

III. ASSESSMENT OF PROJECT IMPACTS

A. ENVIRONMENTAL, SOCIO-ECONOMIC AND INFRASTRUCTURE IMPACTS

1. Archaeological and Historical Data

Archaeological Services Hawai'i, LLC conducted an Archaeological Inventory Survey (AIS) of the subject parcels to be developed (TMK's 3-6-002:003; 3-6-004:003, 006; and 3-6-005:007) (See: Appendix I, "Final Archaeological Inventory Survey (Revised September 2017)" and Appendix J, "SHPD "Acceptance Letter dated February 28, 2018").

During the AIS procedures, five historic properties designated Sites 50-50-04-5197 and 50-50-04-7881 Features 1-18 through Site 50-50-04-7884 Features 1-3 were documented. These sites consisted of features related to historic agriculture, historic habitation and World War II defensive positions. Sites 7881 Features 1-18 through 7884 Feature 1 were identified within Parcel 3 Mauka. Site 5197 extended north south and was a partial boundary between Parcels 6 and 7 and bisects Parcel 3 Waena east west. Site 7884 Feature 2 was positioned in Parcel 6 and Site 7884 Feature 3 was located in Parcel 7. Site 5197 was a Plantation ditch in good condition and comprised of a portion of the Waihe'e Ditch assessed a significance of Criteria "a" and "d"; Site 7881 consisted of a Plantation irrigation complex significant under Criteria "a", "d" and possibly "c" and included water containment, transportation and diversion features designated Features 1-18. Features 1-18 were in good condition and consisted of concrete lined ditches, sluice gates and dirt culverts with concrete lined headwalls. Site 7882 was in fair condition and consisted of a remnant historic rock retaining wall currently utilized for slope retention purposes for the concrete irrigation ditch (Site 7881 Feature 2); however it may have formerly functioned as an agricultural terrace for planting. Site 7883 comprised a military bunker in good condition from World War II that was utilized as a horizon aviation observation bunker and assessed an initial significance of Criteria "a", "c" and "d". Site 7884 Features 1-2 were historic artifact scatters in a secondary context representative of historic habitation from 1940's to 1950's

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(Feature 1) and 1900's to 1950's (Feature 2) and Site 7884 Feature 3 identified during backhoe testing is a remnant marginal refuse deposit from the late 18th to early 19th century. Due to the lag time from the date of manufacture, to distribution and arrival in the Hawaiian Islands, the deposit likely dates to the early 19th century. Site 7884 is a marginal, disturbed site assigned a significance of Criterion "d".

Based on the proposed development plans, Site 5197 Waihe'e Ditch will remain in operation, although portions of it will be buried during development. Site 50-50-04-7881 Features 1-18, a Plantation irrigation complex positioned along the northern boundary of the project area will not be affected by development and will continue to be utilized for agricultural purposes. Thus, this site will be preserved in place and the form of preservation will be appropriate cultural reuse. Site 7882, the historic retaining wall is located outside the proposed development area to the northeast and will remain in place. No further work is warranted for this feature. Site 7883, the WWII bunker will be preserved in place and the form of preservation is conservation (avoidance and protection) and interpretation. No further inventory level work is recommended for Site 7884 Features 1-3, the historic artifact scatters and refuse deposit; however the localities where these features were identified will be monitored during ground altering activities.

In the event that future development is proposed that may affect historic properties, Sites 50-50-04-5197, 7881 and 7883, currently recommended for preservation, additional mitigation may be warranted and comprised of architectural inventory procedures. However, no mitigation procedures shall be implemented without consultation and concurrence by SHPD.

Thus, pursuant to §13-284-7, the effect determination is "Effect, with agreed upon mitigation commitments" and the mitigation commitments consist of (1) data recovery in the form of archaeological monitoring, (2) preservation for Sites 50-50-04-7881 and 7883, and (3) if Site 50-50-04-5197 is impacted, it will be further documented through architectural documentation; the nature of the architectural documentation will be determined in consultation with the SHPD.

2. Cumulative and Secondary Impacts

Cumulative impacts are defined as the impact on the environment which results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Secondary impacts are those that have the potential to occur later in time or farther in the future, but which are reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project.

The gradual build-out of the WCT will produce a range of impacts that are described in the FEIS (See Appendix A). These are the same types of impacts that are projected for the region overtime as population increases and land is developed to accommodate population growth. Cumulative and Secondary impacts resulting from the Project, together with other development planned for Central Maui, will include increased demand upon public infrastructure and facility systems such as traffic, schools, police, fire, wastewater and water. Cumulative and Secondary impacts can also have an effect upon air and water quality, sensitive environmental habitats and natural resources if not properly monitored and mitigated. Section VI.B, pages VI-3 – VI-11, of the FEIS discusses cumulative and secondary impacts in greater detail (**See:** Appendix A, Final Environmental Impact Statement (FEIS)”).

3. Traffic Impacts

A Traffic Impact Analysis Report (TIAR) was prepared by Fehr & Peers in December 2014 to document the impact of the project and propose mitigation measures (**See:** Appendix L of the FEIS, “Traffic Impact Analysis Report” included as Appendix A of the Project Assessment Report).

The Traffic Impact Analysis Report (TIAR) analyzed the typical weekday AM and PM traffic conditions under existing conditions and potential project-related traffic impacts at partial buildout in 2022 and at full buildout in 2026. The analysis evaluated the operations at eight existing and six future intersections (a total of 14 study intersections) in the vicinity of the proposed project. The project will increase traffic within the immediate area as project residents, customers and employees commute to and from the project site. The WCT will contribute to cumulative impacts (LOS E or F conditions) during one or both peak hours and the

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project will contribute to cumulative impacts (LOS E or F conditions) during one or both peak hours at six of the eighteen intersections. The projects will also have project-specific impacts at two of these intersections where the addition of project-generated traffic would cause the overall intersection operations to degrade below LOS D in the peak hours.

In response to the DEIS, the Department of Public Works (DPW) informed the Applicant by letter dated May 23, 2016 (See: Appendix S of the FEIS, “DEIS Agency and Community Comment and Response Letters” included as Appendix A of the Project Assessment Report) that the timing of the Wai’ale Bypass is uncertain and that the Applicant should assume that the roadway may not be constructed. In response, the Applicant contracted with Fehr and Peers to conduct an analysis of the Project’s traffic impacts at full buildout in 2026 without the Wai’ale Bypass Road. Fehr & Peers completed the analysis in October 2016 (See: Appendix M of the FEIS, “No Wai’ale Bypass” Memorandum included as Appendix A of the Project Assessment Report). While three more study intersections would be significantly impacted under this scenario than in the “with Bypass” scenario analyzed in the December 2014 TIAR, LOS D can be achieved at the impacted locations with an expanded program of roadway improvements as mitigation.

