

# POLOLŪ TRAILHEAD MANAGEMENT PLAN

Final Environmental Assessment  
May 2025





# FINAL ENVIRONMENTAL ASSESSMENT

Pololū Trailhead Management Plan  
North Kohala, Island of Hawai'i

**May 2025**

This environmental document is prepared pursuant to 343, Hawai'i Revised Statutes and Chapter 200.1 of Title 11, Administrative Rules, Department of Health, Environmental Impact Statement Rules.

## **Proposing and Determining Agency:**



State of Hawaii Department of Land and Natural Resources (DLNR)  
Division of Forestry and Wildlife (DOFAW)

## **Prepared By:**



900 Fort Street Mall, Suite 1160  
Honolulu, HI 96813

## SUMMARY

<b>Project Name</b>	Pololū Trailhead Management Plan
<b>Proposing and Determining Agency</b>	Department of Land and Natural Resources, Division of Forestry and Wildlife, State of Hawai'i 1151 Punchbowl Street Honolulu, HI 96813 Contact: Jackson Bauer E-mail: Jackson.m.bauer@hawaii.gov
<b>Agent</b>	Townscape, Inc. 900 Fort Street Mall, Suite 1160 Honolulu, HI 96813 Phone: (808) 550-3894 Contact: Gabrielle Sham E-mail: gabrielle@townscapeinc.com
<b>HRS, Chapter 343 Trigger</b>	Use of State and County lands and funds Proposes use within any land classified as a conservation district by the state land use commission under Chapter 205
<b>Project Location</b>	Pololū Trailhead; 52-500 'Akoni Pule Hwy, Kapaau, HI 96755
<b>Tax Map Key &amp; Recorded Fee Owner</b>	5-1-001:005 (State of Hawai'i) and 5-2-001:002 (Private Landowner)
<b>Project Area</b>	Approximately 1.2 acres
<b>State Land Use District</b>	Agricultural, Conservation
<b>County Zoning</b>	A-20a, Forest Reserve
<b>Development Plan</b>	North Kohala Community Development Plan
<b>Special Management Area</b>	Within the Special Management Area
<b>Determination</b>	Finding of No Significant Impact (FONSI)

This page intentionally left blank.



## TABLE OF CONTENTS

1	Introduction.....	1
1.1	Project Background .....	1
1.2	Purpose of the Environmental Assessment .....	1
1.3	Project Location and Jurisdiction.....	2
1.4	Adjacent Landowners .....	3
1.5	Existing Conditions .....	3
2	Description of the Proposed Action.....	5
2.1	Overview of the Pololū Trailhead Management Plan.....	5
2.2	Proposed Actions .....	8
2.2.1	Conservation Measures .....	8
2.2.2	Cultural Preservation .....	8
2.2.3	Infrastructure Improvements.....	9
2.3	Expected Timeline .....	11
3	Description of the Existing Resources, Impacts & Mitigation Measures.....	12
3.1	Cultural & Historical Overview.....	12
3.1.1	Archaeological Resources.....	13
3.1.2	Historic Resources .....	14
3.1.3	Cultural Resources & Traditional Practices.....	14
3.2	Physical Environment .....	16
3.2.1	Climate and Rainfall .....	16
3.2.2	Topography and Soils .....	16
3.2.3	Sea Level Rise.....	17
3.2.4	Natural Hazards.....	18
3.3	Biological Resources .....	22
3.3.1	Flora.....	22
3.3.2	Fauna.....	23
3.4	Socio-Economic Environment.....	24
3.4.1	Community Character .....	24
3.4.2	Population and Economy .....	25

3.5	Environmental Quality .....	27
3.5.1	Visual Resources .....	27
3.5.2	Acoustic Characteristics .....	28
3.5.3	Air Quality.....	29
3.5.4	Hazardous Materials .....	29
3.6	Public Infrastructure, Services & Facilities .....	30
3.6.1	Traffic and Roadways .....	30
3.6.2	Wastewater and Solid Waste .....	33
3.6.3	Water .....	34
3.6.4	Electrical System .....	34
3.6.5	Police, Fire Protection, and Emergency Services .....	34
3.6.6	Education.....	36
3.6.7	Recreational Facilities & Open Space .....	36
3.7	Secondary and Cumulative Impacts .....	38
3.7.1	Secondary Impacts.....	38
3.7.2	Cumulative Impacts .....	39
4	Description of Alternatives .....	40
4.1	No Action .....	40
4.2	Parallel Parking along the Highway .....	40
4.3	Diagonal Parking along the Highway .....	41
5	Required Permits and Approvals .....	42
6	Relationship to Plans, Policies, and Land Use .....	43
6.1	State of Hawai‘i .....	43
6.1.1	State Land Use Law .....	43
6.1.2	Coastal Zone Management .....	44
6.1.3	Hawai‘i State Plan.....	49
6.1.4	Nā Ala Hele Program Plan.....	52
6.1.5	State Forest Reserve System & Public Hunting Area .....	53
6.2	County of Hawai‘i .....	54
6.2.1	County of Hawai‘i General Plan .....	54
6.2.2	North Kohala Community Development Plan .....	58
6.2.3	County of Hawai‘i Zoning .....	60
6.2.4	Special Management Area.....	61



7	Ka Pa‘akai Analysis.....	62
8	Findings & Conclusions .....	65
8.1	Significance Criteria .....	65
8.2	Determination .....	67
9	Agency and Public Consultation .....	68
10	References.....	75

## LIST OF FIGURES

Figure 1.	Project Location.....	iv
Figure 2.	Project Area .....	2
Figure 3.	Heritage Center Conceptual Plan.....	6
Figure 4.	Issues and Potential Solutions from the Pololū Trailhead Management Plan.....	7
Figure 5.	Preliminary Pedestrian Walkway Plan .....	10
Figure 6.	Tsunami Evacuation Zone.....	20
Figure 7.	Flood Zone .....	21
Figure 8.	Recreational Resources & Public Services .....	37
Figure 9.	State Land Use Districts .....	43
Figure 10.	County Zoning.....	60
Figure 11.	Special Management Area .....	61

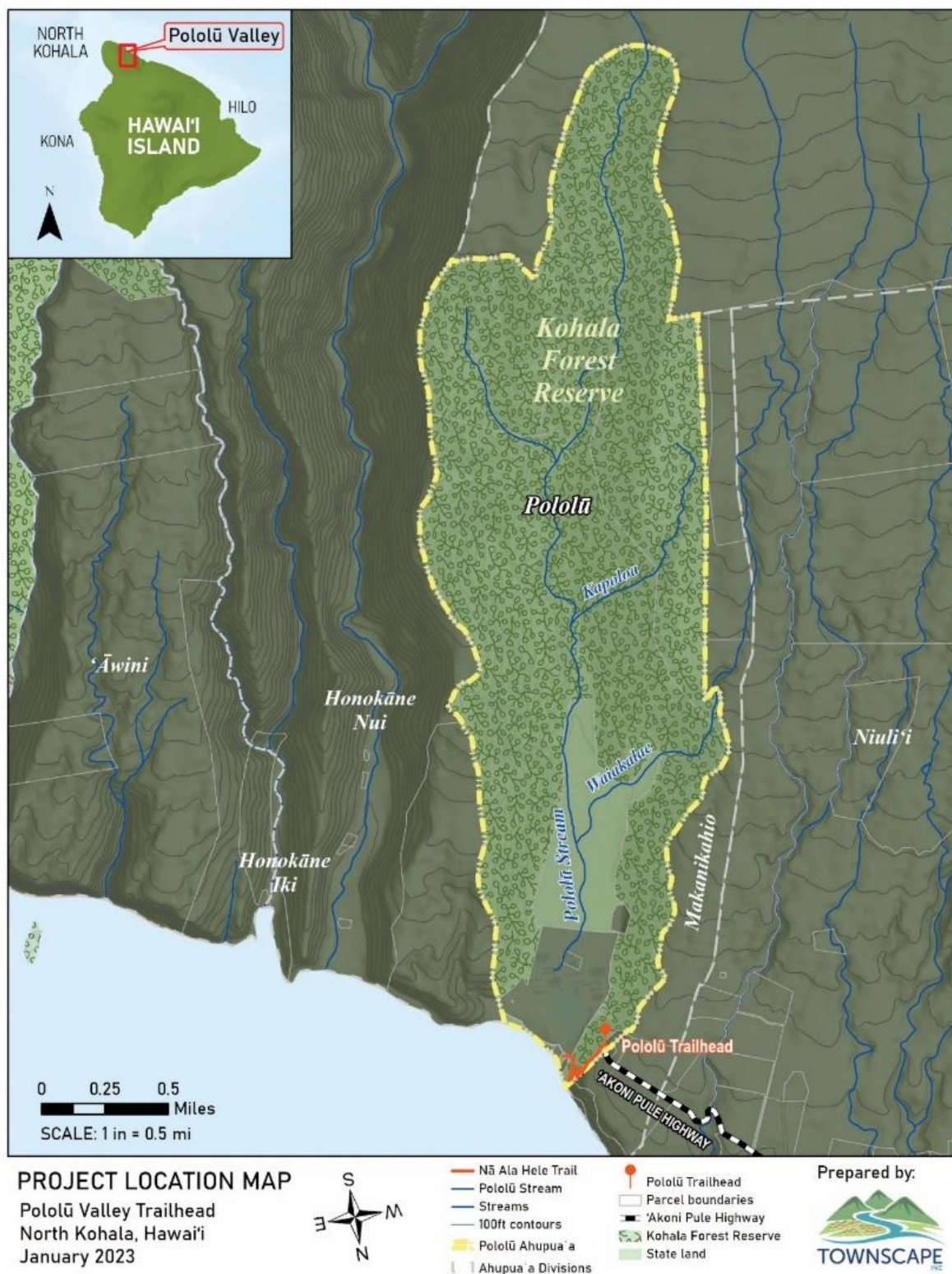
## LIST OF TABLES

Table 1.	General Project Timeline .....	11
Table 2.	Significant Plant Species Observed Within the Project Boundaries .....	22
Table 3.	Significant Bird Species Observed Within the Project Boundaries.....	23
Table 4.	Required Permits and Approvals .....	42
Table 5.	Traditional & Customary Practices .....	63

## APPENDICES

Appendix A	Initial Consultation Letter, Handout, and Comments
Appendix B	General Project Design Guidelines for Project Area (Source: USFWS)

Figure 1. Project Location





# 1 INTRODUCTION

## 1.1 Project Background

In 2022, Townscape, Inc., Environmental and Community Planners, assisted Nā Ala Hele Trail and Access Program under the State Department of Land and Natural Resources (DLNR) Division of Forestry and Wildlife (DOFAW) with developing a management plan for the Pololū Trailhead. The Nā Ala Hele Trail and Access Program, within the State DLNR DOFAW, is responsible for managing the historic Pololū Trail and the Trailhead, located in North Kohala on the island of Hawai'i.

The Pololū Trailhead Management Plan was developed through close collaboration with the families of Pololū and the surrounding ahupua'a, including lineal descendants, generational 'ohana, and long-time residents. The plan proposes solutions to address the challenges posed by the overwhelming number of visitors to this rural area—as many as 1,000 visitors in a single day. Visitor numbers to the trailhead are generally unmanaged, limited by the availability of parking spaces at the current trailhead/lookout that is within the State DLNR DOFAW's jurisdiction, as well as on both sides of the roadway on 'Akoni Pule Highway leading up to the trailhead. Parking on both sides of the highway typically occurs outside the road's right-of-way, thus encroaching on adjacent private property.

Issues experienced at the trailhead consist of a high number of trail and ocean safety and rescues, impairment of sanitary conditions, resource degradation, lack of cultural awareness, congested roadways and parking, overcrowding and impacts to the local way of life, trespassing and liability, unlawful commercial use, and various unpermitted activities. The solutions presented in the management plan were developed with the goal of protecting the resources of Pololū while perpetuating the way of life that is essential to the people of Kohala, both for present and future generations.

## 1.2 Purpose of the Environmental Assessment

The purpose of this Environmental Assessment (EA) is to disclose any potential environmental impacts resulting from the proposed action and to outline the measures proposed to mitigate those impacts.

Pursuant to Chapter 343, Hawai'i Revised Statutes (HRS), an EA is required because the proposed action:

- Proposes the use of state or county lands or the use of state or county funds.
- Proposes use within any land classified as a conservation district by the state land use commission under Chapter 205.

A portion of the proposed action includes the use of land maintained by the DLNR DOFAW, which is situated within land classified in the State Land Use Conservation District.

### 1.3 Project Location and Jurisdiction

The proposed action is located at the end of 'Akoni Pule Highway, bordering the ahupua'a of Pololū and Makanikahio, in the moku of Kohala on the island of Hawai'i. The trailhead leads to Pololū Trail, an unpaved historic trail that descends 420 feet to the shoreline. It provides access to Pololū and other valleys along the coast.

The project area encompasses land within:

- **TMK 5-1-001:005**, managed by the State DLNR DOFAW. It includes the trailhead that falls within the Kohala Forest Reserve (Pololū Section). The trail itself falls under the purview of the State DLNR DOFAW Nā Ala Hele Trail and Access Program.
- **TMK 5-2-001:002**, owned in fee simple by a private landowner. The State DLNR DOFAW will need to acquire about an acre of this parcel, also referred to as the former Mule Station, to implement the proposed project. At the time of writing, the land area required to support this project is planned to be donated to the State by the landowner.

Figure 2. Project Area





## 1.4 Adjacent Landowners

Surrounding landowners near the trailhead include private residences, Surety Kohala Corporation (Surety), and Kamehameha Schools.

Two private residential homes are located on the mauka side of the trailhead. The driveway of one residence directly faces the “lookout” area, while the second nearest home’s driveway is approximately 550 feet from the trailhead on the mauka side of ‘Akoni Pule Highway. Adjacent to the second residential home is a vacant 23.4-acre parcel (TMK 5-2-005:012) owned by Surety.

On the makai side of ‘Akoni Pule Highway, abutting the trailhead, is a 42-acre parcel commonly referred to as the Mule Station. This parcel was previously owned by Surety but was sold in fee-simple to a private landowner in May 2024. Surety owns a 91-acre parcel adjacent to the Mule Station parcel. The two coastal parcels makai of Surety’s property, which encompasses ‘Āko‘ako‘a Point, are owned by Kamehameha Schools. Additionally, Kamehameha Schools holds both Honokāne Nui and Honokāne Iki Valleys, in fee-simple.

Approximately 1,723 acres within Pololū Valley, primarily consisting of the valley ridge and wall and several parcels on the valley floor, fall under the jurisdiction of the State DLNR DOFAW. Additionally, there are multiple parcels of varying sizes, ranging from less than a half-acre to 86 acres, spread across different parts of the valley floor that are held in fee-simple by private property owners, including Surety, who owns the 86-acre parcel.

## 1.5 Existing Conditions

The Pololū Trailhead and lookout area is located within TMK 5-1-001:005, under the jurisdiction of the State DLNR DOFAW. This area spans approximately 6,300 square feet (0.14 acres) and was originally designed as the “road’s end” of ‘Akoni Pule Highway. Over time, it has evolved into an unofficial lookout area with informal parking stalls, capable of accommodating up to 12 vehicles.

Trail stewards are at the trailhead seven days a week between the hours of 8 a.m. and 4 p.m. to educate visitors about the cultural and historical significance of the area and provide a safety briefing for hikers. The trail stewards are part of the DLNR Nā Manu ‘Elele Program, which was first launched at Pololū in 2022. After its success at Pololū, the program was expanded statewide.



*Hikers at the start of the trail on a rainy day.*

In 2023, data collected by the trail stewards indicated that the trailhead averaged about 597 daily visitors, including both non-resident visitors and Hawai‘i residents. On a busy day, this number has peaked at about 1,480 visitors. Of these visitors, approximately 48 percent stayed at the trailhead to enjoy the scenic view, while the remaining 52 percent hiked down the Pololū Trail.

Parking at the trailhead is a significant and often chaotic issue. The limited parking area fills up quickly, causing visitors to park along both sides of the highway, often on private property outside the designated road right-of-way. Vehicles are frequently parked incorrectly, either facing the wrong direction or encroaching into the travel lane. This situation creates a safety hazard, as people must



*Vehicles parked illegally on private property along the roadway or within the roadway leading to the trailhead. Photo Credit: DLNR DOFAW*

get in and out of their cars onto the highway, often with oncoming traffic. Visitors also walk within the roadway to access the lookout and trailhead. In some cases, as many as 60 vehicles have been observed parked along the roadway, extending up to a quarter-mile from the trailhead.

The unmanaged number of visitors and limited parking create conflicts

between vehicles and pedestrians, disrupting the tranquility, scenic beauty, and sanctity of the area. The small parking area, which also serves as the lookout and trailhead, along with the heavy foot traffic, makes it difficult for cars to turn around. Trail stewards have played a crucial role in reducing safety hazards by helping manage both vehicular and pedestrian traffic. They have also implemented a systematic approach to parking, designating several of the 12 unofficial stalls for short-term (ten-minute) use by lookout visitors. The presence of trail stewards has also helped raise awareness of the cultural and historical significance of the area, mitigating undesirable behavior and protecting the unique and sensitive resources in the valley.

The overwhelming number of visitors not only causes congestion at the trailhead but contributes to traffic in this rural area along 'Akoni Pule Highway, affecting nearby residential areas. Local families from Kohala, who grew up going to the valley, now avoid Pololū because of the volume of visitors and associated traffic congestion.

Visitors often resort to relieving themselves in neighbors' yards, driveways, or along the roadside because of the lack of restrooms at the trailhead. In some instances, this behavior extends to the burial sites down in the valley, where visitors leave behind litter, including toilet paper.

In addition to the parking, traffic, and sanitation issues, the trail itself presents challenges. The beginning of the trail is steep and can become slippery, especially after heavy rainfall. Many visitors often arrive unprepared for the hike, lacking adequate water and appropriate footwear, increasing the likelihood of injuries and dehydration.

Overall, the current conditions at Pololū Trailhead highlight the challenges posed by high visitor volume, limited infrastructure, and safety concerns, all of which impact the natural and cultural integrity of this wahi pana, as well as way of life for Kohala residents and experience for visitors.

## 2 DESCRIPTION OF THE PROPOSED ACTION

### 2.1 Overview of the Pololū Trailhead Management Plan

The management plan aims to preserve the strong sense of place, scenic landscapes, and the historical and cultural resources of Pololū while ensuring that the site remains accessible and sustainable for future generations. Developed over a 20-month process, the plan was shaped by extensive input from families of the surrounding villages, residents with deep ties to the area, and the broader community. Through a series of one-on-one consultations, small group discussions, and community meetings, the plan reflects the collective vision and concerns of those who call Pololū home.

The vision statement guiding the plan states:

“Pololū is a wahi pana that is respected for its historical and cultural values, where its strong sense of place, scenic spaces, and resources are protected, allowing it to continue to perpetuate the way of life for the people of Kohala for current and future generations.”

The management plan is rooted in several key principles that emerged from community talk stories, including:

- Protect the place and its environment first.
- Prioritize the needs of the local community.
- Maintain the rural character of Pololū and Makanikahio and keep it as a wilderness area.
- Highlight the cultural significance of Pololū.
- Educate visitors on the environmental conditions and cultural significance of Pololū.
- Minimize the development footprint.

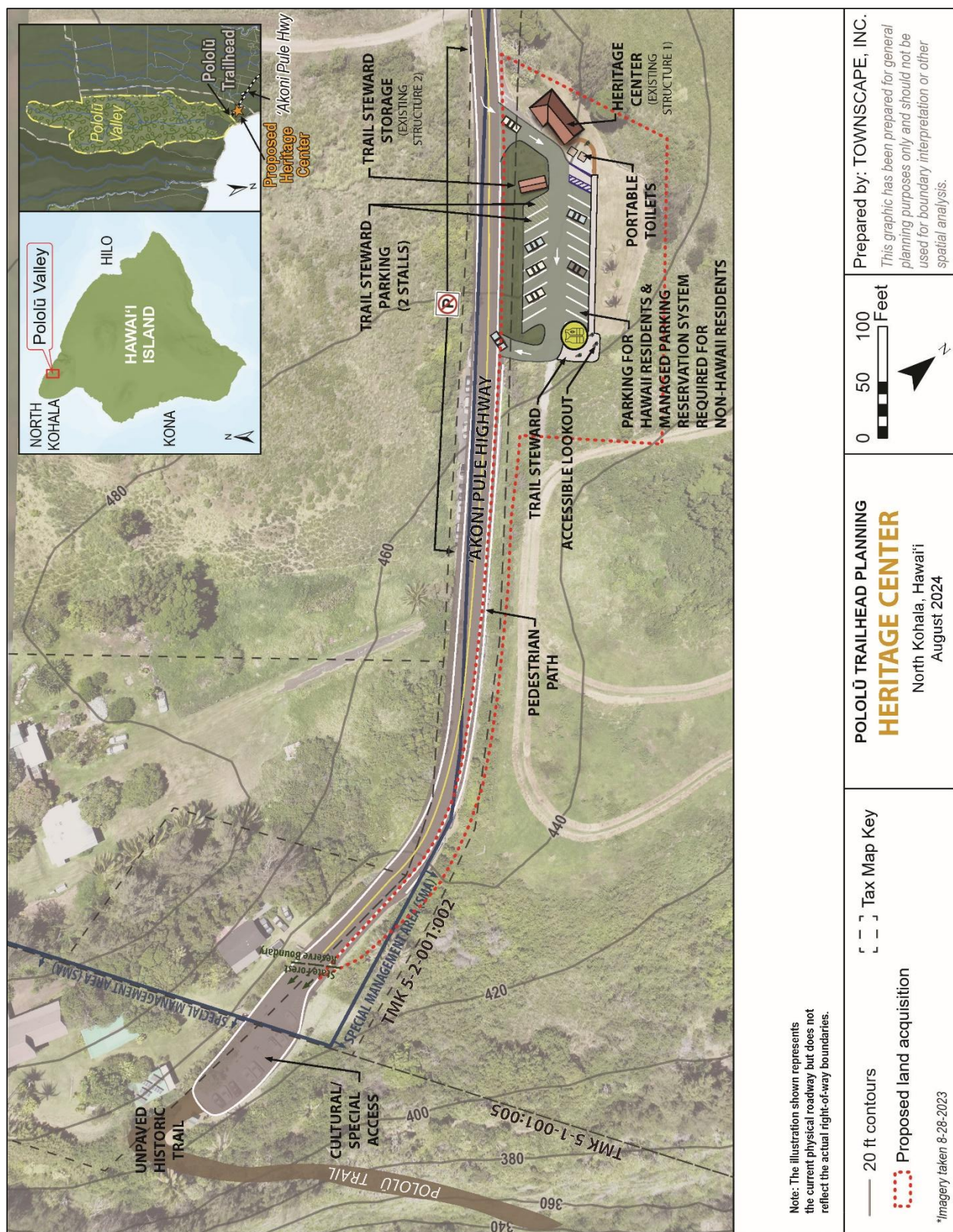
The preferred scenario developed for the place proposes a “Heritage Center” that aligns with the community’s longstanding commitment to preserve undeveloped coastal lands and open spaces and honor the cultural heritage of Pololū by serving as an educational hub to showcase the history of the area. The proposed project is intended to enhance the experience of local residents and visitors without compromising the valley’s natural beauty or cultural integrity.

It integrates the following elements to address the issues at the trailhead while protecting the valley’s resources:

- 1) Develop and conduct targeted public educational outreach (e.g., media, marketing campaign to visitor industry).
- 2) Continue the trail steward program to provide visitor education.
- 3) Re-designate the current lookout area within **TMK 5-1-001:005** for cultural/special access, which is defined as "being for those practicing cultural activities for the purposes of perpetuating traditional knowledge, caring for and protecting the environment, and strengthening cultural and spiritual connections to the windward valleys from Pololū to ‘Āwini that have demonstrable benefits to the Native Hawaiian community."
- 4) Repair and restore the historic trail in eroded areas to its mid-1800s condition.
- 5) Restrict public use of the trail as needed to support stewardship efforts.

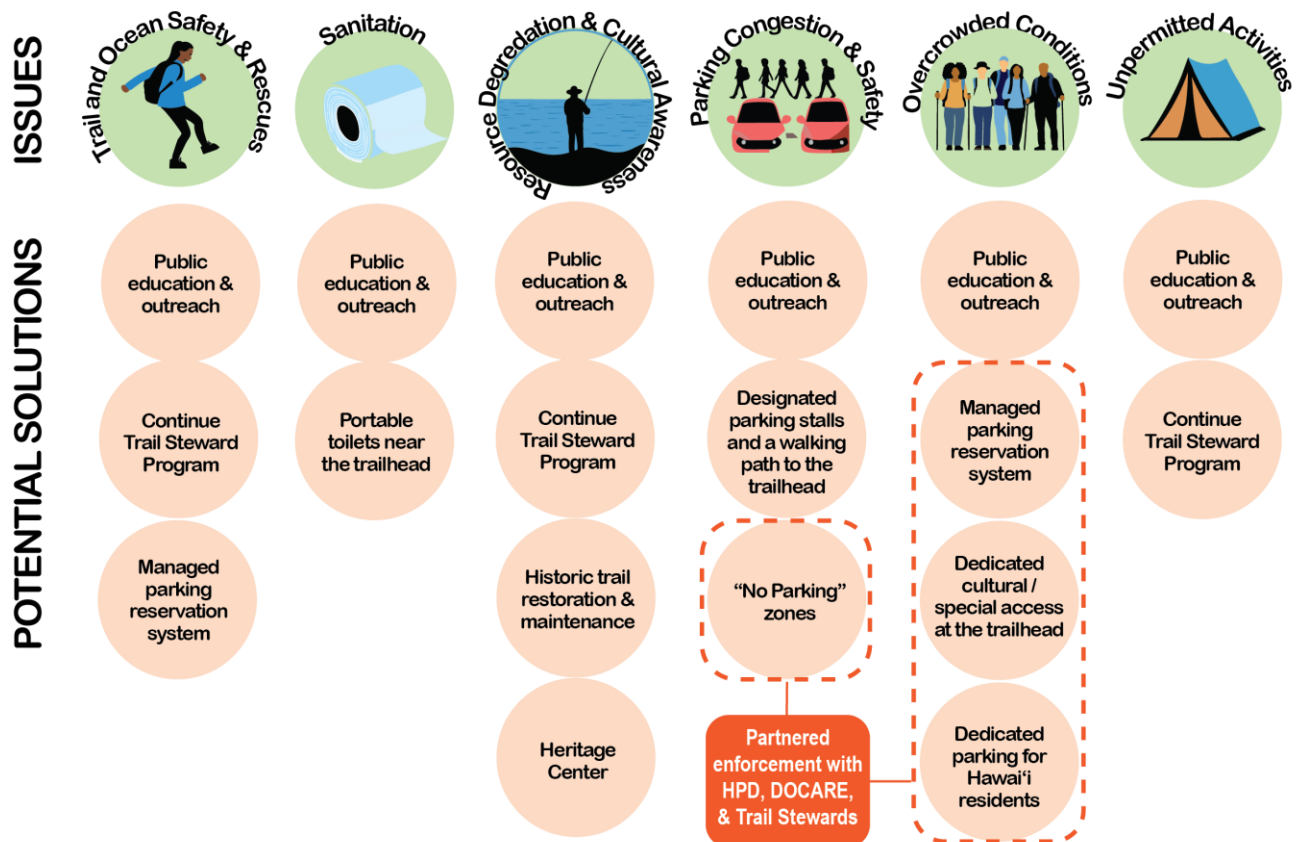


Figure 3. Heritage Center Conceptual Plan



- 6) Acquire approximately one acre of **TMK 5-2-001:002** to:
- Provide off-street parking with approximately twenty (20) parking stalls, plus two stalls reserved for on-duty trail stewards.
  - Provide parking for Hawai'i residents, with no fees or reservations required.
  - Implement a managed parking reservation system, required for non-resident visitors but also available to Hawai'i residents. A fee would apply for making a reservation.
  - Establish a pedestrian path from the parking area to the trailhead.
  - Create a new accessible lookout adjacent to the designated parking area.
  - Re-purpose an existing structure (Structure 1) into a Heritage Center to highlight and raise awareness and appreciation of the cultural and historical resources of this area and to serve as a gathering space.
  - Re-purpose an existing structure (Structure 2) for use as trail steward storage.
  - Install two portable toilets.
  - Work with adjacent landowners and respective government agencies to direct motorists to park within the designated parking area through signage, barriers, and enforcement.

