CONSERVATION DISTRICT USE APPLICATION

Prepared and Submitted in Accordance with Hawai‘i Administrative Rules §13-5

Hana‘ula Reservoir Mesonet Weather Station

TMK (2)-3-6-003:001
Waikapū Ahupua‘a, Maui

March 2023

CONSERVATION DISTRICT USE APPLICATION (CDUA)

All permit applications shall be prepared pursuant to HAR 13-5-31

File No.:

Acceptance Date: 180-Day Expiration Date:

Assigned Planner:

for DLNR Use

PROJECT NAME Hana‘ula Reservoir Mesonet Weather Station

Conservation District Subzone: P

Identified Land Use: C-1
(Identified Land Uses are found in Hawai‘i Administrative Rules (HAR) §13-5-22 through §13-5-25)

Project Address: KAHEAWA WIND FARM ACCESS ROAD

Tax Map Key(s): (2)-3-6-003:001

Ahupua‘a: Waikapū

County: Maui

Proposed Commencement Date: ASAP

Estimated Project Cost: $30,000

District: Pū‘ali Komohana

Island: Maui

Proposed Completion Date: August 2024

TYPE OF PERMIT SOUGHT ☐ **Board Permit** ☒ **Departmental Permit**

ATTACHMENTS

$ 250 Application Fee. 2.5% of project cost for Board Permits, but no less than $250, up to a maximum of $2500; $250 for Departmental Permits (*ref §13-5-32 through 34)*.

$ _____ Public Hearing Fee *($250 plus publication costs; ref §13-5-40)*

- ☒ 20 copies of CDUA (*5 hard + 15 hard or digital copies)*
- ☒ Draft / Final Environmental Assessment (EA) *or* Draft / Final Environmental Impact Statement (EIS) *or* Statement of Exemption
- ☒ State Historic Preservation Division HRS 6E Submittal Form (dlnr.hawaii.gov/shpd/review-compliance/forms)
- ☐ Management Plan *or* Comprehensive Management Plan (*ref §13-5-39)* if required
- ☐ Special Management Area Determination *(ref Hawai'i Revised Statutes 205A)*
- ☐ Shoreline Certification (*ref §13-5-31(a)(8))* if land use is subject to coastal hazards.
- ☐ Kuleana documentation (*ref §13-5-31(f))* if applying for a non-conforming kuleana use.

☐ Kuleana documentation *(ref §13-5-31(f))* if applying for a non-conforming kuleana use.
☐ Boundary Determination *(ref §13-5-17)* if land use lies within 50 feet of a subzone boundary.

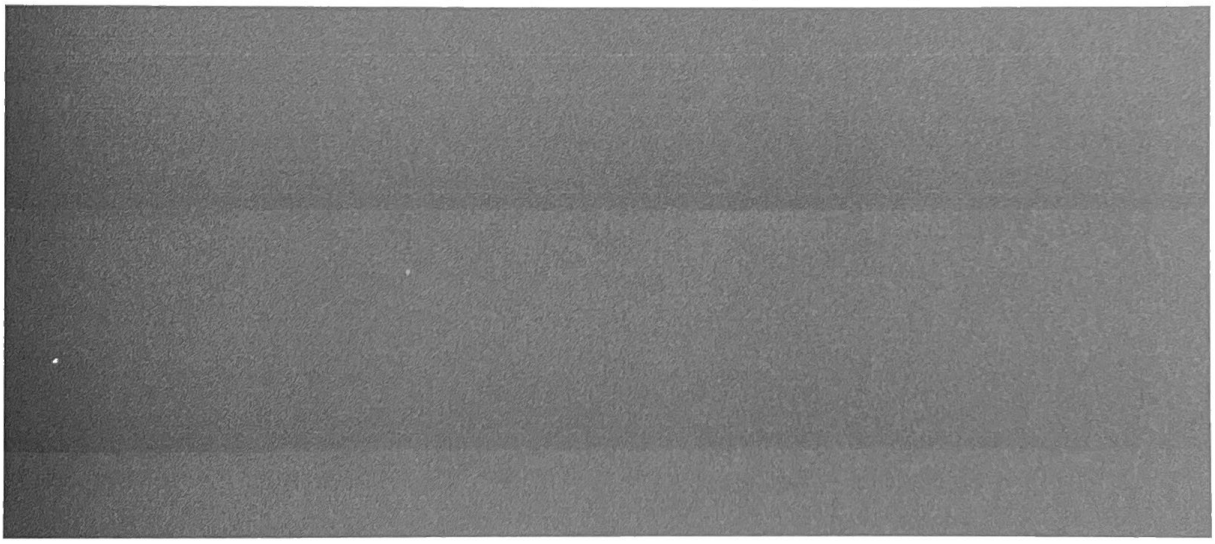
REQUIRED SIGNATURES

Applicant

Name: Thomas Giambelluca
Title; Agency: Director; University of Hawai'i at Mānoa Water Resources Research Center
Mailing Address: 2540 Dole St., Holmes Hall 283
Honolulu, HI 96822
Contact Person & Title: Dylan Giardina
Phone: 808-987-8724
Email: dylangia@hawaii.edu
Interest in Property:

Signature: _____ **Date:** 03/29/2023

Signed by an authorized officer if for a Corporation, Partnership, Agency or Organization



Landowner (if different than the applicant)

Name: Duane Ting
Title; Agency: HANAULA RANCH LLC
Mailing Address: 1962 WELLS ST
WAILUKU HI 96793
Phone: 808-463-5786
Email: duane@flyinhawaiianzipline.com

Signature: _____ **Date:** 5/4/23

For State and public lands, the State of Hawai`i or government entity with management control over the parcel shall sign as landowner.

Agent or Consultant

Agency:
Contact Person & Title:
Mailing Address:

Phone:
Email:

Signature: _____ **Date:** _____

For DLNR Managed Lands

State of Hawai`i
Chairperson, Board of Land and Natural Resources
State of Hawai‘i
Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawai‘i 96809-0621

Signature: _____ **Date:** _____

PROPOSED USE

Total size/area of proposed use (indicate in acres or sq. ft.): 200 sq. ft.

Please provide a detailed description of the proposed land use(s) in its entirety. Information should describe what the proposed use is; the need and purpose for the proposed use; the size of the proposed use (provide dimensions and quantities of materials); and how the work for the proposed use will be done (methodology). If there are multiple components to a project, please answer the above for each component. Also include information regarding secondary improvements including, but not limited to, grading and grubbing, placement of accessory equipment, installation of utilities, roads, driveways, fences, landscaping, etc.

Attach any and all associated plans such as a location map, site plan, floor plan, elevations, and landscaping plans drawn to scale (*ref §13-5-31)*.

See attached:

The University of Hawai‘i at Mānoa Water Resources Research Center proposes to install a weather station near two existing reservoirs at (20.8412079, -156.5552957), Waikapū, Pū‘ali Komohana, Maui, Hawai‘i at Tax Map Key (TMK) (2)-3-6-3:1, as a part of the Hawai‘i Mesonet. This station would be one of 84 new stations established across Hawai‘i, and one of 20 new stations established on Maui. These stations will be established in areas where existing climate monitoring networks are insufficient and especially in regions with steep climate and rainfall gradients. Mesonet stations are equipped with state of the art instrumentation for temperature, humidity, rainfall, solar radiation, wind speed/direction, soil moisture, soil temperature, and soil heat flux. Mesonet station data will be available real-time at a 5 minute resolution on the Hawai‘i Climate Data Portal, a centralized repository for Hawaii’s climate data, and through the National Weather Service, where it can be accessed by partners, researchers, and the general public. The site where we propose establishing this weather station was previously cleared when constructing the two existing reservoirs in the 1960s. The proposed weather station will be established in this existing cleared area order to prevent interference with instrumentation, minimizing the need for additional clearing and impact on native flora.

Presently, the Wailuku moku supports two telemetered rainfall gauges located at lower elevations and no telemetered weather stations. Similarly, the adjacent Lāhainā and Kā‘anapali moku only support a small number of telemetered rainfall gauges, with these gauges being located predominantly at lower elevations. West Maui is home to extreme rainfall and gradients influenced by the region's steep and varied topography, making it difficult to capture the regions’ climate with existing monitoring infrastructure. We have identified that the Wailuku moku and the adjacent Lāhainā moku would greatly benefit from the proposed weather station, as this station would make easy-to-access, highly temporally resolved climate data publicly available and directly support conservation and research efforts in the region. The proposed station would be located in a previously disturbed and privately owned land parcel, minimizing additional impacts on natural, visual, and cultural resources. The new station established as a part of the Hawai‘i Mesonet would provide the following resources to researchers and stewards in the region:

- Monitor climate data in a region with minimal existing infrastructure;
- Provide state of the art instrumentation for temperature, humidity, rainfall, solar radiation, wind speed/direction, soil moisture, soil temperature, and soil heat flux;
- Make telemetered climate data publicly available real-time on the Hawai‘i Climate Data Portal;
- Ensure long-term funding for maintenance and instrumentation replacement to build a regional historic climate record.

The proposed location for this new Mesonet weather station is shown in Figure 1. A diagram of the proposed station, including information on all components and instrumentation, is included in Figure 2. A site plan including the proposed station and instrumentation layout, station and rainfall gauge foundations, and the installation of soil sensors, is shown in Figures 3-5. Establishing a proposed weather station under this departmental permit would involve the following activities:

1. Helicopter transport of supplies and equipment to the proposed site;
2. Construction of the station and rainfall gauge foundations;
3. Installation of the station, including all station components and instrumentations;
4. Routine maintenance of the proposed station and recalibration/replacement of station instrumentation and components as needed.

Air Transport of Materials to Site:

Equipment and supplies for the construction of the tower foundation and for the tower installation will be loaded into slings and airlifted to the proposed site from the Department of Forestry and Wildlife Baseyard, with care being taken to minimize ground disturbance during this process. Slings will be weighed and loaded according to helicopter loading best practices. Foundation construction activities will be carried out during the first day of helicopter operations and tower installation will take place after the foundation has been allowed to cure. Personnel will access the site on foot.

Construction:

The station foundation is intended as a sturdy, long term attachment point for the 3 m tall station mast and instrumentation. The station foundation is a 2 ft x 2 ft concrete pad poured to a depth of 20.5 in below grade. Three J-bolts embedded into the station foundation will act as mounting points for the mast. The foundation is sufficiently large such that the station will not shift in the event of high winds or rains. Neither the concrete foundation, nor the stainless steel J-bolts will degrade in harsh environments, ensuring that the station will operate reliably over the lifetime of the project. We will hand clear a roughly 2 ft x 2 ft x 20.5 in deep hole, with the final depth of the hole depending on site geography. We will hand pour the concrete station foundation in this hole and install J-bolts in the concrete foundation using a specialized template. Installing the rainfall gauge foundation will similarly involve the hand clearing and pouring of a roughly 1 ft x 1 ft x 18 in concrete foundation. A 1.9 in ODE stainless steel pipe will be embedded in the foundation, acting as a mounting point for the rainfall gauge. The station will be installed in a location near the two reservoirs in order to keep ground disturbance from proposed activities within a previously disturbed area.

Installation:

A roughly 1 ft x 2 ft trench will be dug to a depth of 6.3 in, with a small (6 in x 6 in) portion of this trench being dug to a depth of 14 in to house soil sensors. A roughly 4 in wide by 4 in deep trench will be dug in order to run conduit and cables for the rainfall gauge and soil sensors to the station. The approximate specifications of the soil sensor trench is shown in Figure 5 for soil sensors, although the final depth and layout of this trench will depend on environmental and site conditions.

The station mast will be mounted to the J-bolts embedded in the foundation. Cross arms will be mounted to the station mast. Instrumentation will be mounted to predetermined points on the station mast and cross arms, and the rainfall gauge will be installed on the separate foundation. Instrumentation wiring will be managed to minimize cable contact with sharp edges and reduce stress on the cables. Cables for the suite of soil sensors and the rainfall gauge will be routed to the tower through conduit buried at a depth of roughly 2 inches. All cables will be routed to the logger enclosure. After instrumentation is installed, we field test instrumentation and station telemetry in order to ensure that all station components are operating properly.

Long-term station maintenance:

Stations require regular maintenance to keep instrumentation and station hardware working properly, and prevent the growth of vegetation on/and around the station. Regular maintenance will be carried out quarterly, with personnel accessing the site via KAHEAWA WIND FARM ACCESS ROAD (4WD). As a part of regular maintenance, personnel will: 1) inspect the station and instrumentation for damage; 2) clean dirt and debris from the rain gauge filter and tipping bucket; 3) clean growth and mold off the radiation shield; 4) clear vegetation around the station; 5) level the net radiometer and rain gauge; 6) clean the solar panel and net radiometer; 7) replace desiccant and reseal logger box; and 8) document when routine maintenance is performed in order to support the development of a robust maintenance record. As needed, personnel will recalibrate and/or replace instrumentation and repair and/or replace power, telemetry, and data logger components over the lifetime of the station. We will fully retrofit the proposed station once data-logger and critical station components have reached the end of their usable lifespan (i.e. no longer compatible with replacement hardware) or if the station is irreparably damaged. If the proposed station no longer serves or becomes incompatible with the needs of the WRRC, we will completely remove the station.

The proposed actions would ensure the long-term availability of robust climate data in the region, and directly support research, conservation, and land-management efforts. Construction is anticipated to begin in the two months after the proposed weather station is approved in a Conservation District Use Permit.

Construction and Installation Best Practices:

Best management practices will be incorporated during the construction and installation of this project to minimize the disturbed area from construction and installation, and prevent the spread of Rapid ʻŌhiʻa Death and non-native species to the site.

During construction and installation, efforts will be made to minimize disturbance, especially to native species in the area. The station will be installed in an already disturbed area, minimizing the impact of proposed activities. Accurate measurement of rainfall, solar radiation, and wind speed/direction requires an open area around the tower and the site has been selected to minimize vegetation removal. Ground disturbance will be limited to the tower foundation, rainfall gauge foundation, and soil sensor trenches, a net area of approximately 100 ft^2. Trampling during transport of materials and construction will be limited

to areas with non-native vegetation. Over the lifetime of the station, we may need to cut back encroaching vegetation as a part of routine maintenance procedures to maintain measurement viability of the rainfall gauge, wind speed/direction sensor, and net radiometer.

