ALAN M. ARAKAWA
Mayor

WILLIAM R. SPENCE
Director

MICHELE CHOUTEAU McLEAN
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

October 24, 2014

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Ms. Jessica Wooley, Director
State of Hawaii
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Wooley:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR THE PROPOSED PAIA COURTYARD MIXED-USE COMMUNITY, LOCATED ON BALDWIN AVENUE MAKAI OF THE PAIA POST OFFICE, PAIA, MAUI, HAWAII; TMK: (2) 2-5-005:063 (EA 2013/0001)

With this letter, the Department of Planning (Department), hereby transmits the Draft EA and Anticipated Finding of No Significant Impact (DEA-AFONSI) for the proposed Paia Courtyard Mixed-Use Project situated at TMK (2) 2-5-005:063 in the Paia-Haiku District on the Island of Maui for publication in the next available edition of the Environmental Notice.

Attached is a completed Office of Environmental Quality Control (OEQC) Publication Form, a copy of the DEA-AFONSI, an Acrobat PDF file of the same, and an electronic copy of the publication form in MS Word. Simultaneous with this letter, we have submitted the summary of the action in a text file by electronic mail to your office.

Thank you for your cooperation. Should you need further clarification, please contact Staff Planner Erin Wade at erin.wade@mauicounty.gov or at (808) 270-5517.

Sincerely,

Clayton I. Yoshida

CLAYTON I. YOSHIDA, AICP
Planning Program Administrator

for WILLIAM SPENCE
Planning Director

Attachments
xc: Ann T. Cua, Current Planning Supervisor (PDF)
Erin K. Wade, Staff Planner (PDF)
Makawao Library (w/ Draft EA)
EA Project File
CPA 2013/0003 (KIVA Document)
DBA 2013/0001 (KIVA Document)
CIZ 2013/0006 (KIVA Document)
SM1 2013/0005 (KIVA Document)
General File
WRS:CIY:EKW:nst
K:\WP_DOCS\PLANNING\Cpa\2013\0003_PaiaCourtyardProject\DEAtransOEQC.doc

APPLICANT ACTION
SECTION 343-5(C), HRS
PUBLICATION FORM (JANUARY 2013 REVISION)

Project Name:	**Paia Courtyard**
Island:	**Maui**
District:	**Paia-Haiku**
TMK:	**(2) 2-5-005:063**
Permits:	**Chapter 343 Environmental Review; State District Boundary Amendment; Community Plan Amendmet; Change in Zoning; Special Management Area Use Permit; Country Town Business District Design Review; Work to Perform in the County Right-of-Way**
Approving Agency:	**Maui Planning Commission** **c/o Maui Planning Dpeartment** **2200 Main Street, Suite 619** **Wailuku, HI 96793** **Contact: Erin Wade (808) 270-8205**
Applicant:	**Paia 20202,LLC** **P.O. Box 790478** **Paia, HI 96779** **Contact: David Spee**
Consultant:	**None**
Status:	**DEA-AFNSI**

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page)**:**

The Applicant, Paia 2020, LLC is proposing a new mixed-use development project on a nine (9) acre parcel in Paia Town. Included in the proposed improvements are the following:

i. Six (6) two-story mixed-use retail and office buildings and nine (9) upper story residential units;
ii. Sixty-four (64) independent senior living apartments and support facilities including a pool, exercise facility and social hall.
iii. Grading, installation of underground utilities and other related improvements to support the above improvements.
iv. Site improvements including an approximately 340 stall parking lot containing enough stalls to support the proposed uses, with up to 172 stalls designated for public use; roadway improvements, a County bus stop, sidewalks, a multi-use path, landscape improvements and retaining walls.

Over the last few decades the demand for Paia commercial retail space has grown. Because most existing buildings in Paia provide no parking there has been pressure on the County parking lots and on-street parking with a tremendous need for additional parking. The senior housing will provide housing that is not available anywhere else on the north Shore.

ENVIRONMENTAL ASSESSMENT

PAIA 2020, LLC

TMK No. (2) 2-5-005-063

I. PROJECT OVERVIEW

A. PROJECT LOCATION, CURRENT LAND USE AND OWNERSHIP

Paia 2020, LLC (Paia 2020) is requesting various land use entitlements for a parcel located in Paia, Maui identified as Tax Map Key (2) 2-5-005-063, that contains 9.262 acres and is located directly makai of the Paia Post Office, west of Baldwin Avenue and south and east of the Paia Mini Bypass (See Maps attached in Exhibits 1 and 2). The parcel has a long land use history of sugar cane production but has remained fallow for the last 9 years ever since it was bisected from cane production by the construction of the Paia Mini-Bypass. Throughout this Environmental Assessment (EA) the entire lot is referred to as "the Property". The Property was created by a consolidation and resubdivision that occurred in 2011 when a 10,000 sq. ft. lot owned by the David R. Spee Revocable Trust along Baldwin Avenue was combined with the adjoining 9 acre sugar cane parcel inside the Paia mini-bypass.

The 10,000 sq. ft. portion of the Property contains a 4,000 sq. ft. commercial building and parking lot that is zoned County Town Business. The remaining 9 acres is fallow ag land. The Property is jointly owned by the David R. Spee Revocable Trust and Paia 2020, LLC.

B. PROPOSED ACTION

Paia 2020's objective is to establish the appropriate land use designations for a mixed use commercial development along Baldwin Avenue with parking in the middle of the property and senior housing on the west side of the Property. The proposed land use requests and the existing land use designations that are currently on the Property are as follows:

State:	Urban and Ag
Community:	Business/Commercial, Ag, and Public/Quasi-Public
County Zoning:	Country Town Business, Interim and Ag

The Property requires land use entitlement actions that include:

1. District Boundary Amendment to change the State Ag designations to Urban
2. Community Plan Amendment to change all of the property to Business/Commercial
3. Change in County Zoning to change all of the property to Country Town Business

4. Special Management Area Use Permit Application

A preliminary site plan is attached that shows the spatial and functional relationships of the proposed buildings and parking utilizing performance standards of the County of Maui's Country Town Business Zoning Districts (see Site Plan, **Exhibit "4"**). The conceptual architectural elevations illustrate the desired effects of materials, façade patterns, roof forms and size that are also present in the town of Paia (See Development Plans, **Appendix "G"**) In keeping with this theme the main parking area is not along Baldwin Avenue but situated in the middle of the property. As the proposed requests include a Community Plan Amendment and a Special Management Area Use Permit, this EA has been prepared pursuant to Chapter 343, Hawaii Revised Statutes.

SUSTAINABILITY INITIATIVES

The project will provide the following sustainability measures throughout its construction and future operation

- Sustainable Site Design
    - Establishment of community connectivity with pedestrian and bicycle access ways
    - Mix of uses to reduce parking demand, provide for the efficient use of the project site, and create outdoor public spaces
    - Access to public and alternative modes of transportation
    - Implementation of quantity control of storm water
    - Reduction of light pollution with fully shielded, downward facing exterior light fixtures
- Water Efficiency
    - Reduction in water use by more than 20 percent over the Energy Policy Act of 1992
    - Use of water efficient landscaping and climate adapted plants
- Energy Efficiency

- Optimized energy performance through installation of energy-efficient fixtures and appliances

- Onsite renewable energy generation through installation of photovoltaic panels (e.g., solar canopies) or other means. Currently in discussion with solar company about installing covered parking with solar panels and photovoltaic systems for the senior housing

- Onsite electrical charging of low-emitting and fuel-efficient vehicles

- Sustainable Building Materials and Construction

  - Construction activity pollution prevention through implementation of Best Management Practices

  - Storage and collection of recyclables

  - Implementation of construction waste management plan

C. PROJECT NEED

Over the last few decades the demand for Paia commercial retail space has grown. According to the Commercial Real Estate Market Study prepared by Colliers International ("Colliers"), which is attached hereto as **Exhibit "F"**, Paia Town currently has 154,405 square feet of retail space located primarily in the commercial corridor along Hana Highway and Baldwin Avenue. There is currently a 2.6 retail vacancy rate, which is lower than the island-wide retail vacancy rate of 8.4%. See Collier's at page 4, **Exhibit "F"**. The small market size of Paia and minimal new development over the past few decades made it difficult for Colliers to determine the annual net absorption rate of the Paia commercial real estate market. "While demand is high due to the popularity of the area for tourist, net absorption is minimal for this market as inventory is limited and vacancy rates are low." Colliers utilized both a population model and a consumer expenditure model to identify the level of consumer demand for retail development. The population model examined the demand potential from the existing population and projected population growth. Tourist demand was considered by examining the traffic counts through the area on Hana Highway. Both of the retail demand models support additional retail development at the Paia Courtyard site with "support for a ground floor retail development of 15,000 to 20,000 square feet in size." (Colliers, page 5).

Because most of the existing buildings in Paia provide no parking there has been pressure on the County parking lots and on-street parking with a tremendous need for additional parking. The

percentage of commercial buildings that provide parking as required by Maui County Code is very small. When this projects adds parking spaces in excess of code requirements it will significantly increase the percentage of parking spaces needed to support Paia commercial activity.

The lack of commercial space has driven rates to the point that most local small business that are not tourist related cannot afford to operate in Paia. The Colliers Study did a leakage analysis to determine if certain types of retail uses were not being met within the Paia area. (Colliers, page 5). They identified Automotive Dealers, Electronic and Appliance Stores, Hardware Stores, Book Stores, and Grocery Stores in their analysis. Many of these stores are not appropriate for the small town nature of Paia. What Paia has lost in the last two decades are numerous mom & pop grocery stores, a pharmacy, a laundromat, dry cleaner, and a Doctor. The project will increase the supply of commercial space and help allow some of these non-tourist businesses to come back. It is also possible that some of the business owners will live above their businesses as part of the mixed use development. It is envisioned that the senior housing component will draw a doctor and supporting medical facilities to the Project, including physical therapy, clinical labs, alternative medicine and possible radiology.

Paia has attracted a diverse population since the 1970's that is both spiritually and sports oriented. Many of these people are now aging and have expressed interest in downsizing and living in a walking community. The senior housing will provide housing that is not available anywhere else on the north shore. The apartments will have walking access to shops, a grocery store, banking, post office, restaurants, and hopefully medical facilities. In addition, there will be easy access to Baldwin Beach and the Kaunoa Senior Center via the North Shore bike path. Although the project will add additional vehicles to the north shore most will access the Project off of the Paia Mini-Bypass and not put stress on the Hana Highway/Baldwin intersection. The nature of a walking community and the different time schedules of seniors will minimize the impact of the senior housing component on traffic.

D. ENTITLEMENTS AND APPROVALS REQUIRED

A 10,000 square foot portion of the Property already has a State Land Use of Urban , a Community Plan designation of Business Commercial and is zoned Country Town Business and needs no changes, however the remaining 9 acres need the following land use entitlements and approvals:

1. District Boundary Amendment

The State Land Use designation needs to be changed from Agriculture to Urban. The DBA will initially be reviewed by the Maui Planning Commission (MPC) which will make a

recommendation to the Maui County Council. Final review and approval of the DBA will be by the Maui County Council and Mayor through enactment of an ordinance.

2. Community Plan Amendment

The Community Plan Land Use designation needs to be changed from Public/Quasi Public, (2.93 acres) and Agriculture (5 acres) to Business/Commercial.

The CPA will initially be reviewed by the Maui Planning Commission (MPC) which will make a recommendation to the Maui County Council. Final review and approval of the CPA will be by the Maui County Council and Mayor through enactment of an ordinance.

3. Change in Zoning

The County zoning designation needs to be changed from Interim (4.04 acres) and Agriculture (5 acres) to Country Town Business.

In order to achieve zoning conformance with the Country Town Business zoning which is both above and below the Property on Baldwin Avenue, an application for a Change in Zoning (CIZ) will be submitted. Similar to the CPA, initial review of the CIZ is by the Maui Planning Commission, with final review and approval by the Maui County Council and Mayor through an enactment of an ordinance.

4. Special Management Area Use Permit

A portion of the project site is located within County of Maui's Special Management Area (SMA), which extends from the shore to midway through the Property. Based on the Property's location a SMA Use Permit will be required, involving review and approval by the MPC through a public hearing process. It is noted that the SMA Use Permit application will be processed concurrently with the CPA and CIZ applications, but action on the SMA application by the MPC will be deferred pending completion of the CPA and CIZ land entitlement process by the Maui County Council and Mayor.

E. CHAPTER 343, HAWAII REVISED STATUTES REQUIREMENT

The proposed project will involve a CPA and roadway improvements that affect the County's Baldwin Avenue and Mini-Bypass rights-of-way. The community plan amendment and use of County lands are triggers for environmental review pursuant to Chapter 343, Hawaii Revised Statutes (HRS). In particular, based on the anticipated scope of work, the proposed action requires the preparation and processing of an Environmental Assessment (EA). It is noted that

the EA will serve as the supporting technical document for the CPA, CIZ, and SMA Use Permit applications, and the MPC will serve as the approving agency for the EA.

F. IMPLEMENTATION TIME FRAME AND PROJECT COST

The development of the proposed project will commence upon receipt of regulatory and construction permits and approvals. Phase I will consist of the contraction of the infrastructure, parking lot and 3 of the commercial buildings. Phase II of the project will be the senior housing component which will also be phased based upon demand. Phase III will be the last 3 commercial buildings and will begin once Phase I is substantially leased. It is estimated that site construction will be completed in the summer of 2015. The estimated cost of construction for the entire project is approximately $12,000,000.00.

II. DESCRIPTION OF EXISTING CONDITIONS, POTENTIAL IMPACTS, AND PROPOSED MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Surrounding Land Uses.

a. Existing Conditions

The Property currently has a commercial building on the lower portion along Baldwin Avenue. Approximately 9 acres above and behind the commercial building is open land formerly used for growing sugar cane by A & B. Sugar cane production on this land ceased when the Paia Mini-Bypass was constructed.

In general, Paia Town is noted for its plantation-era architecture. The business/commercial establishments of Paia are primarily located along Hana Highway and Baldwin Avenue. Existing town businesses include retail shops, a dentist, professional offices, restaurants, galleries, boutiques and real estate businesses. Interspersed between business/commercial uses are existing residential uses/vacant lots, and public parking lots. Building frontages are typically located at or near the front property line. Parking is available along the main roadway frontage with additional interior parking often accessed by an alleyway or adjacent interior street. A lack of parking is considered to be the number one problem in Paia. The Property is located in Lower Paia Town, approximately 0.3 miles mauka of the Baldwin Avenue-Hana Highway intersection. Immediately makai of the subject property are commercial properties that run all the way down Baldwin Avenue to Hana Highway. The land to the south contains the Paia Post Office, east is Baldwin Avenue, and west is the Paia Mini Bypass. Across Baldwin Avenue, to the east, are the Paia Plaza, and the F. Garcia Building commercial buildings, a residence and other commercial buildings down Baldwin Avenue.

b. Potential Impacts and Proposed Mitigation Measures

The Project should not have an adverse impact on surrounding land uses. The property has been out of agricultural production for nearly a decade and it is surrounded by Country Town Business zoning on 3 sides and vast agricultural cane fields to the west. By providing additional commercial and residential living space with much needed parking the project will complement surrounding land uses.

2. Climate.

a. Existing Conditions

Like most of the State of Hawaii, Maui experiences a relatively uniform year-round climate with mild temperatures, moderate humidity and consistent northeasterly tradewinds. The region

experiences a relatively even climate with little seasonal and day-night temperature variation. Cool tradewinds from the northeast help keep the warm summer months pleasant. Temperatures in Paia range from 54 to 94 degrees, with the lowest temperatures typically occurring between December and February and the highest temperatures in August and September. Situated at the base of Haleakala, Paia is located directly in the path of the northeast tradewinds. The tradewinds usually range from 10 to 25 miles per hour (mph) and increase in strength during the day from March to September. Winds are generally light and variable during the absence of tradewinds. The diurnal heating and cooling of the island creates onshore sea breezes during the day and offshore land breezes at night.

Paia receives about 25 inches of rainfall annually. Following the wet winter/dry summer pattern typical for most of Hawaii, the Paia-Haiku region usually receives two (2) to three (3) times of its average monthly rainfall in the winter months compared to the summer months.

b. Potential Impacts and Proposed Mitigation Measures

Anytime open space is covered by buildings and asphalt it is important to provide mitigating elements to a project. The Project will utilize shade trees, landscaping and photovoltaic power generation to mitigate negative effects to the climate. 95% of the property is currently vacant grass land and with the proper shade tree and landscaping the proposed action will not significantly alter the local micro climate.

3. **Topography and Soil Characteristics**.

a. Existing Conditions

The topography of Paia Town slopes gently upward from sea level to an elevation of about 340 feet above mean sea level (amsl) near Paia School. The town of Paia is located on a lower sloping plain with development generally clustered around Hana Highway and Baldwin Avenue. The subject parcel is located along Baldwin Avenue, at an elevation of approximately 48 feet, with a gently east to west slope.

b. Potential Impacts and Proposed Mitigation Measures

The Project is compatible with the site's underlying soil characteristics. The site will be cleared, graded, and grubbed to ensure the slope of the development is compliant with the American with Disabilities Act (ADA) design standards. Site work will also involve construction of retaining walls and infrastructure and drainage. To control runoff, sedimentation, and erosion, several Best Management Practices (BMP's) will be implemented in accordance with applicable provisions of the Maui County code and the project-specific National Pollutant Discharge Elimination System (NPDES) permit. These may include the following: constructing of

detention basins to capture sedimentation to minimize the quantity of sediment in storm water runoff leaving the site, protecting of natural vegetation, using wind erosion control, intercepting runoff above disturbed slopes and using seeding and fertilizing or other soil erosion control. There are no geologic or soil hazard limitations associated with the project site, and the underlying topography does not pose a constraint to development. The site plan has been designed to integrate the proposed buildings with the gentle slope of the landscape.

4. Agriculture.

a. Existing Conditions

The soils underlying the subject area are of the Pulehu-Ewa-Faucas association (Figure 6). These deep, nearly level to moderately sloping, well to excessively drained soils occur on alluvial fans and basins. The subsoil is moderately fine to coarse textured. The specific soil types underlying the project site are the Paia silty clay, 3 to 7 percent (PcB). These soils are typically found on nearly level areas, noted for moderate permeability, slow runoff and a slight erosion hazard. The State Department of Agriculture has established three (3) categories of Agricultural Land of Importance to the State of Hawaii (ALISH). The ALISH system classifies lands into "Prime", "Unique" and "Other Important Agricultural Land". The remaining lands are "Unclassified". Utilizing modern farming methods, "Prime" agricultural lands have the soil quality, growing season, and moisture supply needed to produce sustained crop yields economically, while "Unique" agricultural lands possess a combination of soil quality, location, growing season, and moisture supply currently used to produce sustained high yields of a specific crop. "Other Important Agricultural Land" includes those which have not been rated as "Prime" or "Unique". As indicated by the ALISH map, the land encompassing the proposed subject Property falls within the "Prime" category. The Property has a land use history of sugar cane cultivation by Hawaiian Commercial and Sugar Company (HC&S). Agricultural activities were discontinued with the development of the Paia Main Post Office in 2005. To assist in sugar cane production efforts for the Property, HC&S utilized common fertilizers, including Urea, Phosphoric acid and potash. HC&S has also used various chemicals to protect crops from invasive weeds and pests. The chemicals applied to the Property have been approved by the Environmental Protection Agency (EPA), and applied in accordance with the pesticide labels. Attached as **Appendix B** is the completed Phase I Environmental Site Assessment.

b. Potential Impacts and Proposed Mitigation Measures

There are no current or planned agricultural activities occurring on the project site. In the context of the project site's underlying designation for residential and Country Town business purposes and its neighboring urban environs, no adverse impacts to agricultural resources are anticipated as a result of the proposed project. Best Management Practices (BMP's) for water quality and air quality will be implemented during the construction period to contain runoff,

sedimentation, and dust that may be generated by construction activities. BMP's will include constructing retention basins to capture sedimentation and minimize the quantity of sediments leaving the site using wind erosion control measures, such as wind fences and/or other soil erosion control techniques. A community garden is planned for the senior housing component of the project.

5. **Flood and Tsunami Hazard**.

a. Existing Conditions

According to Flood Insurance Rate Maps (FIRM) for the region, the subject Property is located in Zone X, which is an area of minimal flooding. See Flood Hazard Assessment Report, **Exhibit "5'**. In addition, the County of Maui Tsunami Evacuation Maps indicate that although a strip of the makai boundary is in the Tsunami Evacuation Zone, all of the proposed developed site is located mauka of the evacuation boundaries. See NOAA Tsunami Hazard Map, **Exhibits "6"** & Hawaii Tsunami Hazard Map, **Exhibit "7".**

b. Potential Impacts and Proposed Mitigation Measures

Because the project is located outside of the tsunami inundation area, there are no threats anticipated from coastal wave action.

6. **Flora and Fauna**.

a. Existing Conditions

The area proposed for Country Town Business use is a fallow sugar cane field. Vegetation commonly found in the vicinity of the project site include buffelgrass, haole koa, kiawe, coconut palm, date palm, and other grasses and annual weeds. With the exception of the common uhaloa, the parcel is composed of completely non-native vegetation. See the Biological Survey for Black Sphinx Moth conducted by Starr Environmental, which is attached hereto as **Exhibit "H"**. Introduced terrestrial fauna in the region include rats, mice, feral cats, and mongoose. Introduced avifauna include the Mynah, Spotted Dove, Barred Dove, Japanese White-eye and House Sparrow. According to the U.S. Fish and Wildlife Service (USFWS) there is no proposed or designated critical habitat in the vicinity of the project site, however their data indicates that the federally endangered Blackburn's sphinx moth and the federally endangered hoary bat may occur within the vicinity of the proposed project. The federally threatened Newell's shearwater and endangered Hawaiian petrel may fly over the project.

b. Potential Impacts and Proposed Mitigation Measures

The fauna and avifauna species found on the dryland portions of the project site are of common, non-native species, such that the proposed project is not anticipated to adversely impact the region's fauna and avifauna. The pre-consultation letter from the USFWS addressed mitigation measures for the three (3) species that could be impacted by the project. The first species is the Blackburn's Sphinx Moth. On November 16, 2013, two biologist inspected the Property looking for signs of the Moth and for the presence of Tree Tobacco and other plants that may support the Moth. According to their report no tree tobacco were found on the Property and there were only a few other common non-native plants that are found elsewhere in Paia. The report concludes that "It appears development of this parcel will have no to negligible impact on the endangered Blackburn's Sphinx Moth." The second identified species is the Hawaiian Hoary Bat. According to the US Wildlife letter it is recommended that woody plants greater than 15 feet should not be disturbed, removed or trimmed during the bat birthing and pup rearing season and that barbed wire not be used for fencing the project. The proposed development will be built on an abandoned sugar cane field that is mowed regularly with no trees. There is no barbed wire fencing and none exists or is proposed for the project. Lastly, the USFWS recommends that the Hawaiian Seabirds be protected by only allowing construction activities to occur during daylight hours and limit night-time lighting. Because bright lights can confuse seabirds, leaving them vulnerable to crashes and injuries, outdoor lighting will consist of hooded downward fixtures, as suggested by the USFWS and required by Chapter 205A, HRS. Construction activities will only occur during daylight hours.

7. **Streams, Wetlands, and Reservoirs.**

a. Existing Conditions

There are no streams, wetlands, or reservoirs on or near the project site.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not anticipated to impact any of the area's streams, wetlands, or reservoirs.

8. **Archaeological & Historical Resources.**

a. Existing Conditions

The Property has a prior land use history of sugar cane cultivation that has significantly altered the underlying lands. During construction of the Paia Main Post Office, no surface or subsurface archaeological or cultural materials were encountered during construction activities. Similarly, no archaeological or cultural materials were encountered within the Property, as set forth in the

recently completed Archaeological Assessment prepared by Archaeological Services Hawaii, LLC, ("ASH") attached hereto as **Appendix A**.

b. Potential Impacts and Proposed Mitigation Measures

The Archaeological Assessment Report, dated September 2011, prepared by ASH states that the lands underlying the Property have been previously utilized in the cultivation of sugar cane for over 100 years which has resulted in significant ground alterations. The assessor dug 14 random trenches averaging 4 meters long, 1.8 meters wide, and 1.8 meters deep. No historic properties were identified during the testing program. Proposed development of the Property is not anticipated to impact significant archaeological materials. In accordance with Section 6E-43.6, Hawaii Revised Statutes and Chapter 13-300, HAR, if any significant cultural deposits or human skeletal remains are encountered, work will stop in the immediate vicinity of the find and the SHPD and the Office of Hawaiian Affairs (OHA) will be contacted. Pursuant to the Archaeological Assessment it is recommended that even though there is no indication of archaeological activity some level of archaeological monitoring should be implemented and a monitoring plan prepared and submitted to the State Historic Preservation Division (SHPD-DLNR) prior to any ground disturbing activities.

9. Cultural Resources.

a. Existing Conditions

A Native Hawaiian Cultural Practices Assessment was prepared by Charles Maxwell, Sr. and is attached hereto as Appendix C. Mr. Maxwell visited the site and conducted interviews with elderly residents. He concludes that due to the fact that sugar cane has been in production on the site since the mid 1800's "the history beneath it is hidden." In the interviews both people were born in the 1930's and cannot remember the subject property being used for anything other than sugar cane production. Charlotte Maxwell stated that "if anything of cultural significance was present it would have been impacted by the planting of sugar cane a long time ago." The assessment indicates that the lands in the vicinity of the subject property were used during pre-contact times for farming only, noting that the area's dry plains and slightly arid temperatures made for ideal conditions for the growing of 'uala (Ipomeas batatas) or sweet potato. The report concluded that post-contact use of the lands in sugar cane production has most likely eliminated the possibility of the project site containing significant surface cultural materials. The report did not identify any traditional access ways or significant cultural practices taking place in the vicinity of the project site

b. Potential Impacts and Proposed Mitigation Measures

No cultural practices specific to the project site were revealed by the Assessment. Neither of the interviewees could identify anything other than cane fields at the site and the archival and

historic research did not identify any cultural sites or practices associated with the site. Therefore, the Project is not anticipated to have any significant impacts on the cultural resources of the area.

10. Air & Noise Quality.

a. Existing Conditions

There are no point sources of airborne emissions in proximity to the Property. Air quality in the vicinity of the Property may be affected by a variety of sources, including smoke and dust from sugar cane harvesting that occurs adjacent to Paia Town. Although minimal, airborne pollutants are largely attributable to vehicular exhaust from traffic along the region's roadways, these sources are intermittent and prevailing winds quickly disperse the particulates generated by these temporary sources. Vehicular traffic traveling along Baldwin Avenue and the mini bypass are the primary sources of noise at the Property. Other noise sources are attributable to agricultural operations and natural conditions such as wind and rain.

b. Potential Impacts and Proposed Mitigation Measures

Air quality impacts attributed to the proposed project will include dust generated by construction-related activities. Site work, such as clearing, grubbing and grading, will generate some dust. Dust control measures such as dust fences and regular watering and sprinkling will be used to minimize wind-blown emissions. Graded and grubbed areas will be vegetated to mitigate dust-generated impacts. In the long term, the proposed project is not expected to adversely impact local and regional ambient air quality. The proposed business, retail, commercial, and residential uses are not anticipated to produce any air quality impacts.

Ambient noise conditions will be temporarily impacted by construction activities. Heavy construction equipment, such a bulldozers, and back hoes will likely be the main sources of noise during the construction period. In the long term, no significant adverse impacts to ambient noise conditions are anticipated. The proposed uses are similar in nature to the nearby commercial areas, such that no significant changes in ambient noise levels are anticipated and the prevailing trades blow towards open cane fields.

11. Scenic and Open Space Resources.

a. Existing Conditions

Scenic and open space resources at the Property include views of the Upcountry area and Mount Haleakala to the southeast. Views of the West Maui Mountains and north shore ocean are also provided. The Property is not part of a scenic corridor.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project will be developed following the CTB guidelines with low-rise structures. Landscaping will be installed as part of the development improvements to ensure visual buffering and softening of the built landscape. Views from Baldwin Avenue may be slightly impacted as a result of the proposed project, however these are primarily commercial buildings. Because the project site is located amid a built environment, adverse impacts to scenic or open space resources resulting from the project are not anticipated.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Regional Setting.

a. Existing Conditions

The Paia-Haiku Community Plan region is largely agricultural and rural in character. Paia is a primary urban center within the region. Paia Town is made up of an eclectic mix of small businesses, transient accommodations and residential housing. The commercial core is situated around the intersection of Hana Highway and Baldwin Avenue. Existing residential development is generally concentrated around the commercial core between Paia Town and Kuau and along Baldwin Avenue to Skill Village, which is above the old Paia Mill. The primary agricultural activity in the Paia area is sugar cane. Sugar cane grown in the area was processed at the HC&S Paia Sugar Mill until the mill permanently closed in September of 2000. Today, all sugar cane from the Paia area is processed at the HC&S Puunene Sugar Mill. Although Paia's identity and character can be traced back to its agricultural past, the town character has evolved over the last three decades reflecting its proximity to the North Shore and the expansion of water sports. Today, Paia has become such an attraction for tourists and ocean sporting enthusiasts from around the world travel that shops that cater to them have pushed out many of the stores that used to service the local community from the town. In the last twenty years Paia has lost its pharmacy, numerous doctors, four mom & pop markets, a dry cleaner and its' laundromat. None of these have returned, primarily due to the high cost of rents. They have been replaced by realtors, jewelry stores, art galleries, boutiques and surf shops. Because there are few stores that cater to the surrounding residents, and the parking is always difficult, there is little left of the old Paia many residents once knew.

b. Potential Impacts and Proposed Mitigation Measures

There is currently 154,405 square feet of commercial retail space in the Paia commercial corridor ("Collier's"). The project will expand commercial retail space by approximately 20,000 square feet in two phased stages. This equates to projected growth of 13%. Because of the lack of commercial space in Paia the rental rates have increased to where it is difficult for service and "mom and pop" establishments to survive. It is already anticipated that the project will bring in

medical professionals, physical therapist and hopefully allow a pharmacist to return to town. It is anticipated that at least one of the commercial buildings will be devoted solely to medical facilities. The parking lot will exceed County Code requirements and should provide a welcome change to an issue that is plagued the community for a very long time. The proposed Paia Courtyard project with the commercial and senior living is an extension of the existing community and no adverse impacts to the regional character of the Paia area are anticipated.

2. **Population and Demography**.

a. Existing Conditions

The population of the county of Maui has exhibited relatively strong growth over the past decade with the 2010 population estimated to be 154,834, a 20.9 percent increase over the 2000 population of 128,241 (Maui County Data Book, June 2010). The population of greater Paia is estimated to be 2,499. The population of seniors 55 and over in Maui County is expected to increase from 38,385 in 2010 to 73,670 by 2035. This is a 92% increase.

b. Potential Impacts and Proposed Mitigation Measures

In light of the projected growth in both the resident and visitor populations to the island, demands for commercial services and residential housing are anticipated to rise through 2030. The proposed project is being planned to support the projected growth in the region with its provision of business, commercial, retail, and medical spaces as well as senior apartments.

As the Paia resident and visitor populations increase, the commercial component of Paia Courtyard is anticipated to achieve stabilized or long-term occupancy by around 2020. Because it is located in proximity to existing residential neighborhoods it is anticipated to attract tenants that service both visitors and residents.

3. **Economy and Labor Force.**

a. Existing Conditions

The economy of Maui is heavily dependent upon the visitor industry, and in turn, this industry fosters the retail and service industries. According to the 2011 Maui county Data Book, the top three (3) most common occupations in Maui County in 2010 were waiters and waitresses, retail salespersons, and cashiers. The dependency on the visitor industry is especially evident on the north shore. Since the 2008 economic downturn, the average daily visitor census has increased from 44,433 visitors in 2008 to 46,263 visitors in 2010 (2011 Maui County Data Book). The economy in Paia has been extremely strong for many years and there has been very little commercial space available for lease. "The small market size and minimal amount of new development over the past decade made it difficult to determine the annual net absorption of the

Paia commercial real estate market. While demand is high due to the popularity of the area for tourists, net absorption is minimal for this market as inventory is limited and vacancy rates are low." See, page 4 of the Collier's Paia Market Study, **Appendix "F"**. This lack of supply has driven up prices and forced many small businesses out of town. In the past decade 3 small markets, a dry cleaner, and now a pharmacy have left and all replaced with retail space.

b. Potential Impacts and Proposed Mitigation Measures

The entitlements being requested are intended to address land use consistency requirements advanced by the Paia-Haiku Community Plan and the updated 2030 general plan, and are not anticipated to adversely impact the local economy. The Property will be developed for mixed use as set forth in the Country Town Business guidelines, plus parking and senior housing. Immediate economic benefits generally associated with development include those related to construction and related services. In the long-term the availability of additional retail/commercial space in Paia Town will help meet the needs of existing and new businesses seeking expanded leasable areas. The additional space should allow additional businesses to enter the area that can afford to service the community. All of these businesses will provide additional employment opportunities. The addition of senior housing will help house an increasing segment of the Maui population. The senior apartments will allow many aging homeowners to downsize and free up additional housing for families. Further, the availability of significant additional parking will offer added attraction for everyone seeking to visit Paia.

Key factors that enhance the potential of the project for commercial-retail development include the following:

- Large land area with level topography;
- Extensive frontage and prominence along Baldwin Avenue;
- High demand for commercial space;
- A central location that allows smart expansion

4. Housing.

a. Existing Conditions

The project site is located in Paia, the commercial and residential entryway to the north shore. Paia contains a mix of affordable and market price single-and mutli-family residential neighborhoods together with higher end homes along the ocean, however there is no senior housing available in the community. The update to the Maui County General Plan projects continued residential growth on the north shore with a number of new residential and in-fill developments being captured within the proposed Urban Growth Boundary of the Maui Island Plan.

b. Potential Impacts and Proposed Mitigation Measures

The project proposes 64 senior apartments. The anticipated growth in tourism and in the senior residential population on the northshore will require additional housing, business, commercial, and retail support. The commercial and office components of the proposed project will provide residents with medical services, office space, and employment opportunities. Meanwhile, the commercial and retail components will provide services and entertainment for existing and future residents.

Increased employment opportunities will also be created. The project will be subject to the County of Maui's Residential Workforce Housing Policy (Chapter 2.96 Maui County Code), and it is acknowledged that the Project will comply with these provisions and entitlement action documents, together with an appropriate Residential Workforce Housing agreement, will be executed accordingly.

C. PUBLIC SERVICES

1. Police and Fire Protection.

a. Existing Conditions

The County of Maui's Police Department is headquartered at its Wailuku Station on Mahalani Street. There are three (3) patrol divisions on the island of Maui, serving the Wailuku, Lahaina and Hana regions. The Wailuku division services Central Maui, Paia-Haiku, Upcountry and the Kihei-Makena areas. Fire protection, suppression and protection services for the Paia-Haiku region is provided by the County Department of Fire Control's Paia Station, located along Hana Highway in Paia Town.

b. Potential Impacts and Proposed Mitigation Measures

As an urban expansion project in the heart of Paia, the proposed project will not result in an expansion of existing police or fire service limits. However, the proposed project may require additional police and fire protection services. Real property tax revenues generated by the proposed project will add to the County's general funds and may be used to hire additional police and fire personnel.

2. Medical Facilities.

a. Existing Conditions

Maui Memorial Hospital is the only major medical facility on the island and it services the Paia-Haiku region. Acute, general and emergency care services are provided by the hospital. Private

medical and dental clinics and practices are located predominantly in the Wailuku-Kahului area and also serve residents of Paia-Haiku. Paia currently has a dentist who at located on the existing building on the Property.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project is not anticipated to have a negative effect on the service capabilities of emergency medical or general care operations. The proposed project will provide additional office space for medical practitioners in Paia, thereby enhancing access to medical facilities. The Developer has been in active discussion with a Maui doctor to set –up her practice in Paia. The senior housing portion of the project and available parking will hopefully draw additional medical clinics and services to the town.

3. **Educational Facilities**.

a. Existing Conditions

The State Department of Education operates one (1) school in the Paia area. Paia Elementary School covers grades K to 5. Public school students from the Paia area are serviced by Samuel Kalama Intermediate School in Makawao which covers grades 6 to 8. King Kekaulike High School serves as the region's high school, for grades 9 through 12. The Doris Todd Memorial Christian School is a private educational facility located in Paia covering grades K to 6.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project may contain up to 8 residential units mixed with the commercial phase of the Project. There are 54 proposed senior apartments. Workforce housing for the senior apartments will be satisfied by complying with Chapter 2.96 of the Maui County Code, being the county Residential Workforce Housing Policy. Because all units will be subject to senior housing requirements there will be no burden on educational facilities.

4. **Recreational Facilities**.

a. Existing Conditions

Paia has Baldwin beach Park to the west and Hookipa beach park to the east. There are numerous recreational opportunities available in the Paia area. Shoreline activities, such as kiteboarding, fishing, surfing, biking, jogging, picnicking, swimming, and windsurfing are predominant forms of recreation on the north shore. Recreational resources available in Paia include the Spreckelsville Senior Center and Paia Youth Center, as well as the Paia Skate Park.

b. Potential Impacts and Proposed Mitigation Measures

The project is not anticipated to have an adverse impact on recreational facilities in the region, however the Project will comply with any Parks Assessment Fees imposed by the County of Maui Parks and Recreation.

5. Solid Waste Disposal.

a. Existing Conditions

Single-family residential solid waste collection service is provided by the County of Maui. Residential solid waste collected by County crews is disposed at the County's Central Maui Landfill. Private Commercial Waste companies currently service the Paia commercial properties.

b. Potential Impacts and Proposed Mitigation Measures

A construction waste recycling, reuse, and disposal plan will be developed prior to the initiation of construction and coordinated with the Department of environmental management. The proposed project will be served by a private solid waste collection and disposal service. Solid waste will be disposed of at the Central Maui Landfill. The proposed project is not anticipated to affect the service capabilities of the county's residential solid waste collection system. According to the County of Maui Integrated Solid Waste Management Plan (ISWMP), the existing Central Maui Landfill has adequate capacity to accommodate residential and commercial waste needs through 2026 (County of Maui, Department of Environmental Management, 2009).

D. INFRASTRUCTURE

1. Roadways.

a. Existing Conditions

Paia Town is accessed by Hana Highway and Baldwin Avenue. Hana Highway is an east-west, State Highway that connects Kahului with Hana. Within Paia, Hana Highway is a two-lane, two-way roadway. The highway intersects Baldwin Avenue at a signalized T-intersection with a dedicated right turn lane in the eastbound direction and left turn lane in the westbound direction. There is parking along both sides of the roadway. Baldwin Avenue is a two-lane, two-way County road that connects Paia with Makawao. Parking is also allowed along both sides of the street within Paia town.

The Property is bordered by Baldwin Avenue to the east and the Paia mini-bypass to the south and west. The Paia Mini-Bypass provides an alternate route for traffic from Hana Highway

bound for areas south of Paia Town. The mini-bypass begins from Hana Highway west of town and ends at Baldwin Avenue south of the Post Office. The mini-bypass is only one-lane wide and allows one-way traffic in the southbound direction only.

Maui Public Bus Transit system operates one bus route through Paia along Hana Highway. Route 35 connects Kahului and Haiku. This route operates through Paia from approximately 6:00 a.m. to 9:00 p.m. at 90-minute intervals. There are two stops in Paia along Hana Highway. One is located at the westerly end of town on Hana Highway and the other is located on the easterly end of town. The developer has provided an area within the project with the intent of having public transit service provided to and from the project.

A Traffic Impact Assessment Report (TIAR) was completed for the project by Phillip Rowell and Associates in 2011. See **Appendix "D"**. On September 30, 2013, SSFM International conducted a Traffic Update Memorandum ("TIAR Update", also attached in Appendix "D") to supplement the TIAR. The TIAR Update, updates the traffic analysis and specifically addresses the comments received from the County of Maui Department of Planning letter of July 23, 2013. ("COM Letter"). The current traffic volume in Paia is detailed in the TIAR Update which states:

> Level of service (LOS) is an operational analysis rating system used in traffic engineering to measure the effectiveness of roadway operating conditions. There are six LOS ranging from A to F. LOS A is defined as being the least interrupted flow conditions with little or no delays, whereas LOS F is defined as conditions where extreme delays exist. Guidelines from the Statewide Uniform Design Manual for Streets and Highways (HDOT, 1980) state that an appropriate LOS for a rural arterial, which is the classification of Hāna Highway in the project area, is LOS C or better. Although the stretch of Hāna Highway through Pāia town is classified as rural, actual conditions are more in line with an urban area which typically allow for LOS D. LOS is calculated using Synchro traffic software which is based on the methodologies of the Highway Capacity Manual.
>
> Intersection LOS reported in the Traffic Impact Analysis Report Pāia 2020 (PRA, 2011) was calculated using Synchro traffic software and turning movement traffic counts taken in May 2011 during the AM and PM peak periods. Calculated results were LOS B for both the AM and PM peak hours. Observed LOS was reported to be LOS B and D for the AM and PM peak hours respectively.
>
> The Pāia Relief Route TIAR (SSFM, 2012) was completed in support of the Pāia Relief Route Draft Environmental Statement (SSFM, unpublished) (DEIS) referenced in the July 23, 2013 COM letter. The DEIS was submitted to HDOT in March 2013 and HDOT submitted it for review to FHWA in April although it has not been signed off on yet and therefore is not a public available document. The Pāia Relief Route TIAR (SSFM, 2012) calculated intersection LOS using Synchro traffic software and traffic counts taken in December 2007. Calculated results were LOS C and D for the AM and PM peak hours respectively.

The previously referenced Pāia Relief Route TIAR (SSFM, 2012) included the Draft Pāia Relief Route Travel Demand Forecasting Report (PB, 2012) as an appendix. This report prepared by Parsons Brinkerhoff is believed to be the report referenced in the July 23, 2013 County COM letter. This report included calculated intersection LOS using Synchro traffic software and the same December 2007 traffic counts used in the Pāia Relief Route TIAR (SSFM, 2012). Calculated LOS were LOS D and LOS F for the AM and PM peak hours respectively. Calculated LOS from the referenced reports are included in the following table.

	Report	**Year**	**Intersection LOS**	
			AM	**PM**
1.	Traffic Impact Analysis Report Pā ʻia 2020 (PRA, 2011)	2011	B	B
2.	Pāia Relief Route TIAR (SSFM, 2012)	2007	C	D
3.	Draft Pāia Relief Route Travel Demand Forecasting Report (PB, 2012)	2007	D	F

The same traffic software, intersection configuration, and intersection turning movement volumes were used to analyze conditions in the Draft Pāia Relief Route Travel Demand Forecasting Report (PB, 2012) and Pāia Relief Route TIAR (SSFM, 2012). Differences were noted in traffic signal timing and that the Draft Pāia Relief Route Travel Demand Forecasting Report (PB, 2012) included an adjustment to account for the existence of on-street parking. The inclusion of adjacent on-street parking in the traffic model, and resulting parking conflicts, lowers the saturated flow rate which results in worsening intersection movement delay, volume to capacity ratio (v/c), and LOS. Without contesting the proximity of existing on-street parking, the Draft Pāia Relief Route Travel Demand Forecasting Report (PB, 2012) also included this adjustment along the westbound approach where no adjacent on-street parking exists which was in error.

Consequently, the Traffic Impact Analysis Report Pāia 2020 (PRA, 2011) did not include parking conflicts in the analysis of intersection operations due to the belief that parking did not exist in the immediate vicinity of the intersection. It was observed, "Parking maneuvers out of the angle parking causes significant delays to through traffic along Hāna Highway. Traffic must stop to allow vehicles to back out of the parking stall into traffic. This is especially bad during the afternoon peak period." These observations are in reference to operations along the stretch of road through Pāia town and not specific to the intersection. Re-analysis of the intersection of Hāna Highway and Baldwin Avenue was completed using Synchro traffic software to better reflect observed conditions. This scenario included adjustments for on-street parking along the makai-bound and eastbound approaches, as well as optimized traffic signal timing. AM and PM peak hour volumes from 2007, taken from Pāia Relief Route TIAR (SSFM, 2012), and 2011, taken from Traffic Impact Analysis Report Pāia 2020 (PRA, 2011), were used for each scenario. Resulting LOS was LOS C or D for the peak hours of both years, as shown in the following table, which is appropriate and considered to better represent actual intersection operations. Re-analysis Synchro reports are included in the appendix.

Scenario	Year	Intersection LOS	
		AM	PM
Re-analysis w/Parking Conflicts and Timing Optimization	2011	C	C
	2007	C	D

(See TIAR Update at Pages 2-4).

b. Potential Impacts and Proposed Mitigation Measures

Access to and egress from the project will be provided via a recently constructed driveway along the west side of Baldwin Avenue and access only from two new driveways along the Paia mini-bypass. The driveway along Baldwin Avenue is 36-feet wide will have two outbound and one inbound lanes. All traffic movements will be allowed at this driveway. Since the Paia mini-bypass is one-way southbound, traffic movements at project driveways will be restricted to left turns into the project only. Traffic movements at the Baldwin driveway will not be restricted. A bus stop within the project is part of the plan to provide transportation for the senior residents of the project and community. There will also be a connection for pedestrians between the project and the Post Office.

The project will generate 312 trips during the morning peak hour, 149 inbound and 163 outbound. During the afternoon peak hour, this phase will generate 116 inbound and 90 outbound trips for a total of 206 trips (TIAR Update).

The level-of-service analysis was performed for "without project" and "with project" conditions and concluded that all controlled traffic movements will operate at Level-of-Service D or better, which implies acceptable operating conditions and minimal delays. Accordingly, no additional mitigation is recommended. (The original Rowell Traffic Report analysis used 104 as the number of senior units when that has now been downsized to only 54 units).

Article III of the TIAR Update specifically addresses ways to mitigate the current traffic problems in Paia and the impact of the project. It states:

> It can be concluded that the intersection of Hāna Highway and Baldwin Avenue would function better with additional capacity. As noted, various impediments to roadway capacity exist in the current configuration that result in the difference between observed and calculated intersection LOS. Removing existing causes of friction along the approaches to the intersection would lessen delay and improve operations. Additional right-of-way (ROW) does not exist along Hāna Highway in its current configuration to provide for additional turn or through-traveling lanes. The current on-street parking configuration reduces the capacity of the intersection as a result of parked vehicles existing in the travel way ROW. Reduction of on-street parking in the vicinity of the

intersection would provide additional capacity as a result of a lengthened eastbound right-turn lane which in turn would improve intersection operations.

On street parking is another cause of friction. Currently the 21 parking stalls along the mauka side of Hāna Highway are front-in angled parking with 14 stalls on the west side of the intersection and seven on the east side. Vehicular movements to pull out of these stalls impede the adjacent through-traveling vehicles, resulting in delay and congestion. In addition, motorists will often slow or stop along Hāna Highway while waiting for a driver to enter their vehicle in anticipation of a parking stall becoming available. Through traveling vehicles would not be as impacted if on-street parking were removed during peak vehicular travel times. By prohibiting parking during the peak travel times, such as the PM peak commuter period, through-traveling vehicles will not be delayed during these high volume periods. Another option would be to reconfigure parking to a configuration such as parallel parking. While the vehicular maneuvers into a parallel parking stall are more time consuming than into a front-in angled stall, these maneuvers can likely take place outside of the vehicular travel way thereby not impeding through-traveling vehicles. Using an average parking stall length of 20 feet, reconfiguration of the existing front-in angled parking to parallel parking would remove eight parking stalls, five on the west side and three on the east. The reduction of conflicting movements along the approach and receiving legs of the intersection with Baldwin Avenue would improve intersection operations. **The removal of required space dedicated to front-in angled parking will also allow for a bicycle facility which would improve multi-modal connectivity and safety**. (emphasis added)

Driveway intersections also cause friction. Multiple driveways to private and public parking lots exist along Hāna Highway in the vicinity of the intersection with Baldwin Avenue. Conflicts from vehicles making turns onto and off of Hāna Highway add additional delay to through-traveling vehicles, resulting in underutilized traffic signal timing. Consolidating driveways or restricting movement into and out of those driveways that have alternative access through Baldwin Avenue would potentially improve operations along Hāna Highway.

Pedestrians were observed to jaywalk across Hāna Highway in the vicinity of the intersection with Baldwin Avenue. No pedestrian crosswalk exists across the west leg of the intersection, with the next available marked crossing at the intersection with the public parking lot 600 feet to the west. A pedestrian crosswalk was likely not included across the west leg of the intersection due to the potential conflict of left-turning vehicles from Baldwin Avenue with crossing pedestrians. By adding a crosswalk with a leading pedestrian crossing interval, conflicts between vehicles and pedestrians could be minimized. While the addition of a crosswalk here would add to the calculated delay of the intersection operations, actual operations would likely be improved through a reduction in pedestrians jaywalking at mid-block locations which causes both an operational and safety concern. As an alternative to a crosswalk across the west leg of the intersection, the addition of a mid-block pedestrian crosswalk halfway (300 feet) between the intersection and public parking would provide for the desired pedestrian crossing point that currently results in the jaywalking. Therefore, it is suggested to consider

including a crosswalk across the west leg of the intersection or at a location 300 feet to the west in order to increase safety for pedestrians. (See, TIAR Update at Pages 5,6).

The TIAR Update makes the following conclusions and recommendations:

> Through observations and analysis it can be concluded that the existence of on-street parking worsens operations along Hāna Highway. The difference between observed and calculated LOS is a result of what is considered to be a part of the intersection with Baldwin Avenue. Therefore, the reconfiguration, reduction, or removal of on-street parking along Hāna Highway will remove vehicle conflicts that impede roadway flow and consequently worsen intersection operations. This is most applicable along the mauka side of Hāna Highway, where there are currently 21 front-in angled parking stalls, to limit conflicts with traffic heading in the eastbound direction. Approximately eight less on-street stalls would exist if reconfigured to parallel parking. The reconfiguration of parking along Hāna Highway would allow for additional width of travel way and the ability to improve multi-modal connectivity and safety by continuing the bicycle facility that ends at the Pāia Mini Bypass Road. In the current configuration, bicycles share the lane with vehicles through Pāia town although front-in angled parking is not safe for bicyclists motorists to see them when reversing. To improve pedestrian safety as well as vehicular operations along Hāna Highway, the inclusion of a crosswalk across the west leg of the intersection, or at a mid-block location between the intersection and public parking, would provide a protected crossing. It is believed that these proposed mitigation actions will improve operations through Pāia town and at the intersection of Hāna Highway and Baldwin Avenue.
>
> The inclusion of 172 additional off-street parking stalls for tenants, employees, and customers, beyond the number required by zoning, in the Pāia Courtyard plans will help offset any reduction in the number of available on-street parking. Available parking provided by the Pāia Courtyard will also assist in reducing the number of conflicting turns into and out of driveways off of Hāna Highway for vehicles looking for parking. Way-finding signage could be installed along Hāna Highway that directs vehicles traveling from the west onto the Pāia Mini Bypass Road to access Pāia town parking, reducing the number of vehicles traveling through the intersection of Hāna Highway and Baldwin Avenue. It is because of this that the proposed options for reconfiguring parking along Hāna Highway, and addition of parking stalls with the Pāia Courtyard project, will result in better operations at the intersection of Hāna Highway and Baldwin Avenue. An assessment of the need for a separate left turn lane for vehicles turning left into the project from Baldwin Avenue was performed. The assessment determined that a separate left turn lane for vehicles turning left was not warranted during either peak period. Accordingly, based on the findings of this accepted standard, a separate left turn lane is not recommended. It should also be noted that providing a separate left turn lane would be inconsistent with the adjacent intersections in the area. A left turn lane at the project's driveway along Baldwin Avenue would also result in conflicts with traffic turning into and out of the Post Office parking lot, which is adjacent to the project's driveway. Access to the project will continue to be from the exiting 36' wide driveway along

Baldwin Avenue. There is also an existing road widening lot fronting the project along Baldwin Avenue. The frontage will be improved with concrete curb, gutter and sidewalk to meet Department of Public Works standards. Two new driveways along the Paia Mini-Bypass on the west side property are proposed for left turns into the project only. (See, TIAR Update at Page 7).

2. Water System.

a. Existing Conditions

The Paia area is served by the Department of Water Supply's domestic water system. The Waihee Wells, which were developed by the Central Maui Source Joint Venture, are the specific water sources for two (2) tanks servicing Paia, including a 100,000 gallon tank located at an elevation of 267 feet amsl and a 300,000 gallon tank located at an elevation of 456 feet amsl. Fronting the project site along Baldwin Avenue are two (2) existing waterlines, including a 6-inch line on the east side of the roadway and an 8-inch line on the west side of the roadway. The currently developed portion of the Property is serviced by a ¾ inch water meter. The undeveloped portion of the Property is served by a 2 inch County of Maui water meter that is stubbed to the lot connected to the 8" waterline.

b. Potential Impacts and Proposed Mitigation Measures

According to the Preliminary Engineering Report ("PER"), dated April 2012 (attached hereto as **Exhibit "E"**) and drafted by Otomo Engineering, there is an existing 2" water meter connected to an 8" waterline along Baldwin Avenue. In accordance with the Department of Water Supply's Domestic Consumption Guidelines for commercial development, the Average Daily Demand ("ADD") for the Phase I commercial buildings (with 8 upstairs apartments) is approximately 9,800 gallons per day. The Phase II Senior Units ADD is estimated to be 30,800 gallons per day (based on 55 units). The existing 2" water meter will be used to provide domestic water to the commercial buildings. Additional water meters will be required to provide domestic water to the senior center. New reduced pressure backflow preventers and a double check detector assembly will be installed to meet DWS standards as part of the required improvements. The project will also utilize low-flow fixtures as part of the water conservation measure. Well water will likely be used for all non-potable uses.

Fire flow demand for commercial and multi-family developments is 2,000 gallons per minute for a 2 hour duration. The existing 8-inch waterline along Baldwin Avenue is capable of providing fire flow for the project and will be utilized by installing a fire line into the property. Fire hydrants will be installed around the project site with a maximum spacing of 250 feet.

3. **Wastewater System**.

a. Existing Conditions

According to the Preliminary Engineering Report ("PER"), dated April 2012 **(Exhibit "E")** there is an 8-inch sewerline located within the Baldwin Avenue right-of-way fronting the project site. The wastewater is transported to the Wailuku-Kahului Wastewater Reclamation Facility via a series of coastal sewerlines, force mains and pump stations.

b. Potential Impacts and Proposed Mitigation Measures

The proposed project will generate approximately 10,697 gallons per day of wastewater for Phase I and 14,025 gallons per day for Phase II (based on 55 units). The wastewater generated from the project will be transported to the Kahului Wastewater treatment facility by means of the existing sewer system. According to the Wastewater Reclamation Division, the treatment plant has sufficient capacity to accommodate the additional wastewater generated from the project at this time. The project will connect to the existing sewer lateral on the northeast side of the property.

4. **Drainage System**.

a. Existing Conditions

The elevation on the site ranges in the south to north direction from an elevation of 54 feet at the top of the property to 14 feet at the makai property line, with a slope averaging approximately 4.2%. According to the Flood Insurance Rate Map, September 29, 2009, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone X. Flood Zone X represents areas outside the 0.2%% annual chance floodplain. According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)", prepared by the United States Department of Agriculture Soil Conservation Service, the soils within the project site are classified as Paia Series (PcB and PcC). Paia Series is characterized as having moderate permeability, slow runoff, and a slight erosion hazard.

Presently, runoff from the project site sheet flows in the south to north direction towards the bottom of the property and generally sheet flows off of the project site towards or the existing cane fields to the northwest.

b. Potential Impacts and Proposed Mitigation Measures

According to the PER it is estimated that the present 50-year, 1-hour runoff from the project site is approximately 8.5 cfs and 13,755 cf runoff volume. See, PRE, **Appendix "E".** The post

development runoff from the project site is estimated to be 34.5 cfs and 37,280 cf of runoff volume, which is an increase of 26.0 cfs and 23,525 cf of runoff volume over existing conditions. The project site will be graded to maintain the existing runoff pattern with a majority of the runoff sheet flowing towards the northwest. All onsite runoff will be collected by catch basins located within the parking and landscaped areas. The runoff will be conveyed to a retention system, which will consist of a retention basin and a subsurface drainage system. The retention basin will be located within a one acre easement on the A & B Ag Parcel immediately across the mini-bypass road to the north west of the project site. The subsurface drainage system will be located beneath the paved parking within the project site and consists of perforated drainline embedded in crushed rock which will be wrapped with a layer of filter fabric. Surface runoff entering the perforated pipe will be allowed to infiltrate into the ground. The drainage system will have a storage volume of approximately 40,000 cf which is greater than the total post development surface runoff volume generated from a 50-year, 1-hour storm. Overflow form the onsite drainage system will be allowed to continue downstream along the existing drainage pattern.

The design intent of the project will be to limit the need for extensive grading as much as possible. Development of the project will also include implementation of site specific best management practices (BMP's) during construction to provide erosion control and minimize impacts to downstream properties. BMP's which may be implemented would include, but are not limited to:

1. Prevention of cement projects, oil, fuel, and other toxic substances from falling or leaching into the water.

2. Prompt and proper disposal of all loosened and excavated soil and debris material from drainage structure work.

3. Retention of ground cover until the last possible date.

4. Stabilization of denuded areas by sodding or planting as soon as possible and early construction of drainage features.

5. Minimize time of construction.

The proposed drainage system will be designed in accordance with Chapter 4, "Rules for the Design of storm Drainage Facilities in the County of Maui".

5. <u>Electricity and Telephone Systems</u>.

a. <u>Existing Conditions</u>

Electrical and telephone services in the Paia-Haiku region are provided by Maui Electric Company and Hawaiian Tel respectively through overhead utility lines along both sides of Baldwin Avenue.

b. Potential Impacts and Proposed Mitigation Measures

The proposed electrical, telephone and cable TV distribution systems to the subject project will be installed from the existing overhead facilities currently servicing the project area along Baldwin Avenue. Upgrades to the facilities will be made as necessary during the building permit process.

E. 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.

The County of Maui has recently updated the County General Plan through the planning horizon of 2030. Among the components of the General Plan Update is the formulation of a Maui Island Plan which delineates urban and rural growth boundaries (UGBs and RGBs, respectively). The purpose of the UGBs and RGBs is to direct future urban and rural growth to select areas of Maui Island, taking into account population projections and future demands for housing infrastructure, services, and public facilities. The proposed project will expand both commercial and residential units within the proposed UGB for the Paia-Haiku region. The requested land use action is in keeping with the existing land use character of Paia Town. Although the project site is located primarily on vacant, undeveloped land, the site has been designated for urban land uses and is surrounded by urban development to the north and east and south. The project will comply with the elements of the Country Town Design Guidelines for Paia as adopted on April 1990. Compliance with these guidelines is discussed further in the Design Guideline section, paragraph III (6)(E) below.

The development of this site will not take agricultural land out of production and with the implementation of Best Management Practices for water quality, erosion and sedimentation control, adverse impacts to the cane fields to the west are not anticipated. Being an urban expansion to the existing Paia Town rather than an urban expansion project, the proposed project is not anticipated to result in any cumulative impacts that do not already exist. No adverse impacts to surrounding land uses are anticipated as a result of the proposed land use amendments. The future development of the Property along Baldwin Avenue will be designed to complement the existing design character of Paia Town. The Property is within the small town growth boundary of the Maui Island Plan. The approval of requested entitlements will not result in adverse landform impacts. The future development of senior housing, mixed use and parking

improvements will require minimal grading and excavation activities which will respect adjacent grades and drainage patterns.

Secondary impacts are those which have the potential to occur later in time or farther in distance, but are still reasonably foreseeable. They can be viewed as actions of others that are taken because of the presence of the project. If the project is completed it can be expected that some of commercial properties across the street on Baldwin Avenue will have more business traffic and it will entice more commercial tenants up the east side of Baldwin.

With the proposed mitigation measures in place, the project is not anticipated to have significant secondary impacts. The project site has ready access to necessary infrastructure, such that extensions of infrastructure systems will not be required. Existing county water, wastewater, and waterlines are located in the immediate vicinity of the project site. In the short term, construction of the proposed project will generate employment and revenues for the construction industry and related fields. Over the long term, property tax revenues will provide additional funds for the County and general excise tax revenues will provide additional funds for the State. Once in operation, the proposed business, commercial, retail and senior apartments uses will generate a number of employment opportunities. The building of senior units will be addressed through compliance with the County's workforce housing ordinance. Affordable units will be provided as required by the County's workforce housing ordinance. As an approved affordable housing project, impacts on public infrastructure, facilities, and services will be assessed and no new impacts will result from the proposed project. Existing service limits for police, fire, and emergency medical services will not be affected by project implementation, although a small increase in service calls may result from operation of the project. Traffic conditions along Baldwin Avenue and related roadways will be affected. However, the implementation of the driveway configurations and improvements recommended by the project's TIAR are anticipated to mitigate these impacts. In summary, the proposed action is not anticipated to result in significant adverse secondary impacts.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES AND CONTROLS

A. STATE LAND USE DISTRICT

Pursuant to Chapter 205, Hawaii Revised Statutes, all lands in the State have been placed into one (1) of four (4) land use districts by the State Land Use Commission. These land use districts have been designated "Urban", "Rural", "Agricultural" and "Conservation". The project site is designated "Agricultural" and "Urban". The proposed action involves reclassification of the "Agricultural" portion of the Property to an "Urban" district in order to establish country town business uses compatible with the "Urban" designation.

B. HAWAII STATE PLAN

Chapter 226, HRS, also known as the Hawaii State Plan, is a long-range comprehensive plan which serves as a guide for the future long-term development of the State by identifying goals, objective, policies, and priorities, as well as implementation mechanisms. Examples of State objectives and policies relevant to the proposes project are as follows:

1. **Section 226-05, Objective and policies for population. To achieve this objective, it shall be the State policy to:**

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

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

    c. Promote increase opportunities for Hawaii's people to pursue their socio-economic aspirations throughout the islands.

2. **Section 226-13, Objective and policies for the physical environment-land, air, and water quality. To achieve this objective, it shall be the policy of this State to:**

    a. Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.

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

The Property is located within the Lower Paia Town area, an established center for commerce and employment within the County of Maui. Basic infrastructural services such as transportation systems, water, wastewater systems and public utilities are readily available. Schools and parks are available within close proximity to the project site. Fire and police protection services are available, as is solid waste disposal services. The area encompassed is intended to satisfy future commercial, senior housing and parking needs of the Paia region. The Property is contiguous with the existing urban areas of Paia Town and can be considered a town expansion project. The lands makai of the property and lands to the east are already designated and being used for business use. The proposed project is in conformance with the above-noted objectives and policies of the Hawaii State Plan.

C. MAUI COUNTY GENERAL PLAN

As indicated by the Maui County Charter, the purpose of the general plan shall be to:

> *...indicate desired population and physical development patterns for each island and region within the county; shall address the unique problems and needs of each island and region; shall explain opportunities and the social, economic, and environmental consequences related to potential developments; and shall set forth the desired sequence, patterns and characteristics of future developments. The general plan shall identify objectives to be achieved, and priorities, policies, and implementing actions to be pursued with respect to population density; land use maps, land use regulations, transportation systems, public and county facility locations, water and sewage systems, visitor destinations, urban design, and other matters related to development.*

Chapter 2.80B of the Maui County Code, relating to the General plan and Community Plans, implements the foregoing Charter provision through enabling legislation which calls for a Countywide Policy Plan and a Maui Island Plan. The countywide Policy Plan was adopted as Ordinance No. 3732 on March 24, 2010. The Maui Island Plan was adopted in December 2012.

With regard to the Countywide Policy Plan, Section 2.80B.030 of the Maui County Code states the following:

The countywide policy plan shall provide broad policies and objectives which portray the desired direction of the County's future. The countywide policy plan shall include:

1. A vision for the County;

2. A statement of core themes or principles for the County; and

3. A list of countywide objectives and policies for population, land use, the environment, the economy, and housing.

Core principles set forth in the Countywide Policy Plan are listed as follows:

1. Excellence in the stewardship of the natural environment and cultural resources;

2. Compassion for and understanding of others;

3. Respect for diversity;

4. Engagement and empowerment of Maui County residents;

5. Honor for all cultural traditions and histories;

6. Consideration of the contributions of past generations as well as the needs of future generations;

7. Commitment to self-sufficiency;

8. Wisdom and balance in decision making;

9. Thoughtful, island appropriate innovation; and

10. Nurturance of the health and well-being of our families and our communities.

The Countywide Policy Plan also identifies goals objectives, policies and implementing actions for pertinent functional planning categories, which are identified as follows:

1. Natural environment

2. Local cultures and traditions

3. Education

4. Social and healthcare services

5. Housing opportunities for residents

6. Local economy

7. Parks and public facilities

8. Transportation options

9. Physical infrastructure

10. Sustainable land use and growth management

11. Good governance

The following goals, objectives, and policies are illustrative of the proposed Paia Courtyard project's compliance with the Countywide Policy Plan:

Goal: #4 Housing Opportunities for Residents

Expand Housing Opportunities for Residents with quality, island-appropriate housing.

Objective:

Reduce the affordable housing deficit for residents.

Policies:

a. Ensure that an adequate and permanent supply of affordable housing, both new and existing units, is made available for purchase or rental to our resident and/or workforce population, with special emphasis on providing housing for low- to moderate-income families, and ensure that all affordable housing remains affordable in perpetuity.
b. Provide for a range of senior-citizen and special needs housing choices on each island that affordably facilitates a continuum of care and services.
c. Redevelop commercial areas with a mixture of affordable residential and business uses, where appropriate.
d. Ensure residents are given priority to obtain affordable housing units developed in their communities, consistent with all applicable regulations.
e. Establish pricing for affordable housing that is more reflective of Maui County's workforce than the United States Housing and Urban Development's median-income estimates for Maui County.
f. Develop neighborhoods with a mixture of accessible and integrated community facilities and services.

Objective:

Increase the mix of housing types in towns and neighborhoods to promote sustainable land use planning, expand consumer choice, and protect the County's rural and smalltown character.

Policies:

a. Seek innovative ways to develop `ohana cottages and accessory-dwelling units as affordable housing.
b. Design neighborhoods to foster interaction among neighbors.
c. Encourage a mix of social, economic, and age groups within neighborhoods.
d. Promote infill housing in urban areas at scales that capitalize on existing infrastructure, lower development costs, and are consistent with existing or desired patterns of development.

e. Encourage the building industry to use environmentally sustainable materials, technologies, and site planning.
f. Develop workforce housing in proximity to job centers and transit facilities.
g. Provide incentives to developers and owners who incorporate green building practices and energy-efficient technologies into their housing developments.

Goal: #6 Local Economy

Maui County's economy will be diverse, sustainable, and supportive of community values.

Objective:

Promote an economic climate that will encourage diversification of the county's economic base and a sustainable rate of economic growth.

Policies:

a. Support and promote locally produced products and locally owned operations and businesses that benefit local communities and meet local demand.
b. Encourage work environments that are safe, rewarding, and fulfilling to employees.

Objectives:

Support a visitor industry that respects the resident culture and the environment.

Support the diversification, development, evolution, and integration of the visitor industry in a way that is compatible with the traditional, social, economic, spiritual, and environmental values of island residents.

Goal: #8 Transportation Options

Maui County will have an efficient, economical, and environmentally sensitive means of moving people and goods.

Objectives:

Provide an effective, affordable, and convenient ground-transportation system that is environmentally sustainable. Reduce the reliance on the automobile and fossil fuels by encouraging walking, bicycling, and other energy-efficient and safe alternative modes of transportation.

Policies:

a. *Make walking and bicycling transportation safe an easy between and within communities.*
b. *Require development to be designed with the pedestrian in mind.*
c. *Make sure existing rights-of-way have adequate sidewalks.*

Objectives:

Improve and expand the planning and management of transportation systems.

Policies:

a. *Encourage progressive community design and development that will reduce transportation trips.*
b. *Require new developments to contribute their pro rata share of local and regional infrastructure costs.*
c. *Utilize transportation-demand management as an integral part of transportation planning.*
d. *Accommodate the planting of street trees and other appropriate landscaping in all public rights-of-way.*

Goal: #9 Physical Infrastructure

Maui County's physical infrastructure will be maintained in optimum condition and will provide for and effectively serve the needs of the county through clean and sustainable technologies.

Objective:

Direct growth in a way that makes efficient use of existing infrastructure and to areas where there is available infrastructure capacity.

Policies:

a. *Promote land use patterns that can be provided with infrastructure and public facilities in a cost-effective manner.*

Goal: #10 Sustainable Land Use & Growth Management

Community character, lifestyles, economies, and natural assets will be preserved by managing growth and using land in a sustainable manner.

Objective:

Improve land use management and implement a directed-growth strategy.

Policies:

a. *Direct urban and rural growth to designated areas.*
b. *Encourage redevelopment and infill in existing communities on lands intended for urban use to protect productive farm land and open-space resources.*
c. *Direct new development in and around communities with existing infrastructure and service capacity, and protect natural, scenic, shoreline, and cultural resources.*

Objectives:

Design all developments to be in harmony with the environment and to protect each community's sense of place.

Policies:

a. *Ensure that adequate recreational areas, open spaces, and public-gathering places are provided and maintained in all urban centers and neighborhoods.*
b. *Ensure business districts are distinctive, attractive, and pedestrian-friendly destinations.*
c. *Use trees and other forms of landscaping along rights-of way and within parking lots to provide shade, beauty, urban-heat reduction, and separation of pedestrians from automobile traffic in accordance with community desires.*
d. *Facilitate safe pedestrian access, and create linkages between destinations and within parking areas.*

The proposed Paia Courtyard project will provide the only senior housing available in the Paia and Haiku areas. The additional housing will meet or exceed all affordable housing requirements and it is hoped that support services for this population group will be attracted to the commercial spaces (physicians and support). The project will provide additional retail and office space to a town that basically has a zero occupancy rate for both office and commercial space. This lack of space has driven up rents to the point where most small local type businesses and most service providers cannot afford to locate in Paia town. Residents must drive to Kahului for most of their basic needs and services. The project will support both the residents in the proposed senior housing and the adjoining neighborhoods. The addition of nearly 350 parking stalls will double the parking in Paia and should alleviate this problem (because new development requires parking and dilutes the lack of parking by the existing buildings that provide none). Necessary infrastructure systems and services are readily accessible from the project. Improvements to Baldwin Avenue will provide a sidewalk on the western side of the street. The proposed project is located within the urban growth areas of the

Maui Island Plan and it conforms with many of the goals and objectives of the Countywide Policy Plan.

