



Hawaiian Memorial Park Cemetery Expansion Project

FINAL ENVIRONMENTAL IMPACT STATEMENT

April 2019

Prepared for



HAWAIIAN MEMORIAL
LIFE PLAN

Prepared by

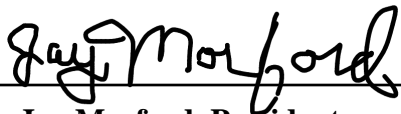


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**FINAL
ENVIRONMENTAL IMPACT STATEMENT
FOR THE
HAWAIIAN MEMORIAL PARK
CEMETERY EXPANSION PROJECT**

April 2019

The Final Environmental Impact Statement and all ancillary documents were prepared under the signatory's direction or supervision, and the information submitted, to the best of the signatory's knowledge, fully addresses document content requirements as set forth in sections 11-200-17 and 11-200-18, Hawai'i Administrative Rules, as applicable.



**Mr. Jay Morford, President
Hawaiian Memorial Life Plan, Ltd.**

April 1, 2019

Date



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PREFACE

This Final Environmental Impact Statement was prepared pursuant to Chapter 343, Hawai‘i Revised Statutes, and Title 11, Chapter 200, Administrative Rules, Department of Health, State of Hawai‘i.

The following notation has been used to depict substantive changes to this document from the previously published Draft Environmental Impact Statement based upon the comments received.

1. Insertions are shown in the color “burnt orange” by an underline [new insertion].
2. Deletions are shown by two lines striking through it [~~double strike through deletion~~].

In order to maintain legibility, formatting changes and other non-substantive changes made to this document have not been depicted with a “burnt orange” underline or a double strike through. Non-substantive changes include, but are not limited to, items such as revisions to headers and footers, table of contents updates for page numbers, page and paragraph spacing, formatting refinements, grammatical corrections, and revisions reflecting this document as a “Final” EIS instead of a “Draft” EIS in the page header.

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APPENDICES**APPENDIX**

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Preparation Notice Comments and Responses****APPENDIX A-2****Draft Environmental Impact Statement
Comments and Responses****APPENDIX A-3****Neighborhood Board Meeting Minutes****APPENDIX A-4****Other Correspondence****APPENDIX B****Market Study and Economic Analysis**Market Study, Economic Impact Analysis, and Public Fiscal Assessment of the Proposed
Hawaiian Memorial Park Expansion Project*Prepared by: CBRE. July 2018***APPENDIX C****Rockfall Study**Draft Phase 1 Potential Rockfall And Slope Hazard Assessment Hawaiian Memorial Park
Cemetery Expansion*Prepared by: Geolabs, Inc. January 2018***APPENDIX D****Preliminary Engineering Report**

Final Preliminary Engineering Report Hawaiian Memorial Park Cemetery Expansion Project

*Prepared by: Sam O. Hirota, Inc. August 2018***APPENDIX E****Botanical Study**

Botanical Resources Assessment for the Hawaiian Memorial Park Expansion Plan

*Prepared by: Maya LeGrande. January 2018***APPENDIX F****Avian and Mammalian Report**Avian and Terrestrial Mammalian Surveys Conducted for the Hawaiian Memorial Park
Cemetery Expansion Project*Prepared by: Reginald E. David. November 2017*

APPENDIX G**Invertebrate Study**

Survey of Native Invertebrate Resources in proposed expansion of Hawaiian Memorial Park

Prepared by: Steven Lee Montgomery, Ph. D. July 2017

APPENDIX H**Groundwater Assessment**

Assessment of the Potential Impact on Groundwater of the Proposed Expansion of the Hawaiian Memorial Park

Prepared by: Tom Nance Water Resource Engineering. April 2018

APPENDIX I**Water Quality Study**

Water Quality Report on Impacts to Kawa Stream from Proposed Expansion of Hawaiian Memorial Park

Prepared by: Element Environmental LLC, July 2018

APPENDIX J**Archaeological Report**

Archaeological Inventory Survey for Hawaiian Memorial Park, Kāne‘ohe Ahupua‘a, Ko‘olaupoko District, Island of O‘ahu

Prepared by: Honua Consulting, August 2018

APPENDIX K**Cultural Impact Assessment Report**

Draft Cultural Impact Assessment Report for Hawaiian Memorial Park Expansion Area, Kāne‘ohe Ahupua‘a, Ko‘olaupoko District, O‘ahu Island

Prepared by: Honua Consulting, August 2018

APPENDIX L**Environmental Noise Assessment**

Environmental Noise Assessment and Prediction Report Hawaiian Memorial Park Kāne‘ohe, O‘ahu, Hawai‘i

Prepared by: Censeo AV + Acoustics, May 2018

APPENDIX M**Environmental Records Survey**

Radius Map Report With Geocheck

Prepared by: EDR, April 2018

APPENDIX N**Traffic Study**

Traffic Impact Analysis Report Hawaiian Memorial Park Cemetery Expansion

Prepared by: Austin, Tsutsumi & Associates, Inc., August 2018

APPENDIX O

**Jurisdictional Waters Determination / Memo,
Preliminary Fieldwork on “Lipalu Channel”**

Jurisdictional waters determination, Hawaiian Memorial Park, Kāne‘ohe, O‘ahu

Prepared by: AECOS, Inc., February 2019

Memo, Preliminary Fieldwork on “Lipalu Channel” At Hawaiian Memorial Cemetery,
Kāne‘ohe, O‘ahu

Prepared by: AECOS, Inc., February 2019

ACRONYMS

AAQS	ambient air quality standards
ACS	American Community Survey
AHD	Ameron HC&D
AIS	archaeological inventory survey
ALISH	Agricultural Lands of Importance to the State of Hawai‘i
AML	‘Ahahui Mālama I Ka Lōkahi
AMSL	above mean sea level
APE	area of potential effect
BMP	Best Management Practices
BLNR	Board of Land and Natural Resources
BWS	Board of Water Supply
CAD	computer aided design
CCRT	Center for Conservation, Research and Training
CDP	census designated place
CDUP	Conservation District Use Permit
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation & Liability Information System
Cf	cubic feet
CFR	Code of Federal Regulations
Cfs	cubic feet per second
CORRACTS	Corrective Actions Facilities
Cy	cubic yards
CIA	Cultural Impact Assessment
CMC	Castle Medical Center
CRSP	Colorado Rockfall Simulation Program
CSH	Cultural Surveys Hawai‘i
CWA	Clean Water Act
CWB	Clean Water Branch
CWRM	Commission on Water Resource Management
CZM	Coastal Zone Management
DA	Department of the Army
DAR	Division of Aquatic Resources
dB	decibels
dBA	A-weighted decibels
DBEDT	Department of Business, Economic Development and Tourism
DEIS	Draft Environmental Impact Statement
DES	Department of Environmental Services
DLNR	Department of Land & Natural Resources
DNL	Day-Night Equivalent Sound Level
DOCARE	Division of Conservation and Resources Enforcement
DOD	Department of Defense
DOE	Department of Education
DOFAW	Division of Forestry and Wildlife

ACRONYMS

DOH	Department of Health
DP	Development Plan
DPP	Department of Planning and Permitting
DSP	Division of State Parks
DTS	Department of Transportation Services
E2	Element Environmental
EA	Environmental Assessment
EAL	Environmental Action Level
EIS	Environmental Impact Statement
EISPN	Environmental Impact Statement Preparation Notice
ELISA	enzyme-linked immunosorbent assay
EMS	Emergency Medical Services
EO	Executive Order
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
ESA	Endangered Species Act
ESA	Environmental Site Assessment
ESCP	Erosion and Sediment Control Plan
F	Fahrenheit
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHAT	Flood Hazard Assessment Tool
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FRP	facility response plan
FTA	Federal Transit Administration
FTE	full-time equivalent
FWS	U.S. Fish and Wildlife Service
GET	General Excise Tax
Gpd	gallons per day
Gpm	gallons per minute
H-POWER	Honolulu Program of Waste Energy Recovery
HAR	Hawai‘i Administrative Rules
HBG	Ho‘omaluhia Botanical Garden
HECO	Hawaiian Electric Company
HEP	Hawaiian Earth Products
HEMA	Hawai‘i Emergency Management Agency
HEPA	Hawai‘i Environmental Policy Act
HHF	Helber Hastert & Fee, Planners
HILT	Hawaiian Islands Land Trust
HMP	Hawaiian Memorial Park
HMPM	Hawaiian Memorial Park Mortuary
HPD	Honolulu Police Department
HRS	Hawai‘i Revised Statutes
HSA	Hawai‘i Stream Assessment
HTA	Hawai‘i Tourism Authority

ACRONYMS

IPCC	Intergovernmental Panel on Climate Change (IPCC)
ITT	International Telephone and Telegraph
JD	jurisdictional determination
KHCC	Kailua Hawaiian Civic Club
KPWMP	Ko‘olau Poko Watershed Management Plan
KSLF	Kapa‘a Sanitary Landfill
LCA	Land Commission Awards
LEED	Leadership in Energy and Environmental Design
L ₉₀	90% exceedance sound level
Leq	Equivalent Sound Level
L _{dn}	Day-Night Equivalent Sound Level
L _{max}	A-weighted sound pressure levels
LID	low impact design
LOS	Level of Service
LSB	Land Study Bureau
LUC	Land Use Commission
LUO	Land Use Ordinance
LUST	leaking underground storage tank
LWCF	Land and Water Conservation Fund
MCBH	Marine Corps Base Hawaii
mgd	million gallons per day
mm	millimeters
MHHW	Mean higher high water
MLLW	Mean lower low water
MOA	Memorandum of Agreement
MSL	mean sea level
NAAQS	National Ambient Air Quality Standards
NHO	Native Hawaiian Organization
NMFS	National Marine Fisheries Service
N+N	Nitrate plus Nitrite
NOAA	National Oceanic Atmospheric Administration’s
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resources Conservation Service
OEQC	Office of Environmental Quality Control
OHA	Office of Hawaiian Affairs
OIBC	O‘ahu Island Burial Council
OISC	Oahu Invasive Species Committee
PER	Preliminary Engineering Report
PISA	Percentage of impermeable surface area
PRSA	Potential Rockfall Source Areas
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental conditions

ACRONYMS

RFP	request for proposal
RLA	Recovery Land Acquisition
ROE	right of entry
ROH	revised ordinances of Honolulu
RPT	Real Property Tax
SEL	sound energy level
SEMS	Superfund Enterprise Management System
SHP	State Historic Park
SHPD	State Historic Preservation Division
SHWS	State Hazardous Waste Site
SIHP	State Inventory of Historic Places
SLH	Session Laws of Hawai‘i
SMA	Special Management Area
SMP	Special Management Area Use Permit
SPCC	spill prevention, control and countermeasure
SPR	State Park Reserve
SUP	special use permit
TCLP	toxicity characteristic leaching procedure
TIAR	traffic impact assessment report
TMDL	Total Maximum Daily Load
TMK	tax map key
TN	Total Nitrogen
TNWRE	Tom Nance Water Resource Engineering
TP	Total Phosphorous
TSD	Treatment, Storage, & Disposal
TSS	total suspended solids
UH	University of Hawai‘i
UIC	underground injection control
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USGCRP	U.S. Global Change Research Program
UST	underground storage tank
VOC	volatile organic compounds
WQC	water quality certification
WQLS	water quality limited segments
WQV	water quality volume
XTEZ	Extreme Tsunami Evacuation Zone



SUMMARY OF HAWAIIAN MEMORIAL PARK CEMETERY EXPANSION PROJECT

Hawaiian Memorial Life Plan, Ltd. (Petitioner) owns and manages Hawaiian Memorial Park (HMP), a full service cemetery located in the Kāneʻohe district of the Island of Oʻahu. HMP provides the community with burial plots and a variety of interment options. The Petitioner is proposing to expand HMP because of growth in Oʻahu’s aging population and demand for ground interment and inurnment spaces. Currently, less than 6% of individual plots at HMP are available for families. Therefore, the Petitioner is asking the State of Hawai‘i (State), Land Use Commission (LUC) to reclassify a portion (53.45 acres) of their larger 164.4 acre property from the State Conservation District to the Urban District, allowing for the expansion of the cemetery to meet future burial plot needs. This expansion project is referred to as the Hawaiian Memorial Park Cemetery Expansion Project (“Project” or “Proposed Action”). The property the Petitioner intends to reclassify is referred to as the “Petition Area.”

