program

PDMC-PJ-09-CA-2008-057

October 2013

1. INTRODUCTION

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide Federal financial assistance (Federal action) to the Town of Hillsborough (subapplicant or Town), through the California Emergency Management Agency (CalEMA), for the Hillsborough Fire Hazard Mitigation and Fuel Reduction Program (Proposed Project). The Proposed Project would be implemented in the Town of Hillsborough, San Mateo County, California, as shown in Figure 1. The assistance would be provided through the Pre-Disaster Mitigation (PDM) Program.

The Proposed Project would consist of fuel reduction (wildfire mitigation) on approximately 150 acres within eight Town-owned open spaces (project area) adjacent to residential development. The purpose of the Proposed Project is to mitigate the wildfire hazard to residents and structures in the Town.

The PDM Program is authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, as amended (42 U.S.C. §§ 5170c), to help States and communities implement sustained, pre-disaster, natural-hazard mitigation programs. These programs are intended to reduce overall risk to the population and structures, while also reducing reliance on financial assistance from disaster declarations.

This Supplemental Environmental Assessment (SEA) has been prepared to comply with the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. §§ 4321–4327), and to tier from the *Final Programmatic Environmental Assessment (PEA) for Typical Recurring Actions Resulting from Flood, Earthquake, Fire, Rain, and Wind Disasters in California* (FEMA 2003). The PEA is available at <http://home.fema.gov/plan/ehp/envdocuments/ea-region9.shtm>.

The PEA contains an assessment of the common impacts of the action alternatives that are under consideration for the Proposed Project and adequately assesses impacts that would occur to some resources as a result of the Proposed Project. This SEA fully assesses the potential impacts to resources that are not completely addressed in the PEA. This SEA hereby incorporates the PEA by reference, in accordance with 40 CFR § 1508.28.



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Town of Hillsborough
 Fire Hazard Mitigation and Fuel Reduction Program

Figure 1
 Vicinity map

1.1 PURPOSE AND NEED FOR ACTION

The majority of the Town is in an area designated by the California Department of Forestry and Fire Protection as a High Fire Hazard Severity Zone or Very High Fire Hazard Severity Zone (CAL FIRE 2007). The wildfire hazard in the Town poses a threat to public health and safety and to property. The purpose of the Federal action is to provide PDM Program Federal financial assistance to the Town, through CalEMA, to reduce the risk to people and property from wildfire damage.

Eight of the Town's open space areas are generally undeveloped and contain rugged, heavily vegetated steep canyons and hillsides. No documented major wildfires have occurred in these open spaces for several decades. The steep terrain, dry summer and autumn climate, lack of recent major wildfires, and substantial stored fuel loads contribute to the high and very high fire hazard severity in the open space areas.

Most of the boundaries of the open space areas are adjacent to properties and a wildland/urban interface. A major wildfire in any of the open space areas would be difficult to contain because of the topography. Therefore, residential properties and other nearby areas in the Town are vulnerable to a wildfire. The Town concluded that there is a need to reduce the stored fuel load in the open space areas to reduce the risk of wildfire-related loss and damage.

2. DESCRIPTION OF THE PROPOSED PROJECT AND ALTERNATIVES

2.1 NO ACTION ALTERNATIVE

A No Action Alternative is required to be included in the environmental analysis and documentation pursuant to the Council on Environmental Quality's (CEQ's) regulations implementing NEPA (40 CFR Parts 1500–1508). The No Action Alternative is defined as maintaining the status quo, with no Federal financial assistance, and is described further in Section 2.1 of the PEA. The No Action Alternative is used to evaluate the effects of not providing eligible assistance for the project, thus providing a benchmark against which action alternatives can be evaluated.

Under the No Action Alternative, it is assumed that the City would be unable to implement wildfire mitigation in Town-owned open space areas because of the lack of Federal financial assistance. Therefore, under the No Action Alternative, the existing wildfire hazard would continue, and the health and safety risks to people and damages to property from wildfires in the open space area would not be reduced.

2.2 PROPOSED PROJECT

The Proposed Project falls under the Vegetation Management action alternative defined in the PEA, Section 2.5.1, Mechanical or Hand Clearing of Vegetation; and Section 2.5.2, Herbicidal Treatments. The Town proposes to reduce fuel loads in 150 acres (project area) of the 250-acre open space areas by clearing vegetation (treatment) over 3 years. Most of the work would occur during the first year in the open space areas shown in Figures 2a and 2b. This alternative would include treatment in two types of areas: defensible space management zones and high-priority fire management areas.

Defensible space management zones are areas within 100 feet of residential structures or buildings and cover approximately 88 acres of the project area. The zones do not include private property. Treatment would consist of tree and brush removal. The Town is encouraging private property owners to treat vegetation on lots adjacent to the defensible space management zones but is not proposing to provide funding for the treatment.

High-priority fire management areas are outside the defensible space management zones and cover approximately 62 acres of the project area. Treatment would consist of thinning brush.

Treatment that is the same in both types of areas is described in Section 2.2.1. Treatment that is specific to defensible space management zones is described in Section 2.2.2, and treatment that is specific to high-priority fire management areas is described in Section 2.2.3.

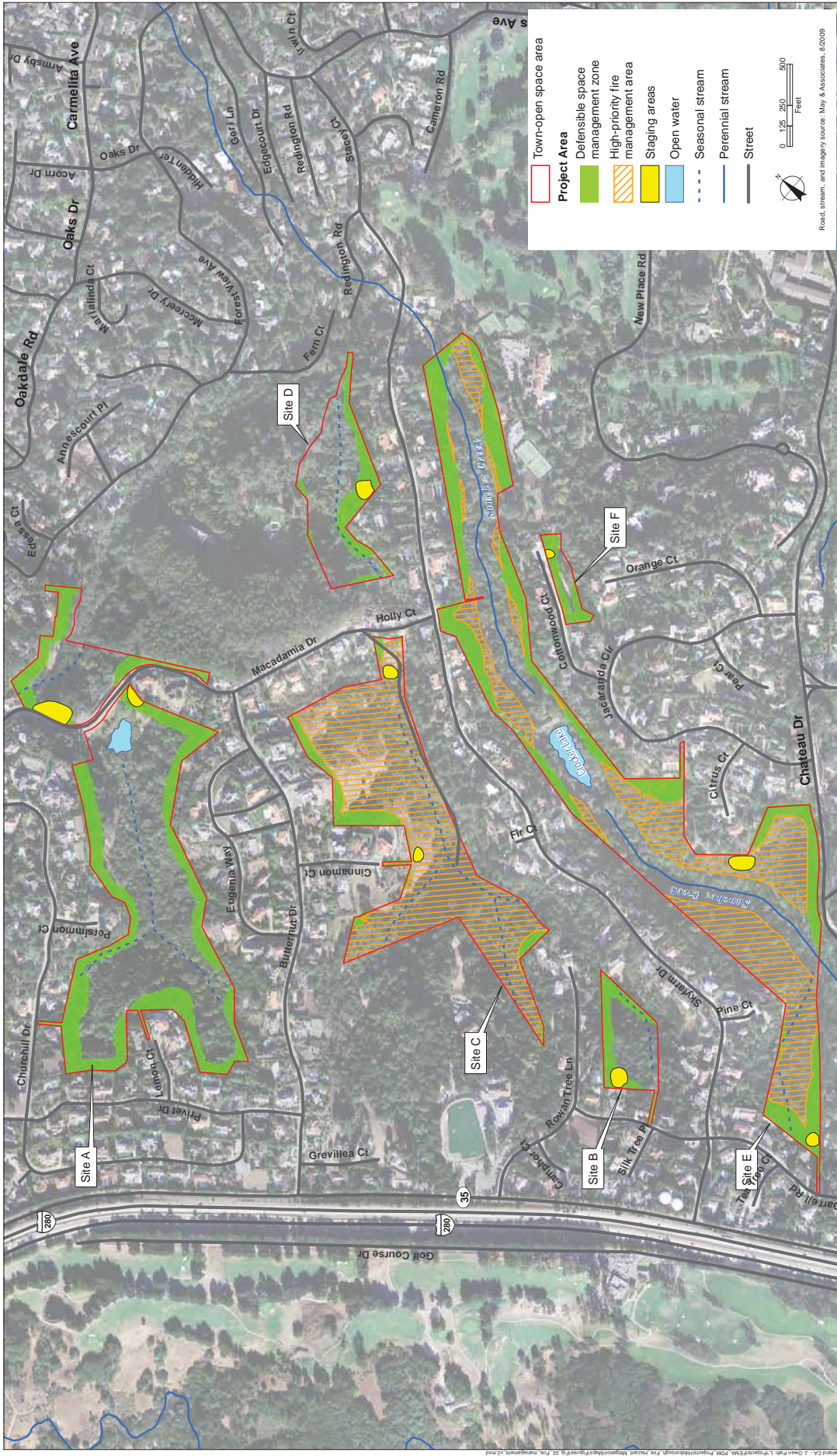
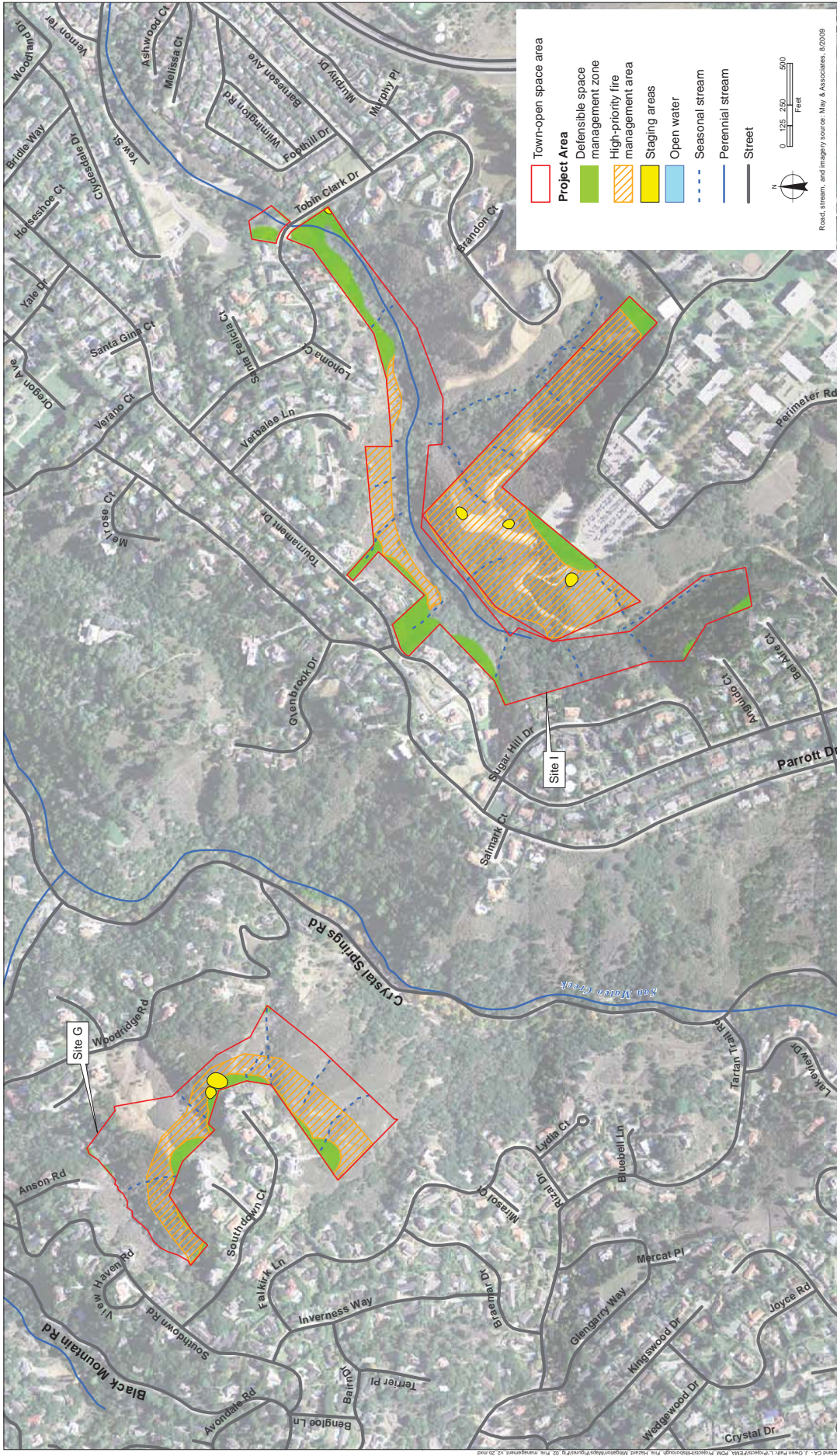


Figure 2a
 Project area - northern section

Town of Hillsborough
 Fire Hazard Mitigation and Fuel Reduction Program

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Project Area

- Town-open space area
- Defensible space management zone
- High-priority fire management area
- Staging areas
- Open water
- Seasonal stream
- Perennial stream
- Street

Scale: 0, 125, 250, 500 Feet

North Arrow

Source: Map & Associates, 8/20/09

Figure 2b
Project area - southern section

Town of Hillsborough
Fire Hazard Mitigation and Fuel Reduction Program

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2.2.1 General Treatment

Treatment in the defensible space management zones and high-priority fire management areas would focus on reducing the biomass of non-native vegetation through trimming or plant removal. Most of the treatment (80 to 90 percent) would concentrate on shrub and understory vegetation. Where feasible, native grasses, shrubs, and trees would be avoided. In forest and woodland areas, healthy native trees would be avoided to the extent possible to maximize shading and promote resistance to invasion by non-native vegetation. Treatment and avoidance areas would be identified by the Town or a qualified contractor; these areas would be flagged with vinyl flagging tape or wire stake flags. Flagging would be removed after the completion of the work.

Work would be performed using both hand tools and heavy equipment. Work would be performed by work crews of four to six people.

Sudden Oak Death (SOD), an invasive mold, is known to occur in at least two of the open space areas: Site E and Site I. SOD-infected trees would be felled if the Town determines that it is essential to meeting the treatment objective of wildfire fuel reduction. The plant matter from felled SOD-infected trees would be left in-place to avoid the spread of SOD. No additional treatment would be performed within 200 feet of infected trees, and staging, parking, and work areas would be located away from infected trees to the extent possible. All equipment, vehicles, and individuals would be inspected upon leaving the project area for soil, leaves, twigs, and branches. These items, if found, would be cleaned onsite to avoid the spread of SOD and invasive species seed.

Treatment would involve minimal ground disturbance. Green waste in the treatment areas would be transported through bundling and carrying or through the use of a pulley system. Root balls would be left in place. Tree skidding would not occur. Slopes in all treatment areas would be stabilized, and erosion-control measures would be installed as needed. Coconut coir matting or tackified hydroseeding compounds would likely be used for slope stabilization; plastic monofilament netting (erosion-control matting) or similar material would not be used. Erosion control measures would include, but would not be limited to, installing and maintaining silt fences immediately downgradient of disturbed areas and installing and maintaining erosion control blankets on all sloped, disturbed ground.

Herbicide would be used to prevent resprouting of freshly cut vegetation by painting it on the freshly cut stumps. A certified herbicide applicator would be used. No herbicide spraying would occur. Herbicide would be used to control and limit plant re-growth and remove invasive species. Only U.S. Environmental Protection Agency (EPA)-authorized herbicides would be used; the primary active ingredients of the herbicides would be triclopyr, imazapyr, and/or glyphosphate. The herbicide mixture would likely consist of a glyphosate-based herbicide such as RoundUp or Rodeo in a solution of esterified seed oil (a tackifier), water, and marking dye. Garlon 4 (triclopyr) and/or Stalker (imazapyr) may be used as an alternative herbicide mixture. A typical tree would require 1 to 2 ounces of diluted solution.

