This 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 Chapter 343, Hawai‘i Revised Statutes, and Section 11-200-18, Hawaii Administrative Rules.

Kealia Properties, LLC

July 5, 2019
Keālia Mauka Homesites
Final Environmental Impact Statement

July 2019

Prepared For: Kealia Properties, LLC
Prepared By: HHF Planners
PREFACE

The Draft Environmental Impact Statement (DEIS) for Keālia Mauka Homesites was published in April 2018. The DEIS underwent a 45-day public comment period that ended on June 22, 2018. Based on comments received during the DEIS comment period, a number of revisions were incorporated into this Final Environmental Impact Statement (FEIS).

To facilitate review of the FEIS (pursuant to the requirements of Section 11-200-18, Hawai‘i Administrative Rules), substantive additions to the text (beginning with the Summary and including Chapters 1 through 9) are shown with a double underline and substantive deletions are shown with a strikethrough. Non-substantive revisions (e.g., corrections of misspellings and typographical errors, renumbering of the Table of Contents, etc.) are not annotated in this way. Substantive changes since the DEIS are summarized below:

Signature Page

- Added cover page signed by Keālia Properties, LLC.

General/Global Edits

- Clarified that the “Proposed Action” includes both development of a residential subdivision on the 53.4 acre “Petition Area,” and utility and infrastructure improvements in “Off-Site Areas.”

- Tax Map Key (TMK): included TMK for Off-Site Areas
  - Petition Area: (4) 4-7-004: 001 por
  - Off-Site Areas: (4) 4-6-014 por, and (4) 4-7-003:002 por.

- Included fuller description of off-site roadway and utility improvements. These off-site improvements will support the subdivision, and as part of the Proposed Action, are included in the HRS Chapter 343 environmental review. However, the off-site improvements are not part of the Petition for a Land Use District Boundary Amendment.

- Off-Site improvements include:
  - Sewer improvements including a pump station and a sewer main extension to an existing sewer manhole near the Kaiakea Fire Station. The new sewer main will follow Keālia Road from Ka‘ao Road to Kūhiō Highway, then turn south along the mauka side of the highway right-of-way, ending at a sewer manhole near the Kaiakea Fire Station.
  - Improvements to Keālia Road to enhance safety for vehicles, pedestrians and bicyclists. These roadway improvements were added to the Proposed Action subsequent to publication of the DEIS.
  - Roundabout at the Keālia Road-Kūhiō Highway intersection. Since publication of the DEIS, the County Department of Public Works (DPW) has indicated that a roundabout is the County’s preferred alternative, and it is presented as such in the FEIS. However, both a roundabout and traffic signal remain viable traffic solutions.

- All figures modified to show location of Off-Site improvements in addition to Petition Area improvements

- In Chapters 3 and 4, added separate sections and analysis of “Petition Area” improvements and “Off-Site” improvements
• Changed all references to “potable water” to “drinking water” and references to “non-potable water” to “non-drinking water” per Department of Health (DOH) conventional terminology

Summary (New)
• Added new Summary chapter, providing an overview of project description, benefits and impacts, proposed mitigation, alternatives considered, unresolved issues, and compatibility with land use plans and policies

Chapter 1, Introduction
• Section 1.1: Modified Project Summary table to include off-site improvements to the Proposed Action, and added status of all Permits Required
• Section 1.6: Listed new technical studies completed and included since DEIS
  ▪ Figure 1-2: Corrected road names (Hauaala Road)

Chapter 2, Proposed Action and Alternatives
• Section 2.2: Referenced new letter from Kaua‘i County Planning Department dated September 27, 2018 reaffirming confirming project consistency with the Kaua‘i General Plan
• Section 2.3: Expanded project description to include off-site improvements (Keālia Road improvements; Keālia Road-Kūhiō Highway roundabout; and sewer main extension)
• Added new Figure 2-1 showing location of “Petition Area” and “Off-Site Improvements”
• Section 2.3.1: Added estimate of number of affordable units and estimated sales prices (Table 2-1), added estimated price range for market lots
• Section 2.3.1.2: Clarified that Petitioner will fund cost of improvements and no public funds will be requested
• Section 2.3.2: Added new section describing off-site improvements, including new Figure 2-3 showing cross section of Keālia Road improvements
• Section 2.3.2.4: Updated development schedule to include off-site improvements
• Section 2.3.2.5: Updated development costs to include off-site improvements
• Section 2.4: Added alternatives “Postponing Action Pending Further Study” and “Alternative Locations for the Project”

Chapter 3, Natural and Physical Environment
• Global edits: added separate discussion of Petition Area and Off-Site (existing conditions and project impacts)
• Section 3.4.2: Updated to include updated Hydrogeological Letter Report (TNWRE, September 2018) addressing water source for an area lo‘i and the potential for project impacts. Updated TNWRE letter is included in Appendix I
• Section 3.5.1.3: Added discussion of Extreme Tsunami evacuation zones
• Section 3.6: Added results of additional botanical survey for Off-Site areas. Updated botanical study is included in Appendix B
• Section 3.7: Added results of additional biological survey for Off-Site areas. Updated biological study is included in Appendix C

• Section 3.7.2: Added mitigation to follow DOFAW guidance if ohia trees are removed, trimmed or potentially injured

• Section 3.7.2: Added mitigation requiring no disturbance to woody plants greater than 15 feet tall from 6/1 to 9/15 to avoid potential impacts to the Hawaiian hoary bat

• Section 3.7.2: Added mitigation for homeowners to use fully shielded outdoor lights to avoid impacts to endangered seabirds

• Section 3.8: Added new Section 3.8, Marine Biological Resources, addressing marine biota and potential project impacts

Chapter 4, Human Environment

• Global edits: added separate discussion of Petition Area and Off-Site (existing conditions and project impacts)

• Section 4.3: Included results of new Draft Noise Measurement and Evaluation Report by CENSEO AV+Acoustics (October 19, 2018, Appendix J) addressing impacts on nearby residences and proposed mitigation

• Section 4.4: Included findings of new Archaeological Inventory Survey (AIS) report by Cultural Surveys Hawai'i (CSH), prepared in response to letter from State Historic Preservation Division (SHPD) to State Land Use Commission dated October 3, 2018. AIS report is included as Appendix D2

• Section 4.4.3: Updated status and referenced Chapter 6E-8 correspondence between State Land Use Commission and DLNR State Historic Preservation Division (SHPD) regarding review of archaeological literature review and field inspection. All Chapter 6E-8 correspondence is included in Appendix D3

• Section 4.4.4: New section presenting the results of Archeological Inventory Survey report, including new Table 4-8 providing listing of Historic Properties Identified Within the Petition Area and Off-Site Project Areas, new Figure 4-4 showing location of sites, and discussion of significance assessments and mitigation recommendations

• Section 4.5: Incorporated amended Cultural Impact Assessment (CIA) (CSH, October 2018), which addressed comments received during DEIS comment period. Revised CIA includes documentation of Keālia’s plantation history during the 1950s, 1960s and 1970s. Additional outreach and consultation was conducted in July 2018 to individuals recommended by Wailua-Kapa’a Neighborhood Association and others affiliated with Līhu’e Plantation. Revised CIA is included in Appendix E

• Section 4.5.2.2 and Section 4.5.2.3: Added summary of non-culturally relevant and culturally relevant community concerns raised during CIA

• Section 4.5.2.4, (Cultural Resources) Analysis: Added statement addressing Hawaiian customary and traditional rights under Article XII, Section 7 of the Hawai‘i State Constitution

• Section 4.5.2.5: Included CIA recommendations and a discussion of how they will be incorporated

• Section 4.71.2: Clarified status of County IAL study
• Section 4.7.2: Clarified location and use of additional 86 acres that was added to current grazing lease to compensate for loss of Keālia Mauka acreage
• Section 4.8: Incorporated findings of Phase I Environmental Site Assessment (ESA) (EnviroServices & Training Center, September 2018), focusing on the 53 acre Petition Area, per recommendation of State Land Use Commission. Study included as Appendix K
• Section 4.10.1: Added discussion of communication facilities and impacts
• Section 4.10.2.2: Provided additional information from TNWRE on groundwater impacts, per updated memorandum (revised September 19, 2018)
• Section 4.10.3: Added information about County wastewater facilities and projects underway and discussion of Wailua Facility Plan
• Section 4.10.3: Added new figure (Figure 4-7) showing existing and projected wastewater system
• Section 4.10.3.2: Added description of proposed wastewater improvements within Petition Area and Off-Site
• Section 4.10.4.2: Added discussion of off-site drainage improvements and impacts
• Section 4.10.5.2: Addressed off-site construction debris to be disposed
• Section 4.11: Updated findings and recommendations from the Traffic Impact Analysis Report (TIAR) (Austin Tsutsumi & Associates, Inc. (ATA), May 2019). TIAR is included in Appendix H
  ▪ Roundabout at Keālia Road-Kūhiō Highway intersection presented as preferred mitigation option, at direction of County of Kaua‘i
  ▪ Included new Figure 4-11 showing conceptual roundabout
• Section 4.12.3: Added discussion of emergency management services and civil defense
• Section 4.12.4: Expanded discussion of project impacts on school facilities, in the maximum impact scenario where all students come from outside the Kapa‘a area
• Section 4.12.4: Clarified that the Department of Education will not requesting an Education Contribution Agreement, per correspondence with the DOE
• Section 4.12.5 and 4.12.6: Expanded discussion of parks and recreation and postal services