The Proposed Action consists of two components: 1) expansion of the HMP cemetery to include 28.2 acres of new cemetery space; and 2) creation of a 14.5-acre Cultural Preserve immediately northeast of the cemetery expansion area. Remaining portions of the larger 164.4 acre property surrounding the Petition Area would remain undeveloped. A conservation easement with the Hawaiian Islands Land Trust would be placed on 156.5 acres of the larger parcel (less HMP’s 7.9-acre Ocean View Garden section), restricting future development of the property except for execution of the Proposed Action.

PETITIONER

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Telephone: (808) 522-5233

ACCEPTING AUTHORITY

Contact: Land Use Commission
Department of Business, Economic Development & Tourism
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Honolulu, Hawai'i 96813
Contact: Mr. Daniel Orodener, Executive Director
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ENVIRONMENTAL IMPACT STATEMENT PREPARER

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Contact: Mr. Ronald Sato, AICP, Senior Associate
HHF Principal-in-Charge: Mr. Scott Ezer, Principal

STUDIES CONTRIBUTING TO THIS DEIS

The information in this document has been obtained from site visits, print and online reference sources, and the following technical studies included in the appendices of this document:

- Archaeological Inventory Survey
- Avian and Mammalian Survey
- Botanical Survey
- Cultural Impact Assessment
- Environmental Noise Study
- Environmental Records Survey
- Groundwater Study
- Invertebrate Survey
- Jurisdictional Waters Survey
- Market Study
- Preliminary Engineering Analysis
- Rockfall Potential and Hillside Slope Evaluation
- Traffic Study
- Water Quality Study

LISTING OF PERMITS OR APPROVALS

A listing of required discretionary land use approvals and ministerial permits for this project is provided.

Federal Permits

- Department of Army Permit (Nationwide or Individual Permit)
 - Section 106, National Historic Preservation Act
 - Section 7, Endangered Species Act
 - Coastal Zone Management Act Federal Consistency Determination
 - Section 401 Water Quality Certification

State of Hawai'i Permits

Land Use Commission

- State Land Use District Boundary Amendment

Department of Health

- National Pollutant Discharge Elimination System (NPDES) Permit - Construction Activities
- Construction Noise Permit, if required

Department of Land and Natural Resources, Historic Preservation Division

- Chapter 6E, HRS, Historic Preservation Review

City and County of Honolulu Permits

Board of Water Supply

- Water System Facilities Charges

Department of Planning and Permitting

- Grading Permit
- Drain Connection Permit
- Dewatering Permit (If Applicable)
- Conservation Easement Designation

ALTERNATIVES CONSIDERED

The following alternatives to the Proposed Action were identified and considered, but eventually eliminated from further consideration.

1. No Action Alternative: This alternative involves not implementing improvements associated with the Proposed Action. This alternative represents a baseline of future environmental conditions without the Proposed Action, and was used to assess and evaluate probable impacts or changes resulting from the Proposed Action.
2. Postponing the Proposed Action: This alternative involves postponing the Proposed Action due to the need for further study to assess the project's environmental effects.

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3. Expanded Cemetery Development: This alternative involves utilizing the entire 164-acre property (Parcel 1) for developing additional cemetery space along with the Cultural Preserve.
4. Eliminate Cultural Preserve: This alternative involves only developing the cemetery expansion area. The 14.5 acre Cultural Preserve would be eliminated from the Petition Area and improvements planned.
5. 2007 Cemetery Expansion Plan: This alternative involves implementing the prior 2007 cemetery expansion plan proposed for the 164-acre Parcel 1.
6. Cemetery Expansion on Adjacent Site: This alternative involves only expanding the HMP cemetery on an adjacent State-owned property (Tax Map Key (1) 4-5-035: 002).
7. Other O‘ahu Alternative Locations. This alternative involves creating a new cemetery at a different location on the island of O‘ahu, such as in the ‘Ewa district.

SUMMARY OF SIGNIFICANT IMPACTS AND MITIGATION MEASURES

The following is a summary of significant impacts and proposed mitigation measures discussed in Chapters 3, 4, and 5 of the DEIS.

Topography. A substantial amount of grading is needed to develop the expanded cemetery area, with portions of the Petition Area possessing steep slopes (greater than 50%) reduced to slopes of 20% or less to allow for pedestrian access. The lower flank slopes of Oneawa Hills on the western end of the Petition Area would be excavated. This location is where the most significant changes to Petition Area topographic conditions would occur. A smaller knoll in this area generally bounded by Lipalu Street and Ohaha Place would also be excavated. Excess excavated soil would be used to fill lower portions of the Petition Area including the area below the existing western hillside, and the majority of the eastern half of the cemetery expansion area.

Adverse topographic impacts would be avoided through mitigative measures comprised of best management practices and design criteria incorporated into design plans. Such measures would include installation of subdrains at the base of fill slopes to ensure seepage does not accumulate at the toe of slopes. Other measures involve limiting fill slopes to be keyed in design for stability with benches at a maximum of 30 foot height intervals.

Soils. Project grading activities would result in the removal of a considerable amounts of existing soils, mixed cobbles, and other rock material. About 88% of excavated materials would be redistributed as fill in lower portions of the cemetery expansion area. Alaeloa soils of the Petition Area’s western hillside would be excavated and redistributed over Kāne‘ohe soils in the lower basin and/or in Alaeloa soil in the eastern half of the cemetery expansion area. Kāne‘ohe soils would also be excavated from the smaller knoll in the lower basin, and redistributed within the western half of the area over Kāne‘ohe soils as well as Alaeloa soils in the eastern portion of the

EXECUTIVE SUMMARY

Petition Area. Both Alaeloa and Kāneʻohe soils are characteristically well-drained. Therefore, soil redistribution would not result in adverse, long-term impacts.

Significant short-term impacts are anticipated during the project's construction phase, requiring implementation of BMPs to minimize impacts. BMPs would include use of structural or vegetative controls to stabilize site soils and minimize the erosive potential of runoff. Permits including grading, grubbing, stockpiling, and a National Pollution Discharge Elimination System permit would be obtained after agency review, and would discuss applicable BMPs. An Erosion and Sediment Control Plan would also be prepared. BMPs would be incorporated as part of permit approvals and development of the ESCP.

Mitigative measures would several design measures being implemented to ensure long-term impacts are avoided. Measures include aerating soils due to the relatively high moisture contents, performing clearing and grubbing work incrementally, over excavating soft and yielding areas encountered during clearing and grubbing, using excavated rock materials less than 12 inches in size as general fill material, and overfilling of fill slope to compensate for anticipated settlement. Filled slopes would be allowed time to settle before improvements are constructed.

Natural Hazards. The project would not significantly contribute to or be significantly impacted by most natural hazards such as seismic hazards, hurricane and tsunamis, and sea level rise. Project improvements should have minimal impact on potential flood hazards associated with lower lying residences, and would not change the current Zone X designation of these areas (located outside the 500-year flood). Drainage improvements would have a beneficial effect on potential flooding by reducing the velocity and quantities of stormwater runoff, and reduce sediment discharges and erosion.

- **Rockfall and Debris Hazards.** The Proposed Project is geotechnically feasible and the Petition Area is suitable for cemetery development. Project rockfall simulation modeling indicates rockfall hazard is possible from areas upslope and outside the Petition Area. The area where hazard is greatest is above the Cultural Preserve. Topographic disturbance would not be significant in this area as future activities are related to landscape restoration and historic site preservation. These activities would not occur in the upper Preserve area where rockfall sources are situated and risk is most significant. As a result, mitigation measures are not required in this area. However, rockfall hazard warning signs would be posted to alert visitors of the potential for falling rocks in the mauka area of the Preserve.

The eastern portion of the cemetery expansion area would not be subject to rockfall hazard. Model results indicate the likelihood of falling rock entering the upslope cemetery boundary is low. The central portion of the cemetery expansion area would be subject to rockfall hazard with mitigation measures implemented through the project design.

Mitigative design measures include construction of a concrete lined catchment ditch upslope from the cemetery expansion boundary in this area and installation of chain link fencing along and upslope from the ditch. Landslide and debris flow hazard would be

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reduced through project grading and landscaping improvements. In particular, grading improvements would reduce area slope conditions, reducing the likelihood of landslides. However, remaining debris flow risk exists in areas upslope the Petition Area. Measures to mitigate landslide and debris flow hazard from upslope areas include construction of a surface drainage interception system along the upper site boundary to reduce potential for storm water runoff encroachment.

Biological Resources.

- **Botanical Resources.** Project grading activities would alter existing botanical characteristics of the cemetery expansion area. Although changes are anticipated, Federal or State-listed threatened or endangered plant species would not be impacted as none were observed within the Petition Area. The majority of existing plant species displaced are alien with a smaller number classified as Polynesian introductions. *P. grossus*, the introduced fern species commonly known as Laua‘e, would be displaced.

The endemic fern also known as Laua‘e, *M. spectrum*, was not observed in the Petition Area. Although *M. spectrum* is likely the fern known in native Hawaiian legends as Laua‘e, both species possess cultural value. Given the cultural value of *P. grossus*, specimen of this fern species could be used to landscape the cemetery expansion area to perpetuate its presence in the Petition Area. Native plant populations that include Ohi‘a Lehua and Ka‘e‘e populations would also be displaced. Seeds or cuttings from extant Ohi‘a Lehua specimen could be collected and used in replanting efforts in the cemetery expansion area or the Cultural Preserve. Consultation with horticulture experts could provide guidance on techniques to propagate Ka‘e‘e specimen either through cuttings or seed germination to ensure their continued presence in the Petition Area.

Vegetation in the Cultural Preserve would remain similar to existing conditions because site disturbing improvements would be minimal. Native and Polynesian introduced plants displaced by cemetery expansion activities would be used in landscaping activities within the Preserve, in alignment with proposed mitigative measures. Additional mitigative measures would involve inclusion of guidance on the preservation of the Petition Area’s native and Polynesian introduced plant species in the Cultural Preserve’s preservation plan.

The vegetative, soil, and hydrological characteristics of an area upslope an incised channel near the seep channel in the southwest portion of the Petition Area were surveyed to determine whether wetlands are present in the Petition Area. Based on this survey, it was concluded that wetlands were not present within the Petition Area. The survey documented that hydrophytic vegetation was present only within parts of the seep channel. Although wetland plants are rooted in a few short seep channel segments, the channel is best classified as a tributary rather than a wetland because: 1) plants cover less than 5% of the area; and 2) the channel has been carved by flowing water and physical indicators of flow are apparent.

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- **Avifaunal/Mammalian Resources.** The Proposed Project should not significantly impact avifaunal or mammalian species identified in the Petition Area because the majority of these species are alien. ~~However, Pue‘o may be present in the Petition Area on a limited, seasonal basis.~~ The open grassed landscape created by cemetery expansion improvements would not serve as suitable Pue‘o habitat and this species would not inhabit the Petition Area following project implementation on a long-term basis. The project would have a minor positive impact for ~~seasonally present~~ Pue‘o as the open grassed landscape established may improve the area for potential foraging use by this species. However, the character of an open grassed landscape is not consistent with the characteristics of the Pue‘o’s preferred grassland, agricultural field, and pasture habitat. The majority of O‘ahu’s Pue‘o population would continue to be found on the island’s leeward side and on the North Shore. ~~would reduce habitat for Pue‘o predators.~~ The project should not impact protected seabirds because: 1) no night-time construction is planned, and 2) no exterior lighting is planned as part of site improvements.

No mammalian species currently proposed for listing or listed under the federal or State of Hawai‘i endangered species statutes was recorded on site. The findings of the mammalian survey are consistent with the current habitat present on the site and the current land use of the area surveyed. All mammalian species detected are alien species and deleterious to native ecosystems and their dependent organisms. Although Hawaiian hoary bats were not detected in the Petition Area, the bats may be present on a seasonal basis. Therefore, cemetery expansion activities would avoid disturbance of woody vegetation taller than 15 feet (4.6 meters) during bat birthing and rearing season (June 1 through September 15).

- **Invertebrate Resources.** Petition Area native invertebrate species including the Blackline Hawaiian Damselfly would not be impacted by the Proposed Project. Grading improvements would not adversely impact the seep located in the northwestern corner of the Petition Area that provides habitat for this species. This area will be preserved with design measures incorporated to minimize effects of fill on the seep.

