WSAG17: Wai'anae Kai Forest Reserve Protection and Restoration Project

TRANSMITTAL and OFFER LETTER RFP WSAGI7

Name of Organization: Division of Forestry and Wildlife

Point of Contact: Ryan Peralta

Phone: 808-973-9784

Email: Ryan.K.Peralta@hawaii.gov

Water Security Advisory Group
Department of Land and Natural Resources, Commission on Water Resource Management
Punchbowl Street, Room 227
Honolulu, Hawaii 96813

The undersigned has carefully read and understands the terms and conditions specified in RFP WSAG17, the Special Provisions attached hereto, and hereby submits the following offer to perform the work specified herein, all in accordance with the true intent and meaning thereof. The undersigned further understands and agrees that by submitting this offer, 1) he/she is declaring his/her offer is not in violation of Chapter 84, Hawaii Revised Statues, concerning prohibited State contracts, and 2) he/she is certifying that the price submitted was independently arrived at without collusion.

A list of secured and required permits necessary to implement the project are hereto attached.

Proposal Title: Wai'anae Kai Forest Reserve Protection and Restoration Project

Total Amount of Proposal: $140,000

If awarded, the contract with the State would be made with the following entity (please use the **exact legal name** as registered with the Dept. of Commerce and Consumer Affairs):

Department of Land and Natural Resources Division of Forestry and Wildlife
Legal name

1151 Punchbowl St, Rm 325
Honolulu, HI 96813
Address (Contract and Billing Address must be the same)

[redacted] [redacted]
State Tax ID No. (GE) Federal Tax ID No.

Offeror Signature 4/20/17
Date

David G. Smith Administrator
Print Name Title

Project Overview

Wildfires are a frequent and dangerous threat to the health and function of the forested watershed in the Waiʻanae Mountains on Oʻahu. Wildfires result in forest degradation causing decreased rainfall capture and groundwater recharge, and increased susceptibility to invasion by non-native species and soil erosion. The Waiʻanae Kai Watershed Forest Reserve Protection and Restoration Project seeks to increase water security and protect the watershed from fire by expanding and maintaining strategically placed vegetative "green" firebreaks, or greenbreaks, that use native plants to reduce fire threat. Nearly five acres of greenbreak have already been installed through partnerships between the Division of Forestry and Wildlife (DOFAW), Waiʻanae Mountains Watershed Partnership (WMWP), Honolulu Board of Water Supply (HBWS), and participating schools and community groups. The greenbreak effectively slowed a recent fire in 2016 allowing fire crews to access and utilize the area for containment. This innovative method of fire pre-suppression will simultaneously protect and enhance water recharge, reduce fire risk, reestablish native plant communities, and engage and educate the local community.

Project Background and Need

The Division of Forestry and Wildlife was created in 1903 to protect and restore Hawaiʻi's upland forests that provide a dependable source of clean water. The area now known as Waiʻanae Kai Forest Reserve (FR) was set aside under DOFAW's jurisdiction in 1906 to reestablish and maintain forest cover given its essential role in water security. Today, Waiʻanae Kai FR spans over 2,300 acres in the back of Waiʻanae Valley. Much of the native mesic-dry forest ecosystem that once existed has been lost and converted to fire-prone invasive grasses and shrubs after decades of agricultural activities, grazing, and fire. The remaining upland forest is home to threatened and endangered plants and animals, and is an important watershed recharge area. These vulnerable resources and ecosystem services are under constant threat from drought, fire, and invasive species, all of which share complex interactions.

Watershed Importance

Due to various constraints such as the dry environmental conditions of the Waiʻanae District and a growing population, only half of Waiʻanae's water needs for agricultural and residential uses are met by sources in the Waiʻanae Aquifer Sector. Over half of the water withdrawn from this sector comes from the aquifer system in Waiʻanae Valley, which yields roughly 2,372 million gallons of water annually (MGA) per data from the U.S Geological Survey (USGS) Scientific Investigations Report. Approximately half of this (1,280 MGA) comes from Waiʻanae Kai FR (Figure 1). A substantial portion of Waiʻanae's ground water supply and flowing stream segments begin in the upper forested watershed of Waiʻanae Valley. This area was identified as an important priority watershed area for ground water recharge in the HBWS 2009 Waiʻanae Watershed Management Plan, and the Department of Land and Natural Resources 2016 Hawaiʻi Forest Action Plan (FAP). The continual loss of forest cover in the FR limits rainfall capture, leading to a decrease in groundwater supply from this important watershed.