Chapter 5, Relationship to Land Use Laws, Policies and Controls
• Section 5.2.1.3: Discussed September 27, 2018 letter from Michael Dahilig, Planning Department Director, in response to DEIS comments and Departmental Determination DD-2016-70, regarding project consistency with the County General Plan. Letter is included in Appendix A
• Updated to include discussion of Off-Site improvements in relation to plans, policies and controls
• Section 5.2.5: Updated Table 5-1 to include the percentage and estimated number of lots meeting the County's workforce housing policy
Chapter 6, Other Impacts and Issues
- Section 6.2: Expanded discussion of cumulative and secondary impacts
- Section 6.4: Added discussion of other interests and considerations of government policies that affect adverse effects
- Section 6.5: Supplemented discussion of unresolved issues: roundabout or signal at Kūhiō Highway, wastewater service, location of wastewater pump station, sewer line bridge crossing, compliance with County policy

Chapter 7, EIS Preparer and Contributors
- Updated list of technical consultants (e.g., acoustic, Phase I ESA)

Chapter 8, References
- Updated references and list of technical studies

Chapter 9, Parties Consulted During the Preparation of the Draft and Final EIS
- Updated to include DEIS comment letters and responses and summary of DEIS comments

Appendix A
- Added letter from Michael Dahilig, Kaua‘i County Planning Director dated September 27, 2018, Re: Comments on Chapter 343 Disclosure Process, Departmental Determination DD-2016-70. Letter supports project and reconfirms its consistency with Kaua‘i General Plan

Appendix B
- Added December 2018 Botanical Assessment for Proposed Road Widening, Roundabout and Sewer Improvements (supplemental study for off-site improvement areas)

Appendix C
- Added December 2018 Faunal Survey Conducted for the Sewage Line, Keālia Properties Project (supplemental study for off-site improvement areas)

Appendix D1 (New)
- Former Appendix D has been split into two separate appendices: D1 and D2. Appendix D1 includes the Archaeological Literature Review and Field Inspection (CSH, 2018) and associated HRS Chapter 6E-8 correspondence

Appendix D2 (New)
- Includes AIS Report (CSH, 2019) prepared subsequent to the DEIS publication

Appendix D3 (New)
- New appendix with all Chapter 6E-8 correspondence, including correspondence between LUC and SHPD related to the Literature Review and Field Inspection (LRFI) and the Archaeological Inventory Survey (AIS) report
Appendix E

- Replaced Cultural Impact Assessment (CIA) (CSH, 2018) with updated CIA for the Proposed Keālia Subdivision and Associated Sewer Line Project (March, 2019). Revised CIA includes Petition Area and off-site improvements
- Includes letter to Aha Moku Advisory Committee dated June 19, 2019 requesting review of CIA

Appendix F

- Added letter from Tom Holliday, CBRE dated April 9, 2019, Subject: Response to LUC and DOE Comments Regarding Market and Econometric Studies of the Proposed Keālia Mauka Homesites Development

Appendix H

- Replaced previous Traffic Impact Analysis Report with revised TIAR (ATA, May 2019) addressing Keālia Road improvements, and presenting a roundabout as County-preferred mitigation at Keālia Road-Kūhiō Highway intersection. At the HDOT's request, further discussion of the traffic signal alternative is included, including evaluation of eliminating skewed approach of Keālia Road at Kūhiō Highway; and inclusion of recommended left-turn storage lengths along Kūhiō Highway at Keālia Road. At the HDOT's request, the TIAR includes more in depth discussion of existing and future pedestrian and bicycle infrastructure

Appendix I

- Replaced original April 2018 memorandum by Tom Nance Water Resource Engineering (TNWRE) with updated memorandum on Subject: Potential Impact of Additional Use of the Two Keālia Water System Wells (revised September 19, 2018)

Appendix J

- Added new Noise Measurement and Evaluation Report (CENSEO AV+Acoustics, 2018), completed subsequent to publication of DEIS

Appendix K

- Added new Phase I ESA for Petition Area, EnviroServices 2018, completed subsequent to publication of DEIS

Appendix L

- Added letter from State Department of Transportation, Highways Division dated February 25, 2019 confirming proposed Kapaʻa Stream Bridge will accommodate the project’s 8-inch sewer main

Appendix M

- Added email from State of Hawaiʻi Department of Education, Office of School Facilities and Support Services dated August 1, 2018 confirming DOE will not request fair share contribution
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County of Kaua’i Planning Department, Departmental Determination DD-2016-70, Boundary Interpretation for General Plan, July 5, 2016

B Botanical Resources Assessment, April 2017 and Botanical Resources Assessment for the Proposed Keālia Road Widening, Roundabout, and Sewer Improvement Project, December 2018, LeGrand Biological Surveys, Inc.

C Faunal Surveys, April, 2017 and Faunal Surveys Conducted for the Sewage Line, Keālia Properties Project, December 2018, Rana Biological Consulting

D1 Revised Draft Archaeological Literature Review and Field Inspection Report (Kamai and Hammatt), Cultural Surveys Hawai’i, April 2018

D2 Draft Archaeological Inventory Survey (AIS) Report, (Kamai, Folk and Hammatt), Cultural Surveys Hawai’i, June 2019

D3 Chapter 6E-8 Historic Preservation Review Correspondence

Correspondence Related to LRFI
1. LUC Letter to SHPD, February 27, 2018
2. SHPD Letter to LUC, May 29, 2018, Log No. 2018.00602, Doc No. 1805GC09
3. LUC Letter to SHPD, September 21, 2018
4. SHPD Letter to LUC, October 3, 2018, Log No. 2018.00602, Doc No. 1810DB01

Correspondence Related to AIS Report
5. LUC Letter to SHPD, April 17, 2019 transmitting AIS Report
7. SHPD Letter to LUC, June 10, 2019, Log No. 2019.00892, Doc No. 1906DB01
8. LUC Letter to LUC, June 25, 2019, transmitting revised Draft AIS Report
9. Cultural Surveys Hawai’i letter to LUC, June 25, 2019, with Comment Table

E Draft Cultural Impact Assessment for Proposed Keālia Subdivision and Associated Sewer Line Project, Cultural Surveys Hawai’i, March 2019

Letter to Aha Moku Advisory Committee dated June 19, 2019 requesting review of CIA

F CBRE Letter Response to DEIS Comments Regarding Market and Econometric Studies, April 9, 2019

Market and Econometric Studies, CBRE, September 2017


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## Acronyms and Abbreviations

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<td>AIS</td>
<td>Archaeological Inventory Survey</td>
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<td>ALISH</td>
<td>Agricultural Lands of Importance to the State of Hawai‘i</td>
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<td>AMP</td>
<td>Archaeological Monitoring Plan</td>
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<td>APE</td>
<td>Area of Potential Effect</td>
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<td>State Land Use Commission</td>
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<td>Office of Hawaiian Affairs</td>
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<tr>
<td>PAYT</td>
<td>Pay as You Throw</td>
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<td>PER</td>
<td>Preliminary Engineering Report</td>
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<td>Recognized Environmental Condition</td>
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<tr>
<td>ROW</td>
<td>Right-of-Way</td>
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<td>SF</td>
<td>Square Feet or Square Foot</td>
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<td>student generation rate</td>
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<td>sea level rise</td>
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<td>Session Laws of Hawai'i</td>
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<td>Traffic Impact Analysis Report</td>
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<td>Tax Map Key</td>
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<td>Uniform Building Code</td>
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<td>UH</td>
<td>University of Hawai'i</td>
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Acronyms and Abbreviations (continued)

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<td>U.S. Geological Survey</td>
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<td>WUDP</td>
<td>Water Use and Development Plan</td>
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<td>WWTP</td>
<td>Wastewater Treatment Plan</td>
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SUMMARY

Summary of the Proposed Action

The Petitioner, Keālia Properties, LLC proposes to develop a residential subdivision on 53.4 acres of land (“Petition Area”) at Keālia, Kawaihau District, Kaua‘i. The Petition Area, identified as TMK (4) 4-7-004: por. 001, is located in the State Agricultural District, is designated for “Residential Community” use by the Kaua‘i General Plan, and is zoned Agriculture by the County of Kaua‘i. This Final Environmental Impact Statement (FEIS) was prepared in support of a Petition for State Land Use District Boundary Amendment from the State Agricultural District to the State Urban District.

The Proposed Action will create 235 residential lots ranging in size from 5,600 SF to 7,300 SF, with associated utility infrastructure and roadways. The purpose of the Proposed Action is to provide improved residential lots for sale to Kaua‘i residents, to address the current and projected shortfall of housing. The subdivision will include two park/open space areas totaling 5.86 acres that will serve as flood detention areas and open space for passive recreation. Drinking water will be provided through an existing agreement with a private domestic water system.

