

5. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES, AND CONTROLS FOR THE AFFECTED AREA

5.1 STATE OF HAWAI'I

5.1.1 Chapter 343, Hawai'i Revised Statutes

This Second Draft Environmental Impact Statement (EIS) is prepared pursuant to Chapter 343, Hawai'i Revised Statutes (HRS), and Title 11, Chapter 200, Hawai'i Administrative Rules, Department of Health, State of Hawai'i. Proposed is an Applicant action by SCD – TSA Kaloko Makai, LLC to develop Kaloko Makai, an approximately 1,139 acre master planned community in Kaloko and Kohanaiki, North Kona, Island of Hawai'i.

The preparation of this Second Draft EIS is being undertaken to address the proposed reclassification of the Conservation District lands, possible use of State lands or funds, anticipated use of County lands and/or funds in connection with development of project elements, including, but not limited to, roadway, traffic, water, sewer, utility and drainage facilities affecting State and/or County roadways or other lands, and anticipated trail crossings, and the construction of a wastewater treatment plant. While the specific nature of each improvement is not known at this time, the EIS is intended to address all current and future instances involving the use of State and/or County lands or funds relating to the project.

A previous Draft EIS for this project was prepared and its notice of availability for public review and comment was published in the August 8, 2011 issue of the Office of Environmental Quality Control's (OEQC) *The Environmental Notice*. The public comment period for that Draft EIS ended on September 21, 2011.

Subsequent to the public comment period for the 2011 Draft EIS, certain aspects of the project description changed, and additional studies were undertaken. Therefore the Applicant prepared this Second Draft EIS to address those changes and to provide an additional opportunity for agency and public review and comment. Specifically, the following changes are reflected in this Second Draft EIS:

First, the Applicant reduced the size of commercial/retail space from 1.1 million square feet to approximately 600,000 square feet. Although the market study included with the 2011 Draft EIS demonstrated a demand for the originally proposed 1.1 million square feet, the Applicant has chosen to reduce that component of the project to 600,000 square feet.

Second, the approximately 18-acre off-site potable well field mauka of Kaloko Makai is no longer being considered as a potential alternative water source for the project and has been eliminated.

Third, the originally proposed "Petition Area" for Land Use Commission reclassification has been reduced from 948.866 acres to 798.866 acres. Excluded is the 150 acres of dryland forest, which will remain in the Agricultural District .

Fourth, the Applicant has modified the project design to avoid any "take" of listed endangered and threatened plant species. This eliminates the need to prepare a Habitat Conservation Plan (HCP) and obtain an Incidental Take License (ITL).

Finally, in accordance with information provided by the County of Hawai'i, the Traffic Impact Assessment Report assumes that Ane Keohokālole Highway from Hina Lani Street to Kaiminani Drive (Phase III) would be completed by 2028.

Toward incorporating these changes in this Second Draft EIS, supporting studies were updated, as needed, and will be appended to the document. Responses to comments received on the 2011 Draft EIS have been prepared in the context of preparing this Second Draft EIS and have been distributed, with copies appended herein, in Appendix S.

5.1.2 State Land Use Law, Chapter 205, Hawai'i Revised Statutes

The State Land Use Law, Chapter 205, HRS, is intended to preserve, protect and encourage the development of lands in the State for uses which are best suited to the public health and welfare for Hawai'i's people. All lands in the State are classified into four land use districts by the State Land Use Commission (LUC): Urban, Agricultural, Conservation, and Rural. The standards for each district are found in Title 15, Chapter 15, Hawai'i Administrative Rules, which provide in relevant part as follows:

- The Urban Districts includes *"lands characterized by 'city-like' concentrations of people, structures, streets, urban level or services and other related uses."*
- The Agricultural District includes lands with a *"high capacity for agricultural production." with low capacity."*
- Rural districts include areas consisting of small farms, and activities or uses characterized by low-density residential lots of not less than *one half acre and a density of not more than one house per one-half acre.*
- Conservation Districts includes areas necessary for *protecting watersheds, water resources and water supplies, the conservation, preservation and enhancement of scenic, cultural, historic or archaeological sites, and lands necessary for conserving natural ecosystems of indigenous or endemic plants, fish and wildlife. Conservation District lands also include those necessary for providing and preserving parklands, wilderness and beach reserves.*

Presently, about 49 percent of Hawai'i's land area is designated Conservation, 45.7 percent Agricultural, 5 percent Urban, and less than half a percent Rural (Office of State Planning, December 13, 2012).

While the Land Use Commission (LUC) Administrative Rules describe the Conservation District in broad terms, a more specific statutory framework for Conservation lands identifies the five subzones that are possible within the Conservation District, and establishes that certain Conservation District lands are not truly intended for conservation purposes. The five subzones are: Protective (P), Limited (L), Resource (R), General (G), and Special (S). All of the Conservation District land within the project site is within the General subzone. According to the Hawai'i Administrative

Rules, the objective of the General subzone is to “*designate open space where specific conservation uses may not be defined, but where urban use would be premature.*” HAR Sec. 13-5-14.

When the Conservation District was created in 1961 there were only two subzones – “Restricted Watershed,” which was limited to water and forestry development, and “General Use,” which allowed resorts and related residences, hotels, restaurants, resort ranches, county clubs, logging, and quarrying, among other uses. In 1978, the Board of Land and Natural Resources (BLNR) replaced the two tier subzone system with the current five tier system. In effect, the “General” subzone is the “General Use” designation of the 1960s.

These lands do not have the ecological, historical, cultural or geologic features found in other subzones, and at the time of designation (about 50-years ago,) they were not ready for Urban designation. A lot has changed since the initial Land Use mapping. In the past five decades, through the County General Plan, and more recently through the Kona CDP, Kona has identified the area from Kailua to the Kona Airport as the region for growth. The entire Kaloko Makai project property is within the Urban Expansion Area of the General Plan, and is within the Kona Urban Area of the Kona CDP.

5.1.2.1 State Land Use Commission Decision Making Criteria

The LUC, in accordance with Section 205-17, Hawai‘i Revised Statutes (HRS), shall consider the following decision-making criteria in its review of any petition for reclassification of district boundaries:

- (1) *The extent to which the proposed reclassification conforms to the applicable goals, objectives, and policies of the Hawai‘i state plan and relates to the applicable priority guidelines of the Hawai‘i state plan and the adopted functional plans;*

Comment: Kaloko Makai conforms to the applicable goals, objectives, and policies of the Hawai‘i State Plan and functional plans, as discussed in Section 5.1.4 and 5.1.5.

- (2) *The extent to which the proposed reclassification conforms to the applicable district standards;*

Comment: Kaloko Makai conforms to the Urban District standards, as discussed Section 5.1.2.2.

- (3) *The impact of the proposed reclassification on the following areas of state concern:*
- (A) *Preservation or maintenance of important natural systems or habitats;*
 - (B) *Maintenance of valued cultural, historical, or natural resources;*
 - (C) *Maintenance of other natural resources relevant to Hawai‘i’s economy, including, but not limited to, agricultural resources;*
 - (D) *Commitment of state funds and resources;*
 - (E) *Provision for employment opportunities and economic development; and*
 - (F) *Provisions for housing opportunities for all income groups, particularly the low, low-moderate, and gap groups;*

Comment: Natural areas within Kaloko Makai will be preserved and remain undeveloped, such as the Kaloko Makai Dryland Forest Preserve proposed along the southern portion of the project site.

Kaloko Makai has been designed to establish preservation areas to protect archaeological sites within the project site and preserve the historic Kohanaiki Trail (“Road to the Sea” Trail) in place with 10-foot buffers along each side of the trail.

As discussed in Section 3.3, Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agriculturally significant lands.

SCD - TSA Kaloko Makai, LLC is the recorded fee owner of the project site. Applicant has offered to provide land area for the development of a regional hospital. However, Applicant will not be developing a regional hospital. It is anticipated that if a regional hospital is developed, it will be developed through a public-private partnership.

The project may also include the use of State and/or County lands or funds in developing the project and construction of a wastewater treatment plant. Use of State and/or County lands could include, but not be limited to roadway, traffic, water, sewer, utility and drainage facilities affecting State and/or County roadways or other lands, and anticipated trail crossings. While the specific nature of each improvement is not known at this time, the EIS is intended to address all current and future instances involving the use of State and/or County lands or funds relating to the project.

Applicant or its successors will be responsible to fund site work and the construction of on-site and off-site project-related infrastructure including roadways, potable (drinking) water wells, reservoirs, transmission lines, wastewater transmission lines, and other utilities.

The Kaloko Makai plan designates 75 acres of light industrial or business park land uses in the Special District located at its makai end fronting Queen Ka’ahumanu Highway. Approximately 25 acres of these lands have been identified by the State of Hawai’i Department of Transportation (DOT) for an eventual highway interchange near the intersection of Queen Ka’ahumanu Highway and Hina Lani Street.

The project contributes to economic development by providing employment opportunities for construction work, increased revenues to the State and County in the form of taxes, and long-term employment related to the commercial, retail, and light-industrial uses within the development.

Kaloko Makai will stimulate the local economy and provide housing opportunities for all income groups as discussed in Sections 2.2.2.1, 2.2.2.2, and 2.2.2.3.

- (4) *The standards and criteria for the reclassification or rezoning of important agricultural lands in Section 205-50;*

Comment: As discussed in Section 3.3, there are no important agricultural lands within the subject property. Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

- (5) *The county general plan and all community, development, or community development plans adopted pursuant to the county general plan, as they relate to the land that is the subject of the reclassification petition; and*

Comment: The project is consistent with the County General Plan, which designated the property for Urban Expansion, and with the Kona Community Development Plan (CDP), which designated the property for the development of the Kaloko Makai Transit Oriented Development (TOD) Village.

- (6) *The representations and commitments made by the petitioner in securing a boundary change.*

Comment: SCD-TSA Kaloko Makai, LLC is committed to following through with the representations and commitments made to the community and the LUC.

5.1.2.2 Standards for Determining Urban District Boundaries

The LUC must specifically consider the extent to which the proposed reclassification conforms to the applicable District standards. The standards for determining the boundaries for the Urban District include eight (8) areas which are listed below (15-15-18, HAR). The following section is an analysis of how Kaloko Makai conforms to the Urban District standards.

- (1) *It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses;*

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the County of Hawai'i's General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP.

- (2) *It shall take into consideration the following specific factors:*

- (A) *Proximity to centers of trading and employment except where the development would generate new centers of trading and employment;*
 (B) *Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities, and police and fire protection; and*
 (C) *Sufficient reserve areas for foreseeable urban growth;*

Comment: As discussed in Section 2.1.1, Kaloko Makai is surrounded by existing and proposed urban uses – Kaloko Industrial Park, Kohanaiki Business Park, West Hawai'i Business Park, and residential developments, including Kaloko Heights, Kona Heavens, Kula Nei and others.

Kaloko Makai is located approximately three miles to the south and north of Kona International Airport and Kailua-Kona, respectively, and is situated in a region that is rapidly developing, with immediate access to Kona International Airport. Kaloko Makai is adjacent to the well established commercial and light industrial-service centers of North Kona and Kailua-Kona which serve the needs of the visitor, agriculture, ranching, and technology industries, among others, which populate the western half of the island.

Kaloko Makai is located within proximity to regions that will continue to be the focus of further development as the Island's population grows, and has the potential to be a major cornerstone of residential, commercial, and light industrial growth as a center of community, commercial, and economic activity.

The project includes parks and sites set aside for a hospital, schools and a fire station.

- (3) *It shall include lands with satisfactory topography, drainage, and reasonably free from the danger of any flood, tsunami, unstable soil conditions, and other adverse environmental effects;*

Comment: The project site occupies an area of relatively uniform slope, ranging from 5 to 8 percent. The lowest elevation along the makai boundary of the site is approximately 100-feet above mean sea level (msl). Along the mauka boundary, the site reaches an elevation of about 710-feet above msl.

- (4) *Land contiguous with existing urban areas shall be given more consideration than non-contiguous land, and particularly when indicated for future urban use on state or county general plans;*

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the Hawai'i County General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP. The property is generally surrounded by lands classified as Urban. As discussed in Section 2.1.1, Kaloko Makai is surrounded by existing and proposed urban uses – Kaloko Industrial Park, Kohanaiki Business Park, West Hawai'i Business Park, and residential developments, including Kaloko Heights, Kona Heavens, Kula Nei and others.

- (5) *It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans;*

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the Hawai'i County General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP.

- (6) *It may include lands which do not conform to the standards in paragraphs (1) to (5):*
- (A) *When surrounded by or adjacent to existing urban development; and*
 - (B) *Only when those lands represent a minor portion of this district;*

Comment: The property conforms to the standards in paragraphs (1) to (5).

- (7) *It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services; and*

Comment: The project will not contribute to scattered spot urban development. Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around a TOD concept, with land available for a new Kona regional hospital. Kaloko Makai is situated on land designated as "Urban Expansion" in the Hawai'i County General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP. In addition, Kaloko Makai is a designated Transit Oriented Development (TOD) under the Kona CDP.

As discussed in Section 2.1.1, Kaloko Makai is surrounded by existing and proposed urban uses – Kaloko Industrial Park, Kohanaiki Business Park, West Hawai'i Business Park, and residential developments, including Kaloko Heights, Kona Heavens, Kula Nei and others.

- (8) *It may include lands with a general slope of twenty per cent or more if the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction of controls, as adopted by any federal, state, or county agency, are adequate to protect the public health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.*

Comment: The project site occupies an area of relatively uniform slope, ranging from 5 to 8 percent. The lowest elevation along the makai boundary of the site is approximately 100-feet above mean sea level (msl). Along the mauka boundary, the site reaches an elevation of about 710-feet above msl.

5.1.3 Coastal Zone Management Act, Chapter 205A, Hawai'i Revised Statutes

Hawai'i's Coastal Zone Management (CZM) Program, established pursuant to Chapter 205A, Hawai'i Revised Statutes (HRS), as amended, is administered by the State Office of Planning (OP) and provides for the beneficial use, protection and development of the State's coastal zone. The objectives and policies of the Hawai'i CZM Program encompass broad concerns such as impact on recreational resources, historic and archaeological resources, coastal scenic resources and open space, coastal ecosystems, coastal hazards, and the management of development. The following is a discussion of the conformity of Kaloko Makai with the applicable CZM objectives and policies.

(1) Recreational Resources

Objective: Provide coastal recreational opportunities accessible to the public.

Policies:

- (B) *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*
- (i) *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;*
 - (iv) *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;*
 - (v) *Ensuring public recreational use of county, state, and federally owned or controlled shoreline lands and waters having recreational value consistent with public safety standards and conservation of natural resources;*
 - (vi) *Adopting water quality standards and regulating point and non-point sources of pollution to protect, and where feasible, restore the recreational value of coastal waters.*
 - (viii) *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources and county authorities; and crediting such dedication against the requirements of Section 46-6, HRS.*

Comment: Kaloko Makai is not a coastal development project and is located approximately 0.85 miles inland from the shoreline. This objective is not applicable to Kaloko Makai. However, related to this objective is the potential water quality impacts during construction of the project which will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling.

Construction of Best Management Practices (BMPs) will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff and develop a Pollution Prevention Plan, and will implement wastewater and groundwater monitoring.

(2) Historic Resources

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

Policies:

- (A) *Identify and analyze significant archaeological resources;*
- (B) *Maximize information retention through preservation of remains and artifacts or salvage operations; and*
- (C) *Support state goals for protection, restoration, interpretation, and display of historic resources.*

Comment: Of the 341 sites in the project area, a total of eighty (80) sites are subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Several of the non-burial preserve sites are major intact trail systems that run for several hundred meters, and two sites are ahupua`a walls that are recommended for preservation with breaches allowed. Other preserve sites include ceremonial enclosures and platforms (possible heiau), excellent examples of habitation complexes (some of which utilize both surface and sub-surface areas), and a few petroglyph panels.

Refer to Section 4.1 for further discussion.

(3) Scenic and Open Space Resources

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

Policies:

- (A) Identify valued scenic resources in the coastal zone management area;*
- (B) Ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;*
- (C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and*
- (D) Encourage those developments which are not coastal dependent to locate in inland areas.*

Comment: As Kaloko Makai is located approximately 0.85 miles inland from the shoreline, this objective is not applicable. The Kaloko Makai project site is located in an undeveloped area mauka of Queen Ka'ahumanu Highway and immediately north of Kaloko Industrial Park. The development of the project site will result in the replacement of vacant and vegetated land with urban uses such as homes, a hospital, commercial/retail, and light industrial uses. Kaloko Makai will be visible almost entirely from the shoreline and Queen Ka'ahumanu Highway looking mauka and visible from existing surrounding developments which lie to the east. The project site will appear as a continuation of the proposed Kaloko Heights and Kula Nei developments to the east or mauka and Kaloko Industrial Park to the south.

There will be approximately 293 acres of parks and open space consisting of 87 acres of open space, 56 acres of parks, and preservation of the Kaloko Makai Dryland Forest Preserve.

(4) Coastal Ecosystems

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

Policies:

(C) Preserve valuable coastal ecosystems, including reefs, of significant biological or economic importance;

(D) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(E) Promote water quantity and quality planning and management practices that reflect the tolerance of fresh water and marine ecosystems and maintain and enhance water quality through the development and implementation of point and nonpoint source water pollution control measures.

Comment: As discussed in Section 3.5.1, it is unlikely that there would be any effects to the nearshore environment as a result of increases in nutrient concentrations in groundwater. Results of a four-year study from two golf courses in Keauhou indicated that even with long-term input of extremely high nutrient subsidies, there are situations where there are no negative effects to the receiving environment. Similar lack of impact would be expected at the Kaloko-Honokōhau region where nutrient subsidies would be far less than have occurred at Keauhou.

A potential mechanism for negative impact to nearshore marine and pond systems is increased sedimentation from wind and surface runoff as a consequence of grading and changes in land use. There appears to be little potential for alteration to the pond and marine communities offshore from increased sedimentation associated with the project for several reasons.

The climate of the Kaloko area is one of the driest in the Hawaiian Islands. On an annual basis, rainfall is likely to be far exceeded by evaporation at the proposed project site. The basaltic composition of the land surface is highly porous and is capable of absorbing rainfall with little or no surface runoff. Even in the event of heavy rainfall, the porous nature of the soil ground cover is such that sheet flow carrying suspended sediment toward the ocean would be expected to be relatively small. Rather, most rainwater that would enter the ocean as runoff would do so following percolation through the surface rock layers to the water table, followed by groundwater extrusion at the shoreline.

In addition, the predominant direction of wind is inland, and not toward the ocean and thus there is little potential for significant input of sediment to the marine and pond environment.

Refer to Section 3.5.2 Nearshore Marine Environment and Ponds for more details on existing conditions, potential impacts and mitigation measures.

During a survey in early 2012 conducted for the Kaloko Makai project, evidence of groundwater input at stations within the inshore half of 'Aimakapā Pond was detected as steep horizontal gradients of salinity and inorganic nutrients found in groundwater. To determine whether this situation was an anomaly, another sampling was conducted in November 2012. Results of this sampling indicated an even stronger flux of groundwater into 'Aimakapā Pond than was previously measured. These results suggest that 'Aimakapā Pond may be experiencing either increased groundwater input, or at least not a decrease in groundwater input relative to a decade earlier. As the existing development in the Kaloko Industrial area upslope of the Kaloko-Honokōhau National Historic Park ponds has been in place for the last decade, water quality in the ponds changes can be assumed to be influenced by the present level of development upslope from the Kaloko-Honokōhau National Historic Park ponds.