Although adverse impacts are not anticipated, avoidance and minimization measures are proposed to minimize ~~mitigate~~ impacts from damselfly predators and trespassers to ensure the seep remains as a functional damselfly habitat. ~~Mitigation~~ Measures include incorporation of subsurface drains designed in a herringbone pattern to ensure continued water supply to the seep; continued inspection of the seep to ensure waterflow is occurring; and construction of fencing around the habitat boundary to protect the habitat from disturbance by feral pigs and humans. Additionally, a well monitoring gauge or an appropriate alternative device would be installed in the well upslope from the seep to monitor water levels before, during, and after project construction. A permanent irrigation line extending from the cemetery expansion area irrigation system would also be installed. If the gauge indicates water levels have declined to levels potentially affecting the seep, water from the irrigation line could be provided to the well to stabilize water levels. The irrigation line would serve as a long-term means of ensuring continued seep water flow. A

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temporary irrigation line would also extend to the well during construction to support water levels if needed. The feasibility and practicability of participating in a habitat restoration and conservation program for the damselfly habitat under the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife program would be evaluated. If practicable, coordination would be conducted with the U.S. Fish and Wildlife Service this agency to establish a the habitat restoration and conservation program for this damselfly's habitat under the Partners for Fish and Wildlife program.

Groundwater Resources. Grading activities could have the most significant impact to Petition Area groundwater resources. However, a groundwater study determined earthmoving activities would not impact ongoing or future uses of the Koolaupoko Aquifer. This is because the Petition Area overlies virtually impermeable volcanic geology. Grading is also expected to minimally impact the volume of groundwater underlying the aquifer. The regional watershed and the aquifer sustainable yield of 30 mgd would not be impacted by future cemetery operations as the wet climate of the windward district reduces the amount of water needed for irrigation. Cemetery operational staff indicate that irrigation of the existing cemetery is rarely needed.

The weight of fill material from grading activities could compress existing soils, adversely impacting downslope subsurface water~~groundwater~~ migration. To ensure subsurface water~~groundwater~~ flow is maintained to the well and the seep, a subsurface drainage system designed in a herringbone pattern would be implemented in the fill area above the seep. The system would be comprised of three subsurface drains drainage mainlines with smaller subdrains branching laterally from them ~~would be installed~~ to direct subsurface water~~groundwater~~ to the seep. The exact location, alignment, and depth of drain installation would be determined by final grading plans. An additional minimization measures proposed includes installation of a well monitoring gauge or other appropriate device in the well upslope the seep to monitor water levels before, during, and after project construction. Once construction concludes, a permanent irrigation line would be extended to the well from the cemetery expansion area irrigation system. If monitoring indicates water levels have declined to levels that may affect the seep, the irrigation line could be used to provide water to the well in order to stabilize water levels. The irrigation line would serve as a long-term means of ensuring continued seep water flow. If needed, a temporary irrigation line would also extend to the well during construction to support water levels.

Surface Waters. Proposed cemetery expansion improvements would change existing drainage patterns within the site, but would not adversely impact surface water resources. The establishment of the Cultural Preserve would have minimal effect on existing drainage patterns because no major site improvements are planned. A February 2019 site inspection occurred to preliminarily identify the extent of the seep drainageway located downslope from the Petition Area shallow well. The site inspection also evaluated whether the drainageway would be considered a jurisdictional water of the U.S. Based on this inspection, it was concluded that the seep drainageway would likely be considered a tributary of Kāwā Stream and would therefore be jurisdictional by rule. The area with the well and seep drainageway on the western end of the site would not be used for cemetery burial space, therefore, no grading or filling would occur or significantly impact this particular site. An

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incised channel was also identified east of the seep during the site inspection with physical indicators of flow visible for only a section of the channel. The channel section where physical indicators of flow were visible is expected to be considered a tributary of Kāwā Stream and would be jurisdictional by rule. The jurisdictional section of the channel would also be retained and would not be impacted or altered by grading activities.

Planned grading improvements would not change the overall watershed boundaries, allowing runoff to continue flowing to lower areas of site basins. The project would change topographic conditions within portions of the affected watersheds. Project grading activities would significantly alter existing site topographic conditions through proposed cut and fill activities. In particular, the basin in the eastern portion of the Petition Area would be filled. An ephemeral unnamed drainageway that discharges into a catchment basin at the end of Lipalu Street was identified in this eastern area. An additional site inspection was conducted in February 2019 to preliminarily identify the drainageway extent and evaluate whether the drainageway would be considered a jurisdictional water of the U.S. Generally discontinuous indicators of physical flow were identified, resulting in the conclusion that the drainageway is a tributary of Kāwā Stream. Therefore, this drainageway would likely be considered jurisdictional by rule.

Grading plans are designed to create a more level site with sloped grades of less than 20%, which is an improvement because portions of the site currently have areas with much steeper grades. Therefore, the velocity of runoff would be reduced by less steep grades. Installation of turf grass over the majority of the area to be used for cemetery space would slow the velocity of runoff and result in improved groundwater infiltration and decreased sediment transport. Remaining runoff would be detained by future retention/detention basins, allowing sediments and nutrients to settle before eventually discharging into the City's drainage system and Kāwā Stream. Given the project's capacity to alter the drainageway in the eastern portion of the Petition Area, a Department of Army permit from the U.S. Army Corps of Engineers would be obtained for grading plans that alter this drainageway.

Water Quality. The Proposed Project would have a beneficial long-term impact on the water quality of associated water resources such as Kāwā Stream and Kāne'ōhe Bay. The water quality study estimated project implementation would reduce storm water flow and associated sediment and nutrient loads by about one half, resulting in a reduction in pollutants measured. Fertilizers are not used in the existing HMP cemetery given the generally fertile conditions and would not be used in the cemetery expansion area. Pesticides also are not used in HMP maintenance activities. The project is not expected to result in elevated concentrations of herbicides ~~and pesticides~~ that would adversely impact the quality of associated water resources. The herbicide Roundup (glyphosate) is used infrequently for spot treatment given Kāne'ōhe's generally wet weather and the characteristics of the cemetery lawn. Use of this herbicide in the cemetery expansion area would occur in compliance with manufacturer directions with application avoided on windy and rainy days. Therefore, future use of this herbicide should not result in adverse water quality impacts. Formaldehyde concentrations were not detected in groundwater samples obtained and should not be present after project implementation.

Although long-term impacts are not anticipated, the project may result in short-term construction related impacts due to the possibility of sediment discharge from grading activities. Measures to mitigate this impact include incremental phasing of site grading and stabilization of graded areas with structural controls before the next phase is graded. Other measures would involve halting construction work if an emergency weather warning is issued with work resuming only when weather conditions improve.

Historic, Archaeological, and Cultural Resources

- **Historic and Archaeological Resources.** The Proposed Project would have an overall positive and beneficial impact on previously identified and newly identified sites within the Petition Area. Several of the historic sites that would be impacted by grading plans for the cemetery expansion were determined to require no further work due to their historic function and poor remnant condition. Other sites were recommended for data recovery, after which the sites can be demolished. ~~impact previously and newly identified historic sites in the Petition Area. Although impacts are anticipated, measures are proposed to mitigate potential effects on these historic sites.~~ Mitigative measures include data recovery, preservation, and archaeological monitoring. Specific mitigation measures and their rationale are discussed in Section 4.1.3. In summary, three sites recommended for avoidance and protection would not be impacted by the project as they are either located outside the Petition Area or were deliberately excluded from grading activities. Several historic sites impacted by grading activities would require no further work due to their historic function and poor condition. Sites recommended for data recovery would eventually be demolished or covered by fill. SHPD completed their review of the draft AIS and concurred with the effect determination and recommendations based upon comments provided in March 2019. Overall, the comments were relatively minor and did not change the AIS study findings or study methodology. A revised draft AIS has been submitted to SHPD in March 2019. SHPD is also starting preparing the acceptance letter for the AIS in anticipation of the necessary revisions being incorporated.

A total of 11 sites would be located within the Cultural Preserve and would benefit from Preserve management and preservation efforts. The extent of Kawa‘ewa‘e Heiau was also determined to be larger than indicated in earlier surveys, resulting in a portion of the northern end of the heiau being located outside the Cultural Preserve and Petition Area. Restoration of portions of the heiau and surrounding cultural landscape located outside the Preserve would still occur by the Preserve’s stewarding organization and associated individuals. However, occurrence of these activities outside Preserve boundaries may require issuance of a Site Plan Approval from the State DLNR. If needed, this approval would be obtained separately from this Petition Area.

- **Cultural Resources.** Cultural Resources identified in the Petition Area include historic sites; natural resources such as flora, fauna, and natural phenomenon; intangible resources including mo‘olelo, ‘ōlelo no‘eau, and mele; and cultural practices. Specific mitigation measures proposed to avoid impacts to these resources are discussed in Section 4.2.3. In particular, the Cultural Preserve would provide a space where cultural resources and

practices could be supported and perpetuated. In addition to large areas of existing plants, culturally significant natural resources such as Laua‘e and Pala‘ā fern displaced by grading activities would be grown within the Preserve, ensuring their continued presence in the Petition Area and access for cultural practitioners. In alignment with recommendations, practitioners would continue to be allowed access into the Cultural Preserve via managed (gated and restricted) access from Lipalu Street or a proposed new pathway through the cemetery expansion area. A preservation plan to be developed would guide stewardship and maintenance of the Preserve’s cultural resources and landscape. **The Ka Pa‘akai analysis conducted as part of the project CIA determined the proposed project would not adversely impact traditional and customary native Hawaiian rights associated with the Petition Area. The rights of native Hawaiian cultural practitioners will be preserved and protected by avoiding development of areas identified by the CIA as areas used for traditional or customary practices. Establishment of the Cultural Preserve and conservation easement would ensure lands and resources used for these practices are protected in perpetuity. Allowing access to the Preserve through managed access from Lipalu Street or the pathway proposed in the cemetery expansion area would ensure safe, regular access to the lands and resources for cultural practices.**

Noise. The primary noise related impact of the Proposed Project would be short-term construction activities that would be audible to nearby residences. Although construction noise levels are expected to be below the FTA’s noise impact threshold for residential uses, levels may exceed existing ambient noise levels at the Petition Area boundary. Construction noise would not be loud enough to cause hearing loss, but may affect the capacity of individuals to communicate with one another, requiring them to raise their voice. While construction activities would result in noise impacts, these impacts are expected to be minor and short-term in duration. Short-term impacts can be mitigated by obtainment of a construction noise permit from the State Department of Health for the operation of construction equipment. Other mitigation measures include contractor implementation of reasonable mitigation practices such as usage of mufflers on diesel and gasoline engines and refraining from use of loud equipment within 50 feet of a residence.

Air Quality. Air quality impacts resulting from the Proposed Project would be short-term in duration and related to construction activities. Impacts would primarily result from fugitive dust emissions from construction activities and vehicle movement along with exhaust emissions from equipment. Short-term impacts may also result from vehicular CO emissions related to movement of construction equipment to and from the Petition Area, a temporary increase in local traffic from commuting construction workers, and disruption of normal traffic flow caused by roadway lane closures, if required. These short-term impacts can be mitigated through preparation and compliance with a dust control plan. This plan would include BMPs such as windscreen usage or use of temporary rock pavers for heavily traveled areas. Mitigation measures would also involve proper operation and maintenance of construction vehicles to minimize exhaust emissions.

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Visual Resources. The Proposed Project's impact to the visual character of the landscape around the Petition Area was assessed by identifying prominent views oriented toward the Petition Area from public vantage points where the Petition Area may be visible. A total of 11 views were identified at a variety of distances and orientations, providing a thorough understanding of the Project's visual impact. The project would not significantly impact the visual vividness, unity, or intactness of identified views. Although the project would alter the appearance of the Petition Area resulting from grading and landscaping improvements, significant visual impacts are not anticipated because the Petition Area is one of many elements collectively establishing the visual quality of the visible landscape. The overall impression of the Petition Area would remain as open space. Therefore, changes to the visual character of one aspect of these views would not impact the overall visual quality of the views.

Infrastructure Facilities

- **Water Facilities.** The City Board of Water Supply indicated their existing water system is adequate to accommodate the proposed expansion of the cemetery. The additional demand created for irrigation of the expanded cemetery would not have a significant impact on the City's water system. Given Kāne'ōhe's wet climate, the need for irrigating grounds would be greatly decreased. Irrigation would only be needed during drier periods, such as during summer months, or during periods of low rainfall. It has been estimated that an average of about 3,500 gpd of water would be needed for irrigation of the expanded cemetery.

However, the BWS indicated that the feasibility of using non-potable water for irrigating the cemetery expansion should be first investigated. Based upon a preliminary assessment, it was determined that it would not be feasible to utilize a non-potable water source for the project because: 1) developing a well within the Petition Area or existing HMP cemetery area are not feasible or practicable, and 2) the Halekou well system would not be sufficient to service additional demand from the cemetery expansion area.