Staging and access would take place on paved and dirt access roads as shown in Figures 2a and 2b. Sensitive biological resources to be avoided would be marked with vinyl flagging tape or wire stake flags for the duration of treatment, and ingress/egress routes and green waste disposal sites would be marked. Existing ingress or egress routes would be used where feasible.

A 200-foot buffer around wetlands and perennial waterbodies would be staked out at the start of the project activities. Work inside the 200-foot buffer would adhere to the following:

- No work within 50 feet of a wetland or waterbody
- For work between 50 and 200 feet of a wetland or waterbody:
 - Herbicides would be restricted to glyphosate-based herbicides that are approved by the EPA for use around water (e.g., Rodeo).
 - Hand tools (chainsaws, brush cutters, and other hand tools) would be used to create a gradation of vegetation density by removing approximately 50 percent of the vegetation at the highest elevations (farthest from wetlands and perennial waterbodies) and 33 percent of the vegetation at the medium elevations.
 - No equipment fueling would occur.

To prevent the release of petroleum material into waterbodies from the use or storage of petroleum-powered equipment, the following Best Management Practices (BMPs) would be implemented:

- Vehicles and equipment would be inspected and approved before use to ensure that they will not leak hazardous materials such as oil, hydraulic fluid, or fuel.
- Fueling would take place in designated staging areas, outside native vegetation or wetlands.
- The contractor would have emergency cleanup gear for spills (spill containment and absorption materials) and fire-suppression equipment available onsite at all times. The gear and equipment would be inspected before treatment begins.
- Leaks, drips, and other spills would be cleaned up immediately to avoid soil or groundwater contamination. Cleanup of a spill on soil would include removing the contaminated soil using the emergency spill cleanup gear. Contaminated soil and disposable gear used to clean up a hazardous materials spill would be properly disposed of following State and Federal hazardous material disposal regulations.
- Major vehicle maintenance and washing would be done offsite.
- Spent fluids including motor oil and radiator coolant and used vehicle batteries would be collected, stored, and recycled as hazardous waste offsite.
- Spilled dry materials would be swept up immediately.

Green waste would be processed and disposed of onsite to the extent feasible and if the objective of reduced fire risk and fuel load reduction would not be affected. When necessary to remove green waste for fuel load reduction, the waste would be collected, chipped, and transported offsite to a green waste processing facility. Logs and large branches free of smaller branches and leaves would be cut into 4- to 6-foot-long sections and placed in stacks no larger than 3 feet high, 5 feet long, and 4 feet wide. Leaves, branches, bark, and duff would be collected, chipped or shredded, and compressed into flat piles no more than 2 feet high, 5 feet long, and 5 feet wide.

The minimum distance between piles would depend on the slope as follows:

- 10 feet for 0 to 20 percent slopes
- 15 feet for 21 to 40 percent slopes
- 20 feet for 40 percent and greater slopes

The treatment areas would be maintained annually to preserve low fuel loads. Follow-up treatment may include the following activities to maintain the prescribed vegetation density and structure:

- Cutting or mowing brush and grasses
- Removing brush piles, accumulated green waste, downed wood, logs, and other woody debris
- Removing dead trees
- Thinning and pruning shrubs and trees
- Installing necessary erosion control

2.2.2 Treatment Specific to Defensible Space Management Zones

Treatment in the defensible space management zones would encompass a total of approximately 88 acres and would take place over 3 years. Work would be performed using a combination of hand tools and heavy equipment (chainsaws, brush cutters, flail mowers or rotary mowers, chippers, and other hand tools) to remove approximately 33 to 50 percent of the existing understory vegetation, mow grasses to a maximum of 8 inches above ground level, and prune and thin trees. Native shrubs and trees would be avoided when feasible. Activities in the third year would include follow-up treatment of resprouts and seedlings and retreatment of invasive species.

Most or all of the tree branches from ground level to approximately 10 feet above ground level would be pruned to create a canopy opening and a separation between the tree limbs and foliage and the shrub and groundcover understory. Large-scale tree removal is not anticipated, but some trees may be thinned to create tree spacing. Native trees would be removed only if the Town determines that it is the only practicable means to meet the treatment objectives. For instance, small native trees may be removed from under tree canopies if the Town determines that the

small trees could serve as ladder fuel between the vegetated understory and the overstory tree canopy. Hazard and diseased trees (including native trees) identified by the Town would be felled when necessary to accomplish the treatment objective. The need to remove individual trees would be determined by a biologist.

Non-native shrubs, particularly those that are invasive, would be removed. Native shrubs would be selectively thinned and removed from under tree canopies when determined by the Town to be essential to facilitate the creation of breaks in vegetation ladder fuels between the shrub understory and the tree overstory. Spacing between brush clumps and/or shrubs is presented in Table 2.1. The maximum diameter of remaining shrub clumps would be two times the height of the vegetation. The maximum diameter of shrub clumps would be 12 feet (as measured from the edges of the crowns), and branches would be pruned to a height of 3 feet.

Table 2.1: Recommended Shrub Clump Spacing

Percent Slope	Approximate Brush and Shrub Clump Spacing
0 to 10 percent	2.5 x shrub height
11 to 20 percent	3 x shrub height
21 to 40 percent	4 x shrub height
>40 percent	6 x shrub height

Green waste would generally be collected and relocated to adjacent open space lands, preferably lands included for treatment as high-priority fire management areas under the Proposed Project.

2.2.3 Treatment Specific to High-Priority Fire Management Areas

In the high-priority fire management areas, work would be performed in Sites C, E, G, and I on a total of approximately 62 acres (Figures 2a and 2b). Both hand tools and heavy equipment would be used. Pruning and thinning would generally be focused on removing non-native shrubs. The removal of invasive plants would be prioritized, with the highest priority given to French broom (*Genista monspessulana*).

Green waste would be processed and stored in the treatment area. The first year of treatment would consist of brush removal, tree limbing, select tree removal, and grass/herbaceous vegetation mowing. The second and third years would consist of brush removal, grass mowing, and treatment of resprouts and seedlings of invasive species with herbicides.

2.2.3.1 Sites C and E

Sites C and E would be treated similarly with the intention of reducing fuel loads and opening the canopy between the bush understory and tree overstory. Work would include selectively

pruning and thinning approximately 25 to 33 percent of the understory. Grasses and herbaceous vegetation would be mowed to near ground level, especially along fire roads. Large logs and woody debris would be stored in small short piles, and vegetation would be chipped and spread onsite. Tools would include chainsaws, mulchers (Fecon-type cutting head), flail mowers or rotary mowers, and a heavy-duty chipper, which would be operated on existing access roads.

2.2.3.2 Site G

Treatment in Site G would be on a hillside. The treatment objective on this hillside would be to create a gradation of vegetation density from the top of the hill to approximately 500 feet downgradient. The 500-foot mark represents the middle elevation of the hillside. The gradation would be created by progressively and aggressively pruning and thinning shrubs from the lower fire risk mid-slope to the higher fire risk upper-slope. Clearings between shrubs would be created. Vegetation would be removed as follows:

- 66 percent at the highest elevation
- 50 percent at the middle elevation
- 33 percent at the lowest elevation

Vegetation would be chipped and spread onsite. Tools would include chainsaws, brush cutters, flail mowers, and a small lightweight chipper, which would be lowered onto the steep work site using a winch or pulley system.

2.2.3.3 Site I

Treatment in Site I would focus on thinning and creating breaks between vegetation types to reduce fuel loads between the shrub understory and tree overstory. Approximately 25 percent of the native trees and shrubs would be selectively pruned and thinned using treatments and tools that are equivalent to those for Sites C and E (see Section 2.2.3.1).

2.2.4 Project Schedule

Treatment under the Proposed Project would occur over 3 years. Most treatment would be performed in the first year, with follow-up treatments in the subsequent 2 years. In the first year, trees and brush would be removed in the defensible space management zones, and brush would be thinned in the high-priority fire management areas. Follow-up treatments would consist of mowing, brush removal, and retreatment of invasive plant infestations with herbicides.

Work would take place from 9 a.m. to 5 p.m., Monday through Friday, in compliance with the Town's noise ordinance.

Treatment would generally occur during the non-nesting season for migratory birds (between August 15 and February 1). Treatment within habitat considered by an onsite biologist to be suitable for the federally listed California red-legged frog (CRLF) (*Rana draytonii*) or the

federally listed San Francisco garter snake (SFGS) (*Thamnophis sirtalis tetrataenia*) would occur between May 1 and October 15 to avoid potential disturbance to breeding CRLFs and hibernating SFGSs (Storer 1925 and USFWS 2006). Treatment in suitable habitat would not occur when it is raining or within the 24 hours after a rain event of more than 0.5 inch in 24 hours.

Treatment during the nesting season for birds (February 1 to August 15) would occur only after a biologist has conducted appropriate nesting surveys for active nests, and a 200-foot exclusion area has been established around active nests. Work would be prohibited within the 200-foot exclusion area until nesting is complete and birds have fledged.

Following the 3-year implementation of the Proposed Project, the Town would implement maintenance to preserve low fuel loads. Maintenance would occur annually for 2 years, after which long-term maintenance would be conducted biennially for at least 10 years. Maintenance would focus on maintaining the prescribed vegetation density and structure. Maintenance may include cutting or mowing brush and grasses; removing brush piles, accumulated green waste, downed wood, logs, and other woody debris; removing dead trees; thinning and pruning shrubs and trees; and installing erosion control.

2.3 ALTERNATIVES

FEMA considered other alternatives in addition to the No Action Alternative and the Proposed Project. The other alternatives were fuel reduction using heavy mechanical equipment such as masticators, large-scale herbicidal treatments, prescribed burning, and biological controls such as grazing mammals. These alternatives are described in Section 2.5 of the PEA.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The PEA describes the affected environment and the impacts of the Proposed Project for resource areas except geology and soils, air quality, biological resources, historic properties, hazardous materials and wastes, visual resources, and cumulative impacts. The affected environment and environmental consequences for these resources are described in this section, which is intended to supplement the information in the PEA.

Mitigation, minimization, and avoidance measures that are stipulated in the PEA or that are appropriate for the Proposed Project, based on the results of the impact analysis in the SEA, are discussed in Section 4.

The effects of the No Action Alternative for applicable resource areas are described in the PEA and in this SEA. The environmental consequences of the other alternatives considered by FEMA are described in Section 4 of the PEA and are not reiterated in this document.

3.1 GEOLOGY AND SOILS

The project area lies within canyons and hillsides along the base of the eastern portion of the Santa Cruz Mountains. The elevation in the action area ranges from approximately 100 feet to 615 feet above sea level.

3.1.1 No Action Alternative

Under the No Action Alternative, no vegetation clearing would take place; therefore, soil would not be disturbed, and no direct impacts to soil resources would occur. The No Action Alternative would not reduce fuel loads in the project area; therefore, if a wildfire burns in the project area, indirect effects could occur from the permanent loss of topsoil and soil productivity.

3.1.2 Proposed Project

The Proposed Project would involve minimal ground disturbance. Ground disturbance would be a result of foot traffic from work crews and the use of heavy equipment (e.g., mulcher). The use of large mechanical equipment, such as large chippers, would be limited to access roads. The use of small mechanical equipment would be limited on slopes in order to avoid ground disturbance. To avoid the potential for erosion, loss of topsoil, and hazards associated with unstable soils, rootballs of cut trees and other vegetation would be left in-place, and no tree skidding would occur. A pulley system would be used when transporting green waste and equipment such as small chippers and mulchers on steep slopes to reduce potential erosion.

During and after treatment, soil would be stabilized using the erosion-control measures described in Section 2.2.1. These measures would reduce the intensity of erosion that could result from ground disturbance, and avoid potential long-term direct or indirect effects to geology and soils.

Therefore, the Proposed Action would result in minor, short-term direct effects and no long-term direct or indirect effects to soils. The Proposed Action would have no impacts on geology or seismicity.

3.2 AIR QUALITY

The Proposed Project is within the San Francisco Bay Area Air Basin (SFBAB) and under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). The SFBAB is currently designated by the EPA as marginal nonattainment for the 8-hour ozone (O₃) National Ambient Air Quality Standard (NAAQS), nonattainment for the 24-hour particulate matter with diameter less than 2.5 micrometers (PM_{2.5}) NAAQS, and attainment (maintenance) for carbon monoxide (CO) NAAQS (EPA 2012b).

3.2.1 No Action Alternative

Under the No Action Alternative, no mechanical equipment would be used, no equipment emissions would occur, and no direct effects to air quality would occur.

The wildfire risk would remain unmitigated. There is potential for indirect impacts to air quality in the event of a wildfire in the project vicinity. A wildfire would temporarily increase levels of most criteria pollutants and many hazardous air pollutants. In the long term, particulate matter emissions could increase as a result of the soils in the project area that are exposed after a wildfire event. Therefore, the No Action Alternative could result in indirect, short- and long-term adverse effects to air quality if a wildfire occurred in the project area.

3.2.2 Proposed Project

FEMA evaluated the predicted emissions of the Proposed Project to determine whether a conformity determination is required under the General Conformity Rule (GCR) (40 CFR § 51.853). The evaluation included a consideration of the direct or indirect emission rates of designated nonattainment or maintenance criteria pollutants or precursors to determine whether the emission rates would equal or exceed any of the *de minimis* threshold emission rates specified in the GCR. The applicable *de minimis* threshold emission rates are 100 tons per year for O₃ precursors (nitrogen oxides [NO_x] and volatile organic compounds [VOCs]), 100 tons per year for PM_{2.5}, and 100 tons per year for CO (EPA 2006; EPA 2012a).

Implementation of the Proposed Project would result in a temporary deterioration of air quality as a result of exhaust from the use of mechanical equipment including chain saws, other hand-operated mechanical equipment, mowers, and chippers and from the transport of green waste. Calculations conservatively assume that vegetation clearing at each site would be performed by a team of four to six workers, with each team using up to two brush chippers/trimmers, two diesel chainsaws, one riding mower, one diesel stump grinder, and nonmotorized hand tools.

The calculations in Table 3.1 are based on an 8-hour workday with equipment used for 50 percent of the workday.

Table 3.1: Annual Estimated Emissions during the Proposed Project and GCR *de minimis* Thresholds

Emissions of Non-Attainment Criteria Pollutants or Precursors	Criteria Pollutant			
	VOC	CO	NO _x	PM _{2.5}
Proposed Project (tons/year)	0.14	0.55	1.24	0.09
GCR <i>de minimis</i> thresholds (tons/year)	100	100	100	100

CO = carbon monoxide

GCR = General Conformity Rule

NO_x = nitrogen oxides

PM_{2.5} = particulate matter with diameter less than 2.5 micrometers

VOC = volatile organic compound

As shown in Table 3-1, implementation of the Proposed Project would result in less than 100 tons per year of the applicable regulated pollutants. Therefore, the Proposed Project qualifies as a GCR exemption, and no further analysis is required to establish conformity with the State Implementation Plan.

Therefore, the proposed project would have negligible short-term and no long-term impacts on air quality and does not exceed general conformity thresholds.

3.3 BIOLOGICAL RESOURCES

The project area is composed primarily of hardwood forest and also includes eucalyptus and other non-native forests, chaparral, coastal scrub, and grassland.

Reconnaissance-level habitat and vegetation mapping surveys were conducted in the project area by both FEMA and the Town in 2006 and 2009. Botanical surveys to identify special status plants were conducted in 2007 and 2008. General wildlife surveys were conducted in 2007. Focused surveys for California red-legged frog (CRLF) (*Rana draytonii*), a federally listed species, were conducted in 2008 and 2009 at Crocker Lake, a reservoir adjacent to the project area in Site E. The lake had been identified by the Town as being potential breeding habitat for CRLF. No designated critical habitat is located at Crocker Lake or other parts of the project area.

