

Kalaupapa National Historical Park  
Hawai'i

US Department of the Interior  
National Park Service



# Kalaupapa National Historical Park

Rehabilitate and Upgrade the  
Existing Electrical System

ENVIRONMENTAL ASSESSMENT



May 2023

## SUMMARY

<b>Project Title:</b>	Rehabilitate and Upgrade the Existing Electrical System at Kalaupapa National Historical Park
<b>Type of Document:</b>	Environmental Assessment (EA)
<b>Legal Authority:</b>	Chapter 343, Hawaii Revised Statutes
<b>Location:</b>	Kalaupapa National Historical Park, Kalaupapa, Hawaii 96742-9998
<b>Tax Map Key:</b>	261001001; 261001002
<b>Ownership:</b>	National Park Service, Hawai'i Department of Land and Natural Resources, Hawai'i Department of Transportation, and State Department of Hawaiian Homelands
<b>Proposing/Determining Agency:</b>	National Park Service
<b>Contact:</b>	Nancy Holman, Superintendent Kalaupapa National Historical Park P.O. Box 2222 Kalaupapa, Hawaii 96742-9998 (808) 567-6802 ext. 1100 Nancy_Holman@nps.gov
<b>Alternative Contact:</b>	Linh Anh Cat Division Lead / Ecologist, Natural Resource Management Kalaupapa National Historical Park PO Box 2222 Kalaupapa, Hawaii 96742-9998 (808) 658-0752 Linhanh_Cat@nps.gov
<b>Approving Agency:</b>	State Department of Hawaiian Homelands
<b>Environmental Consultant for EA Preparation:</b>	WSP USA Solutions Inc.
<b>Land Area (approximate):</b>	Park boundaries include 8,720 acres of land and 2,060 acres of submerged and offshore lands. Proposed disturbance would not exceed 4 acres.
<b>Existing Land Use:</b>	Kalaupapa National Historical Park
<b>State Land Use Districts:</b>	Urban, Agricultural, Conservation
<b>County Zoning:</b>	Not Zoned
<b>Special Management Area:</b>	Portions of the proposed project area are within the State Conservation District. However, the majority of the settlement and proposed work areas are not within the district.
<b>Major Approvals that May be Required:</b>	See table 7.

## **EXECUTIVE SUMMARY**

This environmental assessment (EA) to rehabilitate and upgrade the existing electrical system at Kalaupapa National Historical Park (the Park) presents one action alternative and a no-action alternative and assesses the impacts on the natural and human environment that could result from implementation of the proposed action alternative compared to the no-action alternative. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) and the Hawai'i Environmental Policy Act (HEPA) and provides compliance for project implementation on both federal and state lands.

### **BACKGROUND**

The Park is located on the Kalaupapa Peninsula on the Hawaiian island of Moloka'i. The Park differs from other national park system units in that nearly all the land, marine areas, and improvements within its authorized boundary are not federally owned and are instead managed through cooperative agreements between the National Park Service (NPS) and other parties, and a lease agreement with the State Department of Hawaiian Homelands (DHHL). The State of Hawai'i's departments of Land and Natural Resources (DLNR), Transportation, and DHHL own the land within the Park boundaries.

The current electrical distribution system at the Park was installed in 1969 and is owned by the state's Department of Health (HDOH). Power outages occur frequently within the Park because of deteriorated transformers, worn and frayed transmission lines, and pole and insulator failures. The electrical distribution system has created a variety of health and safety concerns for patient-residents, NPS and HDOH staff, and visitors. Rehabilitating and upgrading the electrical distribution system would improve efficiency, comply with current Hawaiian Electric (HECO) code standards for future operations, increase reliability, make the system easier for an outside entity to maintain, and eliminate health and safety concerns.

The NPS must decide whether or not to rehabilitate and upgrade the failing electrical distribution system at the Park.

### **PURPOSE AND NEED FOR ACTION**

The purpose of the proposed action is to provide the Park and the settlement with a reliable electrical distribution system that is readily and easily serviceable and complies with federal regulations.

The proposed action is needed because the components that make up the electrical distribution system are at or near the end of their useful service life, and rehabilitation is required to support existing facilities and future requirements.

### **ALTERNATIVES**

The Council on Environmental Quality (CEQ) requires federal agencies to explore a range of reasonable alternatives that address the purpose of and need for taking action. The alternatives under consideration must include a "no-action" alternative as prescribed by 40 Code of Federal Regulations (CFR) 1502.14 (CEQ 2022).

The alternatives analyzed in this document, in accordance with NEPA, include a proposed action alternative and a no-action alternative.

The proposed action alternative was developed as a result of internal and public scoping and meets the overall purpose and need for taking action. Alternative elements that were considered but were not technically or economically feasible, did not meet the purpose of and need for the project, or created unnecessary or excessive adverse impacts on Park resources were dismissed from further analysis.

Alternatives analyzed in this EA are briefly described below and presented in greater detail in "Chapter 2: Alternatives."

## **Alternative 1: No Action**

The no-action alternative would not rehabilitate the failing electrical distribution system at the Park or in the settlement. Power outages would continue to occur frequently because of deteriorated transformers, worn and frayed transmission lines, and pole and insulator failures.

## **Alternative 2: Rehabilitate the Existing Electrical System (Preferred Alternative)**

Alternative 2 would rehabilitate the settlement's single and three-phase aboveground electrical distribution system to a looped system and connect the existing water pump house and backup generator locations. Improvements would meet current industry standards and codes, remove safety hazards, improve reliability, make the system easier for an outside entity to maintain, and reduce dependency on the diesel generator for electricity.

## **ENVIRONMENTAL CONSEQUENCES**

Impacts of the alternatives were assessed in accordance with CEQ NEPA (CEQ 2022) and HEPA regulations. Impact topics analyzed in detail in this EA include cultural resources; threatened, endangered, and other special status species; and vegetation. Impacts were evaluated for both the no-action and the action alternative. Cumulative impacts were assessed by combining the impacts of each alternative with other past, present, and reasonably foreseeable future actions.

A summary of the impacts of each alternative is provided below, and a full impact analysis is presented in "Chapter 3: Affected Environment and Environmental Consequences."

### **Cultural Resources**

Under alternative 1, there would be long-term, adverse impacts on cultural resources from ongoing maintenance of the electrical distribution system in archeologically sensitive areas and historic rock walls. Rehabilitation of the existing electrical distribution system under alternative 2 could affect archeological resources during ground-disturbing activities, including removing and replacing utility poles and other related project elements. Adverse effects could be avoided through archeological monitoring or mitigated through site documentation.

### **Threatened, Endangered, and Other Special Status Species**

Under alternative 1, ongoing maintenance of the existing electrical system could temporarily disturb some federally listed species and other special status species in the project area if they are present in the immediate vicinity during maintenance activities. However, because the duration of right-of-way (ROW) maintenance (vegetation management) in any one area would be relatively short, adverse impacts on protected species are unlikely. Rehabilitation of the existing electrical distribution system under alternative 2 could result in temporary disturbances to threatened, endangered, and other special status species during construction and maintenance. Most activities would occur in areas that are currently developed, in areas that have been previously disturbed, or along existing roadways, where potential for adverse impacts is minimal. The implementation of avoidance and mitigation measures would avoid adverse impacts on threatened, endangered, and other special status species.

### **Vegetation**

Under alternative 1, maintenance of the existing electrical system, including ROW maintenance, would result in ongoing periodic disturbances to vegetation. However, plant communities along the line corridor are dominated by nonnative species, limited in diversity, and comprise common species associated with human disturbance. Alternative 2 would result in permanent loss of vegetation where new poles would be installed and along portions of the alignment near the water pump house. Ground disturbance associated with construction and maintenance would result in temporary disturbances to vegetation.

## HOW TO COMMENT ON THIS ENVIRONMENTAL ASSESSMENT

This EA is being made available to the public; federal, state, and local agencies; and organizations through press releases distributed to a wide variety of news media, direct mailed, and announced on Park websites. The release of this EA will initiate a 30-day public review and comment period.

Copies of the document may be obtained from <http://parkplanning.nps.gov> (PEPC) or Kalaupapa National Historical Park:

Internet: <http://parkplanning.nps.gov/KALA> (PEPC Project Number 88896)

Mail:

Kalaupapa National Historical Park  
Attn: Superintendent  
290 Beretania Street Box 2222  
Kalaupapa, HI 96742-9998

Note to Reviewers: Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. Although you can ask the NPS in your comment to withhold your personal identifying information from public review, the NPS cannot guarantee that it will be able to do so.

Responses to substantive comments on the EA will be addressed in the proposed Finding of No Significant Impact (FONSI) or will be used to prepare an environmental impact statement (if warranted). Note: For more information about specific agency and staff consultation, see “Chapter 4: Consultation and Coordination.”

# CONTENTS

<b>CHAPTER 1: PURPOSE OF AND NEED FOR ACTION.....</b>	<b>1</b>
INTRODUCTION.....	1
PURPOSE OF AND NEED FOR ACTION .....	1
PROJECT AREA.....	1
<b>CHAPTER 2: ALTERNATIVES .....</b>	<b>3</b>
INTRODUCTION.....	3
ALTERNATIVE 1: NO ACTION .....	3
ALTERNATIVE 2: REHABILITATE THE EXISTING ELECTRICAL SYSTEM (PREFERRED ALTERNATIVE) .....	3
MITIGATION MEASURES .....	9
ALTERNATIVES CONSIDERED AND NOT CARRIED FORWARD .....	14
<b>CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES .....</b>	<b>15</b>
INTRODUCTION.....	15
ISSUES AND IMPACT TOPICS .....	15
Impact Topics Retained for Further Study.....	16
Impact Topics Dismissed from Detailed Analysis .....	17
GENERAL METHODOLOGY FOR ESTABLISHING AND ASSESSING IMPACTS.....	18
CULTURAL RESOURCES .....	21
Affected Environment .....	21
Environmental Consequences.....	26
THREATENED, ENDANGERED, AND OTHER SPECIAL STATUS SPECIES.....	28
Affected Environment .....	28
Environmental Consequences.....	30
VEGETATION .....	34
Affected Environment .....	34
Environmental Consequences.....	38
HAWAI'I ENVIRONMENTAL POLICY ACT SIGNIFICANCE CRITERIA ANALYSIS .....	39
<b>CHAPTER 4: CONSULTATION AND COORDINATION.....</b>	<b>44</b>
CIVIC ENGAGEMENT/EARLY CONSULTATION.....	45
AGENCY CONSULTATION .....	47
Section 7 of the Endangered Species Act.....	47
Section 106 of the National Historic Preservation Act.....	47
Department of Hawaiian Homelands and Department of Land and Natural Resources.....	47
PERMITS AND AUTHORIZATIONS.....	47
<b>ACRONYMS AND ABBREVIATIONS .....</b>	<b>49</b>
<b>REFERENCES .....</b>	<b>50</b>
<b>LIST OF PREPARERS.....</b>	<b>54</b>

## LIST OF FIGURES

Figure 1. An Aging Electrical Transformer on McKinley Street at the Park.....	1
Figure 2. Project Area .....	2
Figure 3. Alternative 2 Alignment from Lighthouse to Cemetery .....	5
Figure 4. Alternative 2 Alignment within the Settlement .....	6
Figure 5. Alternative 2 Alignment to Existing Water Pump Station .....	7
Figure 6. Alternative 2 Water Pump House Generator and Auxiliary Equipment Demolition (Option 3 Shown).....	8
Figure 7. Vegetation.....	37

## LIST OF TABLES

Table 1. Overview of Options for the Water Pump House.....	4
Table 2. Mitigation Measures .....	10
Table 3. Effects of the Proposed Action on Federally Listed Species .....	32
Table 4. Plant Communities in the Project Area .....	35
Table 5. Consultation and Coordination Summary .....	44
Table 6. Response to October 2022 Public Comments .....	45
Table 7. Potential Regulatory and Permitting Requirements.....	47

## APPENDIXES

- Appendix A: Public Scoping Comment Summary Report
- Appendix B: Consulting Parties Early Consultation Packet
- Appendix C: Parcel Boundaries and Ownership



# CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

## INTRODUCTION

Kalaupapa National Historical Park (the Park) is located on the Kalaupapa Peninsula on the Hawaiian island of Moloka'i. The peninsula is a low, flat, and triangular-shaped landform that projects from the island approximately 3 miles north into the Pacific Ocean. The Park differs from other national park system units in that nearly all the land, marine areas, and improvements within its authorized boundary are not federally owned and are instead managed through cooperative agreements between the National Park Service (NPS) and other parties, and a lease agreement with the State Department of Hawaiian Homelands (DHHL). The State of Hawai'i's Department of Land and Natural Resources (DLNR), the Hawai'i Department of Transportation, and DHHL own the land with the Park boundaries.

The current electrical distribution system at the Park was installed in 1969 and is owned by the state's Department of Health (HDOH). Power outages occur frequently within the Park because of deteriorated transformers, worn and frayed transmission lines, and pole and insulator failures (figure 1). The electrical distribution system has created a variety of health and safety concerns for patient-residents, NPS and HDOH staff, and visitors. Rehabilitating and upgrading the electrical distribution system would improve efficiency, comply with current Hawaiian Electric (HECO) code standards for future operations, increase reliability, make the system easier for an outside entity to maintain, and remove health and safety concerns. This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) and the Hawai'i Environmental Policy Act (HEPA) and provides compliance for project implementation on both federal and state lands.

## PURPOSE OF AND NEED FOR ACTION

The purpose of the proposed action is to provide the Park and the settlement with a reliable electrical distribution system that is readily and easily serviceable and complies with federal regulations.

The proposed action is needed because the condition of the electrical distribution system is substandard, inadequate, and potentially dangerous. The existing components that make up the electrical distribution system are at or near the end of their useful service life, and rehabilitation is required to support existing facilities and future requirements. Additionally, the water system that serves the Park relies on electrical power from old diesel generators. The proposed action is needed to ensure a reliable power source for the water system.



SOURCE: MK Engineers 2015

**FIGURE 1. AN AGING ELECTRICAL TRANSFORMER ON MCKINLEY STREET AT THE PARK**

## PROJECT AREA

The project area is geographically situated along the west side of the Kalaupapa Peninsula. The project area is located within the Park, primarily within the existing settlement. However, portions of the project area extend north to the Moloka'i Light Station and east along Damien Road to an existing water pump station approximately 1.5 miles from the settlement. Figure 2 shows the project area location.



# Kalaupapa National Historical Park

Hawai'i

National Park Service  
US Department of the Interior



FIGURE 2. PROJECT AREA

## **CHAPTER 2: ALTERNATIVES**

### **INTRODUCTION**

This chapter describes alternatives for providing the Park and the settlement with a reliable electrical distribution system that is readily and easily serviceable and consistent with the purpose and need for action. The EA analyzes the no-action alternative and one action alternative. This chapter also lists mitigation measures that would be adopted under the action alternative. Several other alternatives were identified during internal scoping and civic engagement that did not meet the purpose and need for action, were not feasible, or would result in too great of an environmental impact. Therefore, these alternatives were dismissed from detailed analysis. Alternatives considered but dismissed are discussed at the end of this chapter.

### **ALTERNATIVE 1: NO ACTION**

The no-action alternative would not rehabilitate the failing electrical distribution system at the Park or in the settlement. Power outages would continue to occur frequently because of deteriorated transformers, worn and frayed transmission lines, and pole and insulator failures. Health and safety concerns for patient-residents, NPS and HDOH staff, and visitors would continue because the components of the electrical distribution system are at or near the end of their useful service life and failing.

### **ALTERNATIVE 2: REHABILITATE THE EXISTING ELECTRICAL SYSTEM (PREFERRED ALTERNATIVE)**

This alternative would rehabilitate the settlement's single and three-phase aboveground electrical distribution system to a looped system and connect the existing water pump house and backup generator locations (figures 3 and 4). Improvements would meet current industry standards and codes, remove safety hazards, improve reliability, make the system easier for an outside entity to maintain, and reduce dependency on the diesel generator for electricity. Within the existing electrical distribution system alignment and settlement area, this alternative would:

- Replace 110 power poles.
- Replace 56 existing pole-mounted light fixtures with dark sky-compliant lighting.
- Upgrade 13 poles from single phase to three phases.
- Upgrade insulators and attachment hardware for all poles.
- Replace and upgrade 39,000 linear feet of aboveground cable as needed.
- Replace 2 pad-mounted and 23 pole-mounted transformers.
- Install a new alignment of 20 poles along Kamehameha Street to reduce potential impacts on cultural resources and documented archeological sites and facilitate access for pole maintenance.

The construction period is expected to occur over approximately one year (334 days) and is anticipated to start in August 2025 and continue for several construction seasons. However, given the logistical challenges associated with transporting materials and equipment to the project area via barge as well as potential supply chain issues, unexpected delays are possible. Therefore, construction could take longer than one year to complete.

Disturbance would be limited to a 10-foot-wide maximum clearance on each side of the electrical line (for a maximum width of 20-feet). The total width of the right-of-way (ROW) may be less than 20 feet along some portions of the route to avoid sensitive areas or resources. Most of the project area (approximately 75%) would follow existing electrical line corridors and would not require any new

clearing. New clearing for ROW would be limited to the portion of the project extending from the settlement, east along Damien Road to the water pump station (figure 2). The area of new clearing needed to accommodate the new line connecting the water pump station to the existing electrical grid would be a maximum of approximately 4 acres. The actual amount of clearing required would depend on the selected configuration option for this portion of the project (table 1), the amount of overlap with existing road and utility ROWs, and other elements of the final project design. Please note that the project area as depicted in figure 2 has been enlarged for enhanced visibility and is not to scale. The width of the linear corridor shown on figure 2 is approximately 25 feet wide; however, the actual ROW would have a maximum width of 20 feet.

The existing water pump house generator and auxiliary equipment are old, in poor condition, and have reached the end of their service life. Additionally, the old generators are diesel-powered and create carbon emissions. To connect the water pump house and backup generator locations to the rehabilitated electrical distribution system, alternative 2 would also:

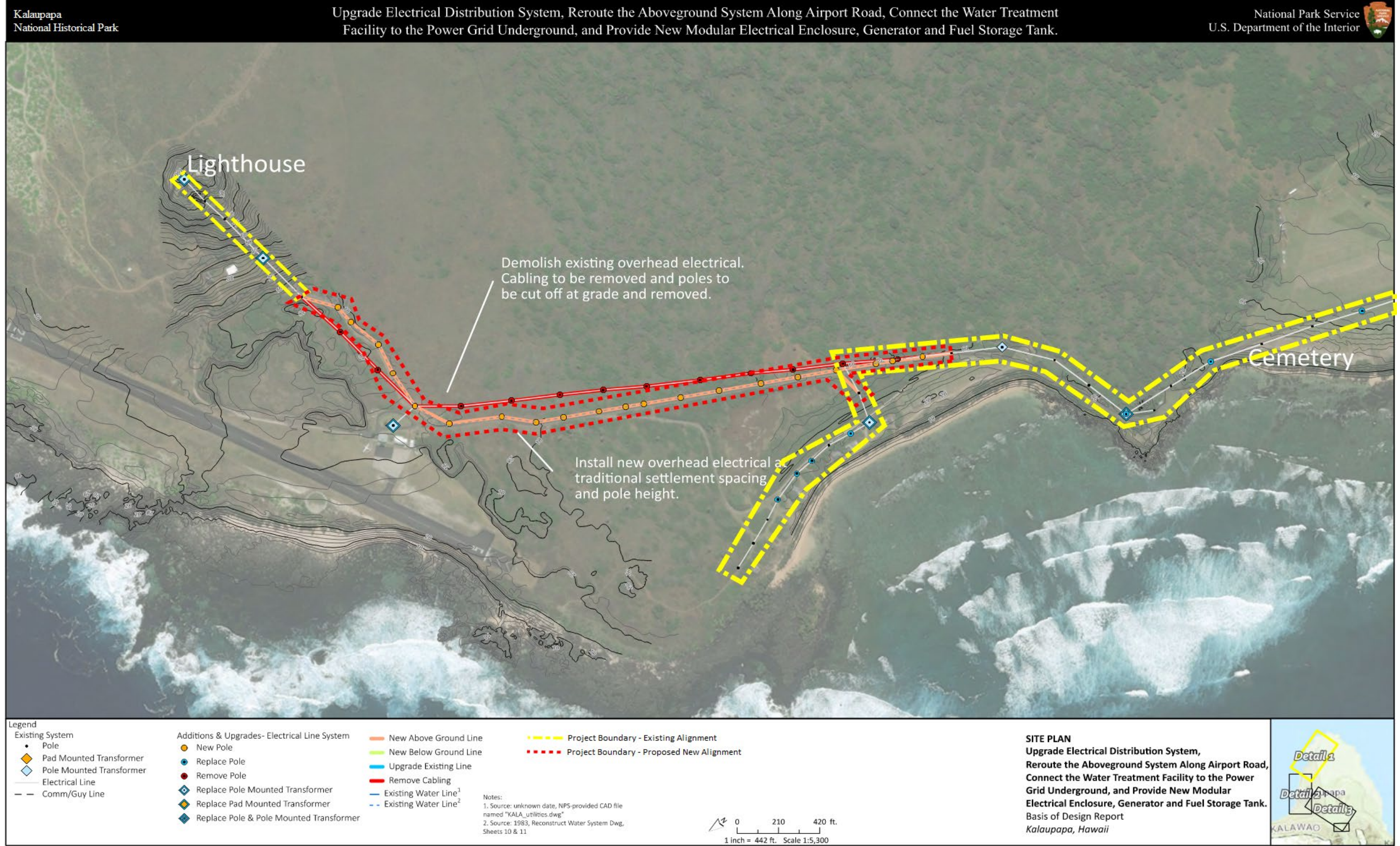
- Remove the existing two generators that currently reside within the existing Generator Building and replace with a single new generator. Install the new power supply equipment and outlet to a new backup generator.
- Install two new poles with cross arms, insulators, and hardware in existing pole locations near the east end of the settlement.

The NPS is considering three options (table 1) for the portion of the alignment that would connect the water pump house and backup generator to the rehabilitated electrical distribution system (figures 5 and 6). Specific details and design features associated with selected option would be developed during final design. Each option is fully evaluated for environmental impacts in this EA, and a final decision will be addressed in the proposed Finding of No Significant Impact (FONSI) or will be used to prepare an environmental impact statement (if warranted).

**TABLE 1. OVERVIEW OF OPTIONS FOR THE WATER PUMP HOUSE**

	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
Configuration	Overhead cable	On-the-ground conduit	Underground cable
Description	The electrical line would consist of a traditional pole-mounted overhead cable alignment.	The electrical cable would be placed in a conduit that would be aboveground but would not be mounted on poles.	The electrical cable would be placed in a conduit and buried.
Overview of Disturbance Required	Disturbance would be limited to a 10-foot-wide maximum clearance on each side of the electrical line (for a maximum width of 20-feet). Vegetation clearing including tree removal or limb cutting could be required to accommodate and maintain an appropriate clearance around the overhead cable alignment. The total amount of vegetation clearing would not exceed 4 acres. Ground disturbance would occur at structure bases.	Disturbance would be up to the same amount as under option 1, but tree removal or limb cutting may not be required because the forest canopy would be less likely to interfere with the cable if it is placed in an on-the-ground conduit compared to an overhead alignment. Limited ground disturbances may be necessary to secure the conduit to the ground.	Ground disturbance would be greater than under options 1 and 2 because trenching would be required to bury the cable. Once constructed, option 3 would require the least amount of maintenance, including vegetation management. Under option 3, much of the new segment would be located adjacent to existing roads or an existing water pipeline, minimizing ground disturbance in previously undisturbed areas and the need for additional access routes or ROW maintenance following construction.