- **Drainage Facilities.** Although project earthmoving activities will alter drainage patterns of the cemetery expansion area, the project is expected to beneficially impact drainage conditions and facilities. Positive impacts to drainage conditions are expected because grading improvements would reduce the volume of stormwater runoff. This is accomplished through a decrease in runoff rates related to the reduction in Petition Area slopes from site grading. Reduced runoff rates and improved groundwater permeability from turf grass landscaping would result in a corresponding reduction in runoff volume.

Drainage improvements are also proposed in alignment with City water quality regulations and include construction of retention/detention basins and establishment of vegetative buffers by site landscaping. These improvements would result in a further reduction in stormwater discharge volumes, benefitting drainage conditions and downslope drainage facilities. Given that existing facilities presently appear to lack capacity beyond the 10-year storm event they were designed for, drainage improvements would positively impact these

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facilities and reduce potential flooding for downstream residences. Based upon this assessment, additional mitigative measures are not needed.

- **Transportation Facilities.** The project's impact on transportation facilities was evaluated for two intersections along Kamehameha Highway corresponding with HMP's entrances. Project impacts were evaluated under two scenarios, where a traffic signal at the nearby intersection of Kamehameha Highway and Halekou Road is and is not be implemented. These scenarios were analyzed because a State Department of Transportation (DOT) signal study for this intersection is currently underway with no outcome recommended at this time. Based on analysis, similar service conditions are anticipated under both signaling scenarios with or without project implementation. Therefore, the project is not expected to significantly impact service at intersections corresponding with HMP entrances.

Without signalization, highway turning movements with and without the project would operate well with few delays. In contrast, minor street movements would operate with excessive delays with and without project implementation. Signalization of the Halekou Road intersection results in intersections analyzed operating with improved service for minor street movements regardless of whether the project is implemented. Based on this analysis, project implementation is not expected to significantly impact traffic conditions under both signaling scenarios. Further consultation and correspondence with the State DOT indicated the agency's concurrence that the project is not anticipated to significantly impact State highways. Therefore, transportation improvements to the State highway system are not required for the proposed project.

Although traffic impacts would not be significant, ~~a mitigation~~ minimization measures ~~was~~ are recommended to ensure traffic flow out of HMP improves after project implementation. The westbound approaches at HMP's two driveways would be striped to delineate a shared left/through and separate right turn lane to reflect current operating laneage. ~~This measure involves striping of the westbound approaches at HMP's two driveways to delineate a shared left/through and separate right turn lane to reflect current operating laneage.~~ Additionally, an appropriate traffic control plan would be developed by the Petitioner in the event a large activity causes temporary traffic issues at HMP access driveways.

- **Solid Waste Facilities.** Construction of site improvements, roadways, retaining walls, etc. would generate construction debris that would need to be taken to the PVT Nānākuli Construction and Demolition Material Landfill for disposal. Solid waste generated from construction of these improvements would be typical of construction related activities and would have a short-term impact. The amount of construction debris generated is expected to be significant mainly because of the volume of excess materials generated from site excavation activities. About 57,300 cubic yards of excess material would remain after site grading activities are completed. This excess material would be utilized within the existing HMP site to the extent possible. However, remaining quantities would need to be disposed of at the private Nānākuli landfill site. Once the project has been completed, long-term

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cemetery operations should not generate much additional solid waste and should have a minimal impact on solid waste processing facilities.

Public Facilities. The project would not have any significant long-term impact on existing public facilities in the general vicinity of HMP. This includes recreational facilities, medical facilities, schools, and police and fire protection services. Project implementation would not increase residential or visitor units, or generate increased demand for use of recreational or public facilities in the surrounding area due to population increases.

Cumulative and Secondary Impacts. The project would not result in secondary impacts that would have significant or adverse long-term impacts on the environment, social-economic conditions, infrastructure, or public facilities. The cemetery expansion and establishment of the Cultural Preserve would not contribute to growth inducing effects or resident population densities. The project does not include new residential subdivisions that would increase resident populations, nor does it include commercial or industrial uses that would generate substantial secondary impacts from residents or visitors to such facilities. The project is not expected to contribute to any future development pressures on surrounding properties because these areas consist of existing residences of the Pikoiloa subdivision below (makai), the Oneawa hillside above, and existing quarry on the eastern half of the hillside. The conservation easement proposed to cover both the Petition Area and remaining areas of the Petitioner's entire 164-acre property would eliminate any potential for future development pressures beyond that being proposed by this project.

There are no other known developments in the immediate area that are reasonably anticipated to be completed within the 2040 study year, and contribute to a cumulative impact on the Petition Area's environment or infrastructure facilities serving HMP. The discussion of impacts presented within this document has provided sufficient information to assist in addressing the applicable cumulative effects associated with the project because no other reasonably foreseeable future actions are being implemented. There are no future plans within the Petition Area or remaining area of the Petitioner's 164-acre property that are planned for improvements. There are no other phases planned for incremental improvements to the remaining area outside of the Petition Area. Project improvements should thus not have significant cumulative impacts on the surrounding environment.

Unresolved Issues. Unresolved issue related to the Proposed Project have not been identified. Community environmental concerns with the project have been addressed in the various sections of this document. The perceived concerns are not supported by project improvements being proposed along with the results of fieldwork and technical assessments conducted by specialists.

COMPATIBILITY WITH LAND USE PLANS AND POLICIES

State Land Use District.

- **Conservation District.** Construction and operation of a privately-owned cemetery is not currently identified as an allowable land use under both the General and Limited Subzones designated for the Petition Area. Therefore, under §13-5-25(b), HAR, the Petitioner is petitioning the State Land Use Commission to reclassify the Petition Area from the Conservation District to the Urban District to allow an expansion of the HMP cemetery.

The General subzone objective for the Petition Area is no longer applicable or appropriate to the property because it is now planned for a compatible open space use to support the expansion of the existing HMP cemetery to meet a growing demand and serve an important community function. This subzone classification is intended to designate open space where specific conservation uses may not be defined, but where urban use would be premature.

This area was initially designated as General Use subzone in 1964 because there were plans for future residential, low density apartment, and agricultural use. This subzone allowed several urban uses, some of which could be intensive such as resorts and hotels. Therefore, because development plans were not imminent at that time, it was appropriate to include this area within that subzone.

The 1978 update of the subzone maps placed the Petition Area within the current General Use subzone, which was also appropriate at that time as urban district use would have been premature. The conservation district inventory maps developed at that time identified the area as scrub land where its use as open space was appropriate until urban use was more pressing. The proposed cemetery expansion now reflects an urban use that is needed and no longer premature, and therefore the reclassification to the Urban District is appropriate. The proposed use is also consistent with the City's recently updated Ko'olau Poko Sustainable Communities Plan that designates the area for cemetery use as part of an expanded community growth boundary.

The objective of the Limited Subzone is to limit uses where natural conditions suggest constraints on human activities. However, the boundary established for this subzone appears to have been created to account for the higher slopes of the Oneawa hillside. There does not appear to be reasonable justification for the shape of this boundary, which also includes the existing quarry operations on the eastern half of the hillside. The Limited Subzone objective for the Petition Area is no longer applicable or appropriate to the property because it is now planned for a compatible open space use to support the expansion of the existing HMP cemetery to meet a growing demand and serve an important community function.

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- **Urban District.** With reclassification of the Petition Area to the Urban District, permitted uses or activities would be regulated by the City and County of Honolulu under the *Land Use Ordinance*. Under Section 21-3.40(d) of the *Land Use Ordinance*, lands that are removed from the State’s Conservation District, such as a boundary amendment shall have all uses, structures and development standards for that property follow the P-2, General Preservation District requirements. Therefore, upon reclassification of the Petition Area, the project would need to comply with the City’s P-2 development standards. Under the P-2 zoning district, cemeteries are “Permitted Uses.” The project would also be consistent with the State LUC’s eight standards for Urban District boundaries as set forth in §15-15-18, HAR in reviewing petitions for reclassification of existing district boundaries.

Hawai‘i State Plan. The Hawai‘i State Plan (Chapter 226, HRS) sets forth the goals, objectives, polices, and priority guidelines for growth, development, and allocation of limited resources throughout the State. The proposed project is consistent with the State Plan’s guiding principles and values. These principles and values concern individual and family self-sufficiency; social and economic mobility; and community or social wellbeing.

Individual and family self-sufficiency refers to the rights of people to freely pursue their personal interests. The project aids O‘ahu families in pursuing interests related to the burial and remembrance of deceased loved ones. The project provides additional burial space in anticipation of a shortfall in this space on O‘ahu. Provision of additional burial space supports State Plan principles related to social and economic mobility. Burial and remembrance customs are important social practices. Additional burial space expands burial options on O‘ahu, improving the capacity of O‘ahu families to achieve fulfilment of burial and remembrance related social practices. Principles related to community or social wellbeing concern establishment of a healthy social and physical environment that benefits the entire community. Social wellbeing on Oahu is enhanced by this project as the provision of additional burial space enhances the physical environment by providing O‘ahu residents greater capacity to engage in burial and remembrance activities.

State Functional Plans. The State Functional Plans guide the implementation of State and County actions in the areas of agriculture, conservation lands, education, energy, health, higher education, historic preservation, housing, recreation, tourism, water resources development, transportation, employment, and human services. The proposed project is consistent with applicable and pertinent objectives, policies and implementing actions of the respective State Functional Plans.

Coastal Zone Management Act. Hawai‘i’s Coastal Zone Management (CZM) program requires that development projects affecting any coastal use or resource be undertaken in a manner consistent to the maximum extent practicable with the State’s CZM objectives and policies. Although the Petition Area is not located on the coast, in Hawai‘i, the entire state has been designated as the CZM area. All objectives and policies of the State CZM were reviewed to assess their relevance to the proposed project. Some objectives and policies are more pertinent to agency actions or responsibilities, or address areas unrelated to the project. The project is consistent with applicable and pertinent State CZM objectives as discussed in Chapter 6.

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City General Plan. The City's *General Plan* is a comprehensive statement of objectives and policies which sets forth the long-range social, economic, environmental, and design objectives for O'ahu. The Plan's objectives and policies were reviewed and evaluated to determine the proposed project's consistency. Several objectives and policies were not applicable to this project. Overall, the project would be consistent with pertinent objectives and policies such as those relating the natural environment, physical development and urban design, and culture and recreation as discussed in Chapter 6.

Ko'olau Poko Sustainable Communities Plan. The project would be consistent with applicable objectives and policies from this community plan. SCP policies are intended to provide a coherent vision to guide development and are not regulatory. The existing HMP site and Veterans Cemetery are designated as "Preservation Areas" by the *Ko'olau Poko SCP's* Land Use Map, and are within the "Community Growth Boundary." This growth boundary was revised as part of the 2017 update of the SCP to include the proposed HMP cemetery expansion.

The project would also be consistent with specific policies under the Open Space Preservation section of the SCP concerning cemeteries. Policies complied with include a 150-foot buffer from residential homes, a 2,000-foot buffer from the Pohai Nani senior living community, and a phased approach to sales and marketing to minimize potential impacts to neighboring residents. In particular, the mean distance from the center of the Pohai Nani senior living community's residential tower to the proposed cemetery expansion area boundary is about 1,900 feet. Given that SCP policy guidance is not regulatory, the mean distance from the residential tower to the cemetery expansion area boundary is consistent with the 2,000-foot buffer guideline. A conservation easement on the 156-acre undeveloped portion of the property would also be implemented consistent with the Plan's policies.

Land Use Ordinance. Lands that are removed from the State's Conservation District, such as a boundary amendment shall have all uses, structures and development standards for that property follow the P-2, General Preservation District requirements. With reclassification of the Petition Area to the Urban District, the project would therefore need to comply with the City's P-2 development standards. The project would be consistent with P-2 permitted uses and site improvements would comply with applicable development standards.

Federal Regulations. Certain federal regulations would apply that are associated with a United States, Army Corps of Engineers (USACE), Department of Army Permit (DA Permit) for activities affecting jurisdictional waters. Those regulations triggered as part of the DA Permit processing for grading activities associated with the ephemeral eastern drainageway extending upslope from the City's drainage box culvert at the end of Lipalu Street consist of the following.

- Section 401, Clean Water Act (CWA). In Hawai'i, the Section 401 water quality certification (WQC) is issued by the State Department of Health (DOH), Clean Water Branch (CWB) to ensure federally permitted activities do not adversely impact State inland or marine waters.