The surveys identified sensitive plant species and sensitive wildlife habitat (e.g., bird nests, bird granary trees) in the project area. The CRLF surveys at Crocker Lake were negative. Based on known species ranges and the vegetation communities present in the project area, several other sensitive biological resources could be present in the project area that were not identified during the surveys. The resources include other migratory birds, two federally listed butterfly species,

CRLF, the federally-listed San Francisco garter snake (*Thamnophis sirtalis tetrataenia*) (SFGS), and several federally-listed plant species.

Invasive plant species have been identified in the project area. Invasive plant species are scattered throughout the project area and adjacent open space areas. SOD occurs in Sites E and I.

3.3.1 No Action Alternative

Under the No Action Alternative, there would be no fuel reduction, and no direct effects to biological resources would occur. A wildfire in the project area could result in an indirect impact to biological resources. A wildfire could destroy terrestrial habitat, and mortality could occur to individual wildlife species. Aquatic habitat and resources could be affected because fire residue and eroded soils could be washed into local streams and reservoirs. The indirect impacts associated with the loss of existing vegetation would continue until adequate vegetation is re-established in the burned area. Vegetation re-establishment after a wildfire could result an increase of invasive species in the project area. Therefore, adverse short- and long-term indirect effects could occur to biological resources if a wildfire occurred in the project area.

3.3.2 Proposed Project

Effects to Wildlife and Vegetation

The Proposed Project would not result in habitat modification or habitat-type conversion. After project implementation, habitats would continue to exist at their current locations in the project area although the density of vegetation in forest and scrub habitats would be reduced. Some understory grassy areas would be mowed and allowed to grow seasonally. Erosion-control measures would eliminate the potential for changes in habitat from erosion in the project areas and adjacent downstream areas. Modified treatment and exclusion buffers near wetlands and other waterbodies would eliminate the potential for changes to aquatic and riparian habitats as a result of the treatment.

The effects to sensitive biological resources would be limited to when vegetation clearing is taking place. Sensitive biological resources such as wetlands and waterbodies, special-status plant species, known bird nesting and roosting sites, and woodpecker granary trees would be flagged and avoided during implementation of the Proposed Project and maintenance activities. Thus, effects to these resources would be minimized. By leaving large logs and woody debris onsite in small short piles, foraging and shelter habitat for wildlife species would be improved or maintained.

The use of heavy equipment in the project area has the potential to directly affect wildlife species in or adjacent to the project area through injury or mortality or through forced dispersal or behavioral modifications caused by equipment noise. The presence of work crews in the project area, e.g. noise generation, visual, dust generation, ground vibrations, also has the potential to directly affect wildlife species in or adjacent to the project area by disrupting typical behavior

patterns or by causing dispersal. These effects would be temporary and would occur only when project activities are occurring. Because trees, native shrubs, and understory species would mostly be retained, the project area would continue to provide suitable habitat after treatment has been completed. Existing habitats would be more open after treatment. Although the density of trees, shrubs, and understory would be temporarily modified, the structure and species diversity in the habitats (i.e., hardwood forest, eucalyptus and other non-native forests, chaparral, coastal scrub, and grassland) would not change. Slope stabilization textiles with the potential to entangle or trap wildlife species, such as plastic monofilament netting, would be prohibited from use.

No treatment would take place within 50 feet of a wetland or waterbody. In addition, the following limitations would minimize the effects on habitat and special-status species that occur in and near wetlands and waterbodies: herbicide restrictions, prohibition of equipment refueling, and gradation of vegetation density with hand tools that would apply to work areas between 50 and 200 feet of wetlands and waterbodies. See Section 2.2.1.

Effects to nesting migratory birds would be minimized by restricting work, when feasible, to the non-nesting season. If project activities occurred during the nesting season, trees used for nesting would be flagged and avoided. The Town would implement measures described in Section 2.2.4 to avoid take of migratory birds, as defined in the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. §§ 703–711), if the Town implements the Proposed Project during MBTA-designated nesting season. The Town is responsible for all necessary coordination with the U.S. Fish and Wildlife Service (USFWS) for compliance with the MBTA.

The Town is responsible for compliance with environmental regulations, such as the California Environmental Quality Act, California Endangered Species Act, and MBTA. Through the process of complying with these regulations, along with any applicable local ordinances, the Town would develop additional appropriate measures to avoid or minimize effects to sensitive biological resources. Additionally, the Town would need to implement all measures developed by FEMA and the USFWS to protect federally listed species. The measures developed by FEMA and the USFWS are discussed in more detail below.

Therefore, the Proposed Project is anticipated to result in direct, minor, short-term effects to wildlife and vegetation. No long-term direct or short- or long-term indirect effects to wildlife and vegetation are anticipated.

Endangered Species Act

There is potential for several federally listed plant and wildlife species to be present in the project area and for these species to be affected by the Proposed Project. On February 25, 2011, FEMA submitted a Biological Assessment to the USFWS (FEMA 2011) and requested formal consultation with the USFWS to comply with Section 7 (16 U.S.C. § 1536) of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §§ 1531–1544) (see Appendix A). On June 18, 2012, the USFWS issued a Biological Opinion for the Proposed Project (USFWS 2012; Appendix B).

In the Biological Opinion, the USFWS determined that the Proposed Project, with inclusion of the conservation measures proposed by FEMA (listed in Section 4.1), may affect but is not likely to adversely affect the federally listed Bay checkerspot butterfly (*Euphydryas editha bayensis*), mission blue butterfly (*Icaricia icarioides missionensis*), San Mateo thorn mint (*Acanthomintha duttonii*), fountain thistle (*Cirsium fontinale* var. *fontinale*), San Mateo woolly sunflower (*Eriophyllum latilobum*), Marin dwarf-flax (*Hesperolinon congestum*), or white-rayed pentachaeta (*Pentachaeta bellidiflora*). The USFWS stated that the project is not likely to jeopardize the continued existence of CRLF or SFGS.

The USFWS provided an incidental take statement for CRLF and SFGS conditional to the implementation of the conservation measures proposed by FEMA and the terms and conditions stipulated by the USFWS. The USFWS anticipates incidental take to occur in the form of harm and harassment to CRLF and SFGSs located within suitable upland habitat that would be disturbed in the project area. The harm and harassment would be in the form of relocation of all CRLF in the project area, if required, and in the mortality or injury of no more than one CRLF.

The Town is responsible for fully implementing and adhering to the conservation measures and for fully complying with the USFWS's terms and conditions. The complete list of the conservation measures and the terms and conditions is provided in Section 4.1 of this SEA.

With the implementation of the conservation measures proposed by FEMA to the USFWS, the Proposed Project would result in minor, short-term direct and minor, indirect effects to the Bay checkerspot butterfly, mission blue butterfly, San Mateo thorn mint, fountain thistle, fountain thistle, San Mateo woolly sunflower, Marin dwarf-flax, or white-rayed pentachaeta. With the implementation of conservation measures and terms and conditions described in the Biological Opinion, the Proposed Project would result in moderate short-term direct and moderate short-term indirect effects to CRLF and SFGS. Long-term effects to ESA-listed species are not anticipated.

Executive Order 13112: Invasive Species

The Proposed Project would not result in the introduction or spread of invasive species and would therefore comply with Executive Order (EO) 13112, Invasive Species. Many invasive shrubs and understory plants would be targeted and prioritized for removal because many of the invasive species in the project area, such as French broom, are a greater fire hazard than the native vegetation that has been displaced. Follow-up treatment in the project area would focus on invasive plant species to reduce the potential for these species to spread and grow in treatment areas and thus minimize habitat modification through the uncontrolled propagation of invasive species.

The Town would segregate and dispose of or treat all vegetation that is contaminated with weed seeds to prevent the dispersion of seeds. Additionally, the treatment procedures described in Section 2.2.1 in areas affected by SOD, an invasive mold species, would reduce the potential for spreading SOD to uninfected areas.

There is little potential for the Proposed Project to contribute to the spread of invasive species, and the Proposed Project would result in a beneficial effect by reducing invasive plant species in the project area. Funding of the Proposed Project would comply with EO 13112.

3.4 HISTORIC PROPERTIES

Investigations were undertaken to identify historic properties within the Area of Potential Effect (APE) of the Proposed Project in compliance with Section 106 (16 U.S.C. § 470f) of the National Historic Preservation Act of 1966 (NHPA) and the 2005 First Amended Programmatic Agreement (PA) between FEMA, the California State Historic Preservation Officer (SHPO), CalEMA, and the Advisory Council on Historic Preservation.

In accordance with 36 CFR § 800.4(a)(4), FEMA sent an informational letter to the California Native American Heritage Commission (NAHC) on November 13, 2008, to request a review of its Sacred Lands File, and a list of the individuals and groups that the NAHC believed should be contacted regarding information or concerns related to the project area (see Appendix C). On November 14, 2008, the NAHC responded that it had not identified any Native American sites in the project area (see Appendix D). On November 2, 2009, FEMA transmitted an information letter to the potentially interested parties identified by the NAHC (see Appendix E). To date, no responses have been received.

FEMA-contracted archaeologists conducted a search of records at the Northwest Information Center of the California Historical Resources Information System on December 23, 2008, and conducted a pedestrian survey of the APE on August 19 and 20, 2009, to identify historic properties that may exist in the APE. Remnant landscape architectural features were identified in the APE that were related to the historic-era Crocker Estate. The 700-acre Crocker Estate has not been recorded or evaluated for listing on the National Register of Historic Places (National Register), but for the purposes of the Proposed Project, it is assumed to be eligible for listing. The remnant landscape architectural features within the APE were assumed by FEMA to be contributing elements to the estate property and would therefore also be considered historic properties.

3.4.1 No Action Alternative

Under the No Action Alternative, no direct impacts to historic properties would occur because no treatment would occur. The No Action Alternative could result in indirect effects to historic properties if a wildfire occurred that damaged historic properties in or adjacent to the project area.

3.4.2 Proposed Project

FEMA determined that the Proposed Project would not affect any of the characteristics or the integrity of the historic properties that may qualify them for inclusion in the National Register.

Therefore, FEMA determined that the Proposed Project would result in “no adverse effects to historic properties.”

In accordance with the PA, FEMA informed the SHPO of its determination that the Proposed Project would have no adverse effects to historic properties in a letter dated November 2, 2009 (see Appendix F). No response was received from the SHPO during its 30-day response period. On December 4, 2009, FEMA assumed concurrence from the SHPO pursuant to Stipulation III B of the PA and 36 CFR § 800.5(c)(1). In accordance with 36 CFR § 800.5(d)(1), FEMA has fulfilled its responsibilities to comply with Section 106 of the NHPA.

3.5 HAZARDOUS MATERIALS AND WASTES

Hazardous materials are not currently used in the project area. There are no recorded hazardous materials or waste sites in the project area or adjacent open space areas (SWRCB 2013).

3.5.1 No Action Alternative

The No Action Alternative would not involve the transport, handling, or use of hazardous materials, including herbicides, and no releases of, or impacts to, hazardous materials would occur.

3.5.2 Proposed Project

The Proposed Project would involve the handling and use of hazardous materials in the form of herbicides and materials necessary for the operation of petroleum-powered equipment. Herbicides would be used to prevent resprouting of freshly cut vegetation by painting it on freshly cut stumps. No herbicide spraying would occur.

Application and use of herbicides would adhere to the applicable State and Federal regulations, Integrated Pest Management guidelines, and the California Department of Agriculture pesticide regulations.

Herbicides would need to be applied by a Chemical Applicator (hand-painting) with a Qualified Applicator License or certification from the California Department of Agriculture in accordance with the manufacturer’s specifications and Federal and State laws. Herbicides would not be applied within 50 feet of standing water, creeks, streams, or other wetland habitats. No foliar herbicide application would occur, and herbicides would not be applied by spraying.

The herbicide hand-painting application method would result in a small amount of herbicide being used during implementation of the Proposed Project. The use of herbicides in accordance with the manufacturer’s specifications and Federal and State laws would minimize the potential for accidental release.

The use or storage of petroleum-powered equipment would be accomplished in a manner to prevent the potential release of petroleum materials. BMPs would be implemented, as described

in Section 2.2.1, which would limit the effects of any accidental release. In addition, the USFWS has required that all staging areas and fueling or maintenance of vehicles and equipment be at least 65 feet from any water body or riparian habitat.

Although it is unlikely that a hazardous materials release or accident would occur, any accidental release would be finite and localized.

Therefore, the Proposed Project would result in minor, short-term direct impacts as a result of the use of hazardous materials and would result in no long-term direct or indirect impacts.

3.6 VISUAL RESOURCES

The visual character of the project area and the adjacent open space areas is defined by densely vegetated steep slopes. Overgrown hardwood forests make up the majority of the vegetation in the project area. Dense groves of eucalyptus trees, grassland, and dense stands of chaparral and coastal scrub vegetation are also present.

There are two primary viewsheds of the project area: a vista-based viewshed where the project area is viewed from afar, such as from the streets of the Town that border the open space areas; and a foreground-based viewshed from backyards of some residences whose properties are adjacent to the project area. The vista-based views are of the densely vegetated steep slopes, which form a homogenous forest canopy of organic textures dominated by tones of green and brown that is occasionally broken up by steep rock outcropping. The foreground-based viewshed is of densely overgrown forest canopy. Outside the forested areas and on steeper slopes, foreground-based viewshed is similar to the vista-based viewshed. Most of the project area is closed to the public, and views are therefore not available from within most of the project area.

3.6.1 No Action Alternative

Under the No Action Alternative, fuel reduction would not occur, and the visual character of the project area would not change. Therefore, no direct impacts to visual resources would occur. The No Action Alternative would not reduce fuel loads in the project area; therefore, if a wildfire occurred, smoke could cause adverse, short-term, indirect impacts to visual resources. Views of severely burned vegetation and bare ground from a wildfire could cause long-term, indirect impacts to visual resources in the project area.

3.6.2 Proposed Project

The Proposed Project would result in minor changes to the existing visual character because the change in the density of vegetation would be noticeable. However, because most trees in the project area would remain, the visual character from the vista-based viewsheds would not be notably changed. The forest canopy would remain the primary visual characteristic, and the colors, forms, lines, and textures would generally remain. The reduction of vegetation density of chaparral, coastal scrub, and grasslands could be noticeable, but because shrubs and grasses

would continue to exist as the primary components of the visual character of these areas, the changes would be minor.

The Proposed Project would result in changes in the visual character that are more noticeable from the foreground-based viewshed below the forest canopy than the vista-based viewshed. From these views, the removal of shrubs and groundcover understory would decrease the density of the vegetation, creating more openings in the vegetation. However, the principal visual character of a shaded forest would remain.

Short-term impacts to views of the project area would occur during vegetation clearing while crews are working. Work crews, equipment, and vegetation flagging are not typical components of the viewshed and would be moderately noticeable to viewers, especially viewers from adjacent residences who are most familiar with the visual resources of the project area. Because the crews would be working among vegetation and many trees and shrubs would not be removed, views of the work crews would be minimal and limited to when the crews are working at a specific location. Fugitive dust from work in the project area could temporarily affect vistas during project work hours but the impact would be minor and short-term. Flagging would be removed after the completion of the work.

Therefore, the Proposed Project would result in minor short-term direct impacts and minor negligible long-term direct and indirect impacts to visual resources.