**FIGURE 3. ALTERNATIVE 2 ALIGNMENT FROM LIGHTHOUSE TO CEMETERY**



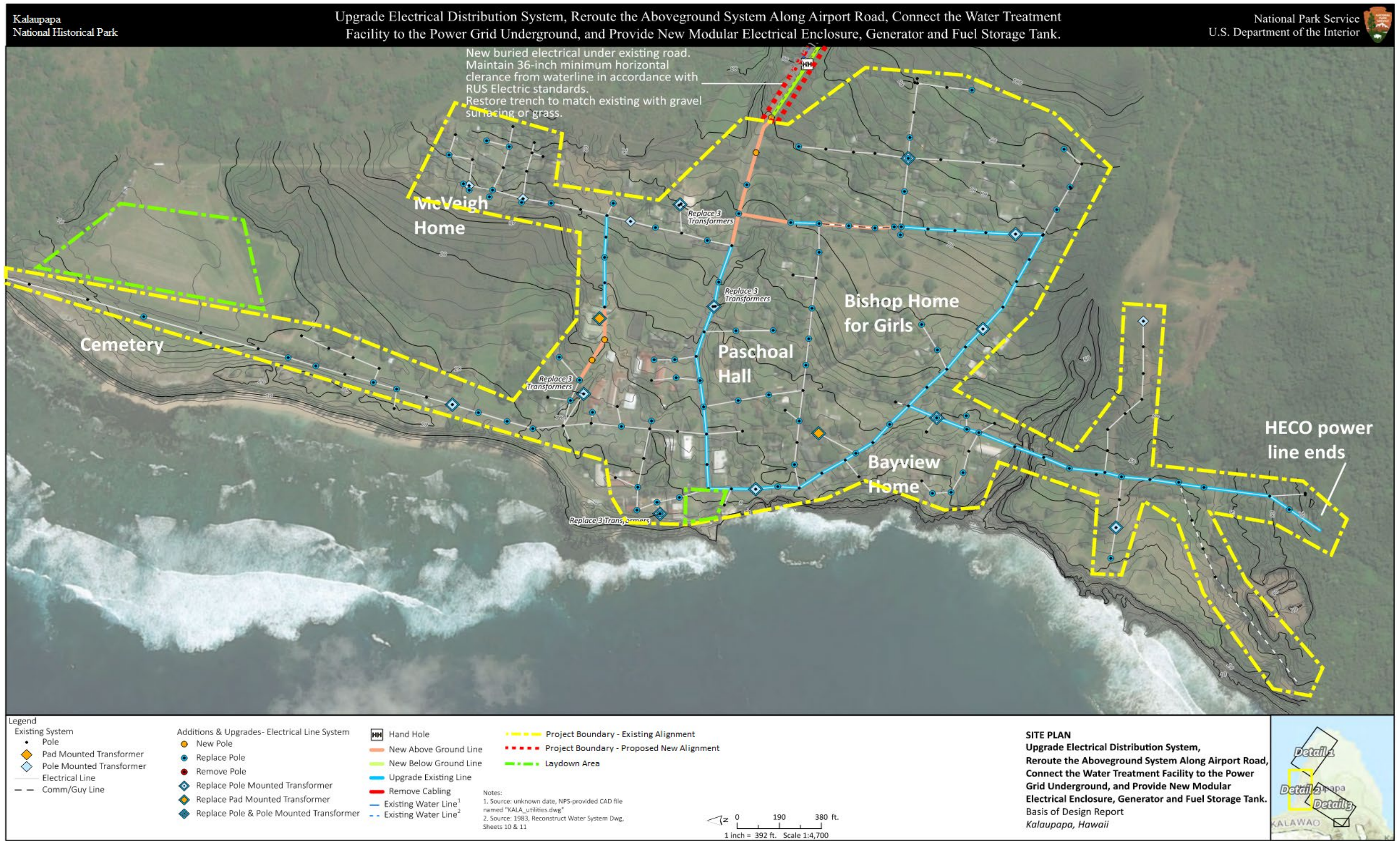


FIGURE 4. ALTERNATIVE 2 ALIGNMENT WITHIN THE SETTLEMENT



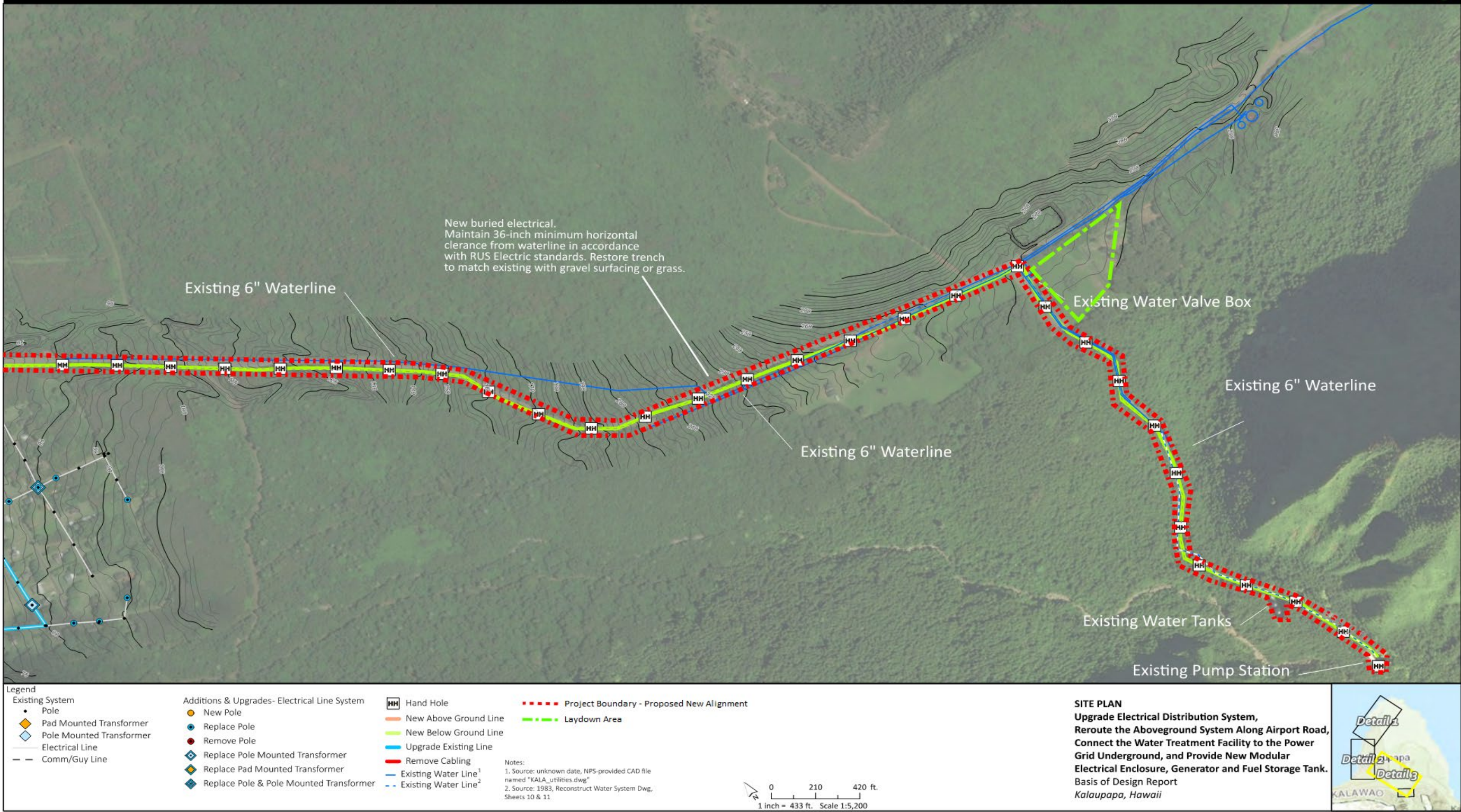


FIGURE 5. ALTERNATIVE 2 ALIGNMENT TO EXISTING WATER PUMP STATION



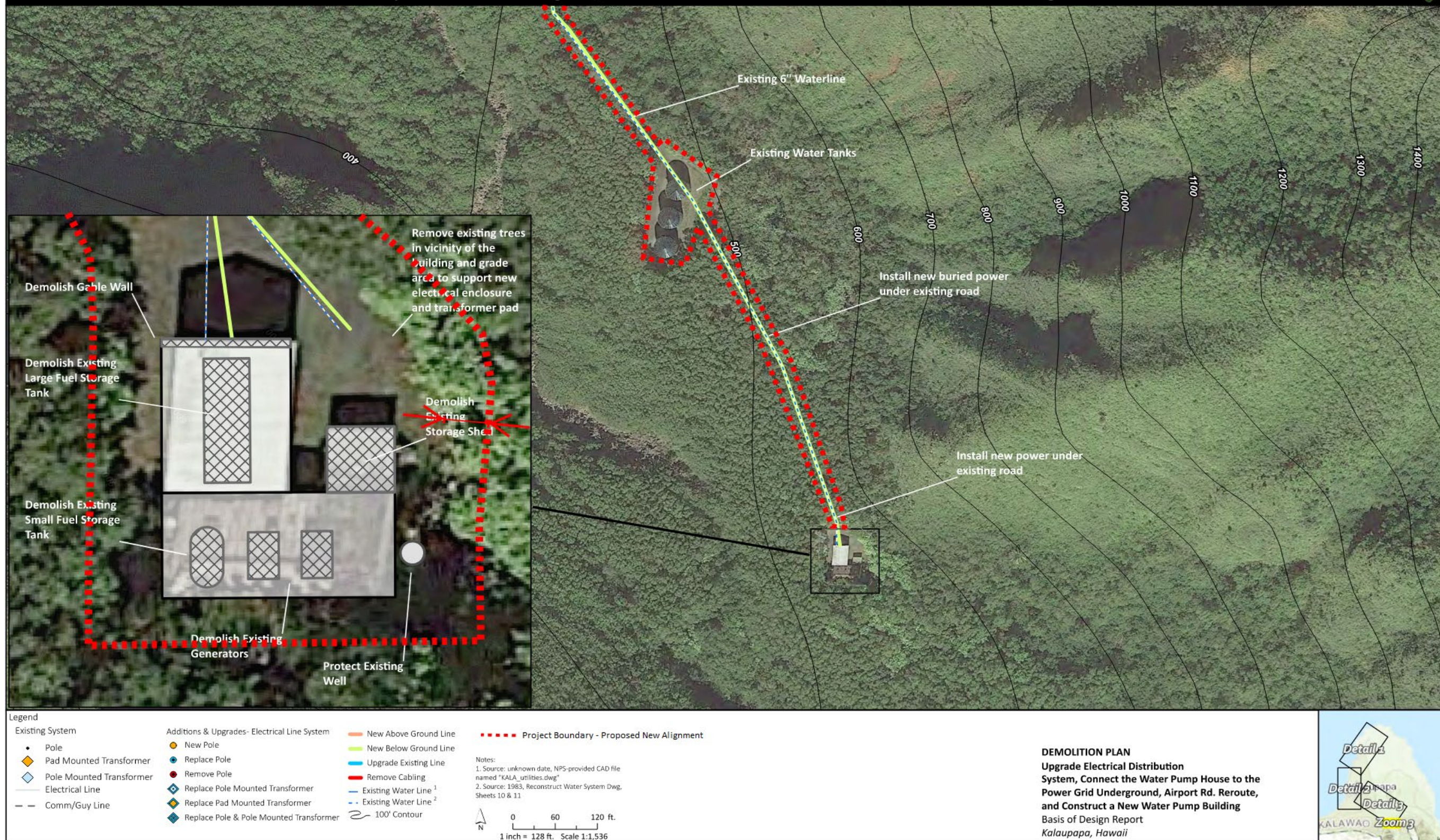


FIGURE 6. ALTERNATIVE 2 WATER PUMP HOUSE GENERATOR AND AUXILIARY EQUIPMENT DEMOLITION (OPTION 3 SHOWN)



## MITIGATION MEASURES

Under its Organic Act, the NPS has the authority to develop and direct mitigation for impacts on resources under its jurisdiction. This is in addition to the requirements that may be created through the need to comply with laws and regulations managing resource impacts that are overseen by other agencies. To meet these obligations, the NPS has developed Management Policies and Director's Orders that identify the authorities (laws, regulations, and executive orders) directing how impacts and mitigation to resources will be managed and identifying the policies and procedures by which the NPS will comply with these authorities. A full listing of the NPS policies is available from the NPS Office of Policy website at: <https://npspolicy.nps.gov/index.cfm>.

Mitigation measures that would be implemented under alternative 2 are shown in table 2.

**TABLE 2. MITIGATION MEASURES**

#	Mitigation Measure	Authority	Responsibility
<b>General</b>			
Gen-1	Clearly state resource protection measures in the construction specifications and instruct workers to avoid conducting activities outside the project area. Limit disturbances to roadsides and other areas inside the project area.	NPS	Design/Build (DB) Contractor
Gen-2	Hold a preconstruction meeting to inform contractors about NPS sensitive areas, including natural and cultural resources.	NPS	DB Contractor
Gen-3	Delineate construction zones outside existing disturbed areas with flagging and confine surface disturbance to the construction zone.	NPS	DB Contractor
Gen-4	Site staging and storage areas for construction vehicles, equipment, materials, and soils; and wash rack for cleaning vehicles and equipment, in previously disturbed or paved areas approved by the NPS. These areas would be outside visitor use areas and clearly identified in advance of construction.	NPS	DB Contractor
Gen-5	Require contractors to properly maintain construction equipment to minimize noise and do not allow construction vehicle engines to idle for extended periods.	NPS	DB Contractor
Gen-6	Remove tools, equipment, barricades, signs, and surplus materials from the project area upon completion of the project.	NPS	DB Contractor
<b>Cultural Resources</b>			
CR-1	In accordance with the recommendations of the September 2021 Intensive Archeological Survey report for the project (Walker and Filimoehala 2021), complete 3.28-foot by 3.28-foot (1 meter by 1 meter) controlled excavation units at the four locations where traditional Hawaiian archeological deposits were identified to document and characterize the deposits. Archeological surveys were previously conducted in 2018 and 2019 (Chambers and Athens 2020; Chambers and Pacheco 2020).	NPS	NPS
CR-2	Prior to the start of construction, develop an archeological monitoring plan to identify monitoring locations and describe procedures and methods to ensure resources are avoided, or in some cases recorded, prior to unavoidable impacts.	NPS	NPS
CR-3	Conduct archeological monitoring during construction in accordance with the approved archeological monitoring plan. Prepare an archeological monitoring report in accordance with Hawai'i State Historic Preservation Division Administrative Rule 13-279.	NPS	NPS

#	Mitigation Measure	Authority	Responsibility
CR-4	Implement measures during construction such as the use of plywood or other ground cover to protect the subsurface from heavy machinery.	NPS	DB Contractor
CR-5	Replace existing lighting with dark sky-compliant fixtures and use dark sky-compliant fixtures for new lighting.	NPS	NPS
<b>Threatened, Endangered, and Other Special Status Species</b>			
TES-1	Do not disturb, remove, or trim woody plants greater than 15 feet tall during the bat-birthing and pup-rearing season (June 1 through September 15).	USFWS	DB Contractor
TES-2	Do not use barbed wire fencing.	USFWS	DB Contractor
TES-3	Do not approach, feed, or disturb the Hawaiian goose.	USFWS	DB Contractor
TES-4	If the Hawaiian goose is observed loafing or foraging within the project area during the breeding season (September through April), engage a biologist familiar with Hawaiian goose nesting behavior to survey for nests in and around the project area prior to the resumption of work. Repeat surveys after subsequent delays of work of three or more days (during which the birds may attempt to nest).	USFWS	NPS
TES-5	Cease work immediately and contact the USFWS for further guidance if a nest is discovered within a radius of 150 feet of the proposed project, or a previously undiscovered nest is found within the 150-foot radius after work begins.	USFWS	NPS
TES-6	In areas where the Hawaiian goose is known to be present, post and implement reduced speed limits and inform project personnel and contractors about the presence of endangered species on-site.	USFWS	NPS
TES-7	Do not conduct project work directly in aquatic environments.	USFWS	DB Contractor
TES-8	In areas where waterbirds are known to be present, post and implement reduced speed limits and inform project personnel and contractors about the presence of endangered species on-site.	USFWS	NPS

#	Mitigation Measure	Authority	Responsibility
TES-9	<p>Engage a biological monitor familiar with the species' biology to conduct Hawaiian waterbird nest surveys where appropriate habitat occurs within the vicinity of the project area prior to project initiation. Repeat surveys again within three days of project initiation and after subsequent delays of work of three or more days (during which the birds may attempt to nest). If a nest or active brood is found:</p> <ul style="list-style-type: none"> <li>• Contact the USFWS within 48 hours for further guidance.</li> <li>• Establish and maintain a 100-foot buffer around active nests and broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.</li> <li>• Have a biological monitor familiar with the species' biology present on-site during construction or earth-moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely affected.</li> </ul>	USFWS	NPS
TES-10	Do not stockpile project construction-related materials (e.g., fill, revetment rock, pipe) in or near aquatic habitats; implement erosion control measures (e.g., protect with filter fabric) to prevent materials from being carried into waters by wind, rain, or high surf.	USFWS	DB Contractor
TES-11	Fuel project-related vehicles and equipment away from aquatic environments and develop a contingency plan to control petroleum products accidentally spilled during the project, especially when being unloaded from the barge. Retain the plan on-site with the person responsible for plan compliance. Store absorbent pads and containment booms on-site to facilitate the clean-up of accidental petroleum releases.	USFWS	DB Contractor
TES-12	Protect deliberately exposed soil or under-layer materials used in the project near water from erosion and stabilize as soon as possible with geotextile, filter fabric, or native or noninvasive vegetation matting or hydro-seeding.	USFWS	DB Contractor
TES-13	Use only downward-facing and shielded lighting for lighting used during construction or installed as part of the project to prevent it from being visible from above.	USFWS	DB Contractor
TES-14	Do not conduct project work during the night.	USFWS	DB Contractor
TES-15	If Blackburn's sphinx moth or its host plants are identified in the project area before or during project construction, contact the USFWS for guidance on mitigation measures to be implemented.	USFWS	NPS
TES-16	Prohibit tree tobacco from entering the project area to avoid attracting Blackburn's sphinx moth.	USFWS	NPS

#	Mitigation Measure	Authority	Responsibility
<b>Vegetation</b>			
Veg-1	Develop a detailed revegetation and rehabilitation plan for enhancing areas disturbed by the project. The primary objective of the plan would be to reestablish a self-sustaining native plant community and ensure soil stability. Where applicable, grade disturbed areas to natural contours; replace stockpiled topsoil; and mulch, replant, or reseed with native plants. Regularly monitor planted areas to determine whether remedial actions such as erosion control, invasive, nonnative plant species control, or replacement plantings are necessary.	NPS	NPS
Veg-2	Monitor reclaimed areas annually for five years after construction to determine whether reclamation and revegetation efforts were successful.	NPS	DB Contractor
<b>Wetlands</b>			
WL-1	Avoid siting staging areas in immediate proximity to wetlands and streams.	NPS	DB Contractor
WL-2	Use silt fences or other erosion control measures during construction to minimize the potential for sedimentation or water quality degradation in wetlands and streams.	NPS	DB Contractor
WL-3	Conduct project work in compliance with NPS Director's Order 77-1: <i>Wetland Protection</i> (NPS 2016a).	NPS	DB Contractor
<b>Biosecurity and Invasive Species</b>			
BIS-1	Thoroughly pressure wash vehicles, equipment, and machinery such that they are visibly free of dirt, mud, plant debris, and invasive pests at an NPS-approved location prior to entering the Park.	NPS	DB Contractor
BIS-2	Sanitize cutting tools including handsaws, machetes, chainsaws, and loppers to remove visible dirt, contaminants, and potential pathogens prior to entry into the Park.	NPS	DB Contractor
BIS-3	Before entering the Park, visually inspect and clean personal protective equipment, including boots, clothes, hard hats, harnesses, belts, and equipment for dirt, mud, seeds, plant debris, and insects.	NPS	DB Contractor
BIS-4	At their discretion, NPS personnel from the Park would perform inspections of vehicles, equipment, machinery, cutting tools, base yards, staging areas, materials, material packaging, material deliveries, material storage, and personal protective equipment to confirm that they are visibly free of dirt, mud, plant debris, and invasive pests.	NPS	NPS

## **ALTERNATIVES CONSIDERED AND NOT CARRIED FORWARD**

Alternatives were identified during internal, agency, and public scoping. During scoping, several options were proposed that focused on renewable energy sources; however, the purpose of the proposed action is to provide the Park and the settlement with a reliable electrical distribution grid—not to produce electricity. As a result, these alternatives were not carried forward for detailed analysis because they did not meet the purpose and need for action, were not feasible, or had several disadvantages.

### **Adding Photovoltaic Arrays, Hydroelectric, or Wind Energy to the Electrical System**

Solar availability within the Park is limited by the pali (i.e., cliffs) that shade the peninsula much of the day and reduce the quantity of electricity generated. Additionally, the water pump house is in a deep valley that limits the amount of available sunlight, making a photovoltaic array option not feasible. Use of the land at the top of the pali was deemed not feasible because the land is privately owned, and additional leasing agreements with the landowners would be required. Furthermore, installing infrastructure from the topside and down the pali could affect sensitive resources and change the existing viewshed (MK Engineers 2015).

Hydroelectric sources were also deemed not feasible because the stream on which the water pump house is located is ephemeral (intermittent). Wind energy sources were deemed not feasible because the water pump house is in a deep valley with less wind than elsewhere on the peninsula (NPS 2017a).

Although solar, hydroelectric, and wind energy options are not feasible at this time, the NPS remains committed to exploring renewable energy options as part of its continued effort to reduce greenhouse gas emissions and mitigate their effect on climate change as outlined in the Park's Climate Action Plan (NPS 2010a). The proposed project does not preclude adding solar or other renewable energy sources to the Park's electrical system in the future if they become feasible. It also does not preclude sourcing renewable energy from topside Moloka'i for transmission to the Park.

## CHAPTER 3: AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

### INTRODUCTION

This chapter describes the affected environment and analyzes the potential environmental impacts of the alternatives described in “Chapter 2: Alternatives” for the resources described below. The affected environment describes existing conditions for those elements of the natural and human environment that would be affected by the implementation of the alternatives considered in this EA. Impacts on each of these topics are then analyzed in the “Environmental Consequences” section for each alternative. The comparative analysis of impacts includes “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable and have a reasonably close causal relationship to the proposed action or alternatives, including those effects that occur at the same time and place as the proposed action or alternatives and may include effects that are later in time or farther removed in distance from the proposed action or alternatives” (40 Code of Federal Regulations [CFR] 1508.1; CEQ 2022). This EA has been prepared in accordance with NEPA and HEPA and provides compliance for project implementation on both federal and state lands.

### ISSUES AND IMPACT TOPICS

The NPS identified a range of issues and impact topics to evaluate in this EA. Impact topics are resources or values analyzed for each of the alternatives and are discussed because issues have been identified. During internal, agency, and public scoping, NPS staff identified potential issues that could result from implementation of the proposed alternatives. The NPS *NEPA Handbook* (NPS 2015a) provides specific guidance for determining whether to retain issues for detailed analysis. Issues should be retained for consideration and discussed in detail if:

- the environmental impacts associated with the issue are central to the proposal or of critical importance;
- a detailed analysis of environmental impacts related to the issue is necessary to make a reasoned choice between alternatives;
- the environmental impacts associated with the issue are a big point of contention among the public or other agencies; or
- there are potentially significant impacts to resources associated with the issue.