Figure 4. Issues and Potential Solutions from the Pololū Trailhead Management Plan



## 2.2 Proposed Actions

### 2.2.1 Conservation Measures

#### 2.2.1.1 *Educational Outreach*

Targeted public education and outreach programs will be developed and conducted to inform the public about the cultural significance of Pololū, promote responsible cultural and environmental behaviors, and educate visitors on parking limitations at the trailhead. Online platforms and media should be leveraged to share engaging content that educates visitors about the area's significance and any new policies related to Pololū before their visit.

#### 2.2.1.2 *Trail Steward Program*

The existing trail steward program, created in the summer of 2021 to help mitigate the impacts of increased numbers of visitors to Pololū, will continue to play an essential role in raising awareness of the historical and cultural importance of Pololū Valley. Trail stewards assist with visitor management and education at the trailhead. They provide valuable information on the history, culture, and physical conditions of the trail, preparing visitors for a safer and more informed experience, which has also led to fewer emergency rescues. The trail stewards assist in the management of vehicles at the trailhead as well as with safety incidents as needed. They carry a satellite phone to call for emergency help, since reliable cell service ends at the nearby town of Kapa'au. The smaller existing structure (Structure 2) will be repurposed as storage space for the trail stewards.

#### 2.2.1.3 *Managed Parking Reservation System*

A managed parking reservation system will be implemented to address overcrowding and congestion at the trailhead, prioritizing space for local residents to maintain their way of life and cultural practices. Specific stalls will be made available for Hawai'i residents in the newly designated parking area, while non-resident visitors will need to make a reservation in advance to park. Reservations will be made available to everyone, but a fee would apply.

### 2.2.2 Cultural Preservation

#### 2.2.2.1 *Cultural Access*

The current lookout area within TMK 5-1-001:005 will be re-designated for cultural/special access. "Cultural access" is defined as being for those practicing cultural activities for the purposes of perpetuating traditional knowledge, caring for and protecting the environment, and strengthening cultural and spiritual connections to the windward valleys from Pololū to 'Āwini that have demonstrable benefits to the Native Hawaiian community. The designation of the space for cultural/special access removes the existing available parking stalls in the current lookout area from public vehicular use. Daily use of this space, including special vehicular access, would be managed by trail stewards and DLNR DOFAW. Residents seeking use of the cultural/special access area will need to check-in with the trail stewards upon arriving at the trailhead. Trail users will still maintain pedestrian access through this area.



#### 2.2.2.2 Heritage Center Education

The larger existing structure (Structure 1) on TMK 5-2-001:002 will be repurposed as a Heritage Center to promote awareness and appreciation of the cultural and historical resources of this area. The Heritage Center will also serve as a community gathering space for local residents.

---

*“Involve the community as much as possible. Have community volunteers run the heritage center. Promote a community sense of ownership.”*

-North Kohala long time resident

---

#### 2.2.2.3 Historic Trail Restoration & Stewardship

In consultation with lineal descendants, repair and restore the historic trail in eroded areas to the original mid-1800s condition. Under Hawai'i Administrative Rules (HAR) §13-130-19, Nā Ala Hele has the authority to restrict public use of the trail during specific days, hours, or periods to minimize user impacts on the trail surface, cultural, and environmentally sensitive areas while this trail restoration is taking place.

### 2.2.3 Infrastructure Improvements

#### 2.2.3.1 Portable Toilets

Portable toilets will be installed to address the lack of sanitary facilities at the trailhead. The nearest public restroom is located at Kēōkea Beach Park, approximately 2.5 miles away. The placement of the toilets should minimize impacts to the surrounding viewshed and adjacent landowners, be upwind from the trail steward shelter, and be accessible for those with disabilities. The toilets should be situated on a flat, hard surface with a slope of no more than one percent to ensure proper maintenance and accessibility.

#### 2.2.3.2 Parking and Accessible Lookout

A permeable grass paver parking area, with one-way ingress and egress, will be constructed. It will provide approximately twenty (20) designated parking spaces in addition to two spaces reserved for on-duty trail stewards. These parking spaces will address the lack of parking for trailhead users and include dedicated stalls for residents. An accessible lookout will be situated near the parking area.

#### 2.2.3.3 Pedestrian Pathway

A pedestrian pathway, four feet wide, will be constructed along the makai side of the roadway to provide safe access for hikers from the designated parking area to the start of the trail. A preliminary pedestrian walk plan is shown in Figure 5. The pathway will utilize existing pavement where vehicles currently park along the side of the roadway. A pedestrian guardrail is proposed along the existing rock wall. The pathway will include gapped asphalt concrete curbs to minimize potential conflicts between hikers and vehicles accessing the cultural/special access area and adjacent residences. The four-foot wide pedestrian walkway will widen to 12 feet wide as it approaches the trailhead, where 'Akoni Pule Highway transitions into a one-lane road. The one-lane road is proposed due to the lack of existing pavement to safely accommodate both a two-lane road and a pedestrian walkway. Note that there are discrepancies between the actual roadway and the recorded easement boundaries in the vicinity of the trailhead. DLNR DOFAW will need to work with the County Department of Public Works, Planning Department, and adjacent landowners to address these issues.



### 2.2.3.4 Signage and Road Safety Measures

At least four signs are proposed along 'Akoni Pule Highway to: 1) inform motorists not to proceed straight to the trail; 2) direct motorists exiting the parking area to turn right only; 3) inform motorists of the upcoming one-lane road; and 4) instruct motorists to yield to oncoming traffic when accessing the cultural/special access area or adjacent residence. A speed hump is proposed near the entrance to the Heritage Cetner parking lot, while a speed bump is planned before the one-lane road, near the new yield sign.

## 2.3 Expected Timeline

The following tasks and general timeline are provided to implement the management plan.

Table 1. General Project Timeline

Implementation Action Item Agency/Entity Responsible	Near-term	Mid-term	Long-term	Ongoing
<b>LAND ACQUISITION</b>				
Initiate discussions with the landowner regarding disposition of the land required. <i>DLNR DOFAW, Parcel Owner</i>				
Acquire land. <i>DLNR DOFAW, Parcel Owner</i>				
<b>SITE ENGINEERING &amp; PERMITS</b>				
Procure professional services to plan, design, and construct capital improvements, including seeking required permits and approvals. <i>DLNR DOFAW/Engineering</i>				
Coordinate with County DPW. <i>DLNR DOFAW, County DPW</i>				
<b>OPERATIONAL &amp; SUPPORTING MEASURES</b>				
Procure services for portable toilets. <i>DLNR DOFAW</i>				
Continue to revise Nā Ala Hele rules to develop a proposed fee schedule & seek BLNR approval. <i>DLNR DOFAW</i>				
Seek funding for trail stewards beyond year 2026. <i>DLNR DOFAW, State Elected Officials</i>				
Add a parking violation surcharge for illegal parking along 'Akoni Pule Highway through County Ordinance. <i>DLNR DOFAW, County Council</i>				
Coordinate enforcement efforts; secure funding for partnered enforcement among entities. <i>DLNR DOFAW &amp; DOCARE, County Police Department</i>				
Support community initiatives to steward resources. <i>Community, DLNR DOFAW</i>				



## 3 DESCRIPTION OF THE EXISTING RESOURCES, IMPACTS & MITIGATION MEASURES

### 3.1 Cultural & Historical Overview

Pololū Valley has a rich history, with the first known inhabitants establishing temporary dwellings along the mauka side of its sand dunes as early as AD 1200. Around this same period, kalo cultivation began in irrigated wetland terraces in the marshy area just inland of the dunes. By the 1400s, residents started moving further up the valley, building permanent house platforms and developing a network of dryland terraces for farming (Field & Graves, 2008). The people of Pololū thrived on a sustainable lifestyle, drawing fresh spring water, cultivating kalo, and relying on the abundance of protein from the valley's streams and the ocean offshore.

In 1758, Kamehameha Pai'ea was born in Kohala and brought to Pololū and 'Āwini to be raised. The valley's residents played a critical role in protecting the young Pai'ea, ensuring he could grow up to fulfill his destiny of uniting the Hawaiian Islands. The name "Kamehameha," meaning "the lonely one," reflects his secluded upbringing in the windward valleys of Kohala.

The arrival of Christian missionaries in the region began in 1825 when William Ellis and Artemas Bishop ventured into Pololū. Their mission was to convert the valley's residents, as well as those in neighboring Honokāne and 'Āwini, to Christianity. They encouraged the construction of thatch hut schools and churches, although at the time, fewer than 200 people lived across these three valleys. Protestant missionary Elias Bond arrived in Kohala in 1841 and spent the next decade visiting Pololū and surrounding areas. Later, he helped establish and maintain a schoolhouse in Pololū.

The Great Māhele of 1848 permanently changed land use in Hawai'i by introducing the concept of landownership. For the first time, ali'i and konohiki could claim ownership of ahupua'a and 'ili. In 1849, maka'āinana were allowed to apply for kuleana grants to secure the lands they worked. However, due to unfamiliarity with the concept of land ownership and the application process, only three families in Pololū successfully claimed land. Most of the valley remained Crown land, apart from a few parcels sold on the valley floor (Schweitzer & Gomes, 2003).

Sugar cultivation reshaped Kohala starting in 1863, when Elias Bond founded the Kohala Sugar Company to provide employment for native Hawaiians. The company grew rapidly, acquiring five other sugar mills along the Kohala coast. Increased demand for water resources led to the construction of the Kohala Ditch, an ambitious project initiated in the 1880s by John Hind of the Hāwī Plantation. Work on the ditch began in January 1905 and was completed in just 18 months at a cost of \$694,231. Spanning 14 miles, the system included 45 tunnels, 20 flumes, and extensive ditches (Kohala Ditch Co-op, 2022). Although the Kohala Ditch remains largely intact, it is currently out of use due to a landslide in April 2021 that destroyed a flume in Honokāne.

Rice farming became prominent in Pololū in the late 19th century. Around 1880, Chinese entrepreneurs Chang Young Siu and Goo Tuck Ching Akina transformed the existing lo'i kalo behind the sand dunes into rice paddies. Starting with 18 workers farming 35 acres, they eventually expanded to 72 acres by 1900. They supplemented their operations by growing squash, melons, and cabbage, and raising chickens, ducks, and pigs. Three water buffaloes, brought in through the

valley's narrow trails, aided in farming tasks. However, the rise of California's rice industry led to the decline of Hawai'i's rice production, and by the late 1920s, rice farming in Pololū had ceased.

During the early 1900s, the Kohala Ditch Company established the Mule Station in Makanikahio to manage over 250 mules used during ditch construction. These animals transported workers, materials, and supplies along steep trails. Several homes were also built near the Mule Station to house ditch workers and their families (Schweitzer & Gomes, 2003).

### 3.1.1 Archaeological Resources

In 1993, Erkelens and Athens conducted a survey of 122 acres within TMK 5-2-001: parcels 002 and 003, which included the 42-acre Mule Station parcel and an adjacent parcel. **Their report found no significant archaeological resources within the boundaries of the surveyed parcels**, largely due to extensive land disturbance caused by sugarcane agriculture and intense cultivation in the area.

Although the project itself focuses on the Mule Station lot, the road to the trailhead, the trailhead itself, and the trail extending to the valley floor, its impacts reach beyond these boundaries. Residents of North Kohala frequently use the trail to access resources within the valley, and visiting hikers often wander beyond the Nā Ala Hele-managed trail and onto the valley floor.

Numerous archaeological resources lie beyond the trail within Pololū Valley. Near the beach at the base of the Pololū Trail once stood an old schoolhouse, likely constructed in the early to mid-1800s during the arrival of missionaries to the windward valleys. At one point, thirty-one students were recorded attending this school (Kokua, 1868). Today, all that remains are scattered stones from the rock wall that once enclosed the structure.

Field and Graves (2008) documented extensive agricultural features throughout Pololū Valley. Stone-faced terraces and walls are scattered across the valley floor, highlighting the prominence of agriculture in the area. Dryland terraces, which spanned over 70 acres, dominated the landscape, while wetland cultivation occurred primarily in the 15-acre marshy area behind the dunes. Dryland farming was more practical in Pololū due to its intermittent and torrential stream, which often destroyed irrigation systems.

The valley is also home to three named heiau. The first, Ho'olonopahu, an agricultural heiau, is believed to be buried under the sand dunes (Stokes & Dye, 1991). Field and Graves (2008) suggest it may be located at the highest point of the dunes on the Honokāne side. Pu'u-mane'o, another heiau, sits on the ridge between Pololū and Honokāne on a hill known as Pu'u Kaua, or "battle hill." This heiau is thought to be the fort built by Ke'eaumoku during his battle against Kalani'ōpu'u. A third heiau, Kalehilehikii, is said to have been constructed in Pololū by Kamehameha as an agricultural heiau (Stokes & Dye, 1991). While its exact location remains unknown, a 1914 map by Pierce depicts a heiau makai of the sand dunes on the Honokāne side of the valley floor; no remnants of this structure exist today, but this site may represent Kalehilehikii's location.

Another feature at the edge of the valley is Kanamakaohua, a large boundary stone marking the division between Pololū and Makanikahio. It is said that after being carried around from place to place, Kamehameha's god was placed on this stone. This god is thought to be Kūkā'ilimoku, the war god of Hawai'i Island, given to Kamehameha from his uncle, Kalani'ōpu'u, just before his uncle's

death. Kamehameha cared for Kūkā‘ilimoku and was rewarded with success in battle, leading to the unification of the Hawaiian Islands.

Pololū is also home to an important adze quarry located nearly a mile inland along Pololū Stream. Adzes, vital tools in traditional Hawaiian culture for cutting, shaping, and carving wood and other materials, were made from basalt, a fine-grained rock formed from the rapid cooling of lava. Stoneworkers would gather basalt cobbles from the stream, detaching flakes to create adze blanks (Lass, 1994). Pololū basalt adzes were distributed throughout windward Kohala.

### 3.1.2 Historic Resources

The 1993 study by Erkelens and Athens referenced a 1952 aerial photograph that documented nine structures previously located on the Mule Station lot. Today, only two of these structures remain. According to the County’s Real Property Tax website, both structures were built in 1920. The larger structure (Structure 1) served as a residence, while the smaller building (Structure 2) functioned as a storage facility for mule saddles.

### 3.1.3 Cultural Resources & Traditional Practices

#### Coconut Trees

A North Kohala family that once lived on the Mule Station lot followed a tradition of burying a newborn’s piko at the base of a coconut tree. The tree would grow tall during the individual’s lifetime and die when the person passed away. Today, two coconut trees still stand.

#### Pololū Trail and Traditional Practices

The Pololū Trail is a remnant of the ala loa, an ancient coastal trail system that connected communities and enabled trading and gathering between different ahupua‘a. Hawaiians have long relied on such trails to access subsistence resources. Today, the Pololū Trail continues to serve as a pathway for North Kohala residents to reach hunting and fishing grounds vital to their way of life.

Traditional and customary (T&C) practices in the area include fishing, hunting, gathering, hālau hula ceremonies, and oli for worship. While these activities were noted by people we spoke to, other practices likely exist. For instance, lei makers, rock wall builders, and lā‘au lapa‘au practitioners may also access the valley to gather essential resources.

#### Marine and Stream Resources

Pololū had a rich variety of marine resources. From time to time, schools of akule (*Trachurops crumenophthalmus*) would make their way along the coast, stopping at Pololū. Huge moi (*Polydactylus sexfilis*), up to 18 to 24 inches long, were caught in the whitewash, where these fish prefer to hide. The wide sandbar at Pololū also made it a good spot for catching ‘ō‘io (*Albula vulpes*). Offshore of Pololū beach was a small flat reef section that created a popular spot for catching he‘e pali (*Octopus oliveri*), a favorite octopus that was eaten raw. On the Niuli‘i side of Pololū beach, one could find conch shells as well as a wide variety of other shells for eating. There were abundant ‘ōkole (Hawaiian Mann’s anemone, *Cladactella manni*) as well. The women would frequent this area to catch small brown eels hiding in the rocks. Huge ‘ula‘ula koa‘e (*Etelis coruscans*) were sometimes caught in about 65 feet of water; these are a species of bottomfish more commonly



known today by their Japanese name, onaga. Bill Sproat, born in 1903 in Pololū Valley, recalled catching an ulua (*Caranx ignobilis*) that, when weighed the next day after cleaning the fish and removing all its guts, was 103 pounds (Rochers, 1990).

A primary feature of Pololū Valley is its stream. Pololū stream has three tributaries: Kapoloa, Waiakalae, and a third with a name that is unknown. The Pololū stream once provided kalo, fish, and 'ōpae for families living in the valley. The stream itself seasonally connects to the ocean; it typically ends at a wetland pond that is located roughly 200 feet from the shoreline. The amount of water in the pond fluctuates depending on the amount of rainfall in the upper reaches of the valley. Historically, schools of young āholehole (*Kuhlia sandvicensis*) and 'ama'ama (*Mugil cephalus*) could be found moving with the tides from the ocean to the brackish water pond and back to the ocean.

#### Vegetation and Natural Resources

Historically, the walls of Pololū were covered in a vast array of native forest species. 'Ōhi'a lehua (*Metrosideros polymorpha*) was observed in full bloom along the steep valley walls, lauhala from the hala tree (*Pandanus tectorius*) was gathered and used for weaving, and pili grass (*Heteropogon contortus*) along the Niuli'i side of the valley provided a great surface for sledding, an activity enjoyed by the youth of Pololū. These plants still exist in the valley today but not nearly in the same quantities as in the past.

Springs throughout Pololū Valley remain a vital resource, providing residents with fresh water.

#### **Potential Impacts and Mitigation Measures**

The proposed project is expected to positively impact the archaeological, historic, and cultural resources of Pololū by addressing current environmental stressors caused by a high volume of visitors. By implementing a parking reservation system to manage visitor access, visitor counts are expected to be reduced, providing the ecosystem the opportunity to rest and recover. Additionally, trail stewards will help to educate hikers, thereby enhancing visitor and community awareness and appreciation for Pololū's resources.

The project area does not contain any known burials. If burials are discovered, remains will be left in place and the State DLNR Historic Preservation Division and Hawai'i County Police Department will be notified.

Refer to Section 8, Ka Pa'akai Analysis for a more detailed analysis of potential impacts.

## 3.2 Physical Environment

### 3.2.1 Climate and Rainfall

The project is located on the northeastern side of the island of Hawai'i. The wind across all of Hawai'i is predominantly tradewinds from the northeast. During the winter months, the tradewinds become less frequent and are replaced by the lighter southwest Kona winds.

Data from Giambelluca et al. (2014) shows that at nearby Pololū Valley, the mean annual air temperature ranges from 71 to 75°F at the base of the valley, to 60 to 64 °F in the upper mauka section of the valley. Mean annual rainfall near Pololū Beach is 50.1 to 80.0 inches, and in the upper section of the valley, 130.1 to 160.0 inches (Frazier et al., 2016). The average rainfall near the project site averages around 65.0 inches.

#### **Potential Impacts and Mitigation Measures**

The proposed project is not anticipated to affect or be significantly affected by the existing climatic conditions of the area and region. No mitigation is proposed.

### 3.2.2 Topography and Soils

Topographic elevation in Pololū Valley ranges from zero feet above mean sea level (MSL) to 2,900 feet above MSL at the back of the valley. Slope ranges from 1.7 percent along the valley floor to 76.2 percent along the valley walls. The proposed parking area is relatively flat at an elevation between 460 to 480 feet. The trailhead is located at approximately 420 feet above mean sea level. Pololū Trail starts at the face of the cliff. It is roughly half a mile long and descends rapidly from the trailhead, through a series of switchbacks, to where the trail ends along the valley floor. According to DLNR DOFAW, the average grade of the trail is 29.3 percent with a maximum grade of 54.4 percent, and an average cross slope of 4.5 percent with a maximum cross slope of 17.4 percent.

The soils within the project area for the proposed Heritage Center primarily consist of variations of the Ainakea series, which differ in slope and runoff characteristics. The flatter areas of the Mule Station parcel, where the Heritage Center, parking area, and new accessible lookout are planned, are composed of Ainakea medial silty clay loam with 3 to 12 percent slopes. This soil is well-drained with low runoff potential and is not classified as prime farmland. Along the roadway from the proposed Heritage Center to the trailhead, the soil remains Ainakea medial silty clay loam but with moderately steeper slopes of 12 to 20 percent slopes, while still maintaining good drainage and low runoff potential. Where the Pololū Trail descends along the valley wall, the soil changes to the Ainakea-Rock outcrop complex. This soil type is characterized by extremely steep slopes ranging from 70 to 100 percent and very high runoff potential.

### **Potential Impacts and Mitigation Measures**

No alterations to the soil composition are proposed for this project, and no adverse effects on the existing soils of the site are anticipated. The areas where improvements are proposed have soils with good drainage and low runoff potential, therefore it is not expected to increase runoff. The use of permeable grass pavers for the parking area will help reduce runoff compared to a traditional asphalt or concrete parking areas.

The proposed project may require slight grading for the new accessible lookout and walkway, which could temporarily disturb and expose soils, increasing the risk of erosion during construction. To address this issue, the project will comply with the erosion and sedimentation control standards outlined in Hawai'i County Code Chapter 10, Article 3. Mitigation measures will include slope stabilization, runoff management, and re-establishment of vegetative cover post-construction to minimize further soil erosion.

The high volume of daily visitors has caused significant erosion along sections of the trail, particularly near the trailhead. Restoration efforts are also proposed at the beginning of the trailhead to prevent further degradation, and will be designed to account for steep slopes. Additionally, a parking reservation system will be introduced for non-resident visitors to manage daily visitor numbers, thereby reducing the impact of foot traffic and promoting sustainable trail use in the long term.

### **3.2.3 Sea Level Rise**

Future sea level rise ranging from 0.5 to 3.2 feet will inundate sections of the beach and pond at the valley floor. Currently the pond only intermittently connects to the ocean with big surf and high tides. However, with as little as a 0.5-foot increase in sea level, the pond could remain open with a constant tidal flow back and forth from the ocean.

### **Potential Impacts and Mitigation Measures**

As the shoreline gradually moves inland, some sections of the beach closest to the valley walls may become less accessible. This shift could introduce a potential risk for hikers, particularly when crossing the river mouth, as the ocean in this area is known for strong currents. Additionally, while there is ample land to retreat into, the trail at the valley floor may face increased vulnerability to erosion from sea level rise.

To address these risks, trail monitoring and adaptive management strategies will be implemented. Existing signage, including Flash Flood Warning signs, are displayed along the trail to inform visitors about the strong riptides in the ocean. As the river mouth opens, warning signage may be installed at hazardous crossings, and trail stewards will be tasked with informing hikers of the increasing dangers in these areas. Additionally, adjustments to the trail or safety measures may be considered as conditions evolve.



The presence of trail stewards and educational materials at the heritage center could help inform the public about the potential threats of sea level rise and climate change to this area.

### 3.2.4 Natural Hazards

#### 3.2.4.1 *Tsunami*

The entire valley floor and the lower two-thirds of the Pololū Trail lie within the Tsunami Evacuation Zone, highlighting the area's vulnerability to tsunami events. Historically, Pololū has experienced significant tsunami impacts. In 1946, an earthquake in the Aleutian Islands generated a tsunami that severely affected the island of Hawai'i, with wave heights in Pololū reaching up to 55 feet above mean sea level, the highest recorded in the state. A subsequent tsunami in 1957, also triggered by an earthquake in the Aleutians, resulted in a wave runup of 32 feet in Pololū, again the highest in Hawai'i (Walker, 2004).

#### 3.2.4.2 *Hurricanes*

The project area, similar to the rest of Hawai'i, is susceptible to hurricanes, particularly during the Pacific hurricane season from June through November. The State of Hawai'i has a 68.5 percent chance of a hurricane of any magnitude occurring within 60 nautical miles in any given year (HI-EMA, 2023). While direct hits are relatively rare, hurricanes can bring strong winds, heavy rainfall, and storm surges, which could impact the region.

#### 3.2.4.3 *Flooding*

The area designated for the proposed Heritage Center, extending to the trailhead, is located within Flood Zone X, which is classified as an area of minimal flood risk according to the Federal Emergency Management Area's (FEMA's) flood insurance rate maps. The Pololū Trail, however, is in Flood Zone D, where flood hazards are undetermined but still possible.

#### 3.2.4.4 *Wildfires*

The DLNR DOFAW Fire Management Program classifies the project area as having a low wildfire risk. Located on the windward side of the island, rather than the dry leeward side, the likelihood of wildfire occurrence in this area is minimal.

### **Potential Impacts and Mitigation Measures**

Given the history of significant tsunami events in Pololū Valley, future tsunamis could pose severe risks to both the valley floor and the lower sections of the Pololū Trail. A tsunami could result in substantial flooding, landslides, and potential loss of life, especially for hikers or residents who may be present during such an event.

The proposed project will introduce minimal hardened surfaces, thereby reducing any potential increase in flood risk. The parking area will remain permeable with reinforced concrete pavers, and concrete surfaces will be limited to the accessible walkway and lookout near the heritage center.

The likelihood and potential severity of tsunami and hurricane-related impacts will be no greater than elsewhere in the region, and the planned activities will not exacerbate any hazards associated with tsunami or hurricanes. The proposed project is not expected to increase wildfire risk or pose additional danger to life or property. The location and planned activities do not introduce any significant factors that would elevate the likelihood of wildfire or flooding in the area.