3.7 CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

On February 18, 2010, the CEQ released a memorandum, *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* (CEQ 2010), that advised how Federal agencies should consider climate change in their NEPA decision-making documents. This guidance advises that consideration of climate change address the greenhouse gas (GHG) emissions effects of a proposed action and the relationship of climate change effects to a proposed action. In relation to the effects of emissions of a proposed action, the CEQ guidance states that “if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of [carbon dioxide] CO₂-equivalent GHG emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public.” In relation to the climate change effects of a proposed action, the CEQ states the “analysis should be [focused] on the aspects of the environment that are affected by the proposed action and the significance of climate change for those aspects of the affected environment” (CEQ 2010).

3.7.1 No Action Alternative

The No Action Alternative would have no impact on climate change and GHG emissions because no construction or other activities resulting in air emissions would occur. However, under this alternative, no fuel reduction would occur, and the risk of wildfire would remain high.

A wildfire would result in the release of CO₂ into the atmosphere from burning vegetative fuels. The project area is estimated to sequester approximately 120 metric tons of CO₂ per year. An intense wildfire in the project area would result in CO₂ emission below the CEQ annual threshold of 25,000 metric tons. Therefore, the No Action Alternative could result in minor short- and long-term indirect effects on climate change and GHG emissions.

3.7.2 Proposed Project

The Proposed Project would result in minimal direct and indirect GHG emissions. Direct GHG emissions would result from the short-term use of vehicles and mechanical equipment during implementation of the Proposed Project and follow-up maintenance activities. Direct emissions during project implementation would be approximately 120 metric tons per year, and direct emissions during maintenance activities would be considerably smaller. Therefore, GHG emissions as a result of the Proposed Project would be well below the 25,000 metric ton threshold described by the CEQ. Indirect emissions would also be considerably smaller than the threshold dictated by the CEQ. In accounting for the regrowth and continual maintenance of the project area, indirect GHG emissions would be negligible as younger vegetation stands (i.e. regrowth) tend to sequester carbon at a faster rate than older vegetation stands. As treatment areas cycle through regrowth and additional maintenance treatment, there is potential for future carbon sequestration rates in the project area to meet or exceed the current sequestration rate.

The effects of global climate change to the Proposed Project would be negligible. The Proposed Project would be implemented over a relatively short period (3 years of implementation and up to 10 years of maintenance), and during this time, global climate change would not have a dramatic effect on fuel loads in the project area. Maintenance would maintain the fuel loads created under the Proposed Project. Maintenance would be adaptive to address the current fuel load at the area undergoing maintenance and would therefore be adaptive to how fuel loads would change as a result of global climate change.

The Proposed Project would be implemented in a manner so as to have minimal effects on the environment. Because the BMPs and minimization measures described in this document would continue to be implemented, maintenance would also have minimal effects on the environment. Because of the adaptive nature of the Proposed Project, maintenance, BMPs, and other measures that would be used, climate change is not expected to have substantial effects on the resources affected by the Proposed Project.

Therefore, the Proposed Project would have minor short-term impacts to GHG emissions. The Proposed Project would contribute a small and negligible contribution to long-term global climate change.

3.8 CUMULATIVE IMPACTS

CEQ defines a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable

future actions ...” (40 CFR § 1508.7). Past, present, and reasonably foreseeable actions were identified based on information obtained from the Town and FEMA. Because the impacts associated with the Proposed Project would be minimal, primarily short-term, and localized to the open space areas in the Town, the analysis of cumulative impacts is focused on activities in the Town’s open space areas.

Past actions in the area include the implementation of the Town’s 2009 High Priority Invasive Plants Project. Using a licensed herbicide applicator, egg-leaved spurge and star thistle were treated in Sites C and I. These plant colonies were targeted because they were a small infestation of newly colonizing non-native invasive plants. No other past actions were identified by the Town or FEMA in the open space areas. This past action is assumed to have created the existing, affected environment.

Ongoing projects are limited to the use and maintenance of landscaping on residential properties adjacent to the open space areas.

The Town has indicated additional goals that it would like to achieve in its open space areas, other than the Proposed Project, such as developing and implementing a wildlife management plan. Currently, the Town has only established goals for conceptual project types and has not considered additional funding to develop more detailed project plans or to implement additional projects. Therefore, the likelihood of implementing other projects in the open space areas in the near term (at least the next 5 years) is minimal, and there are no reasonably foreseeable future actions in the open space areas.

3.8.1 No Action Alternative

As described in Sections 3.1 to 3.7 of this SEA and Sections 4.1 to 4.12 of the PEA, the implementation of the No Action Alternative would result in no direct impacts to social, cultural, or natural resources. This alternative would not reduce the risk associated with potential wildfires in the project area, and wildfires could have short- and long-term adverse indirect impacts to air quality, biological resources, recreation, and visual resources.

Maintenance of backyard landscaping on residential properties adjacent to the project area could result in short-term impacts to air quality (fugitive dust and other criteria pollutants), biological resources, and visual resources. These activities would not be expected to occur concurrently with a wildfire event. Therefore, when considered along with other past, present, and reasonably foreseeable future projects, the No Action Alternative could result in minor incremental, indirect, short-term impacts to air quality, biological resources, recreation, and visual resources. These are not expected to result in a cumulatively substantial effect.

3.8.2 Proposed Project

Landscaping maintenance on residential properties adjacent to the project area (ongoing projects) and the Proposed Project could result in minimal and temporary adverse cumulative impacts to

noise, air quality (fugitive dust and other criteria pollutants), hazardous materials, and visual resources. These effects would be most intensive if dramatic landscaping, such as relandscaping a backyard, occurred simultaneously with the Proposed Project. However, because residents would need to comply with all applicable Federal, State, and local regulations and local codes and ordinances, effects to these resources would be minimal and would not have an incrementally cumulative effect in combination with the Proposed Project. No substantial long term, adverse cumulative impacts would be expected.

In general, individual GHG emissions and reduction in carbon sinks do not have a large impact on climate change. However, once added with all other GHG emissions and carbon sink reductions in the past and present, they combine to create a perceptible change to climate (IPCC 2007). Because of the extended amount of time that GHGs remain in the atmosphere, any amount of GHG emissions or reduction in carbon sinks can be reasonably expected to contribute to future climate change impacts. The amount of CO₂ emissions from the Proposed Project would be small but measurable. On a global scale, the Proposed Project is expected to contribute a negligible amount to global cumulative effects to climate change because vegetation is likely to grow back.

Therefore, the minimal and short-term impacts of the Proposed Project are not expected to incrementally combine with the impacts from ongoing projects and result in a cumulatively substantial effect.

4. MITIGATION, MINIMIZATION, AND AVOIDANCE MEASURES

The measures described in this section appear in Section 4 of the PEA, were developed for this SEA based on site-specific impacts, or are conservation measures proposed by FEMA to the USFWS for compliance with the ESA and are applicable to the Proposed Project.

4.1 BIOLOGICAL RESOURCES

The Town shall implement the following measures for biological resources.

- A USFWS-approved biologist will conduct environmental awareness training for all treatment crews and contractors. The training will be conducted prior to implementation of the Proposed Project and on the arrival of any new worker.

The training will include a brief review of listed species (CRLF, SFGS, Bay checkerspot butterfly, mission blue butterfly, and all federally listed plant species potentially occurring in the project area) and other sensitive species/resources that may exist in the project area. The training will include the life history of each species, field identification, habitat requirements, locations of sensitive biological resources, limits of the project area, and legal status of each species.

The training will include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training will cover the Proposed Project conservation measures, environmental permits, and regulatory compliance requirements.

Additional training will be conducted as needed, including morning “tailgate” sessions, to update crews as they advance into sensitive areas. Persons completing training will sign a form stating that they attended and understand all the conservation and protection measures. A record of all personnel trained during Proposed Project will be maintained, and this record will be made available for compliance verification.

- All vehicles used for the Proposed Project will be cleaned and free of weeds when brought into the project area to prevent the spread and/or introduction of invasive plant species and SOD.
- Vegetation contaminated with weed seeds will be segregated and disposed of or treated as appropriate.
- During work activities, all trash will be placed in secure containers with secure lids, removed from the work area, and disposed of properly.
- A USFWS-approved biologist will conduct visual surveys to determine the presence or absence of suitable habitat for federally listed species before implementation of the Proposed Project.
- The biological monitor will verify that the spread of invasive exotic plant species is being avoided to the maximum extent possible. As part of the work plan, invasive plants in the

project area will be removed when appropriate. Methods of removal may involve hand work or regulated use of herbicides.

- No petroleum product, chemical, silt, fine soil, or any substance or material deleterious to sensitive species will be allowed to pass into or be placed where it could enter a stream channel. Any spills of hazardous materials in habitat suitable for federally listed species will be cleaned up and/or removed immediately. Any such spills that could adversely affect federally listed species will be reported to the USFWS.
- All staging areas and fueling or maintenance of vehicles and equipment will occur at least 65 feet from any water body or riparian habitat.
- The contractor will have emergency spill cleanup gear (spill containment and absorption materials) and fire-suppression equipment available onsite at all times.
- Any leaks, drips, and other spills will be cleaned up immediately to avoid soil or groundwater contamination. Cleanup of a spill on soil will include the removal of contaminated soil using the emergency spill cleanup gear. Any contaminated soil and disposable gear used to clean up a hazardous materials spill will be properly disposed of following State and Federal hazardous material disposal regulations.
- Major vehicle maintenance and washing will be conducted offsite.
- All used vehicle batteries and spent fluids, including motor oil, radiator coolant, or other fluids, will be collected, stored, and recycled offsite as hazardous waste.
- All trash, debris, fencing, and flagging will be removed from the project area after completion of work activities.
- Trash dumping, open fires, hunting, and pets will be prohibited in the project area during implementation and maintenance.
- Spilled dry materials will be swept up immediately.
- At least 30 days prior to the onset of any treatment-related activities, the Town will submit to the USFWS, for approval, the name(s) and credentials of biologists it wishes to conduct activities specified for the Proposed Project. No treatment will begin until the Town has received written USFWS approval for biologists to conduct specified activities. Information included in a request for authorization should include at a minimum:
 - (1) Relevant education
 - (2) Relevant training on species identification, survey techniques, handling individuals of different age classes by a permitted biologist or recognized species expert authorized for such activities by the USFWS
 - (3) Summary of field experience conducting requested activities (including Project/ research information)

- (4) Summary of biological opinions under which they have been authorized to work with the listed species and at what level (such as treatment monitoring versus handling); this should also include the names and qualifications of persons under which the work was supervised and the amount and type of related work experience on the actual project
 - (5) List of Federal Recovery Permits [Section 10(a)1(A) of the ESA] held or under which are authorized to work with the species including permit number, authorization activities, and name of permit holder
 - (6) Any relevant professional references with contact information
- Within habitat determined suitable by a qualified biologist for the CRLF or SFGS, the Proposed Project activities will occur between May 1 and October 15. Proposed Project activities will not occur during rain events or within 24 hours following a rain event of more than 0.5 inch in 24 hours.
 - Within suitable habitat for the CRLF and SFGS, a USFWS-approved biologist will be present during all Proposed Project activities and will monitor all work activities to ensure that no CRLF or SFGS are subject to take and to ensure that work activities conform to the measures outlined in the Biological Assessment (FEMA 2011). The USFWS-approved biologist will have the authority to stop any aspect of the Proposed Project that could result in unauthorized take of listed species.
 - Within suitable habitat for CRLF or SFGS, a USFWS-approved biologist will conduct pre-treatment surveys for these two species immediately prior to initiation of Proposed Project activities.
 - Personnel who detect any suspected CRLF or SFGS onsite will immediately stop work that could result in take of the species and report their findings to a USFWS-approved biologist for positive identification. If the USFWS-approved biologist determines that the animal is a CRLF, the animal will be captured and relocated to the closest available burrow or waterbody that is outside the immediate treatment area. If a SFGS is identified within the project area, the USFWS will be contacted to discuss the appropriate action.
 - If an injured or dead CRLF or SFGS is found during Proposed Project implementation, activities in the immediate vicinity of the animal will cease and a USFWS-approved biologist will inspect the area for additional animals prior to resuming work. The USFWS will be notified within 1 working day.
 - All work activities will begin no sooner than 15 minutes after sunrise and will be completed no later than 15 minutes after sunset.
 - All work activities will be conducted outside all sensitive wetland features. These features include swales, seasonal pools, emergent vegetation, and riparian areas. Any wetland features within 50 feet of the project area will be clearly flagged by the USFWS-approved biologist to prevent all work crews from entering and disturbing the areas.

- Speed limits in the project area will not exceed 10 miles per hour.
- Silt fencing will be installed between the work area and any waterbodies, including ponds, wetlands, and riparian areas.
- Appropriately-timed pre-treatment surveys will be conducted by a USFWS-approved biologist to determine the presence of host plants in the vicinity of the project area. A pre-treatment survey for host plants (dwarf plantain [*Plantago virginica*], lupines) for the Bay checkerspot butterfly will be conducted between March and July. During these surveys, the presence of preferred nectar plants (purple owl's clover [*Castilleja exserta*]) and their locations will be identified and monitored for butterfly presence.
- The USFWS will be notified within 1 working day if adult federally listed butterflies or their larvae are observed in the vicinity of the project area.
- If host plants for the bay checkerspot butterfly and the mission blue butterfly are identified within the project area, a 50-foot buffer will be marked around these population(s) and avoided by work activities conducted between February 15 and August 15.
- No herbicides will be applied during the rainy season (i.e., from October 15 through April 15 or within a 2-week period of when a rain event is forecasted) in areas that are occupied by dwarf plantain, lupine, or purple owl's clover.
- A qualified botanist will conduct appropriately timed botanical surveys for listed species before treatment begins.
- If federally listed plants are identified in the project area, the population(s) will be marked and avoided by work activities. If disturbance to a listed plant cannot be avoided, the USFWS will be contacted immediately to consult on appropriate conservation measures.
- No herbicides, pesticides, or fertilizers will be applied within 50 feet of areas that are occupied by federally listed plant species.
- Disturbance of potential habitat of federally listed plant species will be avoided to the maximum extent possible.
- Mud and plant materials will be removed from treatment vehicles and equipment when the vehicles and equipment are mobilized from an area infested with exotic plant species into an area with an intact native plant community.
- The Town will fully implement the conservation measures described in the *Description of the Proposed Action* section of the Biological Opinion (FEMA 2012; Appendix B) for the 13-year duration of the Proposed Project and follow-up maintenance.
- The Town will use only EPA-authorized herbicides and no herbicides that are restricted by Federal injunctions.
- The Town will ensure that it will minimize the risk for the introduction of amphibian disease, such as chytrid fungus, by ensuring the implementation of the *Declining*

Amphibian Populations Task Force Fieldwork Code of Practice during handling of the CRLF.

- The Town will notify the USFWS within 1 working day of the finding of any injured or dead CRLF. Injured CRLF will be cared for by a licensed veterinarian or other qualified person. Notification must include the date, time, and location of the incident or the finding of a dead or injured animal clearly indicated on a USGS 7.5-minute quadrangle and other maps at a finer scale, as requested by the USFWS, and any other pertinent information. The USFWS contacts are Coast Bay/Forest Foothills Division Chief at the Sacramento Fish and Wildlife Office (916) 414-6600, and the Resident Agent-in-Charge of the USFWS's Law Enforcement Division, 2800 Cottage Way, Room W-2928, Sacramento, California 95825; (916) 414-6660.
- The onsite biologist will prepare an annual post-treatment compliance report and submit it to the Sacramento Fish and Wildlife Office within 60 calendar days of the date of the completion of treatment activity each year. This report will detail (1) dates that treatment occurred, (2) pertinent information concerning the success of the Proposed Project in meeting the conservation measures, (3) an explanation of failure to meet such measures, if any, (4) known Proposed Project effects on federally listed species, if any, (5) occurrences of incidental take of listed species, if any, (6) documentation of employee environmental education, and (7) other pertinent information.
- If requested, the Town will ensure the USFWS, California Department of Fish and Wildlife, or their agents can examine the project area for compliance with the *Description of the Proposed Action* and *Terms and Conditions* of the Biological Opinion (FEMA 2012; Appendix B) before, during, or after completion of the Proposed Project.