Hence, all data indicate that while the enclosed basin of 'Aimakapā is characterized by long water residence time, resulting in continued deposition of organic sediment, the recent detection of increased groundwater flux suggests that the pond is still functioning in part as an anchialine system, and has not yet reached a final stage of senescence.

Substantial data also indicates that groundwater flow is predominantly around, rather than through the ponds, and that water is actually flowing landward out of the ponds as a result of offset tidal gradients. These factors combined result in greatly restricted flow of groundwater into 'Aimakapā Pond.

The restricted flow of freshwater through the ponds is evident by the almost complete lack of both vertical and horizontal gradients within the ponds, as well as substantial damping and lag of tidal oscillations (TNWRE 2002). Thus while the pond consists of water that has salinity less than one half of marine waters, the brackish condition is not a result of high input of freshwater, but rather of more restricted exchange with the ocean water than groundwater.

Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling.

Construction of BMPs will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff and develop a Pollution Prevention Plan, and will implement wastewater and groundwater monitoring.

(5) Economic Uses

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

Policies:

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

Comment: As Kaloko Makai is not a coastal dependent project, this objective is not applicable. Kaloko Makai is located near existing and proposed urban uses. According to the Kona CDP, Kaloko Makai is identified as a Neighborhood TOD. The project will provide on-site and off-site infrastructure systems that will integrate with regional public and private facilities. Internal roadways will connect to existing and future roadways. This project is consistent with the Land Use and Transportation policies described in the Kona CDP.

Kaloko Makai has also set aside land for a hospital, schools and a fire station. Refer to Sections 2.3.4, 2.3.5, and 2.3.6 for further discussion.

(6) Coastal hazards

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

Policies

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

Comment: The project site is not subject to tsunami, storm waves, subsidence, or stream flooding, nor will the project intensify natural hazard conditions.

The Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FEMA) identifies the project site as lying within Zone X, areas determined to be outside the 0.2% annual chance floodplain (Community Panel 1551660684C and 1551660703C revised April 2, 2004).

All structures will be constructed in compliance with requirements of the International Building Code (IBC), appropriate to the Zone 4 Seismic Probability Rating, as well as applicable County, State, or Federal standards.

Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling. The County's grading ordinance includes provisions related to reducing and minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff, develop a Pollution Prevention Plan, and will implement wastewater and groundwater monitoring.

(7) Managing Development

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

Policies:

- (B) Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and*
- (C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the public to facilitate public participation in the planning and review process.*

Comment: Kaloko Makai is not located along the shoreline, however the Second Draft EIS is available for public review and discusses potential environmental and social impacts and mitigation measures.

(8) Public Participation

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

Policies:

- (A) Promote public involvement in coastal zone management processes.*

Comment: Kaloko Makai is not located along the shoreline, however the Second Draft EIS is available for public review and discusses potential environmental and social impacts and mitigation measures.

As discussed in Chapter 9, information regarding the proposed project has been distributed to the public through agency meetings, community consultation, publication of Environmental Impact Statement Preparation Notice (EISPN) (September 2010), the Draft EIS (July 2011) and this Second Draft EIS..

Through this Second Draft EIS, the State Land Use Boundary Amendment petition hearings, and the County permitting process, the public has additional opportunities to be involved in the public review process for Kaloko Makai.

(9) Beach Protection

Objective: Protect beaches for public use and recreation.

Policies:

(A) *Locate new structures inland from the shoreline setback to conserve open space, minimize interference with natural shoreline processes, and minimize loss of improvements due to erosion;*

Comment: Kaloko Makai is not a coastal dependent project and is located mauka of Queen Ka'ahumanu Highway. The project will not construct structures within or near the shoreline setback.

(10) Marine Resources

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

Policies:

(A) *Ensure that use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial;*

Comment: As discussed in Section 3.5.1, significant impact on marine resources is not anticipated. Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling. The County's grading ordinance includes provisions related to reducing and minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling.

Construction of BMPs will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff and develop a Pollution Prevention Plan, and will implement wastewater and groundwater monitoring.

5.1.4 Hawai'i State Plan, Chapter 226, Hawai'i Revised Statutes

The Hawai'i State Plan, embodied in Chapter 226, Hawai'i Revised Statutes (HRS), serves as a guide for goals, objectives, policies, and priorities for the State. The State Plan provides a basis for determining priorities, allocating limited resources, and improving coordination of State and County plans, policies, programs, projects, and regulatory activities. The following section analyzes project impacts with respect to applicable State Plan objectives and policies.

SEC. 226-5 Objectives and policies for population.

(b)(1) Manage population growth statewide in a manner that provides increased opportunities for Hawai'i's people to pursue their physical, social, and economic aspirations while recognizing the unique needs of each county.

(b)(2) Encourage an increase in economic activities and employment opportunities on the neighbor islands consistent with community needs and desires.

(b)(7) Plan the development and availability of land and water resources in a coordinated manner so as to provide for the desired levels of growth in each geographic area.

Comment: Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around a TOD concept with land available for a new Kona regional hospital. A lodge and business center will support the commercial needs within the TOD, including the hospital. In addition, lands will be set aside for two elementary schools, one middle school and fire station.

Kaloko Makai will utilize R-1 quality water from its on-site wastewater treatment plant (WWTP) for general irrigation of common landscaping features, including the district-scale park, neighborhood parks, open spaces (as necessary), and the schools. The average R-1 recycled water flow rate of 2.3 mgd has the potential to provide irrigation water for approximately 115 acres without routine supplemental water addition.

As discussed in Sections 3.5.1 and 4.10.1, the preferred alternative is Alternative 1 – On-site wells at 710-foot Elevation on the mauka portion of the project site. In the event the water source is too saline for State DOH water quality standards, the alternative of reverse osmosis (RO) treatment of this water would be considered (Alternative 2). If the first two alternatives are not feasible, desalinization of on-site saline groundwater at a lower elevation (363-feet) would be undertaken (Alternative 3). On-site wells would draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt.

SEC. 226-6 Objectives and policies for the economy – in general.

(a)(1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice, and improved living standards for Hawai'i's people.

(b)(2) Promote Hawai'i as an attractive market for environmentally and socially sound investment activities that benefit Hawai'i's people.

(b)(6) Strive to achieve a level of construction activity responsive to, and consistent with, state growth objectives.

(b)(10) Stimulate the development and expansion of economic activities which will benefit areas with substantial or expected employment problems.

(b)(15) Promote and protect intangible resources in Hawai'i, such as scenic beauty and the aloha spirit, which are vital to a healthy economy.

Comment: The project contributes to economic development by providing employment opportunities for construction work, increased revenues to the State and County in the form of taxes, and long-term employment related to the commercial, retail, and light-industrial uses within the development.

There will be approximately 293 acres of parks and open space, including the preservation of the Kaloko Makai Dryland Forest.

SEC. 226-7 Objectives and policies for the economy – agriculture.

(a)(3) An agricultural industry that continues to constitute a dynamic and essential component of Hawai'i's strategic, economic, and social well-being.

(b)(2) Encourage agriculture by making best use of natural resources.

(b)(16) Facilitate the transition of agricultural lands in economically nonfeasible agricultural production to economically viable agricultural use.

Comment: As discussed in Section 3.3, Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

SEC. 226-11 Objectives and policies for the physical environment – land-based, shoreline, and marine resources.

(a)(1) Prudent use of Hawai'i's land-based, shoreline, and marine resources.

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

(b)(1) Exercise an overall conservation ethic in the use of Hawai'i's natural resources.

(b)(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

(b)(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(b)(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.

(b)(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai'i.

(b)(8) Pursue compatible relationships among activities, facilities, and natural resources.

(b)(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Comment: As discussed in Section 3.5.2, it is unlikely that there would be any effects to the nearshore environment as a result of increases in nutrient concentrations in groundwater. Results of a four-year study from two golf courses in Keauhou indicated that even with long-term input of extremely high nutrient subsidies, there were situations where the receiving environment experienced no negative effects. Similar lack of impacts would be expected at the Kaloko-Honokōhau region where nutrient subsidies would be far less than have occurred at Keauhou.

A potential mechanism for negative impact to nearshore marine and pond systems is increased sedimentation from wind and surface runoff as a consequence of grading and changes in land use. There appears to be little potential for alteration to the pond and marine communities offshore from increased sedimentation associated with the project for several reasons.

The climate of the Kaloko area is one of the driest in the Hawaiian Islands. On an annual basis, rainfall is likely to be far exceeded by evaporation at the proposed project site. The basaltic composition of the land surface is highly porous and is capable of absorbing rainfall with little or no surface runoff. Even in the event of heavy rainfall, the porous nature of the soil ground cover is such that sheet flow carrying suspended sediment toward the ocean would be expected to be relatively small. Rather, most rainwater that would enter the ocean as runoff would do so following percolation through the surface rock layers to the water table, followed by groundwater extrusion at the shoreline.

In addition, the predominant direction of wind is inland, and not toward the ocean and thus there is little potential for significant input of sediment to the marine and pond environment.

Refer to Section 3.5.2 Nearshore Marine Environment and Ponds for more details on existing conditions, potential impacts and mitigation measures.

During a survey in early 2012 conducted for the Kaloko Makai project, evidence of groundwater input at stations within the inshore half of 'Aimakapā Pond was detected as steep horizontal gradients of salinity and inorganic nutrients found in groundwater. To determine whether this situation was an anomaly, another sampling was conducted in November 2012. Results of this sampling indicated an even stronger flux of groundwater

into 'Aimakapā Pond than was previously measured. These results suggest that 'Aimakapā Pond may be experiencing either increased groundwater input, or at least not a decrease in groundwater input relative to a decade earlier. As the existing development in the Kaloko Industrial area upslope of the Kaloko-Honokōhau National Historic Park ponds has been in place for the last decade, water quality in the ponds changes can be assumed to be influenced by the present level of development upslope from the Kaloko-Honokōhau National Historic Park ponds.

Hence, all data indicate that while the enclosed basin of 'Aimakapā is characterized by long water residence time, resulting in continued deposition of organic sediment. The recent detection of increased groundwater flux suggests that the pond is still functioning in part as an anchialine system, and has not yet reached a final stage of senescence.

Substantial data also indicates that groundwater flow is predominantly around, rather than through the ponds, and that water is actually flowing landward out of the ponds as a result of offset tidal gradients. These factors combine to result in greatly restricted flow of groundwater into 'Aimakapā Pond.

The restricted flow of freshwater through the ponds is evident by the near complete lack of both vertical and horizontal gradients within the ponds, as well as substantial damping and lag of tidal oscillations (TNWRE 2002). Thus while the pond consists of water that has salinity less than one half marine waters, the brackish condition is not a result of high input of freshwater, but rather of more restricted exchange with the ocean water than groundwater.

Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling. The County's grading ordinance includes provisions related to reducing and minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling.

Construction of BMPs will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff, pollution prevention and will implement a wastewater and groundwater monitoring program.

Natural areas within Kaloko Makai will be preserved and remain undeveloped, such as the Kaloko Makai Dryland Forest Preserve along the southern portion of the project site.

Kaloko Makai has been designed to establish preservation areas to protect archaeological sites within the project site and preserve the historic Kohanaiki Trail ("Road to the Sea" Trail).

SEC. 226-12 Objectives and policies for the physical environment – scenic, natural beauty, and historic resources.

(b)(1) Promote the preservation and restoration of significant natural and historic resources.

(b)(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.

(b)(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

(b)(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.

(b)(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Several of the non-burial preserve sites are major intact trail systems that run for several hundred meters, and two sites are *ahupua'a* walls that are recommended for preservation with breaches allowed. Other preserve sites include ceremonial enclosures and platforms (possible *heiau*), excellent examples of habitation complexes (some of which utilize both surface and sub-surface areas), and a few petroglyph panels.

Kohanaiki Trail ("Road to the Sea" Trail) is a long *mauka/makai* trail originating in the Kohanaiki Homesteads. The *mauka-makai* alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion on archaeological, historical and cultural resources.

The Kaloko Makai project site is located in an undeveloped area mauka of Queen Ka'ahumanu Highway and north of Kaloko Industrial Park. The development of the project site will result in the replacement of vacant and vegetated land with urban uses such as homes, a hospital, commercial / retail, and light industrial uses. Kaloko Makai will be visible almost entirely from the shoreline and Queen Ka'ahumanu Highway looking mauka and visible from existing surrounding developments which lie to the east. The project site will appear as a continuation of the proposed Kaloko Heights and Kula Nei developments to the east and Kaloko Industrial Park to the south.

There will be approximately 293 acres of parks and open space consisting of 87 acres of open space, 56 acres of parks, and preservation of the 150-acre Kaloko Makai Dryland Forest Preserve. Through the establishment of this Preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity. Refer to Section 3.6 for further discussion.

SEC. 226-13 Objectives and policies for the physical environment – land, air and water quality.

(a)(1) Maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources.

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

(b)(1) Foster educational activities that promote a better understanding of Hawai'i's limited environmental resources.

(b)(2) Promote the proper management of Hawai'i's land and water resources.

(b)(3) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.

(b)(4) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.

(b)(5) Reduce the threat to life and property from erosion, flooding, tsunamis, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.

(b)(6) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.

(b)(7) Encourage urban developments in close proximity to existing services and facilities.

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the County of Hawai'i's General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP.

The project site is not subject to tsunami, storm waves, subsidence, or stream flooding, nor will the project intensify natural hazard conditions.

As discussed in Section 3.5.2, it is unlikely that there would be any effects to the nearshore environment as a result of increases in nutrient concentrations in groundwater. Results of a four-year study from two golf courses in Keauhou indicated that even with long-term input of extremely high nutrient subsidies, there are situations where there are no negative effects to the receiving environment. Similar lack of impact would be expected at the Kaloko-Honokōhau region where nutrient subsidies would be far less than have occurred at Keauhou.

A potential mechanism for negative impact to nearshore marine and pond systems is increased sedimentation from wind and surface runoff as a consequence of grading and changes in land use. There appears to be little potential for alteration to the pond and marine communities offshore from increased sedimentation associated with the project for several reasons.

The climate of the Kaloko area is one of the driest in the Hawaiian Islands. On an annual basis, rainfall is likely to be far exceeded by evaporation at the proposed project site. The basaltic composition of the land surface is highly porous and is capable of absorbing rainfall with little or no surface runoff. Even in the event of heavy rainfall, the porous nature of the soil ground cover is such that sheet flow carrying suspended sediment toward the ocean would be expected to be relatively small. Rather, most rainwater that would enter the ocean as runoff would do so following percolation through the surface rock layers to the water table, followed by groundwater extrusion at the shoreline.

In addition, the predominant direction of wind is inland, and not toward the ocean and thus there is little potential for significant input of sediment to the marine and pond environment.

Refer to Section 3.5.2 Nearshore Marine Environment and Ponds for more details on existing conditions, potential impacts and mitigation measures.

During a survey in early 2012 conducted for the Kaloko Makai project, evidence of groundwater input at stations within the inshore half of 'Aimakapā Pond was detected as steep horizontal gradients of salinity and inorganic nutrients found in groundwater. To determine whether this situation was an anomaly, another sampling was conducted in November 2012. Results of this sampling indicated an even stronger flux of groundwater into 'Aimakapā Pond than was previously measured. These results suggest that 'Aimakapā Pond may be experiencing either increased groundwater input, or at least not a decrease in groundwater input relative to a decade earlier. As the existing development in the Kaloko Industrial area upslope of the Kaloko-Honokōhau National Historic Park ponds has been in place for the last decade, water quality in the ponds changes can be assumed to be influenced by the present level of development upslope from the Kaloko-Honokōhau National Historic Park ponds.

Hence, all data indicate that the enclosed basin of 'Aimakapā is characterized by long water residence time, resulting in continued deposition of organic sediment. The recent detection of increased groundwater flux suggests that the pond is still functioning in part as an anchialine system, and has not yet reached a final stage of senescence.

Substantial data also indicates that groundwater flow is predominantly around, rather than through the ponds, and that water is actually flowing landward out of the ponds as a result of offset tidal gradients. These factors combine to result in greatly restricted flow of groundwater into 'Aimakapā Pond.

The restricted flow of freshwater through the ponds is borne out by the near complete lack of both vertical and horizontal gradients within the ponds, as well as substantial damping and lag of tidal oscillations (TNWRE 2002). Thus while the pond consists of water that has salinity less than one half marine waters, the brackish condition is not a result of high input of freshwater, but rather of more restricted exchange with the ocean water than groundwater.

Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling. The County's grading ordinance includes provisions related to reducing and minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling.

Construction of BMPs will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff and pollution prevention, and will implement wastewater and groundwater monitoring.

Short-term impacts to regional air quality will likely arise from construction, and construction related activities. For a project of this nature, there are two potential types of air pollution that could directly result in short-term air quality impacts during project construction: 1) fugitive dust from vehicle movement and soil excavation; and 2) exhaust emissions from on-site construction equipment. Fugitive dust emissions may result from grading and dirt-moving activities associated with site clearing and preparation work. Furthermore, project construction activities may potentially obstruct the normal flow of traffic to such an extent that overall vehicular emissions in the project area will temporarily increase. All construction and construction related activities will comply with the provision set forth in Chapter 11-60.1-33 of the HAR on fugitive dust.

In the long-term (post-construction), the increase in regional population and internal community traffic may potentially result in a long-term increase in emissions; however, it is anticipated that concentrations will fall well within State and Federal standards. Motor vehicles with gasoline-powered engines are significant sources of carbon monoxide, and also emit nitrogen oxides among other contaminants.

As discussed in Section 4.6 Air Quality, the air quality assessment was based on future traffic conditions and proposed configurations described in the Traffic Impact Assessment Report (TIAR) (see Section 4.4 Roadways and Traffic).

The worst-case 1-hour carbon monoxide concentrations without the project in 2025, 2035 and 2045 are within the National Ambient Air Quality Standards (AAQS) of 35 parts per million (ppm) and the State standard of 9 ppm.

With the project and assuming the roadway improvements identified in the TIAR are implemented, estimated worst-case 1-hour carbon monoxide concentrations in the year 2025 were predicted to increase compared to the without project scenario at all locations studied. However, the predicted worst-case concentrations remained within the standards. This trend continues in 2035 and 2045 With Project.

All predicted worst-case 8-hour concentrations for the 2011 scenario were within both the National AAQS of 9 ppm and the State standard of 4.4 ppm. The predicted concentrations for 2025 without the project increased slightly or remain nearly unchanged compared to the 2011 scenario. Analysis also shows that this trend would continue through 2035 and 2045 without the Project, and worst-case 8-hour concentrations should remain within the standards through 2045.

For 2025 with Project scenario, worst-case 8-hour concentrations increased at all locations studied. Worst-case concentrations for 2035 and 2045 were predicted to increase slightly or remain nearly unchanged, but still remain within the standards.

The air quality study concludes that implementing any air quality mitigation measures for long-term traffic-related impacts is probably unnecessary and unwarranted.

No significant impacts on air quality are anticipated with appropriate mitigation during the construction phase and no violations of federal and state air quality standards are anticipated in the long-term.