Equipment, material, and supplies used during construction and tower installation will be cleaned and inspected for invasive species prior to transportation to the site. Tools, shoes, and other items that may act as carriers for Rapid ʻŌhiʻa Death will be cleaned and sprayed with 70% isopropyl alcohol. Additional biosecurity best practices may be implemented as necessary.

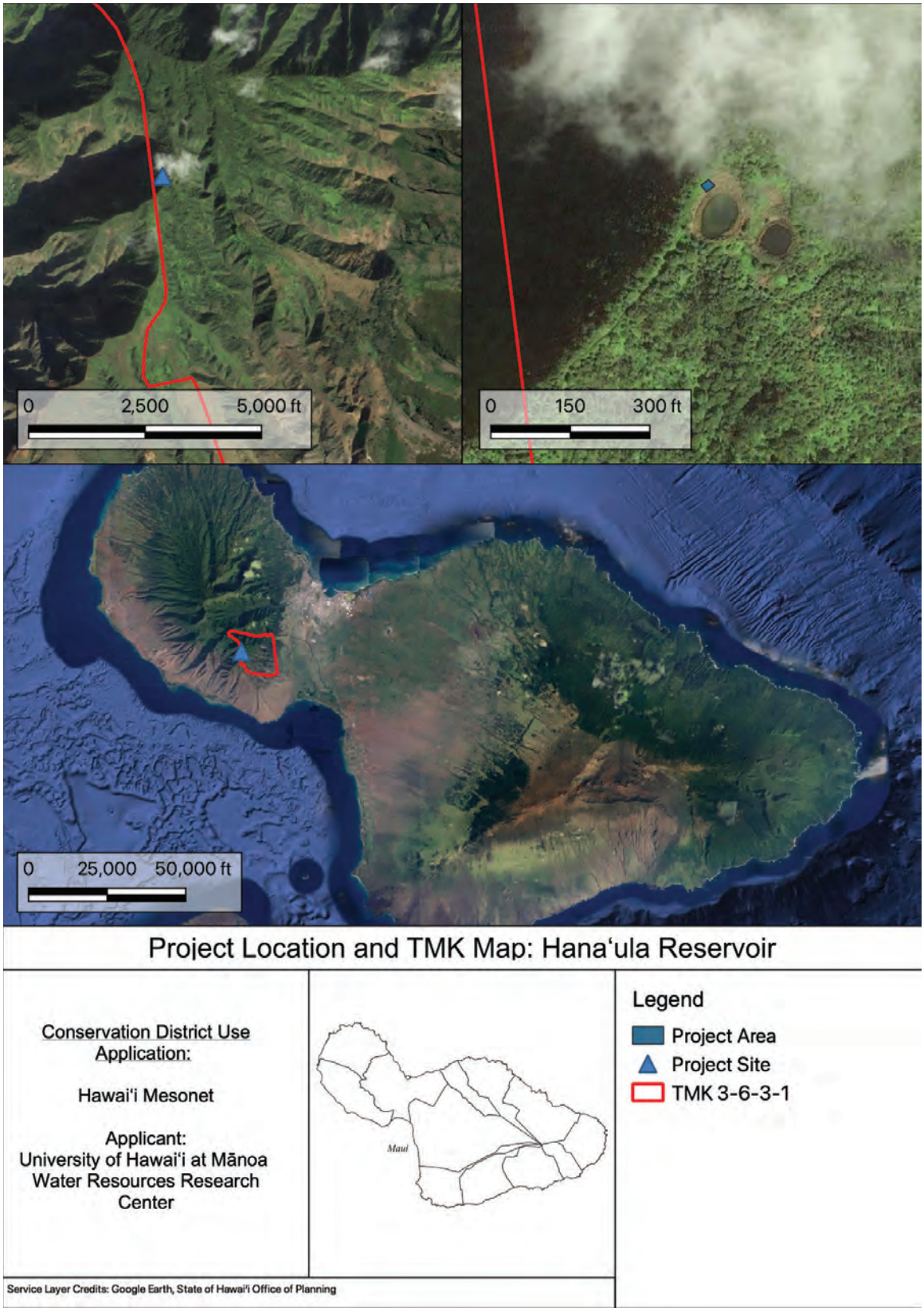


Figure 1: Three different scales of the proposed project site. The proposed site is located on the edge of the Waikapū ahupua'a within the Wailuku moku, adjacent to two existing reservoirs.

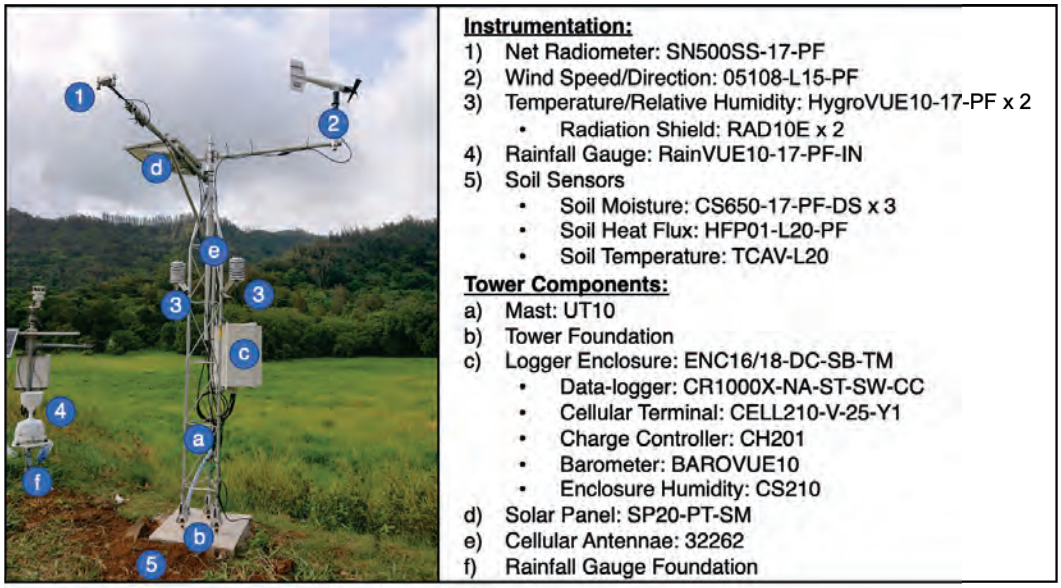


Figure 2: Schematic showing an existing Mesonet station, including primary station components and instrumentation, installed at Nu'uanu Valley, O'ahu. The proposed station and instrumentation layout would be identical to this station, outside of small changes to the layout of the rainfall gauge and station depending on local ecology and geography.

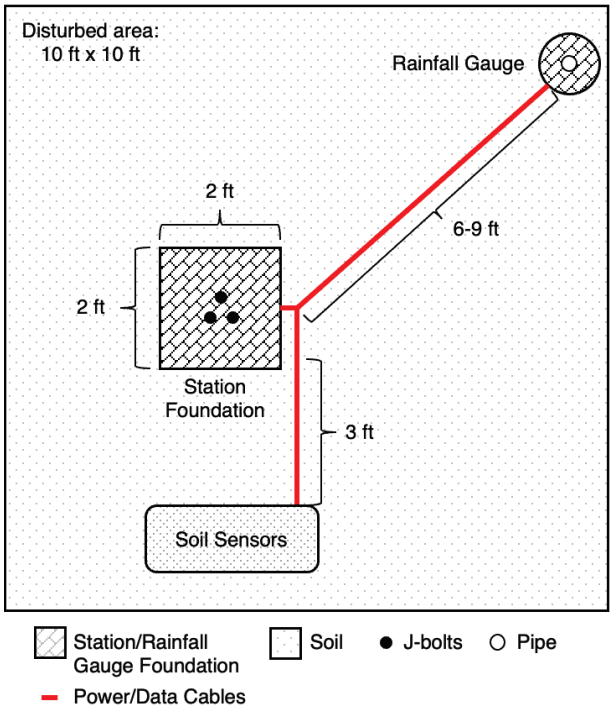


Figure 3: Schematic showing the layout of the proposed weather station mast and foundation, rainfall gauge and foundation, and soil sensor trench, as well as power and data cables routed between the sensors and the tower.

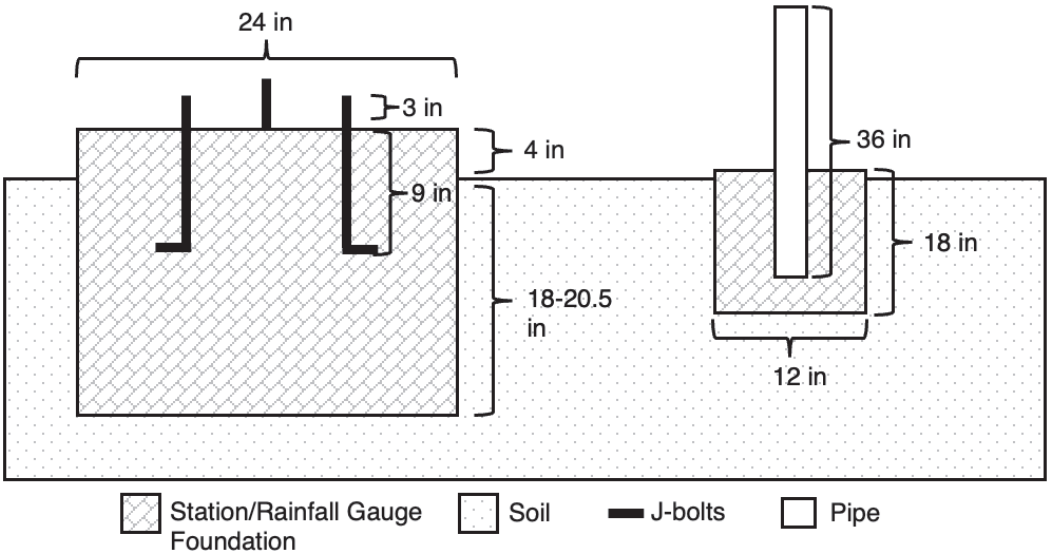


Figure 4: Schematic showing approximate dimensions for the concrete station foundation and rainfall gauge foundations.

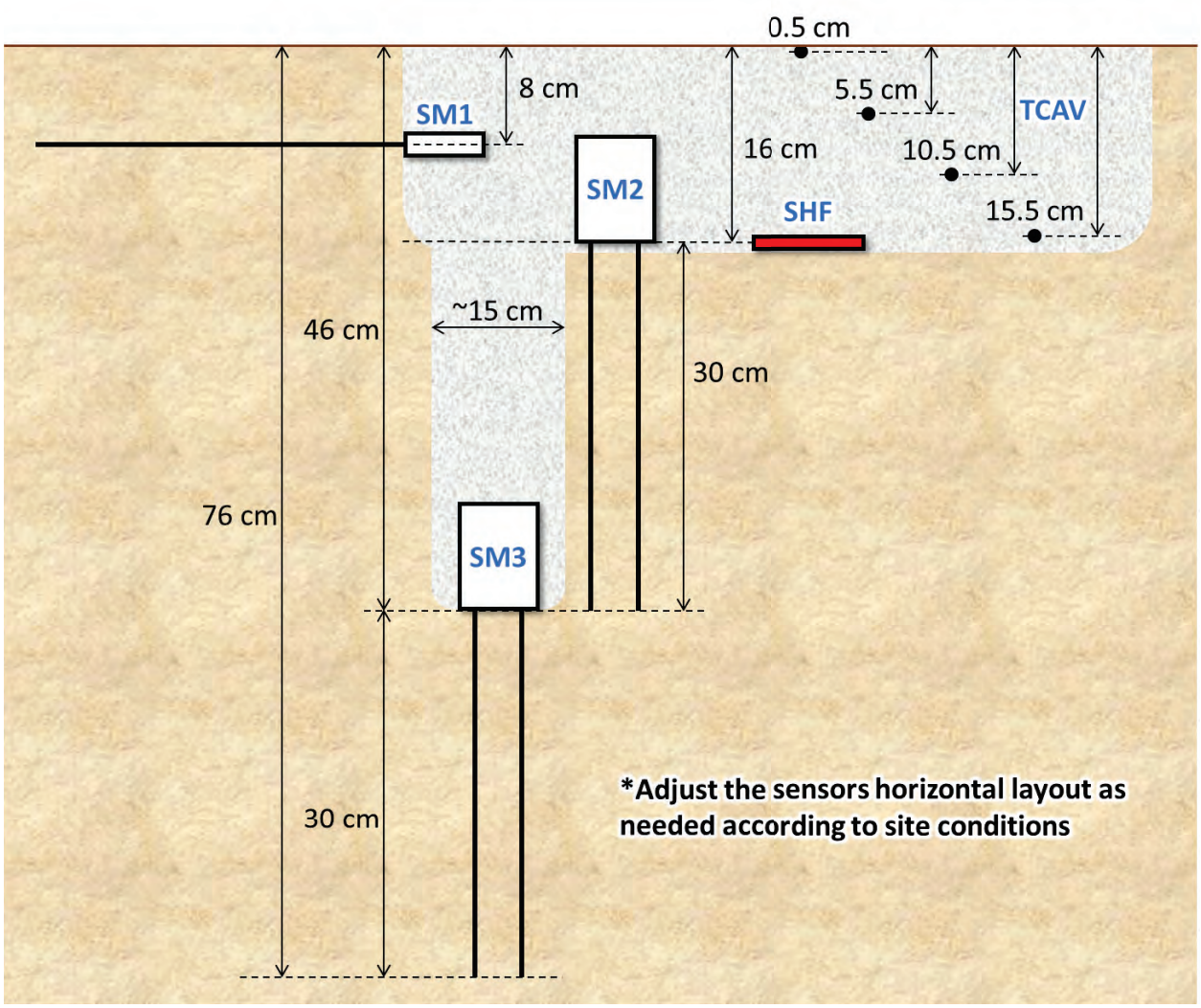


Figure 5: Layout of subsurface soil moisture (SM1-3), soil temperature (TCAV), and soil heat flux (SHF) sensors.