4.2 HISTORIC PROPERTIES

If a discovery of an artifact and/or human remains is made during the implementation of the Proposed Project, and in compliance with Stipulation X (Unexpected Discoveries) of the PA, the Town will cease all activity and notify CalEMA immediately. CalEMA will notify FEMA and ensure that all reasonable measures are taken to avoid or minimize harm to the resource until FEMA completes additional consultation with the SHPO and the appropriate tribes. If human remains are found, the Town will also contact the San Mateo County Coroner/Medical Examiner and the local law enforcement office. Pursuant to the California Health and Safety Code, if the Coroner/Medical Examiner determines that the human remains are or may be of Native American origin, the discovery will be treated in accordance with Section 5097.98 (a-d) of the California Health and Safety Code.

4.3 HAZARDOUS MATERIALS

During herbicide treatment, the Town will ensure that Integrated Pest Management guidelines and California Department of Agriculture pesticide regulations are followed.

Herbicide will be applied only by a Chemical Applicator with a Qualified Applicator License or Certificate from the California Department of Agriculture and in accordance with the manufacturer's specifications and Federal and State laws.

5. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES AND SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

5.1 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

For the purposes of this document, irreversible commitment of resources is interpreted to mean that once resources are committed, the production or use of those resources would be lost for other purposes throughout the life of the alternative being implemented. An irretrievable commitment of resources defines the resources that are used, consumed, destroyed, or degraded during the life of the alternative that could not be retrieved or replaced during or after the life of the alternative.

The No Action Alternative would not directly require the commitment of human or fiscal resources. However, ongoing vulnerability of wildfire within the Town would continue, and the risk of loss of social, natural, and cultural resources as a result of wildfire would continue.

The Proposed Project would require the commitment of human and fiscal resources. The expenditure of labor required for this alternative would occur predominantly during implementation. However, ongoing maintenance would continue throughout the life of the alternative. Funding for the Proposed Project would not be available for other uses and would therefore be irretrievable.

Non-renewable and irretrievable fossil fuels would be required. Labor and materials are also irretrievably committed during the fabrication, preparation, and distribution of equipment. However, the Proposed Project would require only a small amount of these materials, the materials are abundant, and use would not result in a measurable impact to the availability of these resources.

Although the implementation of the Proposed Project would result in the commitment of resources as described above, the Proposed Project would result in a decreased risk of loss to critical and noncritical facilities in the Town.

5.2 SHORT-TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Implementation of the Proposed Project would result in short-term uses of and short- and long-term impacts on the environment, as documented in Section 3. However, these uses of the environment would be balanced by the long-term reduction in the risk of damage to the Town as a result of wildfire. Implementation of either alternative would not preclude or alter the range of potential uses of the resources in the area.

6. PUBLIC PARTICIPATION AND AGENCY COORDINATION

FEMA is the lead Federal agency for conducting the NEPA compliance process for the Proposed Project. The lead Federal agency is responsible for expediting the preparation and review of NEPA documents in a way that is responsive to the needs of Town's residents while meeting the spirit and intent of NEPA and complying with all NEPA provisions.

The public will be notified of the availability of the SEA through the FEMA website and publication of a public notice in the *San Mateo County Times*. During the public comment period, FEMA will accept written comments on the SEA addressed to FEMA Region IX Environmental and Historic Preservation Office, 1111 Broadway, Suite 1200, Oakland, California 94607 or donna.meyer@fema.dhs.gov.

At the end of the comment period, FEMA will review the comments and consider them in its determination of a finding (either a Finding of No Significant Impact or a finding that an Environmental Impact Statement must be prepared). FEMA will publish the finding on its website and in the *San Mateo County Times*.

7. REFERENCES

- CAL FIRE. 2007. DRAFT Fire Hazard Severity Zones in LRA [Local Responsibility Area]. FRAP [Fire and Resource Assessment Program] Map. Map ID: Hillsborough. California Department of Forestry and Fire Protection.
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8. LIST OF PREPARERS

Federal Emergency Management Agency, Region IX

Donna M. Meyer, Deputy Regional Environmental Officer

URS Group, Inc.

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Linda Peters, Senior Environmental Planner

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Lorena Solorzano-Vincent, Biological Resources

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Emily Whiteman, Climate Change

Diana Burke, Senior Technical Editor

Appendix A:
FEMA Consultation Letter to USFWS



FEMA

February 24, 2011

Mr. Ryan Olah
Division Chief
U.S. Fish and Wildlife Service
Endangered Species Division–Coast Bay Branch
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-3901

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PMDC- PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Mr. Olah:

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to provide Federal financial assistance (Federal action) to the Town of Hillsborough, through the California Emergency Management Agency (CalEMA), to implement the Hillsborough Fire Hazard Mitigation and Fuel Reduction Program (proposed project) in the Town of Hillsborough (Town), San Mateo County, California. The assistance would be provided to the Town, as the Subgrantee, through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The proposed project consists of fuel reduction and vegetation management on eight open space areas, adjacent to residential development, to reduce the fire hazard potential to residents of and structures in the Town.

The Pre-Disaster Mitigation Program is authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (42 U.S.C. §§ 5133 [2008]) to assist States and communities in implementing sustained, pre-disaster, natural-hazard mitigation programs to reduce overall risk to the population and structures, while also reducing reliance on financial assistance from disaster declarations.

Two-thirds of the Town is in a Fire Hazard Severity Zone and nearly half is an area designated "Very High Fire Hazard Severity Zone", as designated by the California Department of Forestry and Fire Protection (CAL FIRE). The eight open space areas are heavily wooded and can become very dry during the summer. Because no documented major wildfires have occurred in these open spaces for several decades, the stored fuel loads are significant and have increased the potential for a large-scale wildfire that would threaten adjacent homes. A major wildfire would be difficult to contain because of the local topography. The proposed project would reduce the fuel load in the open space

areas and create a 100-foot defensible space around nearby structures (i.e., vegetation would be cleared in a 100-foot area from the structures).

FEMA has prepared this submittal to evaluate potential effects of the proposed project on species that are listed or proposed for listing as threatened or endangered under the Endangered Species Act (ESA) that are regulated by the U.S. Fish and Wildlife Service (USFWS). Potential effects on federally listed species are evaluated in accordance with the legal requirements set forth under Section 7 of the ESA (16 U.S.C. 1536).

As a result of field observations and a background review, FEMA has determined that the project area provides habitat suitable to support the following four wildlife species and five plant species listed under the ESA and under USFWS jurisdiction:

- California red-legged frog (*Rana draytonii*)
- San Francisco garter snake (*Thamnophis sirtalis tetrataenia*)
- Bay checkerspot butterfly (*Euphydryas editha bayensis*)
- Mission blue butterfly (*Icaricia icarioides missionensis*)
- San Mateo thorn mint (*Acanthomintha duttonii*)
- Fountain thistle (*Cirsium fontinale* var. *fontinale*)
- San Mateo woolly sunflower (*Eriophyllum latilobum*)
- Marin dwarf-flax (*Hesperolinon congestum*)
- White-rayed pentachaeta (*Pentachaeta bellidiflora*)

This letter represents FEMA's request for formal consultation with the USFWS under Section 7 of the ESA for the proposed project. Accordingly, FEMA is submitting the enclosed Biological Assessment for your review of the proposed project. The proposed project is likely to adversely affect the California red-legged frog and San Francisco garter snake, but is not likely to adversely affect the bay checkerspot butterfly, Mission blue butterfly, San Mateo thorn mint, fountain thistle, San Mateo woolly sunflower, Marin dwarf-flax, and white-rayed pentachaeta. The proposed project would incorporate avoidance and minimization measures to reduce and/or eliminate potential adverse effects to these species. In addition, the proposed project would have no effect on designated critical habitat for any of the nine species because the project area does not overlap designated critical habitat for any of them.

Please note that it is the responsibility of the Subgrantee to comply with the Migratory Bird Treaty Act of 1918.

Mr. Ryan Olah
February 24, 2011
Page 3 of 3

If you should require any additional information about the proposed project or FEMA's request, please do not hesitate to contact me at (510) 627-7027 or fema-rix-ehp-documents@dhs.gov. Thank you in advance for your assistance.

Sincerely

A handwritten signature in blue ink, appearing to read 'Alessandro Amaglio', written over a vertical line.

Alessandro Amaglio
Environmental Officer

Attachment

cc: Dennis Castrillo, Cal EMA
Paul Ransom, Cal EMA
Ed Cooney, Town of Hillsborough

Appendix B:
USFWS Biological Opinion



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
81420-2011-F-0378

JUN 18 2012
BY: 

JUN 12 2012

Mr. Alessandro Amaglio
Environmental Officer
Federal Emergency Management Agency
1111 Broadway, Suite 1200
Oakland, California 94607-4052

Subject: Biological Opinion for the Hillsborough Fire Hazard Mitigation and Fuel Reduction Program in the Town of Hillsborough, San Mateo County, California

Dear Mr. Amaglio:

This letter is in response to a February 24, 2011, letter from the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to the U.S. Fish and Wildlife Service (Service) requesting formal consultation on the proposed Hillsborough Fire Hazard Mitigation and Fuel Reduction Program in the Town of Hillsborough, San Mateo County, California. The request was received by this office on February 25, 2011. FEMA proposes to provide financial assistance to the Town of Hillsborough to conduct fire-related activities as described below, and is also requiring annual maintenance, after the initial three years, of fuel load removal. The entire project is described in: the February 2011 *Biological Assessment, Hillsborough Fire Mitigation, Town of Hillsborough* prepared by URS Inc.; the *Fire Management Work Plan and Green Waste Management Plan, Town of Hillsborough's Open Space Lands*, prepared by May and Associates, Inc., March 2009; and the *Fire Management Operations and Maintenance Plan, Town of Hillsborough's Open Space Lands*, prepared by May and Associates, Inc., October 2008. Together these documents detail what shall from here forward be referred to as the Hillsborough Fire Mitigation Project (Project).

At issue are the potential effects of the Project on the threatened California red-legged frog (*Rana draytonii*), the threatened Marin dwarf-flax (*Hesperolinon congestum*), the endangered Bay checkerspot butterfly (*Euphydryas editha bayensis*), the endangered San Francisco garter snake (*Thamnophis sirtalis tetrataenia*), the endangered mission blue butterfly (*Icaricia icarioides missionensis*), the endangered San Mateo thorn mint (*Acanthomintha duttonii*), the endangered fountain thistle (*Cirsium fontinale* var. *fontinale*), the endangered San Mateo woolly sunflower (*Eriophyllum latilobum*), and the endangered white-rayed pentachaeta (*Pentachaeta bellidiflora*). Critical habitat has been designated for the California red-legged frog and Bay checkerspot butterfly, but does not occur within the Project action area. This biological opinion is issued under the authority of the Endangered Species Act of 1973 as amended (16 U.S.C. 1531 *et seq.*) (Act).

This document was prepared based on: (1) information provided in the February 24, 2011, letter from FEMA to the Service; (2) the February 2011 *Biological Assessment, Hillsborough Fire Mitigation, Town of Hillsborough* prepared by URS Inc. (2011 BA); (3) *Fire Management Work Plan and Green Waste Management Plan, Town of Hillsborough's Open Space Lands*, prepared by May and Associates, Inc., March 2009; (4) *Fire Management Operations and Maintenance Plan, Town of Hillsborough's Open Space Lands*, prepared by May and Associates, Inc., October 2008; (5) electronic mail correspondence and telephone communications between FEMA, the Town of Hillsborough, and the Service; (6) a June 24, 2011, site visit with representatives of the Service, FEMA, Hillsborough; and (7) other information available to the Service.

The Service has determined that the Project may affect, but is not likely to adversely affect the Bay checkerspot butterfly, mission blue butterfly, San Mateo thorn mint, fountain thistle, San Mateo woolly sunflower, Marin dwarf-flax, or white-rayed pentachaeta. This determination is based upon the absence of documented species occurrences within the Project area, the distance to known occurrences, negative survey results for these species in 2006, 2007, and 2008, the lack of serpentine soils in the Project area, and conservation measures incorporated into the Project. Therefore, this document represents the Service's biological opinion on the effects of the proposed action on the California red-legged frog and San Francisco garter snake.

Consultation History

February 25, 2011	The Service received a letter from FEMA requesting initiation of formal consultation for the proposed Project.
June 24, 2011	The Service attended a site visit with representatives for FEMA and the Town of Hillsborough.

BIOLOGICAL OPINION

Description of the Proposed Action

The action area comprises eight open spaces, totaling 150 acres, and is located within the Town of Hillsborough in San Mateo County, California. The Project goals are to reduce the fire hazard within these open spaces and create a 100-foot defensible space around structures.

The Project includes the removal and maintenance of fuel loads from two types of areas; a 100-foot defensible space zone (DSZ), and a high-priority fire treatment area (HPFTA). The 100-foot DSZ will be established around residential structures. The HPFTA is outside the DSZ and within 50 feet of a water-body. Within the DSZ fuels will be reduced through tree removal, brush removal, and mowing of grasses on approximately 88 acres. The reduction of fuels within the 62 acres of HPFTA will consist of brush thinning and grass mowing. Whenever possible, vegetation removal will focus on non-native species. Healthy trees will be avoided to the maximum extent possible in order to retain ground shading. The Project also includes the installation of erosion control measures, as necessary. Approved herbicides will be painted on cut stumps. Herbicide spraying will not be part of this Project. Staging and access to the Project area will take place on paved and dirt access roads.

Methods common to both treatment areas are cutting vegetation with chain saws, brush cutters, mowers (flail or rotary), chippers, and other hand tools. The goal for trimming trees is to reduce fuel loads below 10 inches by removing branches. Shrub fuel load will be reduced by cutting to trim plants and remove others to reduce vegetation height and cover as well as achieve spacing between vegetation. Shrubs under trees will be removed to reduce vegetation fuel ladders. Grasses will be mowed to a maximum height of 8 inches. Native trees and shrubs will be retained to the extent possible. Non-native trees and shrubs will be targeted for removal before natives. Hazard and diseased trees will be felled as necessary. Trees will be removed on a case-by-case basis as determined by maintenance personal in consultation with a qualified botanist or arborist. Approximately one-third to one-half of the existing understory vegetation will be removed.

Green waste generated by the Project will generally be left on site. Some materials will be chipped and transported off-site to a green waste processing facility if necessary for fuel reduction. Material from trees identified as potentially having Sudden Oak Death disease (known to occur in the Project area) will remain on site. Logs and large branches left on-site will be cut into 4 to 6-foot sections and stacked no higher than 3-foot high. Leaves, smaller branches, bark, and duff will be collected and processed (chipped or shredded) and deposited into flat piles no larger than 2-foot high, 5-foot long and 5-foot wide. Piles of green waste will be separated at different distances depending on slope.

Project Schedule

Initial fuels reduction work is scheduled for three years with the majority of the work occurring the first year. Fuel load maintenance will occur annually thereafter. This biological opinion considers the life of the Project to be ten years in duration. Any fire hazard mitigation work proposed after ten years will need to be consulted on separately.

Conservation Measures

FEMA will ensure the following generalized avoidance and minimization measures for covered activities, as detailed in the 2011 BA and this document, are adhered to for the protection of federally listed species and sensitive biological resources.