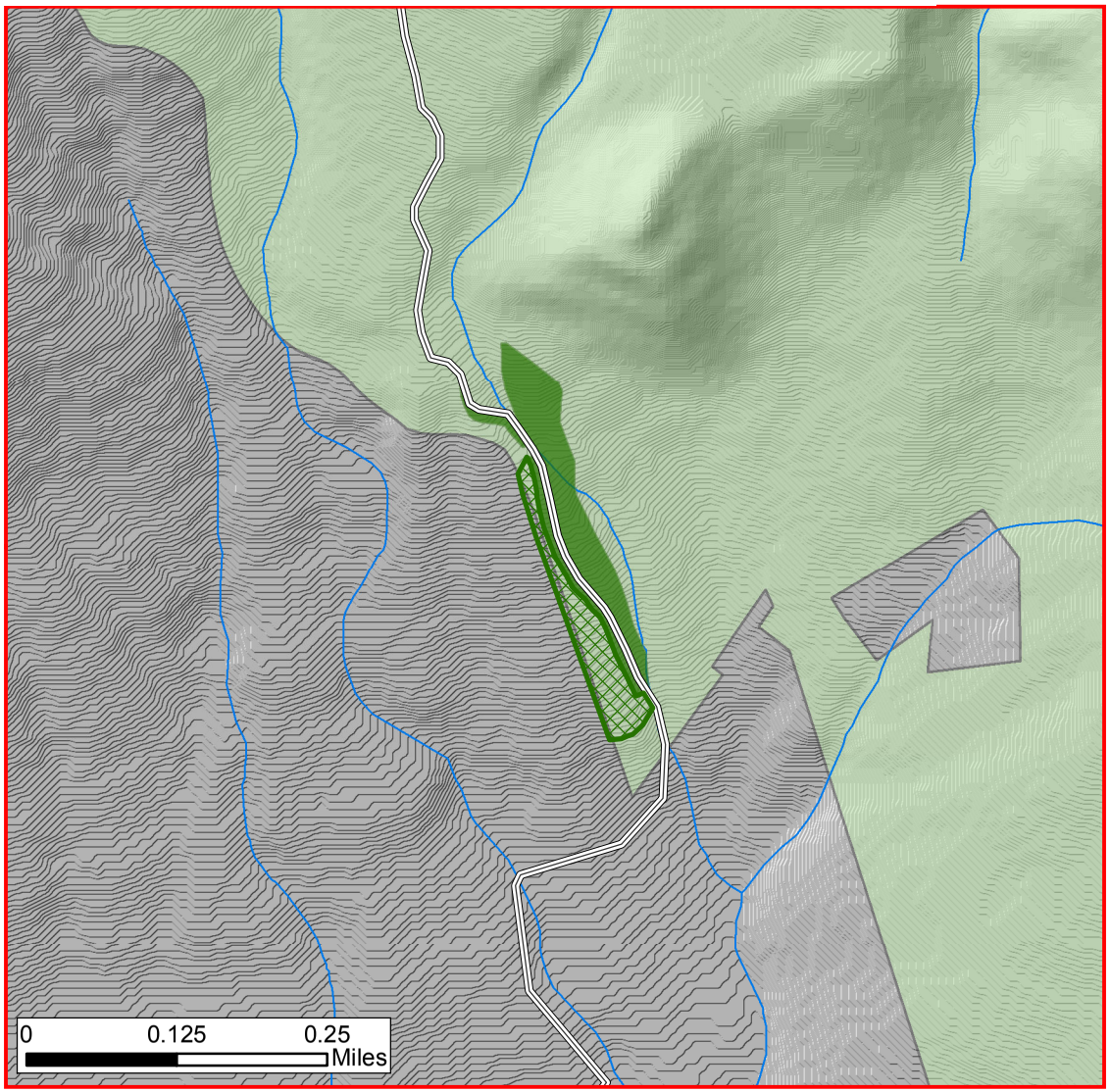
Fire Threat

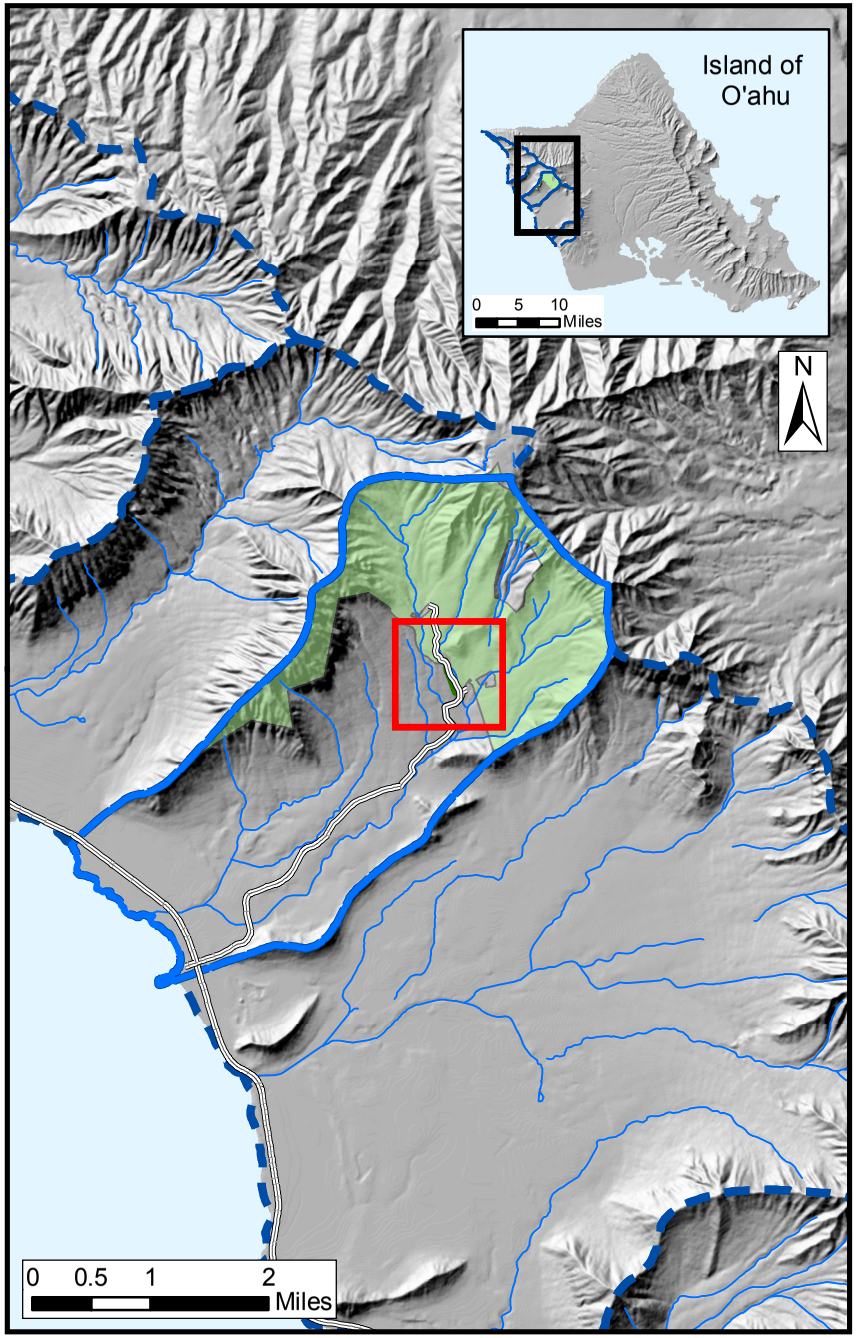
Wildfires are a major threat to the watersheds in the Waiʻanae Mountains where nearly 70% of all wildfires on Oʻahu occur. This high percentage is due to high population densities in combination with dry conditions in the forest. The threat of fire is exacerbated by livestock, feral ungulates, and the invasion of non-native vegetation. Per the Hawaiʻi FAP, native ecosystems are not adapted to regular fire occurrences, as they are not a part of their natural life cycles. Fires cause immediate loss of vegetation promoting run-off of water and soil from the bare ground when followed by rain events. The long-term effect of fire on forest ecosystems such as Waiʻanae Kai, is a grass-fire cycle in which the invasion of fire-prone non-native grasses and shrubs leads to

Figure 1: Wai'anae Kai Forest Reserve Protection and Restoration Project

Legend

- Wai'anae Kai Forest Reserve
- Existing Firebreak (4.6 acres)
- Planned Firebreak Expansion (2.0 acres)
- Wai'anae Aquifer Sector
- Wai'anae Aquifer System
- Perennial Streams
- Roads





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increased fire frequency. This cycle applies constant pressure on the upland forests as each subsequent fire event causes further conversion and increased corresponding fire risk.

