

8. CONTEXTUAL ISSUES

8.1 RELATIONSHIP BETWEEN THE SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Short-term uses and long-term productivity consist of project's short-term construction phases and the long-term benefits of the project after construction.

During construction, there will be short-term uses involving temporary and permanent alteration of land for grading, site work, and building construction. Short-term construction impacts can be avoided or mitigated by implementation of construction best management practices (BMPs). BMPs may include erosion and sedimentation control measures, directing storm-water runoff to detention/retention basins, and preventing release of contaminants. During the construction period, traffic conditions, noise levels, and air quality in the project area will be impacted. However, the project will comply with State regulations related to construction noise, fugitive dust, and water quality. The trade-off among these short-term impacts are the increase in employment and immediate economic benefits of construction-related activities.

In the long-term, the proposed project will commit 574 acres of currently classified agricultural land and 224 acres of conservation land to urban developments (total petition area is 798 acres). These actions would commit the property to mixed-use, residential, and commercial use as it would require the provision of infrastructure in the form of new roadways, wastewater treatment plant, waster system improvements, and electrical and telecommunication utilities.

As discussed in Section 3.3, the property's soil class ratings of Class VIIs and Class VIII mean that the soils are not suitable for cultivation and are generally restricted to non-agricultural use. Additionally, the project area is rated D, E and unclassified by the LSB Detailed Land Classification.

With only 6 percent of the project site designated "Other" and the remainder of the project site not classified in the Agricultural Lands of Importance in the State of Hawai'i (ALISH) system, Kaloko Makai will not have an impact on agriculturally significant lands or reduce the inventory of agricultural significant lands.

In addition, there will also be a long-term loss of open space and existing views mauka-makai views from Queen Ka'ahumanu Highway and from the shoreline.

The project area is suitable to accommodate urban type uses and its proposed uses are consistent with regional planning. The development proposed will increase the range of beneficial uses of the environment by providing quality residential neighborhood, with educational, medical, community, and recreational facilities. There will be long-term productivity gains through the project's provision of quality, desirable homes in a mixed-use, master planned community to meet the shortage of housing needs for Kona's residents. Other proposed uses would improve social well-being of West Hawai'i residents through increased employment opportunities in the area and conveniently located hospital, medical services, and governmental services.

The project site possesses desirable attributes, including optimal location with regards to its, gentle slope, views, climate and proximity to existing services.

The project will comply with applicable Federal, State and County of Hawai'i regulations governing project development and implementation. The project is not in an area with known hazards such as flooding or tsunami inundation.

In the long-term, the proposed project will provide substantial positive economic and social benefits as discussed throughout this Second Draft EIS. As a result, the proposed project will contribute to the maintenance and enhancement of long-term productivity for the people of Kona.

8.2 CUMULATIVE IMPACTS

Cumulative impacts are those that result from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Together with other existing and anticipated future development in the area, the project has the potential to generate cumulative impacts including traffic volumes on regional transportation facilities, increased demand for school facilities, drinking water, public services, coastal resources, and impacts on open space. Table 8-1 summarizes planned residential and commercial developments in the project vicinity.

A discussion of existing human and natural environmental conditions in the project area is found in Chapters 3 and 4.

The analysis of impacts on natural and human resource areas described in this Second Draft EIS has also taken into account other future development in Kona, where known and relevant. In particular, the discussion of traffic impacts includes additional traffic generated by build-out of Kaloko Makai as well as local traffic growth from nearby projects and trips to/from existing land uses. The following describes these types of cumulative impacts.

Groundwater: As discussed in Sections 3.5.1 and 4.10.1 of this EIS, three alternative water sources for the Kaloko Makai project are being considered:

1. On-site Wells at 710-foot Elevation Within the Project Site (Preferred Alternative)
2. On-site Wells a 710-foot Elevation with Reverse Osmosis (RO) Treatment
3. On-Site Wells at 363-foot Elevation with Desalinization of Saline Groundwater

At full build out, the projected drinking water demand would be 2.18 million gallons per day (mgd) and 0.57 mgd for irrigation use of R-1 recycled water.

Alternatives 1 and 2 would drill wells at the mauka end (710-foot elevation) of the project site. If successful, wells would tap fresh artesian groundwater which exists at depth below the basal lens and saline groundwater. One of these options would be pursued if it can be demonstrated, initially by testing in the exploratory borehole and subsequently by testing in the finished production wells, that pumping this water will have no impact on the basal lens above. The well would be tapping groundwater that flows beneath the basal lens and does not leak into it.