Issues carried forward for detailed analysis fall under the following impact topics:

- cultural resources
- threatened, endangered, and other special status species; and
- vegetation.

These impact topics are briefly discussed below under “Impact Topics Retained for Further Study.”

Several issues were also dismissed from detailed analysis. Impact topics were dismissed from detailed analysis if they:

- they do not exist in the project area;
- they would not be affected by the alternatives or impacts are not reasonably expected;
- they would experience impacts that, through applied mitigation measures, would be minimal; or
- there is little controversy on the subject or few reasons to otherwise include the topic.



Issues and impact topics dismissed from detailed analysis, including dismissal rationale, are described below under “Impact Topics Dismissed from Detailed Analysis.”

## **Impact Topics Retained for Further Study**

### ***Cultural Resources***

The Park’s cultural resources are important not only because of the large number of resources found across the peninsula, but also because of their diversity. The replacement of existing power poles and overhead cable, or the option to place cables underground may disturb existing cultural resources. Furthermore, dark night skies are an important cultural component of the Park’s landscape and replaced lighting could affect this component. This impact topic is carried forward for detailed analysis because the project could affect existing cultural resources. Archeological surveys have been conducted in the project area (Chambers and Athens 2020; Chambers and Pacheco 2020; Walker and Filimoeihala 2021), and construction would largely be restricted to previously disturbed areas, where feasible.

The Kalaupapa Leprosy Settlement is a National Historic Landmark (NHL) District that encompasses the entire Kalaupapa Peninsula with a variety of contributing resources. The Kalaupapa electrical system is a single contributing resource to the Kalaupapa Leprosy Settlement NHL and includes 232 wood poles supporting both primary and secondary lines (NPS 2021a, 2021b). Rehabilitation of the electrical system, including replacement of electrical poles, would affect this contributing resource.

The Kalaupapa Settlement is eligible for the National Register of Historic Places (National Register) as a cultural landscape associated with Hansen’s disease (leprosy) treatment, pali trails, and an extensive water system.

### ***Threatened, Endangered, and Other Special Status Species***

Consultation with the US Fish and Wildlife Service (USFWS) in accordance with section 7(a)(c) of the Endangered Species Act (ESA) (16 United States Code 1531 et seq.) was completed in June 2021. Twelve federally listed species were identified as having the potential to occur in or near the project area. Vegetation clearing (if necessary) and other disturbances during project construction and maintenance could affect these species. However, most of the actions associated with this electrical utility replacement project would occur in areas that are currently developed, in areas that have been previously disturbed, or along existing roadways. The USFWS determined that implementation of its recommended avoidance and mitigation measures (table 2: TES-1 – TES-16) would render potential impacts on federally listed species insignificant (meaning that effects are undetectable) and/or discountable (meaning that impacts are “extremely unlikely to occur”). The USFWS concurred with the Park’s determination that the proposed project may affect but is not likely to adversely affect the following federally listed species: Hawaiian hoary bat; Hawaiian goose; Hawaiian seabirds, including the Hawaiian petrel, Newell’s shearwater, and the Hawai’i distinct population segment (DPS) of the band-rumped storm-petrel; Hawaiian waterbirds, including the Hawaiian stilt and the Hawaiian coot; sea turtles, including the Central North Pacific DPS of the green sea turtle and the hawksbill sea turtle; Blackburn’s sphinx moth; and Hawaiian damselflies, including the Pacific Hawaiian damselfly and the orangeblack Hawaiian damselfly. This topic is carried forward for detailed analysis because potential changes to the proposed project design since the June 2021 consultation with the USFWS, such as the various options for the portion of the alignment along the pump house road, could require re-initiation of consultation.

### ***Vegetation***

The montane wet forest, coastal salt spray/strand vegetation, and remnant dryland forest are outstanding elements that form the Park’s terrestrial ecosystem. The project area contains more than a dozen unique plant communities. The project could introduce nonnative invasive plants during construction, and rehabilitation of the existing electrical distribution system could result in permanent and temporary impacts on vegetation from removal. However, the development of a detailed revegetation and rehabilitation plan for enhancing areas disturbed by the project and implementation of

appropriate impact avoidance and mitigation measures, as described in (table 2: Veg-1 – Veg-2) would mitigate potential impacts. This impact topic is carried forward for detailed analysis because of the potential for nonnative invasive vegetation introduction and vegetation clearing within the project area.

## **Impact Topics Dismissed from Detailed Analysis**

### ***Air Quality***

The project could result in greenhouse gas emissions during construction activities; however, the emissions would not be substantial enough to contribute to climate change. The project could also result in localized release of fugitive dust during the construction period; however, fugitive dust would dissipate quickly and would not affect air quality over the long term. Currently the Park's water pump system is powered by two old diesel generators. The project would connect the water pump system to the Park's electrical grid allowing for the removal of the two old generators, which would reduce the Park's overall dependency on fossil-fueled equipment and reduce greenhouse gas emissions over the long term. One of the old generators would be replaced with a new backup generator. Although the new backup generator would be diesel-powered, it would only be used if the supply of electricity is disrupted and would be operated for limited durations. When the new backup generator is operated, it would produce fewer emissions than the old generators currently in place because of technological advancements in diesel engine efficiency and emissions control systems. No other impacts on air quality are expected. Therefore, the topic was dismissed from further analysis.

### ***Dark Night Skies***

The presence of dark night skies maintains the Park's sense of place, historic setting, and feeling of isolation (NPS 2017b). As discussed under the "Cultural Resources" impact topic above, dark night skies are an important cultural component of the Park's landscape and replaced lighting could affect this feature. Impacts related to dark skies and the cultural landscape are discussed under that impact topic. In addition, no project-related construction activities would occur at night, and the Park would replace 56 existing pole-mounted light fixtures with dark sky-compliant fixtures, which would minimize blue light emissions and be no brighter than necessary for safety. The project would also ensure the design specifications for lighting and fixtures would improve the condition of dark night skies in the Park. Therefore, the topic was dismissed from further analysis as a stand-alone topic.

### ***Socioeconomics***

Rehabilitation of the electrical distribution system and associated construction activities would not adversely affect the local economy. Minor increases in employment from the construction workforce and revenues for the businesses engaged in the construction process are expected. Any increase in workforce and revenue, however, would be temporary, lasting only as long as construction. Because the impact on the socioeconomic environment would be minimal, this topic was dismissed from further analysis.

### ***Soil Resources***

Most of the soil in the Park consists of very rocky silty clay loam, rock land, very stony silty clay loam, and stony colluvial land (NPS 2010b). Although replacing power poles, installing underground cables, and removing the existing diesel generator could adversely affect these soils, the impacts are anticipated to be minimal because electrical infrastructure would be largely replaced within the existing alignment. Therefore, this topic was dismissed from further analysis.

### ***Soundscape***

Similar to the presence of dark night skies, the general ambient quiet of the Park provides a sense of place, historic setting, and feeling of isolation. During construction, anthropogenic noise would likely increase because of construction activities, equipment, vehicular traffic, and field crews. The duration of noise impacts would be limited to the construction period. No long-term effect on visitors, employees,

patient-residents, or natural soundscape conditions are anticipated. Therefore, this topic was dismissed from further analysis.

### ***Visitor Use and Experience***

Visitor enjoyment of Park resources and values is part of the fundamental purpose of all parks. The Park's mission is to provide a well-maintained community that ensures the present patient-residents of the Kalaupapa Settlement may live out their lives peacefully and comfortably. In keeping with this mission, visitor access to the Park is allowed by permit only, and access is strictly limited to registered guests of Kalaupapa residents, employees, or patients; commercially guided tourists; and NPS volunteers. Additionally, persons under 16 years of age are not permitted to visit the Park. Therefore, annual visitation at the Park is low compared to most national park units. From 2012 to 2021, annual visitation at the Park averaged approximately 62,500 visitors per year (NPS 2022). This number is slightly skewed by abnormally low rates of visitation during 2020 and 2021 because of Park closures during the COVID-19 pandemic. Visitation from 2012 to 2019 ranged from approximately 59,000 to 101,000 visitors per year, while visitation in 2020 and 2021 was approximately 16,000 and 25,000 visitors, respectively (NPS 2022). The project would not affect annual visitation at the Park. Construction activities could temporarily diminish visitor experience due to noise and visual disturbance. However, similar disturbances occur frequently under the current scenario because the frequent need for repairs to the electrical system. The current electrical distribution system is outdated, inadequate, and potentially dangerous. The project would improve visitor safety, reduce the potential for power outages, and reduce the frequency of repairs, which would improve visitor use and experience over the long term. Therefore, the topic was dismissed from further analysis.

### ***Wetlands***

Field surveys were conducted in 2019 and 2020 identified two wetlands and one ephemeral stream within or near the boundaries of the project area (Burr and Guinther 2020). The proposed project would not include work in the wetlands, and the line would not span the wetlands. The nearest pole would be approximately 60 feet from a wetland boundary. Similarly, no work would occur in the streambed, and the poles nearest to the streambanks would not be replaced. The potential for impacts on wetlands would be minimal and limited to indirect impacts such as runoff or sedimentation during construction. The use of silt fences or other erosion control measures (table 2: Gen-1 – Gen-4; WL-1 – WL-3) would avoid or further minimize potential impacts on wetlands. The project would not affect the Park's ability to manage its wetland resources in accordance with NPS Director's Order 77-1 to meet or maintain the desired conditions outlined in its general management plan (GMP) (NPS 2021c). Therefore, the topic was dismissed from further analysis.

### ***Wildlife and Wildlife Habitat***

The NPS strives to maintain all components and processes of naturally evolving park unit ecosystems, including the natural abundance, diversity, and ecological integrity of native animal populations. Increased noise levels during the construction phase of this project could temporarily increase localized disturbances to wildlife. While the project could result in minimal, temporary impacts, it would not affect the viability of any species or alter population dynamics. Therefore, the topic was dismissed from further analysis.

## **GENERAL METHODOLOGY FOR ESTABLISHING AND ASSESSING IMPACTS**

In accordance with Council on Environmental Quality (CEQ) NEPA regulations, direct, indirect, and cumulative impacts are described for each alternative (40 CFR 1502.16) (CEQ 2022). The impact analysis in this EA has also been prepared in accordance with HEPA. According to Hawai'i Administrative Rules (HAR) Chapter 11-200.1, Environmental Impact Statement Rules:

- (a) In considering the significance of potential environmental effects, agencies shall consider the sum of effects on the quality of the environment, and shall evaluate the overall and cumulative effects of an action. (b) In determining whether an action may

have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short-term and long-term effects of the action.

HEPA significance criteria are evaluated at the end of this chapter. Where appropriate, avoidance mitigation measures for adverse impacts (table 2), are also described and incorporated into the evaluation of impacts.

The potential impacts of the alternatives are described in terms of type, as follows:

- **Direct:** Impacts that would occur as a result of the proposed action at the same time and place of implementation (40 CFR 1508.1) (CEQ 2022).
- **Indirect:** Impacts that would occur as a result of the proposed action but later in time or farther in distance from the action (40 CFR 1508.1) (CEQ 2022).
- **Beneficial:** A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.
- **Adverse:** A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.

The assumptions for the analysis of impacts under the alternatives are described below:

- The project would implement the mitigation measures described table 2.
- **Ground disturbance is defined as:**
  - *Structure bases* – 1 square foot per structure (assuming direct embedded monopoles); 23 new poles.
  - *Temporary work areas* – An approximate 40-foot by 60-foot (0.06 acres) work area at each tower location to accommodate the crane pad and other tower erection activities.
  - *Laydown areas* (three total) – One located at the western edge of the settlement, one located across from the cemetery, and one located along Damien Road near the water pump house, as shown in figures 4 and 5, above.
  - *Pulling and tensioning sites* – Sites with an area of about 100 feet wide by 300 feet long, or about 0.75 acres, every 2 to 3 miles along the line route.
  - *Underground cable* – Disturbance would be limited to the width of the trench, plus 1 foot on either side of the trench, including trenches within roadways. For a 5-kilovolt system, the minimum disturbance is 3.5 feet wide:
    - Two 5-inch conduits
    - 30-inch concrete encasement
    - 2-inch separation between conduits
    - 12 inches either side
  - *Overhead cable and on-the-ground conduit* – Disturbance would be limited to a 20-foot maximum total width of the ROW, depending on the size of the contractor's equipment. This amounts to 10 feet of maximum clearance on each side of the electrical line.
  - *Access routes* – Access routes would have an average width of 10 feet on either side of the ROW; existing access routes would be used to the extent possible, and sites adjacent to roads or existing utility ROW may not require additional access routes.

▪ **ROW maintenance would include:**

- Clearing of shrubs, if necessary, would be limited to portions of the ROW along the new section of cable that would run from the east end of the settlement, along Damien Road and to the water pump house. The maximum area to be cleared would be approximately 4 acres.
- Ongoing ROW maintenance would continue, so there would be no new impacts associated with maintenance of the replaced infrastructure along the existing route.
- ROW maintenance would continue to be conducted on an annual basis.
- ROW maintenance along new sections of the proposed line would consist of periodic mowing or cutting to prevent forest regrowth. Clearing or trimming of trees or shrubs greater than 15 feet tall would continue to be conducted outside the bat-birthing and pup-rearing season (June 1 through September 15).
- Maintenance areas for transformers (single phase and 3-phase) would be 8 feet wide in front; 2 feet, 6 inches on the sides; and 2 feet in the back. Measurements are taken from the edge of the pad. For switchgears, measurements are taken from the edge of the equipment and would be 8 feet in front and back, and 3 feet on the sides.

The CEQ NEPA regulations require identifying past, present, or reasonably foreseeable future actions that would affect the resources evaluated in this EA to assess cumulative impacts (effects) at and around the Park. A cumulative impact is defined as “effects on the environment that result from the incremental effects of the action when added to other past, present, or reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions” (40 CFR 1508.1) (CEQ 2022). Cumulative impacts are determined for each impact topic by combining the impacts of the alternative being analyzed and other past, present, and reasonably foreseeable actions that would result in beneficial or adverse impacts. Because some of these actions are in the early planning stages, the evaluation of the cumulative impact is based on a general description of the project. These actions were identified through the internal project scoping process and are summarized below. Past, present, and reasonably foreseeable future actions that could result in cumulative impacts are described below. Because the no-action alternative would not contribute any new impacts, no cumulative impacts would be associated with it.

Past, present, and reasonably foreseeable actions include:

- **Kalaupapa Water Treatment Facility Repairs** – The NPS replaced the groundwater well pumps, drop pipe, and pump power cable at the Kalaupapa Water Treatment Facility. The NPS also repaired and/or replaced the water system controls and appurtenances at the facility. Repairs were completed 2022.
- **Water Tank Replacement** – The NPS plans to replace one 160,000-gallon glass-fused steel drinking water storage tank. The newly installed tank would be selected to match existing tank, which was installed in 2015. Work would include replacing the shell sheets and roofs; installing new bolts, bolt caps, water level indicators, lightning arrest system, cathodic protection, and necessary sealants; and disinfecting the new tank. The old tank would be disposed of “off island.” This project is anticipated to be completed in 2023.
- **Pavement Preservation on Paved Settlement Roads** – The NPS plans to implement a pavement preservation project for the Park’s paved road network throughout the Kalaupapa Settlement and community. Pavement preservation would be performed on roughly 5.5 miles of primary and secondary roads and paved parking lot locations. This project is anticipated to be completed in 2023.

- Resurfacing and Stabilization of Damien Road – The NPS plans to resurface and stabilize about a 0.5-mile portion of Damien Road between the emergency evacuation site and the interpreted heiau (Hawaiian temple). Work would include routine blading and adding gravel as needed. Gravel would be transported to the work site via barge and truck and added in accordance with Hawai'i Department of Transportation specifications. Road improvements are scheduled to begin in 2022 and are anticipated to be complete by the end of 2024.
- Rehabilitate Perimeter Fences to Protect Unique Park Ecosystems – The NPS plans to rehabilitate approximately 9 miles of perimeter exclusionary fencing, the primary tool to protect native ecosystems and watersheds from damage by large numbers of invasive nonnative animals. The long-term integrity of these biocultural resources is ensured by having effective perimeter fencing for ungulate and predator exclusion, which directly influences the experience of each visitor. Work includes replacing and upgrading fence segments, prioritized by most urgent potential to fail. Construction is anticipated to begin in 2023.
- Construct New Fuel Storage and Dispensing System – This project would construct a new fuel storage and dispensing system to meet the fuel needs for the entire Kalaupapa Settlement. The work would include the installation of five 5,000 gallon modular, aboveground, double-walled fuel storage tanks to be located outside the tsunami zone. The site was selected to minimize impacts to cultural and natural resources. Construction is anticipated to begin in fall 2024.

## CULTURAL RESOURCES

Cultural resources include a variety of resource types such as archeological resources, ethnographic resources, and structures. As a management strategy, the NPS also includes cultural landscapes and museum objects in its categories of cultural resources. Cultural resources can be grouped in broader districts or landscapes that have significant associations with prehistory or history. Under the National Historic Preservation Act (NHPA), cultural resources include districts, sites, buildings, structures, and objects, and their significance is assessed by their eligibility for inclusion on the National Register. To be eligible, resources must possess integrity and meet at least one of four criteria. The resource:

- A) is associated with events that have made a significant contribution to the broad patterns of our history; or
- B) is associated with the lives of persons significant in our past; or
- C) embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D) has yielded, or may be likely to yield, information important in prehistory or history.

Integrity is the ability of the resource to convey its significance by retaining several or most of its aspects of location, design, setting, materials, workmanship, feeling, and association.

The area of potential effects (APE) for this project was defined for the archeological inventory survey as an area including 30 meters (100 feet) on either side of existing and proposed electrical lines and 20 meters (65 feet) around pad-mounted project elements such as generators and transformers. The anticipated disturbance area within the APE is assumed to be a 10-foot-wide maximum clearance on each side of the electrical line with a maximum width of 20 feet.

## Affected Environment

### *Culture History*

The precise timing and nature of the settlement of Hawai'i is unknown. The most convincingly supported theory suggests that Polynesians first arrived in the islands around AD 1000 to 1200. Initial settlements focused on sheltered bays and coastal resources of the windward sides of the islands, but by

AD 1400, inland settlements and increasing dependence on agricultural products began to link the inland areas more closely to coastal-based local ahupua`a (i.e., subdivision of land) systems. Historical documentation and ethnographies of Moloka`i's traditional history are not as well recorded as those for the main islands of O`ahu, Maui, and Hawai`i, though the genealogies of the first ali`i nui (i.e., ruler) of Moloka`i, the Kamauaua and Kanealai lineages, extend from the 19th century back to the 13th century. These genealogies, themselves largely referenced in the histories of neighboring islands, reveal significant intermarriage between the ali`i of O`ahu, Maui, and Hawai`i with the Moloka`i chiefs. By the 19th century, Kalaupapa was renowned for its agricultural production, specifically for sweet potatoes.

Kalaupapa Peninsula lies within the Ko`olau traditional district, or moku, which encompasses the central windward portion of Moloka`i Island. The Ko`olau moku includes three ahupua`a, land divisions that extend from the highlands to the shore. The majority of the project area is located in Kalaupapa Ahupua`a, and includes a portion of Makanalua Ahupua`a. The Hawaiian system of land tenure was supplanted by the Western system of fee-simple ownership in the mid-19th century in an event known as the Great Mahele. Land Commission Awards were granted for approved land claims, which became known as kuleana lands and included de facto title to the lands by Royal Patent. Kalaupapa Ahupua`a was granted to Kaunuohua, a chief and female descendant of several high-ranking chiefs. Makanalua Ahupua`a was granted to the Kamehameha family, whose ancestor gained control of Moloka`i in 1795 (Chambers and Pacheco 2020).

Kalaupapa Leprosy Settlement was formed from Makanalua Ahupua`a, which was deeded to the Hawaiian government in the mid-19th century. In 1865, the Hawaiian government relocated residents of Kalaupapa Peninsula, and the settlement was established. The natural setting served to isolate the settlement, which received its first settlers in 1866. Family members and friends accompanied the early settlers, aiding in the construction of shelters and daily tasks. Initially, supplies, funding, and other basic facilities were in short supply. During the 1870s and 1880s, the arrival of religious leaders, including Father Damien, and a growing awareness of hardships faced by the isolated settlers led to attempts at reform and improvements. Despite growing evidence about the limited communicability of the disease, strict segregation of settlers was enforced and even increased as the US government increased control on the Hawaiian Island in the early 20th century. However, changes in leadership at Kalaupapa beginning in 1902 resulted in the transformation of the settlement to one of the world's foremost institutions for Hansen's disease, including new medical, housing, and recreational facilities. Further modernization efforts in the 1930s included a power plant, power distribution, a water system with fire hydrants, and streetlights. Telephone lines and an airfield were also added during this period. A 35-foot tsunami severely affected the settlement and surrounding area in 1946. The same year saw the introduction of successful medicinal treatment for Hansen's disease through sulfone drugs, after which new arrivals decreased sharply. In response to budgetary constraints, medical treatment developments, and slowly improving public attitudes, the policy of isolation of Hansen's disease patients was ended in 1969 (Chambers and Pacheco 2020; NPS 2021a).

Kalaupapa Leprosy Settlement was designated as an NHL in 1976 and is listed on the National Register. The NHL is significant for its architecture, social history, religious history and historic figures, and archeology. The landmark includes the entirety of the historic settlement and nearly all the extant buildings, structures, grave markers, sites, and other aspects of the built environment (NPS 2021a).

### ***Archeological Resources***

Modern archeological investigations within the project area and its vicinity include an extensive archeological survey of the southern portion of the peninsula in the 1980s that documented a landscape of nearly continuous archeological features. Archeological investigations in the vicinity of the local airport and the historic Kalaupapa Settlement documented residential, agricultural, and religious sites as well as burial monuments (Chambers and Pacheco 2020).

The original NHL nomination of the Kalaupapa District considered the whole peninsula a single multicomponent archeological site with features dating from 800 years before present through the



modern Hansen's disease settlement period. The updated NHL nomination notes that the whole peninsula can be considered an archeological site that contributes to the significance of the district. Much of the site has not been systematically surveyed, and it is noted that many resources are likely extant but not yet identified that would be contributing elements to the broader site (NPS 2021a).

In 2018 and 2019, two archeological surveys were conducted for the electrical distribution system at the Park (Chambers and Athens 2020; Chambers and Pacheco 2020). The first survey included a pedestrian survey and detailed feature documentation within a 75-acre project area (Chambers and Pacheco 2020). The second project involved a limited survey around the 4-acre pump house complex (Chambers and Athens 2020). No subsurface testing was conducted during either survey.

Eighty-four archeological sites were documented during the initial phase of fieldwork in October 2018. For the second phase of fieldwork in April 2019, the NPS requested that the 39 previously recorded archeological sites be re-documented (Chambers and Pacheco 2020). Chambers and Pacheco recommend archeological monitoring during the proposed project.