MAUI ISLAND PLAN

The Maui Island Plan ("MIP") was adopted on December 28, 2012 and it addresses the direction that the County of Maui wants for future growth. The basic tenant of the MIP are two goals:

1. Maintaining Maui's small towns and open countryside.
2. Providing vibrant urban areas in our larger towns.

Within these tenants the Plan sets forth growth areas where future growth is desired. This translates to keeping growth centralized and within boundaries that will maintain agricultural land and open space. Attached hereto as **Exhibit "11"** is Map N1 which is a copy of the Maui Island Plan Directed Growth Map for Sprecklesville and Paia. It clearly shows that the proposed development is within the small town directed growth area of Paia.

The MIP encompasses the need for affordable housing, protection of the environment, identification of transit corridors, economic diversification, and the integration of Land Use and infrastructure planning. The introduction to Chapter 7 on Land Use and urban goals states:

> Urban areas are characterized by a convergence of housing, jobs, civic activities, commercial services, and shopping. Less than five percent of Maui's lands are within the State Urban District. Prudent planning and managed development within these areas will determine future growth. The character, design, and timing of future growth within Maui's urban areas will have significant consequences for agricultural lands, rural communities, natural resources, and overall quality of life. Sustainable urban development will be accomplished by supporting infill development, enabling mixed-use development, assuring mobility (especially including alternate modes of transportation) and circulation, and clearly defining town edges. As a result, the MIP will promote vibrant and sustainable communities, economize on infrastructure, and protect open space (page 7-17)

The MIP specifically address Country Town infill and expansion and states:

> > Existing country towns and villages also have the ability to absorb future growth. The potential for these areas to grow must be weighed carefully against the impacts that both infill and moderate expansion will have on their unique sense of place. In addition, growth and expansion should be carefully reviewed for housing balance, commercial and service availability, and infrastructure impacts. All four

forms of future growth should avoid steep slopes, wetlands, riparian areas, native species habitat, and other environmentally important lands. Many of these areas are separated from existing development and infrastructure and are highly sensitive to disturbance. The design of the built urban environment will greatly influence the sustainability of all communities and the overall quality of life. The following urban design and physical form principles will play a significant role in shaping growth on Maui: Defining town edges and greenbelts;
Enabling mixed-use, livable communities; Facilitating a jobs/housing balance;
Assuring mobility and circulation, emphasizing alternate modes of transportation; and Designing pedestrian-oriented streets. (Page 7-20).

Clearly defining the edges of Maui's towns is essential to guide and shape future growth. As towns expand outward they can grow into other towns and the entire region can become one large urban mass, compromising the unique identity of each individual town and community as a whole. Maui is home to a number of large and small towns, each with its own history and character. As these towns grow it will be critical to define the physical limits of each town, and restrict growth outside of these limits, to maintain a sense of identity for each individual community while protecting agricultural land, natural resources, and recreation areas. (Page 7-21).

The first step in promoting the livability of an urban area is to enable mixed-use commercial, retail, employment, civic, recreational, and educational uses into a pedestrian scaled community. The mix of uses creates an integrated and multi-dimensional built-environment that reflects our way of life. Rather than creating an automobile-dependent lifestyle, mixed-use communities bring together our everyday needs into a setting that is scaled to the pedestrian. Mixed-use communities also provide for mixed housing types, lot sizes, and incomes to promote sustainable, walkable, bikeable, livable communities.
(Page 7-21).

The project has been designed to comply with the MIP. It is within the directed small town growth boundary for the area. Although it is technically not an infill project because it has cane fields on its western boundary, it is filling in an area that is surrounded by residential, commercial and the Paia mini bypass road. It enables a mixed-use commercial, retail, office and residential living with easy access to bike paths, parks, community centers, and recreation.

D. PAIA-HAIKU COMMUNITY PLAN

The Property is located in the Paia-Haiku community Plan region which is one of nine Community Plan regions established in the County of Maui. Planning for each region is guided by the respective Community Plans which are designed to implement the Maui County General Plan. Each Community Plan contains recommendations and standards which guide the sequencing, patterns, and characteristics of future development in the region. Land use guidelines are set forth in the Paia-Haiku Community Plan Land Use Map. The project site is designated "Business/Commercial", "Public/Quasi-Public" and "Agricultural" by the Community Plan. The Applicant is requesting a designation of Business/Commercial for the entire property to accommodate all proposed uses.

Goals, Objectives, Policies and implementing actions of the Paia-Haiku Community Plan that are relevant to the project are set forth as follows:

LAND USE

Goal: A well-planned community that preserves the region's small town ambiance and rural character, coastal scenic vistas, and extensive agricultural land use, and accommodates the future needs of residents at a sustainable rate of growth and in harmony with the region's natural environment, marine resources, and traditional uses of the shoreline and mauka lands.

Objectives and Policies

When appropriate, incorporate low-rise town or village forms of development, such as the neotraditional town, with defined growth limits and a village core of mixed public, residential and commercial uses, organized and designed to enhance pedestrian and bicycle access as an alternative to linear forms of development, which are characteristic of more urban areas.

Define urban and rural growth limits and densities for the region by determining the needed space to accommodate projected growth, designating the required land using the land use map, and supporting needed development in these areas.

Comment: No building in the project will exceed two stories and the design will lend itself to the sense of an urban village designed with the unique characteristics of Paia town. It will have a mix of commercial, retail and residential uses that will enhance the pedestrian core of Paia.

ENVIRONMENT

Goal:

The preservation and protection of the natural environment, marine resources and scenic vistas to maintain the rural and natural ambiance and character of the region.

Objectives and Policies

Protect the quality of surface and groundwater resources.

Encourage the construction of natural grass-lined drainage channels, as opposed to concrete channels, and the installation of siltation basins.

Effectively control agricultural run-off.

Promote greater awareness and opportunities for recycling and sound conservation practices.

Comment: The project will incorporate a one acre catchment basin for groundwater retention and landscaping design will enhance groundwater collection and efficient water usage. The applicant is investigating the use of covered parking that incorporates photovoltaic power generation and powered charging stations and has designed a bus stop within the property.

ECONOMIC ACTIVITY

Goal:

A stable economy that complements the rural character of the region and provides opportunities for economic diversification and community needs.

Objectives and Policies

Provide for neighborhood-scale commercial services within or in close proximity to residential areas to accommodate the needs of residents.

Comment: The senior housing is being built adjacent to the proposed commercial and retail project. The commercial project should attract business that want to cater to the new and existing residents of Paia. The addition of the senior housing will hopefully attract a physician and supporting services to one or more of the commercial buildings.

HOUSING

Goal:

A sufficient supply and choice of attractive housing accommodations with emphasis on affordable housing for a broad cross section of residents.

Objectives and Policies

1. Meet the 20-year housing needs of the planning region. Provide sufficient land area for residential development only in appropriate areas near public facilities in order to discourage land speculation, and provide for predictable, efficient land use and development patterns in the region.

2. Expand the inventory of affordable housing. Provide a variety of affordable housing opportunities, including improved lots and self-help projects, and provide for special needs, including the elderly, single parent families and the disabled. Encourage public sector projects, government programs, public/private joint efforts, and other assistance programs to reduce costs and increase the availability of affordable and gap-group housing projects.

3. Reduce residential home energy and water consumption.

Comment: There are no dedicated senior housing properties on the north shore of Maui. The developer has received substantial interest from seniors looking to downsize and to rent or buy an apartment within the project. The units will have an affordable housing component and encourage a walking community with easy access to shops, restaurants, services and parks. The units are being designed with low flow fixtures and solar water heating. The project will also incorporate photovoltaic systems into it.

TOWN DESIGN

Goal

Attractive rural town development in keeping with the existing scale, form and character of settlement areas in the region.

Objectives and Policies

1. Incorporate design standards, including, but not limited to, lighting, building and roadway design, appropriate for rural communities. In agricultural and rural districts, excessive roadway standards and street lighting requirements should be discouraged.

2. Establish in designated areas a neotraditional village form of development with defined growth limits and a core of low-rise mixed public, residential and commercial uses organized and designed to enhance pedestrian and bicycle access.

3. Limit building heights to two (2) stories or thirty (30) feet above grade throughout the region, with any exceptions being subject to design review by the County.

4. Follow the established design standards for the commercial use areas of Pa`ia Town and Ha`iku based on the following guidelines:

a. Visually maintain and enhance the low-density town character.
b. Require that future development be compatible with the desired scale and rural character.
c. Maintain the ambiance of Pa`ia and Ha`iku Towns:

> Design improvements should be undertaken in a coordinated and ongoing fashion so as to ensure compatibility of future development projects with the desired character. Road improvements for drainage, lighting, and safety should be coordinated with the maintenance of the existing rural, informal streetscape which exemplifies the character of Pa`ia and Ha`iku Towns. For example, urban roadway standards which require excessive street widths detract from a rural character and should be discouraged.

5. Save and incorporate healthy, mature trees in the landscape planting plans of subdivisions, roads or any other construction or development.

6. Incorporate the principles of xeriscaping in all future landscape planting.

7. Use "native plants" for landscape planting in all public projects to the extent practicable.

8. Ensure that all future subdivisions, construction projects, and developments comply with the Maui County Planting Plan.

Comment: The project complies with a village form of development within defined growth bouandaries with a core of low-rise residential and commercial mixed uses. It is organized and

designed to enhance pedestrian and bicycle access by its close proximity to the town, the Kanoa Senior Center, the north shore bike path, and Baldwin Beach Park.

PHYSICAL INFRASTRUCTURE

Transportation
Goal

Transportation systems that facilitate the safe and efficient movement of people, produce and goods within and outside the region.

Objectives and Policies

Encourage convenient pedestrian and bicycle access between residences and neighborhood commercial areas, parks and public facilities, in order to minimize use of the automobile within residential communities.

Require off-street parking as a part of new commercial development in Lower Pa`ia.

Implementing Actions

Construct sidewalks with landscaping in the commercial areas of Pa`ia and Ha`iku, so as to retain their existing characters.

Comment: The project will link the existing Paia Post Office sidewalk along the westerly edge of Baldwin Avenue all the way down along the easterly edge of the Property. This will improve safety for all pedestrians walking to the Post Office. Because the senior housing is so close to the commercial development, town and Baldwin Beach park, the residents will be able easily walk or bike to shop, get services, eat, or recreate.

Drainage
Goal

Improvements to the storm drain system which provide for a high standard in preventing flooding and property damage while not adversely affecting the marine environment and nearshore and offshore water quality.

Objectives and Policies

1. Ensure that storm water run-off and siltation from proposed development will not adversely affect the marine environment and nearshore and offshore water quality. Open culverts which empty directly into nearshore waters should be avoided.

2. Encourage the construction of natural grass-lined drainage channels, as opposed to concrete channels, and installation of siltation basins.

3. Encourage the incorporation of drainageways into open space, pedestrianway and bikeway networks.

4. Effectively control storm water run-off in new urban, rural or agricultural subdivisions and developments, so as to avoid net increase in storm water run-off where practicable.

Comments: The project will ensure that all storm waters will be retained on-site and in the proposed drainage basin on the westerly side of the Paia mini bypass.

Energy
Goal

Greater self-sufficiency in the need for non-renewable energy and more efficiency in use of energy resources.

Objectives and Policies

6. Support energy-efficient building design and site development practices.

Comment: The project has been designed to incorporate energy efficiencies such as solar water heating, low flow plumbing fixtures, and photovoltaic energy.

GOVERNMENT

Goal

Government that demonstrates the highest standards of fairness and is responsive to the needs of the community, fiscally responsible and prudent, effective in planning and implementing programs to accommodate anticipated growth, fair and equitable in taxation, strict in the implementation of the Community Plan, and managed efficiently to provide coordinated and timely responses and the delivery of necessary services and programs to the public.

Objectives and Policies

Coordinate, direct and manage future development, and provide for necessary public services and infrastructure in a more effective and timely fashion.

Comment: It is the Applicants' intent to work with the County to build a development that complements the Community Plan and is responsive to both the commercial and residential needs of Paia.

C. Planning Standards: The following planning standards are specific guidelines or measures for development and design. These standards are essential in clarifying the intent of the land use and town design objectives and policies and the Land Use Map.

Land Use Standards: All zoning applications and/or proposed land uses and developments shall be consistent with the Land Use Map and Objectives and Policies of the Pa`ia-Ha`iku Community Plan.

Town Design

a. Limit building heights to two (2) stories or thirty (30) feet above grade throughout the region, with any exceptions being subject to design review by the County.

b. Follow the Pa`ia-Ha`iku Design Guidelines adopted by the Planning Commission for the commercial use areas of Pa`ia Town and Ha`iku based on the following guidelines:

(1) Visually maintain and enhance the low-density town character;
(2) Require that future development be compatible with the desired scale and rural character; and
(3) Maintain the ambiance of Pa`ia and Ha`iku Towns.

c. Require off-street parking as a part of new commercial development.

Landscape Planting

a. Save and incorporate healthy, mature trees in the landscape planting plans of subdivisions, roads or any other construction or development.
b. Incorporate the principles of xeriscaping in future landscape planting.
c. Use "native plants" for landscape planting in all public projects to the extent practicable.
d. Ensure that all future subdivisions, construction projects and developments comply with the Maui County Planting Plan.

Comment: Included in the Development Plans in Appendix "G" on sheets L1 – L3, is a preliminary landscape plan for the project. The development of 54 senior apartments will assist in the long term housing needs of the north shore. Support services for this population will be provided in the readily accessible commercial space adjacent to these apartments. The combination of commercial space and housing will enhance pedestrian use within the community. The design of all buildings will comply with the Country Town Design Guidelines for the Paia-Haiku and the project will be landscaped to preserve water resources and enhance the physical attributes of the project. The design and construction of the project will be consistent with the community Plan design standards.

E. MAUI COUNTY ZONING & PAIA-HAIKU DESIGN GUIDELINES

The Property has three (3) separate County zoning designations: Agricultural, Interim and Country Town Business. To establish appropriate County zoning designations for the Property, the applicant is requesting a blanket change in Zoning from Agricultural and Interim to only Country Town Business.

The Country Town Business District Ordinance establishes the need to document the unique urban design character of remote business districts throughout Maui County and preserve them as an important feature of these rural communities. The Paia-Haiku Design Guidelines address design issues set forth in the Country Town Business District Zoning District Ordinance, including site planning, parking lot design, architectural design, materials selection, building massing, drainage, roadway standards, color selection, landscape planting, signage, and lighting. The Paia-Haiku Design Guidelines recommend that commercial development should be along Hana Highway and Baldwin Avenue encompassing the existing lots immediately adjacent to the roadways and the creation of public off-site parking area.

The Country Town Business Guidelines define the scale of buildings within Paia town. The majority of buildings in Paia are zero lot lines with facade lengths of 30 – 70 feet with several building clusters that have adjoining facades creating continuous canopies up to 110 feet. The proposed project has connected facades on Baldwin Avenue ranging from 64 – 96 feet, however these facades are broken up to look like 2 – 3 separate buildings. Every building within the project has an overhang and/or canopy as required by the guidelines. The guidelines state that most of the commercial buildings are built right along the property lines at the street which creates an almost continuous wall of buildings. The guidelines also state that newer structures such as the bank and post office are set back from the property line in accordance with zoning regulations. There are several other older properties that are setback and raised from the street. The proposed building at the upper end of the property on Baldwin Avenue has a zero set back. As the sidewalk drops along Baldwin and the property remains level the setbacks increase from approximately 8 – 15 feet. These setbacks accommodate both ADA access off the side walk and

extensive landscaping. The roofs and facades of the buildings all comply with the Country Town Guidelines and were modeled off existing architectural elements within the town. 90% of the ground level entry ways of the buildings have angled or recessed entry ways. All of the ground floor exterior doors of the project have single light, one pane glass wooden doors. The downstairs windows in the building are large frame display windows similar to other retail windows in Paia town and the 2nd story windows are a combination of multi paneled windows similar to those in Paia town.

The wall finishes for the project are a combination of stucco and wood sided in board and batten clap board styles similar to other buildings in town and in compliance with the guidelines. Each of the buildings in the project has substantial ornamentation similar to styles of Paia town including curved and angular geometric building elements, variation and building planes and color accents. The stucco buildings will have relief detailing appropriate to the style of the historic town.

On page 36 of the guidelines it states that there "are many instances where narrow alley ways would permit such assess to existing building in the backs of lots, creating additional opportunities for appropriately scaled commercial uses, and an interesting rich urban design fabric". This is the exact intent of this project and its name "Paia Courtyard" is to convey a sense of the old style buildings with intimate courtyards. The project will be a rarity in Paia in that it will actually have the required number of parking spaces, plus additional parking and provided on sight. To comply with the guidelines, parking will be located behind the commercial buildings and in the middle of the lot.

F. COASTAL ZONE MANAGEMENT OBJECTIVES AND POLICIES

The Hawaii Coastal Zone Management Program (HCZMP), as formalized in Chapter 205A, Hawaii Revised Statutes (HRS), establishes objectives and policies for the preservation, protection and restoration of natural resources of Hawaii's coastal zone. As set forth in Chapter 205A, HRS, this section addresses the proposed action's relationship to applicable coastal zone management considerations. Roughly half of the Property falls within the County's Special Management Area (SMA) as shown on **Exhibit "1"**.

1. Recreational Resources.

Objective: Provide coastal recreational opportunities accessible to the public.

Policies: Improve coordination and funding of coastal recreational planning and management; and provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by protecting coastal resources uniquely suited for recreational activities that

cannot be provided in other areas; Requiring replacement of coastal resources having significant recreational value including, but not limited to, surfing sites, fishponds, and sand beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the state for recreation when replacement is not feasible or desirable; Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value; Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation; Ensuring public recreational uses 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; 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; Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, and artificial reefs for surfing and fishing; and 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.

Response: The Property is mauka of Hana Highway and recreational resources will not be adversely impacted by the development.

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: Identify and analyze significant archeological resources; Maximize information retention through preservation of remains and artifacts or salvage operations; and Support state goals for protection, restoration, interpretation, and display of historic resources.

Response: Prior agricultural activities have significantly altered the underlying lands. An archaeological inventory survey was completed with the result of no cultural resources being found in the project area. In the event that significant archaeological materials are encountered the office of SHPD will be notified accordingly in order to determine the appropriate mitigation measures.

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: Identify valued scenic resources in the coastal zone management area; 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; Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and Encourage those developments that are not coastal dependent to locate in inland areas.

Response: The proposed entitlement requests will not impact coastal scenic and open space resources. The Project is not located on the coast and will not adversely impact public views to and along the shoreline. Parts of the Project will have views of the northshore, west Maui mountains, and Haleakala.

4. **Coastal Ecosystems**.

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

Policies: Exercise an overall conservation ethic, and practice stewardship in the protection, use, and development of marine and coastal resources; Improve the technical basis for natural resource management; Preserve valuable coastal ecosystems, including reefs of significant biological or economic importance; 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 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.

Response: Approval of requested entitlements are not anticipated to adversely impact coastal ecosystems. Future construction activities will be conducted in accordance with accepted and approved BMPs and all surface water will be retained onsite.

5. **Economic Uses.**

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

Policies: Concentrate coastal dependent development in appropriate areas; Ensure that coastal dependent development such as harbors and ports, and coastal related development such as visitor 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 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: Use of presently designated locations is not feasible; Adverse environmental effects are minimized; and the development is important to the State's economy.

Response: No adverse impacts to the economy are anticipated as a result of approval of the requested entitlements. The future development of the Property will result in short-term economic benefits through the addition of construction-related employment. Long-term benefits will be realized through additional employment options and the provision of additional commercial space, parking, and senior housing which are consistent with Paia Town's country town character.

6. **Coastal Hazards**.

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

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

Response: Approval of requested entitlements will not adversely affect coastal hazard considerations. During future construction activities, erosion control measures will be incorporated to minimize soil loss and erosion hazards. All drainage improvements will be in compliance with County standards. No adverse drainage impacts to downstream or adjacent properties are anticipated as a result of implementation of engineered and to code surface water retention systems.

7. **Managing Development**.

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

Policies: Use, implement, and enforce existing law effectively to the maximum extent possible in managing present and future coastal zone development; Facilitate timely processing of applications for development permits and resolve overlapping of conflicting permit requirements; and 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.

Response: In compliance with the requirements of Chapter 343, Hawaii Revised Statutes, this environmental assessment has been prepared to facilitate public understanding and input to the project. Public participation opportunities will be provided through the entitlement review process, including Maui Planning Commission and County Council proceedings.

8. **Public Participation.**

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

Policies: Promote public involvement in coastal zone management processes; Disseminate information on coastal management issues by contact, and public workshops for persons and organizations concerned with coastal issues, developments, and government activities; and Organize workshops, policy dialogues, and site-specific mediations to respond to coastal issues and conflicts.

Response: As previously noted, public awareness of the project is being promoted through the environmental assessment and land use entitlements processes. The subject requests are not contrary to the objectives of public awareness, education and participation.

9. **Beach Protection.**

Objective: Protects beaches for public use and recreation.

Policies: 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; Prohibit construction of private erosion-protection structures seaward of the shoreline, except when they result in improved aesthetic and engineering solutions to erosion at the sites and do not interfere with existing recreational and waterline activities; and Minimize the construction of public erosion-protections structures seaward of the shoreline.

Response: The Property is located approximately 0.2 miles from the beach. Development of the Property is not anticipated to affect beach utility and processes.

10. **Marine Resources.**

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

Policies: Ensure that the use and development of marine and coastal resources are ecologically and environmentally sound and economically beneficial; Coordinate the management of marine

and coastal resources and activities to improve effectiveness and efficiency; Assert and articulate the interests of the State as a partner with federal agencies in the sound management of ocean resources within the United States exclusive economic zone; Promote research, study, and understanding of ocean processes, marine life, and other ocean resources in order to acquire and inventory information necessary to understand how ocean development activities relate to and impact upon ocean and coastal resources; and Encourage research and development of new, innovative technologies for exploring, using, or protecting marine and coastal resources.

Response: The use of the Property for CTB, uses is likewise not anticipated to adversely affect marine and coastal resources. The Property is not on the coast and all surface water will be retained within the Project.

G. RULES AND REGULATIONS OF THE MAUI PLANNING COMMISSION SPECIAL MANAGEMENT AREA RULES

The Rules and Regulations of the Maui Planning Commission, Chapter 202 were established in order to implement Chapter 205A, HRS relating to Coastal Zone Management and the SMA. In addition to establishing procedures for processing of SMA applications and procurement of related permits, the rules assist the Maui Planning commission in giving consideration to state policy regarding coastal zones.

This section addresses the project's relationship to applicable coastal zone management considerations as set forth in the Maui Planning Commission Rules and Regulations, Chapter 202, "Special Management Area Permit Procedures, " which are provided for considering the significance of potential environmental and ecological effects of a proposed action. The criteria have been set forth and addressed with respect to the proposed Paia Courtyard project as follows:

1. **Involves an irrevocable commitment to loss or destruction of any natural or cultural resources**.

   A cultural impact assessment of the project area concluded that no significant impacts to cultural practices are anticipated. Refer to Native Hawaiian Cultural Practices Assessment, **Appendix C**. Similarly, the Archaeological Assessment (**Appendix A**) concluded that no historic properties would be affected. Nevertheless, as recommended by the Archaeological Assessment, ground altering activities during construction will be monitored as a precautionary measure as per an archaeological monitoring plan that will be submitted to the State Historic Preservation Division.

   Flora observed within the project site were generally limited to non-native, abundant grass species. The US Fish & Wildlife agency identified possible fauna that would be

impacted but a further study by Starr Environmental (Appendix "H") revealed that the Black Sphnix Moth was not present. Lighting on the Project will be down lit to protect sea birds. The proposed project is not anticipated to have significant adverse impact on the biological resources in the area.

2. **Significantly curtails the range of beneficial uses of the environment**.

   The proposed project will not curtail the range of beneficial uses of the environment. The project is a logical extension of Paia town in close proximity to existing residential neighborhoods, the commercial center, and existing infrastructure. The project will create a courtyard that will support and complement Paia's evolving resident and visitor population. Development of detailed engineering and architectural plans will allow for the identification of applicable best Management Practices (BMPs) to minimize any construction-related impacts. Further, drainage improvements will be designed to reduce runoff and sedimentation flowing offsite, thereby limited impacts to downstream properties and resources.

3. **Conflicts with the county's or the state's long-term environmental policies or goals**.

   The proposed project does not conflict with the State's Environmental Policy and Guidelines as set forth in Chapter 344, Hawaii Revised Statutes (HRS). Paia Courtyard is a town expansion that is exactly the type of development encouraged by Chapter 344.

4. **Substantially affects the economic or social welfare and activities of the community, county, or state**.

   On a short-term basis, the project will support construction and construction-related employment and have a beneficial impact on the local economy during the period of construction. From a long-term perspective, area residents, business owners, and visitors will benefit from the variety of retail, restaurant, services, senior housing, and community gathering spaces provided by the proposed.

5. **Involves substantial secondary impacts, such as population changes and increased effects on public facilities, streets, drainage, sewage, and water systems, and pedestrian walkways**.

   The current update to the Maui County General Plan accepts that the populations of the north shore of Maui, and Maui County in general are projected to increase through the year 2030. The proposed project is intended to address this population change by providing a mixture of senior apartments, business, retail, and visitor amenities in an area

designated for Country Town Business uses by the General Plan update. The proposed project is not anticipated to affect emergency service limits. Necessary infrastructure systems and services are available to serve the project. All surface water will be retained on-site. Roadway improvements to Baldwin Avenue, including a sidewalk will be provided as part of the proposed action to facilitate vehicular and pedestrian travel along this roadway. The Applicants' traffic study sets forth several options to mitigate traffic impacts associated with the implementation of the proposed project (Appendix "D").

6. **In itself has no significant adverse effects but cumulatively has considerable effect upon the environment or involves a commitment for larger actions**.

The proposed project is not anticipated to have a cumulative adverse impact on the environment, nor involve a commitment to larger actions. Although the Project should significantly help Paia's parking issues, traffic has been an ongoing problem over the last decade due to the increased population growth on the northshore. If there is a potential for opposition to the Project it may be related to traffic issues. The traffic problem is primarily caused by the flow of traffic along Hana Highway from and to Haiku and beyond. The senior housing element of the Project will stop in Paia Town. Many of its residents will be retired and not burden rush hour traffic.
In addition, they will live in a walking community with easy access to stores and services. The traffic issue will not go away as long as there is population growth on the northshore. Until a bypass road is built around Paia, serious consideration should be given to the recommendations in the TIAR Update. As previously noted, the project site is centrally located in lower Paia. The proposed project is not anticipated to have a considerable impact on the environment due to its location, infrastructure and services that are available to serve the project.

7. **Substantially affects a rare, threatened, or endangered species of animal or plant, or its habitat**.

Flora and fauna observed within the project site were generally limited to non-native, abundant species and mitigation measures will be taken.

8. **Is contrary to the state plan, county's general plan, appropriate community plans, zoning and subdivision ordinances**.

Approximately 1.35 acres of the land along Baldwin Avenue is already designated as Business/Commercial. The portion next to that is Public/Quasi-Public (2.933) acres, which would allow parking as is. The proposed business, commercial, and retail uses are thus consistent with the underlying Community Plan designation. A Community Plan

Amendment is being pursued to allow for development of the senior housing on the Ag portion of the property. A blanket Business/Commercial Change-in-Zoning is being pursued to establish conformity with the Community Plan designations. It is noted that the project site is within the proposed urban growth boundary of the Maui Island Plan.

9. **Detrimentally affects air or water quality or ambient noise levels**.

Short-term air quality and noise impacts caused by construction activity will be mitigated through the implementation of Best Management Practices (BMP's). Dust control measures, such as regular watering and sprinkling and installation of dust screens, will be implemented to minimize wind-blown emissions. In the short term, noise impacts will occur primarily from construction equipment, site work, and building construction. Equipment mufflers or other noise attenuating equipment, as well as proper equipment and vehicle maintenance, will be used during construction. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaii, Department of Health Administrative Rules title 11, Chapter 46, "Community Noise Control". These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in the Chapter 46 Rules. In the long term, adverse impact to ambient noise conditions are not anticipated, considering the project's location upwind from large HC&S Sugar Cane production.

Potential water quality impacts associated with construction activity will be mitigated through use of BMPs for erosion and sediment control. Landscaped retention basins and underground infiltrators as designed in the Project's drainage plan will retain all water onsite.

10. **Affects an environmentally sensitive area, such as flood plains, shoreline, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh waters, or coastal waters**.

The site is situated inland of the shoreline and is not anticipated to have any adverse impact upon coastal waters or resources. The project site is situated within Flood Zone X which is an area of minimal flooding. The project site is not situated within a tsunami inundation zone.

The use of onsite retention basins, and underground retention basins, are expected to mitigate offsite drainage runoff and adverse impacts to coastal waters. Further, appropriate mitigation measures will be developed in consultation with the applicable governmental agencies during the design process. During construction, recommended

BMPs will be implemented for erosion and sedimentation control. It is noted that soils underlying the project site exhibit slow and negligible runoff hazards.

11. **Substantially alters natural land forms and existing public views to and along the shoreline**.

The proposed project is located at elevations ranging between approximately 54 feet and 14 feet above mean sea level. The proposed project will not substantially alter any natural land forms. The site plan has been designed to integrate the proposed buildings with the gentle slope of the landscape. The site is not on Hana Highway and not part of a scenic corridor. With the buildings limited to 35 feet in height, the proposed project is not anticipated to substantially affect views to or along the shoreline.

12. **Is contrary to the objective and policies of Chapter 205A, HRS**.

The projects relationship to the Coastal Zone Management considerations are addressed previously in this section. Based on the foregoing analysis, the project will appropriately and adequately mitigate impacts to SMA-relevant areas of interest. Accordingly, there are no anticipated significant environmental and ecological effects attributed to the proposed action.

H. OTHER REGULATORY APPROVALS

A landscaped detention basin on 1 acre of A & B land that is across the mini bypass from the project is proposed to detain runoff. There are no Federal permits or licenses required which would prompt the need for a Coastal Zone Management consistency review.

IV. ALTERNATIVES TO THE PROPOSED ACTION

The Applicant has reviewed a variety of alternatives in consideration of the proposed project. These alternatives are described and discussed below.

A. PREFERRED ALTERNATIVE

The proposed development plan, outlined in Section I, Project Overview, represents the preferred alternative. The project site is located in a geographically central area of Paia surrounded by existing country town business development on 3 sides. The preferred alternative entails the development of commercial and senior housing adjacent to existing infrastructure systems. The proposed project is designed and intended to create a courtyard center that will provide an off-street parking resource to the town with approximately 350 parking spaces, senior housing, a bus stop, alternative access to Baldwin Beach Park via the northshore bike path, and charging stations for electric vehicles. The Project incorporates smart development within the town core that promotes a walking community for its residents.

B. NO ACTION ALTERNATIVE

Under the "no action" alternative, 9 acres of the project site would remain vacant and underutilized. However, the underlying "Business/Commercial" community Plan designation and "Public/Quasi Public" zoning designation indicate that previous planning efforts recognize the location as a favorable area for community development. Neighboring land uses include the Post Office mauka of the project, commercial buildings across the street, cane fields to the west and businesses and single family homes makai. Various single-family neighborhoods are also in close proximity. The proposed project would complement and tie together the surrounding land uses to enhance Paia town. The "no action" alternative would not take advantage of the site's suitability for village like expansion of the town and a chance to make a significant impact on Paia's ongoing lack of parking. If no action is taken it would leave 9 acres of vacant land that is already designated for urban expansion in the Maui Island Plan.

C. ALTERNATIVE DEVELOPMENT PLAN

As an alternative to the proposed development concept that provide business uses intermixed with retail, restaurant, apartment, and senior housing, the project could be redesigned as a single-use development, such as residential development , a business complex, or a commercial center. This type of development, however, would be less desirable than a development of commercial areas with a mixture of uses and integrated

community facilities as recommended in the Maui County General Plan and Maui County Island Plan.

D. ALTERNATIVE LOCATIONS

With the project site located amid business, commercial, and residential areas, the proposed project is compatible with and supportive of the surrounding land uses. The project site is one of the last remaining undeveloped sites in Paia that is designated by the Community Plan for commercials use-or for any use other than single-family residential. Moreover, few other sites in Paia offer the potential for urban expansion development that the project site offers. In light of these conditions, an alternative location was not pursued.

V. SUMMARY OF UNAVOIDABLE IMPACTS AND COMMITMENT OF RESOURCES

The development will result in certain unavoidable construction-related impacts as outlined in Section II. Initially construction associated with the proposed development will generate noise which will be limited to the immediate vicinity of the project construction areas. Best Management Practices (BMPs) such as the use of sound attenuating construction equipment will be used, where practicable, to mitigate noise impacts caused by construction. In the long term, ambient noise conditions would be affected only by vehicles traveling along Baldwin Avenue.

Unavoidable air quality impacts will also arise as a result of construction activities, such as the generation of dust and other airborne pollutants. To mitigate adverse impacts, appropriate BMPs including frequent watering of exposed surfaces and regular maintenance of construction equipment will be implemented during the construction period to minimize construction-related impacts.

Development of the Project will alter the existing field of grass and weeds but is not anticipated to have an adverse impact upon scenic or open space resources. The proposed project will be developed as an architecturally integrated area with low-rise structures. Landscaping with shade trees and a berm with buffer trees along the residential side of the property will be installed as part of the development improvements to ensure visual buffering and softening of the building landscape.

Traffic and parking have been ongoing issues in Paia for many years. The TIAR Update concluded that the existence of on-street parking worsens operations along Hāna Highway. The difference between observed and calculated LOS is a result of what is considered to be a part of the intersection with Baldwin Avenue. Therefore, the reconfiguration, reduction, or removal of on-street parking along Hāna Highway will remove vehicle conflicts that impede roadway flow and consequently worsen intersection operations. The reconfiguration of parking along Hāna Highway would allow for additional width of travel way and the ability to improve multi-modal connectivity and safety by continuing the bicycle facility that ends at the Pāia Mini Bypass Road. To improve pedestrian safety as well as vehicular operations along Hāna Highway, the inclusion of a crosswalk across the west leg of the intersection, or at a mid-block location between the intersection and public parking, would provide a protected crossing.

It is believed that these proposed mitigation actions will improve operations through Pāia town and at the intersection of Hāna Highway and Baldwin Avenue. It is also anticipated that there will be strong opposition to any removal or change in parking by some business owners along

Hana Highway. There will be resistance to these changes that must be weighed against the following benefits:

1. More people will come to Paia to shop if traffic is improved and substantial parking is available.
2. Less time will be wasted by residents and tourists waiting to get into or through Paia.
3. Less pollution from cars stuck in traffic.
4. Less gasoline wasted.
5. A dedicated bike route through town.

It is questionable how much benefit the Hana Highway merchants receive from the Hana Highway parking, especially if there was significant alternatives nearby. Many people are too frustrated to shop after waiting to get into town and many others simply avoid Paia altogether. The benefits are undeniable. With or without this Project the removal or reconfiguration of parking on Hana Highway should be addressed by the State and County.

Most of the new residents will be seniors. They will likely not be driving during rush hour periods and they will not be going "through" Paia, and most will access their apartments off the Hana Highway from the Paia Mini-Bypass. The inclusion of 172 additional off-street parking stalls for tenants, employees, and customers, beyond the number required by zoning, in the Pāia Courtyard plans will help offset any reduction in the number of available on-street parking. Available parking provided by the Pāia Courtyard will also assist in reducing the number of conflicting turns into and out of driveways off of Hāna Highway for vehicles looking for parking. Way-finding signage could be installed along Hāna Highway that directs vehicles traveling from the west onto the Pāia Mini Bypass Road to access Pāia town parking, reducing the number of vehicles traveling through the intersection of Hāna Highway and Baldwin Avenue. It is because of this that the proposed options for reconfiguring parking along Hāna Highway, and addition of parking stalls with the Pāia Courtyard project, will result in better operations at the intersection of Hāna Highway and Baldwin Avenue.

VI. SIGNIFICANCE CRITERIA ASSESSMENT

The "Significance Criteria", Section 12 of the Hawaii Administrative Rules, Title 11, Chapter 200, "Environmental Impact Statement Rules", were reviewed and analyzed to determine whether the proposed project will have significant impacts on the environment. The following criteria and preliminary analysis are provided.

1. **Involves an irrevocable commitment to loss or destruction of any natural or cultural resource**.

   As mentioned in Section II of this document, a Native Hawaiian Cultural Practices Assessment of the project concluded that no significant impacts to cultural practices were anticipated. Refer to **Appendix C**. The Archaeological Assessment concluded that no historic properties would be affected. Nevertheless, as recommended by the Archaeological Assessment, ground-altering activities during construction will be monitored as a precautionary measure by a professional archaeologist, as per an archaeological monitoring plan.

   Flora observed within the project site were generally limited to non-native, abundant species. Mitigation measures will be implemented to protect migrating seabirds.

2. **Curtails the range of beneficial uses of the environment**.

   The proposed project will not curtail the range of beneficial uses of the environment. Rather, as an urban expansion project in close proximity to existing residential neighborhoods, the town, and infrastructure, the project optimizes the use of the underlying lands. The project will create a center that will support and complement Paia's evolving resident and visitor population. Development of detailed engineering and architectural plans will allow for the identification of applicable Best Management Practices (BMPs) to minimize any construction-related impacts. Further, drainage improvements will be designed to eliminate runoff and sedimentation flowing offsite, thereby preventing impacts to downstream properties and resources.

3. **Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders**.

   The proposed project does not conflict with the State's Environmental Policy and Guidelines as set forth in Chapter 344, Hawaii Revised Statutes (HRS).

4. **Substantially affects the economic welfare, social welfare, and cultural practices of the community or State**.

   On a short-term basis, the project will support construction and construction-related employment and have a beneficial impact on the local economy during the period of construction. From a long-term perspective, area residents, business owners, and visitors will benefit from the variety of retail, restaurant, services and senior housing provided by the proposed project. Also, State and County governments will obtain increased tax revenue once the project is constructed and occupied. The cultural impact assessment of the project site concluded that no significant impacts to cultural practices are anticipated.

5. **Substantially affects public health**.

   The proposed project is not anticipated to have any significant adverse impacts to public health. In the creation of a pedestrian-oriented site plan with a walking corridor, it is anticipated that public health and the vibrancy of the community will be enhanced. It is also hoped that a physician and supporting services will lease space in the Project.

6. **Involves substantial secondary impacts, such as population changes or effects on public facilities**.

   The current update to the Maui County General Plan accepts that the populations of Maui County in general are projected to increase through the year 2030. The proposed project is intended to address this population change by providing a mixture of businesses and housing in an area designated for urban uses by the General Plan update. The proposed project is not anticipated to affect emergency service limits. Necessary infrastructure systems and services are available to serve the project. Non-potable well water will be utilized to the extent practicable for landscape irrigation. Roadway improvements to Baldwin Avenue and the Paia Mini-Bypass will be provided as part of the proposed action to facilitate vehicular and pedestrian travel along these roadways and to mitigate traffic impacts associated with the implementation of the proposed project.

7. **Involves a substantial degradation of environmental quality**.

   The project is not anticipated to have a significant adverse impact upon the natural environment. During construction, recommended best Management Practices (BMPs) will be implemented for erosion and sedimentation control. Design of the project will incorporate the use of an offsite retention basin, and underground retention basins, to prevent offsite drainage runoff and impacts to coastal waters. Other appropriate

mitigation measures will be developed in consultation with the applicable governmental agencies during the project design process.

8. **Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions**.

The proposed project is not anticipated to have a cumulative adverse impact on the environment, nor involve a commitment to larger actions. As previously noted, the project site is centrally located in a county town business district. Due to this location, infrastructure systems and services are available to serve the project. Roadway improvements to Baldwin Avenue will be provided as part of the proposed action. Because the project is in the heart of Paia Town, the mixed use commercial and senior housing is not anticipated to result in any significant cumulative impacts on the environment.

9. **Substantially affects a rare, threatened, or endangered species, or its habitat**.

Flora and fauna observed within the project site were generally limited to non-native, abundant species. In effect, the proposed project is not anticipated to have significant negative impact on the biological resources in the area. The U.S. Fish & Wildlife service recommended that a biologist survey the land for the presence of Blackburn Sphinx Moth. The Biological Survey conducted by Starr Environmental found no evidence of the Blackburn Sphinx Moth and with the exception of the common uhaloa the parcel is composed of completely non-native vegation.

10. **Detrimentally affects air or water quality or ambient noise levels**.

Short-term air quality and noise impacts caused by construction activity will be mitigated through the implementation of Best Management Practices (BMPs). Dust control measures, such as regular watering and sprinkling, and installation of dust screens will be implemented to minimize wind-blown emissions. In the short terms, noise impacts will occur primarily from construction equipment, site work, and building construction. Equipment mufflers or other noise attenuating equipment, as well as property equipment and vehicle maintenance, will be used during construction. Construction noise impacts will be mitigated through compliance with the provisions of the State of Hawaii, Department of Health Administrative Rules Title 11, Chapter 46, "Community Noise Control". These rules require a noise permit if the noise levels from construction activities are expected to exceed the allowable levels set forth in the Chapter 46 rules. In the long term adverse impacts to ambient noise conditions are not anticipated, considering the project's location in the midst of a developed urban area.

Potential water quality impacts associated with construction activity will be mitigated through use of BMPs for erosion and sediment control. A Retention basin and underground retention incorporated into the project's drainage plan will eliminate storm water runoff.

11. **Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters**.

The site is situated inland of the shoreline and is not anticipated to have any adverse impact upon coastal waters or resources. The majority of the project site is situated within Flood Zone X, an area of minimal flooding. A small portion of the lot is located within Flood Zone AH, a flood hazard area subject to inundation by the one (1) percent annual chance flood (i.e. the 100-year flood), and no structures will be built in these areas or will be designed in accordance with the standards for development set forth by Section 19.62.060, Maui County Code. *The project site is not situated within a tsunami inundation zone.*

The use of an offsite detention basin is expected to prevent offsite drainage runoff and impacts to coastal waters. Further, appropriate mitigation measures will be developed in consultation with the applicable governmental agencies during the design process. During construction, recommended BMPs will be implemented for erosion and sedimentation control. It is noted that soils underlying the project site exhibit slow and negligible runoff hazards.

12. **Substantially affects scenic vistas and view planes identified in county or state plans or studies**.

The proposed project is located at elevations ranging between approximately 14 feet and 54 feet above mean sea level. The proposed project will not substantially alter any natural land forms. The site plan has been designed to integrate the proposed buildings with the slope of the landscape. Being removed from the main thoroughfares of Hana Highway, the project site is not part of a scenic corridor. With the buildings limited to 35 feet in height and with senior housing located at the rear of the property line away from Baldwin Avenue the proposed project is not anticipated to substantially affect views to or along the shoreline.

The project site is not located within any previously identified scenic vistas or view planes. Landscaping will be implemented as part of the development improvements to

ensure visual buffering and softening of the built landscape. Adverse impacts to scenic or open space resources resulting from the project are not anticipated.

13. **Requires substantial energy consumption**.

The project requires fuel for construction equipment, vehicles, and machinery during construction and maintenance activities. Coordination with Maui Electric Company, Ltd. (MECO) will be undertaken during the electrical plans preparation phase of work to ensure all operational parameters are addressed for the proposed project. Where feasible and practicable, energy saving measures, such as installation of photovoltaic (PV) systems, will be incorporated into the project design and electric car charging stations included. The project's location in Paia with close proximity to residential neighborhoods and Kahului, with pedestrian and bicycle connectivity to Baldwin Beach, Spreckelsville and Kahului and bus stops will result in lower long term transportation and fuel costs.

In summary, the proposed project is situated at a logical location in Paia for growth. The project site is adjacent to Baldwin Avenue and the mini bypass. These are roadways that provides convenient access for local traffic. The project is in close proximity to residential subdivisions, commercial businesses, and non profit entities such as Churches, the Paia Youth Center and Parks. By adding much needed additional commercial space, parking and senior housing, the project is anticipated to enhance and complement Paia Town. Necessary infrastructure systems and public services are available within proximity to the project site. With the implementation of Best Management Practices and other mitigation measures, the project is not anticipated to have a significant adverse impact on the physical measures and is not anticipated to have a significant adverse impact on the physical environment. Based on the foregoing analysis, it is anticipated that the EA for the proposed action will result in a finding of No Significant Impact (FONSI).

VII. LIST OF PERMITS AND APPROVALS

The following list of permits and approvals are anticipated to be needed for project implementation.

1. **Federal**

   None

2. **State of Hawaii**

   A. National Pollutant Discharge Elimination system (NPDES) Permits, as applicable.

   B. Department of Health Community Noise Permit, as applicable.

   C. Department of Health 401 Water Quality Certification, as applicable.

3. **County of Maui**

   A. District Boundary Amendment.

   B. Community Plan Amendment.

   C. Change in Zoning.

   D. Special Management Area Use Permit.

VIII. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIONMENTAL ASSESSMENT; LETTERS RECEIVED; AND RESPONSES TO SUBSTANTIVE COMMENTS

VIII. PARTIES CONSULTED DURING THE PREPARATION OF THE DRAFT ENVIRONMENTAL ASSESSMENT; LETTERS RECEIVED; AND RESPONSES TO SUBSTANTIVE COMMENTS

The applicants mailed notices to all owners living within 500 feet of the project. A meeting regarding the project was held on April 29, 2013, with 15 different property owners attending. David R. Spee, Henry Spencer, and the architect, Hunton Conrad presented an overview of the project with poster boards of the site plan and 3D renderings of the building design. Comment from the community included concerns regarding drainage, noise abatement during construction and the need for a doctor and a hardware store in Paia. In general the remaining comments were positive. Comments also included the sense that the proposed buildings reflect the style of existing Paia Town. People liked the extra parking and hoped that additional services will come that support the community.

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Appendix A

Archaeological Assessment

ARCHAEOLOGICAL ASSESSMENT FOR A PARCEL OF LAND IN PAIA HAMAKUAPOKO *AHUPUA'A*, MAKAWAO DISTRICT ISLAND OF MAUI TMK: (2) 2-5-005:061

For
Paia 2020, LLC

Prepared by
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REVISED
SEPTEMBER 2011

"Protecting, Preserving, Interpreting the Past While Planning the Future"

ARCHAEOLOGICAL SERVICES HAWAII, LLC
1930A Vineyard St.
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EXECUTIVE SUMMARY

Under contract to landowner, Paia 2020 LLC, Archaeological Services Hawaii, LLC (ASH) conducted an archaeological assessment (inventory survey with negative results) for a 9.262-acre agriculturally zoned parcel of land in Paia, Hamakuapoko *ahupua'a*, Makawao District, Island of Maui, TMK (2-5-05:18 pors and 61). The purpose of the investigation was to determine presence/absence, extent, and significance of cultural resources if present in the project area.

Archaeological investigations were performed from 9-10th of March 2011 by Mr. Reynaldo N. Fuentes (B.A.) and Ms. Rochelle Barretto (B.A) under the supervision and direction of Ms. Lisa Rotunno-Hazuka (B.A.). Mr. Jeffrey Pantalelo (M.A.) acted as Principal Investigator.

The parcel has undergone compounded disturbances from the cultivation of sugarcane for the past 100 years. Due to these disruptions, the inventory survey was conducted utilizing backhoe test trenches. A total of fourteen trenches (TR1-14) were executed across the parcel in a random systematic patterning. The trenches averaged 4.0 m long by 1.8 m wide by 1.8 m deep and the stratigraphy exemplified that the till-zone for sugar cane ranged from .25 m (10 inches) to .50 m 1.0 ft. 8 inches. No historic properties were identified during the testing program.

Based on the negative findings of the current undertaking, no further inventory level work is recommended. However, archaeological monitoring is initially recommended during all future ground-disturbing activities.

Prior to commencing any construction related activities, an archaeological monitoring plan shall be submitted for review and approval by the State Historic Preservation Division of the Department of Land and Natural Resourced (SHPD-DLNR).

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INTRODUCTION

At the request of Paia 2020 LLC., Archaeological Services Hawaii, LLC (ASH) conducted an archaeological assessment (archaeological inventory survey with negative findings) of a 9.262-acre parcel in Paia, Hamakuapoko *ahupua'a*, Makawao District, Island of Maui, TMK 2-5-05:18 pors and 61 (1.046 acres), (Figures 1 and 2). The purpose of this investigation was to determine presence absence, extent, and significance of historic properties and to formulate future mitigation measures for the project area.

PROJECT AREA

The project area is located at the base of the northeastern slopes of Haleakala within Paia Town (Figure 1). It is near the shoreline and bounded to the north by portions of Paia Town and Hana Highway, to the east by Baldwin Avenue to the south by the USPS (Post Office) building, and to the west by a Parcel 18. It is just east of the boundary line between Wailuku and Makawao which follows Kailua Gulch.

ENVIRONMENT

The project area is near the shoreline on relatively level terrain which slopes west to east, with elevation ranging from 20-70 feet above mean sea level (AMSL). The parcel contains some fallow sugarcane (*Saccharum officinarum*), but primarily tall grasses with secondary vegetation including small stands of kiawe (*Prosopis pallida*), *haole koa* (*Leucaena* glauca) and various grasses and weeds along the perimeter. Rainfall averages below 10 inches per year, predominantly occurring during the winter months between November and February (Armstrong 1973). Soils in the project area are primarily from the Paia Series and consist of Paia silty clay (PcB) and (PcC). The Paia series is composed of well-drained soils on the lowlands and uplands and are formed in material weathered from basic igneous rock. They are nearly level to moderately steep with elevations ranging from nearly sea level to 1,000 feet. These soils are used for sugarcane, pineapple, for pasture and wildlife habitat (Foote et *al.* 1972-Figure 3).

Figure 1. United States Geological Survey (U.S.G.S.) Quadrangle Map Depicting Project Area in Blue (2010)

Figure 2. Maui County Tax Map Key (TMK) Project Area Outlined in Red (2007)

Figure 3. U.S.D.S. Web Soil Survey Map with Project Area Outlined in Blue (2009)

BACKGROUND

Mythological and Traditional Accounts

The Hawaiian creation chant (Kumulipo) describes Maui as a direct ancestor of the Hawaiian people and a descendant of Wakea on the Ulu line (Beckwith 1970:226). The island of Maui was named for the demi-god Maui, a well-known trickster hero throughout Polynesia. A synopsis of the ruling class in Hawai`i is provided below. According to oral traditions, Halo was one of the first chiefs of Maui who ruled the Wailuku District. By A.D. 1500 East Maui was ruled by a line of independent *ali`i nui*. Other lines of chiefly hierarchies emerged at this time, resulting in a rise in conflicts and competition. By A.D. 1600, Maui was unified by the Wailuku chief Pi`ilani (Fornander 1880:87). During the eighteenth century, the *mo`i* (a rank of chief) Kekaulike undertook raids against Hawai`i Island. Following the annexation of Hana and Kipahulu Districts to Kamehameha I, Kahekili II first recaptured Hana and Kipahulu from Kamehameha I and then conquered O`ahu and Molokai. Kaua`i was also annexed through marriage (Pantalelo 2001).

Customarily on Maui, land divisions into *moku* (districts), *ahupua`a* (sub-districts), and *`ili* (smaller divisions) were said to have taken place "under a *kahuna* (priest) named Kalaihaohi`a (Hew the bark of the *ohia* tree) each ruled over by an agent appointed by the landlord of the next larger division, and the whole under the control of the ruling chief over the whole island" (Beckwith: 1970:383). Fornander suggests that this

would have occurred at the end of the 15th century or at the beginning of the 16th century (Fornander 1916/17, Vol. 6:248).

According to Sterling, "The system of land tenure which prevailed in ancient times was radically changed in the reign of Kamehmeha III by the Mahele of 1848, yet the boundaries of the ancient subdivisions of land remain unchanged to the present day (Figure 4). This applies particularly to the *ahupua`a* which has been termed the unit of land in Hawai`i. This typology of land division usually incorporated both marine and terrestrial resources essential for traditional living. In reference to Stokes' basis of chronology, these land divisions were allegedly established approximately five hundred years ago and have remained relatively unchanged (Sterling 1998:3).

Approximate location of project area

Figure 4. Maui *Ahupua`a* Boundary Map from *A Gazetteer of Territory of Hawai`i,* John Wesley Coulter (1935)

Early Historic Period

In reference to the Hawaiian Monarchy, at the time of European contact in A.D. 1778, Maui was united under a single political polity under the rule of *mo`i* Kahekili. By A.D. 1795, Kahekili ruled all of the islands apart from Hawai`i Island. Kamehameha I, *mo`i* of Hawai`i Island, attacked Maui, Molokai, and O`ahu islands. Keli`imaika, brother of Kamehameha I of Hawai`i Island, unsuccessfully attempted to retake Hana and Kipahulu. In 1790, Kamehameha I overpowered Kalanikupule's forces at the Battle of `Iao Valley on Maui. Kalanikupule's ultimate defeat of the Battle of Nu`uanu on O`ahu ascertained Kamehameha I as absolute ruler of the islands, with the exception of Kaua`i. Kamehameha the Great's favorite wife, Hana-born Ka`ahumanu, served as his counselor (Pantalelo 2001).

After the death of Kamehmeha I in 1819, Ka`ahumanu declared herself *kuhina nui* (premier) sharing of regal authority with the new young King Liholiho (Kamehameha II). It is suggested that she confronted the new king and implied that it was his father's wishes for her to share rulership of the land. From the time of Liholiho's departure for England in 1823, until Ka`ahumanu's death in 1832, she virtually ruled the kingdom. It was during the aforementioned time frame that the strength of the ancient *kapu* (prohibition) system began to fail. Ka`ahumanu, who disagreed with the restrictions of traditional *kapu* system, persuaded Liholiho to abolish it. "The train of circumstances leading up to the final act of abolition of the *kapu* and the old religious system cannot easily be traced in detail...Some authorities state that immediately after the installation of Liholiho as king, Ka`ahumanu proposed to him that the *kapu* be disregarded and she announced her own intention to disregard them" (Kuykendall1938:66-67). With the overthrow of the *kapu* system she was free to exercise her political authority but this prohibition inadvertently cleared the way for the Christian missionaries in 1820. With the emergence of Christianity, the *heiau* (religious structures) associated with the native religious practices were destroyed and abandoned.

In reference to the island of Maui, Ke`eaumoku, brother of Kamehameha I's wives Kaheiheimaile and Ka`ahumanu, presided over the island until his death in 1824. Ke`eaumoku was succeeded by Wahinepi`o, the sister of Chief (Governor) Boki. Hoapili succeeded Wahinepi`o and ruled Maui between 1826 until 1840, and was followed by Keoni ana (John Young II). Lahaina, located in West Maui, was the center of power in the Hawaiian Kingdom. Kamehameha III (Kauikeaouli), the last son of Kamehameha I, rose to the throne when he was ten years old - due to the death of his older brother. During his younger years, Ka`ahumanu continued to govern with the assistance of a council of chiefly advisors. Kamehameha III reigned from 1825 to 1854 - the longest period of power in the history of Hawai`i. During this period, he resided in Lahaina from 1837 to 1845 (Pantalelo 2001).

In 1778, with the appearance of Captain James Cook in Kahului Bay on Maui, the post-contact documentation of the indigenous populace on Maui began. A comprehensive account of history of the Hawaiian Kingdom commencing from contact (1778) is provided in Kuykendall (1938). There were additional voyagers to Hawai`i subsequent to the arrival of Cook - including La Perouse and Vancouver. By the early 1800s, whaling ships, merchants, and missionaries had arrived. The arrival of foreigners severely impacted the demographics of the Hawaiian people and caused a significant depopulation of the native people due to the introduction of Western diseases, in combination with the populace beginning to cluster around growing port towns. According to Kuykendall (1938:336), an early estimate of the population (made by missionaries) in 1823 was 142,050 and decreased to 86,593 by 1850.

Historic Background Mid- to Late- 1800's

In 1845, land reform legislation, which eventually developed into 'The Great Māhele, was introduced. During the *Māhele* in 1848, crown lands were divided between the Government, Royalty, and commoners (Figure 6). The Board of Commisioners to Quiet Land Titles received applications for land claims. When a land claim was validated, a Land Claim Award (LCA) was awarded. Following payment of this claim, a Royal Patent (R.P.) was issued. The Great Māhele initiated extreme social, economic, and political changes within the traditional Hawaiian culture on all the islands. The Māhele resulted in the division of lands according to a system of private ownership based on Western legal concepts. In the first phase of this process, Kamehameha III subdivided his lands among the highest *ali`i* (royalty) *konohiki* (chiefs), and some favored *haole* (foreigners). This process of redistribution severed the political and social relationships of the traditional system of land use (Moffatt and Fitzpatrick 1995:11). Following this change, *maka`ainana* (commoners) were then permitted to pursue legal title and ownership to land they had cultivated and inhabited, in addition to pursue purchase of other government lands. At the end of the Māhele, naturalized foreign citizens were given the right to purchase land in Hawai`i. The ultimate result of this decision placed more land in the hands of non-Hawaiians than native Hawaiians between the years of 1850 and 1865 (Moffatt and Fitzpatrick 1995:51).

> In 1848, there were approximately 88,000 Hawaiians, but only 14,195 applications were made...of the 14,195 *kuleana* claims, only 8,421 were actually awarded. The *Maka`ainana* received less than 1% of the land. Countless Native Hawaiians lost their land use rights as a result of the Great Mahele of 1848, with the establishment of a system of private land ownership. Many landless Native Hawaiians signed on as laborers in the emerging sugar industry, which began on Maui in the 1820s. Within a

short time, large tracts of land were turned over to commercial agriculture, primarily sugarcane cultivation (Kame`eleihiwa 1992:295).In many cases, the purchases or leases to non-Hawaiians included entire *`ili* or *ahupua`a*.

Figure 5. Hawaiian Government Survey Map (Brown and Monsarrat 1885)
(Crown lands Depicted in Yellow and Government Lands in Green)

As of 1893, a Hawaiian Government Survey indicated that less than one percent of the total land in the Hawaiian Kingdom had been awarded as *kuleana* land (Moffatt and Fitzpatrick 1995:50-51) (see also Kame`eleihiwa 1992). Changes instigated during the Māhele had a significant impact across the Hawaiian Islands. As previously mentioned, the 'Great *Māhele*' of 1848, brought with it an official change in the organization of land possession and significant changes for the people in Hawai`i. The most noteworthy aspect would be that the people could now own land fee simple, and the *maka`āinana* had the prospect to obtain land.

The earliest commercial sugar production on Maui Island began in Wailuku in 1823 when Hungtai Sugar Works was founded by Chinese merchants (Morrow n.d.:51). Wailuku Sugar Company was started in November of 1862 by James Robinson and company, Thomas Cumming, J. Fuller, and C. Brewer and Company. In 1865, C. Brewer and company acquired controlling interest, with Robinson and Company and Cumming as the minority stockholders.

In 1876, when the Reciprocal Trade Treaty was signed in Washington D.C., Alexander and Baldwin purchased land east of Kahului for sugar cane production. In 1878, they acquired the Paia Plantation and incorporated the Haiku Plantation the following year (Best 1978:13). The majority of central and eastern portion of Wailuku *ahupua'a* as Grant 3343, totaling 24,000 acres, and established the Hawaiian Commercial and Sugar Company (Alder 1966). In 1926, Alexander and Baldwin bought Spreckel's Hawaiian Commercial and Sugar Company, which resulted in the intensification of the sugar industry in Wailuku.

With Spreckels' acquisition of land, the Hawaiian Commercial Company (H. C. & C.) was established and there were two distinct areas of cultivation operated by opposing companies. The area to the west of Kailua Gulch was cultivated by H. C. and C. and the region to the east (extending to and including Pā`ia) was developed by S.T. Alexander and H.P. Baldwin Company (A &B Co.). The continuing escalation of the sugar industry on Maui brought with it the need for imported labor. Immigrants from around the world (Scandanavian, Scottish, Italian, German, Russian, Spanish, Hawaiian, Chinese, Portuguese, and Japanese) arrived on Maui to work on the sugar plantations. Thirteen camp communities, including: Japanese Camp, Russian Camp, Hawaiian Camp, Portuguese Camp, Spanish Camp, Chinese Camp, Cod Fish Row, Camp One, Camp Two, and Camp Three, were established in the Pu`unene and Spreckelsville region. Camps along railroad spur lines were established throughout the cultivated regions and small towns began to emerge around Pu`unene and Spreckelsville.

In the publication, *Korean Ministerial Appointments to Hawaii Methodist Churches*, D. H. L. Murabayashi documented that in 1905, a fraternal agreement was made between the Hawaiian (Congregational) Board and the Methodists. The agreement was that the Methodists would be in charge of Japanese and Korean work and that the Congregationalists were to care for the Chinese and Hawaiians (2001: 7). He also notes that the first Korean immigrants departed for Hawaii in 1902 and were supplied with literature, including "letters of introduction to Superintendent George L. Pearson of the Methodist Mission in Hawaii". On the voyage from Nagasaki to Honolulu, prayer meetings were held by exhorters in the steerage of the ship and carried on Christian work among the fellow emigrants. Once the crew arrived in Honolulu, the majority of the immigrants converted to the Methodist Episcopal Church (2001:7-8). A list of Korean ministry appointments, assigns Chi Pum Hong (Pyongyang) to the Spreckelsville Methodist Church in 1906. The entries for this church between 1944 to1955 refer to the ministry appointment as "to be supplied" (2001:43).

Humanity scholars, Ogawa and Grant depicted the Japanese in Hawai`i between the years of 1885 and 1907. During this time frame, thousands of Japanese immigrated to Hawai`i and by 1897 the Japanese were the largest single ethnic group in the Islands. In 1888, there were 6,420 Japanese in Hawai`i this number escalated to 61,111 by the year 1900 representing approximately forty percent of the Island's population. The Japanese were viewed as sons of farmers in their homelands and thus would be well accustomed to plantation type work. They were not discouraged by the living conditions, which were crude and racially segregated in places such as Pu`unene, Spreckelsville, and Camp Four. These immigrants were typically from rural Japan and accustomed to the plantation "camp" living conditions which included: grass-thatched huts, communal baths, physical isolation, and communal cooking (Chang 2003). The Japanese workers thought their living conditions were temporary and held on to the dream of returning to their village financially successful. Unfortunately, once they arrived these dreams were shattered by the inadequate wages they received and they debt they had incurred to immigrate.

By 1947, the railroad-spur lines and junctions where the sugar camp communities had been established were replaced by road systems and the railway was no longer utilized. With the diminishing use of the railroad system, in combination with the merging of the sugar companies, the sugar camp establishments began to vanish. Although some of the earlier camps, such as those located in Kahului and Wailuku, evolved into urban centers--others were tilled over and cultivated in sugar. Relics of this era are apparent sporadically in the immediate northern coastal region (Clark, *et al.* 1987:8-10). Remnant cemeteries, railroad tracks segments, various structural foundations, associated artifactual materials--including glass, marbles, ceramics, and metal hardware strewn in the cane fields--are all evidence of the earlier thriving plantation activities which once existed in this area.

LAND TENURE

For the subject parcel, there were no plantation camps within the immediate area, rather reservoirs and other cane fields surround the subject parcel (Figures 6-8). As depicted on Figure 6, the subject parcel was planted in cane as early as 1905 and situated in between Paia Plantation and Haiku Sugar. In 1949, the subject parcel was part of Hawaiian Commercial and Sugar Company Field 214 (Figures 7 and 8).

Additional information was extrapolated from the tax map key in Figure 2 which exemplifies the project area was also part of the lands Deeded to the Board of Education Oahu College January 30,1860; however as evidenced today, this type of proposed development has not been realized. Lastly, no LCA's or Grants were present within the parcel, however Grant 3343 to Spreckles and Haliimaile *`ili* to the southwest was LCA 11426:27.

Approximate Location of Project Area

Figure 6. Hawaiian Government Survey Map of Maui (Brown and Monsarratt, 1885) Updated by Dodge, F. S. and J. M. Donn (1906)

Approximate Project Area

Figure 7. Hawaiian Commercial and Sugar Company 1949 Sugar Plantation Map (see Enlargement Figure 8)

Project Area

Figure 8. Enlarged Area of Hawaiian Commercial and Sugar Company 1949 Sugar Plantation Map

PREVIOUS ARCHAEOLOGY

The early archaeological studies conducted on Maui consisted of recording *heiau* (religious structures) sites along the coastline. These studies were carried out by Thrum (1909) and Stokes (1916). An island-wide survey was executed in 1928 by Winslow Walker (1931) and resulted in the documentation of the Kailua *Heiau* located approximately 0.50 miles west of Pā`ia Road near the Kailua Gulch. This site consisted of a platform measuring 50 by 80 feet which, according to Walker, was probably destroyed during sugarcane farming activities (Walker in Sterling 1998:97).

Previous archaeological investigations along this northern coast line and inland have been summarized below and presented in Figure 12. In 1987, Clark and Toenjes performed archaeological monitoring for the Pā`ia sewer line which examined over 3.54 miles of stratigraphic profiles in the exposed trenches. Six subsurface archaeological sites were documented and assigned temporary site numbers (TS) 50-Ma-C9-37, -38, and 50-Ma-B26-9, -10, -11, and -12. These sites consisted of intact cultural layers and intact (subsurface) features (pits, burials, hearths, and charcoal concentrations). Midden, artifacts, and datable material (C14 and volcanic glass) were retrieved during field work. The sites were interpreted as being associated with Hawaiian habitation and fishing activities and yielded dates ranging from A.D. 1420 to 1810.

The Baldwin Beach burial site (TS.50-Ma-C9-3 and or State Site 50-50-05-1171) consists of a burial site located along the western portions of the beach at Henry Baldwin Park. According to 1978 State of Hawai`i records, human remains have been eroding out of this site for an extended period of time (Clark and Toenjes 1987:11). This site was revisited in 1984 and 1985 and human remains were not identified at this time.

A shoreline habitation site (TS.50-Ma-B25-2 and or State Site: 50-50-05-1258) was recorded northeast of central Pā`ia and Pā`ia Bay. This site is also referred to as the "Pā`ia house and grave site". The two features consist of a rectangular boulder house foundation and a rectangular soil and coral filled pit (presumably a burial) (State of Hawai`i 1974). A combination of historic artifacts (bottle glass, ceramics, metal fragments) and traditional pre-contact type artifacts and were documented in association with this site. It is suggested that multiple occupation periods at this location spanning from pre-contact to post-contact times.

Frederickson *et al.* (1988) conducted a 34 acre archaeological inventory survey in Spreckelsville. Nine test trenches and five auger holes were excavated to detect the presence or absence of subsurface cultural materials. All excavations were void of cultural remains.

Cultural Surveys Hawaii (Toenjes *et al.* 1991) conducted subsurface testing at Site 50-50-04-2849, a cultural deposit, for the proposed approach "clear zone", north end of runway 2-20 at Kahului Airport. Radiocarbon dating of this site yielded an age ranged from A.D. 1230 to1765. A radiocarbon sample from a cultural deposit from the shoreline yielded a date range between A.D. 410 to A.D. 615, one of the oldest dates recovered from an archaeological site Hawai`i, -if deemed reliable.

International Archaeological Research Institute, Inc. (Welch 1991) conducted subsurface testing for Kanaha Beach Park addition and Kanaha airport transient apron, Kahului Airport. A total of 82 backhoe trenches were excavated throughout the project area, and no subsurface cultural remains or deposits were encountered.

Cultural Survey Hawaii (Folk et al. 1993) conducted testing for subsurface deposits in the Federal Aviation Administration Vortac Site, Kahului Airport. A total of twelve backhoe trenches were excavated throughout the project area, and no subsurface cultural remains or deposits were exposed.

Cultural Survey Hawaii (Folk et al. 2000) conducted an inventory survey of sugarcane lands proposed for development at Spreckelsville. Subsurface testing was deemed unwarranted in the sugarcane fields. No sites were identified in the 200-acre project area, but no subsurface investigations were undertaken.

Scientific Consultant Services, Inc. (McGerty et al. 2003) conducted and inventory survey for Phase II of the Spreckelsville-Baldwin Park bikeway. No surface structures or areas of exposed deposits or scatters were identified during the survey. Since Phase II of the bikeway

corridor extends along previously developed areas, subsurface testing was deemed unwarranted.

Kalahau burial site (Site 1064) situated along the coast at Tavares Bay northeast of Paia Town contains traditional clay-pit and sand-dune burials.

O'Rourke (2005) conducted an archaeological inventory survey of 1400 square meters within the boundaries of the Maui Country Club. The survey was conducted in preparation for the expansion of the Clubhouse. The study documented a portion of a "late 19th / early 20th century railroad berm" (Site 50-50-05-5563), a cistern (Site 50-50-05-5561), and a partial burial located in sand fill associated with the cistern (State Site 50-50-05-5563). Earlier, the original Clubhouse structure, designed by C.W. Dickey, was given Site 50-50-05-5502 as a historic structure. This original structure was destroyed by a *tsunami* in 1950.

Archeological Services Hawaii, LLC (ASH) (Pantaleo 2004) conducted an archaeological inventory survey of a portion of a 71-acre parcel of land in Spreckelsville, Wailuku *ahupua'a* and District, Maui Island. Due to extensive previous ground altering activities, subsurface sampling through backhoe trenching was implemented. No significant cultural remains were encountered during trenching, and no further work was recommended beyond construction monitoring. Due to the presence of human burials and other significant archeological sites in the immediate vicinity, archaeological monitoring was conducted by ASH between March and December of 2006, where no historic properties were discovered.

In 2010, Pantaleo et. al. conducted an archaeological assessment for Mr. Henry Spencer of an 55.0 acre parcel which was cultivated in sugar cane and located to the northeast at TMK 3-8-001:004. No extant historic properties were documented within the project area however based on archival research, it formerly contained the plantation camp identified as Camp One and or Japanese Camp, and an associated Korean Church and hospital (Pantaleo 2010: 1).