The third alternative, desalination of saline groundwater, would utilize on-site wells designed to draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt (parts per thousand) or greater. Extensive testing would be undertaken in the development of these wells to affirmatively demonstrate that such pumping can be done without adversely impacting the overlying basal lens.

The key requirement for all three alternatives being considered is that none would utilize water from the brackish basal lens flowing beneath the project site

Wastewater: An on-site wastewater treatment plant is the preferred alternative for processing Kaloko Makai wastewater. The Kaloko Makai facility will treat wastewater to produce reclaimed water meeting the highest (R-1) water standards for general irrigation within Kaloko Makai thus reducing the use of drinking water for irrigation. Section 4.10.2 contains further discussion.

Nearshore Marine Environment: As discussed in Section 3.5.2, it is unlikely that there would be any effects to the nearshore marine environment as a result of increases in nutrient concentrations in 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 such as grading, grubbing and stockpiling.

Construction 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 develop a Pollution Prevention Plan (PPP) that provides BMPs, including structural BMPs, for pollution prevention that address all categories of permitted uses within the project, and will address environmental stewardship and the non-point sources of water pollution that can be generated from any uses allowed within the Project. Emphasis shall be given to BMPs that prevent or limit pollutants arising out of the permitted uses within the Project from reaching the groundwater and ocean.

Kaloko Makai will construct and operate a private wastewater treatment plant (WWTP) within the project. The WWTP will be designed to reduce the concentrations of Total Nitrogen ("TN") to <5 mg/l, and Total Phosphorous ("TP") to <2 mg/l, unless even lower concentrations are required by the DOH.

An on-site wastewater treatment plant will be self-sufficient, water efficient and environmentally sound. The Kaloko Makai facility will treat the wastewater to provide recycled (R-1) water for general irrigation within Kaloko Makai and thus lessen demand for drinking water for irrigation needs.

Traffic: The project will increase traffic demands and congestion in the project area. The cumulative increase in traffic demands including those generated by Kaloko Makai, other projects in

the vicinity or local roads during peak travel periods is assessed in Section 4.4. Mitigation measures to address cumulative traffic impacts are recommended.

Table 8-1 Planned Residential and Commercial Developments in the Project Vicinity			
Project Name	Residential – Number of Units	Commercial – Estimated Square Footage	Comment
Kaloko Heights	1,362 units	50,000 square feet	Residential development east of Kaloko Makai, along Hina Lani Drive. Market homes on 7,500 to 15,000 square feet. Neighborhood commercial; zoned CN-20
Kula Nei	270 units	--	State Land Use Boundary Amendment granted October 2008. Plans include residential units, parks, wastewater treatment plant, drinking water well, regional storage reservoir.
Palamanui	1,116	70 gross acres planned as condominium lots in business park	Total is maximum per 2/2010 ordinance. Excludes dormitories. TND design within 725-acre site Tied to Hawai'i Community College at Palamanui Campus
Villages of La'i'Ōpua	1,097	--	Villages 1,2,4,5,7. V5 now being developed/ marketed, V3 is completed.
Kaloko Housing Project	72	--	Constructed completed.
Kamakana Villages	2,330	197,000 square feet of commercial space	The State's HHFDC requires that Kamakana Villages provide more than 50% of the new homes to buyers whose household income is at or under 140 percent of the median income for Hawai'i County, as well as commercial and mixed-use uses.
Queen Lili'uokalani Trust Estate	Uncertain number	Uncertain number	There are potential residential and commercial developments on Queen Lili'uokalani Trust lands in Keahuolu, where LUC-Urban designation is already in place, but the lands are zoned for commercial use. QLT plans to petition the LUC for review of the use of these Urban lands.
Kaloko Industrial Park, Phase III (Kaloko Commercial Center) and IV	--	Phase III (Kaloko Business Center) 41-net acres, infrastructure completed in 2009; future Phase IV estimated at 57-net acres.	Mixed light industrial and commercial use

Table 8-1 (continued)			
Planned Residential and Commercial Developments in the Project Vicinity			
Project Name	Residential – Number of Units	Commercial – Estimated Square Footage	Comment
West Hawai'i Business Park	--	337 gross acres less 10-net acres used by West Hawai'i Concrete as quarry, with one building. To be marketed as lots	Mixed light industrial and commercial use.
Department of Hawaiian Home Lands - near Kona International Airport and La'i'Opua		~400,000 SF Commercial ~245,000 SF Commercial	Across from the Airport. Net of likely light industrial uses, these lands are anticipated to support some 400,000 square feet of future commercial spaces; in addition approximately 245,000 SF at La'i'Opua
Kona Commons		~305,000 SF Commercial	Some 305,000 square feet could be added to the approximately 295,000 square feet that opened in 2008 and 2009

8.3 SECONDARY IMPACTS

Secondary impacts include those that are caused by the project and occur later in time or farther removed in distance but are still reasonably foreseeable. They may include growth inducing effects and other effects related to inducted changes in the pattern of land use, population density or growth rates, regardless of who initiates the action. Potential secondary impacts include: potential air quality impacts associated with the project's electrical power and solid waste disposal requirements; indirect and induced employment both during the construction and operations periods; indirect and induced workforce incomes and indirect fiscal effects upon government and revenues.