The April 2019 fieldwork by International Archaeology was intended to re-document 39 previously recorded archeological sites. Archeologists found that, of the 39 sites, 4 had been destroyed and 11 could not be relocated. As a result, Chambers and Pacheco (2020) documented 84 new archeological sites and re-documented 24 previously recorded archeological sites. Eighty-two of the newly identified sites are located within the historic Kalaupapa Settlement and represent post-Contact historic activities. In addition, Chambers and Pacheco (2020) documented a stone platform (IAK-70) and a traditional Hawaiian agricultural complex (Site IAK-80), both of which are located outside the historic Kalaupapa Settlement. Chambers and Pacheco (2020) conclude that the cultural resources documented during the 2018–2019 effort form part of a “nearly continuous distribution of agricultural infrastructure, residences, and religious structures spread across the peninsula outside of Kalaupapa Settlement.” The 24 previously recorded archeological sites re-documented by Chambers and Pacheco (2020) include pre-contact agricultural sites, habitation sites, ceremonial sites, and burial sites. Historic boundary and habitation sites were also re-documented.

In September 2019, Chambers and Athens (2020) conducted an archeological survey around the pump house complex for a proposed utility line extension (i.e., Pump House Road survey). They recorded 26 previously undocumented sites. Chambers and Athens (2020) report that approximately 70% of the 4-acre project area was surveyed. Archeological fieldwork included pedestrian survey and detailed feature documentation. In addition, the NPS slated four previously documented sites for re-documentation. One site was re-documented in May 2019, and three sites could not be relocated.

The September 2019 archeological investigation could not be completed due to field conditions and a limited fieldwork schedule, and site evaluations for National Register eligibility were not made (Chambers and Pacheco 2020). Chambers and Athens (2020) recommend that the archeological fieldwork and site re-documentation be completed for the Pump House Road survey. They also highlight outstanding questions regarding site boundaries and definitions, stating that Hawai'i Statewide Inventory of Historic Places site number designations and National Register eligibility assessments cannot be completed without agreement on these questions. Further recommendations include subsurface testing (Chambers and Athens 2020).

In accordance with the recommendations of the 2019 survey report, an Intensive Archeological Survey was conducted that included subsurface testing (Walker and Filimoehala 2021). A total of 12.8 acres were surveyed, and seven previously unrecorded sites were documented. Of the 200 shovel test pits, traditional Hawaiian archeological deposits were recorded in 4. The distribution of cultural deposits along coastal environments is consistent with traditional settlement patterns. Walker and Filimoehala recommend that 1-meter by 1-meter controlled excavation units be completed to document and characterize the deposits at each of the four locations where shovel test pit excavations identified traditional Hawaiian deposits. They also recommend that, given the ubiquity of extant archeology on the peninsula, ground-disturbing project work be monitored by an archeologist. Recommendations from the

2021 Intensive Archeological Survey report have been incorporated into the list of proposed impact avoidance and mitigation measures that would be implemented under alternative 2 (table 2: CR-1 – CR-4).

Trends affecting archeological resources include an increase in archeological site documentation, weather events, and the spread of invasive vegetation. Recent archeological investigations within the project area and its vicinity have identified over 80 previously undocumented archeological sites (Chambers and Pacheco 2020). Newly documented archeological sites require any combination of management, National Register evaluation, and protection. Weather events may damage or destroy archeological remains, and invasive vegetation may obscure the ground surface, landscape features, and structural remains, thus preventing archeological documentation. Chambers and Athens (2020) report that archeological investigation for a proposed utility line extension was partially curtailed by dense vegetation. More information on invasive vegetation is presented below under “Vegetation.”

### ***Ethnographic Resources***

Dark night skies have been identified as an important ethnographic resource. In their Cultural Landscape Report for the Kalaupapa and Kalawao Settlements, Wiss, Janney, Elstner Associates, Inc. (2020) describe dark night skies as an important natural quality of the peninsula. Dark night skies are an essential part of the sense of place, feeling of isolation, and historic setting of Kalaupapa National Historic Park. Dark skies are included in the Park’s Planning and Data Needs Management Plan. The unique natural setting of the Kalaupapa and Kalawao Settlements, which includes dark night skies, possesses cultural value that has been documented historically and ethnographically among residents of the peninsula (Wiss, Janney, Elstner Associates, Inc. 2020).

The restoration and preservation of culturally significant natural dark settings are important to the national park experience (NPS 2018). The NPS identifies light pollution as a major threat to naturally dark environments in national parks. Light pollution is a negative trend, and sources include outdoor electrical lighting, aircraft, vehicles, and satellites. When human-made light overpowers natural sources of light, such as moonlight, starlight, galactic light, zodiacal light, and airglow, the natural lightscape is degraded. Resource inventories provide crucial data regarding the quality of and impacts on existing lightscapes (NPS 2016b). The 2020 treatment plan for the cultural landscape of the Kalaupapa and Kalawao Settlements specifically recommends dark sky-compliant lighting for public paths and select parking areas (Wiss, Janney, Elstner Associates, Inc. 2020). The Park’s current management direction and strategies, as identified in its 2021 GMP, are designed to meet the desired condition of protecting natural darkness and other components of the Park’s natural lightscape (NPS 2021c).

### ***Cultural Landscapes***

In 2011 and 2012, the NPS developed a Cultural Landscapes Inventory (CLI) for the Kalaupapa and Kalawao Settlements (CLI Identification No. 975012) and the Moloka’i Light Station (CLI Identification No. 975016) at the Park (NPS 2011a, 2012). The 2011 National Register documentation for the cultural landscape of the Kalaupapa and Kalawao Settlements notes that previous documentation was inadequate because the 1975 Kalaupapa Leprosy Settlement NHL nomination did not identify the contributing and noncontributing features of the landscape. The 2011 inventory states that cultural landscape of the Kalaupapa and Kalawao Settlements is considered a single landscape. The single cultural landscape does not include smaller component landscapes because the County of Kalawao is identical to the existing NHL district and the legal settlement boundary. Contributing landscape elements identified in the Kalaupapa and Kalawao Settlements CLI include buildings, structures, natural systems and features, and land use. Important characteristics of these elements include circulation, clustered arrangement, spatial organization, and vegetation. The inventory describes the condition of the Kalaupapa and Kalawao Settlements as poor. In particular, the Kalawao Settlement has deteriorated as a result of lack of use and deferred maintenance since the early 20th century. Nonnative invasive plants and rapid overgrowth obscure large areas of cultural resources (NPS 2011a).

The Kalaupapa and Kalawao Settlements include historic areas associated with the historic Hansen's disease settlements, two pali trails, and a water system that date to the defined settlements' period of significance from 1869 to 1969 (NPS 2011a). The Kalaupapa and Kalawao Settlements on Moloka'i are significant under Criterion A at a national level due to historic and notable changes during the period of significance to the prevailing national social attitudes, health policies, and treatment paradigms for patients with Hansen's disease. The settlements are significant under Criterion B on both national and state levels for their association with notable historic figures, including Father Damien (Joseph De Veuster), Mother Marianne Cope, and Brother Joseph Dutton, among others. The Kalaupapa Settlement is largely intact and therefore significant at a state level under Criterion C. The Kalaupapa and Kalawao Settlements historic district is highly likely to yield information important to the both the prehistory and history of the landscape and therefore significant under Criterion D (NPS 2011a).

In 2012, the NPS developed a CLI for the Moloka'i Light Station. No adjacent lands contribute to the Moloka'i Light Station (NPS 2012). The Moloka'i Light Station is located approximately 0.5 miles from the tip of Kalaupapa Peninsula on the northern coast of Moloka'i. It is situated at the highest point on the peninsula at Kahiu Point and consists of a white-painted, 138-foot-tall lighthouse with associated buildings and structures (22.88 acres). The period of significance for the Moloka'i Light Station is defined as 1908 to 1955 (NPS 2012).

The Moloka'i Light Station is significant at the state level under Criterion A due to its association with the maritime history, commerce, transportation, and social history of the Kalaupapa Peninsula. It is also significant under Criterion C as an example of maritime architecture and historic changes to light house design in the 20th century (NPS 2012). Contributing landscape elements identified as part of the Moloka'i Light Station CLI include buildings, structures, archeological sites, natural systems and features, and land use. Important characteristics of these elements include circulation, spatial organization, and vegetation. In addition to the lighthouse, associated structures include ancillary buildings, residences, circulation features, an allée, and wind rows. The 2012 inventory identifies the Moloka'i Light Station as a component landscape of the parent Park landscape. The Kalaupapa and Kalawao Settlements are described as an associated landscape within the Park (NPS 2011a).

Trends to consider with respect to the cultural landscapes within the project area include shifts in the nature and uses of the landscapes. Deterioration of historic structures and encroachment of invasive vegetation have had a negative effect on the cultural landscapes. Preservation concerns revolve around active use of the landscape that supports connections to the history of the area. Measures may include preservation maintenance of historic structures, reestablishment of native species, removal or mitigation of invasive vegetation, and consultation with Native Hawaiian groups and the Hawai'i State Historic Preservation Division (SHPD).

### ***Structures***

Contributing resources to the NHL district include 234 buildings, 67 sites, 48 structures, and 10 objects (NPS 2021a). Contributing resources include four primary building types: residential, community/administration, religious, and industrial/maintenance. The oldest building known to pre-date the settlement is Old Stone Church, built 1835. Other 19th-century structures exhibit stylistic elements of Hawaiian vernacular building, although these have been modified over time. Many buildings, and most of the cottage residences, date to the early 20th century improvements at the settlement and are built in the Hawaiian plantation style featuring single-story wood construction with low hipped roofs, overhanging eaves, and open porches, or lanai (NPS 2021a).

Structures in the NHL include walls, fences, and gates built of dry stacked stone, separate functional areas, and demarcated lots. Circulation features are listed as contributing structures to the landmark, including the roads and historic pali trails (i.e., the foot paths that wind up the sheer cliffs that separate the Kalaupapa Peninsula from topside Moloka'i).

Historic utilities systems including remnants of the historic water distribution system and much of the Kalaupapa electrical distribution system are listed as contributing structures to the landmark (NPS

2021a). The Kalaupapa electrical system, which is still in use, was included as a single contributing resource in the 2021 NHL nomination (NPS 2021a) based on a 2018 eligibility determination (Mason Architects Inc. 2018).

The electric system represents the modernization of the Kalaupapa Settlement dating to the early 20th century. The power poles were sometimes used to support both electric and telephone lines. Furthermore, the poles were used by Hansen's disease patients with poor eyesight to navigate the area (Wiss, Janney, Elstner Associates, Inc. 2020). By 1932, the entire settlement was energized by a network of electrical lines. The settlement was linked to the Moloka'i Electric Company grid in 1933. Major rehabilitation of the electric grid took place in the 1960s, including the replacement of 36 poles, the installation of 4 additional poles, and the reconstruction of 56 poles. Wires, transformers, street lighting, and other hardware elements were also replaced (NPS 2021a). Changes to the electric system after the end of the period of significance for the Kalaupapa Settlement in 1969 have been minimal (NPS 2021a).

The electrical system consists of wooden poles, crossbars, wiring, and related components. Several character-defining features of the electrical system have been identified, including brown ceramic insulators, pole height and interval, crossbars up to 8 feet long, and fuse cutouts. The system includes 232 wood poles supporting both primary and secondary lines (NPS 2021a, 2021b).

Deterioration of the electrical system is a trend that has had increasingly negative effects on the structure. Weather events and invasive vegetation have the potential to negatively affect all structures within the NHL. Weather events may damage or destroy structures, and invasive vegetation may obscure structures and structural remains, preventing maintenance and/or rehabilitation. Management responses to severe weather events and invasive vegetation could affect structures within the NHL through construction, vegetation clearing, and ground-disturbing activities.

## **Environmental Consequences**

### ***Alternative 1: No Action***

Existing conditions would persist under the no-action alternative. There would be ongoing long-term, adverse impacts on cultural resources from maintaining components of the electrical distribution system in archeologically sensitive areas and near historic rock walls. Adverse effects would include vegetation clearing, construction activities, and ground disturbance and would likely occur when individual components of the electrical distribution system fail.

The Kalaupapa electrical system is a single contributing resource to the Kalaupapa Leprosy Settlement NHL, consisting of 232 wood poles supporting both primary and secondary lines (NPS 2021a, 2021b). Existing conditions would continue to adversely affect the Kalaupapa electrical system. Adverse impacts include deterioration of the electrical system components.

### ***Alternative 2: Rehabilitate the Existing Electrical System***

The project area is inside the Kalaupapa Leprosy Settlement NHL, and many aspects of the built environment are considered contributing structures, objects, and archeological sites and therefore portions of a National Register-eligible resource. Contributing structures to the NHL include the Kalaupapa electrical system itself. Rehabilitation and maintenance of the electrical system under alternative 2 would have direct impacts on the electrical system that could be both adverse and beneficial.

Under alternative 2, ground-disturbing activities, including removing and replacing utility poles, (the option of) installing a new segment of cable to connect the water pump house to the backup generator, and other related project elements could affect archeological resources. Adverse impacts on archeological resources would be minimized or mitigated by the implementation of appropriate mitigation measures (table 2: CR-1 – CR-4).

**Archeology.** The archeological inventory surveys (Chambers and Athens 2020; Chambers and Pacheco 2020; Walker and Filimoehala 2021) identified 98 sites within the project area for the proposed

upgrade of the electrical distribution line. Construction activities that include ground-disturbing activities, including the replacement of existing poles and options to connect the pump station along the pump house road, could affect the ground surface or aboveground elements of these sites. The three options for the portion of the project that would connect the water pump house to the upgraded electrical system (table 1) would have both permanent and temporary impacts on archeological resources. Construction of option 3 could affect archeological resources through disturbance from the cable trench and vegetation clearing. Ground disturbance from the cable trench would constitute a permanent impact on archeological resources, while vegetation clearing would have a temporary impact on archeological resources. Option 2 would have the least impacts on archeological resources because there would be limited ground disturbance. Ground disturbance to the sites would be a permanent impact. Under option 1, ground disturbance during construction, including installation of new poles to support the new overhead cable, would permanently affect archeological resources. Additionally, underground elements of the identified sites could be permanently affected by new or replaced pole placements for the rest of the project area where these upgrades would occur. Chambers and Pacheco (2020) and Walker and Filimoehala (2021) note that the proposed upgrade work could affect archeological sites within project area depending on the proximity of the work to a site.

Given the ubiquitous presence of archeological resources throughout the project area, Chambers and Pacheco (2020) recommend archeological monitoring to avoid adverse effects on these resources (table 2: CR-3). In some cases, mitigation may be required for sites that would be unavoidably impacted, such as where existing poles are located within or adjacent to archeological features. Mitigation would also be required for ground disturbance along the pump house road if options 1 or 3 were selected.

Walker and Filimoehala (2021) further recommend controlled excavation units at four locations, where traditional Hawaiian archeological deposits have been identified to document and characterize the deposits (table 2: CR-1), which would further minimize and avoid impacts to the extent possible. The four locations are located within the existing electrical line ROW and would likely be impacted by the project (Walker and Filimoehala 2021). Archeological monitoring of ground-disturbing activities during project execution is also recommended (Walker and Filimoehala 2021) (table 2: CR-3). Furthermore, alternative 2 would move a section of the electrical distribution system near the airport closer to the road and away from sensitive resources, which would help utility maintenance crews avoid adverse impacts on archeologically sensitive areas and historic rock walls.

**Ethnographic, Cultural Landscapes and Structures.** Because much of the project involves the rehabilitation of existing electrical distribution system components, impacts on ethnographic resources such as the dark night skies; cultural landscapes; and structures such as buildings, circulation and transportation networks are not likely to occur along the existing alignment. The project would move segments of the existing electrical system and replace system components, including poles, with modern equipment. This would adversely affect the cultural landscape because the original electrical system, which is a contributing resource to the NHL, would be altered. Appropriate measures to mitigate this adverse impact would be identified during NHPA section 106 consultation. Replacing existing pole-mounted light fixtures with dark sky-friendly lighting (table 2: CR-5) would improve dark night skies because it would provide greater protection of night skies than the existing lighting, and overall would provide a long-term benefit to night skies (ethnography).

The new segment along the pump house road that would connect the water pump house and backup generator to the rehabilitated electrical distribution system could result in permanent and temporary, direct, adverse impacts on cultural landscapes. Potential impacts would vary depending on the selected option and specific elements of the final design (table 1). Construction of option 3 (underground cable) would have no impacts on cultural landscapes because there would be no added visual elements. Option 2 (on-the-ground) would have little visual impact but slightly more than option 1. Option 1 (overhead) would have visual impacts on the cultural landscape by the introduction of a new overhead electrical line that would be visible to a greater portion of the historic district than the aboveground conduit in option 2. These impacts on the cultural landscape would likely be adverse.

### ***Cumulative Impacts***

Past, present, and reasonably foreseeable actions described above as part of the “General Methodology for Establishing and Assessing Impacts,” section are not expected to adversely affect the Park’s cultural resources. The Park manages its cultural resources to meet the desired conditions identified in its 2021 GMP (NPS 2021c) and in accordance with NPS’s *Cultural Resource Management Guideline* (NPS 1998). Alternative 2 would result in both beneficial and adverse impacts to cultural resources, as described above. The implementation of appropriate mitigation measures would minimize or mitigate adverse impacts (table 2: Gen-1 – Gen-4; CR-1 – CR-5). Additional mitigation measures would be identified during NHPA section 106 consultation. Overall, the cumulative impact on cultural resources would be neither beneficial nor adverse because the Park would maintain its desired conditions for cultural resources. Alternative 2 would not contribute a noticeable increment to the overall cumulative impact because any potential adverse impacts would be appropriately mitigated.

## **THREATENED, ENDANGERED, AND OTHER SPECIAL STATUS SPECIES**

### **Affected Environment**

Threatened, endangered, and other special status species include federally listed species that are protected under the ESA, as well as species that are protected under other federal or state laws. Terrestrial habitats on the Kalaupapa Peninsula have been altered by previous development and historic land uses that have resulted in an overall decrease in native vegetation cover (Fung and SWCA 2010, Green et al. 2014). These changes are described in greater detail below in the section on “Vegetation.” Invasive animals including ungulates, rodents, mongoose, feral cats, frogs, geckos, and numerous insects have been introduced through past anthropogenic activities and have established populations in the Park and surrounding areas. Invasive species have affected native wildlife populations (including protected species) and community structure through predation, competition, and habitat alternation (Fung and SWCA 2010). The Park’s 2021 GMP identified reducing nonnative wildlife species within the Park and improving native habitat for birds and other native wildlife as a management priority (NPS 2021c).

Climate change also poses an ongoing threat the protected species and other wildlife populations. The Earth’s climate has been warming for approximately the last one and half centuries (IPCC 2022). The average temperature on the planet has increased by slightly more than 1 degree Celsius during that time and is predicted to rise by at least 1.5 degrees Celsius compared to pre-industrial conditions by the end of the century (IPCC 2022). Increased temperatures, changes in precipitation patterns, sea level rise, and other changes in natural processes associated with global climate change are affecting species populations and distributions globally (Van der Putten et al. 2010, Bellard et al. 2012, Gallardo and Aldridge 2013). Protected species are among the highest risk because their populations are generally already in decline as a result of various past or ongoing stressors.

The ongoing trend in increased stressors on species populations resulting from habitat alteration, the spread of invasive species, and global climate change will continue to affect threatened, endangered, and other special status species at the Park. The Park’s current management direction and strategies to maintain its desired conditions for ecosystem communities and processes, as described in its 2021 GMP, aim to protect and sustain the Park’s threatened, endangered, and other special status species populations (NPS 2021c).

### ***Federally Listed Species***

The Park consulted with the USFWS in accordance with section 7 of the ESA. Consultation was completed on June 7, 2021. During consultation, the USFWS identified 12 federally listed species that could occur in or near the project area. The project area does not contain federally designated critical habitat. A brief description of the 12 species and their potential occurrence in the project area is provided below.

- **Hawaiian hoary bat or 'ōpe'ape'a (*Lasiurus cinereus semotus*)** – The Hawaiian hoary bat is the only terrestrial mammal native to the Hawaiian Islands and was federally listed as endangered on October 13, 1970 (35 *Federal Register* 16047). Hawaiian hoary bats roost in both exotic and native woody vegetation, generally in trees and shrubs 15 feet or taller, across all Hawaiian Islands. Breeding has not yet been documented on the island of Moloka'i, but usually occurs between September and December on Hawai'i and Kaua'i (DLNR 2015a). Pup season occurs between June 1 and September 15. Hawaiian hoary bats forage in a variety of habitats, including native and nonnative forests and shrublands, along roads and trails, and over streams and areas of open water, including the ocean. The species is also attracted to insects that congregate near lights (USFWS 1998).

An acoustic study conducted by Fraser, Parker-Geisman, and Parish (2007) indicated that Hawaiian hoary bats were rarely heard on the Kalaupapa Peninsula, probably due to year-round heavy winds, but were incidentally observed and reportedly active during the spring at the top of the Kalaupapa trail at an elevation of 1,700 feet (NPS 2015b). More recent monitoring found Hawaiian hoary bats throughout the Park, most commonly along roadways, at lower elevations along the cliff's edge, and less commonly in coastal windswept sites or at cooler mesic higher elevations (Poland and Hosten 2018, as cited in NPS 2021c).

- **Hawaiian goose or nēnē (*Branta sandvicensis*)** – The Hawaiian goose may be observed in a variety of habitats but prefers open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Though rare on the Kalaupapa Peninsula, this species has the potential to occur in grassy, open areas in or near the project area.
- **Hawaiian seabirds, including the Hawaiian petrel or 'ua'u (*Pterodroma sandwichensis*), Newell's shearwater (*Puffinus auricularis newelli*) or 'a'o, and the Hawai'i DPS of the band-rumped storm-petrel (*Oceanodroma castro*) or 'ake'ake** – Hawaiian seabirds may transit over the project area at night when flying between the ocean and nesting sites in the mountains during their breeding season (March through November).
- **Hawaiian waterbirds, including the Hawaiian stilt or ae'o (*Himantopus mexicanus knudseni*) and the Hawaiian coot or 'alae ke'oke'o (*Fulica americana alai*)** – Hawaiian waterbirds are currently found in a variety of wetland habitats including freshwater marshes and ponds, coastal estuaries and ponds, artificial reservoirs, *Colocasia esculenta* (kalo or taro) lo'i or patches, irrigation ditches, sewage treatment ponds. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur.
- **Sea turtles, including the Central North Pacific DPS of the green sea turtle or honu (*Chelonia mydas*) and the hawksbill sea turtle or 'ea (*Eretmochelys imbricata*)** – Green and Hawksbill sea turtles may nest on any sandy beach area in the Pacific Islands. Both species exhibit strong nesting site fidelity. Nesting occurs on beaches from May through September, peaking in June and July, with hatchlings emerging through November and December. Artificial lighting that is visible from nesting beaches poses a threat to hatching sea turtles because it can cause hatchlings to become disoriented, potentially preventing them from reaching the surf zone.
- **Blackburn's sphinx moth (*Manduca blackburni*)** – The adult Blackburn's sphinx moth feeds on nectar from native plants, including *Ipomoea pes-caprae* (beach morning glory), *Plumbago zeylanica* ('ilie'e), *Capparis sandwichiana* (maiapilo), and others. The moth larvae feed on nonnative *Nicotiana glauca* (tree tobacco), and native, federally listed, *Nothocestrum* spp. ('aiea). While none of the required host plants are known to occur in the project area, if they are present, Blackburn's sphinx moth could also be present.
- **Hawaiian damselflies, including the Pacific Hawaiian damselfly (*Megalagrion pacificum*), and the orangeblack Hawaiian damselfly (*Megalagrion xanthomelas*)** – Hawaiian damselflies are found in aquatic habitats across the Hawaiian Islands, with high species



endemism within islands. Breeding habitat includes anchialine pools, perennial streams, marshes, ponds, and even artificial pools and seeps. Both damselflies have been found in the wetland south of the airport (Loko `Īliopi`i), which is adjacent to the airport road, across the road from the project area.