Figure 6: Proposed location of station

EXISTING CONDITIONS

Please describe the following, and attach maps, site plans, topo maps, colored photos, and biological or archaeological surveys as appropriate:

Existing access to site:

The proposed weather station site is located in Pūʻali Komohana moku, Maui, Hawaiʻi, at TMK (2)-3-6-3:1, and is privately owned by Hanaula Ranch LLC. The site is accessed via a 30 minute hike from the top of the KAHEAWA WIND FARM ACCESS ROAD (4WD).

Existing buildings/structures:

There are no existing structures at the proposed site.

Existing utilities (electrical, communication, gas, drainage, water & wastewater):

There are no existing electrical utilities at or nearby the proposed site.

Physiography (geology, topography, & soils):

The project site is located within private land on the ridge between the Waikapū and Ukumehame ahupuaʻa. The ridge leads up to Hanaʻula Mountain, and both the trail to the site and road are private access. The proposed site is on level ground, however the surrounding areas, especially on both sides of the ridge, are steeper than 20% grade (Figure 7). No ground disturbance will take place in areas with steep topography.

This soil classification at the site is entisol, and soil at the site is extremely permeable (Figure 8,9). Soil at the site is defined as being in the very beginning stages of soil profile development, and is typically found in mountains and foothills.

Hydrology (surface water, groundwater, coastal waters, & wetlands):

The proposed site is located directly between the Pohakea and Ukumehame watersheds. The site would be directly established near the two existing reservoirs, which are classified as wetlands, however there are no naturally occurring wetlands or surface waters close to the proposed site (Figure 10). The closest wetland area is roughly 280 m. of the proposed site, with several wetland areas falling between 280 and 400 m. of the proposed site. These wetlands feed into the Pohakea Gulch Stream on the eastern side of the ridge and the Ukumehame Stream on the western side of the ridge.

The United States Fish and Wildlife Services designates these wetlands as Riverines. The State Department of Health (DOF) Inland Water Quality Standards Classifications map designates some Riverines in the Ukumehame watershed as Class 1 Inland Waters and Riverines in the Pohakea watershed as combination of Class 1 and Class 2 Inland Waters. HAR Section 11-54-3 states: it is the objective of Class 1 Inland Waters that these waters remain in their natural state as nearly as possible with an absolute minimum of pollution

from any human-caused source. To the extent possible, the wilderness character of these areas shall be protected. No wastewater or wastes will be discharged into the stream.

HAR Section 11-54-3 states: it is the objective of Class 2 Waters to protect their use for recreational purposes, the support and propagation of aquatic life, agricultural and industrial water supplies, shipping, and navigation. The uses to be protected in this class of waters are all uses compatible with the protection and propagation of fish, shellfish, and wildlife, and with recreation in and on these waters. These waters shall not act as receiving waters for any discharge which has not received the best degree of treatment or control compatible with the criteria established for this class. No new treated sewage discharges shall be permitted within estuaries.

No activities involved in establishing or maintaining the proposed weather station will result in run-off impacting nearby riverines or groundwater, and the proposed activites will be persuant of HAR 11-54-3.

Flora & fauna (indicate if rare or endangered plants and/or animals are present):

The proposed station will be established on the edge of the reservoir on a patch of non-native molasses grass, with no native species identified where station installation activities will take place. Within 10 feet of the proposed site there is a thick uluhe (Dicranopteris linearis) understory, with patches of ʻōhelo ʻai (Vaccinium reticulatum) and short canopy of ʻōhiʻa lehua (Metrosideros polymorpha). During station foundation pouring and station installation activities, we will bring a DLNR Biologist to ensure that no native species are disturbed.

Natural hazards (erosion, flooding, tsunami, seismic, etc.):

Natural hazards affecting the Hawaiian Islands include hurricanes and severe weather events, tsunami inundation, volcanic eruptions, earthquakes, sea level rise, climate change, erosion/landslides, and flooding. This site is located at a high point within Flood Zone X and does not fall within a hazard area (Figure 11). Per the FEMA website The Zone X designation is used for areas of minimal flood hazard. Zone X is the area determined to be outside the 500-year flood and protected by levees from a 100-year flood. The proposed site is located inside of a safe tsunami zone, and is sufficiently far away from shorelines to be impacted by sea level rise (Figure 12).

Historic & cultural resources:

The proposed project site is located on a ridge on the edge of the Pohakea gulch and the Ukumehame valley. The Pōhakea valley is within the Waikapū ahupuaʻa and Wailuku moku, and the Ukumehame valley is within the Ukumehame ahulpuaʻa and Lāhainā moku. Based on a preliminary site reconnaissance, correspondance with DLNR personnel working at the site, and a review of surveys for development in the Lāhainā and Wailuku moku, no archaeological sites are known of or anticipated to be found at the proposed site.

Wailuku was an important agricultural, population, political, and religious center for Maui. The region's abundant water resources of the Waikapū, Wailuku, Waiehu, and Waiheʻe rivers allowed for the development of extensive agriculture and irrigation systems, which in turn supported the moku's large population (Hōkūao Pellegrino Cultural Consultant, 2014). The Waikapū river is the only perennial stream within the Waikapū ahupuaʻa, and, according to the aforementioned assessment carried out by Hōkūao Pellegrino Cultural Consultants, is often the only stream mentioned in oral reviews of the ahupuaʻa. The majority of land claims within Waikapū during the 1848 Māhele were for agricultural land according to testimonials from both native and foreign individuals. As a non-perennial stream, the Pōhakea did not support aquatic life or permanent agriculture, and it is unlikely that there are more than a limited number of cultural and archaeological resources in the Pōhakea valley.

Likewise, the Lāhainā moku was an important population and cultural center. The region's large population was supported by extensive lowland irrigation and agricultural systems, where watersheds from upland rivers were diverted and modified to feed these systems. The Ukumehame stream supported extensive systems of agriculture terraces below and on the sides of the valley, and is the only perennial stream within the Ukumehame ahupuaʻa according to a survey by Kumu Pono Associates LLC (Kepā Maly, 2007).

Travel deep into the valleys of Mauna Kahālāwai is extremely hazardous due to the steep valley walls and dense vegetation. Excerpts describe the extreme difficulty of accessing inland West Maui, and referenced how nearby communities warned of the hazards and impracticality of inland travel.

Excerpts from these surveys do not mention historic agriculture or habitation at these upper sites, but do describe the importance of indigenous and endemic vegetation found in upper valleys. Other cultural and archaeological assessments carried out in similar valleys on Kauaʻi and Maui, including the Hanalei, Limahuli, Waiheʻe, and Lumahaʻi valleys, have cited that upper, steeper areas of agriculturally productive and populated valleys rarely supported any agricultural activity or permanent settlement due to inaccessibility and lack of water resources (Borthwick, 1986; Marion Kelly & Clayton Hee & Ross Cordy, 1978).

The proposed site is located on a ridge adjacent to the Ukumehame and Pōhakea valleys, and is not near any streams or springs that would have supported agriculture. Reports suggest that due to the inaccessibility of the upper Kahālāwai valleys, as well as the lack of historic water resources near the project area, no permanent habitation or agricultural sites or features are likely to be found. Furthermore, land at the proposed site was leveled when constructing the existing reservoirs. We did not find a record of archaeological resources within the project area, and thus do not anticipate that the minimal ground disturbance from the proposed activities will have any impact on cultural resources within this already disturbed area. Additionally, no known traditional trail exists to access the site, and the present-day public access Pali trail does not go to the reservoirs.

Available cultural and historical documents on the Wailuku and Lāhainā moku describe the Mauna Kahālāwai watershed as an invaluable biocultural resource. The proposed weather station would greatly improve our understanding of the region's climate and meteorology, and enhance climate data available to researchers and biocultural resource stewards in West Maui.

EVALUATION CRITERIA

The Department or Board will evaluate the merits of a proposed land use based upon the following eight criteria (*ref §13-5-30(c))*

1. The purpose of the Conservation District is to conserve, protect, and preserve the important natural and cultural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare. *(ref §13-5-1)* How is the proposed land use consistent with the purpose of the conservation district?

Hawaii's watersheds, native ecosystems, agricultural, near-shore systems, and other biocultural resources are sensitive to climate change. For example, rainfall across Hawai'i is expected to decrease in the future, which when coupled with climate warming and increasing demand will exacerbate water supply issues across the state. Overall, increasingly variable and severe weather, increasing wildfire severity, accelerated spread of invasive or harmful species, and drought will all compromise our ability to steward these resources.

Given climate change, we are increasingly realizing that current climate monitoring across Hawai'i is insufficient, compromising the ability to carry out site-specific stewardship and research. Likewise, a piecemeal approach to monitoring climate makes anticipating future needs and developing strategies to address climate change impacts more difficult. Efforts have been made to establish weather stations on Maui, but these efforts are often insufficient in scope. For example, there have been several telemetered rainfall gauges established across West Maui, but these rainfall gauges predominantly operate at lower elevations. Conversely, the WRRC currently operates a number of stations on Haleakalā, but the scope of the stations is limited to higher elevation sites on East Maui. These existing monitoring efforts are insufficient for capturing the full scope of Maui's unique meteorology and a lack of cohesive climate data compromises the ability of researchers and stewards to develop robust, site-specific land-management strategies for addressing present and future issues. We have identified the proposed site and surrounding watersheds as regions which would benefit from dedicated climate monitoring, and propose installing a weather station as a part of the Hawai'i Mesonet initiative near the existing reservoirs. This weather station would provide quality, highly temporally resolved data which researchers, land, and natural resource managers working in the region can leverage in their efforts.

According to HAR §13-5-22, which governs uses in the State Conservation District, public purpose uses may be permitted as identified by the letter "P". According to HAR, §3-5- 22:

(P-1, C-1) Basic data collection, research, education, and resource evaluation that involves a land use causing ground disturbance from installation of equipment (e.g., meteorological towers, radio towers, or test wells).

The proposed weather station will be pursuant with HAR §13-5-22, (P-1), supporting data collection for research, education, and resource evaluation by providing real time, site specific, and publicly available climate data. The proposed station will be one of 20 established on Maui as a part of the 84 station Hawai'i Mesonet climate network, and provide valuable data on climate and water resources in the Ukumehame, Pohakea, Waikapū, and Papalua watersheds. As a part of the larger Mesonet climate network, the proposed station will allow researchers to better understand and model island wide and state-wide climate

trends. Individual station and network wide data and data products will directly support researchers, educators, and natural resource managers operating on Maui and across the state.

2. How is the proposed use consistent with the objectives of the subzone of the land on which the land use will occur? *(ref §13-5-11 through §13-5-15)*

The project parcel, (2)-3-6-3:1, and proposed project site lie within the Resource (R) Subzone of the State Land Use Conservation District (Figure 13). As noted in HAR Chapter 13-5-13, the objective of the R subzone is: to ensure, with proper management, the sustainable use of natural resources of those areas.

The R Subzone designates: Lands necessary for providing future parkland and lands presently used for national, state, county, or private parks; Lands suitable for growing and harvesting of commercial timber or other forest products; Land suitable for outdoor recreational uses such as hunting, fishing, hiking, camping, or picnicking; Offshore islands of the State of Hawai'i unless placed in a (P) or (L) subzone; Lands and state marine waters seaward of the shoreline to the extent of the State's jurisdiction, unless placed in a (P) or (L) subzone.

The proposed project is pursuant with the R subzone designation, as noted in HAR §13-5-22 through §13-5-25. The proposed station will directly support sustainable use and stewardship of natural resources by providing real time, site specific, and publicly available climate data. This data can directly support water resource management, agriculture, and conservation efforts in the subzone.

3. Describe how the proposed land use complies with the provisions and guidelines contained in chapter 205A, HRS, entitled "Coastal Zone Management" *(see 205A objectives on p. 9).*

The proposed weather station complies with the objectives and policies of the Coastal Zone Management plan outlined in HRS 205A. The proposed weather station will not impact coastal resources, as it is located within the mountains roughly 3.5 miles from the nearest coastline.

1) Recreational resources:

The site for the proposed weather station is significantly far from the coast and not in a special management area (Figure 14). Therefore, the proposed station is in compliance with Coastal Zone Management provisions for protecting recreational resources.

2) Historic resources:

Site reconnaissance and a review of cultural and archeological surveys of the region suggest that the proposed weather station would not impact cultural or historical resources. The site is relatively inaccessible and we do not anticipate historic agriculture or habitation took place at or near the proposed site. Furthermore, the site is on private property and access to cultural resources at the site is already limited by the private property designation and gated entry, and has been for over 60 years.

3) Scenic and open space resources:

The proposed station would not be visible from the nearest coastal roadway and will not degrade the aesthetic quality of scenic and open space coastal resources. There is dense foliage surrounding the proposed weather station site, and the station would not be visible from all public access, trails, roads, and coastlines. The scenic and aesthetic quality of the proposed site is already compromised by the existing reservoirs, and because the site is privately owned, the community will not be impacted by any further degradation to the aesthetic quality of the area.

4) Coastal ecosystems

The proposed actions are not expected to negatively impact coastal ecosystems or coastal resources, as the proposed station is significantly small and removed from the coastline.

5) Economic Resources

Although the proposed station will not directly impact the State's economy, data and data products developed using this specific station and the greater Hawai'i Mesonet will support natural resource management, research, and education. Research enabled by the Hawai'i Mesonet will secure funding for STEM educators and researchers, bringing additional money and personnel into the University of Hawai'i system. Climate change is expected to significantly impact Hawaii's economy, with sea level rise alone anticipated to cost the state 19 billion dollars. The proposed weather station will provide valuable climate and rainfall data, which will directly support the research and development of strategies for addressing present and future climate, natural-resource and water-resource issues across the State. Water resources specifically are critical to the socio-economic wellbeing of Hawai'i, and significantly improving the State's climate monitoring infrastructure will greatly benefit Hawai'i and its people.