Refer to Section 4.6 Air Quality for detailed discussion on existing conditions, potential impacts, and mitigation measures.

SEC. 226-14 Objectives and policies for facility systems – general.

(b)(2) Encourage flexibility in the design and development of facility systems to promote prudent use of resources and accommodate changing public demands and priorities.

(b)(3) Ensure that required facility systems can be supported within resource capacities and at a reasonable cost to the user.

(b)(4) Pursue alternative methods of financing programs and projects and cost-saving techniques in the planning, construction, and maintenance of facility systems.

Comment: Kaloko Makai does not involve planning for the State’s facility systems. However, Kaloko Makai is setting aside land for a hospital, two elementary schools, one middle school, a County fire station, and a future DOT interchange near Queen Ka’ahumanu Highway and Hina Lani Street.

SEC. 226-15 Objectives and policies for facility systems – solid and liquid wastes.

(a)(2) Provision of adequate sewerage facilities for physical and economic activities that alleviate problems in housing, employment, mobility, and other areas.

(b)(1) Encourage the adequate development of sewerage facilities that complement planned growth.

(b)(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

(b)(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes.

Comment: Kaloko Makai will construct and operate a private wastewater treatment plant (WWTP) within the project, which would be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of drinking water for irrigation. Design and construction will be in accordance with State DOH and County of Hawai'i standards. Section 4.10.2 contains further discussion.

To reduce solid waste generation, Kaloko Makai will incorporate waste diversion and reduction facilities into its design and recycling will be encouraged. Section 4.10.4 contains further discussion.

SEC. 226-16 Objective and policies for facility systems – water.

(a) Planning for the State's facility systems with regard to water shall be directed towards achievement of the objective of the provision of water to adequately accommodate domestic, agricultural, commercial, industrial, recreational, and other needs within resource capacities.

(b)(1) Coordinate development of land use activities with existing and potential water supply.

(b)(2) Support research and development of alternative methods to meet future water requirements well in advance of anticipated needs.

(b)(3) Reclaim and encourage the productive use of runoff water and wastewater discharges.

(b)(4) Assist in improving the quality, efficiency, service, and storage capabilities of water systems for domestic and agricultural use.

(b)(5) Support water supply services to areas experiencing critical water problems.

(b)(6) Promote water conservation programs and practices in government, private industry, and the general public to help ensure adequate water to meet long-term needs.

Comment: Kaloko Makai's water demand will require additional water source, storage and transmission facilities. As discussed in Sections 3.5.1 and 4.10.1, the preferred alternative is Alternative 1 – On-site wells at 710-foot Elevation on the mauka portion of the project site. In the event the water source is too saline for State DOH water quality standards, the alternative of reverse osmosis (RO) treatment of this water would be considered (Alternative 2). If the first two alternatives are not feasible, desalinization of on-site saline

groundwater at a lower elevation (363 ft.) would be undertaken (Alternative 3). On-site wells would draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt.

As mentioned previously, Kaloko Makai will construct and operate a private WWTP within the project. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of drinking water for irrigation. Section 4.10.2 contains further discussion.

SEC. 226-17 Objective and policies for facility systems – transportation.

(b)(1) Design, program, and develop a multi-modal system in conformance with desired growth and physical development as stated in this chapter.

(b)(2) Coordinate state, county, federal and private transportation activities and programs toward the achievement of statewide objectives.

(b)(3) Encourage a reasonable distribution of financial responsibilities for transportation among participating governmental and private parties.

(b)(6) Encourage transportation systems that serve to accommodate present and future development needs of communities.

(b)(9) Encourage the development of transportation systems and programs which would assist statewide economic growth and diversification.

(b)(10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawai'i's natural environment.

(b)(11) Encourage safe and convenient use of low-cost, energy-efficient, non-polluting means of transportation.

(b)(12) Coordinate intergovernmental land use and transportation planning activities to ensue the timely delivery of supporting transportation infrastructure in order to accommodate planned growth objectives.

Comment: Consistent with the policies and goals stated in the Kona CDP, Kaloko Makai will utilize TOD and Traditional Neighborhood Development (TND) to promote transit-oriented and pedestrian oriented development, decreasing vehicular transit use and facilitating the management of traffic congestion.

A transit station and compact TOD Village on Ane Keohokālole Highway is an integral part of the multi-modal transit corridor called for in the Kona CDP; Kaloko Makai incorporates multiple road interconnections with neighbors; Kaloko Makai is committed to concurrent construction of the Ane Keohokālole Highway and Kamanu Street extension.

The TOD and TND within Kaloko Makai are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile).

Kaloko Makai will minimize trips onto area roads, as many essential services needed by Kaloko Makai residents will be within walking and biking distance. Section 4.4 contains further discussion regarding traffic.

Kaloko Makai will provide roadway connections to existing and/or future developments on adjacent lands, thereby improving regional circulation.

SEC-226-18 Objectives and policies for facility systems – energy.

(a)(2) Increased energy self-sufficiency where the ratio of indigenous to imported energy use in increased.

(a)(4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use.

(c)(4)(C) Adoption of energy-efficient practices and technologies.

(c)(6) Support research, development, and demonstration of energy efficiency, load management, and other demand-side management programs, practices, and technologies.

(c)(7) Promote alternate fuels and transportation energy efficiency.

(c)(8) Support actions that reduce, avoid, or sequester greenhouse gases in utility, transportation, and industrial sector applications.

Comment: Energy conservation measures will be implemented where appropriate in the design of Kaloko Makai, as discussed in Section 2.5.

SEC. 226-18.5 Objectives and policies for facility systems – telecommunications.

(c)(2) Encourage public and private sector efforts to develop means for adequate, ongoing telecommunications planning;

(c)(3) Promote efficient management and use of existing telecommunications systems and services

Comment: Kaloko Makai is not involved with the planning of the State's telecommunications facility systems. However, coordination with various utility companies will be undertaken to develop the telecommunications systems required to service the project.

SEC. 226-19 Objectives and policies for socio-cultural advancement – housing.

(a)(1) Greater opportunities for Hawai'i's people to secure reasonably priced, safe, sanitary, and livable homes, located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals, through collaboration and cooperation between government and nonprofit and for-profit developers to ensure that more affordable housing is made available to very low-, low- and moderate-income segments of Hawai'i's population.

(a)(2) The orderly development of residential areas sensitive to community needs and other land uses.

(a)(3) The development and provision of affordable rental housing by the State to meet the housing needs of Hawai'i's people.

(b)(1) Effectively accommodate the housing needs of Hawai'i's people.

(b)(2) Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income, and gap-group households.

(b)(3) Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.

(b)(5) Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas.

(b)(6) Facilitate the use of available vacant, developable, and underutilized urban lands for housing.

(b)(7) Foster a variety of lifestyles traditional to Hawai'i through the design and maintenance of neighborhoods that reflect the culture and values of the community.

(b)(8) Promote research and development of methods to reduce the cost of housing construction in Hawai'i.

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the County of Hawai'i's General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP.

Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around an initial urgent care medical facility with land available for a new Kona regional hospital. Kaloko Makai has been designated as a Neighborhood TOD in the Official Kona Land Use Map of the *Kona Community Development Plan* (September 2008).

Over the 30-year projected development schedule, 5,000 homes will be integrated into transit- and pedestrian-oriented urban and traditional neighborhood centers.

SEC. 226-20 Objective and policies for socio-cultural advancement – health.

(a)(1) Fulfillment of basic individual health needs of the general public.

(a)(2) Maintenance of sanitary and environmentally healthful conditions in Hawai'i's communities.

Comment: On-site infrastructure improvements will be constructed to comply with DOH and County standards. The on-site improvements will ensure sanitary and healthful conditions are maintained for the benefit of area residents.

As discussed in Section 2.3.1.1 Kaloko Makai is strategically located to incorporate a new hospital into its master plan and is actively pursuing a hospital developer/operator for the new facility.

Kaloko Makai will set aside approximately 40-acres of land for the development of a hospital/medical care facility, which Kaloko Makai is prepared to transfer at no cost to a hospital developer/operator.

The Kaloko Makai hospital helps to promote and protect health and wellness, while also serving to diversify and strengthen the local economy.

SEC. 226-21 Objective and policies for socio-cultural advancement – education.

(b)(2) Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

Comment: Kaloko Makai has set aside 42.0 acres of land for two elementary schools and one middle school.

SEC. 226-23 Objectives and policies of socio-cultural advancement – leisure.

(b)(1) Foster and preserve Hawai'i's multi-cultural heritage through supportive cultural, artistic, recreational and humanities-oriented programs and activities.

(b)(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

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

(b)(5) Ensure opportunities for everyone to use and enjoy Hawai'i's recreational resources.

(b)(6) Assure the availability of sufficient resources to provide for future cultural, artistic, and recreational needs.

Comment: Kaloko Makai will contain approximately 293 acres of parks and open space, including preservation of the Kaloko Makai Dryland Forest Preserve. Kaloko Makai will provide interlinking natural features, open space and cultural features as core components of the community; the historic Kohanaiki Trail ("Road to the Sea" Trail) runs through the

entire length of the project. It will be restored for use, and will interconnect the communities within the project.

SEC. 226-25 Objectives and policies of socio-cultural advancement – culture.

(a) Planning for the State’s socio-cultural advancement with regard to culture shall be directed toward the achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawai’i’s people.

(b)(1) Foster increased knowledge and understanding of Hawai’i’s ethnic and cultural heritages and history of Hawai’i.

(b)(2) Support the activities and conditions to promote cultural values, customs, and arts that enrich the lifestyles of Hawai’i’s people and which are sensitive and responsive to family and community needs.

(b)(3) Encourage increased awareness of the effects of the proposed public and private actions on the integrity and quality of cultural and community lifestyles in Hawai’i.

Comment: Archaeological research shows the project area contains hundreds of culturally and historically significant sites. Sites in the project area include permanent and temporary habitation structures—many of which incorporate natural features of subterranean lava tubes into their design, agricultural features (including extensive rock mounds used to plant sweet potatoes), at least 65 burials located in approximately two dozen burial sites, ahu (stone markers), trails, petroglyphs, ahupua’a boundary walls, papamū (traditional gaming site), and others.

All of the confirmed and suspected burials will be preserved pursuant to a burial treatment plan prepared in consultation with recognized descendants and the Hawai’i Island Burial Council. The other preservation sites will be treated in accordance with a preservation plan submitted to and approved by State Historic Preservation Division (SHPD) prior to final subdivision approval. Section 4.1 contains further discussion.

There were no specific on-going traditional cultural practices identified relative to the land within the Property. The historic Kohanaiki Trail (“Road to the Sea” Trail) runs through (mauka-makai) the entire length of the project; it will be restored and will interconnect the communities within the project. Refer to Sections 4.1, 4.2 and 4.3 for further discussion.

SEC. 226-103 Economic priority guidelines.

(a)(1)(A) Encourage investments which:

- (i) Reflect long term commitments to the State;*
- (ii) Rely on economic linkages within the local economy;*
- (iii) Diversify the economy;*
- (iv) Reinvest in the local economy;*
- (v) Are sensitive to community needs and priorities*

(e)(1) Maintain and improve water conservation programs to reduce the overall water consumption rate.

(e)(2) Encourage the improvement of irrigation technology and promote the use of non-potable water for agricultural and landscaping purposes.

(e)(3) Increase the support for research and development of economically feasible alternative water resources.

(e)(4) Explore alternative funding sources and approaches to support future water development programs and water system improvements.

(f)(4) Encourage the development and use of energy conserving and cost-efficient transportation systems.

Comment: The project contributes to economic development by providing employment opportunities for construction work, increased revenues to the State and County in the form of taxes, and long-term employment related to the commercial, retail, and light-industrial uses within the development.

Kaloko Makai will construct and operate a private WWTP within the project. An on-site wastewater treatment plant would be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of drinking water for irrigation. Design and construction will be in accordance with State DOH and County of Hawai'i standards. Section 4.10.2 contains further discussion.

Kaloko Makai's water demand will require additional water source, storage and transmission facilities. As discussed in Sections 3.5.1 and 4.10.1, the preferred alternative is Alternative 1 – On-site wells at 710-foot Elevation on the mauka portion of the project site. In the event the water source is too saline for State DOH water quality standards, the alternative of reverse osmosis (RO) treatment of this water would be considered (Alternative 2). If the first two alternatives are not feasible, desalinization of on-site saline groundwater at a lower elevation (363 ft.) would be undertaken (Alternative 3). On-site wells would draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt.

The TOD and TND within Kaloko Makai are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile.)

Kaloko Makai will minimize trips onto area roads, as many essential services needed by Kaloko Makai residents will be within walking and biking distance. Section 4.4 contains further discussion regarding traffic.

Energy conservation measures will be implemented where appropriate in the design of Kaloko Makai. Refer to Section 2.5 for further discussion.

SEC. 226-104 Population growth and land resources priority guidelines.

(a)(1) Encourage planning and resource management to insure that population growth rates throughout the State are consistent with available and planned resource capacities and reflect the needs and desires of Hawai'i's people.

(a)(3) Ensure that adequate support services and facilities are provided to accommodate the desired distribution of future growth throughout the State.

(a)(4) Encourage major state and federal investments and services to promote economic development and private investment to the neighbor islands, as appropriate.

(b)(1) Encourage urban growth primarily to existing urban areas where adequate public facilities are already available or can be provided with reasonable public expenditures, and away from areas where other important benefits are present, such as protection of important agricultural land or preservation of lifestyles.

(b)(2) Make available marginal or non-essential agricultural lands for appropriate urban uses while maintaining agricultural lands of importance in the agricultural district.

(b)(5) In order to preserve green belts, give priority to state capital-improvement funds which encourage location of urban development within existing urban areas except where compelling public interest dictates development of a noncontiguous new urban core.

(b)(6) Seek participation from the private sector for the cost of building infrastructure and utilities and maintaining open space.

(b)(9) Direct future urban development away from critical environmental areas or impose mitigating measures so that negative impacts on the environment would be minimized.

(b)(10) Identify critical environmental areas in Hawai'i to include but not be limited to the following: watershed and recharge areas; wildlife habitats (on land and in the ocean); areas with endangered species of plants and wildlife; natural streams and water bodies; scenic and recreation shoreline resources; open space and natural areas; historic and cultural sites; areas particularly sensitive to reduction in water and air quality; and scenic resources.

(b)(12) Utilize Hawai'i's limited land resources wisely, providing adequate land to accommodate projected population and economic growth needs while ensuring the protection of the environment and the availability of the shoreline, conservation lands, and other limited resources for future generations.

(b)(13) Protect and enhance Hawai'i's shoreline, open spaces, and scenic resources.

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the County of Hawai'i's General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP.

The project is intended to accommodate projected growth rates on Hawai'i Island, as well as the demand for homes in West Hawai'i. The proposed project could affect population through the in-migration of State and County residents.

As discussed in Section 3.3, Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

As part of the project proposal, approximately 150-acres will be set aside as the Kaloko Makai Dryland Forest Preserve, in Phase 1 of the project. Through the establishment of this Preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity. Refer to Section 3.6 for further discussion.

SEC. 226-106 Affordable housing priority guidelines.

(a)(2) Encourage the use of alternative construction and development methods as a means of reducing production costs.

(a)(4) Create incentives for development which would increase home ownership and rental opportunities for Hawai'i's low – and moderate – income households, gap-group households, and residents with special needs.

(a)(6) Encourage public and private sector cooperation in the development of rental housing alternatives.

(a)(8) Give higher priority to the provision of quality housing that is affordable for Hawai'i's residents and less priority to development of housing intended primarily for individuals outside of Hawai'i.

Comment: Kaloko Makai will include the proposed development of up to 5,000 new single- and multi-family residential lots and units at a variety of densities, centralized commercial and neighborhood centers, recreational facilities (e.g. parks, trails, open spaces), hospital, two elementary schools, a middle school and associated infrastructure (e.g., new roadways, utilities, drainage, wastewater and potable water distribution systems). Affordable housing will be provided in accordance with County of Hawai'i requirements.

SEC. 226-108 Sustainability priority guidelines.

- (1) Encouraging balanced economic, social, community, and environmental priorities;*
- (2) Encouraging planning that respects and promotes living within the natural resources and limits of the State;*
- (3) Promoting a diversified and dynamic economy;*
- (4) Encouraging respect for the host culture;*
- (5) Promoting decision based on meeting the needs of the present without compromising the needs of future generations';*

- (6) *Considering the principles of the ahupua'a system; and*
(7) *Emphasizing that everyone, including individuals, families, communities, businesses, and government, has the responsibility for achieving a sustainable Hawaii*

Comment: Kaloko Makai is being developed to meet sustainable and smart growth principles as described in the Kona CDP. Most of the future growth in Kona will be directed to an Urban Area as defined in the Kona CDP's Official Kona Land Use Map. Within the Urban Area growth would be directed to compact villages along proposed transit routes or to infill areas within, or adjacent to existing development. Kaloko Makai is identified as one of ten compact villages (TOD) where growth would be directed. The TOD villages are located at a minimum one mile apart, between major transit stations along Ane Keohokālole Highway.

Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around an initial urgent care medical facility with land available for a new Kona regional hospital. In addition, lands will be set aside for two elementary schools, one middle school and fire station.

The project is intended to accommodate projected growth rates on Hawai'i Island, as well as the demand for homes in West Hawai'i. The proposed project could affect population through the in-migration of State and County residents. Kaloko Makai will include up to 5,000 new single- and multi-family residential lots and units at a variety of densities.

Kaloko Makai is balancing economic, social, community, and environmental resources by:

- Providing 293 acres of open space, including 56 acres of parks and preservation of approximately 150 acre native Dryland Forest. Through the establishment of the Native Dryland Forest Preserve, a variety of species will have continued protection and their habitat set aside in perpetuity.
- Preserving the Kohanaiki Trail ("Road to the Sea" Trail).
- Preserving 72 sites and data recovery of 80 sites.
- Preserving endangered flora species including hala pepe, uhiuhi, ma'aloa, and 'aiea
- Contributing economic development by providing employment opportunities for construction work, increased revenues to the State and County in the form of taxes, and long-term employment related to the commercial, retail, and light industrial uses within the development.

In the design and construction of Kaloko Makai, SCD – TSA Kaloko Makai, LLC will implement feasible measures to promote energy conservation and environmental stewardship, such as the standards and guidelines promulgated by the US Green Building Council, the United States Environmental Protection Agency (EPA) ENERGY STAR Program or other similar programs. Refer to Section 2.5 and Appendix Q.

5.1.5 State Functional Plans

State Functional Plans serve as the primary implementing vehicle for goals, objectives and policies of the Hawai'i State Plan. The functional plans guide implementation of State and County actions in the following thirteen areas: agriculture, transportation, conservation lands, tourism, water resources development, energy, recreation, historic preservation, health, housing, higher education, employment, and human services. The functional plans applicable to the proposed Kaloko Makai project, along with each plan's applicable objectives, policies, and actions are discussed below.

State Agriculture Functional Plan

Issue Area: Land and Water

Policy (H)(2) Conserve and protect important agricultural lands in accordance with the Hawai'i State Constitution.

Comment: As discussed in Section 3.3, Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

State Conservation Lands Functional Plan

Issue Area II: Management

Policy IIB(1): Develop protection and preservation of habitats of rare and endangered wildlife and native ecosystems in Hawai'i.