### **Other Special Status Species**

In addition to those species federally listed under the ESA, other “special status” species include birds of conservation concern (USFWS 2021) and species of greatest conservation need identified by the DLNR (2015b) State Wildlife Action Plan. Other special status species that occur on Moloka`i and could potentially occur in the project area include birds, fishes, insects, aquatic and marine invertebrates, and terrestrial plants. Surveys have been performed in the Park for forest birds (Marshall and Kozar 2008) and shoreline birds (Kozar, Swift, and Marshall 2007). The only special status bird documented in the vicinity of the project area is the `apapane, which is listed as a bird of conservation concern and species of greatest conservation need. The `apapane is a honeycreeper (Fringillidae) that used to occur in all Hawaiian forests but is now restricted to higher elevations. The species has been detected in forests near the project area, above the pump house (Marshall and Kozar 2008). Two additional bird species of greatest conservation need, Iiwi (*Vestiaria coccinea*) and Maui Amakihi (*Hemignathus virens wilsoni*) occur in the Park but are found in native forests at elevations above the project area (Marshall and Kozar 2008).

Data regarding the presence and absence of special status plants in the project area are limited. However, according to special status species mapping by DLNR (1992), more than 95% of the project area is classified as having a low concentration of special status plant species, except for the uppermost elevations of, in the vicinity of the water tanks, which is classified as having a high concentration. Previous field surveys have also identified three trees and shrubs categorized as species of greatest conservation need, (alahe`e [*Psydrax odorata*], lama [*Diospyros sandwicensis*], and hame [*Antidesma platyphyllum*]), within the vicinity of the project area (Burr and Guinther 2020). However, these trees are located within a fenced exclusion area outside the proposed project limits.

### **Environmental Consequences**

#### ***Alternative 1: No Action***

**Federally Listed Species.** Existing conditions would persist under the no-action alternative. Continued maintenance of the existing electrical system could temporarily disturb Hawaiian hoary bats in the immediate vicinity of maintenance activities. Ongoing maintenance activities would include periodic vegetation management within the ROW and service, or repair of system components as needed. Because vegetation management can be planned to avoid sensitive time periods for individual species and because the duration of vegetation maintenance in any one area would be relatively short, ongoing ROW management would not adversely affect federally listed species. Emergency repairs would occur more often under the no-action alternative from the ongoing system deterioration. Because the timing of emergency repairs cannot be predicted, it is possible that cutting or clearing of trees and shrubs could be necessary during the bat pupping season (between June 1 and September 15). As a result, young bats could inadvertently be harmed or killed because they are too young to fly or may not move away. Therefore, the no-action alternative could have direct, adverse impacts to hoary bats. No other federally listed species would be adversely affected under the no-action alternative.

**Other Special Status Species.** Ongoing maintenance activities (e.g., vegetation management in the ROW and system repairs) could result in similar temporary disturbances to other special status species that may be present in the immediate vicinity, such as birds and insects. However, given the short duration of potential disturbances, adverse effects on other special status species are not likely to occur.

#### ***Alternative 2: Rehabilitate the Existing Electrical System***

Rehabilitation of the existing electrical distribution system under alternative 2 could result in temporary disturbances to threatened, endangered, and other special status species. Rehabilitation would include

replacement of power poles, cables, and transformers; installation of new power poles; removal of the backup generator and fuel tank; demolition of existing structures; and the construction of a new alignment to connect the water pump house and backup generator locations to the rehabilitated electrical distribution system.

A majority of actions proposed under alternative 2 (e.g., replacing or upgrading power poles, transformers, and cable) would occur in areas that are currently developed, in areas that have been previously disturbed, or along existing roadways, where potential for adverse impacts on these species is minimal (see figures 3-5). New alignments would be installed in the settlement, along Kamehameha Street (near the airport), Damien Road, and the pump house road. Potential direct adverse impacts associated with activities described above could result from vegetation clearing (if necessary) and disturbance associated with equipment, noise, and human activity in the project area. Impacts could occur during construction and maintenance activities. Potential direct and indirect adverse impacts could also include noise and visual disturbances associated with temporary work areas, laydown areas, and pulling and tensioning sites.

Impacts associated with vegetation clearing could vary depending on the option selected for the portion of the alignment along the water pump house road and specific features of the final design (table 1). The amount of clearing necessary to connect the water pump house to the Park's electrical system would not exceed 4 acres. Option 1 would have the greatest potential for impacts on threatened, endangered, and other special status species because additional vegetation clearing (potentially including limb cutting or tree removal) may be required to accommodate and maintain an appropriate clearance around an overhead cable compared to the other options being considered. Option 2 would result in up to the same amount of vegetation clearing as option 1 but may not require removal of trees because the forest canopy would be less likely to interfere with the cable if it is placed in an on-the-ground conduit compared to an overhead alignment. Regular management of vegetation would likely be required to maintain appropriate clearance around the cable. Option 3 would result in ground disturbance during construction but would require the least amount of maintenance, including vegetation management, once constructed.

The potential for introduction of nonnative species including invasive weeds and plants; invasive pests such as coqui frogs and frog eggs, rats, and mice; insects including little fire ants and coconut rhinoceros beetles; and diseases such as Rapid 'Ōhi 'a Death could directly and indirectly adversely affect the Park's threatened, endangered, and special status species. Nonnative species can be introduced through contaminated equipment, materials, or clothing. The introduction of nonnative species can affect native species directly, through mortality (e.g., predation or disease), or indirectly, through competition or habitat degradation. Under alternative 2, NPS would implement measures to prevent or minimize establishment and spread of nonnative and invasive species (table 2; BIS-1–BIS-4).

**Federally Listed Species.** As previously noted, ESA section 7 consultation with the USFWS was completed in June 2021. The USFWS determined that the proposed project *may affect but is not likely to adversely affect* federally listed species. Furthermore, the USFWS concluded that with the Park's implementation of the recommended avoidance and mitigation measures provided in its June 7, 2021, letter (table 2: TES-1 – TES-16), potential adverse impacts would be insignificant and/or discountable. The following analysis provides an overview of the potential direct and indirect impacts on federally listed species and the rationale for lack of adverse impacts. These determinations were based on the assumption that the portion of the alignment along the pump house road would be underground (option 3; table 1). Changes to the proposed project design since the consultation was completed (e.g., consideration of an overhead, on-the-ground, and underground option for the portion of the alignment along the pump house road; table 1) could require re-initiation of consultation. Effects of alternative 2 on federally listed species, the USFWS's ESA section 7 determinations, and associated mitigation measures are shown in table 3.

**TABLE 3. EFFECTS OF THE PROPOSED ACTION ON FEDERALLY LISTED SPECIES**

Species	Summary of Effects	Effect Determination	Mitigation Measures
Hawaiian hoary bat or 'ōpe'ape'a	<p>During roosting season, young Hawaiian hoary bats are left unattended in trees and shrubs while adult bats forage. If trees or shrubs 15 feet or taller are cleared during the pupping season (between June 1 and September 15), young bats could inadvertently be harmed or killed since they are too young to fly or may not move away. Additionally, Hawaiian hoary bats forage for insects from as low as 3 feet to higher than 500 feet above the ground and can become entangled in barbed wire used for fencing.</p> <p>Because activities proposed under alternative 2 would not disturb, remove, or trim woody plants 15 feet tall or greater during the bat pupping season and because barbed wire fencing would not be used, injury and mortality of the Hawaiian hoary bats would not occur. Based on the Park's implementation of the USFWS-recommended avoidance and mitigation measures, Hawaiian hoary bats are extremely unlikely to be measurably disrupted from their normal behaviors.</p>	Not likely to adversely affect (NLAA)	TES-1 TES-2
Hawaiian goose or nēnē	The Hawaiian goose does not commonly occur in the project area. Should Hawaiian goose appear in the area during project implementation, the Park would implement the USFWS-recommended avoidance and minimization measures. Based on the low likelihood of Hawaiian goose presence in the project area and implementation of avoidance and minimization measures, this species is extremely unlikely to be encountered or measurably disrupted from its normal behaviors.	NLAA	TES-3 TES-4 TES-5 TES-6
Hawaiian petrel or 'ua'u	<p>Hawaiian seabirds, including the Hawaiian petrel, Newell's shearwater, and the Hawai'i DPS of the band-rumped storm-petrel, may fly over the project area at night during their breeding season (March through November) and are attracted to artificial lighting, which causes disorientation and subsequent fallout due to exhaustion. Additionally, once grounded, they are vulnerable to predators and are often struck by vehicles along roadways.</p> <p>Under alternative 2, no work would be conducted at night, and existing lighting would be replaced with shielded and downward-facing lighting. Based on the Park's implementation of the USFWS-recommended avoidance and mitigation measures, Hawaiian seabirds are extremely unlikely to be measurably disrupted from their normal behaviors.</p>	NLAA	TES-13 TES-14
Newell's shearwater or 'a'o		NLAA	
Band-rumped storm-petrel or 'ake'ake (Hawai'i DPS)		NLAA	
Hawaiian stilt or ae'o	<p>The activities proposed under alternative 2 would not occur in aquatic environments where Hawaiian waterbirds, including the Hawaiian stilt and the Hawaiian coot, could occur. Based on the Park's implementation of the USFWS-recommended avoidance and mitigation measures, Hawaiian waterbirds are extremely unlikely to be measurably disrupted from their normal behaviors.</p>	NLAA	TES-7
Hawaiian coot or 'alae ke'oke'o		NLAA	TES-8 TES-9 TES-10 TES-11 TES-12

Species	Summary of Effects	Effect Determination	Mitigation Measures
Green sea turtle or honu (Central North Pacific DPS)	Under alternative 2, no work would be conducted at night, and existing lighting would be replaced with shielded and downward-facing lighting. The nearest street lighting would be approximately 700 feet from the only known sea turtle nesting beach, and the Park would implement measures to prevent erosion or contamination of the beach environment. Based on the Park's implementation of the USFWS-recommended avoidance and mitigation measures, sea turtles are extremely unlikely to be measurably disrupted from their normal behaviors, and their nesting habitat would not be measurably affected.	NLAA	TES-10 TES-11 TES-12
Hawksbill sea turtle or 'ea		NLAA	TES-13 TES-14
Blackburn's sphinx moth	The project area does not contain suitable habitat for Blackburn's sphinx moth because suitable host plants for this species do not occur in the project area. Therefore, it is extremely unlikely that this species would be present. Based on the low likelihood of this species occurring in the project area and the implementation of the USFWS-recommended avoidance and mitigation measures, this species is extremely unlikely to be measurably disrupted from its normal behaviors.	NLAA	TES-15 TES-16
Pacific Hawaiian damselfly	The activities proposed under alternative 2 would not occur in aquatic environments, where Hawaiian damselflies could occur. Based on the Park's implementation of the USFWS-recommended avoidance and mitigation measures, which would prevent erosion or degradation of aquatic environments in and adjacent to the project area, Hawaiian damselflies are extremely unlikely to be measurably disrupted from their normal behaviors.	NLAA	WL-2 TES-10
Orangeblack Hawaiian damselfly		NLAA	TES-11 TES-12

**Other Special Status Species.** Rehabilitation of the existing electrical distribution system under alternative 2 could affect other special status species that may be present in the action area, including birds, insects, and terrestrial plants. Potential direct effects would consist primarily of temporary disturbances associated with equipment, noise, and human activity during construction and maintenance activities. The implementation of avoidance and mitigation measures designed to avoid impacts on federally listed species (table 2: TES-1 – TES-16) and other measures (Gen-1 – Gen-6) would also limit impacts on other special status species. Because a majority of actions proposed under alternative 2 would occur in areas that are currently developed, in areas that have been previously disturbed, or along existing roadways, the potential for measurable adverse impacts on these species is minimal.

The project would not affect aquatic or marine species because no work is proposed in these habitats. The implementation of impact avoidance and mitigation measures would avoid indirect impacts on these species by preventing erosion, sedimentation, or contamination of aquatic and marine habitats (table 2: TES-7; TES-10 – TES-11; WL-1 – WL-3).

Individual special status plants could be inadvertently trampled, removed, or otherwise destroyed during project construction and maintenance activities. Potential impacts on special status plants would be direct and would most likely occur in the vicinity of the water tanks where special status plant concentrations are higher. Incidental destruction of individual plants would not affect these species at the population level. Furthermore, implementation of avoidance and mitigation measures intended to avoid or minimize impacts on vegetation (table 2: Veg-1 – Veg-4) and prevent the spread of invasive species would limit the potential for adverse impacts (table 2: BIS-1 – BIS-4). Therefore, alternative 2 would not result in noticeable impacts to special status plant populations in the project area.

### ***Cumulative Impacts***

Past actions have resulted in adverse impacts on threatened, endangered, and other special status species through habitat disturbance or alteration, and introduction of invasive species. The present and reasonably foreseeable future actions described at the beginning of this chapter could adversely affect threatened and endangered species, with potential adverse effects consisting mostly of temporary disturbances. Alternative 2 is not likely to adversely affect threatened, endangered, or special status species because impacts would be avoided or mitigated by implementing appropriate measures (table 2: TES-1 – TES-16). Therefore, Alternative 2 would not contribute to cumulative impacts on threatened, endangered, or special status species.

## **VEGETATION**

### **Affected Environment**

The Park contains high-diversity plant communities). The project area is located entirely within the Lowland Coastal Area management zone, which includes the entire coastal plain of the Kalaupapa Peninsula. Most of the vegetation in the Lowland Coastal Area is composed of nonnative species (Green et al. 2014).

Vegetation communities on the Kalaupapa Peninsula have been altered by previous development and historic land uses, including crop cultivation and livestock grazing (Fung and SWCA 2010). Changes to the natural communities at the Park have been relatively small and concentrated compared to other areas in the state. However, human-related activities have promoted encroachment of invasive vegetation, which has decreased suitable habitat for native species (Fung and SWCA 2010). Although more than a dozen vegetation inventories and studies have been conducted at the Park over the last three decades, data have not been sufficiently analyzed to establish trends in vegetation cover for much of the Park (Fung and SWCA 2010). Given the dominance of nonnative species in some areas of the Park, including the Lowland Coastal Area management zone (Fung and SWCA 2010, Green et al. 2014), it can be inferred that the trend in invasive vegetation cover has been increasing since the introduction and establishment of these species, posing an ongoing threat to native vegetation communities. Ongoing

nonnative and invasive vegetation management efforts at the Park aim to halt or reverse this trend (NPS 2021c). The Park's 2021 GMP identified expanding the Park's vegetation monitoring program to track status and trends of plant species as a management priority (NPS 2021c).

The NPS conducted an extensive vegetation mapping inventory of the Park in 2014 (Green et al. 2014) and completed native tree surveys in the project area in 2019 and 2020 as part of a wetland delineation (Burr and Guinther 2020). Vegetation in the study area consists mostly of expanses of nonnative species such as lantana (*Lantana camara*), Christmas berry (*Schinus terebinthifolius*), koa haole (*Leucaena leucocephala*), and Java plum (*Syzygium cumini*). Vegetation within developed areas of the Kalaupapa Settlement consists primarily of maintained grasslands. Plantain (*Plantago* spp.) has also invaded some portions of the Park and is found in the project area (Green et al. 2014; Burr and Guinther 2020).

Plant communities documented in the project area are shown in table 4 and figure 7, along with coverage of each community type.

**TABLE 4. PLANT COMMUNITIES IN THE PROJECT AREA**

Plant Communities	Percentage of Project Area
<b>Forests and Woodlands</b>	
Christmas Berry Woodland	16.6%
Java Plum Forest <sup>a</sup>	11.5%
Lucky-nut ( <i>Thevetia peruviana</i> ) Woodland	2.5%
Christmas Berry / Lantana Mosaic Woodland	1.7%
Common Ironwood <i>Casuarina</i> Semi-natural / Planted Forest	1.4%
Kiawe ( <i>Prosopis pallida</i> ) Woodland	0.5%
Coconut ( <i>Cocos nucifera</i> ) Palm Strand	0.1%
Koa Haole ( <i>Leucaena leucocephala</i> ) Woodland	< 0.1%
Date Palm ( <i>Phoenix dactylifera</i> ) Strand	< 0.1%
<b>Shrublands</b>	
Lantana Shrubland	7.0%
Koa Haole Shrubland	2.7%
`Ilima ( <i>Sida fallax</i> ) Coastal Dry Shrubland	0.3%
`Akia ( <i>Wikstroemia uva-ursi</i> ) Coastal Shrubland	0.1%
<b>Herbaceous Vegetation</b>	
Bermuda Grass ( <i>Cynodon dactylon</i> ) / Mixed Coastal Grassland	14.2%
Mau`u ( <i>Fimbristylis</i> spp.) Herbland	< 0.6%
<i>Bolboschoenus</i> / <i>Eleocharis</i> Wetland	< 0.1%
`Akulikuli ( <i>Sesuvium portulacastrum</i> ) Herbland	< 0.1%

Plant Communities	Percentage of Project Area
<b>Developed</b>	
Residential	19.7%
Commercial and Services	10.6%
Transportation, Communications, and Utilities	9.4%
<b>TOTAL</b>	100%

SOURCE: GREEN ET AL. (2014), BURR AND GUINThER (2020)

<sup>a</sup> As noted above under "Threatened, Endangered, and Other Special Status Species," the only portion of the project area classified as having a high concentration of special status plants (comprising approximately 5% of the project area) is at the uppermost elevations of, in the vicinity of the water tanks. This area is dominated by Java Plum Forest (figure 7).

The Park's GMP (NPS 2021a) provides direction and strategies for vegetation management. The Park's fire management plan (NPS 2011b) provides additional guidance for vegetation management.



# Kalaupapa National Historical Park

Hawai'i

National Park Service  
US Department of the Interior

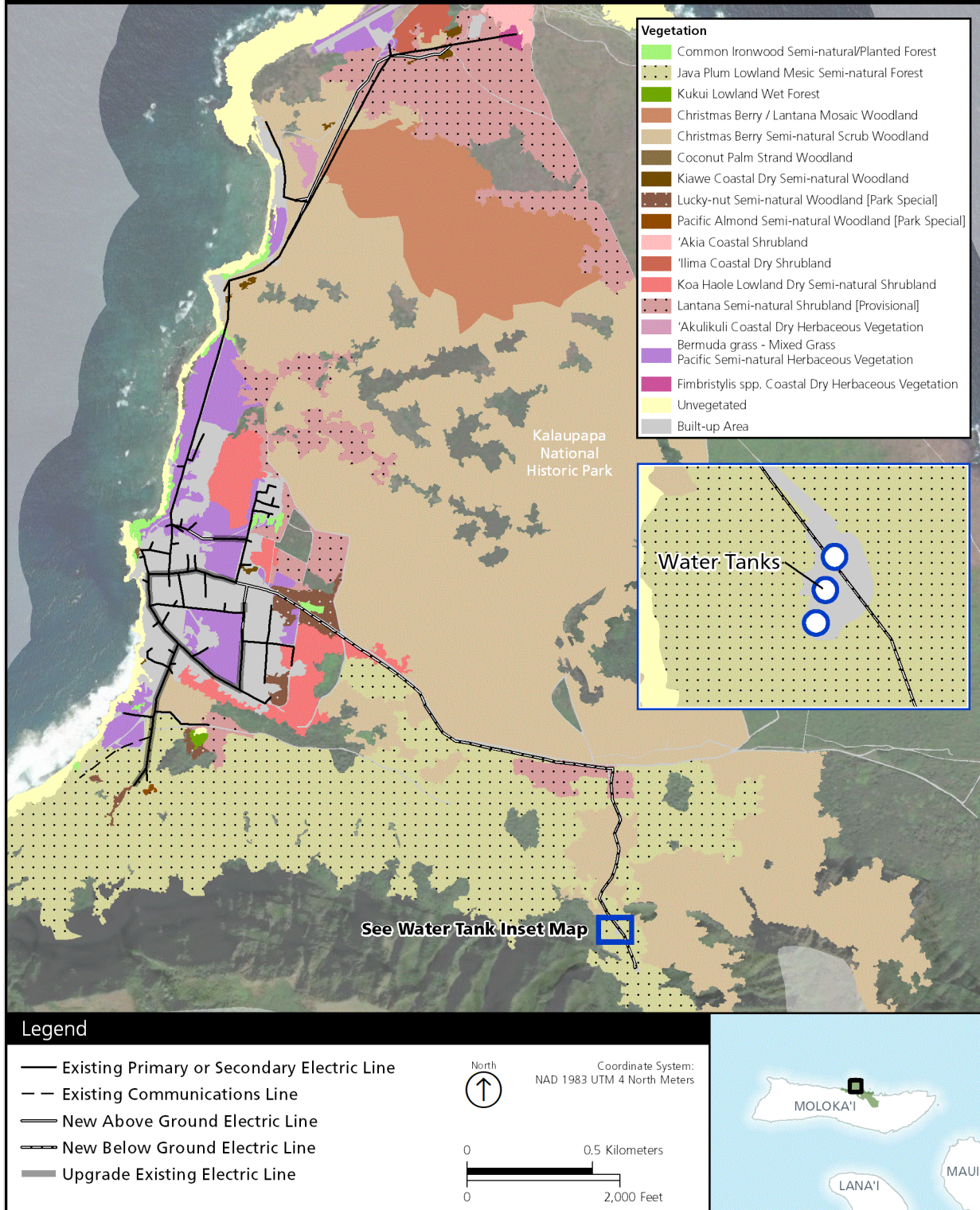


FIGURE 7. VEGETATION



## Environmental Consequences

### ***Alternative 1: No Action***

Existing conditions would persist under the no-action alternative, which would include keeping the existing ROW free of vegetation. Maintenance of the existing electrical system would result in ongoing direct disturbances to vegetation. However, plant communities along the line corridor are dominated by nonnative species, limited in diversity, and composed of common species associated with human disturbance. Vegetation in the project area does not provide high-quality habitat for native plants or animals or high-quality forage, nesting, or cover habitat for wildlife. The deteriorating existing electrical system would require ongoing maintenance, which could disturb vegetation more frequently than under alternative 2 in select areas throughout the existing alignment.

### ***Alternative 2: Rehabilitate the Existing Electrical System***

Rehabilitation of the existing electrical distribution system under alternative 2 would have direct, permanent and temporary, adverse impacts on vegetation. Permanent loss of vegetation would be limited primarily to new structure bases. Much of the proposed work would consist of replacing existing infrastructure and would not result in loss of vegetation compared to existing conditions. Therefore, permanent loss of vegetation would be limited to those areas where new poles would be installed (20 poles along Kamehameha Street and 3 within the Kalaupapa Settlement). Because 12 existing poles would be removed to facilitate the new alignment along Kamehameha Street, permanent loss of vegetation would be limited to an area equivalent to 11 structure bases (approximately 0.0014 acres, assuming 32-inch diameter poles). The new alignment would be located along the road; therefore, new access routes are not anticipated to be necessary to facilitate future maintenance requirements.

Impacts on vegetation would also occur at sites where poles and infrastructure would be replaced and along the existing alignment. Impacts would occur in the temporary work areas near each structure base and in the three previously disturbed laydown areas, two in the settlement and one along the Damien Road (see figures 4 and 5). Improvements to existing infrastructure would use existing access routes, and the laydown areas would be within previously disturbed or paved areas, so no additional vegetation clearing, or ground disturbance would be required at these locations. Ongoing ROW maintenance would continue, so no new impacts associated with planned maintenance of the new infrastructure along the existing route would occur. Emergency repairs would occur less frequently than under the no-action alternative because deteriorating system components would be replaced. Unlike locations where new poles would be installed, all impacts on vegetation along the existing alignment would be temporary because there would be no permanent loss or conversion of vegetation. Temporarily disturbed areas would be revegetated in accordance with mitigation measures Veg-1 and Veg-2, as shown in table 2.