In the past, projects would make a fair share financial contribution for each mitigation measure to the appropriate governing agency (i.e., the County or Hawai’i State Department of Transportation (HDOT)). However, providing just partial funds for a variety of different improvements does not ensure construction of any individual improvement. More recently, HDOT has indicated a preference for development projects to fully design and build improvements at a select set of locations to ensure their implementation. The WCT proposes a mitigation planning program in the amount of its fair share requirements that would fund improvements at intersections closer to the project site where the project contributes to, but does not directly cause a significant impact. The project proposes to fully fund mitigation measures that would return operations to pre-project levels at those intersections.

During the construction phase, the Applicant will implement a traffic control plan to mitigate impacts to operating conditions along Honoapi’ilani Highway from construction vehicles ingressing and egressing from the Project site.

A detailed description of the Project’s traffic impacts and proposed mitigation measures are documented in Chapter V of the FEIS, pages V-105 – V-114, and Appendix I of the FEIS (See Appendix A of the Project Assessment Report). Appendix K, “FEIS Comment and Response Letters”, includes comment and response letters between the State Department of Transportation and the County of Maui, Department of Public Works, and the Applicant related to the Project’s traffic impacts.

4. Agricultural Land Use Impacts

In July 2013 Planning Consultants Hawai’i, LLC prepared an Agricultural Impact Assessment (AIA) to assess the long-term impact of the project on the State’s and County’s agricultural industries (See: Appendix G of the FEIS, “Agricultural Impact Assessment” included as Appendix A of the Project Assessment Report). The scope of the study included the following tasks:

- Assessment of the current status of Hawai’i’s agricultural industry;
- Assessment of the current availability of agricultural lands;
- Analysis of existing agronomic conditions within the Project site;
- Description of the recent agricultural history of the property;
- Assessment of the impact of the Project on current agricultural operations; and
- Analysis of the Project’s consistency with State and County agricultural policies.

Current Status of Hawai’i’s Agricultural Industry

While agriculture, predominantly sugar and pineapple, dominated Hawai’i’s economy from the late 1800s through the 1950s, its overall significance has declined dramatically since the advent of mass market tourism. In 1927, sugar alone created 56,600 jobs throughout the State, whereas in 2011 the entire agricultural industry employed just 6,900 workers.ⁱⁱⁱ In 2011, agriculture employed 1,600 Maui County workers, which was 2.4% of the 67,200 wage and salary jobs in the County.^{iv}

Hawai’i farmers face stiff competition in local, national, and international markets. In the Hawai’i market, off-shore suppliers dominate the market for most fresh fruits, vegetables, dairy, meat, and poultry products. It has been estimated that 85% of all food consumed in Hawai’i statewide is imported.

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In the U.S. Mainland market, Hawai'i growers have sustained the value of their sales in recent years, but have lost significant export value of sales to Japan. Significant impediments to agricultural development in Hawai'i include high labor costs, high transportation costs, high energy costs and high land costs.

Despite major challenges, Hawai'i's growers are competitive in many niche products and opportunities are available. Because 85% of food consumed in Hawai'i is imported, a significant market exists for farmers who can find creative ways to displace imports. Moreover, Hawai'i's seed crop industry has demonstrated that Hawai'i agriculture can have significant comparative advantage in some sectors. Substituting locally grown biofuels for imported petroleum may also provide opportunities for Hawai'i farmers over the coming decades.

State and County Agricultural Lands

Since 1960, there has been a release of approximately 316,590 acres from crop farming, primarily sugar and pineapple.^v While some of these lands have been absorbed by urban development and other agricultural uses, much is fallow and available for agricultural use on Oahu, Maui, Moloka'i, Lana'i and Kauai.

The County of Maui has approximately 402,354 acres within the State Agricultural District. Of these lands, approximately 244,088 acres, or 61%, is located on Maui.^{vi} Using the LSB rating system, Maui alone has approximately 82,592 acres that are classified "A", "B", or "C".^{vii} Since 1960, there has been a release of approximately 64,150 acres from crop farming, primarily sugar and pineapple, within the County.^{viii} While some of these lands have been absorbed by urban development and other agricultural uses, much is fallow and available on the islands of Maui, Moloka'i, and Lana'i. Moreover, in January 2016 HC&S announced that its sugar plantation on Maui would be closed after a final harvest. This event has released approximately 33,000 acres from sugarcane production, which has dramatically increased the supply of land available for diversified agriculture on Maui.

Although there is an abundant supply of productive agricultural land throughout the State, access to affordable agricultural lots offering long-term tenure remains an impediment to

