Data sources at the City and County level, as reported by the City and County Department of Planning and Permitting (DPP), include: <u>Year 2000 Community</u> <u>Profiles; Socioeconomic Projections 2000 - 2030 by Development Plan Area and</u> <u>Subarea; and Waianae Sustainable Communities Plan (July 2000)</u>. The State and County macro-economic forecast data referenced herein as the primary basis of our analysis are considered particularly relevant since this assignment, in part, is directly related to a Waianae Sustainable Communities Plan, Five-Year Review Amendment Application involving the subject property.

C. <u>Intended Use of the Report</u>

The "Intended Use" of this report is to assist the client in decision making purposes relating to the subject property. The client and intended user of this report is Kimura International, Inc., a contracted representative of the current subject property owner, Tropic Land LLC. The date of the report is April 3, 2008.

This report has been prepared for the sole and exclusive use of the client. No unrelated third party is authorized to rely upon this report without the expressed, written consent of the signers of this report. No liability is assumed, expressed or implied by Hastings, Conboy, Braig & Associates, Ltd., or the signers of this report, for unauthorized use of the report.

D. <u>Project Description</u>

The following descriptions and characterizations of the Proposed Tropic Land LLC Industrial Park are excerpted from a Waianae Sustainable Communities Plan (SCP), Five-Year Review Amendment Application submitted on behalf of the subject property.

"This SCP application involves three parcels located in the Lualualei Valley, mauka of Farrington Highway and south of U.S. Naval Magazine Lualualei. The properties are approximately 2.5 miles north of Nanakuli town and 7.5 miles from Waianae town. They are owned by Tropic Land LLC" [Page 1]

"Tropic Land LLC proposes to develop an industrial park that would occupy approximately 96 acres on TMK 8-7-9: 02, on the east side of Lualualei Naval Access Road (see Figure 6, Site Plan). The industrial park would consist of approximately 35 lots, averaging two acres each. The project would have a single secured entry off of Lualualei Naval Access Road and a secondary access for fire and emergency purposes. The existing linear tree farm will remain as a 30-foot landscaped setback along the Lualualei Road frontage. The north and south property lines have 15-foot setbacks. An additional strip of land, approximately 100 feet wide and mauka of the industrial lots, will be used for drainage improvements and rockfall hazard mitigation." [Page 14] "The project will be structured under a condominium form of ownership with individual lots and common ownership of internal roads and infrastructure. Tropic Land LLC is planning to seek an I-1 zone for the area that is planned for industrial use. The remainder of TMK 8-7-9: 02 will remain in the preservation zone." [Page 14]

"The amendment will provide an inventory of industrial space on the Waianae Coast, which does not have a similar facility. The proposed project will be attractive to a mix of light industrial businesses and provide open yard space for storing materials, trucks, and heavy equipment." [Page 6]

"The proposed light industrial park and baseyard is a job-producing and economy sustaining land use. The industrial park has the potential to become an employment center offering well-paid jobs that are within convenient commuting distance of Waianae Coast communities." [Page 9]

"The anticipated opening is approximately 18 months from receipt of government approvals." [Page 15]

"The preliminary cost of the light industrial park, based on the conceptual site plan, is estimated at \$29 million." [Page 15]

III. INDUSTRIAL MARKET ANALYSES AND DEMAND FORECASTS

This section of the report provides a presentation of our industrial market analyses and industrial land use demand forecasts for both the Island of Oahu, as a whole, and the Waianae Development Plan (DP) Area, which represents the relevant regional market area of the Proposed Tropic Land LLC Industrial Park development at Lualualei.

Our industrial market analyses include a profile of supply and demand conditions in the local marketplace and the implications of these prevailing market conditions with respect to the potential marketability of proposed, future industrial subdivision development at the subject property. Our industrial land use demand forecasts provide quantitative estimates regarding the future outlook for possible land use requirements based on anticipated economic growth.

A. <u>Industrial Market Analysis, Island of Oahu</u>

A general profile of the industrial market on the Island of Oahu is presented in Table III-1. The information summarized in this table reflects data compiled as of Year-End 2007 by Colliers Monroe Friedlander (Colliers). Based on this information, the total supply of existing industrial space on the Island of Oahu is estimated at approximately 36.4 million square feet of floor area within 1,668 buildings. The indicated overall vacancy rate within Oahu's industrial marketplace is three percent.

The geographic distribution of industrial space on Oahu is also allocated among 11 major sub-markets, with the four largest market areas identified as: Kalihi/Sand Island (8.47 million square feet); Airport/Mapunapuna (8.26 million square feet); Campbell Industrial Park/Kapolei Business Park (5.6 million square feet); and Bougainville/Halawa (3.23 million square feet). The seven remaining market areas have smaller inventories of industrial space ranging from as low as 467,000 square feet in Kailua to just over 2.4 million square feet in Iwilei. The subject property's Waianae market area does not merit inclusion within the tabular data published by Colliers.

Among the more notable aspects or characteristics of Oahu's industrial marketplace is the geographic concentration of its existing supply. Existing industrial development is overwhelmingly concentrated within three of Oahu's eight designated Development Plan (DP) Areas, namely, the Primary Urban Center, Ewa, and Central Oahu. Based on the Colliers data, the combined inventory of industrial space within the other five DP Areas of East Honolulu, Koolaupoko, Koolauloa, North Shore, and Waianae totals less than 1.0 million square feet, or only 2.7 percent of the island-wide total.