Construction of the section of the proposed alignment that would run from the east end of the Kalaupapa Settlement along Damien Road and then up to the pump house would have additional impacts on vegetation commensurate with the amount of ground disturbance. Vegetation clearing, including tree removal, may be required near the water tanks and pump house. This portion of the project area is composed of Java plum forest habitat (figure 7).

The amount of clearing required would depend on the option selected for the portion of the alignment along the pump house road (table 1) and specific features of the final design but would not exceed 4 acres. Option 1 would have the greatest potential for impacts because additional vegetation clearing (potentially including limb cutting or tree removal) may be required to accommodate and maintain an appropriate clearance around an overhead cable compared to the other options being considered. Option 2 would result in up to the same amount of vegetation removal as option 1 but may not require removal of trees because the forest canopy would be less likely to interfere with the cable if it is placed in an on-the-ground conduit compared to an overhead alignment. Option 3 would result in ground disturbance during construction, but would require the least amount of maintenance, including vegetation management, once constructed. Under option 3, much of the new segment would be located adjacent to existing roads or an existing water pipeline, minimizing the need for additional access routes

or ROW maintenance. The implementation of appropriate mitigation measures under alternative 2 (table 2: Gen-1 – Gen-4; Veg-1 – Veg-2) would minimize or mitigate adverse impacts to vegetation.

Additionally, project construction activities could introduce or spread nonnative invasive plants or disease if contaminated equipment or materials were to enter areas where ground disturbance would occur. Introduction of or spread of invasive plants could change native plant community composition and function, resulting in indirect adverse impacts on vegetation. However, the establishment or spread of nonnative invasive plants would be prevented or minimized by implementing appropriate mitigation measures (table 2: BIS-1 – BIS-4).

### ***Cumulative Impacts***

Past actions associated with previous development and historic land uses have altered vegetation communities on the Kalaupapa Peninsula. The past, present, and reasonably foreseeable future actions described at the beginning of this chapter could adversely affect vegetation, but most impacts would consist of temporary disturbances. The Park manages its ecosystem communities and processes, including vegetation resources, to meet or maintain the desired conditions identified in its 2021 GMP (NPS 2021c). Alternative 2 would contribute an adverse increment to the overall cumulative impact due to ground disturbance associated with rehabilitation of the electrical system and ongoing maintenance activities; however, the project area is currently dominated by nonnative species. The implementation of appropriate mitigation measures (table 2: Gen-1 – Gen-4; Veg-1 – Veg-2) would minimize the contribution of alternative 2 to the overall cumulative impact.

## **HAWAI'I ENVIRONMENTAL POLICY ACT SIGNIFICANCE CRITERIA ANALYSIS**

Justification for the NPS's anticipated determination that the proposed action would not have a significant effect on the environment, in accordance with HEPA HAR Chapter 11-200.1 and the applicable "significance criteria" identified in HEPA HAR Chapter 11-200.1-13 is provided below. This determination will be made pursuant to the requirements of HEPA and is separate from a FONSI determination that will be made by the NPS, if appropriate, pursuant to NEPA, following review of public comments on the EA.

Based on the analysis in the EA, the NPS anticipates that the proposed action would not result in significant effects on the environment for the following reasons:

### **1. Irrevocably commit a natural, cultural, or historic resource.**

Most of the work associated with the proposed rehabilitation of the electrical distribution system would occur in areas that are currently developed or that have been previously disturbed. The project would generally consist of replacing the Park's existing electrical distribution system with similar or in-kind equipment. The proposed action would require limited vegetation clearing. However, most vegetation clearing would be temporary, and the total area of disturbance would not exceed 4 acres. The NPS consulted with the USFWS in accordance with ESA section 7, and the USFWS determined that the proposed project *may affect but is not likely to adversely affect* federally listed species. Under the proposed action, the NPS would implement appropriate mitigation measures to avoid, minimize, or mitigate potential adverse impacts on natural resources including vegetation, wetlands, and threatened or endangered species (table 2: Gen-1 – Gen 6; TES-1 – TES-16; Veg-1 – Veg-2; WL-1 – WL-3). These measures would also prevent or minimize establishment and spread of nonnative and invasive species in the project area (table 2: BIS-1 – BIS-4).

Ground disturbance associated with the proposed action could disturb cultural or historic resources. However, adverse effects could be avoided through archeological monitoring or mitigated through site documentation (table 2: CR-1 – CR-4). The project would improve the condition of dark night skies, an important component of the Park's cultural landscape, by replacing existing lighting with dark sky-compliant fixtures (table 2: CR-5). The portion of the proposed action that would connect the pump house to the Park's electrical distribution system

could affect the existing viewshed, another component of the cultural landscape, by introducing new visual elements if options 1 (overhead) or 2 (on-the-ground) are selected. The intensity of impacts would depend on the option selected for this portion of the alignment. These potential effects on the viewshed would not constitute an irrevocable commitment because the line could be removed or buried in the future.

With the implementation of the measures listed in table 2, the proposed action would not irrevocably commit a natural, cultural, or historic resource.

**2. Curtail the range of beneficial uses of the environment.**

The proposed action would not curtail the range of beneficial uses of the environment. As noted above, impacts on the natural environment would be minimal, and potential adverse impacts would be avoided, minimized, or mitigated by implementing appropriate measures (table 2). The project would generally consist of replacing the Park's existing electrical distribution system with similar or in-kind equipment. Upgrading the existing infrastructure would result in numerous benefits, including improving efficiency, bringing the system into compliance with current HECO code standards for future operations, increasing reliability, making the system easier for an outside entity to maintain, and eliminating health and safety concerns. The proposed action would also improve the condition of dark night skies by replacing existing lighting with dark sky-compliant fixtures (table 2: CR-5).

**3. Conflict with the state's environmental policies or long-term environmental goals established by law.**

The proposed action would not conflict with the state's environmental policies or long-term environmental goals established by law. Potential environmental regulatory compliance and permitting requirements associated with the proposed action are summarized in table 7.

**4. Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community or State.**

Rehabilitation of the electrical distribution system and associated construction activities would not adversely affect the economy of the community or state. Minor but temporary increases in employment from the construction workforce and revenues for the businesses engaged in the construction process are expected.

Rehabilitating the electrical distribution system would improve the social welfare of the community because components of the electrical distribution system are at or near the end of their useful service life and failing. Power outages occur frequently within the Park and Kalaupapa Settlement because of deteriorated transformers, worn and frayed transmission lines, and pole and insulator failures. The electrical distribution system has created a variety of health and safety concerns for patient-residents, NPS and HDOH staff, and visitors.

The proposed action would not affect the cultural practices of the community or state.

**5. Have a substantial adverse effect on public health.**

Rehabilitating the electrical distribution system would benefit public health by eliminating health and safety concerns for patient-residents, NPS and HDOH staff, and visitors caused by the existing system, which is at the end its useful service life and failing.

**6. Involve adverse secondary impacts, such as population changes or effects on public facilities.**

The proposed action would have no adverse secondary impacts such as population changes or effects on public facilities. Rehabilitating the electrical distribution system would benefit Park facilities and facilities associated with the Kalaupapa Settlement because the upgrades would improve efficiency, comply with current HECO code standards for future operations, increase

reliability, make the system easier for an outside entity to maintain, and eliminate health and safety concerns.

**7. Involve a substantial degradation of environmental quality.**

As documented in this EA analysis, the proposed action does not involve a substantial degradation of environmental quality. As described above, most of the proposed action would occur in developed or previously disturbed areas and would have minimal impacts on the environment. Potential adverse impacts would be minimized or mitigated by incorporating the measures listed in table 2.

**8. Be individually limited but cumulatively have substantial adverse effect upon the environment or involve a commitment for larger actions.**

According to the impact analysis in the EA, the proposed action would not result in substantial cumulative adverse effects on the environment and would not involve a commitment for larger actions. Any adverse impacts that may result from the proposed action would be minimized by implementing the mitigation measures listed in table 2.

**9. Have a substantial effect on rare, threatened, or endangered species, or its habitat.**

The proposed action would not have a substantial effect on rare, threatened, or endangered species, or their habitats. The NPS would implement appropriate mitigation measures to avoid, minimize, or mitigate potential adverse impacts to these species and their habitats (table 2: Gen-1 – Gen 6; TES-1 – TES-16; Veg-1 – Veg-2; WL-1 – WL-3; BIS-1 – BIS-4). ESA section 7 consultation was completed in June 2021. The USFWS determined that the proposed project *may affect but is not likely to adversely affect* federally listed species.

**10. Have a substantial adverse effect on air or water quality or ambient noise levels.**

The proposed action would not have a substantial adverse effect on air or water quality or ambient noise levels. The project could result in localized release of fugitive dust during the construction period; however, fugitive dust would dissipate quickly and would not affect air quality over the long term. No ground disturbance would occur within 60 feet of a wetland, stream, or other waterbody. The use of silt fences or other erosion control measures (table 2: Gen-1 – Gen-4; WL-1 – WL-3) would avoid or minimize the potential for indirect effects on water quality from runoff or sedimentation. Ambient noise levels would increase during the construction period but there would be no long-term changes in ambient noise levels or soundscapes in the Park.

**11. Have a substantial adverse effect or is likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.**

The proposed action would not have a substantial adverse effect on environmentally sensitive areas. Due to its location, the Park's electrical distribution system could suffer damage as a result of natural processes or events. However, the proposed upgrades are necessary to provide the Park and the settlement with a reliable electrical distribution system that is readily and easily serviceable and complies with federal regulations. As noted above, the proposed action is needed because the components that make up the electrical distribution system are at or near the end of their useful service life, and rehabilitation is required to support existing facilities and future requirements.

Most of the proposed project area, including much of the existing electrical distribution system that serves the settlement, is within the 100-year floodplain. Rehabilitating the Park's existing electrical distribution system would not result in new impacts to the floodplain or alter its function compared to existing conditions.

Portions of the proposed project area are adjacent to the Pacific coastline, including a sandy beach. However, the power line is located along the landward side of the nearest road that parallels the shoreline. No work would occur on beaches.

The Park's shoreline has likely experienced erosion over time through natural and potentially anthropogenic processes. In an effort to improve its knowledge base, the NPS is currently completing an assessment of coastal vulnerability as prescribed in its GMP (NPS 2021c). The assessment will include a review of maps of historical shoreline change showing coastal erosion areas. The proposed project would not affect coastal erosion at the Park.

Most of the proposed project area, including much of the existing electrical distribution system that serves the settlement, is within the tsunami hazard zone. The NPS is focusing on protecting human life and safety through warning and evacuation rather than minimizing property damage. The NPS is taking steps to protect the safety of patient-residents, staff, and visitors including posting warning signs, installing a tsunami warning system, and defining an evacuation route. A complete list of the measures that the NPS is taking to preserve human life in the event of a tsunami is provided in the Park's GMP (NPS 2021c).

**12. Have a substantial adverse effect on scenic vistas and view planes identified in county or state plans or studies.**

The Park's viewshed is an important component of the cultural landscape. Most of the work associated with the proposed rehabilitation of the electrical distribution system would occur in the Kalaupapa Settlement and would consist of replacing existing infrastructure with similar or in-kind equipment, to the extent feasible, resulting in minimal changes to the existing viewshed. The portion of the proposed action that would connect the pump house to the Park's electrical distribution system could affect the existing viewshed by introducing new visual elements if options 1 (overhead) or 2 (on-the-ground) are selected for this portion of the alignment. The intensity of impacts would depend on the option selected. Overall, the proposed action is not expected to have a substantial adverse effect on scenic vistas and view planes identified in county or state plans or studies.

**13. Require substantial energy consumption or emit substantial greenhouse gas.**

The proposed action would not require substantial energy consumption or result in substantial greenhouse gas emissions. Rehabilitating the Park's electrical distribution system would not result in an increase of energy consumption. On the contrary, the proposed upgrades would increase the system's efficiency. Construction and transport equipment would result in greenhouse gas emissions during construction; however, the emissions would not be substantial enough to measurably contribute to climate change. The project would reduce greenhouse gas emissions over the long term by connecting the water pump system to the Park's electrical grid, allowing for the removal of the two old diesel generators that currently power the water pump system. One of the old generators would be replaced with a new backup generator. Although the new backup generator would be diesel-powered, it would only be used if the supply of electricity is disrupted and would be operated for limited durations. When the new backup generator is operated, it would produce fewer emissions than the old generators currently in place because of technological advancements in diesel engine efficiency and emissions control systems.

During scoping, several options were proposed that focused on renewable energy sources; however, the purpose of the proposed action is to provide the Park and the settlement with a reliable electrical distribution grid—not to produce electricity. As a result, these alternatives were not carried forward for detailed analysis because they did not meet the purpose and need for action, were not feasible, or had several disadvantages. Although solar, hydroelectric, and wind energy options are not feasible at this time, the NPS remains committed to exploring renewable energy options as part of its continued effort to reduce greenhouse gas emissions and

mitigate their effect on climate change as outlined in the Park's Climate Action Plan (NPS 2010a). The proposed project does not preclude adding solar or other renewable energy sources to the Park's electrical system in the future if they become feasible. It also does not preclude sourcing renewable energy from topside Moloka'i for transmission to the Park.

## CHAPTER 4: CONSULTATION AND COORDINATION

This chapter describes the consultation and coordination conducted during the preparation of this EA. The internal scoping process for the project began in November 2020. A detailed description of the civic engagement/early consultation process and the agency consultation initiated during the development of the EA is provided below and summarized in table 5.

**TABLE 5. CONSULTATION AND COORDINATION SUMMARY**

<b>Date</b>	<b>Type of Coordination</b>	<b>Description</b>	<b>Parties Involved</b>
12/15/2020	Civic engagement	Public notice and newsletter	public
12/15/2020–1/29/2021	Civic engagement	45-day public scoping comment period	public
12/17/2020	Civic engagement	Virtual public scoping meeting	public
12/18/2020	Agency consultation	NHPA section 106 consultation initiation letter	SHPD
1/11/2021	Agency consultation	NHPA section 106 consultation response letter received	SHPD
5/3/2021	Agency consultation	ESA section 7 consultation initiation letter	USFWS
5/6/2021	Agency consultation	Email coordination with National Oceanic and Atmospheric Administration, National Marine Fisheries Service regarding consultation requirements	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
6/7/2021	Agency consultation	ESA section 7 concurrence letter received	USFWS
1/2022	Civic engagement	Newsletter	public
10/24/2022	Agency consultation	NHPA section 106 consulting parties virtual meeting	SHPD, DHHL, and 34 registered Native Hawaiian Organizations
10/24/2022	Civic engagement	Virtual public meeting	Section 106 public stakeholders (65 individuals invited)
12/14/2022	Agency consultation	NHPA section 106 consulting party site visit	DHHL
12/14/2022	Agency consultation	HEPA meeting	DHHL

## CIVIC ENGAGEMENT/EARLY CONSULTATION

Civic engagement, also referred to as early consultation under HRS 343, began with a public notice and newsletter issued on December 15, 2020, which initiated a 45-day public comment period. The newsletter contained information on the project and was posted on the NPS Planning, Environment, and Public Comment (PEPC) website. The public comment scoping period closed on January 29, 2021.

The NPS also held a virtual public scoping meeting to gather input on the EA on December 17, 2020. The meeting was held online from 10:00 a.m. to 11:30 a.m. Hawai'i Standard Time. The meeting began with a presentation and was followed by a public question-and-answer session, allowing the participants to inquire about the project background, the project area, the purpose of and need for action, the proposed alternatives, and possible issues and impact topics to be analyzed in the EA. Twenty-three people attended the virtual meeting.

Forty-four comments were received during the public comment period. Most of the comments came from questions during the virtual public scoping meeting. Only one comment was received through the PEPC site. Topics addressed by public comments included the use of renewable energy resources (19 comments), consultation with state agencies and utility companies (10 comments), the proposed alternatives (10 comments), and impacts on cultural resources (5 comments). Those comments, including NPS responses to substantive comments, were summarized in a public scoping comment report and were considered during the development of the EA (appendix A). What personal identifiable information the NPS is able to make public is limited due to restrictions under the Privacy Act of 1974. Therefore, this report provides summaries of comments rather than individual comments.

A second newsletter was sent out in January 2022 to project stakeholders. The NPS held a virtual meeting with NHPA section 106 consulting parties on October 24, 2022. Information provided as part of early consultation to these parties is provided in appendix B. A separate virtual public meeting was held on the same day. At both meetings, Park staff presented an overview of the project and led a question-and-answer session. Feedback from consulting parties and members of the public included questions and comments about the project design, existing resources in the project area, potential impacts and mitigation measures, and procedural steps for project compliance and implementation. Comments from these meetings and the NPS's response to those comments are shown below in table 6.

**TABLE 6. RESPONSE TO OCTOBER 2022 PUBLIC COMMENTS**

<b>Topic</b>	<b>Question</b>	<b>Answer</b>
General	Can the NPS provide project maps that show parcel ownership boundaries?	A map showing ownership boundaries has been added to the EA as appendix C.
General	What is the cost of the project and does the Park have funding?	There is funding for this project. The exact amount of funding has not been specified because a bid for the contract had not been accepted.
General	How long will the project take?	It is estimated that design and construction will take approximately 3 years.
General	How will the project impact the airport?	During construction and operation, it is anticipated that airport operations will not be impacted.



Topic	Question	Answer
Compliance	What are the sensitive resources to be avoided? How will archeological resources be identified? Will an archeologist be present?	Sensitive resources to be avoided include both biological and cultural resources, as described in chapter 3 of the EA. Mitigation measures that would be implemented to avoid, minimize, or mitigate potential impacts to sensitive resources are shown in table 2. Archeological resources in the proposed project area were identified through archeological surveys that are described in chapter 3 under "Cultural Resources." Mitigation measures that apply specifically to archeological and other cultural resources include measures CR-1 – CR-5 in table 2. The NPS will continue to coordinate with SHPD as needed.
Construction	Where will materials be staged?	Preliminary staging areas are shown in chapter 2 in figures 4 and 5. See areas labeled "Laydown Areas." The use of these laydown areas was included in the analysis of the EA. If these areas are changed, further analysis will occur.
Construction	Has the Park consulted with local contractors experienced with similar projects?	Further consultation with contractors, including local contractors, will occur as the design process is completed.
Design	Why were underground lines not considered, consistent with section 9.1.5.3 of <i>NPS Management Policies</i> ?	The current aboveground system is considered a contributing feature to the historic landscape. Additionally, the landscape of the Park contains archeological resources that could be impacted by an underground line. Due to the potential impacts to these cultural resources, underground lines were not considered further.
Design	What is the estimated cost of underground vs. above ground utility lines? Are there benefits from placing utility lines underground away from elements such as salt air?	Due to the level of impacts to cultural resources, the cost consideration of underground vs above ground lines was not considered.
Design	Why were alternative power sources not considered in line with <i>NPS Management Policies</i> ?	The purpose and need of this project is for power distribution, not generation. Further information on why alternative sources of power were not carried forward for further analysis is provided in chapter 2 of the EA.
Design	Please provide a comparison of the three options stated for the Pumphouse Road.	The "Environmental Consequences" section of the EA details the potential impacts from the three options considered.
General	Is there going to be a draft EA prepared for the utility project or is the NPS planning on an exemption from the federal NEPA and section 106 environmental compliance reviews? Will the NPS comply with the State's Chapter 343 and 6E environmental review processes?	The NPS is complying with all federal and state requirements for this effort.

Additional civic engagement activities, including public announcements, newsletters, and/or virtual meetings, will be conducted as needed throughout the NEPA and NHPA section 106 processes. The public will have an additional opportunity to review and comment on the EA for 30 days prior to the signing of a FONSI.

## AGENCY CONSULTATION

The NPS initiated consultation with relevant agencies during the preparation of this EA, as discussed in more detail below.

### Section 7 of the Endangered Species Act

Section 7 of the ESA requires federal agencies to consult with the USFWS to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat. The Park initiated informal section 7 consultation on May 3, 2021. On June 7, 2021, the USFWS issued its concurrence with the Park's finding that the proposed project *may affect but is not likely to adversely affect* federally listed species. The USFWS also provided a list of impact avoidance and mitigation measures, which have been incorporated into "Chapter 2: Alternatives, Mitigation Measures."

### Section 106 of the National Historic Preservation Act

Section 106 of the NHPA requires federal agencies to consider the impacts of their undertakings on historic properties. Compliance with section 106 of the NHPA was carried out separately, but concurrently, with the planning process. The NPS sent a letter to the SHPD on December 18, 2020, initiating consultation for the project. In a letter dated January 11, 2021, the SHPD replied, acknowledging the consultation and recommending a systematic Archeological Resources Survey (i.e., shovel test) in areas that will be disturbed across the APE. The NPS also held virtual meetings with the SHPD and DHHL to discuss recommended surveys—including an Intensive Archeological Survey, which was completed for areas within the APE where construction activities would require ground disturbance between April 5 and April 29, 2021. The survey report was finalized in September 2021 (Walker and Filimoehala 2021). The NPS held a virtual meeting with NHPA section 106 consulting parties on October 24, 2022. The Park conducted a site visit for DHHL on December 14, 2022. Additional engagement will occur as necessary to complete the NHPA section 106 consultation process.

### Department of Hawaiian Homelands and Department of Land and Natural Resources

The NPS is currently in the process of continuing consultation with DHHL and DLNR as the landowners in the leasehold area.

## PERMITS AND AUTHORIZATIONS

Table 7 summarizes the potential environmental regulatory compliance and permitting requirements for the proposed project. Other regulatory compliance and permitting actions for construction and operation of the system may be required, pending final design and agency reviews.