1. A Service-approved biologist will conduct environmental awareness training for all construction crews and contractors. The training will be conducted prior to Project implementation and on the arrival of any new worker. The training shall include a brief review of listed species and other sensitive species/resources that may exist in the Project area. The training will include: the life history of each species, field identification, habitat requirements, locations of sensitive biological resources, limits of the Project work area, and the legal status of each species. The training shall include materials concerning the following topics: sensitive resources, resource avoidance, permit conditions, and possible consequences for violations of State or Federal environmental laws. The training shall cover the Project conservation measures, environmental permits, and regulatory compliance requirements. Additional training shall be conducted as needed, including morning "tailgate" sessions to update crews as they advance into sensitive areas. A record of all personnel trained during the Project shall be maintained, and this record shall be made available for compliance verification.

2. A 200-foot buffer around wetlands or water bodies will be staked out at the commencement of Project activities. Within the 200-foot buffer, the following practices will be adhered to:
 - a) Herbicide use will be restricted to glyphosate-based herbicides which are approved by the U.S. Environmental Protection Agency for use in the vicinity of water. Herbicides included in any Federal injunction will not be used in the Project area.
 - b) Manual equipment will be used to remove approximately one-half of the height of the tallest vegetation and one-third of the medium height vegetation.
 - c) No equipment fueling will be conducted within 200-foot of any wetland or water-body.
3. All vehicles used for the Project shall be cleaned and free of weeds when brought into the Project area to prevent the spread and/or introduction of invasive plant species and sudden oak-death disease.
4. Vegetation contaminated with weed seeds shall be segregated and disposed of or treated as appropriate.
5. During work activities, all trash shall be placed in secure containers with secure lids, removed from the work area, and disposed of properly.
6. A Service-approved biologist will conduct visual surveys before implementation of Project activities to determine the presence or absence of suitable habitat for Federal listed species. Sensitive biological resources will be flagged for avoidance.
7. The biological monitor shall verify that the spread of invasive exotic plant species is being avoided to the maximum extent possible. As part of the work plan, invasive plants in the Project area shall be removed, when appropriate. Methods of removal may involve hand work or regulated use of herbicides.
8. The number and size of the staging areas and access routes and the footprint of work activities shall be limited to the minimum number and amount possible. All boundaries and routes shall be clearly marked and situated outside of all wetland and riparian areas. All impacts and disturbance in the staging areas and access routes shall be restored to pre-Project conditions.
9. No petroleum products, chemical, silt, fine soil, or any substance or material deleterious to sensitive species shall be allowed to pass into or be placed where it could enter a stream channel. Any spills of hazardous materials in habitat suitable for federally listed species shall be cleaned up and/or removed immediately. Any such spills that could adversely affect federally listed species shall be reported to the Service.
10. All staging areas and fueling or maintenance of vehicles and equipment shall occur at least 65 feet from any water-body or riparian habitat.
11. The contractor shall have emergency spill cleanup gear (spill containment and absorption materials) and fire equipment available on-site at all times.
12. Leaks, drips, and other spills shall be cleaned up immediately to avoid soil or groundwater contamination.
13. Major vehicle maintenance, repairs, and washing shall be done off-site.

14. All used vehicle batteries and spent fluids, including motor oil, radiator coolant, or other fluids, shall be collected, stored, and recycled off-site as hazardous waste.
15. All trash, debris, fencing, and flagging removed from the Project area shall be disposed of at an approved disposal site.
16. Trash dumping, open fires, hunting, and pets shall be prohibited in the Project area.
17. Spilled dry materials shall be swept up immediately.
18. Plastic mono-filament netting (erosion control matting), rolled erosion control products, or similar material shall not be used within the Project area because California red-legged frogs, San Francisco garter snake, and other species may become entangled or trapped in it.

FEMA will ensure the following avoidance and minimization measures for covered activities, as detailed in the 2011 BA and this document, are adhered to for the protection of the California red-legged frog and San Francisco garter snake:

1. At least 30 days prior to the onset of any construction related activities, FEMA shall submit to the Service, for approval, the name(s) and credentials of biologists it wishes to conduct activities specified for this Project. Information included in a request for authorization should include, at a minimum: (1) relevant education; (2) relevant training on species identification, survey techniques, handling individuals of different age classes by a permitted biologist or recognized species expert authorized for such activities by the Service; (3) a summary of field experience conducting requested activities (to include Project/research information); (4) a summary of biological opinions under which they have been authorized to work with the listed species and at what level (such as construction monitoring versus handling), this should also include the names and qualifications of persons under which the work was supervised as well as the amount and type of related work experience on the actual project; (5) a list of Federal Recovery Permits [10(a)1(A)] held or under which are authorized to work with the species (to include permit number, authorized activities, and name of permit holder); and (6) any relevant professional references with contact information.

No Project construction shall begin until FEMA has received written Service approval for biologists to conduct specified activities.

2. Prior to initiation of construction activities, a Service-approved biologist will conduct a training session with construction personnel. New Project personnel will receive this training before performing their duties on the site. At a minimum, the training shall include: a description of the California red-legged frog, San Francisco garter snake, their habitat requirements and life history; the importance of the California red-legged frogs and its habitat, the general measures that are being implemented to conserve the California red-legged frog as they relate to the Project, and the boundaries within which the Project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. Persons completing training will sign a form stating that they attended and understand all the conservation and protection measures.

3. Within habitat determined suitable for the California red-legged frog or San Francisco garter snake, Project activities shall occur between May 1 and October 15. Project activities will not occur during rain events or within 24 hours following a rain event.
4. Within suitable habitat for the California red-legged frog and San Francisco garter snake, a Service-approved biologist shall be present during all Project activities, and shall monitor all work activities to ensure no California red-legged frogs or San Francisco garter snakes are subject to take and to ensure the work activities conform to the measures outlined in this document and the 2011 BA. The Service-approved biologist shall have the authority to stop any aspect of the Project that could result in unauthorized take of listed species.
5. Within suitable habitat for California red-legged frogs or San Francisco garter snakes, a Service-approved biologist will conduct pre-construction surveys for these two species immediately prior to initiation of Project activities.
6. Personnel who detect any suspected California red-legged frog or San Francisco garter snake on-site shall immediately stop work that could result in take of the species and report their findings to a Service-approved biologist for positive identification. If the Service-approved biologist determines that the animal is a California red-legged frog, the animal will be captured and relocated to the closest available burrow or water-body that is outside of the immediate construction area. If a San Francisco garter snake is identified within the action area, the Service shall be contacted to discuss the appropriate action.
7. If an injured or dead California red-legged frog or San Francisco garter snake is found during Project implementation, activities in the immediate vicinity of the animal will cease and a Service-approved biologist will inspect the area for additional animals prior to resuming work. The Service will be notified within one working day.
8. All work activities shall begin no sooner than 15 minutes after sunrise and shall be completed no later than 15 minutes after sunset.
9. Work activities will be conducted outside of all sensitive wetland features. These features include swales, seasonal pools, emergent vegetation, and riparian areas. Any wetland features within 50 feet of the Project area will be clearly flagged by the Service-approved biologist to prevent work crews from entering and disturbing the areas.
10. The speed limit in the Project area is 10 miles per hour.
11. Silt fencing shall be installed between the work area and any water bodies, including ponds, wetlands, and riparian areas.

FEMA will ensure the following avoidance and minimization measures for covered activities, as detailed in the 2011 BA and this document, are adhered to for the protection of the Bay checkerspot butterfly and mission blue butterfly.

1. The environmental training session for Project personnel will include information on the Bay checkerspot butterfly and the mission blue butterfly.
2. Appropriately-timed pre-construction surveys will be conducted by a Service-approved biologist to determine the presence of host plants within the vicinity of the Project. A

pre-construction survey for host plants (dwarf plantain, lupines) for the Bay checkerspot butterfly will be conducted between March and July. During these surveys, the presence of preferred nectar plants (purple owl's clover) and their locations shall be identified and monitored for butterfly presence.

3. The Service will be notified within 1 day if adult butterflies or their larvae are observed within the vicinity of the Project area.
4. If host plants for either listed butterfly are identified within the Project area, a 50-foot buffer will be marked around the population(s) and avoided by work activities conducted between February 15 and August 15.
5. No herbicides will be applied during the rainy season (i.e. from October 15 through April 15, or within a 2-week period of when a rain event is forecast) in areas that are occupied by dwarf plantain, lupine, or purple owl's clover.

FEMA will ensure the following avoidance and minimization measures for covered activities, as detailed in the 2011 BA and this document, are adhered to for the protection of the fountain thistle, Marin dwarf-flax, San Mateo thorn mint, San Mateo woolly sunflower, and white-rayed pentachaeta:

1. The environmental training session for Project personnel will include information on all listed plant species potentially occurring within the Project area.
2. A qualified botanist will conduct appropriately-timed botanical surveys for listed species before construction begins.
3. If federally listed plant species are identified within the Project area, the population(s) will be marked and avoided by work activities. If disturbance to a listed plant cannot be avoided, the Service will be contacted immediately to consult on appropriate conservation measures.
4. No herbicides, pesticides, or fertilizers shall be applied within 50 feet of areas that are occupied by federally listed plant species.
5. Disturbance of potential habitat will be avoided to the maximum extent possible.
6. Mud and plant materials will be removed from construction vehicles and equipment when the vehicles and equipment are mobilized from an area infested with exotic plant species into an area with an intact native plant community.

Action Area

The Service defines the action area as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 Code of Federal Regulations [CFR] § 402.02). For the purposes of assessing the effects of the Project, the action area includes the entire 150 acre (eight separate locations) Project site. This is the area in which the proposed action could result in direct or indirect effects on federally listed species due to habitat loss or disturbance.

Analytical Framework for the Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis in this biological opinion relies on four components: (1) the *Status of the Species*, which evaluates the California red-legged

frogs and San Francisco garter snakes range-wide condition, the factors responsible for that condition, and its survival and recovery needs; (2) the *Environmental Baseline*, which evaluates the condition of the Federally listed species in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the listed species; (3) the *Effects of the Action*, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the listed species; and (4) the *Cumulative Effects*, which evaluates the effects of future, non-Federal activities in the action area on the listed species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the listed species current status, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of the survival and recovery of this species in the wild.

The jeopardy analysis in this biological opinion places an emphasis on consideration of the range-wide survival and recovery needs of the listed species and the role of the action area in the survival and recovery of this species as the context for evaluating the significance of the effects of the proposed Federal action, taken together with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

California Red-legged Frog

Listing Status: The California red-legged frog was listed as a threatened species on May 23, 1996 (61 FR 25813) (Service 1996). Critical habitat was designated for this species on April 13, 2006 (71 FR 19244) (Service 2006) and revisions to the critical habitat designation were published on March 17, 2010 (75 FR 12816) (Service 2010). At this time, the Service recognized the taxonomic change from *Rana aurora draytonii* to *Rana draytonii* (Shaffer *et al.* 2010). A recovery plan was published for the California red-legged frog on September 12, 2002 (Service 2002).

Description: The California red-legged frog is the largest native frog in the western United States (Wright and Wright 1949), ranging from 1.5 to 5.1 inches in length (Stebbins 2003). The abdomen and hind legs of adults are largely red, while the back is characterized by small black flecks and larger irregular dark blotches with indistinct outlines on a brown, gray, olive, or reddish background color. Dorsal spots usually have light centers (Stebbins 2003), and dorsolateral folds are prominent on the back. Larvae (tadpoles) range from 0.6 to 3.1 inches in length, and the background color of the body is dark brown and yellow with darker spots (Storer 1925).

Distribution: The historic range of the California red-legged frog extended from the vicinity of Elk Creek in Mendocino County, California, along the coast inland to the vicinity of Redding in Shasta County, California, and southward to northwestern Baja California, Mexico (Fellers 2005; Jennings and Hayes 1985; Hayes and Krempels 1986). The species was historically documented in 46 counties but the taxa now remains in 238 streams or drainages within 23 counties, representing a loss of 70 percent of its former range (Service 2002). California red-legged frogs are still locally abundant within portions of the San Francisco Bay area and the Central California Coast. Isolated populations have been documented in the Sierra

Nevada, northern Coast, and northern Transverse Ranges. The species is believed to be extirpated from the southern Transverse and Peninsular ranges, but is still present in Baja California, Mexico (CDFG 2011).

Status and Natural History: California red-legged frogs predominately inhabit permanent water sources such as streams, lakes, marshes, natural and man-made ponds, and ephemeral drainages in valley bottoms and foothills up to 4,921 feet in elevation (Jennings and Hayes 1994, Bulger *et al.* 2003, Stebbins 2003). However, they also inhabit ephemeral creeks, drainages and ponds with minimal riparian and emergent vegetation. California red-legged frogs breed from November to April, although earlier breeding records have been reported in southern localities. Breeding generally occurs in still or slow-moving water often associated with emergent vegetation, such as cattails, tules, or overhanging willows (Storer 1925, Hayes and Jennings 1988). Female frogs deposit egg masses on emergent vegetation so that the egg mass floats on or near the surface of the water (Hayes and Miyamoto 1984).

Habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer including vegetated areas with coyote brush, California blackberry thickets, and root masses associated with willow and California bay trees (Fellers 2005). Sheltering habitat for California red-legged frogs potentially includes all aquatic, riparian, and upland areas within the range of the species and includes any landscape feature that provides cover, such as animal burrows, boulders or rocks, organic debris such as downed trees or logs, and industrial debris. Agricultural features such as drains, watering troughs, spring boxes, abandoned sheds, or hay stacks may also be used. Incised stream channels with portions narrower and depths greater than 18 inches also may provide important summer sheltering habitat. Accessibility to sheltering habitat is essential for the survival of California red-legged frogs within a watershed, and can be a factor limiting frog population numbers and survival.

California red-legged frogs do not have a distinct breeding migration (Fellers 2005). Adults are often associated with permanent bodies of water. Some individuals remain at breeding sites year-round, while others disperse to neighboring water features. Dispersal distances are typically less than 0.5 mile, with a few individuals moving up to 1-2 miles (Fellers 2005). Movements are typically along riparian corridors, but some individuals, especially on rainy nights, move directly from one site to another through normally inhospitable habitats, such as heavily grazed pastures or oak-grassland savannas (Fellers 2005).

In a study of California red-legged frog terrestrial activity in a mesic area of the Santa Cruz Mountains, Bulger *et al.* (2003) categorized terrestrial use as migratory and non-migratory. The latter occurred from one to several days and was associated with precipitation events. Migratory movements were characterized as the movement between aquatic sites and were most often associated with breeding activities. Bulger *et al.* (2003) reported that non-migrating frogs typically stayed within 200 feet of aquatic habitat 90 percent of the time and were most often associated with dense vegetative cover, i.e., California blackberry, poison oak and coyote brush. Dispersing frogs in northern Santa Cruz County traveled distances from 0.25 mile to more than 2 miles without apparent regard to topography, vegetation type, or riparian corridors (Bulger *et al.* 2003).

In a study of California red-legged frog terrestrial activity in a xeric environment in eastern Contra Costa County, Tatarian (2008) noted that a 57 percent majority of frogs fitted with radio transmitters in the Round Valley study area stayed at their breeding pools, whereas 43 percent moved into adjacent upland habitat or to other aquatic sites. Her study reported a peak seasonal

terrestrial movement occurring in the fall months associated with the first 0.2 inch of precipitation and tapering off into spring. Upland movement activities ranged from 3 to 233 feet, averaging 80 feet, and were associated with a variety of refugia including grass thatch, crevices, cow hoof prints, ground squirrel burrows at the base of trees or rocks, logs, and under man-made structures; others were associated with upland sites lacking refugia (Tatarian 2008). The majority of terrestrial movements lasted from 1 to 4 days; however, one adult female was reported to remain in upland habitat for 50 days (Tatarian 2008). Upland refugia closer to aquatic sites were used more often and were more commonly associated with areas exhibiting higher object cover, e.g., woody debris, rocks, and vegetative cover. Subterranean cover was not significantly different between occupied upland habitat and unoccupied upland habitat.