Figure 9. Previous Archaeological Studies in the Immediate area of the Project Area

SITE EXPECTABILITY

Based on previous investigations, and that the parcel has undergone compounded disturbances, remnant sites comprised of habitation (cultural layers, fire-pits, burials, refuse pits, subsurface architecture) from both the pre-Contact and historic period era's may be present.

METHODS AND PROCEDURES

A review of previous archaeological investigations in the vicinity was conducted at the SHPD library in Wailuku prior to the initiation of the testing strategy. Archaeological investigations (backhoe trenches 1-14) were conducted from 9-10 March 2010 by Mr. Nico Fuentas (B.A.) and Ms. Rochelle Barretto. Overall direction and coordination was performed by Ms. Lisa Rotunno-Hazuka (B.A.) and the Principal Investigator was Mr. Jeffrey Pantaleo (M.A.). Drafting of figures was performed by Ms. Holly Formolo (M.A.) and Ms. Mia Watson.

FIELD METHODS

The survey initially entailed conducting a pedestrian surface survey of the project area where archaeologists were spaced 5.0 meters apart. Due to prior disturbances, no surface structural remains and or midden scatters were observed, thus testing of the project area was performed through subsurface explorations. Excavations were conducted utilizing a backhoe with a 3.0 ft. wide bucket. A total of 14 locations were examined through back hoe testing.

All excavations were undertaken with the supervision of the archaeologist. The testing method employed was systematic random sampling where the areas to be analyzed are chosen at random with a subsequent pre-determined strategy (Hester et. al. 2009). "Use of this sample technique guarantees more uniform coverage of an area than would likely occur with simple random sampling" (Hester et. al. 2009:29). It allows the investigator to obtain information about the subsurface conditions across a project area that aide in determining future excavation strategies for the project area. Field notes, stratigraphic profiles, soil descriptions and photographs were recorded for each trench and soil color and texture were recorded utilizing the Munsell color system. .Location of trenches was plotted by the archaeologist utilizing tape and compass from a known surveyed point. During the course of this project, all accepted standard archaeological procedures and practices were followed.

LABORATORY PROCEDURES

Cultural materials (if recovered) and soil samples collected during trenching or recovered *in-situ* were stored in bags and labeled with provenience information, date collected, and contents. Charcoal if collected was stored in foil packets, weighed and curated until samples were sent for radiometric analysis.

RESULTS

A total of 14 backhoe trenches were excavated across the project area (currently covered in tall grasses) to sample and examine the subsurface conditions. All trenches were negative for cultural remains and averaged 4.0 m long by 1.8 m wide by 1.8 m deep (Table I and Figure 9). Table I is a summary of pertinent backhoe information and Figure 13 is a map showing the location of the trenches. These trenches are further described below along with associated stratigraphic profiles and overview photographs of the subject parcel (Figures 10-13) and trench excavations.

Table I. Summary of Backhoe Trenches 1-14

TRENCH

LOCATION
MEASUREMENTS
ORIENTATION
CULTURAL

1
NW Portion
5.0 m x 2.0 m x 2.0 m deep
290 degrees
No

2
W Central
4.0 m x 2.0 m x 1.8 m deep
290 degrees
No

3
S Central
3.0 m x 2.0 m x 1.65 m deep
290 degrees
No

4
SE Portion
4.0 m x 2.0 m x 1.85 m deep
290 degrees
No

5
NW Portion
4.0 m x 1.4 m x 1.55 m deep
340 degrees
No

6
Central
3.7 m x 1.5 m x 1.8 m deep
340 degrees
No

7
E Central
4.0 m x 2.2 m x 1.6 m deep
340 degrees
No

8
NW Portion
4.0 m x 2.2 m x 1.5 m deep
290 degrees
No

9
Central
4.0 m x 1.5 m x 1.6 m deep
290 degrees
No

10
Central
4.0 m x 2.0 m x 2.0 m deep
290 degrees
No

11
East
4.0 m x 2.0 m x 2.0 m deep
350 degrees
No

12
North
5.0 m x 1.5 m x 1.8 m deep
350 degrees
No

13
NE Portion
5.0 m x 1.7 m x 2.0 m deep

340 degrees
No
14
East
4.0 m x 1.8 m x 1.8 m deep
290 degrees
No

N

Figure 10.Trench Locations within Project Area (TR 1-14)

Figure 11. Overview of Project Area Showing Temporary Parking Lot to Right (View to North)

Figure 12.Overview of Project Area with Bypass Road in Background (View to West)

Figure 13. Overview of Project area with Bypass Road in Foreground (View to Southeast)

TRENCH 1

Trench 1 (TR1) was situated within the northwest portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR1 measured 5.0m long (e/w) by 2.0m wide (n/s) by 2.0m deep and was oriented 290 degrees (Figures 14, 15 and Table I). Inspection of the trench walls identified a two- layer stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layers I (0-39cmbs) is a very dark brown (7.5yr 2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of fragmented blue rock and black plastic irrigation.
Layer II (30-200+cmbs) is a dark reddish brown (2.5yr 2.5/4), silty clay, plastic, very sticky, fine-medium grain with no observed inclusions.

Figure 14. Stratigraphic Profile of North Wall at TR1

Figure 15. Photograph of North Wall at TR1

TRENCH 2

Trench 2 (TR2) was situated within the west central portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR2 measured 4.0m long (e/w) by 2.0m wide (n/s) by 1.8m deep and was oriented 290 degrees (Figures 16, 17 and Table I). Excavations revealed a tripartite-stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layers I (0-50cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of fragmented blue rock and black plastic irrigation.
Layer II (44-170cmbs) is a dark reddish brown (2.5yr 2.5/4), silty clay, plastic, very sticky, fine-medium grain with no an observed increased frequency of cobbles and large boulders.
Layer III (155-180+cmbs) is a dark yellowish brown (10yr4/4), gravely silt, slightly sticky, medium-coarse grain with moderate frequency of decomposing basalt. No other inclusions were observed.

Figure 16. Stratigraphic Profile of North Wall at TR2

Figure 16. Photograph of North Wall at TR2

TRENCH 3

Trench 3 (TR3) was situated within the south central portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR3 measured 3.0m long (e/w) by 2.0m wide (n/s) by 1.65 deep and was oriented 290 degrees (Figures 17, 18 and Table I). A three-layer stratigraphic sequence contained no cultural layers. The soil layers are described below.

Layers I (0-28cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of fragmented blue rock and black plastic irrigation.
Layer II (24-160cmbs) is a dark reddish brown (2.5yr 2.5/4), silty clay, plastic, very sticky, fine-medium grain with no an observed increased frequency of cobbles and large boulders.
Layer III (156-165+cmbs) is a dark yellowish brown (10yr3/4), gravely silt, slightly sticky, medium-coarse grain with moderate frequency of decomposing basalt. No other inclusions were observed.

Figure 17. Stratigraphic Profile of South Wall at TR3

Figure 18. Photograph of South Wall at TR3

TRENCH 4

Trench 4 (TR4) was situated within the southeast portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR4 measured 4.0m long (e/w) by 2.0m wide (n/s) by 1.8m deep and was oriented 290 degrees (Figures 19, 20 and TableI). Excavations revealed a tripartite stratigraphic sequence which was negative for cultural remains. The soil layers are described below.

Layer I (0-48cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of fragmented blue rock and black plastic irrigation, also observed a very coarse concrete fragment.
Layer II (44-152cmbs) is a dark reddish brown (2.5yr 2.5/4), silty clay, plastic, very sticky, fine-medium grain with no an observed inclusions.
Layer III (152-180+cmbs) is a dark yellowish brown (10yr3/4), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with moderate frequency of decomposing basalt. No other inclusions were observed.

Figure 19. Stratigraphic Profile of North Wall at TR4

Figure 20. Photograph of North Wall at TR4

TRENCH 5

Trench 5 (TR5) was situated within the northwest portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR5 measured 4.0m long (n/s) by 1.4m wide (e/w) by 1.55m deep was oriented at 340 degrees and contained a three-layer profile (Figures 21, 22 and Table). No buried historic properties were discovered within TR5. The soil layers are described below.

Layer I (0-41cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of fragmented blue rock and black plastic irrigation, also observed a very coarse concrete fragment.
Layer II (40-142cmbs) is a dark reddish brown (2.5yr 2.5/4), silty clay, plastic, very sticky, fine-medium grain. Inclusions consisted of low frequencies of larger boulders primarily observed at base and east face.
Layer III (120-155+cmbs) is a dark yellowish brown (10yr2.5/3), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with moderate to high frequencies of cobbles and boulders.

Figure 21. Stratigraphic Profile of West Wall at TR5

Figure 22. Photograph of West Wall at TR5

TRENCH 6

Trench 6 (TR6) was situated in the central portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR5 measured 3.7m long (n/s) by 1.5m wide (e/w) by 1.8m deep and was oriented 340 degrees (Figures 23, 24 and Table I). It contained a three-layer stratigraphic sequence which was negative for cultural remains. The soil layers are described below.

Layer I (0-25cmbs) is a dark reddish brown (5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consist of black plastic irrigation.

Layer II (24-136cmbs) is a very dark brown (7.5yr2.5/3), silty clay, plastic, very sticky, fine-medium grain, with no observed inclusions.
Layer III (132-180+cmbs) is a brown (10yr4/3), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with a moderate frequency of gravel and cobbles. No other inclusions were observed.

Figure 23. Stratigraphic Profile of West Wall at TR6

Figure 24. Photograph of West Wall at TR6

TRENCH 7

Trench 7 (TR7) was situated in east central portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR7 measured 4.0m long (n/s) by 2.2m wide (e/w) by 1.6m deep and was oriented 340 degrees (Figures 25, 26 and Table I). The excavations revealed a two-layer stratigraphic sequence which was negative for subsurface historic properties. The soil layers are described below.

Layer I (0-44cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of rock and black plastic irrigation.
Layer II (38-160+cmbs) is a dark red (2.5yr3/6), clay, plastic, very sticky, medium grain with no observed inclusions.

Figure 25. Stratigraphic Profile of West Wall at TR7

Figure 26. Photograph of West Wall at TR7

TRENCH 8

Trench 8 (TR8) was situated in the northwest portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR8 measured 4.0m long (e/w) by 2.2m wide (n/s) by 1.5m deep and was oriented 290 degrees (Figures 27, 28 and Table I). Inspection of the trench walls indentified a tripartite stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layer I (0- 35cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly plastic, slightly sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of rock and black plastic irrigation.
Layer II (28-120cmbs) is a dark reddish brown (5yr2.5/2), silty clay, plastic, sticky, medium grain, with low frequencies rocks. No other inclusions were observed.
Layer III (112-140+cmbs) is a dark brown (10yr3/3), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with a moderate frequency of gravel. No other inclusions were observed.

Figure 27. Stratigraphic Profile of North Wall at TR8

Figure 28. Photograph of North Wall at TR8

TRENCH 9

Trench 9 (TR9) was situated in the central portion of the project area to ascertain the presence or absence of subsurface cultural remains. TR9 measured 4.0m long (e/w) by 1.5m wide (n/s) by 1.6m deep, was oriented at 290 degrees and contained a three-layer stratigraphic sequence (Figures 29, 30 and Table I). Inspection of the soils revealed no cultural materials and the soil layers arefurther described below.

Layer I (0-38cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly plastic, slightly sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of rock and black plastic irrigation.
Layer II (38-130cmbs) is a dark reddish brown (5yr2.5/2), silty clay, plastic, sticky, medium grain, with low frequencies rocks. No other inclusions were

observed.
Layer III (70-160+cmbs) is a dark brown (10yr3/3), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with a moderate frequency of gravel. No other inclusions were observed.

Figure 29. Stratigraphic Profile of North Wall at TR9

Figure 30. Photograph of North Wall at TR9

TRENCH 10

Trench 10 (TR10) was situated in the central portion of the project area to ascertain the presence or absence of the subsurface cultural remains. TR10 measured 4.0m long (e/w) by 2.0m (n/s) by 2.0m deep and was oriented at 290 degrees (Figures 31, 32 and Table I). It contained a three- layer stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layer I (0-44cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of rock and black plastic irrigation.
Layer II (40-184cmbs) is a dark red (2.5yr3/6), clay, plastic, very sticky, medium grain with no observed inclusions.
Layer III (180-200+cmbs) is a dark brown (10yr3/3), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with a moderate frequency of gravel. No other inclusions were observed.

Figure 31. Stratigraphic Profile of North Wall at TR10

Figure 32. Photograph of North Wall at TR10

TRENCH 11

Trench 11 (TR11) was situated in the east portion of the project area to ascertain the presence absence of subsurface cultural remains. TR11 measured 4.0m long (e/w) by 2.0m wide (n/s) by 2.0m deep and was oriented 290 degrees (Figures 33, 34 and Table I). Excavations revealed a three- layer stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layer I (0-36cmbs) is a very dark brown (7.5yr2.5/2), clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. Inclusions consisted of low frequencies of rock and black plastic irrigation.
Layer II (32-182cmbs) is a dark red (2.5yr3/6), clay, plastic, very sticky, medium grain with no observed inclusions.
Layer III (176-200+cmbs) is a dark brown (10yr3/3), gravely silt, slightly plastic, slightly sticky, medium-coarse grain with a moderate frequency of gravel. No other inclusions were observed.

Figure 33. Stratigraphic Profile of North Wall at TR11

Figure 34. Photograph of North Wall at TR11

TRENCH 12

Trench 12 (TR12) was situated in the north portion of the project area to ascertain the presence or absence of subsurface cultural layers. TR12 measured 5.0m long (n/s) by 1.5m wide (e/w) by 1.8m deep and was oriented 350 degrees (Figures 35, 36 and Table I). Inspection of the trench walls identified a tripartite stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layer I (0-24cmbs) is a very dark brown (7.5yr2.5/2) clayey silt, slightly-plastic, sticky, fine-medium grain with moderate frequency of roots and rootlets. No inclusions were observed.
Layer II (20-180cmbs) is dark reddish brown (2.5yr2.5/4) silty clay, plastic, sticky, medium grain, with no observed inclusions.
Layer III (176-180+cmbs) is very dark brown (2.5yr2.5/3) silty clay, plastic, sticky, fine-medium grain with no observed inclusions.

Figure 35. Stratigraphic Profile of East Wall at TR12

Figure 36. Photograph of East Wall at TR12

TRENCH 13

Trench 13 (TR13) was situated in the northeast portion of the project area to ascertain the presence or absence of subsurface cultural layers. TR13 measured 5.0m long (n/s) by 1.7m wide (e/w) by 2.0m deep and was oriented 350 degrees (Figures 37, 38 and Table I). Excavations documented a tripartite stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layer I (0-20cmbs) is very dark brown (7.5yr2.5/3) clayey silt, slightly plastic, slightly sticky, fine-medium grain with low frequencies of roots and black plastic irrigation.
Layer II (20-152cmbs) is a dark reddish brown (2.5yr2.5/4) silty clay, plastic, sticky, medium grain with no observed inclusions.
Layer III (152-200+cmbs) is a very dusky red (2.5yr2.5/2) silty clay, slightly plastic, slightly sticky, medium-coarse grain with no observed inclusions.

Figure 37. Stratigraphic Profile of East Wall at TR13

Figure 38. Photograph of East Wall at TR13

TRENCH 14

Trench 14 (TR14) was situated in the temporary parking lot adjacent to the USPS (east portion of project area) to ascertain the presence or absence of subsurface cultural layers. TR14 measured 4.0m long (n/s) by 1.8m wide (e/w) by 1.8m deep and was oriented 340 degrees (Figure 39, 40 and Table I). Inspection of the trench walls identified a 2 layer stratigraphic sequence which contained no cultural layers. The soil layers are described below.

Layer I (0-22cmbs) is a very dark brown (7.5yr2.5/2) clayey silt, slightly plastic, slightly sticky, fine-medium grain with no observed inclusions.
Layer II (23-184+cmbs) is a dark red (2.5yr3/6) silty clay, plastic, sticky, fine-medium grain with no observed inclusions.

Figure 39. Stratigraphic Profile of East Wall at TR14

Figure 40. Photograph of East Wall at TR14

DISCUSSION

A total of 14 backhoe trenches were executed across the subject parcel to ascertain presence absence of subsurface historic properties. Since the project area was actively cultivated in sugarcane, examinations of the parcel focused on subsurface explorations, however a pedestrian survey was initiated to observe exposed areas of the surface for scattered cultural materials and to prepare a research testing design. The testing method employed was systematic random sampling where the areas to be analyzed are chosen at random with a subsequent pre-determined strategy. As previously discussed, this strategy guarantees a more uniform coverage of an area than would likely occur with simple random sampling (Hester et. al. 2009:29).

During the testing program, no subsurface cultural remains were identified within the 14 backhoe trenches. The negative findings are likely due to a combination of several factors. The intensity of sugar cane cultivation for over 100 years has obscured or obliterated the pre-Contact record (sugar cane till zone ranges from 10 inches (.25 m) to 1.0 ft. 8 inches (.50 m) feet deep, the resultant data may be a sampling error, and or may exemplify that this section of the parcel was not utilized for historic habitation, rather just agriculture.

RECOMMENDATIONS

The subject parcel has been intensively cultivated for numerous decades which has disturbed the upper soil horizons up to approximately 2.0 ft. Nevertheless, due to the project area's close proximity to the shoreline and historic Paia Town, coupled with only a sampling of the area being tested, remnant features may be extant and some level of archaeological monitoring is recommended and dependent on the proposed development plans. For example, minimal grading up to 1.0 foot across an expansive area (roads, parking lots, sidewalks etc.) may initially be monitored to analyze the potential for disturbed historic properties. If no cultural materials are identified, monitoring may only be warranted for excavations below the till zone as cultural remains have been identified in Wailuku, Kula and Olowalu below the active till-zone.

Prior to any ground-altering activities, a Monitoring Plan detailing the above proposed mitigation measures will be prepared and submitted to the State Historic Preservation Division (SHPD).

Appendix B

Environmental Site Assessment

(Not Complete Document

MALAMA
Environmental

Environmental Site Assessment:
Phase I Investigation – Paia 2020 LLC

Subject Site:

PAIA 2020 LLC
9 ACRES VACANT LAND
PAIA, MAUI, HAWAI'I 96779
T.M.K. (2) 2-5-005-018

Prepared for:

MR. HENRY SPENCER
PAIA 2020 LLC
P.O. BOX 790478
PAIA, HAWAII 96779

Conducted and Compiled by:

Malama Environmental (MEV, LLC)
MEV Project Number #1105-0204
June 1, 2011

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Email: info@malamaenvironmental.com • Web: www.malamaenvironmental.com

MALAMA
Environmental

Environmental Site Assessment:
Phase I Investigation – Paia 2020 LLC

Property: ***Paia 2020 LLC***
9 Acres Vacant Land
PAIA, MAUI, HAWAII 96779
T.M.K. (2) 5-005-018-001

Prepared for: MR. HENRY SPENCER
Paia 2020 LLC
P.O. BOX 790478
PAIA, HI 96779

We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental professional* as defined in 312.10 of 40 CFR 312 and we have the specific qualifications based on education, training, and experience to assess a *property* of the nature, history, and setting of the *subject property*. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR part 312.

Brian P. Carey, *B.S. Geology,*
Senior Geologist

- *Professional Geologist (California)*

7-11-11
Date

John S. Vuich, *M.S. Geological Engineering*
Project Supervisor

- *Registered Environmental Assessor No. 1433 (California)*
- *Professional Geologist (California)*
- *Certified Environmental Manager (Nevada)*

7-11-11
Date

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Disclosure

This document contains the results of services performed on this Project by **Malama Environmental (MEV, LLC)** pursuant to Agreement. The results represent the application of a variety of scientific and analytical disciplines that have been rendered using the standard of care, skill, and diligence normally provided by professionals in the performance of similar services under similar circumstances.

MEV assessments are intended to reduce, but not eliminate, uncertainty regarding recognized environmental conditions in connection with the Subject Site, as conducted within reasonable limits of time and cost. A general consensus of EPA's guidance on landowner liability is that *no environmental site assessment can wholly eliminate uncertainty regarding the potential for recognized environmental conditions in connection with a property.*

The use of this document and the results reported are limited to the services performed and areas examined as described in this document and no inferences are intended with respect to anything not described herein.

MEV is not responsible for conditions or consequences arising from relevant data, facts, and information that were concealed, missing, withheld, not fully disclosed, or not reasonably available at the time these services were performed. **MEV** is not responsible for any indirect, incidental, or consequential damages of any nature arising from any cause.

MEV has no beneficial economic interest in the Project other than as an independent professional organization performing the agreed services. **MEV**'s warranties are as described above and there are no other warranties of any kind, expressed or implied, regarding the services.

Executive Summary

Introduction

This Phase I Environmental Site Assessment (ESA) has been prepared for Mr. Henry Spencer of Paia 2020 LLC and was conducted pursuant to Malama Environmental's (MEV's) written proposal and contract accepted by Mr. Spencer on May 19, 2011. This investigation and report format follows the guidelines of the American Society of Testing and Materials (ASTM) Publication E1527-05, which is recognized by 40 CFR Part 312 as an acceptable guidance document for satisfying the EPA's final "*All Appropriate Inquiries*" rule.

Site Description

The subject site, known as a vacant lot owned by Paia 2020 LLC, is located in Paia town adjacent to Baldwin Avenue. The site consists of one (1) individual parcel of land measuring approximately 9 acres in total area. The site is further described on the Tax Maps of the State of Hawaii as Division 2, Zone 2, Section 5, Plat 005, Parcel 001. The site is bordered by Paia Post Office to the south, Baldwin Avenue to the east, and Paia Bypass Road to the southwest. The parcel is a fallow sugarcane field and is mostly undeveloped. The southeastern portion of the site has been developed as a gravel parking lot.

Intended Use of Property

The purpose of this project is to provide an environmental assessment of recognized environmental conditions for 9 acres of land proposed for development of commercial, office, residential, parking and senior housing.

Records Review

The purpose of a records review is to obtain and review records that will help identify ***recognized environmental conditions*** in connection with the subject property. The services of Environmental Data Resources, Inc. (EDR) were utilized to compile the database listings.

Our records review did not discover any current/on-going investigation of the subject site under any programs conducted by a federal, state, or local environmental agency.

No risk sites were identified in the vicinity of the subject property.

Site Reconnaissance

A site investigation focuses on obtaining information indicating the likelihood of identifying physical ***recognized environmental conditions*** in connection with the property and assessing the subject property in relation to surrounding land uses and natural surface features. It includes a physical inspection of the real property and any on-site facilities.

On May 19, 2011, MEV geologist Mr. Brian Carey conducted an overall site inspection of the subject site. Accessible areas of the property were visually and physically inspected.

The following are significant observations of field conditions: (Appendix A, Figure 2 Site Plan)

- Visually identified regulated waste items (i.e. one derelict vehicle).
- Pole-mounted electrical transformers along the northern property boundary.

Conclusions

Recognized environmental conditions, as defined by ASTM Standard E1527-05, are the presence or likely presence of any hazardous substance or petroleum products on a property under conditions that indicate an

existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property, or into the ground, groundwater, or surface water of the property.

Recognized environmental conditions are described with regard to (1) the nature and extent of the environmental condition, (2) potential or actual environmental threat, (3) potential for transport (migration) of any environmental conditions, and (4) consideration for further investigation. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

MEV has performed this Phase I Environmental Site Assessment in conformance with the scope and limitations of the ASTM Practice E 1527-05 for the subject property, located between the Paia Post Office, Baldwin Avenue, and Paia Bypass Road in Paia, Maui, Hawaii [TMK (2) 2-5-005-018] defined as the subject property. Any exceptions to or deletions from this practice are described in Section 1.4, Limitations and Exceptions, of this report.

This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property.

- ***Database Listings***

  The subject site is not listed. No risk sites were located in close proximity to the subject property.

- ***Current and Historic Use or Storage of Hazardous and Regulated Substances***

  There is no evidence of any historic or current misuse or significant spills of hazardous or regulated substances on the subject property.

  Sugarcane and pineapple agriculture had been previously active on the subject property for several decades, and is still active on the adjacent property to the west and southwest. Pesticide and fertilizer use are both related to the above noted activities. MEV obtained no evidence of any dedicated pesticide storage or mixing sites on the property or of any chemical misuses.

  According to Hawaii Administrative Rules, Chapter 128D Environmental Response Law, the presence of agricultural chemicals, resulting from the legal application of a pesticide product, does not constitute a release of a hazardous substance and is not considered a recognized environmental condition.

  However, for residential development, it is common practice to conduct a limited soil sampling program on former agricultural lands to ensure residual pesticide concentrations (if any) are at acceptable levels. Given that the assessment protocol and this investigation conducted by MEV did not substantiate nor observe any indicators of chemical storage or on-site chemical mixing, MEV believes that the risk potential for residual chemicals to remain in the soil at levels above the State action concentration, should not be an environmental concern at this time for the intended development. That being stated, the decision to conduct any such sampling of the soils therefore, remains with the developer/owner.

*The concerns listed below may not be considered **recognized environmental conditions** by ASTM definition, however, they may be considered regulated under other environmental laws and ordinances and may present a potential liability to the property owner.*

- ***Waste Management Practices***

  A limited amount of dumping (one derelict vehicle) was evident on the subject property. Management of these wastes should be performed in a manner that complies with all local, state, and federal regulations as applicable to the waste type.

Due to the large size of the property and the heavily vegetated areas, not all of the subject property was visibly inspected. Therefore, it is important to note that if clearing the property commences and large amounts of construction debris or unidentifiable substances (containers) are discovered, proper waste identification, testing and applicable federal, state and/or county waste handling/disposal regulations are followed.

The concerns listed above are presented as a matter of record. They, collectively or independently, do not have any significant impact on the environment, and are not considered by MEV to devalue the subject property at this time in any way.

The conclusions stated above should not be construed to mean that any regulatory agency would have the same opinion as this author, nor is any implication proposed therefrom.

The results of this environmental assessment are intended for general reference purposes only and are not intended as legal advice.
The advice of legal counsel should be sought in regard to individual facts, circumstances and interpretation of environmental liability.

Appendix C

Native Hawaiian Cultural Practices Assessment

A Native Hawaiian Traditional Cultural Practices Assessment of Paia

Commercial, Paia Post Office Island of Maui.
(TMK: (2)2-5-05:18(Portion), an area of approximately
9 acres which is presently in sugar cane.

FINAL

By

Charles Kauluwehi Maxwell Sr.,
Hawaiian Cultural Specialist

Prepared for

A&B PROPERTIES INC.
P.O. Box 156 Kahului Maui 96733

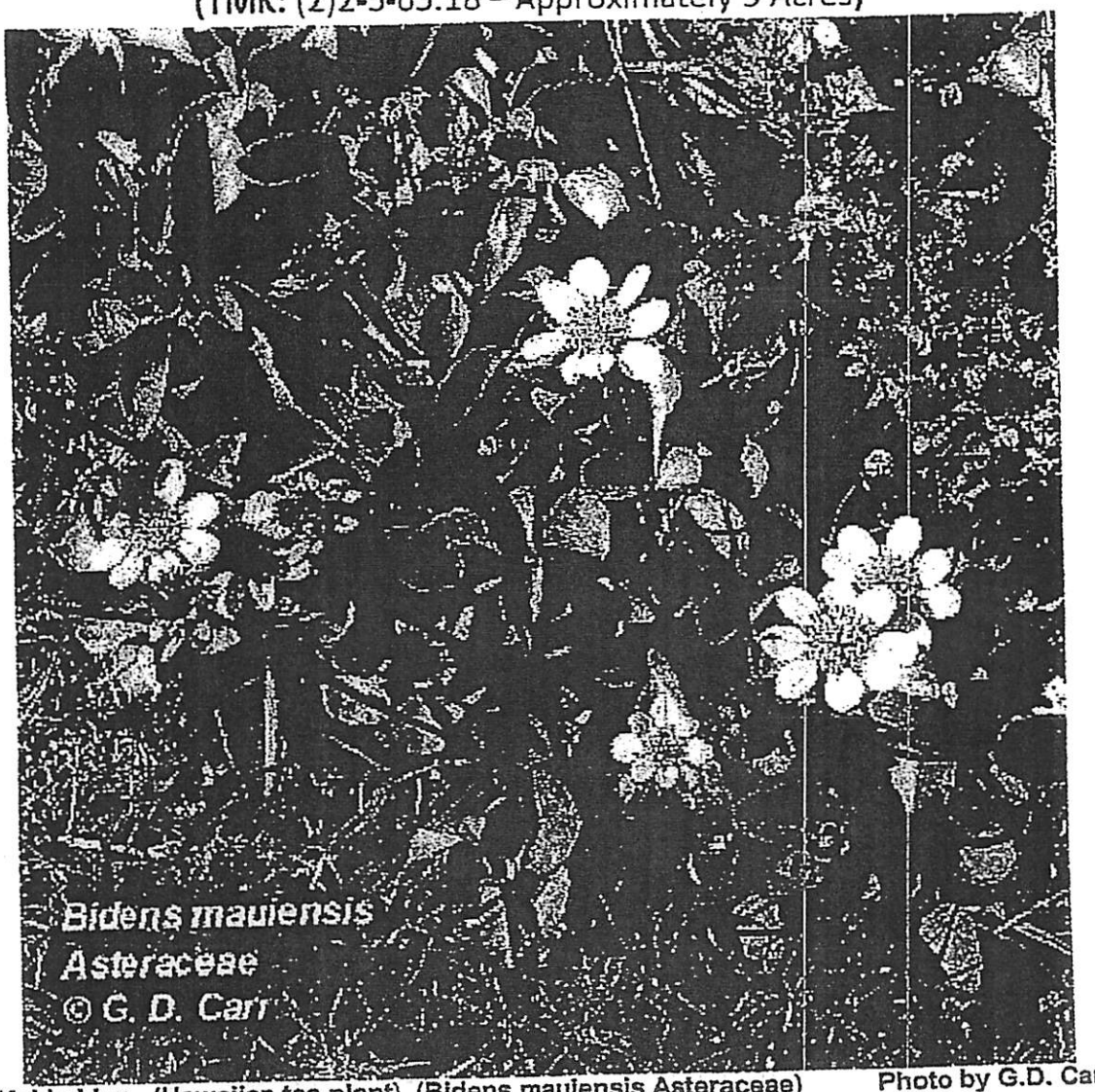
CKM CULTURAL RESOURCES
July, 2002

A Native Hawaiian Traditional Cultural Practices Assessment

Of Paia Commercial, Paia Post Office, Paia Maui.

Island of Maui

(TMK: (2)2-5-05:18 – Approximately 9 Acres)



Kobkoblau (Hawaiian tea plant) (Bidens mauiensis Asteraceae) Photo by G.D. Car

By

Kahu (Rev.) Charles Kauluwehi Maxwell Sr.
Cultural Practitioner

Prepared for
A&B Properties Inc., Subsidiary of Alexander & Baldwin Inc.
PO Box 156, Kahului HI, 96733-6656

CKM Cultural Resources
July 2000

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b. The topographic change
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a. Various/Native fauna
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III. Lifestyle (Ke Ola Nei)

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ABSTRACT

CKM Cultural Resources conducted a native Hawaiian traditional cultural practices assessment of the A Native Hawaiian Traditional Cultural Practices Assessment
Of Pala Commercial, Pala Post Office, Pala Maui.
Island Of Maui
(TMK: (2)2-5-05:18(Portion)

The Cultural assessment is for an area of approximately 9 acres and presently it is in sugar cane. Historical documentation is sparse for this exact area because of the long use of sugar cane planting. A major focus of this study was historical research, and limited interviews because of the fact that this area is small and most long time residence have moved away or passed on. Several interviews were conducted and the memory of the persons interviewed only remembers cane growing in this area. The types of usage on this area were highlighted in the Introduction of this report.

Briefly in ancient times the people that used this area did so for farming only, however the habitation studies which will be done by the Archeologist will most likely show that this is true.

NOTE: As much as possible, throughout this report, the spelling of Hawaiian vocabulary and place names had been standardized to present orthography.

INTRODUCTION

V History of Pä'ia, Maui

Sections:

I. The District (Ahupua'a)
  a. What 'ili (land sections) are contained in Pä'ia
  b. The topographic change
  c. Topographic details

II. Hawaiian Fauna (Lä'au Hawai'i)
  a. Various/Native fauna
  b. Sugar Cane

III. Lifestyle (Ke Ola Nei)
  a. Paradigm of living
  b. Today's generation

Section I. The District (Ahupua'a)

Pä'ia is a large land district or ahupua'a in the northern shores of Maui. The shoreline is named Kapukaulua, meaning the ulua (certain species of jack or crevalle fish) pit. It was named this because of the abundance of ulua during the certain fishing season.

The Pä'ia ahupua'a is bordered by three other ahupua'a, Wailuku, Ha'ikü, and Pu'u O Kali, respectively. From these three ahupua'a, Pä'ia's ahupua'a extends to more portions of the ocean than it's bordering ahupua'a.

In this particular ahupua'a there are many 'ili. The main east end border for this ahupua'a is Kü'au. Nearing the ocean front, Kü'au sets one line for the ahupua'a. Another point in the border system is Häli'imaile, from here the border extends to Pukalani (traditionally Pu'ukalani) on the slopes of Maui's eastern mountain, Haleakalä. From Pukalani the border extends back down to the sea to where currently the Kahului airport resides. In the traditional ahupua'a system, this wahi (area) is known as Pä'ia.

These are the different 'ili contained within Pä'ia.
Ho'okipa, Kü'au, Käheka, Kailua, Häli'imaile, Pukalani (traditionally Pu'ukalani), Keähua, Spreckelsville, and Kapukaulua - shoreline.

The 'ili that encompasses the old sugar mill and the area around it (for at least a radius of 1.5 miles/2.3 kilometers) is a mix of two separate 'ili - Käheka and Kailua1. This area has an elevation between 560 ft. to1, 269 ft. - Kailua's highest peak in the region.

In lieu of the U.S. Census, the change of land zoning for these tracts of lands may appear differently as compared to the
Pä'ia- Käheka and Kailua

traditional ahupua'a system. The topography of Pä'ia had changed when the areas were rezoned due to reapportionment. Therefore, this report has combined both traditional land uses of this area (i.e. traditional names) and the current topography that this area is currently zoned as.

The land in this area is dry, yet fertile. One 'ölelo no'eau (Hawaiian proverb) says, "Ka makani häpala lepo o Pä'ia." This literally means, "Dust smearing wind of Pä'ia." The land is also at a bit of an incline, as mentioned earlier. This incline, the slightly arid temperatures, and the dry plains, made the area perfect for growing 'uala (Ipomea batatas) or sweet potato.

II. Hawaiian Fauna (Lä'au Hawai'i)

This area rarely made perfect lö'ï kalo (taro patches) because of the dry conditions. Therefore, sweet potato may have been a large source of carbohydrate sufficiency because of the lack of water in the area. Although the fact is recognized that Hawaiians would traditionally trade, swap, and share various foods, kalo or taro (Colocasia esculenta) was not commonly available, as if one were to have a lö'ï kalo in the immediate vicinity.

Another plant that may have grown in this area, to supplement the need of kalo, is 'ulu (Artocarpus incisus) or breadfruit. According to a book titled, "Native Planters In Old Hawai'i: Their life, lore, and environment," written by E.S. Handy et al. explicates, "...early voyagers noted extensive planting of breadfruit along the southern and leeward coast..." Although this statement singles out the Southern and leeward coasts, more of the dryer areas on the island, Pä'ia still made a perfect place for 'ulu to grow because of it's dry dusty plains. 'Ulu also grew in many of the bordering districts that were near the Käheka - Kailua area.

Hala (Pandanus odoratissimus) or Pandanus may have also been plants

that made a comfortable home in Pä'ia, more specifically Pä'ia- Käheka and Kailua

the Käheka and Kailua areas. Hala was known to grow vibrantly in the bordering ahupua'a mentioned earlier. This would be useful in the process to create needed objects in the home, farm, and family settings.

Pili (Heterogon contortus) grass was also quite common in these areas because of the climate conditions. Pili liked to grow in arid and dusty conditions. This grass was useful to Hawaiians in that the dried grass would be made into bunches and used to thatch the roofs of homes in the area.

On of the ground covers used to keep some of the dirt from blowing in the wind was Pä'ü o Hi'iaka (Jacquemontia ovalifolia). This was a ground covering vine with abundant tubular flowers that range in color from light blue, purple, to white. This plant did not need much water, which in turn would make Pä'ia perfect areas of growth for the Pä'ü o Hi'iaka.

While Hawaiians of the past used Pä'ü o Hi'iaka for curing keiki (children) of ea (thrush, a mouth disease), this plant is better known for the mo'oleo (story) that explains its name. Long ago, Pele, the volcano goddess, took her youngest sister, Hi'iaka, to the ocean. As Pele was out amongst the waves fishing, or some say surfing, the sun climbed higher and hotter in the sky. Meanwhile, Hi'iaka waited patiently on the shoreline for her sister. A plant near Hi'iaka, seeing that the keiki's tender young skin was being burned by the sun's merciless rays, took pity upon Hi'iaka and extended its viney branches to shield her. When Pele returned from the ocean, she discovered Hi'iaka covered, and protected, by the plant. In gratitude, Pele gave the plant its name, Pä'ü (skirt) O Hi'iaka (of Hi'iaka), my baby sister.

Another blossoming plant that may have resided in this area is the 'a'ali'i (Dodonaea viscosa) bush. This hard wood native shrub is indigenous to the islands. This plant also grows well in dryer climates. Ranging in heights of one to thirty feet, this shrub to tree is found growing at elevations up to 8,000 feet and wind-swept open country. In today's day and age, 'a'ali'i is being used to reforest the island of Kaho'olawe. This island's water plate is cracked in half from missile testing by the U.S. Another plant which grew profusely in this area was Ko'oko'olau (Hawaiian tea plant) or (Bidens mauiensis Asteraceae). It was used by the ancients and is still used today as tea and for medicinal purposes. A picture of this plant is being used as the cover of this report.

Pä'ia- Käheka and Kailua government in the late 1960's and '70's. Kaho'olawe is not able to retain water because of the cracked water plate, yet the 'a'ali'i is doing

well in growing and flourishing on the island.

One plant that has proved itself worth the while is, Kö (Saccharum officinarum) or sugar cane. Kö is an extremely low maintenance plant that is easy to deal with when water is not as readily available. Alexander and Baldwin found this to be true and later built an empire with this cultural knowledge. The sugar cane, up until the late 1980's, put Hawai'i at the forefront of the sugar cane industry. Today, that industry struggles to survive among top competitors. However, this industry has left many marks (both good and bad) in the history of Hawai'i and the lives of many families, native and non-native.

III. The Lifestyle (Ke Ola Nei)

Upon the introduction of the sugar cane industry there had been a shift in the treatment of land and other resources contained in these areas. Land divisions were plowed, unearthed, and made into fields to plant the profitable crop of sugar cane. No doubt, this industry employed generations of people. In a matter of years the planting and cropping system of plants in the area of Käheka and Kailua went from culturally based farms to crops of mass production.

Land titles were lost to quid pro quo deals and nepotistic actions taken by officials who were friends with sugar cane tycoons. At the behest of all of this, was the traditional lifestyle of native Hawaiians, their native wildlife, and the native and indigenous fauna. A lifestyle of its own accelerated the lives of the natives of the area to quickly assimilate to a system unfamiliar to their own.

In the wake of this paradigm, native Hawaiians faired poorly, if they chose to live a cultural lifestyle in this ahupua'a of Pä'ia.
As more continental Americans migrated to the islands in search of employment, either as military personnel or to fill vacancies in other industries, they brought with them a new way of life to Pä'ia- Käheka and Kailua.

VI INTERVIEW INFORMANTS

Based on the recommendations of present residents of Paia, several knowledgeable individuals were identified on (1) knowledgeable individuals with cultural expertise and knowledge of the project area and surrounding vicinity, and (2) identify cultural concerns and potential negative impacts relative to the project. An effort was made to identify *Kupuna* (elders) who either grew up in Paia close to the project area or lived in the area that could relate to the project area prior to the growing of the sugar cane.

5 people were identified as having potential knowledge of the project area, however when contacted, they related that 2 of the people grew up in Kü'au and stated that they only knew the area as having sugar cane growing at the project site and have no knowledge prior to the planting of the cane. The other person, who was born above the project site, did not want to be interviewed and indicated that his recollection was that cane was growing there since he was a "little boy".

It is only common sense to surmise that the planting of sugar cane in the project area probably started in the middle 1800's, and the average age of the *Kupuna* was 75 years old, thus the history of sugar in the project area was firmly established more then 60 years before any of these *kupuna* were born. Therefore it would be difficult to locate *kupuna* with first-hand cultural information of the project area since the integrity of the landscape had been compromised long before they were born.

The two interviews were done by formal taped interviews.

INTERVIEW OF: AARON KALANI BROWN 8/1/02 – 9:00AM.

Aaron Brown was interviewed in my vehicle on the project. He stated that he was born in Hilo on April 3, 1918. That he moved to Paia in 1930, when he was 11 years old and lived close to this project. His family rented a home for $12 a month. He now lives on Hana Highway, in Lower Paia. He can recollect that across the project site was housing and people from all over Maui lived in Paia. They did not necessarily work for the Sugar Plantation. That he resents the calling of Paia as a "Plantation Town", because a lot of people back then and now does not work for the plantation especially now that Paia Mill has shut down.

As far as he can remember there was sugar cane growing at the project site and does not know of anyone living today that could recall the area prior to planting of the sugar cane. He further related that he can recall when "Upper Paia" and "Lower Paia" were large communities. Upper Paia had its own bakery, and all the different camps (Hawaiian Camp, Nashiwa Camp, Russian Camp, Paia School, the Orphanage, the Catholic Church and Japanese Church).

The ocean below Paia town was always accessible to the residents and everyone used the ocean for sustenance.

He has no recollection of cultural or historical sites in the project area.

He was not happy with the proposed project as he feels that it will open up the use of agricultural land for commercial purposes and would very detrimental and would add to the traffic congestion that is happening now.

INTERVIEW OF CHARLOTTE A. MAXWELL 8/20/02 – 12:45PM.

Charlotte A. Maxwell was interviewed at her home at 157 Alea Place, Pukalani. She related that she lived in Upper Paia, below the Gym and above what is now Doris Todd School. She is 64 years old born on Feb. 10, 1938. She lived there until she was about 5 or 6 years old and can remember that the proposed project was across residential housing, planted in sugar cane. Her grandfather and mother, in fact all her family worked for the Paia Mill. Also that there was hardly any traffic on the highway and to get from one place to the other they would use the bus service. There were different Camps located in Upper Paia and the Nashiwa Bakery where they would walk to early in the morning to buy pastries. Her favorite place was "Camp Store" where they sold all kinds of "goodies" like crack seed, pine nuts etc. Most of her aunts and uncles did not go to High School because they had to help support a large family of 11 children.

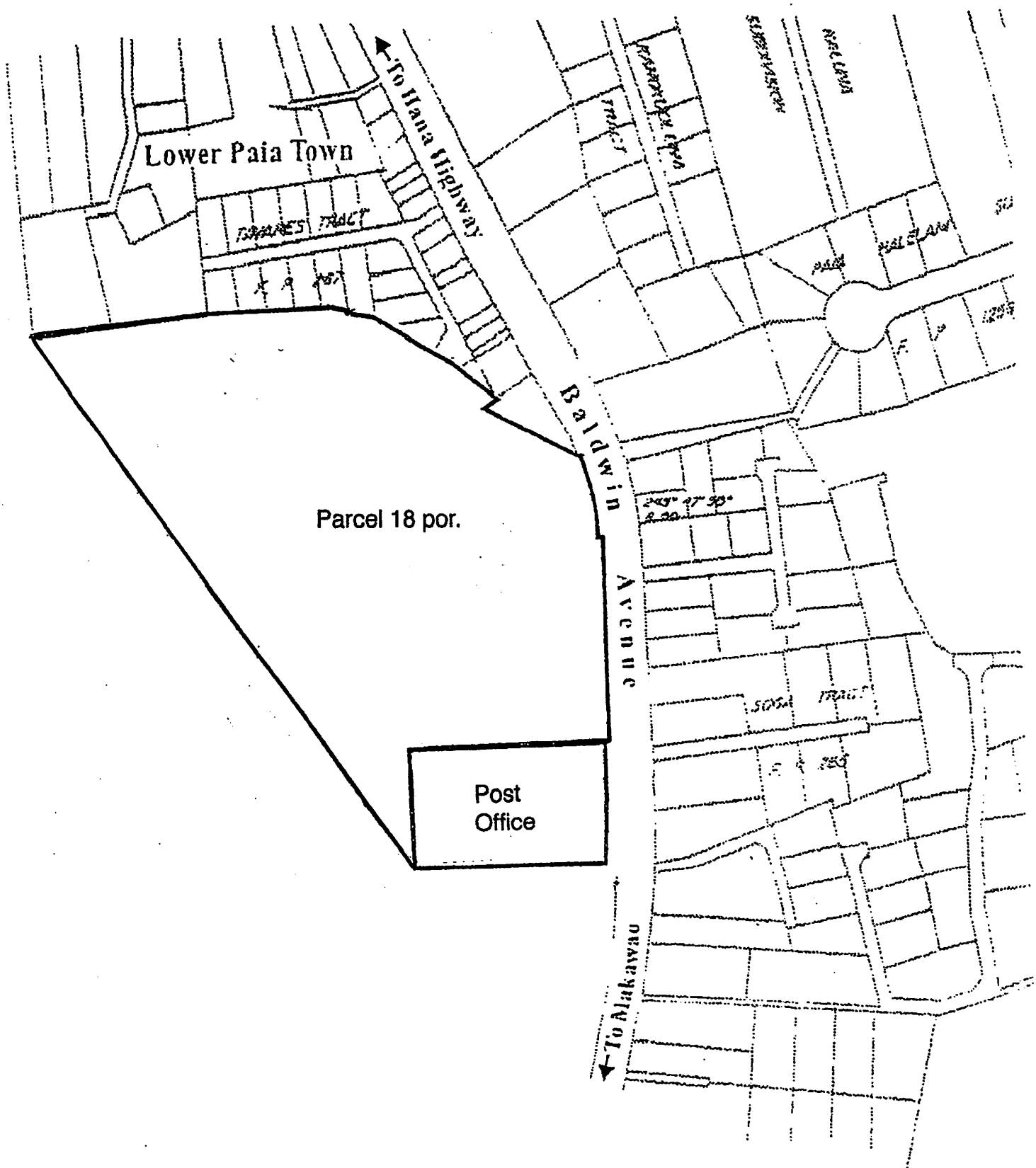
Almost all the people that lived in the camps worked either in the cane fields or at Paia Mill. Across the Mill there was the A&B Store. Although she moved away at an early age, she would visit her Uncle who lived across the Punawai, below the mill.

As far as she can remember the entire Paia area was heavily grown in sugar cane and if anything of Hawaiian cultural significance was present, it would have been impacted by planting of the sugar cane a long time ago.

ARCHEOLOGICAL ASSESSMENT OF SITE

The archeological Assessment of the site cannot be completed until the sugar cane planted on the project is harvested. Because of this fact, the Cultural Assessment is being finalized and when the Archeological report is completed and should there be significant features, artifacts or human remains, it would be noted in the report from the archeologist.

Because of the long history of sugar cane planting, it would be highly improbable that anything on the surface would be found for a cultural analysis. However there have been incidents where human remains have been found in Olowalu under sugar cane fields.



Site Location Map

CONCLUSION

Conclusion (Ua Pau)

Käheka and Kailua were full of life with different plants and people to mälama (care) the 'äina (land). Today, many generations of families have resided near Käheka and Kailua, because majority of this area is laden with sugar cane crops, the history beneath it is hidden.

Various species of native fauna inhabited the area, quite possibly some plants that grew there no long exist in Hawai'i. It is important to stress the sanctity of these areas, Käheka and Kailua, respectively. Pä'ia is an extremely diverse ahupua'a, from Kü'au to Pukalani and back down to Sprecklesville, the ahupua'a covered vast lands and different landscapes. Today, majority of Pä'ia's land is now covered by sugar cane crops. Pä'ia, once home to traditional farmers and fishermen, now home to generations of others who come for the sport of windsurfing at Ho'okipa Park in Kü'au. And then there are others who have built homes and work in other parts of Maui and people that have chose to build retirement homes on the outskirts of Paia.

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Appendix D

Traffic Impact Analysis Report

&

Traffic Update

Phillip Rowell and Associates
47-273 'D' Hui Iwa Street Kaneohe, Hawaii 96744 Phone: (808) 239-8206 FAX: (808) 239-4175 Email:prowell@hawiiantel.net

October 3, 2011

Paia 2020, LLC
P.O. Box 790478
Paia, HI 96779-0478

Re: **Traffic Impact Analysis Report**
Paia 2020, Paia, Maui Hawaii

Dear Sirs:

Phillip Rowell and Associates have completed the following Traffic Impact Analysis Report (TIAR) for proposed Paia 2020 project. The report is presented in the following format:

A. Project Location and Description
B. Purpose and Objective of Study
C. Study Approach
D. Description of Existing Streets and Intersection Controls
E. Existing Peak Hour Traffic Volumes
F. Level-of-Service Concept
G. Existing Levels-of-Service
H. Background Traffic Projections
I. Project Trip Generation
J. Background Plus Project Projections
K. Traffic Impact Assessment
L. Mitigation
M. Other Traffic Related Issues
N. Summary and Recommendations

A. Project Location and Description

The proposed project is located along the west side of Baldwin Avenue, immediately north of the Post Office. A portion of the site is currently used as a temporary public parking lot.

The proposed action is the construction of:

- 104 senior housing units
- 38,057 square feet of country town business floor area
- 8 residential live/work units

In addition to the parking required by code to accommodate the residential, retail and commercial development, the project will also provide an additional 172 parking spaces for public use. A site plan is provided as Attachment A.

Access to and egress from the project will be provided via a recently constructed driveway along the west side of Baldwin Avenue and two new driveways along the Paia Bypass. The driveway along Baldwin Avenue is 36-feet wide with two outbound and one inbound lane. All traffic movements will be allowed at this driveway. Since the Paia Bypass is one-way southbound, traffic movements at the north project driveway will be restricted to left turns into the project only. Traffic movements at the south driveway will be restricted to left turns in and left turns out.

A bus stop within the project is part of the plan to provide transportation for the senior residents of the project and community. There will also be a connection for pedestrians between the project and the Post Office.

B. Purpose and Objective of Study

1. Quantify and describe the traffic related characteristics of the proposed project.

2. Identify potential deficiencies adjacent to the project that will impact traffic operations in the vicinity of the proposed project.

C. Study Approach

1. A field reconnaissance was performed to identify existing roadway cross-sections, intersection lane configurations, traffic control devices, and surrounding land uses.

2. Existing weekday peak hour traffic volumes were obtained from manual traffic counts at the intersections of Hana Highway at Baldwin Avenue and Baldwin Avenue at the Paia Bypass. Existing intersection levels-of-service were determined using the methodology described in the *2000 Highway Capacity Manual*.

3. Future background traffic volumes without traffic generated by the study project were estimated. A level-of-service analysis was performed to determine traffic operating conditions and levels-of-service as a result of background growth and traffic generated by other known future development projects.

4. Peak hour traffic that the proposed project will generate was estimated using trip generation analysis procedures recommended by the Institute of Transportation Engineers. Project generated traffic was distributed and assigned to the adjacent roadway network.

5. A level-of-service analysis for future traffic conditions with traffic generated by the study project was performed.

6. The impacts of traffic generated by the proposed project were quantified and summarized.

7. Improvements or modifications necessary to mitigate the traffic impacts of the project and to provide adequate access to and egress from the site were identified and analyzed.

8. A report documenting the conclusions of the analyses performed and recommendations was prepared.

D. Description of Existing Streets and Intersection Controls

Hana Highway is an east-west, State Highway that connects Kahului with Hana. Within Paia, Hana Highway is a two-lane, two-way roadway. There are separate left and right turn lanes at the intersection with Baldwin Avenue. The intersection is signalized and left turns are protected. There is parking along both side of the roadway, but not in the immediate vicinity of the intersection. Based on traffic counts completed in May 2011, both morning and afternoon peak hour traffic volumes are approximately 1,200 vehicles per hour.

Baldwin Avenue is a two-lane, two-way County road that connects Paia with Makawao. Parking is also allowed along both sides of the street within Paia town. The morning and afternoon peak hour traffic volumes are approximately 500 and 600 vehicles per hour, respectively.

The Paia Bypass provides an alternate route for traffic from Hana Highway bound for areas south the Paia Town. The bypass begins from Hana Highway west of town and ends at Baldwin Avenue south of the Post Office. The bypass is only one-lane wide and allows one-way traffic in the southbound direction only. The morning and afternoon peak hour volumes are approximately 60 and 200 vehicles per hour, respectively.

E. Existing Peak Hour Traffic Volumes

Existing weekday peak hour traffic volumes were obtained from manual traffic counts at the intersections of Hana Highway at Baldwin Avenue and Baldwin Avenue at the Paia Bypass. These counts were performed on Thursday, May 19, 2011. Theses counts are summarized on Attachment B.

The traffic counts include buses, trucks and other large vehicles. Mopeds and bicycles are not included.

The morning traffic counts were performed from 6:30 AM to 8:30 AM. The counts determined that the morning peak hour of the intersection of Hana Highway at Baldwin Avenue is between 7:15 AM and 8:15 AM. The morning peak hour of the intersection of Baldwin Avenue at the Paia Bypass is between 7:00 AM and 8:00 AM.

The afternoon counts were performed from 2:30 PM to 5:30 PM. The traffic count period was extended to make sure that traffic along Baldwin Avenue associated end of the school day was included in the counts. The counts determined that the afternoon peak hour at the intersection of Hana Highway at Baldwin Avenue is between 2:30 PM and 3:30 PM. There is another peak later during the afternoon commute period between 4:30 PM and 5:30 PM that is comparable to the peak hour volume starting at 2:30 PM.

The afternoon peak hour of the intersection of Baldwin Avenue at the Paia Bypass is between 4:15 PM and 5:15 PM.

During the surveys, the following was observed:

1. Parking maneuvers out of the angle parking causes significant delays to through traffic along Hana Highway. Traffic must stop to allow vehicles to back out of the parking stall into traffic. This is especially bad during the afternoon peak period.

2. It was also observed that some vehicles turn left across traffic to park in the angled parking stalls on the opposite side of the street. Traffic in both directions must stop when this maneuver occurs. This also occurs during both peak periods.

3. During the morning peak period, trucks, including delivery trucks, park in No Parking zones, therefore impeding traffic flow. Delivery trucks that park in the parking stalls are too long to fit into standard parking stalls. Therefore, the rear of the vehicle hangs into the traffic lane impeding traffic flow.

4. During the morning peak period, delivery trucks will block both approach lanes in order to back into off-street loading areas.

5. Pedestrians do not use the crosswalks and do not comply with the pedestrian crossing signals.

Pedestrians were also counted at the intersection of Hana Highway at Baldwin Avenue. During the morning peak hour, 127 pedestrians used the crosswalks at this intersection. During the afternoon peak hour, 503 pedestrians used the crosswalks.

Pedestrian activity at the intersection of Baldwin Avenue at the Paia Bypass was negligible.

F. Level-of-Service Concept

"Level-of-Service" is a term which denotes any of an infinite number of combinations of traffic operating conditions that may occur on a given lane or roadway when it is subjected to various traffic volumes. Level-of-service (LOS) is a qualitative measure of the effect of a number of factors which include space, speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

There are six levels-of-service, A through F, which relate to the driving conditions from best to worst, respectively. The characteristics of traffic operations for each level-of-service are summarized in Table 1. In general, LOS A represents free-flow conditions with no congestion. LOS F, on the other hand, represents severe congestion with stop-and-go conditions. *Level-of-service D is typically considered acceptable for peak hour conditions in urban areas.*[1]

Corresponding to each level-of-service shown in the table is a volume/capacity ratio. This is the ratio of either existing or projected traffic volumes to the capacity of the intersection. Capacity is defined as the maximum number of vehicles that can be accommodated by the roadway during a specified period of time. The capacity of a particular roadway is dependent upon its physical characteristics such as the number of lanes, the operational characteristics of the roadway (one-way, two-way, turn prohibitions, bus stops, etc.), the type of traffic using the roadway (trucks, buses, etc.) and turning movements.

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[1] Institute of Transportation Engineers, *Transportation Impact Analyses for Site Development: A Recommended Practice*, 2006, page 60

Table 1 Level-of-Service Definitions for Signalized Intersections[1]

Level of Service	Interpretation	Volume-to-Capacity Ratio[2]	Stopped Delay (Seconds)
A, B	Uncongested operations; all vehicles clear in a single cycle.	0.000-0.700	<20.0
C	Light congestion; occasional backups on critical approaches	0.701-0.800	20.1-35.0
D	Congestion on critical approaches but intersection functional. Vehicles must wait through more than one cycle during short periods. No long standing lines formed.	0.801-0.900	35.1-55.0
E	Severe congestion with some standing lines on critical approaches. Blockage of intersection may occur if signal does not provide protected turning movements.	0.901-1.000	55.1-80.0
F	Total breakdown with stop-and-go operation	>1.001	>80.0

Notes:
(1) Source: *Highway Capacity Manual*, 2000.
(2) This is the ratio of the calculated critical volume to Level-of-Service E Capacity.

Like signalized intersections, the operating conditions of intersections controlled by stop signs can be classified by a level-of-service from A to F. However, the method for determining level-of-service for unsignalized intersections is based on the use of gaps in traffic on the major street by vehicles crossing or turning through that stream. Specifically, the capacity of the controlled legs of an intersection is based on two factors: 1) the distribution of gaps in the major street traffic stream, and 2) driver judgement in selecting gaps through which to execute a desired maneuver. The criteria for level-of-service at an unsignalized intersection is therefore based on delay of each turning movement. Table 2 summarizes the definitions for level-of-service and the corresponding delay.

Table 2 Level-of-Service Definitions for Unsignalized Intersections[1]

Level-of-Service	Expected Delay to Minor Street Traffic	Delay (Seconds)
A	Little or no delay	<10.0
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	See note (2) below	>50.1

Notes:
(1) Source: *Highway Capacity Manual*, 2000.
(2) When demand volume exceeds the capacity of the lane, extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements in the intersection. This condition usually warrants improvement of the intersection.

G. Existing Levels-of-Service

The results of the level-of-service analysis are summarized in Table 3. For the intersection of Hana Highway at Baldwin Avenue, which is signalized, volume-to-capacity ratios, control delays and levels-of-service of each controlled lane group.

Volume-to-capacity ratios are not shown for the lane groups of the intersection of Baldwin Avenue at the Paia Bypass. The *Highway Capacity Manual* methodology does not calculate volume-to-capacity ratios for uncontrolled lane groups of unsignalized intersections. The HCS methodology calculates the delays, which define the levels-of-service, of controlled lane groups only. Since the northbound and southbound through lanes are uncontrolled, delays are not calculated and levels-of-service are not provided.

The levels-of-service calculations indicate relatively good traffic operating conditions at the intersection of Hana Highway at Baldwin Avenue. This is not consistent with conditions observed in the field, especially during the afternoon peak period. There is congestion and significant delays along eastbound approach of Hana Highway during the afternoon peak period which results in a long initial queue. This implies that the congestion within the Paia area is the result of other activities within the study area that adversely impact traffic operations as previously described. Accordingly, two levels-of-service are shown in the table. The first is the level-of-service as estimated from the volume-to-capacity ratio and delay calculations. The second is the level-of-service as observed during the traffic counts.

Table 3 Existing (2011) Levels-of-Service

	AM Peak Hour				PM Peak Hour			
			LOS [2]				LOS	
Intersection and Movement	V/C	Delay [1]	Calculated	Observed	V/C	Delay [1]	Calculated	Observed
Hana Highway at Baldwin Av	***0.62***	***17.6***	***B***	***B***	***0.67***	***18.2***	***B***	***D***
Eastbound Thru	0.77	24.2	C	C	0.83	26.9	C	E
Eastbound Right	0.06	13.8	B	C	0.12	13.1	B	E
Westbound Left	0.52	25.2	C	C	0.68	31.3	C	D
Westbound Thru	0.72	13.5	B	C	0.50	8.6	A	C
Northbound Left	0.46	17.3	B	D	0.40	16.6	B	D
Northbound Right	0.08	13.0	B	C	0.16	14.2	B	D
Paia Bypass at Baldwin Av	***nc***	***1.3***	***A***	***A***	***nc***	***4.1***	***A***	***A***
Eastbound Left	nc	12.2	B	A	nc	11.7	B	A
Eastbound Right	nc	9.4	A	A	nc	10.2	B	A

NOTES:
(1) Delay is in seconds per vehicle.
(2) Denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. Level-of-Service is based on delay.
(3) See Attachment C for Level-of-Service Worksheets.
(4) nc = not calclated

H. Background Traffic Projections

Background traffic projections are defined as future background traffic conditions without proposed project generated traffic. Future traffic growth consists of ambient background growth that is a result of regional growth and cannot be attributed to a specific project. This background growth rate will also compensate for any small development projects that are not identified as a related project.

Background Growth

The *Maui Long Range Transportation Plan*[2] concluded that traffic in Maui would increase an average of 1.6% per year from 1990 to 2020. This growth rate was used to estimate the background growth between 2011 and 2015, which is the design year for this project. The growth factor was calculated using the following formula:

$$F = (1 + i)^n$$

where F = Growth Factor
i = Average annual growth rate, or 0.016
n = Growth period in years

The estimated background traffic growth between 2011 and 2015 are summarized as Attachment D.

Related Projects

The second component in estimating background traffic volumes is traffic generated by other proposed projects in the vicinity. Related projects are defined as those projects that are under construction or have been approved for construction and would significantly impact traffic in the study area. Related projects may be development projects or roadway improvements.

The only related project that will significantly impact the study intersections is the Paia Town Center, located in the southeast quadrant of the intersection of Hana Highway at Baldwin Avenue. The project consists of 5,640 square feet of new retail space, 4,320 square feet of office space and improvements to the parking lot. The parking lot improvements have been completed, but the new retail and office space has not yet been constructed. No timetable for construction was available. Traffic projections for the new retail and office space were obtained from the traffic impact study for the project[3].

The related projects' trip assignments are summarized as Attachment D. The estimated 2015 background traffic projections for 2015 are shown in Attachment E.

I. Project Trip Generation

Future traffic volumes generated by a project were estimated using the methodology described in the *Trip Generation Handbook*[4] and data provided in *Trip Generation*[5]. This method uses trip generation equations or rates to estimate the number of trips that the project will generate during the peak hours of the project and along the adjacent street.

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[2] Kaku Associates, *Maui Long Range Land Transportation Plan*, February 1997

[3] Phillip Rowell and Associates, *TIAR for Paia Town Center*, July 20, 2005

[4] Institute of Transportation Engineers, *Trip Generation Handbook*, Washington, D.C., 1998, p. 7-12

[5] Institute of Transportation Engineers, *Trip Generation, 7th Edition*, Washington, D.C., 2003

The project will contain 38,057 square feet of country town business uses. It was assumed that the country town businesses will have traffic characteristics comparable to uses defined as "specialty retail" by the Institute of Transportation Engineers. This will allow maximum flexibility for alternative uses. The Institute of Transportation Engineers defines specialty retail as follows:

> *Specialty retail centers are generally small strip shopping centers that contain a variety of retail shops and specialize in quality apparel; hard goods; and services, such as real estate offices, dance studios, florists and small restaurants.*[6]

The senior housing component of the project will consist of 104 units. Based on the site plan, these uses are considered attached versus detached, which would be separate individual units. The Institute of Transportation Engineers defines senior adult housing (attached) as follows:

> *Attached senior adult housing may include limited social and recreational services, but typically lacks centralized dining or medical facilities. Residents in these communities live independently, are typically active (requiring little to no medical supervision) and may or may not be retired.* [7]

Lastly, the project will include eight (8) residential units. It was assumed that these residential unit will have traffic characteristics comparable to condominiums.

The trip generation analysis is summarized in Table 4. The trips shown are the peak hourly trips generated by the project, which typically coincide with the peak hour of the adjacent street. As shown, the project will generate 312 trips during the morning peak hour, 149 inbound and 163 outbound. During the afternoon peak hour, this phase will generate 116 inbound and 90 outbound trips for a total of 206 trips.

Table 4 Trip Generation Analysis

Period & Direction		Specialty Retail (LU Code 814)			Senior Housing (LU Code 252)			Residential Condos (LU Code 230)			Total Trips
		Trips Generation Equation or Percent	Area (SF)	Trips	Trips per Unit or Percent	Units	Trips	Trips per Unit or Percent	Units	Trips	
AM Peak Hour	Total	T=4.91(A)+115.59	38,057	302	0.06	104	6	0.44	8	4	312
	Inbound	48%		145	50%		3	18%		1	149
	Outbound	52%		157	50%		3	82%		3	163
PM Peak Hour	Total	T=5.02(A)		191	0.11		11	0.52		4	206
	Inbound	56%		107	53%		6	64%		3	116
	Outbound	44%		84	47%		5	31%		1	90

[6] Institute of Transportation Engineers, Trip Generation, 7th Edition, Washington, D.C., 2003, p 1337

[7] Institute of Transportation Engineers, Trip Generation, 7th Edition, Washington, D.C., 2003, p 460

Since the project is a mixed use development, there will be trip interaction between the uses within the project, particularly the senior residential and the retail. Given the small number of peak hour trips generated by the senior residential uses, this interaction will be minimal during the peak hours and will have a negligible impact on the number of trips generated and the level-of-service calculations.

Project trips were distributed and assigned based on existing traffic approach and departure patterns of traffic into and out of the Paia area as estimated from the traffic counts. Based on these counts, the approach and departure patterns are summarized in Table 5. The resulting project trip assignments are shown in Attachment F.

Table 5 Project Trip Distribution

	Percent From/To	
To/From	AM	PM
From Hana	44%	42%
From Kahului	32%	44%
From Makawao	24%	14%
Total	100%	100%
To Hana	30%	44%
To Kahului	57%	41%
To Makawao	13%	15%
Total	100%	100%

J. Background Plus Project Projections

Background plus project traffic projections were estimated by superimposing the peak hourly traffic generated by the proposed project on the background (without project) peak hour traffic projections. This assumes that the peak hourly trips generated by the project coincide with the peak hour of the adjacent street. This represents a worse-case condition as it assumes that the peak hours of all the intersection approaches and the peak hour of the study project coincide. The resulting background plus project peak hour traffic projections are shown in Attachment G.

K. Traffic Impact Assessment

A level-of-service analysis was performed for "without project" and "with project" conditions to confirm that the intersections will operate at an acceptable level-of-service and that there are no traffic operational deficiencies.

The results of the level-of-service analysis are summarized in Table 6. Shown are the average vehicle delays and the levels-of-service of the controlled lane groups. Delays and levels-of-service are not calculated for uncontrolled movements. The analysis concluded that all controlled traffic movements will operate at Level-of-Service D or better, which implies acceptable operating conditions and minimal delays.

Level-of-Service of Project Driveway

The results of the level-of-service analysis of the proposed project driveway along Baldwin Avenue is summarized as Table 7. It was assumed that there are separate left and right turn lanes for

traffic exiting the project and there are no separate left turn lane or right turn lane for traffic entering the project. An assessment of the need for a separate left turn lane is provided later in this report.

The level-of-service analysis concluded that all controlled movements will operate at Level-of-Service C, or better, which is an acceptable level-of-service.

A level-of-service analysis of the project's driveways along the Paia Bypass was not performed because there are no controlled movements. Only left turns from the bypass, which is one way, into the project will be allowed. As there are no controlled movements, levels-of-service could were not calculated.

Table 6 2015 Intersection Levels-of-Service

	AM Peak Hour						PM Peak Hour					
	Without Project			With Project			Without Project			With Project		
Intersection and Movement	V/C	Delay [1]	LOS [2]	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
Hana Highway at Baldwin Av	***0.67***	***19.1***	***B***	***0.84***	***25.5***	***C***	***0.74***	***18.2***	***B***	***0.82***	***21.3***	***C***
Eastbound Thru	0.82	27.2	C	0.88	36.0	D	0.88	30.6	C	0.88	31.8	C
Eastbound Right	0.07	13.8	B	0.08	16.1	B	0.13	12.9	B	0.14	13.7	B
Westbound Left	0.55	26.0	C	0.85	41.4	D	0.73	35.2	D	0.77	35.5	D
Westbound Thru	0.76	14.3	B	0.70	11.7	B	0.52	8.8	A	0.50	7.9	A
Northbound Left	0.53	19.1	B	0.80	32.8	C	0.46	18.1	B	0.58	22.5	C
Northbound Right	0.10	13.7	B	0.14	16.7	B	0.19	14.9	B	0.23	17.2	B
Paia Bypass at Baldwin Av		***1.2***	***A***		***1.2***	***A***		***4.0***	***A***		***3.9***	***A***
Eastbound Left		12.8	B		13.6	B		12.6	B		13.0	B
Eastbound Right		9.6	A		9.8	A		10.5	B		10.7	B

NOTES:
(1) Delay is in seconds per vehicle.
(2) Denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. Level-of-Service is based on delay.
(3) See Attachment H for Level-of-Service Worksheets for background conditions. See Attachment I for Level-of-Service Worksheets for background plus project conditions.

Table 7 Driveway Levels-of-Service

	AM Peak Hour		PM Peak Hour	
Intersection and Movement	Delay [1]	LOS [2]	Delay [1]	LOS
Project Driveway at Baldwin Avenue	***5.6***	***A***	***2.3***	***A***
Eastbound Left	24.0	C	15.0	B
Eastbound Right	9.6	A	9.7	A
Northbound Left & Thru	1.1	A	0.5	A

NOTES:
(1) Delay is in seconds per vehicle.
(2) Denotes Level-of-Service calculated using the operations method described in *Highway Capacity Manual*. Level-of-Service is based on delay.
(3) See Attachment I for Level-of-Service Worksheets.

L. Mitigation

Level-of-Service D is generally considered to be the minimum acceptable peak hour level-of-service for urban intersections.[8] As all controlled traffic movements will operate at Level-of-Service A or B, no mitigation is recommended.