The Primary Urban Center is characterized as a predominantly built-out market, with potential redevelopment as a possible key component of future opportunities for industrial growth. Ewa and Central Oahu are characterized more as developing areas where the availability of land capable of accommodating continued expansion is the primary driving force regarding future opportunities for growth in the supply of additional industrial land and buildings. Increased industrial development in Ewa and Central Oahu is also an appropriate response to the continued growth and development of substantial residential communities located within these two areas of the Island of Oahu.

Another significant feature of Oahu's industrial marketplace is its relatively low vacancy rate as it relates to pent-up demand. Pent-up demand is defined as the component or quantity of additional market demand that would need to be absorbed or otherwise introduced in the marketplace to restore normal equilibrium between supply and demand during periods of unusually low vacancy. Typically, normal equilibrium between supply and demand is reflected by an overall vacancy rate of, say, five percent. The Colliers data indicate that Oahu's overall vacancy rate for industrial space is 3.0 percent. The indicated vacancy rates within some selected market areas are calculated at less than one percent.

Oahu's vacancy rate of three percent equates to approximately 1.1 million square feet of available floor space amongst a total building inventory of 36.4 million square feet of floor space. Under these conditions, an additional supply of approximately 750,000 square feet of industrial floor space would be the implied requirement to effectuate a normal, equilibrium vacancy rate of five percent. This estimated amount of pent-up industrial demand is equivalent to roughly 50 percent, or one-half, of the total inventory of industrial floor space currently developed at the Gentry Business Park in Waipio.

B. Industrial Market Analysis, Waianae Development Plan Area

The subject property's regional setting and relevant market area is defined as the Waianae Development Plan (DP) Area. The Waianae DP Area extends along the leeward coast of the Island of Oahu, west of the Waianae Mountain Range, and encompasses the valleys of Nanakuli, Lualualei, Waianae, Makaha, and Makua and the residential communities of Nanakuli, Maili, Waianae, and Makaha. A portion of Farrington Highway provides the only access to and from the Waianae Development Plan Area. The subject property is located within Lualualei Valley approximately 1.5 miles east of Farrington Highway.

The Waianae market area is characterized as an outlying, rural-agricultural district for the Island of Oahu. A breakdown of existing land uses within the Waianae DP Area as of 1997, as reported by the City and County of Honolulu Department of Planning and Permitting (DPP), is presented in Table III-2. Although the information was compiled over a decade ago and, therefore, is comparatively dated, the data verify the rural-agricultural nature of the subject's market surroundings.

Almost one-fourth of the total land area within the Waianae DP Area is categorized as agricultural. Only about five percent of the total land area is categorized as urban,

with most of the urban designated land devoted to single-family residential use. According to the DPP data, almost two-thirds of the total land area in the Waianae DP Area is categorized as either Preservation or Military. This latter category of land use includes the U. S. Naval Magazine Lualualei tract located directly inland from the subject property.

The data presented in Table III-3 provide dramatic evidence of why there is an apparent lack of anticipation associated with government forecasting models dealing with future industrial land use demand within the Waianae market area. According to an urban land use inventory analysis undertaken by the DBEDT Office of Planning, the total acreage of vacant land zoned for commercial and/or industrial use within the Waianae DP Area as of 2004 was reported to be statistically equal to zero.

In essence, the data generated by the DBEDT Office of Planning indicate that opportunities for significant new industrial development within outlying, satellite areas such as Waianae are basically non-existent due to a pronounced scarcity of vacant industrial-zoned acreage. With the noted exception of the proposed subject project, we are not aware of any major new industrial land developments planned for the Waianae market area with the foreseeable future.

The existing supply of industrial land use within the Waianae DP Area remains extremely limited. As stated within Section 3.9, Commercial and Industrial Uses, of the Waianae Sustainable Communities Plan:

"Most of the District's existing commercial and industrial uses are small in scale and are therefore included within the general designation of 'Rural Community Development'. One significant industrially-zoned area in the vicinity of the Waianae wastewater treatment plant is shown as 'Industrial'."

Other notable references to industrial land use within Section 3.9 of the Waianae Sustainable Communities Plan include the following statements:

"The projected growth in population may create a need for more support retail commercial and industrial acreage, although recent trends indicate a shifting of shopping habits away from local stores to the larger commercial centers in the Ewa District. Some local leaders have voiced the need for more local industrial parks."

"Local small businesses and light industrial operations are an important source of jobs for Waianae's people. A healthy level of small local businesses is essential for the local economy and also lessens the volume of commuter traffic that causes severe congestion on Farrington Highway during morning peak traffic periods."

"Encourage the establishment of light industrial businesses that provide jobs for local people, and that are generally compatible with the predominantly residential uses of the Rural Community areas along the coast, but not in Makaha Valley."

"Heavy industrial uses should not be permitted in the Waianae District. Such uses should be sited in the Campbell Industrial Park."

From an existing demand perspective, it is important to realize that the Waianae DP Area accounts for roughly five percent of Oahu's total resident population and that continued population growth is projected for the area over the next twenty years. Also, demographic and socioeconomic data from the 2000 Census indicate a significant level of industrial jobholders residing within the Waianae DP Area. Table III-4 is a presentation of selected employment characteristics reported by the 2000 Census.

An important, potential marketing implication of these statistics is the exhibited presence of a resource of available labor force with industrial job training and experience already residing within the Waianae market area. A more detailed presentation of forecasted industrial land use demand within the Waianae market area follows.

C. Industrial Land Use Demand Forecasts

Background -- In its simplest expression, future net increases in industrial land use demand within any given geographic area are purely a function of economic growth. In essence, without continued economic expansion there would be no compelling reason or need for significant, additional development of industrial inventory or supply.