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- **Section 402, CWA.** Section 402 of the CWA establishes the National Pollution Discharge Elimination System (NPDES) general permit to regulate point and non-point source pollutant discharges into waters of the U.S. A NPDES permit will be required for proposed grading activities because it will alter more than one acre of land.
- **Section 404, CWA.** Section 404 of the CWA establishes a program to regulate the discharge of dredge or fill material into waters of the U.S. A DA Permit would be required for grading activities affecting the ephemeral drainageway extending upslope from the City's drainage box culvert at the end of Lipalu Street through the eastern portion of the Petition Area. A more formal survey of this drainageway would be conducted to better determine its extent through the Petition Area, and a jurisdictional determination would be obtained from the USACE during the design phase of the project.
- **Section 106, National Historic Preservation Act (NHPA).** The USACE would consider the effect of issuing a DA permit for the eastern drainageway in accordance with Section 106 of the NHPA. In Hawai'i, the Department of Land and Natural Resources (DLNR), State Historic Preservation Officer (SHPO) oversees the Section 106 historic preservation compliance process. Consultations with SHPO, native Hawaiian organizations, and the public would occur to address the effects on historic sites from grading activities associated with the eastern drainageway requiring a DA Permit.
- **Section 7, Endangered Species Act of 1973 (ESA).** The USACE would consider the effect of issuing a DA permit in accordance with Section 7 of the ESA. Consultation with the U.S. Fish and Wildlife Service (FWS) and/or the National Marine Fisheries Service (NMFS) would be conducted to determine whether grading activities for the eastern drainageway may affect listed species or their designated habitat. There are no listed species or critical habitat associated with the eastern drainageway that would be affected by grading plans.
- **Coastal Zone Management Act (CZMA) of 1972.** Section 307 of the CZMA requires federal agency activities affecting any coastal use or resource to be undertaken in a manner consistent to the maximum extent practicable with the state's CZM program. Issuance of a DA Permit by the USACE for proposed earthmoving activities associated with the eastern drainageway would require a CZMA consistency determination review by the State Office of Planning. Section 6.1.5 previously discussed the larger project's consistency with applicable policies from the CZMA.

PROPOSED MINIMIZATION AND MITIGATION MEASURES

The following listing summarizes proposed minimization and mitigation measures for the proposed project. Measures are organized by the resource, characteristic, or facility they are associated with. Additional details on proposed measures are included in the Final EIS.

Topographic Characteristics: Mitigative Measures

- Conduct further geotechnical engineering study, if pertinent, and a topographic survey to evaluate site conditions in more detail, and determine specific recommendations for the project design and grading plan.
- Follow current geotechnical engineering recommendations to limit cut and fill slopes to not exceed a two horizontal to one vertical slope ratio.
- Limit fill slopes to have benches at a maximum of 30 foot height intervals, and be “keyed” in design for stability.
- Install subdrains at the base of fill slopes to assure seepage water does not accumulate at the slope toe, to avoid instability.

Soil Characteristics

- Short-Term Mitigative Measures. Specific BMPs would be identified during preparation of construction drawing design plans, and applicable ministerial permits would be obtained (e.g. grading, grubbing, stockpiling, and NPDES permit). An Erosion and Sediment Control Plan (ESCP) would also be prepared. BMPs may include the following:
 - Phase grading activities (5 acre increments) to minimize exposure time of cleared areas. Stabilize graded areas with structural controls (i.e. PVC sheets) before initiation of the next phase.
 - Utilize structural (i.e. berms) or vegetative (i.e. hydro mulch) controls to stabilize site soils and minimize the erosive potential of runoff.
 - Cease construction if emergency weather warning is issued, with work halted until weather improves.
 - Implement sediment basins to slow site stormwater flow, minimizing erosive impacts.
 - Avoid disturbance of existing ground cover more than 20 days prior to the start of construction.
- Long-Term Mitigation Measures
 - Aerate soil during construction given the relatively high anticipated subsoil moisture content to achieve desired 85% relative compaction.
 - Perform clearing and grubbing work incrementally given the larger site.
 - Over excavate soft and yielding soils encountered during clearing and grubbing below areas designated to receive fill material or improvements to expose firm material. Backfill resulting excavation with well-compacted fill material.
 - Prepare subgrade soil again where shrinkage cracks are observed after subgrade compaction.

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- Re-use on-site soils as a source of fill material provided they are free of vegetation, deleterious materials, and rock fragments greater than 12 inches. Fill materials in the upper 6 feet of finished grades would contain rock fragments no greater than 6 inches.
- Use excavated rock materials less than 12 inches in size as general fill material. Rock material may need to be processed to a well-graded granular material (average size of about 6 inches, maximum size of 12 inches). Boulders smaller than 2 feet may also be used as fill provided use does not complicate trenching and follows geotechnical engineering recommendations.
- Install subdrains in the base of filled areas to drain at the toe of the hill to address potential seepage conditions and water accumulation along the fill base.
- Require slope stabilization through structural controls (i.e. geotextile fabrics) for slopes exceeding 15%. Fill slope would be constructed by overfilling and cutting back to the design slope to achieve a well-compacted slope.
- Overfill fill slope to compensate for soil settlement given the high degree of settlement anticipated. Allow fills slopes to settle for an appropriate period (anticipated 2-6 months) before improvements are constructed.

Rockfall and Debris Hazard Characteristics: Mitigative Measures

- Post rockfall hazard warning signs at appropriate Cultural Preserve entrances to alert permitted visitors to the potential for falling rock hazard in mauka areas of the preserve.
- In the central portion of the cemetery expansion area, construct an approximately 1,000-linear foot long rockfall catchment ditch along a portion of the upslope development boundary to reduce rockfall encroachment to acceptable levels.
- Install chain link fencing along and upslope from the catchment ditch to reduce introduction of large quantities of organic debris into the ditch from the adjacent upslope forest area. If feasible, a 10-foot wide vegetation free clear zone may be implemented upslope from the ditch and encompassing the debris barrier fence.
- Inspect rock catchment ditch periodically with possible periodic clearing of debris to maintain intended catchment capacity.
- Construct a surface drainage interception system consisting of an interceptor ditch network with appropriate debris barriers and discharge outlets to reduce potential for storm water runoff debris flow encroachment.

Botanical Resources: Mitigative Measures

- Collect seeds or cuttings from extant indigenous and endemic plants for replanting efforts in and around the cemetery expansion area or in the Cultural Preserve.
- The Cultural Preserve preservation plan would include landscaping guidance related to preservation of Petition Area indigenous and endemic plant species along with collection and replanting procedures.
- The spring area in the northwest section of the Petition Area near Ohaha Place would remain undeveloped with BMPs designed to minimize short-term construction-related effects.

Mammalian Resources: Minimization Measures

- Avoid disturbing woody vegetation taller than 15 feet (4.6 meters) during bat birthing and rearing season (June 1st and September 15th).

Invertebrate Resources: Avoidance and Minimization Measures

- Schedule a regular inspection of the seep to ensure the present low trickle flow of water is continued; implement a monitoring plan during the design phase. Inspection would occur during and after project construction.
 - Inspection of the seep should be conducted before the start of construction to establish baseline water flow conditions.
 - Monitoring would occur during construction with the seep area inspected on a weekly basis to evaluate water flow in coordination with BMP measures.
 - Once construction concludes, monitoring would continue for an additional six months to ensure continued seep water flow.
 - Inspections would occur weekly for the first three months and every two weeks thereafter if conditions are satisfactory. After the six month period elapses, HMP staff would conduct monthly water flow inspections.
 - If water flow is significantly disrupted, measures would be implemented to supplement short-term water flow (i.e. piping in of new water).
 - Appropriate measures would be determined through consultation between the contractor and the design team or other specialists.
- A device would be installed inside the well to monitor water levels before, during, and after project construction. Once project earthmoving activities conclude, a permanent irrigation line extending from the cemetery expansion area irrigation system to the well would be installed. If monitoring indicates water levels have declined to levels potentially affecting the seep, water from the irrigation line could be provided to the well to stabilize water levels.
- Monitor as part of seep inspections to ensure non-native fish (i.e. Western Mosquitofish) are not present in the habitat area. Biologists would be notified if fish are sighted to ensure identification and removal.
- Revise endangered damselfly habitat boundaries as appropriate based on more accurate topographic data collected during the project's design phase. Construct fencing around the habitat boundary to protect from disturbance by feral pigs.
- Place small upright sticks away from the edges of waterlogged areas to serve as safe zones to avoid predation during molting.
- Evaluate the feasibility of initiating participation in a habitat restoration and conservation program for the damselfly seep habitat under the Partners for Fish and Wildlife program. The feasibility of this partnership first needs to be evaluated in relation to the proposed Cultural Preserve, to be managed by the Ko'olaupoko Hawaiian Civic Club, because the area is designated as a historic site (Site -8230) and may more appropriately fall under management by the civic club.
- A subsurface drainage system designed in a herringbone pattern would be implemented in the fill area above the well and seep to ensure waterflow to the well and seep is maintained.

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Groundwater Resources: Minimization Measures

- Provide a subsurface drainage system utilizing a herringbone configuration within the cemetery expansion area planned for fill activities above the seep to ensure subsurface waterflow is maintained to the area.
- Install a monitoring device inside the well to monitor water levels before, during, and after project construction. Once project earthmoving activities conclude, a permanent irrigation line extending from the cemetery expansion area's irrigation system to the well would be installed to provide a backup ensuring continued waterflow to the seep.

Water Quality Conditions: Mitigative Measures

- BMPs would be developed during construction drawing preparation, and applicable ministerial permits would be obtained (e.g. grading, grubbing, stockpiling, and NPDES permit). An Erosion and Sediment Control Plan would also be prepared.

Historic and Archaeological Resources: Mitigative Measures

- Data recovery is recommended for specific Petition Area archaeological sites to better understand and characterize them, aiding identification of further mitigative measures that may be needed. Sites where data recovery is recommended are identified in Table 4.5 in Section 4.1.3.
- Preservation is recommended for all archaeological sites located in the Cultural Preserve with preservation facilitated by creation of a Preservation Plan. The plan would include a management component, establishing guidelines for activities (i.e. cultural practices) that would occur in the Preserve. Section 4.1.3 provides additional detail on this mitigative measure.
- Implementation of an archaeological monitoring plan is recommended given the potential to adversely impact significant cultural features in the Petition Area. This monitoring plan would be designed in coordination with SHPD and approved by the agency prior to project implementation.

Cultural Resources: Mitigative Measures

- Establish the proposed Cultural Preserve and support development of a preservation and management plan to foster appropriate cultural management of the Preserve.
- Follow recommendations for historic sites discussed in the AIS.
- Continue to allow cultural practitioners access to the Preserve under Preservation Plan management guidelines. Create safe access to the heiau while limiting trespassers.
- The Preservation Plan should address the following elements: 1) allow community members and organizations to regularly maintain Kawa'ewa'e Heiau, the surrounding cultural landscape, and historic sites; 2) develop educational and interpretive programs; and 3) work with practitioners to protect culturally significant vegetation.
- Allow for restoration of the cultural landscape.

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Noise Conditions: Mitigative Measures

- A construction noise permit would be obtained from the State DOH for construction equipment operation.
- The contractor would use reasonable and standard practices to mitigate noise (i.e. mufflers on diesel and gasoline engines). Construction crews would refrain from using loud equipment within 50 feet of a residence, if possible. If unavoidable, impacts may be reduced by using equipment intermittently or by blocking the line-of-sight from noise sources to noise-sensitive receivers with barriers or other noise mitigation measures.
- Possible source control methods (i.e. insulating or enclosing equipment motors) listing under Table 4.18 would be considered during the design phase as part of contractor requirements.

Air Quality Conditions: Mitigative Measures

- Prepare dust control plan in compliance with State regulations during the project design to include BMPs (i.e. use of windscreens).
- Construction vehicles would be properly operated and all equipment properly maintained to minimize exhaust emissions.
- The movement of heavy construction equipment and workers would occur outside peak traffic periods. Design plans would be coordinated with the project contractor to ensure movement of equipment and workers does not occur during commuter peak traffic hours.

Transportation Facilities

- Short-Term Mitigative Measures
 - Avoid transport of cargo and large equipment during peak commuter traffic periods.
 - A permit would be obtained from the State Department of Transportation if transport of oversized and overweight equipment and loads is required on State roadways.
- Long-Term Minimization Measures
 - Stripe the westbound approaches at HMP driveways to delineate a shared left/through and separate right-turn lane to reflect current operating laneage.
 - Should infrequent large activities occur that may cause temporary traffic issues at driveways (i.e. start and end of an event), an appropriate traffic control plan would be developed by the Petitioner to address the situation.