The Proposed Action also includes off-site roadway and utility improvements to support the development. These will be constructed in “Off-Site Areas” outside the Petition Area. They include: water and sewer improvements including a new sewer main in the Kūhiō Highway right-of-way; improvements to Keālia Road to increase safety for vehicles, pedestrians and bicyclists; and construction of a roundabout at the Keālia Road-Kūhiō Highway intersection. The Off-Site Areas are not part of the LUC Petition.

Summary of Potential Impacts and Proposed Mitigation

Construction Period Impacts. Development of the subdivision and off-site infrastructure will result in short-term, construction related noise, traffic, and air quality impacts that will be mitigated through the implementation of best management practices (BMPs).

Water Resources. There will be no adverse long-term impacts to ground or surface water resources or hydrological conditions, including impacts to nearby farmers and water users. A hydrogeological investigation was conducted in response to concerns expressed by a farmer who grows kalo approximately one mile southwest of the Petition Area. The study concluded that the project’s proposed groundwater use will not affect the farmer’s water source.

Biological Resources. There will be no adverse impacts to terrestrial or marine biological resources. The Petition Area has been utilized for agricultural activities and grazing for decades, and is dominated by alien (introduced) species of flora and fauna. BMPs will avoid runoff and impacts to nearshore waters and marine biota.

Archaeological and Cultural Resources. Archaeological and cultural resources have been assessed as part of the environmental process. Historic features within the Petition Area include several features associated with “New Kumukumu Camp,” a former plantation camp which is listed on the State Inventory of Historic Places. These features were identified by a Literature Review and Field Inspection (Cultural Surveys Hawai‘i, 2018) and were further documented through an Archaeological Inventory Survey (AIS) (CSH, 2019), as requested by the State Historic Preservation Division (SHPD). The AIS included a determination of “effect with agreed upon mitigation..."
commitments.” Mitigation will include an archaeological monitoring plan to be developed in consultation with SHPD and submitted to SHPD for review/acceptance prior to any site work and construction. The State Land Use Commission requested SHPD’s concurrence with this determination, and a response is pending.

The Cultural Impact Assessment (CSH, 2019) was revised in response to DEIS comments, to expand the discussion of Keālia’s planation history and to include additional interviews. The CIA was also sent to the Aha Moku Advisory Committee on June 19, 2019 for review, at the request of the Land Use Commission staff.

Visual Resources. The creation of a new 235‐lot subdivision will have a visual impact, particularly on residents of the adjacent Keālia Town Tract subdivision. A proposed 4.3‐acre green space/detention basin will provide a visual buffer between the existing and proposed developments. The view looking mauka from Kūhiō will also be altered by the subdivision.

Noise. Noise from Kūhiō Highway will impact future Keālia Mauka residents occupying the 22 lots closest to the highway. A noise measurement and evaluation report recommended either a wall or berm be installed along Kūhiō Highway to attenuate noise. The preferred solution will be identified during the subdivision process.

Agriculture. The project will convert 53.4 acres of grazing land to residential use. There will be no adverse impacts to agriculture or to the County’s efforts to establish food self‐sufficiency as a result of the Proposed Action. The Petitioner has provided the current Keālia Mauka grazing lessee with replacement land to compensate for this loss. To date, a total of 36,000 acres of land on Kaua‘i have already been designated Important Agricultural Land (IAL), all of it through landowner self‐designation. The County has indicated that it does not intend to pursue designation of additional IAL lands beyond what has already been designated under the voluntary landowner process.

Public Services. The Proposed Action is not expected to have adverse impacts on public services such as police, fire, or schools. The majority of future Keālia Mauka residents are expected to be current Kaua‘i residents, and therefore there will be a negligible increase in County population. However, the project is likely to create additional demand for police and fire personnel in the Keālia area, and once the subdivision is completed and fully occupied, there could be up to 100 public school students residing there. The State of Hawai‘i Department of Education has indicated that it will not be seeking an Education Contribution Agreement from the project. The development is expected to generate public fiscal benefits to the State and County that will more than offset the cost of additional public services.

Socio‐Economic and Fiscal Impacts. The project will have positive economic impacts through the creation of short‐term construction jobs and construction related expenditures, and long‐term positive fiscal impacts to County and State governments. An estimated 700 persons are expected to reside in the Keālia Mauka subdivision after full build out and occupancy. Of these, it is estimated that about 658 are currently living on Kaua‘i, and about 42 will be non‐resident, second home owners. The analysis of fiscal impact focused on the effect of these 42 new residents, who represent “new” costs and benefits to the County and State.

It was estimated that the County will realize “new” real property taxes ($5.4 million) and other secondary receipts and development fees totaling $9 million during build out, and $1.3 million annually thereafter. The State of Hawaii will receive “new” gross excise and income taxes and secondary revenues of $12.7 million during build out, and $276,000 annually thereafter.
Traffic. The development of the Keālia Mauka subdivision with an estimated 700 residents will have traffic impacts that require mitigation. A Traffic Impact Analysis Report (TIAR) was conducted to evaluate existing and projected future traffic conditions, and potential traffic impacts resulting from the project. The TIAR concluded that by future base year 2027, even without the project, traffic along Kūhiō Highway will increase by 18% to 24% during morning and afternoon peak hours, respectively. At full build out, Keālia Mauka will generate a total of 172 and 231 net external trips during the morning and afternoon peak hour, respectively. Keālia Road is the only access point to the project from Kūhiō Highway, and the intersection of Kūhiō Highway-Keālia Road will experience a significant increase in traffic, with level of service being over capacity. Other currently proposed roadway projects such as the Kapa’a Bypass Extension will provide some mitigation. The TIAR evaluated two potential mitigations for the Keālia Road-Kūhiō Highway intersection: a traffic signal and roundabout. Either of these mitigation solutions would allow the intersection to operate at an acceptable level of service. The County has indicated that a roundabout is the preferred mitigation option. The traffic mitigation will be constructed as part of the project’s off-site improvements, at no cost to the County or State.

Alternatives Considered

No Action. Several alternatives to the Proposed Action, including No Action were evaluated. No Action would retain existing open space and grazing activities, but would fail to meet the Petitioner’s primary objective, which is to provide housing opportunities for Kaua’i residents.

Agricultural Subdivision. One alternative was to develop an agricultural subdivision, with lots ranging in size from 2 to 10 acres. An agricultural subdivision would have less of a visual and traffic impact due to its lower density. It would create the potential for productive agricultural use of the land, including diversified crops. However, agricultural subdivisions on Kaua’i tend to attract a higher income buyer, including more out of state investors and second home owners, and therefore have little support from the County administration and local residents.

Variations in Development Density. Options for lower and higher density development were considered. Lower density development would involve larger lots (e.g., 10,000 to 20,000 SF), and fewer residents. The higher sales prices could push this housing product beyond the reach of many Kaua’i families. Larger lots would also be more attractive to out of state residents and speculative buyers than the Proposed Action. It would be more difficult to meet workforce housing requirements with this type of development.

Higher density development would most likely be multi-family residential development. This type of housing is not compatible with the adjacent Keālia Town Tract, and is more appropriate for vacation rentals in resort communities along the shoreline.

Variations in Petition Area Size. Developing a larger or smaller Petition Area were identified as project alternatives. A larger Petition Area, potentially encompassing hundreds of additional acres, could extend well into upland areas. A larger project area would be inconsistent with the Kaua’i General Plan and would not be supported by the County. A smaller Petition Area would result in fewer total lots. Because infrastructure costs are relatively fixed, prices for the individual lots would need to be higher in order for a developer to recoup these costs, because costs would be shared by fewer buyers.

Turnkey Homes for Sale. “Turnkey” homes for sale refers to the provision of a complete housing product, house and lot, offered to buyers. While the intent of the Proposed Action was to offer
improved lots to allow buyers maximum flexibility, turnkey development is an option for all or part of Keālia Mauka. A block of lots could be sold to a single purchaser who would construct the finished homes for sale.

**Other Alternatives.** Other alternatives discussed in the FEIS include postponing the action until further study, and alternative locations for the project. Postponing the development of the project would be an option in response to changes in economic or market conditions. At present, there is little identifiable benefit to postpone the Proposed Action. Further studies are already planned for subsequent phases of the project, and none require postponing the project.

Alternative locations for the project would be other lands under the control of the Petitioner. Alternative sites would likely be located further mauka and away from existing infrastructure and other existing residential areas. The County has determined that residential development of the Petition Area is consistent with the County General Plan land use plan, and has expressed its support for the project. It is uncertain whether the County would support other alternative sites.

**Unresolved Issues**

**Soil Testing.** Due to the Petition Area’s former agricultural use (sugar cane), there is the potential for ground disturbing activities to encounter soil contamination. Prior to construction, soil testing will be conducted in Petition Areas proposed for residential or recreational use. A soil sampling plan and testing methodology will be developed and approved by the Department of Health. If identified, contaminated soils and materials will be remediated to levels appropriate for residential use prior to construction.