Most wildfires in Waiʻanae Valley start at the urban-wildland interface (WUI) south of the FR, where the risk of fire ignition is particularly high according to density ignition mapping done by the Hawaiʻi Wildfire Management Organization. These fires move upland burning through invasive dry vegetation and into the FR. The largest most recent fires in 2012 and 2016 both burned over 1,000 acres including 400 acres of the FR, and were caused by human activity. Given that over 98% of wildfires in Hawaiʻi are linked to human activity, fire prevention and reforestation at the WUI in Waiʻanae are critical in protecting the remaining forested areas and watershed function.

Figure 2: Wildfire in Waiʻanae Kai Forest Reserve (Nov. 2016)

Firebreaks

Firebreaks are strategically designated strips of land on which vegetation is altered to slow the spread of fire and allow fire crews to access the area for containment. Firebreaks may consist of fire-resistant vegetation, nonflammable features, or bare ground. The concept of using fire-tolerant trees and vegetation as a firebreak is new and not widely used in Hawaiʻi. Closed canopy native forests contain higher moisture content and provide enough dense shade to shade-out invasive grasses, thus preventing or slowing wildfires while also breaking the grass-fire cycle. These native forest systems can act as a buffer zone to slow and even stop fires, which protect and improve the watershed. Although the traditional firebreak method of scraping the ground to bare soil is effective, it may lead to erosion and soil loss, especially in steep forested areas.

Vegetative “green” firebreaks, or greenbreaks, can be used as an alternative approach where a closed canopy forest does not exist. Replacing fire-prone vegetation with native trees will reduce fuel loads and flammability, and slow the spread of fire, especially when used in conjunction with existing nonflammable features such as roads, streams, and rocky areas. This method is not only effective for reducing fire threat; but watershed function is also enhanced by restoring and expanding tree canopy and forest cover. The use of native plants in a greenbreak restores native habitat and presents the opportunity to engage and educate the local community.

Recent success

Over the last six years, nearly 5 acres of greenbreaks have been installed in Waiʻanae Kai FR along the first 1/3 of a mile of the main FR road (Figure 1). The greenbreak was subjected to its first test by the 2016 Waiʻanae wildfire that starting burning in the southeast portion of the valley. When the wildfire burned to the greenbreak, it slowed allowing fire crews to access and utilize the road. Some of the native plants were singed, but most of the greenbreak was not burned. If the greenbreak had not been in place, the wildfire would have likely jumped the road, catching on the invasive grasses, and continued running towards the forested watershed resulting in a significantly larger fire.

Figure 3: After burning through non-native vegetation (right), the fire stopped at the road and only singed the vegetative "green" firebreak (left); (Nov. 2016)

Scope of Work

Project Description:

This project proposes a year-round cycle of fire pre-suppression activities and community education and outreach to protect and enhance the forested watershed of Waiʻanae Kai. Fire pre-suppression activities will include clearing and weed control of invasive plants over 2 acres in new greenbreak areas during the dry season, and native plant restoration in cleared areas during the wet season (Figure 1). Other activities that will occur throughout the year include maintenance of the existing 4.6 acre greenbreak, seed collection, and plant propagation. WMWP will connect their education program with participating schools and community groups, in which volunteers are given the opportunity to learn about forest management and participate in firebreak expansion activities during service learning trips.

The long-term goal of this project is to continue systematically installing new sections of the greenbreak along road until the desired length of approximately 0.8-1 miles is reached. The greenbreak will then be strengthened by expanding it inward into the FR.

Objective 1: Vegetative "green" firebreak clearing and maintenance

Figure 4: Volunteers removing koa haole from a new greenbreak area (Aug. 2013)

During the dry months (April-September), 2 acres located across the road from the existing greenbreak will be cleared of invasive species such as Guinea grass (*Megathyrsus maximus)* and koa haole (*Leucaena leucocephala)* to reduce fuel loads and prepare the site for planting. Given the amount of clearing required, approximately 0.5 acres will be cleared during service trips every quarter. This area was chosen because there is a rock wall between the adjacent property and the FR that will also help slow the spread of fire and enhance the effectiveness of the greenbreak. A similar rock wall successfully stopped portions of the wildfire in 2012. Plantings inside the wall will further strengthen its defensibility by removing the light and flashy fuels behind it. Should fire intensity be strong enough to overcome the rock wall, it may not carry further due to a lack of fuel and the presence of native plants on the other side.

The location of this new greenbreak will also protect the FR from fires started on the opposite side of the valley from the 2016 event.

The existing 4.6 acre greenbreak will be maintained and strengthened through periodic weed control and supplemental plantings. For example, lower shrub species have been outplanted under some of the canopy trees in the existing greenbreak to increase forest cover and shade out grasses. Approximately 0.5-2 acres will be maintained each quarter, depending on the weather.

Objective 2: Native plant restoration

Following clearing and weed control, native plants will be outplanted in newly cleared areas during the wet season (October-March). Native species that may be planted include but are not limited to koa (*Acacia koa*), a'alii (*Dodonaea viscosa*), milo (*Thespesia* populnea), and pohinahina (*Vitex rotundifolia*). The exact timing and extent of outplanting will depend on how long and heavy the wet season is, but it is anticipated that 1,000 plants will be planted over 2 acres. Throughout the year, seeds will be collected and later propagated for outplanting in the greenbreak by WMWP staff at their nursery facility and by students in their school nurseries (See Objective 4). It is anticipated that 10,000 seeds will be collected; a portion will be stored and the rest propagated to produce a minimum of 1,000 plants. Seedlings and plants will be maintained by WMWP staff, volunteers, and students.