Regional economic growth can be measured by various means, using alternative standards of measurement. Typically, economic growth over time is measured in terms of periodic increases in population, employment, and/or personal income. It should be noted, however, that any measurable increases in population, employment and income are generally the resulting effects of economic growth and not the underlying cause of such growth.

The driving force behind regional economic growth and expansion is a healthy economic base, or export, industry. For the State of Hawaii, the traditional base industries or export commodities have been tourism, agriculture, and Federal government expenditures. Tourism, or the visitor industry, is widely recognized as the primary generator of economic expansion in Hawaii. The former importance of large-scale specialized agriculture, in the form of sugar cane and pineapple production, has been replaced in a reduced capacity by small-scale, diversified agricultural pursuits. Federal government expenditures, in the form of military spending and transfer payments, also continue to be an important source of exogenous income for Hawaii.

Baseline Population and Employment Forecasts -- The basis or foundation of our industrial land use demand forecasts corresponds to various government-sponsored/officially recognized regional population and employment projections for the State of Hawaii, City and County of Honolulu (i.e., Island of Oahu), and Waianae Development Plan (DP) Area. These baseline forecasts or measurements of future economic growth are presented in Tables III-5, III-6, and III-7.

Table III-5 summarizes population and employment forecasts for the City and County of Honolulu as published by the State of Hawaii Department of Business, Economic Development and Tourism (DBEDT) in its <u>Population and Economic</u> <u>Projections for the State of Hawaii to 2035</u> (DBEDT 2035 Series), dated January 2008. Brief descriptions and characterizations of the DBEDT 2035 Series projections, as excerpted from the published document are presented as follows.

"As in the 2020 projection series, the model contains five blocks: final demand, income, output, employment, and population. The final demand components were either projected by a set of econometric equations or exogenously given. The statewide projected final demands were allocated to each industry of each county using the relevant final demand vectors in the 2002 inter-county I-O [Input-Output] table. Industrial outputs of each county were then derived by multiplying the projected final demands by the total requirements matrix of the 2002 inter-county I-O table. Jobs were derived by dividing each industry's projected output by job-to-output ratio. Once jobs were projected, labor income was estimated as a function of total jobs. Population projection was done separately using the cohort component method, but was linked with econometric module through migration." [Page 12]

"It must be noted that, despite comprehensive data analysis and the precision of the model calculations, there is no unique solution to the projection of Hawaii's future population and economy. If there is no change in the structure and behavior of the economy over time, analysis of the past would provide an accurate guide to the future. Unfortunately, the future trends in important factors such as fertility, mortality, migration, labor productivity, and labor force participation are inherently uncertain. The future growth of final demand and industrial structure may follow different patterns from the past. Therefore, in addition to analysis of historical economic relationships among variables many subjective judgments on future trends had to be entered to produce the current set of projections." {Page 13]

As alluded to in these excerpts, the forecast methodology of the DBEDT 2035 Series utilizes an inter-county input-output econometric model in conjunction with an ageand-sex-specific, cohort survival/demographic module. The fundamental inputoutput model is <u>The 2002 State Input-Output Study for Hawaii</u>, published by DBEDT in June 2006. Brief descriptions and characterizations of <u>The 2002 State</u> <u>Input-Output Study for Hawaii</u>, as excerpted from the published document are presented as follows.

"An input-output (I-O) model depicts a comprehensive and detailed set of accounts of sales and purchases of goods and services among the producing industries, final consumers (households, visitors, exports, and government), and resource owners (labor, capital, and land) during a particular time period (usually a year) for a specific economy or region. The information from the I-O model is presented in a format called the I-O table. This framework was developed by Wassily Leontief in the 1930's, for which he was awarded the 1973 Nobel Prize in Economics." [Page 3]

"By providing the comprehensive and detailed information on sales and purchases of goods and services among the various sectors in the economy, the I-O tables provide a useful analytical tool for economists, planners, and policy-makers in: (i) analyzing a wide range of problems related to regional and community economic development; (ii) formulating new economic and environmental policies and assessing their effects on industry output and input patterns; and (iii) assessing impacts of new economic development efforts and exogenous (external) changes on the economy (e.g., development of new exports). More specifically, the I-O tables form the factual basis for estimating output, income, employment, and other multipliers, which are frequently used in economic impact analyses. The I-O model also provides critical information for long-range economic and demographic projections, as well as for social accounting matrixes (SAM) and computable general equilibrium (CGE) modeling for public policy and alternative economic scenario simulations." [Page 1]

Table III-6 presents a breakdown of the population and job forecasts for the Island of Oahu by designated Development Plan Areas. These allocated population and employment forecasts to the year 2030 are prepared by the City and County of Honolulu Department of Planning and Permitting (DPP) and published in tabular format as <u>Socioeconomic Projections</u>, 2000-2030 By Development Plan Area, dated November 2007.

The City and County's allocated population and job count forecasts by Development Plan Area have yet to be updated to coincide with the more recent DBEDT 2035 Series projections. For example, the DBEDT 2035 Series projections indicate Oahu's resident population forecast increasing from 902,035 in 2005 to 1,080,700 in 2030. For the same time period, the DPP Socioeconomic Projections reflect a slightly higher forecast level, indicating an increase in Oahu's resident population forecasts equate to less than four percent and are considered to be statistically insignificant.