**Preparation of Archaeological Monitoring Plan.** As recommended in the Archaeological Inventory Survey report, archaeological monitoring is proposed for excavation in the vicinity of New Kumukumu Camp, during off-site construction of the roundabout, and installation of the sewer main extension in the highway right-of-way on the mauka side of Kūhiō Highway. An archaeological monitoring plan (AMP) will be prepared and approved by the State Historic Preservation Division prior to construction.

**Noise mitigation at Kūhiō Highway boundary.** According to a Noise Measurement and Evaluation Report for the project, noise mitigation is recommended for lots along the Kūhiō Highway frontage. Adequate mitigation could be accomplished with construction of a 4-foot high wall or berm(s), or combination of the two. The proposed mitigation will consider the preferences of the County and State Department of Transportation, as well as the results of further engineering and feasibility studies. The issue will be resolved during the project’s subdivision approval phase, and specified in the subdivision approval conditions.

**Keālia Road-Kūhiō Highway intersection improvements.** Both a roundabout and a traffic signal have been identified as feasible alternatives for mitigation of traffic impacts at the Keālia Road-Kūhiō Highway intersection. The County has expressed preference for the construction of a roundabout. However, Kūhiō Highway is a State-owned highway, and the formal concurrence and participation of the Department of Transportation (HDOT) is required prior to finalizing plans for the intersection. A traffic signal remains a viable option.

**County Provision of Sewer Service.** The County Department of Public Works, Wastewater Management Division has indicated that it will issue a “will serve” letter for wastewater service after the project has received zoning approval. The project civil engineers have been in contact with
the Department of Public Works and connection to the County’s system is not expected to be a problem. However, confirmation of sewer service remains a pending issue.

**Off-site wastewater improvements.** The exact location of the proposed wastewater pump station near Kūhiō Highway is yet to be determined, but will be identified with the approval of the County of Kaua‘i Department of Public Works, Wastewater Management Division. It is anticipated that the pump station will be on land owned by the Petitioner and will be dedicated to the County at the completion of the project.

**Sewer line crossing at Kapa‘a Stream Bridge.** The extension of a sewer main in the Kūhiō Highway right-of-way is proposed. The sewer main will need to cross Kapa‘a Stream before connecting to an existing sewer manhole near the Kaiakea Fire Station. The sewer main will be attached to the new Kapa‘a Stream Bridge currently proposed by HDOT as part of its improvements to Kūhiō Highway near Mailihuna Road. The HDOT Kaua‘i District Engineer has confirmed, in a February 25, 2019 letter to the Petitioner, that the new bridge will be able to accommodate the installation of an eight-inch sewer force main mounted to the side of the bridge. A Coast Guard Section 9 Bridge Permit is required for the HDOT's bridge crossing. If the Coast Guard determines it is not included in the Kapa‘a Stream Bridge approvals, a separate Section 9 permit may be required for the sewer main crossing.

**Compliance with Housing Policy for the County of Kaua‘i.** The project will comply with Ordinance 860, Housing Policy for the County of Kaua‘i requiring a portion of the development to include workforce housing. The workforce housing requirement is developed in cooperation with the County Housing Agency prior to final subdivision or zoning approval, whichever occurs first. The final requirement will identify the number of lots and the price levels for the workforce housing requirement, and will be included in the final subdivision or zoning conditions. Lot prices will depend on federally established income levels at the time. Prices of market lots will depend on market conditions at the time of sale.

**Compatibility With Land Use Plans and Policies**

**State Land Use.** The Proposed Action requires a Land Use Commission (LUC) District Boundary Amendment to reclassify the Petition Area from the Agricultural District to the Urban District. The Proposed Action meets the applicable district standards for the Urban District. This FEIS supports a Petition to the State Land Use Commission.

**County General Plan.** The Petition Area is located adjacent to an existing residential community and the site was historically used as a plantation camp. The County Planning Department has determined that the project is consistent with the Kaua‘i General Plan. A July 6, 2016 Boundary Interpretation for General Plan Designation (DD-2016-70) from the Planning Department stated “there is clear intent in the 2000 General Plan, along with previous iterations of the plan, that the [Petition] area generally is earmarked for “Residential Community” growth adjacent to the existing subdivision in Keālia above the Keālia General Store.”

The County's 2016 determination was reaffirmed in a September 27, 2018 letter from the County Planning Department, which stated “Keālia was earmarked for greater residential community development going back to the 1984 General Plan Update...Any assertions that the 2018 General Plan update required earmarking this area as a change from previous drafts are unfounded, as the potential for development was confirmed as county spatial policy for close to 35 years.”
**County Zoning.** The Proposed Action requires a zone change from Agriculture to R-6 Residential District. This will be completed following the LUC District Boundary amendment. The Petition Area is not within the County's Special Management Area. The proposed improvements to Keālia Road are consistent with and support the County's Complete Streets Policy to improve pedestrian and bicycle safety and connectivity for multiple modes of transportation.

**Special Management Area.** A Special Management Area (SMA) use permit is not required for the Proposed Action. In the project vicinity, the Special Management Area (SMA) line runs along the makai boundary of the Kūhiō Highway right-of-way (ROW). The Petition Area is outside the SMA. The sewer main extension will be within the Kūhiō Highway ROW on the mauka side of the paved portion of the highway, also outside the SMA. The roundabout will be designed to remain within the Kūhiō Highway ROW. Transportation and utility improvements are not considered “development” according to the County’s SMA Rules and Regulations, and are exempt from SMA permit requirements.
1.0 INTRODUCTION

This document has been prepared in support of a Petition by Keālia Properties, LLC to the State of Hawai‘i Land Use Commission (LUC) to amend the Agricultural Land Use District Boundary into the Urban Land Use District (Docket No. A17-803). The Petition Area is comprised of approximately 53.4 acres of land at Keālia, Kawaihau District, Island of Kaua‘i, State of Hawai‘i. The Petition Area is identified as TMK (4) 4-7-004: 001 por.

The Petitioner, Keālia Properties, LLC proposes to develop a residential subdivision within the Petition Area, consisting of approximately 235 lots ranging in area from about 5,600 SF to 7,300 SF (Figures 1-1 and 1-2). The Proposed Action includes installation of utility infrastructure (e.g., potable water, drainage, wastewater, electrical power, and telecommunications systems) and transportation improvements to serve the new subdivision. Improved, construction-ready house lots will available for sale to the public.

The Petition Area (Figure 1-3) is located adjacent to an existing 38-lot residential subdivision in Keālia. The Petition Area is agriculturally-zoned land formerly part of the Līhu‘e Plantation holdings, and was formerly utilized for sugar cane cultivation. The site and surrounding lands are currently used for cattle grazing.

The Proposed Action also includes off-site infrastructure and utility improvements to support the proposed subdivision. These off-site improvements will occur outside the Petition Area along Keālia Road and within the Kūhiō Highway right-of-way, including TMK (4) 4-6-014 por, and (4) 4-7-003:002 por. These off-site areas are not part of the Petition Area.

1.1 Project Summary

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<th>Keālia Mauka Homesites</th>
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<td>Location:</td>
<td>Keālia Ahupua‘a, Kawaihau District, Island of Kaua‘i, Hawai‘i</td>
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| Petitioner/Owner: | Keālia Properties, LLC  
c/o Ms. Moana Palama  
Hawaii Management Services LLC  
P.O. Box 1630  
Kōloa, HI 96756 |
| Accepting Agency: | State of Hawai‘i Land Use Commission (LUC)  
Department of Business, Economic Development & Tourism  
P.O. Box 2359  
Honolulu, HI 96804-2359 |
| Tax Map Key/ Coordinates: | Petition Area: (4) 4-7-004: 001 por  
Coordinates: 22° 6’ 22” N, 159° 18’ 19” W  
Off-Site Areas: TMK (4) 4-6-014 por, and (4) 4-7-003:002 por |
| Petition Area: | 53.4 acres |
**Project Summary (continued)**

<table>
<thead>
<tr>
<th>Existing Use:</th>
<th>Agriculture (cattle grazing)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposed Use:</td>
<td>Residential subdivision</td>
</tr>
<tr>
<td>Proposed Action:</td>
<td><strong>Petition Area:</strong> Construction of a subdivision on 53.4 acres of grazing lands adjacent to an existing 38-lot residential subdivision. Approximately 235 single-family house lots ranging in size from about 5,600 square feet (SF) to 7,300 SF will be created. Each house lot will be served by municipal and private utilities and infrastructure, including potable water, stormwater drainage, wastewater, electrical power, and telecommunications systems. <strong>Off-Site:</strong> Road and utility improvements to support the proposed residential subdivision, including addition of shoulders and sidewalks to Keālia Road; construction of roundabout at Keālia Road and Kūhiō Highway intersection; sewer pump station; sewer main extension within Kūhiō Highway right-of-way.</td>
</tr>
</tbody>
</table>

| Land Use Designations | **Petition Area:**  
*State Land Use District:* Agricultural (see Figure 5-1)  
*Kaua’i General Plan:* Residential Community (see Figure 5-2)  
*County Zoning:* Agriculture (see Figure 5-3)  
*Special Management Area (SMA):* Not in SMA (see Figure 5-3)  
**Off-Site:**  
*State Land Use District:* Agricultural  
*Kaua’i General Plan:* Residential Community  
*County Zoning:* Residential, Commercial and Agricultural  
*Special Management Area (SMA):* SMA Use permit not required. Portion of sewer main extension within SMA is exempt from SMA rules. Roundabout will be constructed within the highway ROW. |

| Flood Zone Designation | **Petition Area:** Zone X, Area of minimal flood hazard, outside the 500-year flood (see Figure 3-2)  
**Off-Site:** Zone X and Zone AE (1% annual chance flood hazard) |
### Project Summary (continued)