Air Quality: Depending on the demand levels, long-term impacts on air quality are also possible due to indirect emissions associated with the project's electrical power and solid waste disposal requirements. Based on the estimated project demand levels and emission rates involved, impacts to air quality near Hawai'i Electric Light Company (HELCO) power generation plant and solid waste disposal facilities will be negligible. The project will incorporate energy conservation design features and promote conservation and recycling programs to further reduce any associated impacts.

Employment and Workforce Income: The project will bring about positive benefits to the local economy, including increased expenditures for construction and construction-related jobs and tax revenue. During its build-out, Kaloko Makai is estimated to generate employment for some 300 to 400 full-time equivalent (FTE) persons annually, including positions created directly and indirectly by

its development activities. In the final eight years or so of the project's build-out, after most of its major infrastructure is complete, Kaloko Makai is expected to support some 800 FTE development-related jobs per year. These jobs would be located throughout the state, with greatest concentration in the County of Hawai'i. This estimate does not include employees of the three planned schools, realtors and brokers that may locate on-site, private household workers or employees of community associations or facilities.

The new development-related positions are expected to be associated with total personal earnings¹ of some \$1.09 billion over the projection period, or \$23 to \$38 million per year. The earnings represent an average of about \$83,000 to \$87,000 per FTE job, including direct construction-related jobs as well as indirect and induced opportunities created throughout the economy.

By the time of its expected completion in 2045, the Project could be expected to have generated some 3,100 direct FTE jobs on-site at its retail, office, industrial, lodge, and medical-related facilities. Because these on-site jobs would all be supported at Project components, they are all direct impacts; there are assumed to be no indirect or induced employment impacts on-site.

Considering the Project's direct, indirect and induced impacts statewide, Kaloko Makai could alternatively be seen to have generated some 1,700 permanent, on-going FTE jobs. These are positions that might not have existed had the Project not been developed. These "net new" jobs could include a small share of the professional, technical, managerial and other staff positions at the new hospital, other medical facilities, office and retail areas; sales and marketing positions supported by the on-going resales and releasing of property at the Project; positions generated at the business and kama'aina-oriented lodge; and myriad other positions generated throughout the economy.

Refer to Section 4.9 for further discussion.

Public Services and Revenues: The project will incur increase demand for public services and facilities operating costs for the State and County of Hawai'i. However, the project will also contribute revenue to the State and County. The project could contribute some \$8.8 million per year in net additional County revenues at its completion and annually thereafter.

By late 2045, new County government revenues are estimated to represent about 6.1 times the new County government operating expenditures required to support any additional population that could be attracted to the Island of Hawai'i by the project.

For the State, net additional operating revenues generated by the project are estimated at \$4.9 to \$6.2 million per year during buildout, when development activity would generate high gross excise and income taxes. The project is projected to continue to contribute to gains in the State budget in the long-run, with net additional revenues of some \$2.8 million per year after 2045. These fiscal impacts represent a revenue/expenditure ratio for the State of some 2.4 to 5.2 during build-out, or 1.8 by late 2045 and thereafter.

¹ Earnings are defined as wage, salary and proprietary income, plus director's fees and employer contributions to health insurance, less employee contributions to social insurance.

Population Growth and Density: Planned infrastructure improvements (e.g. water, wastewater, transportation) will mitigate project needs only and are not expected to stimulate or induce growth outside of the project area. In addition, the project site has been identified in County planning documents, most recently the Kona Community Development Plan (CDP), for urban development. The County's planning policies encourage development in locations within the Kona Urban Area, such as Kaloko Makai. Kaloko Makai is identified as a Neighborhood Transit Oriented Development (TOD) in the Kona CDP.

8.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The project would result in the irreversible and irretrievable commitment of natural and fiscal resources. Major non-renewable resource commitments include the project site and the financing, construction material, labor, and energy required for the project's completion. The impacts represented by the commitment of these resources, however, should be weighed against the positive socio-economic benefits that could be derived from the project versus the consequences of either taking no action or pursuing another less beneficial use of the property.