Policy IID(3): Develop recreational and archaeological resources on the shoreline and mauka areas.

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Kohanaiki Trail ("Road to the Sea" Trail) is a long mauka/makai trail originating in the Kohanaiki Homesteads. The mauka-makai alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion on archaeological, historical and cultural resources.

As part of the project, 150-acres will be set aside as the Kaloko Makai Dryland Forest Preserve, in Phase 1 of the project. Through the establishment of this Preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity. Refer to Section 3.6 for further discussion.

State Education Functional Plan

A(4): Services and Facilities Policy: Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

B(1) Alternatives for Funding and Delivery: Explore alternatives for funding and delivery of educational services to improve the overall quality of education.

Comment: Kaloko Makai has set aside approximately 42.0 acres for two elementary schools and one middle school.

State Historic Preservation Functional Plan

Policy B.1: Provide timely historic property reviews which are integrated effectively into the land use regulatory system.

Policy C.2: Encourage the preservation and maintenance of historic properties through economic incentives and support.

Policy E.1: Provide support and coordination to activities involved with the collection and conservation of historic records and materials.

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Kohanaiki Trail ("Road to the Sea" trail) is a long mauka/makai trail originating in the Kohanaiki Homesteads. The mauka-makai alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion on archaeological, historical and cultural resources.

State Housing Functional Plan***Issue Area: Homeownership***

Policy A(2): Encourage increased private sector participation in the development of affordable for-sale housing units.

Policy A(3): Ensure that (1) housing project and (2) projects which impact housing provide a fair share/adequate amount of affordable homeownership opportunities.

Issue Area: Rental Housing

Policy B(2): Encourage increased private sector participation in the development of affordable rental housing.

Policy B(3): Ensure that projects which impact housing provide affordable rental opportunities for employees.

Issue Area: Rental Housing for the Elderly and Other Special Need Groups

Policy C(7): Integrate special needs housing in new and existing neighborhoods.

Comment: Kaloko Makai will include the proposed development of up to 5,000 new single- and multi-family residential lots and units at low- and medium-densities, centralized commercial and neighborhood centers, recreational facilities (e.g. parks, trails, open spaces), hospital, two elementary schools, a middle school and associated infrastructure (e.g., new roadways, utilities, drainage, wastewater and potable water distribution systems). Affordable housing will be provided in accordance with County of Hawai'i requirements.

State Recreation Functional Plan

Policy I-A(4): Develop areas mauka of existing beach parks to increase their capacities to diversify and encourage activities away from the shoreline.

Policy II-A(1): Plan and develop facilities and areas that feature the natural and historic/cultural resources of Hawai'i. Develop interpretive programs for these areas.

Policy II-C(1): Meet the demand for recreational opportunities in local communities.

Comment: Kaloko Makai will contain approximately 293 acres of open space and parks, including preservation of historic trails and creation of the Kaloko Makai Dryland Forest Preserve. Kaloko Makai will provide interlinking natural features, open space and cultural features as core components of the community; the historic Kohanaiki Trail ("Road to the Sea" Trail) runs through the entire length of the project. It will be restored and used, and will interconnect the communities within the project.

State Transportation Functional Plan

Policy I.A.1: Increase transportation capacity and modernize transportation infrastructure in accordance with existing master plans and laws requiring accessibility for people with disabilities.

Policy I.A.2: Improve regional mobility in areas of the State experiencing rapid urban growth and road congestion.

Policy I.A.3: Promote the development of public transportation systems.

Policy I.B.1: Close the gap between where people live and work through decentralization, mixed zoning and related initiatives.

Policy I.C.1: Increase the capacity of the existing transportation infrastructure.

Policy III.A.2: Pursue private sector participation in the financing of transportation systems, developments and projects.

Comment: Kaloko Makai will utilize TOD and TND to promote transit-oriented and pedestrian oriented development, decreasing vehicular transit use and facilitating the management of traffic congestion.

The TOD and TND within Kaloko Makai are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile.)

Kaloko Makai will minimize trips onto area roads, as many essential services needed by Kaloko Makai residents will be within walking and biking distance. Section 4.4 contains further discussion regarding traffic.

Kaloko Makai will provide roadway connections to existing and/or future developments on adjacent lands, thereby improving regional circulation.

State Water Resources Functional Plan

Policy B(2): Manage surface drainage areas and ground water aquifers to prevent contamination of sources of water supply.

Policy D(1): Promote the planning and development of new water supplies, giving priority support to areas experiencing critical water problems.

Policy E(2): Increase the use of treated sewage effluent and other nonpotable water for irrigation purposes.

Comment: Kaloko Makai will construct and operate a private WWTP within the project. An on-site WWTP would be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of potable water for irrigation. Design and construction will be in accordance with State DOH and County of Hawai'i standards. Section 4.10.2 contains further discussion.

Kaloko Makai's water demand will require additional water source, storage and transmission facilities. As discussed in Sections 3.5.1 and 4.10.1, the preferred alternative is Alternative 1 – On-site wells at 710-foot Elevation on the mauka portion of the project site.

In the event the water source is too saline for State DOH water quality standards, the alternative of reverse osmosis (RO) treatment of this water would be considered (Alternative 2). If the first two alternatives are not feasible, desalinization of on-site saline groundwater at a lower elevation (363 ft.) would be undertaken (Alternative 3). On-site wells would draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt.

Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling. The County's grading ordinance includes provisions related to reducing and minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling.

Construction of BMPs will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures. Kaloko Makai will implement mitigation measures to address storm and surface water runoff, pollution prevention, and will implement wastewater and groundwater monitoring.

5.2 COUNTY OF HAWAI'I

5.2.1 County of Hawai'i General Plan

The General Plan designation for the Kaloko Makai site is "Urban Expansion" and Conservation (for the area of the Dryland Forest.) The "Urban Expansion Area "allows for a mix of high density, medium density, low density, industrial, industrial-commercial and/or open designations in areas where new settlements may be desirable, but where the specific settlement pattern and mix of uses have not yet been determined" (see Figure 2-7).

The County of Hawai'i General Plan was adopted by the Hawai'i County Council in February 2005 (amended in December 2006). The County of Hawai'i's General Plan is the policy document for the long-range comprehensive development of the island of Hawai'i. The General Plan provides the direction for the future growth of the County. It brings into focus the relationship between residents and their pursuits and institutions, offering policy statements that embody the expressed goals for present and future generations.

The Plan contains goals, policies and standards to guide the development of the County in 13 areas: economic, energy, environmental quality, flood control and drainage, historic sites, natural beauty, natural resources and shoreline, housing, public facilities, public utilities, recreation, transportation, and land use. The goals, policies, and standards related to the proposed project are discussed below:

Economic*Goals:*

- (a) *Provide residents with opportunities to improve their quality of life through economic development that enhances the County's natural and social environments.*
- (b) *Economic development and improvement shall be in balance with the physical, social, and cultural environments of the island of Hawai'i*
- (c) *Strive for diversity and stability in the economic system.*
- (d) *Provide an economic environment that allows new, expanded, or improved economic opportunities that are compatible with the County's cultural, natural and social environment.*
- (e) *Strive for an economic climate that provides its residents an opportunity for choice of occupation.*
- (f) *Strive for diversification of the economy by strengthening existing industries and attracting new endeavors.*

Policies

- (d) *Require a study of the significant cultural, social, and physical impacts of large developments prior to approval.*
- (g) *Capital improvements program shall improve the quality of existing commercial and industrial areas.*
- (h) *The land, water, air, and people shall be considered as essential resources for present and future generations and should be protected and enhanced through the use of economic incentives.*
- (l) *Identify and encourage primary industries that are consistent with the social, physical, and economic goals of the residents of the County.*
- (p) *Identify the needs of the business community and take actions that are necessary to improve the business climate.*
- (x) *Encourage the health/wellness industry.*

Comment: The project contributes to economic development by providing employment opportunities for construction work, increased revenues to the State and County in the form of taxes, and long-term employment related to the commercial, retail, and light-industrial uses within the development.

Kaloko Makai will include the proposed development of up to 5,000 new single- and multi-family residential lots and units at low- and medium-densities, centralized commercial and neighborhood centers, recreational facilities (e.g. parks, trails, open spaces), hospital, two elementary schools, a middle school and associated infrastructure (e.g., new roadways, utilities, drainage, wastewater and potable water distribution systems).

ENERGY*Goals*

- (a) *Strive towards energy self-sufficiency.*
- (b) *Establish the Big Island as a demonstration community for the development and use of natural energy resources.*

Policies

- (a) *Encourage the development of alternate energy resources.*
- (e) *Ensure a proper balance between the development of alternative energy resources and the preservation of environmental fitness and ecologically significant areas.*
- (k) *Strive to diversify the energy supply and minimize the environmental impacts associated with energy usage.*
- (n) *Encourage energy saving design in the construction of buildings.*

Comment: Energy conservation measures will be implemented where appropriate in the design of Kaloko Makai. Refer to Section 2.5 for further discussion.

ENVIRONMENTAL QUALITY*Goals:*

- (a) *Define the most desirable use of land within the County that achieves an ecological balance providing residents and visitors the quality of life and an environment in which the natural resources of the island are viable and sustainable.*
- (b) *Maintain and, if feasible, improve the existing environmental quality of the island.*
- (c) *Control pollution.*

Policies:

- (a) *Take positive action to further maintain the quality of the environment.*
- (g) *Participate in watershed management projects to improve stream and coastal water quality and encourage local communities to develop such projects.*
- (h) *Work with appropriate agencies to adopt appropriate measures and provide incentives to control point and nonpoint sources of pollution.*

Comment: As discussed in Section 3.5.2, it is unlikely that there would be any effects to the nearshore environment as a result of increases in nutrient concentrations in groundwater. Results of a four-year study from two golf courses in Keauhou indicated that even with long-term input of extremely high nutrient subsidies, there are situations where there are no negative effects to the receiving environment. Similar lack of impact would be expected at the Kaloko-Honokōhau region where nutrient subsidies would be far less than have occurred at Keauhou.

A potential mechanism for negative impact to nearshore marine and pond systems is increased sedimentation from wind and surface runoff as a consequence of grading and changes in land use. There appears to be little potential for alteration to the pond and marine communities offshore from increased sedimentation associated with the project for several reasons.

The climate of the Kaloko area is one of the driest in the Hawaiian Islands. On an annual basis, rainfall is likely to be far exceeded by evaporation at the proposed project site. The basaltic composition of the land surface is highly porous and is capable of absorbing rainfall with little or no surface runoff. Even in the event of heavy rainfall, the porous nature of the

soil ground cover is such that sheet flow carrying suspended sediment toward the ocean would be expected to be relatively small. Rather, most rainwater that would enter the ocean as runoff would do so following percolation through the surface rock layers to the water table, followed by groundwater extrusion at the shoreline.

In addition, the predominant direction of wind is inland, and not toward the ocean and thus there is little potential for significant input of sediment to the marine and pond environment.

Refer to Section 3.5.2 Nearshore Marine Environment and Ponds for more details on existing conditions, potential impacts and mitigation measures.

During a survey in early 2012 conducted for the Kaloko Makai project, evidence of groundwater input at stations within the inshore half of 'Aimakapā Pond was detected as steep horizontal gradients of salinity and inorganic nutrients found in groundwater. To determine whether this situation was an anomaly, another sampling was conducted in November 2012. Results of this sampling indicated an even stronger flux of groundwater into 'Aimakapā Pond than was previously measured. These results suggest that 'Aimakapā Pond may be experiencing either increased groundwater input, or at least not a decrease in groundwater input relative to a decade earlier. As the existing development in the Kaloko Industrial area upslope of the Kaloko-Honokōhau National Historic Park ponds has been in place for the last decade, water quality in the ponds changes can be assumed to be influenced by the present level of development upslope from the Kaloko-Honokōhau National Historic Park ponds.

Hence, all data indicate that the enclosed basin of 'Aimakapā is characterized by long water residence time, resulting in continued deposition of organic sediment, the recent detection of increased groundwater flux suggests that the pond is still functioning in part as an anchialine system, and has not yet reached a final stage of senescence.

Substantial data also indicates that groundwater flow is predominantly around, rather than through the ponds, and that water is actually flowing landward out of the ponds as a result of offset tidal gradients. These factors combine to result in greatly restricted flow of groundwater into 'Aimakapā Pond.

The restricted flow of freshwater through the ponds is borne out by the near complete lack of both vertical and horizontal gradients within the ponds, as well as substantial damping and lag of tidal oscillations (TNWRE 2002). Thus while the pond consists of water that has salinity less than one half marine waters, the brackish condition is not a result of high input of freshwater, but rather of more restricted exchange with the ocean water than groundwater.

Potential water quality impacts during construction of the project will be mitigated by adherence to State and County water quality regulations governing grading, excavation and stockpiling. The County's grading ordinance includes provisions related to reducing and

minimizing the discharge of pollutants associated with soil disturbing activities in grading, grubbing and stockpiling.

Construction of BMPs will be utilized in compliance with County ordinances pertaining to grading, grubbing, stockpiling, soil erosion and sedimentation during construction. BMPs will also be implemented for long term development and operation of activities occurring on the site as part of pollution prevention measures.

Kaloko Makai will implement mitigation measures to address storm and surface water runoff and development of a Pollution Prevention Plan, and will implement wastewater and groundwater monitoring.

FLOODING AND OTHER NATURAL HAZARDS

Goals:

- (a) Protect human life.*
- (b) Prevent damage to man-made improvements.*
- (c) Control pollution.*
- (d) Prevent damage from inundation.*
- (e) Reduce surface water and sediment runoff.*
- (f) Maximize soil and water conservation.*

Policies:

- (g) Development-generated runoff shall be disposed of in a manner acceptable to the Department of Public Works and in compliance with all State and Federal laws.*
- (j) The County and the private sector shall be responsible for maintaining and improving existing drainage systems and constructing new drainage facilities.*
- (m) Encourage grassed shoulder and swale roadway design where climate and grade are conducive.*
- (n) Develop drainage master plans from a watershed perspective that considers non-structural alternatives, minimizes channelization, protects wetlands that serve drainage functions, coordinates the regulation of construction and agricultural operation, and encourages the establishment of floodplains as public green ways.*
- (q) Consider natural hazards in all land use planning and permitting.*
- (r) Discourage intensive development in areas of high volcanic hazard.*

Comment: Kaloko Makai is located mauka of Queen Ka'ahumanu Highway. The project area is not subject to tsunami, storm waves, subsidence, or stream flooding, nor will the project intensify natural hazard conditions.

The FIRM prepared by FEMA identifies the project site as lying within Zone X, areas determined to be outside the 0.2% annual chance floodplain (Community Panel 1551660684C and 1551660703C revised April 2, 2004).

All structures will be constructed in compliance with requirements of the IBC, appropriate to the Zone 4 Seismic Probability Rating, as well as applicable County, State, and Federal standards.

HISTORIC SITES

Goals:

- (a) Protect, restore, and enhance the sites, buildings, and objects of significant historical and cultural importance to Hawai'i.*
- (b) Appropriate access to significant historic sites, buildings, and objects of public interest should be made available.*
- (c) Enhance the understanding of man's place on the landscape of understanding the system of ahupua'a.*

Policies:

- (c) Require both public and private developers of land to provide historical and archaeological surveys and cultural assessments, where appropriate, prior to the clearing or development of land when there are indications that the land under consideration has historical significance.*
- (d) Public access to significant historic sites and objects shall be acquired, where appropriate.*
- (f) Encourage the restoration of significant sites on private lands.*
- (g) Collect and distribute historic sites information of public interest and keep an inventory of sites.*
- (h) Aid in the development of a program of public education concerning historic sites.*
- (i) Signs explaining historic sites, buildings and objects shall be in keeping with the character of the area or the cultural aspects of the feature.*
- (n) Consider requiring Cultural Assessments for certain developments as part of the rezoning process.*
- (o) Recognize the importance of certain natural features in Hawaiian culture by incorporating the concept of "cultural landscapes" in land use planning.*

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites are subject to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Kohanaiki Trail ("Road to the Sea" Trail) is a long mauka/makai trail originating in the Kohanaiki Homesteads. The mauka-makai alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion on archaeological, historical and cultural resources.

NATURAL BEAUTY*Goals:*

- (a) *Protect, preserve and enhance the quality of areas endowed with natural beauty, including the quality of coastal scenic resources.*
- (b) *Protect scenic vistas and view planes from becoming obstructed.*
- (c) *Maximize opportunities for present and future generations to appreciate and enjoy natural and scenic beauty.*

Policies

- (a) *Increase public pedestrian access opportunities to scenic places and vistas.*
- (d) *Access easement to public or private lands that have natural or scenic value shall be provided or acquired for the public.*
- (e) *Develop standard criteria for natural and scenic beauty as part of the design plans.*
- (f) *Consider structural setback from major thoroughfares and highways and establish development and design guidelines to protect important viewplanes.*
- (h) *Protect the views of areas endowed with natural beauty by carefully considering the effects of proposed construction during all land use reviews.*
- (i) *Do not allow incompatible construction in areas of natural beauty.*

Comment: Kaloko Makai will conform to all County ordinances regarding building heights, mass, and setbacks. The project will use appropriate materials, colors, site design standards, and landscaping for the area. Kaloko Makai will be in character with surrounding uses.

NATURAL RESOURCES AND SHORELINE*Goals*

- (a) *Protect and conserve the natural resources from undue exploitation, encroachment and damage.*
- (b) *Provide opportunities for recreational, economic, and educational needs without despoiling or endangering natural resources.*
- (c) *Protect and promote the prudent use of Hawai'i's unique, fragile, and significant environmental and natural resources.*
- (d) *Protect rare or endangered species and habitats native to Hawai'i.*
- (e) *Protect and effectively manage Hawai'i's open space, watersheds, shoreline, and natural areas.*
- (f) *Ensure that alterations to existing land forms, vegetation, and construction of structures cause minimum adverse effect to water resources, and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltations, or failure in the event of an earthquake.*

Policies

- (a) *Require users of natural resources to conduct their activities in a manner that avoids or minimizes adverse effects on the environment.*

- (h) *Encourage public and private agencies to manage the natural resources in a manner that avoids or minimizes adverse effects on the environment and depletion of energy and natural resources to the fullest extent.*
- (i) *Encourage an overall conservation ethic in the use of Hawai'i's resources by protecting, preserving, and conserving the critical and significant natural resources of the County of Hawai'i.*
- (g) *Promote sound management and development of Hawai'i's land and marine resources for potential economic benefit.*
- (h) *Encourage and public and private agencies to manage the natural resources in a manner that avoids or minimizes adverse effects on the environment and depletion of energy and natural resources to the fullest extent.*
- (i) *Encourage an overall conservation ethic in the use of Hawai'i's resources by protecting, preserving, and conserving the critical and significant natural resources of the County of Hawai'i.*
- (j) *Encourage the protection of watersheds, forest, brush, and grassland from destructive agents and uses.*
- (n) *The installation of utility facilities, highways, and related public improvements in natural and wildland areas should avoid the contamination or despoilment of natural resources where feasible by design review, conservation principles, and by mutual agreement between the County and affected agencies.*
- (p) *Encourage the use of native plants for screening and landscaping.*
- (r) *Ensure public access provided to the shoreline, public trails and hunting areas, including free public parking where appropriate.*
- (s) *Establish a system of pedestrian access trails to places of scenic, historic, cultural, natural, or recreational values.*
- (t) *Preserve and protect significant lava tube caves.*

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Kohanaiki Trail ("Road to the Sea" Trail) is a long mauka/makai trail originating in the Kohanaiki Homesteads. The mauka-makai alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion on archaeological, historical and cultural resources.