The DPP Socioeconomic Projections for the Waianae Development Plan (DP) Area forecast a steady and moderate growth in population for the area but a contrasting, no-growth/declining scenario regarding the future outlook for job opportunities in the area. The population forecast for Waianae increases from 44,656 in 2005 to 52,285 in 2030 while the job/employment forecast for Waianae fluctuates at a modest level from 7,253 in 2005 to 7,126 in 2030.

Within the DPP projection model, significant job growth to the year 2030 is forecast to occur within three Development Plan Areas: Primary Urban Center, Ewa, and Central Oahu. All remaining Development Plan Areas, encompassing East Honolulu, Koolaupoko, Koolauloa, North Shore and Waianae, are projected to have relatively limited prospects for widespread increases in future job opportunities.

Table III-7 presents a more detailed breakdown of the DPP job projections to 2030 by various employment categories. Of particular note is a marked decline in forecasted construction jobs for the Waianae DP Area, from 801 in 2005 to 368 in 2030. This represents more than a 50 percent loss in jobs for the construction industry within the subject market area. The forecasted decline in construction jobs appears to reflect a perceived lack of anticipated new development within the Waianae DP Area.

Land Use Demand Forecast Model -- Our analysis of forecasted industrial land use demand for the Waianae DP Area to the year 2030 is presented in Tables III-8 and III-9. Table III-8 provides a comparison between the DPP Socioeconomic Projections for the Waianae DP Area and corresponding DPP projections for the City and County of Honolulu, or Island of Oahu, as a whole. Table III-9 is a presentation of our quantitative industrial land use demand forecasts for the subject property's Waianae Development Plan Area.

The data presented in Table III-8 demonstrate the disparity in population and job distribution associated with the Waianae area. Although the Waianae DP Area accounts for almost 5.0 percent of the total population count on the Island of Oahu, Waianae has less than 1.5 percent of Oahu's total island-wide job count. This disparity is even greater with respect to jobs within the traditional industrial sectors of employment (represented by the employment categories of Transportation, Communications, Utilities; Industrial; and Construction). For industrial sector jobs, the Waianae DP Area barely accounts for 1.0 percent of Oahu's forecasted island-wide total.

Our quantitative land use demand forecasts presented in Table III-9 are based, in part, on projected modifications to this prevailing disparity between population distribution and job count distribution in the subject's Waianae market area. The other major facet of our land use demand forecasts is the utilization of an employment-driven model as the basis for our quantitative results.

As shown in Table III-9, the primary baseline forecast utilized to generate land use demand implications within the context of our employment model is the "Industrial Sector Job Forecast" for the City and County of Honolulu, or Island of Oahu. The industrial sector job forecast for Oahu starts at 94,760 in 2005 and expands by almost 20 percent to 112,108 in 2030. This employment/job forecast is then converted to a corresponding industrial land use requirement based on an estimated conversion factor of 2,500 square feet of land area per employee/job. A conversion factor, or land use ratio, of 2,500 square feet per employee is approximately the mid-range equivalent to an average range of 15 to 20 employees per acre.

Industrial land use ratios can vary dramatically depending upon the specific type or form of industrial use involved. Land-intensive uses, such as those typically associated with heavy industrial activities, tend to reflect relatively higher land use ratios, or lesser numbers of employees per acre on average. Labor-intensive uses, such as those typically associated with light industrial activities, tend to reflect relatively lower land use ratios, or greater numbers of employees per acre on average. For example, land use requirement forecast models applicable to Honolulu's higher-density, Primary Urban Center typically reflect industrial land use ratios of less than 1,000 square feet per employee.

The next step in our forecast model involves a modification to the existing DPP Socioeconomic Projections industrial job forecast for the Waianae DP Area. As presented previously in this report, the DPP industrial sector job forecast for Waianae indicates an anticipated downward trend marked by a dramatic decline in projected construction employment. Obviously, if this forecasted decline in industrial employment were proven to be accurate there would be no compelling requirement or need for any new industrial development within the Waianae market area.

It is our belief, however, that the projected decline in industrial employment for the Waianae DP Area as set forth in the DPP Socioeconomic Projections is a direct reflection of a total absence of anticipated, future industrial land use development for the Waianae area, as embodied within that specific forecasting model. From a market demand perspective, this type of underlying assumption tends to result in a somewhat self-fulfilling or self-perpetuating cycle of forecasted stagnancy. The continuous cycle can be characterized as follows: no anticipated new development in the area results in no projected increase in employment for the area which results in no projected demand for new development in the area, and so forth.

Based on this understanding, we have implemented a series of modifications to the industrial sector employment forecast applicable to the Waianae DP Area. Again, DPP projections of industrial sector employment for the Waianae area represent only 0.7 to 1.2 percent of the corresponding total of the entire City and County of Honolulu during the 2005 to 2030 forecasting period.

Rather than accepting the DPP assertion of a less than one percent capture rate of industrial sector jobs to the subject market area, we have substituted a proposed range of alternative, increased capture rates of 1.5 to 2.0 percent. A proposed capture rate/allocation of 1.5 to 2.0 percent of all future industrial sector jobs on the Island of Oahu to the Waianae DP Area is still significantly lower than Waianae's projected 4.7 percent share of Oahu's total resident population forecast to the year 2030.

An alternative industrial employment capture rate of 1.5 percent results in a forecasted industrial sector employment increase for the Waianae DP Area of roughly 50 percent, from 1,109 jobs in 2005 to 1,682 jobs in 2030. The alternative capture rate at 2.0 percent of Oahu's island-wide total results in a forecast that approximately doubles the amount of industrial sector jobs within the Waianae market area from 1,109 in 2005 to 2,242 in 2030. An approximate mid-range capture rate forecast of, say, 1.7 percent results in a forecasted employment increase of between 70 and 75 percent, from 1,109 in 2005 to 1,906 in 2030.