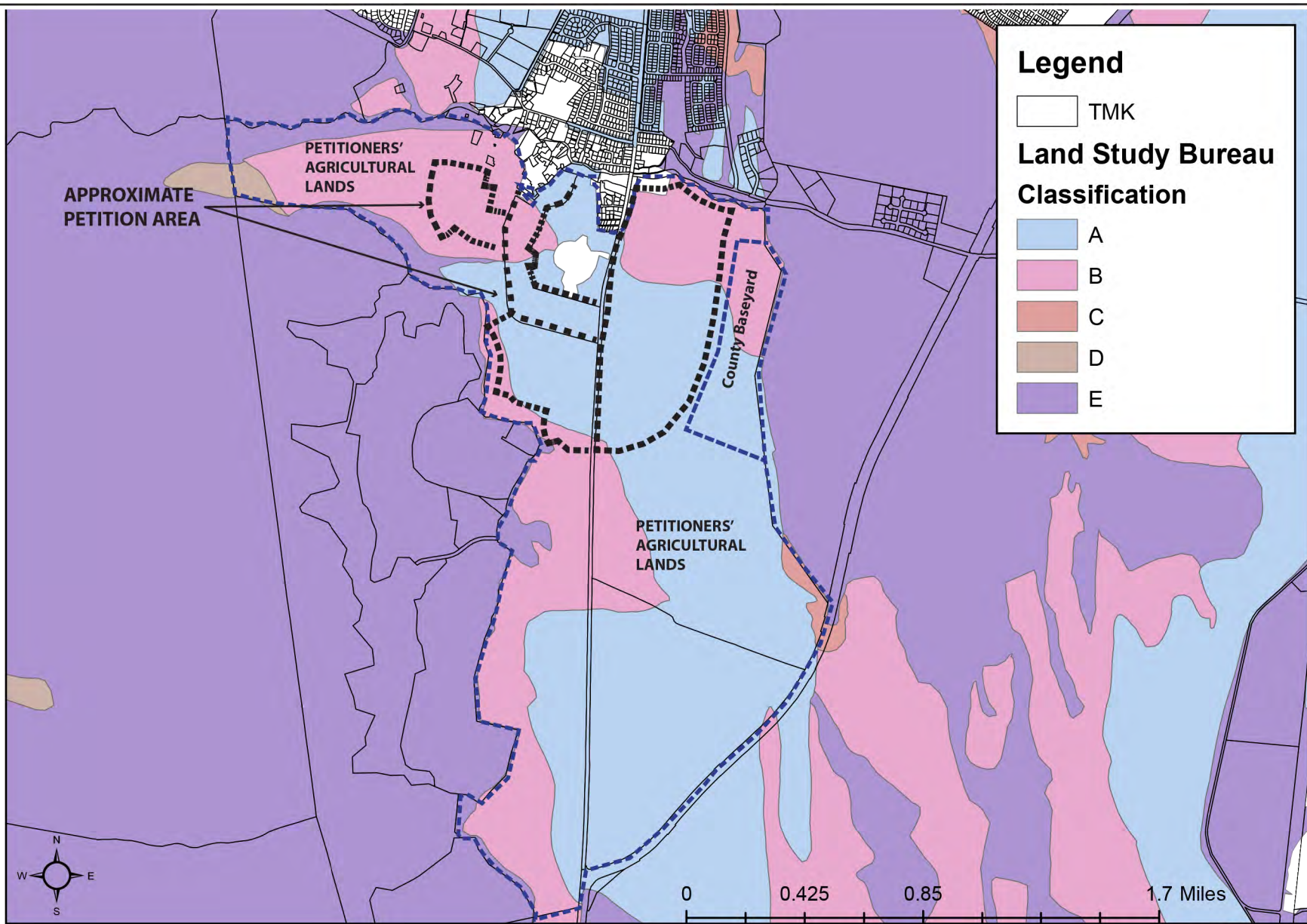
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agricultural development in Hawai'i. The current shortage of available State and County agricultural park lots is symptomatic of this issue. WCT, including its adjoining agricultural lands, comprises approximately 1,576 acres, 14 acres of which are within the State Urban District. Over 90% of the Project's agricultural lands are rated "A" or "B" by the Land Study Bureau (LSB) and "Prime" by the Agricultural Lands of Importance to the State of Hawai'i (ALISH) rating systems (See: Figure Nos. 12 and 13, "Land Study Bureau Map" and "ALISH Map").

The Project will result in the urbanization of approximately 481 acres of prime agricultural land. This represents a very small percentage of agricultural lands statewide and on Maui. There are approximately 2 million acres in the State Agricultural District. The subject development represents just .024% of this area. On Maui, there are approximately 82,582 acres of agricultural lands rated by the LSB as A, B, or C. The subject development represents just 0.58% of these lands. Within Maui County, approximately 97,483 acres, which includes the HC&S lands taken out of production, has been released from crop production since 1987. The subject development represents just 0.49 percent of these lands. Thus, the urbanization of the subject 481 acres should have minimal long-term impact on the availability of agricultural land within the County and/or State since an abundance of other land, of a similar or higher quality, is currently fallow and available for production elsewhere.

The MTP Master Plan's agricultural component includes nearly 1,080 acres of land that will remain in agricultural use. Of these lands, approximately 800 acres will be protected in perpetuity to agricultural use with no residential structures to be permitted. The remaining 280 acres may be subdivided into as many as five large agricultural lots where a farm dwelling may be permitted. Within the agricultural lands, several hundred acres may be developed as a public and/or private agricultural park to help facilitate Maui's agricultural development.

There are currently five commercial farms farming MTP lands. These include Kumu Farms, Hoaloe Farms, Makani Olu Ranch, Beef and Bloom and Pacific Biodiesel. The proposed urbanization will require both Kumu Farms and Hoaloe Farms to relocate their agricultural operations to the proposed agricultural park and other suitable agricultural lands within the



Legend

□ TMK

Land Study Bureau

Classification

- A
- B
- C
- D
- E

Figure 12

LAND STUDY BUREAU
 DETAILED LAND CLASSIFICATION



Not to Scale

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PLANNING
 CONSULTANTS
 HAWAII, LLC