6) Coastal hazards

The proposed actions are not expected to exacerbate any coastal hazards, as the proposed station is significantly small and removed from the coastline.

7) Managing development

The actions required to establish the proposed climate station will not impact coastal resources and will be reviewed through the Conservation District Use Application Board Permit process. Additionally, the WRRC has prepared a Declaration of Exemption as the project complies with the requirements of HRS, Chapter 343, and HAR, Title 11, Chapter 200.1 and is anticipated to have a minimal environmental impact (Declaration of Exemption).

8) Public participation

Proposed station and network wide data and data products will be available for the general public, directly improving the accessibility of climate data and public awareness of climate issues. Likewise, Hawai‘i Mesonet data and data products will directly support research and natural resource management efforts, benefiting the general public.

9) Beach protection

The proposed actions are not expected to impact public use and recreation on Maui’s beaches, as the proposed station is significantly small and removed from the coastline.

10) Marine resources

The proposed actions are not expected to negatively impact marine or coastal resources, as the proposed station is significantly small and removed from the coastline. The proposed actions will not lead to runoff or sedimentation, the main pathways for inland infrastructure development to impact coastal and marine resources. Station specific and network wide data and data products will enable more effective natural resource management, including the management of coastal and marine resources.

4. Describe how the proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

The proposed weather station will be established near two existing reservoirs in a previously cleared area in order to prevent interference with instrumentation, minimizing the need for additional clearing and impact on native flora. As the land near the reservoirs has already been disturbed, we do not anticipate that the proposed actions will have an adverse impact on natural resources in the area. The proposed site is privately owned with no public access, and the community will not be adversely impacted by the proposed station. As a part of the greater Hawai‘i Mesonet, this station will directly support sustainable natural resource management and preservation efforts. Best practices will be used during construction and installation to minimize impacts on the site's natural resources. Therefore, the actions carried out in establishing the proposed weather station are not anticipated to have a negative impact on natural resources at the project site and the surrounding area.

5. Describe how the proposed land use, including buildings, structures and facilities, is compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

The proposed station will be established near two existing reservoirs in a previously cleared area. The aesthetic quality of the site is already impacted by this existing infrastructure, as well as the wind

farm downslope from the site. The proposed station will not be visible from any publicly accessible trails or roads.

6. Describe how the existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon.

The proposed site is located on a ridge between the Ukumehame and Waikapū ahupua‘a and is accessed by a small foot trail. The site and trail are not public access, and due to the region's steep and generally inaccessible topography, it is extremely unlikely that the public will access viewpoints where the station would be visible. The proposed weather station will be established in a previously cleared area housing two existing reservoirs. Activities carried out to establish the proposed station will minimally impact the project site and will be performed with the intention of minimizing impacts on nearby natural resources. The proposed station will not be visible from any public access trails or roads, and will not impact the natural beauty of the region.

7. If applicable, describe how subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

N/A, no subdivision of land is proposed.

8. Describe how the proposed land use will not be materially detrimental to the public health, safety and welfare.

The proposed station will not alter the existing land use and actions carried out in establishing the proposed station will minimally impact the site. These activities are not anticipated to be detrimental to public health, safety, and welfare and the station itself will not present any detriment to the public. Conversely, this station will support public health and welfare by providing data and data products that can be leveraged to support sustainable management of Hawaii’s natural and cultural resources.

CULTURAL IMPACTS

Articles IX and XII of the State Constitution, other state laws, and the courts of the State, require government agencies to promote and preserve cultural beliefs, practices, and resources of Native Hawaiians and other ethnic groups.

Please provide the identity and scope of cultural, historical, and natural resources in which traditional and customary native Hawaiian rights are exercised in the area.

There are no known cultural, historic, or natural resources in which traditional and customary native Hawaiian rights are exercised at the site. There are no known historical trails to the site, and as the site has been private property since the early 1900s, access to the site for traditional practices is extremely unlikely. Based on archaeological surveys of the area documenting minimal agricultural or habitation at sites high in West Maui valleys, we do not anticipate the presence of cultural or archaeological resources at the site. Furthermore, the site was disturbed during the construction of the existing reservoirs, and the proposed activities are not anticipated to impact any cultural resources in this already disturbed area.

Identify the extent to which those resources, including traditional and customary Native Hawaiian rights, will be affected or impaired by the proposed action.

The project site is privately owned with restricted access, and Native Hawaiian customs and traditions are not practiced in the area. Therefore, the proposed actions will not impact traditional and customary native Hawaiian rights, or impact access to cultural, historical, or natural resources at the site.

What feasible action, if any, could be taken by the Board of Land and Natural Resources in regards to your application to reasonably protect Native Hawai‘i rights?

As the proposed actions are not anticipated to impact historical properties or access to cultural resources, the Board of Land and Natural Resources would not have to take any action to protect Native Hawaiian rights. The proposed actions will improve existing infrastructure and help support management and research of the ecological and cultural resources in the region.

OTHER IMPACTS

Does the proposed land use have an effect (positive/negative) on public access to and along the shoreline or along any public trail?

The proposed weather station will not have any impact on public access to and/or along the shoreline or public trail. The proposed site is not near any shorelines and the closest public access trail is roughly 3 miles from the proposed site.

Does the proposed use have an effect (positive/negative) on beach processes?

The proposed site is located roughly 3.5 miles from the nearest shoreline and will not impact beach processes. The scope of this project is small, and none of the project activities will cause run off sufficient to impact watershed health or cause discharge and drainage into the ocean.

Will the proposed use cause increased sedimentation?

The scope of ground disturbance for the proposed project is very small, and project activities will not lead to sedimentation.

Will the proposed use cause any visual impact on any individual or community?

The proposed weather station is not expected to cause an adverse visual impact on any of the individuals or communities who recreate in the Ukumehame or Waikapū ahupua‘a. The proposed station will not be visible from nearby public access and recreation areas, including the Lāhainā Pali trail, Honoapi'ilani Highway, and McGregor Point Lighthouse. Individuals viewing the station from nearby points of prominence is very unlikely, as the terrain of surrounding valleys is steep and there are no marked trails on nearby ridges. The aesthetic quality of the proposed site is already impacted by the existing reservoirs, and as the site is privately owned, the proposed station will not be visible to the public.

Please describe any sustainable design elements that will be incorporated into the proposed land use (*e.g. the use of efficient ventilation and cooling systems; renewable energy generation; sustainable building materials; permeable paving materials; efficient energy and water systems; efficient waste management systems; etc.).*

The proposed weather station will be solar powered, the station battery will be recycled at the end of its lifespan, and the station mast and cross arms are constructed out of aluminum and will be recycled if the station is decommissioned. Furthermore, data from the proposed station and network-wide data products will directly support biocultural resource conservation and help to inform the sustainable development and use of biocultural resources.

If the project involves landscaping, please describe how the landscaping is appropriate to the Conservation District (*e.g. use of indigenous and endemic species; xeriscaping in dry areas; minimizing ground disturbance; maintenance or restoration of the canopy; removal of invasive species; habitat preservation and restoration; etc.)*

The proposed weather station site is already cleared of most native vegetation, and is predominantly populated by non-native grasses. Over the lifetime of the station, we may need to cut back encroaching non-native grasses as a part of routine maintenance procedures to maintain measurement viability of the rainfall gauge, wind speed/direction sensor, and net radiometer.

Existing native vegetation at the proposed site is already sparse and small in stature, and we anticipate needing to only clear non-native plants and grasses in order to maintain sensor measurement viability.

Please describe Best Management Practices that will be used during construction and implementation of the proposed land use.

During construction and installation, efforts will be made to minimize disturbance, especially to native species in the area. The proposed station will be installed at the site of the existing weather station in an existing clearing. Accurate measurement of rainfall, solar radiation, and wind speed/direction requires an open area around the tower and the site has been selected to minimize vegetation removal. Ground disturbance will be limited to the tower foundation, rainfall gauge foundation, and soil sensor trenches, a net area of approximately 7 ft2. Trampling during air transport of materials and construction will be limited to areas with non-native vegetation. Over the lifetime of the station, we may need to cut back encroaching vegetation as a part of routine maintenance procedures to maintain measurement viability of the rainfall gauge, wind speed/direction sensor, and net radiometer.

Equipment, material, and supplies used during construction and tower installation will be cleaned and inspected for invasive species prior to transportation to the site. Tools, shoes, and other items that may act as carriers for rapid ʻŌhiʻa death will be cleaned and sprayed with 70% isopropyl alcohol. Additional biosecurity best practices may be implemented as necessary. All materials, equipment, and crew will be transported via helicopter to the site for the construction phase. Other personnel will hike to the proposed site. Material will be sling loaded, and transported to the project site without landing. We anticipate two helicopter trips, one trip to pour the tower foundation, and one to install the tower. Efforts will be made to consolidate all material at the project site, in order to minimize disturbance.

Please describe the measures that will be taken to mitigate the proposed land use's environmental and cultural impacts.

The proposed weather station will have minimal impact on the environment due to its small footprint and minimal ground disturbance required to carry out the project. After installation, the proposed climate station will have no environmental impact, outside of when vegetation is cleared around the station. As the proposed site is on private land, we do not anticipate any impact on cultural resources.

SINGLE FAMILY RESIDENTIAL STANDARDS

Single Family Residences must comply with the standards outlined in HAR Chapter 13-5, Exhibit 4. Please provide preliminary architectural renderings (e.g. building foot print, exterior plan view, elevation drawings; floor plan, etc.) drawn to scale.

SIZE OF LOT

	Existing	Proposed	Total
Proposed building footprint			
Paved areas/ impermeable surfaces			
Landscaped areas			
Unimproved areas			

SETBACKS Front: Side: Back:

SHORELINE PROPERTIES

Average Lot Depth (ALD): Average annual coastal erosion rate:

Minimum shoreline setback based on Exhibit 4:

Actual shoreline setback or proposed structure:

MAXIMUM DEVELOPABLE AREA

The Maximum Developable Area includes all floor areas under roof, including first, second, and third stories, decks, pools, saunas, garage or carport, and other above ground structures.

Maximum Developable Area based on Exhibit 4:

Actual Developable Area of proposed residence:

Actual height of the proposed building envelope as defined in Exhibit 4:

COMPATIBILITY

Provide justification for any propose deviation from the established residential standards.

How is the design of the residence compatible with the surrounding area?

If grading is proposed, include a grading plan which provides the amount of cut and fill. Has grading or contouring been kept to a minimum?

CHAPTER 205A – COASTAL ZONE MANAGEMENT

Land uses are required to comply with the provisions and guidelines contained in Chapter 205A, Hawai'i Revised Statutes (HRS), entitled "Coastal Zone Management," as described below:

- **Recreational resources:** Provide coastal recreational opportunities accessible to the public.
- **Historic resources:** Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- **Scenic and open space resources:** Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.
- **Coastal ecosystems:** Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.
- **Economic uses:** Provide public or private facilities and improvements important to the State's economy in suitable locations.
- **Coastal hazards:** Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.
- **Managing development:** Improve the development review process, communication, and public participation in the management of coastal resources and hazards.
- **Public participation:** Stimulate public awareness, education, and participation in coastal management.
- **Beach protection:** Protect beaches for public use and recreation.
- **Marine resources:** Promote the protection, use, and development of marine and coastal resources to assure their sustainability.

CERTIFICATION

I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application and all attachments and exhibits is complete and correct. I understand that the failure to provide any requested information or misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, or for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the Land Board.

I hereby authorize representatives of the Department of Land and Natural Resources to conduct site inspections on my property. Unless arranged otherwise, these site inspections shall take place between the hours of 8:00 a.m. and 4:30 p.m.

_____

Signature of authorized agent(s) or if no agent, signature of applicant

AUTHORIZATION OF AGENT

I hereby authorize_____to act as my representative and to bind me in all matters concerning this application.