The presence of trail stewards and educational information at the repurposed heritage center will help inform the public about the history of natural hazard events in Pololū, as well as the possible threats, evacuating routes, and nature's warning signs. In the event of a tsunami warning, hurricane, or other natural disaster, per Hawai'i County Civil Defense, the trail will be closed, and updates will be provided on the Nā Ala Hele Trails website to ensure public safety. Trail stewards will be notified immediately about any hazards via the satellite phones they carry. Contact information collected through the parking reservation system will provide a method for informing the public of any potential threats or updates. Visitors will also be encouraged to sign up for email or text alerts from the County's Civil Defense emergency alerts program.

The nearest Outdoor Siren Warning System is located at Kēōkea Beach Park, approximately 2.5 miles from the Pololū Trailhead. The all-hazard siren system is used for both natural and human-caused events, including but not limited to tsunamis, hurricanes, flooding, wildfires, and volcanic eruptions. An additional outdoor siren could be considered for the Pololū Valley area. The Hawai'i Emergency Management Agency is responsible for evaluating and processing new requests for the Outdoor Siren System.

Figure 6. Tsunami Evacuation Zone

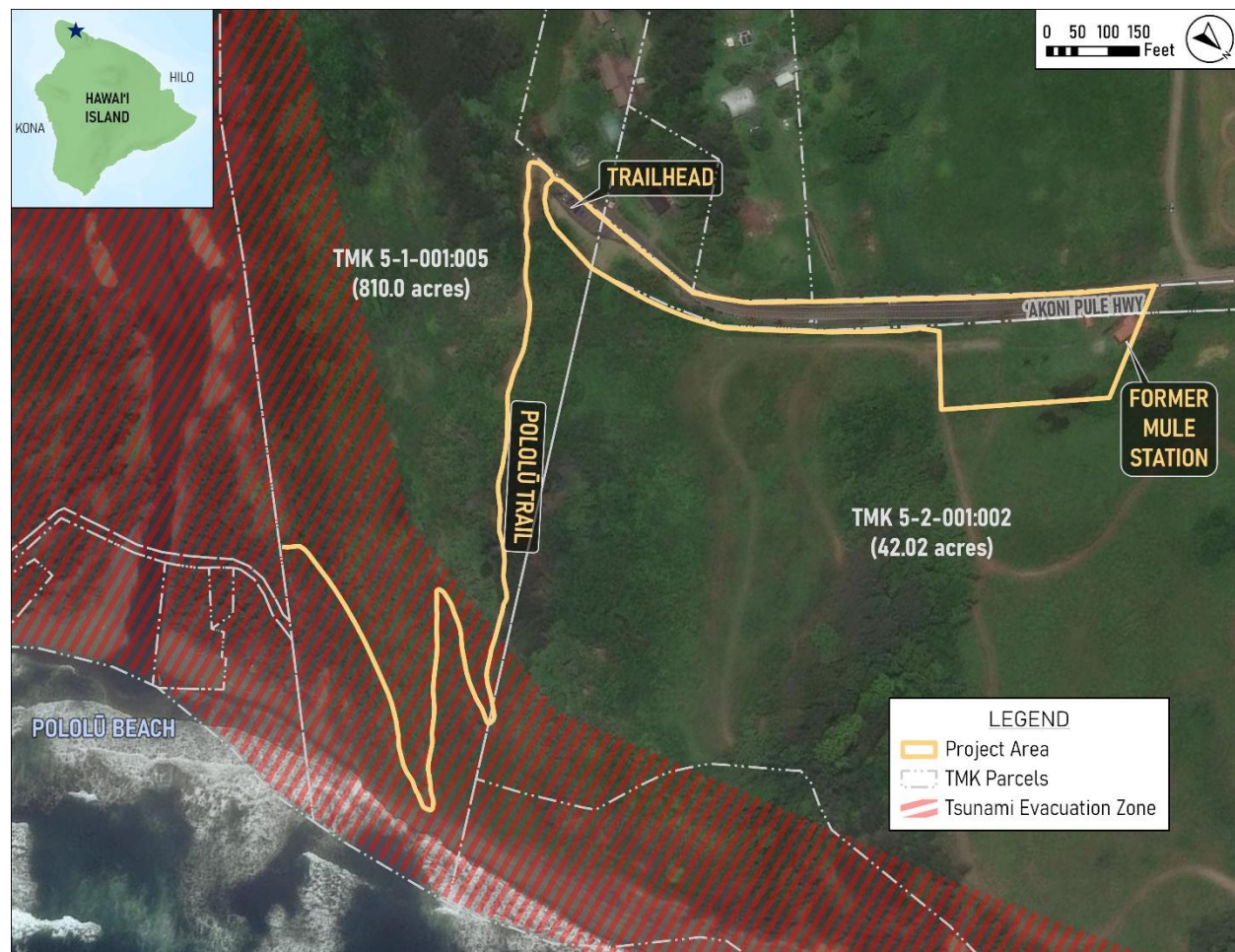
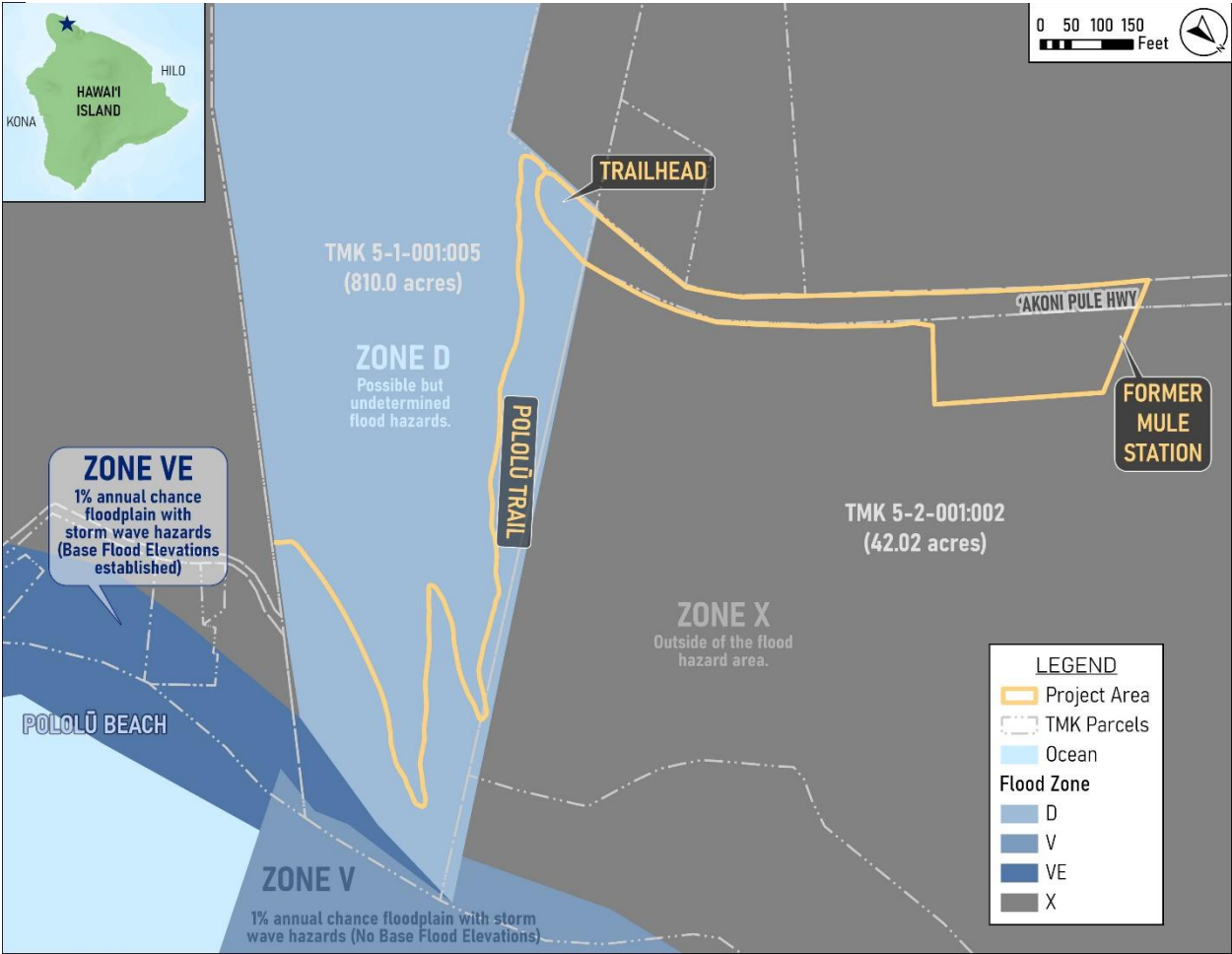




Figure 7. Flood Zone



### 3.3 Biological Resources

This section provides information on plant and animal species that have been observed on the project site, as reported by DLNR DOFAW staff. For a complete list of endangered or threatened species identified by the U.S. Fish and Wildlife Service (USFWS) as potentially occurring in the general vicinity or passing through the area, along with mitigation measures to be implemented if any of these species are observed on the project site, please refer to Appendix B.

#### 3.3.1 Flora

The project area is characterized by a mesic environment with a mix of native and non-native vegetation. The site of the proposed Heritage Center is currently maintained as cut grass with minimal native vegetation. The walkway leading to the trailhead is primarily a paved shoulder, with limited vegetation along its edges. In contrast, the Pololū Trail traverses through a shrubland ecosystem, which supports a greater diversity of plant life, including several native species.

Table 2 below lists significant plant species, including indigenous, endemic, and canoe plants, that are found within the project boundaries.

*Table 2. Significant Plant Species Observed Within the Project Boundaries*

Hawaiian Name	Scientific Name	Type	Location Found
Niu	<i>Cocos nucifera</i>	Canoe plant	Mule Station
Noni	<i>Morinda citrifolia</i>	Canoe plant	Trailhead
Hala	<i>Pandanus tectorius</i>	Indigenous	Along the trail
Kauna'oa	<i>Cuscuta sandwichiana</i>	Endemic	Along the trail
'Ūlei	<i>Osteomeles anthyllidifolia</i>	Indigenous	Along the trail
'Uhaloa	<i>Waltheria indica</i>	Indigenous	Along the trail
Hau	<i>Hibiscus tiliaceus</i>	Canoe plant	Base of the trail

#### Potential Impacts and Mitigation Measures

The project is expected to have minimal impact on native flora, as all construction activities will occur on previously disturbed land where no native plants are present. During trail restoration, workers will be trained to avoid disturbing plants near the trail, further minimizing any potential impacts to surrounding vegetation. The trail work will focus on improving the trail tread only. Additionally, collaborating with community organizations offers opportunities to restore native vegetation within the project area.

### 3.3.2 Fauna

The project area is situated approximately 1,000 feet from the shoreline, perched on a cliff at a higher elevation. While most of the proposed project is on disturbed lands, the trail leads to remote areas that support a diverse array of wildlife, including several species of seabirds, wetland birds, marine reptiles, and marine mammals. The valley is also home to wild pigs and feral cattle. Local families from North Kohala often hunt the wild pigs for food, while the cattle roam freely across the valley floor.

Only two bird species of ecological or cultural significance have been observed within the project boundaries by DLNR DOFAW Nā Ala Hele staff. These species are listed in Table 3 below.

*Table 3. Significant Bird Species Observed Within the Project Boundaries*

Hawaiian Name	Scientific Name	Status	Location Found
Kōlea	<i>Pluvialis fulva</i>	Migratory / Least concern	Mule Station
‘Io	<i>Buteo solitarius</i>	Endemic / Endangered	Flying above project site

As part of the early consultation process, DLNR DOFAW also indicated that “several State listed species may occur within the project area. These include 1) ‘ōpe‘ape‘a, or Hawaiian hoary bat (*Lasiurus semotus*), 2) several species of seabirds, 3) nēnē or Hawaiian goose (*Branta sandvicensis*), and in the right conditions 4) Blackburn’s sphinx moth (*Manduca blackburni*). The work site is not located near any Federally designated critical habitat. However, it is within less than a mile of the State Kohala Forest Reserve—Pololū Section.”

#### Potential Impacts and Mitigation Measures

The project is expected to have minimal, if any, impact on native fauna, as construction activities will occur on previously disturbed land. Additionally, managed parking reservations are anticipated to reduce the overall number of visitors to the valley and the trail stewards will provide visitors with information on Pololū’s natural resources and encourage them to be respectful of those resources. Regardless of if any endangered or threatened species are observed on the project site, all activities will comply with the Nationwide Standard Conservation Measures established by the USFWS.

The USFWS provides the following best management mitigation measures for the Hawaiian hoary bat:

- Woody plants greater than 15 feet tall should not be disturbed, removed, or trimmed during the bat birthing and pup rearing season (June 1 through September 15).
- Barbed wire should not be used for fencing.



## 3.4 Socio-Economic Environment

### 3.4.1 Community Character

North Kohala is a community deeply rooted in the values captured by the broader sentiment to “Keep Kohala, Kohala.” This phrase reflects a collective sentiment among residents to protect and preserve open space resources, as well as the area’s traditional way of life. The Kohala lifestyle emphasizes aloha, which fosters a strong sense of care and responsibility for one another, creating tight-knit connections among neighbors.

In North Kohala, the emphasis is on self-sufficiency and communal sharing. Residents take pride in their ability to grow, raise, and catch their own food, which they generously share within their community. This lifestyle, originating from their Native Hawaiian ancestors and surviving through the sugar plantation era, continues to define the region.

The community also takes great pride in its heritage as the birthplace of Kamehameha. North Kohala remains dedicated to honoring and maintaining its cultural heritage and preserving the traditional practices of those who came before them.

#### **Potential Impacts and Mitigation Measures**

The proposed project is expected to have a positive impact on the community character of Pololū. By capping daily parking availability for visitors and offering designated parking with reservation options for Hawai‘i residents, the project will reestablish access to Pololū for the people of Kohala, who have been increasingly displaced over the past decade by the high volume of visitors. Additionally, by providing space for cultural/special access, the project will empower Native Hawaiian families to return to the valley for traditional practices such as fishing, hunting, and gathering, supporting the continuation of their subsistence lifestyle and perpetuation of their cultural heritage.

A dynamic reservation system is proposed to provide flexible parking allocation for residents, lookout visitors, and hikers, with the ability to adjust to varying resident demand throughout the day and week.

The designated parking area will be designed with minimal improvements to ensure that it blends with the natural environment and preserves the rural character of Pololū. Careful consideration will be given to the use of permeable materials, such as reinforced concrete pavers, to minimize impervious surfaces and reduce the risk of runoff and erosion. The layout will prioritize functionality while maintaining the area’s rural and scenic aesthetics, with minimal disruption to the surrounding landscape. Low-impact design elements will be incorporated to ensure that the parking area enhances public safety without compromising the cultural and environmental integrity of the community.

### 3.4.2 Population and Economy

The project area reflects the rural character of the region, with a small population compared to more urbanized areas such as Kailua-Kona or Hilo. The closest Census Designated Place (CDP) to the project area is Halaula, which had a population of 773 according to the 2020 U.S. Census, followed by Kapaʻau with a population of 2,008 and Hāwī with 2,268. North Kohala had a population of 6,979, while the entire island of Hawaiʻi had a population of approximately 200,000. The population is largely rural, with many residents of Native Hawaiian descent and families who have lived in the area for generations. The population density in the North Kohala area was 49.5 persons per square mile, compared to Kailua-Kona's population density of 3,448 persons per square mile.

The economy of North Kohala has evolved from its historical reliance on agriculture, particularly sugar and rice production, to a more diverse range of industries today. Agriculture remains a key sector, with the region focusing on specialty crops and livestock. Many residents engage in subsistence practices. Tourism and hospitality have become major economic drivers, with approximately one-third of North Kohala's workforce commuting to South Kohala to work in hotels and resorts (COH PD, 2008).

According to 2020 U.S. Census data, North Kohala's employment rate was 58.0 percent. The largest employment sector was "arts, entertainment, and recreation, and accommodation and food services," accounting for 23.3 percent of jobs. Educational services, healthcare, and social assistance accounted for 16.4 percent, while professional, scientific, and management, and administrative and waste management services represented 16.3 percent.

The small town of Hāwī, located just 7.5 miles away, serves as a central hub for commerce in North Kohala. It provides a range of services to both local residents and visitors exploring the area. The town features a selection of shops, art galleries, and dining options. A few miles further past Hāwī lies Kapaʻau, which also offers a variety of eateries. Both towns are popular stops for visitors on their way to Pololū Valley.

#### **Potential Impacts and Mitigation Measures**

The project is not anticipated to result in changes to the population. It is expected to have a positive impact on the local population by improving access to Pololū and enhancing the quality of their visit from reduced crowding. By implementing a parking reservation system required for non-resident visitors, dedicated parking for Hawaiʻi residents and space for cultural/special access, the project will restore the ability of local residents to enjoy Pololū without being displaced by the growing influx of tourists. It aims to ensure that local residents can continue to use the area for traditional and cultural activities such as sunrise protocol, gathering, and hunting. Additionally, by reducing the number of non-resident visitors, the project will help maintain the area's rural character and cultural integrity, benefiting both the local population and the environment.

The project is also anticipated to have a positive impact on the local economy in several ways. One of the key components of the proposed project is to maintain the trail steward

positions, which will provide continued employment for individuals who are deeply connected to the valley. These positions are crucial not only for stewardship but also for providing educational experiences to visitors, fostering a deeper appreciation for the area.

Additionally, the project will include the provision of portable toilets, which will require the services of a portable wastewater company. This will create further local employment opportunities, as the company will be responsible for delivering, maintaining, and servicing the units.

In the long term, DLNR DOFAW plans to enter into an agreement with a non-profit organization to assist with managing the reservation system and overseeing the ongoing maintenance of the site. The introduction of a fee for parking reservations will create a dedicated revenue stream, which will be reinvested into the stewardship and upkeep of Pololū.

Local businesses in Hāwī and Kapa‘au, as well as food stands along the route to the trailhead, may see shifts in visitor patterns due to the new parking reservation system for non-residents. While the system could limit visitor numbers at the trailhead, the impact on local businesses leading up to Pololū could be positive, as visitors may spend more time exploring these areas.

Both towns offer unique attractions that will continue to draw visitors, creating opportunities for businesses to enhance services that reflect the region’s character and way of life.

## 3.5 Environmental Quality

### 3.5.1 Visual Resources

Pololū Valley is renowned for its breathtaking views. Over time, the turnaround at the end of ‘Akoni Pule Highway has evolved into an unofficial lookout due to the exceptional views from the trailhead. Visitors often travel over an hour specifically to experience the panoramic scenery of the valley from this vantage point. For those who hike down the trail, they are rewarded with unique perspectives of the valley's muliwai and its lush, forested landscape stretching to the back of the valley.

The stretch of road from the Mule Station, including in the vicinity of the proposed Heritage Center, to the trailhead also offers stunning views of the coastline.

#### **Potential Impacts and Mitigation Measures**

Construction activities for the proposed project will be temporarily visible to visitors driving to the trailhead, but these activities will not impact the views from the existing lookout. The current informal lookout will remain in use until the new lookout is completed, at which point it will be converted into a cultural/special access area.

The proposed project aims to enhance the visual experience by providing an improved lookout that offers a scenic view of Pololū and the surrounding windward valleys. Unlike the current unofficial lookout, which also serves as a parking lot, the new lookout will be ADA accessible and designed to ensure unobstructed views in a safer space without the hazard of vehicles parking and turning around at the same spot. The portable toilets will be placed in a location that minimizes impact to the surrounding viewshed, including from ‘Akoni Pule Highway and neighboring properties. Installation of signs will also consider potential impacts to viewsheds and the rural character of the area. Natural vegetation will be considered to provide a screening effect, helping to further conceal the toilets.



*View at sunrise from the proposed Heritage Center parcel.*



Design elements will be carefully incorporated to ensure the project blends with the surrounding landscape and does not disrupt existing viewsheds. The focus will be on minimal improvements that preserve the area's visual integrity.

### 3.5.2 Acoustic Characteristics

The current noise environment in the project area is primarily influenced by visitors to the Pololū Valley lookout and hikers to Pololū Trail. The highest levels of noise are typically observed between 10:00 a.m. and 2:00 p.m., when visitor numbers are at their peak, resulting in increased foot traffic and vehicular noise from the high volume of cars arriving at the lookout. During these peak hours, noise from conversations, vehicle engines, and other human activities dominate the area. Outside of these times, particularly in the early mornings and late afternoons, the area is quieter, with minimal disturbances.

Historically, before Pololū became a popular hiking destination, the area was characterized by natural tranquility. The soundscape was primarily composed of natural elements such as waves crashing against the shore and the wind moving through the valley.

Two residences are located near the trailhead, one of which has a driveway directly across from the current lookout area, making the residents more directly impacted by noise in the vicinity of the trailhead.

#### **Potential Impacts and Mitigation Measures**

Noise from construction-related activities will be unavoidable. Nighttime construction is not anticipated. The increase in noise levels will be temporary and will last only for the duration of construction.

The project is expected to overall have a positive impact on the noise environment. It proposes relocating the existing parking area and lookout to the Mule Station parcel, which will reduce noise levels for the two residences at the trailhead. Additionally, the implementation of a reservation system will manage visitor numbers and distribute and reduce the crowd more evenly throughout the day, thereby minimizing noise during the typical peak hours of the day.

Construction noise impacts will be mitigated by compliance with provisions of the State Department of Health (DOH) Administrative Rules, Title 11, Chapter 46, "Community Noise Control" regulations. These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels stated in the DOH Administrative Rules. The Contractor will be responsible to minimize noise by properly maintaining noise mufflers and other noise-attenuating equipment, and to maintain noise levels within regulatory limits. Guidelines for heavy equipment operation and noise curfew times, as set forth by the DOH noise control rules, will be adhered to; or, if necessary, a noise permit shall be obtained.

### 3.5.3 Air Quality

The air quality in the project area is generally considered good, primarily due to its rural location and consistent exposure to prevailing northeasterly trade winds. The natural vegetation and coastal environment also help maintain clean air, with few sources of air pollution. The primary contributor to air emissions is vehicle exhaust, particularly during peak visitation hours. However, the overall impact is minimal due to the open landscape and continuous air circulation.

#### **Potential Impacts and Mitigation Measures**

Impacts on air and water quality are anticipated to be minor and short-term from construction-related activities. Dust may be generated in and around the project area from grading activities.

The proposed project may require slight grading for the new accessible lookout and walkway, which could temporarily disturb and expose soils, increasing the risk of erosion during construction.

To address this issue, the project will comply with the erosion and sedimentation control standards outlined in Hawai'i County Code Chapter 10, Article 3. Mitigation measures will include slope stabilization, runoff management, and re-establishment of vegetative cover post-construction to minimize further soil erosion.

No significant long-term impacts on air quality are anticipated as a result of the proposed project. The implementation of the reservation system is anticipated to decrease the number of visitors and individual vehicles accessing the trailhead, thereby reducing air pollution.

### 3.5.4 Hazardous Materials

A Phase 1 Environmental Site Assessment (ESA) was completed in January 2025 for the Mule Station as part of the environmental review process. The Phase 1 ESA evaluated the site for the presence of hazardous materials and potential environmental contamination. The assessment involved a thorough review of historical records, on-site inspections, and interviews with local stakeholders to identify any past or present activities that could pose a risk to human health or the environment. Based on the findings, no current, historical, or controlled Recognized Environmental Conditions (RECs) were identified for the project area. A REC is defined as “(1) presence of hazardous substances or petroleum products in, on, or at the subject property due to a release to the environment; (2) the likely presence of hazardous substances or petroleum products in, on, or at the subject property due to a release or likely release to the environment; or (3) the presence of hazardous substances or petroleum products in, on, or at the subject property under conditions that pose a material threat of a future release to the environment.”

The following De Minimis environmental condition, as stated in the Phase 1 ESA, was found in connection with the project area:

“Hawaii County building permit records and historical aerial photos show the buildings present on the SP [subject property] were built in 1920. This was well before the ban on asbestos and lead paint. Arsenic-containing wall board may also be present within building materials at the SP. The improvements onsite should be surveyed by a State certified Asbestos and Lead-Based Paint Inspector prior to disturbance/renovation. The area under and around historical structures were also often treated with pesticides and arsenic for pest control. The harmful chemicals, as well as lead from paint chips, may be present in soil. It is recommended that soil under and around the onsite improvements be tested for these target contaminants in accordance with State DOH rules prior to disturbance.”

### **Potential Impacts and Mitigation Measures**

To minimize potential risks to both human health and the environment, a thorough survey of the structures on the former mule station parcel will be conducted by a certified Asbestos and Lead-Based Paint Inspector to assess the presence and extent of asbestos-containing materials and lead-based paint before any renovation begins. Should any asbestos or lead-based paint be identified, the affected materials will be safely removed or mitigated prior to using the structures for the Heritage Center. The DOH Indoor and Radiological Health Branch will be contacted.

Soil testing will be conducted in areas under and around the historical structures, where pesticide use and arsenic treatment are suspected to have occurred, before any ground disturbance activities take place.

## **3.6 Public Infrastructure, Services & Facilities**

### **3.6.1 Traffic and Roadways**

Vehicular access to the project area is via ‘Akoni Pule Highway (Route 270). It runs parallel to the shoreline and consists of one travel lane in each direction that begins near Kawaihae Harbor and runs east, terminating at Pololū Trailhead. The section of the roadway near Hāwī Road to the vicinity of Pololū Valley Lookout is under the jurisdiction of the County Department of Public Works.

A physical mile marker at Pololū Trailhead that reads “28.93” indicates the end of the ‘Akoni Pule Highway. At the end of this County roadway is the beginning of the Pololū Trailhead/Forest Reserve boundary which is under the jurisdiction of the State DLNR DOFAW.

There are four one-lane bridges along ‘Akoni Pule Highway heading to the trailhead from Kapa‘au. The primary mode of transportation to Pololū currently is via personal vehicles. The trailhead is inaccessible via public transit, as the County bus route terminates in Hāwī, about 7.5 miles away from the trailhead.

Community feedback gathered during consultations for the Pololū Trailhead Management Plan highlighted concerns about the increased volume of vehicles traveling to the trailhead. One community member living along ‘Akoni Pule Highway voiced these concerns:

*“The roads [going to Pololū] are very small and it's very wavy. And it's really quite dangerous and people drive really fast. I don't know if you guys can do anything about that. But it is a big concern for the community. I used to run towards Pololū on a regular basis and I no longer do that because I don't want to get run over by cars, you know. And we've seen a big increase in traffic on the road. So that's a big concern.”*

The trailhead experiences heavy congestion, especially during peak hours between 10:00 a.m. to 2:00 p.m. At times, over 60 cars can be present at once, creating a challenging parking situation and making it difficult to navigate around other vehicles and pedestrians. The mix of cars parking, turning around, hikers walking through, and visitors stopping to enjoy the view results in a hazardous and chaotic environment.