<table>
<thead>
<tr>
<th>Permits/Approvals Required:</th>
<th>Permit/Approval</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Government</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Coast Guard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Section 9 Bridge Permit <em>(for sewer main crossing on Kapa'a Stream bridge)</em></td>
<td>Sewer main to be installed as part of HDOT-proposed Kapa'a Stream bridge. Permit requirements to be confirmed/satisfied as part of that project.</td>
<td></td>
</tr>
<tr>
<td><strong>State of Hawaii</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State of Hawai'i Land Use Commission</td>
<td>In process.</td>
<td></td>
</tr>
<tr>
<td>• Land Use District Boundary Amendment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• National Pollutant Discharge Elimination System (NPDES) Permit</td>
<td>NPDES and noise permit to be obtained prior to start of construction.</td>
<td></td>
</tr>
<tr>
<td>• Construction Noise Permit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department of Land and Natural Resources, State Historic Preservation Division</td>
<td>During Chapter 6E review in 2018, SHPD requested archaeological inventory survey (AIS), which was completed in 2019. SHPD issued comment letter dated June 10, 2019 (Log No. 2019.00892, Doc No. 1906DB01). Final acceptance of AIS pending.</td>
<td></td>
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<tr>
<td>• Historic Preservation Review, Chapter 6E, HRS</td>
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</tr>
<tr>
<td>Department of Transportation</td>
<td>Permits to be obtained prior to start of construction.</td>
<td></td>
</tr>
<tr>
<td>• Permit to Perform Work Upon State Highway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Private Storm Drain Connection and/or State Highways Division Storm Drain System</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>County of Kauai</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaua'i County Council</td>
<td>To be obtained following Land Use District Boundary Amendment.</td>
<td></td>
</tr>
<tr>
<td>• Zoning Amendment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning Commission</td>
<td>To be obtained following Zoning amendment</td>
<td></td>
</tr>
<tr>
<td>• Subdivision Approval</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Project Summary (continued)

| Project Summary | Department of Public Works  
|---|---|
| | • Grading, grubbing, and stockpiling permits, building permit  
| | To be obtained prior to start of construction.|

**Chapter 343 HRS Determination:** Under the provisions of Act 172 (12), the State Land Use Commission (LUC) has determined at the outset that the Proposed Action requires the preparation of an environmental impact statement (EIS), based on the significance criteria set forth in Chapter 200, Title 11, State of Hawai‘i Department of Health. The Proposed Action may meet the criterion for “potential curtailment of the range of beneficial uses of the environment” and because it may “involve substantial secondary impacts, such as effects on public facilities” (HAR §11-200-12 [b][2] and [6]). (See discussion in Chapter 5).

### 1.2 Petitioner

Keālia Properties, LLC is the Petitioner and Ms. Moana Palama is their authorized representative.

**Contact:**
Keālia Properties, LLC  
c/o Ms. Moana Palama  
Hawaii Management Services LLC  
P.O. Box 1630  
Kōloa, HI 96756  
Phone: (808) 742-9784  
Email: moana@mskauai.com

### 1.3 Accepting Authority

The State of Hawai‘i Land Use Commission (LUC) is the accepting authority for EIS.

**Contact:**
Daniel E. Orodenker, Executive Officer  
State of Hawai‘i Land Use Commission (LUC)  
Department of Business, Economic Development & Tourism  
P.O. Box 2359  
Honolulu, HI 96804-2359  
Phone: (808) 587-3822  
Email: Daniel.e.orodenker@hawaii.gov
1.4 Environmental Planning Consultant

HHF Planners is the Applicant’s environmental planning consultant.

**Contact:** Scott Ezer, Principal
HHF Planners
733 Bishop Street, Suite 2590
Honolulu, HI 96813
Phone: (808) 457-3158
Email: sezer@hhf.com

1.5 Compliance with Hawai‘i Environmental Review Laws

This Final Environmental Impact Statement (FEIS) was prepared in accordance with the requirements of Hawai‘i Revised Statutes (HRS) §343 and Chapter 200 of Title 11, Hawai‘i Administrative Rules (HAR) in support of a State Land Use District boundary amendment to reclassify lands at Keālia, Kawaihau District, Island of Kaua‘i, Hawai‘i from the State Agricultural District to the State Urban District. This HRS 343 environmental review is required due to the project’s proposed use of State of Hawai‘i and County of Kaua‘i lands associated with infrastructure improvements within public roadways, including Kūhiō Highway (State Route 56) and Keālia Road. Use of State or County land is an action which triggers an environmental assessment under HRS §343-5(a)(1).

Act 172, Session Laws of Hawai‘i (SLH) signed by the Governor on June 27, 2012 (Act 172 [12]), allows an agency to determine from the outset that the project may have a “significant impact” and an Environmental Impact Statement (EIS) is likely to be required. The applicant may then proceed directly to prepare the EIS. The determination of whether the project will likely have a significant impact is measured by the significance criteria under §11-200-12(b) of the HAR.

The Proposed Action will provide approximately 235 residential lots on approximately 53.4 acres of currently vacant land, as well as off-site infrastructure and utility improvements. The Proposed Action would result in the loss of the natural landscape (grazing land) as it currently exists, may substantially affect the economic and social welfare of the community or State, and may involve secondary impacts such as population change or effects on public facilities. (See HAR §11-200-12 (b)(1), (4) and (6), respectively).

Based on its review of the significance criteria and through its judgment and experience, the LUC, as Accepting Authority, determined on November 8, 2017 that the Proposed Action may have a significant effect on the environment and that an EIS should be prepared. An Environmental Impact Statement Preparation Notice (EISPN) was prepared and published in *The Environmental Notice*, the Office of Environmental Quality Control’s (OEQC) bimonthly bulletin on November 23, 2017. The 30-day public consultation period ended on December 26, 2017.

A Draft Environmental Impact Statement (DEIS) was subsequently prepared and published in *The Environmental Notice* on May 8, 2018. The 45-day public comment period ended on June 22, 2018. In response to comments received during the DEIS comment period, additional studies were conducted, and the results have been incorporated in this FEIS.
1.6 Studies Contributing to this FEIS

The information in this document has been obtained from site visits, print and online reference sources, previously completed reports and technical studies, and the following technical studies that were prepared for this Proposed Action. The technical studies are included in the Appendix.

Technical studies that have been revised, supplemented, or newly added since the DEIS was published are noted with a check mark (√) below.

- Biological Surveys (Flora and Fauna)
- Archaeological Literature Review and Field Inspection
- Cultural Impact Assessment
- Archaeological Inventory Survey Report
- Market and Econometric Studies
- Preliminary Engineering Report
- Traffic Study Impact Analysis Report
- Hydrogeological letter report
- Noise Measurement and Evaluation Report
- Phase I Environmental Site Assessment
Tax Map Key Map
Kealii Mauka Homesites
Final Environmental Impact Statement
Kealia Properties, LLC

Note: Section of new sewer line corridor located in TMK (4) 4-6-014 (por)

Figure 1-3
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2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Background History

The Petition Area was historically used for sugar cane cultivation, beginning with the Makee Sugar Company which was established in Kapa’a in 1877, and later with Līhu’e Plantation. Sugar cultivation was the first large-scale agricultural enterprise in the Keālia area. In 1934, the Makee Sugar Company was absorbed by the Līhu’e Plantation Company, Ltd., a subsidiary of Honolulu-based Big Five company American Factors (later Amfac). As sugar became less profitable in the latter part of the twentieth century, the Līhu’e Plantation began to phase out its operations. In 1997, the entire ahupua’a of Keālia, including the Petition Area, was sold off by Amfac. Because Keālia was the most distant from the Līhu’e Plantation sugar mill, it was considered the least profitable. The Līhu’e Plantation completely closed at the end of the twentieth century, and sugar cane production has since ceased throughout Kaua‘i. Since its sale, the project site and neighboring agricultural lands have been used for ranching and diversified agricultural crops, and now primarily serve as cattle grazing.

In 2010, the current landowner and Petitioner, Keālia Properties LLC, purchased a total of 2,020 acres, including the subject 53.4 acre property, from Plantation Partners. In 2007, the previous owner, Plantation Partners, proposed a project that included 199 farm lots over 2,020 acres. The proposed project, called Kealanani, was envisioned as an agricultural subdivision.

After purchase of the property from Plantation Partners in 2010, the Petitioner, Keālia Properties LLC, concluded that the previous proposal for an agricultural subdivision was not the right fit for the property. There was a lack of community support for that type of development. A decision was made to “rest” the land for three years while focusing on agricultural opportunities on the property. In late 2013, the County Planning Commission revoked its approval for the prior Agricultural Subdivision plan, via a letter to the Planning Director.