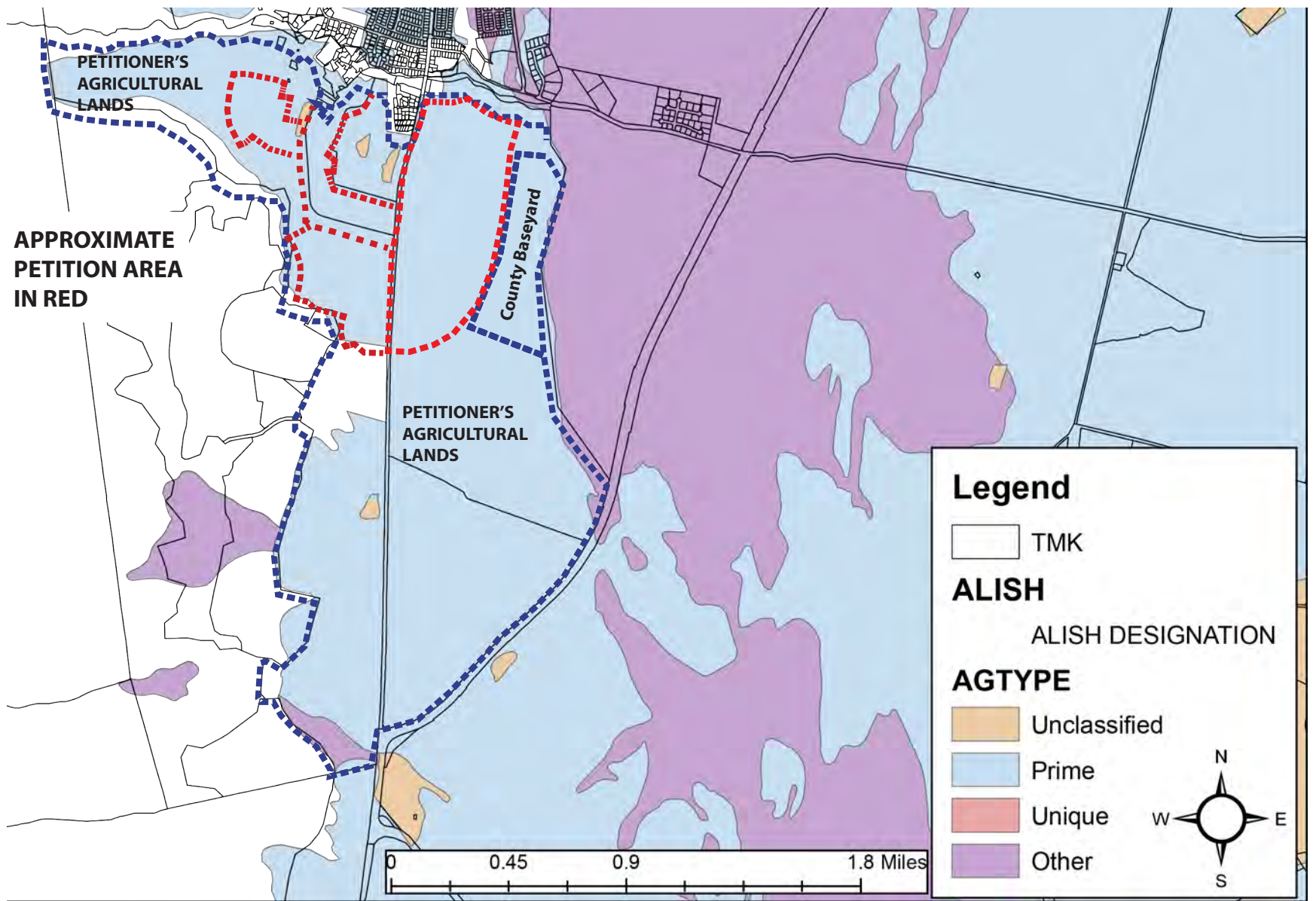


Figure 13
 AGRICULTURAL LANDS OF IMPORTANCE TO THE STATE OF HAWAII



Not to Scale

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PLANNING CONSULTANTS HAWAII, LLC

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Project's Agricultural District. Appendix K, "FEIS Comment and Response Letters", includes comment and response letters between the State Department of Agriculture and other applicable State agencies and the Applicant related to the Project's potential impact upon agricultural resources.

5. Water

The Preliminary Engineering Report documents existing sources of water and infrastructure improvements that service the property (**See:** Appendix H of the FEIS, "Preliminary Engineering and Drainage Report included as Appendix A of the Project Assessment Report). Water and fire protection for the project will be provided from a private onsite water system. Six (6) wells have been drilled on the site. One of these wells is a monitoring well. Water quality testing has been conducted on three of these wells and the testing concluded that these wells are capable of producing potable water of excellent quality. The pump test results demonstrated that the three wells can produce sufficient water to service the Project's potable water demand (**See:** Appendix I of the FEIS, "Water Resources Associates Results of 10-Day Pumping Tests for Wells 1, 2, and 3", included as Appendix A of the Project Assessment Report).

All of the Project's wells are located within the Waikapū Aquifer. A dual water system is proposed to service the development. The non-potable water will provide irrigation to the parks, open space and commercial and residential landscape planting of individual lots. It is estimated that the dual system will reduce potable water demand by at least 33 percent. The projected non-potable water demand for the Project's agricultural lands as well as irrigation of parks and open space is estimated to be 3,420,000 gallons per day (gpd). Sources for the non-potable water are proposed to include surface water from the Iao Stream via the Iao-Waikapū Ditch and Waikapū Stream via the South Waikapū Ditch and Waihee Ditch, agricultural well water, and reclaimed water from the Project's wastewater reclamation facility. Based on the water usage, the projected average daily potable water demand for the Project is 655,508 gallons per day (gpd). Water conservation measures, such as low-flow toilets and shower heads will be utilized throughout and efficient water conserving irrigation practices will also be adopted.

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A detailed description of the Project's water sources and proposed distribution system and projected demand for potable and non-potable sources is documented in Chapter V of the FEIS, pages V-105 – V-114, and Appendix I of the FEIS included as Appendix A of the Project Assessment Report. Appendix K, "FEIS Comment and Response Letters", includes comment and response letters between the State Department of Land and Natural Resources, Commission on Water Resources Management; the County of Maui Department of Water Supply; and other applicable State and County agencies and the Applicant related to the Project's potential impact upon water resources.

6. Wastewater

A Preliminary Engineering Report was prepared for the FEIS that assesses current wastewater system capacity and existing infrastructure to support the project (See: Appendix, H, "Preliminary Engineering and Drainage Report" included as Appendix A of the Project Assessment Report).

In addition to the Preliminary Engineering Report, two wastewater reports were for planning and development of a private wastewater reclamation facility. Enviniti LLC conducted an analysis of a conventional wastewater reclamation facility. The Enviniti study identifies regulatory and design requirements for the planning, design, construction, operation, and maintenance of such a facility. The Enviniti study also documents the Project's projected wastewater generation and provides order of magnitude cost estimates for the facility (See: Appendix J of the FEIS, included as Appendix A of the Project Assessment Report). Mana Water LLC, in association with Kennedy/Jenks Consultants, prepared a wastewater report for a facility based on Organica's Food Chain Reactor (FCR) treatment technology. Organica was established in 1988 and is an international leader in utilizing Fixed-Bed Biofilm Activated Sludge (FBAS) technology for wastewater treatment. In a plant using FCR technology, as water flows from one reactor to the other it passes through different ecologies. These ecologies are comprised of plants and other natural microorganisms that break down the wastewater components using the nutrients as food. The sub-ecosystems utilized in an FCR system provide for enhanced removal efficiency while utilizing less energy and producing less sludge than a conventional

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treatment plant. The Mana Water and Kennedy Jenks report provides the following documentation:

- Projected wastewater flow from the Project;
- Estimated volume of recycled water generated by the facility at build-out;
- Estimated order of magnitude construction and operating costs for the facility;
- Facility operating revenues versus facility costs;
- Advantages of FCR facilities over more conventional treatment facilities;
- Conceptual site plan; and
- Conceptual architectural rendering. (**See:** Appendix K of the FEIS, included as Appendix A of the Project Assessment Report).