M. Other Traffic Related Issues

Left Turn Storage Lane

An assessment of the need for a separate left turn lane for traffic turning into the project from Baldwin Avenue was performed using guidelines published by the Transportation Resource Board[9]. The assessment is presented as Attachment J. If the plotted intersection of the approaching volumes and the opposing volume falls above and right of the percentage of left turns, then a separate left turn lane should be considered. The posted speed limit along Baldwin Avenue in the vicinity is 25 miles per hour. This implies that the design speed is 35 miles per hour. There are no charts for 35 miles per hour. The charts for 40 miles per hour were used as this is the closest chart available for the conditions given.

The assessment determined that a separate left turn lane was not warranted during either peak period. Accordingly, based on the findings of this accepted standard, a separate left turn lane is not recommended. It should also be noted that providing a separate left turn lane would be inconsistent with the adjacent intersections in the area. A left turn lane at the project's driveway along Baldwin Avenue would also result in conflicts with traffic turning into and out of the Post Office parking lot, which is adjacent to the project's driveway.

Public Transportation

Maui Public Bus Transit System operates one bus route through Paia along Hana Highway. Route 35 connects Kahului and Haiku. This route operates through Paia from approximately 6:00 AM to 9:00 PM at 90-minute intervals. There are two stops in Paia along Hana Highway.

The developer has provided an area within the project with the intent of having public transit service provided to and from the project.

Pedestrian Circulation

A sidewalk will be provided along the project's Baldwin Avenue frontage. A pedestrian connection between the project will also be provided. This will preclude the need for residents or persons using the public parking lot from having to use the sidewalk adjacent to Baldwin Avenue.

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[8] Institute of Traffic Engineers *Transportation Impact Analyses for Site Development, A Recommended Practice*, Washington, D.C., 2006, p 60.

[9] Transportation Resource Board, NCHRP Report 457, *Evaluating Intersection Improvements: An Engineering Study Guide*, 2001, Washington, D.C. p21-22

Bicycles

Provisions for parking and short term storing of bicycles in the project should be provided.

N. Summary and Recommendations

1. The proposed project is located along the west side of Baldwin Avenue, immediately north of the Post Office. The project will consist of 104 senior residential units, 38,057 square feet of country town business floor area and 8 residential live/work units. In addition to the parking required by code to accommodate the residential, retail and commercial development, the project will also provide an additional 172 parking spaces for the project for public use.

2. Access to and egress from the project will be provided via a recently constructed driveway along the west side of Baldwin Avenue and two new driveways along the Paia Bypass. The driveway along Baldwin Avenue is 36-feet wide with two outbound and one inbound lane. All traffic movements will be allowed at this driveway. Since the Paia Bypass is one-way southbound, traffic movements at the north project driveway will be restricted to left turns into the project only. Traffic movements at the south driveway will be restricted to left turns in and left turns out.

3. A bus stop within the project is part of the plan to provide transportation for the senior residents of the project and community. There will also be a connection for pedestrians between the project and the Post Office.

4. The proposed project will generate 312 trips during the morning peak hour, 149 inbound and 163 outbound. During the afternoon peak hour, this phase will generate 116 inbound and 90 outbound trips for a total of 206 trips.

5. The level-of-service analysis concluded that all controlled traffic movements will operate at Level-of-Service D or better, which implies acceptable operating conditions and minimal delays. Accordingly, no additional mitigation is recommended.

6. An assessment of the need for a separate left turn lane for vehicles turning left into the project from Baldwin Avenue was performed. The assessment determined that a separate left turn lane was not warranted during either peak period. Accordingly, based on the findings of this accepted standard, a separate left turn lane is not recommended. It should also be noted that providing a separate left turn lane would be inconsistent with the adjacent intersections in the area. A left turn lane at the project's driveway along Baldwin Avenue would also result in conflicts with traffic turning into and out of the Post Office parking lot, which is adjacent to the project's driveway.

7. Currently no public bus service is available along Baldwin Avenue that could be used directly by project residents or clients. The nearest public bus route is Route 35, which connects Kahului and Haiku via Hana Highway. The developer has provided an area for a bus stop within the project in anticipation that public bus service will be provided in the future.

Respectfully submitted,
PHILLIP ROWELL AND ASSOCIATES

Phillip J. Rowell, P.E.
Principal

List of Attachments

A. Project Site Plan

B. Existing Lane Configurations and Existing (2011) Peak Hour Traffic Volumes

C. Level-of-Service Worksheets for Existing Conditions

D. Background Growth and Related Projects' Trip Assignments

E. 2015 Background Peak Hour Traffic Projections

F. Project Trip Assignments

G. 2015 Background Plus Project Peak Hour Traffic Projetions

H. Level-of-Service Worksheets for Background Conditions

I. Level-of-Service Worksheets for Background Plus Project Conditions

J. Guidelines for Determining the Need for a Left Turn Storage Lane at Two-Way Stop Controlled Intersections

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PAIA COURTYARD
TRAFFIC UPDATE MEMORANDUM

October 18, 2013

I. PROJECT BACKGROUND

This traffic memorandum provides an update to the October 3, 2011 *Traffic Impact Analysis Report Pā'ia 2020* (PRA, 2011), submitted for the proposed Pā'ia Courtyard development at TMK (2) 2-5-005:0189 Lot A-1-A. This is in response to comments received from the County of Maui (COM) Department of Planning in a July 23, 2013 letter, *Subject: Initiating a State District Boundary Amendment From the State Agricultural District to the State Urban District, a Community Plan Amendment, a Change in Zoning and a Special Management Area (SMA) Use Permit for the Pā'ia Courtyard Project, Located at Pā'ia, Island of Maui, Hawai'i; TMK: (2) 2-5-005-063*, comment #7:

> The Traffic Impact Analysis Report (TIAR) completed for the project and summarized in the Infrastructure – Roadways section of the document on page 17 suggests that the Baldwin Avenue and Hāna Highway intersection functions at a Level of Service D and will continue to do so upon completion of the project. This study was done in 2010. However, Table 1 existing Level of Service on page 6 of the Pā'ia Relief Route analysis done by Parsons Brinkerhoff for the Draft Environmental Impact Statement (2013) assigns a Level of Service F to the intersection for PM peak hours. This is more consistent with the "observed" levels of service noted in the TIAR as opposed to the calculated levels of service. The functionality of this intersection is fundamental to assessing the impacts of this project on the Pā'ia Community. Please update the traffic study accordingly and provide mitigating alternatives;

This traffic memorandum will address each of the items in question pertaining to the traffic report as an update to the previously submitted *Traffic Impact Analysis Report Pā'ia 2020* (PRA, 2011).

II. INTERSECTION LEVEL OF SERVICE

Hāna Highway intersects Baldwin Avenue at a signalized T-intersection with a dedicated right turn lane in the eastbound direction and left turn lane in the westbound direction. Hāna Highway is a State owned, two-lane, undivided, rural minor arterial. Baldwin Avenue is a County owned, two-lane, undivided rural minor collector. West of the intersection with Baldwin Avenue, Hāna Highway has two 12-foot wide travel lanes and four-foot wide paved shoulders that also doubles as a bicycle facility. After the intersection with Pā'ia Mini Bypass Road, and through Pā'ia town, the shoulder is replaced by front-in angled parking on the mauka side and parallel parking on the makai side. Travel lanes range from 11-12 feet. East of Pā'ia town, Hāna Highway transitions between 11-12 foot lanes and four to six foot grass and paved shoulders. Posted speeds along Hāna Highway range from 45 mph, along the straight segments with few intersecting roads, to 20 mph through Pā'ia town. Posted speeds along Baldwin Avenue vary from 20 to 30 mph.

Hāna Highway provides the most direct route for travel between Kahului and areas east of Pā'ia. The signalized intersection with Baldwin Avenue exists along a stretch of rural uninterrupted highway. The reduction in posted speed and existence of a traffic signal along this stretch of highway is the primary cause for delay. It is has been noted in traffic reports that the operations of the roadway segments in the vicinity of the intersection are worsened due to factors beyond the volume of traffic and intersection capacity such as on-street parking, intersecting driveways, and crossing pedestrians.

A. Level of Service Methodology

Level of service (LOS) is an operational analysis rating system used in traffic engineering to measure the effectiveness of roadway operating conditions. There are six LOS ranging from A to F. LOS A is defined as being the least interrupted flow conditions with little or no delays, whereas LOS F is defined as conditions where extreme delays exist. Guidelines from the *Statewide Uniform Design Manual for Streets and Highways* (HDOT, 1980) state that an appropriatc LOS for a rural arterial, which is the classification of Hāna Highway in the project area, is LOS C or better. Although the stretch of Hāna Highway through Pā'ia town is classified as rural, actual conditions are more in line with an urban area which typically allow for LOS D. LOS is calculated using *Synchro* traffic software which is based on the methodologies of the *Highway Capacity Manual.*

B. Level of Service Reported

Intersection LOS reported in the ***Traffic Impact Analysis Report Pā'ia 2020*** **(PRA, 2011)** was calculated using *Synchro* traffic software and turning movement traffic counts taken in May 2011 during the AM and PM peak periods. Calculated results were LOS B for both the AM and PM peak hours. Observed LOS was reported to be LOS B and D for the AM and PM peak hours respectively.

The ***Pā'ia Relief Route TIAR*** **(SSFM, 2012)** was completed in support of the *Pā'ia Relief Route Draft Environmental Statement* (SSFM, unpublished) (DEIS) referenced in the July 23, 2013 COM letter. The DEIS was submitted to HDOT in March 2013 and HDOT submitted it for review to FHWA in April although it has not been signed off on yet and therefore is not a publically available document. The *Pā'ia Relief Route TIAR* (SSFM, 2012) calculated intersection LOS using *Synchro* traffic software and traffic counts taken in December 2007. Calculated results were LOS C and D for the AM and PM peak hours respectively.

The previously referenced *Pā'ia Relief Route TIAR* (SSFM, 2012) included the ***Draft Pā'ia Relief Route Travel Demand Forecasting Report*** **(PB, 2012)** as an appendix. This report prepared by Parsons Brinkerhoff is believed to be the report referenced in the July 23, 2013 COM letter. This report included calculated intersection LOS using *Synchro* traffic software and the same December 2007 traffic counts used in the *Pā'ia Relief Route TIAR* (SSFM, 2012). Calculated LOS were LOS D and LOS F for the AM and PM peak hours respectively.

Calculated LOS from the referenced reports are included in the following table.

Reference/Scenario	Volume Year	Intersection LOS	
		AM	PM
Traffic Impact Analysis Report Pā'ia 2020 (PRA, 2011)	2011	B	B
Pā'ia Relief Route TIAR (SSFM, 2012)	2007	C	D
Draft Pā'ia Relief Route Travel Demand Forecasting Report (PB, 2012)	2007	D	F

C. Level of Service Comparison

The same traffic software, intersection configuration, and intersection turning movement volumes were used to analyze conditions in the *Draft Pā'ia Relief Route Travel Demand Forecasting Report* (PB, 2012) and *Pā'ia Relief Route TIAR* (SSFM, 2012). Differences were noted in traffic signal timing and that the *Draft Pā'ia Relief Route Travel Demand Forecasting Report* (PB, 2012) included an adjustment to account for the existence of on-street parking. The inclusion of adjacent on-street parking in the traffic model, and resulting parking conflicts, lowers the saturated flow rate which results in worsening intersection movement delay, volume to capacity ratio (v/c), and LOS. Without contesting the proximity of existing on-street parking, the *Draft Pā'ia Relief Route Travel Demand Forecasting Report* (PB, 2012) also included this adjustment along the westbound approach where no adjacent on-street parking exists which was in error.

Consequently, the *Traffic Impact Analysis Report Pā'ia 2020* (PRA, 2011) did not include parking conflicts in the analysis of intersection operations due to the belief that parking did not exist in the immediate vicinity of the intersection. It was observed, "Parking maneuvers out of the angle parking causes significant delays to through traffic along Hāna Highway. Traffic must

stop to allow vehicles to back out of the parking stall into traffic. This is especially bad during the afternoon peak period." These observations are in reference to operations along the stretch of road through Pā'ia town and not specific to the intersection.

D. Level of Service Re-analysis

Re-analysis of the intersection of Hāna Highway and Baldwin Avenue was completed using Synchro traffic software to better reflect observed conditions. This scenario included adjustments for on-street parking along the makai-bound and eastbound approaches, as well as optimized traffic signal timing. AM and PM peak hour volumes from 2007, taken from *Pā'ia Relief Route TIAR* (SSFM, 2012), and 2011, taken from *Traffic Impact Analysis Report Pā'ia 2020* (PRA, 2011), were used for each scenario. Resulting LOS was LOS C or D for the peak hours of both years, as shown in the following table, which is appropriate and considered to better represent actual intersection operations. Re-analysis Synchro reports are included in the appendix.

Scenario	Volume Year	Intersection LOS	
		AM	PM
Re-analysis w/Parking Conflicts and Timing Optimization	2011	C	C
	2007	C	D

III. MITIGATION

It can be concluded that the intersection of Hāna Highway and Baldwin Avenue would function better with additional capacity. As noted, various impediments to roadway capacity exist in the current configuration that result in the difference between observed and calculated intersection LOS. Removing existing causes of friction along the approaches to the intersection would lessen delay and improve operations. It is noted that many of these roadway features that result in vehicular delay have a primary purpose to enhance the pedestrian-centered aspect of Pā'ia town.

A. Road Widening

Additional right-of-way (ROW) does not exist along Hāna Highway in its current configuration to provide for additional turn or through-traveling lanes. The current on-street parking configuration reduces the capacity of the intersection as a result of parked vehicles existing in the travel way ROW. Reduction of on-street parking in the vicinity of the intersection would provide additional capacity as a result of a lengthened eastbound right-turn lane which in turn would improve intersection operations.

B. On-Street Parking

Currently the 21 parking stalls along the mauka side of Hāna Highway are front-in angled parking with 14 stalls on the west side of the intersection and seven on the east side. Vehicular movements to pull out of these stalls impede the adjacent through-traveling vehicles, resulting in delay and congestion. In addition, motorists will often slow or stop along Hāna Highway while waiting for a driver to enter their vehicle in anticipation of a parking stall becoming available. Through traveling vehicles would not be as impacted if on-street parking were removed during peak vehicular travel times. By prohibiting parking during the peak travel times, such as the PM peak commuter period, through-traveling vehicles will not be delayed during these high volume periods. Another option would be to reconfigure parking to a configuration such as parallel parking. While the vehicular maneuvers into a parallel parking stall are more time consuming than into a front-in angled stall, these maneuvers can likely take place outside of the vehicular travel way thereby not impeding through-traveling vehicles. Using an average parking stall length of 20 feet, reconfiguration of the existing front-in angled parking to parallel parking would remove eight parking stalls, five on the west side and three on the east. The reduction of conflicting movements along the approach and receiving legs of the intersection with Baldwin Avenue would improve intersection operations. The removal of required space dedicated to front-in angled parking will also allow for a bicycle facility which would improve multi-modal connectivity and safety.

C. Driveway Intersections

Multiple driveways to private and public parking lots exist along Hāna Highway in the vicinity of the intersection with Baldwin Avenue. Conflicts from vehicles making turns onto and off of Hāna Highway add additional delay to through-traveling vehicles, resulting in underutilized traffic signal timing. Consolidating driveways or restricting movement into and out of those

driveways that have alternative access through Baldwin Avenue would potentially improve operations along Hāna Highway.

D. Pedestrians

Pedestrians were observed to jaywalk across Hāna Highway in the vicinity of the intersection with Baldwin Avenue. No pedestrian crosswalk exists across the west leg of the intersection, with the next available marked crossing at the intersection with the public parking lot 600 feet to the west. A pedestrian crosswalk was likely not included across the west leg of the intersection due to the potential conflict of left-turning vehicles from Baldwin Avenue with crossing pedestrians. By adding a crosswalk with a leading pedestrian crossing interval, conflicts between vehicles and pedestrians could be minimized. While the addition of a crosswalk here would add to the calculated delay of the intersection operations, actual operations would likely be improved through a reduction in pedestrians jaywalking at mid-block locations which causes both an operational and safety concern. As an alternative to a crosswalk across the west leg of the intersection, the addition of a mid-block pedestrian crosswalk halfway (300 feet) between the intersection and public parking would provide for the desired pedestrian crossing point that currently results in the jaywalking. Therefore, it is suggested to consider including a crosswalk across the west leg of the intersection or at a location 300 feet to the west in order to increase safety for pedestrians.

IV. CONCLUSION AND RECOMMENDATIONS

Through observations and analysis it can be concluded that the existence of on-street parking worsens operations along Hāna Highway. The difference between observed and calculated LOS is a result of what is considered to be a part of the intersection with Baldwin Avenue. Therefore, the reconfiguration, reduction, or removal of on-street parking along Hāna Highway will remove vehicle conflicts that impede roadway flow and consequently worsen intersection operations. This is most applicable along the mauka side of Hāna Highway, where there are currently 21 front-in angled parking stalls, to limit conflicts with traffic heading in the eastbound direction. Approximately eight less on-street stalls would exist if reconfigured to parallel parking.

The reconfiguration of parking along Hāna Highway would allow for additional width of travel way and the ability to improve multi-modal connectivity and safety by continuing the bicycle facility that ends at the Pā'ia Mini Bypass Road. In the current configuration, bicycles share the lane with vehicles through Pā'ia town although front-in angled parking is not safe for bicyclists due to the difficulty for motorists to see them when reversing. To improve pedestrian safety as well as vehicular operations along Hāna Highway, the inclusion of a crosswalk across the west leg of the intersection, or at a mid-block location between the intersection and public parking, would provide a protected crossing. It is believed that these proposed mitigation actions will improve operations through Pā'ia town and at the intersection of Hāna Highway and Baldwin Avenue.

The inclusion of 172 additional off-street parking stalls for tenants, employees, and customers, beyond the number required by zoning, in the Pā'ia Courtyard plans will help offset any reduction in the number of available on-street parking. A portion of this additional parking will be free. Available parking provided by the Pā'ia Courtyard will also assist in reducing the number of conflicting turns into and out of driveways off of Hāna Highway for vehicles looking for parking. Way-finding signage could be installed along Hāna Highway that directs vehicles traveling from the west onto the Pā'ia Mini Bypass Road to access Pā'ia town parking, reducing the number of vehicles traveling through the intersection of Hāna Highway and Baldwin Avenue. It is because of this that the proposed options for reconfiguring parking along Hāna Highway, and addition of parking stalls with the Pā'ia Courtyard project, will result in better operations at the intersection of Hāna Highway and Baldwin Avenue.

V. REFERENCES

Hawai'i Department of Transportation, *Statewide Uniform Design Manual for Streets and Highways*, 1980.

Parsons Brinkerhoff, *Draft Pā'ia Relief Route Travel Demand Forecasting Report*, 2012.

Phillip Rowell Associates, *Traffic Impact Analysis Report Pā'ia 2020*, 2011.

SSFM International, *Pā'ia Relief Route Draft Environmental Impact Statement*, unpublished.

SSFM International, *Pā'ia Relief Route Traffic Impact Analysis Report* (part of DEIS), 2012.

Transportation Research Board of National Academies, *Highway Capacity Manual*, 2000.

APPENDIX –
RE-ANALYSIS SYNCHRO REPORTS

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	310	108	118	721	232	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.86	1.00	1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1382	1015	1509	1588	1313	1015
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1382	1015	1509	1588	1313	1015
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	100%	100%	100%	130%	130%
Adj. Flow (vph)	337	117	128	784	328	127
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	337	117	128	784	328	127
Confl. Peds. (#/hr)		60	60		60	60
Parking (#/hr)	6	6			6	6
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	34.4	34.4	11.0	50.4	26.5	26.5
Effective Green, g (s)	34.4	34.4	11.0	50.4	26.5	26.5
Actuated g/C Ratio	0.40	0.40	0.13	0.58	0.30	0.30
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	547	401	191	921	400	309
v/s Ratio Prot	0.24		0.08	c0.49	c0.25	
v/s Ratio Perm		0.12				0.13
v/c Ratio	0.62	0.29	0.67	0.85	0.82	0.41
Uniform Delay, d1	21.0	17.9	36.2	15.1	28.0	24.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.4	8.9	7.6	12.4	0.9
Delay (s)	23.0	18.3	45.1	22.8	40.4	24.9
Level of Service	C	B	D	C	D	C
Approach Delay (s)	21.8			25.9	36.0	
Approach LOS	C			C	D	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	86.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
25: Baldwin Avenue & Hana Highway

9/24/2013

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	620	84	117	456	155	170
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.81	1.00	1.00	1.00	0.81
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1382	952	1509	1588	1313	952
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1382	952	1509	1588	1313	952
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	100%	100%	100%	130%	130%
Adj. Flow (vph)	674	91	127	496	219	240
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	674	91	127	496	219	240
Confl. Peds. (#/hr)		60	60		60	60
Parking (#/hr)	6	6			6	6
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	64.3	64.3	11.1	80.4	36.1	36.1
Effective Green, g (s)	64.3	64.3	11.1	80.4	36.1	36.1
Actuated g/C Ratio	0.51	0.51	0.09	0.64	0.29	0.29
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	702	483	132	1009	374	271
v/s Ratio Prot	c0.49		c0.08	0.31	0.17	
v/s Ratio Perm		0.10				c0.25
v/c Ratio	0.96	0.19	0.96	0.49	0.59	0.89
Uniform Delay, d1	29.9	16.9	57.5	12.2	38.8	43.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.5	0.2	66.3	0.4	2.3	27.2
Delay (s)	54.3	17.1	123.8	12.6	41.1	70.4
Level of Service	D	B	F	B	D	E
Approach Delay (s)	49.9			35.3	56.4	
Approach LOS	D			D	E	

Intersection Summary			
HCM 2000 Control Delay	46.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	126.5	Sum of lost time (s)	15.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	340	64	114	638	227	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.86	1.00	1.00	1.00	0.86
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1382	1016	1509	1588	1313	1016
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1382	1016	1509	1588	1313	1016
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	100%	100%	100%	130%	130%
Adj. Flow (vph)	370	70	124	693	321	147
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	370	70	124	693	321	147
Confl. Peds. (#/hr)		60	60		60	60
Parking (#/hr)	6	6			6	6
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	30.4	30.4	12.7	48.1	28.0	28.0
Effective Green, g (s)	30.4	30.4	12.7	48.1	28.0	28.0
Actuated g/C Ratio	0.35	0.35	0.15	0.56	0.33	0.33
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	487	358	222	887	426	330
v/s Ratio Prot	0.27		0.08	c0.44	c0.24	
v/s Ratio Perm		0.07				0.14
v/c Ratio	0.76	0.20	0.56	0.78	0.75	0.45
Uniform Delay, d1	24.6	19.4	34.1	14.9	26.0	22.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.7	0.3	3.0	4.5	7.4	1.0
Delay (s)	31.3	19.6	37.1	19.4	33.4	23.9
Level of Service	C	B	D	B	C	C
Approach Delay (s)	29.5			22.1	30.4	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	86.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	470	112	135	425	200	171
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.84	1.00	1.00	1.00	0.84
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1382	986	1509	1588	1313	986
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1382	986	1509	1588	1313	986
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	100%	100%	100%	130%	130%
Adj. Flow (vph)	511	122	147	462	283	242
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	511	122	147	462	283	242
Confl. Peds. (#/hr)		60	60		60	60
Parking (#/hr)	6	6			6	6
Turn Type	NA	Perm	Prot	NA	NA	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Actuated Green, G (s)	44.4	44.4	13.7	63.1	31.8	31.8
Effective Green, g (s)	44.4	44.4	13.7	63.1	31.8	31.8
Actuated g/C Ratio	0.42	0.42	0.13	0.60	0.30	0.30
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	584	417	197	955	398	298
v/s Ratio Prot	c0.37		c0.10	0.29	0.22	
v/s Ratio Perm		0.12				c0.25
v/c Ratio	0.88	0.29	0.75	0.48	0.71	0.81
Uniform Delay, d1	27.7	19.9	43.9	11.7	32.5	33.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.7	0.4	14.2	0.4	5.9	15.4
Delay (s)	41.4	20.3	58.2	12.1	38.4	49.2
Level of Service	D	C	E	B	D	D
Approach Delay (s)	37.4			23.2	43.3	
Approach LOS	D			C	D	

Intersection Summary			
HCM 2000 Control Delay	34.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	104.9	Sum of lost time (s)	15.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix E

Preliminary Engineering Report
(Roadway, Drainage, Sewer, and Water)

PRELIMINARY ENGINEERING REPORT

FOR

PAIA 2020

Paia, Maui, Hawaii

T.M.K.: (2) 2-5-005: 018

Prepared For:

Paia 2020, LLC
Paia, Maui, Hawaii

Prepared By:

OTOMO ENGINEERING, INC.

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April 2012
Revised May 2014

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PRELIMINARY ENGINEERING REPORT
FOR
PAIA 2020
T.M.K.: (2) 2-5-005: 018

1.0 INTRODUCTION

The purpose of this report is to provide information on the existing infrastructure which will be servicing the proposed project. It will also evaluate the adequacy of the existing infrastructure and anticipated improvements which may be required for the proposed project.

The subject property is identified as T.M.K.: (2) 2-5-005: 018 and encompasses approximately 9.262 acres. It is also known as Lot A-1-A of the Paia Post Office Subdivision (File No. 2.3052). The project site is bordered by existing commercial and residential structures to the north, Baldwin Ave. to the east, the Paia Post Office to the south, and Lot A-1-B, which includes the Paia Mini-Bypass and existing cane fields to the east. The development plan consists of two phases, Phase I will consist of a commercial center and Phase II will include a senior housing center. The commercial center will include six buildings for office and retail use and may include up to three restaurants. It will also include eight live-work units. The senior housing center will include 55 apartment units, as well as a main facility and pool for residents use. Associated improvements for the entire project site include paved parking area and driveways, underground utilities, and landscaping.

The site is currently undeveloped except for a portion of the property that was previously graded for public parking. This temporary parking area is currently graveled.

2.0 EXISTING INFRASTRUCTURE

2.1 ROADWAYS

Hana Highway, to the north of the project, is the major roadway linking Kahului and East Maui. It is owned by the State of Hawaii. It is generally a two-lane, east-west roadway nearest the project site through Paia town. At its terminus in Kahului, near the Maui Mall, Hana Highway turns into Kaahumanu Avenue.

Baldwin Avenue runs in the north-south direction and provides access to the project site. Baldwin Avenue connects to Hana Highway to the north and continues

mauka to Makawao town. It is a County road with a curb and concrete sidewalk on the east side of the street, but the roadway shoulder is unimproved fronting the project site. There is an existing 36' wide driveway apron along Baldwin Ave. to access the parcel.

The Paia Mini-Bypass runs generally in the north-south direction and is one-way in the southbound direction. The bypass begins west of Paia town along Hana Highway and exits to Baldwin Ave. south of the Post Office to allow traffic to continue south towards Makawao.

2.2 DRAINAGE

The elevation on the site ranges in the south to north direction from an elevation of 54 feet at the top of the property to 14 feet at the makai property line, with a slope averaging approximately 4.2%. According to Panel Number 150003 0408 E of the Flood Insurance Rate Map, Sept. 29, 2009, prepared by the United States Federal Emergency Management Agency, the project site is situated in Flood Zone X. Flood Zone X represents areas outside the 0.2% annual chance floodplain.

According to the "Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August, 1972)," prepared by the United States Department of Agriculture Soil Conservation Service, the soils within the project site are classified as Paia Series (PcB and PcC). Paia Series is characterized as having moderate permeability, slow runoff, and a slight erosion hazard.

Presently, runoff from the project site sheet flows in the south to north direction towards the bottom of the property and generally sheet flows off of the project site towards Baldwin Ave. or the existing cane fields to the northwest. It is estimated that the present 50-year, 1-hour runoff from the project site is approximately 8.5 cfs and 13,755 cf of runoff volume.

2.3 SEWER

There is an existing 8-inch sewerline on Baldwin Ave. fronting the project site. Sewer from the area flow through a series of collection systems and is transported to the Kahului Wastewater Treatment Plant in Naska.

According to the Wastewater Reclamation Division, County of Maui, the County is assessing sewer fees of $1,165.35/unit for multi-family projects in this area. The Kahului Wastewater Reclamation Facility has a capacity of 7.9 million gallons per day

(mgd). As of March 2010, the average daily flow into the Kahului Wastewater Reclamation Facility is approximately 4.9 mgd. However, according to the Wastewater Reclamation Division, County of Maui, the total allocation, including projects already permitted, is 6.95 mgd.

2.4 WATER

Domestic water and fire flow is being provided by the County□s water system. The property is currently serviced by an existing 2" water meter which is connected to an existing 8" waterline along Baldwin Ave. Fire protection is provided by the same existing 8" waterline fronting the project site. There is an existing fire hydrant fronting the project site. The domestic water and fire flow for this area are provided by the existing 300,000 and 100,000 gal. tanks above Paia town.

2.5 ELECTRIC, TELEPHONE AND CABLE TV

There are existing overhead electrical, cable and telephone lines which are located along Baldwin Ave. that services the area.

3.0 ANTICIPATED INFRASTRUCTURE IMPROVEMENTS

3.1 ROADWAYS

Access to the project will continue to be from the existing 36' wide driveway along Baldwin Ave. There is also an existing road widening lot fronting the project along Baldwin Ave. The frontage will be improved with concrete curb, gutter and sidewalk to meet Department of Public Works standards. Two new driveways along the Paia Mini-Bypass on the west side of the property are proposed for left turns into the project only. There are 409 proposed onsite parking stalls which will exceed the number required by the Maui County Code for the proposed development. Based on the assessment provided by the Traffic Impact Analysis Report (TIAR), dated September 22, 2011, prepared by Phillip Rowell and Associates, no additional mitigation measures are recommended.

3.2 DRAINAGE

The post development runoff from the project site is estimated to be 34.5 cfs and 37,280 cf of runoff volume, which is an increase of 26.0 cfs and 23,525 cf of runoff

volume over existing conditions. The project site will be graded to maintain the existing runoff pattern with a majority of the runoff sheet flowing towards the northwest. All onsite runoff will be collected by catch basins located within the parking and landscaped areas. The runoff will be conveyed to a retention system, which will consist of a retention basin and subsurface drainage system. The retention basin will be located within a one acre easement within Lot A-1-B immediately to the northwest of the project site. The subsurface drainage system will be located beneath the paved parking within the project site and consists of perforated drainline embedded in crushed rock which will be wrapped with a layer of filter fabric. Surface runoff entering the perforated pipe will be allowed to infiltrate into the ground. The drainage system will be have a storage volume of approximately 40,000 cf which is greater than the total post development surface runoff volume generated from a 50-year, 1-hour storm. Overflow from the onsite drainage system will be allowed to continue downstream along the existing drainage pattern.

The design intent of the project will be to limit the need for extensive grading as much as possible. Development of the project will also include implementation of site specific best management practices (BMP's) during construction to provide erosion control and minimize impacts to downstream properties. BMP's which may be implemented would include, but is not limited to:

1. Prevention of cement products, oil, fuel, and other toxic substances from falling or leaching into the water.
2. Prompt and proper disposal of all loosened and excavated soil and debris material from drainage structure work.
3. Retention of ground cover until the last possible date.
4. Stabilization of denuded areas by sodding or planting as soon as possible.
5. Early construction of drainage features.
6. Minimize time of construction.

The proposed drainage and bmp plan will be designed in accordance with Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui and Chapter 111, Rules for the Design of Storm Water Treatment Best Management Practices.

3.3 SEWER

The proposed project will generate approximately 10,697 gallons per day of wastewater for Phase I and 14,025 gallons per day for Phase II (See Appendix B). The wastewater generated from the project will be transported to the Kahului Wastewater Treatment Facility by means of the existing sewer system. According to the Wastewater Reclamation Division, the treatment plant has sufficient capacity to accommodate the additional wastewater generated from the project at this time. The project will connect to the existing sewer lateral on the northeast side of the property.

3.4 WATER

In accordance with the Department of Water Supply□s Domestic Consumption Guidelines for commercial development, the average daily demand for the project is approximately 9,800 gallons per day for Phase I and 30,800 gallons per day for Phase II (See Appendix C). The existing 2" water meter will used to provide domestic water to the commercial center. Additional water meters will be required to provide domestic water to the senior center. New reduced pressure backflow preventers and a double check detector assembly will be installed to meet DWS standards as part of the required improvements. The project will also utilize low-flow fixtures as part of the water conservation measure.

Fire flow demand for commercial and multi-family developments is 2,000 gallons per minute for a 2 hour duration. The existing 8-inch waterline along Baldwin Ave. is capable of providing fire flow for the project and will be utilized by installing a fire line into the property. Fire hydrants will be installed around the project site with a maximum spacing of 250 feet.

3.5 ELECTRIC, TELEPHONE AND CABLE TV

The proposed electrical, telephone and cable TV distribution systems to the subject project will be installed from the existing overhead facilities currently servicing the project area. Upgrades to the facilities will be made as necessary during the building permit process. Within the project site, the electric, cable and telephone systems will be installed in accordance with the utility companies rules and regulations.

APPENDIX A
HYDROLOGIC CALCULATIONS

HYDROLOGIC CALCULATIONS

Purpose: Determine the increase in onsite surface runoff from the development of the proposed project based on a 50-year storm.

A. Determine the Runoff Coefficient (C):

EXISTING CONDITIONS:

Infiltration (Medium)	=	0.07
Relief (Flat)	=	0.00
Vegetal Cover (Good)	=	0.03
Development Type (Open)	=	0.15
	C =	0.25

DEVELOPED CONDITIONS:

ROOF AREAS:

Infiltration (Negligible)	=	0.20
Relief (Steep)	=	0.08
Vegetal Cover (None)	=	0.07
Development Type (Roof)	=	0.55
	C =	0.90

PAVED AREAS:

Infiltration (Negligible)	=	0.20
Relief (Flat)	=	0.00
Vegetal Cover (None)	=	0.07
Development Type (Pavement)	=	0.55
	C =	0.82

LANDSCAPE AREAS:

Infiltration (Medium)	=	0.07
Relief (Flat)	=	0.00
Vegetal Cover (Good)	=	0.03
Development Type (Open)	=	0.15
	C =	0.25

DEVELOPED CONDITIONS:

Paved Area = 5.7 Acres

Roof Area = 1.9 Acres

Landscaped Area = 1.7 acres

WEIGHTED C = 0.74

B. Determine the 50-year 1-hour rainfall:

i_{50} = 2.5 inches

Adjust for time of concentration to compute Rainfall Intensity (I):

Existing Condition:

T_c = 27 minutes

I = 3.67 inches/hour

Developed Condition:

T_c = 12 minutes

I = 5.04 inches/hour

C. Drainage Area (A) = 9.262 Acres

D. Compute the 50-year storm runoff volume (Q):

Q = CIA

Existing Conditions:

Q = (0.25)(3.67)(9.262)

= 8.5 cfs

Developed Conditions:

Q = (0.74)(5.04)(9.262)

= 34.5 cfs

The increase in runoff due to the proposed development is 34.5 - 8.5 = 26.0 cfs.

Hydrograph Plot

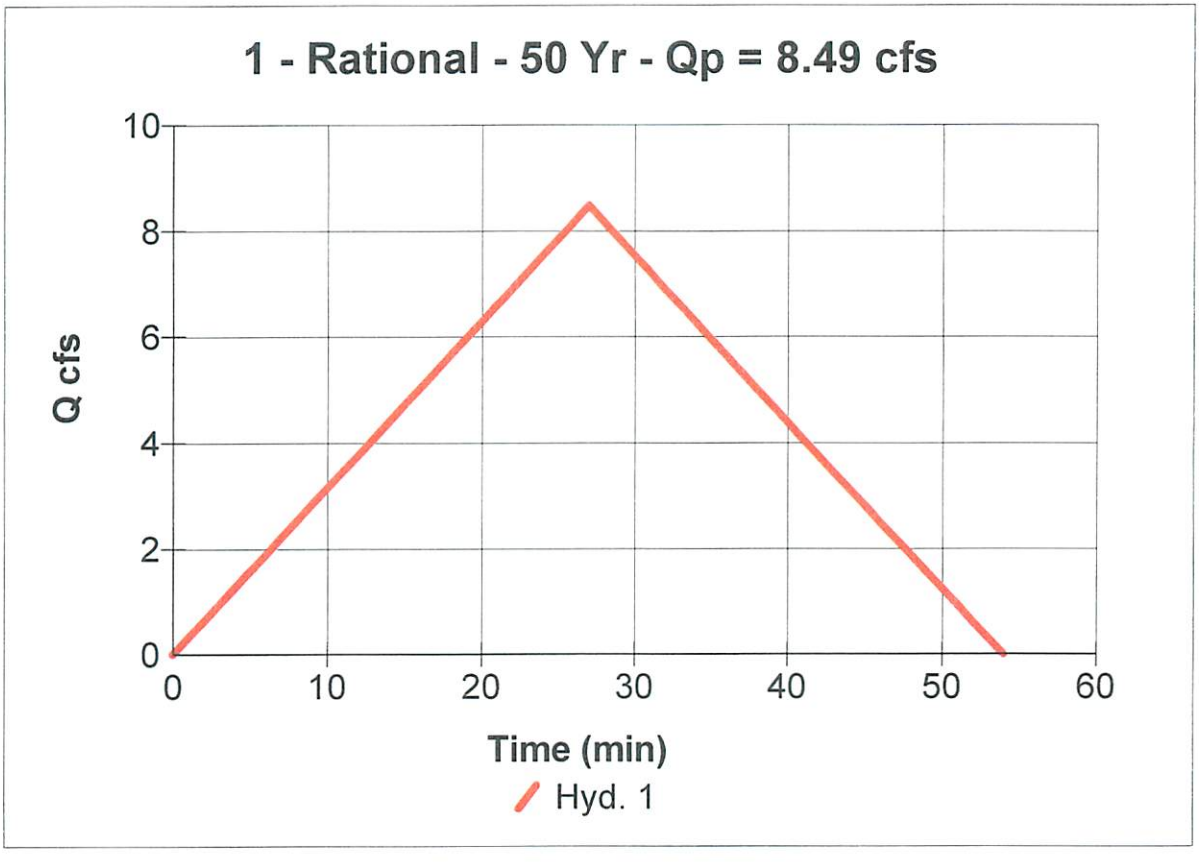
English

Hyd. No. 1

PRE

Hydrograph type	= Rational	Peak discharge	= 8.49 cfs
Storm frequency	= 50 yrs	Time interval	= 1 min
Drainage area	= 9.3 ac	Runoff coeff.	= 0.25
Intensity	= 3.67 in	Time of conc. (Tc)	= 27 min
I-D-F Curve	= 2-5.IDF	Reced. limb factor	= 1

Total Volume = 13,755 cuft



Hydrograph Plot

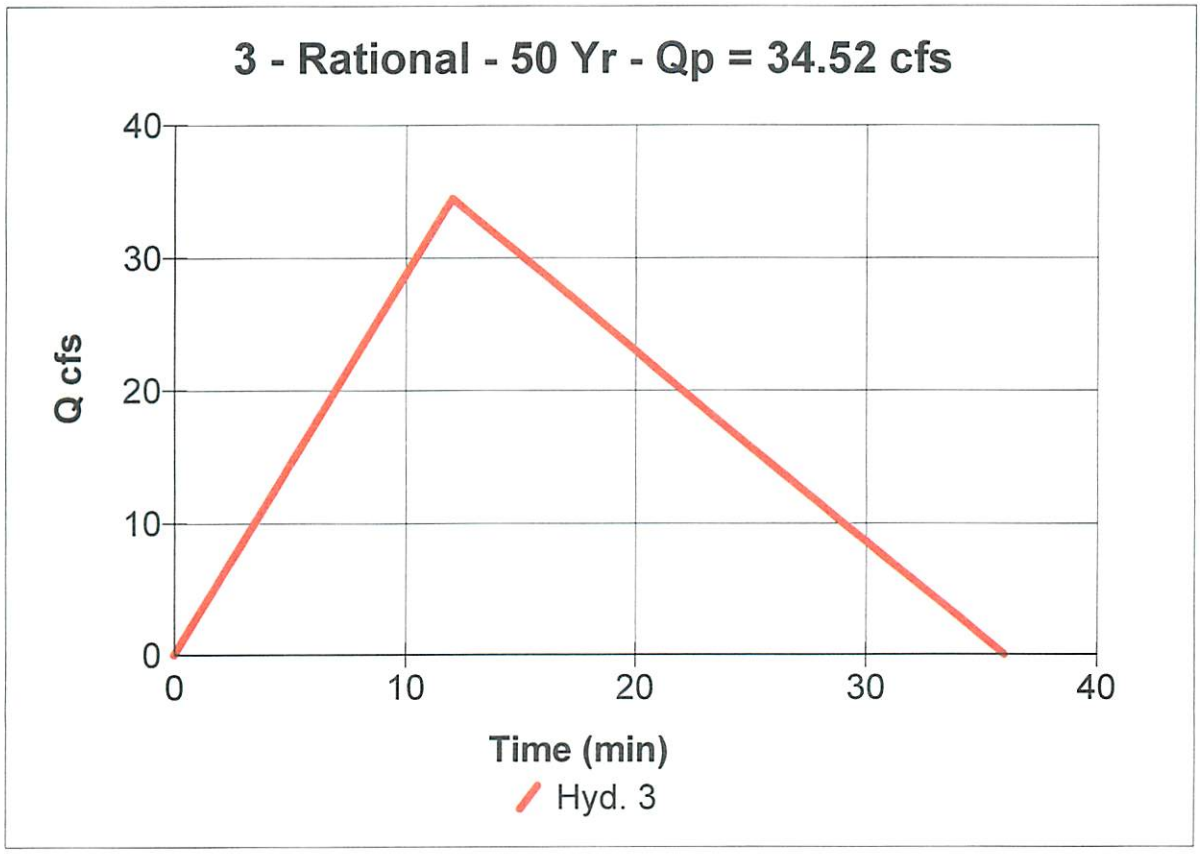
English

Hyd. No. 3

POST

Hydrograph type	= Rational	Peak discharge	= 34.52 cfs
Storm frequency	= 50 yrs	Time interval	= 1 min
Drainage area	= 9.3 ac	Runoff coeff.	= 0.74
Intensity	= 5.04 in	Time of conc. (Tc)	= 12 min
I-D-F Curve	= 2-5.IDF	Reced. limb factor	= 2

Total Volume = 37,281 cuft



APPENDIX B
WASTEWATER CALCULATIONS

WASTEWATER CALCULATIONS

Project Data:

Phase I (Commercial Center)

16,500 sq. ft. (Commercial - Office)

16, 500 sq. ft. (Commercial - Retail)

8 multi-family units

70 seats (Restaurant)

140 customers(Public Restrooms)

Phase II (Senior Center)

55 multi-family units

Per the 2000 Wastewater Flow Standards:

Wastewater Contribution:

Multi-family project = 255 gallons/day/unit

Occupancy = 2.5 persons unit

Office = 20 gallons/day/employee (Employee = 1/200 sq. ft.)

Retail = 15 gallons/day/employee (Employee = 1/350 sq. ft.)

Restaurant = 80 gallons/day/seat

Customers (Public Restroom) = 5 gallons/day/use

Phase I (Commercial Center)

Wastewater Contribution =

Office	= 20 x 16,500 sf/200	= 1,650 gpd
Retail	= 15 x 16,500 sf/350	= 707 gpd
Restaurant	= 80 x 70 seats	= 5,600 gpd
Customers	= 5 x 140 customers	= 700 gpd
Multi-Family	= 255 x 8 units	= 2,040 gpd
Total		= 10,697 gpd

Phase II (Senior Center)

Wastewater Contribution =

Multi-Family = 255 x 55 units = 14,025 gpd

APPENDIX C
WATER DEMAND CALCULATIONS

WATER DEMAND CALCULATIONS

Project Data:

Phase I (Commercial Center)

38,000 sq. ft. (Commercial)

8 multi-family units

Phase II (Senior Center)

55 multi-family units

Per 2002 Water System Standards:

Consumption Guidelines:

Commercial Zoning = 140 gallons/1,000 sq. ft.

Multi-Family Residential = 560 gallons/unit

Phase I (Commercial Center)

Average Daily Demand (ADD) =

Commercial = 140 x 38,000sf/1,000 = 5,320 gallons

Multi-Family Residential = 560 x 8 units = 4,480 gallons

ADD = 9,800 gpd

Max. Daily Demand (1.5 x ADD) = 1.5 x 9,800 = 14,700 gpd

Phase II (Senior Center)

Average Daily Demand (ADD) =

Multi-Family Residential = 560 x 55 units = 30,800 gallons

ADD = 30,800 gpd

Max. Daily Demand (1.5 x ADD) = 1.5 x 30,800 = 42,200 gpd

Max. Fire Flow = 2,000 gpm (Multi-family/Commercial)

EXHIBITS

1 Location Map

2 Vicinity Map

3 Soil Survey Map

4 Flood Insurance Rate Map

5 Preliminary Grading and Drainage Plan

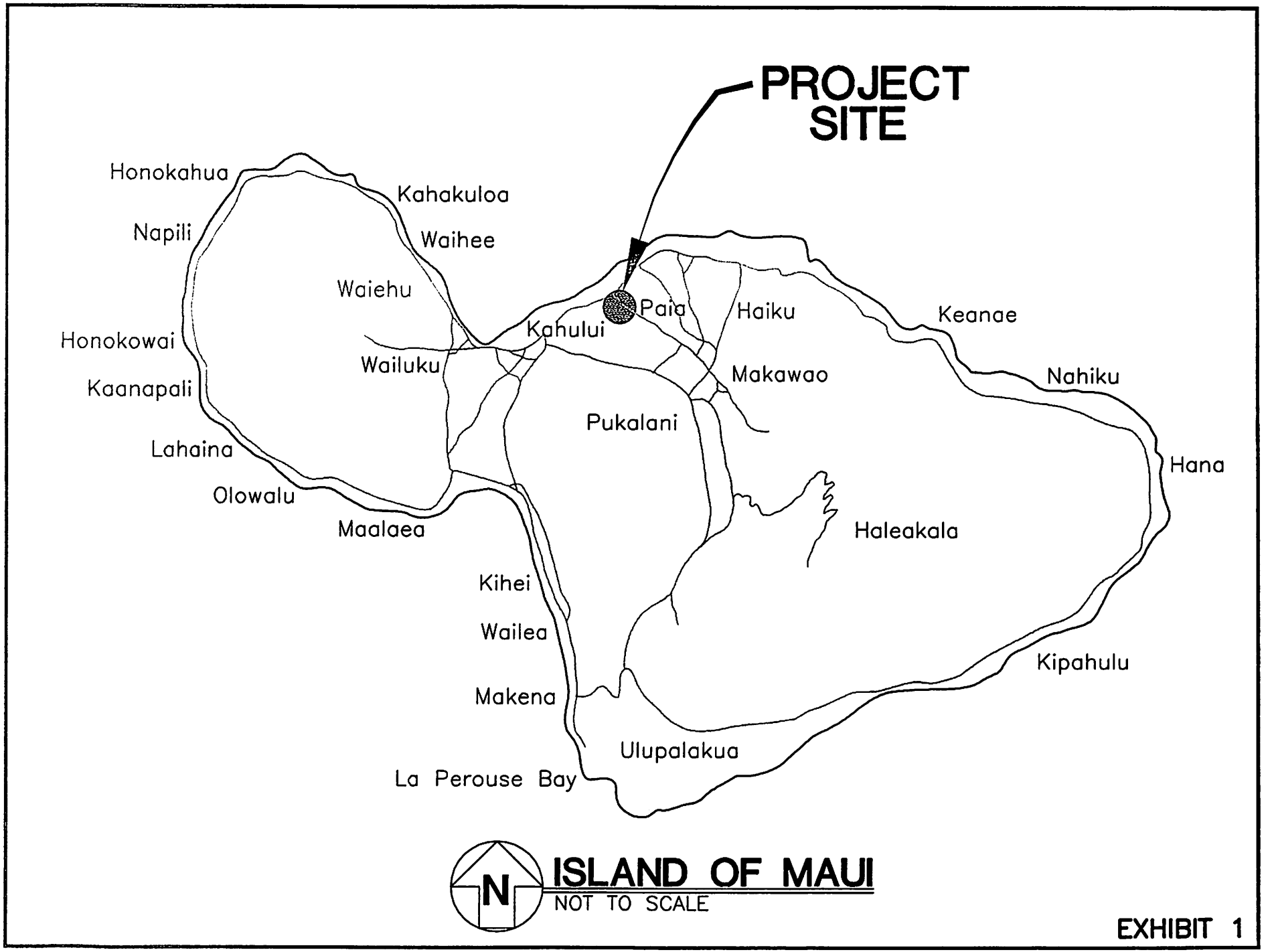
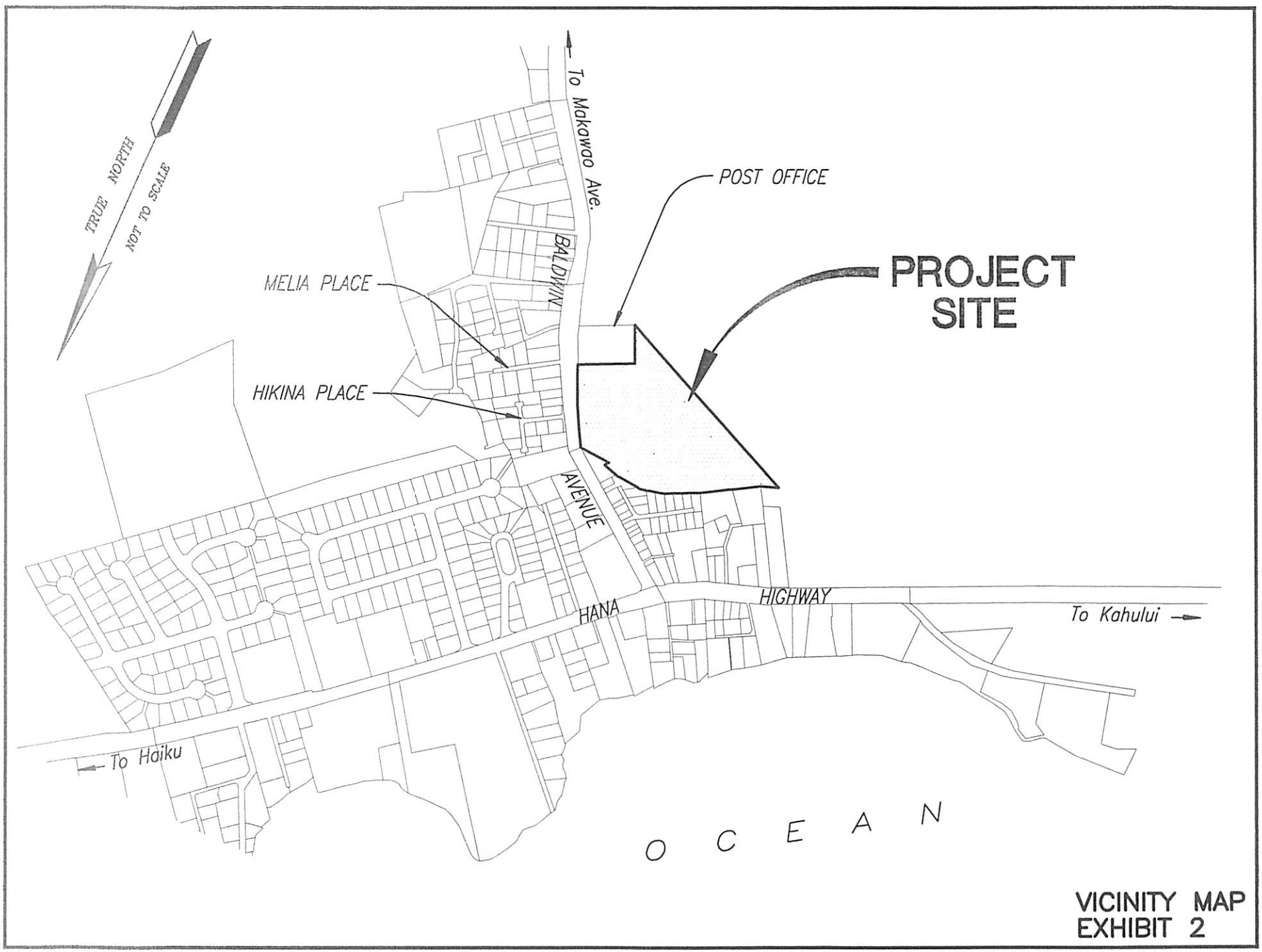
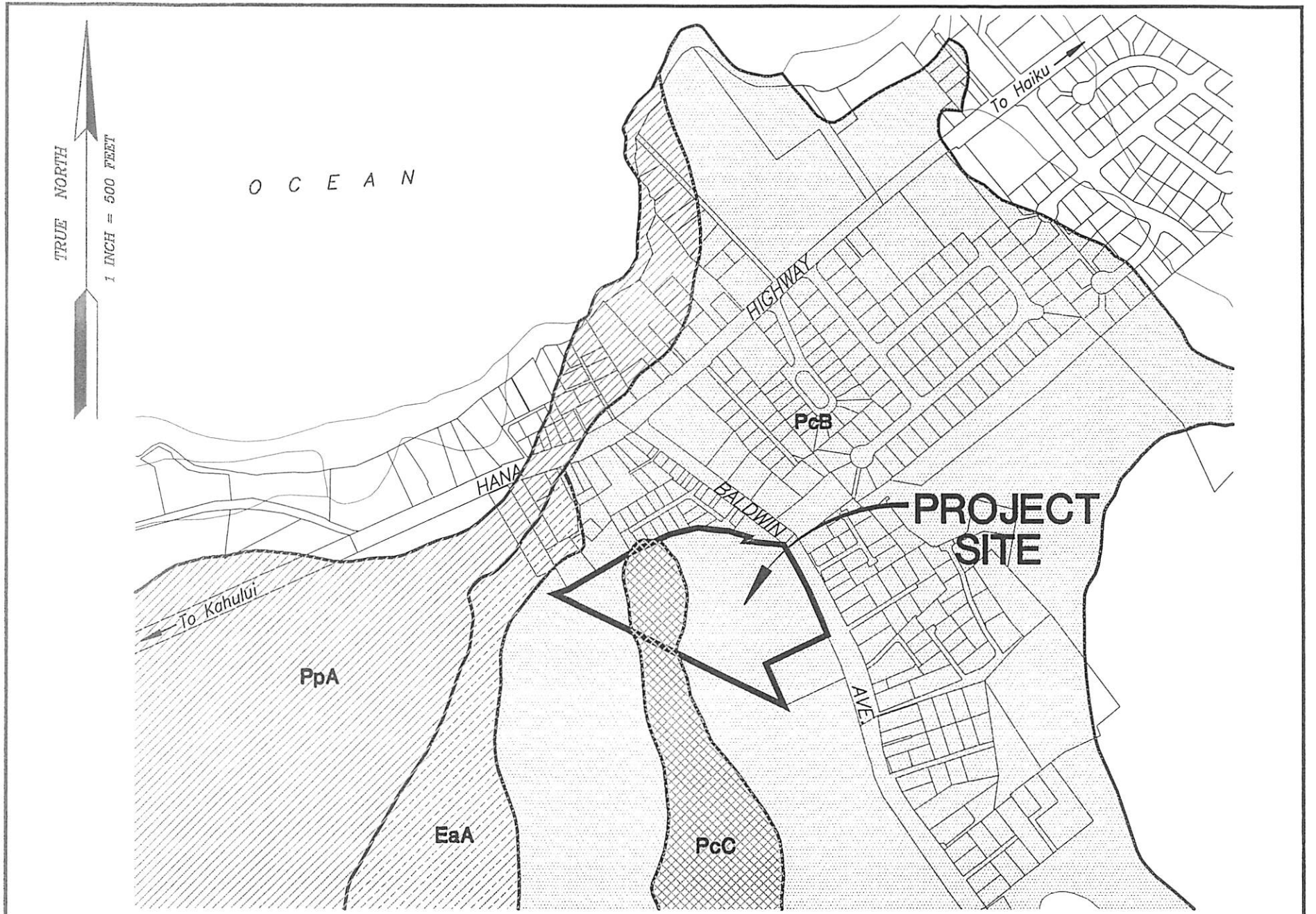

PROJECT SITE
Honokahua
Napili
Kahakuloa
Waihee
Waiehu
Honokowai
Kaanapali
Lahaina
Olowalu
Maalaea
Wailuku
Kahului
Paia
Haiku
Keanae
Nahiku
Makawao
Pukalani
Hana
Haleakala
Kihei
Wailea
Makena
Kipahulu
Ulupalakua
La Perouse Bay
N
ISLAND OF MAUI
NOT TO SCALE

EXHIBIT 1



VICINITY MAP
EXHIBIT 2



SOIL SURVEY MAP
EXHIBIT 3

MAP SCALE 1" = 500'

250 0 500 1000

FEET

MET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0408E

FIRM

FLOOD INSURANCE RATE MAP

MAUI COUNTY, HAWAII

PANEL 408 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
MAUI COUNTY	150003	0408	E

Notice to User. The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
1500030408E

MAP REVISED
SEPTEMBER 25, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

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A. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, August, 1972.

B. Erosion and Sediment Control Guide for Hawaii, prepared by U.S. Department of Agriculture, Soil Conservation Service, March 1981.

C. Rainfall-Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43, U.S. Department of Commerce, Weather Bureau, 1962.

D. Flood Insurance Rate Maps of the County of Maui, September 2009.

E. Chapter 4, Rules for the Design of Storm Drainage Facilities in the County of Maui, prepared by the Department of Public Works and Waste Management, County of Maui, 1995.

F. Chapter 111, Rules for the Design of Storm Water Treatment Best Management Practices, prepared by the Department of Public Works, County of Maui, 2012.

G. Water System Standards, Department of Water Supply, County of Maui, 2002.

H. Traffic Impact Analysis Report - Paia 2020, prepared by Phillip Rowell and Associates, September 22, 2011.

Appendix F

PAIA COMMERCIAL MARKET STUDY

Paia Commercial Market Study

Prepared for
Paia 2020 LLC

Prepared by
Colliers International Hawaii Research & Consulting

January 29, 2014

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Honolulu, Hawaii 96813
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Paia Commercial Market Study

Prepared for
Paia 2020 LLC

Prepared by
Colliers International Hawaii Research & Consulting

January 29, 2014

Colliers International
220 South King Street, Suite 1800
Honolulu, Hawaii 96813
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LIMITING CONDITIONS

The research undertaken in our report and which underpins the estimates of future performance of the project are prepared in accordance with industry practice. Colliers International Hawaii Research & Consulting ("Colliers") undertakes steps to determine whether the Client's assumptions underlying the estimates included in our report are fair and reasonable in the light of information provided and available. In our experience, these assumptions will have to be reviewed and revised by the Client periodically to reflect changes in the underlying market trends, trading patterns and the competitive environment.

Accordingly, we can offer no guarantees or warranties (expressed or implied) that the assumptions and resulting estimates set out in our report will be achieved. Our report identifies these hypothetical events or assumptions and any limitations to the usefulness of the presentation. Even if the hypothetical assumptions were to occur, there will usually be differences between the projected and actual results because events and circumstances frequently do not occur as expected, and the differences may by material.

The Client is responsible for representations about its plans, expectations, final assumptions to be used in the model and for disclosure of significant information that might affect the ultimate realization of the projected results. Our findings constitute only one of several factors for the Client to consider in its decision making process. The ultimate decision to move forward with the project rests with the project's management team.

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Executive Summary

PROJECT OVERVIEW

Colliers International Hawaii Research & Consulting ("Colliers") was engaged by Paia 2020 LLC ("Client") to provide a commercial (retail) real estate market study for the town of Paia on Maui's north shore. This study was conducted in response to a request by the Maui Department of Planning to provide more detail about market conditions, anticipated market absorption rate and economic impact of a planned Paia Courtyard development on Baldwin Avenue (TMK parcel (2) 2-5-5-63) ("Subject Property"). The scope of work for this study is as follows:

- Provide a demographics report and analysis comparing Paia to Maui island.
- Analyze current retail market conditions for Paia utilizing information that the Client has collected on asking and negotiated retail lease rates, retail inventory (square footage), building additions and conversions. Provide an estimate of Paia retail vacancy rates and net absorption based on this data, along with the basis for the market overview.
- Project the level of net absorption for the subject property development based upon market statistics and the market information provided.
- Perform a "leakage analysis" to determine the amount of consumer retail expenditures generated by Paia residents that are being spent outside of Paia region.
- Evaluate traffic count and tourist expenditure data as a contributing component for the retail demand of the subject development.
- Estimate potential retail demand for additional retail development in Paia using population and consumer expenditures models.

Executive Summary

RETAIL MARKET OVERVIEW

The Paia retail market is relatively small with approximately 154,405 square feet of retail space located in the primary commercial corridor along Hāna Highway and Baldwin Avenue. The majority of these buildings were built in the 1920s and 1930s to serve the plantation workers and residents in this small, rural community. Retailers in this small retail market include businesses that cater to tourists, as well as those who service the community such as professional service providers and medical practices. Today, this quaint beach town offers an array of specialty shops, boutiques, art galleries, and restaurants.

Currently, there is approximately 3,998 square feet of vacant space in Paia for a 2.6% vacancy rate. This rate is lower than the island-wide retail vacancy rate of 8.4%. The average asking monthly rent for the area is $3.13 per square foot, which is lower than the island-wide monthly asking rent of $3.38 per square foot but higher than the Central Maui rate of $2.61 per square foot.

The small market size and minimal amount of new development over the past decade made it difficult to determine the annual net absorption of the Paia commercial real estate market. While demand is high due to the popularity of the area for tourists, net absorption is minimal for this market as inventory is limited and vacancy rates are low. A quarterly study of ten commercial buildings in Paia by CoStar indicates a total net absorption of 483 square feet from 2011 to 2013. However, since there has not been any significant retail development in the area recently, this minimal absorption pace is not likely reflective of the potential net absorption of the proposed development. Instead, we analyzed the potential market demand that could be supported by the Paia Courtyard property.

RETAIL DEMAND ANALYSIS

Colliers utilizes a population model and a consumer expenditure model to identify the level of consumer demand for a retail development. This includes resident and transient demand. The population model examines the demand potential from the existing population and projected population growth for a market area using a retail square footage per resident ratio.

The primary trade area for the Paia Courtyard site was identified as being within a 3-mile radius. The secondary trade area extended out to a population base that is within a 5-mile radius of the site. This trade area includes the Haiku and Hali'imaile communities. The combined population of the primary and secondary trade areas is estimated at 9,838 residents.

In addition, the potential demand from tourists was considered by examining the traffic counts through the area on Hāna Highway. Our analysis estimates about 200 to 390 cars per day which could potentially stop at the Paia Courtyard development.

Both of the retail demand models support additional retail development at the Paia Courtyard site. A weighted average of both models with a heavier weighting on the consumer expenditure model indicates **potential market support for a ground floor retail development of 15,000 square feet to 20,000 square feet in size.** In addition to retail space, this site has strong potential for other commercial services for a second floor development which might include medical and general office use. For Paia residents, many would benefit from the convenience of a local medical facility, as they currenlty have to travel to medical clinics in Pukalani, Haiku and Kahului.

LEAKAGE ANALYSIS

As part of our analysis, we examined if the demand for certain types of retail uses were not being met within the trade area. If residents are spending money outside of the primary trade area, we consider that as "leakage" that trade area retailers are not capturing. By examining if retail sales (supply) are lower than consumer expenditures (demand) for the trade area, we determined that there is a leakage in the following categories:

- Automotive Dealers
- Electronics and Appliance Stores
- Hardware Stores
- Book Stores
- Grocery Stores

While this indicates a potential need for these retail categories in the trade area, this doesn't necessarily mean that all of these retailers would choose a location in Paia. The automotive dealers, electronics/appliance, hardware, and book store categories are represented in the nearby Kahului marketplace. Thus, these retailers may not feel the need to be in the smaller, Paia market. However, the success of Mana Foods in Paia provides solid evidence that there is a potential for a greater presence for additional grocery stores within a 3-mile radius. A recent expansion of the parking lot for Mana Foods corresponded to a $30,000 to $50,000 increase in retail sales for the market.

Section 1: Market Overview

MAUI RETAIL MARKET OVERVIEW

The total Maui retail center inventory is approximately 2.8 million square feet divided among the Central Maui, South Maui, and West Maui markets. Central Maui is the primary commercial and residential hub for the island of Maui and includes Kahului and Wailuku. Paia is located on eastern edge of this submarket. The West Maui market includes the Lahaina, Kaanapali and Kapalua resort areas, while South Maui includes the Kihei and the Wailea and Makena resort areas.

Maui's retail inventory consists of resident retail centers, as well as resort retail centers. Resident retail centers are community or neighborhood centers with such tenants as grocery stores, general merchandise, personal/professional service providers, and dining options which cater to the local community. Resort retail centers are primarily located in South Maui and West Maui resort areas and typically house luxury retailers, mid- to high-end restaurants, art galleries, gift shops, resort apparel, and other retailers which appeal to tourists.

2013 MAUI RETAIL MARKET STATISTICS

TRADE AREA	INVENTORY (SF)	AVAILABLE SPACE (SF)	VACANCY RATE	NET ABSORPTION (SF)	AVG. LOW NNN ASKING RENT (PSF/MO)	AVG. HIGH NNN ASKING RENT (PSF/MO)	AVG OPERATING EXPENSE (PSF/MO)
CENTRAL MAUI	1,156,642	72,309	6.25%	12,274	$2.29	$2.93	$0.82
SOUTH MAUI	786,273	60,339	7.67%	22,238	$3.07	$4.12	$0.99
WEST MAUI	892,278	104,066	11.66%	16,379	$2.86	$4.19	$1.12
MAUI TOTAL	**2,835,193**	**236,714**	**8.35%**	**50,891**	**$2.80**	**$3.81**	**$0.99**

Source: Colliers International.

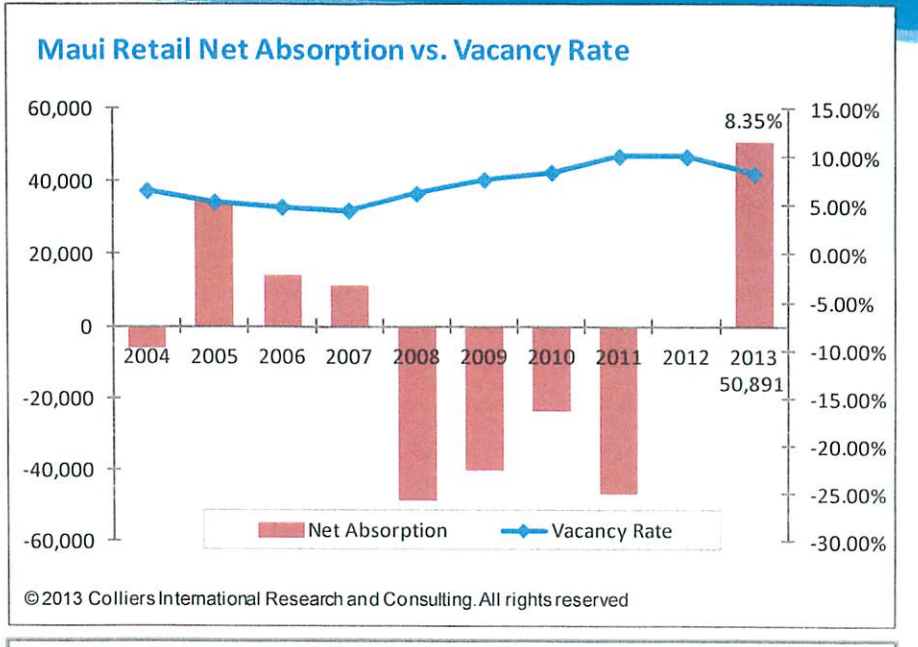
Section 1: Market Overview

Maui's retail environment continues to steadily improve as economic factors reversed direction and began to post solid gains. More than 50,000 square feet of new occupancy during the past year resulted in a decline to the island's retail vacancy rate from 10.14% to 8.35%.

This submarket has historically been the strongest of the three markets with occupancy rates as it is heavily resident based and less reliant on the tourism industry.

In 2013, the Central Maui market had a 6.25% vacancy rate versus 7.67% and 11.66% rates for the South Maui and West Maui markets, respectively.

Island-wide asking rents declined from $3.38 per square foot per month ("psf/mo") in 2012 to $3.31 psf/mo in 2013. Average asking rents appear to be stabilizing for Central Maui and South Maui markets. Central Maui rents averaged $2.61 psf/mo while South Maui rents averaged $3.62 psf/mo. For West Maui, average asking rents still appear to be trending downward and have reached the lowest level in 16 years at $3.53 psf/mo. Landlords in this resort retail market may still be a little hesitant to raise rates, especially after having faced a 17% vacancy rate only two years ago when the tourism industry was hit hard by the recession.