Keālia Properties and its representatives continued to meet with neighboring farmers, ranchers, community members, and government officials to investigate appropriate uses for the site, including more affordable housing options. The presence of stub-out streets behind the existing Keālia Town Tract subdivision appeared to indicate that an additional phase to the subdivision was at one time considered. In July 2016, the County Planning Department made a determination that an expanded residential subdivision was consistent with the Kaua‘i General Plan Land Use Map (see Appendix A).

Given the high unmet demand for housing on Kaua‘i, a decision was made to develop the 53.4 acres adjacent to the Keālia Town Tract subdivision for residential homesites. In consultations between the Applicant and the County administration, it became clear that the County’s priority was to provide housing for Kaua‘i’s working families. Providing smaller lot sizes would keep prices down, enabling more local residents to take advantage of the opportunity to purchase lots for construction of their own home.

Today, the Petition Area and surrounding lands continue to be used for cattle grazing by RKL Ranch, LLC, based in Kīlauea, Kaua‘i, and several other lessees. RKL Ranch, LLC licenses a total of approximately 780 acres in the area, and employs a pasture rotation program, where cattle are rotated throughout pens on the property on a timeframe based on forage availability, weather conditions, and production outlay. Their herd consists mainly of Black Angus mixed breed cattle,
with approximately 120 cows, 6 bulls, and 60 weaners, younger animals usually 6 to 7 months old. RKL’s 780 acre lease includes an additional 86 acres of grazing land in Makee that were recently added in 2014 to compensate for the anticipated loss of 53.4 acres associated with the proposed project.

2.2 Project Purpose, Need and Objectives

The purpose of the Proposed Action is to provide for-sale residential lots for Kaua‘i residents to address the current and projected shortfall of single-family housing on the island. In 2015, the State of Hawai‘i Department of Business, Economic Development and Tourism (DBEDT) prepared a report entitled *Measuring Housing Demand in Hawaii, 2015-2025*, which projected housing demand statewide over the next decade. The analysis considered variables of projected population growth, visitor growth, and vacancy rates. Housing demand was based on the anticipated increase in number of households. This study projected that the total population for Kaua‘i County will increase by 19 percent by 2025, and forecasted a demand for 5,287 additional housing units during the 2015-2025 period (DBEDT, 2015).

The market study for the Keālia Mauka Homesites project estimated demand for 7,447 additional housing units in the Līhu'e to Moloa’a (East Kaua‘i) region between 2017 and 2040, of which about two thirds will be for single family households (4,928 homes) (CBRE, 2017, see Appendix F).

At the same time, housing inventory on Kaua‘i does not meet demand. The existing and planned inventory of residential units on Kaua‘i will fall short of forecasted demand for housing units, continuing the trend of increased housing pricing pressure and slowing the formation of new households. Many young families are unable to purchase their own homes, and are forced to either remain in crowded, multi-generational households or to relocate off-island. The proposed residential subdivision is intended to provide housing opportunities for Kaua‘i residents.

The purpose of the Proposed Action is to satisfy the need for housing on the island of Kaua‘i by providing improved residential lots that are:

- targeted to local Kaua‘i residents
- consistent with typical densities in the island’s existing single-family residential communities
- located a reasonable distance from existing public facilities and services
- consistent with the Kaua‘i County General Plan Land Use guidance
- in compliance with the Housing Policy for the County of Kaua‘i, Ordinance No. 860, including the requirement for workforce housing
The project’s consistency with the Kaua‘i County General Plan was established in a Departmental Determination issued in 2016. A September 27, 2018 letter from the County Planning Department, issued subsequent to the publication of the DEIS, stated that the Keālia Mauka Homesites project remains consistent with the spatial and textual policies set forth in the 2018 County General Plan. The 2018 letter reaffirmed the County’s support for the project and its housing objectives. In this letter, Mr. Michael Dahilig, (then) Director of Planning, states that, “According to our current projections, our County requires approximately 9,000 residential units to keep pace with population growth of our local residents. The Keālia area is considered a build out area to meet this critical need.” Both the 2016 Departmental Determination and the 2018 letter are included in Appendix A.

2.3 Project Description

The Proposed Action includes the development of a 235 lot residential subdivision on a 53.4 acre site in Keālia (i.e., the Petition Area), and construction of off-site infrastructure and utility improvements to support the subdivision.

The location of all project improvements, both the Petition Area and Off-Site areas, are shown in Figure 2-1. The petition for State Land Use District boundary amendment is limited to the 53.4 acre Petition Area. The off-site improvements, while not part of the LUC Petition Area, are included in the Proposed Action, and therefore are evaluated in this FEIS in compliance with HRS Chapter 343.

2.3.1 PETITION AREA IMPROVEMENTS

2.3.1.1 KEĀLIA MAUKA HOMESITES

The Proposed Action involves the development of a residential subdivision at Keālia, Kaua‘i, consisting of approximately 235 lots ranging in size from about 5,600 SF to 7,300 SF (Figure 2-2). The project includes installation of utility infrastructure (e.g., drinking water, drainage, wastewater, electrical power, and telecommunications systems) and transportation improvements to serve each subdivided parcel. The subdivision plan includes two detention basins, located on the far south and far north ends of the Project Area, totaling 5.86 acres. The southern detention basin is 4.32 acres in size and will provide park/green space for active and passive recreation. It will also serve as a buffer with the neighboring subdivision on Ka‘ao Road. The detention basin on the north will be 1.54 acres, and needs to be deeper because of its relatively small area, and will be approximately 8 feet deep with side slopes of 2:1 (horizontal; vertical). Due to its depth and steep sides, it will not be appropriate for recreation use. Access to the subdivision would be via Keālia Road from its intersection with Kūhiō Highway. A roundabout entrance to the subdivision is proposed on Keālia Road. All traffic on Keālia Road, including through traffic continuing past the subdivision, will be routed through the roundabout.

The finished lots will be sold to individual buyers and/or to third party contractors buying blocks of parcels for development. The lot sizes were intentionally set below 10,000 SF in order to keep prices within a manageable financial range for local residents, the intended market. Because the lots are under 10,000 square feet (SF), the County’s Comprehensive Zoning Ordinance (CZO) only allows one single family dwelling unit per lot. It is proposed that the development include restrictive covenants against Additional Dwelling Units (ADU) at Keālia Mauka, so that construction of a second dwelling unit on any lot will be prohibited.
Conceptual Subdivision Plan

Kealia Mauka Homesites

Final Environmental Impact Statement

Kealia Properties, LLC

Figure 2-2
The project will meet the workforce housing requirements of Kaua‘i County Ordinance No. 860, which established a new chapter in the Kaua‘i County Code (1987, as amended) relating to the housing policy for the County of Kaua‘i. The County's Housing Policy requires that residential developments with 26 units or more include housing “that may be rented or sold at price levels that are affordable to households that earn from eighty percent (80%) and below of the Kaua‘i median household income to one-hundred forty percent (140%) of the Kaua‘i median household income.”

The County's Housing Policy, as it applies to the Keālia Mauka Homesites, is discussed in more detail in Section 5.2.5 of this FEIS. The workforce housing requirement for Keālia Mauka, adjusted for applicable developer incentives, is estimated at 36 units (i.e., lots).

Table 2-1 below shows the distribution of 36 workforce housing lots by income level and price. Based on 2017 “for sale limits,” median income, and mortgage rates, lot-only sales prices would range from $81,000 (80% of median income) to $110,900 (140% of median income). Actual sales prices will depend on conditions at the time of sale.

TABLE 2-1: COMPLIANCE WITH THE HOUSING POLICY FOR THE COUNTY OF KAUA‘I

<table>
<thead>
<tr>
<th>HUD Income Limit (family of 4)</th>
<th>Annual Household Income</th>
<th>For Sale Price</th>
<th>Estimated* Lot-Only Sales Price</th>
<th>Percent of total workforce housing (and number of lots)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% Median</td>
<td>$68,250</td>
<td>$310,800</td>
<td>$81,000</td>
<td>20% (7 lots)</td>
</tr>
<tr>
<td>100% Median</td>
<td>$79,200</td>
<td>$369,300</td>
<td>$92,000</td>
<td>30% (11 lots)</td>
</tr>
<tr>
<td>120% Median</td>
<td>$95,050</td>
<td>$453,800</td>
<td>$95,050</td>
<td>30% (11 lots)</td>
</tr>
<tr>
<td>140% Median</td>
<td>$110,900</td>
<td>$538,400</td>
<td>$110,900</td>
<td>20% (7 lots)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>$538,400</td>
<td>$110,900</td>
<td>100% (36 lots)</td>
</tr>
</tbody>
</table>

Source: Kaua‘i County Housing Agency, effective 4/14/2017. URL=http://www.kauai.gov

*Assumes lot-only price will represent approximately 26% of the For Sale Price established by County. Actual lot-only prices to be determined by County of Kaua‘i Housing Agency

The remaining Keālia Mauka lots (235 less 36=199) will be sold at prevailing market prices. As of April 2019, market prices for the lots would range from approximately $190,000 to $235,000. The market study estimates that full absorption/sell out of the finished lots will be completed within seven years (CBRE, 2017).