Figure 5: Native plant restoration the greenbreak (Nov. 2014)

Objective 3: Increase water security and reuse

Water Reuse

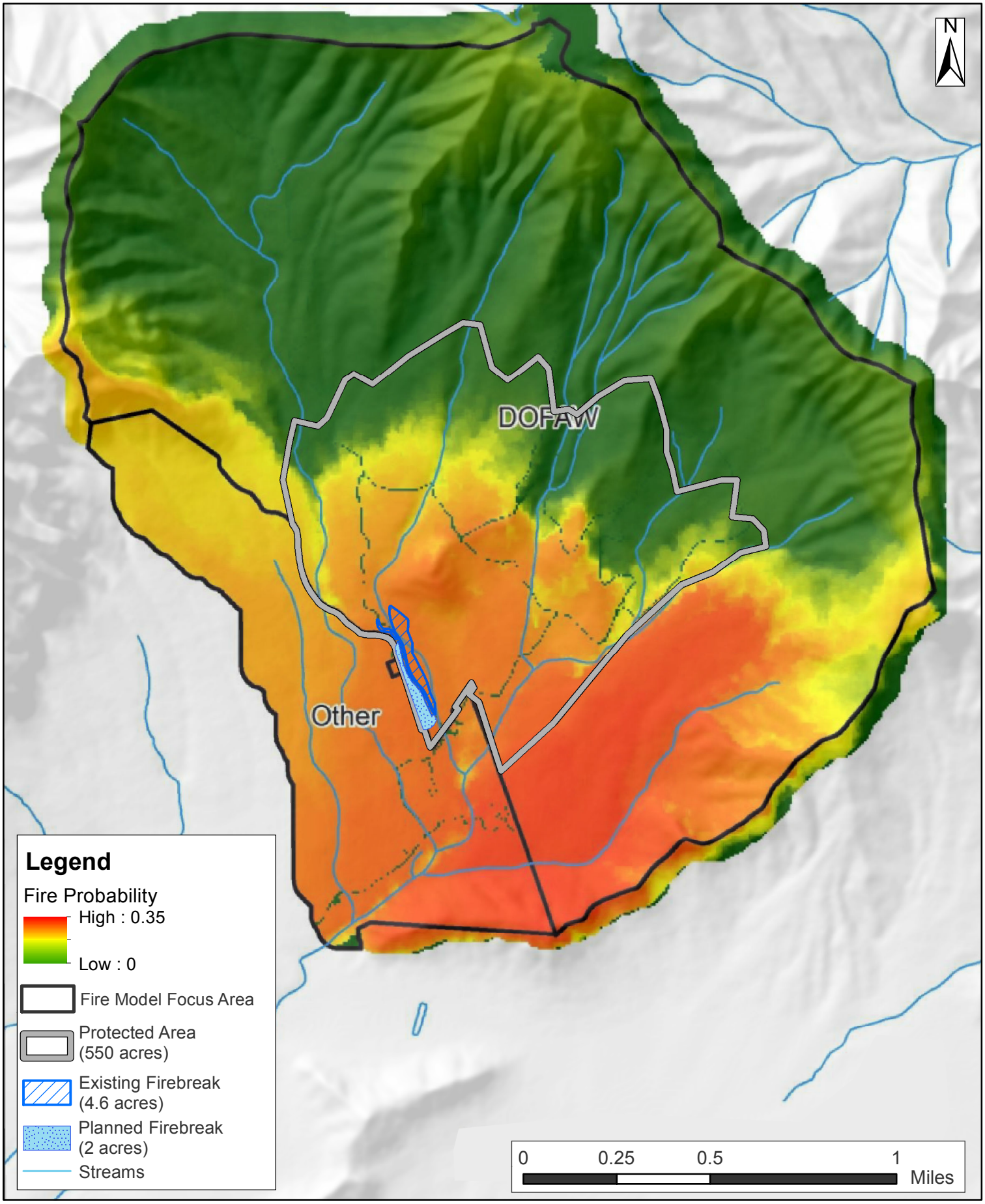
The project area only receives approximately 45 inches of rainfall annually according to the Rainfall Atlas of Hawai'i. These dry conditions can reduce survivorship of newly outplanted seedlings. To increase survival rates, water catchments will be installed at three sites to capture water for reuse during outplanting. The proposed sites for installation are up above the current water main (where the water pressure will not reach) to utilize a gravity fed method to disperse the water. Two totes will be installed at each of the three sites. Depending on rainfall, it is estimated that each of the six totes will capture 450 gallons of water, totaling 2,700 gallons for resuse in the project area.

Water recharge

The area that will be protected by the existing and planned greenbreak is estimated to be 550 acres of FR. This area was determined using data from fire probability simulation models, topography, and land cover information (Figure 6). Approximately 20% of the land cover is in non-native grass and shrubland which has a high likely hood of burning, while the other 80% is non-native forest and tree plantations. It is likely that much of the existing forest in this area would be converted to grassland following a fire.

Groundwater recharge data from a 2015 USGS Investigations Report was used to compare groundwater recharge in the estimated protected area in its current state versus potential post

Figure 6: Area Protected by Vegetative "Green" Break



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fire conditions. Currently, the protected area yields 285 MGA. To estimate the potential decrease in recharge following a fire, the recharge rate was decreased based on values of adjacent grassland areas within Waiʻanae Kai FR. According to our GIS calculations, groundwater recharge will decrease by 102 MGA, resulting in a yield of 183 MGA if the area is converted to grassland after the next large fire event (Figure 7).

Objective 4: Community education and outreach

The Waiʻanae Mountains Watershed Partnership will connect their year-round cycle of reforestation and education with interested schools and community groups. Participating schools have altered their curriculum to include place based learning specific to Hawaiʻi and WMWP's greenbreak project. At the beginning of the school year, students will learn about fire prevention, watershed importance, water conservation, plant propagation, outplanting methods, and invasive species in the classroom. The students will then use what they learn and do a field trip to Waiʻanae Kai FR to clear new greenbreak areas during the dry season. Prior to outplanting, students at schools participating in the nursery program will learn how to propagate and care for native plants for outplanting in their own school nurseries. During the wet season, students will return to the greenbreak to outplant the plants they have grown. Approximately 5-8 service trips to expand the greenbreak will be conducted throughout the year. An estimated 2,000 individuals will participate in outreach and education activities.