As part of the project proposal, approximately 150-acres will be set aside as the Kaloko Makai Dryland Forest Preserve, in Phase 1 of the project. Through the establishment of this Preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity. Refer to Section 3.6 for further discussion.

As discussed in Section 3.5.2, it is unlikely that there would be any effects to the nearshore environment as a result of increases in nutrient concentrations in groundwater. Results of a four-year study from two golf courses in Keauhou indicated that even with long-term input of extremely high nutrient subsidies, there are situations where there are no negative effects to the receiving environment. Similar lack of impact would be expected at the Kaloko-Honokōhau region where nutrient subsidies would be far less than have occurred at Keauhou.

A potential mechanism for negative impact to nearshore marine and pond systems is increased sedimentation from wind and surface runoff as a consequence of grading and changes in land use. There appears to be little potential for alteration to the pond and marine communities offshore from increased sedimentation associated with the project for several reasons.

The climate of the Kaloko area is one of the driest in the Hawaiian Islands. On an annual basis, rainfall is likely to be far exceeded by evaporation at the proposed project site. The basaltic composition of the land surface is highly porous and is capable of absorbing rainfall with little or no surface runoff. Even in the event of heavy rainfall, the porous nature of the soil ground cover is such that sheet flow carrying suspended sediment toward the ocean would be expected to be relatively small. Rather, most rainwater that would enter the ocean as runoff would do so following percolation through the surface rock layers to the water table, followed by groundwater extrusion at the shoreline.

In addition, the predominant direction of wind is inland, and not toward the ocean and thus there is little potential for significant input of sediment to the marine and pond environment.

Refer to Section 3.5.2 Nearshore Marine Environment and Ponds for more details on existing conditions, potential impacts and mitigation measures.

During a survey in early 2012 conducted for the Kaloko Makai project, evidence of groundwater input at stations within the inshore half of 'Aimakapā Pond was detected as steep horizontal gradients of salinity and inorganic nutrients found in groundwater. To determine whether this situation was an anomaly, another sampling was conducted in November 2012. Results of this sampling indicated an even stronger flux of groundwater into 'Aimakapā Pond than was previously measured. These results suggest that 'Aimakapā Pond may be experiencing either increased groundwater input, or at least not a decrease in groundwater input relative to a decade earlier. As the existing development in the Kaloko Industrial area upslope of the Kaloko-Honokōhau National Historic Park ponds has been in place for the last decade, water quality in the ponds changes can be assumed to be influenced by the present level of development upslope from the Kaloko-Honokōhau National Historic Park ponds.

Hence, all data indicate that the enclosed basin of 'Aimakapā is characterized by long water residence time, resulting in continued deposition of organic sediment, the recent detection

of increased groundwater flux suggests that the pond is still functioning in part as an anchialine system, and has not yet reached a final stage of senescence.

Substantial data also indicates that groundwater flow is predominantly around, rather than through the ponds, and that water is actually flowing landward out of the ponds as a result of offset tidal gradients. These factors combine to result in greatly restricted flow of groundwater into 'Aimakapā Pond.

The restricted flow of freshwater through the ponds is borne out by the near complete lack of both vertical and horizontal gradients within the ponds, as well as substantial damping and lag of tidal oscillations (TNWRE 2002). Thus while the pond consists of water that has salinity less than one half marine waters, the brackish condition is not a result of high input of freshwater, but rather of more restricted exchange with the ocean water than groundwater.

HOUSING

Goals:

- (a) Attain safe, sanitary, and livable housing for the residents of the County of Hawai'i.*
- (b) Attain a diversity of socio-economic housing mix throughout the different parts of the County.*
- (c) Maintain a housing supply that allows a variety of choices.*
- (d) Create viable communities with affordable housing and suitable living environments.*
- (e) Improve and maintain the quality and affordability of the existing housing inventory.*
- (f) Seek sufficient production of new affordable rental and fee-simple housing in the County in a variety of sizes to satisfactorily accommodate the needs and desires of families and individuals.*
- (g) Ensure that housing is available to all persons regardless of age, sex, marital status, ethnic background and income.*
- (h) Make affordable housing available in reasonable proximity to employment centers.*
- (i) Encourage and expand home ownership opportunities for residents.*

Policies:

- (a) Encourage a volume of construction and rehabilitation of housing sufficient to meet growth needs and correct existing deficiencies.*
- (k) Increase rental opportunities and choices in terms of quality, cost, amenity, style and size of housing, especially for low and moderate income households.*
- (t) Ensure that adequate infrastructure is available in appropriate locations to support the timely development of affordable housing.*
- (v) Work with, encourage and support private sector efforts in the provision of affordable housing.*
- (x) Vacant lands in urban areas and urban expansion areas should be made available for residential uses before additional agricultural lands are converted into residential uses.*
- (y) Aid and encourage the development of a wide variety of housing to achieve a diversity of socio-economic housing mix.*

Comment: Kaloko Makai will include the proposed development of up to 5,000 new single- and multi-family residential lots and units at low- and medium-densities, centralized commercial and neighborhood centers, recreational facilities (e.g. parks, trails, open spaces), hospital, urgent care medical facility, two elementary schools, a middle school and associated infrastructure (e.g., new roadways, utilities, drainage, wastewater and potable water distribution systems). Affordable housing will be provided in accordance with County of Hawai'i requirements.

PUBLIC FACILITIES

Goals:

- (a) *Encourage the provision of public facilities that effectively service the community and visitor needs and seek ways of improving public service through better and more functional facilities in keeping with the environmental and aesthetic concerns of the community.*

Policies:

- (b) *Coordinate with appropriate State agencies for the provision of public facilities to serve the needs of the community.*

Comment: According to the Kona CDP Policy LU-2.6: TOD/TND Public Infrastructure and Facilities, states: "To encourage the development of TODs and TNDs, public financing sources shall pay 100% for:

- Major proposed trunk transit route,
- A transit station (or transit station component if the transit station is part of a private mixed-use project) within the Urban Core,
- A major park or plaza within the urban core."

Likewise, the Kona CDP states: "Public Financing of Infrastructure. In recognition of the regional benefits of major roads and transit stations, these types of improvements within TODs shall be funded with general revenue funding sources." (Kona CDP, Page 4-34). Refer to Sections 4.4 and 5.2.3 for further discussion.

PUBLIC FACILITIES – EDUCATION

Policies:

- (a) *Encourage continuous joint pre-planning of schools with Department of Education and University of Hawai'i to ensure coordination with roads, water, and other support facilities and considerations such as traffic and safety, and access for vehicle, bicycle, and pedestrian. Encourage master planning of present and proposed public and private institutions.*
- (b) *Encourage combining schoolyards with county parks and allow school facilities for afterschool use by the community for recreational, cultural, and other compatible uses.*

Comment: Kaloko Makai has set aside approximately 42.0 acres for two elementary schools and one middle school. The core and focus of the Kaloko Makai neighborhoods are schools

and adjoining parks which serve as civic spaces, neighborhood centers and gathering places for arts, culture, education and recreation.

PUBLIC FACILITIES – HEALTH AND SANITATION

Policies:

- (e) *Encourage the establishment or expansion of community health centers and rural health clinics.*
- (f) *Continue to encourage programs such as recycling to reduce the flow of refuse deposited in landfills.*
- (h) *Encourage the full development and implementation of a green waste recycling program.*

Comment: On-site infrastructure improvements will be constructed to comply with State DOH and County standards. The on-site improvements will ensure sanitary and healthful conditions are maintained for the benefit of area residents.

To reduce solid waste generation, Kaloko Makai will incorporate waste diversion and reduction facilities into its design and recycling will be encouraged. Section 4.10.4 contains further discussion.

As discussed in Section 2.3.1.1 Kaloko Makai is strategically located to incorporate a new hospital into its master plan and is actively pursuing a hospital developer/operator for the new facility.

Kaloko Makai will set aside approximately 40-acres of land for the development of a hospital/medical care facility, which Kaloko Makai is prepared to transfer at no cost to a hospital developer/operator.

PUBLIC UTILITIES

Goals:

- (a) *Ensure that properly regulated, adequate, efficient and dependable public and private utility services are available to users.*
- (b) *Maximize efficiency and economy in the provision of public utility services.*
- (c) *Design public utility facilities to fit into their surroundings or concealed from public view.*

Policies:

- (a) *Public utility facilities shall be designed to complement adjacent land uses and shall be operated to minimize pollution or disturbance.*
- (b) *Provide utilities and service facilities that minimize total cost to the public and effectively service the needs of the community.*
- (c) *Utility facilities shall be designed to minimize conflict with the natural environment and natural resources.*
- (e) *Encourage the clustering of developments in order to reduce the cost of providing utilities.*

Comment: Kaloko Makai is located adjacent to existing and proposed urban uses. The site will provide for utilities needed for the project.

PUBLIC UTILITIES – WATER

Policies:

- (a) *Water system improvements shall correlate with the County’s desired land use development pattern.*
- (b) *All water systems shall be designed and built to Department of Water Supply standards.*
- (d) *Water sources shall be adequately protected to prevent depletion and contamination from natural and man-made occurrences or events.*
- (f) *A coordinated effort by County, State and private interests shall be developed to identify sources of additional water supply and be implemented to ensure the development of sufficient quantities of water for existing and future needs of high growth areas and agricultural production.*
- (g) *The fire prevention systems shall be coordinated with water distribution systems in order to ensure water supplies for fire protection purposes.*
- (k) *Promote the use of groundwater sources to meet State Department of Health water quality standards.*
- (n) *Develop and adopt a water master plan that will consider water yield, present and future demand, alternative sources of water, guidelines and policies for the issuing of water commitments.*

Comment: Potable water demand for Kaloko Makai will be limited to consumption, general household and commercial use and irrigation of landscaping within individual lots. The potable water demand for Kaloko Makai at full build-out is estimated to be approximately 3.2 mgd (average demand) and 4.8 mgd (maximum demand.)

As discussed in Sections 3.5.1 and 4.10.1, the preferred alternative is Alternative 1 – On-site wells at 710-foot Elevation on the mauka portion of the project site. In the event the water source is too saline for State DOH water quality standards, the alternative of reverse osmosis (RO) treatment of this water would be considered (Alternative 2). If the first two alternatives are not feasible, desalinization of on-site saline groundwater at a lower elevation (363 ft.) would be undertaken (Alternative 3). On-site wells would draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt.

Kaloko Makai will utilize R-1 quality water from its on-site WWTP for general irrigation of common landscaping features, including the district-scale park, neighborhood parks, open spaces (as necessary), and the schools. The average R-1 recycled water flow rate of 2.37 mgd has the potential to provide irrigation water for approximately 273 acres without routine supplemental water addition.

There are no significant water commitments for the Kaloko Makai project. Additional sources will be required to support the project. The County of Hawai’i has water storage

and distribution along Hina Lani Street, running through the Kaloko Makai project. Some of the water needs at Kaloko Makai will be addressed through the County system.

PUBLIC UTILITIES – TELECOMMUNICATIONS

Policies:

- (a) *Encourage underground telephone lines where they are economically and technically feasible.*
- (d) *Work closely with the telephone company to provide all users with efficient service.*

Comment: Coordination with various communication companies will be undertaken to develop telecommunications systems required to service the project.

PUBLIC UTILITIES – ELECTRICITY

Policies:

- (a) *Power distribution shall be placed underground when and where practical. Encourage developers of new urban areas to place utilities underground.*
- (b) *Route selection of high voltage transmission lines should include consideration for setbacks from major thoroughfares and residential areas. Where feasible, delineate energy corridors for such high voltage transmission lines.*

Comment: Coordination with utility companies will be undertaken, as discussed in Section 4.10.5. Energy conservation measures will be implemented where possible in the design of Kaloko Makai.

PUBLIC UTILITIES – GAS

Policies:

- (a) *Gas storage facilities shall be located to minimize danger to commercial and residential areas.*

Comment: If it is determined that a gas storage facility is needed at the project site, it will comply with this policy.

PUBLIC UTILITIES – SEWER

Policies:

- (b) *Private systems shall be installed by land developers for major resort and other developments along shorelines and sensitive higher inland areas, except where connection to nearby treatment facilities is feasible and compatible with the County's long-range plans, and in conformance with State and County requirements.*
- (e) *Plans for wastewater reclamation and reuse for irrigation and biosolids composting shall be utilized where feasible and needed.*
- (f) *Require major developments to connect to existing sewer treatment facilities or build their own.*

Comment: Kaloko Makai will construct and operate an on-site private WWT. The on-site WWTP would be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of potable water for irrigation. Design and construction will be in accordance with State DOH and County of Hawai'i standards. Section 4.10.2 contains further discussion.

RECREATION

Goals:

- (a) Provide a wide variety of recreational opportunities for the residents and visitors of the County.*
- (b) Maintain the natural beauty of recreation areas.*
- (c) Provide a diversity of environments for active and passive pursuits.*

Policies:

- (a) Strive to equitably allocate facility-based parks among the districts relative to population, with public input to determine the locations and types of facilities.*
- (c) Recreational facilities shall reflect the natural, historic, and cultural character of the area.*
- (d) The use of land adjoining recreation areas shall be compatible with community values, physical resources, and recreation potential.*
- (g) Facilities for compatible uses shall be provided.*
- (h) Provide facilities and a broad recreational program for all age groups, with special considerations for the handicapped, the elderly, and young children.*
- (m) Develop a network of pedestrian access trails to places of scenic, historic, natural or recreational values. This system of trails shall provide, at a minimum, an islandwide route connecting major parks and destinations.*
- (n) Establish a program to inventory ancient trails, cart roads and old government roads on the island in coordination with appropriate State agencies.*
- (o) Develop facilities and safe pathway systems for walking, jogging, and biking activities.*
- (p) Develop a recreation information dissemination system for the public's use.*

Comment: The residential-focused Kaloko Makai TOD neighborhoods are centered and focused on schools, each school has its own DOE-scaled playground; in addition to approximately 10-acres of added recreational space adjoining each of the Kaloko Makai School sites. This additional area will be available for community recreation, meeting and other uses.

Varied active and passive uses include soccer fields, baseball fields, community meeting areas, tot lots, daycare centers, senior centers among others will be included in these additional parks adjoining each school site.

To further complement the recreational opportunities, Kaloko Makai will include a makai district-scale park that will include playfields, multi-purpose building, courts (basketball, tennis, volleyball), tot lot, etc.

As noted previously, the Kohanaiki Trail (“Road to the Sea” Trail) and other trails function as important transportation alternatives throughout Kaloko Makai, and as recreational features, in and of themselves.

Likewise, these trails interconnect the schools and their adjoining parks within the various residential-focused neighborhoods in Kaloko Makai. These parks serve as focal points in each neighborhood.

TRANSPORTATION

Goals:

- (a) *Provide transportation system whereby people and goods can more efficiently, safely, comfortably and economically.*
- (b) *Make available a variety of modes of transportation that best meets the needs of the County.*

Policies:

- (c) *The improvement of transportation service shall be encouraged.*
- (d) *Consider the provision of adequate transportation systems to enhance the economic viability of a given area.*

Comment: Kaloko Makai will utilize TOD and TND to promote transit-oriented and pedestrian oriented development, decreasing vehicular transit use and facilitating the management of traffic congestion.

The TOD and TND within Kaloko Makai are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile.)

Kaloko Makai will minimize trips onto area roads, as many essential services needed by Kaloko Makai residents will be within walking and biking distance. Section 4.4 contains further discussion regarding traffic.

Kaloko Makai will provide roadway connections to existing and/or future developments on adjacent lands, thereby improving regional circulation.

TRANSPORTATION – ROADWAYS

Goals:

- (a) *Provide a system of roadways for the safe, efficient and streamlined movement of people and goods.*
- (b) *Provide an integrated State and County transportation system so that all new major routes will complement and encourage proposed land use policies.*

Policies:

- (a) *Encourage the programmed improvement of existing roadways by both public and private sectors.*
- (b) *Investigate alternative methods of funding road improvements, including private sector participation, to meet the growing transportation needs of the island.*
- (e) *Coordinate with appropriate Federal and State agencies for the funding of transportation project for areas of anticipated growth.*
- (f) *Consider the development of alternative means of transportation, such as mass transit and/or, bicycle and pedestrian systems as a means to increase arterial capacity.*
- (g) *There shall be coordinated planning of Federal, State, and County street systems to meet program goals of the other elements such as historic, recreational, environmental quality and land use.*
- (h) *Provisions for on-street parking shall be incorporated into the design of street systems.*
- (j) *Transportation and drainage systems shall be integrated where feasible.*
- (l) *Adopt street design standards that accommodate, where appropriate, flexibility in the design of streets to preserve the rural character of an area and encourage a pedestrian friendly design, including landscaping and planted medians.*
- (n) *Encourage the development of walkways, jogging, and bicycle paths within designated areas of the community.*
- (o) *Explore means and opportunities to enhance the shared use of the island's roadways by pedestrians and bicyclists, in coordination with appropriate government agencies and organizations.*

Comment: Kaloko Makai will utilize TOD and TND to promote transit-oriented and pedestrian oriented development, decreasing vehicular transit use and facilitating the management of traffic congestion.

The TOD and TND within Kaloko Makai are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile.)

Kaloko Makai will minimize trips onto area roads, as many essential services needed by Kaloko Makai residents will be within walking and biking distance. Section 4.4 contains further discussion regarding traffic.

Kaloko Makai will provide roadway connections to existing and/or future developments on adjacent lands, thereby improving regional circulation.

TRANSPORTATION – MASS TRANSIT*Goals:*

- (a) *Provide residents with a variety of public transportation systems that are affordable, efficient, accessible, safe, environmentally friendly, and reliable.*

Policies:

- (a) *Improve the integration of transportation and land use planning in order to optimize the use, efficiency, and accessibility of existing and proposed mass transportation systems.*
- (c) *Incorporate, where appropriate, bicycle routes, lanes, and paths within road rights-of-way in conformance with the Bikeway Plan for the County of Hawai'i.*

Comment: Kaloko Makai will develop TOD and TND that promote transit-oriented and pedestrian oriented development, increase transit use and management of traffic congestions.

The TOD and TND within Kaloko Makai are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile.)

The proposed Ane Keohokālole Highway will bisect the Kaloko Makai project. According to the Kona CPD, Ane Keohokālole Highway shall function as a trunk transit route. The trunk route connects Kailua Village with the airport, along which TOD villages will be located. As the trunk transit route, there will be future allowance for dedicated transit-way and the headways will be of the highest among other transit routes in Kona. A transit station will also be centrally located within Kaloko Makai.