The proposed project will transform vacant open land into urban uses, which will result in the irretrievable loss of open space and alter mauka-makai views from Queen Ka'ahumanu Highway and shoreline. However, the project will also include a considerable amount of open space. Approximately 293 acres will be set aside for open space, parks, preservation of Kaloko Makai Dryland Forest, historic trails, and buffer zones.

As with any construction activity, resources such as fossil fuels and construction material will be irrevocably committed. Labor will be required for planning, engineering, and construction. Once occupied, the new housing will generate increases in the demand of water, electricity, and wastewater service. However, these increases accompany any new housing development, regardless of location. Homes that would have been built elsewhere to satisfy the growing demand for new housing in North Kona would generate at least a great of a demand. As a compact, mixed-use, transit oriented development, Kaloko Makai is anticipated to generate a lower demand on resources.

Providing drinking water for the project would commit additional groundwater resources, however, None of the three alternative drinking water sources would utilize water from the brackish basal lens beneath the project site. Two of the three alternatives that would draw from high level groundwater, none would impact basal groundwater in the project's mauka-makai corridor or elsewhere in North Kona.

In summary, two of the three drinking water source alternatives would drill wells at the mauka end (710 ft. elevation) of the project site. If successful, wells for these two alternatives would tap fresh artesian groundwater which exists at dept below the basal lens and saline groundwater. One or the other of these options would only be pursued if it can be demonstrated, initially be testing in the exploratory borehole and subsequently by testing in the finished production wells, that pumping this water will have no impact on the basal lens above. Rather it would simply be tapping groundwater that flows beneath the basal lens and does not leak into it.

The third alternative desalination of saline groundwater, would utilize on-site wells designed to draw water from a substantial distance below the basal lens where the salinity may be on the order of 30 ppt. Extensive testing would be undertaken in the development of these wells to affirmatively demonstrate that such pumping can be done without adversely impacting the overlying basal lens.

The Applicant is setting aside lands for Kona Regional Hospital and schools. The development of these facilities will result in the irretrievable and irreversible commitment of State and County funds to operate and maintain these facilities.

There is always the risk of environmental accidents resulting from any phase of project implementation which may cause irreversible damage to the environment. The possibility of environmental accidents will be mitigated by complying with all applicable environmental laws and regulations and following BMPs to help prevent and respond to any environmental accidents.

8.5 PROBABLE ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

This section describes the project's long-term adverse impacts that may be unavoidable and the rationale for proceeding notwithstanding the unavoidable effects.

Open Space/Views: The proposed action will transform vacant open land into urban uses. The project will obscure the mauka-makai views from Queen Ka'ahumanu Highway and the shoreline. However, approximately 293 acres will be set aside for open space, parks, preservation of Kaloko Makai Dryland Forest Preserve, historic trails, and buffer zones.

Noise: During construction, there will likely be unavoidable noise impacts associated with operation of heavy construction machinery, paving equipment and material transport vehicles. Proper mitigating measures will be employed to minimize construction-related noise impacts and comply with all Federal and State noise control regulations. Increased noise activity due to construction will be limited to daytime hours and persist only during the construction period. Noise from construction activities will be short-term and will comply with DOH noise regulations (HAR, Chapter 11-46, Community Noise Control). When construction noise exceeds, or is expected to exceed the DOH's allowable limits, a permit must be obtained from the DOH.

Air Quality: The proposed project will have short-term construction-related impacts on air quality, including the generation of dust and emissions from construction vehicles, equipment and commuting construction workers. During construction, activities such as grading and excavation at the project site will generate dust while vehicles and equipment will produce exhaust emissions. Dust control measures stipulated by Department of Health Administrative Rules, Title 11, Chapter 60, "Air Pollution Control" regulations will be employed, as appropriate.

Traffic: The project will increase traffic demands and congestion in the project area. The cumulative increase in traffic demands including those generated by Kaloko Makai, other projects in the vicinity or local roads during peak travel periods is assessed in Section 4.4. Mitigation measures to address cumulative traffic impacts are recommended.

Electrical Power: When fully built-out the electrical demand for Kaloko Makai is expected to reach a maximum of approximately 210.8 million kilowatt hours/year. To reduce energy consumption, energy conservation measures will be implemented where appropriate in the design of Kaloko Makai (see Section 2.5). Where appropriate, the Applicant will utilize LEED and ENERGY STAR concepts in the development of Kaloko Makai (Refer to Section 2.5 and Appendix Q).