Figure 8: (Left) Volunteers after a day of outplanting and weed control (March 2014); (Right) Students outplanting native plants in the greenbreak (November 2015)

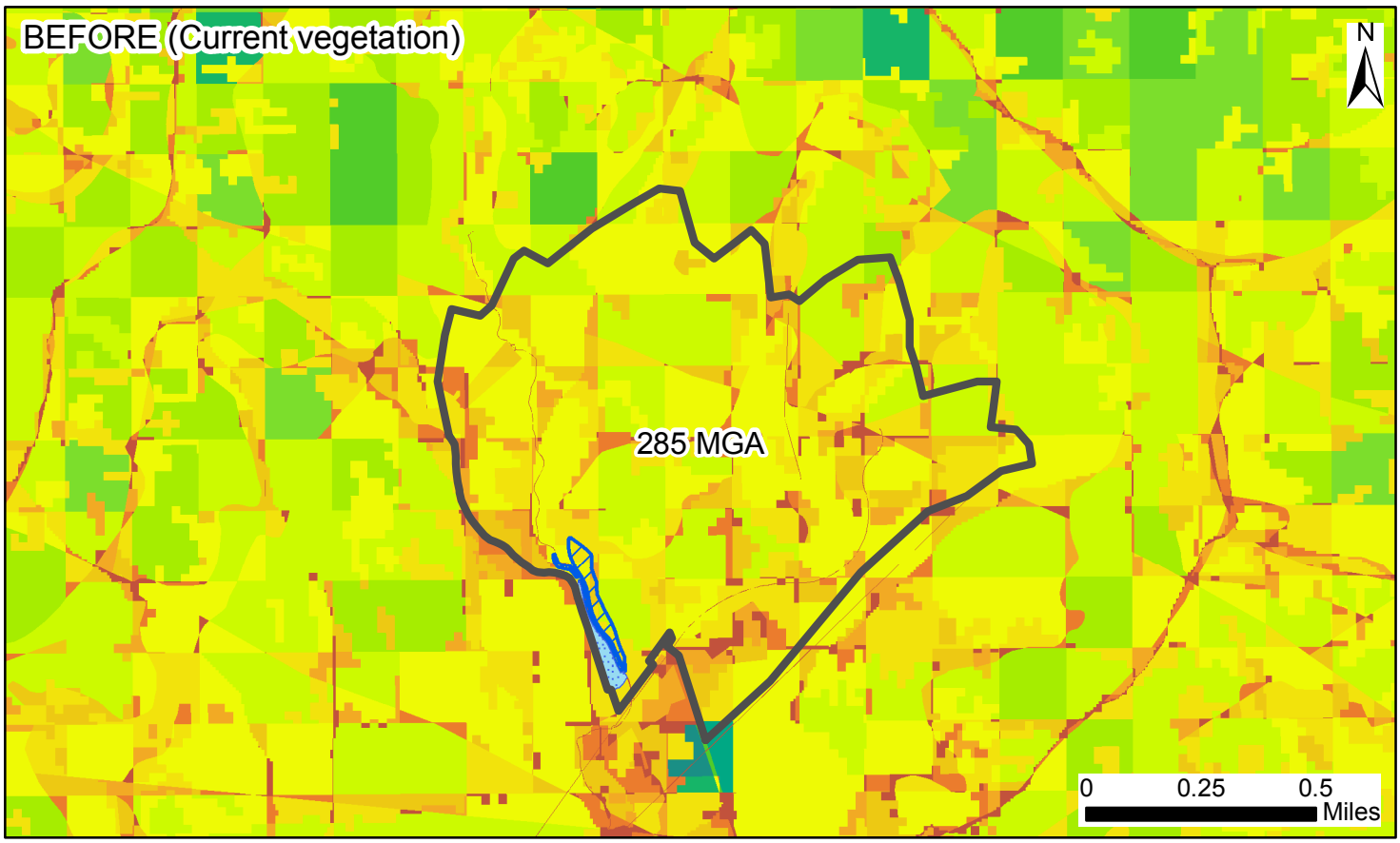
Experience/Capabilities:

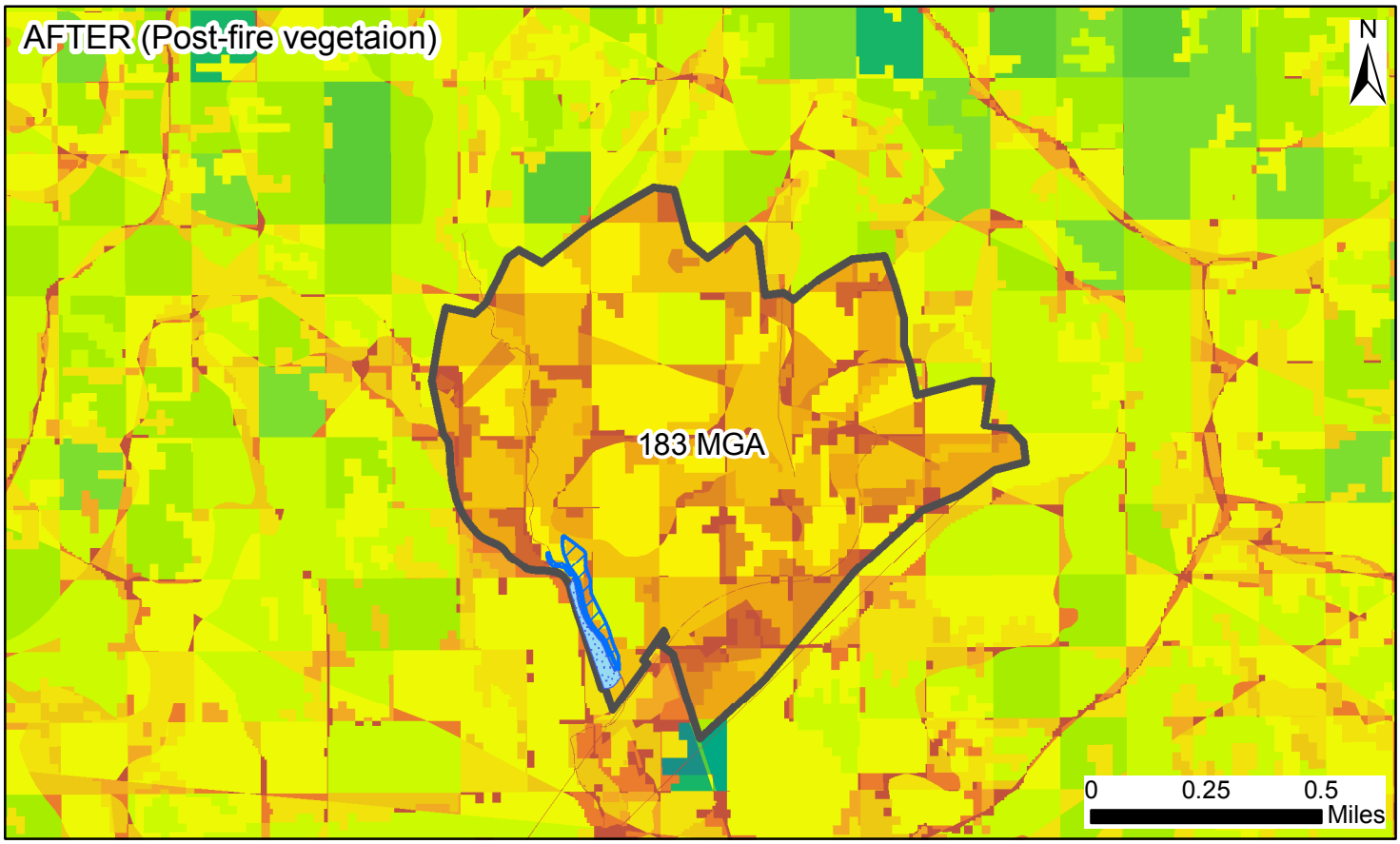
As the oldest forestry agency in the country, DOFAW has decades of experience working on forest restoration projects across the state in support of its mission to responsibly manage and protect watersheds while facilitating partnerships, community involvement, and education. On Oʻahu, some of DOFAW's forestry projects and accomplishments include:

- Waiʻanae Kai firebreak construction and maintenance (4.6 acres completed)
- Firebreak maintenance in six other forest reserves island wide
- 100 year old nursery operation in the Makiki DOFAW baseyard
- Fire restoration and outplanting in Waiʻanae Kai FR and ʻEwa FR
- Invasive weed control and ungulate removal in forest reserves island wide

DOFAW also works closely with WMWP to implement projects in the Waiʻanae Mountains. WMWP was created in 2010 to implement watershed and natural resource management in the Waiʻanae Mountains to sustain the future quality and quantity of Oʻahu's water supply. Some of their current projects and accomplishments include:

Figure 7: Groundwater Recharge Before and After a Potential Fire





Mean Annual Ground Water Recharge (inches)

0 1 5 25 70

Planned Firebreak (2 acres)

Existing firebreak (4.6 acres)

Potential Protected Area (550 acres)

Based on "U.S. Geological Scientific Investigations Report 2015-5164: Volcanic Aquifers of Hawai'i - Hydrology, Water Budgets, and Conceptual Models"

- Over 46,000 acres in partnership management
- Completion of a U.S. Forest Service Grant for the Wai‘anae Kai Forest Reserve Project that researched and developed the greenbreak technology (FY2016)
- Development of a Volunteer Service and Stewardship Program with public schools and the Malama Learning Center
- Construction of nurseries at five schools
- Completion of Watershed Partnership Program Grants from DLNR (FY11, FY12)
- Firebreak and restoration activities in Makaha Valley

The Wai‘anae Kai Forest Reserve Protection and Restoration Project began in 2011 to protect the remaining native ecosystem in the upper watershed of Wai‘anae Kai FR through fire pre-suppression activities and community outreach. This project was the first step in researching, designing, and testing implementation of the new greenbreak pre-suppression model. Due to the success of the project and the developed working partnership, DOFAW has continued to support the project and hopes to expand the greenbreak to protect more of this important forested watershed. HBWS also supports the project through annual contributions, which meets their watershed management priorities.

To date, approximately 4.6 acres of greenbreaks have successfully been installed through clearing and weed control, outplanting, and maintenance by WMWP staff and volunteers. WMWP has also developed an education and outreach program for this project that promotes volunteer stewardship by engaging community members and local schools. Participating schools such as Mililani Middle School and Nanakuli High School developed their own school nursery and service learning program as an extension of this project. In-school nurseries were established at five schools, where students learn how to propagate and care for native plants that they later outplant. Over 1000 volunteer hours will be directed toward this project every year through classroom workshops, nursery time, service trips with schools, and community volunteer events.

WMWP staff has steadily grown since its formation in 2010 from two full time employees to nine full time staff, three part-time staff, two year-round KUPU interns, two KUPU summer interns, and two KUPU summer teams. WMWP staff care deeply about the work they do and come from a variety of backgrounds. WMWP takes the professionalism of its personnel seriously and provides training for helicopter operations, pesticide use, rappelling, chainsaw use, field navigation, field safety, plant identification, and other topics as needed.

Strategy, Timeline, Plan, Pricing

Objective 1: Vegetative "green" firebreak clearing and maintenance

Proposed activities	Deliverables	Timeline
Clearing and Maintenance (weed control)	• 2 acres weeded/cleared	Sept 2017- Aug 2018

Objective 2: Native Plant Restoration

Proposed activities	Deliverables	Timeline
Native plant restoration (outplanting)	• 2 acres restored • 1,000 plants outplanted	Oct 2017-Mar 2018
Seed collection	• 10,000 seeds collected	Sept 2017- Aug 2018
Nursery work (plant propagation, maintenance)	• 1,000 plants propagated • 240 nursery hours	Sept 2017- Aug 2018

Objective 3: Increase water security and reuse

Proposed activities	Deliverables	Timeline
Water catchment installation	• 3 two-tote catchments installed at 3 sites	October-December 2017

Objective 4: Community outreach and Education

Proposed activities	Deliverables	Timeline
In-class instruction (presentations, nursery time)	• 2,000 individuals outreached and involved • 500 hours of classroom/nursery time	Sept 2017- Aug 2018
Service Trips	• 5-8 service trips	Sept 2017- Aug 2018
Facilitate meetings and coordinate projects	• 460 hours of office, reporting, and coordination time	Sept 2017- Aug 2018

WSAG17- Proposal Budget

GRAND TOTAL (including match) $ 140,000

Subtotal for labor $ 5,000
Subtotal for materials $ 0
Subtotal for other actions $ 135,000,

Please round amounts to the nearest dollar.

Budget Category	Proposed Grant Budget	Matching Cash	Matching In-kind	Total Budget
Salary and wages		$5,000.00		$5,000
Materials and supplies				
Travel				
Training				
Contract *subtotal*	$65,526	$65,000		$130,526
Contract (training)	$1,500	$1,500		$3,000
Contract (salary)	$51,098	$42,484		$93,582
Contract (materials/supplies)	$6,602	$6,602		$13,204
Contract (vehicle maintenance)	$1,000	$1,000		$2,000
Contract (indirect)	$5,326	$13,414		$18,740
Rentals				
Other (DOFAW 7% indirect)	$4,474			$4,474
Total Cost	$70,000	$70,000		$140,000

The targeted percentage for indirect costs should not exceed 10% of total costs requested. If there are different indirect costs for different budget categories, please create different spreadsheets for each indirect cost rate.