LAND USE*Goals:*

- (a) *Designate and allocate land uses in appropriate proportion and mix and in keeping with the social, cultural, and physical environments of the County.*
- (c) *Protect and preserve forest, water, natural and scientific reserves and open areas.*

Policies:

- (a) *Zone urban-types of uses in areas with ease of access to community services and employment centers and with adequate public utilities and facilities.*
- (b) *Promote and encourage the rehabilitation and use of urban areas that are serviced by basic community facilities and utilities.*
- (c) *Allocate appropriate requested zoning in accordance with the existing or projected needs of neighborhood, community, region and County.*
- (e) *Incorporate innovations such as the "zone of mix" and mixed use zones" into the Zoning Code.*
- (f) *Encourage the development and maintenance of communities meeting the needs of its residents in balance with the physical and social environment.*
- (j) *Encourage urban development within existing zoned areas already served by basic infrastructure, or close to such areas, instead of scattered development.*

Comment: A reclassification to the Urban District would allow the subject property to 1) conform with the County's General Plan Land Use Pattern Allocation Guide (LUPAG), which designates the majority of the property for Urban Expansion; 2) support the objectives and policies of the County's Kona CDP and Keāhole to Kailua Development Plan (K-to-K Plan); and 3) accommodate projected population growth of the County.

The Urban Expansion Area "allows for a mix of high density, medium density, low density, industrial, industrial-commercial and/or open designations in areas where new settlements may be desirable, but where the specific settlement pattern and mix of uses have not yet been determined."

As discussed in Section 2.1.1, Kaloko Makai is surrounded by existing and proposed urban uses – Kaloko Industrial Park, Kohanaiki Business Park, West Hawai'i Business Park, and residential developments. Kaloko Makai is located approximately three miles to the south and north of Kona International Airport and Kailua-Kona, respectively.

Kaloko Makai has been designated as a Neighborhood TOD in the Official Kona Land Use Map of the Kona CDP.

Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around a TOD concept with land available (at no cost) for a new Kona regional hospital.

LAND USE – AGRICULTURE

Goals:

- (a) *Identify, protect and maintain important agricultural lands on the island of Hawai'i.*

Policies:

- (d) *Agricultural land may be used as one form of open space or green belt.*
- (f) *In order to minimize the potential conflicts between agricultural and non-agricultural uses, standards and guidelines for the establishment of well defined buffer areas as part of new, non-agricultural development that are located adjacent to important agricultural lands shall be developed.*

Comment: As discussed in Section 3.3, Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

LAND USE – COMMERCIAL

Goals:

- (a) *Provide for commercial developments that maximize convenience to users.*
- (b) *Provide commercial developments that complement the overall pattern of transportation and land usage within the island's regions, communities, and neighborhoods.*

Policies:

- (a) *Urban renewal, rehabilitation, and/or redevelopment programs shall be undertaken in cooperation with communities, businesses and government agencies.*
- (b) *Commercial facilities shall be developed in areas adequately served by necessary services, such as water, utilities, sewers, and transportation systems. Should such services not be available, the development of more intensive uses should be in concert with a localized program of public and private capital improvements to meet the expected increased needs.*
- (c) *Distribution of commercial areas shall meet the demands of neighborhoods, community and regional needs.*
- (e) *Encourage the concentration of commercial uses within and surrounding a central core area.*
- (f) *The development of commercial facilities should be designed to fit into the locale with minimal intrusion while providing the desired services. Appropriate infrastructure and design concerns shall be incorporated into the review of such developments.*
- (g) *Applicable ordinances shall be reviewed and amended as necessary to include considerations for urban design, aesthetic quality and protection of amenities in adjacent areas through landscaping, open space and buffer areas.*
- (h) *Require developers to provide basic infrastructure necessary for development.*
- (i) *Encourage commercial areas to develop on an axis perpendicular to the highway.*

Comment: The project contributes to economic development by providing employment opportunities for construction work, increased revenues to the State and County in the form of taxes, and long-term employment related to the commercial, retail, and light-industrial uses within the development.

Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around a TOD concept with land available for a new Kona regional hospital. Mixed-use areas of the project are designed to include residential and commercial uses within close proximity of each other (this may include affordable residential on top of a variable commercial component).

LAND USE – INDUSTRIAL*Goals:*

- (a) *Designate and allocate industrial areas in appropriate proportions and in keeping with the social, cultural, and physical environments of the County.*

Policies:

- (d) *Improve the aesthetic quality of industrial sites and protect amenities of adjacent areas by requiring landscaping, open spaces, buffer zones, and design guidelines.*
- (g) *Industrial-commercial mixed used districts shall be provided in appropriate locations.*
- (h) *Require developers to provide basic infrastructure necessary for development.*

Comment: The Kaloko Makai plan designates 75 acres of light industrial or business park land uses in the Special District located at its makai end fronting Queen Ka’ahumanu Highway. Approximately 25 acres of these lands have been identified by the State DOT for

an eventual highway interchange near the intersection of Queen Ka‘ahumanu Highway and Hina Lani Street. The proposed light industrial or business park land uses at this location is an appropriate extension of the existing Kaloko Industrial Park Phases III and IV, located south of the project site (across Hina Lani Street from the project site).

LAND USE – MULTIPLE RESIDENTIAL

Goals:

- (a) *To provide for multiple residential developments that maximize convenience for its occupants.*
- (b) *To provide for suitable living environments that accommodate the physical, social and economic needs for the island residents.*
- (c) *To enhance the overall quality of life in our residential communities.*

Policies:

- (a) *Appropriately zoned lands shall be allocated as the demand for multiple residential dwellings increases. These areas shall be allocated with respect to places of employment, shopping facilities, educational, recreational and cultural facilities, and public facilities and utilities.*
- (b) *Incorporate reasonable flexibility in applicable codes and ordinances to realize a diverse socio-economic housing mix.*
- (c) *Encourage flexibility in the design of residential sites, buildings and related facilities to achieve a diversity of socio-economic housing mix.*
- (f) *Applicable codes and ordinances shall be reviewed and amended as necessary to include consideration for urban design, and aesthetic quality through landscaping, open space, and buffer areas.*
- (g) *Support the rezoning of those multiple residentially zoned lands that are used for other purposes to a more appropriate zoning designation.*
- (h) *Require developers to provide basic infrastructure necessary for development.*

Comment: Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around a TOD concept with land available for a new Kona regional hospital. Approximately 5,000 new single- and multi-family residential units and lots, at low (3 units per acre) and medium/high (up to 30 units per acre) densities will be developed.

Kaloko Makai will offer a broad range of housing types including affordable, as well as “market-priced” housing units. Offerings will range from traditional single-family homes and lots, to mid- and higher-density multi-family homes, and will include live-work and mixed- use developments.

LAND USE – SINGLE-FAMILY RESIDENTIAL

Goals:

- (a) *To maximize choices of single-family residential lots and/or housing for residents of the County.*
- (b) *To ensure compatible uses within and adjacent to single-family residential zones areas.*

- (d) *To provide single-family residential areas conveniently located to public and private services, shopping, other community activities and convenient access to employment centers that takes natural beauty into consideration.*
- (e) *To enhance the overall quality of life in our residential communities.*

Policies:

- (a) *Encourage innovative uses of land with respect to geologic and topographic conditions through the use of residential cluster and planned unit development.*
- (b) *Encourage and coordinate with the State in providing fee simple and leasehold single-family residential lots to the residents through State and/or County Housing Programs.*
- (c) *Incorporate reasonable flexibility in codes and ordinances to achieve a diversity of socio-economic housing mix and to permit aesthetic balance between single-family residential structures and open spaces.*
- (d) *Re-evaluate existing undeveloped single-family residential zoned areas and reallocate zoned lands in appropriate locations.*
- (e) *Designate and allocate single-family residential zoned lands at varying densities for future use in accordance with the needs of the communities and the stated goals, policies, and standards.*
- (i) *Require developers to provide basic infrastructure necessary for development.*

Comment: Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability, with a variety of businesses and employment opportunities, focused around a TOD concept with 40 acres of land available for a new Kona regional hospital. Approximately 5,000 new single- and multi-family residential units and lots, at low (3 units per acre) and medium/high (up to 30 units per acre) densities will be developed.

In the event a hospital developer and operator is not arranged for the 40-acre site, then the residential units and commercial square footage will be reallocated throughout the area identified as Phase 1 (see Figure 2-15). This means there will be a slight reduction in densities in some of the existing residential properties in Phase 1. There will be no change in residential unit count or commercial square footage in each of Phases 1, 2 and 3, or the entire project.

Kaloko Makai will offer a broad range of housing types including affordable, as well as “market-priced” housing units. Offerings will range from traditional single-family homes and lots, to mid- and higher-density multifamily homes, and will include live-work and mixed- use developments.

LAND USE – OPEN SPACE

Goals:

- (a) *Provide and protect open space for the social, environmental, and economic well-being of the County of Hawai‘i and its residents.*
- (b) *Protect designated natural areas.*

Policies:

- (a) *Open Space shall reflect and be in keeping with the goals, policies, and standards set forth in the other elements of the General Plan.*
- (b) *Open Space in urban areas shall be established and provided through zoning and subdivision regulations.*
- (c) *Encourage the identification, evaluation, and designation of natural areas.*
- (d) *Zoning, subdivision and other applicable ordinances shall provide for and protect open space areas.*

Comment: The residential-focused Kaloko Makai TOD neighborhoods are centered and focused on schools, each school has its own DOE-scaled playground; in addition to approximately 10-acres of added recreational space adjoining each of the Kaloko Makai School sites. This additional area will be available for community recreation, meeting and other uses.

Varied active and passive uses include soccer fields, baseball fields, community meeting areas, tot lots, daycare centers, senior centers among others will be included in these additional parks adjoining each school site.

To further complement the recreational opportunities, Kaloko Makai will include a makai district-scale park that will include playfields, multi-purpose building, courts (basketball, tennis, volleyball), tot lot, etc.

Natural areas within Kaloko Makai will be preserved and remain undeveloped, such as the Kaloko Makai Dryland Forest Preserve along the southern portion of the project site.

Kaloko Makai has been designed to establish preservation areas to protect archaeological sites within the project site and preserve the historic Kohanaiki Trail ("Road to the Sea" Trail) in place with 10-foot buffers along each side of the trail. As noted previously, the Kohanaiki Trail and other trails function as important transportation alternatives throughout Kaloko Makai, and as recreational features, in and of themselves.

Likewise, these trails interconnect the schools and their adjoining parks within the various residential-focused neighborhoods in Kaloko Makai. These parks serve as focal points in each neighborhood.

5.2.1.1 General Plan Land Use Pattern Allocation Guide Map

The General Plan Land Use Pattern Allocation Guide Map (LUPAG) delineates broad-brush boundaries that are graphic expressions of the General Plan policies, particularly those relating to land uses. The land use pattern is a broad, flexible design intended to guide the direction and quality of future developments in a coordinated and rational manner. These maps delineate a number of land use categories for each area.

The General Plan designation for the Kaloko Makai site is "Urban Expansion" and Conservation (for the area of the Dryland Forest.) The Urban Expansion Area "allows for a mix of high density,

medium density, low density, industrial, industrial-commercial and/or open designations in areas where new settlements may be desirable, but where the specific settlement pattern and mix of uses have not yet been determined" (see Figure 2-7).

5.2.2 Keahole to Kailua Development Plan

According to the Keahole to Kailua Development Plan (K-to-K Plan) Land Use Plan, the Kaloko Makai project site is designated "Urban Expansion, Residential Village, and Golf Course". "Urban Expansion" denotes the land's general suitability for urban development, although no specific urban uses have been recommended in the Plan. The residential villages depicted in the Land Use Plan are characterized by a distinct village center focused on neighborhood parks, and some kind of public school. The proposed project is consistent with the Development Plan designations for the project site.

K-to-K Plan, prepared by the County of Hawai'i Planning Department, was adopted by resolution by the Hawai'i County Council on April 3, 1991 (Resolution No. 296). In adopting the Plan, the County Council stated that the *Keāhole* to Kailua area was a major future urban growth area and they recognized the need for such a plan to serve as an implementing tool for the General Plan of the County of Hawai'i.

The K-to-K Plan was not designed to be a regulatory measure but instead should be utilized as a guide for future infrastructure and land development of the area. It is intended to carry out the goals, policies and standards of the Hawai'i County General Plan and be a flexible guide for the future growth and development of an area of approximately 17,000 acres in the North Kona District extending from the Kau ahupua'a to the north, Māmalahoa Highway to the east, Palani Road and Kailua Village to the south, and the shoreline to the west.

The overall goal established for the Development Plan is as follows:

"To develop a mixed residential, commercial, resort, industrial and recreational community, with approximately 8,000 or more residential units, in a functional, attractive, and financially viable manner. The community will include appropriate shoreline uses, public facilities, and infrastructure and will be built out over the next 20 years."

The K-to-K Plan included a proposed network of three north-south collector/arterial roadways. The lowest elevation collector road is identified as "Main Street" running parallel to Queen Ka'ahumanu Highway from Kealakehe Parkway.) Kamanu Street in the Kaloko Light Industrial Subdivision becomes "Main Street."

The extension of Kamanu Street to the north of Hina Lani Street takes advantage of a road right-of-way reserve in the Kohanaiki Business Park for further extension to the north. "Main Street" then extends north to Kaiminani Drive and on to serve the proposed University of Hawai'i campus and Palamanui.

A "Mid-Level Arterial" runs at approximately the 800-foot elevation. This is the present Ane Keohokālole Highway, which has been completed from Palani Road to Hina Lani Street. Ane

Keohokālole Highway is planned to be four-lane divided roadways at full build-out. However, the current project is limited to construction of two lanes.

A third north-south roadway, Kealaka‘a Street - Holoholo Street Extensions, passes at approximately the 1,000-foot elevation (it is presently noted on maps within the Kula Nei and Kaloko Heights projects.)

The intent of this parallel roadway system is to facilitate traffic circulation between the Urban Expansion areas to the north and south, keeping local traffic off of Queen Ka‘ahumanu Highway.

Kaloko Makai is consistent with the K-K Plan which supports a mixed residential, commercial and recreational community.

5.2.3 Kona Community Development Plan

The Kaloko Makai site is designated as one of the Neighborhood TODs on the Official Kona Land Use Map of the Kona Community Development Plan (CDP) (see Figure 2-9). As noted, Kaloko Makai also proposes to incorporate a regional hospital into the development. Consistent with the Kona CDP economic policy ECON-1.1, the Neighborhood TOD at Kaloko Makai would automatically be designated a Regional Center TOD, upon receiving a commitment by a hospital developer/operator.

Whether a hospital developer/operator comes forward or not, land uses and densities within Kaloko Makai will remain consistent with a Neighborhood TOD (consistent with the Official Land Use Map of the Kona CDP) and its uses in the “neighborhood” and the project will not be developed as a Regional TOD. If the hospital is included, a portion of the commercial space in the project will support it. If the hospital is not included, then some of the proposed space will address regional medical needs as well as other commercial demands. In addition, commercial core uses (recreational space, small-scale public/civic uses, office, retail, mixed-use, etc) will serve the needs of the immediate community (Kaloko Makai,) as well as neighboring communities.

The County of Hawai‘i General Plan section 15.1 (February 2005, as amended) established and called for the preparation of Community Development Plans (CDPs) to translate broad General Plan goals, policies, and standards into implementation actions as they apply to specific geographical regions around the Island. The General Plan requires CDPs be adopted as an “ordinance”, giving the plans force of law.

The Hawai‘i County Mayor and the Hawai‘i County Council appointed 15 citizens to serve on the Kona CDP Steering Committee, representing a cross-section of the Kona community. Several large community meetings were held. In recognition that the process needed to go to the people, meetings were held at people’s homes, churches, and community centers.

One-hundred-and-nine meetings were held throughout Kona from November 2005 through January 2006. All these meetings received input from a balanced demographic and geographic representation of the North and South Kona Districts. Over 800 residents participated in the individual meetings.

Three-hundred-and-fifty people attended the Mapping the Future Workshop to brainstorm where future growth should occur. Breakout groups also addressed critical questions such as housing choice and affordability, agriculture, transportation and land use, congestion, parks/recreation/open space, protection of the environment, hazard mitigation, protection of ancestral and historic sites, community character, retail and tourism.

There were two charrettes, the first held in March 2006 and the other in June 2006. In the first charrette, the public identified alternative growth scenarios and selected a preferred scenario. In the second charrette, the public articulated desired principles to provide details for a preferred scenario.

Eleven working groups made up of citizens and community stakeholders met monthly, from May 2006 – September 2006, to focus in more detail on specific issue areas. Finally, the draft plan was recommended for approval by the Steering Committee, and then it was approved by the County Council and signed into law by the Mayor.

On September 25, 2008, *Mapping the Future: Kona Community Development Plan Volume 1* (Kona CDP) was adopted by the County Council (Ordinance 08-131,) subject to later amendments. The planning area for the Kona CDP encompasses the judicial districts of North and South Kona.

The Kona CDP addresses elements included in the *General Plan* such as transportation; land use; environmental resources; cultural resources; housing; public facilities, infrastructure, and services; energy; and economic development.

The Kona CDP is a long-term plan with a planning horizon to year 2020, consistent with the General Plan. The plan consists of two volumes—Volume 1 is adopted by County Council; Volume II contains more detailed or technical material for informational purposes.

The Land Use section of the Kona CDP serves as policy guide for County decisions regarding physical development. It establishes a physical framework for future growth by identifying the County's major policies concerning the type and location of future development in order to meet the goals and objectives of the Kona CDP.

Most of the future growth in Kona will be directed to the Urban Area. Within this Kona Urban Area, growth would be directed to compact villages located along proposed transit routes or to infill areas within, or adjacent to, existing development. The general locations of these villages are within the TODs. The Official Kona Land Use Map defines the Kona Urban Area and the general locations, spacing and type of TOD Villages (see Figure 2-9).

TOD is defined in the Kona CDP as the development of compact, mixed-use villages which would integrate housing, employment, shopping, and recreation opportunities. Villages would be designed around transit stations/stops which would reduce the need for daily trips and financially support the expanded transit system. TOD Urban Villages are located a minimum of one mile apart, between major transit stations, along Keohokālole Highway trunk route in order to preserve the transit efficiency of this route.

To encourage growth towards the TODs, the Kona CDP promotes Design Flexibility, Streamlined Permit Processing, Increased Range of Permitted Uses and Densities, prioritized Essential Infrastructure, Public Financing of Infrastructure, Concurrency Requirements and Vested Rights (as an incentive, the TODs substantially increase the permitted uses and densities).

Transect Zones (T-Zones) organize the density, complexity and intensity of the land use within the TOD Village. The operating principle is that there is an urban core with a main center focus such as a transit station and plaza. This urban core area, which is spatially defined based on walkable distances called Pedestrian Sheds, has the highest density, complexity, and intensity of uses. The land uses transition to less dense uses moving away from the center.

The Transect Zones that correspond to the urban core, secondary area and greenbelt referred to in the Kona CDP and Village Design Guidelines are as follows (also noted are the allowable residential densities in each transect zone):

- i. Urban Core
 1. T-5 Urban Center (30 units per acre)
(Mix of residential units, such as townhouses, and apartments mixed with commercial, offices and retail)
 2. T-4 General Urban (12 units per acre)
(Neighborhood commercial uses with single-family and multi-family residential)
- ii. Secondary Area: T-3 Suburban (6 units per acre)
(Single-family units, with ancillary community and public uses, and neighborhood and convenience-type commercial uses)
- iii. Greenbelt: GB1, GB2 (.25 units per acre)
- iv. Mixed-Use Industrial: SD1 (12 units per acre)

The Kona CDP incorporates several "official" maps: Official Kona Land Use Map, Official Concurrency Map, Official Transportation Network Map (Proposed Roads and Transit, Pedestrian and Bike Paths) Official Public Facilities and Services Map (Public Safety, Community Facilities, and Waste Management).