The final step in our forecasting model is the conversion of the modified industrial employment forecasts for the Waianae DP Area to corresponding land use demand forecasts. For this step of the analysis, the selected conversion factor, or land use ratio, is 5,000 square feet of land area per employee/job. A conversion factor/land use ratio of 5,000 square feet per employee is approximately the mid-range equivalent to an average range of 8 to 10 employees per acre. A comparatively higher industrial land use ratio (implying a comparatively lower number of employees per acre) is considered reasonable and appropriate for the subject's Waianae market area.

<u>Market Analysis Implications and Conclusions</u> -- The various modified employment projections and land use conversion ratios outlined previously are incorporated into our demand forecasting model as summarized in Table III-9. Based on this forecasting model, it is our conclusion that there is a reasonable expectation for sufficient market demand to support the potential development of the Proposed Tropic Land LLC Industrial Park at Lualualei.

At the high end forecast, based on a 2.0 percent capture rate of Oahu's industrial sector jobs to the Waianae DP Area, industrial land use demand within the subject market area is forecast to be sufficient to absorb approximately 100 to 115 net acres of additional industrial land between 2010 and 2020. By comparison, the proposed subject project is anticipated to introduce 70 acres of new industrial land onto the market during this same approximate time period.

At the mid-range forecast, based on a 1.7 percent capture rate of Oahu's industrial sector jobs to the Waianae DP Area, industrial land use demand within the subject market area is forecast to be sufficient to absorb approximately 65 to 80 net acres of additional industrial land between 2010 and 2020. Again, the proposed subject

project is anticipated to introduce 70 acres of new industrial land onto the market during this same approximate time period.

At the low end forecast, based on a 1.5 percent capture rate of Oahu's industrial sector jobs to the Waianae DP Area, industrial land use demand within the subject market area is forecast to be sufficient to absorb approximately 45 to 55 net acres of additional industrial land between 2010 and 2020. Under this scenario, the effective market absorption of the proposed subject project is anticipated to extend beyond a 15 to 20-year time horizon, and this would clearly represent an undesirable outcome.

The rationale behind the use of modified industrial sector job forecasts for the Waianae DP Area is based on a realistic expectation that a significant level of relocation demand (also referred to as transient demand) could potentially be attracted to the subject market area. This potential form of demand might well be the future result of selected industrial businesses acting upon a desire to relocate their operations to a lower-cost option located in an area offering better proximity to available labor force resources.

Pent-up business demand for industrial space on the Island of Oahu was addressed previously in this report. Based on our interpretation of the available statistical data, we believe there exists within the Waianae DP Area a somewhat parallel situation of pent-up labor force demand for additional industrial employment opportunities within the immediate Waianae Development Plan Area, itself.

Available market data indicate the existence of a geographic disconnect between a growing resident population and potential industrial labor force residing within the Waianae market area and the scarcity of any discernable new industrial development and employment opportunities within the same market area. The Proposed Tropic Land LLC Industrial Park has the potential to alleviate or mitigate some of the effects of this ongoing disconnect between labor force and job market locations.

In the final analysis, it is our opinion that the future success or failure of the Proposed Tropic Land LLC Industrial Park is probably more directly related to the government approval process involving current land use entitlement issues than it is to potential, private sector marketing issues.

If respective public sector policy boards at the local government level were to ultimately decide to maintain the constraints on lands available for industrial development within the Waianae DP Area, then the proposed subject project will have no relevance in the marketplace.

However, if the Proposed Tropic Land LLC Industrial Park were to be successful in obtaining the necessary land use entitlement approvals, it is our opinion that there is sufficient potential demand in the marketplace to achieve project absorption within, perhaps, a three- to five-year time frame.

IV. <u>EMPLOYMENT FORECASTS</u>

This section of the report provides a presentation of our employment forecasts for the Proposed Tropic Land LLC Industrial Park development at Lualualei. In general, employment opportunities generated by any given new development, or project, consist of jobs created during the construction period of the project followed by jobs created during the operational existence of the project. Potential job creation as associated with any given new development can also be differentiated or categorized in terms of direct employment, indirect employment, and induced employment effects.

The employment forecasts presented in this section of the report provide estimates of both the short-term and long-term potential impacts on employment associated with the Proposed Tropic Land LLC Industrial Park. Short-term, or interim, employment refers to the estimated number of jobs, or manpower requirement, of the proposed development during the specific period of time corresponding to the project's anticipated construction period. Long-term, or stabilized, employment refers to the numbers of jobs generated by the proposed development under its assumed operational status.

A. <u>Interim, Construction Employment</u>

Our short-term, interim employment forecast for the Proposed Tropic Land LLC Industrial Park during the project's estimated 15-month construction period is presented within Table IV-1. As shown in Table IV-1, the total short-term employment forecast associated with the proposed subject project during its anticipated construction period is estimated to range from 120 to 150 person-years. An explanation of this forecast estimate is presented within the following paragraphs.

According to the Waianae Sustainable Communities Plan (SCP), Five-Year Review Amendment Application submitted on behalf of the subject property, the Proposed Tropic Land LLC Industrial Park is anticipated to open approximately 18 months following the receipt of government approvals. The preliminary cost estimate associated with the proposed project is \$29 million. The project will consist of 35 industrial lots with an average lot size of two acres. The total land area associated with the proposed project is approximately 96 acres.