With the proposed reservation system, vehicle traffic will be distributed more evenly throughout the day and reduced. Twenty parking spaces are proposed at the Mule Station parcel: approximately ten for residents and approximately ten for visitors that will require reservations. Below is an example of anticipated traffic between 8 a.m. to 4 p.m. for the ten parking stalls that will require a parking reservation—four dedicated to 30-minute reservations for the lookout and six for two-hour reservations for hiking.

- Lookout
  - The four parking stalls for the lookout are reserved in 30-minute increments.
  - Each stall can accommodate 2 vehicles per hour (one every 30 minutes).
  - From 8 a.m. to 4 p.m., each of the four stalls can accommodate a total of 16 vehicles.
  - With four stalls, the total number of vehicles for the lookout is 64 vehicles over the course of the day.
- Hiking
  - The six parking stalls for hiking are reserved in 2-hour blocks.
  - Each stall can accommodate four vehicles per day (one vehicle every two hours).
  - From 8 a.m. to 4 p.m., there are four reservation periods for each stall (e.g. 8 to 10 a.m., 10 a.m. to 12 p.m., 12 to 2 p.m., 2 to 4 p.m.).
  - With six stalls, the total number of vehicles for hiking is 24 vehicles over the course of the day.
- The total anticipated traffic from the managed parking reservation is **88 vehicles**. The remaining ten stalls will be available for Hawai‘i residents throughout the day.

### Potential Impacts and Mitigation Measures

The proposed project aims to reduce the number of vehicles driving to Pololū and parking at the trailhead by implementing a reservation system for parking, which will be required for non-resident visitors, limiting the number of vehicles and spreading visitor traffic more



evenly throughout the day. Additionally, the project includes relocating parking to the Mule Station parcel, which will feature a one-way ingress and egress system, with a pedestrian path leading to the trailhead. This change is anticipated to decrease congestion, improve traffic flow, simplify turnarounds, and enhance pedestrian safety.

The project does not anticipate an increase in pedestrian or vehicular traffic in the area compared to current levels. The provision of dedicated parking for the lookout and trail users and new lookout area will minimize existing conflicts between pedestrians and vehicles at the trailhead. The presence of the trail stewards will continue to enhance the safety and experience of visitors through education. They have been instrumental in informing hikers about crucial information such as the terrain, trail conditions, potential hazards, and safety guidelines.

The project is not expected to increase traffic to the trailhead beyond current levels. With an average of 597 visitors per day and approximately three visitors per vehicle, it is estimated that around 200 vehicles travel to Pololū each day. As a result, the proposed project will significantly reduce the number of vehicles accessing the trailhead.

The introduction of the reservation system may initially cause a slight increase in traffic congestion as people become familiar with the new parking procedures. To mitigate these impacts and ensure smooth traffic flow, the following measures can be implemented:

- **Advance Public Education and Outreach**
  - Provide information and engagement through multiple channels, including local media outlets, social media, hotel concierges, and travel websites. This outreach should begin at least three months before implementing the reservation system to inform visitors about the reservation system, its benefits, and how to make reservations.
  - Install signs in Hāwī and Kapaʻau to inform motorists about the need for reservations and direct them to the DLNR DOFAW website for more details. Additional signs can be placed in high-traffic areas frequented by visitors.
- **Buffer Reservation Times & Limits to Parking**
  - Allow extra time between reservations to ensure smooth turnover and avoid overlap. Since lookout visitors typically spend about 10 minutes at the lookout, reservations for them could be offered in 30-minute increments. Hikers, who usually spend 60 to 90 minutes, could make reservations in two-hour blocks. Visitors needing more time would be required to reserve an additional time slot.
- **Pre-Arrival Information**
  - Provide clear and detailed information about the reservation and its rules before visitors arrive, ensuring a smooth turnover and avoiding reservation overlaps.
- **Dynamic Reservation System**
  - Allow for flexibility to adjust for more lookout or hiking visitors depending on the time or the day of the week.

- **Presence of Trail Stewards to Guide Visitors**
  - Have trail stewards guide visitors and assist with implementing the managed parking reservation system.
- **Real-Time Parking Availability Updates**
  - Provide real-time information about parking availability through a mobile app or electronic message board in Hāwī and Kapaʻau.
- **Enforcement and Community Policing**
  - Work with adjacent landowners to use physical barriers and vegetation to prevent illegal parking and ensure proper use of designated spaces.
  - Collaborate with HPD, along with community policing and volunteers, during the initial phase to enforce parking rules effectively.

Potential secondary impacts may include increased traffic in surrounding areas leading to the proposed parking, as visitors may seek alternative parking in nearby residential areas. To mitigate this possible effect, strict enforcement of parking regulations in surrounding residential areas is essential to deter unauthorized parking. Additionally, public education and awareness outreach, along with engagement with local residents, are key strategies to discourage parking in undesignated areas.

### 3.6.2 Wastewater and Solid Waste

In North Kohala, wastewater management relies entirely on individual wastewater systems. The nearest County sewer system is located 42 miles away in Honokaʻa, while the closest private wastewater treatment plant is approximately 28 miles away in Waimea.

Currently, there are no restroom facilities at the Pololū Trailhead. The nearest public restroom is situated at Kēōkea Beach Park, managed by the County of Hawaiʻi, which is approximately 2.5 miles from the trailhead. Many visitors either utilize the restrooms at Kēōkea Beach Park or relieve themselves without permission on the adjacent landowners' properties.

The Kaʻauhuhu Transfer Station is Kohala's sole solid waste transfer station, located in Hāwī. It accepts the following recyclables: cardboard, non HI5 glass, scrap metal and appliances.

#### **Potential Impacts and Mitigation Measures**

The project will not increase the demand for County wastewater treatment. The proposed portable toilets may reduce demand at the County facility at Kēōkea Beach Park and deter visitors from using adjacent landowners' properties as restrooms, thereby addressing sanitary concerns.

A trash receptacle will be provided at the heritage center and will be maintained by DLNR DOFAW or the trail stewards. Educational outreach efforts will encourage visitors to carry out their own trash from the valley. Any construction debris will be removed by the Contractor to be disposed of at the appropriate disposal facility.

### 3.6.3 Water

The County of Hawai'i Department of Water Supply provides potable water to the North Kohala District up to the village of Niuli'i. There is no public or private potable water system in the vicinity of the trailhead.

#### **Potential Impacts and Mitigation Measures**

The project will not require potable water. No mitigation measures are recommended.

### 3.6.4 Electrical System

Hawai'i Electric Light Company, Inc. (HELCO) provides electricity for the County of Hawai'i. North Kohala is powered by a 34.5 kilovolt (kV) sub-transmission line, originally constructed in the 1950s. The 24-mile line runs from the Waimea Substation to the Hāwī and Hala'ula Substations, extending to the Hāwī Renewable Development wind farm. As a radial line, it is the sole source of electricity to North Kohala. Power lines are carried on overhead utility lines in this region.

#### **Potential Impacts and Mitigation Measures**

The project is not anticipated to significantly increase demand for the electrical system. No mitigation measures are proposed.

### 3.6.5 Police, Fire Protection, and Emergency Services

The Hawai'i Police Department, specifically the Kapa'au Police Station, provides police protection services for this area; while the Hawai'i County Fire Department handles fire service, with the North Kohala Fire Station as the nearest fire station. Both the police and fire stations are approximately six miles from the project area in Kapa'au.

The Hawai'i County Fire Department is also responsible for Pololū hiker rescues. Data from the Hawai'i County Fire Department incident reports show a reduction in the frequency of emergency rescues since the implementation of the Pololū Trail Steward Program in the summer of 2021. A total of 18 rescues were reported by the Fire Department in 2021. A year later, the number of rescues decreased to ten and in the following year, only two rescues were made for 2023.

Kohala Hospital, located nearly six miles from the project site, is a 25-bed critical access hospital offering 24-hour emergency services. In addition to emergency care, the hospital provides both acute and long-term care services to the North Kohala community.

## Potential Impacts and Mitigation Measures

The implementation of the project is not anticipated to impact the demand for emergency rescues, existing hospitals, or medical services. The continuation of the trail steward program is anticipated to maintain or improve safety, thereby minimizing the potential need for emergency medical services. Additionally, a parking reservation system for non-resident visitors will be introduced, with the reservation website providing essential safety information to ensure that visitors arrive well-prepared and ready to hike.

The long-term impacts of this project are expected to positively impact the fire department and emergency services by continuing to reduce the number of hiker rescues.

However, the implementation of this project may result in increased demands on local police services, particularly in the initial stages, due to the need to enforce illegal parking. The reservation system aims to regulate the high volume of visitors to the trailhead. Motorists who do not comply with the new system may choose to park illegally or outside designated areas, creating potential traffic hazards. The police department may need to allocate additional resources to monitor and enforce parking regulations, especially during the early phase of the plan's implementation. This could involve increased patrols, ticketing, and coordination with other agencies or community volunteers to ensure compliance. The strain on police resources may be temporary, as visitors adapt to the new guidelines.

To mitigate the increased demand for police services, several proactive measures can be taken, including:

- Comprehensive public outreach and education efforts.
- Involvement of community volunteers or trail stewards to assist in monitoring parking areas and directing visitors, which could reduce the need for immediate police intervention.
- Coordinating with adjacent landowners to implement physical barriers or vegetation to discourage non-compliant parking behavior.
- Allowing a third-party entity to assist with issuing tickets for non-compliance.



### 3.6.6 Education

North Kohala is served by several educational facilities, including Kohala Elementary School, Kohala Middle School, and Kohala High School, which provide public education from kindergarten through 12<sup>th</sup> grade. Additionally, Kohala Adventist School offers private education for students in kindergarten through 8<sup>th</sup> grade. In 2020, Kohala High School students utilized social media as a platform to share the importance of protecting Pololū. Students from Kohala High School have also engaged with the project team to share their vision for the place and concerns regarding environmental degradation and impacts from overcrowding and overuse. They also provided input on possible solutions for the trailhead.

#### **Potential Impacts and Mitigation Measures**

The proposed project is not anticipated to negatively impact school capacity or enrollment. Rather, this project will continue to support school groups that visit Pololū to engage in stewardship and outdoor learning. The dedicated parking and pathway leading to the trailhead will provide for reduced conflict between vehicles and pedestrians and continue to support the use by school and educational groups with an emphasis on environmental stewardship and cultural enrichment. Additionally, this project could create opportunities to involve students in the long-term stewardship and management of visitors to the area.

### 3.6.7 Recreational Facilities & Open Space

The Pololū Valley Lookout and hiking trail are popular recreational destinations for both residents and visitors. The nearest public park is Kēōkea Beach Park, located approximately 2.5 miles from the trailhead. It is maintained by the County of Hawai‘i Department of Parks and Recreation and offers ADA accessibility, BBQ pits/grills, a pavilion, and restrooms.

Another County-managed park in North Kohala is Kamehameha Park, which features ADA accessibility, a gymnasium, outdoor basketball and tennis courts, a pavilion, playground, restrooms, skate park, sports fields, and a swimming pool. While not a public park, North Kohala Golf Park provides another recreational option.

Several large parcels of land, including TMKs 5-3-007: parcels 010, 023, and 026, have been acquired under the County’s Public Access, Open Space, and Natural Resources Commission program, adding to the region’s network of protected recreational and open spaces.

#### **Potential Impacts and Mitigation Measures**

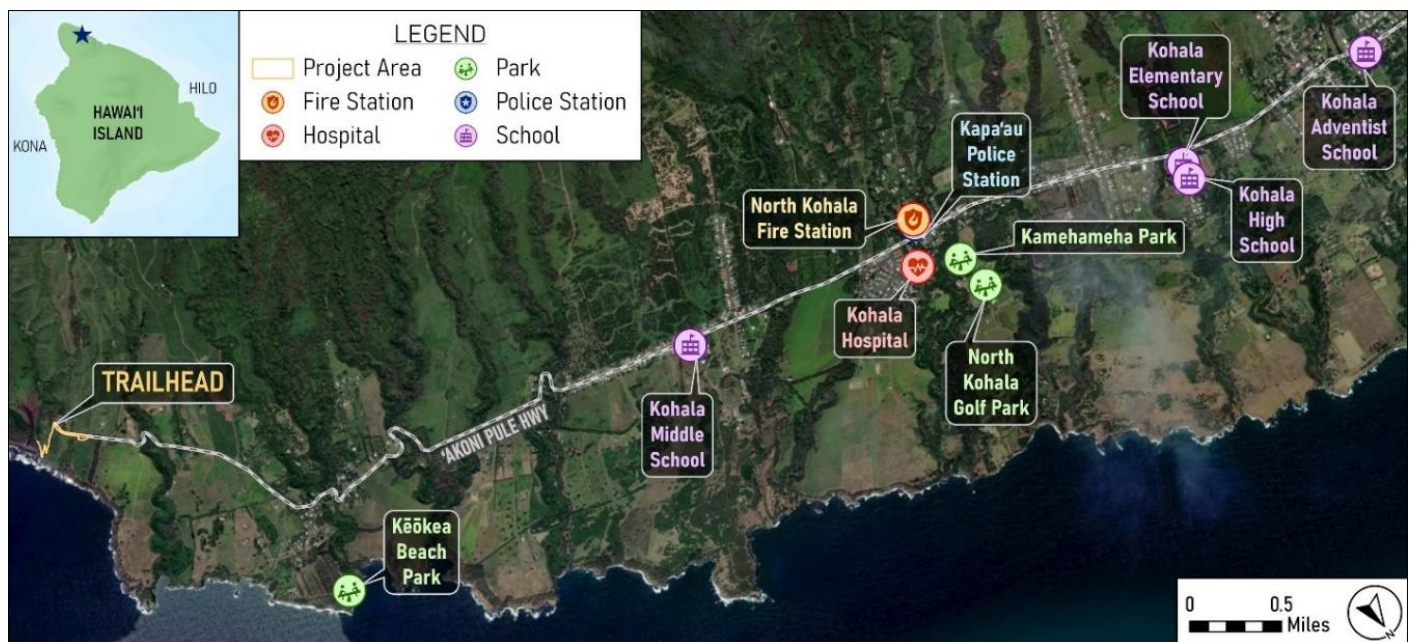
The implementation of a managed parking reservation system at Pololū will limit the number of visitors to the valley, which could result in both positive and negative impacts on recreational resources. The project is intended to reduce overcrowding at Pololū, allowing for a more enjoyable and less hazardous experience for those who do visit. By controlling

the flow of non-resident visitors, it will help preserve the natural environment, reduce trail erosion, and limit the negative impacts associated with overuse, such as littering, at Pololū.

On the other hand, the project may also reduce access to the trail and lookout for those who are unable to secure a reservation, particularly during peak tourist seasons. This could lead to some frustration for potential visitors who are unable to visit Pololū at their preferred time. However, the reservation system aims to balance these competing needs by ensuring more sustainable and responsible use of the area's recreational resources while maintaining its cultural and environmental integrity.

The parks in the immediate vicinity may not experience a significant increase in demand as they provide different amenities than Pololū, but the project may indirectly result in increased demand for other recreational resources, as visitors seeking alternative destinations might turn to parks and trails in nearby areas or other regions of the island. This shift in visitor traffic could place additional strain on those sites, potentially leading to overcrowding and increased wear on facilities and natural resources. To mitigate these impacts, measures such as increased public outreach to promote sustainable use of other recreational areas, as well as enhanced community stewardship of other wahi pana, should be implemented.

Figure 8. Recreational Resources & Public Services



## 3.7 Secondary and Cumulative Impacts

### 3.7.1 Secondary Impacts

Secondary, or indirect, impacts are effects that result from an action but occur later in time or at a greater distance yet are still reasonably foreseeable. These impacts may include growth-induced changes and shifts in land use, population density, or growth rate, as well as effects on air, water, and other natural systems.

Potential secondary impacts may include increased traffic in surrounding areas leading to the proposed parking, as visitors may seek alternative parking in nearby residential areas. To mitigate this possible effect, strict enforcement of parking regulations in surrounding residential areas is essential to deter unauthorized parking. Additionally, public education and awareness outreach, along with engagement with local residents, are key strategies to discourage parking in areas not designated for parking.

The new parking reservation system may also increase demand for shuttle services or third-party drop-offs to the trailhead. Entrepreneurs may capitalize on this potential business opportunity. However, such services at the trailhead would be considered a commercial activity and are regulated by DLNR DOFAW. Strict enforcement of regulations prohibiting commercial shuttle services is necessary.

Dispersed visitors could also place additional demand on other wahi pana, open spaces, or natural areas, potentially overburdening those areas and causing environmental degradation or overcrowding if not properly managed. To mitigate these impacts, it is essential to closely monitor these sensitive areas in collaboration with the local community, ensuring proper stewardship and management.

Local businesses in Hāwī and Kapaʻau, as well as food stands along the route to the trailhead may experience changes in visitor patterns due to the new parking reservation system for non-resident visitors at the trailhead. While the system may limit the number of visitors at any given time, the impact on the local businesses is not expected to be negative. In fact, visitors may spend more time supporting these businesses. Additionally, both Hāwī and Kapaʻau have places of interest that will continue to draw visitors, even with the new parking reservation system in place. This presents an opportunity for businesses to meet the increased demand by enhancing services that align with the area's character and way of life.

In response to these potential secondary impacts, DLNR DOFAW is partnering with the County and working closely with the families of the surrounding villages to strengthen community capacity and leverage the community's expertise to effectively implement the management plan and mitigate any challenges. Community groups, such as Protect Pololū, play a crucial role in overseeing the stewardship of the area and addressing the impacts of visitor use. Their local knowledge and connection to the land are invaluable. Collaborating with these groups allows for coordinated enforcement efforts and the development of community-driven strategies to help implement parking regulations, create educational campaigns, and engage local residents in raising awareness.

### 3.7.2 Cumulative Impacts

Cumulative impacts refer to the effect on the environment resulting from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency or person undertakes the other actions. These impacts can arise from individual minor actions that, when combined, have a collectively significant effect over time.

There are no ongoing or planned projects that collectively may impact the environment or community.



## 4 DESCRIPTION OF ALTERNATIVES

The heritage center scenario presented in the management plan was developed based on consultation with families from the surrounding villages, individuals with intimate knowledge of the area, and residents from the broader community who share a connection to the place. Three alternative scenarios are described below: 1) No Action, 2) Parallel Parking along the Highway and 3) Diagonal Parking along the Highway.

### 4.1 No Action

The No Action alternative would maintain the status quo. This option entails no changes to the current levels of unmanaged visitors and unmet sanitary needs.

Under this alternative, usage would continue to exceed the community acceptable limit and infrastructure at the trailhead. The significant nuisance to neighboring property owners would persist, hazards for drivers and pedestrians accessing the trailhead would remain, and strain on the resources would continue.

Visitors will continue to park along both sides of the highway, which is on private property and not within the road's right-of-way, making such parking illegal. It is important to note that the private landowner can enforce a no-parking policy at any time, potentially eliminating available parking for both residents and visitors. In such a scenario, available parking would be confined to the existing lookout area, leading to increased conflicts between vehicles and pedestrians, and congestion.

Without any land acquisition, DLNR DOFAW would be limited to the roughly 6,300-square foot area that serves as the current lookout, which marks the extent of DLNR's jurisdictional boundaries at the trailhead. This area would not be a suitable location for portable toilets due to the windy conditions, in addition to being an eyesore as one approaches the trailhead. Portable toilets would require a flat, hard surface, with a slope of no more than one percent, and must be accessible to individuals with disabilities and for maintenance.

Under the No Action alternative, Pololū Trail will continue to deteriorate, leading to increased erosion and a decline in safety for hikers. The trail, especially near the trailhead where it becomes slippery when wet, will become more difficult to navigate, potentially increase the risk of accidents.

### 4.2 Parallel Parking along the Highway

This alternative proposes providing parallel parking available on both sides of the highway for visitors. Although visitors currently parallel park along the highway, it is being done without the landowners' permission. Further engineering analysis would need to be conducted to ensure that parking improvements meet safety standards. Significant improvements may be required because of the topography of the proposed parallel parking areas and pedestrian pathway.

The implementation of this scenario would require DLNR DOFAW to acquire two parcels or work with the respective landowner to subdivide the two parcels and acquire the required land area. Some community members expressed safety concerns with parallel parking and preferred the off-street parking provided with the Heritage Center preferred scenario. The parallel parking scenario

would also still require visitors to walk in the highway right-of-way to get to the trailhead, continuing to present potential conflicts between pedestrians and vehicles turning around at the lookout.

### 4.3 Diagonal Parking along the Highway

This alternative is designed to provide parking in areas that are currently utilized for parking, incorporating additional safety elements compared to the parallel parking alternative. It features reverse diagonal parking, providing a safer and potentially less challenging option for some drivers than parallel parking, while also being more space efficient. Additionally, reverse diagonal parking may offer better visibility for drivers when entering and exiting the parking space, as they can see oncoming traffic more easily, further enhancing safety.

The featured reverse diagonal parking, while safer, would be new to most drivers. Similar to the alternative presented in Section 4.2, implementation of this scenario would require acquisition of two parcels. Significant improvements would be needed to meet safety standards and to provide for the appropriate turnaround area. Community members preferred the off-street parking with the Heritage Center on the 42-acre parcel over this solution due to the number of significant improvements that would be required to implement this scenario and the lack of opportunities to promote cultural awareness and to protect and preserve open space resources.

## 5 REQUIRED PERMITS AND APPROVALS

Table 4 lists the permits and approvals required for this project, along with the corresponding approving agencies.

*Table 4. Required Permits and Approvals*

Type of Permit/Approval	Approving Agency
Chapter 343, Hawai'i Revised Statutes Compliance	Department of Land and Natural Resources
Conservation District Use Permit	Office of Conservation and Coastal Lands
Chapter 6E-8, Hawai'i Revised Statutes Historic Preservation Compliance	State Historic Preservation Division
Grading and Grubbing Permit	County of Hawai'i Department of Public Works
Hawai'i Disability and Communication Access Board Plan Review and Approval	Department of Health Disability and Communication Access Board
Special Management Area Use Permit	County of Hawai'i Planning Department

## 6 RELATIONSHIP TO PLANS, POLICIES, AND LAND USE

### 6.1 State of Hawai'i

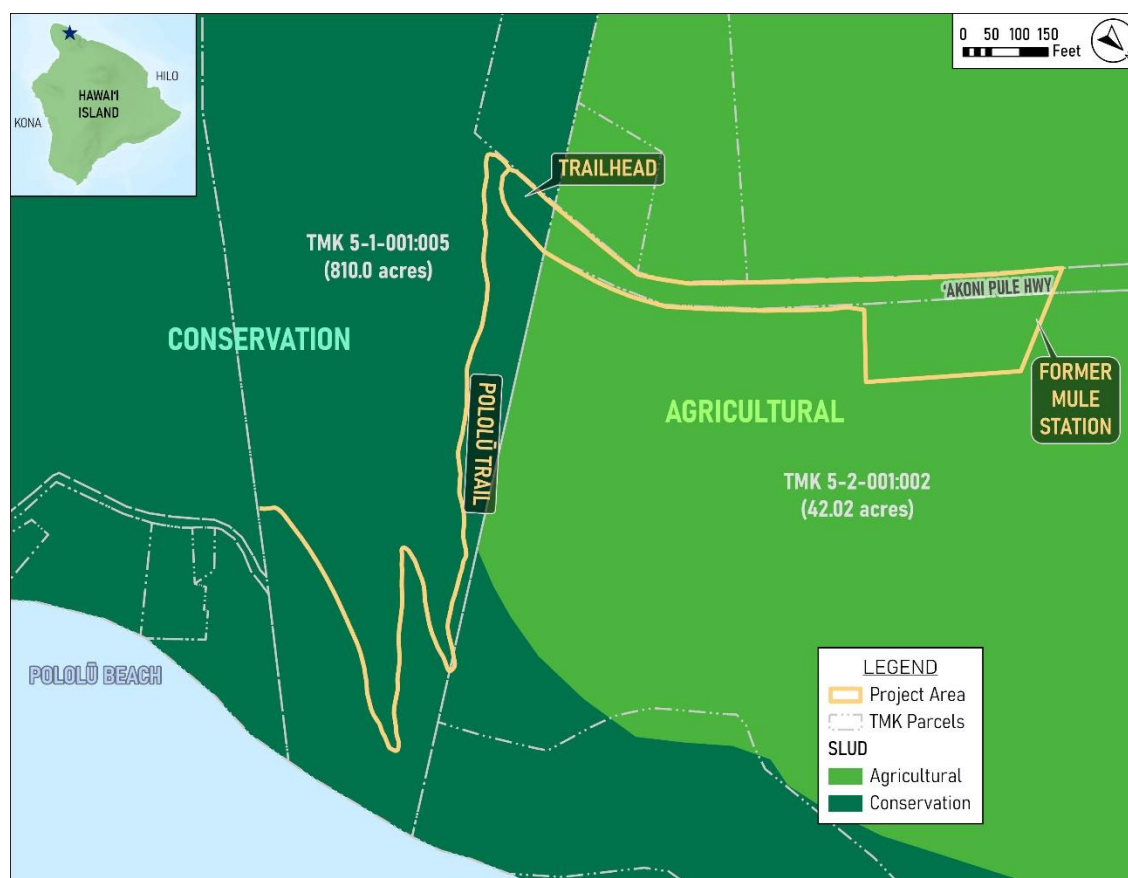
#### 6.1.1 State Land Use Law

The State Land Use Law, (Chapter 205, HRS), establishes the State Land Use Commission and authorizes this body to designate all lands in the State into one of four districts: Urban, Rural, Agricultural, or Conservation. The project area consists of land designated as Agricultural and Conservation. DLNR has administrative responsibility over the Conservation District.

The proposed heritage center and parking are situated on lands designated as Agricultural, while Pololū Valley, including the trailhead, is designated as Conservation District. Both the hiking trail and trailhead are located in the **limited** subzone. The purpose of this subzone is “to limit uses where natural conditions suggest constraints on human activities” (HRS §13-5-12). Any improvements to the trailhead within the Conservation District will require submittal of a Conservation District Use Permit to the DLNR Office of Conservation and Coastal Lands.

The Pololū Trailhead Management Plan proposed uses are consistent with the allowed uses in the State Agricultural District and the Conservation District’s Limited subzone.

Figure 9. State Land Use Districts



## 6.1.2 Coastal Zone Management

In 1977, Hawai'i enacted HRS Chapter 205A, Hawai'i Coastal Zone Management (CZM) Program, to carry out the state's CZM policies and regulations. The objectives and policies from HRS §205A-2, along with a discussion of how the project conforms to these objectives and policies, are provided below.