Solid Waste: As discussed in Section 4.10.4, solid waste will be generated during construction and after completion of Kaloko Makai. Upon full build-out and occupancy, Kaloko Makai is expected to produce approximately 12,795 tons/year of household/community waste. Measures and provisions to implement recycling, such as collection systems and storage for recyclables will be heavily incorporated to Kaloko Makai.

Kaloko Makai will work hand in hand with the County to produce feasible alternatives for residential curbside collection, including source-separated recyclables. Waste that is rendered unable to be recycled or incorporated into on-site green waste processing will be disposed of in the Pu‘uanahulu landfill.

8.5.1 Rationale for Proceeding with Kaloko Makai Notwithstanding Unavoidable Effects

In light of the above mentioned unavoidable effects, the project should proceed because adverse impacts will be minimized, mitigated, or off-set by substantial benefits. The proposed project will have numerous benefits to off-set its potential unavoidable adverse impacts:

- Compliance with the *County of Hawai‘i General Plan* (February 2005), which designates the Kaloko Makai property for Urban Expansion.
- Compliance with the *County of Hawai‘i Kona Community Development Plan* (September 2008), which designates the site as part of the Kona UA and as a TOD; consistency with the vision, principles and goals of the Kona CDP.
- Substantial consistency with policies of the *Hawai‘i State Plan*, State Functional Plans, and the Coastal Zone Management Act.
- Approximately 5,000 new single-family and multi-family home in a live-work-play environment to meet islandwide housing needs.
- Homes for a variety of income ranges, including affordable housing
- Potential hospital and medical facilities.
- Construction jobs.
- Additional jobs not related to construction of the project; development of new centers for business and employment.
- School sites.
- Recreational resources.
- The provision of diverse housing opportunities makai of Queen Ka‘ahumanu Highway.
- The preservation of the Kaloko Makai Dryland Forest Preserve.
- The wages, taxes and overall positive economic impacts of Kaloko Makai.

8.6 UNRESOLVED ISSUES

Some issues are unresolved at the time of the preparation of this Second Draft EIS. They are described below and are expected to be resolved prior to commencement of the proposed action.

8.6.1 Transportation Improvements

The project will increase traffic demands and congestion in the project area. The cumulative increase in traffic demands including those generated by Kaloko Makai and other projects in the vicinity on local roads during peak travel periods is assessed in Section 4.4. Mitigation measures to address cumulative traffic impacts are recommended. The configurations of those improvements, timing of completion and allocation of funding for these improvements are unresolved. These matters will be addressed through agreements between the Applicant and the County and/or the State DOT, as applicable, prior to vertical construction of the project.

The general configuration of the project's internal roadways is known, but the precise roadway design standards that will be applicable to the internal roadway network within Kaloko Makai have not been finalized by the County of Hawai'i Planning Department and Department of Public Works. As a compact, mixed-use transit oriented development, Kaloko Makai should be designed to be consistent with the Kona CDP and Village Design Guideline. However, those Guidelines are not consistent with the more general standards required by the County Department of Public Works. Prior to project development, Applicant will obtain County approval of the internal roadways.

8.6.2 Archaeological and Historic Resources

The archaeological surveys were submitted to State Historic Preservation Division (SHPD) in October 2008 for their review. At the time of this Second Draft EIS, SHPD was still reviewing the archaeological inventory surveys.

8.6.3 Type of Transit Oriented Development Village

The Kaloko Makai project has been designated as a Neighborhood TOD in the Official Kona Land Use Map. The Applicant is setting aside 40 acres of land in anticipation of a regional hospital being sited within Kaloko Makai TOD. Kona CDP economic policy ECON-1.1 at page 4-128 states that, if the land is developed with a regional hospital the Neighborhood TOD at Kaloko Makai shall be designated as a Regional Center TOD. However, the proposed project will be designed and assessed herein 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.

Applicant will not be developing the hospital, but several entities have been approached to undertake the development. Applicant will continue to pursue a hospital developer, and will continue dialog with those entities on the potential development of the new regional hospital/medical center at Kaloko Makai.

On May 23, 2011, Stanford Carr sent a letter to Bruce Anderson, CEO of Hawai'i Health Systems Corporation offering 40-acres of land to the appropriate entity to build and operate a hospital. In part, that letter stated, “This letter is to confirm that SCD - TSA Kaloko Makai LLC is willing to convey to the State, HHSC or other appropriate entity, at no cost, 40-acres of land within the Kaloko Makai project for a new regional acute care Hospital.” “This proposal does not suggest Kaloko Makai will construct, pay for or operate a Hospital facility. However, Kaloko Makai is prepared to give the 40-acre site within the project for the new hospital facility.”

This page intentionally left blank.