Given the projected timetable set forth in the SCP Amendment Application and assuming a two- to four-month planning period prior to the start of actual construction, we estimate the construction period of the Proposed Tropic Land LLC Industrial Park to be approximately 15 months. Also, in the absence of any alternative cost estimates, we assume the project's preliminary cost estimate of \$29 million to be reasonably accurate for purposes of this analysis.

<u>On-Site Employment Forecast</u> -- Based on the preliminary project information available at this point in time, we estimate the average daily, on-site job requirement of the subject development during the 15-month construction period at between 80

to 100 workers. This average manpower forecast is roughly equivalent to an average of one on-site worker per acre of gross land area for the project site.

During the construction period, the daily on-site job count will probably vary significantly depending upon factors such as the phasing and scheduling of construction work; the scheduling and availability of work crews and possible sub-contracted workers; lost worker time due to sick leave and/or injury; and weather conditions. In our opinion, an average labor force or manpower requirement of 80 to 100 workers per year is considered reasonable and supportable in comparison to other subdivision lot developments. A more precise or detailed breakdown of interim manpower requirements should be available once a construction contract for the proposed project is put out to bid.

The initial on-site job estimate is then converted into a corresponding person-year employment estimate. The term "person-year" refers to the equivalent of one year of full-time work for one worker. For example, two different workers with the same job description working on a part-time basis for six months each would be the mathematical equivalent to one "person-year".

In this analysis, our estimated average on-site employment range of 80 to 100 workers is converted into a corresponding person-year forecast based on a multiplication factor equal to the length of the construction period, as expressed in numbers of years. The appropriate conversion factor for the length of time associated with the project's 15-month construction period is 1.25 (i.e., 15 months divided by 12 months). Based on this factor, the forecasted number of on-site jobs, or manpower requirement, at the subject property during the project's construction period is estimated to range from 100 to 125 person-years.

<u>Off-Site Employment Forecast</u> -- In addition to on-site job requirements, there is a reasonable expectation of related off-site job creation associated with the future construction of the proposed project. Off-site jobs might potentially include work relating to office and administrative matters, construction material suppliers, and transportation services. In this analysis, the extent of potential off-site job requirement is estimated at 20 percent of the on-site job requirement, or roughly equivalent to an additional 20 to 25 person-years.

Total Construction Period Employment Forecast -- The sum of the on-site and off-site job requirement estimates represents our short-term employment forecast for the proposed subject project during its anticipated construction period of development. Our on-site job requirement forecast ranges from 100 to 125 person-years, and our off-site job requirement forecast ranges from 20 to 25 person-years. Therefore, based on the analysis outlined within Table IV-1, the total short-term employment forecast for the Proposed Tropic Land LLC Industrial Park is estimated at 120 to 150 person-years.

B. <u>Stabilized Operational Employment Forecast</u>

Our long-term employment forecast for the Proposed Tropic Land LLC Industrial Park development under an assumed operational status at stabilized capacity is also presented within Table IV-1. As shown in Table IV-1, the total long-term employment impact associated with the proposed subject project on a stabilized operational basis is forecast to range from 840 to 1,260 jobs. An explanation of this employment forecast is presented within the following paragraphs.

Our stabilized operational employment forecast for the Proposed Tropic Land Industrial Park is equal to the sum of all direct, indirect, and induced job creation effects attributable to the project. Direct job creation is generally synonymous with primary, on-site employment generated by businesses operating or based at the proposed industrial park. Indirect job creation is associated with a secondary level of jobs generated as a result of the purchases of goods and services by businesses operating at the proposed industrial park. Induced job creation is associated with a tertiary level of jobs generated as a result of the purchases of goods and services from the personal incomes of people whose jobs are either directly or indirectly created by the operation of the proposed industrial park.

Direct Jobs Forecast -- The number of direct jobs created by the proposed project is forecast at 560 to 840 full-time jobs. Our direct job forecast is based on the project's estimated amount of developed industrial land multiplied by a factor expressed as the average number of employees per land area.

The project's total amount of developed industrial land is estimated at 70 acres based on the conceptual development plan of 35 subdivision lots with an average lot size of two acres. Our selected factor, or ratio, of the average number of employees per acre ranges from 8 to 12 employees per acre.

Eight jobs, or employees, per acre equates to an average land use ratio of approximately 5,500 square feet per employee. At a ratio of eight employees/jobs per acre, the forecasted number of direct jobs created by the project is 560. Twelve jobs, or employees, per acre equates to an average land use ratio of approximately 3,600 square feet per employee. At a ratio of twelve employees/jobs per acre, the forecasted number of direct jobs created by the project is 840.

It should be noted, the estimated range of forecasted direct employment is necessarily subjective in nature given the preliminary concept of the proposed development. If the Proposed Tropic Land LLC Industrial Park were to attract a proportionately higher concentration of land-intensive industrial activities, the effective ratio of the average number of employees per acre would be relatively low. Conversely, if the Proposed Tropic Land LLC Industrial Park were to attract a proportionately higher concentration of labor-intensive industrial activities, the effective ratio of the average number of employees per acre would be relatively effective ratio of the average number of employees per acre would be relatively high. At this preliminary stage of the development process, the possible character of the future tenant mix at the proposed project remains open to wide speculation.

Indirect and Induced Jobs Creation -- The basis for forecasting indirect and induced employment effects associated with the proposed subject project are industry-specific employment multipliers reported within the <u>2002 State Input-Output Study</u>, published by the State Department of Business Economic Development and Tourism (DBEDT) in June 2006. The following excerpt from the <u>2002 State Input-Output Study</u> provides a brief description of the general nature of multiplier factors derived from the study.