The Applicant conducted an analysis of wastewater treatment alternatives to determine the preferred method of treating the Project's wastewater (**See:** Chapter VIII of the FEIS, included as Appendix A of the Project Assessment Report). Based upon the analysis, it was determined that the preferred method of wastewater treatment is to construct a private wastewater reclamation facility within the subject property. The preferred wastewater treatment technology is Organica's FCR system. The Project's wastewater treatment plan is described in detail in Section III.B.8 of the FEIS, included as Appendix A of the Project Assessment Report.

The Project will produce an increase in demand for wastewater treatment. Based on the *"Preliminary Wastewater Report"*, prepared by Enviniti LLC, dated March 2013 (**See:** Appendix J, included as Appendix A of the Project Assessment Report), the average wastewater flow estimate for the project is 698,000 gpd and the design maximum flow estimate is 2,449,819 gpd. According to the Wastewater Reclamation Division, County of Maui, as of July 31, 2014, the Kahului Wastewater Reclamation Facility (KWRF) has a capacity of 7.9 million gallons per day (mgd). The average flow into the KWRF is 4.7 mgd and the allocated capacity is 6.33 mgd. The remaining wastewater capacity at the KWRF is approximately 1.57 mgd.

During pre-consultation for the DEIS, the Department of Environmental Management (DEM) had noted that in order for the existing collection system to accept flows from the WCT, transmission improvements would be required along Lower Main Street, Waiko Road, and the

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Wailuku Pump Station. However, the DEM in an October 13, 2016 letter in response to the DEIS informed the Applicant that the Project would not be allowed to connect to the existing County wastewater collection system and treatment system (**See:** Appendix S of the FEIS, DEIS Agency and Community Comment and Response Letters, included as Appendix A of the Project Assessment Report).

After analyzing various alternatives for treating the Project's wastewater, the Applicant has determined that the preferred alternative is to construct a standalone private wastewater treatment facility. The facility will be designed using the most sustainable technologies available based upon Organica's Food Chain Reactor (FCR) configuration, which consists of biological treatment in successive reactor zones utilizing fixed biomass on a combination of natural plant roots and Organica's engineered biofiber media, along with a limited amount of suspended biomass. This system will also serve the dual purpose of reclaiming the Project's wastewater so that at full buildout it will be able to provide approximately 650,000 gpd of recycled water that can be used for irrigation of the WCT's agricultural lands and urban open spaces.

A detailed description of the Project's wastewater impacts and proposed improvements are documented in Chapter III, pages III-55 – III-63, and Chapter V, Pages V-114 – V-120, and Appendices H, J and K of the FEIS included as Appendix A of the Project Assessment Report. Appendix K, "FEIS Comment and Response Letters", includes comment and response letters between the County's Department of Environmental Management and other applicable State and County agencies and the Applicant related to the Project's wastewater generation, treatment and disposal.

7. Solid Waste

The Central Maui Landfill services the residential waste stream for Central Maui, including Waikapū. The privately owned and operated Decoite Landfill services the island's construction and demolition waste stream. According to the County of Maui's Integrated Solid Waste Management Plan (ISWMP) (February 2009), the amount of waste generated in 2006 was 345,000 tons of which 124,000 tons was diverted for recycling.^{ix} In 2006, the Central Maui Landfill received 213,993 tons of residential waste, the Maui Construction and Demolition

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Landfill (Decoite Landfill) received 50,000 tons of construction waste, and the Eco Compost Facility received 54,243 tons of yard waste. It is projected that by 2030 the total generated waste on Maui will be 499,381 tons per year (TPY) of which approximately 31 percent, or 147,309 TPY, would be recycled. Thus, by 2030 it is projected that approximately 353,632 TPY of solid waste would be entering the island's landfills. In comparing planned capacity versus projected solid waste generation, the ISWMP projects that the planned capacity is sufficient to accommodate demand through 2026.

The County of Maui has assessed the feasibility of developing a waste-to-energy facility in Central Maui, on land near the Central Maui Landfill. The facility could have had the potential to divert up to 80% of the waste generated on Maui with the byproduct used as a renewable fuel. Such a capital improvement would significantly mitigate the need for additional landfill space to accommodate the projected population growth.

The ISWMP also uses residential and commercial waste generation rates for its projections. The residential generation rate in tons per household per year for Maui (excluding Hana) is 2.3. The Commercial Generation Rate (tons per employee per year) for Maui (excluding Hana) is 1.58.

The resident population of Wailuku-Kahului as of mid-year 2015 was 57,616. According to County and State Forecasts, the 2035 resident population of Wailuku-Kahului may range from 78,764 to 97,080 persons. This is an increase in population of 21,148 to 39,464, which is an increase of 36.7% to 68.5%. The projected resident population of the Project is 3,921 persons, which represents from 18.51 percent to 9.93 percent of the projected resident population growth through 2035.

The projected increase in Wailuku-Kahului's population will produce a demand for solid waste disposal. Waste generated by site preparation will primarily consist of vegetation, rocks and debris from clearing, grubbing, and grading. Very little demolition material is expected, as the site is essentially vacant.

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During the construction phase, construction activities will require the disposal of the existing on-site waste, as well as cleared vegetation and construction-related solid waste. Using a 2003 publication by the Environmental Protection Agency (EPA) entitled “Estimating 2003 Building-Related Construction and Demolition Materials Amounts”, factors of 4.39 pounds per square feet of construction for residential and 4.34 pounds per square feet of construction for commercial buildings were used to determine potential construction waste generated by the Project. Using these factors, it is estimated that during the construction phase (2017-2026) residential construction waste might total approximately 8.7 million pounds or 4,350 tons of waste. The commercial component would generate approximately 736,000 pounds or 368 tons of waste through 2026.

A solid waste management plan will be coordinated with the County’s Solid Waste Division for the disposal of onsite and construction-related waste material. The Developer will work with the contractor to minimize the amount of solid waste generated during the construction of the project. Using the ISWMP’s residential generation rate of 2.3 tons per household per year and the commercial generation rate of 1.58 tons per employee per year, total solid waste generated during the operation phase of the project at stabilization in 2026 is 4,051 tons per year. Using a diversion rate of 31 percent, total waste from the project site is estimated to be approximately 2,795 tons per year.