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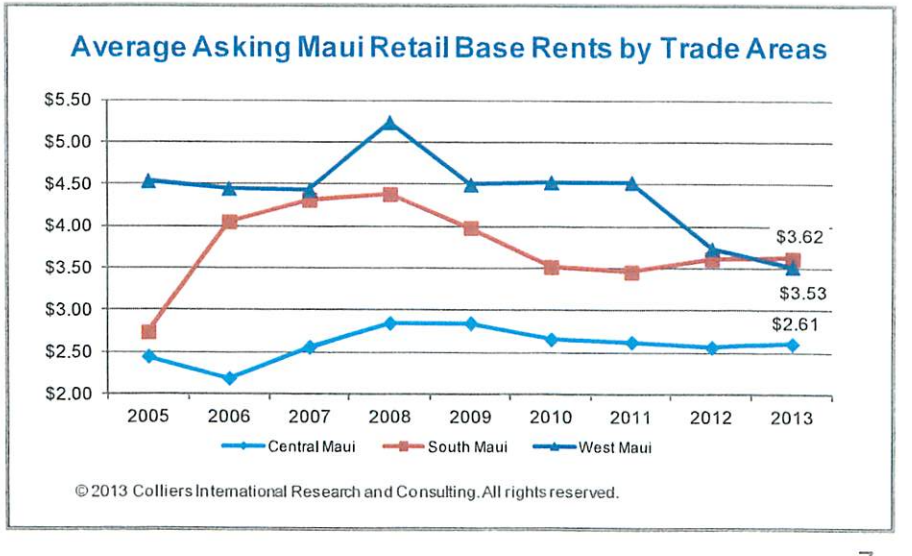

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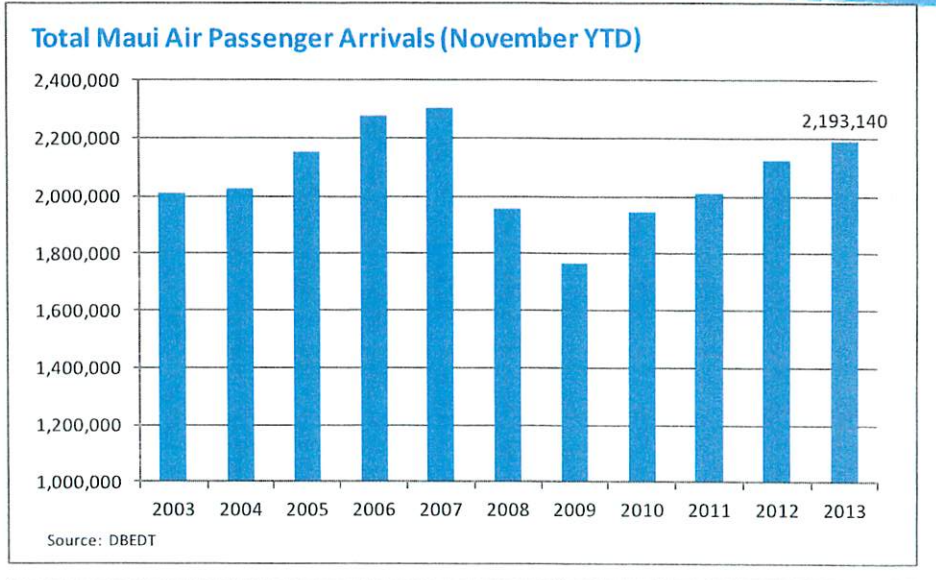
Section 1: Market Overview

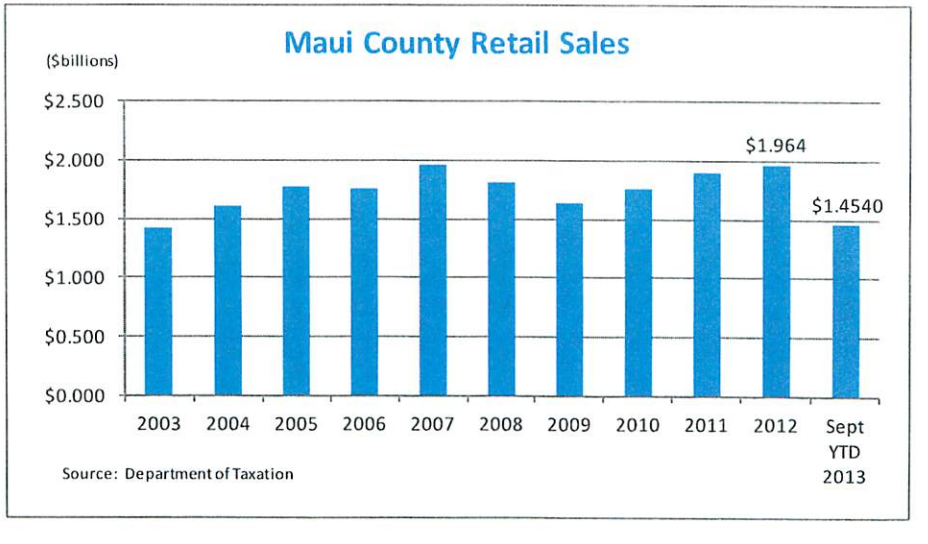
Maui visitor counts rose for the fourth consecutive year with year-to-date November 2013 figures increasing 3.1% over 2012 numbers to nearly 2.2 million visitors. This boost in tourism contributed to solid gains in the hotel sector with occupancy rates rising to 72.8% and average daily room rates climbing to $274.57 as of October 2013. This growth is helped to fuel strong retail sales among resort retail centers and improved net absorption for South Maui and West Maui over the past year.

Maui County retail sales increased in 2012 to roughly $2.0 billion and year-to-date September 2013 sales were over $1.45 billion. The increase in visitor arrivals should lead to a rise in retail sales.

The forecast for Maui's retail market is a continuation of the steady improvement currently being experienced. As long as the tourism sector experiences rising air passenger arrival counts, and both residential and construction sectors rebound, Maui's economy will generate new jobs which will in turn generate healthy retail sales.

Island-wide vacancy rates are projected to trend downward to between 7.5% and 8.0% by 2014. Rents will stabilize and show marginal improvement for Central Maui and South Maui. West Maui will continue to face soft market conditions resulting from overbuilding.





Section 1: Market Overview

PAIA MARKET OVERVIEW

The town of Paia is located on the north shore of Maui on the way to Hana from Kahului. This historic community was once a booming plantation town during the heyday of Maui's sugar cane industry. Today, this quaint beach town offers an array of specialty shops, boutiques, art galleries, and restaurants housed in small, plantation-style buildings. The primary commercial corridor is located along Hāna Highway and Baldwin Avenue.

Commercial Space Inventory

There is approximately 154,405 square feet of retail space within the commercial corridor located in various commercial buildings, as well as converted single-family homes. These properties are zoned B-CT (Country Town Business) which allows for both retail and office uses. A lot of buildings are older and were built in the 1920s and 1930s. There are a handful of properties built after 2000, with the newest building built in 2013. The buildings are primarily one to two stories tall with ground floor retail and 2nd floor office space, with most measuring under 5,000 square feet in size. A list of the commercial space inventory is provided in the Appendix. Besides the subject development, there are no other known planned commercial projects in the area.

Retailers in this small retail market include businesses that cater to tourists, as well as those who service the community such as professional service providers and medical practices. The popularity of the area as a tourist attraction and limited inventory has kept demand for commercial space high. Currently, there is approximately 3,998 square feet of vacant space or a 2.6% vacancy rate. Thus, the Paia market is a healthy one when compared to the overall island retail vacancy rate of 8.4%.

PAIA RETAIL MARKET SUMMARY
As of December 2013

Total Inventory	154,405 sq. ft.
Available Space	3,998 sq. ft.
Vacancy Rate	2.6%
Asking Rent Range	$1.30 - $5.45 psf/month
Weighted Average Asking Rent	$3.13 psf/month
Avg. Asking Ground Floor Street Retail	$5.11 psf/month

Source: Inventory data provided by client and publicly available information via Hawaii Information Service.

PAIA COMMERCIAL CORRIDOR

Section 1: Market Overview

Lease Rents

Asking rents for the available commercial space in Paia range from $1.30 per square foot per month ("psf/mo") for interior space at Paia Plaza to $5.45 psf/mo for ground floor retail space on Baldwin Avenue for a weighted average for all spaces of $3.13 psf/mo. The average of the two ground floor retail spaces with street visibility is $5.11 psf/mo. While Paia is considered to be in the Central Maui retail market, the town's tourism appeal more closely resembles that of Lahaina in the West Maui market where average asking rents range from $2.86 psf/mo to $4.18 psf/mo.

12	BALDWIN AVE	PAIA	1965	760	930	0	n/a	ina	Owner-user
18	BALDWIN AVE	PAIA	1969	2,937	1,971	1,500	$5.45	$2.10	
20	BALDWIN AVE	PAIA	1961	1,645		0	n/a	ina	
24	BALDWIN AVE	PAIA	[illegible]	800	2,254	0	n/a	ina	
26	BALDWIN AVE	PAIA	1931	1,800	1,200	0	n/a	ina	
28	BALDWIN AVE	PAIA	1938	474	1,200	0	n/a	ina	
30	BALDWIN AVE	PAIA	1925	2,342	1,616	1,588	$4.78	ina	
35	BALDWIN AVE	PAIA	1969	3,104	16,283	0	n/a	ina	Owner-user
36	BALDWIN AVE	PAIA	1915	528	1,680	0	n/a	ina	
40	BALDWIN AVE	PAIA	1927	1,200	2,400	0	n/a	ina	
42	BALDWIN AVE	PAIA	1929	1,763	1,200	0	n/a	ina	
49	BALDWIN AVE	PAIA	1930	4,816	16,486	0	n/a	ina	
50	BALDWIN AVE	PAIA	1929	1,664	4,799	0	n/a	ina	
54	BALDWIN AVE	PAIA	2000	1,491	1,920	0	n/a	ina	Owner-user
62	BALDWIN AVE	PAIA	2000	4,000	403,453	0	n/a	ina	
71	BALDWIN AVE	PAIA	1906	18,862	33,448	3,998	$1.30 - $1.90	$1.00	Paia Plaza - Interior office/retail space available
105	BALDWIN AVE	PAIA	1934	2,878	4,055	0	n/a	ina	
109	BALDWIN AVE	PAIA	1975	1,054	7,265	0	n/a	ina	Owner-user
115	BALDWIN AVE	PAIA	1931	3,820	7,494	0	n/a	ina	
120	BALDWIN AVE	PAIA	2000	4,292	45,433	0	n/a	ina	US Post Office
129	BALDWIN AVE	PAIA	1938	2,040	9,611	0	n/a	ina	Owner-user
10	KULIA PL A	PAIA	1931	2,922	6,217	0	n/a	ina	
35	KULIA PL A	PAIA	1981	3,878	28,400	0	n/a	ina	
43	HANA HWY	PAIA	1919	2,064	16,553	0	n/a	ina	
65	HANA HWY	PAIA	1954	392	23,566	0	n/a	ina	
68	HANA HWY	PAIA	2000	217	7,906	0	n/a	ina	
69	HANA HWY	PAIA	1931	2,940	2,942	0	n/a	ina	
75	HANA HWY	PAIA		-	3,220	0	n/a	ina	Owner-user
76	HANA HWY	PAIA	1976	2,520	25,906	0	n/a	ina	
77	HANA HWY	PAIA	1931	744	2,663	0	n/a	ina	
83	HANA HWY	PAIA	1931	1,480	3,890	0	n/a	ina	
86	HANA HWY	PAIA	1931	1,651	3,964	0	n/a	ina	
87	HANA HWY	PAIA	1932	2,706	4,118	0	n/a	ina	
88	HANA HWY	PAIA	1926	2,952	9,078	0	n/a	ina	
93	HANA HWY	PAIA	1990	4,856	5,633	0	n/a	ina	
99	HANA HWY	PAIA		3,071		0	n/a	ina	
100	HANA HWY	PAIA	1931	1,713	3,729	0	n/a	ina	
112	HANA HWY	PAIA	1939	2,313	4,698	0	n/a	ina	
115	HANA HWY	PAIA	1964	5,514	14,336	0	n/a	ina	
120	HANA HWY	PAIA	1926	15,000	53,544	0	n/a	ina	
123	HANA HWY	PAIA	1991	3,954	13,553	0	n/a	ina	
127	HANA HWY	PAIA	1980	3,315	34,960	0	n/a	ina	
137	HANA HWY	PAIA	2008	13,018	37,192	0	n/a	ina	

Source: Inventory data provided by client and publicly available information via Hawaii Information Service.

Existing rents as shown in the lease comparables chart range from $1.75 to $6.50 psf/mo for a weighted average of $3.80 psf.mo.

Net Absorption

Net absorption is the change in occupied space between two periods of time. Because of the limited inventory, high demand, and minimal amount of available space, we hypothesize that historical net absorption for commercial space in Paia is minimal. A quarterly study of 10 buildings (58,942 square feet) in the Paia market as tracked by CoStar commercial real estate information group indicates total net absorption of 483 square feet from 2Q2011 to 4Q2013.

TABLE 2 - LEASE COMPARABLES

Property		Building GLA (sf)	Leased Area (sf)		Current Base Rent (psf/mo)	Building Operating Expenses (psf/mo)
			Total	Tenant Space		
36	BALDWIN AVE	528	390	390	$4.00	$1.10
40	BALDWIN AVE	1,200	1,200	158 - 565	$4.50	$0.75
50	BALDWIN AVE	1,664	400	400	$4.00	
62	BALDWIN AVE	4,000	3,942	575 - 1,200	$1.75 - $3.26	$0.50
71	BALDWIN AVE	18,862	1,500	1,500	$2.00	$0.76
120	HANA HWY	15,000	4,950	600 - 1,800	$6.50	$0.87
137	HANA HWY	13,018	1,080	1,080	$4.00	$1.08
				Range	**$1.75 - $6.50**	
				Weighted Average	**$3.80**	

Source: Inventory data provided by client and publicly available information via Hawaii Information Service.

The Paia Courtyard at 151 Hāna Highway was built in 2013 and has already been leased. According to public records, the property is 420 square feet in size. Since no large scale commercial development has occurred in Paia recently, there is a lack of historical benchmarks to gauge the potential net absorption of the proposed development. In this regard, we look instead at analyzing the potential retail demand that could be supported by the Paia Courtyard project.

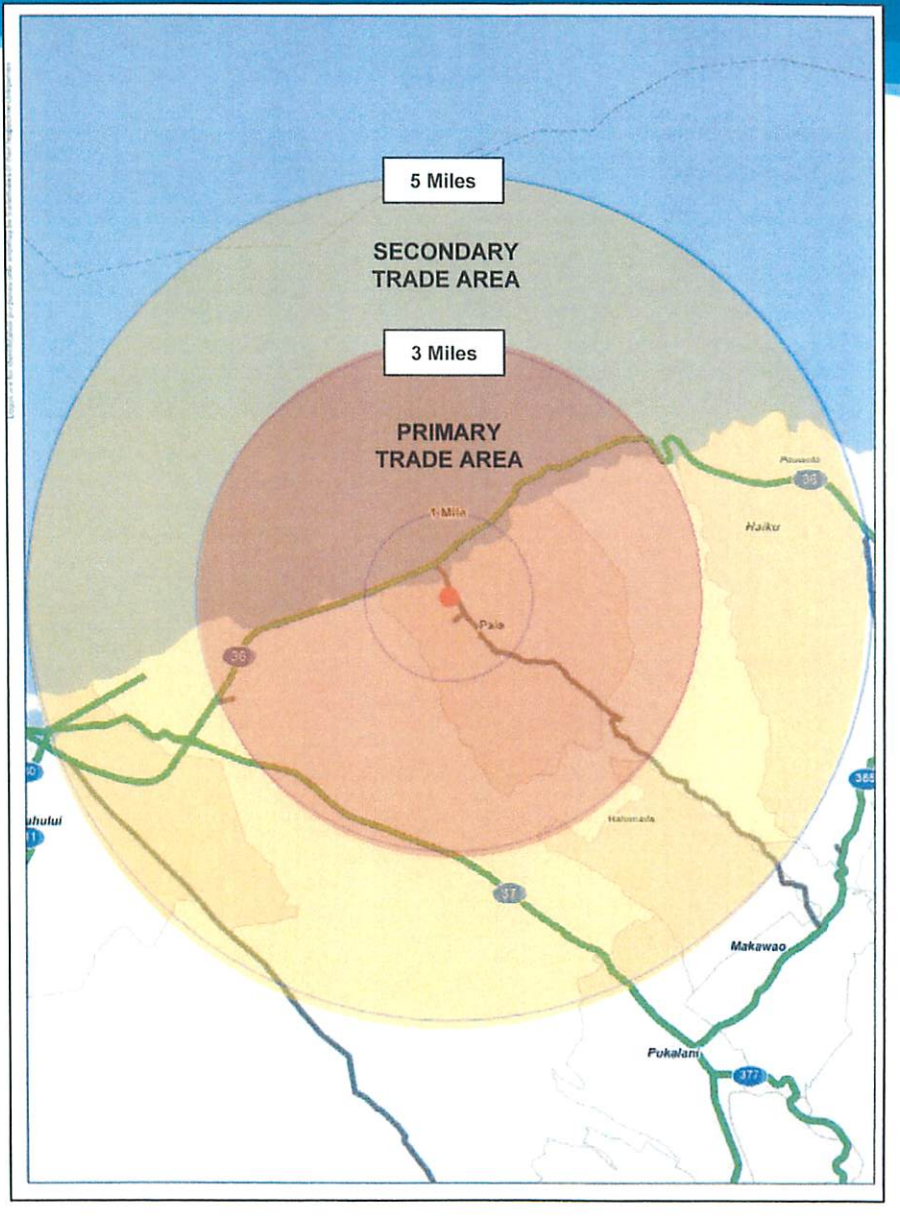
Section 2: Primary and Secondary Trade Areas

Primary Trade Area

The primary trade area for a neighborhood shopping center is typically within a three-mile radius. Because of the rural location, this radius only includes the resident population of Paia town. There are an estimated 3,345 residents and 1,146 households in the primary trade area. The population is projected to grow at a nominal rate of 1.2% annually over the next five years. A demographic summary is provided on the following page. The retail inventory in Paia is approximately 154,405 square feet (see Appendix for property list).

Secondary Trade Area

The secondary trade area stretches out to a 5-mile radius from the subject development site and adds the communities of Haiku and Hali'imaile. There are an additional 6,493 residents and 2,360 households in the secondary trade area. Nominal growth is also projected for this area at 1.4% each year through 2018. There is approximately 51,300 square feet of retail inventory in the secondary trade area, primarily in the Haiku market (see Appendix for property list).



Section 2: Primary and Secondary Trade Areas

TRADE AREA DEMOGRAPHICS

TABLE 3 - MAUI ISLAND DEMOGRAPHICS (2013)	
Population	
Estimated Population (2013)	147,874
Projected Population (2018)	156,451
Projected Annual Change (2013-2018)	1.2%
Historical Annual Change (2000-2013)	2.0%
Households	
Estimated Households (2013)	51,459
Projected Households (2018)	54,940
Projected Annual Change (2013-2018)	1.4%
Historical Annual Change (2000-2013)	2.2%
Average Household Size	2.8
Age	
Median Age	39.1
Age 19 Years or Less	36,757
Age 20 Years to 64 years	90,718
Age 65 Years or Over	20,399
Average Household Income	
Estimated Average Household Income (2013)	$83,606
Projected Average Household Income (2018)	$89,386
Projected Annual Change (2013-2018)	1.4%
Historical Annual Change (2000-2013)	2.2%
Daytime Demographics (2013)	
Total Businesses	6,575
Total Employees	72,846
Employee Population per Business	11.1 TO 1
Residential Population per Business	22.5 TO 1
Source: Sites USA	

TABLE 4 - PRIMARY AREA DEMOGRAPHICS (2013) (3-mile radius from subject property)	
Population	
Estimated Population (2013)	3,345
Projected Population (2018)	3,539
Projected Annual Change (2013-2018)	1.2%
Historical Annual Change (2000-2013)	2.5%
Households	
Estimated Households (2013)	1,146
Projected Households (2018)	1,223
Projected Annual Change (2013-2018)	1.2%
Historical Annual Change (2000-2013)	2.5%
Average Household Size	2.9
Age	
Median Age	37.0
Age 19 Years or Less	788
Age 20 Years to 64 years	2,157
Age 65 Years or Over	401
Average Household Income	
Estimated Average Household Income (2013)	$91,560
Projected Average Household Income (2018)	$97,945
Projected Annual Change (2013-2018)	1.2%
Historical Annual Change (2000-2013)	2.5%
Daytime Demographics (2013)	
Total Businesses	213
Total Employees	2,642
Employee Population per Business	12.4 TO 1
Residential Population per Business	15.7 TO 1
Source: Sites USA	

TABLE 5 - SECONDARY AREA DEMOGRAPHICS (2013) (3-mile to 5-mile radius from subject property)	
Population	
Estimated Population (2013)	6,493
Projected Population (2018)	6,870
Projected Annual Change (2013-2018)	1.4%
Historical Annual Change (2000-2013)	2.4%
Households	
Estimated Households (2013)	2,360
Projected Households (2018)	2,521
Projected Annual Change (2013-2018)	1.4%
Historical Annual Change (2000-2013)	2.4%
Average Household Size	2.8
Age	
Median Age	38.1
Age 19 Years or Less	1,625
Age 20 Years to 64 years	4,148
Age 65 Years or Over	719
Average Household Income	
Estimated Average Household Income (2013)	$84,305
Projected Average Household Income (2018)	$90,121
Projected Annual Change (2013-2018)	1.4%
Historical Annual Change (2000-2013)	2.4%
Daytime Demographics (2013)	
Total Businesses	268
Total Employees	3,132
Employee Population per Business	12.0 TO 1
Residential Population per Business	20.4 TO 1
Source: Sites USA	

Section 3: Market Demand Analysis

POPULATION DEMAND MODEL

Colliers utilizes the population model and the consumer expenditure model to identify the level of consumer demand for a retail development.

The population model examines the demand potential from the existing population and projected population growth for a market area using a retail square footage per resident ratio. The potential or residual demand is calculated by subtracting the current inventory of retail shopping center space in the primary and secondary target markets from the calculated total retail demand. If the residual demand is positive, it would indicate that there is a need for additional retail space to be built. It should be noted that this methodology does not consider the impact of tourists to the area.

By using U.S. Census figures and demographic market reports, Colliers can evaluate whether population projections provide an accurate indication of a geographic region's growth. In a market with healthy residential development, Colliers would also incorporate information on household formation growth. The primary and secondary trade areas are anticipated to have limited, if any, new residential development over the next five years.

The International Council of Shopping Centers ("ICSC") calculates national ratios for the amount of retail square footage per resident. Colliers also tracks these ratios on a statewide, county wide and geographic specific basis with the use of its proprietary commercial property database. **For this analysis, we used a ratio range of 44 to 48 square feet per resident**

Lastly, Colliers uses a "market penetration rate" to determine the percentage of the market that would likely shop at the subject property. For a market with few retail developments, the subject property would generally have a higher capture rate. For a market with a large existing retail inventory, the market penetration rate would be much lower. **For this analysis, we assumed that 30% of the primary market residual retail demand and 7% of the secondary residual demand could be captured by a retail center developed at the subject site in Paia.**

As most retail developments have an inherent risk, Colliers incorporates a conservative, moderate and aggressive development scenario into the model and allows the developer to determine their level of risk aversion.

Section 3: Market Demand Analysis

Primary Market Demand

Based on our estimates, it appears that as of 2013, the primary market is slightly oversaturated under the conservative and moderate scenarios and has pent up demand of 6,814 square feet under the aggressive scenario. Demand is positive in 2018 and increases up to 16,722 square feet.

TABLE 6 - RETAIL DEMAND ANALYSIS - PRIMARY MARKET - POPULATION MODEL							
PRIMARY MARKET POPULATION ESTIMATE		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Existing Population [1]		3,345	3,385	3,426	3,467	3,508	3,551
PRIMARY MARKET RETAIL DEMAND ESTIMATE (sf)							
Scenario	**SF per resident**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative	44	145,865	147,615	149,386	151,179	152,993	154,829
Moderate	46	153,542	155,384	157,249	159,136	161,045	162,978
Aggressive	48	161,219	163,153	165,111	167,093	169,098	171,127
PRIMARY MARKET RETAIL INVENTORY							
Existing Retail Centers	**GLA (sf)**						
Primary Trade Area Retail Inventory	154,405						
PRIMARY MARKET RESIDUAL DEMAND (sf)							
Scenario		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative		(8,540)	(6,790)	(5,019)	(3,226)	(1,412)	424
Moderate		(863)	979	2,844	4,731	6,640	8,573
Aggressive		6,814	8,748	10,706	12,688	14,693	16,722

[1] *Data from Sites USA for 3-mile raduis from site.*

Section 3: Market Demand Analysis

Secondary Market Demand

The secondary market area is underserved for commercial space. Colliers estimated 231,872 square feet to 261,676 square feet of pent up demand for 2013. By 2018, these numbers increase to a range of 252,254 square feet to 284,204 square feet.

TABLE 7 - RETAIL DEMAND ANALYSIS - PRIMARY MARKET - POPULATION MODEL							
SECONDARY MARKET POPULATION ESTIMATE		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Existing Population [1]		6,493	6,584	6,676	6,770	6,864	6,960
SECONDARY MARKET RETAIL DEMAND ESTIMATE (sf)							
Scenario	**SF per resident**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative	44	283,139	287,103	291,122	295,198	299,331	303,521
Moderate	46	298,041	302,213	306,444	310,735	315,085	319,496
Aggressive	48	312,943	317,324	321,767	326,271	330,839	335,471
SECONDARY MARKET RETAIL INVENTORY							
Existing Retail Centers	**GLA (sf)**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Secondary Trade Area Retail Inventory	51,267						
SECONDARY MARKET RESIDUAL DEMAND (sf)							
Scenario		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative		231,872	235,836	239,855	243,931	248,064	252,254
Moderate		246,774	250,946	255,177	259,468	263,818	268,229
Aggressive		261,676	266,057	270,500	275,004	279,572	284,204

[1] *Data from Sites USA for 3-mile to 5-mile radius from site.*

Section 3: Market Demand Analysis

Potential Retail Demand for Paia Courtyard Site

The results of the Population Model indicate that the total residual market demand for the primary and secondary trade areas ranges from 223,300 square feet and 268,500 square feet. While the trade areas are rural, the city of Kahului is within a 15- to 20-minute drive. Thus, while the markets may be underserved for retail space under this analysis, it's reasonable to assume that residents travel to Kahului for shopping and services. For our analysis, we used a market penetration/capture rate of the residual market demand of 30% for the primary market and 7% for the secondary market. Colliers estimates approximately 13,700 square feet (conservative) to 20,400 square feet (aggressive) of retail demand can be supported at the subject development site.

TABLE 8 - TOTAL RETAIL DEMAND ESTIMATE - POPULATION MODEL						
TOTAL MARKET RESIDUAL DEMAND (sf)						
Scenario	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative	223,331	229,046	234,837	240,705	246,652	252,678
Moderate	245,911	251,926	258,021	264,198	270,458	276,802
Aggressive	268,490	274,806	281,206	287,692	294,265	300,926
MARKET PENETRATION	**Capture Rate**					
Primary Market	30.0%					
Secondary Market	7.0%					
POTENTIAL RETAIL DEMAND (sf)						
Scenario	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative	13,669	14,472	15,284	16,107	16,941	17,785
Moderate	17,015	17,860	18,716	19,582	20,459	21,348
Aggressive	20,361	21,249	22,147	23,057	23,978	24,911

CONSUMER EXPENDITURES DEMAND MODEL

In addition to the Population Demand model, Colliers uses a Consumer Expenditures model to triangulate on the level of consumer support for a retail development. The Consumer Expenditures model evaluates a market's retail potential based on actual retail sales being generated by the target audience.

Colliers uses retail expenditure data and projections from the U.S Census and Claritas demographic market reports, as well as retail sales per square foot ratios from ICSC which are modified to best fit Hawaii's retail market. By dividing the retail expenditures by these ratios, we can identify the level of retail demand in a market.

Just as with the population model, the residual demand is calculated by subtracting the current inventory of retail shopping center space in the primary and secondary target markets from the estimated total retail demand. If the residual demand is positive, it would indicate that there is a need for additional retail space to be built.

Retail Sales Per Square Foot

ICSC indicates that the average sales per square foot for most shopping centers in the United States is $342 and $333 for the State of Hawaii. Based on current sales tax base data reported by the State Department of Taxation, Maui County sales for retail centers is $286 per square foot. Sales data for selected West Maui retail centers reflects an average of $446 per square foot. Colliers estimated that the sales per square foot for this proposed retail development would range from $350 to $450.

TABLE 9 - RETAIL SALES PER SQUARE FOOT (Shopping Centers)	
U.S. Retail Mall Sales/SF [1]	$342
Hawaii (State) Sales/SF [1]	$333
Maui County Sales/SF [2]	$286
Selected West Maui Shopping Centers [3]	$446
Average	**$352**

[1] *Source: International Council of Shopping Centers*

[2] *Sources: Department of Taxation and Colliers International*

[3] *Colliers International*

Section 3: Market Demand Analysis

Primary Market Demand

Under the consumer expenditure model, Colliers estimates a slightly oversaturated market under the conservative scenario to a pent up demand of approximately 47,115 square feet 37,326 square feet for 2013. Demand increases to up 102,100 square feet under the aggressive scenario in 2018.

TABLE 10 - RETAIL DEMAND ANALYSIS - PRIMARY MARKET - CONSUMER EXPENDITURES MODEL							
PRIMARY MARKET HOUSEHOLDS							
		2013	**2014**	**2015**	**2016**	**2017**	**2018**
Existing and projected HH [1]		1,146	1,160	1,174	1,188	1,202	1,216
PRIMARY MARKET RETAIL EXPENDITURES							
		2013	**2014**	**2015**	**2016**	**2017**	**2018**
Primary market expenditures [2]		$67,106,000	$68,326,167	$69,568,519	$70,833,461	$72,121,403	$73,432,763
PRIMARY MARKET DEMAND ESTIMATE (sf) - CONSUMER EXPENDITURES MODEL							
	Retail Sales psf	**2013**	**2014**	**2015**	**2016**	**2018**	**2018**
Conservative	$450	149,124	151,836	154,597	157,408	160,270	163,184
Moderate	$400	167,765	170,815	173,921	177,084	180,304	183,582
Aggressive	$350	191,731	195,218	198,767	202,381	206,061	209,808
PRIMARY MARKET RETAIL INVENTORY	**GLA (sf)**						
Existing GLA	154,405						
PRIMARY MARKET RESIDUAL RETAIL DEMAND ESTIMATE (sf)							
Scenario		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative		(5,281)	(2,569)	192	3,003	5,865	8,779
Moderate		13,360	16,410	19,516	22,679	25,899	29,177
Aggressive		37,326	40,813	44,362	47,976	51,656	55,403

(1) Data from Sites USA for 3-mile raduis from site.

[2] Data from Claritas

Secondary Market Demand

The potential retail demand for the secondary market is estimated between 195,100 square feet and 265,500 square feet for 2013. By 2018, demand is projected to increase to between 220,700 square feet and 298,400 square feet.

TABLE 11 - RETAIL DEMAND ANALYSIS - SECONDARY MARKET - CONSUMER EXPENDITURES MODEL							
SECONDARY MARKET HOUSEHOLDS		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Existing and projected HH [1]		2,360	2,393	2,427	2,461	2,495	2,530
SECONDARY MARKET RETAIL EXPENDITURES		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Secondary market expenditures [2]		$110,859,000	$113,072,152	$115,329,486	$117,631,885	$119,980,248	$122,375,494
SECONDARY MARKET DEMAND ESTIMATE (sf) - CONSUMER EXPENDITURES MODEL							
	Retail Sales psf	**2013**	**2014**	**2015**	**2016**	**2018**	**2018**
Conservative	$450	246,353	251,271	256,288	261,404	266,623	271,946
Moderate	$400	277,148	282,680	288,324	294,080	299,951	305,939
Aggressive	$350	316,740	323,063	329,513	336,091	342,801	349,644
SECONDARY MARKET RETAIL INVENTORY	**GLA (sf)**						
Existing GLA	51,267						
SECONDARY MARKET RESIDUAL RETAIL DEMAND ESTIMATE (sf)							
Scenario		**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Conservative		195,086	200,004	205,021	210,137	215,356	220,679
Moderate		225,881	231,413	237,057	242,813	248,684	254,672
Aggressive		265,473	271,796	278,246	284,824	291,534	298,377

[1] *Data from Sites USA for a 3-mile to 5-mile radius from site.*

[2] *Data from Claritas*

Potential Retail Demand for Paia Courtyard Site – Resident Market

The results of the Consumer Expenditure model indicate that the total residual market demand for the primary and secondary trade areas is between 189,800 square feet and 302,800 square feet. Utilizing a 30% and 7% market capture rate for the primary and secondary markets, respectively, Colliers projects the subject site would be able to support a development between 12,100 square feet (conservative) and 29,800square feet (aggressive). However, In addition to consumer expenditures by residents in the primary and secondary trade areas, there are also transient or tourist expenditures that need to be examined.

TABLE 12 - TOTAL RETAIL DEMAND ESTIMATE - CONSUMER EXPENDITURES MODEL - RESIDENT MARKET						
TOTAL MARKET RESIDUAL DEMAND (sf)						
Scenario	2013	2014	2015	2016	2017	2018
Conservative	189,806	197,435	205,212	213,140	221,221	229,457
Moderate	239,241	247,824	256,573	265,491	274,582	283,849
Aggressive	302,799	312,609	322,608	332,800	343,190	353,780
MARKET PENETRATION	Capture Rate					
Primary Market	30.0%					
Secondary Market	7.0%					
POTENTIAL RETAIL DEMAND (sf)						
Scenario	2013	2014	2015	2016	2017	2018
Conservative	12,072	13,230	14,409	15,610	16,834	18,081
Moderate	19,820	21,122	22,449	23,800	25,177	26,580
Aggressive	29,781	31,270	32,786	34,331	35,904	37,507

Section 3: Market Demand Analysis

TRANSIENT DEMAND

In addition to consumer expenditures by residents in the primary and secondary trade areas, Colliers also measures transient demand (car traffic) along Hana Highway as another source of retail demand.

It is assumed that a significant share of the cars driving during non-peak traffic times are tourists. Based on traffic counts provided by the State Department of Transportation, there is an average of 7,770 vehicles that drive through the selected market areas during non-peak traffic hours on a weekday. We assumed that 50% of these cars were tourists traveling to and from Hāna.

In order to determine the amount of square footage that tourist spending can support, Colliers estimated the potential daily expenditures that could be spent at the proposed development. As shown in Table 14, total daily visitor spending for Maui tourists is $78.30 per day. Colliers estimated a daily expenditure rate of $12.30 per person could be captured from tourists shopping at the Paia Courtyard site.

TABLE 13 - TRAFFIC COUNTS (Non-Peak Weekday) [1]

	# OF CARS
Hāna Hwy Near Baldwin Park (to Haiku)	7,822
Hāna Hwy Near Baldwin Park (to Kahului Airport)	7,718
Average	**7,770**

[1] *Data from State Dept of Transportation for 2012.*

Estimted Tourist share (50%)	**3,885**

TABLE 14 - ESTIMATED DAILY TOURIST EXPENDITURES

Category	Total Daily Spending Per Person (1)	Capture Rate	Captured Spending Per Person
Shopping	$18.10	20.0%	$3.62
Food & Beverage	$37.80	20.0%	$7.56
Entertainment	$16.40	5.0%	$0.82
Miscellaneous	$6.00	5.0%	$0.30
Total	$78.30		$12.30

[1] *Source: HTA 2012 Annual Visitor Research Report*

Depending on the tenant mix, we estimate that between 5% to10% of these vehicles would stop at a retail development at the subject site. On the one hand, a convenient parking lot would help to bring customers in, but the subject site is also not located on Hāna Highway so the visibility to tourists driving to Hāna is hindered. Utilizing a 2.2 passengers per car ratio, an estimated 427 to 855 tourists (per weekday) could potentially patronize a retail center at the subject site. Based on these assumptions, tourist expenditures can support an additional 3,400 square feet to 6,800 square feet of retail space.

TABLE 15 - TRANSIENT DEMAND ESTIMATE

Scenario	Capture Rate of Tourist Traffic	# of Cars	# of Consumers (2.2 per car)	Daily Expenditures ($12.30/person) [1]	Annual Expenditures (5 days/week)	Demand (sf) based on sales psf of $400
Conservative	5.0%	194	427	$5,256	$1,366,600	3,417
Moderate	7.0%	272	598	$7,359	$1,913,240	4,783
Aggressive	10.0%	388	855	$10,512	$2,733,200	6,833

[1] *Estimate based on U.S. West Visitor Personal Daily Spending by Category data from Hawaii Tourism Authority.*

Combined Resident and Transient Demand – Consumer Expenditures Model

Under the Consumer Expenditures demand model, there is an estimated 15,500 square feet to 36,600 square feet of retail space that can be supported at a retail development at the subject site.

TABLE 16 - COMBINED MARKET DEMAND (SF) - CONSUMER EXPENDITURES MODEL

PRIMARY, SECONDARY AND TRANSIENT MARKETS	2013	2014	2015	2016	2017	2018
Conservative	15,488	16,646	17,825	19,027	20,251	21,498
Moderate	24,603	25,905	27,232	28,584	29,961	31,363
Aggressive	36,614	38,103	39,619	41,164	42,737	44,340

Section 3: Market Demand Analysis

RETAIL DEMAND ANALYSIS FINDINGS

Both of the retail demand models utilized by Colliers support additional retail development at the subject site. The Population Model supports demand for a development of 13,700 square feet to 20,400 square feet, while the Consumer Expenditures Model supports demand of 15,500 square feet to 36,600 square feet. A heavier weighting was placed on the Consumer Expenditure model (70%) as it accounts for tourism expenditures. **Colliers recommends a ground floor retail development for the subject site of 15,000 square feet to 20,000 square feet in size.**

TABLE 17 - MARKET DEMAND SUMMARY POPULATION MODEL DEMAND (SF)	2013	2014	2015	2016	2017	2018
Conservative	13,669	14,472	15,284	16,107	16,941	17,785
Moderate	17,015	17,860	18,716	19,582	20,459	21,348
Aggressive	20,361	21,249	22,147	23,057	23,978	24,911
CONSUMER EXPENDITURES MODEL DEMAND (SF)						
Conservative	15,488	16,646	17,825	19,027	20,251	21,498
Moderate	24,603	25,905	27,232	28,584	29,961	31,363
Aggressive	36,614	38,103	39,619	41,164	42,737	44,340
COLLIERS ESTIMATED RETAIL DEMAND POTENTIAL (SF) FOR PAIA COURTYARD SITE						
Conservative	14,900	16,000	17,100	18,200	19,300	20,400
Moderate	22,300	23,500	24,700	25,900	27,100	28,400
Aggressive	31,700	33,000	34,400	35,700	37,100	38,500

Section 4: RETAIL LEAKAGE ANALYSIS

As part of our analysis, we examined if the demand for certain types of retail uses were not being met within the trade area. If residents are spending money outside of the primary trade area for a specific retail category, we consider that as "leakage" that trade area retailers are not capturing or a retail use that is underserved. By examining if retail sales (supply) are lower than consumer expenditures (demand), we determined that the retail categories below are underserved in the target market.

TABLE 17 - RETAIL LEAKAGE ANALYSIS

	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Leakage
Automotive Dealers	$ 7,007,324	$ -	$ 7,007,324
Electronics and Appliance Stores	$ 1,311,556	$ 554,640	$ 756,916
Hardware Stores	$ 502,264	$ -	$ 502,264
Supermarkets, Grocery Stores	$ 5,904,444	$ 3,407,212	$ 2,497,232
Book Stores	$ 2,114,724	$ 280,823	$ 1,833,901

Source: Claritas Retail Market Potential report for 3-mile radius from subject site.

While this indicates a potential need for these retail categories in the trade area, this doesn't necessarily mean that all of these retailers would choose a location in Paia. The automotive dealers, electronics/appliance, hardware, and book store categories are represented in the nearby Kahului marketplace. Thus, these retailers may not feel the need to be in the smaller, Paia market. However, the success of Mana Foods provides solid evidence that there is a potential for a greater presence for additional grocery stores within a 3-mile radius. A recent expansion of the parking lot for Mana Foods corresponded to a $30,000 to $50,000 increase in retail sales for the market.

Appendix

Trade Area Commercial Space Inventory
Demographics Reports
Claritas Reports

TRADE AREA RETAIL INVENTORY
PRIMARY TRADE AREA

Property		City	Year Built	Building GLA (sf)	Land Area (sf)	Available Retail Space (sf)	Asking Base Rent (psf/mo)	Building Operating Expenses (psf/mo)	Comments
12	BALDWIN AVE	PAIA	1965	760	930	0	n/a	ina	Owner-user
18	BALDWIN AVE	PAIA	1969	2,937	1,971	1,500	$5.45	$2.10	
20	BALDWIN AVE	PAIA	1961	1,645		0	n/a	ina	
24	BALDWIN AVE	PAIA	1931	800	2,254	0	n/a	ina	
26	BALDWIN AVE	PAIA	1931	1,800	1,200	0	n/a	ina	
28	BALDWIN AVE	PAIA	1938	474	1,200	0	n/a	ina	
30	BALDWIN AVE	PAIA	1925	2,342	1,616	1,588	$4.78	ina	
35	BALDWIN AVE	PAIA	1969	3,104	16,283	0	n/a	ina	Owner-user
36	BALDWIN AVE	PAIA	1915	528	1,680	0	n/a	ina	
40	BALDWIN AVE	PAIA	1927	1,200	2,400	0	n/a	ina	
42	BALDWIN AVE	PAIA	1929	1,763	1,200	0	n/a	ina	
49	BALDWIN AVE	PAIA	1930	4,816	16,486	0	n/a	ina	
50	BALDWIN AVE	PAIA	1929	1,664	4,799	0	n/a	ina	
54	BALDWIN AVE	PAIA	2000	1,491	1,920	0	n/a	ina	Owner-user
62	BALDWIN AVE	PAIA	2000	4,000	403,453	0	n/a	ina	
71	BALDWIN AVE	PAIA	1906	18,862	33,448	3,998	$1.30 - $1.90	$1.00	Paia Plaza - Interior office/retail space available
105	BALDWIN AVE	PAIA	1934	2,878	4,055	0	n/a	ina	
109	BALDWIN AVE	PAIA	1975	1,054	7,265	0	n/a	ina	Owner-user
115	BALDWIN AVE	PAIA	1931	3,820	7,494	0	n/a	ina	
120	BALDWIN AVE	PAIA	2000	4,292	45,433	0	n/a	ina	US Post Office
129	BALDWIN AVE	PAIA	1938	2,040	9,611	0	n/a	ina	Owner-user
10	KULIA PL A	PAIA	1931	2,922	6,217	0	n/a	ina	
35	KULIA PL A	PAIA	1981	3,878	28,400	0	n/a	ina	
43	HANA HWY	PAIA	1919	2,064	16,553	0	n/a	ina	
65	HANA HWY	PAIA	1954	392	23,566	0	n/a	ina	
68	HANA HWY	PAIA	2000	217	7,906	0	n/a	ina	
69	HANA HWY	PAIA	1931	2,940	2,942	0	n/a	ina	
75	HANA HWY	PAIA		-	3,220	0	n/a	ina	Owner-user
76	HANA HWY	PAIA	1976	2,520	25,906	0	n/a	ina	
77	HANA HWY	PAIA	1931	744	2,663	0	n/a	ina	
83	HANA HWY	PAIA	1931	1,480	3,890	0	n/a	ina	
86	HANA HWY	PAIA	1931	1,651	3,964	0	n/a	ina	
87	HANA HWY	PAIA	1932	2,706	4,118	0	n/a	ina	
88	HANA HWY	PAIA	1926	2,952	9,078	0	n/a	ina	
93	HANA HWY	PAIA	1990	4,856	5,633	0	n/a	ina	
99	HANA HWY	PAIA		3,071		0	n/a	ina	
100	HANA HWY	PAIA	1931	1,713	3,729	0	n/a	ina	
112	HANA HWY	PAIA	1939	2,313	4,698	0	n/a	ina	
115	HANA HWY	PAIA	1964	5,514	14,336	0	n/a	ina	
120	HANA HWY	PAIA	1926	15,000	53,544	0	n/a	ina	
123	HANA HWY	PAIA	1991	3,954	13,553	0	n/a	ina	
127	HANA HWY	PAIA	1980	3,315	34,960	0	n/a	ina	
137	HANA HWY	PAIA	2008	13,018	37,192	0	n/a	ina	
142	HANA HWY	PAIA	1926	5,712	14,034	0	n/a	ina	
149	HANA HWY	PAIA	1953	5,075	9,932	0	n/a	ina	
151	HANA HWY	PAIA	2013	420	7,999	0	n/a	ina	Paia Courtyard
165	HANA HWY	PAIA	1940	3,708	7,000	0	n/a	ina	
			Totals			**7,086**			
			Totals	**154,405**	**909,730**	**7,086**			
			Vacancy			**4.6%**			

Source: Client data

SECONDARY TRADE AREA

Property		City	Year Built	Building GLA (sf)	Land Area (sf)	Available Retail Space (sf)	Asking Base Rent (psf/mo)	Building Operating Expenses (psf/mo)	Comments
780	HAIKU RD	HAIKU	1972	1,800	6,970	0	n/a	ina	
810	HAIKU RD	HAIKU	1920	16,000	274,428	6,940	$1.55 - $1.60	$0.78	Haiku Marketplace
810	KOKOMO RD	HAIKU	1915	25,703	43,560	1,489	$1.50 - $2.25	ina	Aloha Aina Center
824	KOKOMO RD	HAIKU	1921	1,952	9,148	0	n/a	ina	
200	W. KUIAHA RD	HAIKU	1928	3,000	54,886	0	n/a	ina	
160	NAHELE RD	HAIKU	1985	2,812	221,720	0	n/a	ina	
			Totals	**51,267**	**610,711**	**8,429**			
			Vacancy			**16.4%**			

Source: CoStar data

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Population						
Estimated Population (2013)	813		3,345		9,838	
Projected Population (2018)	861		3,539		10,409	
Census Population (2010)	794		3,268		9,609	
Census Population (2000)	725		2,944		8,052	
Projected Annual Growth (2013-2018)	48	*1.2%*	194	*1.2%*	572	*1.2%*
Historical Annual Growth (2010-2013)	19	*0.8%*	78	*0.8%*	228	*0.8%*
Historical Annual Growth (2000-2010)	68	*0.9%*	324	*1.1%*	1,557	*1.9%*
Estimated Population Density (2013)	259	*psm*	118	*psm*	125	*psm*
Trade Area Size	3.1	*sq mi*	28.3	*sq mi*	78.5	*sq mi*
Households						
Estimated Households (2013)	274		1,146		3,506	
Projected Households (2018)	293		1,223		3,744	
Census Households (2010)	268		1,118		3,421	
Census Households (2000)	219		925		2,678	
Projected Annual Growth (2013-2018)	18	*1.3%*	77	*1.3%*	238	*1.4%*
Historical Annual Change (2000-2013)	55	*1.9%*	221	*1.8%*	828	*2.4%*
Average Household Income						
Estimated Average Household Income (2013)	$91,066		$91,560		$84,305	
Projected Average Household Income (2018)	$97,458		$97,945		$90,121	
Census Average Household Income (2010)	$87,348		$88,032		$80,116	
Census Average Household Income (2000)	$59,974		$64,031		$64,124	
Projected Annual Change (2013-2018)	$6,392	*1.4%*	$6,384	*1.4%*	$5,817	*1.4%*
Historical Annual Change (2000-2013)	$31,092	*4.0%*	$27,529	*3.3%*	$20,181	*2.4%*
Median Household Income						
Estimated Median Household Income (2013)	$67,182		$70,012		$67,694	
Projected Median Household Income (2018)	$71,002		$74,349		$71,720	
Census Median Household Income (2010)	$63,667		$66,841		$63,317	
Census Median Household Income (2000)	$53,938		$52,936		$49,513	
Projected Annual Change (2013-2018)	$3,820	*1.1%*	$4,337	*1.2%*	$4,026	*1.2%*
Historical Annual Change (2000-2013)	$13,244	*1.9%*	$17,076	*2.5%*	$18,181	*2.8%*
Per Capita Income						
Estimated Per Capita Income (2013)	$32,880		$32,984		$30,693	
Projected Per Capita Income (2018)	$35,376		$35,522		$33,049	
Census Per Capita Income (2010)	$29,445		$30,113		$28,525	
Census Per Capita Income (2000)	$18,205		$20,007		$20,986	
Projected Annual Change (2013-2018)	$2,496	*1.5%*	$2,538	*1.5%*	$2,356	*1.5%*
Historical Annual Change (2000-2013)	$14,675	*6.2%*	$12,977	*5.0%*	$9,708	*3.6%*
Estimated Average Household Net Worth (2013)	$827,350		$819,561		$778,020	

This report was produced using data from private and government sources deemed to be reliable. The information herein is provided without representation or warranty.

COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Race and Ethnicity						
Total Population (2013)	813		3,345		9,838	
White (2013)	311	38.3%	1,395	41.7%	4,682	47.6%
Black or African American (2013)	2	0.2%	10	0.3%	36	0.4%
American Indian or Alaska Native (2013)	5	0.6%	18	0.5%	43	0.4%
Asian (2013)	214	26.4%	780	23.3%	1,605	16.3%
Hawaiian or Pacific Islander (2013)	68	8.3%	292	8.7%	883	9.0%
Other Race (2013)	11	1.3%	54	1.6%	139	1.4%
Two or More Races (2013)	202	24.8%	797	23.8%	2,450	24.9%
Population < 18 (2013)	172	21.1%	710	21.2%	2,188	22.2%
White	37	21.5%	184	25.9%	735	33.6%
Black or African American	-	-	2	0.2%	9	0.4%
American Indian or Alaska Native	-	-	-	-	5	0.2%
Asian	36	20.7%	127	17.9%	241	11.0%
Hawaiian and Pacific Islander	23	13.4%	91	12.7%	236	10.8%
Other Race	76	44.4%	307	43.2%	961	43.9%
Hispanic Population < 18 (2013)	24	3.0%	106	3.2%	385	3.9%
Not Hispanic or Latino Population (2013)	726	89.3%	2,984	89.2%	8,668	88.1%
Not Hispanic White	293	40.4%	1,316	44.1%	4,333	50.0%
Not Hispanic Black or African American	2	0.2%	10	0.3%	36	0.4%
Not Hispanic American Indian or Alaska Native	2	0.3%	9	0.3%	23	0.3%
Not Hispanic Asian	203	27.9%	740	24.8%	1,520	17.5%
Not Hispanic Hawaiian or Pacific Islander	62	8.5%	267	9.0%	814	9.4%
Not Hispanic Other Race	1	0.1%	5	0.2%	21	0.2%
Not Hispanic Two or More Races	164	22.6%	638	21.4%	1,920	22.2%
Hispanic or Latino Population (2013)	87	10.7%	361	10.8%	1,170	11.9%
Hispanic White	18	21.2%	79	21.9%	349	29.8%
Hispanic Black or African American	-	-	-	-	-	-
Hispanic American Indian or Alaska Native	3	3.4%	9	2.5%	20	1.7%
Hispanic Asian	12	13.4%	40	11.0%	85	7.3%
Hispanic Hawaiian or Pacific Islander	6	7.1%	24	6.8%	69	5.9%
Hispanic Other Race	10	11.6%	50	13.8%	117	10.0%
Hispanic Two or More Races	38	43.3%	159	44.0%	530	45.3%
Not Hispanic or Latino Population (2010)	713	89.8%	2,932	89.7%	8,520	88.7%
Hispanic or Latino Population (2010)	81	10.2%	336	10.3%	1,090	11.3%
Not Hispanic or Latino Population (2000)	641	88.3%	2,641	89.7%	7,333	91.1%
Hispanic or Latino Population (2000)	85	11.7%	303	10.3%	719	8.9%
Not Hispanic or Latino Population (2018)	759	88.2%	3,115	88.0%	9,037	86.8%
Hispanic or Latino Population (2018)	102	11.8%	424	12.0%	1,372	13.2%
Projected Annual Growth (2013-2018)	15	3.4%	62	3.5%	202	3.5%
Historical Annual Growth (2000-2010)	-4	-0.5%	33	1.1%	371	5.2%

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Total Age Distribution (2013)						
Total Population	813		3,345		9,838	
Age Under 5 Years	54	6.7%	218	6.5%	601	6.1%
Age 5 to 9 Years	46	5.7%	192	5.7%	603	6.1%
Age 10 to 14 Years	43	5.3%	179	5.4%	585	5.9%
Age 15 to 19 Years	47	5.8%	199	5.9%	624	6.3%
Age 20 to 24 Years	53	6.5%	222	6.6%	604	6.1%
Age 25 to 29 Years	66	8.2%	254	7.6%	622	6.3%
Age 30 to 34 Years	61	7.5%	251	7.5%	716	7.3%
Age 35 to 39 Years	63	7.7%	254	7.6%	686	7.0%
Age 40 to 44 Years	51	6.3%	228	6.8%	716	7.3%
Age 45 to 49 Years	66	8.1%	262	7.8%	726	7.4%
Age 50 to 54 Years	54	6.7%	233	7.0%	775	7.9%
Age 55 to 59 Years	61	7.5%	248	7.4%	804	8.2%
Age 60 to 64 Years	50	6.1%	206	6.1%	654	6.7%
Age 65 to 69 Years	38	4.6%	158	4.7%	440	4.5%
Age 70 to 74 Years	18	2.3%	76	2.3%	245	2.5%
Age 75 to 79 Years	15	1.8%	57	1.7%	159	1.6%
Age 80 to 84 Years	14	1.7%	48	1.4%	118	1.2%
Age 85 Years or Over	13	1.6%	61	1.8%	159	1.6%
Median Age	36.8		37.0		38.1	
Age 19 Years or Less	191	23.5%	788	23.6%	2,413	24.5%
Age 20 to 64 Years	525	64.5%	2,157	64.5%	6,305	64.1%
Age 65 Years or Over	97	12.0%	401	12.0%	1,120	11.4%
Female Age Distribution (2013)						
Female Population	397	48.9%	1,641	49.1%	4,848	49.3%
Age Under 5 Years	23	5.7%	97	5.9%	274	5.6%
Age 5 to 9 Years	22	5.6%	96	5.9%	295	6.1%
Age 10 to 14 Years	22	5.6%	91	5.5%	297	6.1%
Age 15 to 19 Years	20	5.1%	89	5.4%	291	6.0%
Age 20 to 24 Years	25	6.4%	108	6.6%	281	5.8%
Age 25 to 29 Years	33	8.2%	125	7.6%	304	6.3%
Age 30 to 34 Years	25	6.3%	106	6.5%	344	7.1%
Age 35 to 39 Years	32	8.1%	129	7.8%	324	6.7%
Age 40 to 44 Years	25	6.3%	115	7.0%	379	7.8%
Age 45 to 49 Years	31	7.9%	124	7.5%	355	7.3%
Age 50 to 54 Years	25	6.3%	108	6.6%	396	8.2%
Age 55 to 59 Years	28	7.0%	111	6.8%	385	7.9%
Age 60 to 64 Years	29	7.3%	113	6.9%	323	6.7%
Age 65 to 69 Years	18	4.6%	75	4.6%	200	4.1%
Age 70 to 74 Years	10	2.4%	44	2.7%	122	2.5%
Age 75 to 79 Years	10	2.6%	37	2.2%	96	2.0%
Age 80 to 84 Years	10	2.5%	35	2.1%	78	1.6%
Age 85 Years or Over	9	2.2%	41	2.5%	105	2.2%
Female Median Age	38.4		38.1		39.0	
Age 19 Years or Less	87	22.0%	372	22.7%	1,156	23.9%
Age 20 to 64 Years	254	63.8%	1,038	63.2%	3,091	63.7%
Age 65 Years or Over	56	14.2%	231	14.1%	601	12.4%

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Male Age Distribution (2013)						
Male Population	416	51.1%	1,704	50.9%	4,990	50.7%
Age Under 5 Years	31	7.6%	121	7.1%	327	6.6%
Age 5 to 9 Years	24	5.8%	96	5.6%	308	6.2%
Age 10 to 14 Years	21	5.1%	88	5.2%	288	5.8%
Age 15 to 19 Years	27	6.5%	110	6.5%	333	6.7%
Age 20 to 24 Years	27	6.6%	114	6.7%	324	6.5%
Age 25 to 29 Years	34	8.1%	129	7.6%	318	6.4%
Age 30 to 34 Years	36	8.6%	145	8.5%	372	7.5%
Age 35 to 39 Years	31	7.4%	125	7.3%	363	7.3%
Age 40 to 44 Years	26	6.3%	112	6.6%	337	6.7%
Age 45 to 49 Years	34	8.3%	139	8.1%	371	7.4%
Age 50 to 54 Years	29	7.0%	125	7.3%	380	7.6%
Age 55 to 59 Years	33	7.9%	137	8.1%	419	8.4%
Age 60 to 64 Years	21	5.0%	92	5.4%	332	6.6%
Age 65 to 69 Years	19	4.7%	83	4.9%	240	4.8%
Age 70 to 74 Years	9	2.1%	33	1.9%	122	2.5%
Age 75 to 79 Years	5	1.1%	20	1.2%	63	1.3%
Age 80 to 84 Years	4	0.9%	13	0.8%	40	0.8%
Age 85 Years or Over	4	1.0%	21	1.2%	54	1.1%
Male Median Age	35.1		35.9		37.2	
Age 19 Years or Less	104	25.0%	416	24.4%	1,256	25.2%
Age 20 to 64 Years	271	65.2%	1,119	65.7%	3,214	64.4%
Age 65 Years or Over	41	9.8%	170	10.0%	519	10.4%
Males per 100 Females (2013)						
Overall Comparison	105		104		103	
Age Under 5 Years	138	58.0%	125	55.5%	120	54.5%
Age 5 to 9 Years	109	52.2%	100	49.9%	105	51.1%
Age 10 to 14 Years	97	49.2%	98	49.4%	97	49.3%
Age 15 to 19 Years	132	56.9%	124	55.5%	114	53.3%
Age 20 to 24 Years	108	52.0%	106	51.5%	115	53.6%
Age 25 to 29 Years	104	51.0%	103	50.9%	105	51.1%
Age 30 to 34 Years	142	58.7%	136	57.7%	108	51.9%
Age 35 to 39 Years	95	48.8%	97	49.3%	112	52.8%
Age 40 to 44 Years	104	51.1%	97	49.4%	89	47.0%
Age 45 to 49 Years	110	52.3%	112	52.9%	105	51.1%
Age 50 to 54 Years	115	53.5%	116	53.6%	96	49.0%
Age 55 to 59 Years	118	54.1%	124	55.3%	109	52.1%
Age 60 to 64 Years	71	41.6%	82	45.0%	103	50.7%
Age 65 to 69 Years	108	51.9%	111	52.6%	120	54.6%
Age 70 to 74 Years	90	47.4%	75	42.8%	100	50.1%
Age 75 to 79 Years	45	30.8%	55	35.4%	66	39.6%
Age 80 to 84 Years	39	27.9%	38	27.5%	51	33.6%
Age 85 Years or Over	49	33.0%	51	33.7%	52	34.1%
Age 19 Years or Less	119	54.3%	112	52.7%	109	52.1%
Age 20 to 39 Years	111	52.6%	110	52.3%	110	52.3%
Age 40 to 64 Years	103	50.8%	106	51.5%	100	50.0%
Age 65 Years or Over	72	42.0%	73	42.4%	86	46.4%

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Household Type (2013)						
Total Households	274		1,146		3,506	
Households with Children	92	*33.5%*	383	*33.4%*	1,225	*34.9%*
Average Household Size	3.0		2.9		2.8	
Household Density per Square Mile	87		41		45	
Population Family	593	*73.0%*	2,386	*71.3%*	7,310	*74.3%*
Population Non-Family	219	*26.9%*	903	*27.0%*	2,365	*24.0%*
Population Group Quarters	1	*0.1%*	56	*1.7%*	163	*1.7%*
Family Households	167	*60.9%*	692	*60.4%*	2,254	*64.3%*
Married Couple Households	107	*64.3%*	455	*65.8%*	1,542	*68.4%*
Other Family Households	60	*35.7%*	237	*34.2%*	712	*31.6%*
Family Households with Children	90	*53.9%*	373	*54.0%*	1,204	*53.4%*
Married Couple with Children	53	*58.9%*	227	*60.7%*	741	*61.5%*
Other Family Households with Children	37	*41.1%*	147	*39.3%*	463	*38.5%*
Family Households No Children	77	*46.1%*	319	*46.0%*	1,051	*46.6%*
Married Couple No Children	54	*70.5%*	229	*71.8%*	801	*76.3%*
Other Family Households No Children	23	*29.5%*	90	*28.2%*	249	*23.7%*
Non-Family Households	107	*39.1%*	454	*39.6%*	1,252	*35.7%*
Non-Family Households with Children	2	*1.7%*	9	*2.0%*	21	*1.7%*
Non-Family Households No Children	105	*98.3%*	445	*98.0%*	1,231	*98.3%*
Lone Person No Children	-	-	-	-	-	-
2 or More Persons No Children	105	*98.3%*	445	*98.0%*	1,231	*98.3%*
Household Lone Male	-	-	-	-	-	-
Household Lone Female	-	-	-	-	-	-
Average Family Household Size	3.5		3.4		3.2	
Average Family Income	$113,742		$113,313		$98,712	
Median Family Income	$80,968		$83,124		$79,001	
Average Non-Family Household Size	2.0		2.0		1.9	
Marital Status (2013)						
Population Age 15 Years or Over	669		2,756		8,049	
Never Married	388	*58.1%*	1,440	*52.2%*	3,583	*44.5%*
Currently Married	224	*33.4%*	1,008	*36.6%*	3,474	*43.2%*
Previously Married	57	*8.5%*	309	*11.2%*	992	*12.3%*
Separated	6	*10.0%*	27	*8.7%*	191	*19.3%*
Widowed	26	*46.3%*	125	*40.6%*	375	*37.8%*
Divorced	25	*43.7%*	156	*50.7%*	426	*43.0%*
Educational Attainment (2013)						
Adult Population Age 25 Years or Over	569		2,336		6,820	
Elementary (Grade Level 0 to 8)	42	*7.4%*	171	*7.3%*	334	*4.9%*
Some High School (Grade Level 9 to 11)	46	*8.1%*	175	*7.5%*	275	*4.0%*
High School Graduate	107	*18.8%*	449	*19.2%*	1,946	*28.5%*
Some College	120	*21.0%*	494	*21.1%*	1,472	*21.6%*
Associate Degree Only	64	*11.2%*	231	*9.9%*	598	*8.8%*
Bachelor Degree Only	156	*27.5%*	597	*25.6%*	1,491	*21.9%*
Graduate Degree	34	*5.9%*	218	*9.3%*	704	*10.3%*
Any College (Some College or Higher)	374	*65.6%*	1,540	*66.0%*	4,265	*62.5%*
College Degree + (Bachelor Degree or Higher)	190	*33.4%*	815	*34.9%*	2,195	*32.2%*

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Housing						
Total Housing Units (2013)	303		1,302		3,884	
Total Housing Units (2010)	296		1,271		3,792	
Historical Annual Growth (2010-2013)	7	*0.8%*	31	*0.8%*	91	*0.8%*
Housing Units Occupied (2013)	274	*90.5%*	1,146	*88.0%*	3,506	*90.3%*
Housing Units Owner-Occupied	164	*59.6%*	648	*56.6%*	1,946	*55.5%*
Housing Units Renter-Occupied	111	*40.4%*	498	*43.4%*	1,561	*44.5%*
Housing Units Vacant (2013)	29	*10.5%*	156	*13.6%*	377	*10.8%*
Household Size (2013)						
Total Households	274		1,146		3,506	
1 Person Households	64	*23.3%*	273	*23.8%*	817	*23.3%*
2 Person Households	74	*27.1%*	327	*28.5%*	1,108	*31.6%*
3 Person Households	54	*19.7%*	217	*18.9%*	641	*18.3%*
4 Person Households	36	*13.0%*	155	*13.5%*	477	*13.6%*
5 Person Households	19	*7.0%*	78	*6.8%*	234	*6.7%*
6 Person Households	12	*4.2%*	43	*3.8%*	117	*3.3%*
7 or More Person Households	16	*5.7%*	53	*4.6%*	113	*3.2%*
Household Income Distribution (2013)						
HH Income $200,000 or More	20	*7.3%*	88	*7.7%*	239	*6.8%*
HH Income $150,000 to $199,999	19	*6.8%*	73	*6.4%*	190	*5.4%*
HH Income $125,000 to $149,999	19	*6.9%*	77	*6.7%*	206	*5.9%*
HH Income $100,000 to $124,999	23	*8.3%*	112	*9.8%*	360	*10.3%*
HH Income $75,000 to $99,999	36	*13.1%*	162	*14.2%*	542	*15.5%*
HH Income $50,000 to $74,999	70	*25.5%*	267	*23.3%*	736	*21.0%*
HH Income $35,000 to $49,999	23	*8.6%*	94	*8.2%*	339	*9.7%*
HH Income $25,000 to $34,999	19	*7.0%*	81	*7.1%*	261	*7.5%*
HH Income $15,000 to $24,999	23	*8.4%*	79	*6.9%*	280	*8.0%*
HH Income $10,000 to $14,999	13	*4.8%*	58	*5.1%*	110	*3.1%*
HH Income Under $10,000	9	*3.4%*	54	*4.7%*	244	*7.0%*
Household Vehicles (2013)						
Households 0 Vehicles Available	13	*4.8%*	38	*3.4%*	141	*4.0%*
Households 1 Vehicle Available	97	*35.4%*	377	*32.9%*	1,008	*28.8%*
Households 2 Vehicles Available	87	*31.8%*	389	*34.0%*	1,433	*40.9%*
Households 3 or More Vehicles Available	77	*28.0%*	341	*29.8%*	925	*26.4%*
Total Vehicles Available	560		2,418		7,107	
Average Vehicles per Household	2.0		2.1		2.0	
Owner-Occupied Household Vehicles	411	*73.4%*	1,639	*67.8%*	4,464	*62.8%*
Average Vehicles per Owner-Occupied Household	2.5		2.5		2.3	
Renter-Occupied Household Vehicles	149	*26.6%*	779	*32.2%*	2,643	*37.2%*
Average Vehicles per Renter-Occupied Household	1.3		1.6		1.7	
Travel Time (2010)						
Worker Base Age 16 years or Over	350		1,495		4,720	
Travel to Work in 14 Minutes or Less	75	*21.4%*	302	*20.2%*	735	*15.6%*
Travel to Work in 15 to 29 Minutes	123	*35.3%*	531	*35.5%*	1,516	*32.1%*
Travel to Work in 30 to 59 Minutes	85	*24.4%*	390	*26.1%*	1,599	*33.9%*
Travel to Work in 60 Minutes or More	22	*6.2%*	80	*5.3%*	236	*5.0%*
Work at Home	45	*12.8%*	192	*12.8%*	635	*13.4%*
Average Minutes Travel to Work	21.4		22.2		25.8	

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Transportation To Work (2010)						
Worker Base Age 16 years or Over	350		1,495		4,720	
Drive to Work Alone	217	*62.0%*	953	*63.7%*	3,068	*65.0%*
Drive to Work in Carpool	41	*11.9%*	188	*12.6%*	634	*13.4%*
Travel to Work by Public Transportation	9	*2.4%*	34	*2.3%*	124	*2.6%*
Drive to Work on Motorcycle	1	*0.3%*	3	*0.2%*	9	*0.2%*
Bicycle to Work	2	*0.5%*	5	*0.4%*	8	*0.2%*
Walk to Work	22	*6.4%*	83	*5.6%*	186	*3.9%*
Other Means	13	*3.8%*	37	*2.5%*	56	*1.2%*
Work at Home	45	*12.8%*	192	*12.8%*	635	*13.4%*
Daytime Demographics (2013)						
Total Businesses	53		213		481	
Total Employees	404		2,642		5,774	
Company Headquarter Businesses	-	*0.7%*	2	*0.9%*	4	*0.7%*
Company Headquarter Employees	6	*1.4%*	41	*1.5%*	89	*1.5%*
Employee Population per Business	7.7 to 1		12.4 to 1		12.0 to 1	
Residential Population per Business	15.5 to 1		15.7 to 1		20.4 to 1	
Proj. Daytime Demographics Age 16 Years or Over	706		3,847		8,915	
Labor Force						
Labor Population Age 16 Years or Over (2013)	660		2,715		7,916	
Labor Force Total Males (2013)	333	*50.4%*	1,375	*50.6%*	3,996	*50.5%*
Male Civilian Employed	211	*63.4%*	866	*63.0%*	2,395	*59.9%*
Male Civilian Unemployed	9	*2.7%*	49	*3.6%*	206	*5.1%*
Males in Armed Forces	-	*0.1%*	6	*0.5%*	136	*3.4%*
Males Not in Labor Force	112	*33.7%*	453	*32.9%*	1,260	*31.5%*
Labor Force Total Females (2013)	327	*49.6%*	1,340	*49.4%*	3,920	*49.5%*
Female Civilian Employed	147	*44.8%*	635	*47.4%*	2,236	*57.1%*
Female Civilian Unemployed	4	*1.1%*	22	*1.6%*	85	*2.2%*
Females in Armed Forces	-	-	3	*0.2%*	8	*0.2%*
Females Not in Labor Force	177	*54.1%*	681	*50.8%*	1,590	*40.6%*
Unemployment Rate		*1.9%*		*2.6%*		*3.7%*
Labor Force Growth (2010-2013)	-20	*-5.4%*	-115	*-7.1%*	-298	*-6.0%*
Male Labor Force Growth (2010-2013)	-11	*-5.0%*	-50	*-5.5%*	-198	*-7.6%*
Female Labor Force Growth (2010-2013)	-9	*-5.9%*	-64	*-9.2%*	-100	*-4.3%*
Occupation (2010)						
Occupation Population Age 16 Years or Over	378		1,616		4,929	
Occupation Total Males	222	*58.8%*	916	*56.7%*	2,592	*52.6%*
Occupation Total Females	156	*41.2%*	700	*43.3%*	2,337	*47.4%*
Management, Business, Financial Operations	40	*10.6%*	158	*9.8%*	445	*9.0%*
Professional, Related	69	*18.1%*	311	*19.3%*	1,100	*22.3%*
Service	76	*20.2%*	398	*24.6%*	1,172	*23.8%*
Sales, Office	117	*30.9%*	428	*26.5%*	1,153	*23.4%*
Farming, Fishing, Forestry	10	*2.7%*	46	*2.9%*	106	*2.2%*
Construction, Extraction, Maintenance	40	*10.6%*	165	*10.2%*	489	*9.9%*
Production, Transport, Material Moving	26	*6.9%*	109	*6.7%*	464	*9.4%*
White Collar Workers		*59.6%*		*55.6%*		*54.7%*
Blue Collar Workers		*40.4%*		*44.4%*		*45.3%*

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COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Units In Structure (2010)						
Total Units	268		1,118		3,421	
1 Detached Unit	201	75.2%	838	74.9%	2,711	79.2%
1 Attached Unit	9	3.3%	42	3.8%	143	4.2%
2 Units	27	10.0%	117	10.5%	299	8.7%
3 to 4 Units	13	5.0%	53	4.7%	86	2.5%
5 to 9 Units	9	3.2%	33	2.9%	56	1.6%
10 to 19 Units	3	1.0%	10	0.9%	26	0.8%
20 to 49 Units	2	0.6%	7	0.7%	26	0.8%
50 or More Units	4	1.7%	19	1.7%	72	2.1%
Mobile Home or Trailer	-	-	-	-	2	-
Other Structure	-	-	-	-	-	-
Homes Built By Year (2010)						
Homes Built 2005 or later	14	5.2%	48	4.3%	204	6.0%
Homes Built 2000 to 2004	9	3.3%	40	3.6%	159	4.6%
Homes Built 1990 to 1999	61	22.6%	232	20.8%	686	20.0%
Homes Built 1980 to 1989	57	21.3%	208	18.6%	644	18.8%
Homes Built 1970 to 1979	56	20.8%	225	20.1%	598	17.5%
Homes Built 1960 to 1969	31	11.4%	155	13.9%	380	11.1%
Homes Built 1950 to 1959	17	6.2%	95	8.5%	361	10.5%
Homes Built 1940 to 1949	10	3.6%	48	4.3%	138	4.0%
Homes Built Before 1939	15	5.5%	66	5.9%	251	7.3%
Median Age of Homes	36.2 *yrs*		38.1 *yrs*		38.0 *yrs*	
Home Values (2010)						
Owner Specified Housing Units	160		633		1,898	
Home Values $1,000,000 or More	15	9.4%	80	12.7%	253	13.3%
Home Values $750,000 to $999,999	23	14.2%	97	15.3%	367	19.3%
Home Values $500,000 to $749,999	61	38.1%	234	37.0%	720	37.9%
Home Values $400,000 to $499,999	31	19.5%	115	18.2%	230	12.1%
Home Values $300,000 to $399,999	17	10.9%	56	8.8%	175	9.2%
Home Values $250,000 to $299,999	2	1.2%	9	1.3%	35	1.9%
Home Values $200,000 to $249,999	2	1.0%	7	1.1%	33	1.7%
Home Values $175,000 to $199,999	2	1.3%	6	1.0%	12	0.6%
Home Values $150,000 to $174,999	1	0.4%	3	0.5%	16	0.8%
Home Values $125,000 to $149,999	-	0.2%	1	0.2%	4	0.2%
Home Values $100,000 to $124,999	5	3.1%	14	2.3%	18	0.9%
Home Values $90,000 to $99,999	-	-	-	-	1	0.1%
Home Values $80,000 to $89,999	-	0.2%	5	0.8%	13	0.7%
Home Values $70,000 to $79,999	-	0.2%	1	0.2%	7	0.4%
Home Values $60,000 to $69,999	-	-	-	-	1	-
Home Values $50,000 to $59,999	-	-	-	-	-	-
Home Values $35,000 to $49,999	-	-	-	-	5	0.3%
Home Values $25,000 to $34,999	-	0.1%	2	0.4%	5	0.3%
Home Values $10,000 to $24,999	-	0.1%	1	0.2%	2	0.1%
Home Values Under $10,000	-	-	-	-	1	0.1%
Owner-Occupied Median Home Value	$584,015		$618,740		$653,788	
Renter-Occupied Median Rent	$1,208		$1,310		$1,428	

This report was produced using data from private and government sources deemed to be reliable. The information herein is provided without representation or warranty.