_____

_____

Signature of applicant(s)

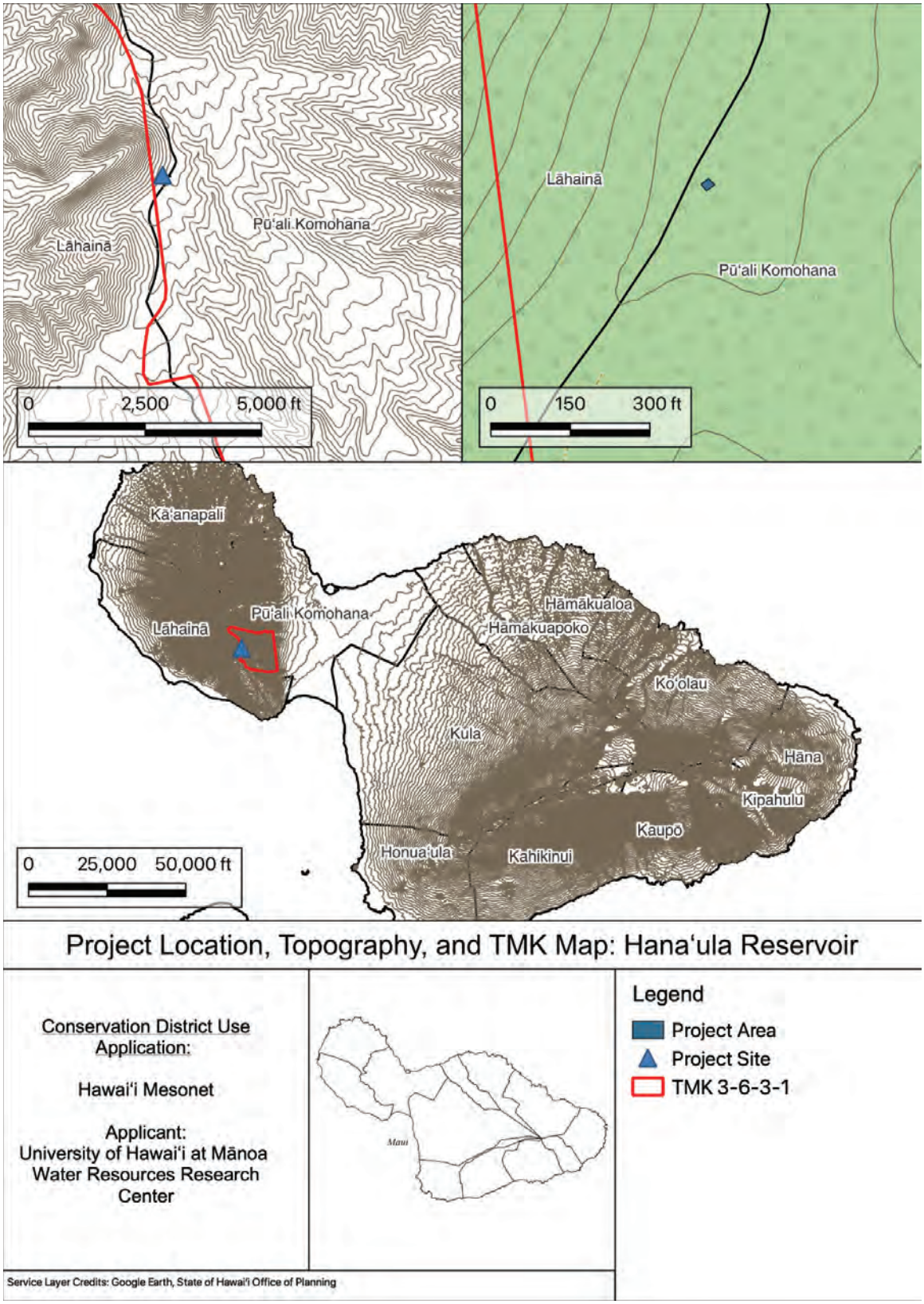


Figure 7: Project topography at and around the proposed site

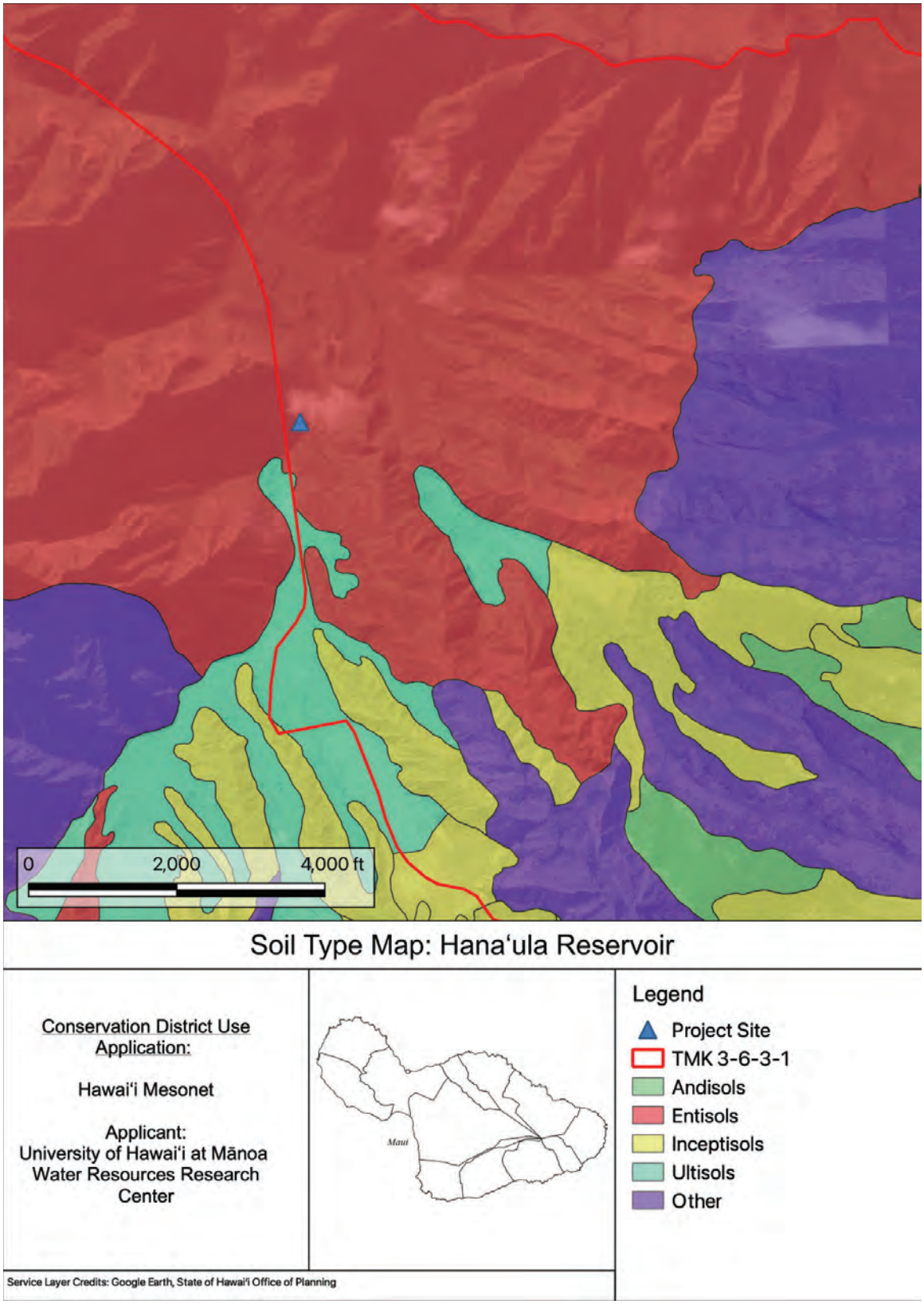


Figure 8: Soil type at the proposed site.

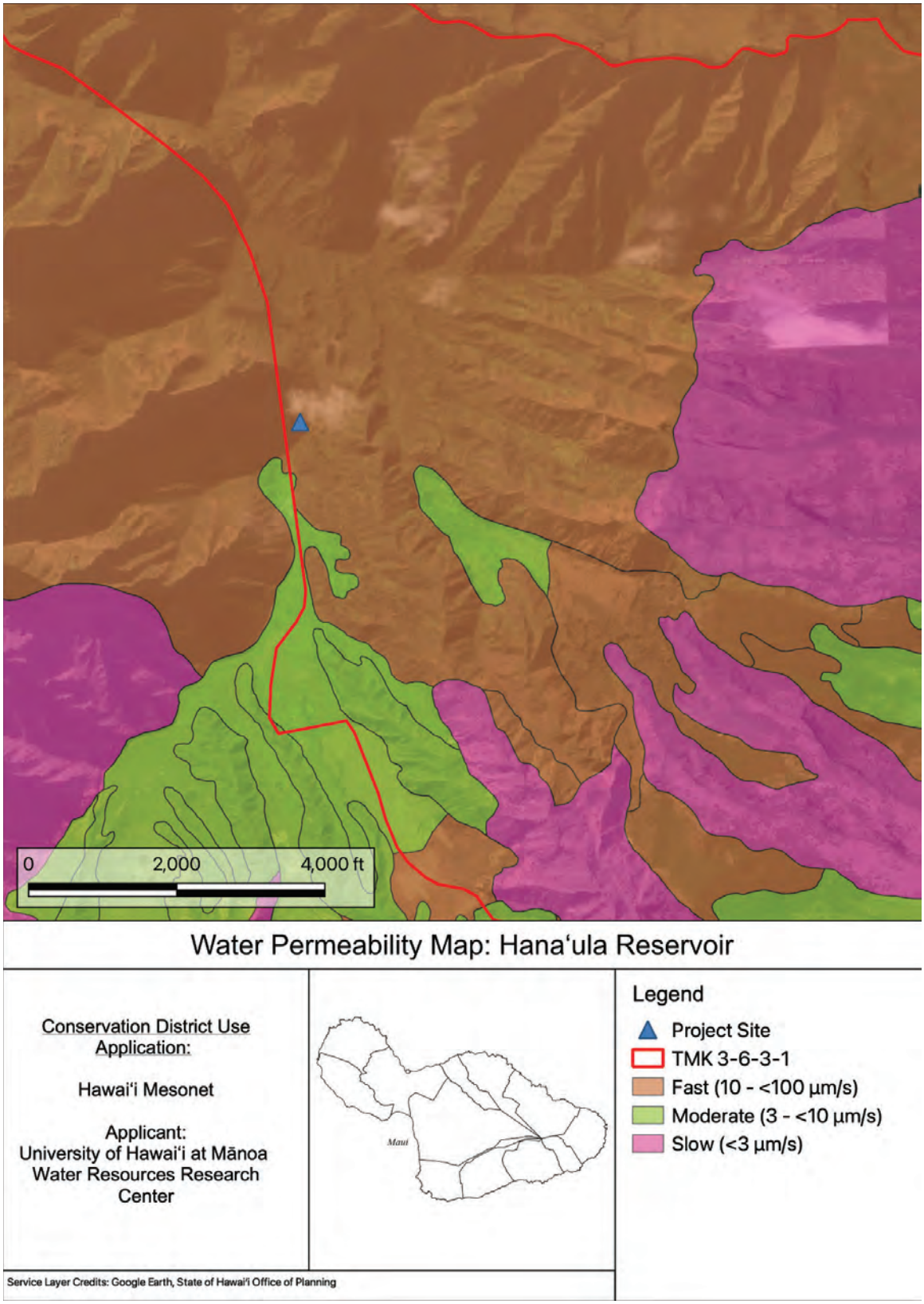


Figure 9: Water permeability at the proposed site.

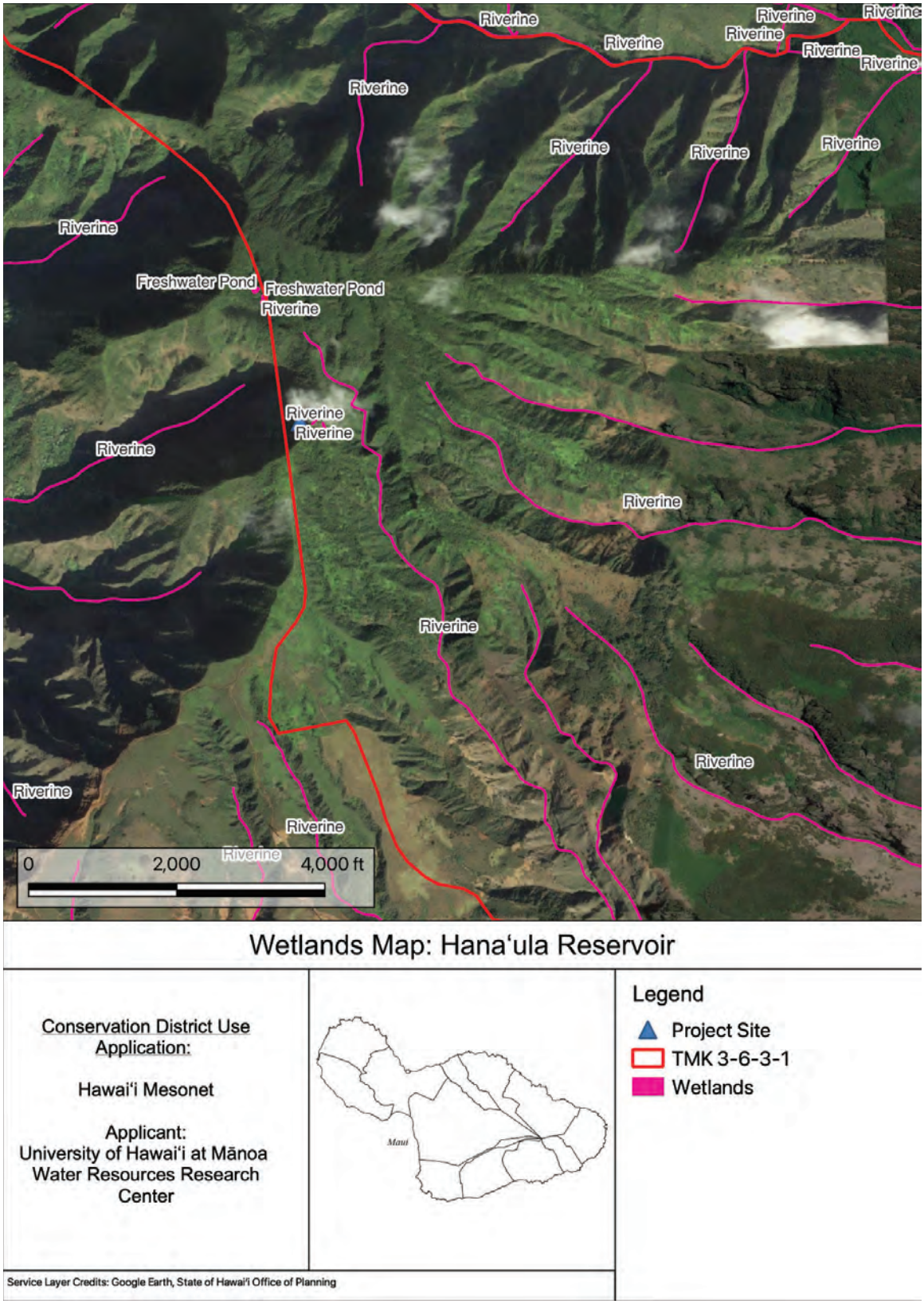


Figure 10: Wetlands map at the proposed site.