**TABLE 7. POTENTIAL REGULATORY AND PERMITTING REQUIREMENTS**

Item	Legal Citation	Status
NEPA compliance	42 United States Code §§ 4321 et seq.	In progress
HEPA compliance	Ch. 343, Hawai'i Revised Statutes (HRS)	In progress
Federal ESA compliance	Sec. 7, ESA	Completed June 7, 2021

Item	Legal Citation	Status
Hawai'i ESA compliance	Ch. 195D, HRS	TBD
NHPA compliance	Sec. 106, NHPA	In progress
Hawai'i Historic Preservation Program compliance	Ch. 6E, HRS	TBD
Coastal Zone Management Federal Consistency Review	Coastal Zone Management Act, Sec. 307 15 CFR 930 Ch. 205A, HRS	In progress
Hawai'i Conservation District Use Permit	Ch.183C and 205, HRS Sec.13-5, HAR	TBD
National Pollutant Discharge Elimination System), Construction Stormwater and Dewatering General Permit	Sec. 401, Clean Water Act Sec. 11-55, HAR	TBD
National Flood Insurance Program Permit	44 CFR Executive Order 11988 Ch. 46, HRS	TBD
Noise Permit/Variance	Ch. 342F, HRS Sec. 11-46, HAR	TBD
Stationary Reciprocating Internal Combustion Engine Permit (if necessary)	Clean Air Act Sec. 11-60.1, HAR	TBD
Sec. 404 D & F Sec. 401 Water Quality Certification (if necessary)	Sec. 404 and 401, Clean Water Act	Permits not anticipated to be required

## **ACRONYMS AND ABBREVIATIONS**

APE	area of potential effect
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLI	Cultural Landscapes Inventory
DB	design/build
DHHL	Hawai'i Department of Hawaiian Homelands
DLNR	Hawai'i Department of Land and Natural Resources
DPS	Distinct Population Segment
EA	environmental assessment
ESA	Endangered Species Act
FONSI	Finding of No Significant Impact
GMP	General Management Plan
HAR	Hawai'i Administrative Rules
HEPA	Hawai'i Environmental Policy Act
HRS	Hawai'i Revised Statutes
HDOH	Hawai'i Department of Health
HECO	Hawaiian Electric
National Register	National Register of Historic Places
NEPA	National Environmental Policy Act
NHL	National Historic Landmark
NHPA	National Historic Preservation Act
NPS	National Park Service
Park	Kalaupapa National Historical Park
PEPC	NPS Planning, Environment, and Public Comment
ROW	right-of-way
SHPD	Hawai'i State Historic Preservation Division
USFWS	US Fish and Wildlife Service

## REFERENCES

- Bellard, C., C. Bertelsmeier, P. Leadley, W. Thuiller, and F. Courchamp  
2012 "Impacts of Climate Change on the Future of Biodiversity." *Ecology Letters* 15(4): 365–377.
- Burr, S., and E. Guinther  
2000 "Jurisdictional Waters Survey for the Electrical System Upgrade at Kalaupapa National Historical Park (KALA), Kalaupapa, Moloka'i." Contract No. P15PC00018. Task Order No. 140P2019F0254. Second Draft. Prepared by AECOS, Inc. August 21, 2020.
- Chambers, B. V., and R. Pacheco  
2020 *Archeological Inventory Survey in Support of the Electrical System Upgrade Project, Kalaupapa National Historical Park, Kalaupapa Ahupua'a, Ko'olau District, Moloka'i. Draft Final, Vol. I-II.* Prepared for CH2M HILL Engineers, Inc., by International Archaeology, LLC, Honolulu, HI.
- Chambers, B. V., and J. S. Athens  
2020 *Archeological Inventory Survey of the Electrical System Upgrade Project Area Proposed Utility Line Extension from East End of Settlement to Water Pump House, Kalaupapa National Historical Park, Kalaupapa Ahupua'a, Ko'olau District, Moloka'i. Vol. I-II.* Prepared for CH2M HILL Engineers, Inc., by International Archaeology, LLC, Honolulu, HI.
- Council of Environmental Quality (CEQ)  
2022 40 CFR Parts 1500–1508. May 20, 2022. National Environmental Policy Act Implementing Regulations. <https://ceq.doe.gov/docs/laws-regulations/NEPA-Implementing-Regulations-Desk-Reference-2022.pdf>
- Fraser, H. R., V. Parker-Geisman, and G. R. Parish, IV  
2007 *Hawaiian Hoary Bat Inventory in National Parks on the Islands of Hawaii, Maui and Moloka'i. Honolulu: Cooperative National Park Resources Studies Unit.* Technical Report 140. Accessed February 14, 2021. <https://irma.nps.gov/DataStore/DownloadFile/151064>
- Fung and SWCA (Fung Associates Inc. and SWCA Environmental Consultants)  
2010 *Assessment of Natural Resources and Watershed Conditions for Kalaupapa National Historical Park. Natural Resource Report NPS/NPRC/WRD/NRR—2010/261.* National Park Service. Fort Collins, CO. Accessed February 14, 2021. <http://npshistory.com/publications/kala/nrr-2010-261.pdf>
- Gallardo, B., and D. C. Aldridge  
2013 "Evaluating the Combined Threat of Climate Change and Biological Invasions on Endangered Species." *Biological Conservation* 160: 225–233.
- Green, K, K. Schulz, C. Lopez, A. Ainsworth, M. Selvig, K. Akamine, M. Hall, and G. Kudray  
2014 *Vegetation Mapping Inventory Project: Kalaupapa National Historical Park. Natural Resource Report.* NPS/PACN/NRR—2014/819. National Park Service. Fort Collins, CO. Accessed February 14, 2021. <https://irma.nps.gov/DataStore/Reference/Profile/2210946>

Hawai'i Department of Land and Natural Resources (DLNR)

- 1992 Threatened and Endangered Plants as of 1992. GIS Coverage provided by the Hawaii Statewide GIS Program. Created by the DLNR Division of Forestry and Wildlife. Last updated November 02, 2020. Accessed February 14, 2021.  
[https://geoportal.hawaii.gov/datasets/bbfa4c407c7146f79cdc77502e1a231d\\_7](https://geoportal.hawaii.gov/datasets/bbfa4c407c7146f79cdc77502e1a231d_7)
- 2015a *Hawaiian Hoary Bat Guidance Document*. State of Hawai'i Department of Land and Natural Resources, Endangered Species Recovery Committee, Division of Forestry and Wildlife. December 2015. Prepared by A. Amlin and A. Siddiqi. Accessed February 14, 2021.  
[https://dlnr.hawaii.gov/wildlife/files/2018/07/Bat-White-Paper-Guidance\\_2015-FINAL.pdf](https://dlnr.hawaii.gov/wildlife/files/2018/07/Bat-White-Paper-Guidance_2015-FINAL.pdf)
- 2015b *Hawai'i's State Wildlife Action Plan*. Prepared by H. T. Harvey and Associates, Honolulu, HI.  
<https://dlnr.hawaii.gov/wildlife/files/2020/07/HI-SWAP-2015-FINAL.pdf>

Intergovernmental Panel on Climate Change (IPCC)

- 2022 "Summary for Policymakers." In: *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. DOI: 10.1017/9781009157926.001.

Kozar K., R. Swift, and S. Marshall

- 2007 *Shoreline Bird Inventories in Three National Parks in Hawaii: Kalaupapa National Historical Park, Haleakala National Park and Hawaii Volcanoes National Park*. Technical Report Series. Technical Report 149. Pacific Cooperative Studies Unit, University of Hawaii at Mānoa. Honolulu, HI. Accessed February 14, 2021.  
<https://irma.nps.gov/DataStore/DownloadFile/149461>

Marshall, S., and K. Kozar

- 2008 *Forest Bird Inventory Kalaupapa National Historical Park. Technical Report Series*. Technical Report 154. Pacific Cooperative Studies Unit (University of Hawai'i at Mānoa), NPS Inventory and Monitoring, Program, Pacific Island Network, Kalaupapa National Historical Park. April 2008. 15 pp. Accessed February 14, 2021.  
<https://irma.nps.gov/DataStore/DownloadFile/149434>

Mason Architects Inc.

- 2018 Determination of Eligibility: Kalaupapa National Historical Park Electrical System. Prepared for CH2M Hill by Mason Architects Inc.

MK Engineers

- 2015 "Electrical System Assessment and Project Scoping Report for Kalaupapa National Historical Park." Final Submittal.

National Park Service (NPS)

- 1998 Director's Order #28: *Cultural Resource Management*. Accessed August 18, 2022.  
<https://www.nps.gov/policy/DOrders/DOrder28.html>
- 2010a *Kalaupapa National Historic Park Action Plan*. Climate Friendly Parks.  
<https://www.nps.gov/subjects/climatechange/upload/KALA-CFP-Action-Plan-508compliant.pdf>

- 2010b *Assessment of Natural Resources and Watershed Conditions for Kalaupapa National Historical Park.* <http://npshistory.com/publications/kala/nrr-2010-261.pdf>
- 2011a "Cultural Landscapes Inventory." Kalaupapa and Kalawao Settlements, Kalaupapa National Historical Park. National Park Service.
- 2011b *Kalaupapa National Historical Park Fire Management Plan Environmental Assessment.* December 2011. Accessed February 14, 2021. <https://parkplanning.nps.gov/showFile.cfm?projectID=32887&MIMETType=application%2Fpdf&filename=KALA%5FFMP%5F29Nov2011g%2Epdf&sfid=121357>
- 2012 "Cultural Landscapes Inventory." Moloka'i Light Station, Kalaupapa National Historical Park. National Park Service.
- 2015a *NEPA Handbook.* [https://www.nps.gov/subjects/nepa/upload/NPS\\_NEPAHandbook\\_Final\\_508.pdf](https://www.nps.gov/subjects/nepa/upload/NPS_NEPAHandbook_Final_508.pdf)
- 2015b *State of the Park Report for Kalaupapa National Historical Park.* State of the Park Series No. 21. National Park Service, Washington, DC. Accessed February 15, 2021. <http://npshistory.com/publications/state-of-the-park/kala-2015.pdf>
- 2016a Director's Order 77-1: *Wetland Protection.* Washington, DC.
- 2016b Measuring Lightscapes. Night Skies. National Park Service website. Accessed February 25, 2021. <https://www.nps.gov/subjects/nightskies/measuring.htm>
- 2017a "Predesign Report to Rehabilitate the Unsafe and Failing Electrical System for the Settlement at Kalaupapa National Historical Park." KALA-217676.
- 2017b *Foundation Document for Kalaupapa National Historical Park.* <http://npshistory.com/publications/foundation-documents/kala-fd-2017.pdf>
- 2018 Night Skies as a Cultural-Historical Resource. Night Skies. National Park Service website. Accessed February 25, 2021, <https://www.nps.gov/subjects/nightskies/cultural.htm>
- 2021a "National Historic Landmark Nomination." Kalaupapa Leprosy Settlement. Prepared by Christopher E. Johnson, National Park Service National Historic Landmarks Program, Washington DC.
- 2021b Rehabilitate Failing Electrical System for Settlement. Kalaupapa National Historic Park, Hawai'i. Accessed June 10, 2022. <https://www.nps.gov/kala/getinvolved/rehabilitate-failing-electrical-system-for-settlement.htm>
- 2021c *Kalaupapa National Historical Park Revised General Management Plan and Environmental Assessment.* Kalaupapa National Historical Park, Kalawao County, Hawai'i. NPS. 2021. Kalaupapa National Historical Park. Accessed August 9, 2022. <https://parkplanning.nps.gov/document.cfm?parkID=313&projectID=24883&documentID=114660>
- 2022 National Park Service Visitor Use Statistics. Annual Park Recreation Visits (1996 – Last Calendar Year). Kalaupapa National Historic Park. <https://irma.nps.gov/STATS/Reports/Park/KALA>

Poland, R., and P. Hosten

- 2018 "How Collaborative Research Has Helped Define Hawaiian Hoary Bat Activity in Kalaupapa National Park, Thus Better Informing Park Management Strategies. Hawaiian Conservation Conference." 25th Annual Hawai'i Conservation Conference, Honolulu.

US Fish and Wildlife Service (USFWS)

- 1998 *Recovery Plan for the Hawaiian Hoary Bat (Lasiurus cinereus semotus)*. Region 1. Approved May 11, 1998. Portland, OR. [https://ecos.fws.gov/docs/recovery\\_plan/980511b.pdf](https://ecos.fws.gov/docs/recovery_plan/980511b.pdf)
- 2021 *Birds of Conservation Concern 2021*. US Fish and Wildlife Service Migratory Bird Program. Accessed August 18, 2022. <https://www.fws.gov/sites/default/files/documents/birds-of-conservation-concern-2021.pdf>

Van der Putten, W. H., M. Macel, and M. E. Visser

- 2010 "Predicting Species Distribution and Abundance Responses to Climate Change: Why it is Essential to Include Biotic Interactions Across Trophic Levels." *Philosophical Transactions of the Royal Society B: Biological Sciences* 365(1549): 2025–2034.

Walker, C., and C. Filimoehala

- 2021 *Results of Archaeological Surface Survey and Subsurface Testing in Support of the Rehabilitation of the Kalaupapa Electrical System, Kalaupapa National Historical Park, Kalaupapa and Makanalua Ahupua'a, Ko'olau Moku, Moloka'i, Hawai'i*. Prepared for WSP USA Solutions and the National Park Service Pacific West Region by International Archaeology, LLC, Honolulu.

Wiss, Janney, Elstner Associates, Inc.

- 2020 *Kalaupapa and Kalawao Settlements Cultural Landscape Report*. Prepared for the National Park Service by Wiss, Janney, Elstner Associates, Inc., Emeryville, CA.



## LIST OF PREPARERS

NAME	TITLE
<b>National Park Service</b>	
Jenny Rebenack	Natural Resource Specialist, Denver Service Center
Michael Owens, MA, RPA	Cultural Resources Specialist, Denver Service Center
David Futch	Project Specialist, Denver Service Center
Emmeline Morris	Project Manager, Denver Service Center
Jonathan Gervais	Environmental Protection Specialist, NPS Region
Sarah Killinger	Section 106 Coordinator, NPS Region
Emily Gotesman	Facility Management Fellow, NPS Region
Nancy Holman	Superintendent, Kalaupapa National Historical Park
Cari Kreshak	Acting Cultural Resources Manager, Kalaupapa National Historical Park
George Turnbull	Consultant, Kalaupapa National Historical Park
Dusten Robins, MA	Park Archeologist, Kalaupapa National Historical Park
Kaohulani McGuire	Cultural Anthropologist, Kalaupapa National Historical Park
Leslie Kanoa Naeole	Management Assistant, Kalaupapa National Historical Park
Linh Anh Cat, PhD	Natural Resources Manager, Kalaupapa National Historical Park
<b>WSP USA</b>	
Lori Fox, AICP, ENV SP	Project Manager
Joe Dalrymple	Environmental Planner, Deputy Project Manager
Phil Baigas	Wildlife Biologist
Marlis Muschal, MA, RPA	Archeologist
Andrew Wilkins, PhD, RPA	Archeologist
Camilla McDonald	Historian

## **APPENDIX A: PUBLIC SCOPING COMMENT SUMMARY REPORT**



**Kalaupapa National Historical Park**

**Rehabilitate and Upgrade the Existing Electrical System**  
**Environmental Assessment**

***PUBLIC SCOPING***  
***COMMENT SUMMARY REPORT***

**March 2021**

## CONTENTS

<b>Introduction.....</b>	<b>1</b>
<b>Summary of the Virtual Public Scoping Meeting .....</b>	<b>1</b>
<b>Definition of Terms .....</b>	<b>1</b>
<b>Comment Analysis Methodology.....</b>	<b>2</b>
<b>Content Analysis Tables .....</b>	<b>2</b>
<b>Summary of Comments .....</b>	<b>3</b>
Topic 1 – Consideration of Renewable Resources .....	3
Topic 2 – Cultural Resources .....	3
Topic 3 – Consultation .....	3
Topic 4 – Alternatives .....	4

Appendix A: Virtual Public Scoping Meeting Attendee Report

Appendix B: Virtual Public Scoping Meeting Question and Answer Report

Appendix C: Virtual Public Scoping Meeting Audio Transcript

## INTRODUCTION

The National Park Service (NPS) has embarked on a process to rehabilitate the existing electrical system at Kalaupapa National Historical Park (the park) and the Kalaupapa Settlement, located on the island of Molokai in Hawai‘i. NPS is committed to fulfilling its responsibilities as a steward of this special landscape. The current electrical system at the park was installed in 1969 and is owned by the State of Hawai‘i Department of Health and the State of Hawai‘i Department of Land and Natural Resources. An overhead power line, owned by the Hawai‘ian Electric Company (HECO, formerly MECO), follows the Kalaupapa trail and terminates at the 300 kilovolt-ampere HECO-owned substation on the Kalaupapa peninsula; the existing overhead system is tied in and managed by NPS. Rehabilitating and upgrading the electrical system would improve efficiency, comply with current electrical code standards, improve reliability, reduce deferred maintenance, and remove health and safety concerns.

The park released a project newsletter on December 15, 2020, that provided the public with background on the proposed project, the purpose and need for the project, potential alternatives, the planning process, and how to comment on the newsletter. The document was published on the NPS Planning, Environment, and Public Comment (PEPC) website at:

<https://parkplanning.nps.gov/projectHome.cfm?projectID=88896>.

The Council on Environmental Quality’s revisions (2020) to the National Environmental Policy Act (NEPA) regulations state that “Agencies shall use an early and open process to determine the scope of issues for analysis [...] including identifying the significant issues and eliminating from further study non-significant issues” (1501.9). The public scoping period was open for 45 days from December 15, 2020, to January 29, 2021 to solicit comments and information from the community. NPS considered all comments from members of the public and any written comments emailed or mailed to park headquarters, entered the comments into PEPC, and included them in the overall project record. This *Comment Summary Report* provides a summary of the concerns expressed during the public comment period.

## SUMMARY OF THE VIRTUAL PUBLIC SCOPING MEETING

During the public scoping period, one virtual public meeting was held over Zoom on December 17, 2020. No in-person public meetings were held because of the COVID-19 pandemic. During the virtual public scoping meeting, the project planning team presented the details of the preliminary alternatives as well as the project background. The public was encouraged to participate by asking questions over a live question-and-answer (Q&A) platform in Zoom. For participants who were unable to use the Q&A function to ask questions, participants were unmuted and able to address their questions directly to NPS staff. Twenty-three people attended the virtual meeting.

## DEFINITION OF TERMS

**Correspondence:** A correspondence is the entire document received from a commenter and includes letters; written comment forms; comments entered directly into the PEPC database; and any other written comments provided either at the public meetings, by postal mail, or in person at the park.

**Comment:** A comment is a portion of text within a correspondence that addresses a single subject such as visual resources or mitigation measures. The comment could also question the accuracy of the information provided in the newsletter, question the adequacy of any background information, or present reasonable alternatives other than the potential actions presented in the newsletter.

**Code:** A code is a grouping centered on a common subject, such as “Alternatives: Renewable Energy” The codes were developed during the civic engagement process and are used to track major subjects found in the public scoping newsletter. In cases where no comments are received on an issue, the code is not identified or discussed in this report.

**Concern Statements:** Concern statements summarize the issues identified by each code. Each code was characterized by concern statements to provide a better focus on the content of the comments.

## COMMENT ANALYSIS METHODOLOGY

Comment analysis is a process used to compile and correlate similar comments into a usable format for decision makers and the interdisciplinary project team. Comment analysis assists NPS in organizing, clarifying, and addressing information pursuant to NEPA regulations. It also aids in identifying the topics and issues to be evaluated and considered throughout the planning process.

The process includes five main components:

- developing a coding structure
- employing a comment database for comment management
- reading and coding of comments
- interpreting and analyzing the comments to identify issues and themes
- preparing a comment summary

In the case of this public scoping process, **most of the comments came from questions during the public scoping meeting.** Only *one* comment was received through the PEPC site. Instead of developing a coding structure and using the database to organize the correspondence and comments, a series of issues from both the correspondence submitted in PEPC and the questions asked at the public scoping meeting were developed. From there, information from PEPC and the scoping meetings was summarized to capture the main issues raised by the public.

Although the analysis process attempts to capture the full range of public concerns, this report should be used with caution. *Comments from people who chose to respond do not necessarily represent the sentiments of the entire public.*

## CONTENT ANALYSIS TABLES

The NPS PEPC database provides information about the numbers and types of comments received, organized by code and by various demographics. Because only one comment was received through PEPC, there was not enough data available to generate these tables. The table below is a summary of the number of comments received under each code.

Comment Distribution by Code			
Code	Description	Comments	Percentage
T1	Consideration of Renewable Resources	19	43%
T2	Cultural Resources	5	11%
T3	Consultation	10	23%

T4	Alternatives	10	23%
<b>TOTAL</b>		<b>44</b>	<b>100.0%</b>

## SUMMARY OF COMMENTS

The following text summarizes the comments received during the comment period and is organized by code into concern statements.

### Topic 1 – Consideration of Renewable Resources

**CONCERN STATEMENT:** Commenters expressed concern that the preliminary alternatives did not include alternatives related to renewable energy sources, including wind generation, microgrids, or batteries. They requested that the feasibility of these options be discussed further and that NPS consider how the project aligns with the recently released Request for Proposal for Community-based Renewable Energy (CBRE) by the Hawai‘ian Electric Company. They suggested that additional information for the project could be provided by consulting with the Ho‘ahu Energy Cooperative Molokai (formerly Molokai Renewable Energy Co-op). They further noted that solar power has been used on historic buildings throughout the state and should be considered.

**CONCERN STATEMENT:** Commenters asked if the project team was coordinating with the Public Utilities Commission as well as the energy, resiliency, and climate change offices of the State of Hawai‘i and the Office of the Governor.

**CONCERN STATEMENT:** Commenters asked if the NPS could share with the public the feasibility study that concluded that on-site generation of power was not feasible. They further noted that sharing this information would assist others that are currently working toward the use of renewable energy on Molokai to understand the technical limitations and suggested that the engineering firm who conducted the feasibility analysis hold a presentation of the findings.

### Topic 2 – Cultural Resources

**CONCERN STATEMENT:** Commenters asked how section 106 of the National Historic Preservation Act consultation was being considered in the planning process. Some commenters expressed concerns about impacts related to ground disturbance from installing electrical lines underground, specifically at Makanalua, and asked how deep the trenches would be for the proposed underground electrical lines.

**CONCERN STATEMENT:** Commenters asked if Makanalua had been surveyed for archeological resources.

### Topic 3 – Consultation

**CONCERN STATEMENT:** Commenters asked what consultation requirements NPS had besides State of Hawai‘i Revised Statutes (HRS) 343 and NEPA. Specifically, commenters inquired how NPS would comply with Special Management Area and Chapter 205A for Makanalua.

**CONCERN STATEMENT:** Commenters asked how the Department of Hawai‘ian Homelands (DHHL) beneficiaries would be consulted as landowners and if they were aware of this project. They further noted that DHHL beneficiaries and Hawai‘ians have rights and privileges distinguishable from the general public and that as DHHL lands will be made available for homesteading, the importance of alternative energy for homestead communities should be taken into consideration.

**CONCERN STATEMENT:** Commenters noted that improvements are occurring at the airport and inquired what type of coordination was occurring with the airport.

**CONCERN STATEMENT:** Commenters asked if NPS has a power purchase agreement with MECO/HECO.

**CONCERN STATEMENT:** Commenters expressed concern with the public scoping meeting, stating that the ability to comment was limited due to the format. They also stated that proactive community consultation is important, including timing and advanced notices of meetings, using a platform where participants can see who they are talking to, and having multiple opportunities for comment. They requested another public meeting be held before the draft environmental assessment is complete.

**CONCERN STATEMENT:** Commenters requested to know the input of the Kalaupapa community for this project. They suggested having a Kalaupapa spokesperson on future public meetings to hear their input.

#### **Topic 4 – Alternatives**

**CONCERN STATEMENT:** Commenters asked about the life span of the electrical upgrade, the costs of the updates, and where the funding would come from. They also inquired how much deferred maintenance would be reduced as a result of this project.

**CONCERN STATEMENT:** Commenters asked if any of the project area overlaps with unexploded ordinance removal in Makanalua.

**CONCERN STATEMENT:** Commenters asked about the timing of the electrical upgrades, given that the electrical system has been a long standing issue and currently there are just five residents at Kalaupapa. Commenters asked if the NPS has other plans that would require spending money on upgrades at this time.

**CONCERN STATEMENT:** Commenters inquired about the qualifications of the consultant that was at the public meeting, including where the consultant was located and if they had visited the site. They encouraged the project team to think of ways to make the alternatives more innovative, cost-effective, and environmentally friendly.