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Hawaiian Memorial Life Plan, Ltd. (Petitioner) owns and manages Hawaiian Memorial Park (HMP) Cemetery that is located in the Kāneʻohe district of the Island of Oʻahu. HMP is a full-service cemetery providing the community with burial plots along with a variety of interment options, and has been at its present location since 1958. The Petitioner is proposing the expansion of HMP because of a growing aging population on Oʻahu and demand for ground interment and inurnment spaces. Currently, less than 6% of individual plots at HMP remain available for families.

Hawaiian Memorial Life Plan, Ltd. is therefore petitioning the State of Hawaiʻi (State), Land Use Commission (LUC) to reclassify a portion of their property from the State land use Conservation District to the Urban District to allow for the expansion of the cemetery to meet future community needs for burial plots. This expansion project is referred to as the Hawaiian Memorial Park Cemetery Expansion Project (“Project” or “Proposed Action”). Table 1.1 includes a summary of pertinent information associated with the project and property.

1.1.1 Need for Environmental Review

This project is subject to the State environmental review process prescribed under Chapter 343, (Environmental Impact Statements), Hawaiʻi Revised Statutes (HRS), as amended (State of Hawaiʻi, 2007), also known as the Hawaiʻi Environmental Policy Act (HEPA), and Title 11, Chapter 200 (Environmental Impact Statement Rules), Hawaiʻi Administrative Rules (HAR) (State of Hawaiʻi, 2008). Under these regulations, nine specific types of action are identified that “trigger” environmental review.

This project triggers the State’s environmental review process under these regulations because it involves reclassification of approximately 53.45-acres, referred to as the “Petition Area,” from the State Land Use Conservation District to the Urban District.

This ~~Draft~~ Final Environmental Impact Statement (~~Final EIS DEIS~~) document has been prepared to address the likely effects this cemetery expansion project would have on the environment, and has been prepared in compliance with the HEPA and Title 11, Chapter 200, HAR. **Preparation of the Final EIS also included reviewing and responding to comments received on the Draft EIS previously published.** An Environmental Impact Statement Preparation Notice (EISPN) (HHF, 2017) was previously published for this project in the State Office of Environmental Quality Control’s (OEQC) December 23, 2017 issue of their *The Environmental Notice*. Written comments received on this EISPN along with letters responding to them are included in Appendix A of this Draft EIS.

Table 1.1
Summary of Project Information

Project Name:	Hawaiian Memorial Life Plan, Ltd. Hawaiian Memorial Park Cemetery Expansion Project
Petitioner:	Hawaiian Memorial Life Plan Ltd. 1330 Maunakea Street Honolulu, Hawai'i 96813 Contact: Mr. Jay Morford Telephone: (808) 522-5233
Approving Agency:	Land Use Commission Department of Business, Economic Development & Tourism State of Hawai'i 235 South Beretania Street, #406 Honolulu, Hawai'i 96813 Contact: Mr. Daniel Orodener, Executive Director Telephone: (808) 587-3827
Authorized Agent:	HHF Planners 733 Bishop Street, Suite 2590 Honolulu, Hawai'i 96813 Telephone: (808) 457-3172 Contact: Mr. Ronald Sato, AICP, Senior Associate
Project Location:	HMP is a privately-owned cemetery located in the Kāne'ōhe district on the Windward side of the island of O'ahu. The cemetery is approximately 7 miles northeast of downtown Honolulu, and located mid-way between the towns of Kailua to the east and Kāne'ōhe to the west.
Tax Map Key:	(1) 4-5-033: por. 001 (Private Property) that is 164.4 acres.
Petition Area:	Petition Area includes an approximately 53.45-acre portion of the larger 164.4-acre parcel. Expansion of the cemetery only involves about 28.2 acres within the Petition Area that is proposed for active cemetery use. Remaining areas within the Petition Area would be used for a Cultural Preserve, cemetery internal roads, and open space.
Existing Use:	Presently undeveloped land.
State Land Use District:	Conservation District (156.5 acres), General and Limited Subzone <i>Petition Area: Conservation District (53.45 acres)</i> Urban District (7.9 acres for Ocean View Garden)
City Zoning District:	P-1 Restricted Preservation District
Ko'olaupoko Sustainable Communities Plan:	Open Space/Preservation Areas.
Special Management Area:	Petition Area is not within City's SMA boundary.
Flood Zone:	Zone X - Areas determined to be outside the 500-year flood; Zone D - Areas of undetermined flood hazard

Subsequently, a Draft EIS was published in OEQC’s September 8, 2018 issue of *The Environmental Notice*. Chapter 8 discusses the publication of this document in greater detail, and copies of written comments received and responses to them are included in Appendix A. The legal deadline for written comments received or postmarked during the Draft EIS 45-day comment period was October 23, 2018.

1.1.2 Applicant and Accepting Authority

As the Petitioner, Hawaiian Memorial Life Plan, Ltd. is the Applicant for the proposed action. HHF Planners (HHF) is serving as the “Authorized Agent” on behalf of the Applicant in the preparation of this **Final EIS** ~~DEIS~~. The project is an “Applicant Action” under the State’s environmental review regulations because Hawaiian Memorial Life Plan, Ltd. is the proposing entity.

Since this is an Applicant proposed action, the State LUC will serve as the responsible “Accepting Authority” for the acceptability of the Final EIS document, in accordance with Chapter 343, HRS, and Title 11, Chapter 200, HAR.

1.2 APPLICANT AND PROJECT BACKGROUND

Hawaiian Memorial Life Plan, Ltd. owns and manages HMP, and is a member of the Dignity Memorial network of funeral, cremation and cemetery service providers. Dignity Memorial is the country’s premier provider of funeral, cremation and cemetery services, providing families with quality, value, and caring service along with exceptional customer satisfaction. Today, HMP is a full-service cemetery that has been at its present location since 1958 (Exhibit 1.1). HMP is the final resting place for over 41,000 people, representing families across Hawai‘i.

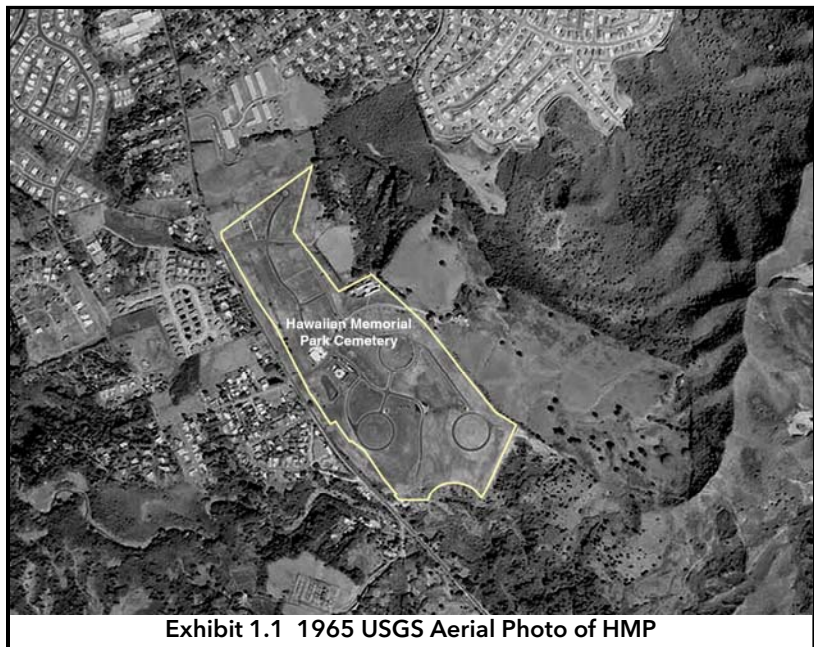


Exhibit 1.1 1965 USGS Aerial Photo of HMP

Historical Background of Hawaiian Memorial Park

In January 1956, Maytor McKinley came to Hawai‘i with plans for establishing a cemetery on the island of O‘ahu. At that time, the entire 10,000-acre Kaneohe Ranch owned by Harold Castle was being developed as a new community, and Mr. McKinley was contacted after hearing of his plans to establish a new cemetery.

On Memorial Day in 1958, Hawaiian Memorial Park Cemetery was opened to the residents of Hawai‘i. At that time, the park was operated by Hawaiian Memorial Ltd. A few years later (July 1961), Hawaiian Memorial Park Ltd. was reorganized as Hawaiian Memorial Park Cemetery Association. In 1999, Hawaiian Memorial Park Cemetery later became a member of the Dignity Memorial network.

Maytor McKinley established Hawaiian Memorial Park Cemetery with a commitment to provide a high standard of service to families. Today, HMP continues to maintain those standards by providing families with compassionate and professional service. Located in Windward O‘ahu, the park is a garden sanctuary of 80 acres, overlooking Kāne‘ohe Bay and commanding a panoramic view of the Ko‘olau Mountains. HMP is one of Hawai‘i’s largest memorial parks, and at one point, was acclaimed as the most beautiful in the United States. Other features at HMP include a memorial for the Honolulu Police Department and Honolulu Fire Department, a floral urn garden with Buddhist figures, a memorial of “The Fraternal Order of Eagles,” and most recently a memorial monument dedicated to Hawai‘i’s Gold Star Families.

Recent Background of Hawaiian Memorial Park

HMP has grown from an initial size of six acres to its existing size of 80 acres situated across three tax map parcels as sections of the cemetery have filled. In 1997, the Petitioner obtained approval from the City and County of Honolulu (City) to expand the then 72-acre HMP by another approximately eight acres. This addition is now the Ocean View Garden portion of HMP.

The 122.5-acre Hawai‘i State Veterans Cemetery site partially extends between the main HMP and Ocean View Garden section. A driveway easement through the Veterans Cemetery provides access connecting the HMP properties. The site of the Veterans Cemetery initially consisted of 89.5 acres that was used by the State as a baseyard and undeveloped property. An adjacent 33.0 acre property was donated by Hawaiian Memorial Life Plan, Ltd. to the State so that the now combined 122.5-acre property could be developed as the Hawai‘i State Veterans Cemetery in 1992.

The Petitioner had developed expansion plans in 2007 that included completing a Final Environmental Impact Statement (FEIS) in September 2008 (HHF, 2008). Since then, the Petitioner has had several meetings over the years with the Kāne‘ohe Neighborhood Board, community members, and government agencies to address concerns associated with previous plans included in that FEIS.

Present project plans have since been revised as reflected in this Petition. The proposed expansion of the HMP cemetery has also been incorporated in the City's updated *Ko'olau Poko Sustainable Community Plan* (DPP, 2017), which was revised by adoption of Ordinance 17-42 by the City Council in August 2017.

1.3 PROJECT LOCATION

HMP is a privately-owned cemetery located in the Kāne'ōhe district on the Windward side of the island of O'ahu. The cemetery is approximately 7 miles northeast of downtown Honolulu, and located mid-way between the towns of Kailua to the east and Kāne'ōhe to the west. The Petition Area is situated