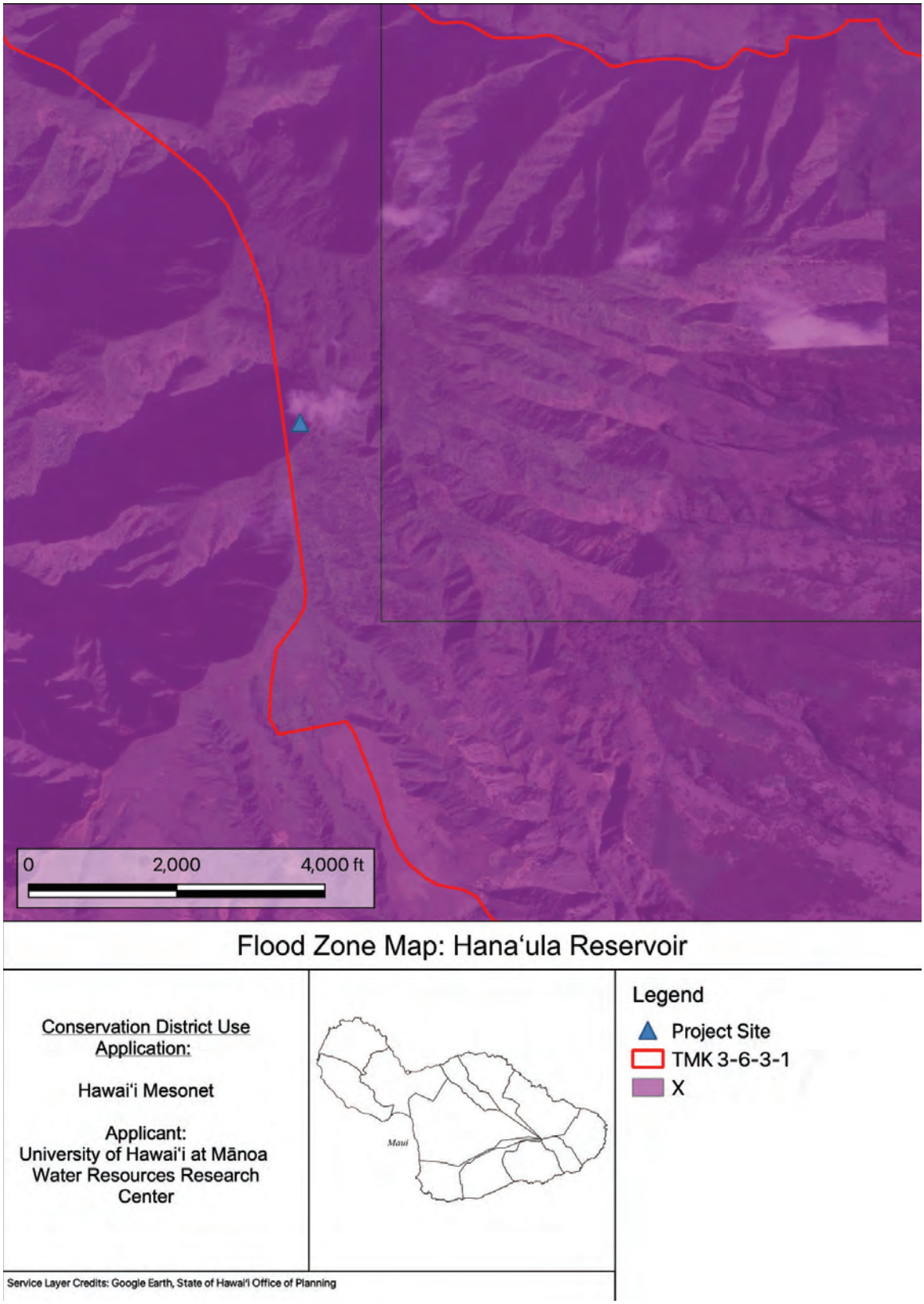


Figure 11: Flood Zones

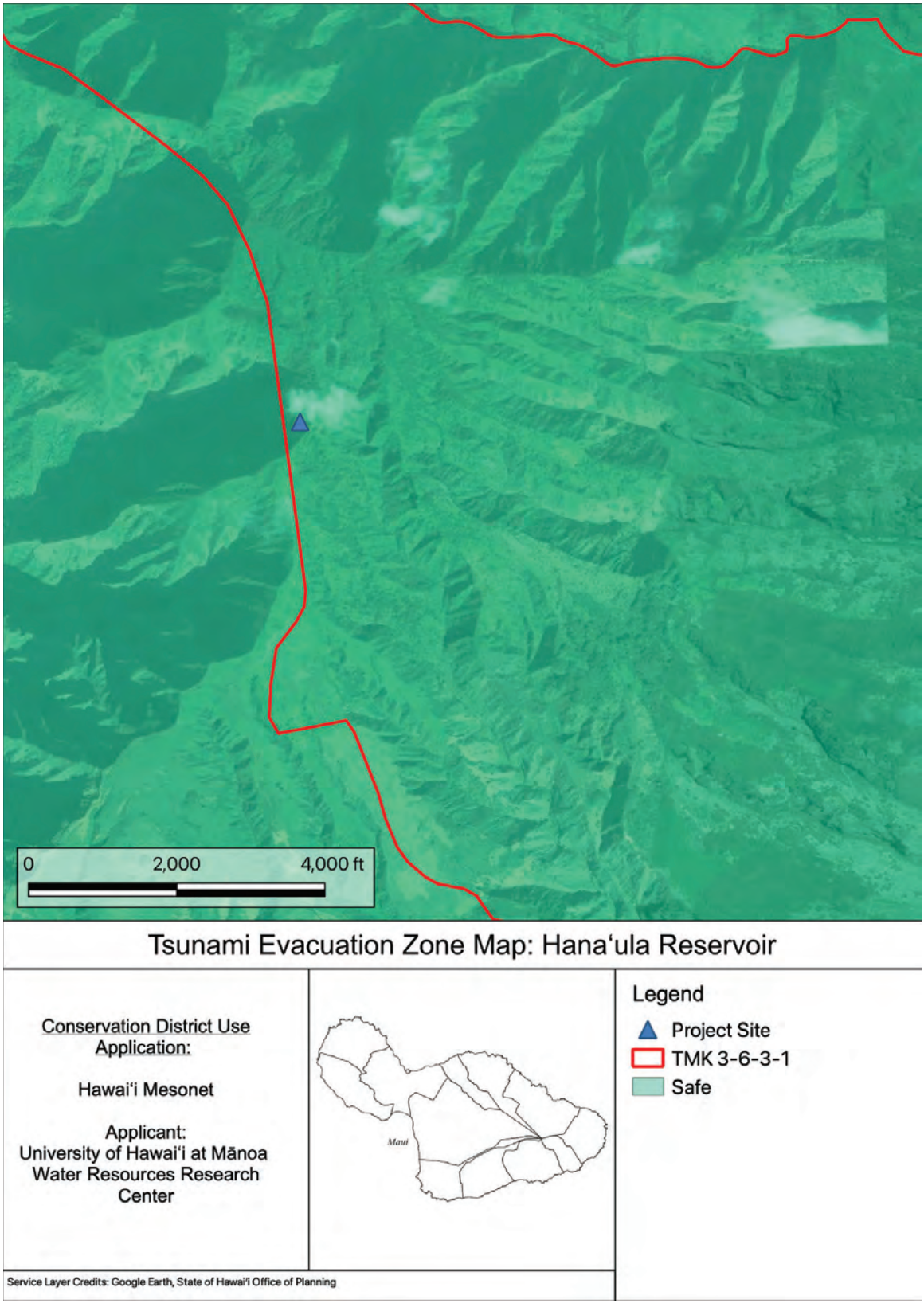


Figure 12: Tsunami Zones

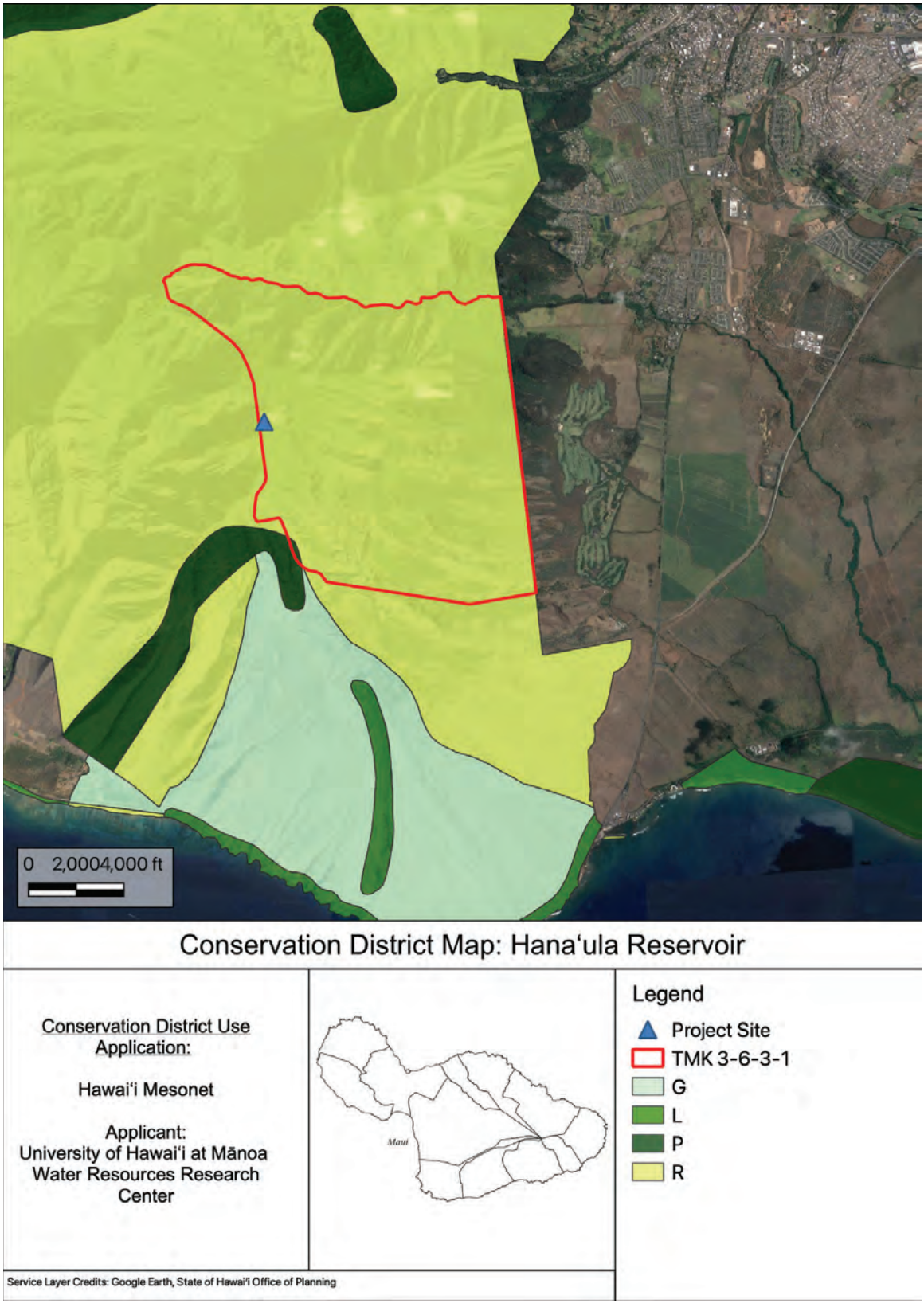


Figure 13: Conservation Districts

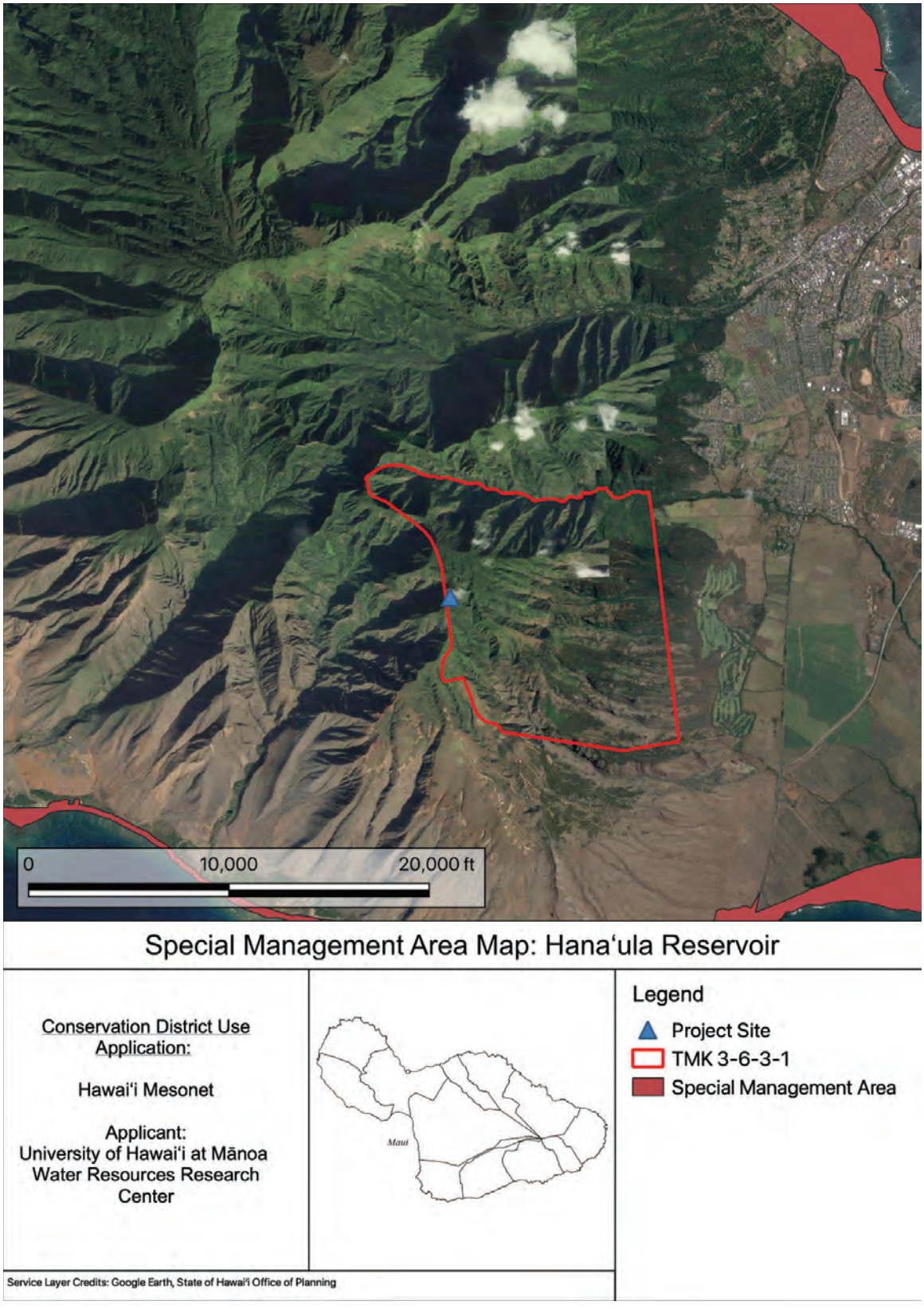


Figure 14: Special Management Area

References

Borthwick, H. H. &. (1986). *Archaeological Reconnaissance of Hanalei Valley, Halele'a Kauai*. Cultural Surveys Hawai'i.