## **Appendix A: Virtual Public Scoping Meeting Attendee Report**

Kalaupapa National Historical Park  
Virtual Public Scoping Meeting  
December 17, 2020

Attendee Report		Total Participants (computer and phone):				22					
Report Generated:		12/17/2020 16:26									
Topic	Webinar ID	Actual Start Time	Actual Duration (minutes)	# Registered	# Cancelled	Unique Viewers	Total Users	Max Concurrent Views			
KALA Public Meeting	925 2922 3600	12/17/2020 13:25	128		15	0	15	37	0		
Host Details											
Attended	User Name (Original Name)	Email	Join Time	Leave Time	Time in Session (minutes)	Country/Region Name					
Yes	Emery Hartz	emery.hartz@wsp.com	12/17/2020 13:25		12/17/2020 15:33	128	United States of America				
Panelist Details											
Attended	User Name (Original Name)	Email	Join Time	Leave Time	Time in Session (minutes)	Country/Region Name					
Yes	Mella Lane-Kamahele	Mella_Lane-Kamahele@nps.gov	12/17/2020 13:42		12/17/2020 15:33	111	United States of America				
Yes	David Futch	david_futch@contractor.nps.gov	12/17/2020 13:30		12/17/2020 15:33	123	United States of America				
Yes	Jonathan Gervis	jonathan_gervais@nps.gov	12/17/2020 13:39		12/17/2020 15:33	114	United States of America				
Yes	George Turnbull	George_Turnbull@nps.gov	12/17/2020 13:38		12/17/2020 15:33	115	United States of America				
Yes	Connie Chitwood	Connie_Chitwood@nps.gov	12/17/2020 13:30		12/17/2020 15:33	123	United States of America				
Yes	Emmeline Morris	emmeline_morris@nps.gov	12/17/2020 13:54		12/17/2020 15:02	69	United States of America				
Yes	Mary Jane Naone	Mary_Jane_Naone@nps.gov	12/17/2020 13:29		12/17/2020 15:33	124	United States of America				
Yes	Lori Fox	lori.fox@wsp.com	12/17/2020 13:32		12/17/2020 15:33	121	United States of America				
Yes	Derrick W. Rosenbach	derrick.rosenbach@wsp.com	12/17/2020 13:26		12/17/2020 14:03	38	United States of America				
Yes	Erika Espaniola	erika_espaniola@nps.gov	12/17/2020 13:31		12/17/2020 13:32	1	United States of America				
Yes	James Sutton	James_Sutton@nps.gov	12/17/2020 13:54		12/17/2020 15:33	99	United States of America				
Attendee Details											
Attended	User Name (Original Name)	First Name	Last Name	Email	Zip/Postal Code	Registration Time	Approval Status	Join Time	Leave Time	Time in Session (minutes)	Country/Region Name
Yes	Admin	Admin				12/17/2020 13:57	approved	12/17/2020 13:57	12/17/2020 15:33	96	United States of America
Yes	*personally identifying					12/17/2020 13:59	approved	12/17/2020 13:59	12/17/2020 15:00	61	United States of America
Yes	Information of attendees has been redacted					12/17/2020 14:05	approved	12/17/2020 14:05	12/17/2020 14:29	24	United States of America
Yes						12/15/2020 16:06	approved	12/17/2020 13:56	12/17/2020 15:33	97	United States of America
Yes						12/17/2020 14:35	approved	12/17/2020 14:35	12/17/2020 14:40	6	United States of America
Yes						12/17/2020 13:59	approved	12/17/2020 13:59	12/17/2020 14:59	61	United States of America
Yes						12/17/2020 13:58	approved	12/17/2020 13:58	12/17/2020 14:58	61	United States of America
Yes						12/17/2020 13:59	approved	12/17/2020 13:59	12/17/2020 15:33	94	United States of America
Yes						12/17/2020 14:03	approved	12/17/2020 14:03	12/17/2020 15:33	90	United States of America
Yes						12/17/2020 13:36	approved	12/17/2020 13:56	12/17/2020 15:33	97	United States of America
Yes						12/17/2020 14:03	approved	12/17/2020 14:03	12/17/2020 15:33	90	United States of America
Yes						12/17/2020 14:03	approved	12/17/2020 14:03	12/17/2020 15:22	79	United States of America
Yes						12/17/2020 14:02	approved	12/17/2020 14:02	12/17/2020 15:33	91	United States of America
Yes						12/15/2020 16:06	approved	12/17/2020 13:56	12/17/2020 15:33	97	United States of America
Yes						12/17/2020 14:36	approved	12/17/2020 14:36	12/17/2020 14:59	23	United States of America
Other Attended											
User Name	Join Time	Leave Time	Time in Session (minutes)	Country/Region Name							
18082838171	12/17/2020 14:02	12/17/2020 15:33	92	United States of America							
18088957345	12/17/2020 13:56	12/17/2020 15:33	97	United States of America							
18083968390	12/17/2020 13:58	12/17/2020 15:00	63	United States of America							
18083446075	12/17/2020 14:01	12/17/2020 15:33	92	United States of America							
18085732746	12/17/2020 14:00	12/17/2020 15:31	91	United States of America							
18082838171	12/17/2020 14:00	12/17/2020 14:01	1	United States of America							
18084955184	12/17/2020 14:03	12/17/2020 15:33	90	United States of America							

## **Appendix B: Virtual Public Scoping Meeting Question and Answer Report**

Question and Answer Report				
Report Generated:	44182.68			
Topic	Webinar ID	Actual Start Time	Actual Duration (minutes)	# Question
KALA Public Meeting	925 2922 3600	12/17/2020 13:25	128	73
Question Details				
#	Question	Asker Name	Asker Email	Answer(s)*
	1 So this is being considered as a 106 consultation?	*personally identifying		*Questions were answered live.
	2 What is your compliance mandates besides Chapter 343 and EA?	information of attendees		
	3 How will NPS comply with SMA and chapter 205A for Makanalua?	has been redacted		
	4 Who's paying for all of this?			
	5 How will DHHL beneficiaries be consulted with as landowners?			
	6 Does NPS have a Power Purchase Agreement with ?			
	7 Emory who is WPS?			
	8 What is the projected lifetime of this upgrade? How soon would you be able to consider alternative energy options in future?			
	9 Emory can you try to pronounce Kalaupapa correctly?			
	10 Did you evaluate wind energy generation?			
	11 Why did NPS not put out an RFP for Electrical consults and upgrades?			
	12 Bury lines in the road? OMG! will inadvertant finds be covered under the EA?			
	13 Why not other renewables and a micro grid and batteries?			
	14 DHHL and Hawaiians have rights and privelages distinguishable from the general public			
	15 What about the airport? what is the agreement there?			
	16 What is the cost of the proposed project and where would the "line item" be?			
	17 I received a call from a person who has joined the meeting by phone and does not have computer available. How is that individual able to ask a question?			
	18 WHY renewable alternatives NOT in the alternatives?			
	19 The airport has an EA for improvements HELLOOO			
	20 You should know			
	21 What about PUC? Are you in discussions with the PUC and the energy, resiliency and climate change offices of the state of Hawaii and the office of the Governor?			
	22 All of Makanalua should AVOID digging at all costs because of inadvertant finds.			
	23 Will my question be part of the public record otherwise I wasting my time talking to a computer!			
	24 I don't like one way meetings			
	25 Is all of Makanalua surveyed?			
	26 Who is WPS Connie?			
	27 Resource benefits reduce diesel is lame....sorry cause meco IS SENDING POWER TO YOU BY DIESEL AND THE COMMENT THAT YOU NOT CONSIDERING RENEWABLE ALTERNATIVE ENERGY IN THE EA IS NOT EXCEPTABLE. Sorry for caps not intentional			
	28 Wow David			
	29 Did NPS discuss renewable energy alternatives with topside Molokai group that continues to be very proactive in pursuing effortas to become energy self sufficent and get away from fossil fuels and contribute to the State's commitment to reduce fossil fuel useage			
	30 KALA need to revisit these temporay upgrades and incorporate the idea of microgrids and battery storage			
	31 On many historic building throughout the state of Hawaii there are solar panels on historic buildings and historic homes, why not at Kalaupapa			
	32 KALA can be off the grid like marine corp base and not rely on MECO			
	33 How to solve problem? ASK Hello.....RFP Helloooo....Consult hellooo....not only solar get wave....wind etc.			
	34 Change historic nature David! The airport is putting in a huge radio tower next to the historic light house come on!			
	35 I understand that KNHP energy is generated by HECO. So can KNHP subscribe to community-based renewable energy topside to provide renewable energy to the settlement?			
	36 Was there a report issued regarding the specific results of NPS's analysis of the renewl energuy alternatives? If there is such a report is it available to the public?			
	37 Not good enough David			
	38 what is the current and projected energy needs for Makanalua? And again what is the projected cost for your line item for the federal government?			
	39 Phase 1? Like Tier 1, tier 2 ordinance removal?			
	40 What is the cost to fully implement the project?			
	41 What about the ordinance removal in Makanalua? Does that overlap into any of the project areas?			
	42 Shovel test????			
	43 what depths etc? The project calls for trenching hello?			

44	Close to water lines "we hope" not good enough?			
45	This is a public scoping meeting and should be a part of the eventual record			
46	WSP was hired then?			
47	What are WSP roots and connections to Molokai, Hawaii, do they have cultural consultants? Who are they?			
48	In the material sent out for today's meeting there is a statement that the improvements to the utility system will reduce deferred maintenace. what is NPS's current deferred maintenance NPS is dealing with and how much will the deferred maintenace total be reduce when this project is implemented.			
49	MECO has been scolded repeatedly for not incorporating renewable energy			
50	thus new laws			
51	Will the audio recording of this meeting be available to those who request it			
52	This one way meeting sucks thank you			
53	Remember NPS you do not own the land but may own the electrical grid			
54	I will take up my concerns with the landowners			
55	NPS has release a cost of \$18,000,000 for the project to the public on several occasions including during the Section 106 meetings associated with Kalaupapa's General Management Plan. Is that a reasonably accurate figure?			
56	This meeting was frustrating which is status quo for NPS!			
57	What did you guys pay WSP?			
58	Is that confidential too?			
59	How many people are on this meeting?			
60	What is NPS's deferred maintenance total today			
61	LOL next time Ill call in so I can talk!			
62	Is that you Auntly Pua asking question by phone?			
63	I believe the question was "what is a terrestrial ecologist"			
64	So.....I have provided 50 Q&A in this short time, So NPS know I was not able to use the chat function and only the Q&A			
65	Super evasive answers NPS you guys as an organization are failing in meeting your mission and compliance mandates in the area of consultation, 343, 205A, NEPA, 106 etc. That is why there is NO TRUST.			
66	NPS funding is Taxpayer \$\$\$\$ I will work to open discussion with our congressional reps.			
67	Also Fed \$\$ are triggers for compliance and we know what those are			
68	Good manao Valerie Monson I agree!			
69	Can I have a copy of this meeting today with the Q&A thank you			
70	comment: the mispronounciation of Hawaiian names by the facilitator is disheartening			
71	I agree with DeGray			
72	Amazing how we can ZOOM for this but not for 106 and GMP KALA meetings?			
73	Why is that?			

## **Appendix C: Virtual Public Scoping Meeting Audio Transcript**

**Kalaupapa National Historical Park**  
Virtual Public Scoping Meeting  
December 17, 2020

**Audio Transcript**

\*Note: Meeting transcript has been redacted to protect personally identifying information of attendees.

## **APPENDIX B: CONSULTING PARTIES EARLY CONSULTATION PACKET**



# Kalaupapa National Historical Park

## Rehabilitate the Unsafe and Failing Electrical System



### Project Overview

Kalawao County relies completely on electricity produced by HECO at the Pala'au power plant. It is transmitted by high voltage lines down the cliff and into Kalaupapa Settlement. The entire network of poles, lines, insulators, transformers, etc. is known as the electrical distribution system. Kalaupapa National Historical Park (KNHP) manages this system and has initiated a rehabilitation project to bring the system up to current utility service code, improve reliability, reduce deferred maintenance, and minimize potential safety hazards to the Kalaupapa Community. Current service area extends from the main settlement to the airport. The electrical distribution system is hindered by deteriorated transformers, worn and frayed transmission lines, and pole and insulator failures that cause frequent power outages. Included in this project is the installation of new electrical service to the water pumphouse. The water system's pumps are currently powered by two diesel driven engine generators. The new electrical service will reduce the need for fuel storage, preclude potential fuel spills, eliminate onsite generator usage, reduce air pollution, and ensure safe and continuous clean water delivery to the community.

### Project Update

The National Park Service strives to avoid or minimize impacts to all resources. This information package is to provide you with status updates as we transition from the predesign into the design phase of the project and continue consultation with our state and local partners. In December 2020, NPS held a public scoping meeting and sent out a newsletter relating to the Environmental Assessment (EA). In the months that followed, consulting parties provided valuable input that the project team used to evaluate the impacts of the project in preparation of an Environmental Assessment (EA). In conjunction

with the EA we have determined that effects on cultural resources need to be more thoroughly considered and addressed before continuing with both the EA and 106 process.

## **Known Historic Properties**

As a result of the predesign process, cultural and natural resources that may be affected were identified. An analysis of the existing electrical system determined it to be eligible for the National Historical Landmark (NHL) as a contributing element to the KNHP. Character defining features identified include pole height, pole interval, crossbars 8' or shorter in length, brown ceramic insulators, and fuse cutout that encloses the fuse, to name a few. Also identified during predesign studies were archaeological resources, historic surface features and walls, all of which contribute to the unique character of the settlement and help to tell the history of the Hawaiian community.

In the predesign phase, two elements of concern emerged that are requiring thoughtful resolution and ideas to move forward. The first concern is the Kamehameha Avenue segment, where some existing power poles are located in a culturally sensitive area. The Park is anticipating relocating these poles away from any cultural sites and closer to the paved



road. This new location will make it easier for maintenance access and protect the cultural sites. The challenge is to determine the most appropriate way to address the existing poles: (1) Leave them in place; (2) cut the poles and remove in sections; and (3) determine any impacts of new poles being installed in the proposed area.

The second area of concern is regarding the installation of a new electrical service line to the water Pumphouse. An existing underground water line runs from the Pumphouse down Waihanau Road, then along Damien Road to the settlement. The project proposes to install the electrical line underground and parallel with the water line. This will allow the park to avoid disturbance of any surface archeological sites adjacent to these roads as well as impacts to the view scape. Hard rock and a narrow service corridor is limiting options for design.

Current choices identified for the Pumphouse Road Electrical Service discussion on October 17th will include;

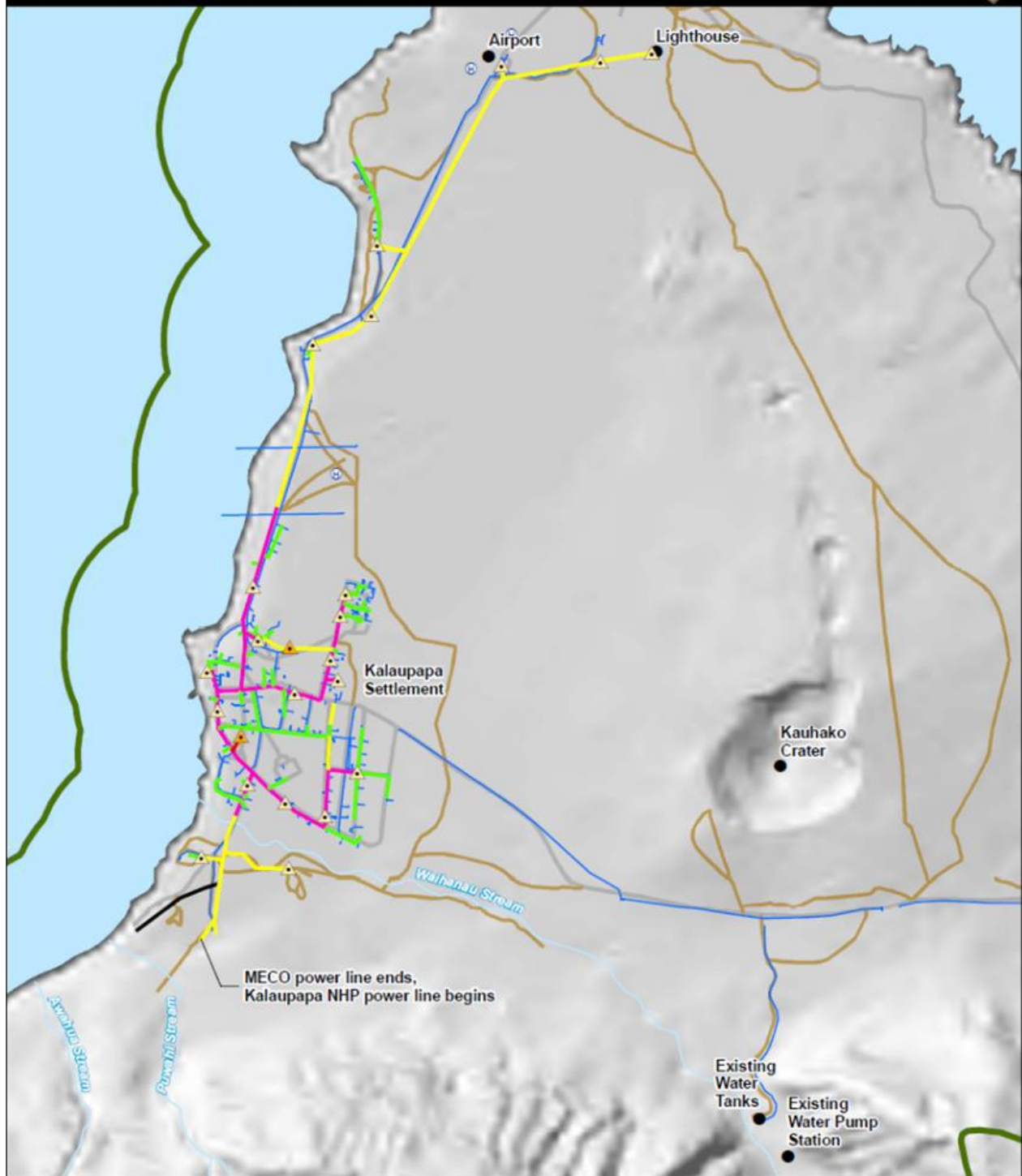
- (1) Combination of horizontal drilling/trenching and installation of a parallel electrical line to the existing water line;
- (2) an overland line option that does not involve poles but sits above ground and finally, and;
- (3) Overhead power lines. All come with the possibility of some adverse effects on the historic properties, viewshed and cultural landscape.

### **Next Steps**

The Park is committed to delivering this project to the community with a high level of diligence, sensitivity, thoughtfulness and balance. As we continue the Section 106 Consultation Process, NPS will be seeking input from the public and consulting parties regarding potential design solutions to address the identified resource concerns. We will continue discussions with the consulting parties regarding the issues presented in this newsletter through December 15, 2022 and will use input from these discussions to further develop the forthcoming Environmental Assessment.

For questions or general comments, please contact: [KALA\\_consultation@nps.gov](mailto:KALA_consultation@nps.gov)

# Onsite Existing Utilities



## LEGEND

- Existing Pad Mounted Transformer
- Existing Pole Mounted Transformer

Existing Underground Primary Electrical System

Existing Overhead Primary and Secondary Electrical System

Existing Overhead Primary Electrical System

Existing Overhead Secondary Electrical System

Existing Comm Line

Existing Water Line

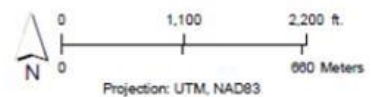
Stream

Road

Dirt Road

Helicopter Landing Site

Kalaupapa National Historical Park



**FIGURE 3**

## Kalaupapa Onsite Existing Utilities

Kalaupapa Predesign Report  
Kalaupapa, Hawaii

The NPS makes no warranty, express or implied, related to the accuracy or content of this map.

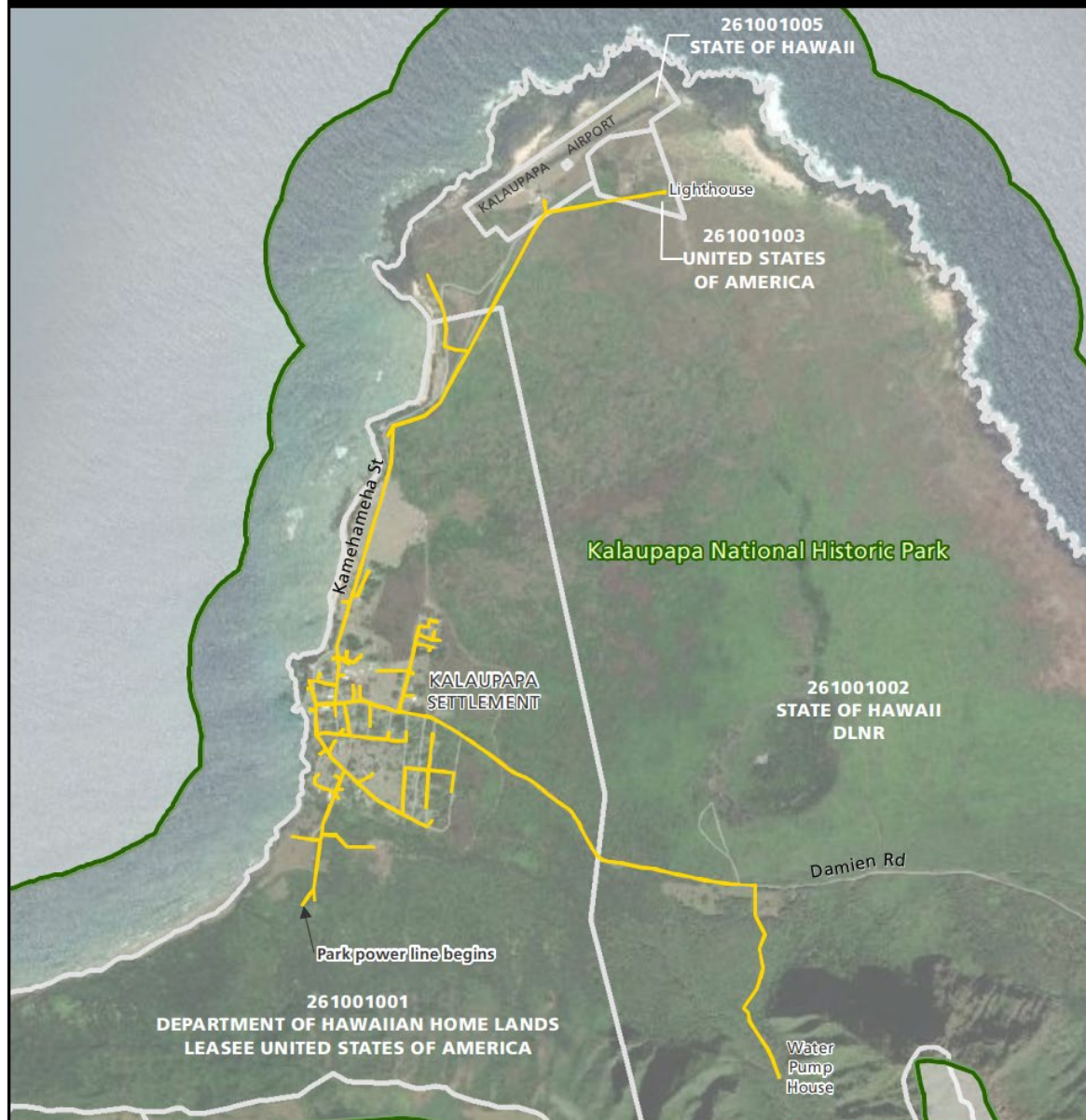
## **APPENDIX C: PARCEL BOUNDARIES AND OWNERSHIP**



# Kalaupapa National Historical Park

Hawai'i

National Park Service  
US Department of the Interior



## Legend

- Project Area
- NPS Boundary
- Tax Map Key Boundary



Coordinate System:  
NAD 1983 UTM 4 North Meters