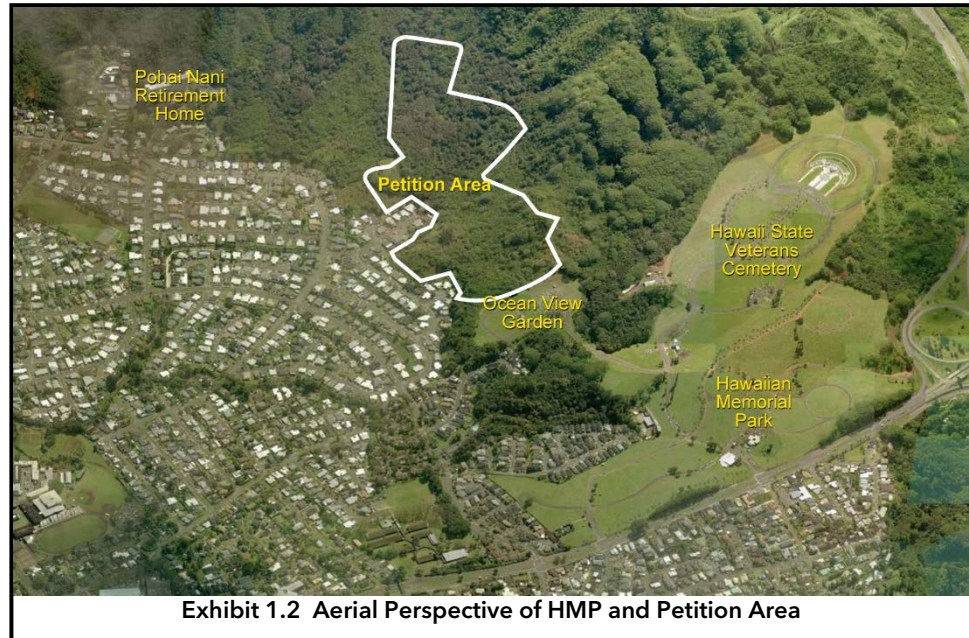
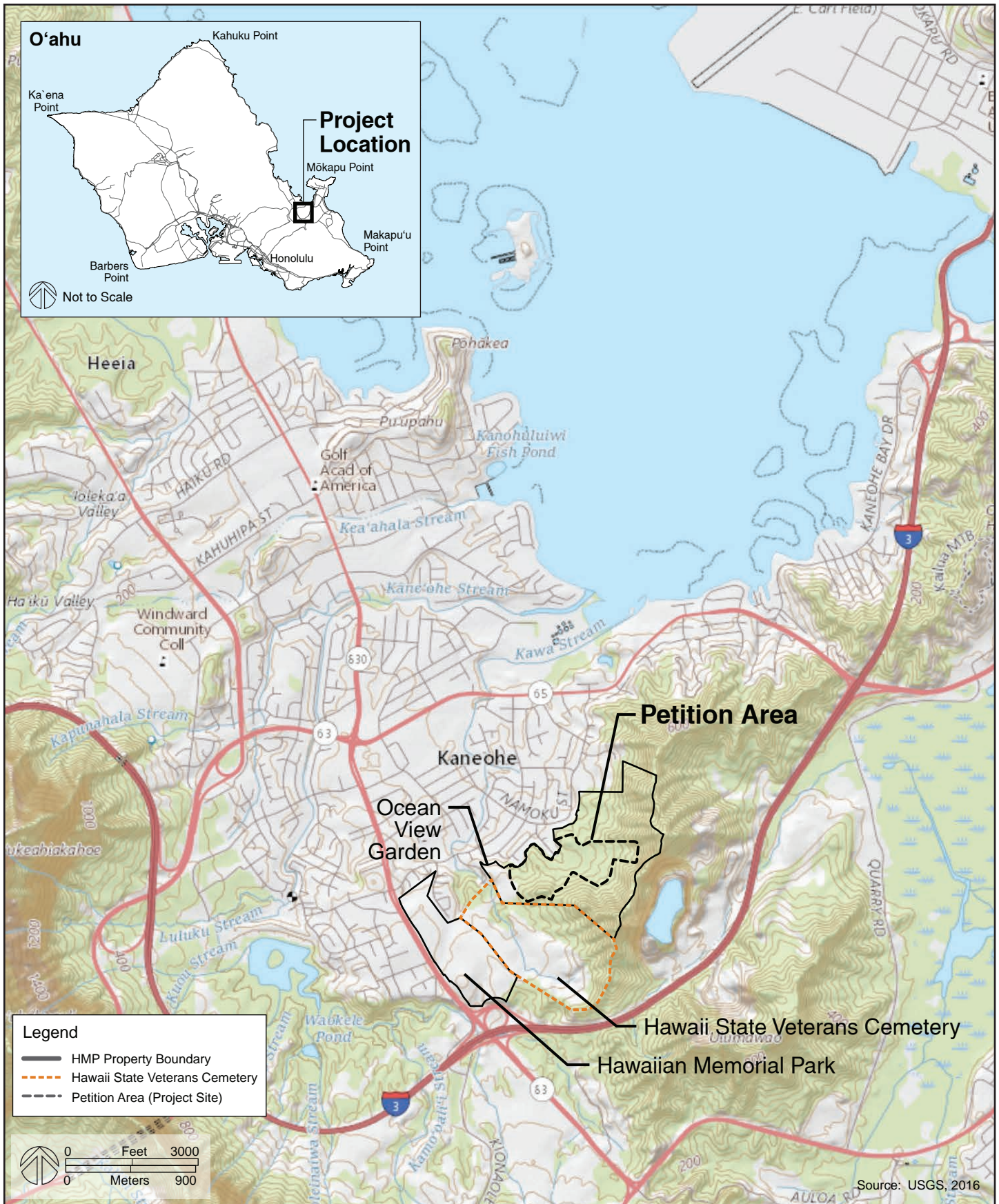


Exhibit 1.2 Aerial Perspective of HMP and Petition Area

within the ahupua'a (traditional land division) of Kāne'ōhe. Kāne'ōhe is a large ahupua'a of approximately 11,000 acres, extending from the Windward crest of the Ko'olau Mountain Range to include most of the Mōkapu Peninsula, and is bordered by the ahupua'a of He'eia to the west and Kailua to the east. Figure 1.1 is a location map showing the Petition Area in relation to the larger Windward district.

The Petition Area for the expansion of the cemetery is situated north, or makai (seaward), of the existing HMP area and the Hawai'i State Veterans Cemetery as shown on Figure 1.1. An oblique aerial photo of the area in Exhibit 1.2 provides a different visual perspective of the Petition Area.

The Petition Area is about 53.45 acres in size, and is a portion of a larger 164.4-acre parcel owned by Hawaiian Memorial Life Plan, Ltd. The entire HMP property is comprised of three separate parcels. The 53.45-acre site includes a portion of a bluff that is presently undeveloped, but was previously used for agricultural and dairy farming activities. The HMP's existing Ocean View Garden cemetery site is located adjacent to the Petition Area on the northwest end of the larger 164-acre property.



Project Location Map

Figure 1.1

Hawaiian Memorial Park Cemetery Expansion Project Final Environmental Impact Statement
Kāne'ohe, O'āhu, Hawai'i

Project Vicinity and Surrounding Uses

The Ko‘olau Mountain Range is located about 1.5 miles inland to the west, or mauka, of the HMP site and separates the Windward District from urban Honolulu. Kāne‘ohe Bay is situated approximately 1.5 miles to the north (makai) of the Petition Area. The area northwest generally consists of several Kāne‘ohe residential subdivisions, commercial areas, and Castle High School. Figure 1.2 includes a vicinity map showing the Petition Area and surrounding uses in the vicinity.

The area to the east includes undeveloped areas associated with the adjacent Oneawa hillside. This hillside consists of a natural ridgeline generally running in a south to north direction, and borders the eastern end of the Petitioner’s HMP property. HC&D, LLC’s Kapa‘a Quarry providing aggregates and concrete mix, is located on the eastern half of the ridge. This quarry is situated along the John A. Burns Freeway (H-3 Freeway) heading toward the Marine Corps Base Hawaii, Kaneohe.

About 0.7 miles north of HMP is the Windward City Shopping Center and several other commercial uses generally located along Kamehameha Highway and Kāne‘ohe Bay Drive. Castle High School is located along Kāne‘ohe Bay Drive generally across of Windward City Shopping Center. The Bay View Golf Park is also located along Kāne‘ohe Bay Drive. Kāne‘ohe Elementary School is located about 0.25 miles north of HMP along Kamehameha Highway. About 0.25 miles south of HMP is the City’s Pali Golf Course situated along Kamehameha Highway, and Hawai‘i Pacific University (Hawai‘i Loa Campus) to the southeast.

In the immediate northwest and west vicinity of the Petition Area are the Pikoiloa subdivision lots that extend toward Castle High School and Kāne‘ohe Bay Drive. These house lots were created by subdivision approvals executed in 1964, about six years after the opening of HMP. The Pikoiloa Tract Units 9 and 10 are located adjacent to the HMP property, and have about 280 house lots.

Around the same time the Pikoiloa subdivision was created, the Pohai Nani Good Samaritan Retirement Community (Pohai Nani) was constructed and opened in 1964, and is operated by the Evangelical Lutheran Good Samaritan Society. Pohai Nani is a large assisted living facility of about 16 acres situated along the hillside behind the residential subdivision off of Namoku Street. This facility borders the northern end of HMP’s property. The Pohai Nani complex includes a main 14-story tower and other accessory buildings.



Figure 1.2

Project Vicinity Map

Hawaiian Memorial Park Cemetery Expansion Project Final Environmental Impact Statement
 Kāneʻohe, Oʻahu, Hawaiʻi

The south-southeastern boundary of the Petition Area consists of the Hawai‘i State Veterans Cemetery along with undeveloped area along the hillside that is part of the State property. This cemetery has a large administration and visitor’s building near the entrance, a baseyard that also supports other State-related activities in the Windward district, and a large memorial center (Exhibit 1.3).



Kāwā Stream is a perennial stream that runs through the Pikoiloa subdivision. There are ephemeral drainageways flowing into this stream at the end of HMP and the veteran’s cemetery. Based upon the State’s flood hazard assessment report for this area, Kāwā Stream begins in a drainage basin located in the lower portion of veteran’s cemetery as shown on Exhibit 1.4. The veteran’s cemetery includes underground drainage facilities collecting runoff and discharging into this basin. Another tributary serving Kāwā Stream begins within a privately-owned undeveloped drainage area owned by the Parkway Community Association.



Surrounding Roadways

Major highways providing vehicular access in the vicinity of HMP are the H-3 Freeway to the east and Kamehameha Highway (State Route 83) bordering the southern end of HMP. Kamehameha Highway is a four-lane divided State highway generally running in a north-south direction in the vicinity of HMP connecting the communities of Kailua and Kāne‘ohe. This highway provides vehicular access into and out of the existing HMP at two unsignalized driveways, and later intersects with the H-3 Freeway to the southeast. The two HMP driveways are located across of Kamehameha Highway’s intersections with Halekou Road and Mahinui Road.

Kāne‘ohe Bay Drive (State Route 65) is located about 0.7 miles north of HMP, and generally runs in an east-west direction providing access within the Kāne‘ohe community. Kāne‘ohe Bay Drive is a four-lane highway at its intersection with Kamehameha Highway, and later changes to a two-lane highway northeast of Castle High School.

Mokulele Drive is a City street located further north of HMP that generally runs in a northeast to southwest direction. This two-lane minor street serves the surrounding residences of the Pikoiloa subdivision and other subdivisions west of HMP.

1.4 PROPERTY INFORMATION

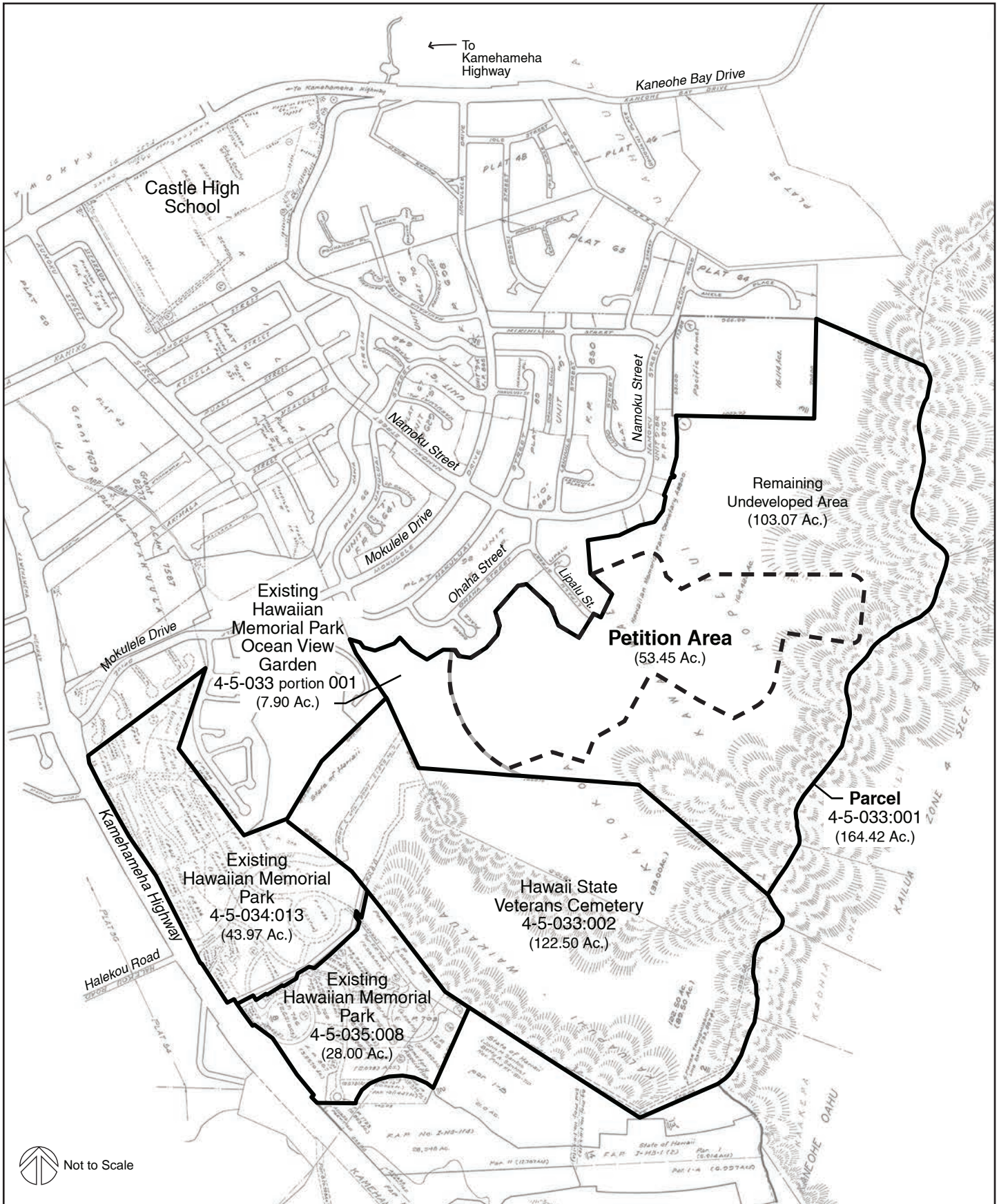
Tax Map Key, Acreage and Ownership

The Petition Area consists of 53.45 acres, and is a portion of a larger parcel of property identified as Tax Map Key (1) 4-5-033: 001 (Parcel 1). Parcel 1 totals 164.42 acres, and is owned by Hawaiian Memorial Life Plan Ltd. (Petitioner). About 7.9 acres of Parcel 1 consists of HMP's existing Ocean View Garden section.