Compensation and Payment Schedule

#	Deliverable/Task/Activity	Grant Amount ($)	Matching Cash ($)	Matching in-kind	Total Amount ($)
1	Firebreak expansion (clearing, weed control)	$32,763	$35,000		$67,763
2	Native plant restoration (outplanting, seed collection, nursery work, water catchment installation, community outreach and education)	$32,763	$35,000		$67,763
3	Indirect	$4,474			$4,474

Exceptions

DOFAW takes no exceptions to the terms conditions, specifications, or other requirements listed in the WSAG17 Request for Proposals.

Attachments

A. Exemption Notification for Waiʻanae Kai Forest Reserve Restoration and Protection Project
B. Programmatic Site Plan Approval for Land Uses Upon DOFAW Managed Lands Within the State Land Use Conservation District

Attachment A

DAVID Y. IGE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

EXEMPTION NOTIFICATION
Regarding the preparation of an environmental assessment pursuant to Chapter 343, Hawaii Revised Statutes.

Project Title:	Wai‘anae Kai Forest Reserve Protection and Restoration Project, Tax Map Key (1) 8-5-006:001
Project Number:	N/A
Project Description:	Expand and maintain vegetative “green” firebreaks that use native plants to reduce fire threat in Waianae Kai Forest Reserve, by doing clearing, weed control, outplanting, and maintenance
Chapter 343 Trigger:	Use of State Land and Funds
Exemption Class & Description	Exemption Class No. 1, Item 33, “Maintenance of state lands and waters to remove weeds, brushes, grass and other unwanted vegetation.” Exemption Class No. 3, Item 8, “Water catchment systems with less than 20,000 gallon capacity and above ground, nondestructive irrigation systems.” Exemption Class No. 3, Item 17, “Installation and removal of irrigation systems.” Exemption Class No. 4, Item 6, “Minor vegetation clearing and management, including mowing, pruning, trimming, and application of federal and state approved herbicides in conformance with label instructions.” Exemption Class No. 4, Item 7, “Clearing of fuel breaks and other similar fire pre-suppression actions to reduce fire potential and minimize fire severity.” Exemption Class No. 4, Item 8, “Removal of invasive vegetation utilizing cutting, mowing, application of federal and state approved herbicides in conformance with label instructions, distribution of biocontrol agents approved by the State of Hawaii and other approved methods.” Exemption Class No. 4, Item 12, “Establish temporary or permanent

	vegetative cover including trees, shrubs, grasses, and sod for landscaping, reforestation, soil stabilization, watershed protection, native wildlife habitat, native ecosystem restoration, and rare plant preservation; provided, however, that this exemption shall not apply to vegetation that is likely to be invasive or for tree plantings for which harvesting is planned or is reasonably foreseeable." Exemption Class No. 4, Item 13, "Gathering plant seed, cuttings, or other vegetative matter for propagation." Exemption Class No. 6, Item 11, "Water catchment systems, lines, and faucets." Exemption Class No. 10, Item 1, "Purchase of supplies, equipment, materials, motor vehicles, boats, and services." Exemption Class No. 10, Item 3, "Requests for federal, state, county or private assistance grants to support ongoing operations or implement programs of the Department." Exemption Class No. 10, Item 4, "Personnel-related actions. Exemption Class No. 10, Item 5, "Training, environmental interpretation, public safety efforts and other educational activities."
Recommendation	It is anticipated that this project will have minimal or no significant effect on the environment and is presumed to be exempt from the preparation of an environmental assessment.

Suzanne D. Case, Chairperson

Date

Attachment B

1621A

STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES

OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAI'I 96809

REF:OCCL:TM

SPA: ST 17-26

DEC 2 3 2016

MEMORANDUM

TO: David G. Smith, Administrator
Division of Forestry & Wildlife

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Programmatic Site Plan Approval for Land Uses Upon Division of Forestry and Wildlife Managed Lands Within the State Land Use Conservation District

This memorandum supersedes our former approval for this matter dated December 20, 2016.

The Office of Conservation and Coastal Lands (OCCL) is in receipt of the Division of Forestry and Wildlife's (DOFAW) request for a programmatic Site Plan Approval (SPA) for land uses within the Conservation District to manage DOFAW lands. According to your information, a programmatic SPA will assist greatly with the efficiency of management of DOFAW lands that would include the Natural Area Reserves, Wildlife Sanctuaries, Wilderness Preserves, Game Management Areas, Plant Sanctuaries and Forest Reserves and other DOFAW encumbered lands for sanctuaries, facilities, nurseries and baseyards.

According to your information, these land uses are guided and regulated by the Board of Land and Natura Resources, management plans, and/or the purposes provided in Chapters 183, 183D, 195, and 195D of the Hawai'i Revised Statutes (HRS). Further the OCCL notes; DOFAW has nonconforming land uses and facilities that Chapter 13-5, Hawai'i Administrative Rules (HAR) allows for repair and maintenance of these land uses and facilities.

Pursuant to Chapter 13-5, HAR, identified land uses classified as beginning with letter (A) require no permit from the department or board and are allowable land uses without further authorization. The following proposed identified land uses as described in Chapter 13-5, HAR that may fall within the guidelines of this programmatic SPA authorization are:

P-1 DATA COLLECTION

(B-1) Basic data collection, research, education, and resource evaluation that results in a minor disturbance to natural resources or land (e.g., corings, excavations, etc.);

P-4 REMOVAL OF INVASIVE SPECIES

(B-1) Removal of invasive species including chemical and mechanical control methods, in an area greater than one acre, in accordance with state and federal laws and regulations, for the purpose of protecting, preserving, or enhancing native species, native habitat, or native ecosystem functions that results in no, or only minor ground disturbance. The department or board reserves the right to require departmental or board approval if it is determined that the proposed action may cause significant negative secondary impacts on natural and cultural resources, or the surrounding community. Any replanting shall be appropriate to the site location and shall give preference to plant materials that are endemic or indigenous to the State. For existing developed lots, compliance with section 13-5-23(L-2) satisfies the requirements of this section;

P-6 PUBLIC PURPOSE USES

(B-1) Installation of emergency warning devices (e.g., tsunami warning sirens) and lifeguard towers;

P-7 SIGNS

(B-1) Signs, including safety signs, danger signs, no trespassing signs, and other informational signs. No signs shall exceed twelve square feet in area and shall be non-illuminated. All signs shall be erected to be self-supporting and be less than or equal to eight feet above finished grade;

P-8 STRUCTURES AND LAND USES, EXISTING

(B-1) Demolition, removal, or minor alteration of existing structures, facilities, land, and equipment. Any historic property shall be evaluated by the department for historical significance;