2.3.1.2 SUBDIVISION ROADWAYS

The proposed roadways for the Keālia Mauka subdivision will be constructed in accordance with County of Kaua‘i 1972, County Road Standards. The subdivision roadways will conform to the County’s Complete Streets Policy (Resolution No. 2010-48), adopted in September 2010. This policy requires that roadway design and planning is balanced and equitable to accommodate and encourage travel by all modes of travel, including pedestrians and bicyclists. All of the proposed subdivision roads will be conveyed by the developer to the County of Kaua‘i.
A roundabout entrance to the subdivision is proposed in order to provide a safe and efficient central nexus for all adjoining subdivision roads. The roundabout was proposed as a way to accommodate the angle of the intersection of Keālia Road and the main subdivision road, combined with the presence of a small side road (Ka‘ao Road). A section of Keālia Road approaching the roundabout will be realigned. The roundabout would allow through traffic on Keālia Road and vehicles turning in and out of the subdivision to proceed with minimal disruption, avoiding a four-way stop condition. The roundabout would also create an opportunity to provide an attractive landscape feature at the subdivision entry.

Proposed subdivision roads connecting to the roundabout will be “Collector” roads as defined by County road standards. Collector roads have a 56-foot right of way (ROW) and 40-foot wide pavement. There are a total of two (2) Collector roads proposed for this project, totaling about 2,455 linear feet. One of the Collector roads will run in the north-south direction and the other Collector road will run in the east-west direction.

The majority of the roads within the proposed subdivision will be “Minor” roads as defined by County road standards. Minor roads have a 44-foot ROW and 20-foot wide pavement. There are a total of nine (9) Minor roads proposed for this project, totaling about 9,220 linear feet. Three (3) Minor road will traverse the north-south direction and six (6) will traverse in the east-west direction.

Currently, there is an old cane haul road entry to the property located on Kūhiō Highway. The road is currently gated and unused. This access point will be eliminated, and no direct vehicle access onto Kūhiō Highway will be allowed from the proposed subdivision, as mandated by the State of Hawai'i Department of Transportation (HDOT).

### 2.3.2 OFF-SITE IMPROVEMENTS

#### 2.3.2.1 KEĀLIA ROAD IMPROVEMENTS

The County of Kaua‘i has indicated that improvements to the two-lane Keālia Road are needed to accommodate the increase in vehicular traffic associated with the project, and that the improvements shall be in accordance with the County’s Complete Streets Policy and principles. Complete Streets features include interconnected sustainable street networks providing opportunities for all modes of travel to and from neighborhoods and nearby destinations. Complete Streets layouts and designs provide connectivity with ample space for pedestrians, bicyclists, motorists, and public transportation users of all ages and abilities.

Improvements are proposed to approximately 2,650 linear feet of Keālia Road, extending from the Hopoe Road intersection to the Kūhiō Highway intersection. The improvements will be in accordance with Complete Streets principles allowing vehicular traffic, pedestrians, and bicyclists to safely utilize the roadway corridor.

Figure 2-3 below illustrates the proposed roadway cross-section for Keālia Road, which contains the following features:

- Widening the existing right-of-way from 40 feet to 56 feet
- Reconstructing the roadway pavement from two vehicular lanes each approximately 9 feet wide to two vehicular lanes each approximately 10 feet wide
• 5-foot wide paved road shoulders on each side of the travel lanes for roadway drainage and bicycle use
• Green space between paved road shoulder and proposed sidewalk
• 5-foot wide concrete sidewalk for pedestrians on one side of Keālia Road

Source: Kodani & Associates, 2018

FIGURE 2-3: KEĀLIA ROAD IMPROVEMENTS

2.3.2.2 KEĀLIA ROAD-KŪHIŌ HIGHWAY ROUNDBOUGHT

At the intersection of Keālia Road and Kūhiō Highway, a roundabout will be constructed to mitigate the increase in traffic due to the project, and to improve intersection safety. Two alternatives for this intersection were considered: a traffic signal and a single-lane roundabout. Although the traffic signal was presented in the DEIS as the recommended option, the County of Kaua‘i has subsequently indicated that a roundabout is their preferred solution. As such, a roundabout is presented in this FEIS as part of the Proposed Action.

The Transportation Impact Analysis Report (TIAR) (ATA, 2018) for this project evaluated both options and found that both a roundabout and a traffic signal would deliver comparable levels of service in terms of traffic flow, turning movements, and safety. A conceptual sketch of the roundabout and more detailed discussion of traffic issues is provided in Section 4.11 (Roadways and Transportation) of this FEIS.

2.3.2.3 OFF-SITE UTILITY IMPROVEMENTS

Provision of adequate drinking water and sewer service to the project will require off-site improvements, including installation of a 200,000 gallon water system storage tank near the existing water tanks (mauka of the Petition Area), and replacement of two existing deep-well pumps. Overhead telephone and cable lines will be installed on Keālia Road extending from the
Petition Area to Kūhiō Highway. A new sanitary sewer main will be needed from the Petition Area to a lift station along Kūhiō Highway, and then to an existing municipal sewer manhole near the Kaiakea Fire Station, nearly one mile away. A new sewer pump station will be constructed. These utility improvements are discussed further in Section 4.10 (Infrastructure and Utilities) of this FEIS.

2.3.3 DEVELOPMENT SCHEDULE AND COSTS

2.3.3.1 ESTIMATED DEVELOPMENT SCHEDULE

The anticipated construction of the proposed improvements, both on and off-site, is expected to take approximately 18-24 months, assuming much of the work occurs simultaneously. The initial mass grading work for the subdivision is expected to extend over the first 12 months. The County’s Grading Ordinance allows a maximum of 10 acres to be disturbed at any time, therefore, the 53.4 acre site will require up to six phases of grading work (Kodani & Associates, 7/13/2017).

Subsequent construction phases will include the installation of drainage structures, detention basins, sewer, drinking water, and electrical utilities, and construction of roads and sidewalks will occur concurrently during each of these phases.

Improvements to Keālia Road will require fill which will be obtained from the subdivision site work. For this reason, Keālia Road improvements will be initiated about 6 to 9 months after the start of work in the Petition Area. Off-site utility improvements will commence about the same time as Keālia Road improvements, and continue through the end of the project construction period. The construction of the roundabout and installation of the new sewer main along Kūhiō Highway will take approximately 9 to 12 months.

2.3.3.2 ESTIMATED DEVELOPMENT COSTS

The Proposed Action includes both on and off-site improvements. On site work includes earthwork, clearing and grubbing, mass and fine grading, construction of drainage/detention basins, and installation of utility systems (sewer, water, electrical). On-site costs (i.e., within the Petition Area) include: earthwork; clearing and grading for the house sites, roadways, and park/detention basins; drainage and utility improvements; and construction of a four (4) foot high CMU noise barrier wall along the Kūhiō Highway side of the Petition Area. These on-site costs are estimated at approximately $25.8 million (Kodani & Associates, 2018).

The off-site improvements include: Keālia Road widening, resurfacing and the addition of sidewalks; overhead electrical and cable lines; and all off-site drinking water and sewer improvements. Off-site costs also include the proposed roundabout at the Kūhiō Highway and Keālia Road intersection, with associated crosswalks, signage and striping. Off-site improvements are estimated at $10.2 million.

All on and off-site project-related costs will be funded by the Petitioner. No public funds will be requested for the project improvements.
2.4 Alternatives Considered

In addition to the Proposed Action, several alternatives were considered and evaluated, and are briefly presented below.

2.4.1 NO ACTION

In this alternative, there would be no residential subdivision developed on the Petition Area, the land would be retained in agriculture, and its current use for grazing by cattle or other livestock would continue for the foreseeable future. Since no development would occur, the existing physical environment of the site would not be affected. There would be no additional demands for public services and roadway infrastructure.

Under the No Action alternative, the island of Kaua‘i and the general public would not realize the social and economic benefits of the project including: 1) the availability of approximately 235 residential lots, targeted to local residents to meet current and projected housing demand; 2) direct capital investment in the local economy during the construction period; 3) income and expenditures generated by new construction and long-term jobs and wages; 4) purchases of goods and services by residents; 5) real property tax revenues; 6) net tax revenues to the County during the construction period and on an annualized basis thereafter.

Potential benefits of the No Action alternative include: 1) existing open space ambiance and views would remain unchanged; 2) existing grazing activities would be retained and the property would be available for future agricultural use; 3) no short-term construction related impacts (e.g., noise, dust, etc.); 4) no additional traffic generated during construction and operational period; and 5) no additional demand on regional recreation, public services and infrastructure.

The No Action alternative was determined to be less preferable than the Proposed Action because it fails to meet the Petitioner’s primary objective, which is to provide housing opportunities for local Kaua‘i residents. The project’s benefits far outweigh the benefits of a No Action alternative.