The WCT will support the County’s recycling, reuse and composting activities. In addition, the Applicant will explore the opportunity for establishing a community composting facility where the recycled by product could be made available to WCT’s farmers. The ISWMP provides strategies for diverting solid waste from landfills to reduce landfill dependency, save landfill capacity and improve operational efficiency. The WCT will implement these strategies by providing options for recycling, such as collection systems and bin space, within the project, and promoting sound recycling strategies among residents and businesses. Appendix K, “FEIS Comment and Response Letters”, includes comment and response letters between the County’s Department of Environmental Management and the Applicant related to the Project’s impact to solid waste facilities.

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8. Environmentally Sensitive Areas, Habitat, Botanical Features

Botanical and Faunal Surveys were conducted by Robert W. Hobdy, Environmental Consultant, in February 2013 for the area proposed for development (**See:** Appendix B of the FEIS, “Botanical and Faunal Surveys” included as Appendix A of the Project Assessment Report). The study determined that there is little of botanical concern on the property and that the proposed project is not expected to have a significant negative impact on botanical resources. No recommendations with regard to plants were deemed necessary. The study also found that all mammals recorded were common non-native species of no particular concern. However, the study did find two mature Blackburn’s sphinx moth eggs on the leaves of one of two Tree Tobacco plants found on the property. The Blackburn’s sphinx moth is an endangered species and is of special concern. In response to the findings, the U.S. Fish and Wildlife Service was consulted and appropriate mitigation measures, as described in Section IV.A.4, pages IV-16 – IV18 of the FEIS, will be taken to mitigate impacts to the Blackburn’s sphinx moth. Implementation of these measures will not constrain development of the site. Appendix K, “FEIS Comment and Response Letters”, includes comment and response letters between the U.S. Fish & Wildlife Service and the Applicant related to the Project’s potential impacts upon flora and fauna resources.

9. Drainage

A Preliminary Drainage Report was prepared by Otomo Engineering. The report analyzes current conditions, including drainage patterns, existing improvements, and runoff totals (**See:** Appendix H of the FEIS, “Preliminary Engineering and Drainage Report”, included as Appendix A of the Project Assessment Report).

The WCT will produce an increase in impervious surfaces and will therefore be required to capture and treat the increase in runoff from the project. It is estimated that the WCT will be required to mitigate an increase in runoff of 516 cubic feet per second (cfs) and provide a minimum storage volume of 1,528,233 cubic feet. With the drainage improvements, there will be no increase in runoff from the project site. The design of the stormwater system will include water quality treatment to reduce the discharge of pollutants to the maximum extent practicable. Some examples of stormwater best management practices (BMPs) are grass swales,

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open space and parks and stormwater detention. With stormwater detention the stored runoff will infiltrate into the underlying soils and recharge groundwater. Temporary erosion control measures will be incorporated during the construction period to minimize dust and soil erosion. Additional controls will be implemented to protect the Waikapū Stream. Temporary BMPs include the construction of diversion berms and swales, dust fences, silt fences, stabilized construction entrances, truck wash down areas, inlet protection, temporary grassing of graded areas, and slope protection. A detailed description of the Project's drainage impacts and proposed improvements are documented in Chapter V of the FEIS, pages V-97 – V-105, and Appendix H of the FEIS. Appendix K, "FEIS Comment and Response Letters", includes comment and response letters between the County of Maui's Department of Public Works and other applicable State and County agencies and the Applicant related to the Project's drainage impacts and mitigation measures.

10. Traditional Access Trails

A Cultural Impact Assessment (CIA) was prepared by Hana Pono, LLC to describe existing Native Hawaiian cultural activities, practices and resources that occur on the property, potential impacts from the project, and mitigation, if necessary, to address these impacts (**See:** Appendices F and F,A of the FEIS, "Cultural Impact Assessment" and "Ka Pa'kai Cultural Analysis", included as Appendix A of the Project Assessment Report). The cultural practices and beliefs that are documented in the CIA include Hawaiian subsistence and residential agriculture on kuleana lands. These lands utilize the Waikapū Stream, which is a valuable cultural resource. Intricate irrigation systems built prior to western contact continue to be maintained and utilized. There are also on-going projects in the mauka portion of the Applicant's land that are being utilized for cultural site and native habitat restoration, while providing a traditional access point into the Waikapū Valley for gathering of lā'au lapa'au (medicinal plants) and native seed gathering. The CIA also notes that there is a community desire to protect and restore the Waikapū Stream. There is an established 100-foot riparian buffer along the stream as it traverses mauka to makai along the eastern edge of the project boundary. The WCT proposes agricultural, park and open space land uses along the entire stream corridor abutting the WCT. The Applicant is committed to working with the kama'āina of Waikapū and other concerned residents to develop proper access management programs into the Waikapū Valley to protect

the Ahupua'a for future generations. Appendix K, "FEIS Comment and Response Letters", includes comment and response letters between the State Office of Hawaiian Affairs and other applicable State agencies and the Applicant related to the Project's cultural resources.

11. Assessment of Chemicals and Fertilizers

A Limited Environmental Site Assessment (LESA) of the project area was conducted by Malama Environmental. The investigation and report format is an abridged version of American Society of Testing and Materials (ASTM) Publication E1527-13 for Phase I Environmental Site Assessments with emphasis on potential residual impact from previous and current agricultural and other site usage. (See: Appendix L, "Limited Environmental Site Assessment").

The investigation encompassed a detailed records review and site reconnaissance to identify recognized environmental conditions, controlled recognized environmental conditions, and historical recognized environmental conditions in connection with the subject property, and assessing the subject property in relation to surrounding land uses and natural surface features.

Key findings and recommendations of the LESA include the following:

Agricultural Chemicals and Pesticides

Sugarcane was cultivated at the subject property since at least 1862. Pineapple was historically cultivated at the property from 1988 through 1998. Field areas likely received regular applications of pesticide chemicals commonly used in historic Hawaiian sugarcane and pineapple operations, as defined in Appendix 9-C of the State of Hawaii Department of Health (HDOH) Hazard Evaluation and Emergency Response (HEER) Office's *Technical Guidance Manual for the Implementation of The Hawai'i State Contingency Plan* (2009). These agrochemicals have been recognized by the U.S. Environmental Protection Agency (EPA) for contributing to the potential contamination of surface soils and groundwater systems.

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The HDOH identifies target pesticide categories for the investigation of former sugarcane and pineapple operations in Hawai'i. The target pesticide categories for former sugarcane and pineapple fields include Heavy Metals (Arsenic) and Organochlorine Pesticides (HDOH, 2009).