"Multipliers are derived based on direct and indirect effects arising from an exogenous change in an industry's final demand. The direct effect measures the initial effect attributable to the exogenous change, while the indirect effect measures the subsequent intra-and inter-industry purchases of inputs as a result of the initial change in output of the directly affected industry. If earnings and personal consumption expenditures (PCEs) are also included in the model as an additional endogenous sector, the resultant multipliers can measure the effects of demand changes on household spending (PCEs) that result from changes in earnings through direct and indirect effects. These additional effects are known as the induced effects." [Page 14]

As shown in Table IV-1, the employment multiplier utilized in this analysis of the proposed subject project is 1.50. The concept of this selected multiplier mimics that of the Type II multipliers reported within the <u>2002 State Input-Output Study</u>. Type II multipliers take into account the combined impact of both indirect effects and induced effects. The following industry-specific, Type II multipliers are reported in Table 2.4 of the <u>2002 State Input-Output Study</u>: Mining and Construction - 2.44; Other Manufacturing - 2.36; Transportation - 2.55; Wholesale Trade - 1.96.

Total Operational Employment Forecast -- We have selected a comparatively lower employment multiplier factor of 1.5 based on a belief that a significant proportion of potential businesses operating at the subject project might well be preexisting entities that will have relocated to the subject site from other areas of the Island of Oahu. The forecasted range of direct jobs created by the subject project on an assumed stabilized operational basis is 560 to 840 jobs. Therefore, based on an employment multiplier of 1.5, the total long-term employment forecast for the Proposed Tropic Land LLC Industrial Park is estimated at 840 to 1,260 jobs, including forecasted direct, indirect, and induced employment effects.

V. LIMITING CONDITIONS AND ASSUMPTIONS

The following conditions and assumptions embodied in this report constitute the framework of our analysis and conclusions.

- -- This appraisal is based upon the condition of the national economy and the purchasing power of the dollar as of the date of the appraisal report.
- -- This report expresses the opinion of the signers as of the date of the report; in no way has it been contingent upon the reporting of specified values or findings.
- -- The appraisers have extensive experience in the valuation of proposed subdivision development properties and are considered competent to undertake and complete this appraisal assignment. A summary of the appraisers' qualifications is included in the Addenda of this report.
- -- It is assumed that the subject property is free and clear of any and all encumbrances other than those referred to herein, and no responsibility is assumed for matters of a legal nature. This report is not to be construed as rendering any opinion of title, which is assumed to be good and marketable. Responsible ownership and competent management of the subject property is also assumed, unless otherwise stated within the report.
- -- It is assumed that any existing or proposed uses of the subject property's land and improvements will occur within the legal boundaries or property lines of the subject property and that no encroachment or trespass exists, now or in the future, unless otherwise stated within the report.
- -- It is assumed that any and all required licenses, certificates of occupancy and/or other legislative or administrative authorizations relating to any existing or proposed uses of the subject property upon which our value conclusion is based will be obtained readily from the appropriate local, state, or federal government agencies, private institutions, or other organizational entities that exercise jurisdiction over these types of licensing and administrative matters.
- -- Any maps or plot plans reproduced and included in this report are intended only for the purpose of showing spatial relationships. These maps do not necessarily represent measured surveys or measured maps, and the appraiser is not responsible for the possible existence of any topographic or surveying errors within such maps. No engineering tests were furnished, and, therefore, no liability is assumed for the soil conditions, bearing capacity of the subsoil or building engineering matters relating to the subject property.
- -- Information provided by informed local sources such as governmental agencies, financial institutions, realtors, buyers, sellers and others, was interpreted in the manner in which it was supplied and, whenever possible or practical, was checked and verified by secondary means. However, no responsibility is assumed for any possible misinformation contained in these sources of information.

- -- The presence of hazardous wastes or toxic materials such as underground storage tanks, asbestos, urea-formaldehyde foam insulation or other potentially harmful substances may have an adverse affect on the value of a given property. The value conclusions reported herein are predicated on the assumption that there is no such hazardous material on or in the subject property that would result in this type of loss in value. No responsibility is assumed for any potentially adverse environmental conditions or for the lack of any expertise or engineering knowledge required to discover such conditions.
- -- The appraisers are not required to give testimony or appear in court because of having made this appraisal unless arrangements for the appearance and the fee for such appearance have been agreed upon by the person or corporation requiring such testimony.
- -- The appraisers' prior written consent and approval must be obtained in the event that the appraisal report should be conveyed by anyone to the public through advertising, public relations, news, sales, or other media.
- -- The appraisers will not disclose the contents of the appraisal report except as provided for in the Uniform Standards of Professional Appraisal Practice.

VI. <u>CERTIFICATION</u>

The undersigned hereby certifies that, to the best of their knowledge and belief:

- -- The statements of fact contained in this report are true and correct.
- -- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are our personal, impartial and unbiased professional analyses, opinions, and conclusions.
- -- We have no present or prospective interest in the property that is the subject of this report, and have no personal interest with respect to the parties involved.
- -- We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- -- Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
- -- Our compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- -- The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute, which include the Uniform Standards of Professional Appraisal Practice (USPAP).
- -- Robert R. Braig, MAI, SRA and Ricky P. Minn have conducted a personal inspection of the property that is the subject of this report.
- -- No one provided significant real property appraisal assistance to the person signing this certification.
- -- As of the date of this report Robert R. Braig, MAI, SRA has completed the requirements of the continuing education program of the Appraisal Institute.
- -- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