### 1) RECREATIONAL RESOURCES

**Objective:** *Provide coastal recreational opportunities accessible to the public.*

**Policies:**

- (A) Improve coordination and funding of coastal recreational planning and management; and*
- (B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
  - (i) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
  - (ii) Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;*
  - (iii) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;*
  - (iv) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation*
  - (v) Ensuring public recreational uses of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
  - (vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect, and where feasible, restore the recreational value of coastal waters;*
  - (vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and*
  - (viii) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, and county authorities; and crediting such dedication against the requirements of section 46-6.*

**Discussion:** The Pololū Trail is managed by the State DLNR DOFAW Nā Ala Hele Trail and Access Program. This trail provides access for the families of Pololū and the surrounding ahupua'a, including lineal descendants, generational 'ohana, and long-time residents, allowing them to engage in their cultural lifestyle and practices. However, the roughly half-mile-long trail is also a popular hiking destination, as it leads to a pristine black sand beach. Although swimming may not be suitable at Pololū due to strong currents and waves, many visitors still enjoy the breathtaking



vistas on the trail and from the valley floor. The project may shift demands on existing coastal recreational resources from Pololū to other areas, but will not restrict access to or adversely affect the existing coastal recreational resources or their uses by the public.

## **2) HISTORIC RESOURCES**

**Objective:** *Protect, preserve, and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture*

**Policies:**

*(A) Identify and analyze significant archaeological resources.*

*(B) Maximize information retention through preservation of remains and artifacts or salvage operations; and*

*(C) Support state goals for protection, restoration, interpretation, and display of historic resources.*

**Discussion:** The trail is primarily unpaved, featuring historic cobble stones embedded in some sections and retaining walls constructed in the mid-1800s, dating back to when the original footpath was converted into a mule trail. The project aims to restore sections of the trail, in collaboration with lineal descendants, to their mid-1800s condition to prevent further erosion. The continuation of the Pololū Trail Steward Program will raise public awareness about the valley's sensitive cultural and historic sites. DLNR DOFAW will also consult with the SHDP regarding any improvements to the existing mule station structure in recognition of its historical significance.

## **3) SCENIC AND OPEN SPACE RESOURCES**

**Objective:** *Protect, preserve, and, where desirable, restore or improve the quality of coastal scenic and open space resources.*

**Policies:**

*(A) Identify valued scenic resources in the coastal zone management area;*

*(B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*

*(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.*

*(D) Encourage those developments that are not coastal dependent to locate in inland areas.*

**Discussion:** Based on extensive consultations with community members, the project was designed to preserve the rural character of Pololū and Mākanikahio and maintain the area as a wilderness space. Another guiding principle that emerged from the community talk stories is to minimize the development footprint. The proposed site was preferred over other options due to its existing topography, which requires minimal improvements, as well as the scenic open space it offers. Portable toilets will be strategically placed to avoid obstructing views of the landscape and open space resources. The goal is to maintain and enhance vistas of the dramatic coastline and lush green cliffs while providing a safe area to enjoy these coastal scenic resources.

#### 4) COASTAL ECOSYSTEMS

**Objective:** *Protect valuable coastal ecosystems, including reefs, from disruption and minimize adverse impacts on all coastal ecosystems.*

**Policies:**

- (A) Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources;*
- (B) Improve the technical basis for natural resource management;*
- (C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;*
- (D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and*
- (E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.*

**Discussion:** The project proposes a managed parking reservation system aimed at reducing the average daily number of visitors. In 2023, the trailhead averaged 597 visitors per day, with peaks over 1,000 in a single day, including both non-resident visitors and Hawai'i residents. By requiring non-resident visitors to use the managed parking reservation system, a decrease in daily visitor numbers is anticipated. As a result, the human recreational impacts on the coastal ecosystem would lessen. The proposed parking area is located upland and not directly adjacent to the coast. The potential for sediment or pollutants to reach the ocean is expected to be minimal, with no anticipated effects on coastal ecosystems as mitigation measures and best management practices will be implemented during construction.

#### 5) ECONOMIC USES

**Objective:** *Provide public or private facilities and improvements important to the State's economy in suitable locations.*

**Policies:**

- (A) Concentrate coastal dependent development in appropriate areas;*
- (B) Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor industry facilities and energy generating facilities, are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and*
- (C) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such developments and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
  - (i) Use of presently designated locations is not feasible;*
  - (ii) Adverse environmental effects are minimized; and*
  - (iii) The development is important to the State's economy.**

**Discussion:** This project aims to address issues related to overcrowding and degradation of cultural and natural resources. See discussion provided for the CZM objectives above.

## **6) COASTAL HAZARDS**

**Objective:** *Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, subsidence, and pollution.*

**Policies:**

- (A) Develop and communicate adequate information about storm wave, tsunami, flood, erosion, subsidence, and point and nonpoint source pollution hazards;*
- (B) Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards;*
- (C) Ensure that developments comply with requirements of the Federal Flood Insurance Program;*
- (D) Prevent coastal flooding from inland projects.*

**Discussion:** The project will continue the Pololū Trail Steward Program as a management approach. The purpose of this program is to assist with interpreting the historic significance of the area and provide safety education to mitigate unwanted behaviors. Alongside educating visitors about the historical and cultural context, trail stewards inform hikers about safety hazards, such as strong currents and waves. The project also proposes a heritage center where information about past tsunamis that have affected Pololū could be shared as part of the educational outreach efforts.

The majority of the project area is within FEMA Flood Zone X, outside of the flood hazard area. The existing trailhead and trail is in FEMA Flood Zone D, possible but undetermined flood hazards.

## **7) MANAGING DEVELOPMENT**

**Objective:** *Improve the development review process, communication, and public participation in the management of coastal resources and hazards.*

**Policies:**

- (A) Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development;*
- (B) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and*
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

**Discussion:** The project will require several permits and regulatory approvals, including compliance with the Chapter 343 Environmental Review. The management plan was developed through extensive outreach, including one-on-one and small group talk stories, and site visits with lineal descendants, generational 'ohana, and long-time residents, from Pololū and the surrounding ahupua'a. These discussions were conducted with individuals with intimate knowledge of the area or who share a connection to the place. Two general community meetings were also held for the management plan. The EA process will provide an additional opportunity for the public to review and comment on the project.

## 8) PUBLIC PARTICIPATION

**Objective:** *Stimulate public awareness, education, and participation in coastal management.*

**Policies:**

- (A) *Promote public involvement in coastal zone management processes;*
- (B) *Disseminate information on coastal management issues by means of educational materials, published reports, staff contact, and public workshops for persons and organizations concerned with coastal related issues, developments, and government activities;*
- (C) *Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.*

**Discussion:** See discussion above for Objective 7, Managing Development.

## 9) BEACH PROTECTION

**Objective:** *Protect beaches for public use and recreation.*

**Policies:**

- (A) *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*
- (B) *Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities;*
- (C) *Minimize the construction of public erosion-protection structures seaward of the shoreline;*
- (D) *Prohibit private property owners from creating a public nuisance by inducing or cultivating the private property owner's vegetation in a beach transit corridor; and*
- (E) *Prohibit private property owners from creating a public nuisance by allowing the private property owner's unmaintained vegetation to interfere or encroach upon a beach transit corridor.*

**Discussion:** See discussion above for Objective 4, Coastal Ecosystems.

## 10) MARINE RESOURCES

**Objective:** *Promote the protection, use, and development of marine and coastal resources to assure their sustainability.*

**Policies:**

- (A) *Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*
- (B) *Coordinate the management of marine and coastal resources and activities to improve effectiveness and efficiency;*
- (C) *Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone;*

- (D) *Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and*
- (E) *Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.*

**Discussion:** See discussion above for Objective 4, Coastal Ecosystems.

### 6.1.3 Hawai'i State Plan

The Hawai'i State Plan, codified as HRS Chapter 226, provides goals, objectives, policies, and priorities for the State. It also provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. It establishes a set of themes, goals, objectives, and policies that are meant to guide the State's long-rang growth and development activities. Applicable sections of HRS Chapter 226 to the proposed project are discussed below.

#### **Section 226-8: Economy – Visitor Industry**

##### *Policies:*

- (2) Ensure that visitor industry activities are in keeping with the social, economic, and physical needs and aspirations of Hawai'i's people.
- (8) Foster an understanding by visitors of the aloha spirit and of the unique and sensitive character of Hawai'i's cultures and values.

#### **Section 226-11: Physical Environment – Land-based, Shoreline, and Marine Resources**

##### *Objective:*

- (2) Effective protection of Hawai'i's unique and fragile environmental resources.

##### *Policies:*

- (3) Take into account the physical attributes of areas when planning and designing activities and facilities.
- (4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.



## **Section 226-12: Physical Environment - Scenic, Natural Beauty, and Historic Resources**

### *Objective:*

- (1) Enhancement of Hawai'i's scenic assets, natural beauty, and multi-cultural/historical resources.

### *Policies:*

- (1) Promote the preservation and restoration of significant natural and historic resources.
- (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
- (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.
- (5) Encourage the design of developments and activities that complement the natural beauty of the islands.

## **Section 226-13: Environment - Land, Air, and Water Quality**

### *Objective:*

- (2) Greater public awareness and appreciation of Hawai'i's environmental resources.

### *Policies:*

- (1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.
- (2) Promote the proper management of Hawai'i's land and water resources.

## **Section 226-23: Socio-Cultural Advancement - Leisure**

### *Objective:*

Adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

### *Policy:*

- (4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.

## **Section 226-25 Socio-Cultural Advancement - Culture**

### *Objective:*

Enhancement of cultural identities, traditional, values, customs, and arts of Hawai'i's people.

### *Policies:*

- (1) Foster increased knowledge and understanding of Hawai'i's ethnic and cultural heritages and the history of Hawai'i.
- (2) Support activities and conditions that promote cultural values, customs, and arts that enrich the lifestyles of Hawai'i's people and which are sensitive and responsive to family and community needs.
- (3) Encourage increased awareness of the effects of proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai'i.
- (4) Encourage the essence of the aloha spirit in people's daily activities to promote harmonious relationships among Hawai'i's people and visitors.

## **Section 226-27 Socio-Cultural Advancement - Government**

### *Policy:*

- (5) Assure that government attitudes, actions, and services are sensitive to community needs and concerns.

### **Discussion:**

The proposed project aligns with several policies and objectives in the Hawai'i State Plan. Pololū Valley was recognized as a "hotspot" in the Hawai'i Island Destination Management Action Plan (2021) by the Hawai'i Tourism Authority. A "hotspot" is an area that attracts visitors due to its popularity, but may result in overcrowding, congestion, degradation of resources, safety hazards, and a negative experience for both residents and visitors. The proposed project emphasizes fostering an understanding of the unique cultural values of the area and ensuring that visitor activities respect the Kohala lifestyle. Through educational outreach via the trail steward program and the heritage center, it aims to promote awareness of the local culture, natural beauty, and resources.

The project also focuses on protecting Hawai'i's fragile ecosystems by minimizing environmental impact while complementing the surrounding natural landscape and cultural heritage. The plan addresses the preservation of the scenic viewsheds, cultural resources, and historic sites, ensuring that proposed portable toilets and uses do not detract from vistas and cultural spaces integral to this community.

Additionally, the project aligns with the objective of enhancing cultural identities and supporting cultural practices. Pololū Valley serves as a functional space for local residents, providing a resource for subsistence and for grounding themselves through cultural protocols. It offers a place for spiritual reflection and an opportunity to reconnect with nature. The project promotes

awareness of Hawai‘i’s ethnic and cultural heritage, ensuring that activities respect local traditions and community needs by providing dedicated space for cultural access, parking for residents, and a managed parking reservation system for non-resident visitors.

Moreover, the proposed project, developed over a two-year period in close collaboration with lineal descendants, generational ‘ohana, and long-time residents of Pololū and the surrounding ahupua‘a, demonstrates government action that is responsive to community concerns and needs.

#### 6.1.4 Nā Ala Hele Program Plan

The Nā Ala Hele Program Plan, completed in 1991, serves as the guiding framework for the management and development of both new and existing trails within the Hawai‘i Statewide Trail and Access System. The Program Plan guides the Nā Ala Hele Program on developing a trail and access network and management system that meets the diverse recreational, cultural, religious, and subsistence needs of Hawai‘i’s residents, while also conserving the state’s cultural heritage and natural environment.

Trails within the Nā Ala Hele system are categorized into two types: inventory trails, which are under the DOFAW’s jurisdiction, and program trails, which are subject to more specific administrative requirements. Program trails are further classified as Urban, Rural, Wildland, Sensitive, or other similar classification based on the function of the trail; the type of trail; the actual or desired use intensity; the desired condition of the environmental or historical setting; the recreational setting; the quality and nature of the expected experience; the degree of physical modification to the environment; the accessibility of the trail; the mode of transportation for which the trail is intended; and the type of ancillary and complementary facilities (HAR §13-130-19). This classification system helps planners manage trail design, use intensity, and maintenance needs while balancing environmental protection with public accessibility. Under this classification system, Pololū Trail is designated as a “**sensitive**” trail.

The guidelines for trails designated as “sensitive” are described as follows:

**Description:** Trails or access which are sensitive to human disturbance due to natural or archaeological features.

**Intent:** To provide public access to important cultural and educational resources. While incorporation into Nā Ala Hele means a commitment to some form of public access, the primary concern in management of these areas and of the trails/accesses in them should be protection of sensitive resources, including native flora and fauna, historic trails, and other archaeological features.

**Accessibility:** Due to their educational potential, attempts should be made to provide access for all ages and abilities to at least some trails and accesses classified as sensitive. Access may need to be controlled via permits, number limitations, or restrictions limiting use to daylight hours only, and special provisions may need to be made for activities such as sport and subsistence hunting.

**Facilities:** These trails will not feature extensive recreational amenities and will generally incorporate only those facilities which are necessary to protect the resource (i.e., restrooms, boardwalks, signs, etc.).

The proposed project aligns with the guidelines for trails designated as “sensitive” by prioritizing the protection of Pololū’s natural and cultural resources while providing managed public access. The primary goal of the project is to preserve sensitive resources and prevent them from being disturbed by increased visitor use. The project includes educational outreach and avoids the development of recreational amenities. Instead, only essential features, such as signage and portable toilets, are proposed to protect the resources.

### 6.1.5 State Forest Reserve System & Public Hunting Area

The Pololū Trail provides access to the Kohala Forest Reserve, which includes the mauka sections of Pololū Valley. It is also designated as a public hunting area under the jurisdiction of DLNR DOFAW. Each hunting area is assigned a unit, which outlines the specific rules and regulations for that area. The Kohala Forest Reserve is in Unit B for both mammal and bird hunting. Unit B allows for bird hunting of these species: ring-neck pheasant, green pheasant, Nepal kalij pheasant, California valley quail, Japanese quail, gambels’ quail, chukar partridge, gray francolin, black francolin, erckel’s francolin, chestnut bellied sandgrouse, mourning dove, spotted dove, barred dove, and wild turkey. Information on daily bag limits, open hunting periods, open hunting day, and special bird seasons can be found in HRS §13-122 Exhibit 1.

Game mammal hunting is open daily and throughout the entire year. In the Pololū Section of the Kohala Forest Reserve, each hunter is permitted to take two wild pigs, one wild sheep, and one wild goat per day, of either sex. Permitted hunting methods include rifle, muzzleloader, shotgun, handgun, bows and arrows, spears and knives, and dogs.

The proposed project will not affect access to the Kohala Forest Reserve. The existing lookout within TMK 5-1-001:005 will be re-designated for cultural/special access. This access is specifically intended for individuals practicing cultural activities aimed at preserving traditional knowledge, protecting the environment, and strengthening cultural and spiritual connections to the windward valleys from Pololū to ‘Āwini, with demonstrable benefits to the Native Hawaiian community.

## 6.2 County of Hawai‘i

### 6.2.1 County of Hawai‘i General Plan

The County of Hawai‘i’s General Plan guides future long-range development based upon the vision, values, and priorities of the people of Hawai‘i County. The current General Plan was adopted in 2005 and has been undergoing revisions since 2015. In September 2023, the Planning Department issued the first draft General Plan 2045. A Final Recommended Draft Plan was released in July 2024.

The Land Use Pattern Allocation Guide (LUPAG) designates the Project as “Natural” and “Conservation.” Applicable goals, objectives, policies, and actions from the Final Recommended Draft General Plan 2045 relevant to the project are provided below.

#### **2.2 Collaborative Biocultural Stewardship**

*Goal: Natural and cultural resources are thriving and sustainably managed, preserved, and restored to maintain our unique and diverse environment.*

*Objective 1: Increase the biodiversity and resilience of native habitats.*

##### *Policies*

*1.1 Minimize and mitigate significant impacts, such as degradation, incompatible uses, or other threats, to Native Hawaiian habitats and public trust resources.*

*1.4 Maintain the shoreline for recreational, cultural, educational, and/or scientific uses in a manner that is protective and respectful of resources and is of the maximum benefit to the general public.*

*1.14 Partner with government, private and nonprofit agencies, communities, and other stakeholders to:*

*b) Better understand and model carrying capacities of the island’s habitats and resources*

*Objective 3: Increase direct community restoration and collaborative efforts to conserve and nourish the island’s biocultural resources.*

##### *Policies*

*3.1 Encourage an overall conservation ethic in the use of Hawai‘i’s resources by protecting, preserving, and conserving critical and significant natural resources.*

*3.2 Foster educational activities that promote the importance and value of Hawai‘i’s unique and limited environmental resources.*

*3.4 Promote and protect traditional exercised rights and customs of Native Hawaiians.*



*3.6 Require the management of natural resources in a manner that fully minimizes adverse effects on the environment and depletion of energy and natural resources.*

*3.8 Increase community-based stewardship that focuses on management responsibilities and promote community education and shared learning.*

*3.9 Improve community planning capacity-building efforts toward coordination, leadership, effective action, connectivity, and impact.*

*3.11 Partner with government, private and nonprofit agencies, communities, and other stakeholders to:*

*a) Protect special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.*

*b) Identify and protect wahi pana.*

*c) Promote the preservation and restoration of significant natural and historic resources.*

*d) Aid in programmatic education concerning historic sites.*

*e) Maintain the shoreline area for recreational, cultural, educational, and/or scientific uses in a manner that is protective of resources and is of the maximum benefit to the public.*

*f) Encourage the documentation and preservation of traditional ecological knowledge, identifying best management practices for integration.*

*Objective 4: The historical integrity, character, scenic assets, and open spaces of our communities are protected, restored, and treated as unique assets with significant social and economic value and managed in perpetuity.*

#### *Policies*

*4.2 Increase public access opportunities to scenic places and vistas.*

#### *Actions*

*4.a Seek private-public partnerships to maintain and steward the preservation of sites, buildings, objects, and landscapes of significant cultural and historical importance.*

*4.n Support the development of a multi-sector public education program regarding historic and cultural sites that target key partners such as the visitor industry, real estate agents, site developers, consultants, schools, youth groups, and civic organizations.*

*Objective 5: Protect, restore, and enhance our communities' unique scenic character.*

*Policies*

*5.3 Protect the views of areas endowed with natural beauty by carefully considering the effects of proposed construction and compatibility during all land use reviews.*

**4.4.2 Public Facilities and Services**

*Goal: Our communities are safe and protected, and have access to integrative health, education, and social services to support a high quality of life for all residents. Our communities are adequately served by sustainable and efficient public infrastructure, utilities, and services based on existing and future growth needs, sound design principles, and effective maintenance practices.*

*Objective 31: Adequately maintain public facilities.*

*Policies*

*31.2 Maintain the unique features of historic structures, while balancing maintenance and safety needs.*

*31.5 The development of County facilities should be designed to fit into the locale with minimal intrusion while providing the desired services. Implement protocols for receiving community input during capital improvement project siting and design.*

*Objective 32: Protect the health and well-being of residents and visitors.*

*32.18 Encourage the further development and expansion of community policing programs, school resource officers, and neighborhood/farm watch programs.*

**5.4.1 Visitor Industry**

*Goal: A high quality of life for residents is maintained when a regenerative visitor industry balances the preservation of natural and cultural resources with responsible visitation.*

*Objective 48: Support the visitor industry investment in its connection with communities, the 'āina, and our historic and multicultural heritage.*

*Policies*

*48.6 Support the coordination, collaboration, and improvement of public access to natural and cultural resources with State agencies and landowners while balancing the need for protection of these areas.*

*48.7 Support partnerships to evaluate visitor industry impacts, develop mitigation strategies, and incorporate educational programs on Native Hawaiian and community-based pono practices.*

*Objective 49: Increase authentic Hawai‘i Island visitor experiences.*

*Policies*

*49.5 Strategically guide regenerative tourism efforts that promote a high quality of life for residents.*

*49.8 Support and facilitate dialogue among community groups, visitor and tour operators, and industry leaders to ensure ‘āina- and place-based values are respected and maintained.*

*Actions*

*49.c Maintain monitoring of resident sentiment towards the visitor industry.*

**Discussion:**

The proposed project prioritizes the protection of Pololū Valley and its environment. By implementing a managed parking reservation system, the trail steward program, and trail restoration efforts, the project aims to protect the fragile ecosystem from degradation and overuse. It also ensures that the needs of the local community are met, allowing traditions and practices to be passed down to future generations. Recognizing that residents have deep connections to the land and rely on Pololū for subsistence and cultural practices, the project is designed to respect and honor these ties.

Public facilities will be provided in a way that preserves the rural character of Pololū, maintaining its wilderness essence. No significant improvements are planned that would increase human activity within the valley, thus avoiding negative impacts on the environment, resources, and nearby villages. The project aims to minimize its development footprint.

Educational outreach provided through the proposed heritage center and the trail steward program will promote a deeper understanding of the area’s cultural and natural significance, ensuring that visitors engage with the land in a respectful way. The project emphasizes enhancing both visitors’ and residents’ understanding of Pololū’s cultural and historical importance.

The development of the management plan involved extensive collaboration with lineal descendants, generational ‘ohana, and long-time residents, integrating their local knowledge and expertise into the management strategies. The project also recognizes the need to balance responsible visitation with the preservation of natural and cultural resources, enabling residents to maintain their Kohala lifestyle.

## 6.2.2 North Kohala Community Development Plan

The North Kohala Community Development Plan (CDP), finalized and enacted as a County Ordinance in 2008, was created to express the visions, values, and priority issues of the North Kohala community. It translates and implements the broad goals of the County's General Plan on a regional basis. The CDP was developed through an extensive public participation process from 2006 to 2008, which included over 1,000 participants through steering committees, focus groups, and general community meetings.

### **NORTH KOHALA'S VISION**

*We are a community that respects, preserves and honors our history, our land, and our diverse culture. We value access to our shores, our forests, and our streams.*

*We have a broad range of programs for our youth that includes work on the land. We have good social services, recreation, health, and education.*

*We are friendly and hard working people, which enables us to continue to build our small businesses and create jobs as part of our sustainable economic development.*

*We have a strong community voice in the development of affordable housing, the use of our land, and the development of alternative energy sources.*

*'Ohana and the Spirit of Aloha are the foundations of our community.*

### **The Overall Goal of the North Kohala CDP is:**

“To manage the future growth of the district in a manner that is consistent with the Kohala lifestyle and ideals of being a rural community with a strong cultural heritage, an agricultural base, and a small town feel.”

The North Kohala CDP identifies four priority issues: Growth Management, Access, Affordable Housing, and Infrastructure and Community Facilities.

The following section describes how this project will address growth management and access goals and strategies identified in the North Kohala CDP.

The general goal for Growth Management is to “direct North Kohala’s growth to areas within and near existing town centers in order to preserve the district’s open space and cultural resources; and to promote agriculture.” Strategy 1.2 under Growth Management is to “acquire coastal lands that should be preserved as open space.”

The general goal for Access is “to provide for community access to mauka and makai resources.” Four priority public accesses are identified under Strategy 2.1, including from “Pololū to Kapanai’a.” It states as an action item to: “Encourage the County to pursue shoreline lateral trail access from the Pololū lookout to Kēōkea Park and from Kēōkea to Kapanai’a by working with Kamehameha Schools and other private land owners.”

Strategy 2.6 is to “Develop and implement a long-range plan for achieving adequate public access to both coastal areas and to the mountains...” The North Kohala CDP describes several trails and accesses identified by the community that they want to see established. Most are either traditional, have been in existence for many years, or are newly created through easements as a requirement

for permits or subdivisions. However, some of the trails identified by the community are not necessarily access ways that have been negotiated by the County Planning Department in their permit requirements. The following access ways were identified in the vicinity of the trailhead:

- *Coastline trail and drivable mauka-makai access – A trail that starts at the beach in Pololū Valley and follows the coastline of the district to Kawaihae. The trail would be for pedestrian access use except for the already existing vehicular lateral roads.*
  - *Pololū lookout – an existing paved state highway to a paved parking area. This links the trail to and from the bottom of Pololū Valley to the coastline trail along the cliff tops towards ‘Āko‘ako‘a Point.*
- *Mountain trail and driveable mauka-makai access – The North Kohala Access Focus group recommends a road (Wylie Blvd) that traverses the northern upper slopes of the district just below the forest reserve from Pololū Valley to the Kohala Mountain Road at the old Pu‘u o Kumau Reservoir and beyond be reestablished for public use. This road was a well-used field road for the sugar plantation, was unrestricted and widely used to access hunting, gathering and recreation areas prior to the 1980s.*

The following **Key Policies for North Kohala** are applicable to Pololū:

1. **Cultural and Historical Preservation Community** – All future land use decisions for North Kohala shall be in keeping with the heritage and cultural significance of Kohala.
2. **Rural Character** – Recognize North Kohala as a Rural Community that should not experience significant urban/suburban development that impacts population growth.
5. **Special Management Area (SMA) Rules** – Consideration of the cultural and environmental sensitivity of North Kohala shall be given to all proposed projects in the SMA areas.

The project aims to protect the valley’s resources and is consistent with the North Kohala CDP, as well as the community’s longstanding commitment to protecting and preserving open space resources and the broader sentiment to “Keep Kohala, Kohala.” It is aligned with past community efforts to protect and preserve the natural, undeveloped character of the area.



### 6.2.3 County of Hawai‘i Zoning

The Hawai‘i County Code Chapter 25, outlines permitted land uses on the island of Hawai‘i. The steep walls of Pololū Valley, including the trailhead, are designated as Forest Reserve. The valley floor and the area proposed for the Heritage Center and parking are designated as Agricultural (A-20a).

For A-20a zoning, the minimum building site is 20 acres. Permitted activities in this zone include, but are not limited to, agricultural parks, agricultural tourism, aquaculture, botanical gardens, nurseries, campgrounds, cemeteries, game and fish propagation, and vehicle and equipment storage.

To implement the proposed project, the State DLNR DOFAW will need to acquire about an acre of TMK 5-2-001:002. While the parcel is zoned as A-20a zoning, thus requiring a minimum building site of 20 acres, the Hawai‘i County Code allows for the subdivision of a parcel for “public use” even if it is below the minimum zoning lot size (Section 25-4-11). Therefore, subdividing one acre for the required area would be permitted and would not affect the zoning of the remaining parcel.