Hōkūao Pellegrino Cultural Consultant. (2014). *Cultural Impact Assessment For The Waikapū Country Town Development Waikapū, Maui, Hawai'i*.

Kepā Maly, O. M. (2007). *HE WAHI MO'OLELO NO KAUA'ULA A ME KEKĀHI 'ĀINA O LAHAINA I MAUI*. Kumu Pono Associates LLC.

Marion Kelly & Clayton Hee & Ross Cordy. (1978). *Cultural Reconnaissance of Hydroelectric Power Plant Sites*. Department of Anthropology, Bernice P Bishop Museum.

State Historic Preservation Division
HRS 6E Submittal Form

Per §6E, Hawai‘i Revised Statutes, if the Project requires review by the State Historic Preservation Division (SHPD), please review and fill out this form and submit all requested information to SHPD. All forms and project documentation must be submitted **electronically** via HICRIS. Please visit our website.

https://shpd.hawaii.gov/hicris

If you are unable to submit electronically, please contact SHPD at (808) 692-8015. Mahalo.

The submission date of this form is:

1. APPLICANT (select one)

☐ Property Owner ☑ Government Agency

2. AGENCY (select one)

☐ Planning Department ☐ Department of Public Works ☑ Other (specify): UH Manoa

Type of Permit Applied For:

3. APPLICANT CONTACT

3.1) Name: Dylan Giardina 3.2) Title:

3.3) Street Address: 2540 Dole St., Holmes Hall 283

3.4) County: Honolulu 3.5) State: Hawai‘i 3.6) Zip Code: 96822

3.7) Phone: 8089878724 3.8) Email: dylangia@hawaii.edu

4. PROJECT DATA

4.1) Permit Number (if applicable):

4.2) TMK [e.g. (3) 1-2-003:004]: (2)-3-6-003:001

4.3) Street Address: KAHEAWA WIND FARM ACCESS ROAD

4.4) County: Maui 4.5) State: Hawaii 4.6) Zip Code: 96793

4.7) Total Property Acreage: 3436

4.8) Project Area (acreage, square feet): 0.00459 acres

4.9) List any previous SHPD correspondence (LOG Number & DOC Number, if applicable):

LOG NO. DOC NO.

5. PROJECT INFORMATION

5.1) Does the Project involve a Historic Property? A Historic Property is any building, structure, object,

district, area, or site, including heiau and underwater site, **which is over 50 years old** (*HRS §6E-2*).

☐ Yes ☑ No

5.2) The date(s) of construction for the historic property (building, structure, object, district, area, or site, including heiau and underwater site) is

5.3) Is the Property listed on the Hawai‘i and or National Register of Historic Places? To check: http://dlnr.hawaii.gov/shpd/

☐ Yes ☑ No

5.4) Detailed Project Description and Scope of Work:

Install a weather station and concrete weather station foundation near two existing reservoirs at (20.841, -156.555). The station will be equipped with instrumentation for important climate variables. We will pour a concrete foundation during this install and clear a trench to install soil sensors.

5.5) Description of **previous** ground disturbance (e.g. previous grading and grubbing):

The site is disturbed from the grading of the two existing reservoirs when they were created in the 1960s.

5.6) Description of **proposed** ground disturbance (e.g. # of trenches, Length x Width x Depth):

At the proposed site we will clear a 2 ft x 2 ft hole to a depth of 20.5 in below grade for the station foundation, a 1 ft x 1 ft hole to a depth of 18 in for the rainfall gauge, a 1 ft x 2 ft hole to a depth of 6 in and a .5 ft x .5 ft hole to depth of 18 in for soil sensors, and trenches to a depth of 4 in to install conduit for rainfall gauge and soil sensor wires.

5.7) The Agency shall ensure whether historic properties are present in the project area, and, if so, it shall ensure that these properties are properly identified and inventoried. Identify all known historic properties:

No known historic properties

5.8) Once a historic property is identified, then an assessment of significance shall occur.

Integrity (check all that apply):

☐ Location ☐ Design ☐ Setting ☐ Materials ☐ Workmanship ☐ Feeling ☐ Association

Criteria (check all that apply):

☐ a – associated with events that have made an important contribution to the broad patterns of our history
☐ b – associated with the lives of persons important in our past
☐ c – embody the distinctive characteristics of a type, period, or method of construction; represent the work of a master; or possess high artistic value
☐ d – have yielded, or is likely to yield, information important for research on prehistory or history
☐ e – have an important value to the Native Hawaiian people or to another ethnic group of the state due to associations with cultural practices once carried out or still carried out, at the property or due to associations with traditional beliefs, events, or oral accounts - - these associations being important to the group’s history and cultural identity

5.9) The effects or impacts of a project on significant historic properties shall be determined by the agency.

Effect Determination (select one):

☑ No Historic Properties Affected
☐ Effect, with Agreed Upon Mitigation Commitments (§6E-42, HRS)
☐ Effect, with Proposed Mitigation Commitments (§6E-8, HRS)

5.10) This project is (check all that apply, if applicable):

☐ an activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency;

☑ carried out with Federal financial assistance; and or

☐ requiring a Federal permit, license or approval.

If any of these boxes are checked, then the Project may also be subject to compliance with Section 106 of the National Historic Preservation Act (NHPA).

6. PROJECT SUBMITTALS

6.1) Please submit a copy of the Tax Map Key (TMK) map

6.2) Please submit a copy of the property map showing the project area and indicate if the project area is smaller than the property area.

6.3) Please submit a permit set of drawings. A permit set is a set of drawings prepared and signed by a licensed architect or engineer and is at least 65% complete.

6.4) Are you submitting a survey?

☐ Yes ☐ No

Specify Survey:

6.5) Did SHPD request the survey?

☐ Yes ☐ No

If 'Yes', then please provide the date, SHPD LOG NO, and DOC NO:

Date: LOG NO. DOC NO.

6.6) **SURVEY REVIEW FEES**. Fee for Review of Reports and Plans (§§13-275-4 and 284-4). A filing fee will be charged for all reports and plans submitted to our office for review. Please go to:

The Submittal Filing Fee Form is located on the Forms page

A check payable to the Hawaii Historic Preservation Special Fund should accompany all reports or plans submitted.

6.7) Please submit color photos/images of the Historic Property (any building, structure, object, district, area, or site, including heiau and underwater site) that will be affected by the Project.

The following are the minimum number and type of color photographs required:

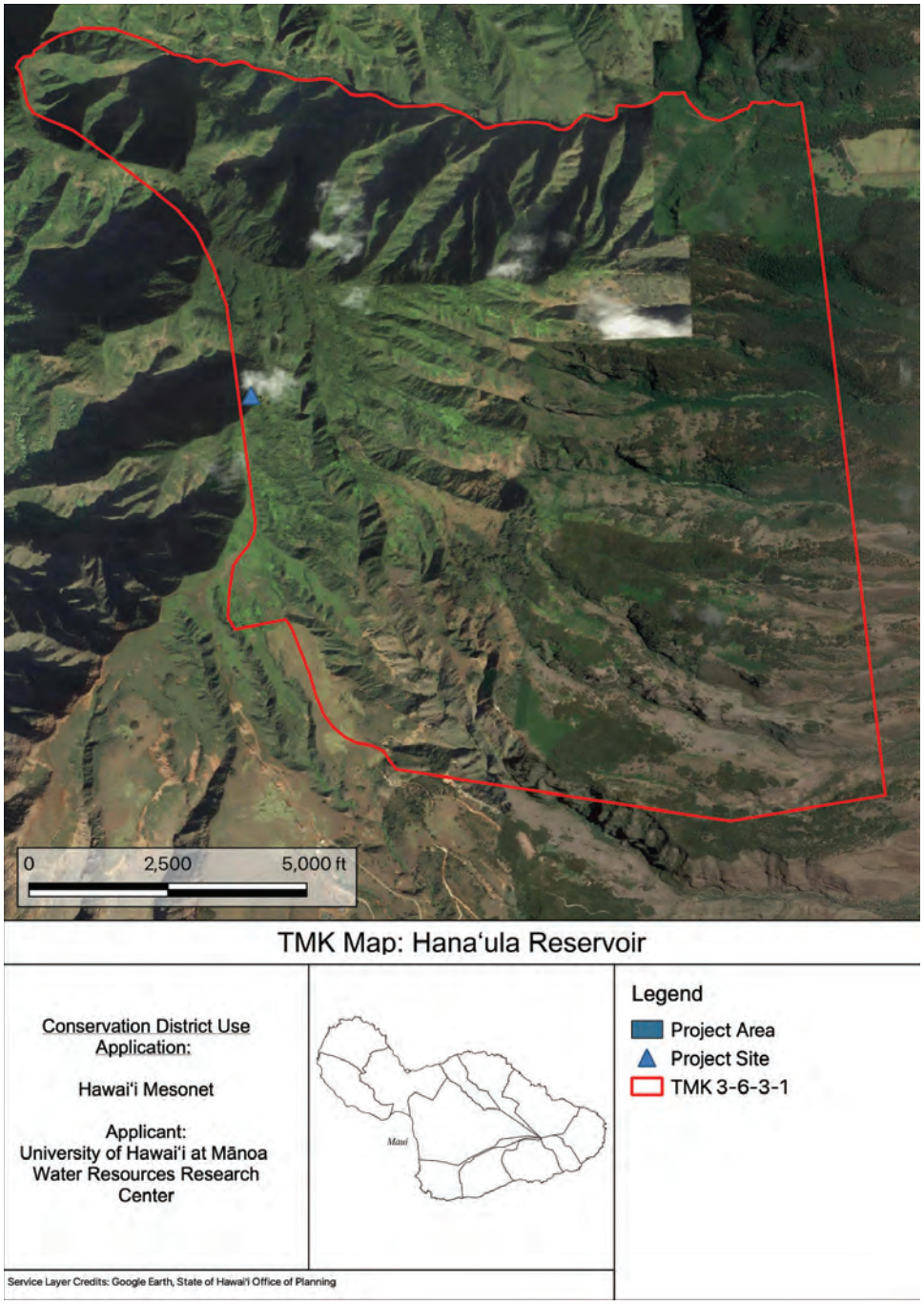
Quantity	Description
1-2	Street view(s) of the resource and surrounding area
1-2	Over view of exterior work area
1	exterior photo of the North elevation (if applicable)
1	exterior photo of the South elevation (if applicable)
1	exterior photo of the East elevation (if applicable)
1	exterior photo of the West elevation (if applicable)
1-2	interior photos(s) of areas affected (if applicable)

CHECKLIST

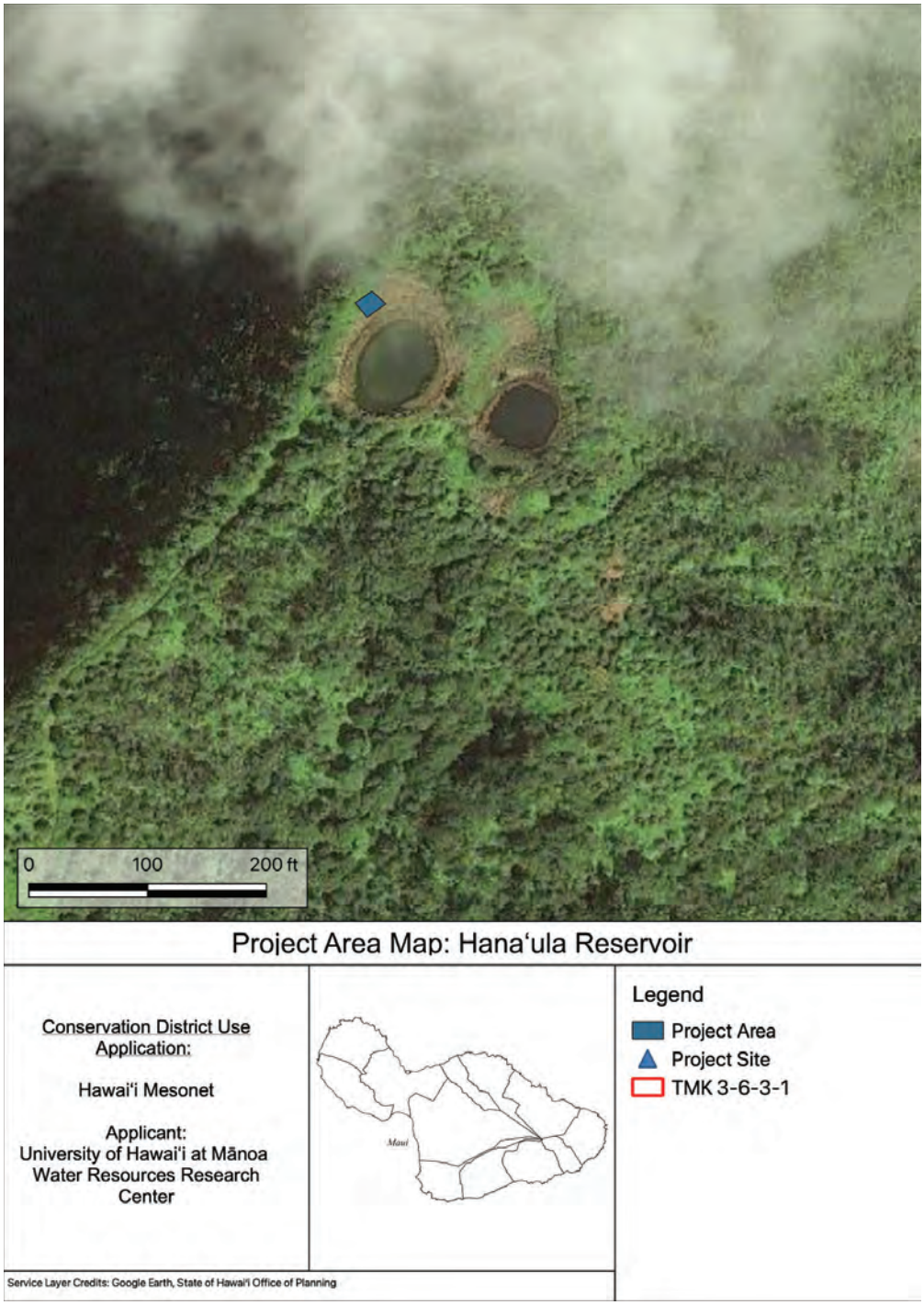
☑ **SHPD FORM 6E** (this form)