April 3, 2008

Robert R. Braig, MAI, SRA State Certified General Appraiser CGA-149 Certificate Expires: December 31, 2009

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Ricky P. Minn

YEAR-END 2007 OAHU INDUSTRIAL MARKET STATISTICS

Area/Location	Number of Buildings	Building Area (Sq. Ft.)	Available Space (Sq. Ft.)	YTD Absorption (Sq. Ft.)	Vacancy Rate
Kalihi/Sand Island	668	8,471,116	332,249	(147,899)	3.92%
Kapalama Military Reserve	19	1,250,000	-	-	0.00%
Iwilei	92	2,433,603	21,389	77,883	0.88%
Airport/Mapunapuna	209	8,261,305	67,427	(41,360)	0.82%
Bougainville/Halawa	104	3,231,187	166,645	(24,024)	5.16%
Pearl City/Pearl City Industrial/Aiea	70	2,276,137	56,380	(24,554)	2.48%
Waipahu/Milltown	113	2,355,845	86,501	(2,078)	3.67%
Gentry Business Park	64	1,523,125	9,395	(6,041)	0.62%
Campbell Industrial Park/Kapolei Business Park	251	5,605,778	335,318	(87,120)	5.98%
Kailua	37	467,164	3,200	(3,200)	0.68%
Kaneohe	41	512,187	16,452	(10,804)	3.21%
TOTALS	1,668	36,387,447	1,094,956	(269,197)	3.01%

Source: Colliers Monroe Friedlander, 2007.

EXISTING LAND USE MAP CATEGORIES FOR THE
WAIANAE DEVELOPMENT PLAN AREA AS OF 1997

Land Use Categories	Acreage	Commercial/ % of Total	Vacant Acres 1996		
Single-Family Residential	1,991	5.23%	652		
Low-Density Apartment	5	0.01%	-		
Medium-Density Apartment	70	0.18%	-		
Commercial	85	0.22%	13		
Industrial	49	0.13%	15		
Resort	92	0.24%	26		
Agriculture	8,777	23.04%	5,318		
Public & Quasi-Public	531	1.39%	-		
Parks & Recreation	492	1.29%	-		
Golf Courses	582	1.53%	242		
Preservation	12,148	31.89%	-		
Military	13,036	34.23%	-		
Undesignated	231	0.61%	-		
TOTALS	38,089	100.00%			
Source: Department of Planning and Permitting (DPP),					

Waianae Sustainable Communities Plan, July 2000.

TOTAL ACREAGE OF VACANT LAND BY COUNTY ZONING AND GEOGRAPHIC PLANNING AREA AS OF 2004

	Residential	Industrial	Agricultural	Mixed Use	Resort	Conservation	Other
City and County of Honolulu/ Island of Oahu	3,591	1,280	3,734	345	312	3,399	6,718
Primary Urban Center	279	280	26	31	-	126	1,038
Ewa	1,506	689	2,150	314	101	865	5,447
Central Oahu	1,109	311	677	-	-	766	210
East Honolulu	98	-	-	-	-	351	-
Koolaupoko	187	-	214	-	-	647	23
Koolauloa	37	-	82	-	167	378	-
North Shore	13	-	194	-	-	53	-
Waianae	362	-	391	-	44	213	-

SELECTED ECONOMIC CHARACTERISTICS: 2004 NEIGHBORHOOD AREA 24: WAIANAE COAST

	Number	Percent
EMPLOYMENT STATUS		
Population 16 Years and Over	29,444	100.0
In Labor Force	17,353	58.9
Civilian Labor Force	17,137	58.2
Employed	14,580	49.5
Unemployed	2,557	8.7
(Percent of Civilian Labor Force)	(14.9)	
Armed Forces	216	0.7
Not in Labor Force	12,091	41.1
COMMUTING TO WORK		
Workers 16 Years and Over	14,314	100.0
Car, Truck, or Van Drove Alone	8,321	58.1
Car. Truck, or Van Carpooled	3.663	25.6
Public Transportation (Including Taxicab)	1,276	8.9
Walked	438	3.1
Other Means	313	2.2
Worked at Home	303	2.1
Mean Travel Time to Work, In Minutes	41.9	
EMBLOVED CIVILIAN DODULATION		
EMIPLOYED CIVILIAN POPULATION 16 VEADS AND OVED.	14 590	100.0
IO YEARS AND OVER:	14,580	100.0
OCCUPATION		
Management, Professional, and Related Occupations	3,183	21.8
Service Occupations	3,205	22.0
Sales and Office Occupations	3,898	26.7
Farming, Fishing, and Forestry Occupations	221	1.5
Construction, Extraction, and Maintenance Occupations	1,893	13.0
Production, Transportation, and	,	
Material Moving Occupations	2,180	15.0
INDUSTRY		
Agriculture Forestry Fishing and Hunting and Mining	404	2.8
Construction	1 2 5 0	2.0 8.6
Manufacturing	654	4 5
Wholesale Trade	633	4.3
Retail Trade	1 921	13.2
Transportation and Warehousing and Utilities	1,921	8.9
Information	196	13
Finance Insurance Real Estate and Rental and Leasing	778	53
Professional, Scientific, Management, Administrative,	110	0.5
and Waste Management Services	1,327	9.1
Educational, Health and Social Services	2,587	17.7
Arts, Entertainment, Recreation, Accommodation and		
Food Service	1,797	12.3
Other Services (Except Public Administration)	685	4.7
Public Administration	1,055	7.2
Source: DPP, Year 2000 Community Profiles (2000 U.S. Ce	ensus Data).	