COMPLETE PROFILE

2000-2010 Census, 2013 Estimates with 2018 Projections

Calculated using Proportional Block Groups

Lat/Lon: 20.9136/-156.3814

RFULL9

62 Baldwin Avenue, Paia, HI	1 Mile		3 Miles		5 Miles	
Total Annual Consumer Expenditure (2013)						
Total Household Expenditure	$18.3 M		$76.3 M		$220 M	
Total Non-Retail Expenditure	$10.5 M		$43.8 M		$126 M	
Total Retail Expenditure	$7.79 M		$32.5 M		$93.5 M	
Apparel	$874 K		$3.65 M		$10.5 M	
Contributions	$667 K		$2.82 M		$8.19 M	
Education	$434 K		$1.83 M		$5.23 M	
Entertainment	$1.02 M		$4.25 M		$12.3 M	
Food and Beverages	$2.80 M		$11.7 M		$33.6 M	
Furnishings and Equipment	$807 K		$3.39 M		$9.79 M	
Gifts	$478 K		$2.00 M		$5.77 M	
Health Care	$1.11 M		$4.63 M		$13.4 M	
Household Operations	$643 K		$2.70 M		$7.81 M	
Miscellaneous Expenses	$306 K		$1.27 M		$3.65 M	
Personal Care	$265 K		$1.11 M		$3.19 M	
Personal Insurance	$186 K		$782 K		$2.26 M	
Reading	$59.6 K		$249 K		$720 K	
Shelter	$3.56 M		$14.9 M		$42.7 M	
Tobacco	$120 K		$496 K		$1.43 M	
Transportation	$3.65 M		$15.2 M		$43.9 M	
Utilities	$1.28 M		$5.32 M		$15.3 M	
Monthly Household Consumer Expenditure (2013)						
Total Household Expenditure	$5,547		$5,545		$5,221	
Total Non-Retail Expenditure	$3,181	*57.3%*	$3,183	*57.4%*	$2,999	*57.4%*
Total Retail Expenditures	$2,366	*42.7%*	$2,362	*42.6%*	$2,223	*42.6%*
Apparel	$266	*4.8%*	$265	*4.8%*	$250	*4.8%*
Contributions	$203	*3.7%*	$205	*3.7%*	$195	*3.7%*
Education	$132	*2.4%*	$133	*2.4%*	$124	*2.4%*
Entertainment	$309	*5.6%*	$309	*5.6%*	$291	*5.6%*
Food and Beverages	$852	*15.4%*	$849	*15.3%*	$797	*15.3%*
Furnishings and Equipment	$245	*4.4%*	$247	*4.4%*	$233	*4.5%*
Gifts	$145	*2.6%*	$146	*2.6%*	$137	*2.6%*
Health Care	$338	*6.1%*	$337	*6.1%*	$318	*6.1%*
Household Operations	$195	*3.5%*	$196	*3.5%*	$186	*3.6%*
Miscellaneous Expenses	$93	*1.7%*	$92	*1.7%*	$87	*1.7%*
Personal Care	$80	*1.5%*	$80	*1.4%*	$76	*1.5%*
Personal Insurance	$57	*1.0%*	$57	*1.0%*	$54	*1.0%*
Reading	$18	*0.3%*	$18	*0.3%*	$17	*0.3%*
Shelter	$1,082	*19.5%*	$1,081	*19.5%*	$1,016	*19.5%*
Tobacco	$36	*0.7%*	$36	*0.7%*	$34	*0.7%*
Transportation	$1,108	*20.0%*	$1,107	*20.0%*	$1,043	*20.0%*
Utilities	$389	*7.0%*	$387	*7.0%*	$364	*7.0%*

This report was produced using data from private and government sources deemed to be reliable. The information herein is provided without representation or warranty.

Consumer Spending Patterns

Paia Market Analysis

Radius 1: , 0.00 - 1.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
Total Specified Consumer Expenditures - USA	5,952,277,025		6,525,281,569		49,932	52,877	1.93	
Total Specified Consumer Expenditures (AREA)	37,969	0.00	43,909	0.00	53,177	56,150	3.13	106
FOOD AT HOME	4,560	12.01	5,074	11.56	6,387	6,489	2.25	110
Bakery Products	396	1.04	444	1.01	554	568	2.46	103
Cereal Products	250	0.66	276	0.63	350	353	2.08	128
Dairy Products	461	1.21	518	1.18	646	662	2.45	106
Fresh Milk and Cream	120	0.32	134	0.31	168	172	2.41	103
Other Dairy Products	276	0.73	312	0.71	387	399	2.57	102
Eggs	65	0.17	72	0.16	91	92	1.99	142
Fats and Oils	36	0.09	40	0.09	50	51	2.45	92
Fish and Seafood	105	0.28	117	0.27	147	150	2.25	104
Fruits and Vegetables	615	1.62	677	1.54	861	866	2.03	119
Juices	137	0.36	153	0.35	192	195	2.33	107
Meats (All)	879	2.32	968	2.20	1,231	1,238	2.03	109
Nonalcoholic Beverages	449	1.18	500	1.14	629	639	2.25	99
Prepared Foods	924	2.43	1,036	2.36	1,294	1,325	2.42	115
Sugar and Other Sweets	309	0.81	346	0.79	432	442	2.39	114
FOOD AWAY FROM HOME & ALCOHOL								
Alcoholic Beverages	767	2.02	852	1.94	1,074	1,090	2.23	104
Alcoholic Beverages at Home	661	1.74	735	1.67	926	940	2.22	104
Alcoholic Beverages away from Home	105	0.28	117	0.27	147	150	2.31	109
Total Food away from Home	2,246	5.91	2,500	5.69	3,145	3,197	2.27	108
Lunch	623	1.64	691	1.57	872	884	2.20	117
Dinner	886	2.33	988	2.25	1,240	1,263	2.31	106
Breakfast and Brunch	179	0.47	201	0.46	250	257	2.50	101
DAY CARE, EDUCATION & CONTRIBUTIONS								
All Day Care	270	0.71	303	0.69	378	388	2.48	116
Contributions (All)	932	2.45	1,051	2.39	1,305	1,344	2.56	91
Education	1,381	3.64	1,533	3.49	1,934	1,960	2.20	100
Room and Board	149	0.39	164	0.37	208	210	2.08	145
Tuition/School Supplies	1,232	3.24	1,369	3.12	1,725	1,750	2.22	97

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Consumer Spending Patterns

Paia Market Analysis

Radius 1: , 0.00 - 1.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
HEALTHCARE								
Medical Services	1,627	4.29	1,928	4.39	2,279	2,466	3.70	104
Prescription Drugs	1,705	4.49	2,023	4.61	2,388	2,586	3.72	91
Medical Supplies	153	0.40	180	0.41	214	230	3.57	106
HOUSEHOLD FURNISHINGS & APPLIANCES								
Total Furniture	519	1.37	602	1.37	727	769	3.17	107
Bedroom Furniture	128	0.34	150	0.34	180	192	3.38	101
Living/Dining Room Furniture	249	0.66	289	0.66	348	370	3.25	112
Other Furniture	134	0.35	153	0.35	187	195	2.86	102
Total Household Textiles	339	0.89	399	0.91	475	510	3.52	97
Domestic Textiles	286	0.75	337	0.77	400	431	3.61	104
Window and Furniture Covers	53	0.14	61	0.14	75	78	3.04	73
Major Appliances	192	0.51	226	0.52	269	289	3.52	109
Misc Household Equipment	361	0.95	420	0.96	505	538	3.31	107
Small Appliance/Houseware	511	1.34	594	1.35	715	760	3.28	117
HOUSING RELATED & PERSONAL								
Total Housing Expenses	2,884	7.59	3,318	7.56	4,039	4,243	3.01	96
Fuels and Utilities	1,535	4.04	1,765	4.02	2,149	2,257	3.00	95
Telephone Service	790	2.08	891	2.03	1,106	1,140	2.57	101
Household Repairs	331	0.87	384	0.88	463	491	3.23	107
Household Services	336	0.88	375	0.85	470	479	2.32	85
Housekeeping Supplies	262	0.69	309	0.70	366	395	3.60	101
Personal Expenses and Services	1,186	3.12	1,397	3.18	1,662	1,787	3.55	102
PERSONAL CARE & SMOKING PRODUCTS								
Personal Care Products and Services	821	2.16	941	2.14	1,150	1,203	2.92	111
Personal Care Services	368	0.97	417	0.95	516	533	2.62	116
Smoking Prods/Supplies	396	1.04	465	1.06	554	594	3.51	63
PET EXPENSES	502	1.32	592	1.35	703	757	3.59	124

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Consumer Spending Patterns

Paia Market Analysis

Radius 1: , 0.00 - 1.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
SPORTS & ENTERTAINMENT								
Photographic Equipment	82	0.22	109	0.25	115	139	6.55	113
Reading Materials	353	0.93	417	0.95	494	534	3.66	116
Sports and Recreation	1,316	3.47	1,657	3.77	1,843	2,119	5.18	123
Sports Equipment	689	1.81	918	2.09	965	1,173	6.63	115
Travel	1,852	4.88	2,063	4.70	2,594	2,639	2.28	126
TV, Radio and Sound Equipment	763	2.01	1,137	2.59	1,069	1,454	9.79	156
Computers, Software & Accssories	520	1.37	818	1.86	728	1,046	11.45	124
TRANSPORTATION & AUTO EXPENSES								
Automotive Maintenance/Repair/Other	1,580	4.16	1,680	3.83	2,213	2,148	1.26	116
Gasoline	1,748	4.60	1,794	4.09	2,448	2,294	0.53	106
Diesel Fuel	10	0.03	11	0.02	14	14	1.89	72
Motor Oil	34	0.09	36	0.08	48	46	0.74	116
Vehicle Purchases & Leases	3,978	10.48	4,683	10.66	5,572	5,988	3.54	104
New Autos/Trucks/Vans	1,899	5.00	2,043	4.65	2,660	2,612	1.51	95
Used Vehicles	1,335	3.52	1,457	3.32	1,870	1,864	1.83	84
Boats and Recreational Vehicle Purchase	744	1.96	1,182	2.69	1,042	1,512	11.78	292
Rented Vehicles	103	0.27	110	0.25	145	140	1.19	73
TOTAL APPAREL	3,218	8.48	3,783	8.62	4,508	4,837	3.51	114
Women's Apparel	1,073	2.83	1,251	2.85	1,503	1,600	3.32	117
Men's Apparel	697	1.84	816	1.86	976	1,044	3.43	118
Girl's Apparel	227	0.60	276	0.63	318	353	4.27	112
Boy's Apparel	171	0.45	208	0.47	240	266	4.33	118
Infant's Apparel	88	0.23	106	0.24	124	136	4.07	110
Footwear (excl. Infants)	413	1.09	488	1.11	579	624	3.63	112
Other Apparel Prods/Services	549	1.44	637	1.45	768	815	3.22	105

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Consumer Spending Patterns

Paia Market Analysis

Radius 2: , 0.00 - 3.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
Total Specified Consumer Expenditures - USA	5,952,277,025		6,525,281,569		49,932	52,877	1.93	
Total Specified Consumer Expenditures (AREA)	67,106	0.00	74,427	0.00	53,301	56,341	2.18	107
FOOD AT HOME	7,973	11.88	8,508	11.43	6,333	6,440	1.34	109
Bakery Products	700	1.04	752	1.01	556	569	1.49	103
Cereal Products	419	0.62	445	0.60	333	337	1.24	122
Dairy Products	824	1.23	884	1.19	654	669	1.46	108
Fresh Milk and Cream	209	0.31	225	0.30	166	170	1.49	102
Other Dairy Products	503	0.75	541	0.73	399	409	1.52	105
Eggs	112	0.17	119	0.16	89	90	1.14	139
Fats and Oils	63	0.09	68	0.09	50	52	1.47	92
Fish and Seafood	184	0.27	196	0.26	146	149	1.34	103
Fruits and Vegetables	1,054	1.57	1,117	1.50	837	845	1.19	116
Juices	242	0.36	259	0.35	193	196	1.38	107
Meats (All)	1,507	2.25	1,598	2.15	1,197	1,210	1.20	106
Nonalcoholic Beverages	798	1.19	850	1.14	634	644	1.31	100
Prepared Foods	1,634	2.43	1,752	2.35	1,298	1,326	1.45	115
Sugar and Other Sweets	547	0.82	586	0.79	434	444	1.43	115
FOOD AWAY FROM HOME & ALCOHOL								
Alcoholic Beverages	1,373	2.05	1,462	1.96	1,091	1,106	1.29	106
Alcoholic Beverages at Home	1,188	1.77	1,263	1.70	944	956	1.27	106
Alcoholic Beverages away from Home	185	0.28	198	0.27	147	150	1.42	109
Total Food away from Home	3,967	5.91	4,234	5.69	3,151	3,205	1.35	109
Lunch	1,088	1.62	1,158	1.56	864	877	1.29	116
Dinner	1,575	2.35	1,683	2.26	1,251	1,274	1.37	107
Breakfast and Brunch	320	0.48	345	0.46	254	261	1.53	103
DAY CARE, EDUCATION & CONTRIBUTIONS								
All Day Care	472	0.70	512	0.69	375	387	1.67	115
Contributions (All)	1,681	2.51	1,821	2.45	1,335	1,378	1.66	93
Education	2,391	3.56	2,574	3.46	1,899	1,948	1.53	98
Room and Board	264	0.39	280	0.38	209	212	1.23	145
Tuition/School Supplies	2,128	3.17	2,294	3.08	1,690	1,736	1.56	95

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Consumer Spending Patterns

Paia Market Analysis

Radius 2: , 0.00 - 3.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
HEALTHCARE								
Medical Services	2,884	4.30	3,276	4.40	2,291	2,480	2.72	104
Prescription Drugs	2,963	4.42	3,379	4.54	2,354	2,558	2.81	90
Medical Supplies	269	0.40	305	0.41	213	231	2.69	105
HOUSEHOLD FURNISHINGS & APPLIANCES								
Total Furniture	923	1.38	1,027	1.38	733	777	2.25	108
Bedroom Furniture	230	0.34	258	0.35	183	195	2.42	103
Living/Dining Room Furniture	439	0.65	490	0.66	349	371	2.32	112
Other Furniture	239	0.36	262	0.35	190	199	2.00	104
Total Household Textiles	601	0.90	677	0.91	477	513	2.55	98
Domestic Textiles	507	0.75	573	0.77	402	434	2.62	104
Window and Furniture Covers	94	0.14	104	0.14	75	79	2.15	74
Major Appliances	335	0.50	378	0.51	266	287	2.60	107
Misc Household Equipment	631	0.94	708	0.95	501	536	2.44	106
Small Appliance/Houseware	906	1.35	1,012	1.36	720	766	2.33	117
HOUSING RELATED & PERSONAL								
Total Housing Expenses	5,080	7.57	5,609	7.54	4,035	4,246	2.08	96
Fuels and Utilities	2,694	4.02	2,973	3.99	2,140	2,250	2.07	95
Telephone Service	1,393	2.08	1,511	2.03	1,107	1,143	1.68	101
Household Repairs	569	0.85	634	0.85	452	480	2.30	104
Household Services	601	0.90	644	0.87	478	488	1.43	86
Housekeeping Supplies	466	0.69	527	0.71	370	399	2.59	102
Personal Expenses and Services	2,119	3.16	2,376	3.19	1,683	1,798	2.42	104
PERSONAL CARE & SMOKING PRODUCTS								
Personal Care Products and Services	1,456	2.17	1,603	2.15	1,157	1,213	2.01	112
Personal Care Services	657	0.98	714	0.96	522	540	1.74	117
Smoking Prods/Supplies	760	1.13	847	1.14	603	641	2.29	69
PET EXPENSES	881	1.31	996	1.34	700	754	2.61	123

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Consumer Spending Patterns

Paia Market Analysis

Radius 2: , 0.00 - 3.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
SPORTS & ENTERTAINMENT								
Photographic Equipment	145	0.22	185	0.25	115	140	5.56	113
Reading Materials	637	0.95	721	0.97	506	546	2.65	119
Sports and Recreation	2,324	3.46	2,801	3.76	1,846	2,120	4.11	123
Sports Equipment	1,194	1.78	1,527	2.05	948	1,156	5.57	113
Travel	3,303	4.92	3,528	4.74	2,624	2,671	1.36	127
TV, Radio and Sound Equipment	1,289	1.92	1,847	2.48	1,024	1,398	8.64	150
Computers, Software & Accssories	925	1.38	1,393	1.87	734	1,055	10.14	125
TRANSPORTATION & AUTO EXPENSES								
Automotive Maintenance/Repair/Other	2,825	4.21	2,880	3.87	2,244	2,180	0.39	118
Gasoline	3,126	4.66	3,076	4.13	2,483	2,328	-0.32	107
Diesel Fuel	19	0.03	20	0.03	15	15	0.65	80
Motor Oil	62	0.09	62	0.08	50	47	-0.14	119
Vehicle Purchases & Leases	7,103	10.59	8,010	10.76	5,642	6,063	2.55	105
New Autos/Trucks/Vans	3,368	5.02	3,480	4.68	2,675	2,634	0.67	95
Used Vehicles	2,377	3.54	2,477	3.33	1,888	1,875	0.84	85
Boats and Recreational Vehicle Purchase	1,358	2.02	2,052	2.76	1,079	1,553	10.21	302
Rented Vehicles	188	0.28	191	0.26	150	145	0.32	75
TOTAL APPAREL	5,623	8.38	6,356	8.54	4,466	4,812	2.61	113
Women's Apparel	1,860	2.77	2,096	2.82	1,478	1,586	2.53	115
Men's Apparel	1,204	1.79	1,356	1.82	956	1,027	2.53	116
Girl's Apparel	399	0.60	462	0.62	317	350	3.15	111
Boy's Apparel	299	0.44	347	0.47	237	263	3.26	117
Infant's Apparel	153	0.23	177	0.24	122	134	3.10	109
Footwear (excl. Infants)	713	1.06	810	1.09	567	614	2.72	110
Other Apparel Prods/Services	994	1.48	1,107	1.49	790	838	2.26	108

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Consumer Spending Patterns

Paia Market Analysis

Radius 3: , 0.00 - 5.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
Total Specified Consumer Expenditures - USA	5,952,277,025		6,525,281,569		49,932	52,877	1.93	
Total Specified Consumer Expenditures (AREA)	177,965	0.00	199,282	0.00	51,824	54,598	2.40	104
FOOD AT HOME	21,497	12.08	23,190	11.64	6,260	6,354	1.58	108
Bakery Products	1,896	1.07	2,056	1.03	552	563	1.68	102
Cereal Products	1,086	0.61	1,162	0.58	316	318	1.39	116
Dairy Products	2,272	1.28	2,466	1.24	662	676	1.71	109
Fresh Milk and Cream	567	0.32	616	0.31	165	169	1.74	102
Other Dairy Products	1,404	0.79	1,527	0.77	409	418	1.75	107
Eggs	302	0.17	323	0.16	88	89	1.44	137
Fats and Oils	176	0.10	190	0.10	51	52	1.69	94
Fish and Seafood	494	0.28	534	0.27	144	146	1.61	101
Fruits and Vegetables	2,788	1.57	2,990	1.50	812	819	1.45	112
Juices	662	0.37	716	0.36	193	196	1.62	107
Meats (All)	4,013	2.26	4,314	2.16	1,169	1,182	1.50	104
Nonalcoholic Beverages	2,187	1.23	2,358	1.18	637	646	1.56	101
Prepared Foods	4,441	2.50	4,803	2.41	1,293	1,316	1.63	115
Sugar and Other Sweets	1,482	0.83	1,602	0.80	432	439	1.62	114
FOOD AWAY FROM HOME & ALCOHOL								
Alcoholic Beverages	3,718	2.09	4,011	2.01	1,083	1,099	1.58	105
Alcoholic Beverages at Home	3,232	1.82	3,485	1.75	941	955	1.57	105
Alcoholic Beverages away from Home	486	0.27	526	0.26	142	144	1.64	105
Total Food away from Home	10,596	5.95	11,437	5.74	3,086	3,133	1.59	106
Lunch	2,868	1.61	3,085	1.55	835	845	1.52	112
Dinner	4,219	2.37	4,557	2.29	1,229	1,248	1.60	105
Breakfast and Brunch	879	0.49	958	0.48	256	262	1.78	104
DAY CARE, EDUCATION & CONTRIBUTIONS								
All Day Care	1,209	0.68	1,329	0.67	352	364	1.98	108
Contributions (All)	4,555	2.56	4,997	2.51	1,326	1,369	1.94	92
Education	6,179	3.47	6,734	3.38	1,799	1,845	1.80	93
Room and Board	727	0.41	780	0.39	212	214	1.46	147
Tuition/School Supplies	5,452	3.06	5,954	2.99	1,588	1,631	1.84	89

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Consumer Spending Patterns

Paia Market Analysis

Radius 3: , 0.00 - 5.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
HEALTHCARE								
Medical Services	7,786	4.37	8,927	4.48	2,267	2,446	2.93	103
Prescription Drugs	7,953	4.47	9,182	4.61	2,316	2,515	3.09	88
Medical Supplies	706	0.40	813	0.41	206	223	3.02	101
HOUSEHOLD FURNISHINGS & APPLIANCES								
Total Furniture	2,401	1.35	2,704	1.36	699	741	2.53	103
Bedroom Furniture	609	0.34	692	0.35	177	190	2.72	100
Living/Dining Room Furniture	1,135	0.64	1,282	0.64	331	351	2.59	107
Other Furniture	615	0.35	685	0.34	179	188	2.27	98
Total Household Textiles	1,602	0.90	1,828	0.92	466	501	2.82	96
Domestic Textiles	1,359	0.76	1,555	0.78	396	426	2.90	103
Window and Furniture Covers	243	0.14	272	0.14	71	75	2.40	70
Major Appliances	885	0.50	1,009	0.51	258	276	2.81	104
Misc Household Equipment	1,649	0.93	1,868	0.94	480	512	2.65	102
Small Appliance/Houseware	2,424	1.36	2,742	1.38	706	751	2.62	115
HOUSING RELATED & PERSONAL								
Total Housing Expenses	13,730	7.72	15,349	7.70	3,998	4,205	2.36	95
Fuels and Utilities	7,240	4.07	8,084	4.06	2,108	2,215	2.33	93
Telephone Service	3,793	2.13	4,168	2.09	1,104	1,142	1.98	101
Household Repairs	1,487	0.84	1,674	0.84	433	459	2.52	100
Household Services	1,594	0.90	1,730	0.87	464	474	1.71	84
Housekeeping Supplies	1,280	0.72	1,462	0.73	373	401	2.85	103
Personal Expenses and Services	5,705	3.21	6,470	3.25	1,661	1,773	2.68	102
PERSONAL CARE & SMOKING PRODUCTS								
Personal Care Products and Services	3,893	2.19	4,334	2.17	1,134	1,187	2.26	110
Personal Care Services	1,760	0.99	1,934	0.97	512	530	1.97	115
Smoking Prods/Supplies	2,348	1.32	2,658	1.33	684	728	2.64	78
PET EXPENSES	2,326	1.31	2,652	1.33	677	726	2.80	119

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Consumer Spending Patterns

Paia Market Analysis

Radius 3: , 0.00 - 5.00 Miles, Total

Product Category	2013 Aggregate Expenditure Estimate (in 1000s)	% Comp	2018 Aggregate Expenditure Estimate (in 1000s)	% Comp	2013 Annual Avg/ HH	2018 Annual Avg/ HH	Avg Annual % Growth	2013 Index to USA
SPORTS & ENTERTAINMENT								
Photographic Equipment	385	0.22	499	0.25	112	137	5.92	110
Reading Materials	1,739	0.98	1,992	1.00	506	546	2.91	119
Sports and Recreation	6,152	3.46	7,478	3.75	1,792	2,049	4.31	120
Sports Equipment	3,146	1.77	4,059	2.04	916	1,112	5.81	109
Travel	8,716	4.90	9,418	4.73	2,538	2,580	1.61	123
TV, Radio and Sound Equipment	3,300	1.85	4,759	2.39	961	1,304	8.84	140
Computers, Software & Accssories	2,471	1.39	3,765	1.89	720	1,032	10.48	122
TRANSPORTATION & AUTO EXPENSES								
Automotive Maintenance/Repair/Other	7,462	4.19	7,695	3.86	2,173	2,108	0.62	114
Gasoline	8,395	4.72	8,350	4.19	2,445	2,288	-0.11	105
Diesel Fuel	55	0.03	58	0.03	16	16	0.85	85
Motor Oil	165	0.09	166	0.08	48	45	0.12	116
Vehicle Purchases & Leases	17,607	9.89	19,853	9.96	5,127	5,439	2.55	95
New Autos/Trucks/Vans	8,485	4.77	8,868	4.45	2,471	2,430	0.90	88
Used Vehicles	5,929	3.33	6,224	3.12	1,726	1,705	0.99	78
Boats and Recreational Vehicle Purchase	3,193	1.79	4,761	2.39	930	1,304	9.82	260
Rented Vehicles	512	0.29	524	0.26	149	144	0.48	75
TOTAL APPAREL	14,857	8.35	16,956	8.51	4,326	4,645	2.83	109
Women's Apparel	4,942	2.78	5,641	2.83	1,439	1,545	2.83	112
Men's Apparel	3,149	1.77	3,591	1.80	917	984	2.80	111
Girl's Apparel	1,059	0.60	1,221	0.61	308	335	3.06	108
Boy's Apparel	789	0.44	915	0.46	230	251	3.19	113
Infant's Apparel	395	0.22	459	0.23	115	126	3.20	103
Footwear (excl. Infants)	1,914	1.08	2,192	1.10	557	600	2.90	108
Other Apparel Prods/Services	2,608	1.47	2,938	1.47	759	805	2.53	104

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 1: , 0.00 - 1.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Total Retail Sales Incl Eating and Drinking Places	31,806,999	99,404,323	(67,597,324)
Motor Vehicle and Parts Dealers-441	5,478,820	0	5,478,820
Automotive Dealers-4411	3,943,997	0	3,943,997
Other Motor Vehicle Dealers-4412	1,064,404	0	1,064,404
Automotive Parts/Accsrs, Tire Stores-4413	470,419	0	470,419
Furniture and Home Furnishings Stores-442	650,037	0	650,037
Furniture Stores-4421	352,566	0	352,566
Home Furnishing Stores-4422	297,471	0	297,471
Electronics and Appliance Stores-443	755,745	0	755,745
Appliances, TVs, Electronics Stores-44311	571,196	0	571,196
Household Appliances Stores-443111	87,916	0	87,916
Radio, Television, Electronics Stores-443112	483,280	0	483,280
Computer and Software Stores-44312	168,179	0	168,179
Camera and Photographic Equipment Stores-44313	16,370	0	16,370
Building Material, Garden Equip Stores -444	3,093,546	387,480	2,706,066
Building Material and Supply Dealers-4441	2,746,616	387,480	2,359,136
Home Centers-44411	1,121,978	0	1,121,978
Paint and Wallpaper Stores-44412	44,317	0	44,317
Hardware Stores-44413	286,085	0	286,085
Other Building Materials Dealers-44419	1,294,235	387,480	906,755
Building Materials, Lumberyards-444191	503,068	151,505	351,563
Lawn, Garden Equipment, Supplies Stores-4442	346,930	0	346,930
Outdoor Power Equipment Stores-44421	75,130	0	75,130
Nursery and Garden Centers-44422	271,800	0	271,800
Food and Beverage Stores-445	4,077,384	6,035,042	(1,957,658)
Grocery Stores-4451	3,525,963	5,986,169	(2,460,206)
Supermarkets, Grocery (Ex Conv) Stores-44511	3,366,788	3,076,262	290,526
Convenience Stores-44512	159,175	2,909,907	(2,750,732)
Specialty Food Stores-4452	302,982	0	302,982
Beer, Wine and Liquor Stores-4453	248,439	48,873	199,566
Health and Personal Care Stores-446	1,632,965	7,842,224	(6,209,259)
Pharmancies and Drug Stores-44611	1,288,547	1,899,434	(610,887)
Cosmetics, Beauty Supplies, Perfume Stores-44612	113,145	508,631	(395,486)
Optical Goods Stores-44613	83,839	0	83,839
Other Health and Personal Care Stores-44619	147,435	5,434,159	(5,286,724)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 1: , 0.00 - 1.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Gasoline Stations-447	2,961,867	10,504,135	(7,542,268)
Gasoline Stations With Conv Stores-44711	2,139,703	8,895,379	(6,755,676)
Other Gasoline Stations-44719	822,164	1,608,757	(786,593)
Clothing and Clothing Accessories Stores-448	1,610,569	6,291,514	(4,680,945)
Clothing Stores-4481	1,227,386	5,799,044	(4,571,658)
Men's Clothing Stores-44811	70,960	0	70,960
Women's Clothing Stores-44812	274,535	947,329	(672,794)
Childrens, Infants Clothing Stores-44813	75,872	266,889	(191,017)
Family Clothing Stores-44814	644,859	2,864,725	(2,219,866)
Clothing Accessories Stores-44815	51,330	472,976	(421,646)
Other Clothing Stores-44819	109,829	1,247,126	(1,137,297)
Shoe Stores-4482	188,331	0	188,331
Jewelry, Luggage, Leather Goods Stores-4483	194,852	492,469	(297,617)
Jewelry Stores-44831	180,776	492,469	(311,693)
Luggage and Leather Goods Stores-44832	14,077	0	14,077
Sporting Goods, Hobby, Book, Music Stores-451	686,201	1,700,807	(1,014,606)
Sportng Goods, Hobby, Musical Inst Stores-4511	524,076	1,700,807	(1,176,731)
Sporting Goods Stores-45111	264,169	1,353,832	(1,089,663)
Hobby, Toys and Games Stores-45112	145,520	346,975	(201,455)
Sew/Needlework/Piece Goods Stores-45113	40,007	0	40,007
Musical Instrument and Supplies Stores-45114	74,380	0	74,380
Book, Periodical and Music Stores-4512	162,126	0	162,126
Book Stores and News Dealers-45121	123,256	0	123,256
Book Stores-451211	113,672	0	113,672
News Dealers and Newsstands-451212	9,585	0	9,585
Prerecorded Tapes, CDs, Record Stores-45122	38,869	0	38,869
General Merchandise Stores-452	4,175,636	1,840,691	2,334,945
Department Stores Excl Leased Depts-4521	1,730,417	1,176,339	554,078
Other General Merchandise Stores-4529	2,445,219	664,352	1,780,867
Miscellaneous Store Retailers-453	833,704	3,633,655	(2,799,951)
Florists-4531	40,117	106,635	(66,518)
Office Supplies, Stationery, Gift Stores-4532	284,749	1,760,197	(1,475,448)
Office Supplies and Stationery Stores-45321	161,584	0	161,584
Gift, Novelty and Souvenir Stores-45322	123,166	1,760,197	(1,637,031)
Used Merchandise Stores-4533	88,323	273,379	(185,056)
Other Miscellaneous Store Retailers-4539	420,515	1,493,443	(1,072,928)
Non-Store Retailers-454	2,465,055	0	2,465,055
Foodservice and Drinking Places-722	3,385,468	61,168,775	(57,783,307)
Full-Service Restaurants-7221	1,573,842	21,635,329	(20,061,487)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 1: , 0.00 - 1.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Limited-Service Eating Places-7222	1,392,001	32,418,841	(31,026,840)
Special Foodservices-7223	270,090	1,898,597	(1,628,507)
Drinking Places -Alcoholic Beverages-7224	149,535	5,216,008	(5,066,473)
GAFO *	8,162,938	11,593,209	(3,430,271)
General Merchandise Stores-452	4,175,636	1,840,691	2,334,945
Clothing and Clothing Accessories Stores-448	1,610,569	6,291,514	(4,680,945)
Furniture and Home Furnishings Stores-442	650,037	0	650,037
Electronics and Appliance Stores-443	755,745	0	755,745
Sporting Goods, Hobby, Book, Music Stores-451	686,201	1,700,807	(1,014,606)
Office Supplies, Stationery, Gift Stores-4532	284,749	1,760,197	(1,475,448)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 2: , 0.00 - 3.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Total Retail Sales Incl Eating and Drinking Places	56,086,876	591,581,676	(535,494,800)
Motor Vehicle and Parts Dealers-441	9,764,302	7,621,393	2,142,909
Automotive Dealers-4411	7,007,324	0	7,007,324
Other Motor Vehicle Dealers-4412	1,930,076	6,934,113	(5,004,037)
Automotive Parts/Accsrs, Tire Stores-4413	826,902	687,280	139,622
Furniture and Home Furnishings Stores-442	1,151,792	3,478,475	(2,326,683)
Furniture Stores-4421	625,900	3,446,026	(2,820,126)
Home Furnishing Stores-4422	525,891	32,449	493,442
Electronics and Appliance Stores-443	1,311,556	554,640	756,916
Appliances, TVs, Electronics Stores-44311	986,769	554,640	432,129
Household Appliances Stores-443111	153,568	0	153,568
Radio, Television, Electronics Stores-443112	833,202	554,640	278,562
Computer and Software Stores-44312	296,002	0	296,002
Camera and Photographic Equipment Stores-44313	28,785	0	28,785
Building Material, Garden Equip Stores -444	5,439,719	90,786,009	(85,346,290)
Building Material and Supply Dealers-4441	4,826,531	90,786,009	(85,959,478)
Home Centers-44411	1,977,907	86,955,270	(84,977,363)
Paint and Wallpaper Stores-44412	77,585	0	77,585
Hardware Stores-44413	502,264	0	502,264
Other Building Materials Dealers-44419	2,268,775	3,830,739	(1,561,964)
Building Materials, Lumberyards-444191	887,979	1,497,815	(609,836)
Lawn, Garden Equipment, Supplies Stores-4442	613,188	0	613,188
Outdoor Power Equipment Stores-44421	135,171	0	135,171
Nursery and Garden Centers-44422	478,018	0	478,018
Food and Beverage Stores-445	7,164,581	7,164,461	120
Grocery Stores-4451	6,188,390	6,630,173	(441,783)
Supermarkets, Grocery (Ex Conv) Stores-44511	5,904,444	3,407,212	2,497,232
Convenience Stores-44512	283,947	3,222,961	(2,939,014)
Specialty Food Stores-4452	529,905	405,049	124,856
Beer, Wine and Liquor Stores-4453	446,286	129,240	317,046
Health and Personal Care Stores-446	2,853,893	12,180,512	(9,326,619)
Pharmancies and Drug Stores-44611	2,251,590	4,710,179	(2,458,589)
Cosmetics, Beauty Supplies, Perfume Stores-44612	197,459	563,350	(365,891)
Optical Goods Stores-44613	147,547	496,728	(349,181)
Other Health and Personal Care Stores-44619	257,297	6,410,256	(6,152,959)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 2: , 0.00 - 3.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Gasoline Stations-447	5,308,936	44,448,104	(39,139,168)
Gasoline Stations With Conv Stores-44711	3,838,078	41,893,638	(38,055,560)
Other Gasoline Stations-44719	1,470,857	2,554,466	(1,083,609)
Clothing and Clothing Accessories Stores-448	2,808,592	13,250,489	(10,441,897)
Clothing Stores-4481	2,131,093	12,232,005	(10,100,912)
Men's Clothing Stores-44811	122,645	0	122,645
Women's Clothing Stores-44812	476,499	1,049,244	(572,745)
Childrens, Infants Clothing Stores-44813	132,652	295,601	(162,949)
Family Clothing Stores-44814	1,119,254	8,982,006	(7,862,752)
Clothing Accessories Stores-44815	89,602	523,860	(434,258)
Other Clothing Stores-44819	190,441	1,381,294	(1,190,853)
Shoe Stores-4482	325,335	0	325,335
Jewelry, Luggage, Leather Goods Stores-4483	352,164	1,018,485	(666,321)
Jewelry Stores-44831	327,482	1,018,485	(691,003)
Luggage and Leather Goods Stores-44832	24,682	0	24,682
Sporting Goods, Hobby, Book, Music Stores-451	1,185,544	6,748,785	(5,563,241)
Sportng Goods, Hobby, Musical Inst Stores-4511	903,241	6,218,470	(5,315,229)
Sporting Goods Stores-45111	460,365	5,834,167	(5,373,802)
Hobby, Toys and Games Stores-45112	250,992	384,303	(133,311)
Sew/Needlework/Piece Goods Stores-45113	70,929	0	70,929
Musical Instrument and Supplies Stores-45114	120,955	0	120,955
Book, Periodical and Music Stores-4512	282,303	530,315	(248,012)
Book Stores and News Dealers-45121	217,752	530,315	(312,563)
Book Stores-451211	200,723	0	200,723
News Dealers and Newsstands-451212	17,028	530,315	(513,287)
Prerecorded Tapes, CDs, Record Stores-45122	64,551	0	64,551
General Merchandise Stores-452	7,301,942	220,876,492	(213,574,550)
Department Stores Excl Leased Depts-4521	3,014,798	156,327,299	(153,312,501)
Other General Merchandise Stores-4529	4,287,144	64,549,194	(60,262,050)
Miscellaneous Store Retailers-453	1,487,807	14,077,743	(12,589,936)
Florists-4531	70,447	118,107	(47,660)
Office Supplies, Stationery, Gift Stores-4532	503,846	7,693,501	(7,189,655)
Office Supplies and Stationery Stores-45321	286,629	2,700,615	(2,413,986)
Gift, Novelty and Souvenir Stores-45322	217,217	4,992,887	(4,775,670)
Used Merchandise Stores-4533	154,471	2,731,722	(2,577,251)
Other Miscellaneous Store Retailers-4539	759,042	3,534,413	(2,775,371)
Non-Store Retailers-454	4,322,480	0	4,322,480
Foodservice and Drinking Places-722	5,985,733	170,394,571	(164,408,838)
Full-Service Restaurants-7221	2,783,058	70,613,622	(67,830,564)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 2: , 0.00 - 3.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Limited-Service Eating Places-7222	2,458,761	90,636,539	(88,177,778)
Special Foodservices-7223	476,928	3,367,254	(2,890,326)
Drinking Places -Alcoholic Beverages-7224	266,987	5,777,156	(5,510,169)
GAFO *	14,263,272	252,602,384	(238,339,112)
General Merchandise Stores-452	7,301,942	220,876,492	(213,574,550)
Clothing and Clothing Accessories Stores-448	2,808,592	13,250,489	(10,441,897)
Furniture and Home Furnishings Stores-442	1,151,792	3,478,475	(2,326,683)
Electronics and Appliance Stores-443	1,311,556	554,640	756,916
Sporting Goods, Hobby, Book, Music Stores-451	1,185,544	6,748,785	(5,563,241)
Office Supplies, Stationery, Gift Stores-4532	503,846	7,693,501	(7,189,655)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 3: , 0.00 - 5.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Total Retail Sales Incl Eating and Drinking Places	148,283,147	698,052,766	(549,769,619)
Motor Vehicle and Parts Dealers-441	24,376,384	8,694,034	15,682,350
Automotive Dealers-4411	17,584,018	0	17,584,018
Other Motor Vehicle Dealers-4412	4,618,153	7,910,026	(3,291,873)
Automotive Parts/Accsrs, Tire Stores-4413	2,174,214	784,008	1,390,206
Furniture and Home Furnishings Stores-442	3,025,752	4,569,405	(1,543,653)
Furniture Stores-4421	1,629,974	3,931,022	(2,301,048)
Home Furnishing Stores-4422	1,395,778	638,382	757,396
Electronics and Appliance Stores-443	3,444,119	846,104	2,598,015
Appliances, TVs, Electronics Stores-44311	2,580,029	739,680	1,840,349
Household Appliances Stores-443111	404,579	106,980	297,599
Radio, Television, Electronics Stores-443112	2,175,449	632,701	1,542,748
Computer and Software Stores-44312	787,474	106,424	681,050
Camera and Photographic Equipment Stores-44313	76,616	0	76,616
Building Material, Garden Equip Stores -444	14,354,841	107,822,978	(93,468,137)
Building Material and Supply Dealers-4441	12,759,116	106,879,521	(94,120,405)
Home Centers-44411	5,231,909	99,198,121	(93,966,212)
Paint and Wallpaper Stores-44412	203,736	0	203,736
Hardware Stores-44413	1,330,344	1,296,009	34,335
Other Building Materials Dealers-44419	5,993,127	6,385,391	(392,264)
Building Materials, Lumberyards-444191	2,350,023	2,496,686	(146,663)
Lawn, Garden Equipment, Supplies Stores-4442	1,595,726	943,457	652,269
Outdoor Power Equipment Stores-44421	331,244	0	331,244
Nursery and Garden Centers-44422	1,264,481	943,457	321,024
Food and Beverage Stores-445	19,384,586	20,525,540	(1,140,954)
Grocery Stores-4451	16,738,563	19,794,181	(3,055,618)
Supermarkets, Grocery (Ex Conv) Stores-44511	15,954,048	16,571,220	(617,172)
Convenience Stores-44512	784,515	3,222,961	(2,438,446)
Specialty Food Stores-4452	1,428,955	591,548	837,407
Beer, Wine and Liquor Stores-4453	1,217,068	139,811	1,077,257
Health and Personal Care Stores-446	7,649,617	12,720,505	(5,070,888)
Pharmancies and Drug Stores-44611	6,039,627	5,119,992	919,635
Cosmetics, Beauty Supplies, Perfume Stores-44612	528,836	563,350	(34,514)
Optical Goods Stores-44613	391,489	570,734	(179,245)
Other Health and Personal Care Stores-44619	689,665	6,466,429	(5,776,764)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 3: , 0.00 - 5.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Gasoline Stations-447	14,445,855	49,422,723	(34,976,868)
Gasoline Stations With Conv Stores-44711	10,483,682	46,403,151	(35,919,469)
Other Gasoline Stations-44719	3,962,173	3,019,572	942,601
Clothing and Clothing Accessories Stores-448	7,421,305	15,538,293	(8,116,988)
Clothing Stores-4481	5,633,701	13,629,266	(7,995,565)
Men's Clothing Stores-44811	321,346	0	321,346
Women's Clothing Stores-44812	1,264,828	1,049,244	215,584
Childrens, Infants Clothing Stores-44813	349,763	295,601	54,162
Family Clothing Stores-44814	2,956,028	10,379,267	(7,423,239)
Clothing Accessories Stores-44815	236,856	523,860	(287,004)
Other Clothing Stores-44819	504,880	1,381,294	(876,414)
Shoe Stores-4482	871,447	0	871,447
Jewelry, Luggage, Leather Goods Stores-4483	916,157	1,909,027	(992,870)
Jewelry Stores-44831	850,859	1,909,027	(1,058,168)
Luggage and Leather Goods Stores-44832	65,298	0	65,298
Sporting Goods, Hobby, Book, Music Stores-451	3,103,370	9,380,862	(6,277,492)
Sportng Goods, Hobby, Musical Inst Stores-4511	2,363,420	8,731,731	(6,368,311)
Sporting Goods Stores-45111	1,214,337	8,331,094	(7,116,757)
Hobby, Toys and Games Stores-45112	663,838	384,303	279,535
Sew/Needlework/Piece Goods Stores-45113	185,216	16,334	168,882
Musical Instrument and Supplies Stores-45114	300,029	0	300,029
Book, Periodical and Music Stores-4512	739,950	649,130	90,820
Book Stores and News Dealers-45121	576,811	622,583	(45,772)
Book Stores-451211	530,476	17,632	512,844
News Dealers and Newsstands-451212	46,335	604,952	(558,617)
Prerecorded Tapes, CDs, Record Stores-45122	163,139	26,547	136,592
General Merchandise Stores-452	19,517,515	254,051,820	(234,534,305)
Department Stores Excl Leased Depts-4521	7,992,673	178,145,548	(170,152,875)
Other General Merchandise Stores-4529	11,524,842	75,906,271	(64,381,429)
Miscellaneous Store Retailers-453	4,038,508	16,998,409	(12,959,901)
Florists-4531	185,542	138,908	46,634
Office Supplies, Stationery, Gift Stores-4532	1,337,860	8,753,714	(7,415,854)
Office Supplies and Stationery Stores-45321	760,754	3,080,701	(2,319,947)
Gift, Novelty and Souvenir Stores-45322	577,106	5,673,013	(5,095,907)
Used Merchandise Stores-4533	406,762	3,206,890	(2,800,128)
Other Miscellaneous Store Retailers-4539	2,108,344	4,898,897	(2,790,553)
Non-Store Retailers-454	11,499,607	0	11,499,607
Foodservice and Drinking Places-722	16,021,685	197,482,094	(181,460,409)
Full-Service Restaurants-7221	7,441,019	84,071,829	(76,630,810)

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RMP Opportunity Gap - Retail Stores

Paia Market Analysis

Radius 3: , 0.00 - 5.00 Miles, Total

Retail Stores	2013 Demand (Consumer Expenditures)	2013 Supply (Retail Sales)	Opportunity Gap/Surplus
Limited-Service Eating Places-7222	6,580,820	98,385,971	(91,805,151)
Special Foodservices-7223	1,275,472	9,247,138	(7,971,666)
Drinking Places -Alcoholic Beverages-7224	724,373	5,777,156	(5,052,783)
GAFO *	37,849,921	293,140,197	(255,290,276)
General Merchandise Stores-452	19,517,515	254,051,820	(234,534,305)
Clothing and Clothing Accessories Stores-448	7,421,305	15,538,293	(8,116,988)
Furniture and Home Furnishings Stores-442	3,025,752	4,569,405	(1,543,653)
Electronics and Appliance Stores-443	3,444,119	846,104	2,598,015
Sporting Goods, Hobby, Book, Music Stores-451	3,103,370	9,380,862	(6,277,492)
Office Supplies, Stationery, Gift Stores-4532	1,337,860	8,753,714	(7,415,854)

* GAFO (General merchandise, Apparel, Furniture and Other) represents sales at stores that sell merchandise normally sold in department stores. This category is not included in Total Retail Sales Including Eating and Drinking Places.

Nielsen' RMP data is derived from two major sources of information. The demand data is derived from the Consumer Expenditure Survey (CE Survey), which is fielded by the U.S. Bureau of Labor Statistics (BLS). The supply data is derived from the Census of Retail Trade (CRT), which is made available by the U.S. Census.Additional data sources are incorporated to create both supply and demand estimates.

The difference between demand and supply represents the opportunity gap or surplus available for each retail outlet in the specified reporting geography. When the demand is greater than (less than) the supply, there is an opportunity gap (surplus) for that retail outlet. For example, a positive value signifies an opportunity gap, while a negative value signifies a surplus.

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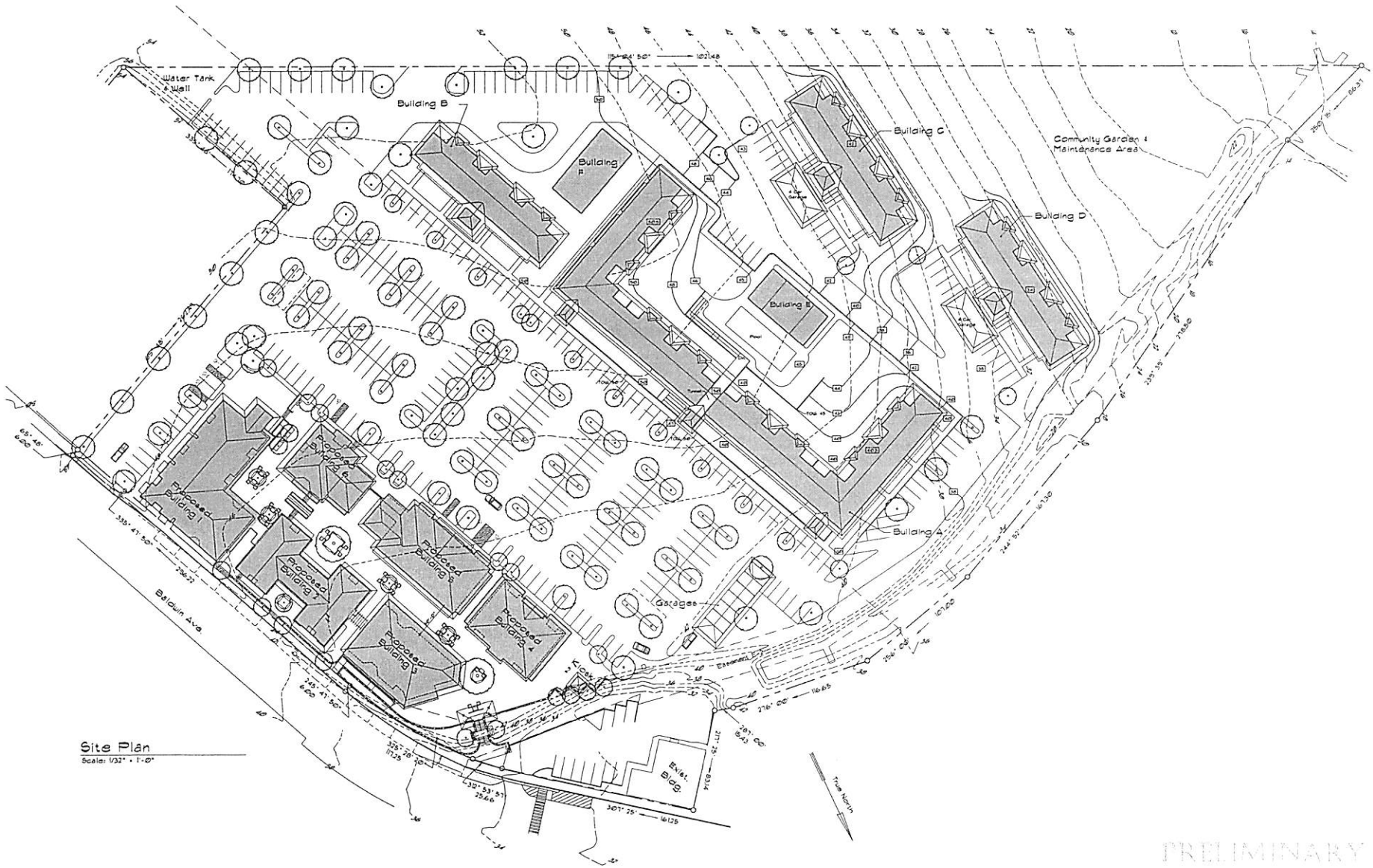
Appendix G

DEVELOPMENT PLAN WITH RENDERINGS

PAIA 2020 PROJECT

HUNTON



Site Plan
Scale: 1/32" = 1'-0"

PRELIMINARY

Revisions
5/13/13
10/4/12

Site Plan

A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii

HUNTON CONRAD & ASSOCIATES INC

Date: April 22, 2011
Scale: 1/32" = 1'-0"
Drawn: JCR/RN
Job: Pala 2020
Sheet:
A1

1 West Elevation (Facing Parking Lot)
Scale: 3/32" = 1'-0"

2 East Elevation (Facing Baldwin Avenue)
Scale: 3/32" = 1'-0"

3 East Elevation (Within Mall, Facing Baldwin Ave.)
Scale: 3/32" = 1'-0"

4 West Elevation (Within Mall, Facing Parking Lot)
Scale: 3/32" = 1'-0"

PRELIMINARY

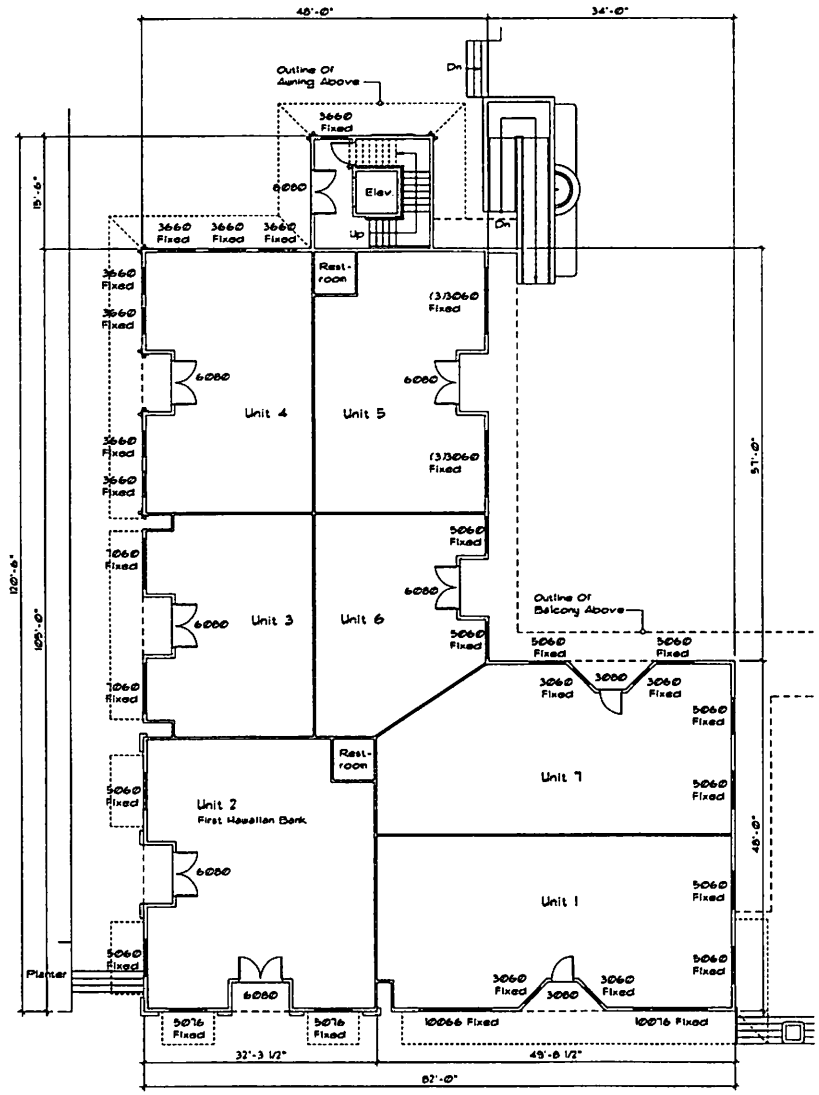
Revisions
△
△
△
△

HUNTON CONRAD & ASSOCIATES INC

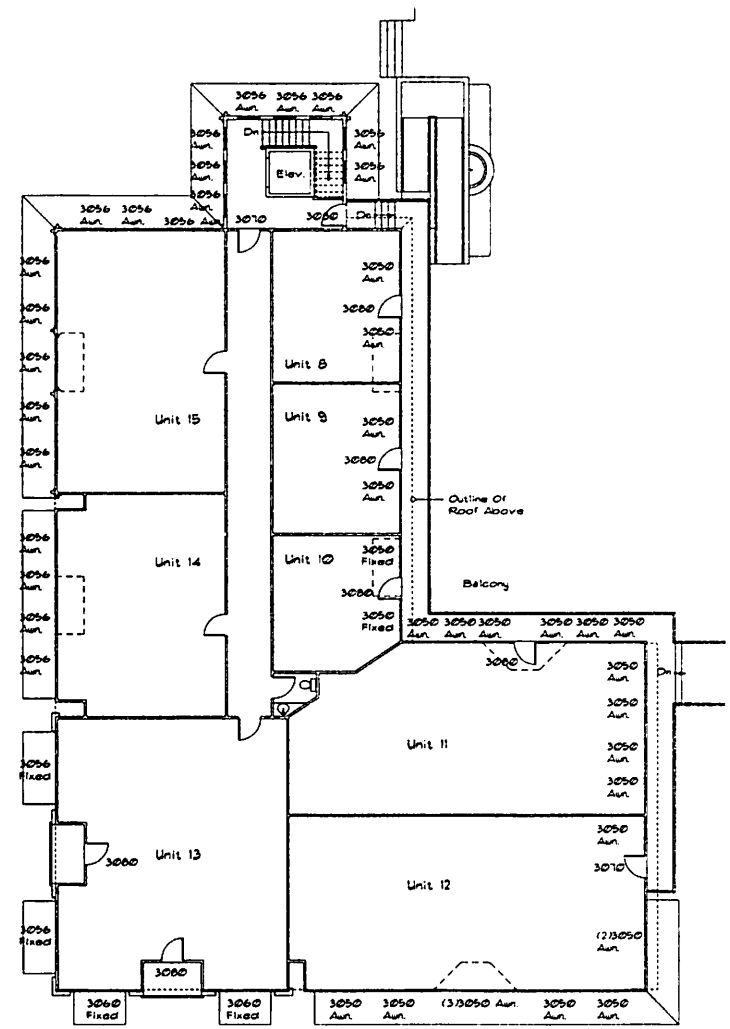
Elevations

A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii
TMK: (22-5-005:018 Lot A-1-A

Date: August 29, 2012
Scale:
Drawn: RN
Job: Pala 2020
Sheet:
A2



1 Lower Floor Plan - Building 'I'
Scale: 1/8" = 1'-0"



2 Upper Floor Plan - Building 'I'
Scale: 1/8" = 1'-0"

Revisions

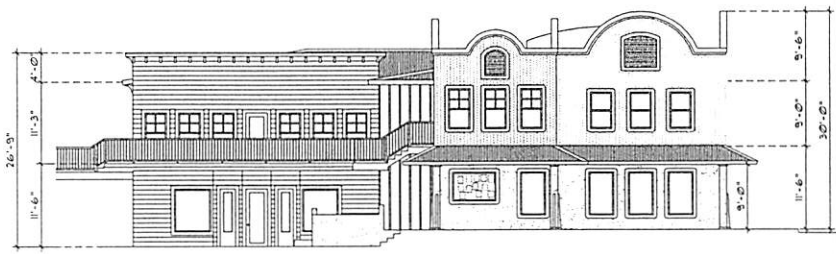
Building 'I'

A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

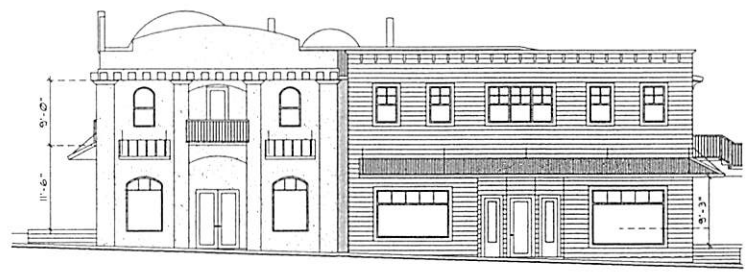
Date: August 29, 2012
Scale:
Drawn: RN
Job: Paia 2020
Sheet:
A3

1 South Elevation
Scale: 1/8" = 1'-0"



2 West Elevation (Facing Mall)
Scale: 1/8" = 1'-0"

3 North Elevation
Scale: 1/8" = 1'-0"



4 East Elevation (Facing Baldwin Ave.)
Scale: 1/8" = 1'-0"

PRELIMINARY

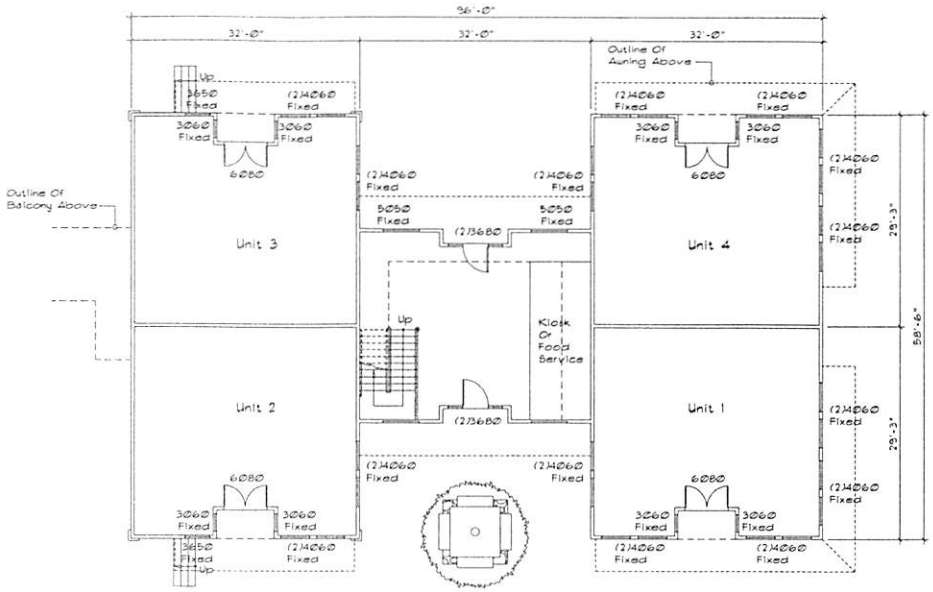
Revisions
△
△
△
△

Building 'F'

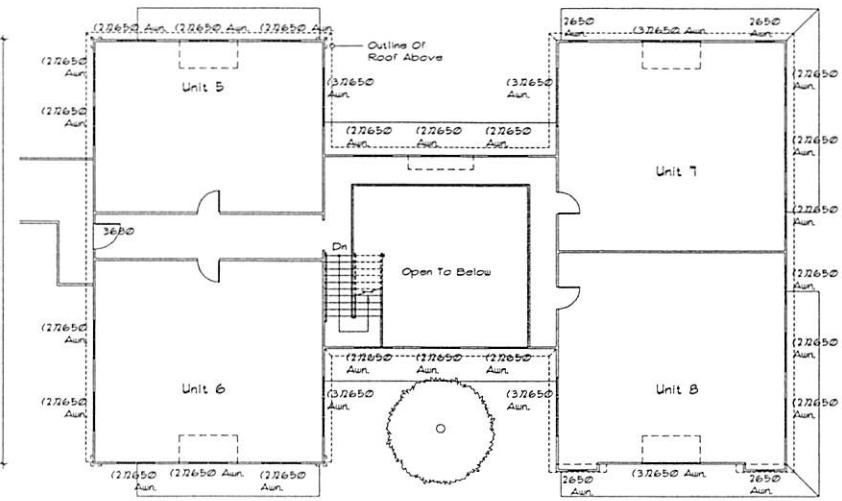
A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: August 29, 2012
Scale:
Drawn: RN
Job: Paia 2020
Sheet:
A4

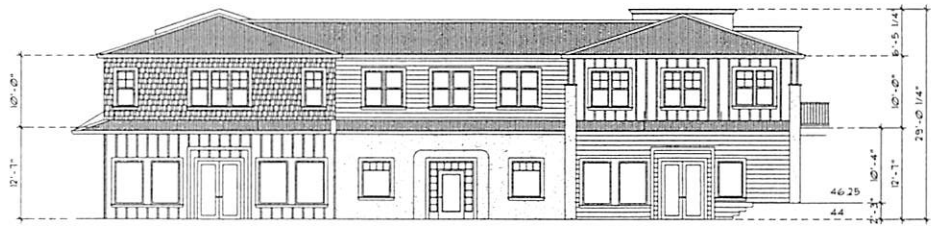


1 Lower Floor Plan - Building '2'
Scale: 1/8" = 1'-0"

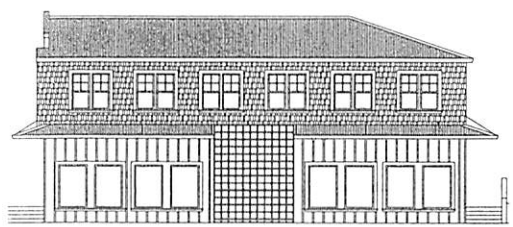


2 Upper Floor Plan - Building '2'
Scale: 1/8" = 1'-0"

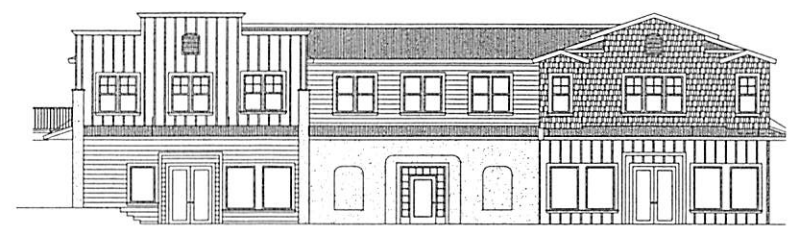
3 South Elevation
Scale: 1/8" = 1'-0"



4 West Elevation (Facing Mall)
Scale: 1/8" = 1'-0"



5 North Elevation
Scale: 1/8" = 1'-0"



6 East Elevation (Facing Baldwin Ave.)
Scale: 1/8" = 1'-0"

PRELIMINARY

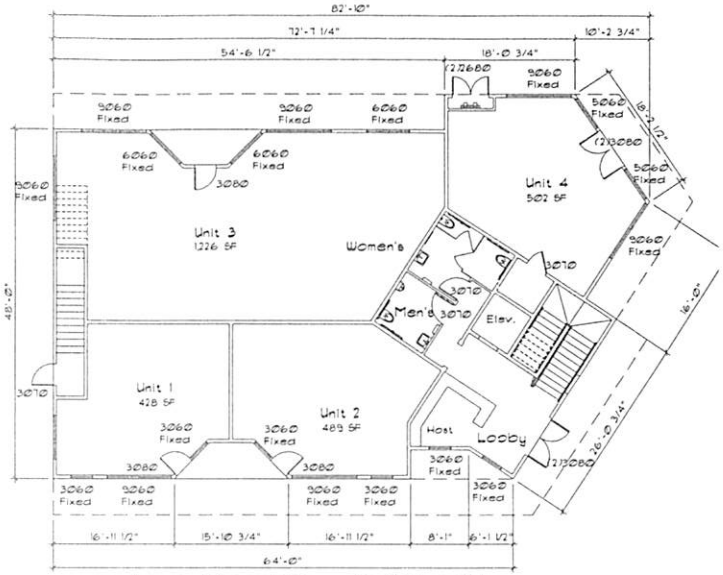
Revisions
△
△
△
△

Building '2'

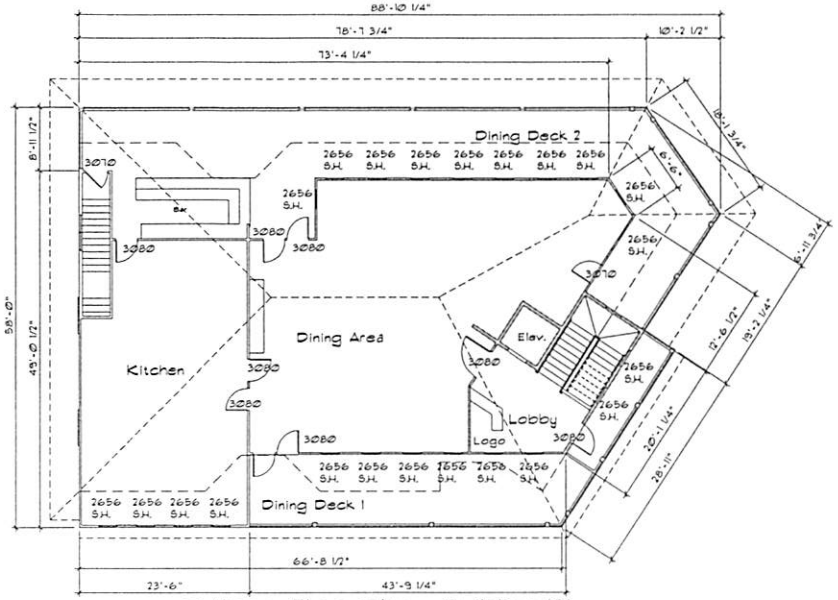
A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: August 29, 2012
Scale:
Drawn: RN
Job: Paia 2020
Sheet:
A5