☑ **PROJECT SUBMITTALS** (any requested documentation for items 6.1 - 6.7 of this form)

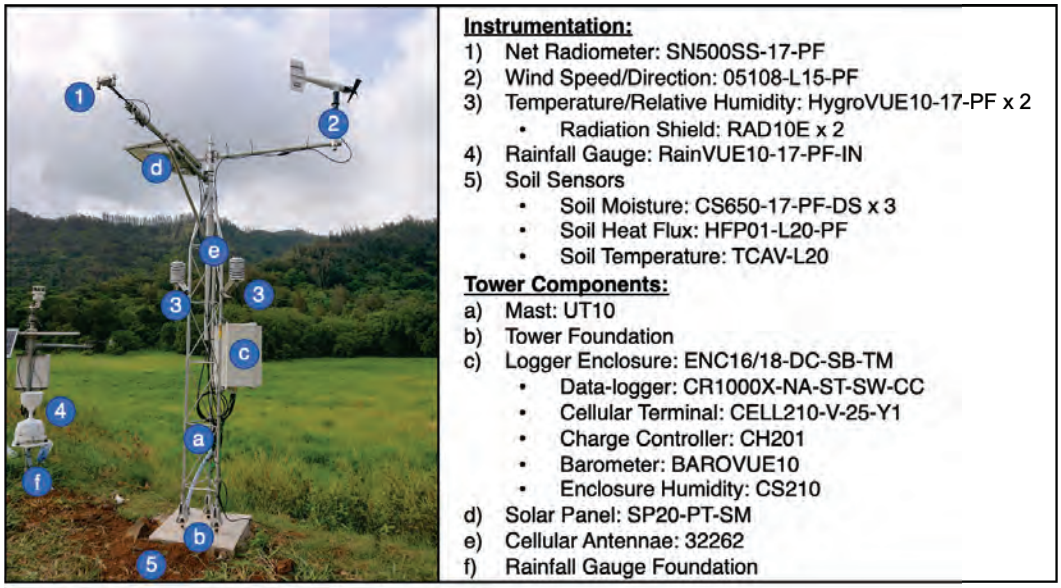
☐ **FILING FEE FORM** (if applicable)


0
2,500
5,000 ft
TMK Map: Hana‘ula Reservoir
Conservation District Use Application:
Hawai‘i Mesonet
Applicant:
University of Hawai‘i at Mānoa Water Resources Research Center
Maui
Legend
Project Area
Project Site
TMK 3-6-3-1
Service Layer Credits: Google Earth, State of Hawai‘i Office of Planning

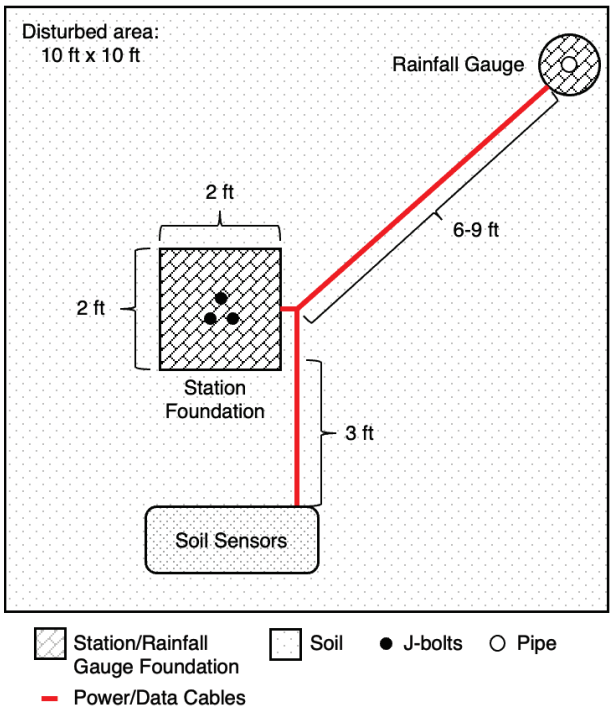
6.1: TMK Map



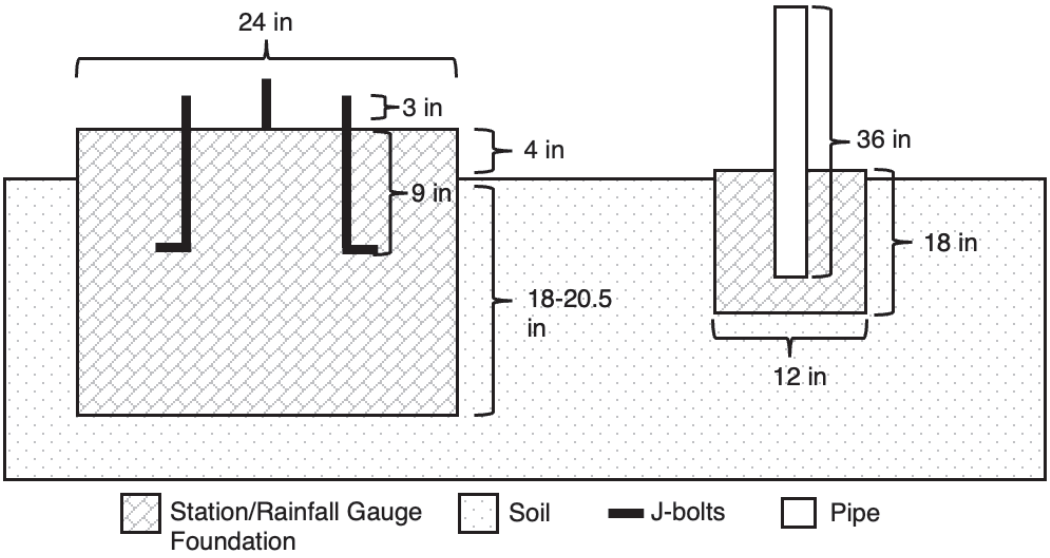
6.2: Project Area Map



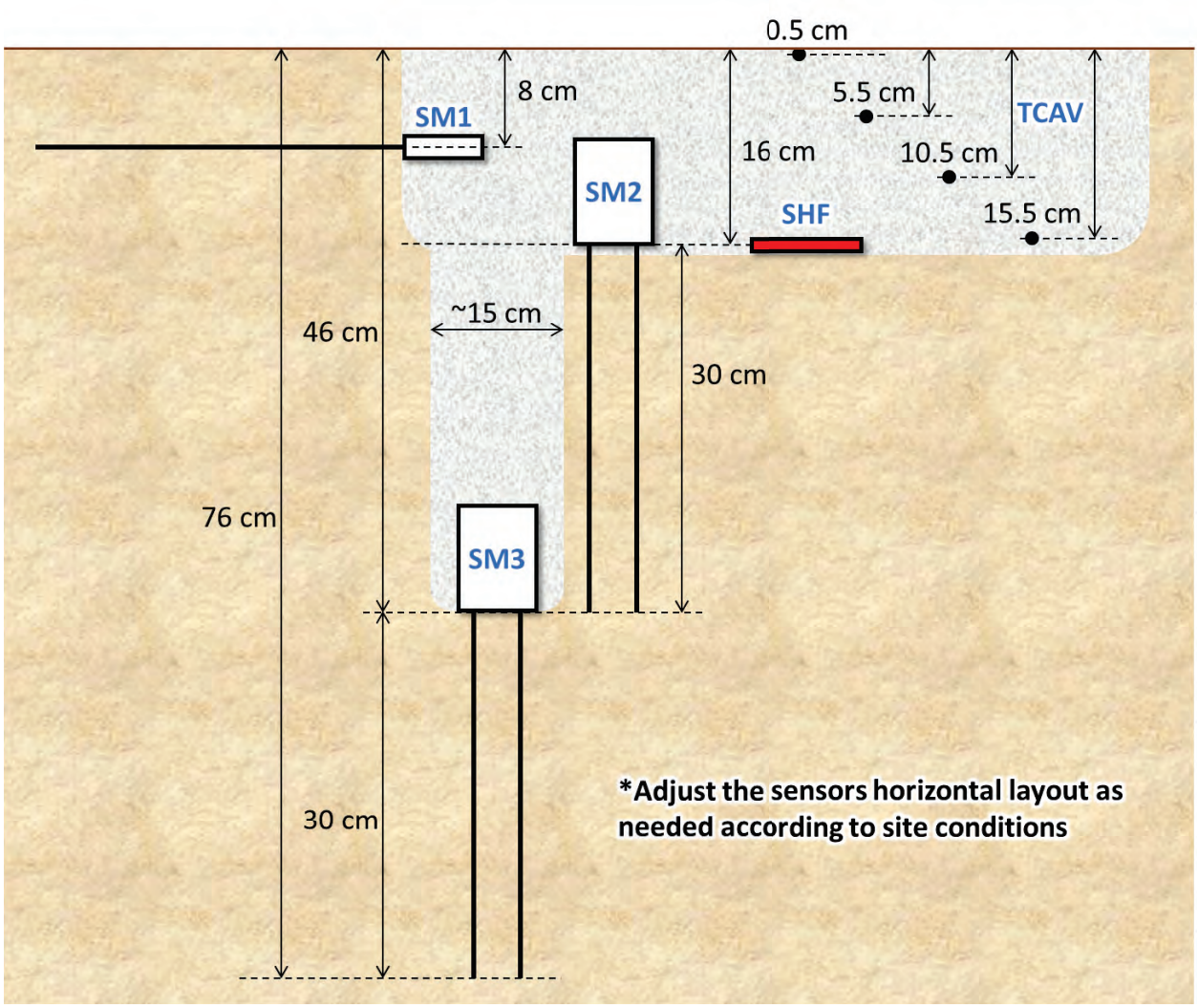
6.3.1: Schematic showing an existing Mesonet station, including primary station components and instrumentation, installed at Nu'uanu Valley, O'ahu. The proposed station and instrumentation layout would be identical to this station, outside of small changes to the layout of the rainfall gauge and station depending on local ecology and geography.



6.3.2: Schematic showing the layout of the proposed weather station mast and foundation, rainfall gauge and foundation, and soil sensor trench, as well as power and data cables routed between the sensors and the tower.



6.3.3: Schematic showing approximate dimensions for the concrete station foundation and rainfall gauge foundations.



6.3.4: Layout of subsurface soil moisture (SM1-3), soil temperature (TCAV), and soil heat flux (SHF) sensors.

6.3.5: Proposed location of station

Water Resources Research Center

UNIVERSITY of HAWAI'I MĀNOA

February 13, 2023
Ms. Mary Alice Evans, Director
State of Hawai'i Office of Planning and Sustainable Development
Environmental Review Program
235 South Beretania Street, Suite 702
Honolulu, Hawai'i 96813

Dear Ms. Evans:

HRS Chapter 343 Draft Environmental Assessment Exemption Notice
Mesonet Weather Station
Waikapū, Maui
TMK (2) 3-6-003:001

The University of Hawai'i at Mānoa Water Resources Research Center, hereby transmits the Draft Environmental Assessment Exemption Notice for a weather station located in Waikapū, Maui proposed by the University of Hawai'i at Mānoa Water Resources Research Center.

The proposed action considered is the establishment of one weather station which will improve climate monitoring capabilities across West Maui and support research, education, and stewardship efforts benifting from this improved monitoring.

This Exemption Notice was prepared in accordance with HRS 343, amended, and HAR chapter 11-200.1, and pursuant to the DLNR Comprehensive Exemption List dated 11/10/2020. A PDF copy of the Exemption Notice and a Project Location Map have been submitted via ERP's online portal.

Should you have any questions, please contact Dylan Giardina at dylangia@hawaii.edu, or (808) 987-8724.

Sincerely,

Thomas Giambelluca
Director, Water Resources Research Center

2540 Dole Street, Holmes Hall 283
Honolulu, Hawai'i 96822
Telephone: (808) 956-7847
Fax: (808) 956-5044

Justification for Exemption:

The activities proposed under this Departmental Permit include:

- Helicopter transport of materials to the proposed site;
- Construction of one weather station and rainfall gauge foundation;
- Installation of the weather station, including all weather station power, data logging, and instrumentation components, as well as subsurface soil sensors;
- Routine maintenance of the proposed station and recalibration/replacement of station instrumentation and components as needed.

The WRRC anticipates that these activities will be considered exempt actions according to HRS 343, as amended, and HAR chapter 11-200.1, and pursuant to the DLNR Comprehensive Exemption List dated 11/10/2020:

General Exemption Class 5, Item 3: Installation of new, small groundwater, surface water, or climatological monitoring and data collection equipment, structures that house or protect this equipment, and installation of electrical, telemetry, or communications systems to service these equipment or structures.