The proposed project is identified as a Neighborhood TOD in the Kona CDP (see Figure 2-9). Kaloko Makai will be setting aside land for development of a regional hospital. A hospital developer/operator is being pursued.

An economic policy noted in the Kona CDP (ECON-1.1) incentivizes a hospital as a stimulus for the healthcare industry. That policy states: "Kona needs a new hospital to replace its existing outdated and out-of-place facility. The new hospital should be located on Ane Keohokālole Highway (Mid-Level Road) for optimum accessibility by automobile or transit. To encourage the private sector to negotiate a site for the hospital, the TOD in which the hospital decides to locate within shall be automatically designated a Regional Center TOD if the Official Kona Land Use Map has designated it as a Neighborhood TOD. As a Regional Center TOD, there are incentives for medical offices and other hospital-related businesses to develop in the vicinity."

Kaloko Makai has been designated as a Neighborhood Transit Oriented Development (TOD) in the Official Kona Land Use Map of the *Kona Community Development Plan* (County Ordinance No. 08-131, September 2008). As mentioned previously, the Applicant is setting aside land in anticipation of a regional hospital being sited within Kaloko Makai TOD¹. Whether or not the identified land is developed with a regional hospital, this Second Draft EIS assesses the proposed project as a Neighborhood TOD

In the event a hospital developer and operator is not arranged for the 40-acre site noted in the project site plan, then the residential units and commercial square footage will be reallocated throughout the area identified as Phase 1 (see Figure 2-15). This means there will be a slight reduction in densities in some of the existing residential and commercial properties in Phase 1. There will be no change in residential unit count or commercial square footage in each of Phases 1, 2 and 3, or the entire project.

Whether a hospital developer/operator comes forward or not, the Kaloko Makai TOD will remain as a Neighborhood TOD (consistent with the Official Land Use Map of the Kona CDP) and its uses in the "neighborhood" and the project will not be developed as a Regional TOD. If the hospital is included, a portion of the commercial space in the project will support it. If the hospital is not included then some of the proposed space will address regional medical needs, as well as other commercial demands. In addition, commercial core uses (recreational space, small-scale public/civic uses, office, retail, mixed-use, etc) will serve the needs of the immediate community (Kaloko Makai,) as well as neighboring communities.

Per the Kona CDP, the Planning Director, Planning Commission, and County Council shall review the TOD application with a rebuttable presumption that the project furthers the intent of Chapter 25 Zoning Code and is consistent with the goals, objectives, and policies of the County General Plan and Kona CDP, provided that the proposed location is generally consistent with the Official Kona Land Use Map and the master plan consistent with the Village Design Guidelines.

5.2.3.1 Kona CDP Guiding Principles

In order to achieve the Kona CDP's vision, the following principles, derived from public meetings and working groups, are the foundation of the goals, objectives, and policies, and implementation actions. The following section analyzes project impacts with respect to the Kona CDP Guiding Principles.

1. **Protect Kona's natural resources and culture.**

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved.

¹ Pursuant to Policy ECON-1.1 of the *Kona Community Development Plan*, if a hospital is located within a Neighborhood TOD, that TOD shall automatically be designated a Regional Center TOD.

The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion on archaeological, historical and cultural resources.

As part of the project proposal, 150-acres will be set aside as the Kaloko Makai Dryland Forest Preserve, in Phase 1 of the project. Through the establishment of this Preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity. Refer to Section 3.6 for further discussion.

The Kaloko Makai project also integrates the natural features of the area, including the preservation of Kohanaiki Trail ("Road to the Sea" Trail) as a neighborhood pedestrian way.

2. Provide connectivity and transportation choices.

Comment: Kaloko Makai will be transit-ready and is located along Ane Keohokālole Highway, a key alignment for regional transportation. Ane Keohokālole Highway will function as the primary transit route connecting Kailua Village with the Kona International Airport and constitutes a significant influence on the shaping of Kaloko Makai; a transit station will be incorporated into the TOD village near the central part of the property. As the primary transit route, there will be future allowance for dedicated transit-way and a transit station will be located within the TOD. Internal roads, trails and paths will interconnect within the various neighborhoods and will allow residents, whether in vehicles, pedestrians and on bicycles, a variety of choices in travelling throughout the project.

In addition, multiple interconnections with adjoining properties are included in the Kaloko Makai master plan. At the request of State DOT, the project layout and uses on the makai side of the property will allow for future development of an interchange intersection with Queen Ka'ahumanu Highway.

3. Provide housing choices.

Comment: Kaloko Makai will offer a broad range of housing types including affordable, gap, workforce and market-priced housing units. Offerings will range from traditional single-family homes to mid- and higher-density multifamily homes, and will include senior, live-work and mixed-use developments.

Over the 30-year projected development schedule, 5,000 homes will be integrated into transit- and pedestrian-oriented urban and traditional neighborhood centers.

While current economic conditions have dampened actionable pent-up demand, the market area Kaloko Makai serves should be poised for a significant share of the Islands' anticipated future population growth, and this will lead to growing demand for homes in the region.

4. Provide recreation opportunities.

Comment: The residential-focused Kaloko Makai TOD neighborhoods are centered and focused on schools, each school site has its own DOE-scaled playground; in addition, approximately 10-acres of added recreational space adjoin each of the Kaloko Makai School sites. This additional area will be available for community recreation, meeting and other uses.

Varied active and passive uses include soccer fields, baseball fields, community meeting areas, tot lots, daycare centers, senior centers among others will be included in these additional parks adjoining each school site.

To further complement the recreational opportunities, Kaloko Makai will include a makai district-scale park that will include playfields, multi-purpose building, courts (basketball, tennis, volleyball), tot lot, etc.

As noted previously, the Kohanaiki Trail ("Road to the Sea" Trail) and other trails function as important transportation alternatives throughout Kaloko Makai, and as recreational features, in and of themselves.

Likewise, these trails interconnect the schools and their adjoining parks within the various residential-focused neighborhoods in Kaloko Makai. These parks serve as focal points in each neighborhood.

5. Direct future growth patterns toward compact villages, preserving Kona's rural, diverse and historical character.

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the County of Hawai'i's General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP. Kaloko Makai is designated a Neighborhood TOD, as shown in Figure 2-9.

Kaloko Makai will be a compact, mixed-use village that integrates diverse housing alternatives, shopping, employment, civic uses and recreational opportunities. Kaloko Makai will utilize TOD and TND to promote transit-oriented and pedestrian oriented development, decreasing vehicular transit use and facilitating the management of traffic congestion.

The central TOD village is designed around a transit station and made up of three neighborhoods, centered on a regional hospital and/or schools/parks. An additional TND neighborhood is linked to the TOD through interconnecting roads and trails.

6. Provide infrastructure and essential facilities concurrent with growth.

Comment: A transit station and compact village on Ane Keohokālole Highway is an integral part of the multi-modal transit corridor called for in the Kona CDP; Kaloko Makai

incorporates multiple road interconnections with neighbors; Kaloko Makai is committed to concurrent construction of the Ane Keohokālole Highway and Kamanu Street extension.

Kaloko Makai's water demand will require additional water source, storage and transmission facilities. As discussed in Sections 3.5.1 and 4.10.1, the preferred alternative is Alternative 1 – On-site wells at 710-foot Elevation on the mauka portion of the project site. In the event the water source is too saline for State DOH water quality standards, the alternative of reverse osmosis (RO) treatment of this water would be considered (Alternative 2). If the first two alternatives are not feasible, desalinization of on-site saline groundwater at a lower elevation (363 ft.) would be undertaken (Alternative 3). On-site wells would draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt.

The proposed project will construct the required water system facilities which may be dedicated to the County's Department of Water Supply.

Kaloko Makai will construct and operate a private WWTP within the project. An on-site WWTP would be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of potable water for irrigation. Section 4.10.2 contains further discussion.

In addition to the recreational and transportation contributions previously discussed, Kaloko Makai set aside lands for a Hospital and medical complex, Lodge and Business Center, two Elementary Schools and a Middle School, and a County fire station.

7. *Encourage a diverse and vibrant economy emphasizing agriculture and sustainable economies.*

Comment: Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

8. *Promote effective governance.*

Comment: The Kona CDP encourages cooperation among public, private and civic partners to manage the impacts of growth and meet the needs of the Kona community. Kaloko Makai is setting aside lands for a hospital, two elementary schools, one middle school, and a fire station.

Kaloko Makai seeks to have the schools located with the project to serve as gathering and meeting places for the residents. These schools will serve as hubs for the community and the school sites and adjoining parks where community-based programs can be developed and implemented by the residents.

5.2.3.2 Goals, Objectives, Policies, and Actions

The Kona CDP presents the goals, objectives, policies, and actions for eight (8) elements: transportation; land use; environmental resources; cultural resources; housing; public facilities, infrastructure, and services; energy; and economic development. Kaloko Makai is consistent with many of the Kona CDP's goals, objectives, policies, and implementation actions, presented in the following section. A discussion of the proposed project's consistency with the applicable goals, objectives, policies, and actions is included in the following section.

TRANSPORTATION

Objective TRAN-1: Transportation and Land Use. *To organize growth on a regional level in Kona, growth should be compact and transit-supportive. Compact mixed-use villages along transit routes provide sufficient densities to support transit feasibility and enable people to meet a variety of daily needs within walking distance.*

Policy TRAN-1.1: Official Transportation Network Map. *The Official Transportation Network Map shall show proposed transit routes, proposed arterials and collectors, and pedestrian/bicycle paths.*

Policy TRAN-1.2: Trunk Line. *The new Ane Keohokālole Highway (Mid-Level Road) shall function as the trunk transit route connecting Kailua Village with the airport, along which transit-oriented developments (TODs) will be located.*

Policy TRAN-1.3: Spacing of TODs along Trunk line. *Transit-Oriented Development (TOD) Urban Villages shall be located a minimum of one mile apart, between major transit stations, along Keohokālole e Highway trunk route in order to preserve the transit efficiency of this route.*

Comment: The Kona CDP identifies the Kaloko Makai project site, as one of the TOD's located along the proposed Ane Keohokālole Highway trunk route. Kaloko Makai will develop the TOD and TND that promote transit-oriented and pedestrian oriented development, increase in transit use and management of traffic congestions. The transit station will be centrally located and surrounded by mixed-use development.

Objective TRAN-2 Street Network Connectivity. *To develop a system of interconnected roads in Kona that will provide alternative transportation routes that will disperse automobile trips and reduce their length, while not compromising the through functions of arterials and major collectors with excessive intersections.*

Policy TRAN-2.1: Connectivity Standards. *Connectivity refers to the directness of links and the density of connections that make up the transportation network. Within the Kona Urban Area (UA) new development shall contribute to this interconnected transportation network of streets, pedestrian, and bicycle access that work to disperse traffic and connect and integrate new development with the existing fabric of the community. Proposals for new development or redevelopment within Kona's UA shall meet the following connectivity standards:*

1. *Maximum Block Size.* In lieu of Hawai'i County Code (HCC) Section 23-29(c), the maximum length of blocks for predominantly residential subdivisions shall be 800 feet, unless unfeasible due to natural topography, protected resources, or surrounding development patterns.
2. *Connection to Adjoining Development.* The road system for new development shall contribute to the local transportation network. To supplement HCC Section 23-40, at a minimum, new subdivisions shall incorporate and continue all collector streets, and selected local streets to adjoining property. If a portion of the stub-out is not improved, the current developer shall improve the stub-out portion. Connection to adjoining properties may not be required if seriously constrained by topography or other physical hindrances, or in cases where through travel cannot occur because the property is bounded by development with private streets previously allowed.
3. *Gated Entry.* In the Kona UA, gates will be prohibited across new roadways identified to service the local transportation network.
4. *Cul-de-sacs Discouraged.* Cul-de-sacs are discouraged based on Policy TRAN-2.1 (1) Maximum Block Size and Policy TRAN-2.1 (2) Connection to Adjoining Property unless construction of a through street is found to be impracticable. Where cul-de-sacs or dead-end streets are allowed, they shall meet the prevailing standards in the Chapter 23 Subdivision Code.
5. *Future Extensions.* Roads serving future transportation interconnectivity will be identified for any proposed subdivision located adjacent to a vacant parcel. To supplement HCC Section 23-44, where necessary to give access to or permit a satisfactory future subdivision of adjoining land, or to conform with the Official Transportation Network Map, a street stub-out or pedestrian path improved to the boundary is required unless financially guaranteed to enable the County to coordinate the stub-out construction as a regional project or in coordination with the development of the adjoining property. Applicants submitting preliminary development plans shall provide for extension of selected local streets to adjoining undeveloped properties and eventual connection with the existing street system. Within phased subdivisions, temporary stub-outs shall be required.
6. *Connectivity.* In the Kona UA, all new roads that will serve as part of the interconnecting roadway system shall be dedicated to the County.

Policy TRAN-2.2: Access Management. To preserve the through functions of arterials and major collectors, driveway access along new arterials and major collectors shall be minimized to the greatest extent consistent with the need to provide access to adjoining property. Access to such adjoining properties shall be planned to occur from local streets, and not from the arterial or collector road, whenever possible. On existing arterials and major collectors, the number of access driveways currently permitted shall not be increased, and when development is proposed that would increase the usage of an existing driveway

access, every effort should be made to eliminate the driveway access in favor of access at an existing or planned intersection. Four-way intersections with arterials and major collectors shall be permitted only as shown on the Official Transportation Network Map, in order to preserve the through functions of arterials and major collectors.

Comment: Kaloko Makai will provide roadway connectivity with surrounding land uses, as shown in Figure 2-1. Major internal roadways will be connected to the Kaloko Heights development and the Kealaka'a-Holoholo Street extension located to the north of the Project; Kaloko Industrial Park to the south by extending Kamanu Street to Huliko'a Road; and other roadways will have north-south connections.

Objective TRAN-3. Multi-Modal System. *To develop a multi-modal transportation system to encourage walking, biking, transit, and other non-vehicular modes of travel. A multi-modal system needs to be attractive, safe, comfortable, convenient, accessible, environmentally friendly, and affordable. Such a system would reduce congestion, improve air quality, reduce fuel consumption, and increase healthy activity. Not only would the system enhance the mobility of the elderly and youth, who do not drive, it would also make it possible for residents to divert automobile ownership expenses to other daily needs, such as a homeownership mortgage or insurance. The network could connect pathways within and outside of street rights-of-way. The system should provide convenient transfers between modes of transportation.*

Policy TRAN-3.1: Street Standards. *County street standards should be pedestrian-friendly, safely accommodate bicycles, accessible to the disabled, and appropriate for its surrounding land use context.*

Policy TRAN-3.3: Right-of-Way Landscaping. *Recognizing that the availability of water should dictate the nature of landscaping within public rights-of-way, lush landscaping shall be provided on streets where reclaimed wastewater will be available for irrigation as noted on the Official Public Facilities and Services Map, and xeriscape landscaping shall be the preference where reclaimed wastewater is not available.*

Comment: A transit station and compact TOD Village on Ane Keohokālole Highway is an integral part of the multi-modal transit corridor called for in the Kona CDP; Kaloko Makai incorporates multiple road interconnections with neighbors; Kaloko Makai is committed to concurrent construction of the Ane Keohokālole Highway and Kamanu Street extension.

The roadway network within Kaloko Makai will be designed according to County street standards. Appropriate landscaping will be used within the project and where feasible, R-1 water from the on-site WWTP will be used for irrigation.

Objective TRAN-6 Concurrency. *To manage the timing of growth so as to avoid overloading the arterial system.*

Policy TRAN-6.1: Official Concurrency Map. *The Kona UA shall be designated as a "critical road area", as defined in HCC 25-2-46. Rezoning within the Kona UA shall comply with the Official Concurrency Map, which identifies the road segments to be constructed concurrent*

with occupancy of units as the minimum “area mitigation”, as defined in HCC 25-2-46 (Zoning Code).

Comment: Official Concurrency Map identifies the road segments to be constructed concurrent with occupancy of units as the minimum “area mitigation”, as defined in Hawai‘i County Code (HCC) 25-2-46, Zoning Code.

According to the Official Concurrency Map, the following road segments should be constructed concurrent with occupancy of units as the minimum “area mitigation”:

- 5B – Ane Keohokālole Highway, Hina Lani Street to Ane Keohokālole Arterial
- 5C – Ane Keohokālole Highway, Hina Lani Street to Kealakehe Parkway
- 5D - Ane Keohokālole Highway, Kealakehe Parkway to Palani Street

Ane Keohokālole Highway from Palani Road to Hina Lani Street (5C and 5D) is completed and Ane Keohokālole Highway from Hina Lani Street to Ane Keohokālole Arterial (beyond Huliko‘a Street) will be constructed as part of the Kaloko Makai development.

A portion of the “Main Street” (3B-Kamanu Street extension) from Kamanu Street/Hina Lani Street to Huliko‘a Road will be constructed as part of the Kaloko Makai development.

LAND USE

Objective LU-1: Overall Growth Pattern. To identify areas where higher intensity growth areas should occur and areas where the rural character and open space along the shoreline should be preserved.

Policy LU-1.2: Urban Area. The majority of future growth in Kona shall be directed to the Kona Urban Area shown on the Official Kona Land Use Map, which spans from the Kona International Airport to Keauhou subject to the policies set forth under Objective LU-2 Urban Area Growth Management.

Policy LU-1.4: Consistency with Land Use Pattern Allocation Guide (LUPAG). The current LUPAG accommodates the vision and needs for the Kona CDP area planning horizon and should be amended only for compelling reasons. Any rezoning application shall be consistent with the LUPAG.

Comment: Kaloko Makai is situated on land designated as "Urban Expansion" in the County of Hawai‘i’s General Plan and in the "Kona Urban Area" on the "Official Kona Land Use Map" of the Kona CDP, as shown in Figures 2-7 and 2-9.

The LUPAG Conservation designation is due to the Kaloko Makai Dryland Forest located within the project site. The Kaloko Makai Dryland Forest will be preserved, as discussed in Section 3.6.

Objective LU-2: Urban Area Growth Management. Recognizing that the LUPAG Urban Area is larger than needed in order to accommodate the projected growth within the planning horizon,

future growth within the Urban Area shall be encouraged in a pattern of compact villages at densities that support public transit.

Policy LU-2.1: Village Types Defined—Transit-Oriented Developments (TODs) vs. Traditional Neighborhood Developments (TNDs). Both TODs and TNDs are compact mixed-use villages, characterized by a village center within a higher-density urban core, roughly equivalent to a 5-minute walking radius (1/4 mile), surrounded by a secondary mixed-use, mixed-density area with an outer boundary roughly equivalent to a 10-minute walking radius from the village center (1/2 mile).

Policy LU-2.2: TOD/TND Components. The components of a TOD/TND include Urban Core, Secondary Core, and Greenbelt. A TOD/TND contains a higher density urban core surrounded by a lower density secondary area. A greenbelt will, in turn, surround and define the outer edge of the secondary area.