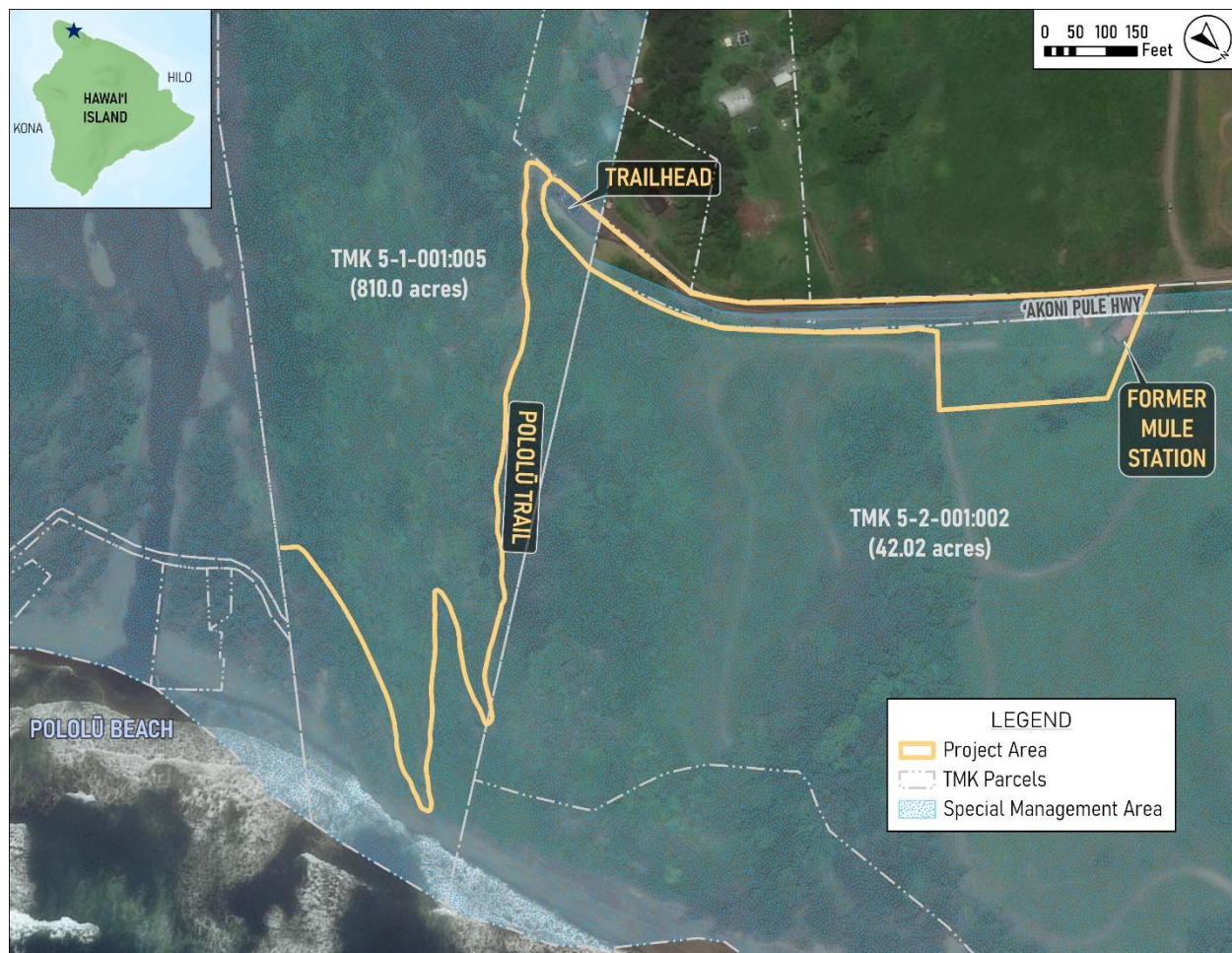
Figure 10. County Zoning



## 6.2.4 Special Management Area

The Project, including lands makai of ‘Akoni Pule Highway and at the Trailhead, is within the Special Management Area (SMA). The purpose of the SMA is to “preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawai‘i” (HRS §205A). Any action defined as “development,” pursuant to HRS §205A-22, requires an SMA (minor or major) Use Permit which is administered by the County Planning Department. An SMA determination will be required to confirm whether or not the proposed project is considered “development,” thus requiring an SMA permit.

Figure 11. Special Management Area



## 7 KA PA‘AKAI ANALYSIS

Article XII, Section 7 of the Hawai‘i State Constitution mandates that the state protect the rights customarily and traditionally exercised by Native Hawaiians for subsistence, cultural, and religious purposes. This constitutional provision is further supported by Act 50 (2000), which requires environmental assessments to identify and address the potential effects on Hawai‘i’s cultural resources and traditional and customary rights.

To implement these protections, the Ka Pa‘akai analysis was established by the Hawai‘i Supreme Court in 2000 through the case *Ka Pa‘akai O Ka ‘Āina v. Land Use Commission*. This legal framework is used by government agencies to evaluate the impact of a proposed land use or development project on Native Hawaiian traditional and customary rights. The analysis is required whenever a project may affect Native Hawaiian cultural practices, ensuring that these rights are considered in state decisions.

The Ka Pa‘akai analysis requires agencies to make specific findings and conclusions on:

1. The identity and scope of valued cultural, historical, or natural resources in the project area, including the extent to which traditional and customary Native Hawaiian rights are exercised in the project area.
2. The extent to which those resources—including traditional and customary Native Hawaiian rights—will be affected or impaired by the proposed action.
3. The feasible action, if any, to be taken to reasonably protect Native Hawaiian rights if they are found to exist.

To conduct this analysis, the planning team began by researching the history of Pololū to gain a deeper understanding of how the land was utilized and the activities that took place there during both pre- and post-contact periods. The research drew on a variety of resources, including books on [ulukau.org](http://ulukau.org), Hawaiian language newspapers, recordings on Kani‘āina, scholarly articles, and archaeological reports. Through this approach, the planning team was able to develop a timeline of Pololū’s history, from its initial settlement and development for farming by Native Hawaiians to its transition into what we see today. Next, lineal and cultural descendants of Pololū were identified and engaged in talk stories. These talk story sessions, as well as regular follow-ups as the management plan was developed, allowed the planning team to identify traditional and customary practices still being carried out in the project area, understand the issues impacting these practices, and collaboratively explore potential solutions to address these challenges. The analysis that follows is divided into three sections that detail these findings.

### *Part 1: Cultural, Historical, and Natural Resources & Traditional and Customary Practices*

Pololū is a place of significant cultural, historical, and natural importance. For generations, it has served as a resource for Native Hawaiians, supporting a variety of traditional and customary (T&C) practices that continue to this day.

The valley is home to 31 historic properties listed in the State Inventory of Historic Places (SIHP). These properties primarily include agricultural features, such as terraces and enclosures, as well as

habitation complexes. They are identified as SIHP #s -04800, -04801, -04802, -04835, -04836, -04838, -04841, -04842, -04843, -04844, -04845, -04847, -04862, -04863, -04864, -04865, -04866, -04870, -04893, -04895, -04916, -04919, -04967, -04968, -04969, -04970, -04972, -04973, -04977, -04981, and -04982. These historic sites reflect the valley's agricultural prominence, supported by its location in a water-rich, windward area. Due to the torrential Pololū Stream, dryland cultivation was preferred, with over 70 acres of the valley dedicated to dryland terraces, while wetland cultivation covered just 15 acres. Unfortunately, many of these terraces were destroyed by the 1946 tsunami.

Although no one resides in Pololū today, the valley remains a vital part of the Kohala community. Many local residents are lineal descendants of Pololū and continue to access the valley to gather resources and engage in cultural practices. Below is a summary of some T&C practices that remain active in Pololū. This list is by no means exhaustive; additional practices likely exist. The information presented in the table below only represents what was shared with the planning team during their outreach.

*Table 5. Traditional & Customary Practices*

<b>T&amp;C Practice</b>	<b>Resource</b>	<b>Location</b>
Fishing	Freshwater fish ('opae, 'o'opu)	Stream
	Brackish fish (aholehole, 'ama'ama)	Muliwai
	Nearshore (akule, moi, 'ō'io, he'e pali)	Nearshore
	Pelagic (ulua)	Offshore
	Deep water ('ula'ula koa'e)	Offshore
Hunting	Wild pig	Forested areas of the valley
Gathering	Lauhala	Forested areas of the valley
	Various plants for lei and lā'au lapa'au	Forested areas of the valley
	Pōhaku	Beach
Cultural ceremonies (oli, worshipping)	Living cultural landscape	Trailhead Entire valley
Way of life	Spring water	Throughout the entire valley
	Pololū Trail (access into the valley)	Trail

## *Part 2: Extent to Which Traditional and Customary Practices Will Be Affected*

The Pololū Trailhead Management Plan is designed to reduce the current negative impacts on T&C practices and improve access for cultural practitioners. By addressing overcrowding, restoring the trail, and enhancing education efforts, the plan aims to support and protect these practices for future generations.

One of the most significant improvements will be the implementation of a managed parking reservation system, which will alleviate congestion at the trailhead. By limiting the number of visitors at any given time and providing free parking for Hawai'i residents, this system will ensure that cultural practitioners have reliable access to the valley without the difficulties caused by excessive visitor traffic.

Hunting, a traditional practice for both subsistence and cultural purposes, will also benefit from these management efforts. With fewer visitors on the trail at any given time, hunters will have greater freedom to access the valley without concerns about crowding or public safety.

Additionally, the creation of a dedicated cultural space at the existing lookout will provide a more private and respectful setting for ceremonies, hula, and other traditional practices. This designated area will help prevent intrusive behavior from visitors, allowing practitioners to engage in their customs without disruption or unwanted attention. Daily use of the cultural space will be at the discretion of the trail stewards and DLNR DOFAW. Residents seeking use of the cultural/special access area will need to check-in with the trail stewards upon arrival. Larger groups visiting Pololū for educational or cultural purposes will need to coordinate with DLNR DOFAW staff ahead of time.

### *Part 3: Action Taken to Protect Traditional and Customary Practices*

In addition to the strategies mentioned in Part 2, above, the Pololū Trailhead Management Plan includes additional measures to protect traditional and customary Native Hawaiian practices. Education and outreach efforts are a key component of the plan. The trail steward program will continue to educate visitors on the cultural and environmental significance of Pololū, emphasizing appropriate behavior when visiting. The proposed Heritage Center will further support this effort by showcasing interpretive materials that highlight the area's history and cultural importance, fostering greater appreciation and respect for Native Hawaiian practices.

To protect and restore the valley's resources, the plan includes measures to repair and restore the historic Pololū Trail to its mid-1800s condition, ensuring sustainable access for all users. Native Hawaiian practitioners and community members will be invited to participate in stewardship initiatives, such as trail maintenance and environmental restoration. These efforts will not only preserve the valley's resources but also perpetuate traditional knowledge and practices.



## 8 FINDINGS & CONCLUSIONS

### 8.1 Significance Criteria

According to the HAR Section 11-200.1-13, an agency must determine whether an action may have a significant impact on the environment, considering all phases of the project, its expected primary and secondary impacts, cumulative effects with other projects, and its short- and long-term effects. In making this determination, the rules establish “significance criteria” to guide the consideration of potential environmental effects. An action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

**(1) Irrevocably commit a natural, cultural, or historic resource**

The proposed project is not expected to result in the loss of natural or cultural resources. Instead, it aims to manage overcrowding, minimize impacts on these resources, and enhance visitors’ understanding of the cultural significance of the place. Additionally, the project seeks to provide space for families to engage in cultural traditions, restore and maintain the historic trail, and support community mālama ‘āina efforts in protecting the historic and culturally sensitive resources.

**(2) Curtail the range of beneficial uses of the environment;**

The proposed project is intended to provide parking to facilitate public access to Pololū Trail and the lookout. It enhances visitors’ ability to enjoy the area while reducing negative impacts, such as overcrowding and unauthorized parking, which can limit the environment’s beneficial uses.

**(3) Conflict with the State's environmental policies or long-term environmental goals established by law**

The project does not conflict with the State’s environmental policies or long-term environmental goals. It aligns with Hawai’i’s environmental policies by prioritizing conservation and cultural preservation. The project incorporates measures to minimize environmental impacts, such as using pavers to reduce erosion and runoff, which supports the state’s objectives for water conservation and climate resilience. Ultimately, the project aims to protect and preserve the critical and sensitive resources of Pololū.

**(4) Have a substantial adverse effect on the economic welfare, social welfare, or cultural practices of the community and State;**

The project is not expected to adversely affect economic, social, or cultural welfare. It is intended to provide access for families practicing cultural traditions and support local residents by enhancing their ability to connect with the area. The project aims to create a more enjoyable experience for both residents and visitors. The managed parking reservation will reduce the number of individuals on-site at any given time, providing more opportunities to engage with the natural surroundings without the stress of overcrowding. The reduction in overcrowding impacts will be particularly beneficial for the families in the surrounding villages of this rural community.

**(5) Have a substantial adverse effect on public health;**

The project is not expected to have negative impacts on public health. Improvements such as the provision of portable toilets will reduce health-related concerns that may arise from lack of existing sanitation facilities at the trailhead.

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

No adverse secondary impacts, such as population changes or strain on public facilities, are anticipated. In fact, the project may alleviate secondary impacts, such as traffic congestion, in the long term. The addition of portable toilets at the trailhead may also reduce demand on existing facilities at Kēōkea Beach Park.

**(7) Involve a substantial degradation of environmental quality;**

The project seeks to reduce environmental degradation by managing visitors at Pololū through the parking reservation system, trail steward program, and trail maintenance. It is intended to reduce stresses on the trail and surrounding areas, thereby enhancing the long-term environmental quality.

**(8) Be individually limited but cumulatively have substantial adverse effect upon the environment or involves a commitment for larger actions;**

The project is limited in scope, focusing solely on improvements to the Pololū Trailhead. There are no plans for larger or cumulative actions that would harm the environment. The project instead focuses on sustainable managed visitor use.

**(9) Have a substantial adverse effect on a rare, threatened, or endangered species, or its habitat;**

This project is not expected to affect rare, threatened, endangered species, or their habitats. Managed parking reservations are anticipated to reduce the overall number of visitors to the valley and the trail stewards will provide visitors with information on Pololū's natural resources and encourage them to be respectful of those resources.

**(10) Have a substantial adverse effect on air or water quality or ambient noise levels;**

The project is not expected to degrade air or water quality. Any potential impacts will be temporary and limited to construction-related disturbances, which will be minimized. Long-term impacts on noise levels and air quality are expected to be positive, as the project may help reduce traffic congestion.

**(11) Have a substantial adverse effect on or be likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, sea level rise exposure area, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;**

The project is not expected to have a substantial adverse effect on an environmentally sensitive area. It has been carefully planned to avoid these sensitive areas.

**(12) Have a substantial adverse effect on scenic vistas and viewplanes, during day or night, identified in county or state plans or studies; or**

The project will not negatively affect scenic vistas or viewplanes. In fact, it will enhance the experience for visitors by providing access to the Pololū Trail and lookout, which is an important scenic area. Parking improvements are anticipated to be minimal in order to preserve the area's visual integrity. Design elements will be carefully incorporated to ensure the project blends with the surrounding landscape and does not disrupt existing viewsheds.

The portable toilets will be placed in a location that minimizes impact to the surrounding viewshed, including from 'Akoni Pule Highway and neighboring properties. Installation of signs will also consider potential impacts to viewsheds and the rural character of the area. Natural vegetation will be considered to provide a screening effect, helping to further conceal the toilets.

**(13) Require substantial energy consumption or emit substantial greenhouse gases.**

The project will not require substantial energy consumption or substantial greenhouse gases.

In summary, the Pololū Trailhead project addresses each of these significance criteria by minimizing adverse environmental, social, and health impacts while improving access for local residents and promoting sustainability for the community.

## **8.2 Determination**

Based on the significance criteria outlined in HAR Chapter 11-200.1, and as discussed in Section 8.1, the proposed project will not have a significant adverse impact on the environment. Therefore, a Finding of No Significant Impact (FONSI) has been determined for this Proposed Action, and an Environmental Impact Statement (EIS) is not required.

## 9 AGENCY AND PUBLIC CONSULTATION

An Early Consultation Letter and Handout was sent on September 11, 2024 to initiate the environmental review process. A list of agencies, organizations and community interest groups consulted during the early consultation period of the EA is provided below. There were nine formal responses to the early consultation letter, as indicated by the ✓ below.

### **Federal**

- Ala Kahakai National Historic Trails

### **State of Hawai‘i**

- Department of Business, Economic Development & Tourism
- Department of Education ✓
- Department of Land and Natural Resources
  - Division of Forestry and Wildlife ✓
  - Land Division ✓
  - Office of Conservation and Coastal Lands ✓
- Hawai‘i Emergency Management Agency
- Office of Hawaiian Affairs
- Office of Planning and Sustainable Development ✓

### **County of Hawai‘i**

- Department of Environmental Management
- Department of Parks and Recreation
- Department of Public Works
- Department of Research & Development
- Department of Water Supply
- Hawai‘i County Civil Defense Agency ✓
- Hawai‘i Fire Department
- Hawai‘i Police Department ✓
- Planning Department ✓

### **Elected Officials**

- Office of the Mayor
- County Council 9, Councilmember Cindy Evans
- U.S. Representative Jill Tokuda
- U.S. Senator Brian Schatz
- U.S. Senator Mazie Hirono
- State Representative David Tarnas
- State Senator Tim Richards

## Landowners

- Kamehameha Schools
- Surety Kohala Corporation ✓
- Individual parcel owners in the valley
- Adjacent landowners to the trailhead

## Community Organizations

- Kohala Senior Citizens Club
- North Kohala Community Access Group
- Protect Pololū Hui

## Other/Special Interest

- Backroads
- Adventure Travel West, Inc.
- Kailani Tours Hawai‘i
- Kohala Watershed Partnership
- KUPU
- Hawai‘i Land Trust
- Hawai‘i Nature Explorers
- Hawai‘i Tourism Authority
- Hawai‘i Visitors & Convention Bureau
- Hawaiian Electric
- Hawaiian Telcom
- North Kohala Community Resource Center

The Draft Environmental Assessment was published by the State of Hawai‘i, Department of Business, Economic Development and Tourism, Office of Planning and Sustainable Development Environmental Review Program in the March 23, 2025 edition of *The Environmental Notice*. A summary of written comments received during the thirty-day public review period, along with copies of the written comments, are included in Appendix. Seven written comments were received.

Commentor	Comment	Response
<b>Pertaining to emergency preparedness and education</b>		
Walter Dudley	I am pleased to see things progressing on preserving Pololu and hopefully sharing more of its important cultural history. I'd like to share with you some of the "tsunami history" of Pololu. As you may know, Pololu Valley had the highest tsunami run-up in Hawaii from the April 1, 1946 tsunami at 54 feet above sea level. We are long overdue for another Pacific-wide tsunami such as 1946 and 1960 focusing on the east	Thank you for sharing this important historical information regarding tsunami hazards at Pololū. We greatly appreciate your knowledge and offer to assist with this effort. We agree that visitor safety is a key concern, and that tsunami preparedness must be integrated into the interpretive and stewardship strategy for Pololū. DLNR DOFAW will be contacting the State

	<p>side of the Big Island. The nearest warning siren to Pololu is at Keokea Beach Park some 2 miles away and not likely to be heard in Pololu Valley. There needs to be a plan to notify Staff and visitors about a Tsunami Warning. It is also definitely a site that needs to have information about the tsunami hazard and “Nature’s warning signs” of a tsunami, as a locally generated tsunami, such as Nov. 29, 1975, waves could arrive in minutes. So even if there were a siren nearby or Staff at the lookout were contacted by Civil Defense, there could simply not be enough time to get a warning out and evacuate people down in the valley before tsunami waves arrived. Some years ago, I participated in a scientific study of past tsunamis that impacted Pololu and would be more than happy to assist in any way I can. Attached are some examples of signs used in other areas impacted by past tsunamis. I would also suggest that signs be in both English and Hawaiian.</p>	<p>Emergency Management, who is responsible for the Outdoor Siren System and for processing any new requests, to inquire about the potential installation of a siren for Pololū Valley. In the event of a tsunami warning, hurricane, or other natural disaster, per Hawai‘i County Civil Defense, the trail will be closed, and updates will be provided on the Nā Ala Hele Trails website. Hikers will also be encouraged to sign up for the County's Civil Defense Emergency Alerts, and trail stewards will be notified immediately about a Tsunami Warning via the satellite phones they carry. Contact information collected through the parking reservation system will provide another method for informing the public of any potential threats or updates.</p> <p>In addition, the trail stewards and the repurposed heritage center will play a key role in educating visitors about the cultural and historical significance of the area, as well as informing them of safety hazards, including evacuation routes and nature’s warning signs. Your past involvement in scientific studies of tsunamis impacting Pololū is incredibly valuable, and we would welcome your input as we work with emergency management partners and the local community to shape the most effective approach. We will review the sign examples provided and consider how similar materials could be adapted for Pololū in a culturally and environmentally sensitive manner.</p> <p>Mahalo again for your thoughtful contribution and willingness to assist.</p>
<b>Pertaining to resident use/reservation system</b>		
Noah Ragone	I just wanted to say that I hope Pololū can prioritize the residents of Hawai‘i,	Thank you for sharing your experiences and perspective on the



	<p>just as many other places have successfully.</p> <p>I've been fortunate to see Hā'ena both before and after the 2018 floods and the same with Wai'ānapanapa on Maui, and the transformation is incredible to finally prioritize those who live and work in Hawai'i.</p> <p>I hope that maybe Pololū can adopt a 70/30 ratio for parking just like Hā'ena, or since parking is so limited, open it only to residents and require non-residents to take a shuttle in. This way, revenue could be generated to protect the Kohala Coast and reduce overcrowding in the area.</p>	<p>transformation of other highly popular visitor destinations.</p> <p>We appreciate your support for efforts to prioritize Hawai'i residents in the stewardship of Pololū. A dynamic reservation system is proposed, which will allow for flexibility in allocating parking for residents, lookout visitors, and hikers, particularly to accommodate for higher resident demand.</p> <p>While a shuttle system was explored during the planning process, significant concerns were raised regarding financial sustainability and the operational capacity required to manage such a service. There were concerns that the primary goal of resource protection could be compromised by the need to ensure financial viability, potentially resulting in increased daily passenger numbers to maximize revenue, as each shuttle seat would be reserved with a fee. However, the parking reservation system, which will be required for non-residents, will create a dedicated revenue stream that can be reinvested directly into the stewardship and upkeep of Pololū.</p>
Joe Gill	<p>I have not had the pleasure to visit the big island until May of this year. Although for only a few days, until I continue on to Maui, I am currently researching to ensure I am following local cultural rules and planning to allow the Aloha spirit to capture my soul as it had many times. Supporting those who are local and leaving with only other memories.</p> <p>I came across this article as to some plans for a reservation system and wanted to show support for the system. Something I find very disrespectful to the hawaiian culture is that there are people who spend no time learning and hence respecting the people or the culture of the islands. I</p>	<p>Thank you for taking the time to share your thoughts and for your support of the proposed reservation system at Pololū.</p> <p>As you noted, the intention behind this effort is to protect the cultural and natural integrity of the area, manage visitor impacts, and ensure that future generations can continue to experience this special place.</p> <p>The repurposed heritage center, along with the presence of trail stewards, offers an opportunity to educate visitors about the cultural and historical significance of Pololū.</p> <p>Thank you again for your message.</p>

	<p>would pay the admission fee as you are preserving the area and all that it represents to the people of the big island and those who are native to the island. As I know, there are severe problems with being priced out of paradise in the islands. Although this will not solve that problem, it will help keep funds in the budgets for the people of the island with the cost of admission to restore the beauty before it is too late.</p> <p>I have been blessed to visit, and look forward to my upcoming trip where I will support only local, respect the people and land, and seek more knowledge to understand the culture of a new visited island. So in closing I ask you charge an admission fee, a fee that is needed to fix what is being destroyed and can never be bright back once gone. Also the fee as you talked about rehabilitating a welcome center showing the significance of this land to visitors that the land may speak to them from the ancestral heritage of those who sacrificed so much on the island.</p>	
<b>Pertaining to roadway discrepancies</b>		
Jim Pedersen	<p>It is important to address the current discrepancies between the State Department of Transportation (DOT) highway easement boundaries and the existing roadway infrastructure, particularly in the vicinity of Pololū. Field observations and preliminary mapping indicate that portions of the maintained roadway and shoulders are situated outside the limits of the recorded highway easement, resulting in encroachment onto adjacent private properties.</p> <p>This project scope should include a detailed assessment to verify the extents of the legal right-of-way and identify any necessary adjustments to ensure that the public roadway</p>	<p>Thank you for your comments. In 2021, a section of 'Akoni Pule Highway from Hāwī Road to the trailhead was transferred from the State Department of Transportation to the County Department of Public Works (DPW). DLNR DOFAW recognizes the discrepancies between the actual roadway and the recorded easement boundaries and is working with the County DPW, Planning Department, and adjacent landowners to address these concerns.</p> <p>Professional services by a licensed Professional Engineer will be secured to plan and design proposed improvements.</p>