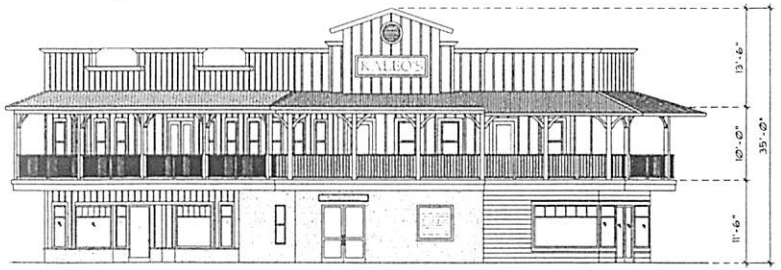
1 Lower Floor Plan - Building '3'
Scale: 1/8" = 1'-0"



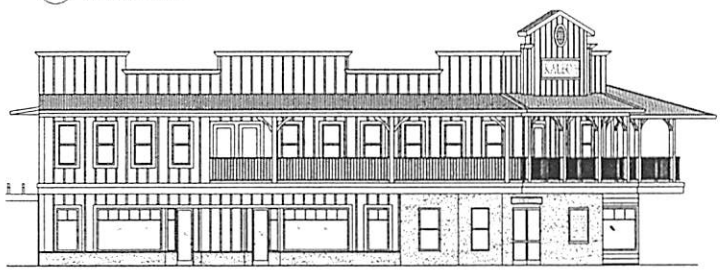
2 Upper Floor Plan - Building '3'
Scale: 1/8" = 1'-0"

3 South Elevation
Scale: 1/8" = 1'-0"

4 West Elevation (Facing Mall)
Scale: 1/8" = 1'-0"



5 North Elevation
Scale: 1/8" = 1'-0"



6 East Elevation (Facing Baldwin Ave.)
Scale: 1/8" = 1'-0"

PRELIMINARY

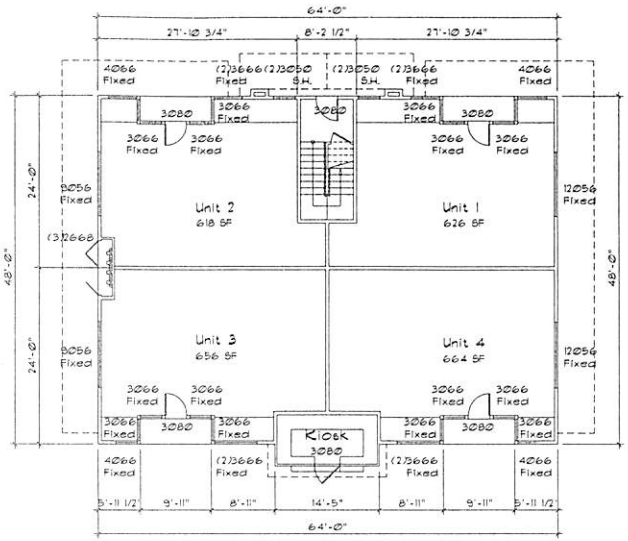
Revisions
2 5/13/13
1 10/4/12

Building '3'

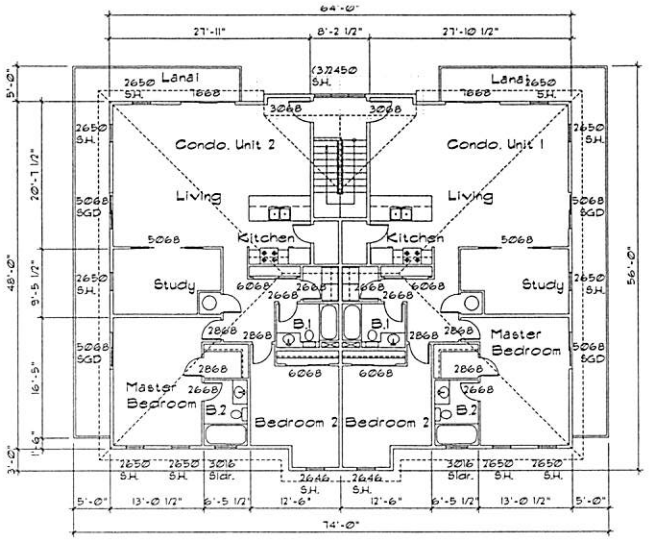
A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: August 29, 2012
Scale:
Drawn: RN
Job: Pala 2020
Sheet: A6

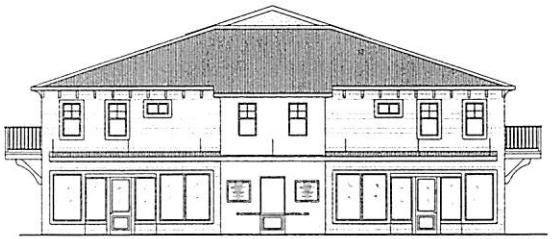


1 Lower Floor Plan - Building '4'
Scale: 1/8" = 1'-Ø"

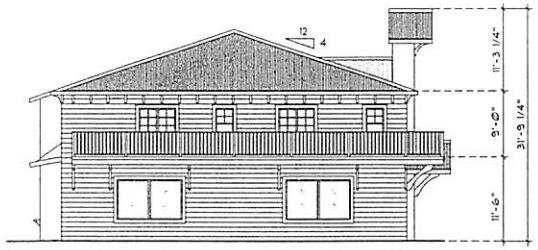


2 Upper Floor Plan - Building '4'
Scale: 1/8" = 1'-Ø"

3 South Elevation
Scale: 1/8" = 1'-Ø"



4 West Elevation (Facing Mall)
Scale: 1/8" = 1'-Ø"



5 North Elevation
Scale: 1/8" = 1'-Ø"

6 East Elevation (Facing Parking Lot)
Scale: 1/8" = 1'-Ø"

PRELIMINARY

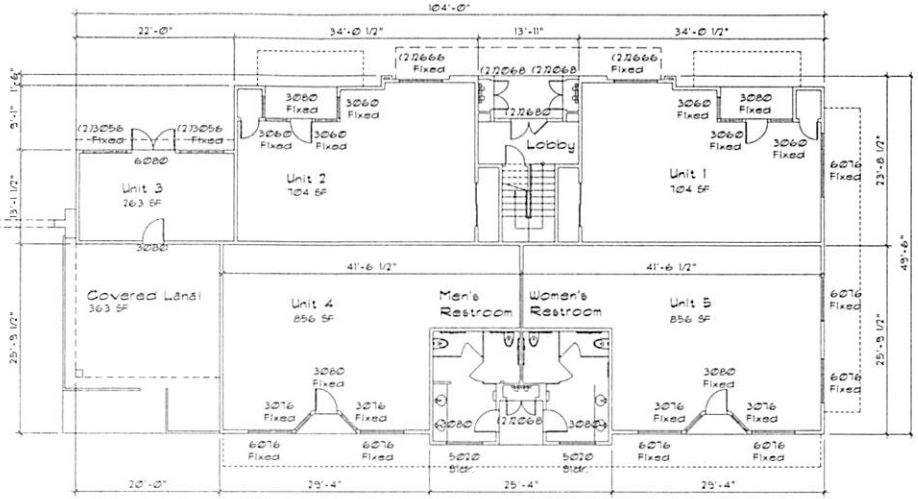
Revisions
12/4/12
10/4/12

Building '4'

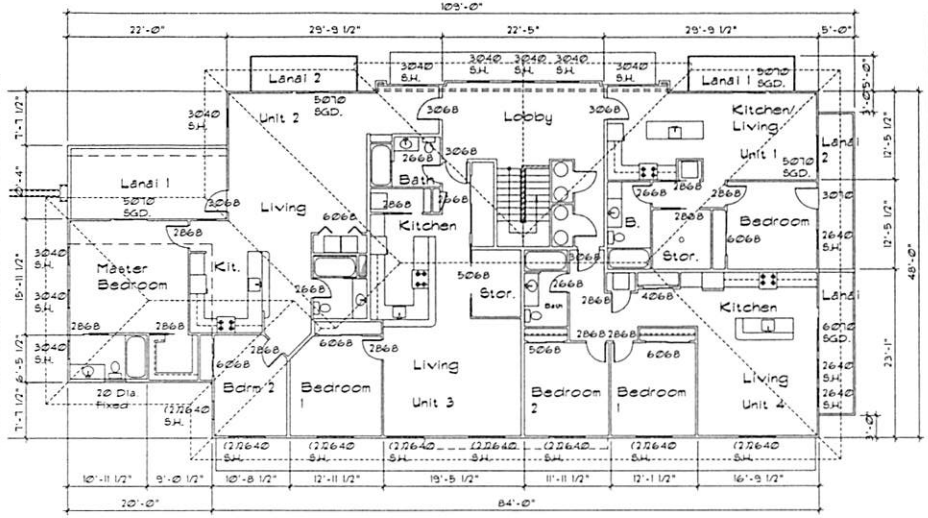
A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

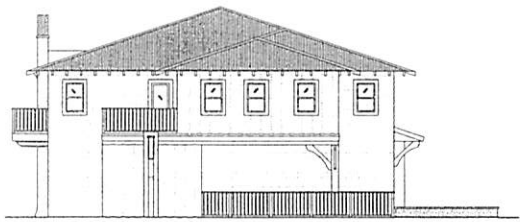
Date: August 29, 2012
Scale:
Drawn: RN
Job: Pala 2020
Sheet: A1



1 Lower Floor Plan - Building '5'
Scale: 1/8" = 1'-0"

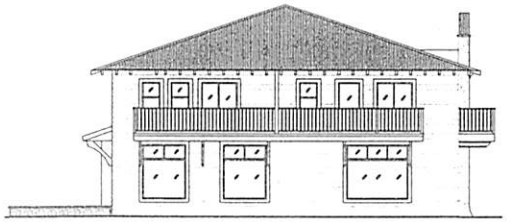


2 Upper Floor Plan - Building '5'
Scale: 1/8" = 1'-0"

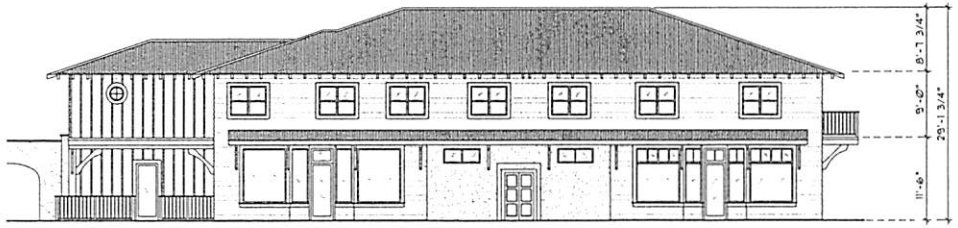


3 South Elevation
Scale: 1/8" = 1'-0"

4 West Elevation (Facing Parking Lot)
Scale: 1/8" = 1'-0"



5 North Elevation
Scale: 1/8" = 1'-0"



6 East Elevation (Facing Mall)
Scale: 1/8" = 1'-0"

PRELIMINARY

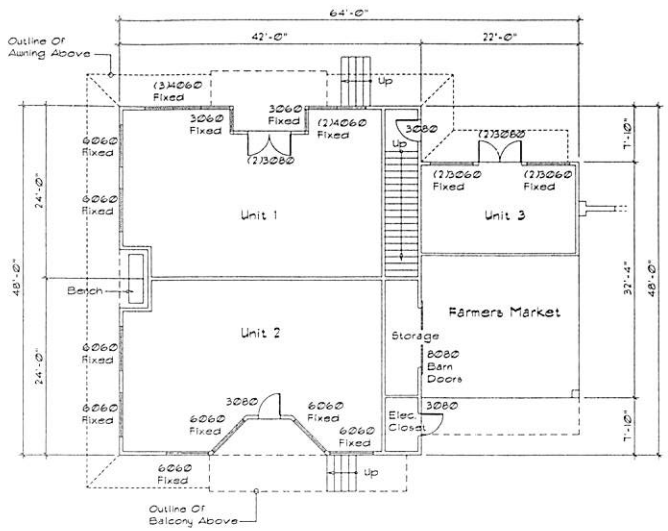
Revisions
1 12/4/12
2 10/4/12

Building '5'

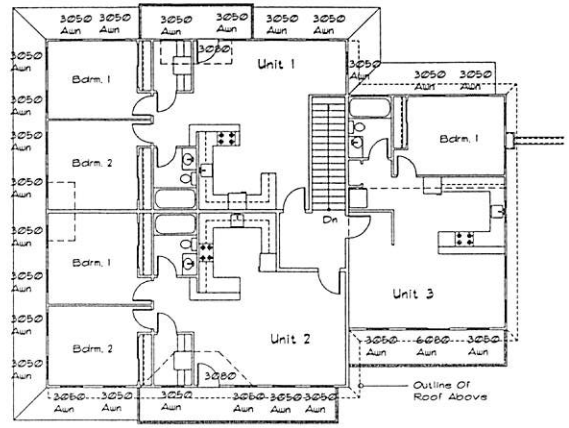
A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

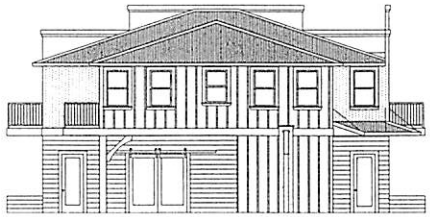
Date: August 29, 2012
Scale:
Drawn: RN
Job: Paia 2020
Sheet: A8



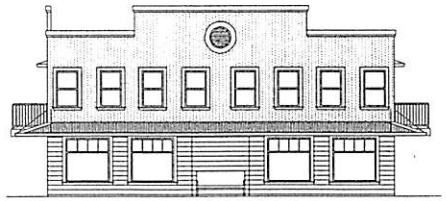
1 Lower Floor Plan - Building '6'
Scale: 1/8" = 1'-0"



2 Upper Floor Plan - Building '6'
Scale: 1/8" = 1'-0"

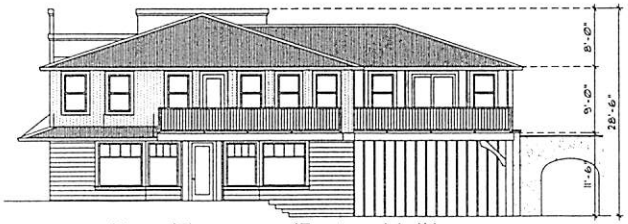


3 North Elevation
Scale: 1/8" = 1'-0"



4 South Elevation
Scale: 1/8" = 1'-0"

5 West Elevation (Facing Parking Lot)
Scale: 1/8" = 1'-0"



6 East Elevation (Facing Mall)
Scale: 1/8" = 1'-0"

PRELIMINARY

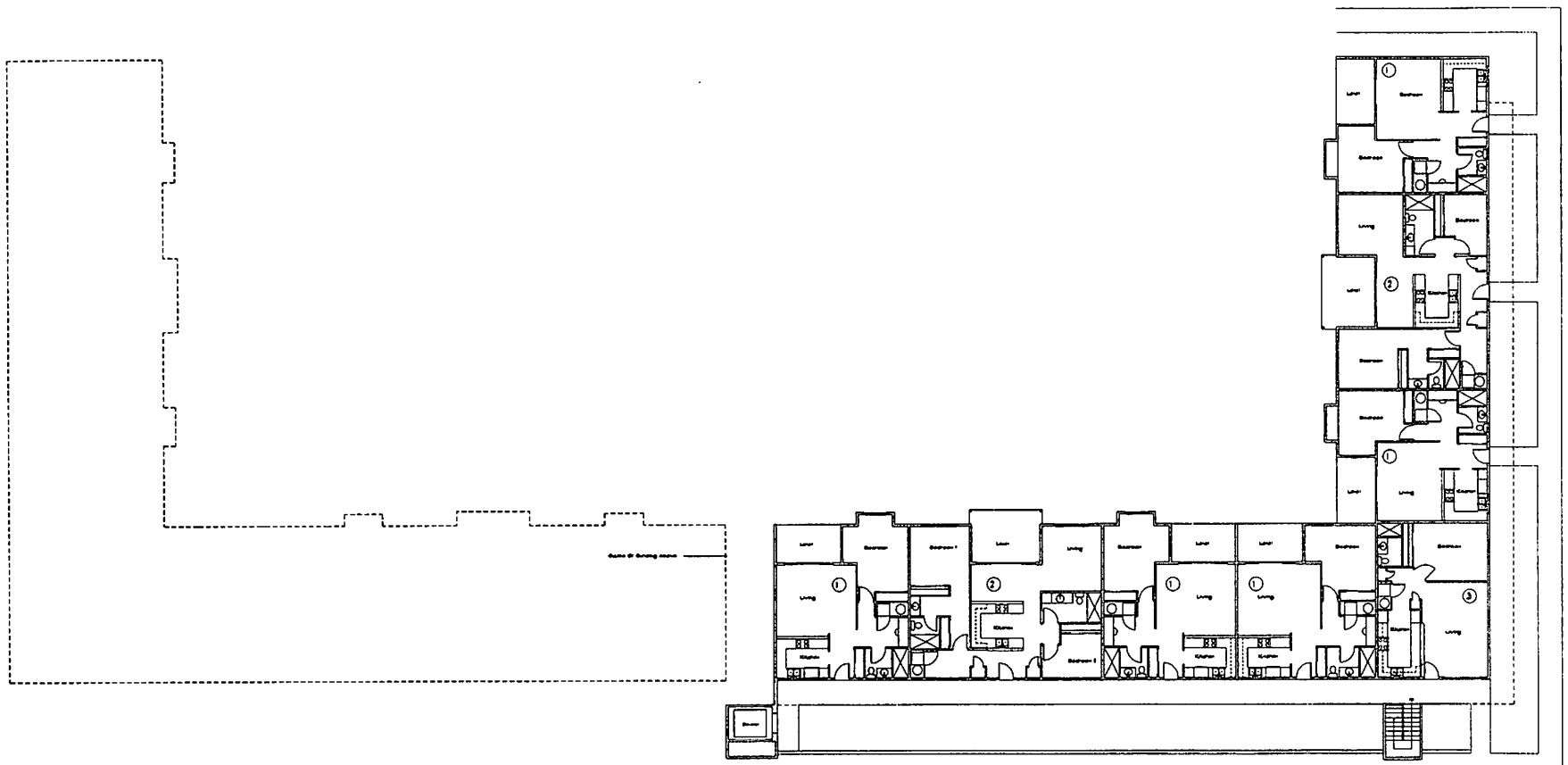
Revisions

HUNTON CONRAD & ASSOCIATES INC

Building '6'

A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

Date: August 29, 2012
Scale:
Drawn: RN
Job: Paia 2020
Sheet:
A9



Makai Wing - First Floor

Overall Area Calculations

Living	7,127 Sq. Ft.
Lanais	864 Sq. Ft.
Total:	7,991 Sq. Ft.

Legend

1. Unit Type '1'
2. Unit Type '2'
3. Unit Type '3'

Note:
Refer To Sheet A6 For Dimensions

Area Calculations For Individual Units

Unit Type '1'

Living	806 Sq. Ft.
Lanai	110 Sq. Ft.
Total:	916 Sq. Ft.

Unit Type '2'

Living	1188 Sq. Ft.
Lanai	137 Sq. Ft.
Total:	1,325 Sq. Ft.

Unit Type '3'

Living	766 Sq. Ft.

1 Floor Plan - Building 'A'
Scale: 3/32" = 1'-0"

PRELIMINARY

Revisions
△
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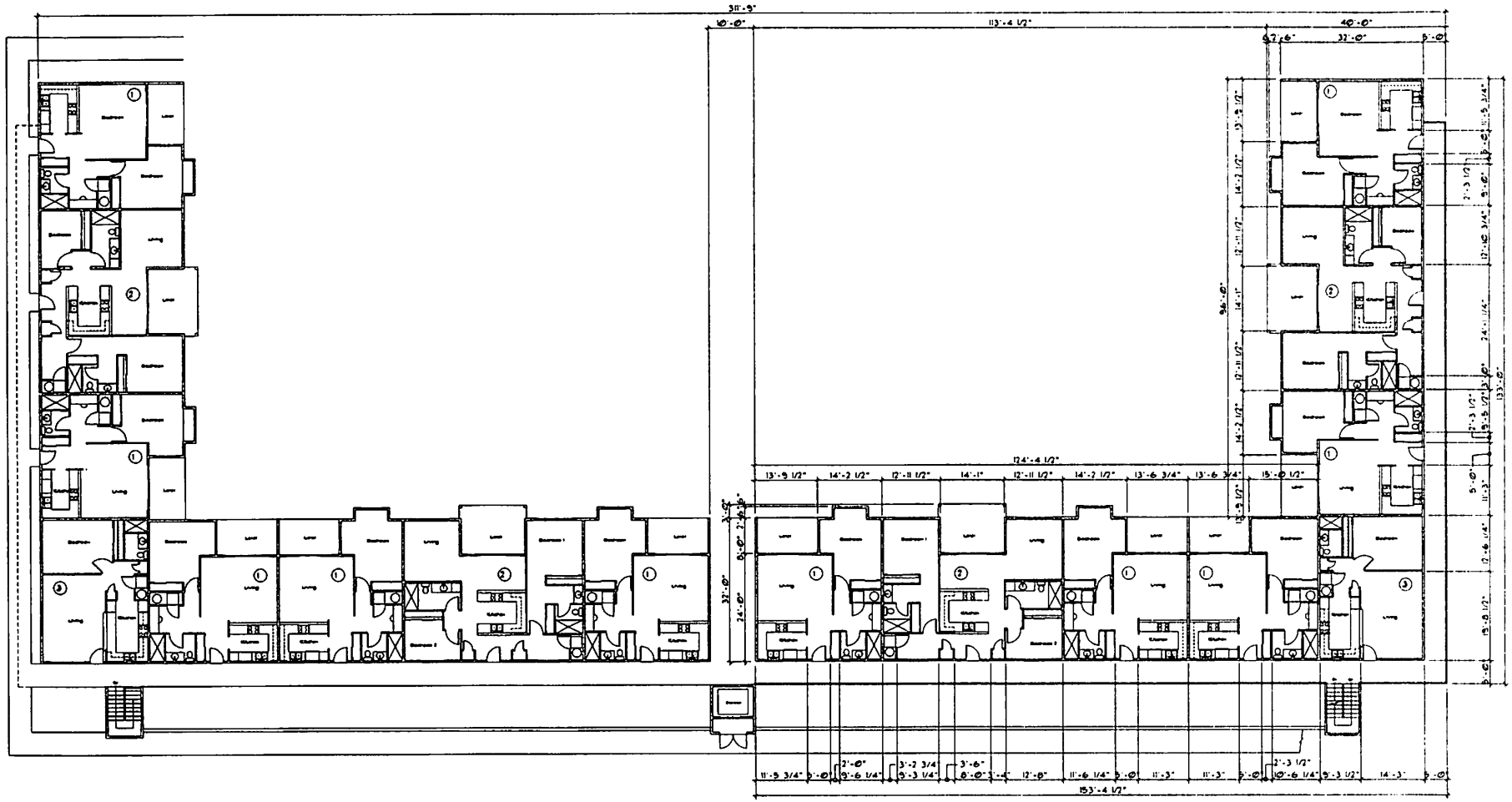
HUNTON CONRAD & ASSOCIATES INC

Building 'A'

Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

Date: June, 2012
Scale: 3/32" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:
A10



Mauka Wing - First Floor

Overall Area Calculations

Living	7,127 Sq. Ft.
Lanais	864 Sq. Ft.
Total:	7,991 Sq. Ft.

Makai Wing - Second Floor

Overall Area Calculations

Living	7,127 Sq. Ft.
Lanais	864 Sq. Ft.
Total:	7,991 Sq. Ft.

(1) Floor Plan - Building 'A'

Scale: 3/32" = 1'-0"

Legend

(1) Unit Type '1'

(2) Unit Type '2'

(3) Unit Type '3'

Note:
Refer To Sheet A6 For Dimensions

Area Calculations For Individual Units

Unit Type '1'	
Living	806 Sq. Ft.
Lanai	110 Sq. Ft.
Total:	916 Sq. Ft.
Unit Type '2'	
Living	1188 Sq. Ft.
Lanai	137 Sq. Ft.
Total:	1,325 Sq. Ft.
Unit Type '3'	
Living	766 Sq. Ft.

PRELIMINARY

Revisions

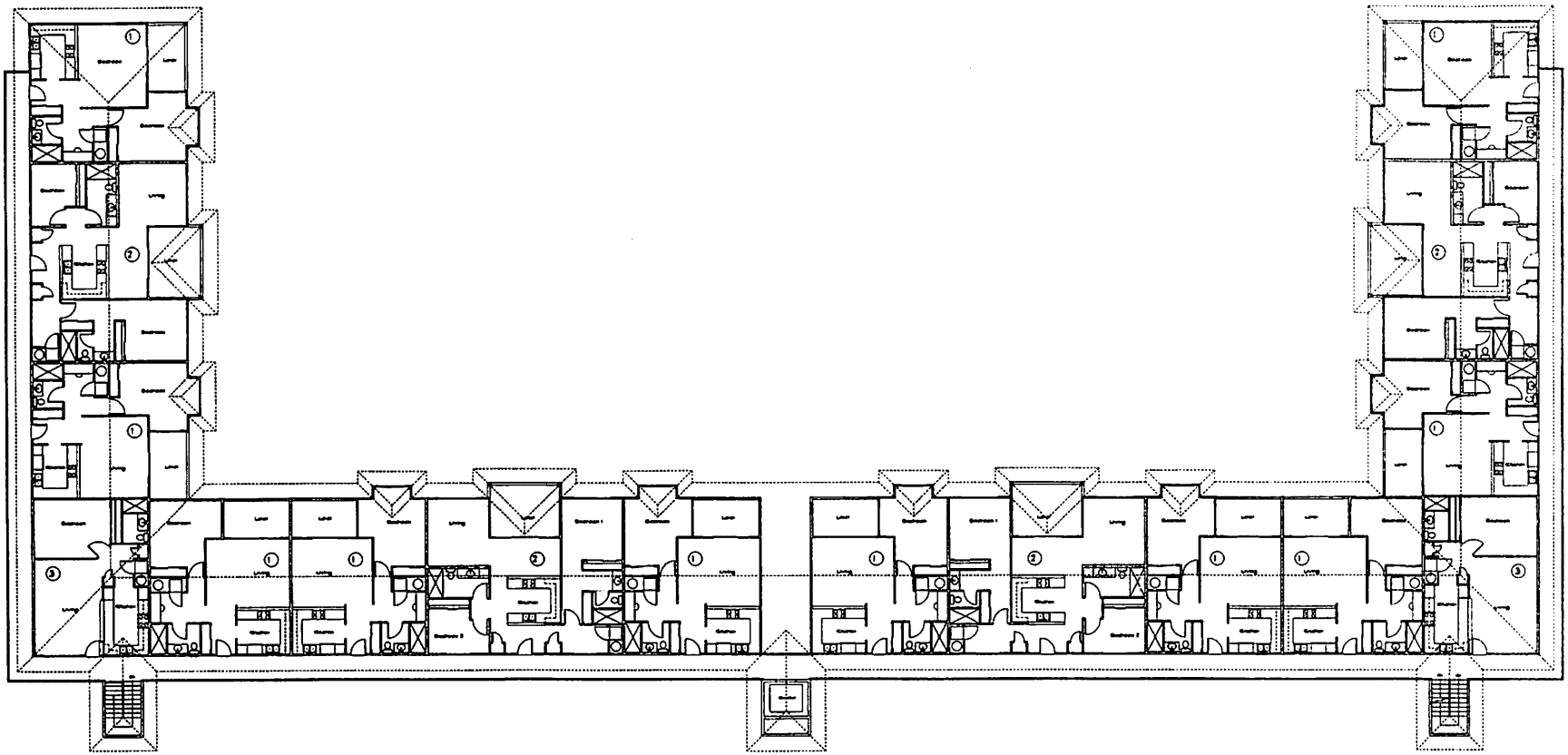
Building 'A'

Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: June, 2012
Scale: 3/32" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:

A11



Mauka Wing - Second Floor

Overall Area Calculations

Living	7,127 Sq. Ft.
Lanais	864 Sq. Ft.
Total:	7,991 Sq. Ft.

Makai Wing - Third Floor

Overall Area Calculations

Living	7,127 Sq. Ft.
Lanais	864 Sq. Ft.
Total:	7,991 Sq. Ft.

Legend

(1) Unit Type '1'

(2) Unit Type '2'

(3) Unit Type '3'

Note:
Refer To Sheet A6 For Dimensions

Area Calculations For Individual Units

Unit Type '1'

Living	806 Sq. Ft.
Lanai	110 Sq. Ft.
Total:	916 Sq. Ft.

Unit Type '2'

Living	1,188 Sq. Ft.
Lanai	137 Sq. Ft.
Total:	1,325 Sq. Ft.

Unit Type '3'

Living	766 Sq. Ft.

(1) Floor Plan - Building 'A'
Scale: 3/32" = 1'-0"

PRELIMINARY

Revisions
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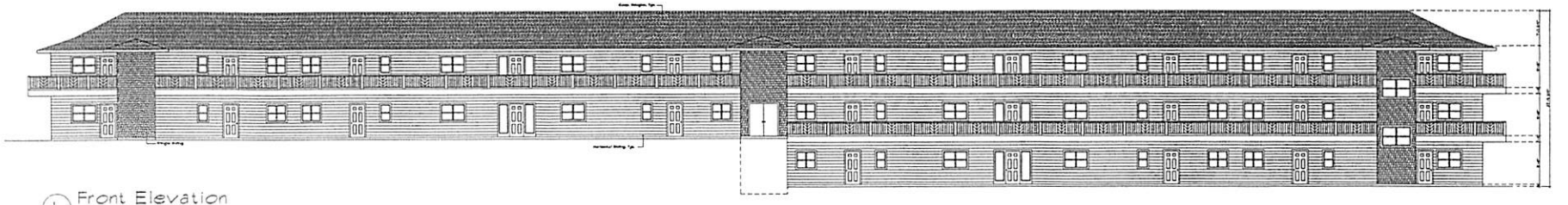
Building 'A'

Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

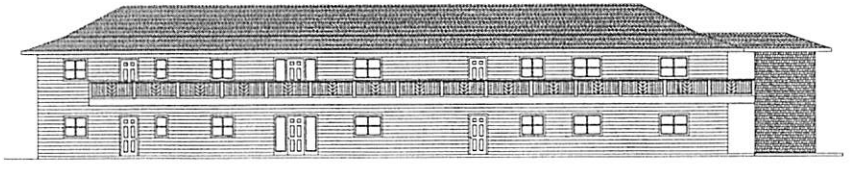
Date: June, 2012
Scale: 3/32" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:

A12



1 Front Elevation
Scale: 3/32" = 1'-0"

2 Rear Elevation
Scale: 3/32" = 1'-0"



3 Left Elevation
Scale: 3/32" = 1'-0"

4 Right Elevation
Scale: 3/32" = 1'-0"

PRELIMINARY

Revisions
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Building 'A' Exterior Elevations

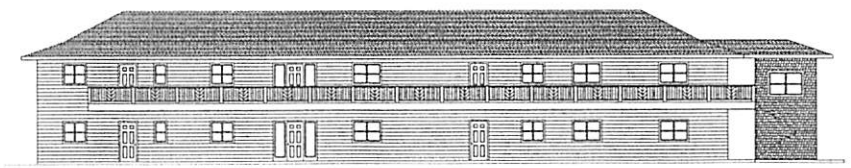
Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: June, 2012
Scale: 3/32" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:
A13

1 Front Elevation
Scale: 3/32" = 1'-0"

2 Rear Elevation
Scale: 3/32" = 1'-0"



3 Left Elevation
Scale: 3/32" = 1'-0"

4 Right Elevation
Scale: 3/32" = 1'-0"

1 Alternate Exterior Elevations
Scale: 3/32" = 1'-0"

PRELIMINARY

Revisions
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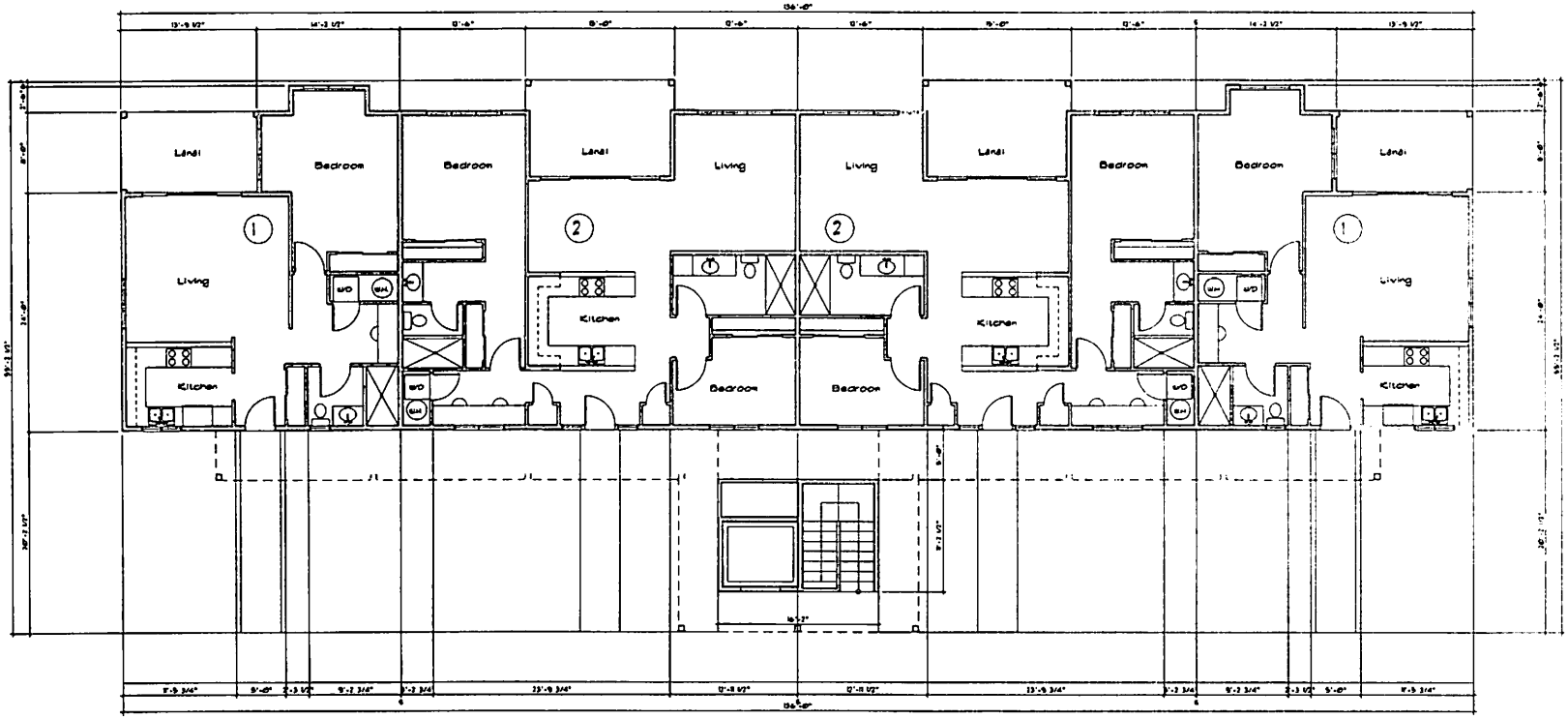
Building "A" - Alternate Exterior Elevations

Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: June, 2012
Scale: 3/32" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:
A13.1



1 Lower Floor Plan - Building 'C' & 'D'
Scale: 1/4" = 1'-0"

Overall Area Calculations

Living	3,988 Sq. Ft.
Lanais	494 Sq. Ft.
Total:	4,482 Sq. Ft.

Legend

1 Unit Type '1'

2 Unit Type '2'

Area Calculations For Individual Units

Unit Type '1'

Living	806 Sq. Ft.
Lanai	110 Sq. Ft.
Total:	916 Sq. Ft.

Unit Type '2'

Living	1188 Sq. Ft.
Lanai	137 Sq. Ft.
Total:	1325 Sq. Ft.

PRELIMINARY

Revisions
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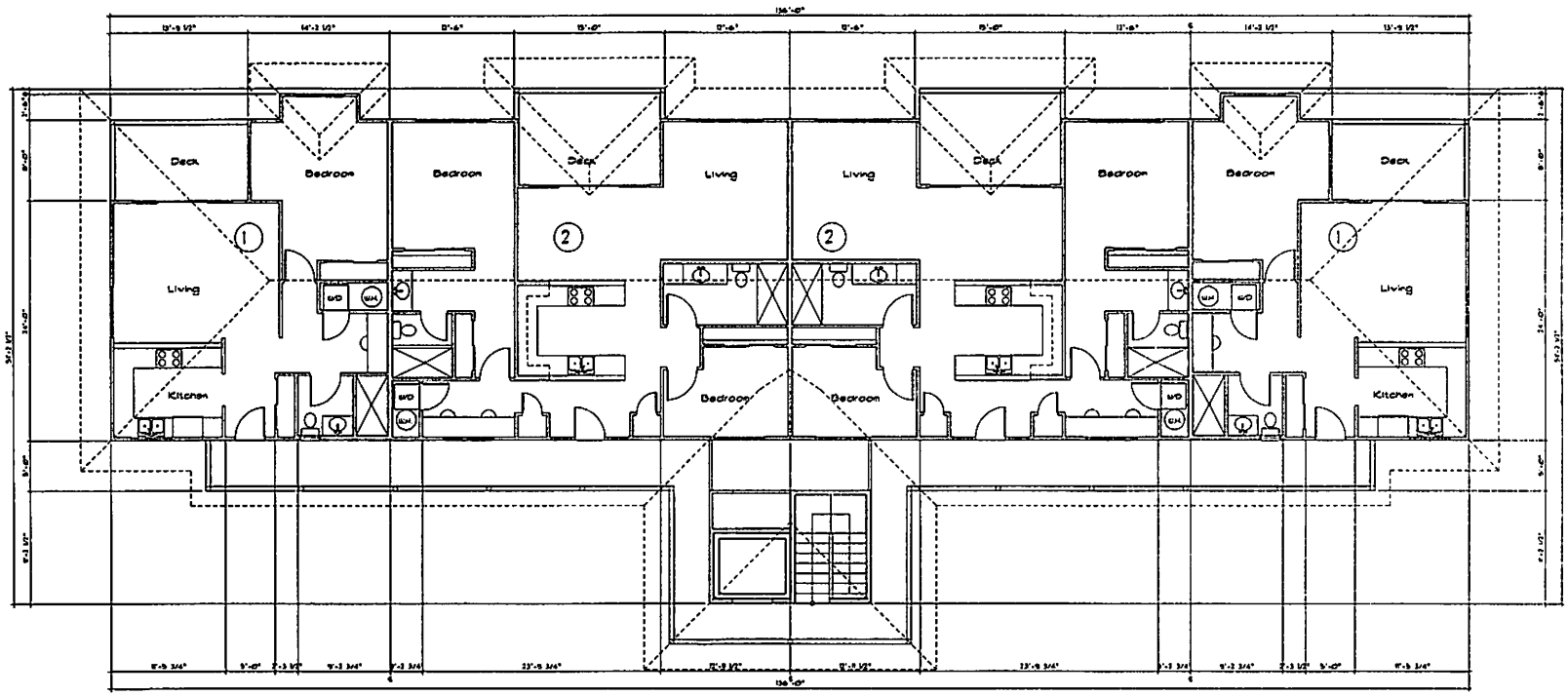
Proposed Senior Housing For
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

Building C & D

HUNTON CONRAD & ASSOCIATES INC

Date: June, 2012
Scale: 1/4" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:
A1.4



(1) Upper Floor Plan - Building 'C' & 'D'

Scale: 1/4" = 1'-0"

Overall Area Calculations

Living	3,988 Sq. Ft.
Lanais	1,235 Sq. Ft.
Total:	5,233 Sq. Ft.

Legend

(1) Unit Type '1'

(2) Unit Type '2'

Area Calculations For Individual Units

Unit Type '1'	
Living	806 Sq. Ft.
Lanai	110 Sq. Ft.
Total:	916 Sq. Ft.
Unit Type '2'	
Living	1,188 Sq. Ft.
Lanai	137 Sq. Ft.
Total:	1,325 Sq. Ft.

PRELIMINARY

Revisions

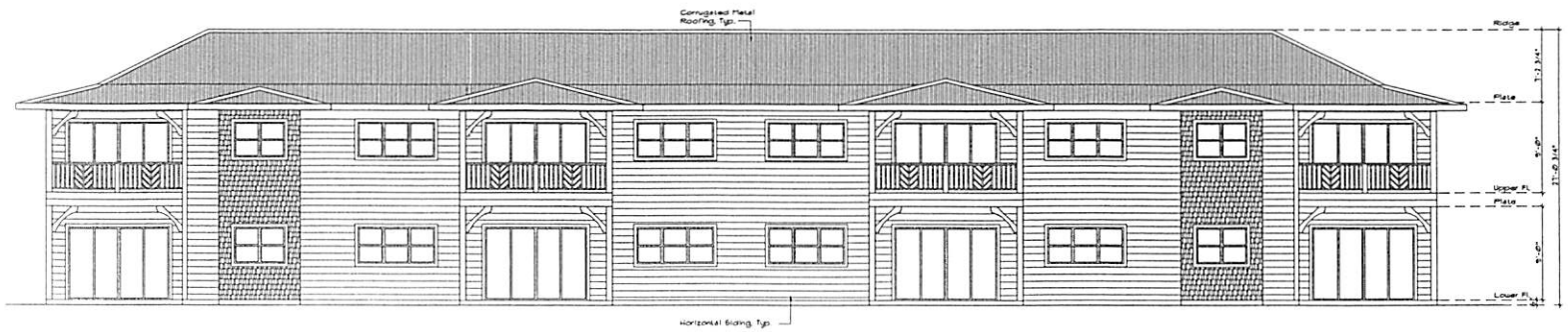
Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

Building 'C' & 'D'

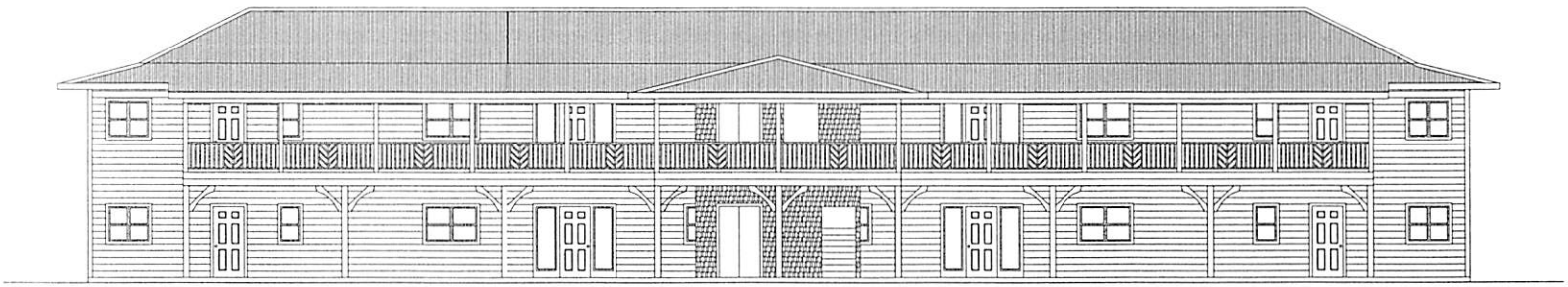
HUNTON CONRAD & ASSOCIATES INC

Date: June, 2012
Scale: 1/4" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:

A15

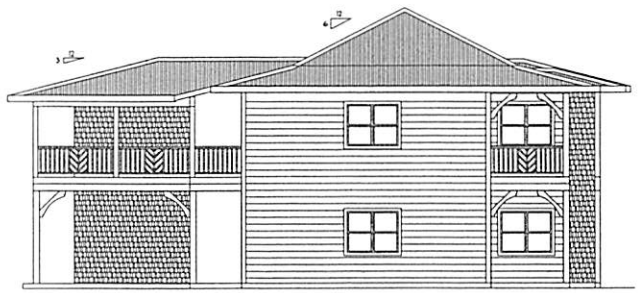


1 Rear Elevation
Scale: 1/4" = 1'-0"



2 Front Elevation
Scale: 1/4" = 1'-0"

3 Left Elevation
Scale: 1/4" = 1'-0"



4 Right Elevation
Scale: 1/4" = 1'-0"

PRELIMINARY

Revisions
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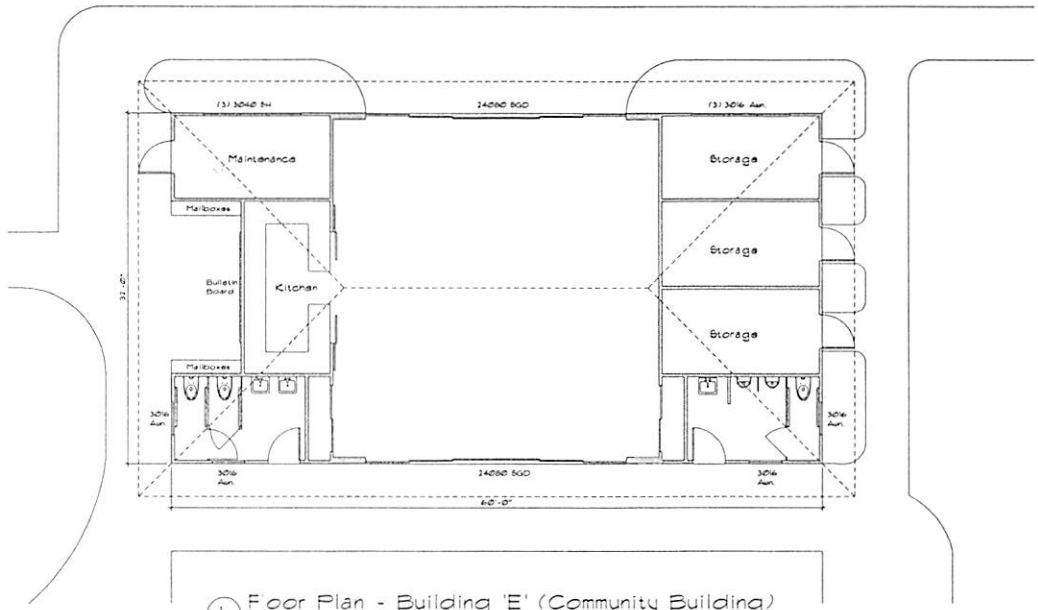
HUNTON CONRAD & ASSOCIATES INC

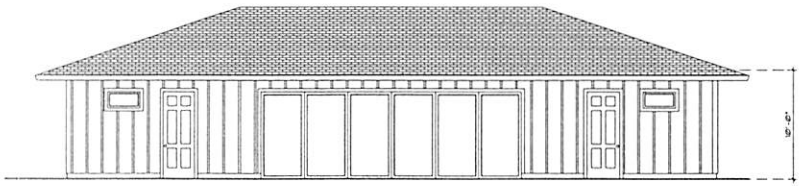
Exterior Elevations

Proposed Senior Housing For:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

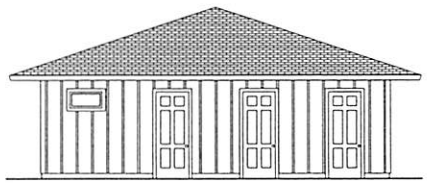
Date: June, 2012
Scale: 1/4" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet:
A16



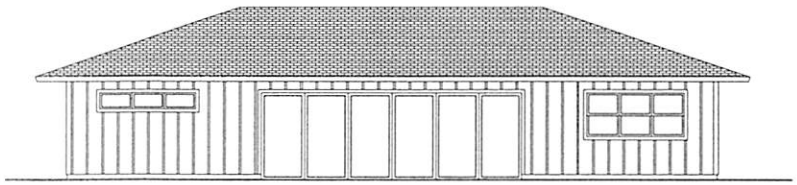
1 Floor Plan - Building 'E' (Community Building)
Scale: 3/16" = 1'-0"



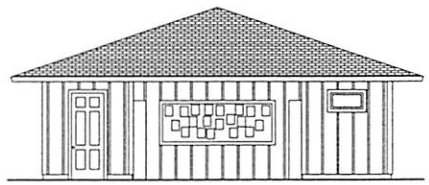
2 West Elevation
Scale: 3/16" = 1'-0"



3 North Elevation
Scale: 3/16" = 1'-0"



4 West Elevation
Scale: 3/16" = 1'-0"



5 South Elevation
Scale: 3/16" = 1'-0"

PRELIMINARY

Revisions
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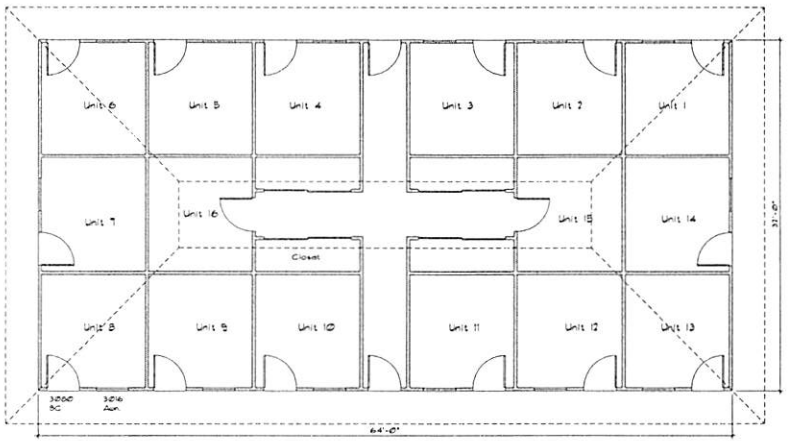
HUNTON CONRAD & ASSOCIATES INC

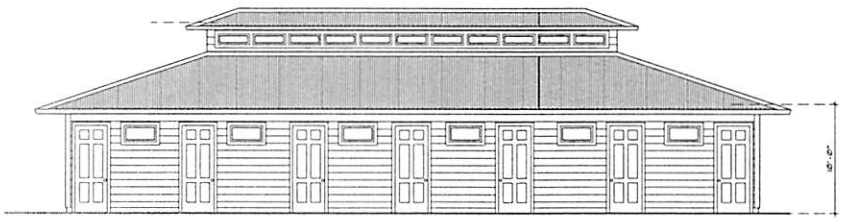
Community Building

A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

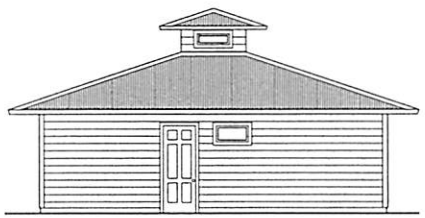
Date: August 29, 2012
Scale:
Drawn: RN
Job: Pala 2020
Sheet:
A1.7



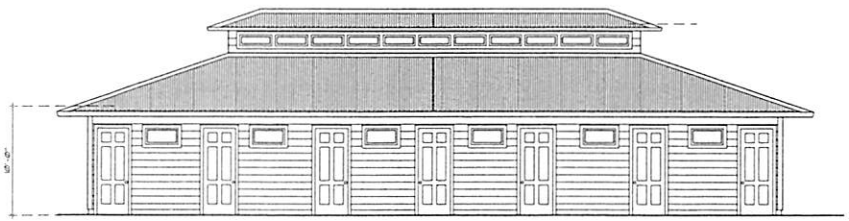
1 Floor Plan - Building 'F' (Storage Building)
Scale: 3/16" = 1'-0"



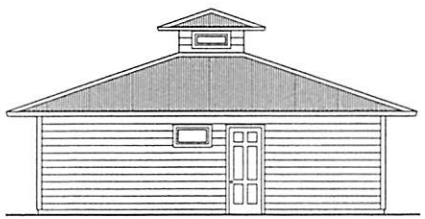
2 North Elevation
Scale: 3/16" = 1'-0"



3 North Elevation
Scale: 3/16" = 1'-0"



4 West Elevation
Scale: 3/16" = 1'-0"



5 South Elevation
Scale: 3/16" = 1'-0"

PRELIMINARY

Revisions
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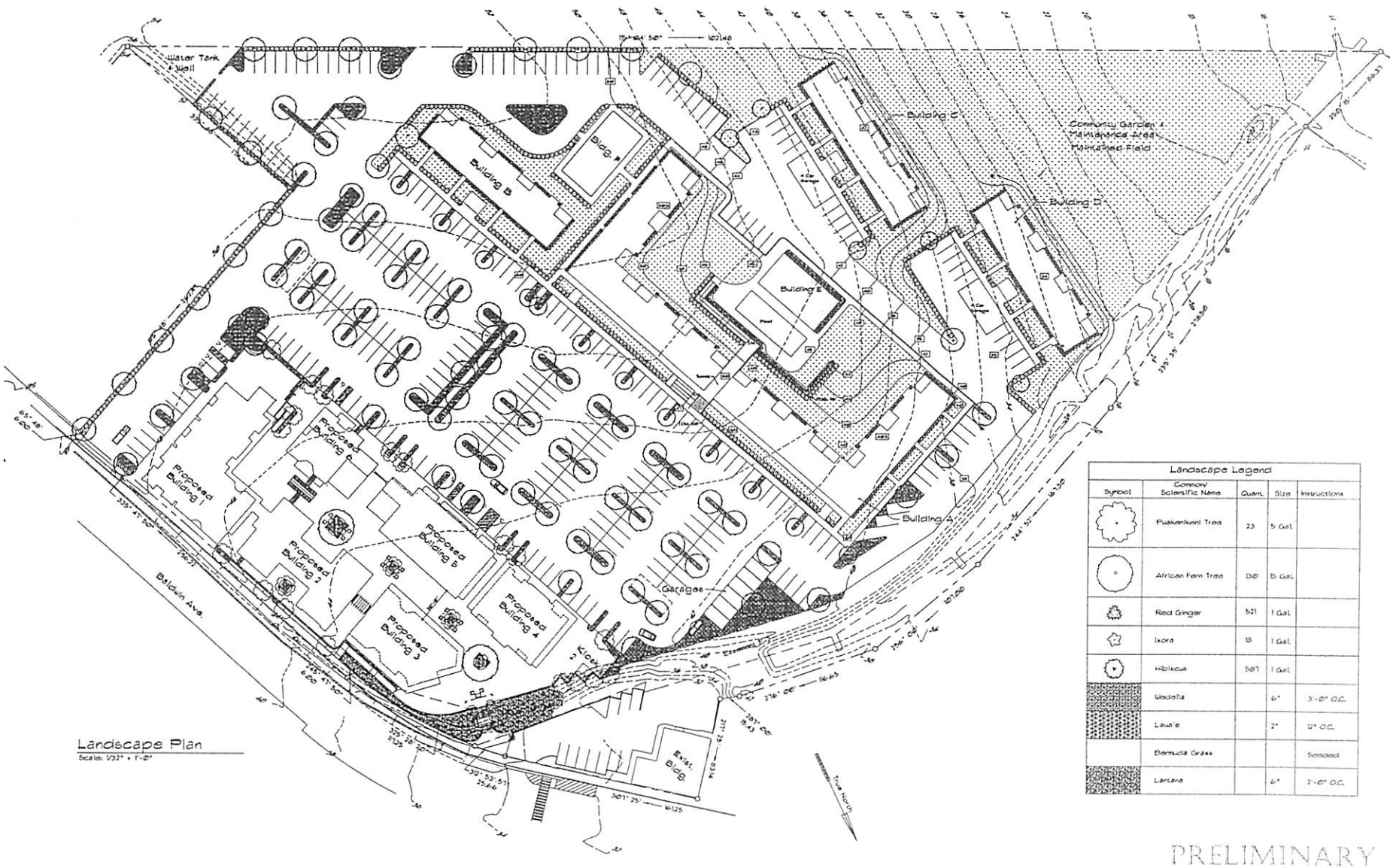
Building 'F'

A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii
TMK: (2)2-5-005:018 Lot A-1-A

HUNTON CONRAD & ASSOCIATES INC

Date: August 29, 2012
Scale:
Drawn: RN
Job: Pala 2020
Sheet:
A18



Landscape Plan
Scale: 1/32" = 1'-0"

Landscape Legend				
Symbol	Common/ Scientific Name	Quan.	Size	Instructions
	Pua Kenikeni Tree	23	5 Gal	
	African Fern Tree	130	15 Gal	
	Red Ginger	521	1 Gal	
	Ixora	18	1 Gal	
	Hibiscus	587	1 Gal	
	Wedelia		6"	3'-0" O.C.
	Lava'e		2"	12" O.C.
	Bermuda Grass			Seeded
	Lantana		6"	2'-0" O.C.

PRELIMINARY

Revisions
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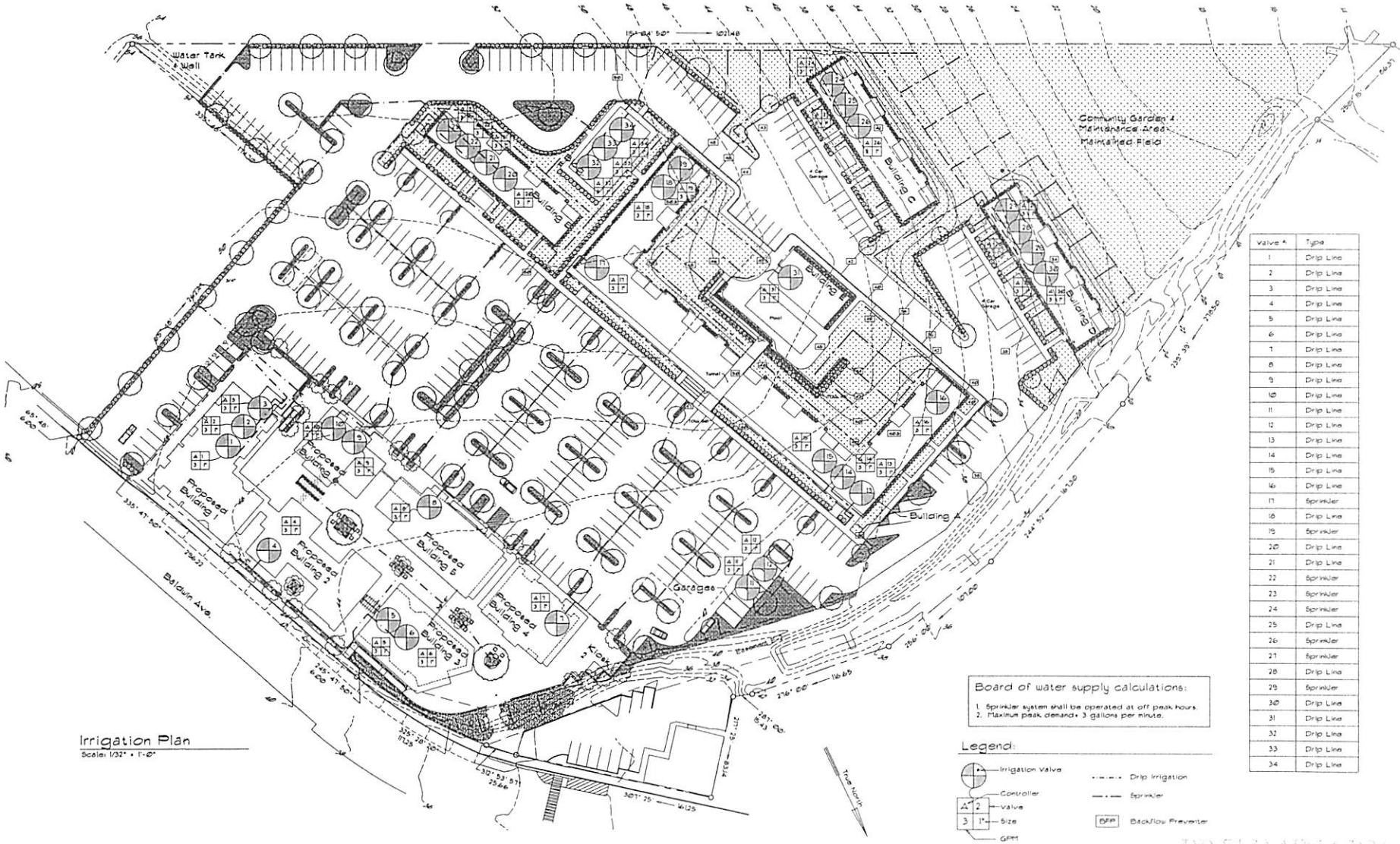
Landscape Plan

A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawai'i

HUNTON CONRAD & ASSOCIATES INC

Date: April 22, 2019
Scale: 1/32" = 1'-0"
Drawn: RN
Job: Pala 2020
Sheet:
L1



Valve #	Type
1	Drip Line
2	Drip Line
3	Drip Line
4	Drip Line
5	Drip Line
6	Drip Line
7	Drip Line
8	Drip Line
9	Drip Line
10	Drip Line
11	Drip Line
12	Drip Line
13	Drip Line
14	Drip Line
15	Drip Line
16	Drip Line
17	Sprinkler
18	Drip Line
19	Sprinkler
20	Drip Line
21	Drip Line
22	Sprinkler
23	Sprinkler
24	Sprinkler
25	Drip Line
26	Sprinkler
27	Sprinkler
28	Drip Line
29	Sprinkler
30	Drip Line
31	Drip Line
32	Drip Line
33	Drip Line
34	Drip Line

Irrigation Plan
Scale: 1/32" = 1'-0"

PRELIMINARY

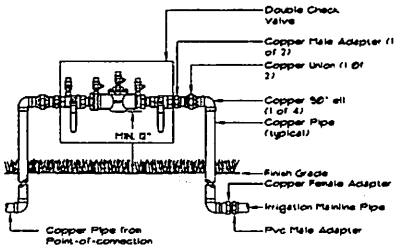
Revisions

A Project for:
Pala 2020 LLC
Baldwin Avenue, Pala, Hawaii

Irrigation Plan

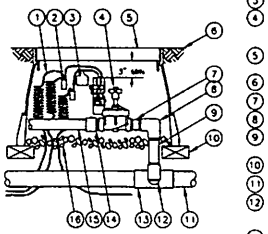
HUNTON CONRAD & ASSOCIATES INC

Date: April 22, 2011
Scale: 1/32" = 1'-0"
Drawn: RN
Job: Pala 2020
Sheet: L2



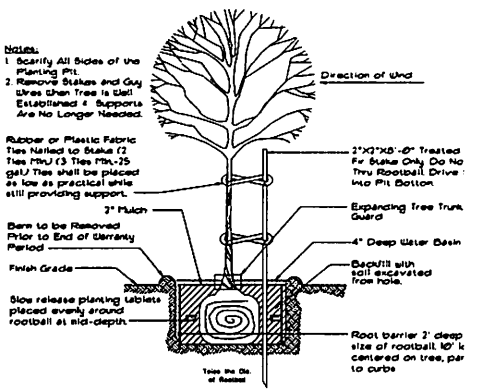
NOTE:
1. Install backflow preventer as required by local codes and health department. Verify local requirements prior to installation

Backflow Preventer
NTS

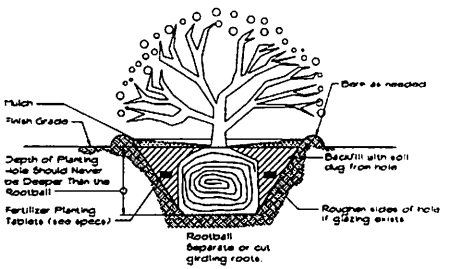


1. 30-INCH LINEAR LENGTH OF WIRE, COILED
2. WATERPROOF CONNECTION RAIN BIRD SPLICE-1 (1 OF 2)
3. ID TAG: RAIN BIRD VID SERIES
4. REMOTE CONTROL VALVE RAIN BIRD PESB-PRS-D WITH NP-HAN
5. VALVE BOX WITH COVER RAIN BIRD VB-STD
6. FINISH GRADE/TOP OF MULCH
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. BRICK (1 OF 4)
11. PVC MAINLINE PIPE
12. SCH 80 NIPPLE (2-INCH LENGTH, MIDDLE) AND SCH 40 ELL
13. PVC SCH 40 TEE OR ELL
14. PVC SCH 40 MALE ADAPTER
15. PVC LATERAL PIPE
16. 3.0-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL

Electric Remote-Control Valve, Peb or Bebs Series
NTS



Tree Planting Detail
NTS



Shrub Planting Detail
NTS

HUNTON CONRAD & ASSOCIATES INC

A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii

Irrigation Details

Revisions
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△

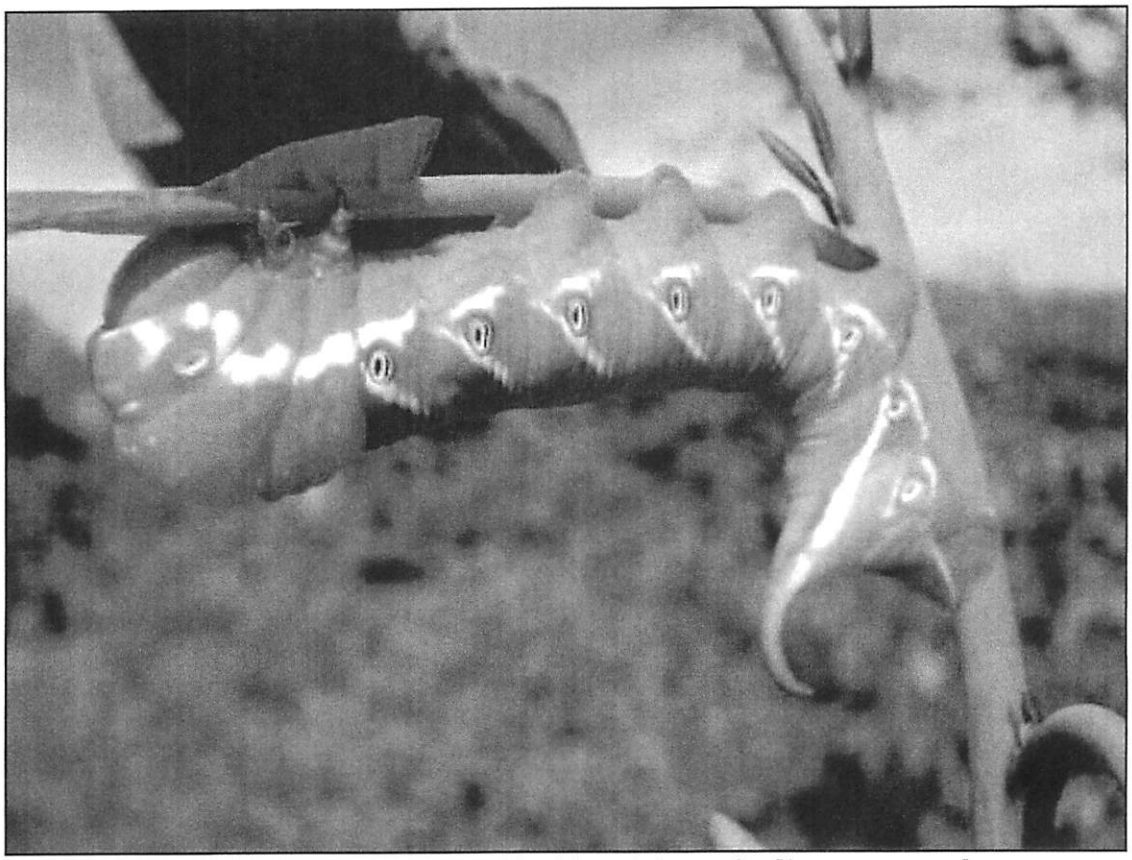
Date: April 22, 2011
Scale: 1/32" = 1'-0"
Drawn: RN
Job: Paia 2020
Sheet: L3

KALEO'S

Appendix H

BIOLOGICAL SURVEY

BIOLOGICAL SURVEY
FOR BLACKBURN'S SPHINX MOTH
(*MANDUCA BLACKBURNI*)
PAIA, MAUI



Blackburn's Sphinx Moth (*Manduca blackburni*) larva feeding on tree tobacco (*Nicotiana glauca*), Kanaha Beach, Maui.

Prepared for:
David R. Spee
Attorney at Law
Maui, Hawaii

Prepared by:
Forest Starr & Kim Starr
Biologists / Environmental Consultants
Starr Environmental
Maui, Hawaii

November 2013

INTRODUCTION

Planning is being done for potential development of a parcel in Paia, Maui. A survey of the parcel for the endangered Blackburn's Sphinx Moth (*Manduca blackburni*) was done to ensure impacts that could potentially occur at the site are minimized.

SITE DESCRIPTION

The site is an approximately nine acre parcel on the western margin of Paia town, TMK# 250050630000, bounded by Baldwin Avenue to the east, Paia Post Office to the south, Paia Mini-bypass road to the west, and residential housing to the north.

The bulk of the site was previously in sugar cane cultivation for many decades, was recently cut off from the main fields by the new Paia Mini-bypass road, and now sits idle. The site is predominantly an open field of grass mowed twice a year to keep the fire hazard down, and also contains a gravel parking lot and commercial office buildings.

Area Surveyed (TMK#250050630000) in Paia, Maui on November 16, 2013.

The vast majority of the site is mowed. These areas are dominated by Guinea grass (*Megathyrus maximus*) with interspersed haole koa (*Leucaena leucocephala*).

Along the northern margin of the property is a strip of vegetation that is not mowed. This strip contains a mix of non-native ornamental and edible plants, such as bougainvillea (*Bougainvillea* spp.) and night blooming cereus (*Hylocereus undatus*).

OBJECTIVES

The objective was to survey the project area for presence of tree tobacco (*Nicotiana glauca*) and other plants that may support Blackburn's Sphinx Moth (*Manduca blackburni*), and to look for presence or sign of Blackburn's Sphinx Moth.