2.4.2 AGRICULTURAL SUBDIVISION DEVELOPMENT

Under this alternative, the Petition Area would be subdivided into agricultural lots ranging from 2 to 10 acres, on which one dwelling would be permitted in each lot. Each owner would be required to sign an agreement that the property will comply with State land use guidelines governing lands in the State Agricultural Land Use District and submit an agriculture plan stating what the owner intends to raise on the property. This alternative would create the potential for the resumption of productive agricultural use of the land, including new diversified crops. On the other hand, an agricultural subdivision would do little to address the island’s current housing shortage, especially for workforce housing.

An agricultural subdivision would involve fewer and higher priced lots than the proposed 235-unit subdivision. Under the County’s agricultural zoning regulations, any residential development on the property must be “farm dwellings” and accessory to agricultural use, although a residence as large as 5,000 square feet would be allowed. Due to the larger acreage and higher sales prices, an agricultural subdivision would tend to attract a higher income buyer, including more out of state investors and second home owners, compared to the proposed project. Due to the fewer number of residential units, impacts on regional traffic and public services would be less than the proposed...
subdivision. There would also be less of a visual impact, since much of the site’s open space character would be retained.

A previous proposal to develop a 199-lot agricultural subdivision on 2,020 acres at Keālia--including the current 53.4-acre Petition Area--was approved by Kaua‘i County in 2007. This previous proposal received mixed public reaction. Proponents argued that it would promote agriculture and present an example of agricultural sustainability, creating the potential for diversified crop production. Opponents of the proposal criticized its 2,000 acre size and the potential for speculative investment, as well as its long term impact on local agriculture. The subdivision permit was subsequently rescinded by Kaua‘i County, at the request of Keālia Properties, LLC.

In a September 27, 2018 letter, Mr. Michael Dahilig, Director of the County Planning Department, cited the need for “approximately 9,000 residential units to keep pace with population growth of our local residents” and indicated the Petition Area is considered a build out area to meet this critical need. Mr. Dahilig alluded to the nearby Keālia Kai agricultural subdivision, stating:

“We are aware the makai area is already entitled with agricultural gentleman estates, and the likelihood of desired density to meet the housing demand is far from being realized. The comparable area earmarked for entitlement in the [Keālia Mauka Homesites Draft EIS] would help to meet this target rather than creating a deficiency in the county's critical planned housing build out.”

The letter clearly states the County’s preference for the Proposed Action as opposed to an agricultural subdivision. Mr. Dahilig's letter is included in Appendix A.

2.4.3 VARIATIONS IN DEVELOPMENT DENSITY

2.4.3.1 LOWER DENSITY DEVELOPMENT

This alternative involves creating a subdivision with larger average lot sizes than the Proposed Action, for example, 10,000 to 20,000 SF. Overall project density would be about two to four units per acre, compared to Keālia Mauka’s density of four to five units per acre. A 10,000 SF lot would be similar in size to many of the Keālia Town Tract lots. These lot sizes are more in keeping with the lots of the adjacent Ka‘ao Road subdivision. Based on average price per square foot, sales prices for the lots would be higher than the current proposal. While it is likely that the majority of lot purchasers would still be Kaua‘i residents, the higher prices could make them beyond the reach of many families entering the housing market. The larger lots would also make the homesites more attractive to out of state residents and speculative buyers.

In summary, this alternative meets many of the project objectives. However, due to the larger lot sizes and higher prices, it would be more difficult to meet the needs of local working families. The larger lots would also make it more difficult meet the County's desire for “workforce housing,” i.e., housing priced to be affordable to families earning up to 140 percent of County median income.

2.4.3.2 HIGHER DENSITY DEVELOPMENT

Under this alternative, the Petition Area would be developed with greater density than in the Proposed Action, with densities of 10 units per acre and up (or average lot sizes of less than 4,400 SF), including multi-family residential development.
While the market study prepared for this FEIS does project a demand for multi-family residential units in the East Kaua‘i region, most of the existing multi-family units in the area have historically been vacation rentals in resort communities along the shoreline. Multi-family housing is generally less attractive to local Kaua‘i residents, who have a strong preference for single family housing. This alternative would be less responsive to the market desires of local residents. A higher density, multi-family development is also less compatible with the neighboring Ka‘ao subdivisions and the Keālia Kai development across Kūhiō Highway.

2.4.4 VARIATIONS IN PETITION AREA

2.4.4.1 LARGER PETITION AREA

This alternative would create a residential subdivision on a much larger scale than the current 53-acre, 235-lot proposed Petition Area. This larger area could potentially encompass hundreds of additional acres and extend well into upland areas of the TMK parcel (4) 4-7-004:001 and adjacent agricultural lands. In July 2016, the County Planning Department determined that the proposed Keālia Mauka project is consistent with the Kaua‘i County General Plan Land Use Map which indicates Residential Community development in the area. It is uncertain whether the County would determine that a larger project area extending further mauka would also be consistent with the intent of the General Plan.

A larger project area would result in more residential units and people. In the long term, it would create higher traffic volumes in the Keālia vicinity than the Proposed Action. Like the Proposed Action, a larger development would target local residents who are already on island. Therefore, there would be little net increase in County-wide population. However, because future residents may be relocating from one part of the island to another, there could be a noticeable impact on enrollment at Kapa‘a district schools which are already near capacity. It is also likely that the conversion of more agricultural land to an urban use would encounter greater community opposition than the proposed use of 53.4 acres.

2.4.4.2 SMALLER PETITION AREA

This alternative would involve a smaller scale residential subdivision with densities similar to the Proposed Action. A smaller project area would result in fewer total lots, with fewer residences to share the cost of required infrastructure and utility improvements. This would likely result in higher prices for the individual lots in order for the developer to recoup these relatively fixed expenses. A smaller Petition Area would not be economically feasible for the Petitioner.

2.4.5 TURNKEY HOMES FOR SALE

This alternative involves vertical construction of single-family homes on each subdivided lot in addition to infrastructure provision. Turnkey refers to the provision of a complete housing product, ready for immediate use. The house and lot would be offered for sale to buyers. While this type of development is common throughout the state, it is less typical on Kaua‘i, where it is customary to offer improved lots for sale. Purchase of vacant lots provides buyers the opportunity to build their own home according to personal preference, and at a time when it is most economically feasible. The intent of the Proposed Action is to continue this historical practice, which tends to be preferred by local residents. However, there remains the possibility that a block of lots could be sold to a single purchaser who will then construct finished homes for sale. Therefore, the sale of turnkey
homes is a possibility for a portion of the Keālia Mauka subdivision, but would be up to other private developers.

2.4.6  POSTPONING ACTION PENDING FURTHER STUDY

In accordance with HAR §11-200-17(f), a discussion on the alternative of postponing action pending further study is required. There are, in fact, further studies that may be completed prior to the start of project construction. However, they do not require postponement of the Proposed Action.

For example, soil testing for contaminants associated with past agriculture use is a mitigation recommended by the State Department of Health (DOH), and will be completed prior to earthwork. This study involves preparation of a soil sampling plan to be approved by the DOH Hazard Evaluation and Emergency Response (HEER) office, and approval of the test results and recommendations. Any contaminated soils and materials will be remediated to the satisfaction of DOH HEER prior to construction. This issue is discussed in Section 4.8, Hazardous and Regulated Materials and Waste.

It is always possible that the Proposed Action could be postponed due to changes in economic or market conditions or as the result of an unexpected disaster (e.g., hurricane). These are unpredictable and beyond the control of the Petitioner. The project site is located away from the coastline and not within an area vulnerable to natural hazards, which minimizes these risks. However, there is little benefit to postponing the Proposed Action to conduct further studies. The market study indicated an immediate demand for the proposed housing product, and an increased housing inventory is a stated policy goal for the County. While some further studies may be conducted prior to construction, the Petitioner does not intend to postpone the Proposed Action.

2.4.7  ALTERNATIVE LOCATIONS FOR THE PROPOSED PROJECT

HAR §11-200-17(f) also requires a discussion on alternative locations for the proposed project. The Petitioner owns some 2,000 acres of land within the Keālia area that are currently used for grazing and agricultural activity. These areas, comprising TMK (4) 4-7-004-001 and (4) 4-7-003:002, are shown in Figure 1-3.

Within these 2,000 acres, the Petition Area is the most appropriate for a residential subdivision. The site is adjacent to an existing residential subdivision, minimizing sprawl and spot development. The future subdivision can utilize an existing road (Keālia Road) for access to Kūhiō Highway, and does not require creation of a new access point onto the highway, something the State Department of Transportation has prohibited.

The County has determined that residential development of the Petition Area is consistent with the General Plan land use plan, and the project has the expressed support of the County Planning Department. It is uncertain whether this would be the case for an alternative location. If another location were proposed, a formal determination from the County would be needed. There are no other locations under the Petitioner’s control that offer the characteristics necessary for a residential development: i.e., adequate acreage, developable topography, proximity to utility and roadway infrastructure, and consistency with County land use plans. While there may be other undeveloped lands closer to downtown Kapa’a, they are not under the control of the Petitioner and therefore are not considered feasible alternatives.
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