	<p>infrastructure is fully contained within the authorized easement limits. Where deviations are confirmed, corrective measures—such as roadway realignment—should be evaluated and implemented as appropriate.</p> <p>Furthermore, all proposed improvements under this plan must be supported by a licensed Professional Engineer. The engineer shall be responsible for confirming survey control and right-of-way boundaries, as well as ensuring that design and construction activities are fully compliant with applicable legal and regulatory requirements governing the highway easement.</p>	<p>We appreciate your input and your commitment to ensure that infrastructure improvements are planned and executed responsibly.</p>
<b>Pertaining to burials and access for cultural use</b>		
Office of Hawaiian Affairs	<p>In review of the Ka Paakai Analysis, it appears that some informants mention burials in the area, but no burials are listed as part of the previously identified historic properties list. OHA would like to request more information about these concerns and if there are any Burial Treatment Plans or other mitigations that are already in place for these mentioned burials. The plan should also have a protocol for reporting burials if they should be discovered that is compliant with Hawaii Administrative Rules (HAR) 13-300.</p> <p>OHA notes that the project seeks to reduce overcrowding and visitor impact on traditional and customary practitioners through a parking reservation system and a dedicated cultural space, but we would also like to request more information about any protocols that will be established to facilitate access for practitioners and descendants (i.e. will practitioners and descendants need to request access to use the cultural space? If so, how will requests be made?).</p>	<p>Mahalo for the comments. The project area does not contain any known burials. However, some community members have shared that burials exist within Pololū Valley. The project area provides access to Pololū Valley. The purpose of the proposed plan is to minimize impacts to resources within the valley, including unintentional impacts to burial sites. The presence of trail stewards at the trailhead has helped reduce illegal camping on the sand dunes where burials are located. If burials are discovered, remains will be left in place and the State DLNR Historic Preservation Division and Hawai'i County Police Department will be notified.</p> <p>Daily use of the cultural/special area will be at the discretion of the trail stewards and DLNR DOFAW. Residents seeking use of the cultural/special access area will need to check-in with the trail steward upon arriving at the trailhead. Larger groups visiting Pololū for educational or cultural purposes will need to coordinate with DLNR DOFAW staff</p>

		ahead of time. The general public will still have pedestrian access through the area to reach the Pololū Trail.
<b>Other</b>		
State Department of Health Clean Air Branch	Please go to the Clean Air Branch (CAB) website to download and utilize our Standard Comments for Land Use Reviews.	Thank you for referring us to the Standard Comments for Land Use Reviews. Project activities will comply with HAR Chapter 11-59 and 11-60.1.
Lamaku Mikahala Roy	<p>The voices of the people, especially the first people of Hawai'i and Pololu Valley DO NOT ask for a trail head construction plan for Pololu.</p> <p>The message is in the voices of the ancestors of 'Oiwi who speak to mankind for Most High God beginning in 2010 at</p> <p>Ahu 'ena Heiau were conveyed to the state DLNR chair by Townscape, Inc. consultant Ms. Gabrielle Sham.</p> <p>Attached, you will discover the document submitted to Hawai'i State Legislature this year celebrating and requesting concurrent legislation for a certificate of honor that commemorates the 50th anniversary of the Restoration of Ahu'ena Heiau at Kamakahonu.</p> <p>This restoration was led by Ali'i David K. Roy, Jr. with stead crew members: Ali'i Obed Hooper, Sr., Ali'i Calvin Kelekolio, Ali'i Thomas Ka'imi Spinney, Ali'i Albert Carter, Ali'i Francis Waiau, Ali'i Francis Mokuohai, Ali'i Carlton J. Roy, Ali'i Joseph Keka.</p> <p>Had this restoration not happened, the arrival of greatest miracles now for Hawai'i &amp; earth would not be here and held in truth by the State Legislature.</p> <p>Praise Akua Manamanaloa. Praise Most High Divine Creator. No trailhead construction is to occur at Pololu Valley by guidance of Most High God by the Restored Kingdom of Hawai'i of HRH King Ali'i Nui Mo'i Dr. Edmond K. Paki-Silva II, Kahu Ahu'ean Heiau</p>	<p>Thank you for your letter. The proposed project was developed over a 20-month process in consultation with families from the surrounding villages, individuals with intimate knowledge of the area, and residents from the broader community who share a connection to the place.</p> <p>Based on extensive input from community members, the project was designed to preserve the sanctity and rural character of Pololū and Mekanikahio and maintain the area as a wilderness space, including to minimize the development footprint. Through a series of one-on-one consultations, small group discussions, and community meetings, the plan reflects the collective vision and concerns of those who call Pololū home.</p>

## 10 REFERENCES

- Erkelens & Athens. (1993). *Archaeological Inventory Survey of the Seaward Portions of Waiapuka, Makanikahio 1, and Makanikahio 2, North Kohala. Hawai'i.*
- Field, J. S., & Graves, M. W. (2008). *A New Chronology for Pololu Valley, Hawai'i Island: Occupational History and Agricultural Development. Radiocarbon, 50(2), 205–222.*  
<https://doi.org/10.1017/S003382220003352X>
- Frazier, A. G., Giambelluca, T. W., Diaz, H. F. and Needham, H. L. (2016). Comparison of geostatistical approaches to spatially interpolate month-year rainfall for the Hawaiian Islands. *Int. Journal of Climatology, 36(3), 1459-1470.* doi: 10.1002/joc.4437
- Giambelluca, T.W., X. Shuai, M.L. Barnes, R.J. Alliss, R.J. Longman, T. Miura, Q. Chen, A.G. Frazier, R.G., Mudd, L. Cuo, & A.D. Businger. (2014). *Evapotranspiration of Hawai'i. Final report submitted to the U.S. Army Corps of Engineers—Honolulu District, and the Commission on Water Resource Management, State of Hawai'i.*
- Hawai'i Tourism Authority. (2021). *Hawai'i Island Destination Management Action Plan 2021-2023.*
- Kohala Ditch Co-op, Incorporated. (2022, March 5). A Brief History of Kohala Ditch.  
<https://kohaladitchcoop.com/about/a-brief-history-of-kohala-ditch/>
- Kokua, L. (1868, March 28). Kokua ia C. H. Kuluwaimakalani. *Ka Nūpepa Kū'oko'a, 3.*
- Lass, B. (1994). *Hawaiian Adze Production and Distribution: Implications for the Development of Chiefdoms.* University of California.
- Lehua Environmental, Inc. (2025). *Phase 1 Environmental Site Assessment.*
- Rochers, K. D. (1990). *Waimanu Valley Oral History Report.* The University of Wisconsin.
- Schweitzer, S. V., & Gomes, M. S. (2003). *Kohala 'āina: a history of North Kohala.* Mutual Pub.
- State of Hawai'i Emergency Management Agency. (2023). *State of Hawai'i 2023 Hazard Mitigation Plan.* Prepared by Tetra Tech, Inc.  
[https://dod.hawaii.gov/hiema/files/2023/01/2023\\_Hawaii\\_SHMP\\_Final\\_Approved\\_Adopted\\_508Compliant-10.27.23.pdf](https://dod.hawaii.gov/hiema/files/2023/01/2023_Hawaii_SHMP_Final_Approved_Adopted_508Compliant-10.27.23.pdf)
- State DLNR DOFAW (1991). *Nā Ala Hele Hawai'i Trail & Access System Program Plan.*
- Stokes, J. F. & Dye, T. (1991). *Heiau of the Island of Hawai'i : a historic survey of native*

*Hawaiian temple sites*. Bishop Museum Press.

The North Kohala Community, with assistance from the County of Hawai'i Planning Department and Townscape, Inc. (2008). *North Kohala Community Development Plan*. Prepared for County of Hawai'i.

U.S. Census Bureau. (2020). *2020 Census population and housing data*. Retrieved from <https://www.census.gov>

U.S. Fish and Wildlife Service. (n.d.). *IPAC - Information for Planning and Consultation*. U.S. Department of the Interior. Retrieved December 19, 2024, from <https://ipac.ecosphere.fws.gov/>

Walker, D. (2004). Shoreline modeling segments in the Hawaiian Islands critical for regional tsunami evacuation determinations. *Natural Sciences of Hazards*, 22(2), 69–73.



## Appendix A

Initial Consultation Letter, Handout,  
and Comments



September 11, 2024

Subject: Early Consultation Request for Draft Environmental Assessment (DEA)  
Pololū Trailhead Management Plan – North Kohala, Island of Hawai'i  
Tax Map Key 5-1-001:005 and 5-2-001:002

Dear Participant,

On behalf of the State of Hawai'i, Department of Land and Natural Resources (DLNR) Division of Forestry and Wildlife (DOFAW), Townscape, Inc. is preparing a DEA, pursuant to Hawai'i Revised Statutes, Chapter 343, and Hawai'i Administrative Rules (HAR), Chapter 11-200.1 for the Pololū Trailhead Management Plan ("Project").

Pursuant to HAR, Chapter 11-200.1-18, the DLNR DOFAW (Proposing Agency) is conducting early consultation to seek input from agencies, citizen groups, and individuals who may have an area of expertise, which may guide the scope and preparation of the DEA, and/or may be affected by the proposed Project. Please find enclosed an Early Consultation Handout with a project description and location map for your review and comment. We are requesting comments no later than **October 14, 2024** to be sent via mail or e-mail to:

Townscape, Inc.  
Attn: Gabrielle Sham  
900 Fort Street Mall, Suite 1160  
Honolulu, HI 96813  
E-mail: [gabrielle@townscapeinc.com](mailto:gabrielle@townscapeinc.com)

If we do not receive a response by this date, we will assume your agency or organization has no comments. Please contact the undersigned with any questions you may have at (808) 550-3894 or via e-mail at [gabrielle@townscapeinc.com](mailto:gabrielle@townscapeinc.com). Mahalo in advance for your participation in the early consultation for this Project.

Sincerely,

Gabrielle Sham  
Associate Planner

Enclosure: Early Consultation Handout

Pololū Trailhead Management Plan  
Early Consultation Handout for Draft Environmental Assessment

<b>Project Name</b>	Pololū Trailhead Management Plan
<b>Proposing and Determining Agency</b>	Department of Land and Natural Resources, Division of Forestry and Wildlife, State of Hawai'i 1151 Punchbowl Street Honolulu, HI 96813
<b>Agent</b>	Townscape, Inc. 900 Fort Street Mall, Suite 1160 Honolulu, HI 96813 Phone: (808) 550-3894 E-mail: gabrielle@townscapeinc.com
<b>HRS, Chapter 343 Trigger</b>	Use of State lands and funds
<b>Project Location</b>	Pololū Trailhead; 52-500 Akoi Pule Hwy, Kapaau, HI 96755
<b>Tax Map Key &amp; Recorded Fee Owner</b>	5-1-001:005 (State of Hawai'i) and 5-2-001:002 (Private Landowner)
<b>Project Area</b>	Approximately 1 acre
<b>State Land Use District</b>	Agricultural, Conservation
<b>Development Plan</b>	North Kohala Community Development Plan
<b>Special Management Area</b>	Within the Special Management Area

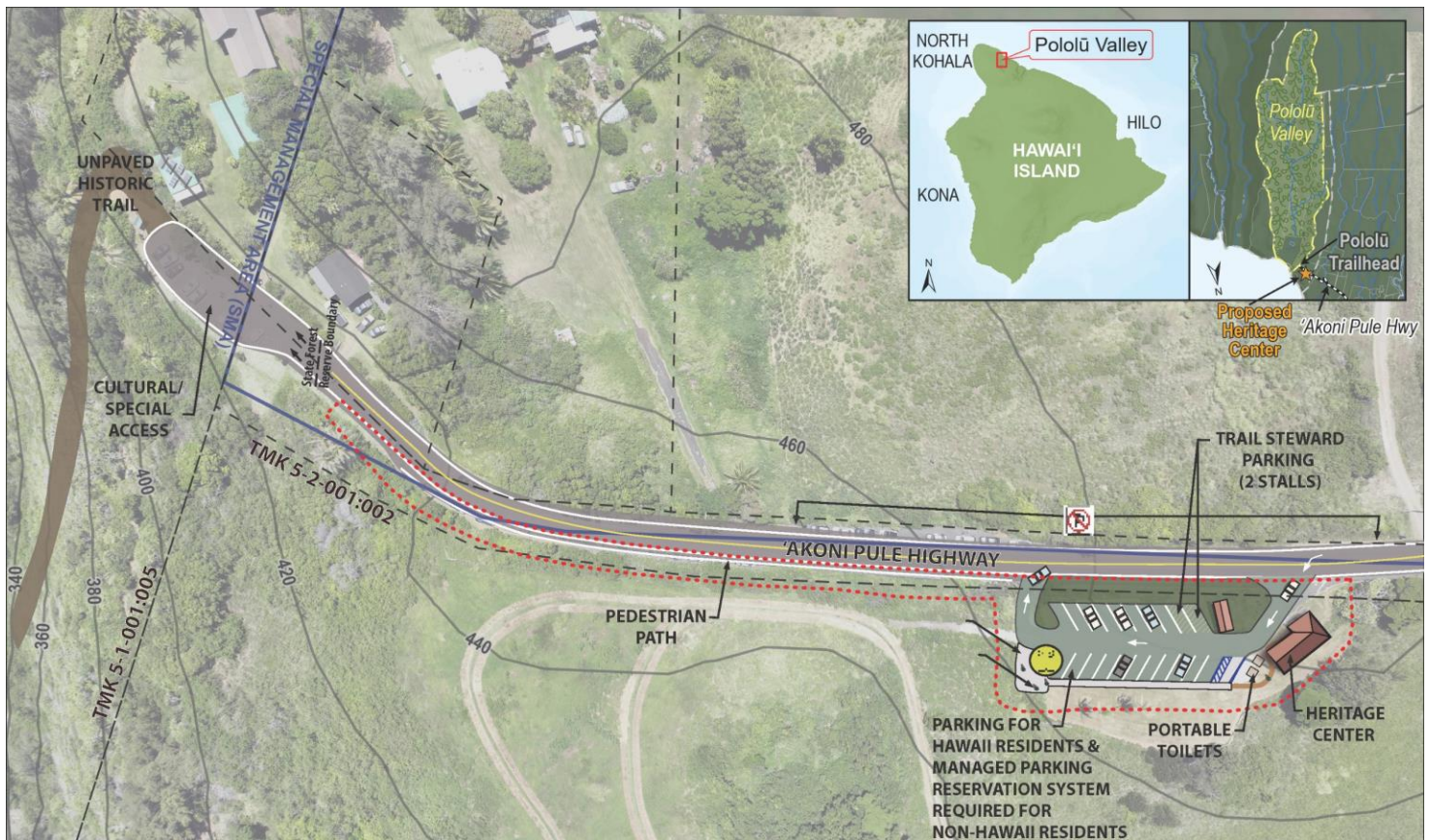
### **Overview of Proposed Project**

The Pololū Trailhead Management Plan proposes the following solutions to address issues related to trail and ocean safety, sanitation, resources degradation, lack of cultural awareness, parking congestion and safety, and overcrowding at the trailhead:

1. Develop and conduct targeted public educational outreach.
2. Continue the trail steward program to provide visitor education.
3. Re-designate the current lookout area (TMK 5-1-001:005) for cultural/special access, which is defined as "being for those practicing cultural activities for the purposes of perpetuating traditional knowledge, caring for and protecting the environment, and strengthening cultural and spiritual connections to the windward valleys from Pololū to 'Āwini that have demonstrable benefits to the Native Hawaiian community."
4. Repair and restore the historic trail in eroded areas to its mid-1800s condition.
5. Restrict public use of the trail, as needed, to support stewardship efforts.
6. Acquire approximately one acre of TMK 5-2-001:002 to:
  - a. Provide one-way ingress and egress for off-street parking with approximately twenty (20) parking stalls, plus two stalls reserved for on-duty trail stewards.
  - b. Designate parking and "no parking" areas, including enforcement of these areas.
  - c. Provide parking for Hawai'i residents, with no fees or reservations required.
  - d. Implement a managed parking reservation system, required for non-Hawai'i residents but also available to Hawai'i residents. A fee would apply for making a reservation.
  - e. Establish a pedestrian path from the parking area to the trailhead.

# Pololū Trailhead Management Plan Early Consultation Handout for Draft Environmental Assessment

- f. Create a new accessible lookout adjacent to the designated parking area.
- g. Convert the existing structure into a Heritage Center to highlight and raise awareness and appreciation of the cultural and historical resources of this area and as a gathering space.
- h. Install two portable toilets.



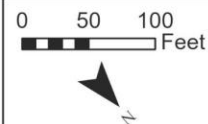
Note: The illustration shown represents the current physical roadway but does not reflect the actual right-of-way boundaries.

— 20 ft contours  
 [ ] 0.93 acres  
 [ ] Tax Map Key  
 [ ] SMA

\*Imagery taken 8-28-2023

## POLOLŪ TRAILHEAD PLANNING HERITAGE CENTER

North Kohala, Hawai'i  
August 2024



Prepared by: TOWNSCAPE, INC.

This graphic has been prepared for general planning purposes only and should not be used for boundary interpretation or other spatial analysis.

---

**RE: [EXTERNAL] Pololu Valley**

---

**From** Bauer, Jackson M <jackson.m.bauer@hawaii.gov>

**Date** Mon 3/24/2025 11:24 AM

**To** Walter Dudley <dudley@hawaii.edu>

**Cc** Gabrielle Sham <Gabrielle@townscapeinc.com>

Aloha Walter,

Thanks so much for sharing this information and offering your assistance. I will forward your email to our consultant who will be working on the final EA. Mahalo hou.

\*\*\*\*\*

**Jackson M. Bauer**

**Hawai'i Island Na Ala Hele Trails and Access Specialist,**

*Division of Forestry and Wildlife,*

*Department of Land and Natural Resources*

19 East Kawili Street

Hilo, Hawai'i 96720

808-657-8041

[jackson.m.bauer@hawaii.gov](mailto:jackson.m.bauer@hawaii.gov)

\*\*\*\*\*

---

**From:** Walter Dudley <dudley@hawaii.edu>

**Sent:** Monday, March 24, 2025 11:20 AM

**To:** Bauer, Jackson M <jackson.m.bauer@hawaii.gov>

**Subject:** [EXTERNAL] Pololu Valley

Aloha Mr. Bauer,

I am pleased to see things progressing on preserving Pololu and hopefully sharing more of its important cultural history. I'd like to share with you some of the "tsunami history" of Pololu. As you may know, Pololu Valley had the highest tsunami run-up in Hawaii from the April 1, 1946 tsunami at 54 feet above sea level. We are long overdue for another Pacific-wide tsunami such as 1946 and 1960 focusing on the east side of the Big Island. The nearest warning siren to Pololu is at Keokea Beach Park some 2 miles away and not likely to be heard in Pololu Valley. There needs to be a plan to notify Staff and visitors about a Tsunami Warning. It is also definitely a site that needs to have information about the tsunami hazard and "Nature's warning signs" of a tsunami, as a locally generated tsunami, such as Nov. 29, 1975, waves could arrive in minutes. So even if there were a siren nearby or Staff at the lookout were contacted by Civil Defense, there could simply not be enough time to get a warning out and evacuate people down in the valley before tsunami waves arrived. Some years ago, I participated in a scientific study of past tsunamis that impacted Pololu and would be more than happy to assist in any way I can. Attached are some examples of signs used in other areas impacted by past tsunamis. I would also suggest that signs be in both English and Hawaiian.

Aloha,

Walt Dudley, Chair  
Scientific Advisory Council  
Pacific Tsunami Museum



## Pololū Comments

---

**From** Noah Ragone <noahragone@gmail.com>

**Date** Fri 3/28/2025 3:03 PM

**To** Gabrielle Sham <Gabrielle@townscapeinc.com>

Aloha,

I just wanted to say that I hope Pololū can prioritize the residents of Hawai'i, just as many other places have successfully.

I've been fortunate to see Hā'ena both before and after the 2018 floods and the same with Wai'ānapanapa on Maui, and the transformation is incredible to finally prioritize those who live and work in Hawai'i.

I hope that maybe Pololū can adopt a 70/30 ratio for parking just like Hā'ena, or since parking is so limited, open it only to residents and require non-residents to take a shuttle in. This way, revenue could be generated to protect the Kohala Coast and reduce overcrowding in the area.

All the best,

Noah

---

**OHA Comment Re: DEA for Pololu Trailhead Management Plan, North Kohala**

---

**From** Kaweni Ibarra <kawenii@oha.org>

**Date** Thu 4/10/2025 6:35 AM

**To** Jackson.m.bauer@hawaii.gov <Jackson.m.bauer@hawaii.gov>; Gabrielle Sham <Gabrielle@townscapeinc.com>

**Cc** Kamakana Ferreira <kamakanaf@oha.org>

Aloha e Gabrielle,

The Office of Hawaiian Affairs (OHA) was provided with a copy of the Draft Environmental Assessment (DEA) prepared for the Pololu Trailhead Management Plan. Townscape has prepared the DEA on behalf of the applicant per Hawaii Revised Statutes (HRS) Chapter 343.

In review of the Ka Paakai Analysis, it appears that some informants mention burials in the area, but no burials are listed as part of the previously identified historic properties list. OHA would like to request more information about these concerns and if there are any Burial Treatment Plans or other mitigations that are already in place for these mentioned burials. The plan should also have a protocol for reporting burials if they should be discovered that is compliant with Hawaii Administrative Rules (HAR) 13-300.

OHA notes that the project seeks to reduce overcrowding and visitor impact on traditional and customary practitioners through a parking reservation system and a dedicated cultural space, but we would also like to request more information about any protocols that will be established to facilitate access for practitioners and descendants (i.e. will practitioners and descendants need to request access to use the cultural space? If so, how will requests be made?).

Mahalo for the opportunity to comment. We look forward to receiving the requested information and continuing consultation. Please feel free to contact me should you have any questions.

Mahalo,

Kaweni Ibarra

***Kaweni Ibarra***

Compliance Advocate

Office of Hawaiian Affairs



OFFICE OF HAWAIIAN AFFAIRS

---

**2025-03-23-HA-DEA-Pololu-Trailhead-Management-Plan**

---

**From** JPE PE <jpe.jim@gmail.com>

**Date** Tue 4/15/2025 5:01 PM

**To** jackson.m.bauer@hawaii.gov <jackson.m.bauer@hawaii.gov>

**Cc** Gabrielle Sham <Gabrielle@townscapeinc.com>

Requested Comments:

---

It is important to address the current discrepancies between the State Department of Transportation (DOT) highway easement boundaries and the existing roadway infrastructure, particularly in the vicinity of Pololū. Field observations and preliminary mapping indicate that portions of the maintained roadway and shoulders are situated outside the limits of the recorded highway easement, resulting in encroachment onto adjacent private properties.

This project scope should include a detailed assessment to verify the extents of the legal right-of-way and identify any necessary adjustments to ensure that the public roadway infrastructure is fully contained within the authorized easement limits. Where deviations are confirmed, corrective measures—such as roadway realignment—should be evaluated and implemented as appropriate.

Furthermore, all proposed improvements under this plan must be supported by a licensed Professional Engineer. The engineer shall be responsible for confirming survey control and right-of-way boundaries, as well as ensuring that design and construction activities are fully compliant with applicable legal and regulatory requirements governing the highway easement.

---

Mahalo,  
Jim Pedersen, PE  
808-854-4888

---

## CAB Comments: Pololū Trailhead Management Plan

---

**From** DOH.CABPASS <DOH.CABPASS@doh.hawaii.gov>

**Date** Tue 4/22/2025 2:21 PM

**To** Gabrielle Sham <Gabrielle@townscapeinc.com>

To Gabrielle Sham,  
Townscape, Inc.,

Thank you for the opportunity to review the Pololū Trailhead Management Plan published in the March 23rd edition of the TENs. Please go to the Clean Air Branch (CAB) website to download and utilize our Standard Comments for Land Use Reviews. The link is included below.

[Clean Air Branch | Standard Comments for Land Use Reviews](#)

Sincerely,

Katt

Katt Marshall | she/her

Planner I | Clean Air Branch | Planning & Administrative Support Staff (PASS)

Hawai'i State Department of Health | Ka 'Oihana Olakino

2827 Waimano Home Road #130 | Pearl City, Hawaii 96782

Office: (808) 586-4200

**CONFIDENTIALITY NOTICE:** This mail message (and attachments) is for the sole use of the intended recipient(s). It may contain confidential and/or privileged information. It might also be protected from disclosure under the Hawaii Uniform Information Practice Act (UIPA) or other laws and regulations. Review, use, disclosure, or distribution by unintended recipients is prohibited. If you are not the intended recipient, please contact the sender immediately in a separate e-mail and destroy the original message and any copies.



**AHU'ENA HEIAU • KAMAKAHONU, HAWAII**

**HĀLAU NO'EAU KAHELEMAUNA  
HOUSE OF WISDOM OF THE MOUNTAIN – ROAMING CHIEF**

April 22, 2025

Dawn N.S. Chang, Chair  
Department of Land and Natural Resources  
1151 Punchbowl Street  
Honolulu, HI 96813

Greeting Ms. Chang:

The voices of the people, especially the first people of Hawai'i and Pololu Valley DO NOT ask for a trail head construction plan for Pololu.

The message is in the voices of the ancestors of 'Oiwi who speak to mankind for Most High God beginning in 2010 at Ahu 'ena Heiau were conveyed to the state DLNR chair by Townscape, Inc. consultant Ms. Gabrielle Sham.

Attached, you will discover the document submitted to Hawai'i State Legislature this year celebrating and requesting concurrent legislation for a certificate of honor that commemorates the 50th anniversary of the Restoration of Ahu'ena Heiau at Kamakahonu.

This restoration was led by Ali'i David K. Roy, Jr. with stead crew members: Ali'i Obed Hooper, Sr., Ali'i Calvin Kelekolio, Ali'i Thomas Ka'imi Spinney, Ali'i Albert Carter, Ali'i Francis Waiau, Ali'i Francis Mokuohai, Ali'i Carlton J. Roy, Ali'i Joseph Keka.

Had this restoration not happened, the arrival of greatest miracles now for Hawai'i & earth would not be here and held in truth by the State Legislature.

Praise Akua Manamanaloa. Praise Most High Divine Creator. No trailhead construction is to occur at Pololu Valley by guidance of Most High God by the Restored Kingdom of Hawai'i of HRH King Ali'i Nui Mo'i Dr. Edmond K. Paki-Silva II, Kahu Ahu'ean Heiau.

Aloha Ke Akua

HRM Ka'I-omana'ulaokalaniki'eki'eloakeahi'ena'enamauokalaulani

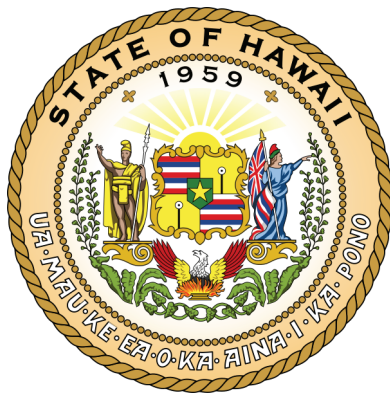
Kahunanui Ahu'ena Heiau  
Kamakahonu, Hawai'i

Kauoha Ka Māmaka o Ka Lama

The Divine Order of the Steadfast & Worthy Two Who Uphold the Highest Light of Akua at Kamakahonu.

Copied:

King Ali'I Nui Mo'i Edmond K. Paki-Silva II Kahu Ahu'ean Heiau (theking@thekingdomofhawaii.org)  
dlmrHawaii@Hawaii.gov  
gabrielle@townscapeinc.com  
jackson.m.bauer@Hawaii.gov



With relevance to the House of Representatives State of Hawai'i  
Presentation of the Certificate of Honor to  
Ali'i Kahu David Keli'ihelemauna Roy, Jr., Ahu'ena Heiau in  
The 17th State of Hawai'i Legislature of 1993-94

This Concurrent Legislation No. \_\_\_\_ dated March 5, 2025  
is hereby submitted to the Office of Representative \_\_\_\_\_ House District \_\_\_\_  
Office of Senator \_\_\_\_\_ Senate District \_\_\_\_\_

For Introduction to the 33rd Hawai'i State Legislature from Hālau No'eau Kahelemauna The House of Wisdom of the Mountain-Roaming-Chief Commemorating the 50th Anniversary of the Restoration of Ahu'ena Heiau.