California red-legged frogs are often prolific breeders, laying their eggs during or shortly after large rainfall events in late winter and early spring (Hayes and Miyamoto 1984). Egg masses containing 2,000 to 5,000 eggs are attached to vegetation below the surface and hatch after 6 to 14 days (Storer 1925, Jennings and Hayes 1994). In coastal lagoons, the most significant mortality factor in the pre-hatching stage is water salinity (Jennings *et al.* 1992). Eggs exposed to salinity levels greater than 4.5 parts per thousand resulted in 100 percent mortality (Jennings and Hayes 1990). Increased siltation during the breeding season can cause asphyxiation of eggs and small larvae. Larvae undergo metamorphosis 3½ to 7 months following hatching and reach sexual maturity at 2 to 3 years of age (Storer 1925; Wright and Wright 1949; Jennings and Hayes 1985, 1990, 1994). Of the various life stages, larvae probably experience the highest mortality rates, with less than 1 percent of eggs laid reaching metamorphosis (Jennings *et al.* 1992). California red-legged frogs may live 8 to 10 years (Jennings *et al.* 1992). Populations can fluctuate from year to year; favorable conditions allow the species to have extremely high rates of reproduction and thus produce large numbers of dispersing young and a concomitant increase in the number of occupied sites. In contrast, the animal may temporarily disappear from an area when conditions are stressful (e.g., during periods of drought, disease, etc.).

The diet of California red-legged frogs is highly variable and changes with the life history stage. The diet of the larvae is not well studied, but is likely similar to that of other ranid frogs which feed on algae, diatoms, and detritus by grazing on the surface of rocks and vegetation (Fellers 2005; Kupferberg 1996a, 1996b, 1997). Hayes and Tennant (1985) analyzed the diets of California red-legged frogs from Cañada de la Gaviota in Santa Barbara County during the winter of 1981 and found invertebrates (comprising 42 taxa) to be the most common prey item consumed; however, they speculated that this was opportunistic and varied based on prey availability. They ascertained that larger frogs consumed larger prey and were recorded to have preyed on Pacific chorus frogs, three-spined stickleback, and, to a limited extent, California mice, which were abundant at the study site (Hayes and Tennant 1985, Fellers 2005). Although larger vertebrate prey was consumed less frequently, it represented over half of the prey mass eaten by larger frogs suggesting that such prey may play an energetically important role in their diets (Hayes and Tennant 1985). Juvenile and subadult/adult frogs varied in their feeding activity periods; juveniles fed for longer periods throughout the day and night, while subadult/adults fed nocturnally (Hayes and Tennant 1985). Juveniles were significantly less successful at capturing prey and all life history stages exhibited poor prey discrimination, feeding on several inanimate objects that moved through their field of view (Hayes and Tennant 1985).

Recovery Plan: The recovery plan for the California red-legged frog identifies eight recovery units (Service 2002). The establishment of these recovery units is based on the determination that various regional areas of the species' range are essential to its survival and recovery. These recovery units are delineated by major watershed boundaries as defined by U.S. Geological Survey hydrologic units and the limits of its range. The goal of the recovery plan is to protect the long-term viability of all extant populations within each recovery unit. Within each recovery unit, core areas have been delineated and represent contiguous areas of moderate to high California red-legged frog densities that are relatively free of exotic species such as bullfrogs. The goal of designating core areas is to protect metapopulations. Thus when combined with suitable dispersal habitat, will allow for the long-term viability within existing populations. The management strategy identified within the Recovery Plan will allow for the recolonization of habitats within and adjacent to core areas that are naturally subjected to periodic localized extinctions, thus assuring the long-term survival and recovery of California red-legged frogs.

Threats: Habitat loss, non-native species introduction, and urban encroachment are the primary factors that have adversely affected the California red-legged frog throughout its range. Several researchers in central California have noted the decline and eventual local disappearance of California and northern red-legged frogs in systems supporting bullfrogs (Jennings and Hayes 1990; Twedt 1993), red swamp crayfish, signal crayfish, and several species of warm water fish including sunfish, goldfish, common carp, and mosquitofish (Moyle 1976; Barry 1992; Hunt 1993; Fisher and Schaffer 1996). This has been attributed to predation, competition, and reproduction interference. Twedt (1993) documented bullfrog predation of juvenile northern red-legged frogs, and suggested that bullfrogs could prey on subadult California red-legged frogs as well. Bullfrogs may also have a competitive advantage over California red-legged frogs. For instance, bullfrogs are larger and possess more generalized food habits (Bury and Whelan 1984). In addition, bullfrogs have an extended breeding season (Storer 1933) during which an individual female can produce as many as 20,000 eggs (Emlen 1977). Furthermore, bullfrog larvae are unpalatable to predatory fish (Kruse and Francis 1977). Bullfrogs also interfere with California red-legged frog reproduction by eating adult male California red-legged frogs. Both California and northern red-legged frogs have been observed in amplexus (mounted on) with both male and female bullfrogs (Jennings and Hayes 1990; Twedt 1993; Jennings 1993). Thus bullfrogs are able to prey upon and out-compete California red-legged frogs, especially in sub-optimal habitat.

The urbanization of land within and adjacent to California red-legged frog habitat has also affected the threatened amphibian. These declines are attributed to channelization of riparian areas, enclosure of the channels by urban development that blocks dispersal, and the introduction of predatory fishes and bullfrogs. Diseases may also pose a significant threat, although the specific effects of disease on the California red-legged frog are not known. Pathogens are suspected of causing global amphibian declines (Davidson *et al.* 2003). Chytridiomycosis and ranaviruses are a potential threat because these diseases have been found to adversely affect other amphibians, including the listed species (Davidson *et al.* 2003; Lips *et al.* 2006). Mao *et al.* (1999 cited in Fellers 2005) reported northern red-legged frogs infected with an iridovirus, which was also presented in sympatric threespine sticklebacks in northwestern California. Non-native species, such as bullfrogs and non-native tiger salamanders that live within the range of the California red-legged frog have been identified as potential carriers of these diseases (Garner *et al.* 2006). Humans can facilitate the spread of

disease by encouraging the further introduction of non-native carriers and by acting as carriers themselves (i.e., contaminated boots, waders or fishing equipment). Human activities can also introduce stress by other means, such as habitat fragmentation, that results in the listed species being more susceptible to the effects of disease.

San Francisco Garter Snake

Refer to *San Francisco Garter Snake 5-Year Review: Summary and Evaluation* (Service 2006) for the current Status of the Species.

Environmental Baseline

The action area can be located on the Montara Mountain and San Mateo United States Geological Survey (USGS) 7.5 minute quadrangles and is in the foothills of the eastern slope of the Santa Cruz Mountains near their northern limit. The action area is east of Buri Buri Ridge and Interstate 280 in San Mateo County. The topography consists of rolling hills dissected by canyons and dotted with reservoirs. The elevation in the action area ranges from 100-feet to 615-feet. The action area is split between the Sanchez and San Mateo Watersheds. Land uses in the vicinity of the action area are a mixture of urban development and open space. Hardwood forest habitat dominated by California buckeye, coast live oak, and California bay is present in all the open areas. According to the 2011 BA, other plant communities within the action area include chaparral, coastal scrub, eucalyptus groves, non-native grassland, and riparian forest/scrub.

The Project is located within California red-legged frog Recovery Unit 4, South and East San Francisco Bay. The action area is within Core Area 18-South San Francisco Bay as designated in the Recovery Plan for the California Red-legged Frog (USFWS 2002). According to the recovery plan, core areas are a “system of areas that, when protected and managed for California red-legged frogs, will allow for long-term viability of existing populations and reestablishment of populations within the historic range.” The action area consists of potential upland and dispersal habitat for the California red-legged frog, and San Francisco garter snake. Aquatic features, such as streams and ponds, occur adjacent to and within dispersal distance of the action area for both the California red-legged frog and San Francisco garter snake.

Due to the biology and ecology of the California red-legged frog and San Francisco garter snake, the presence of suitable upland and dispersal habitat on-site, and the proximity of potential breeding habitat, the Service believes that the California red-legged frog and San Francisco garter snake are reasonably certain to occur within the action area.

Effects of the Action

The Project may result in direct effects to California red-legged frog and San Francisco garter snake through mortality, injury, capture, or harassment of individual juveniles and adults. The potential for injury and mortality is from being crushed by personnel, equipment, and vehicles within the action area. Individuals also may become trapped in plastic mono-filament netting if it were used for erosion control or other purposes resulting in their death by predation, starvation, or desiccation (Stuart *et al.* 2001). Trash left during or after Project activities could attract predators to work sites, which could subsequently harass or prey on the California red-legged frogs and San Francisco garter snakes. For example; raccoons, crows, and ravens are attracted to trash and also prey opportunistically on amphibians. Various conservation

measures including, but not limited to, a Project personnel training program, construction monitoring, minimizing the total area disturbed by Project activities, properly constructing exclusionary fencing, avoiding the use of mono-filament netting, limiting work to the dry season, and relocating any discovered California red-legged frogs would likely reduce mortality, injury, or harassment.

There is a possibility that personnel working on the site, particularly the on-site biologists could introduce amphibian diseases to habitat used by the California red-legged frog. The chance of a disease being introduced into a new area is greater today than in the past due to the increasing occurrences of disease throughout amphibian populations in California and the United States. It is possible that chytrid fungus may exacerbate the effects of other diseases on amphibians or increase the sensitivity of the amphibian to environmental changes (*e.g.*, water pH) that reduce normal immune response capabilities (Bosch *et al.* 2000). Implementation of the “Declining Amphibian Populations Task Force Fieldwork Code of Practice” during any handling or aquatic activity would likely prevent transfer of diseases through contaminated equipment or clothing.

If it is necessary to relocate California red-legged frogs, the capturing and handling of this species will result in harassment, and may result in mortality or injury of individuals. Stress, injury, and mortality may occur as a result of improper handling, containment, and transport of individuals. Death and injury of individual California red-legged frogs could occur at the time of relocation or later in time subsequent to their release. Improper handling, containment, or transport of individuals would be reduced or prevented by use of a Service-approved biologist, by limiting the duration of handling, and requiring the proper transport of these species. The relocation of California red-legged frogs from the action area will benefit the individual animals in that it will separate them from the physical hazards and reduction of available habitat caused by construction activities.

The Project will not result in the permanent loss or temporary disturbance of aquatic breeding habitat for California red-legged frogs. However, implementation of the proposed action will result in annual temporary disturbance of upland habitat for these species. Approximately 150 acres of upland dispersal, foraging, and refugial habitat will be temporarily affected by annual construction related activities over a 10 year period. All habitats temporarily disturbed will be restored to pre-Project conditions or better. Incorporating the conservation measures detailed within this document will minimize the potential adverse effects of the Project on the California red-legged frog and San Francisco garter snake.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act. The Service is not aware of any future non-Federal actions that are reasonably certain to occur in the action area.

The global average temperature has risen by approximately 0.6 degrees Celsius during the 20th Century (Intergovernmental Panel on Climate Change 2001, 2007a, 2007b; Adger *et al.* 2007). There is an international scientific consensus that most of the warming observed has been caused by human activities (Intergovernmental Panel on Climate Change 2001, 2007a, 2007b; Adger *et al.* 2007), and that it is “very likely” that it is largely due to man-made emissions of

carbon dioxide and other greenhouse gases (Adger *et al.* 2007). Ongoing climate change (Inkley *et al.* 2004; Kerr 2007; Adger *et al.* 2007; Kanter 2007) likely imperils the California red-legged frog and San Francisco garter snake, and the resources necessary for their survival. Since climate change threatens to disrupt annual weather patterns, it may result in a loss of their habitats and/or prey, and/or increased numbers of their predators, parasites, and diseases. Where populations are isolated, a changing climate may result in local extinction, with range shifts precluded by lack of habitat.

Conclusion

The Service has reviewed the current status of the California red-legged frog and San Francisco garter snake, the environmental baseline for the action area; the effects of the proposed Hillsborough Fire Mitigation Project, and cumulative effects. It is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the California red-legged frog or San Francisco garter snake. We based this determination on the following: (1) the implementation of avoidance and minimization measures as described in the *Description of the Proposed Action* of this biological opinion that minimize the potential for harassment, harm, injury, and mortality of the California red-legged frog and San Francisco garter snake; (2) no digging or excavation work is associated with the Project; (3) the avoidance of aquatic breeding habitat; and (4) the restoration on-site of all areas temporarily disturbed.

INCIDENTAL TAKE STATEMENT

Section 9(a)(1) of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species without special exemption. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct. Harass is defined by the Service as actions that create the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), take that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with this Incidental Take Statement.

The measures described below are non-discretionary, and must be implemented by the applicant so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, in order for the exemption in section 7(o)(2) to apply. The applicant has a continuing duty to regulate the activity covered by this incidental take statement. If FEMA: (1) fails to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, and/or (2) fails to retain oversight to ensure compliance with these terms and conditions, the protective coverage of section 7(o)(2) may lapse.

Amount or Extent of Take

The Service anticipates that incidental take of the California red-legged frog and San Francisco garter snake will be difficult to detect because of their life history, biology, and ecology.

Specifically, California red-legged frogs and San Francisco garter snakes are difficult to locate due to their cryptic appearance and behavior; they may be located a distance from creeks or ponds; and the finding of an injured or dead individual is unlikely because of their relatively small body size and the possibility of them being eaten by scavengers. Therefore, the Service anticipates that all California red-legged frogs and San Francisco garter snakes inhabiting the 150 acres of suitable upland habitat disturbed by the proposed Project will be subject to incidental take in the form of harm or harassment. The Service anticipates all California red-legged frogs within the action area will be subject to incidental take due to relocation. The Service also anticipates that no more than one (1) California red-legged frog is likely to be killed or injured as a result of the proposed Project.

Upon implementation of the Reasonable and Prudent Measures within this document, the aforementioned levels of incidental take associated with the proposed Hillsborough Fire hazard Mitigation and Fuel Reduction Program on the California red-legged frog and San Francisco garter snake will become exempt from the prohibitions described under section 9 of the Act.

Effect of the Take

The Service has determined that the level of anticipated take is not likely to result in jeopardy to the California red-legged frog or San Francisco garter snake.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measure is necessary and appropriate to minimize the effects of incidental take of the California red-legged frog and San Francisco garter snake.

1. All the conservation measures, as described in this biological opinion, shall be fully implemented and adhered to. Furthermore, these conservation measures shall be supplemented by the terms and conditions stated below.

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, FEMA must comply with the following terms and conditions, which implement the reasonable and prudent measure described above. These terms and conditions are non-discretionary.

1. The following terms and conditions implement the reasonable and prudent measure:
 - a. FEMA shall require the Project proponent to fully implement measures to minimize the potential for incidental take of federally listed species through implementation of conservation measures as described in the Description of the Proposed Action section of this biological opinion for the 10-year duration of the Fire Hazard Mitigation Project.
 - b. FEMA shall ensure that the City of Hillsborough used only authorized herbicides and not any that are restricted by Federal injunctions.
 - c. FEMA will minimize the risk for the introduction of amphibian diseases, such as chytrid fungus, by ensuring the implementation of the "Declining Amphibian Populations Task Force Fieldwork Code of Practice" during any handling of the California red-legged frog.

- d. FEMA shall ensure that the Town of Hillsborough complies with the Reporting Requirements of this biological opinion and the written reports described.
- e. If requested, FEMA shall ensure the Service, CDFG, or their authorized agents can examine the action area for compliance with the Description of the Proposed Action and Terms and Conditions of this biological opinion before, during, or after Project completion.