Of the 53.45-acre Petition Area, only 28.2 acres would be for cemetery use. The remaining 25.25 acres of the site would consist of internal roadways, open space, and land for the establishment of a Cultural Preserve. Figure 1.3 includes a Tax Map showing the Petition Area and other HMP parcels. The remainder of Parcel 1 (103.07 acres) would be left undeveloped. The property is currently undeveloped, and previous land uses on the property within the last 50 to 100 years included ranching, dairy farming, and agriculture (sugar and pineapple cultivation).

HMP has grown from an initial size of six acres from its opening in 1958 to its existing size of approximately 80 acres situated over three tax map parcels: (1) 4-5-034: 013 (43.97 acres); (2) 4-5-035: 008 (28.00 acres); and (3) 4-5-033: portion of 001 (7.90 acres). Parcels 13 and 8 are contiguous, but are separated from Parcel 1 by the 122.5-acre Hawai'i State Veterans Cemetery (4-5-033: 002). The Petitioner owns and has been affiliated with HMP for the past 55 years. The Petitioner owns about 236.4 acres, and a summary of the Petition Area and other parcels associated with HMP is provided below.

<u>Tax Map Key Parcel</u>	<u>Total Parcel Acreage</u>
Hawaiian Memorial Life Plan, Ltd. (Hawaiian Memorial Park)	
(1) 4-5-033: 001 (HMP).....	164.42 acres
● Petition Area	53.45 acres
● Ocean View Garden.....	7.90 acres
● Open Space Area Remaining.....	103.07 acres
(1) 4-5-034: 013 (HMP).....	43.97 acres
(1) 4-5-035: 008 (HMP).....	28.00 acres
<hr/>	
Total.....	236.39 acres



Tax Map Key

Hawaiian Memorial Park Cemetery Expansion Project Final Environmental Impact Statement
Kāneʻohe, Oʻahu, Hawaiʻi

Figure 1.3

Existing Internal Roadways

There are two roadway entrances along Kamehameha Highway providing vehicular access into and out of the existing HMP site. The HMP's main entrance road, which is shared by the Hawai'i State

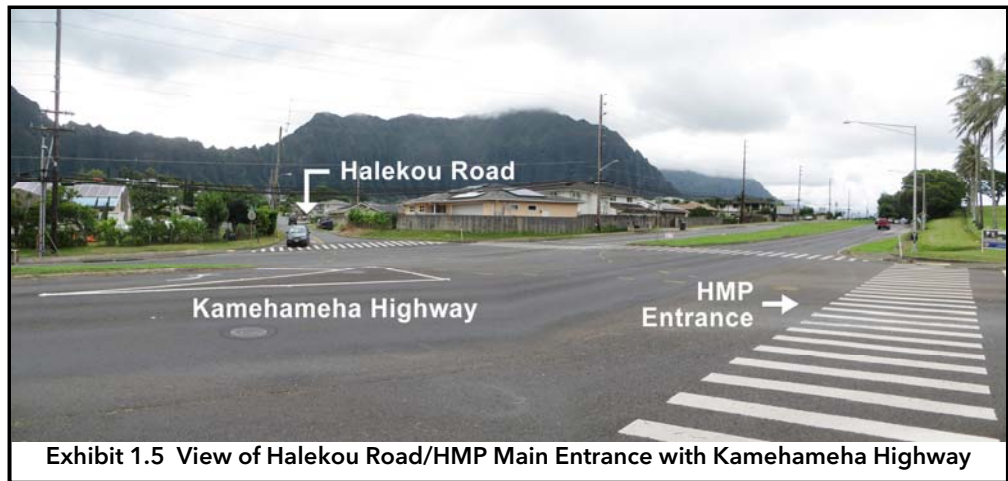


Exhibit 1.5 View of Halekou Road/HMP Main Entrance with Kamehameha Highway

Veterans Cemetery, is located across of Halekou Road's unsignalized intersection with the highway as shown on Exhibit 1.5. HMP's second roadway entrance is located on the southern end of the property across of Mahinui Road's unsignalized intersection with the highway as shown on Exhibit 1.6.

From these roadway entrances, HMP has several internal paved roadways providing vehicle circulation and access to different areas within the cemetery property. The main roadway entrance across Halekou Road has a width of about 50 feet providing access for approximately 350 feet from the entrance to the administration building and other facilities. This main driveway then decreases to 35 feet wide as it travels to the Hawai'i State Veterans Cemetery and proceeds to the Ocean View Garden site. The second roadway entrance across Mahinui Road also has a width of about 50 feet for approximately 350 feet from the entrance. Other internal roadways within HMP are 24 feet wide.

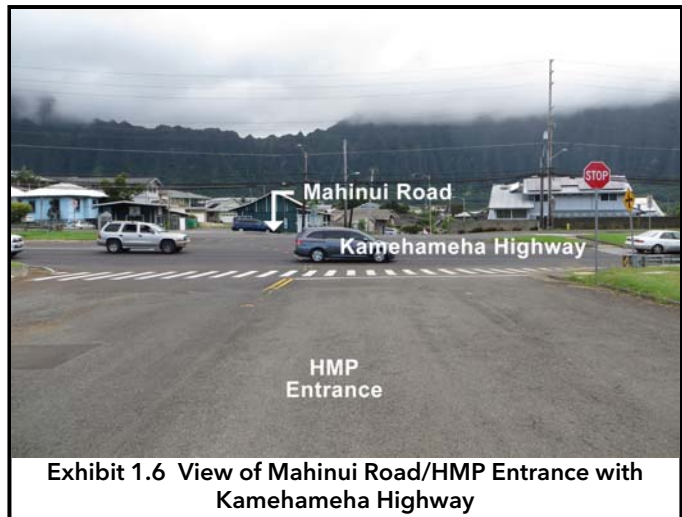


Exhibit 1.6 View of Mahinui Road/HMP Entrance with Kamehameha Highway

The roadway from HMP through the veteran's cemetery property to the Ocean View Garden consists of a roadway and utility easement to HMP. The roadway easement consists of 1.072 acres (~46,700 sf); however, the constructed roadway is only 35 feet wide and about 950 feet long.

1.5 EXISTING ACTIVITIES

There are various operations and activities occurring that affect the existing HMP property, such as the Hawai‘i State Veterans Cemetery. This section describes these existing activities.

Hawaiian Memorial Park Operations

Hawaiian Memorial Life Plan Ltd. (Petitioner) manages the HMP site by conducting administrative operations including the selling of burial plots, maintenance activities of the grounds and facilities, and assisting with the planning and implementation of funeral services for families. The Petitioner also

participates in various community service projects, which include supporting green initiatives through aiding in recycling drives and computer/battery/metal collections, supporting schools and various law enforcement, veterans, civic, and cultural (Ko‘olaupoko Hawaiian Civic Club) organizations, and is a dedicated sponsor of the American Diabetes Association and CrimeStoppers Honolulu.

The Petitioner provides a range of memorialization options that include appropriate interment choices: (e.g. above and below ground interment options for cremation and traditional burial. Funeral service planning for end of life celebrations). Staff operate out of an administration building as shown on Exhibit 1.7 to conduct these activities. The funeral home and chapel and crematorium are currently being managed by an outside organization. HMP will be taking these facilities back and managing them in March 2019.

These facilities and staffing would be sufficient to manage additional burial plots created under the proposed project. HMP is non-denominational accommodating the diversity of Hawai‘i’s cultural and religious backgrounds. They offer a selection of memorialization options (e.g. mausoleums, upright monuments, customized memorials, etc.), and support honoring the wishes and traditions of each family (Exhibit 1.8).



Exhibit 1.7 View of Existing Facilities

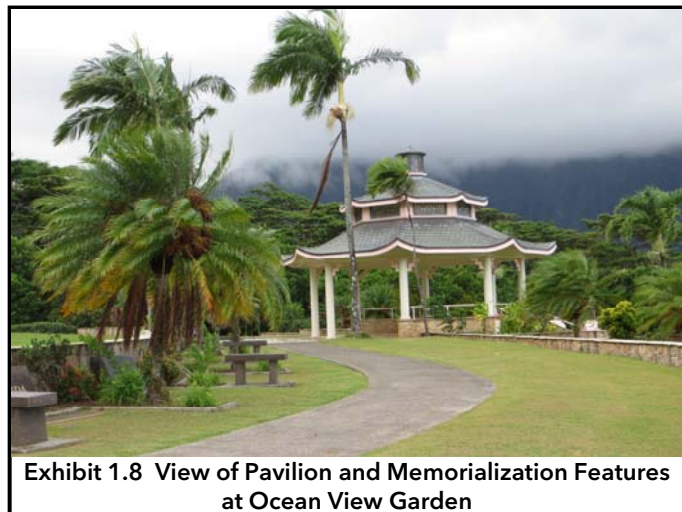


Exhibit 1.8 View of Pavilion and Memorialization Features at Ocean View Garden

The Petitioner has a total of about 38 staff consisting of: 1) 20 maintenance staff; 2) 10 administrative; 3) 5 persons for funeral services; and 4) 3 persons for community services. Staff scheduling varies daily, and typically have about 20 to 25 persons working on a weekday. Administrative office hours are from 8:00 a.m. to 5:00 p.m. while maintenance staff generally start earlier. During funeral services, there are typically 25 to 50 persons in attendance, and HMP typically has about 5 personnel working to support funeral services.

Passive recreational activities also occur within the HMP property by the public. Area residents typically use the site for walking (exercise) during the mornings and afternoons. It is estimated that about 15 to 20 people generally use the site for these activities on a daily basis during both mornings and afternoons (30 to 40 persons total daily).

Hawai'i State Veterans Cemetery Operations

The Hawai'i State Veterans Cemetery is situated inland of the HMP, and therefore, public access to this cemetery is via HMP's two vehicular entrances with the highway, primarily the main entrance. This cemetery has a visitor center at its entrance that is open on weekdays from 7:45 a.m. to 4:30 p.m., and closed on weekends and holidays. Area residents also use this cemetery site for walking (exercise) during the mornings and afternoons.

The State also has a baseyard located within their cemetery site that is used by State employees before leaving to other job sites using State vehicles.

Hawaiian Memorial Park Mortuary Operations

Hawaiian Memorial Park Mortuary (HMPM), a separate company from HMP, provides a range of funeral planning services for families similar to HMP, and assists families with other support services. HMPM leases some HMP on-site facilities, such as the chapel and crematorium, for their activities, and sharing use of certain facilities with Petitioner's staff.

HMPM has about 25 employees, with about 15 staff present within the HMP property on a daily basis. Such staff consists of: 1) an Operations Director; 2) office manager and support staff; 3) funeral directors; 4) staff related to funeral activities; and 5) other administrative staff. HMPM operations typically occur Monday through Saturday from 8:00 a.m. to 4:00 p.m. However, employee work schedules likely vary depending upon services appointments, funeral services, etc.