The LESA recommends that multi-increment soil sampling and testing for Arsenic and Organochlorine Pesticides be conducted at the subject property in all areas where future contact with surface soils may occur. This recommendation is in line with HDOH guidance to perform sampling in areas of historical sugarcane and pineapple operations that will be developed to a more restrictive land usage than commercial or industrial. Groundwater sampling is also recommended unless a review of existing available groundwater data provides sufficient evidence of minimal pesticide contamination.

The Applicant will complete soil testing across the project area for Arsenic and Organochlorine Pesticides before occupancy of the project. Ground water sampling of the area was conducted for potable water wells that are proposed to service the development. The ground water testing results founds no contamination of Arsenic and Organochlorine pesticides and the results of these studies are in Appendix I of the FEIS (See: Appendix A of the Project Assessment Report).

IV. CONSENSENCY WITH COUNTY PLANS

A. COUNTY OF MAUI GENERAL PLAN

The General Plan of the County of Maui refers to a hierarchy of planning documents that together set forth future growth and policy direction in the County. The General Plan is comprised of the following documents: 1) County-wide Policy Plan; 2) Maui Island Plan; and 3) nine community plans.

1. Countywide Policy Plan

The County-wide Policy Plan was adopted in March 2010 and is a broad policy document that identifies a vision for the future of Maui County. It establishes a set of guiding principles and provides comprehensive goals, objectives, policies and implementing actions that portray the desired direction of the County's future. The County-wide Policy Plan provides the policy framework for the development of the MIP and nine Community Plans. Section VII.H.1 of the FEIS, pages 117-166, discusses how the project is either supportive or not supportive of these goals, objectives and policies (See: Appendix A, "Final Environmental Impact Statement (FEIS)").

2. Maui Island Plan (MIP)

The MIP functions as a regional plan and addresses the policies and issued that are not confined to just one community plan area, including regional systems such as transportation, utilities and growth management, for the Island of Maui. Together, the Island and Community Plans develop strategies with respect to population density, land use maps, land use regulations, transportation systems, public and community facility locations, water and sewage systems, visitor destinations, urban design and other matters related to development. The MIP was adopted on December 28, 2012. The MIP designates as a "Planned Growth Area" the land area comprising the proposed urban and rural areas that comprise the WCT, allocates 1,433 residential units and supporting commercial space to the project area, and establishes an agricultural preserve (See: Figure Nos. 9 and 10, "Maui Island Plan Directed Growth Map" and

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“Maui Island Plan Wailuku-Kahului Planned Growth Areas” and Appendix C, “MIP Planned Growth Area Description”. Section VII.H.2 of the FEIS, pages 166-286 (Appendix A), describes how the project is either supportive or not supportive of the MIP’s goals, objectives, policies and implementing actions.

3. Wailuku-Kahului Community Plan

The Wailuku-Kahului Community Plan designates the urban and rural land proposed for development Agriculture and Wailuku-Kahului Project District No. 5 (Maui Tropical Plantation). Community Plan Amendments are required for the approximate 496 acres of land that are proposed for development. Section VII.H.3 of the FEIS, pages 286-342 (Appendix A), discusses how the project is either supportive or not supportive of these goals, objectives and policies.

B. COUNTY OF MAUI ZONING

Title 19 of the Maui County Code provides comprehensive zoning for the County. The purpose and intent of this comprehensive zoning is to regulate the utilization of land in a manner that encourages orderly development that protects the health, safety and welfare of the people of the County.

The WCT will require a Change in County Zoning in order to bring the entire area proposed for urban and rural development into a new zoning district that implements the MIP’s Directed Growth Plan and the WCT Master Plan.

Pursuant to Chapter 19.510.040 Change in Zoning, of the Maui County Code a Change in Zoning may be granted by the County Council provided that all of the following criteria are met:

1. The proposed request meets the intent of the General Plan and the objectives and policies of the community plan of the County.

Analysis. As discussed in Section VII.H of the FEIS, pages 117-349 (Appendix A), the WCT meets the intent of the General Plan, which comprises the goals, objectives and policies of the County-wide Policy Plan, Maui Island Plan and Wailuku-Kahului Community Plan. The Project site is located entirely within

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the MIPs Small Town Growth Boundary and the Project is being developed in accordance with the MIPs Planned Growth Area planning guidelines for the Project.

2. The proposed request is consistent with the applicable community plan land use map of the County.

Analysis. Community Plan Amendments are required for the approximate 496 acres of land that are proposed for development. The existing MTP properties, TMK Nos. (2) 3-6-005:007 and (2) 3-6-004:006, will require a change from the existing Wailuku-Kahului Project District No. 5 (Maui Tropical Plantation) to a new community plan designation, Waikapū Country Town. The new community plan designation will reflect the character and uses described in Chapter III of the FEIS (See Appendix A). The zoning designation will serve to implement the WCT Master Plan vision and the goals, objectives and policies of the MIP and the Wailuku-Kahului Community Plan. The community plan designation will also provide the policy direction for the preparation of the WCTs form-based zoning ordinance and design guidelines.

3. The proposed request meets the intent and purpose of the district being requested.

Analysis. Concurrently with the filing of the community plan amendment, a new form-based zoning ordinance will be filed in accordance with MCC Chapter 19.510.040 to allow for development of the project site, in accordance with the WCT Master Plan vision and the MIP and Wailuku-Kahului Community Plan goals, objectives and policies.

4. The application, if granted, would not adversely affect or interfere with public or private schools, parks, playgrounds, water systems, sewage and solid waste disposal, drainage, roadway and transportation systems, or other public requirements, conveniences and improvements.

Analysis. As discussed in Sections V.C and D of the FEIS, pages V-62 – V-121 (See Appendix A), the development of the WCT will not adversely affect public or private schools, parks, playgrounds, or infrastructure such as drainage or transportation systems. Mitigation measures such as on-site schools and parks and the payment of applicable impact fees will help to off-set the increase in demand for these facilities created by the Project. The development will include walking and biking pathways, and

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on- and off-site roadway improvements to increase mobility. Other infrastructure improvements include a drainage system that will contain on-site any increase in run-off created by the Project.

5. The application, if granted would not adversely impact the social, cultural, economic, environmental and ecological character and quality of the surrounding area.