Policy LU-2.3: TODs Identified. To control the spacing of transit stations in support of Policy TRAN-1.2, TOD floating zones, identifying the general location of TOD, shall be limited to the following, as shown on the Official Kona Land Use Map.

Policy LU-2.4: Transit-Oriented Development (TOD) Floating Zones Established. The TOD's extent and locations on the Official Kona Land Use Map are approximate and become fixed pursuant to the Project District rezoning procedures.....

Policy LU-2.5: Village Design Guidelines. The Village Design Guidelines apply to the development of master plans for TODs and TNDs, as well as subsequent projects implementing the master plans.

Policy LU-2.6: TOD/TND Public Infrastructure and Facilities. To encourage the development of TODs and TNDs, public financing sources shall pay 100% for:

- Major proposed trunk transit route,
- A transit station (or transit station component if the transit station is part of a private mixed-use project within the Urban Core,
- A major park or plaza within the Urban Core.

In the preparation of the master plan, the Applicant shall coordinate input of appropriate agencies to identify sites and financing of appropriate public facilities such as schools, libraries, and post offices, with respective financial commitments between the public and private sources documented in the master plan. The County water allocation and capital improvement policies in Section 4.6 Public Facilities, Infrastructure and Services, Policy PUB-4.1 shall further support the development of TODs.

Policy LU-2.7: Traditional Neighborhood Development (TND) Floating Zone Established. Where as the locations of TODs are conceptually determined by the Official Kona Land Use Map, the locations of TNDs are proposed by Applicants outside of the TODs, but within the Kona Urban Area. Because of need to review the specific suitability at the time of the

proposal, TND floating zones shall not have the rebuttable presumption of a TOD; otherwise, rezoning procedures shall be the same as a TOD Project District.

Comment: The Kaloko Makai site is designated as one of the Neighborhood TODs on the Official Kona Land Use Map in the Kona CDP. As noted, Kaloko Makai will provide land for a hospital operator to develop a regional hospital on-site. If such a development occurs, under Kona CDP economic policy ECON-1.1, the Kona CDP states that a Neighborhood TOD will automatically be designated a Regional Center TOD.

Kaloko Makai has been designated as a Neighborhood Transit Oriented Development (TOD) in the Official Kona Land Use Map of the *Kona Community Development Plan* (County Ordinance No. 08-131, September 2008). As mentioned previously, the Applicant is setting aside land in anticipation of a regional hospital being sited within Kaloko Makai TOD². Whether or not the identified land is developed with a regional hospital, this Second Draft EIS assesses the proposed project as a Neighborhood TOD.

However, In the event a hospital developer and operator is not arranged for the 40-acre site noted in the project site plan, then the residential units and commercial square footage will be reallocated throughout the area identified as Phase 1 (see Figure 2-15). This means there will be a slight reduction in densities in some of the existing residential and commercial properties in Phase 1. There will be no change in residential unit count or commercial square footage in each of Phases 1, 2 and 3, or the entire project.

Due to the scale of the Kaloko Makai land area, the project is broken down into a Neighborhood TOD centered on the Ane Keohokālole Highway, Mauka Elementary School TND mauka of the Kaloko Makai Dryland Forest Preserve (the TND connects via roads and trails to the TOD) and Special District Mixed-use Industrial area makai of the TOD.

ENVIRONMENTAL RESOURCES

Objective ENV-1: Managing Impacts. *In order to minimize impacts on the land, make use of best management planning practices for any land-based endeavor by balancing public and private rights, and taking advantage of an ever-improving knowledge or resource sensitivity and natural processes.*

Policy ENV-1.5: Sensitive Resources. *In the context of Kona's ecology and history, the following natural and cultural resources shall be considered sensitive and therefore shall be inventoried, as part of any permit application to the County Planning Department:*

- *Critical habitat areas as identified by the U.S. Fish & Wildlife Service or County General Plan;*
- *Predominantly native ecosystems, which may not be considered endangered but are valued because of their nearly pristine condition;*
- *Anchialine ponds subject to a Management Program addressed in Policy ENV-1.10: Non-Degradation of Anchialine Ponds;*

² Pursuant to Policy ECON-1.1 of the Kona Community Development Plan, if a hospital is located within a Neighborhood TOD, that TOD shall automatically be designated a Regional Center TOD.

- *High-level groundwater recharge area which shall initially be defined as all lands mauka of the 1,500 foot elevation and which may be refined by the Kona Mauka Watershed Management Program;*
- *Historic trails;*
- *Archaeological and historic sites subject to protection under HRS Chapter 6E; and*
- *Enhanced shoreline setback (see Policy LU-1.5).*

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the

Kohanaiki Trail ("Road to the Sea" Trail) is a long mauka/makai trail originating in the Kohanaiki Homesteads. The mauka-makai alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion.

As part of the project proposal, approximately 150-acres will be set aside as the Kaloko Makai Dryland Forest Preserve, in Phase 1 of the project. Through the establishment of this Preserve, a variety of species will have continued permanent protection and their habitat set aside, in perpetuity.

CULTURAL RESOURCES

Objective CR-3: Preservation of Kanaka Maoli Culture and Island Values. *Ensure that our Kanaka Maoli and island values and cultures are preserved and perpetuated.*

Policy CR-3.1: Honor Kanaka Maoli culture and heritage. *The Kanaka Maoli culture is the foundation of Hawai'i's living culture. We must ensure that the Kanaka Maoli people are supported and that this part of our culture is perpetuated. The success of this endeavor will ensure that the way of the Kanaka Maoli will guide our actions and behaviors in the years ahead.*

Comment: As stated previously in Section 4.1.3, the proposed project will affect historic properties recommended eligible to the Hawai'i Register. Of the 341 sites in the project area, a total of eighty (80) sites will be subjected to a program of data recovery to address scientific and informational concerns and a total of seventy-two (72) sites will be preserved. The seventy-two sites to be preserved are recommended for preservation based on the presence of a burial (confirmed or probable) and/or association with a burial.

Kohanaiki Trail ("Road to the Sea" Trail) is a long mauka/makai trail originating in the Kohanaiki Homesteads. The mauka-makai alignment ("footprint") of the Trail shall be open for public use and retained in perpetuity across Kaloko Makai. Section 4.3 contains further discussion.

Refer to Sections 4.1, 4.2 and 4.3 for further discussion.

HOUSING

Objective HSG-4: Build More Units. *To build more units that offer a variety of housing types, tenures, and affordability.*

Policy HSG-4.4: Housing Variety. *The housing in TODs and TNDs shall be designed to mix the types, tenures, and affordability at the block level, to the extent practicable. An additional credit of 0.5 (beyond the credits specified in HCC Section 11-5) shall be recognized for senior or disability housing units (e.g., assisted living) and affordable live-work units.*

Policy HSG-4.6: Accessory Units. *Accessory (‘ohana dwelling) units are encouraged in order to increase the supply of rentals. For TODs and TNDs, any provisions in the Project District rezoning ordinance relating to accessory units may preempt the zoning code ohana dwelling provisions (HCC Chapter 25, Article 6, Division 3). For existing residences in conventional zoning districts that want to add an accessory unit, the ‘ohana dwelling requirements of the zoning code apply.*

Comment: Kaloko Makai is a compact, mixed-use, master-planned community offering a wide range of housing types and affordability. Over the course of development 5,000 homes will be integrated into transit- and pedestrian-oriented urban and traditional neighborhood centers. Homes will consist of new single- and multi-family residential lots and units at low- and medium-densities. Affordable homes will be provided on-site and consistent with the Hawai‘i County requirements.

PUBLIC FACILITIES, INFRASTRUCTURE AND SERVICES

Objective PUB-2: Public Safety. *To establish a minimum level of service for public safety resources in order to identify deficiencies and plan for future growth, and to recognize that how we design our communities can help prevent crime.*

Policy PUB-2.3: Fire Protection, EMS, Rescue, HazMat Level of Service. *Until superceded by a county-wide standard, fire station locations should be planned to provide a response time of 8 minutes in the Urban Area (10 mile radius with 5 mile overlap) and 12 minutes in the rural areas.....*

Comment: As discussed in Section 4.8, fire protection services are provided by the Kailua-Kona Fire Station located approximately 3.6 miles to the southeast near the intersection of Palani Avenue and Queen Ka‘ahumanu Highway. The station services areas within a 30-mile radius extending from Keauhou to the Kona Village Resort. Kaloko Makai will set aside land for a proposed county fire station and potentially with a police substation.

Objective PUB-4: Growth Management. *To prioritize and locate growth-supporting infrastructure (water, sewer, drainage) to support the TODs and infill development and to minimize the environmental impacts of such growth.*

Policy PUB-4.1: Water for TODs. *To encourage and direct development to the TODs, a priority shall be to provide an appropriately sized water transmission line within the Ane Keohokālole Highway Corridor, and to flexibly enable water allocation policies to support the Kona CDP land use policy to concentrate growth within the TODs, in lieu of sprawl.*

Policy PUB-4.5: Wastewater Treatment and Effluent Reuse. *The Kealakehe Wastewater Treatment Plant shall be expanded to accommodate the projected sewage volume from the Urban Area extending south of Hina Lani Street to the Keauhou Wastewater Treatment Plant service area. A new County wastewater treatment plant shall be located in the vicinity shown on the Official Public Facilities and Services Map-Waste Management and designed to the extent feasible to utilize a natural treatment system that can double as an open space feature.*

Policy PUB-4.6 Wastewater Reuse Area: *Recognizing the limited drinking water supply in the Kona area, every effort should be taken to develop a feasible wastewater reclamation system for non-potable uses. Also refer to Policy TRAN-3.3. The wastewater reuse area should be, at a minimum, located mauka of the shoreline up to Ane Keohokālole Highway (Mid-Level Road), north of Palani Road and south of Huliko'a Drive (see Official Public Facilities and Services Map-Waste Management).*

Comment: Kaloko Makai's water demand will require additional water source, storage and transmission facilities. The proposed project will construct the required water system facilities which will be dedicated to the County's Department of Water Supply. Section 4.10.1 contains further discussion.

Kaloko Makai will construct and operate a private WWTP within the project. An on-site wastewater treatment plant would be self-sufficient, water efficient, and environmentally sound. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) standards for general irrigation within Kaloko Makai, reducing use of potable water for irrigation.

A portion of Kaloko Makai is also located within the wastewater reuse area, as shown in Figure 4-20.

Objective PUB-5. Zero Waste. *To maximize recycling, reuse and reduction.*

Comment: To reduce solid waste generation, Kaloko Makai will incorporate waste diversion and reduction facilities into its design and recycling will be encouraged. Section 4.10.4 contains further discussion.

Energy conservation measures will be implemented where appropriate in the design of Kaloko Makai.

Objective PUB-6. Quality of Life. *To foster a sense of community and health through the public realm such as gathering places, parks, pedestrian networks, and open spaces.*

Policy PUB–6.1: Gathering Places. TODs shall include appropriate public gathering areas, such as plazas, in accordance with the Village Design Guidelines. The planning and design of such public spaces shall address any maintenance requirements. (Enacted by plan)

Policy PUB–6.2: Active Recreation Opportunities. A range of recreational opportunities shall be provided to encourage physical activity and interaction among toddlers, youth, teens, adults, and seniors.

Comment: The core and focus of the Kaloko Makai neighborhoods are schools and adjoining parks which serve as civic spaces, neighborhood centers and gathering places for arts, culture, education and recreation. Kaloko Makai proposes one middle school and two elementary schools within the project.

Varied active and passive uses include soccer fields, baseball fields, community meeting areas, tot lots, daycare centers, senior centers among others will be included in these additional parks adjoining each school site.

To further complement the recreational opportunities, Kaloko Makai will include a makai district-scale park that will include playfields, multi-purpose building, courts (basketball, tennis, volleyball), tot lot, etc.

As noted previously, the Kohanaiki Trail (“Road to the Sea” Trail) and other trails function as important transportation alternatives throughout Kaloko Makai, and as recreational features, in and of themselves.

Likewise, these trails interconnect the schools and their adjoining parks within the various residential-focused neighborhoods in Kaloko Makai. These parks serve as focal points in each neighborhood.

ECONOMIC DEVELOPMENT

Objective ECON-1. Strategic Public Facilities and Business Opportunities as Economic Stimuli. To optimize the potential of certain public facilities and policies to stimulate ancillary economic growth that is desirable because they are environmentally clean, diversify the economy (i.e., not visitor-dependent), pay decent wages, and demand skills and intellect that challenge Kona’s existing and upcoming workforce.

Policy ECON–1.1: Hospital as Stimulus for Healthcare Industry. Kona needs a new hospital to replace its existing outdated and out-of-place facility. The new hospital should be located on Ane Keohokālole Highway (Mid-Level Road) for optimum accessibility by automobile or transit. To encourage the private sector to negotiate a site for the hospital, the TOD in which the hospital decides to locate within shall be automatically designated a Regional Center TOD if the Official Kona Land Use Map has designated it as a Neighborhood TOD. As a Regional Center TOD, there would be incentives for medical offices and other hospital-related businesses to develop in the vicinity.

Comment: The West Hawai'i community needs a new centrally-located regional hospital. As discussed in Section 2.3.1.1 Kaloko Makai is strategically located to incorporate a new hospital into its master plan and is actively pursuing a hospital developer/operator for the new facility.

Kaloko Makai will set aside approximately 40-acres of land for the development of a hospital/medical care facility, which Kaloko Makai is prepared to transfer at no cost to a hospital developer/operator.

5.2.4 County of Hawai'i Zoning

The Hawai'i County Zoning Code, as contained in Chapter 25 of the Hawai'i County Code, regulates the use of lands within the State Urban, Agricultural and Rural Districts. The project site is zoned Open and Agricultural (A-5a) District according to the Hawai'i County Zoning Code (see Figure 2-8):

Agricultural district provides for agricultural and very low density agriculturally-based residential use, encompassing rural areas of good to marginal agricultural and grazing land, forest, land, game habitats, and areas where urbanization is not found to be appropriate.

Open district applies to areas that contribute to the general welfare, the full enjoyment, or the economic well-being of open land type use which has been established, or is proposed. The object of this district is to encourage development around it such as a golf course and park, and to protect investments which have been or shall be made in reliance upon the retention of such open type use, to buffer an otherwise incompatible land use or district, to preserve a valuable scenic vista or an area of special historical significance, or to protect and preserve submerged land, fishing ponds, and lakes (natural or artificial tide lands).

The land uses proposed for the project site are not consistent with the permitted uses of Open and Agriculture (A-5a). A zone change will be requested to reclassify the project site from Open and A-5a Districts to Project District (PD). Project Districts are intended to provide for a flexible planning approach. The rezoning process described in the Kona CDP calls for rezonings within TODs to be rezoned to Project District, see Policy LU-2.4. Permitted uses generally include those permitted in the Single Family Residential Districts (RS), Double-Family Residential Districts (RD), Multi-Family Residential Districts (RM), Residential-Commercial Mixed Use Districts (RCX), Neighborhood Commercial Districts (CN), General Commercial Districts (CG), Village Commercial Districts (CV) or Resort-Hotel Districts (V).

5.2.5 County of Hawai'i Special Management Area

The Coastal Zone Management Act contains the general objectives and policies upon which all counties within the State have structured specific legislation, which created Special Management Areas (SMA). Any development located within the SMA requires a SMA Use Permit, which is administered by the County of Hawai'i Planning Department.

The project site is located outside the boundaries of the County of Hawai'i's SMA and therefore no SMA Permit (Use Permit or Minor Permit) is required (see Figure 5-1).

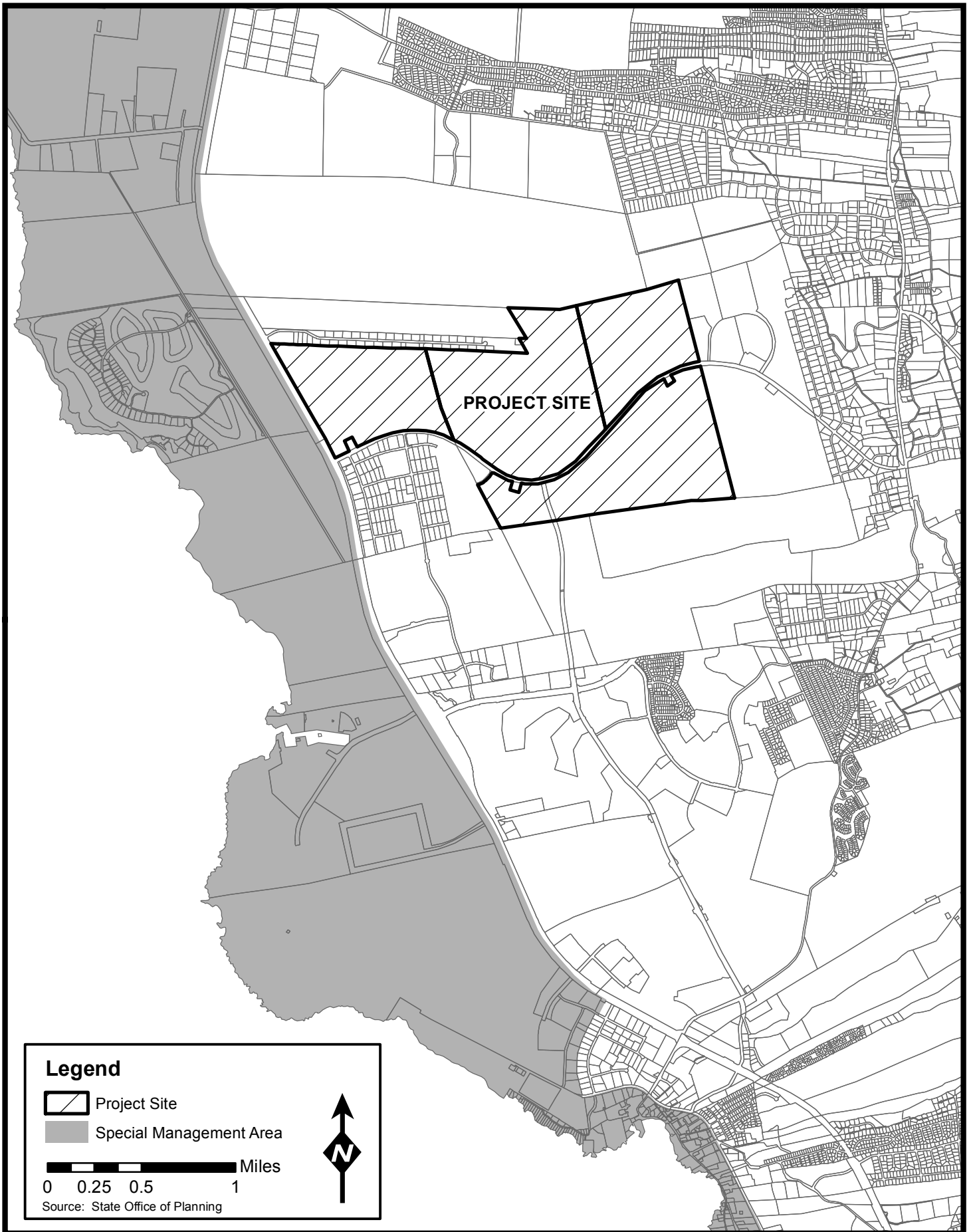


FIGURE 5-1
Special Management Area
Kaloko Makai