Reporting Requirements

The Service shall be notified within one (1) working day of the finding of any injured or dead California red-legged frog. Injured California red-legged frogs shall be cared for by a licensed veterinarian or other qualified person. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal clearly indicated on a USGS 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. The Service contacts are; Coast Bay/Forest Foothills Division Chief at the Sacramento Fish and Wildlife Office (916) 414-6600, and the Resident Agent-in-Charge of the Service's Law Enforcement Division, 2800 Cottage Way, Room W-2928, Sacramento, California 95825; (916) 414-6660.

The applicant shall submit, annually, a post-construction compliance report prepared by the on-site biologist to the Sacramento Fish and Wildlife Office within sixty (60) calendar days of the date of the completion of construction activity each year. This report shall detail: (1) dates that construction occurred; (2) pertinent information concerning the success of the Project in meeting the avoidance and minimization measures; (3) an explanation of failure to meet such measures, if any; (4) known Project effects on the Federal listed species, if any; (5) occurrences of incidental take of listed species, if any; (6) documentation of employee environmental education; and (7) other pertinent information.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities that can be implemented to further the purposes of the Act, such as preservation of endangered species habitat, implementation of recovery actions, or development of information and databases. Our conservation recommendations are as follows:

1. FEMA should assist the Service with implementation of recovery actions identified by the Service in the recovery plan for the California red-legged frog and San Francisco garter snake.
2. FEMA should develop and implement strategies for the conservation and recovery of the California red-legged frog and San Francisco garter snake.
3. FEMA should encourage or require the use of appropriate California native species in revegetation and habitat enhancement efforts.
4. FEMA should incorporate culverts, tunnels, or bridges on highways and other roadways that allow safe passage by California red-legged frogs, other listed animals, and

wildlife. FEMA should include photographs, plans, and other information in their biological assessments if they incorporate “wildlife friendly” crossings into their Projects.

5. FEMA should incorporate “environmentally friendly” erosion and stabilization techniques whenever possible in their projects.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefiting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation on the Hillsborough Fire Hazard Mitigation and Fuel Reduction Program in San Mateo County, California. As provided in 50 CFR §402.16 reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; and/or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this biological opinion on the Hillsborough Fire Mitigation Project, please contact Dan Cordova (Dan_Cordova@fws.gov) or Coast Bay/Forest Foothills Division Chief, Ryan Olah (Ryan_Olah@fws.gov) at the letterhead address or at telephone (916) 414-6600.

Sincerely,



Susan K. Moore
Field Supervisor

cc:

Suzanne DeLeon, California Department of Fish and Game, Santa Cruz, California

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Appendix C:
Records Request to NAHC

Facsimile Transmittal

Transmitted By:

Name: Maureen S. Kick
Company: URS, Oakland, CA
Fax #: (510) 874-3268

Date: November 13, 2008
Number of Pages (including cover): 1
Phone #: (510) 874-3107

Please Deliver To:

Name: Ms. Debbie Pilas-Treadway
Company: NAHC
Fax #: (916) 657-5390

Office Phone #: (916) 653-4040

Subject: Data Request for Vegetation Management Project, San Mateo County, CA

Dear Ms. Pilas-Treadway,

The purpose of this letter is to apprise you of a project of the City of Hillsborough that is under consideration for funding by FEMA. The proposed action involves reducing fuel loads along the urban wildlife interface to reduce fire risks.

The project is located on the following USGS 7.5' quad and Townships, Ranges, and Sections:

San Mateo County

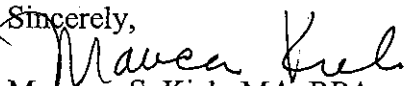
Quad: San Mateo Township: 4S Range: 5W Section: 24, 26
Township: 4S Range: 4W Section: 31
Montara Mt. Township: 4S Range: 5W Section: 23, 26

I am requesting the following information:

- Groups or individuals the NAHC believes should be notified regarding this project.
- Identification by the NAHC of any sacred lands within the subject lands that are listed within the Sacred Lands File.

Thank you for your attention to this request.

Sincerely,


Maureen S. Kick, MA, RPA
Archaeologist
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612
Direct: 510.874.3107

Appendix D:
NAHC Response to Records Request

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov



November 14, 2008

Maureen S. Kick, MA, RPA
Archaeologist
URS Corporation
1333 Broadway, suite 800
Oakland, CA 94612

Sent by Fax: 510-874-3268
Number of Pages: 2

Re: Proposed Vegetation Management project, San Mateo County.

Dear Ms. Kick:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

- Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4038.

Sincerely,


Debbie Pilas-Treadway
Environmental Specialist III

Native American Contacts
San Mateo County
November 14, 2008

Jakki Kehl
 1307 Horizon Lane
 Patterson, CA 95363
 jakki@bigvalley.net
 (209) 892-1060

Ohlone/Costanoan

The Ohlone Indian Tribe
 Andrew Galvan
 PO Box 3152
 Fremont, CA 94539
 chochenyo@AOL.com
 (510) 882-0527 - Cell
 (510) 687-9393 - Fax

Ohlone/Costanoan
 Bay Miwok
 Plains Miwok
 Patwin

Amah/Mutsun Tribal Band
 Irene Zwierlein, Chairperson
 789 Canada Road
 Woodside, CA 94062
 amah_mutsun@yahoo.com
 (650) 851-7747 - Home
 (650) 851-7489 - Fax

Ohlone/Costanoan

Trina Marine Ruano Family
 Ramona Garibay, Representative
 16010 Halmar Lane
 Lathrop, CA 95330

Ohlone/Costanoan
 Bay Miwok
 Plains Miwok
 Patwin

Indian Canyon Mutsun Band of Costanoan
 Ann Marie Sayers, Chairperson
 P.O. Box 28
 Hollister, CA 95024
 arns@garlic.com
 831-637-4238

Ohlone/Costanoan

Muwekma Ohlone Indian Tribe of the SF Bay Area
 Rosemary Cambra, Chairperson
 PO Box 360791
 Milpitas, CA 95036
 muwekma@muwekma.org
 408-434-1668
 408-434-1673

Ohlone / Costanoan

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Vegetation Management project, San Mateo County.

Appendix E:
FEMA Native American Notification Letters



FEMA

November 2, 2009

Andrew Galvan
The Ohlone Indian Tribe
P.O. Box 3152
Fremont, CA 94539

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDM-PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Mr. Galvan:

The Town of Hillsborough (Subgrantee) has applied for financial assistance from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region IX through the California Emergency Management Agency (CalEMA), to conduct a fuel reduction program on eight open spaces to reduce the fire hazard potential to residents of and structures in San Mateo County, California. The assistance would be provided to the Subgrantee through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The providing of financial assistance is a Federal Undertaking pursuant to Section 106 of the National Historic Preservation Act, as amended.

The open spaces themselves are undeveloped with very rugged, steep and heavily vegetated terrain. Trees and brush would be removed selectively in 100-foot clearance zones around residences, and brush would be thinned in separately-designated high fire risk zones to reduce the probability of fire ladder effect. Herbicides would be used as needed to restrict re-growth of invasive plants. Vegetation removal would be done by hand and with mechanized equipment. Ground disturbance would be minimal. No skidding would occur, root balls would be left in place, and fuel would be removed through bundling and carrying or through the use of a pulley system. Trees would be removed on a case-by-case basis in consultation with a wildlife biologist. Staging and access would occur on paved and dirt access roads.

A cultural resources survey of the proposed project area was conducted in August 2009. No prehistoric resources were identified. FEMA contacted the California Native American Heritage Commission (NAHC) for a review of its Sacred Lands Files. The NAHC's review failed to indicate the presence of Native American cultural resources in the immediate project area. The NAHC also provided a list of groups or individuals that may have specific knowledge of cultural resources or have other concerns in the specific project area. Your name was on this list.

Mr. Galvan
November 2, 2009
Page 2 of 2

Location maps of the project area are attached to this letter. Should you have any knowledge of cultural resources in the project vicinity, or if you have other concerns, please contact me at (510) 627-7027, fema-rix-ehp-documents@dhs.gov, or the letterhead address within 30 days of receipt of this letter. If you need additional time, please contact me; otherwise, if I do not hear back from you within 30 days, I will assume that you have no comment regarding the Subgrantee's proposal and FEMA's undertaking.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna M. Meyer", with a long, sweeping horizontal line extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer



FEMA

November 2, 2009

Rosemary Cambra, Chairperson
Muwekma Ohlone Tribe of the SF Bay Area
P.O. Box 360791
Milpitas, CA 95036

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDM-PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Ms. Cambra:

The Town of Hillsborough (Subgrantee) has applied for financial assistance from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region IX through the California Emergency Management Agency (CalEMA), to conduct a fuel reduction program on eight open spaces to reduce the fire hazard potential to residents of and structures in San Mateo County, California. The assistance would be provided to the Subgrantee through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The providing of financial assistance is a Federal Undertaking pursuant to Section 106 of the National Historic Preservation Act, as amended.

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Ms. Cambra
November 2, 2009
Page 2 of 2

Location maps of the project area are attached to this letter. Should you have any knowledge of cultural resources in the project vicinity, or if you have other concerns, please contact me at (510) 627-7027, fema-rix-ehp-documents@dhs.gov, or the letterhead address within 30 days of receipt of this letter. If you need additional time, please contact me; otherwise, if I do not hear back from you within 30 days, I will assume that you have no comment regarding the Subgrantee's proposal and FEMA's undertaking.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna M. Meyer", with a long, sweeping horizontal line extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer



FEMA

November 2, 2009

Ann Marie Sayers, Chairperson
Indian Canyon Mutsun Band of Costanoan
P.O. Box 28
Hollister, CA 95024

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDM-PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Ms. Sayers:

The Town of Hillsborough (Subgrantee) has applied for financial assistance from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region IX through the California Emergency Management Agency (CalEMA), to conduct a fuel reduction program on eight open spaces to reduce the fire hazard potential to residents of and structures in San Mateo County, California. The assistance would be provided to the Subgrantee through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The providing of financial assistance is a Federal Undertaking pursuant to Section 106 of the National Historic Preservation Act, as amended.

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Ms. Sayers
November 2, 2009
Page 2 of 2

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Sincerely,

A handwritten signature in black ink, appearing to read 'Donna M. Meyer', with a large, sweeping flourish extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer



FEMA

November 2, 2009

Jakki Kehl
1307 Horizon Lane
Patterson, CA 95363

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDM-PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Ms. Kehl:

The Town of Hillsborough (Subgrantee) has applied for financial assistance from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region IX through the California Emergency Management Agency (CalEMA), to conduct a fuel reduction program on eight open spaces to reduce the fire hazard potential to residents of and structures in San Mateo County, California. The assistance would be provided to the Subgrantee through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The providing of financial assistance is a Federal Undertaking pursuant to Section 106 of the National Historic Preservation Act, as amended

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Ms. Kehl
November 2, 2009
Page 2 of 2

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Sincerely,

A handwritten signature in black ink, appearing to read 'D. Meyer', with a long horizontal flourish extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer



FEMA

November 2, 2009

Irene Zwierlein, Chairperson
Amah/ Mutsun Tribal Band
789 Canada Road
Woodside, CA 94062

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDM-PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Ms. Zwierlein:

The Town of Hillsborough (Subgrantee) has applied for financial assistance from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region IX through the California Emergency Management Agency (CalEMA), to conduct a fuel reduction program on eight open spaces to reduce the fire hazard potential to residents of and structures in San Mateo County, California. The assistance would be provided to the Subgrantee through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The providing of financial assistance is a Federal Undertaking pursuant to Section 106 of the National Historic Preservation Act, as amended.

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Ms. Zwierlein
November 2, 2009
Page 2 of 2

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Sincerely,

A handwritten signature in black ink, appearing to read 'Donna M. Meyer', with a long horizontal flourish extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer



FEMA

November 2, 2009

Ramona Garibay, Representative
Trina Marine Ruano Family
16010 Halmar Lane
Lathrop, CA 95330

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDM-PJ-09-CA-2008-057
Subgrantee: Town of Hillsborough

Dear Ms. Garibay:

The Town of Hillsborough (Subgrantee) has applied for financial assistance from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) Region IX through the California Emergency Management Agency (CalEMA), to conduct a fuel reduction program on eight open spaces to reduce the fire hazard potential to residents of and structures in San Mateo County, California. The assistance would be provided to the Subgrantee through the Pre-Disaster Mitigation Program (PDMC-PJ-09-CA-2008-057). The providing of financial assistance is a Federal Undertaking pursuant to Section 106 of the National Historic Preservation Act, as amended.

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Ms. Garibay
November 2, 2009
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Location maps of the project area are attached to this letter. Should you have any knowledge of cultural resources in the project vicinity, or if you have other concerns, please contact me at (510) 627-7027, fema-rix-ehp-documents@dhs.gov, or the letterhead address within 30 days of receipt of this letter. If you need additional time, please contact me; otherwise, if I do not hear back from you within 30 days, I will assume that you have no comment regarding the Subgrantee's proposal and FEMA's undertaking.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna M. Meyer", with a long horizontal flourish extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer

Appendix F:
FEMA Consultation Letter to SHPO



FEMA

November 2, 2009

Mr. Milford Wayne Donaldson, FAIA
State Historic Preservation Officer
Office of Historic Preservation
1416 9th Street, Room 1442-7
Sacramento, CA 95814
Attention: Ms. Susan Stratton

Re: Hillsborough Fire Hazard Mitigation and Fuel Reduction Program
PDMC-PJ-09-CA-2008-057

Dear Mr. Donaldson:

The Town of Hillsborough (subgrantee) is proposing to implement a fire hazard mitigation and fuel reduction project on land owned by the Town of Hillsborough in San Mateo County, California. The proposed project consists of fuel reduction activities on eight open spaces to reduce the fire hazard potential to residents and structures in the Town of Hillsborough.

The Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the proposal, through the California Emergency Management Agency, under the Pre-Disaster Mitigation Program. FEMA's action of providing Federal financial assistance meets the definition of a Federal Undertaking in accordance with 36 C.F.R. Part 800.16(y), and therefore requires the completion of a Section 106 review in accordance with the National Historic Preservation Act of 1966 (16 U.S.C. §§ 470 et seq. [2008]).

FEMA has identified an area of potential effect (APE) and has reviewed the subgrantee's proposal in compliance with Section 106 and the 2005 First Amended Programmatic Agreement (PA) between FEMA, your office, the California Emergency Management Agency, and the Advisory Council on Historic Preservation. FEMA has determined that the subgrantee's proposal and FEMA's subsequent undertaking would result in no adverse effect to historic properties, pursuant to 36 C.F.R. Part 800.5(b).

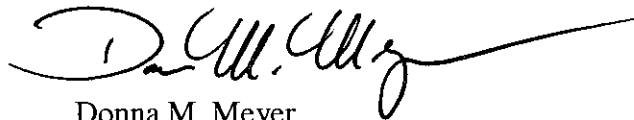
FEMA requests your concurrence on our finding compliant with Stipulation VII.C of the PA and is attaching documentation in accordance with 36 C.F.R. Part 800.11(e). FEMA

Mr. Milford Wayne Donaldson
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will authorize funding for the subgrantee's proposal unless you notify FEMA of your non-concurrence within 21 days of your receipt of this documentation.

If you should require any additional information about FEMA's request, please do not hesitate to contact me at (510) 627-7027 or fema-rix-ehp-documents@dhs.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Donna M. Meyer", with a long horizontal flourish extending to the right.

Donna M. Meyer
Deputy Environmental and
Historic Preservation Officer

Attachment

cc: Ed Cooney, Town of Hillsborough
Dennis Castrillo, California Emergency Management Agency
Paul Ransom, California Emergency Management Agency