A Certificate of Honor Calling for all Citizens of the Counties of Hawai'i, the Citizens of the Restored Kingdom of Hawai'i of HRH ALI'I NUI MŌ'Ī Edmund K. Pākī - Silva II, & Citizens of all Countries of the Earth to Recognize and Support the Divine Work of

HRM Ka-'Ī-omana'ulaokalaniki'eki'eloakeahi'ena'enamauokaulani Lamakū Lauren Mikahala Roy, a Kahu and the Kahunanui of Ahu'ena Heiau at Kamakahonu, Hawai'i the named Successor of Ali'i Kahu David Keli'ihelemauna Roy, Jr., The Restorer of Ahu'ena Heiau at Kamakahonu, Hawai'i

For her unrelenting work to establish Hālau No'eau Kahelemauna The House of Wisdom of the-Mountain-Roaming-Chief, The First Residence of the Capital of the Restored Kingdom of Hawai'i of HRH King ALI'I MŌ'Ī Edmund K. Pākī - Silva II Ka'Ī-'ōmakaolahoukaluaokalani ka-'Ī-māno'ānu'unu'ukalamakeaiho'okūikeaupunioHawai'i Kahu of Ahu'ena Heiau and The Restorer of the Kingdom of Hawai'i

Whereas the 17th Hawai'i State Legislature did honor Ali'i Kahu David Keli'ihelemauna Roy, Jr., Restorer of Ahu'ena Heiau, the First Sacred Temple built upon the Earth confirmed by Akua, the Divine Creator, in the miraculous conveyances of Spirit of the Ancestors of 'Ōiwi at Ahu'ena Heiau beginning in 2010; and

Whereas by his teachings in preserving and maintaining the culture of 'Ō'iwi, the first people of Hawai'i, those who follow the ways of Ali'i Kahu David Keli'ihelemauna Roy, Jr. have left behind the habits of the modern world, having found it possible through the efforts of his unrelenting leadership; and

Whereas Hālau No'eau Kahelemauna The House of Wisdom of the Mountain-Roaming-Chief is the location where 'Ō'iwi (Pacific Natives) and all of mankind may learn of the Age of Light (Keaulama) and be taught of Akua's (Divine Creator's) prescription for their healing; and

Whereas by her work as Kahunanui, the Divine Servant of Akua at Ahu'ena Heiau for Hawai'i and the Earth, Lamakū Lauren Mikahala Roy is commended for her FAITH, confirming how Akua proclaims that KEAULAMA, The Age of Light, is upon us here and now; and

Whereas in Keaulama, The Age of Light, Akua promises to heal the planet and all life upon the planet beginning in Hawai'i where Ma-Ka-Hiki, at the advent of life on planet Earth, life began in Kaluaokalani, The Second Heaven, the first and early name for Hawai'i; and

Whereas more than adornments on Earth, the Ka Māmaka o Ka Lama Hawaii Heirloom Jewelry Company dba KEAULAMA is the institution formed to commemorate the dawn of Keaulama in Hawai'i and the Rebirth of Planet Earth in the Hope of Heaven on Earth with proceeds to benefit 3 Hawai'i non-profit organizations: Kūlana Huli Honua (Foundation of the Search for Wisdom), Ka 'Ohana o Kalaupapa (The Family of Kalaupapa), and Ko Hawai'i Pae 'Āina Po'okela Kinipōpō (Hawaiian Islands' First Baseball Champions); now therefore

Now, Be It Resolved that the 33rd Hawaii State Legislature does hereby urge all citizens of all counties of the State of Hawai'i, the citizens of the Restored Kingdom of Hawai'i of HRH ALI'I NUI MŌ'Ī Edmund K. Pākī - Silva II, and the citizens of all Countries of the Earth to Recognize and Support the Divine Work of HRM

Ka-'Ī-omana'ulaokalaniki'eki'eloakeahi'ena'enamauokaulani Lamakū Lauren Mikahala Roy, a Kahu and the Kahunanui of Ahu'ena Heiau at Kamakahonu, Hawai'i Hālau No'eau Kahelemauna The House of Wisdom of the Mountain-Roaming-Chief.



(No subject)

---

**From** Joseph Gill <gill879@gmail.com>

**Date** Fri 4/25/2025 1:17 PM

**To** Gabrielle Sham <Gabrielle@townscapeinc.com>

Aloha,

I have not had the pleasure to visit the big island until May of this year. Although for only a few days, until I continue on to Maui, I am currently researching to ensure I am following local cultural rules and planning to allow the Aloha spirit to capture my soul as it had many times. Supporting those who are local and leaving with only other memories.

I came across this article as to some plans for a reservation system and wanted to show support for the system. Something I find very disrespectful to the hawaiian culture is that there are people who spend no time learning and hence respecting the people or the culture of the islands. I would pay the admission fee as you are preserving the area and all that it represents to the people of the big island and those who are native to the island. As I know, there are severe problems with being priced out of paradise in the islands. Although this will not solve that problem, it will help keep funds in the budgets for the people of the island with the cost of admission to restore the beauty before it is too late.

I have been blessed to visit, and look forward to my upcoming trip where I will support only local, respect the people and land, and seek more knowledge to understand the culture of a new visited island. So in closing I ask you charge an admission fee, a fee that is needed to fix what is being destroyed and can never be bright back once gone. Also the fee as you talked about rehabilitating a welcome center showing the significance of this land to visitors that the land may speak to them from the ancestral heritage of those who sacrificed so much on the island.

Ke Akua pu, Mahalo no kou Hana.

Joe Gill  
Washington Pennsylvania

## Appendix B

General Project Design Guidelines  
for Project Area (Source: USFWS)

## Appendix B

General Project Design Guidelines  
for Project Area (Source: USFWS)

# *General Project Design Guidelines (10 Species)*

Generated February 12, 2025 07:09 PM UTC, IPaC v6.121.1-rc1



# Table of Contents

Species Document Availability . . . . .	<a href="#"><u>1</u></a>
Hawaiian Coot (alae Ke`oke`o) and 2 more species - Pacific Islands Fish And Wildlife Office . . . . .	<a href="#"><u>2</u></a>
Hawaiian Goose - Pacific Islands Fish And Wildlife Office . . . . .	<a href="#"><u>4</u></a>
Band-rumped Storm-petrel and 2 more species - Pacific Islands Fish And Wildlife Office . . . . .	<a href="#"><u>6</u></a>
Hawaiian Hoary Bat - Pacific Islands Fish And Wildlife Office . . . . .	<a href="#"><u>8</u></a>
Green Sea Turtle - Pacific Islands Fish And Wildlife Office . . . . .	<a href="#"><u>10</u></a>
Blackburn's Sphinx Moth - Pacific Islands Fish And Wildlife Office . . . . .	<a href="#"><u>13</u></a>

# Species Document Availability

## Species with general design guidelines

Band-rumped Storm-petrel *Hydrobates castro*  
Blackburn's Sphinx Moth *Manduca blackburni*  
Green Sea Turtle *Chelonia mydas*  
Hawaiian Coot (alae Ke`oke`o) *Fulica alai*  
Hawaiian Duck *Anas wyvilliana*  
Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*  
Hawaiian Hoary Bat *Lasiurus cinereus semotus*  
Hawaiian Petrel *Pterodroma sandwichensis*  
Hawaiian Stilt *Himantopus mexicanus knudseni*  
Newell's Shearwater *Puffinus newelli*

## Species without general design guidelines available

`aiea *Nothocestrum breviflorum*  
Carter's Panicgrass *Panicum fauriei* var. *carteri*  
Hala Pepe *Dracaena konaensis*  
Hawksbill Sea Turtle *Eretmochelys imbricata*  
Hilo Ischaemum *Ischaemum byrone*  
Holei *Ochrosia kilaueaensis*  
Holei *Ochrosia haleakalae*  
Ihi *Portulaca villosa*  
Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*  
Loulu *Pritchardia maideniana*  
Microlepidia strigosa var. *mauiensis*  
Neraudia ovata  
Po`e *Portulaca sclerocarpa*  
Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*



# General Project Design Guidelines - Holei and 23 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

Holei *Ochrosia kilaueaensis*

Hawaiian Duck *Anas wyvilliana*

Neraudia ovata

Po'e *Portulaca sclerocarpa*

Hawaiian Stilt *Himantopus mexicanus knudseni*

Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*

Band-rumped Storm-petrel *Hydrobates castro*

Ihi *Portulaca villosa*

Hawaiian Coot (alae Ke'oke'o) *Fulica alai*

`aiea *Nothocestrum breviflorum*

Hawaiian Hoary Bat *Lasiurus cinereus semotus*

Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*

*Microlepia strigosa* var. *mauiensis*

Hawaiian Petrel *Pterodroma sandwichensis*

Newell's Shearwater *Puffinus newelli*

Carter's Panicgrass *Panicum fauriei* var. *carteri*

Hala Pepe *Dracaena konaensis*

Green Sea Turtle *Chelonia mydas*

Loulu *Pritchardia maideniana*

Hilo Ischaemum *Ischaemum byrone*

Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Holei *Ochrosia haleakalae*

Blackburn's Sphinx Moth *Manduca blackburni*

**Hawaiian waterbirds (Hawaiian stilt, *Himantopus mexicanus knudseni*; Hawaiian coot, *Fulica alai*; Hawaiian common gallinule, *Gallinula galeata sandvicensis*; Hawaiian duck, *Anas wyvilliana*):**

Listed Hawaiian waterbirds are found in fresh and brackish-water marshes and natural or man-made ponds. Hawaiian stilts may also be found wherever ephemeral or persistent standing water may occur. Threats to these species include non-native predators, habitat loss, and habitat degradation. Hawaiian ducks are also subject to threats from hybridization with introduced mallards.

The creation of standing or open water may result in the attraction of Hawaiian waterbirds to a site (creative nuisance or habitat sink). In particular, the Hawaiian stilt is known to nest in sub-optimal locations (e.g. any ponding water), if water is present. Hawaiian waterbirds attracted to sub-optimal habitat may suffer adverse impacts, such as predation and reduced reproductive success, and thus the project may create an attractive nuisance. Therefore, we recommend you work with our office during project planning so that we may assist you in developing measures to avoid impacts to listed species (e.g., fencing, vegetation control, predator management).

To avoid and minimize potential project impacts to Hawaiian waterbirds we recommend you incorporate the following applicable measures into your project description:

- In areas where waterbirds are known to be present, post and enforce reduced speed limits, and inform project personnel and contractors about the presence of endangered species on-site.
- Incorporate the Service's Best Management Practices for Work in Aquatic Environments into the project design.
- Have a biological monitor that is familiar with the species' biology conduct Hawaiian waterbird nest surveys, where appropriate habitat occurs within the vicinity of the proposed project site, prior to project initiation. Repeat surveys again within 3 days of project initiation and after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest). If a nest or active brood is found:
  - Contact the Service within 48 hours for further guidance.
  - Establish and maintain a 100-foot buffer around all active nests and/or broods until the chicks/ducklings have fledged. Do not conduct potentially disruptive activities or habitat alteration within this buffer.
  - Have a biological monitor that is familiar with the species' biology present on the project site during all construction or earth moving activities until the chicks/ducklings fledge to ensure that Hawaiian waterbirds and nests are not adversely impacted.

# General Project Design Guidelines - Holei and 23 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

Holei *Ochrosia kilaueaensis*

Hawaiian Duck *Anas wyvilliana*

Neraudia ovata

Po'e *Portulaca sclerocarpa*

Hawaiian Stilt *Himantopus mexicanus knudseni*

Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*

Band-rumped Storm-petrel *Hydrobates castro*

Ihi *Portulaca villosa*

Hawaiian Coot (alae Ke'oke'o) *Fulica alai*

`aiea *Nothocestrum breviflorum*

Hawaiian Hoary Bat *Lasiurus cinereus semotus*

Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*

*Microlepia strigosa* var. *mauiensis*

Hawaiian Petrel *Pterodroma sandwichensis*

Newell's Shearwater *Puffinus newelli*

Carter's Panicgrass *Panicum fauriei* var. *carteri*

Hala Pepe *Dracaena konaensis*

Green Sea Turtle *Chelonia mydas*

Loulu *Pritchardia maideniana*

Hilo Ischaemum *Ischaemum byrone*

Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Holei *Ochrosia haleakalae*

Blackburn's Sphinx Moth *Manduca blackburni*

**Hawaiian goose (nene), (*Branta (Nesochen) sandvicensis*):** Nene are found on the islands of Hawaii, Maui, Molokai, and Kauai. They are observed in a variety of habitats, but prefer open areas, such as pastures, golf courses, wetlands, natural grasslands and shrublands, and lava flows. Threats to the species include introduced mammalian and avian predators, wind facilities, and vehicle strikes.

To avoid and minimize potential project impacts to nene we recommend you incorporate the following measures into your project description:

- Do not approach, feed, or disturb nene.
- If nene are observed loafing or foraging within the project area during the breeding season (September through April), have a biologist familiar with nene nesting behavior survey for nests in and around the project area prior to the resumption of any work. Repeat surveys after any subsequent delay of work of 3 or more days (during which the birds may attempt to nest).
- Cease all work immediately and contact the Service for further guidance if a nest is discovered within a radius of 150 feet of proposed project, or a previously undiscovered nest is found within the 150-foot radius after work begins.
- In areas where nene 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.

**nene 4(d) rule:** A 4(d) rule was established at the time the nene was downlisted to threatened status. Under the 4(d) rule, the following actions are not prohibited under the Act, provided the additional measures described in the downlisting rule are adhered to:

- Take by landowners, or their agents, conducting intentional harassment in the form of hazing or other deterrent measures not likely to cause direct injury or mortality, or nene surveys.
- Take that is incidental to conducting lawful control of introduced predators or habitat management activities for nene.
- Take by authorized law enforcement officers for the purpose of aiding or euthanizing sick, injured, or orphaned nene; disposing of dead specimens; and salvaging a dead specimen that may be used for scientific study.

# General Project Design Guidelines - Holei and 23 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

Holei *Ochrosia kilaueaensis*

Hawaiian Duck *Anas wyvilliana*

Neraudia ovata

Po'e *Portulaca sclerocarpa*

Hawaiian Stilt *Himantopus mexicanus knudseni*

Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*

Band-rumped Storm-petrel *Hydrobates castro*

Ihi *Portulaca villosa*

Hawaiian Coot (alae Ke'oke'o) *Fulica alai*

`aiea *Nothocestrum breviflorum*

Hawaiian Hoary Bat *Lasiurus cinereus semotus*

Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*

*Microlepia strigosa* var. *mauiensis*

Hawaiian Petrel *Pterodroma sandwichensis*

Newell's Shearwater *Puffinus newelli*

Carter's Panicgrass *Panicum fauriei* var. *carteri*

Hala Pepe *Dracaena konaensis*

Green Sea Turtle *Chelonia mydas*

Loulu *Pritchardia maideniana*

Hilo Ischaemum *Ischaemum byrone*

Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Holei *Ochrosia haleakalae*

Blackburn's Sphinx Moth *Manduca blackburni*

**Endangered Hawaiian petrel (*Pterodroma sandwichensis*), Threatened Newell's shearwater (*Puffinus auricularis newelli*), and Endangered Hawaii Distinct Population Segment of the band-rumped storm-petrel (*Oceanodroma castro*):**

Hawaiian seabirds may traverse the project area at night during the breeding, nesting and fledging seasons (March 1 to December 15). Outdoor lighting could result in seabird disorientation, fallout, and injury or mortality. Seabirds are attracted to lights and after circling the lights they may become exhausted and collide with nearby wires, buildings, or other structures or they may land on the ground. Downed seabirds are subject to increased mortality due to collision with automobiles, starvation, and predation by dogs, cats, and other predators. Young birds (fledglings) traversing the project area between September 15 and December 15, in their first flights from their mountain nests to the sea, are particularly vulnerable to light attraction.

To avoid and minimize potential project impacts to seabirds we recommend you incorporate the following measures into your project description:

- Fully shield all outdoor lights so the bulb can only be seen from below.
- Install automatic motion sensor switches and controls on all outdoor lights or turn off lights when human activity is not occurring in the lighted area.
- Avoid nighttime construction during the seabird fledging period, September 15 through December 15.

Listed seabirds have been documented colliding with communication towers, particularly in areas of high seabird passage rate. In general, self-supporting monopoles are the least likely to result in collisions, whereas lattice towers, particularly those that rely on guy-wires, have a greater risk.

To avoid and minimize the likelihood that towers will result in collisions by listed seabirds we recommend you incorporate the following measures into your project description:

- The profile of the tower should be as small as possible, minimize the extent of the tower that protrudes above the surrounding vegetation layer, and avoid the use of guywires.
- If the top of the tower must be lit to comply with Federal Aviation Administration regulations, use a flashing red light verses a steady-beam red or white light.
- If possible, co-locate with existing towers or facilities.

Seabirds have been known to collide with fences, powerlines, and other structures near nesting colonies. To avoid and minimize the likelihood of collision we recommend you incorporate the following measures into your project description:

- Where fences extend above vegetation, integrate three strands of polytape into the fence to increase visibility.
- For powerlines, guywires and other cables, minimize exposure above vegetation height and vertical profile.



# General Project Design Guidelines - Holei and 23 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: March 1, 2020 for the following species included in your project

Holei *Ochrosia kilaueaensis*

Hawaiian Duck *Anas wyvilliana*

Neraudia ovata

Po'e *Portulaca sclerocarpa*

Hawaiian Stilt *Himantopus mexicanus knudseni*

Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*

Band-rumped Storm-petrel *Hydrobates castro*

Ihi *Portulaca villosa*

Hawaiian Coot (alae Ke'oke'o) *Fulica alai*

`aiea *Nothocestrum breviflorum*

Hawaiian Hoary Bat *Lasiurus cinereus semotus*

Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*

*Microlepia strigosa* var. *mauiensis*

Hawaiian Petrel *Pterodroma sandwichensis*

Newell's Shearwater *Puffinus newelli*

Carter's Panicgrass *Panicum fauriei* var. *carteri*

Hala Pepe *Dracaena konaensis*

Green Sea Turtle *Chelonia mydas*

Loulu *Pritchardia maideniana*

Hilo Ischaemum *Ischaemum byrone*

Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Holei *Ochrosia haleakalae*

Blackburn's Sphinx Moth *Manduca blackburni*

**Hawaiian hoary bat (*Lasiurus cinereus semotus*):** The Hawaiian hoary bat roosts in both exotic and native woody vegetation across all islands and will leave young unattended in trees and shrubs when they forage. If trees or shrubs 15 feet or taller are cleared during the pupping season, there is a risk that 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.

To avoid and minimize impacts to the endangered Hawaiian hoary bat we recommend you incorporate the following applicable measures into your project description:

- 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).
- Do not use barbed wire for fencing.

# General Project Design Guidelines - Holei and 23 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

Holei *Ochrosia kilaueaensis*

Hawaiian Duck *Anas wyvilliana*

Neraudia ovata

Po'e *Portulaca sclerocarpa*

Hawaiian Stilt *Himantopus mexicanus knudseni*

Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*

Band-rumped Storm-petrel *Hydrobates castro*

Ihi *Portulaca villosa*

Hawaiian Coot (alae Ke'oke'o) *Fulica alai*

`aiea *Nothocestrum breviflorum*

Hawaiian Hoary Bat *Lasiurus cinereus semotus*

Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*

*Microlepia strigosa* var. *mauiensis*

Hawaiian Petrel *Pterodroma sandwichensis*

Newell's Shearwater *Puffinus newelli*

Carter's Panicgrass *Panicum fauriei* var. *carteri*

Hala Pepe *Dracaena konaensis*

Green Sea Turtle *Chelonia mydas*

Loulu *Pritchardia maideniana*

Hilo Ischaemum *Ischaemum byrone*

Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Holei *Ochrosia haleakalae*

Blackburn's Sphinx Moth *Manduca blackburni*

**Pacific sea turtles: Green sea turtles (*Chelonia mydas*) (Central North Pacific DPS - **Hawaii and Johnston Atoll**), (Central West Pacific DPS - **Mariana Archipelago and Wake NWR**) and (Central South Pacific DPS - **American Samoa, Palmyra, Kingman, Howland, Baker and Jarvis NWR**), and Hawksbill sea turtle (*Eretmochelys imbricata*):**

The Service consults on sea turtles and their use of terrestrial habitats (beaches where nesting and/or basking is known to occur), whereas the National Marine Fisheries Service (NMFS) consults on sea turtles and their use of off-shore and open ocean habitats. We recommend that you consult with NMFS regarding the potential impacts from the proposed project to sea turtles in off-shore and open ocean habitats.

Green sea turtles may nest on any sandy beach area in the Pacific Islands. Hawksbill sea turtles exhibit a wide tolerance for nesting substrate (ranging from sandy beach to crushed coral) with nests typically placed under vegetation. Both species exhibit strong nesting site fidelity. Nesting occurs on Hawaiian beaches from May through September, peaking in June and July, with hatchlings emerging through November and December. Sea turtle nesting in the Western Pacific, Marianas, and South Pacific Islands can occur year-round; peaking in April and July. Nesting in American Samoa is from October to March).

Construction on, or in the vicinity of, beaches can result in sand and sediment compaction, sea turtle nest destruction, beach erosion, contaminant and nutrient runoff, and an increase in direct and ambient light pollution which may disorient hatchlings or deter nesting females. Off-road vehicle traffic may result in direct impacts to sea turtles and nests, and also contributes to habitat degradation through erosion and compaction.

Projects that alter the natural beach profile, such as nourishment and hardening, including the placement of seawalls, jetties, sandbags, and other structures, are known to reduce the suitability of on-shore habitat for sea turtles. These types of projects often result in sand compaction, erosion, and additional sedimentation in nearshore habitats, resulting in adverse effects to the ecological community and future sea turtle nests. The hardening of a shoreline increases the potential for erosion in adjacent areas, resulting in subsequent requests to install stabilization structures or conduct beach nourishment in adjacent areas. Given projected sea level rise estimates, the likelihood of increase in storm surge intensity, and other factors associated with climate change, we anticipate that beach erosion will continue and likely increase.

Whenever possible, projects should consider alternatives that avoid the modification or hardening of coastlines. Beach nourishment or beach hardening projects should evaluate the long-term effect to sea turtle nesting habitat and consider the cumulative effects.

To avoid and minimize project impacts to sea turtles and their nests we recommend you incorporate the following applicable measures into your project description:

- No vehicle use on, or modification of, the beach/dune environment during the sea turtle nesting or hatching season, or on beaches where sea turtles are known to bask.
- Do not remove or destroy native dune vegetation.
- Incorporate applicable Best Management Practices for Work in Aquatic Environments into the project design.

- Have a biologist familiar with sea turtles conduct a visual survey of the project site to ensure no basking sea turtles are present.
  - If a basking sea turtle is found within the project area, cease all mechanical or construction activities within 100 feet until the animal voluntarily leaves the area.
  - Cease all activities between the basking turtle and the ocean.
- Remove any project-related debris, trash, or equipment from the beach or dune if not actively being used.
- Do not stockpile project-related materials in the intertidal zone, reef flats, or stream channels.

Lighting: Optimal nesting habitat is a dark beach free of barriers that restrict sea turtle movement. Nesting turtles may be deterred from approaching or laying successful nests on lighted or disturbed beaches. They may become disoriented by artificial lighting, leading to exhaustion and placement of a nest in an inappropriate location (such as at or below the high tide line). Hatchlings that emerge from nests may also be disoriented by artificial lighting. Inland areas visible from the beach should be sufficiently dark to allow for successful navigation to the ocean.

To avoid and minimize project impacts to sea turtles from lighting we recommend incorporating the following applicable measures into your project description:

- Avoid nighttime work during the nesting and hatching season.
- Minimize the use of lighting and shield all project-related lights so the light is not visible from any beach.
  - If lights can't be fully shielded or if headlights must be used, fully enclose the light source with light filtering tape or filters.
- Incorporate design measures into the construction or operation of buildings adjacent to the beach to reduce ambient outdoor lighting such as:
  - tinting or using automatic window shades for exterior windows that face the beach;
  - reducing the height of exterior lighting to below 3 feet and pointed downward or away from the beach; and
- minimize light intensity to the lowest level feasible and, when possible, include timers and motion sensors.

# General Project Design Guidelines - Holei and 23 more species

Published by Pacific Islands Fish And Wildlife Office - Publication Date: February 1, 2022 for the following species included in your project

Holei *Ochrosia kilaueaensis*

Hawaiian Duck *Anas wyvilliana*

Neraudia ovata

Po'e *Portulaca sclerocarpa*

Hawaiian Stilt *Himantopus mexicanus knudseni*

Hawaiian Goose *Branta* (=Nesochen) *sandvicensis*

Band-rumped Storm-petrel *Hydrobates castro*

Ihi *Portulaca villosa*

Hawaiian Coot (alae Ke'oke'o) *Fulica alai*

`aiea *Nothocestrum breviflorum*

Hawaiian Hoary Bat *Lasiurus cinereus semotus*

Kookoolau *Bidens hillebrandiana* ssp. *hillebrandiana*

*Microlepia strigosa* var. *mauiensis*

Hawaiian Petrel *Pterodroma sandwichensis*

Newell's Shearwater *Puffinus newelli*

Carter's Panicgrass *Panicum fauriei* var. *carteri*

Hala Pepe *Dracaena konaensis*

Green Sea Turtle *Chelonia mydas*

Loulu *Pritchardia maideniana*

Hilo Ischaemum *Ischaemum byrone*

Short-tailed Albatross *Phoebastria* (=Diomedea) *albatrus*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Holei *Ochrosia haleakalae*

Blackburn's Sphinx Moth *Manduca blackburni*

**Blackburn's sphinx moth (*Manduca blackburni*):**

Adult Blackburn's sphinx moths feed on nectar from native plants, including beach morning glory (*Ipomoea pes-caprae*), iliee (*Plumbago zeylanica*), and maiapilo (*Capparis sandwichiana*); larvae feed upon non-native tree tobacco (*Nicotiana glauca*) and native aiea (*Nothocestrum* sp.). To pupate, the larvae burrow into the soil and can remain in a state of torpor for a year or more before emerging from the soil. Soil disturbance can result in death of the pupae.

We offer the following survey recommendations to assess whether the Blackburn's sphinx moth is within the project area:

- A biologist familiar with the species should survey areas of proposed activities for Blackburn's sphinx moth and its larval host plants prior to work initiation.
  - Surveys should be conducted during the wettest portion of the year (usually November-April or several weeks after a significant rain) and within 4-6 weeks prior to construction.
  - Surveys should include searches for eggs, larvae, and signs of larval feeding (chewed stems, frass, or leaf damage).
  - If native aiea or tree tobacco over 3 feet tall, or adult Blackburn's sphinx moths are found during surveys, do not disturb them and contact the Service for additional guidance to avoid take.

If no Blackburn's sphinx moth, aiea, or tree tobacco are found during surveys, it is imperative that measures be taken to avoid attraction of Blackburn's sphinx moth to the project location and prohibit tree tobacco from entering the site. Tree tobacco can grow greater than 3 feet tall in approximately 6 weeks. If it grows over 3 feet after surveys have been completed, the plants may become a host plant for Blackburn's sphinx moth larvae. We therefore recommend that you:

- Remove any tree tobacco less than 3 feet tall.
- Monitor the site every 4-6 weeks for new tree tobacco growth before, during, and after the proposed ground-disturbing activity. This monitoring for can be completed by any staff, such as groundskeeper or regular maintenance crew, if they are provided with picture placards of tree tobacco at different life stages.