METHODS

On November 16, 2013, two biologists (Forest Starr and Kim Starr) walked the parcel, looking for presence of tree tobacco (*Nicotiana glauca*) and other plants that may support Blackburn's Sphinx Moth (*Manduca blackburni*), such as species in the tomato family (Solanaceae), which are potential larval food, and species with flowers able to be utilized by adult moths, such as morning glory (*Ipomoea*).

RESULTS & DISCUSSION

With the exception of the common uhaloa (*Waltheria indica*), the parcel was composed of completely non-native vegetation, the bulk of which is mowed and less than a foot tall.

Very short Guinea grass (*Megathyrsus maximus*) dominates the vast majority of the parcel, and is interspersed with stubs of mowed down haole koa (*Leucaena leucocephala*). In areas of bare ground castor bean (*Ricinus communis*), non-native morning glories (*Ipomoea obscura* and *I. triloba*), and false mallow (*Malvastrum coromandelianum* subsp. *coromandelianum*) can be found.

A strip along the northern boundary of the parcel is not mowed and, along with the plants present in the open field, contains an array of non-native ornamental and edible plants, such as bougainvillea (*Bougainvillea* spp.), African tulip (*Spathodea campanulata*), night blooming cereus (*Hylocereus undatus*), and kalamungay (*Moringa oleifera*).

- No tree tobacco (*Nicotiana glauca*) plants or other potential larval host plants (Solanaceae) were found on the parcel.

- A few potential adult nectar plants were observed, including little bell (*Ipomoea triloba*), obscure morning glory (*Ipomoea obscura*), night blooming cereus (*Hylocereus undatus*), and Chinese violet (*Asystasia gangetica*). These are all common non-native plants found elsewhere in Paia and other areas of Hawaii.

It appears development of this parcel will have no to negligible impact on the endangered Blackburn's Sphinx Moth (*Manduca blackburni*).

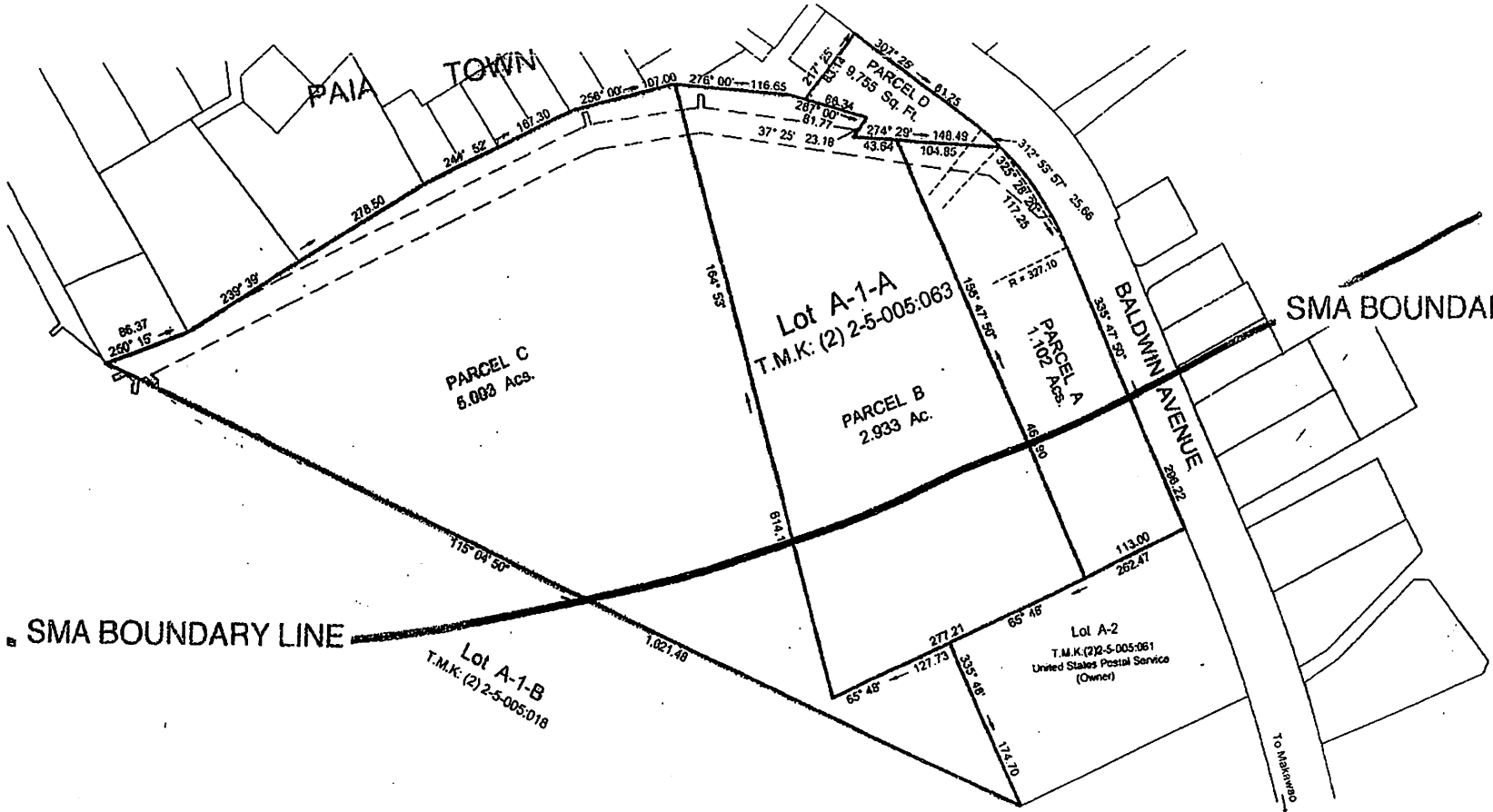


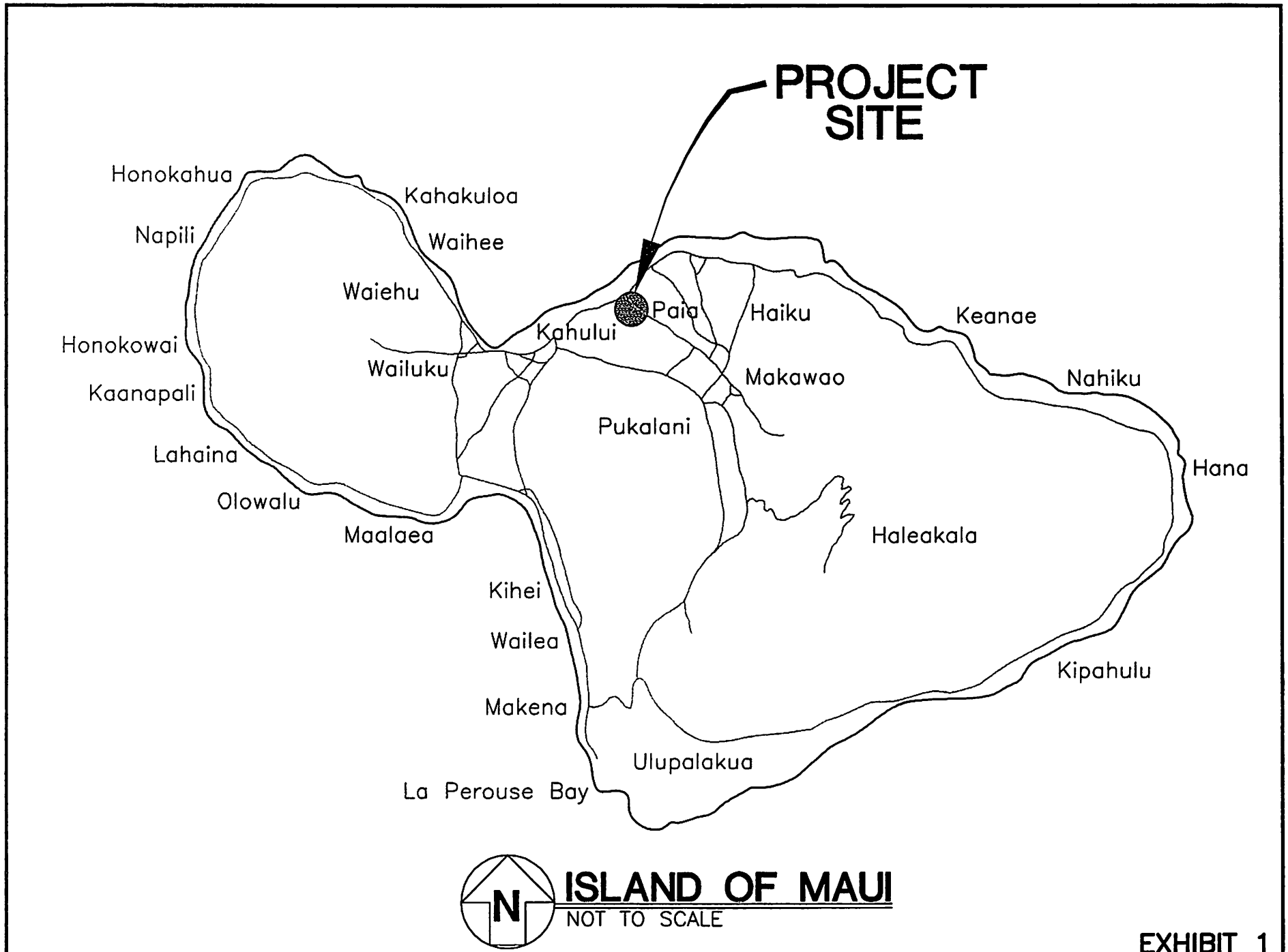
EXHIBIT "D"

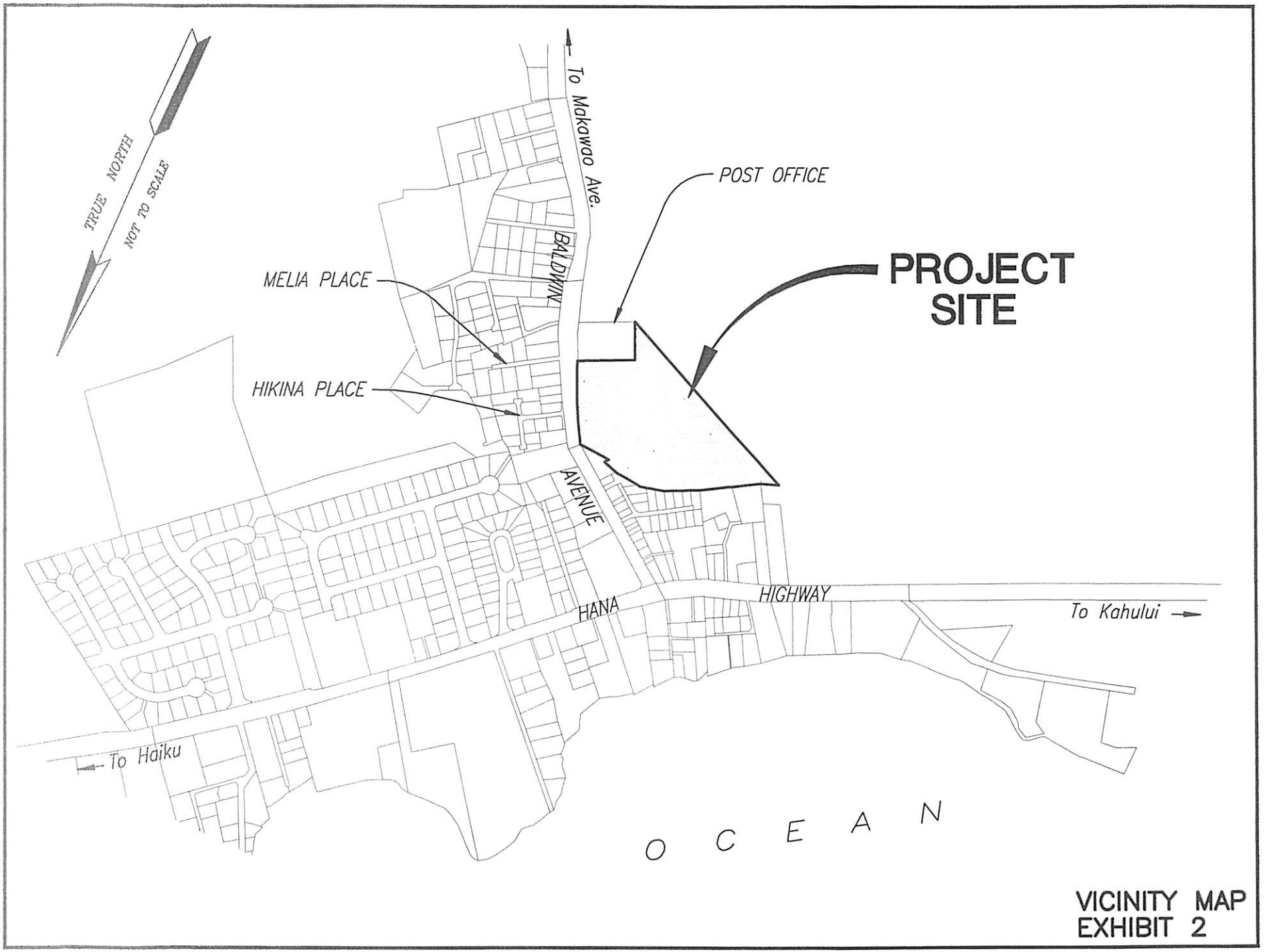
PROPOSED CHANGES TO LAND USE DESIGNATIONS

		EXISTING	PROPOSED
PARCEL A (1.102 Acs.)	State	Agricultural	Urban
	County	Interim	Country Town Business
	Community Plan	Business	Business/Multi-family
PARCEL B (2.933 Ac.)	State	Agricultural	Urban
	County	Interim	Country Town Business
	Community Plan	Public/Quasi Public	Business/Multi-family
PARCEL C (5.003 Acs.)	State	Agricultural	Urban
	County	Agricultural	Country Town Business
	Community Plan	Agricultural	Business/Multi-family
PARCEL D (9,755 Sq. Ft.)	State	Urban	Urban
	County	Country Town Business	Country Town Business
	Community Plan	Business	Business/Multi-family

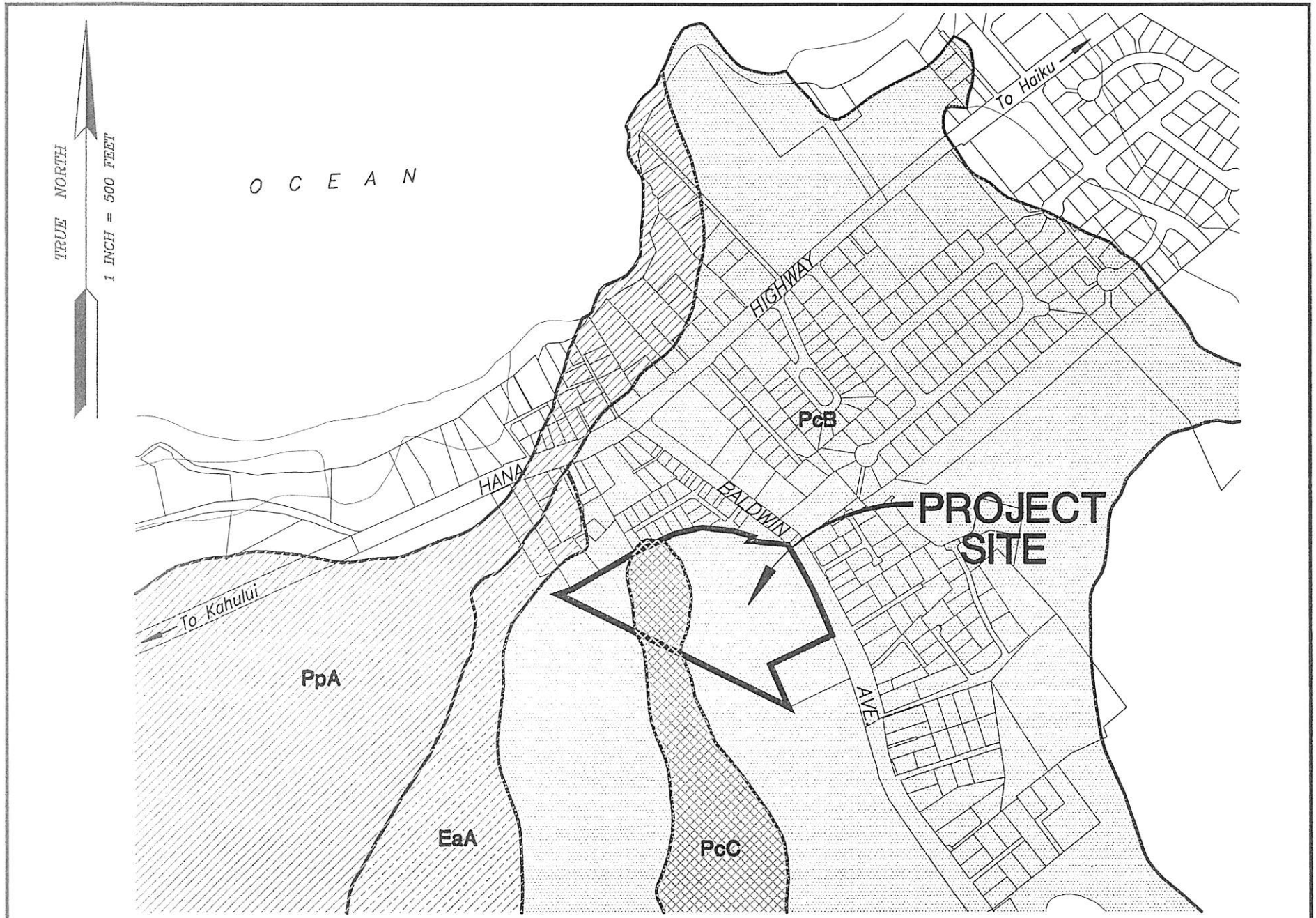
PAIA POST OFFICE SUBDIVISION

PAIA, MAKAWAO, MAUI, HAWAII

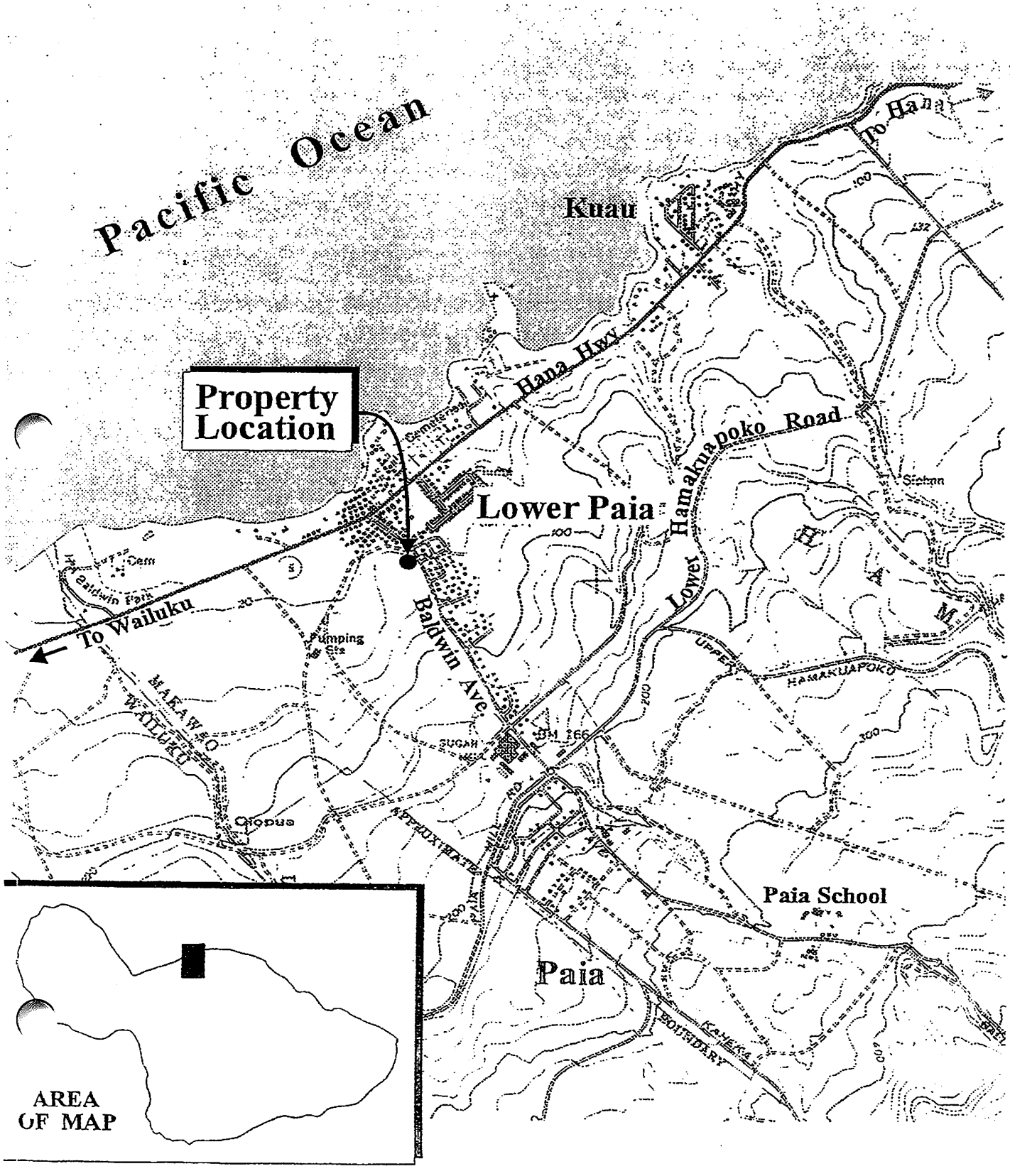

PROJECT SITE
Honokahua
Napili
Kahakuloa
Waihee
Waiehu
Honokowai
Kaanapali
Lahaina
Olowalu
Maalaea
Wailuku
Kahului
Paia
Haiku
Keanae
Nahiku
Makawao
Pukalani
Hana
Haleakala
Kihei
Wailea
Makena
Kipahulu
Ulupalakua
La Perouse Bay
N
ISLAND OF MAUI
NOT TO SCALE
EXHIBIT 1

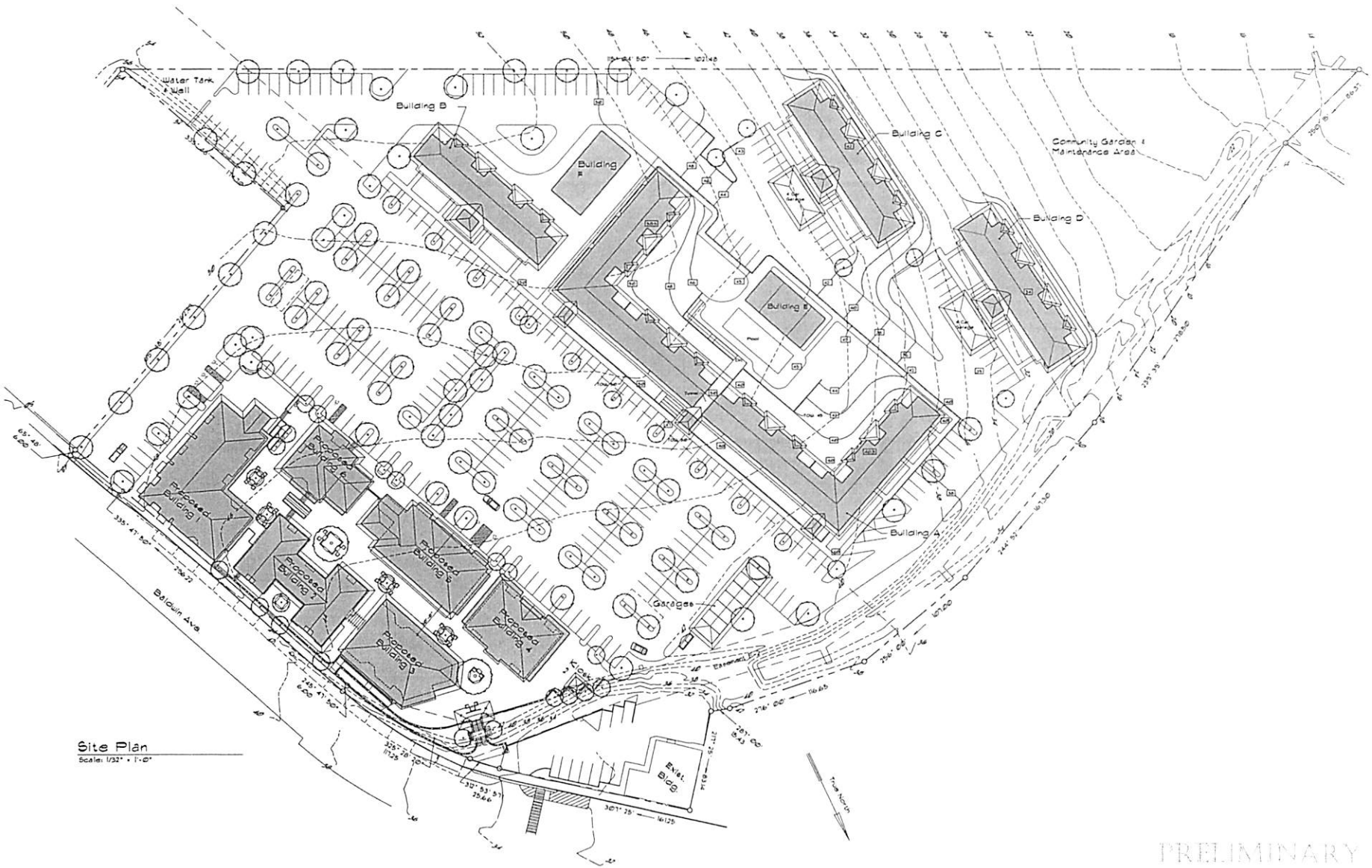


VICINITY MAP
EXHIBIT 2



SOIL SURVEY MAP
EXHIBIT 3


Pacific Ocean
Kuau
To Hana
Hana Hwy
Property Location
Lower Paia
Lower Hamakuapoko Road
Baldwin Ave.
To Wailuku
Pumping Sta
MAKAWAO
WAILUKU
Olopua
Paia School
Paia
AREA OF MAP



Site Plan
Scale: 1/32" = 1'-0"

PRELIMINARY

Revisions
5/13/13
10/4/12

Site Plan

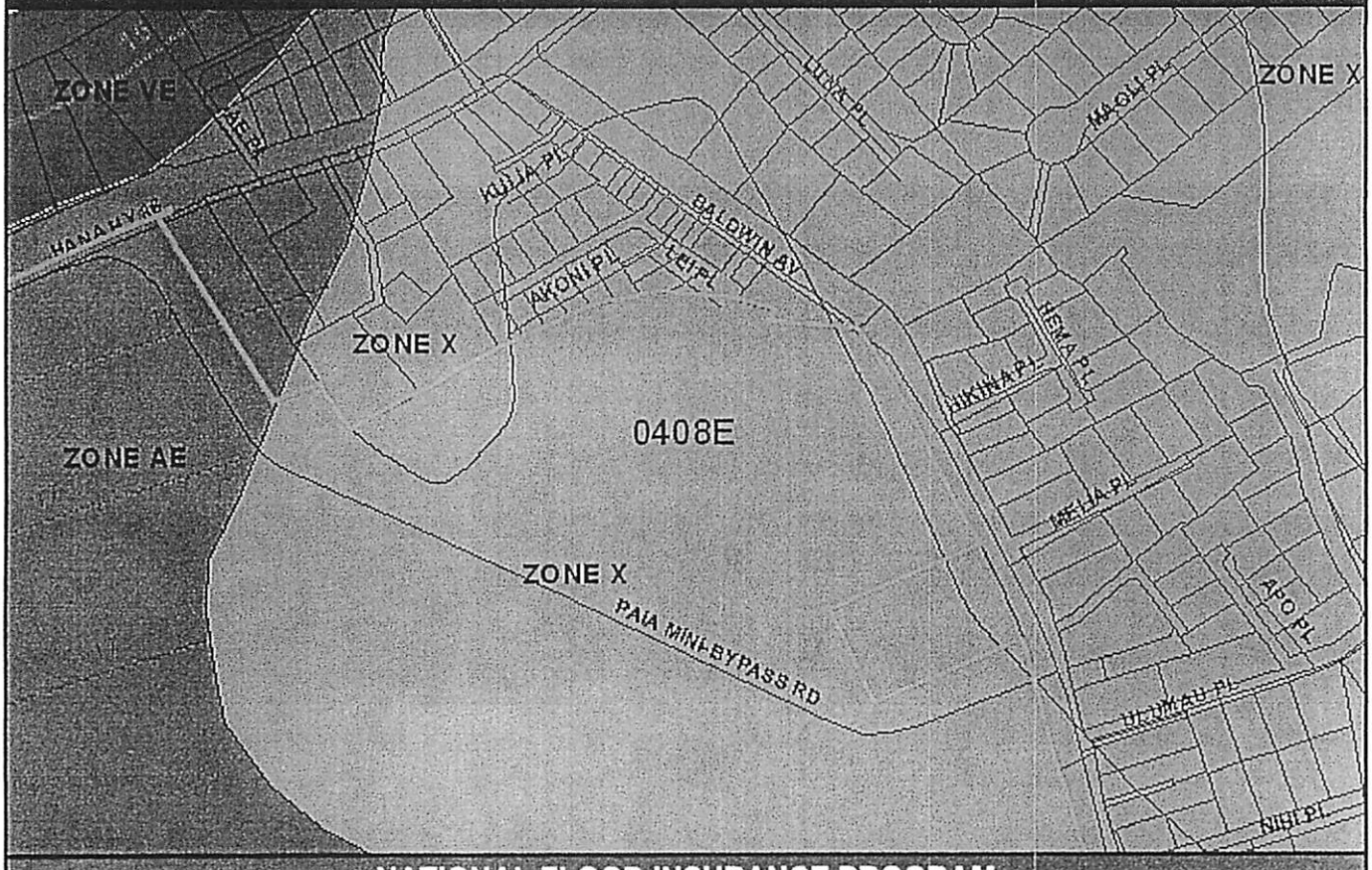
A Project for:
Paia 2020 LLC
Baldwin Avenue, Paia, Hawaii

HUNTON CONRAD & ASSOCIATES INC

Date: April 22, 2011
Scale: 1/32" = 1'-0"
Drawn: JCR/RN
Job: Paia 2020
Sheet:
A1

State of Hawaii

FLOOD HAZARD ASSESSMENT REPORT



NATIONAL FLOOD INSURANCE PROGRAM

FLOOD ZONE DEFINITIONS

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD – The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zone A, AE, AH, AO, V, and VE. The Base Flood Elevation (BFE) is the water-surface elevation of the 1% annual chance flood. Mandatory flood insurance purchase applies in these zones:

- **Zone A:** No BFE determined.
- **Zone AE:** BFE determined.
- **Zone AH:** Flood depths of 1 to 3 feet (usually areas of ponding); BFE determined.
- **Zone AO:** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined.
- **Zone V:** Coastal flood zone with velocity hazard (wave action); no BFE determined.
- **Zone VE:** Coastal flood zone with velocity hazard (wave action); BFE determined.
- **Zone AEF:** Floodway areas in Zone AE. The floodway is the channel of stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without increasing the BFE.

NON-SPECIAL FLOOD HAZARD AREA – An area in a low-to-moderate risk flood zone. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

- **Zone XS (X shaded):** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.
- **Zone X:** Areas determined to be outside the 0.2% annual chance floodplain.

OTHER FLOOD AREAS

- **Zone D:** Unstudied areas where flood hazards are undetermined, but flooding is possible. No mandatory flood insurance purchase requirements apply, but coverage is available in participating communities.

PROPERTY INFORMATION

COUNTY:	MAUI
TMK NO:	(2) 2-5-005-018
PARCEL ADDRESS:	BALDWIN AVE PAIA, HI 96779
FIRM INDEX DATE:	SEPTEMBER 19, 2012
LETTER OF MAP CHANGE(S):	NONE
FEMA FIRM PANEL(S):	1500030408E
PANEL EFFECTIVE DATE:	SEPTEMBER 25, 2009

PARCEL DATA FROM:	MAY 2012
IMAGERY DATA FROM:	MAY 2005

IMPORTANT PHONE NUMBERS

County NFIP Coordinator	
County of Maui	
Francis Cerizo, CFM	(808) 270-7771
State NFIP Coordinator	
Carol Tyau-Beam, P.E., CFM	(808) 587-0267

Disclaimer: The Department of Land and Natural Resources (DLNR) assumes no responsibility arising from the use of the information contained in this report. Viewers/Users are responsible for verifying the accuracy of the information and agree to indemnify the DLNR from any liability, which may arise from its use.

If this map has been identified as 'PRELIMINARY' or 'UNOFFICIAL', please note that it is being provided for informational purposes and is not to be used for official/legal decisions, regulatory compliance, or flood insurance rating. Contact your county NFIP coordinator for flood zone determinations to be used for compliance with local floodplain management regulations.

EXHIBIT " 3 "

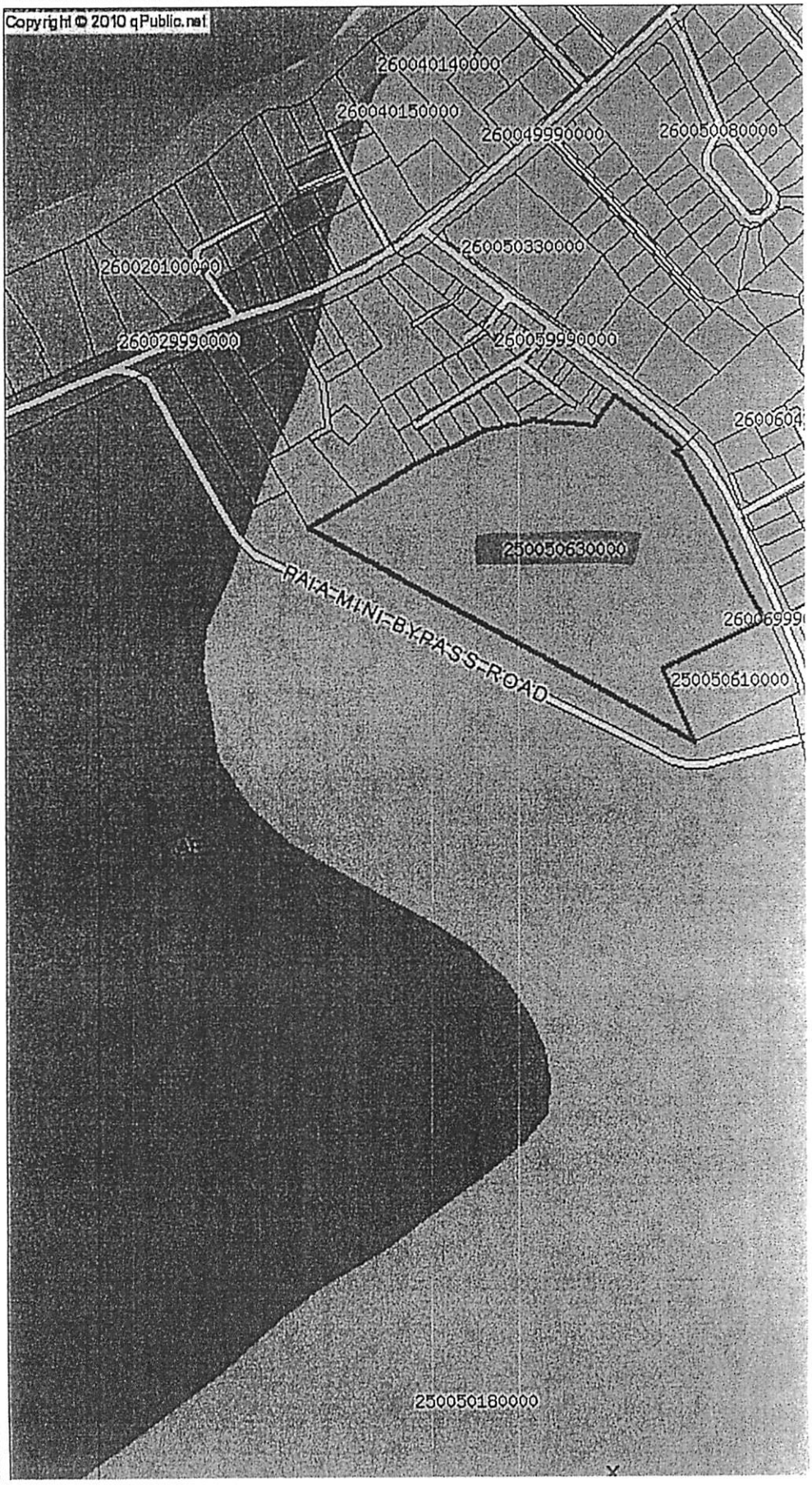
Zoom County | Zoom to Box | Zoom In | Zoom Out | Pan by Hand | Get Info | Zoom To Parcel | Center On Parcel | Measure | Area Tool | Print Page | Search Sales | Add

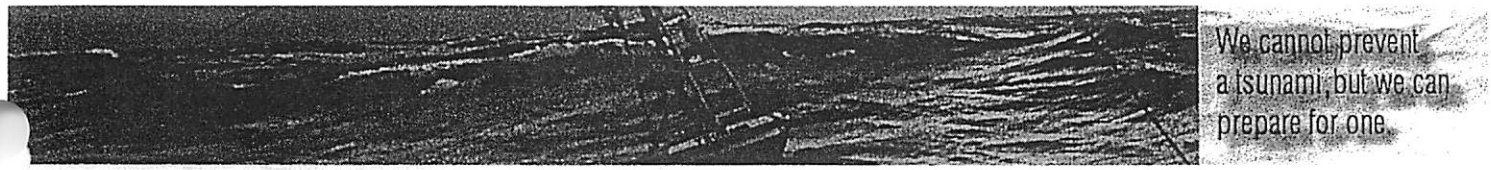
Controls

Show layers:

- [x] Parcels
- [ ] Yearly Sales
- [x] Parcel Numbers
- [x] Roads
- [ ] Tsunami Evacuation Zones
- [x] Flood Hazard Areas
- [ ] State Land Use Districts
- [ ] Special Management Area
- [x] Streets (Google)
- [ ] Satellite (Google)
- [ ] Hybrid (Google)
- [ ] Physical (Google)

1:3,386

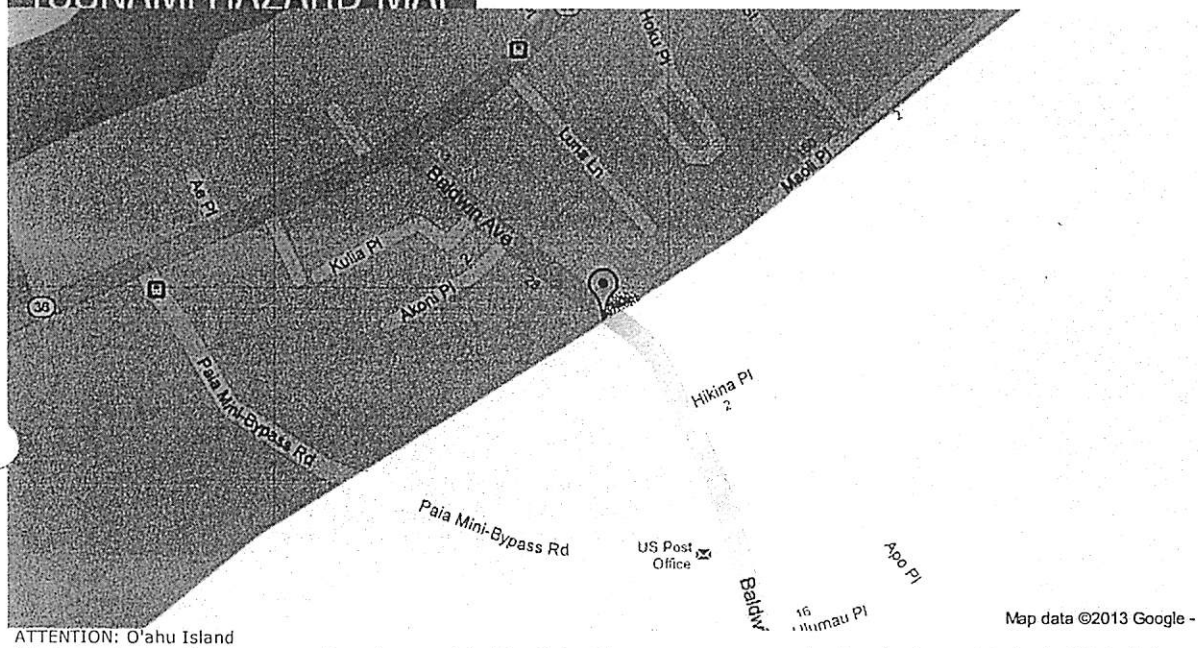




Map | Preparedness | Warning | Evacuation | Risk | Travel Time | Search Again

TSUNAMI HAZARD MAP

62 Baldwin Ave, Paia, 96779



Important Map Notes

Remain at least 100 feet away from inland waterways and marinas connected to the ocean due to wave surges and possible flooding.

If possible, remove or deploy vessels to deep water (at least 200 fathoms).

Structural steel or reinforced concrete buildings of six or more stories provide increased protection on or above the third floor.

The evacuation zone is a guideline and should be considered the minimum safe evacuation distance.

These maps do not consider the destructive effects of a locally generated tsunami. If you feel shaking, move inland immediately, well away from the evacuation zone.

ATTENTION: O'ahu Island

The tsunami evacuation zone maps have been updated for O'ahu. These new maps were developed using updated scientific techniques and technology, and were produced in conjunction with County Public Safety Officials. The new tsunami evacuation zone maps for O'ahu can also be found on the Department of Emergency Management Website or the CCH Public GIS Ftp site, or in the 2011 Hawaiian Telcom Yellow Pages.

ATTENTION: Other Islands

These tsunami evacuation zone maps are identical to those located in the front section of your phone book. They are based on data from tsunamis that have hit Hawai'i in the past and represent the best information available at this time. The University of Hawai'i, under direction of State Civil Defense, is currently using the latest scientific techniques and technology to improve this information. Once this is complete, county governments will be able to update their tsunami evacuation zones, if necessary.

Kaua'i Civil Defense asks that where feasible, persons leaving the evacuation areas should proceed to at least the 100' elevation contour/level shown on the map in red, so as not to cause traffic congestion in or near evacuation zones.

Legend

Tsunami Evacuation Zones

Metadata (O`ahu)

Metadata (Other Islands)

PRiMO

This site has been developed by the National Oceanic and Atmospheric Administration (NOAA) in partnership with the State of Hawai'i.
For feedback, contact the NOAA Pacific Services Center
Privacy Policy

EXHIBIT "4"

EVACUATE ALL SHORELINES AND SHADED AREAS

(If outside the tsunami evacuation areas, avoid non-essential travel.)

TSUNAMI EVACUATION MAUI MAP 9: KANAHA BEACH PARK TO PAIA TO KUAU

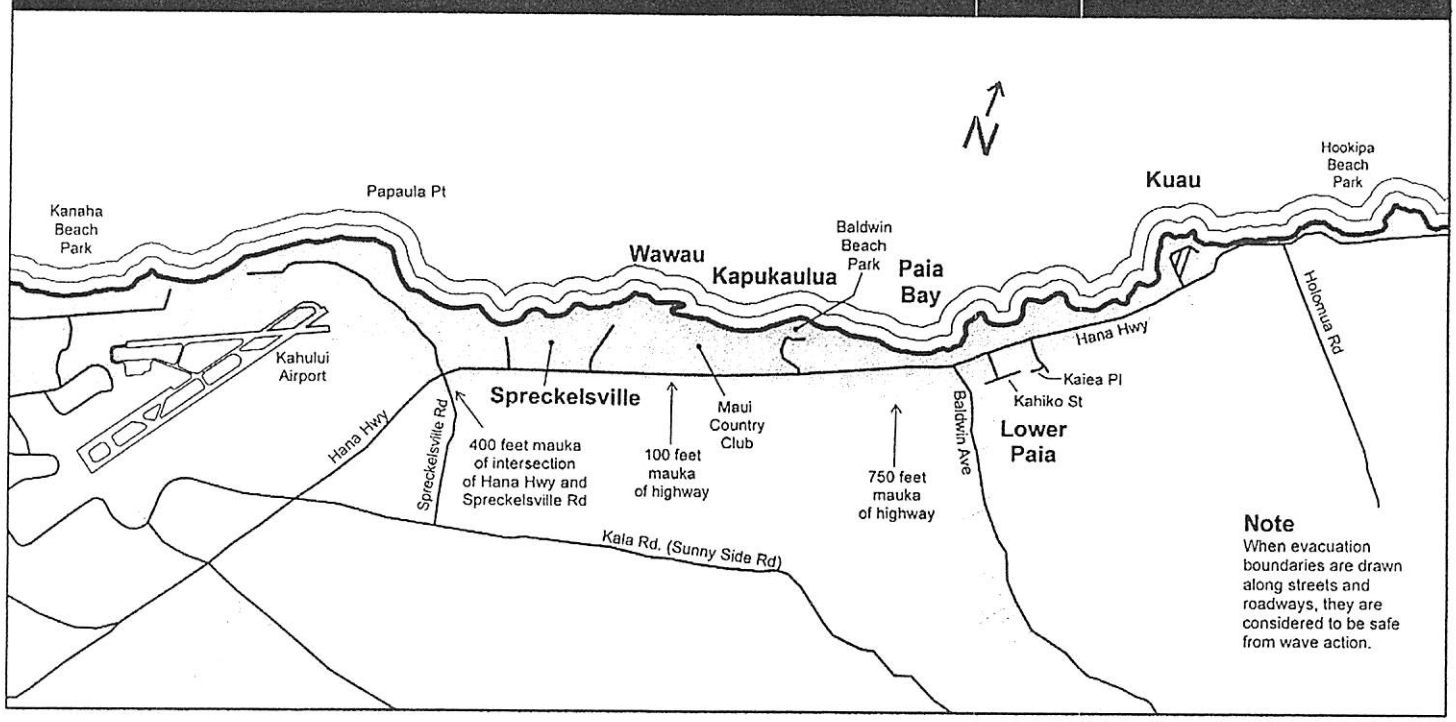
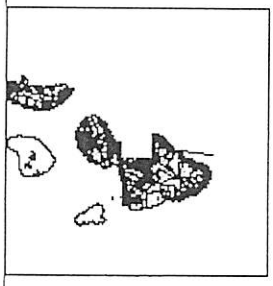


EXHIBIT " 7 "

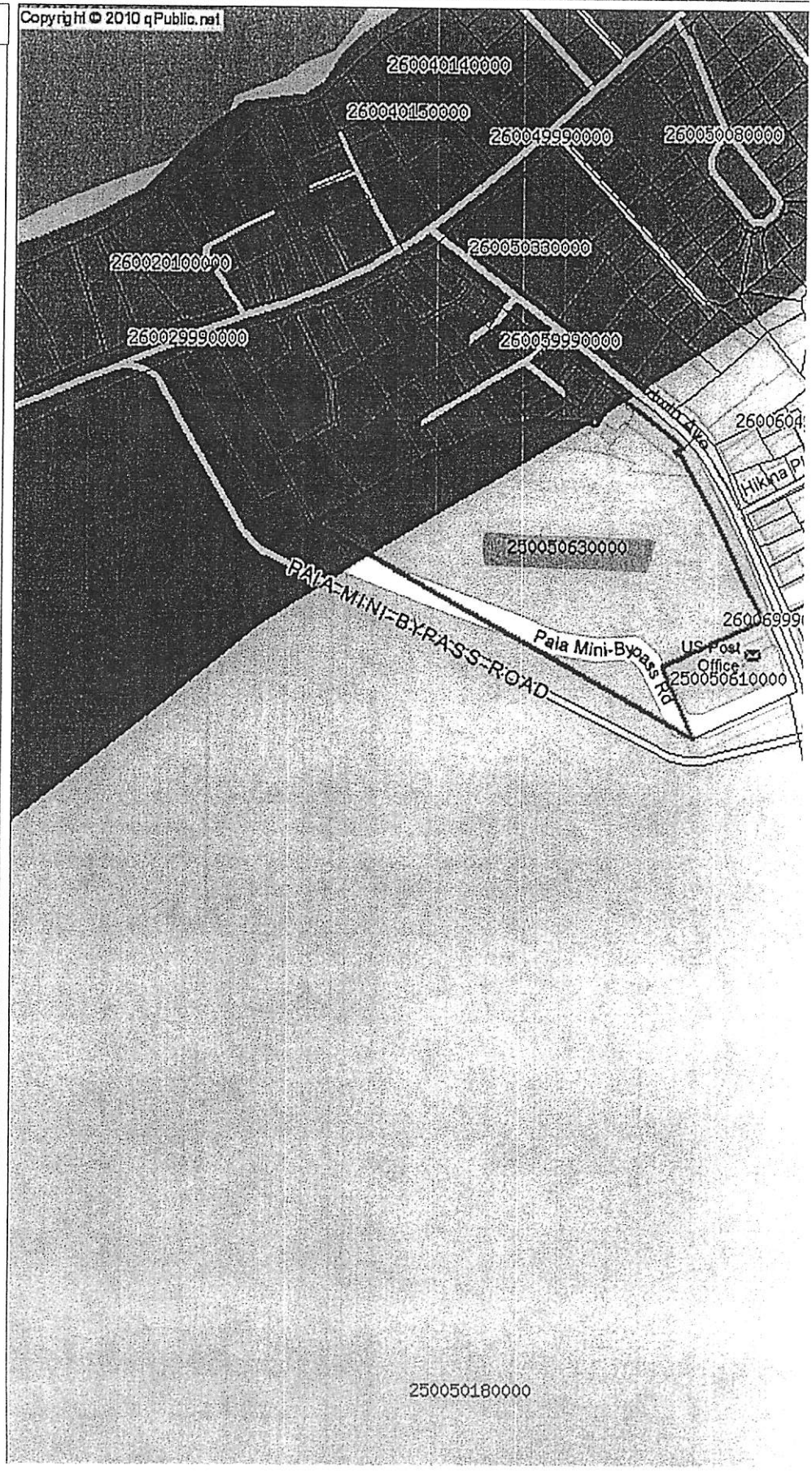
Zoom County | Zoom to Box | Zoom In | Zoom Out | Pan by Hand | Get Info | Zoom To Parcel | Center On Parcel | Measure | Area Tool | Print Page | Search Sales | Ad

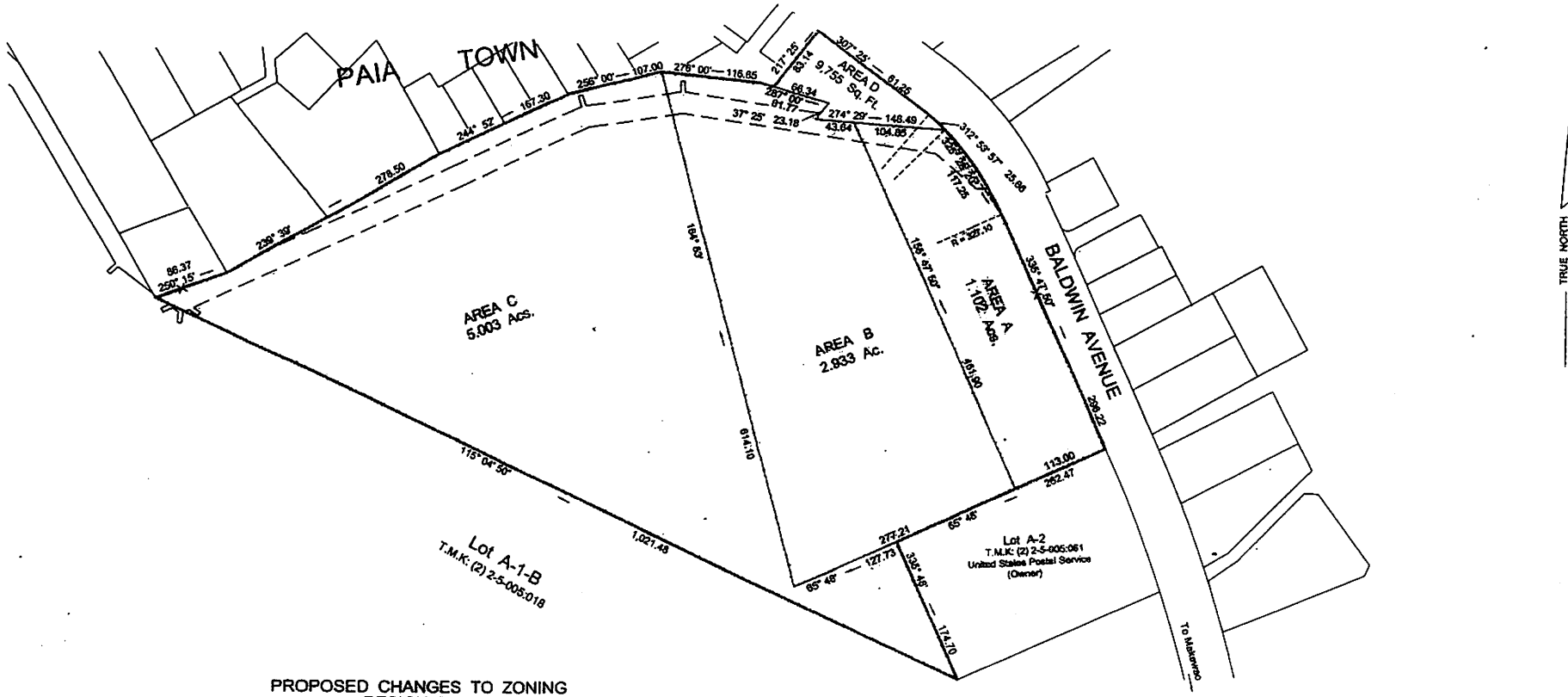
Controls

Show layers:
- ☑ Parcels
- ☐ Yearly Sales
- ☑ Parcel Numbers
- ☑ Roads
- ☑ Tsunami Evacuation Zones
- ☐ Flood Hazard Areas
- ☐ State Land Use Districts
- ☐ Special Management Area
- ☑ Streets (Google)
- ☐ Satellite (Google)
- ☐ Hybrid (Google)
- ☐ Physical (Google)



1:3,386





PROPOSED CHANGES TO ZONING DESIGNATIONS

		EXISTING	PROPOSED
AREA A (1.102 Acs.)	County	Interim	Country Town Business
AREA B (2.933 Ac.)	County	Interim	Country Town Business
AREA C (5.003 Acs.)	County	Agricultural	Country Town Business
9.038 Acs.	TOTAL AREA PROPOSED FOR CHANGE IN ZONING		
AREA D (9,755 Sq. Ft.)	County	Country Town Business	Country Town Business
	NO PROPOSED CHANGE TO LAND USE DESIGNATION		

Area = 9.038 Acs.

LAND ZONING MAP NO.
CHANGE IN ZONING
PAIA POST OFFICE SUBDIVISION

PAIA, MAKAWAO, MAUI, HAWAII

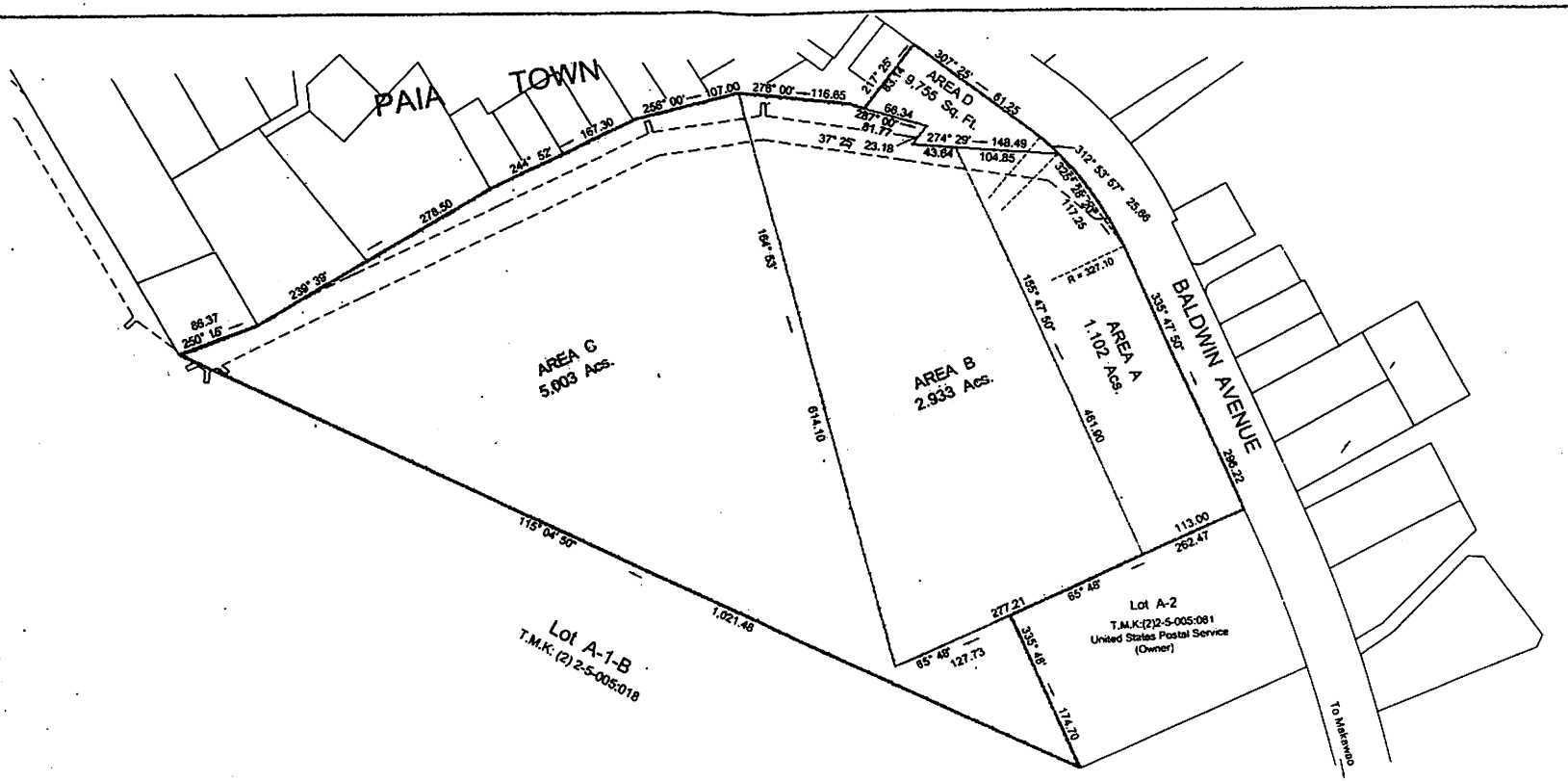
T.M.K: (2) 2-5-005:063 (Por.)

APPROVED: _____ COUNTY CLERK	PUBLIC HEARING: ADOPTED - COUNCIL: ADOPTED - MAYOR: ORDINANCE:
APPROVED: _____ PLANNING DIRECTOR	SCALE: 1" = 500'

OFFICE OF THE COUNTY CLERK
200 HIGH STREET, WAILUKU, MAUI, HAWAII, 96793

L -

T.M.K: (2) 2-5-005:063 (Por.)



PROPOSED CHANGES TO COMMUNITY PLAN
LAND USE DESIGNATIONS

		EXISTING	PROPOSED
AREA B (2.933 Acs.)	Community Plan	Public/Quasi Public	Business/Commercial
AREA C (5.003 Acs.)	Community Plan	Agricultural	Business/Commercial
7.936 Acs.	TOTAL AREA PROPOSED FOR COMMUNITY PLAN AMENDMENT		
AREA A	Community Plan	Business/Commercial	Business/Commercial
(1.102 Acs.)	NO PROPOSED CHANGE TO LAND USE DESIGNATION		
AREA D	Community Plan	Business/Commercial	Business/Commercial
(9,755 Sq. Ft.)	NO PROPOSED CHANGE TO LAND USE DESIGNATION		

Area = 7.936 Acs.

COMMUNITY PLAN MAP NO.
COMMUNITY PLAN AMENDMENT
PAIA POST OFFICE SUBDIVISION

PAIA, MAKAWAO, MAUI, HAWAII

T.M.K: (2) 2-5-005:063 (Por.)

APPROVED: _____
COUNTY CLERK

APPROVED: _____
PLANNING DIRECTOR

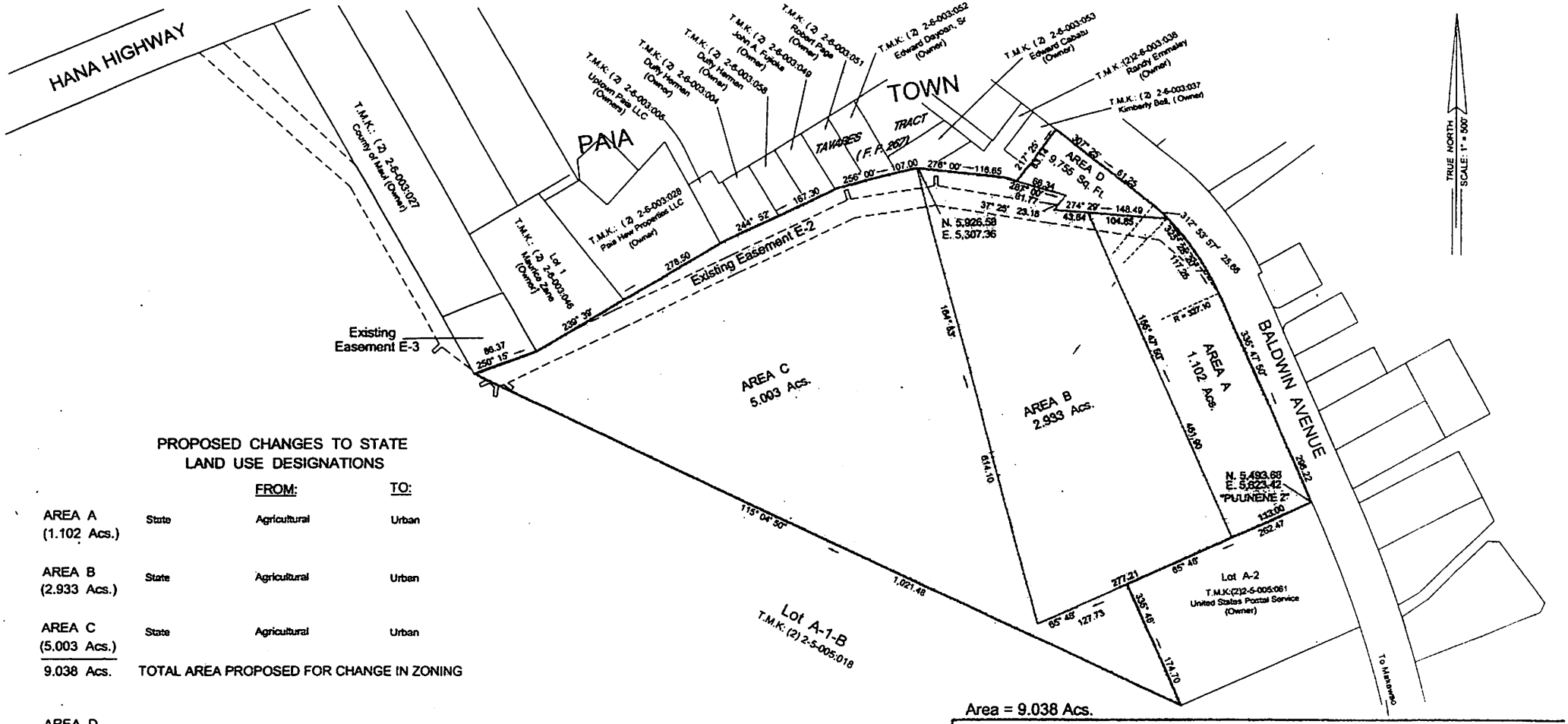
PUBLIC HEARING:
ADOPTED - COUNCIL:
ADOPTED - MAYOR:
ORDINANCE:

SCALE: 1" = 500'

OFFICE OF THE COUNTY CLERK
200 HIGH STREET, WAILUKU, MAUI, HAWAII, 96793

CP -

T.M.K: (2) 2-5-005:063 (Por.)



Area = 9.038 Acs.

PROPOSED CHANGES TO STATE LAND USE DESIGNATIONS

		FROM:	TO:
AREA A (1.102 Acs.)	State	Agricultural	Urban
AREA B (2.933 Acs.)	State	Agricultural	Urban
AREA C (5.003 Acs.)	State	Agricultural	Urban
9.038 Acs.	TOTAL AREA PROPOSED FOR CHANGE IN ZONING		
AREA D (9,755 Sq. Ft.)	State	Urban	Urban
	NO PROPOSED CHANGE TO LAND USE DESIGNATION		

NOTES:

1. Azimuths and coordinates referred to Government Survey Triangulation Station "PUUNENE 2".
2. Owners of adjacent parcel taken from records of the Real Property Mapping Branch.
3. Existing Easements E-1, E-2 & E-3 are for electrical purposes in favor of Maui Electric Company, Limited per Document No. 2006-040881, dated March 3, 2006.

STATE LAND USE DISTRICT BOUNDARY AMENDMENT

PAIA POST OFFICE SUBDIVISION

PAIA, MAKAWAO, MAUI, HAWAII

T.M.K: (2) 2-5-005:063 (Por.)

APPROVED: _____
COUNTY CLERK

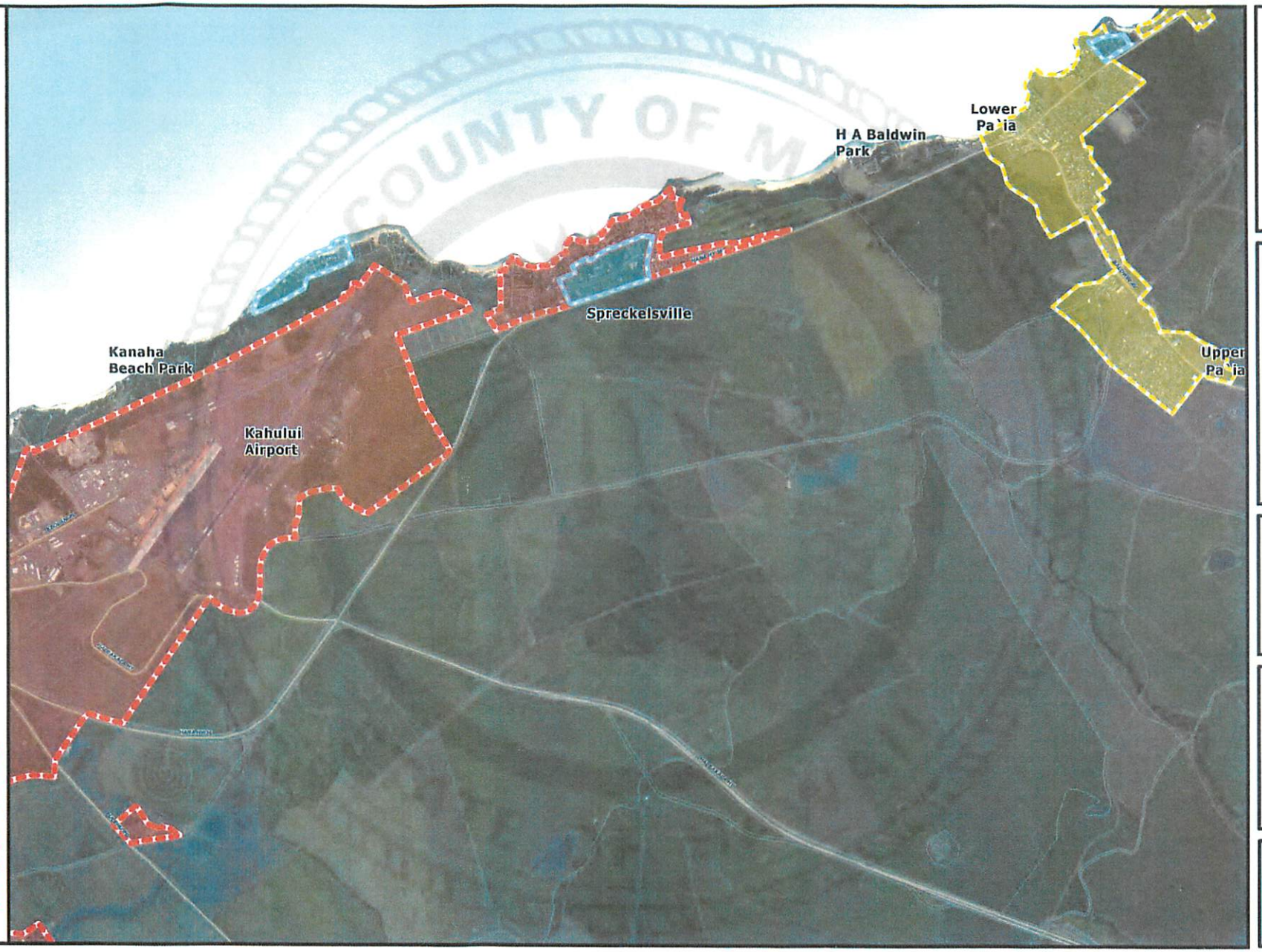
APPROVED: _____
PLANNING DIRECTOR

PUBLIC HEARING:
ADOPTED - COUNCIL:
ADOPTED - MAYOR:
ORDINANCE:

SCALE: 1" = 500'

OFFICE OF THE COUNTY CLERK
200 HIGH STREET, WAILUKU, MAUI, HAWAII, 96793

DB -



Maui Island - Directed Growth Map N1

County of Maui

Maui Island Plan Directed Growth Map

Spreckelsville / Pa`ia

N1

Legend

Growth Boundaries

- Urban
- Small Town
- Rural

Reference

- 2011 Parcels
- Primary Roads

Product Code M-CET_20121030-D2
Copyright © October 30, 2012

Background Image: Worldview 2 - 2010

This is not a zoning map. Please contact the Planning Department for Zoning confirmation.

PREPARED BY:

Long Range Planning Division
Department of Planning
County of Maui
250 South High Street
Wailuku, Hawaii 96793