(B-2) Replacement or reconstruction of existing structures and facilities under a previously approved conservation district use permit where the new structure will be located approximately on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the structure replaced. Reconstruction or replacement of structures and facilities shall be subject to development standards set forth in this chapter, and other requirements as applicable, including but not limited to a county building permit, shoreline setback, and shoreline certification. No enlargement of the structures and facilities is permitted under this section. The provisions of this section will not be applicable upon failure to file an application to replace or reconstruct structures and facilities within two years of the demolition or destruction of structures and facilities;

(B-3) Replacement or reconstruction of an existing nonconforming single family residence, where the new single family residence will be located approximately

on the same site and will have substantially the same purpose, capacity, density, height, and dimensions as the single family residence replaced. Reconstruction or replacement of any single family residence shall be subject to development standards set forth in this chapter, and other requirements as applicable, including but not limited to a county building permit, shoreline setback, and shoreline certification. No enlargement of the single family residence is permitted under this section. The provisions of this section will not be applicable upon failure to file an application to replace or reconstruct a single family residence within two years of the demolition or destruction of the single family residence;

P-9 STRUCTURES, ACCESSORY

(B-1) Construction or placement of structures accessory to existing facilities or uses.

P-11 TREE REMOVAL

(B-1) Selective removal of individual trees (except that a permit is not required for tree removal allowed under P-4 (A-1) and P-11 (A-1), (A-2)) for non-commercial purposes provided that each tree is replaced on a one-to-one-basis with trees that are appropriate to the site location with preference to trees that are endemic or indigenous to Hawaii;

P-13 LAND AND RESOURCE MANAGEMENT

(B-1) Basic land management, including routine weed control, clearing of understory, and tree pruning, utilizing chemical and mechanical control methods, which involves no grubbing or grading, in accordance with state and federal laws and regulations, in an area greater than one acre. The department or board reserves the right to require departmental or board approval if it is determined that the proposed action may cause significant negative secondary impacts on natural or cultural resources, or the surrounding community;

(B-2) Planting of native and endemic plants and fence maintenance. New fence exclosures for native plants or small native wildlife communities, in an area greater than one acre. The department or board reserves the right to require departmental or board approval if it is determined that the proposed action may cause significant negative secondary impacts on natural or cultural resources;

(B-3) Clearing land for fire pre-suppression and prevention, under a fire buffer plan approved by the department;

P-14 TELECOMMUNICATIONS

(B-1) Installation of new antenna(s) on an existing telecommunications tower, including support equipment;

L-2 LANDSCAPING

(B-1) Landscaping, defined as alteration (including clearing and tree removal) of plant cover, including chemical and mechanical control methods, in accordance with state and federal laws and regulations that results in no, or only minor ground disturbance, in an area less than 2,000 square feet. Any replanting shall give preference to plant materials that are endemic or indigenous to Hawai'i. The introduction of invasive plant species is prohibited.

Please note LANDSCAPING is not an identified land use within the Protective subzone. This use is applicable in the Limited, Resource and General subzones.

Authorization is granted to the Division of Forestry and Wildlife to conduct the following identified land uses noted as P-1 DATA COLLECTION; P-4 REMOVAL OF INVASIVE SPECIES; P-6 PUBLIC PURPOSE USE; P-7 SIGNS; P-8 STRUCTURES AND LAND USES, EXISTING; P-9 STRUCTURES, ACCESSORY; P-11 TREE REMOVAL; P-13 LAND AND RESOURCE MANAGEMENT; P-14 TELECOMMUNICATIONS; and L-2 LANDSCAPING upon **State encumbered DOFAW land** that lies within the Conservation District within the State of Hawai'i subject to the following standard conditions:

1. The Division of Forestry and Wildlife (DOFAW) shall be responsible for environmental review and compliance with Chapter 343, HRS:

2. DOFAW shall comply with all applicable statutes, ordinances, rules, and regulations of the federal, state, and county governments, and applicable parts of chapter 13-5, HAR;

3. DOFAW shall comply with all applicable department of health administrative rules;

4. Single family residence shall not be used for rental or any other commercial purposes unless approved by the board. Transient rentals are prohibited, with the exception of wilderness camps approved by the board;

5. All representations relative to mitigation set forth in the accepted environmental assessment or impact statement for the proposed use are incorporated as conditions of the permit;

6. In issuing the permit, the department and board have relied on the information and data that the permittee has provided in connection with the permit application. If, subsequent to the issuance of the permit such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended, or revoked, in whole or in part, and the department may, in addition, institute appropriate legal proceedings;

7. When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the county department of water supply;

8. Provisions for access, parking, drainage, fire protection, safety, signs, lighting, and changes on the landscape shall be provided;

9. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the permittee shall be required to take measures to minimize or eliminate the interference, nuisance, harm, or hazard;

10. Obstruction of public roads, trails, lateral shoreline access, and pathways shall be avoided or minimized. If obstruction is unavoidable, the permittee shall provide alternative roads, trails, lateral beach access, or pathways acceptable to the department;

11. Except in case of public highways, access roads shall be limited to a maximum of two lanes;

12. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities;

13. Cleared areas shall be revegetated, in accordance with landscaping guidelines provided in this chapter, within thirty days unless otherwise provided for in a plan on file with and approved by the department;

14. Use of the area shall conform with the program of appropriate soil and water conservation district or plan approved by and on file with the department, where applicable;

15. Animal husbandry activities shall be limited to sustainable levels in accordance with good soil conservation and vegetation management practices;

16. Artificial light from exterior lighting fixtures, including but not limited to floodlights, uplights, or spotlights used for decorative or aesthetic purposes, shall be prohibited if the light directly illuminates or is directed to project across property boundaries toward the shoreline and ocean waters, except as may be permitted pursuant to section 205A-71, HRS. All exterior lighting shall be shielded to protect the night sky;

17. Where applicable, provisions for protection of beaches and the primary coastal dune shall be established by the permittee, to the satisfaction of the department, including but not limited to avoidance, relocation, or other best management practices;

18. The permittee acknowledges that the approved work shall not hamper, impede, or otherwise limit the exercise of traditional, customary, or religious practices of native Hawaiians in the immediate area, to the extent the practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law; and

19. Other terms and conditions as prescribed by the chairperson.

If there are any questions as to whether a land use qualifies under this programmatic SPA, DOFAW should consult with the OCCL for assistance with the disposition. Should you have any questions regarding this site plan approval, contact Tiger Mills of our Office at 587-0382.

C: Chairperson