Analysis. As discussed in Section V.A.4-5 and Section V.B.3-4 of the FEIS, pages V-10 – V-28 and pages V-55 – V-60 (See Appendix A), with the implementation of the described mitigation measures the WCT will not impact historic, archaeological or cultural resources. However, the project will improve Maui's economy by creating short-term construction related employment and longer-term operation phase employment. The WCT is expected to indirectly support Maui's existing economic base activities by providing much needed housing to serve the island's workforce. The WCT will provide housing along with supporting commercial, employment and institutional uses that will allow for the growth and diversification of Maui's economic base industries, while also allowing for them to become more sustainable, including the island's agricultural industry.

As discussed in Section V.B.3-4 (Economy) of the FEIS, pages V-55 – V-60 (See Appendix A), the WCT will bring in \$644.1 million of new capital investment into the Maui economy. The construction of the WCT components will directly create an estimated 2,476 "worker-years" of employment (the equivalent of 52 work weeks at 40 hours per week) in the trades and associated businesses during build-out, averaging about 165 Full Time Equivalent (FTE) per year for the 15 years of building. Most of these positions will not be new jobs for new businesses, but work flowing to existing contractors and suppliers.

The 169,000 square feet of new commercial will generate some 4,251 FTE worker years during the 2016-2030 projection period, providing stabilized employment for 531 permanent positions. These jobs will be new positions in the Maui economy. This total does not include the employment, wages or business activity contributions of the existing 29,250 square feet of commercial space in the Maui Tropical Plantation which will be retained.

The Project will require an estimated 66 worker years of maintenance and common area element employment on a continual basis, and will generate some 1,789 worker years of off-site employment

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from 2016-2030 and a stabilized demand for 149 FTE positions. In aggregate, during the development of the WCT 8,946 worker years of employment will be created during construction and operations, on-site/direct and off-site/indirect, with stabilized employment after completion of 746 jobs. During the 15 years projection period, WCT will have a base economic impact on Maui of some \$817.1 million in new monies with a stabilized annual benefit of \$32.1 million thereafter.

Regarding historical and archaeological resources, an Archeological Inventory Survey (AIS) was conducted on the property. During the investigation, no evidence of traditional Hawaiian activities, with the possible exception of Site 7882 (remnant retaining wall or terrace) was recorded. These negative results are primarily due to the compounded disturbances from sugarcane cultivation, historic habitation and modern land use. Archaeological monitoring is recommended for those areas that contain former LCA's and Grants. Prior to the commencement of construction, an Archaeological Monitoring Plan (AMP) detailing the localities to undergo monitoring procedures will be prepared and submitted to SHPD for review and approval. The project is not expected to have an adverse impact upon archaeological or historical resources.

The WCT intends to create a sense of place within the community that reflects the cultural values, traditions and history of Hawai'i, and more specifically Waikapū. In preparing the FEIS, a Cultural Impact Assessment (CIA) was prepared to thoroughly document any potential impacts that the project could have upon traditional and customary rights. The CIA recommends that the Applicant work with the Waikapū community to ensure that the Waikapū stream is not impacted by the Development, that traditional access rights are maintained into the Waikapū Valley, and that existing kuleana land owner rights are protected. The Applicant is committed to protecting the Waikapū Stream by establishing a wide riparian buffer and greenway along the stream where development will not be permitted. The WCT will also have negligible impact upon existing stream flows and no requests for additional stream water will be made for the development. As noted in the FEIS (See Appendix A), the WCT will be served by new wells that will be managed in strict compliance with County and State requirements.

Moreover, the WCT is not located within the State's Special Management Area and no listed or endangered species of flora and fauna were identified on the property that will constrain development

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of the site. During build-out and during the operation phase BMPs will be implemented to mitigate non-point source pollution to Maui's coastal resources as well as to mitigate fugitive dust impacts.

6. If the Change in Zoning application involves the establishment of an agricultural district with a minimum lot size of two acres, an agricultural feasibility study shall be required and reviewed by the Department of Agriculture and the U.S. Soil Conservation Service.

Analysis. This application does not involve the establishment of an agricultural district. The 1,080 acres that comprise the agricultural component of the WCT are already in the County's Agricultural District.

V. REFERENCES

ⁱ 2007 - 2011 American Community Survey 5-year Estimate. Bureau, U.S. Census.

ⁱⁱ Maui Island Plan. Prepared by County of Maui, Department of Planning, Long-range Planning Division. December 2012.

ⁱⁱⁱ Capital in Hawaiian Sugar: Its Formation and Relation to Labor and Output, 1870-1957. Prepared by J. A. Mollet. Hawai'i Agricultural Experiment Station, College of Tropical Agriculture, University of Hawai'i in cooperation with the Agricultural Experiment Stations of the Western States. Agricultural Economics Bulletin 21. June 1961.

2011 State of Hawai'i Data Book. Prepared by the State of Hawai'i, Department of Business Economic Development & Tourism, Research & Analysis Division. 2011.

^{iv} 2011 State of Hawai'i Data Book; Prepared by the State of Hawai'i, Department of Business Economic Development & Tourism, Research & Analysis Division. 2011.

^v 2011 State of Hawai'i Data Book. Prepared by the State of Hawai'i, Department of Business Economic Development & Tourism, Research & Analysis Division. 2011.

Statistical Abstract of Hawai'i. Prepared by the State of Hawai'i, Department of Planning & Research, Honolulu, Hawai'i. May 1962.

^{vi} Maui County Data Book 2011. Prepared by the County of Maui, Office of Economic Development. Hawai'i Small Business Development Center. Hawai'i Business Research Library. December 2011.

^{vii} Agricultural Resources Technical Issue Paper, June 2007. Prepared by Chris Hart & Partners, Inc. Prepared for County of Maui, Department of Planning, Long-range Planning Division.

^{viii} Maui County Data Book 2011. Prepared by the County of Maui, Office of Economic Development. Hawai'i Small Business Development Center. Hawai'i Business Research Library. December 2011.

Statistical Abstract of Hawai'i. Prepared by the State of Hawai'i, Department of Planning & Research, Honolulu, Hawai'i. May 1962.

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Maui County Data Book 1993. Prepared by the County of Maui, Office of Economic Development and the Maui County Economic Development Board. December 1993.

Maui County Data Book 2000. Prepared by the County of Maui, Office of Economic Development. Hawai'i Small Business Development Center. Hawai'i Business Research Library. December 2000.

^{ix} "Integrated Solid Waste Management Plan." Gershman, Bricknell, Bratton, Inc. February 2009.